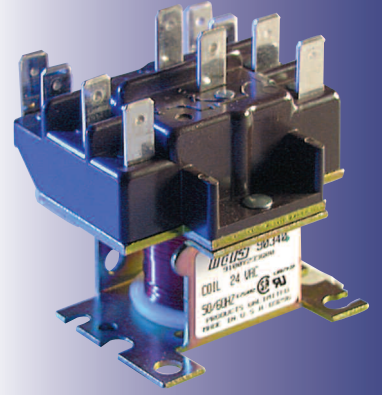


MARS[®]

Component Service & Installation

CATALOG



COMPONENT



SERVICE & INSTALLATION



MARS2



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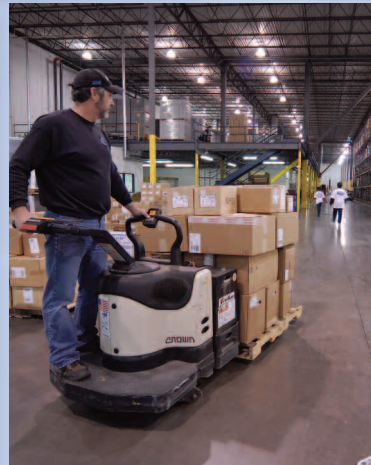


The Leading Brands You Trust For...

- Quality
- Innovation
- Design
- Leadership



MARS has been serving the HVAC/R market since 1946 and is proud to present the most complete motor and accessory product offering to serve your needs. Our capabilities include:



- Consolidation - One Stop Shop
- Over 14,000 combinable products
- Industry leading brands
- Award winning distribution facilities
- +97% order fill rate
- Shipments within 24 hours
- Billing accuracy
- Sales coverage serving every customer location
- In-House Art Department for customer flexibility
- Bilingual Website
- Training Focused
- EDI capabilities

Thank you for your business !



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93393	SI-131	94102	AM-37	94273	AM-37	94363	AM-38	94451	AM-39
93396	SI-131	94103	AM-37	94274	AM-37	94366	AM-38	94452	AM-39
93397	SI-131	94104	AM-37	94275	AM-37	94367	AM-38	94453	AM-39
93398	SI-131	94105	AM-37	94276	AM-37	94368	AM-38	94454	AM-39
93402	SI-117	94106	AM-37	94277	AM-37	94369	AM-38	94455	AM-39
93403	SI-117	94107	AM-37	94278	AM-37	94370	AM-38	94456	AM-39
93404	SI-117	94108	AM-37	94279	AM-37	94371	AM-38	94457	AM-39
93500	SI-92	94109	AM-37	94280	AM-37	94372	AM-38	94458	AM-39
93505	SI-126	94110	AM-37	94281	AM-37	94373	AM-38	94459	AM-39
93506	SI-127	94111	AM-37	94282	AM-37	94374	AM-38	94460	AM-39
93507	SI-128	94112	AM-37	94283	AM-37	94375	AM-38	94461	AM-39
93509	SI-128	94113	AM-37	94284	AM-37	94376	AM-38	94462	AM-39
93516	SI-127	94114	AM-37	94285	AM-37	94377	AM-38	94463	AM-39
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94474	AM-39	94579	AM-40	94680	AM-41	95745	AM-19		
94475	AM-39	94580	AM-40	94681	AM-41	95746	AM-19		
94476	AM-39	94581	AM-40	94682	AM-40	95747	AM-19		
94477	AM-39	94582	AM-40	94683	AM-40	95821	AM-18		
94478	AM-39	94583	AM-40	94684	AM-40	95822	AM-18		
94479	AM-39	94584	AM-40	94685	AM-40	95823	AM-18		
94480	AM-39	94585	AM-40	94686	AM-40	95831	AM-18		
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94482	AM-39	94587	AM-40	95021	AM-19	95841	AM-18		
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94484	AM-39	94589	AM-40	95027	AM-19	95865	AM-18		
94485	AM-39	94590	AM-40	95031	AM-19	95866	AM-18		
94486	AM-39	94591	AM-40	95032	AM-19	95875	AM-19		
94487	AM-39	94592	AM-40	95041	AM-19	95923	AM-19		
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94525	AM-39	94623	AM-40	95444	SI-83				
94526	AM-39	94624	AM-40	95445	SI-84				
94527	AM-39	94625	AM-40	95448	SI-84				
94528	AM-39	94626	AM-40	95449	SI-84				
94530	AM-41	94627	AM-40	95454	SI-84				
94533	AM-41	94628	AM-40	95455	SI-83				
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94564	AM-40	94657	AM-40	95628	AM-18				
94565	AM-40	94658	AM-40	95629	AM-18				
94566	AM-40	94660	AM-40	95641	AM-18				
94567	AM-40	94663	AM-40	95711	AM-18				
94568	AM-40	94668	AM-40	95721	AM-18				
94569	AM-40	94670	AM-41	95722	AM-18				

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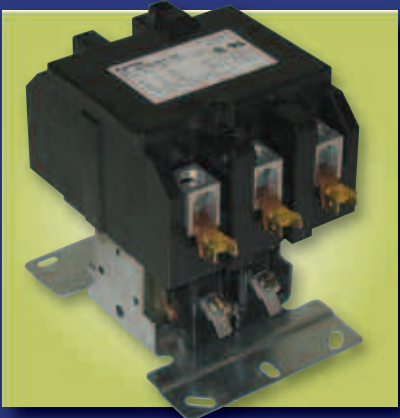
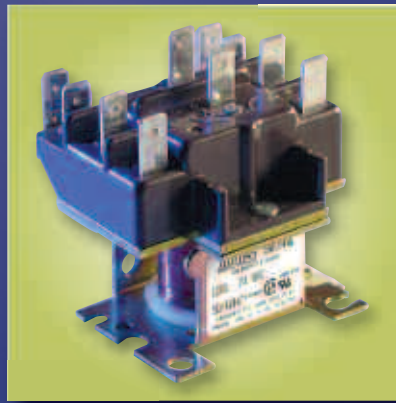
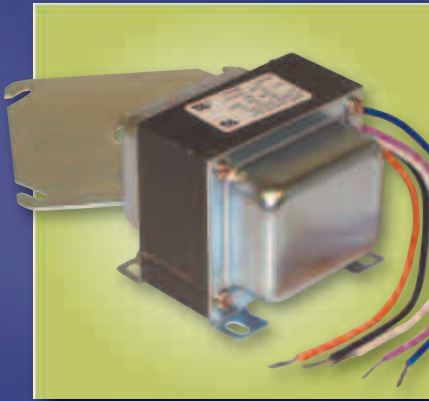


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Motor Start Capacitors

MARS SERIES **110**



11002

Electrolytic Capacitors for Motor Starting Applications

Start capacitor case dimensions chart. Capacitor accessories on page C9.

MARS Blue Box™

Features:

- The largest assortment of replacements in the industry!
- Smallest dimensions for general replacements.
- Hermetically sealed black Bakelite case permanently protects the capacitor from oil, dirt, grease or moisture.
- New and improved terminal construction capable of withstanding increased heat. This terminal will generate less heat when applied under severe hot humid environment.

110/125 Dual Voltage AC

MARS NO.	MICROFARAD Min - Max.	CASE SIZE
11002	21-25	1
11003	25-30	1
11004	30-36	1
11005	36-43	1
11006	43-56	1
11007	56-72	1
11008	72-88	1
11009	88-108	1
11010	108-130	1
11112	124-156	1
11011	130-156	1
11013	145-175	1
11014	161-193	1
11015	189-227	1
11016	200-240	1
11017	216-259	1
11018	233-292	1
11019	270-324	1
11020	300-360	1
11021	324-388	1
11022	340-408	2
11023	378-440	2
11024	400-480	2
11071	430-516	2
11025	460-552	2
11026	540-648	4
11027	590-708	4
11047	645-774	4
11028	708-850	4
11072	815-970	4
11029	829-995	4
11073	850-1020	4
11030	1000-1200	7
11074	1290-1548	7

220/250 Dual Voltage AC

MARS NO.	MICROFARAD Min - Max.	CASE SIZE
11038	21-25	1
11039	25-30	1
11040	30-36	1
11041	36-43	1
11042	43-56	1
11043	56-72	1
11084	59-71	1
11137	64-77	4
11044	72-88	4
11045	88-108	4
11046	108-130	4
11148	124-156	4
11049	145-175	4
11050	161-193	6
11051	189-227	6
11052	216-259	6
11053	233-292	6
11054	270-324	6
11085	280-336	7
11086	320-384	7
11087	340-408	7
11088	378-455	7
11089	400-480	7
11090	430-516	7
11091	630-750	8

330 Volts AC

MARS NO.	MICROFARAD Min - Max.	CASE SIZE
11055	21-25	2
11056	25-30	2
11057	30-36	2
11058	36-43	2
11059	43-56	4
11060	56-72	4
11160	64-77	4
11061	72-88	4
11062	88-108	4
11063	108-130	7
11064	130-156	7
11165	124-156	7
11092	135-162	7
11066	145-175	7
11067	161-193	7
11068	189-227	7
11069	216-259	7
11070	270-324	7
11093	300-360	7

165 Volts AC

MARS NO.	MICROFARAD Min - Max.	CASE SIZE
11075	72-88	1
11076	88-108	1
11077	108-130	1
11031	124-149	1
11032	145-175	1
11033	161-193	1
11034	189-227	1
11078	216-259	4
11035	233-292	4
11036	270-324	4
11079	340-408	4
11080	378-455	4
11037	400-480	4
11081	540-648	4
11082	710-850	7
11083	810-972	7

MARS suggests applying a bleed resistor (MARS PN 93007) on start capacitors used in conjunction with starting relays

*Capacitors may be put in different case sizes occasionally, but will not be larger than those stated.



Turbo™ Products

MARS SERIES **121**



The Turbo® 200 Family Products

Universal Run & Start Capacitor Replacement. Have the right capacitor for the job every time. The perfect solution for off hour emergency service calls.

Universal HardStart Replacement. One “2-Wire” Turbo® Easy-Start “4” Hardstart can replace any one of four compressor hardstart kits on the market.

MARS NO.	DESCRIPTION	MICROFARAD
12100	Turbo® 200 mini	2.5 mfd - 12.5 mfd, 370V or 440V
12200	Turbo® 200	2.5 mfd - 67.5 mfd, 370V or 440V
12300	Turbo® 200 X	5.0 mfd -97.5 mfd, 370V or 440V
11200	Turbolytic™ 50 Universal Motor Start Capacitor	23 mfd -302 mfd, 125V to 330V
11100	Turbolytic™ JR	23 mfd -208 mfd, 125V to 330V
86150	TurboMeter™ See the dual values develop simultaneously on the screen as you create the ratings needed.	
12400	Turbo® Easy-Start “4” Hardstart Universal Hardstart	Up to 1 ton 108-130 mfd 1 to 2 tons 189-227 mfd 2.5 to 3 tons 233-280 mfd 3.5 to 5 tons 270 to 324 mfd

MARS Capacitor Tester

Features:

- Easy to use
- 9V battery and test leads included
- Low battery indicator

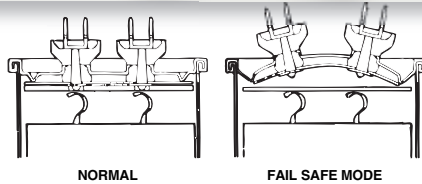
MARS NO.	RANGE	RESOLUTION	ACCURACY	TEST FREQUENCY
65746	200 pF	0, 1pF	± (0.5% rdg + 1 dgt + 0.5 pF)	
	2000 pF 20 nF 200 nF 2 nF	1 pF 10 pF 100 pF 1 nF	± (0.5% rdg +1 dgt)	820Hz
	20 μF	10 nF		82 Hz
	200 μF	100 nF	± (2.0% rdg. + 1dgt)	8.2 Hz
	2000 μF	1 μF		
	20 mF	10 μF	± (4.0% rdg. + 1dgt)	



Motor Run Capacitors

MARS SERIES **120**

COMPONENT



PHYSICAL INTERRUPTER

Single Section Run Capacitors

Capacitor accessories on page C9.

Features:

- MARS offers the widest selection of ratings in the industry
- Non-PCB capacitors. Physical interrupter makes our capacitors safe
- Perfect for general replacements—smallest dimensions available
- UL and CSA listings available

Single Section 370 Volt Oval			
MARS NO.	MICROFARAD	BASE	HEIGHT IN.
12002	2	A	1.500
12003	3	A	1.500
12004	4	A	1.500
12005	5	A	1.500
12006	6	A	1.500
12007	7.5	A	2.375
12008	10	A	2.625
12009	12.5	A	3.000
12010	15	A	3.750
12012	17.5	A	3.750
12014	20	C	2.375
12015	25	C	2.625
12017	30	C	2.625
12018	35	C	3.000
12021	40	C	3.750
12023	45	C	3.750
12025	50	C	3.750
12024	55	C	4.250
12087	60	C	4.750
12011	65	C	4.750
12089	70	C	4.750
12090	80	D	3.750

Single Section 370 Volt Round			
MARS NO.	MICROFARAD	BASE	HEIGHT IN.
12092	2	M	2.000
12093	3	M	2.000
12094	4	M	2.000
12095	5	M	2.000
12096	6	M	2.000
12097	7.5	M	2.000
12098	10	M	2.000
12099	12.5	M	2.000
12210	15	M	2.375
12211	16	M	2.375
12212	17.5	M	2.375
12214	20	M	2.625
12215	25	M	3.000
12217	30	M	3.000
12218	35	M	3.750
12221	40	M	3.750
12223	45	N	3.375
12225	50	N	3.750
12226	55	N	3.750
12227	60	N	4.750
12128	65	N	4.750
12229	70	N	4.750
12199	80	N	4.750
12116	100	P	4.750

Single Section 440 Volt Oval			
MARS NO.	MICROFARAD	BASE	HEIGHT IN.
12026	2	A	1.500
12019	2.5	A	1.500
12027	3	A	2.000
12028	4	A	2.000
12029	5	A	2.375
12030	6	A	2.375
12031	7.5	A	2.625
12032	10	A	3.750
12033	12.5	A	3.750
12034	15	C	2.375
12036	17.5	C	2.375
12037	20	C	2.625
12040	25	C	3.000
12041	30	C	3.750
12043	35	C	3.750
12045	40	C	4.750
12048	45	C	4.750
12049	50	C	4.750
12050	55	C	4.750
12051	60	D	3.750
12052	65	D	3.750
12130	70	D	3.750
12135	75	D	3.750
12140	80	D	4.750

Single Section 440 Volt Round			
MARS NO.	MICROFARAD	BASE	HEIGHT IN.
12102	2	M	2.000
12103	3	M	2.000
12104	4	M	2.000
12105	5	M	2.000
12106	6	M	2.000
12107	7.5	M	2.000
12232	10	M	2.375
12233	12.5	M	2.375
12234	15	M	2.625
12236	17.5	M	2.750
12237	20	M	3.000
12240	25	M	3.750
12241	30	N	3.375
12243	35	N	3.750
12245	40	N	3.750
12248	45	N	4.750
12251	50	P	3.375
12252	55	P	3.750
12254	60	P	3.750
12258	70	P	4.750
12259	80	P	4.750
12068	90	P	4.750

Base Dimensions on p.C7

*Capacitors may be put in different case sizes occasionally, but will not be larger than those stated.



Motor Run Capacitors

MARS SERIES **120**



12141

Dual Section Motor Run Capacitors

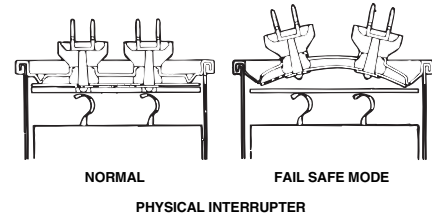
Dual section run capacitors are used primarily to serve two microfarad applications. They can, however, by making various combinations of parallel connections, be used to obtain many other microfarad ratings.

Capacitor accessories on page C9.

Features:

- MARS offers the widest selections of ratings in the industry
- Non-PCB capacitors.
- Perfect for general replacements—smallest dimensions available
- UL and CSA listings available

Physical interrupter makes our capacitors safe



Dual Section 370 Volt Oval			
MARS NO.	MICROFARAD	BASE	HEIGHT IN.
12141	15/3	C	2.625
12056	15/4	C	2.625
12057	15/5	C	2.625
12058	15/10	C	3.000
12059	17.5/4	C	2.375
12060	17.5/5	C	2.375
12061	20/3	C	2.625
12062	20/4	C	2.625
12063	20/5	C	2.625
12064	20/10	C	2.625
12164	20/15	C	4.750
12142	25/3	C	2.625
12065	25/4	C	2.625
12066	25/5	C	2.625
12143	25/7.5	C	2.625
12131	25/8	C	3.000
12167	25/10	C	3.000
12133	25/15	C	3.000
12144	30/3	C	3.000
12145	30/4	C	3.000
12069	30/5	C	3.000
12146	30/7.5	C	3.000
12147	30/10	C	3.375
12148	35/3	C	3.000
12071	35/4	C	3.750
12072	35/5	C	3.750
12149	35/7.5	C	3.000
12150	35/10	C	3.750
12151	40/3	C	3.750
12158	40/4	C	3.750
12171	40/5	C	3.750
12152	40/7.5	C	3.750
12134	40/10	C	3.750
12173	45/3	C	3.750
12174	45/5	C	3.750
12153	45/7.5	C	3.750
12136	45/10	C	4.750
12137	45/15	C	4.750
12138	50/5	C	4.750
12154	55/5	C	4.750
12155	55/7.5	C	4.750
12139	60/5	D	4.750
12156	60/7.5	C	4.750
12157	60/10	C	4.750
12159	65/5	D	4.750
12163	80/5	D	4.750
12123	80/7.5	D	4.750

Base Dimensions on page C7

Dual Section 370 Volt Round			
MARS NO.	MICROFARAD	BASE	HEIGHT IN.
12121	15/3	N	3.125
12122	15/4	N	3.125
12203	15/5	N	3.125
12204	15/10	N	3.125
12205	17.5/4	N	3.125
12206	17.5/5	N	3.125
12207	20/4	N	3.125
12260	20/5	N	3.125
12016	20/7.5	N	3.125
12208	20/10	N	3.125
12209	20/15	N	3.125
12242	25/3	N	3.125
12175	25/4	N	3.125
12261	25/5	N	3.125
12262	25/7.5	N	3.125
12213	25/10	N	3.125
12244	30/3	N	3.125
12263	30/4	N	3.125
12264	30/5	N	3.125
12224	30/7.5	N	3.125
12228	30/10	N	3.125
12039	30/15	N	3.875
12082	35/3	N	3.875
12231	35/4	N	3.125
12266	35/5	N	3.875
12235	35/7.5	N	3.125
12238	35/10	N	3.875
12074	40/3	N	3.875
12267	40/4	N	3.875
12178	40/5	N	3.875
12268	40/7.5	N	3.875
12246	40/10	N	3.875
12073	45/3	N	3.875
12247	45/4	N	3.875
12269	45/5	P	3.875
12249	45/7.5	N	3.875
12250	45/10	N	3.875
12075	50/3	P	3.125
12191	50/5	N	3.875
12192	50/7.5	P	3.125
12239	50/10	P	3.875
12193	55/5	N	4.75
12194	55/7.5	N	4.75
12067	55/10	N	4.75
12076	60/3	P	3.875
12195	60/5	P	3.875
12196	60/7.5	N	4.75
12265	60/10	P	3.125
12042	65/5	N	4.75
12053	70/5	P	3.875
12054	70/7.5	P	3.875
12055	70/10	P	3.875
12044	75/5	P	3.875
12046	75/7.5	P	3.875
12084	75/10	P	3.875
12197	80/5	P	3.875
12198	80/7.5	P	3.875
12201	80/10	P	3.875
12202	80/12.5	P	4.75
12129	85/5	P	4.75
12230	85/7.5	P	4.75
12222	85/10	P	4.75



Motor Run Capacitors

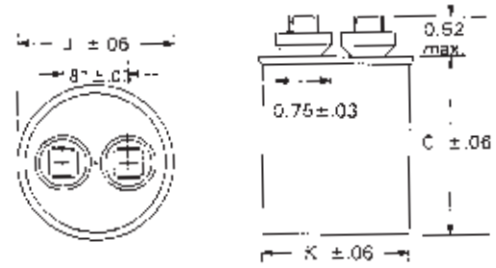
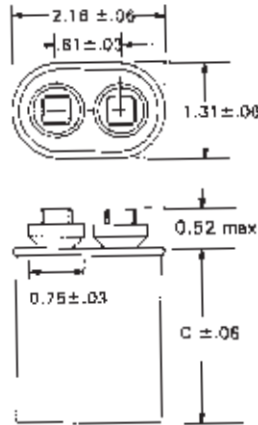
MARS SERIES **120**

COMPONENT

Capacitor Base Dimensions



12165



Dual Section 440 Volt Oval			
MARS NO.	MICROFARAD	BASE	HEIGHT IN.
12165	10/5	C	2.625
12170	10/10	C	2.625
12270	15/4	C	2.625
12271	15/5	C	2.625
12177	15/10	C	3.750
12180	20/5	C	2.625
12083	20/15	D	3.000
12184	25/5	D	3.000
12182	25/7.5	C	3.750
12183	25/10	C	3.750
12186	25/15	D	3.000
12181	30/4	C	3.750
12187	30/5	D	3.750
12038	30/7.5	C	3.750
12035	30/10	C	3.750
12085	35/3	C	4.750
12179	35/4	C	3.750
12185	35/5	C	4.750
12188	35/7.5	C	3.750
12176	35/8.5	C	3.750
12272	35/10	C	4.750
12080	40/3	C	4.750
12086	40/5	C	4.750
12189	40/7.5	C	4.750
12273	40/10	C	4.750
12190	45/5	D	4.750
12274	45/7.5	C	4.750
12108	50/5	D	4.750
12013	50/7.5	C	4.750
12275	55/5	D	4.750
12276	55/10	D	4.750
12109	60/5	D	4.750
12110	60/7.5	D	4.750
12101	65/10	D	4.750
12297	80/5	D	5.750
12298	80/7.5	D	5.750

Base Dimension Key - Oval			
KEY	DEPTH IN.	WIDTH IN.	DESCRIPTION
A	1.31	2.16	oval fan size
C	1.91	2.91	oval
D	1.97	3.66	oval

Base Dimension Key - Round		
KEY	DEPTH IN.	MOUNTING STRAP
M	1.75	93031
N	2.00	93032
P	2.50	93032

Dual Section 440 Volt Round			
MARS NO.	MICROFARAD	BASE	HEIGHT IN.
12111	10/5	N	3.125
12118	15/5	N	3.125
12356	15/10	N	3.125
12350	17.5/5	N	3.125
12115	20/5	N	3.125
12354	20/7.5	N	3.125
12351	20/10	N	3.875
12112	20/15	N	3.875
12353	25/3	N	3.875
12355	25/4	N	3.875
12278	25/5	N	3.875
12279	25/7.5	N	3.875
12113	25/10	N	3.625
12114	25/15	N	3.875
12126	30/3	N	3.875
12120	30/4	N	3.875
12281	30/5	N	3.875
12282	30/7.5	N	3.875
12352	30/10	N	4.750
12077	35/3	N	3.875
12070	35/4	N	3.875
12283	35/5	N	3.875
12119	35/6	N	4.750
12284	35/7.5	P	3.875
12091	35/10	N	4.750
12078	40/3	P	3.125
12285	40/4	P	3.125
12286	40/5	P	3.125
12220	40/6	N	4.750
12287	40/7.5	P	3.875
12088	40/10	N	4.750
12079	45/3	P	3.875
12219	45/4	N	3.750
12288	45/5	P	3.875
12127	45/6	N	4.750
12289	45/7.5	N	3.875
12172	45/10	P	3.875
12290	50/5	P	3.875
12291	50/7.5	P	3.875
12124	50/10	P	3.875
12253	50/12.5	P	3.875
12292	55/5	P	3.875
12293	55/7.5	P	3.875
12299	55/10	P	3.875
12160	60/3	P	4.750
12294	60/5	P	3.875
12295	60/7.5	P	3.875
12296	60/10	P	3.875
12161	60/12.5	P	4.750
12162	65/10	P	4.750
12255	70/5	P	4.750
12166	70/7.5	P	4.750
12169	70/10	P	4.750
12168	75/5	P	4.750
12125	75/7.5	P	4.750
12047	75/10	P	4.750
12257	80/5	P	4.875
12216	80/7.5	P	4.750
12117	80/10	P	4.750
12022	85/5	P	4.750
12020	85/7.5	P	4.750
12001	85/10	P	4.750



The largest selection of motors, components, and accessories for the HVAC/R Industry

Motor Run Capacitors

MARS SERIES **120/129**



SINGLE SECTION RUN CAPACITORS

370 VOLT				
MFD	Oval MARS NO.	Round MARS NO.	Oval MARS2 NO.	Round MARS2 NO.
2	12002	12092	12902	12992
3	12003	12093	12903	12993
4	12004	12094	12904	12994
5	12005	12095	12905	12995
6	12006	12096	12906	12996
7.5	12007	12097	12907	12997
10	12008	12098	12908	12998
12.5	12009	12099	12909	12999
15	12010	12210	12910	12710
16		12211		12911
17.5	12012	12212	12912	12712
20	12014	12214	12914	12714
25	12015	12215	12915	12715
30	12017	12217	12917	12717
35	12018	12218	12918	12718
40	12021	12221	12921	12721
45	12023	12223	12923	12723
50	12025	12225	12925	12725
55	12024	12226	12924	12726
60	12087	12227	12987	12727
65	12011	12128	12988	12828
70	12089	12229	12989	12729
80	12090	12199	12990	12899
100		12116		12916

440 VOLT				
MFD	Oval MARS NO.	Round MARS NO.	Oval MARS2 NO.	Round MARS2 NO.
2	12026	12102	12926	12802
2.5	12019		12919	
3	12027	12103	12927	12803
4	12028	12104	12928	12804
5	12029	12105	12929	12805
6	12030	12106	12930	12806
7.5	12031	12107	12931	12807
10	12032	12232	12932	12732
12.5	12033	12233	12933	12733
15	12034	12234	12934	12734
17.5	12036	12236	12936	12736
20	12037	12237	12937	12737
25	12040	12240	12940	12740
30	12041	12241	12941	12741
35	12043	12243	12943	12743
40	12045	12245	12945	12745
45	12048	12248	12948	12748
50	12049	12251	12949	12751
55	12050	12252	12950	12752
60	12051	12254	12951	12754
65	12052		12952	
70	12130	12258	12830	12758
75	12135		12831	
80	12140	12259	12840	12759
90		12068		12868

DUAL SECTION RUN CAPACITORS

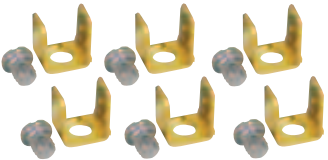






370 VOLT				
MFD	Oval MARS NO.	Round MARS NO.	Oval MARS2 NO.	Round MARS2 NO.
15/3	12141	12121	12841	12701
15/4	12056	12122	12956	12702
15/5	12057	12203	12957	12703
15/10	12058	12204	12958	12704
17.5/4	12059	12205	12959	12705
17.5/5	12060	12206	12960	12706
20/3	12061		12961	
20/4	12062	12207	12962	12707
20/5	12063	12260	12963	12760
20/7.5		12016		12716
20/10	12064	12208	12864	12708
20/15	12164	12209	12964	12709
25/3	12142	12242	12842	12711
25/4	12065	12175	12965	12875
25/5	12066	12261	12966	12761
25/7.5	12143	12262	12843	12762
25/8	12131		12832	
25/10	12167	12213	12867	12713
25/15	12133		12833	
30/3	12144	12244	12844	12720
30/4	12145	12263	12845	12763
30/5	12069	12264	12969	12764
30/7.5	12146	12224	12846	12724
30/10	12147	12228	12847	12728
30/15		12039		12939
35/3	12148	12082	12848	12730
35/4	12071	12231	12971	12731
35/5	12072	12266	12972	12766
35/7.5	12149	12235	12849	12735
35/10	12150	12238	12850	12738
40/3	12151	12074	12851	12739
40/4	12158	12267	12858	12767
40/5	12171	12178	12871	12878
40/7.5	12152	12268	12852	12768
40/10	12134	12246	12834	12746
45/3	12173	12073		12747
45/4		12247		12947
45/5	12174	12269	12874	12769
45/7.5	12153	12249	12853	12749
45/10	12136	12250	12836	12750
45/15	12137		12837	
50/3		12075		12753
50/5	12138	12191	12838	12755
50/7.5		12192		12825
50/10		12239		12757
55/5	12154	12193	12854	12893
55/7.5	12155	12194	12855	12894
55/10		12067		12967
60/3		12076		12976
60/5	12139	12195	12839	12895
60/7.5	12156	12196	12856	12896
60/10	12157	12265	12857	12865
65/5	12159	12042	12859	12742
70/5		12053		12953
70/7.5		12054		12954
70/10		12055		12955
75/5		12044		12744
75/7.5		12046		12946
75/10		12084		12984
80/5	12163	12197	12863	12897
80/7.5	12123	12198	12817	12819
80/10		12201		12824
80/12.5		12202		12722
85/5		12129		12829
85/7.5		12230		12756
85/10		12222		12922

DUAL SECTION RUN CAPACITORS




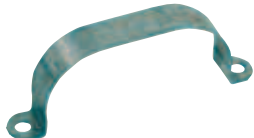




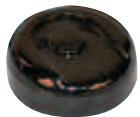
440 VOLT				
MFD	Oval MARS NO.	Round MARS NO.	Oval MARS2 NO.	Round MARS2 NO.
10/5	12165	12111	12765	12811
15/4	12270		12770	
15/5	12271	12118	12771	12818
15/10	12177	12356	12777	12656
17.5/5		12350		12650
20/5	12180	12115	12880	12780
20/7.5		12354		12654
20/10		12351		12651
20/15	12083	12112	12983	12812
25/3		12353		12653
25/4		12355		12655
25/5	12184	12278	12884	12778
25/7.5	12182	12279	12882	12779
25/10	12183	12113	12883	12813
25/15	12186	12114	12886	12814
30/3		12126		12826
30/4	12181	12120	12881	12820
30/5	12187	12281	12887	12781
30/7.5	12038	12282	12982	12782
30/10	12035	12352	12835	12652
35/3	12085	12077	12985	12977
35/4	12179	12070	12879	12870
35/5	12185	12283	12885	12783
35/6		12119		
35/7.5	12188	12284	12888	12784
35/8.5	12176		12876	
35/10	12272	12091	12772	12797
40/3	12080	12078	12877	12978
40/4		12285		12785
40/5	12086	12286	12986	12786
40/6		12220		12920
40/7.5	12189	12287	12889	12787
40/10	12273	12088	12773	12798
45/3		12079		12979
45/4		12219		12891
45/5	12190	12288	12890	12788
45/6		12127		12827
45/7.5	12274	12289	12774	12789
45/10		12172		12872
50/5	12108	12290	12808	12790
50/7.5	12013	12291	12913	12791
50/10		12124		12892
50/12.5		12253		12719
55/5	12275	12292	12775	12792
55/7.5		12293		12793
55/10	12276	12299	12822	12799
60/3		12160		12860
60/5	12109	12294	12809	12794
60/7.5	12110	12295	12776	12795
60/10		12296		12796
60/12.5		12161		12861
65/10	12101	12162	12810	12862
70/5		12255		12823
70/7.5		12166		12866
70/10		12169		12869
75/5		12168		12968
75/7.5		12125		12901
75/10		12047		12935
80/5	12297	12257	12815	12801
80/7.5	12298	12216	12898	12816
80/10		12117		12821
85/5		12022		12938
85/7.5		12020		12942
85/10		12001		12944



Accessories for Relays and Capacitors

QC-6 Kit		
93001	For conversion of screw-type connections on relays	
QC-8 for 11001 Start Capacitor Kit		
93003	<ul style="list-style-type: none"> - 9 pc 93007 2 watt (15,000 ohm) resistors - 32 pc push-on to screw-on connectors - 6 pc 93005 4-in jumpers with .25-in female spade connectors 	
6 Inch Jumper		
93006	- 6-in jumper with .25-in female spade connectors	
Resistor for Start Capacitors		
93007	- 2 watt (15,000 ohm) Resistors	
QC-13 for Start Capacitors		
93106	- 10 pc 2 watt (15,000 ohm) resistors with .25-in female spade connectors	
Snap on Terminals		
93029	<p>Sold in packs of 25 only</p> <ul style="list-style-type: none"> - 25 pc snap-on terminals - Converts push-on type terminals to screw-on type 	
Snap-on Mounting Brackets for Motor Start Capacitors		
93026	2.75 in	
93027	3.38 in	
93028	4.38 in	

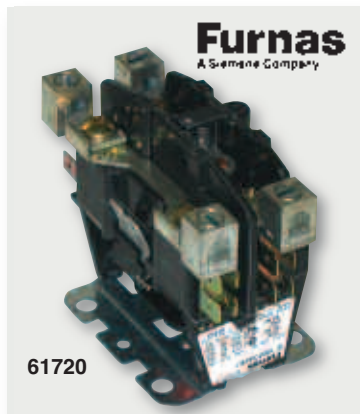
Case Dimensions*		
CASE SIZE	DIAMETER	LENGTH
1	1.44	2.75
2	1.44	3.38
4	1.81	3.38
5	1.81	4.38
6	2.06	3.38
7	2.06	4.38
8	2.56	4.38

Protector (boots) for Motor Run Capacitors		
93011	1 Hole Boot	
93012	2 Hole Boot	
93013	3 Hole Boot for Dual Section	
Wrap-Around Brackets for Motor Run Capacitors		
93014	Oval 1.94 x 2.78 for base A	
93015	Oval 1.97 x 2.94 for base C	
93116	Oval 2.25 x 3.66 for base D	
Mounting Brackets for Round Capacitors		
93031	- For 1.63 in and 1.75 in diam	
93032	- For 2.0 in diam	
93033	- For 2.50 in diam	
Bakelite End Caps for Motor Start Capacitors		
93018	- BEC-1 1.44 in	
93019	- BEC-2 1.81 in	
93020	- BEC-3 2.06 in	
93021	- BEC-4 2.56 in	
93022	For mounting OFF MOTOR. Leads on top side.	
93023	- BEC-1 1.44 in	
93024	- BEC-2 1.81 in	
93025	- BEC-3 2.06 in	
93025	- BEC-4 2.56 in	

*Capacitors may be put in different case sizes occasionally, but will not be larger than those stated.

Furnas/MARS 780 Definite Purpose Contactors

MARS SERIES **614**



Class 45 w/Jumper 1 Pole 25-40 Amp Contactors

The Furnas Centurion 2000 Contactors offer a high new standard in definite purpose control. When used with an appropriate pilot device they can provide either low voltage protection or low voltage release. These controls have been designed with a low drop out voltage making them ideal for air conditioning, heating and refrigeration applications.

The Centurion 2000 was designed to be a tougher, more compact, more versatile and quieter contactor than ever before.

Features:

- Compact size
- Interchangeable mounting
- Straight thru wiring
- Sems screws available on 25A, 30A and 40A
- Binding Head Screws optional on 40A
- Class H Coil Insulation on 25-60 amp
- Meets ARI-780, UL and CSA Standards

1 Pole with Jumper Wire, 25 – 40 Amps, Class 45

MARS NO.	FURNAS NO.	F.L.A.	LOCKED ROTOR AMPS				NON INDUCTIVE AMPS	COIL VOLTS
			240V	277V	480V	600V		
61315	45DG10AJA	25	150	150	100	80	35	24
61316	45DG10AFA							120
61317	45DG10AGA							240
61320	45EG10AJA	30	180	180	150	120	40	24
61720 ¹	45EG10AJAL ¹							24
61321	45EG10AFA							120
61322	45EG10AGA							240
61323	45EG10ALA							277
61330	45GG10AJA	40	180	180	150	120	50	24
61730 ¹	45GG10AJAL ¹	40	240	200	160	140	55	24

2 Pole, 20 – 40 Amps, Class 45

MARS NO.	FURNAS NO.	F.L.A.	LOCKED ROTOR AMPS				NON INDUCTIVE AMPS	COIL VOLTS
			240V	277V	480V	600V		
61335	45CG20AJ	20	-	120	100	80	30	24
61336	45CG20AF							120
61337	45CG20AG							240
61338	45CG20AL							277
61340	45DG20AJ	25	-	150	125	100	35	24
61341	45DG20AF							120
61342	45DG20AG							240
61343	45DG20AL							277
61345	45EG20AJ	30	-	180	135	110	40	24
61745 ¹	45EG20AJL ¹							24
61346	45EG20AF							120
61746 ¹	45EG20AFL ¹							120
61347	45EG20AG							240
61747 ¹	45EG20AGL ¹							240
61348	45EG20AL							277
61349	45EG20AH							480
61755 ¹	45GG20AJL ¹							40
61756 ¹	45GG20AFL ¹	120						
61757 ¹	45GG20AGL ¹	240						

Coil Data

CLASS	POLES	F.L.A.	WATTS	VA (NOMINAL)		VOLTS (NOMINAL)	
				INBRUSH	SEALED	PICK-UP	DROP OUT
45	1-2	20 - 40	2.6	27	7.3	80%	50%

For Dimensions see page C14 - C16

¹ with Lug and QC



Class 42 2, 3 and 4 Pole 25-60 Amp Contactors

The Furnas Centurion 2000 Contactors offer a high new standard in definite purpose control. When used with an appropriate pilot device they can provide either low voltage protection or low voltage release. These controls have been designed with a low drop out voltage making them ideal for air conditioning, heating and refrigeration applications.

The Centurion 2000 was designed to be a tougher, more compact, more versatile and quieter contactor than ever before.

Features:

- Compact size
- Interchangeable mounting
- Straight thru wiring
- Sems screws available on 25A, 30A and 40 A
- Binding Head Screws optional on 40A
- Class H Coil Insulation on 25-60 amp
- Meets ARI-780, UL and CSA Standards

Class 42 contactors offer reliable full voltage control of Compressor Motors and Electric Heating Loads.

These contactors also feature an enclosed recessed push test button to prevent accidental operation. Close tolerance cross arm guidance system reduce chances of binding.

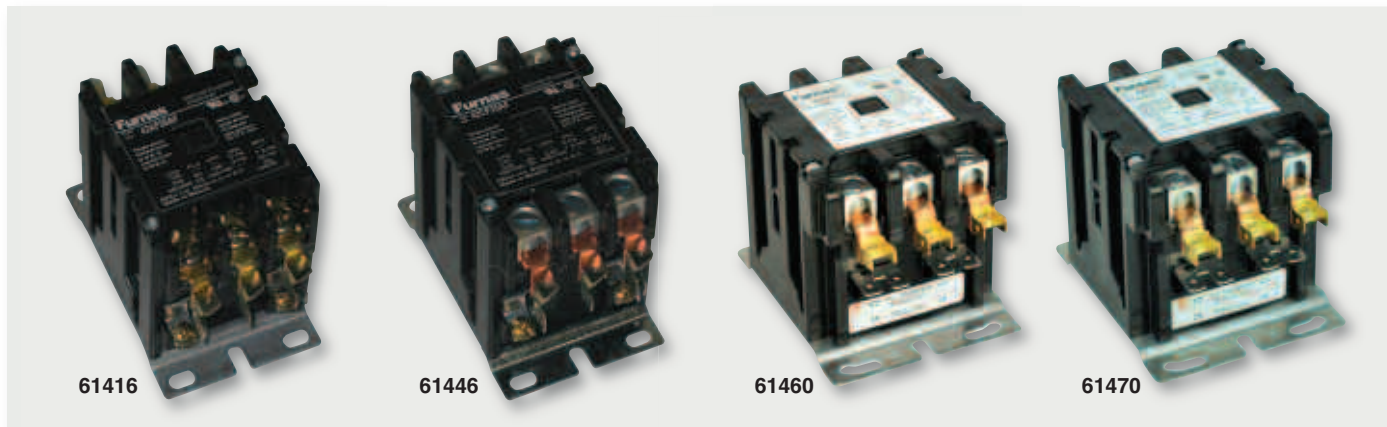
2 pole, 25-40 Amp, Class 42

MARS NO.	FURNAS NO.	F.L.A.	LOCKED ROTOR AMPS			NON INDUCTIVE AMPS	COIL VOLTS	HORSE POWER	
			240V	480V	600V			120V	240 V
61410	42AF15AJ	25	150	125	100	35	24	2	3
61411	42AF15AF						120	2	3
61412	42AF15AG						240	2	3
61425	42BF15AJ	30	180	150	120	40	24	2	5
61426	42BF15AF						120	2	5
61427	42BF15AG						240	2	5
61428	42BF15AL						277	2	5
61440	42CF15AJ	40	240	200	160	50	24	3	7.5
61441	42CF15AF						120	3	7.5
61442	42CF15AG						240	3	7.5

For Accessories and Dimensions see pages C-14 to C-16

Furnas/MARS 780 Definite Purpose Contactors

MARS SERIES **614**



3 and 4 Pole, 25 – 60 Amp, Class 42

MARS NO.	FURNAS NO.	F.L.A.	LOCKED ROTOR AMPS			NON INDUCTIVE AMPS	COIL VOLTS	HORSE POWER			MARS NO.	FURNAS NO.
			240V	480V	600V			240V	480 V	600 V		
3 POLE											4 POLE	
61415	42AF35AJ	25	150	125	100	35	24	5	7.5	7.5	-	-
61416	42AF35AF						120	5	7.5	7.5	-	-
61417	42AF35AG						240	5	7.5	7.5	-	-
61430	42BF35AJ	30	180	150	120	40	24	7.5	10	10	61435	42BF25AJ
61431	42BF35AF						120	7.5	10	10	61436	42BF25AF
61432	42BF35AG						240	7.5	10	10	61437	42BF25AG
61433	42BF35AL						277	7.5	10	10	-	-
61434	42BF35AH						480	7.5	10	10	-	-
61445	42CF35AJ	40	240	200	160	50	24	10	15	15	61450	42CF25AJ
61446	42CF35AF						120	10	15	15	61451	42CF25AF
61447	42CF35AG						240	10	15	15	61452	42CF25AG
61448	42CF35AL						277	10	15	15	-	-
61449	42CF35AH						480	10	15	15	-	-
61460	42DF35AJ	50	300	250	200	63	24	15	30	30	-	-
61461	42DF35AF						120	15	30	30	-	-
61462	42DF35AG						240	15	30	30	-	-
61463	42DF35AL						277	15	30	30	-	-
61464	42DF35AH						480	15	30	30	-	-
61470	42EF35AJ	60	360	300	240	75	24	20	40	40	-	-
61471	42EF35AF						120	20	40	40	-	-
61472	42EF35AG						240	20	40	40	-	-

Coil Data

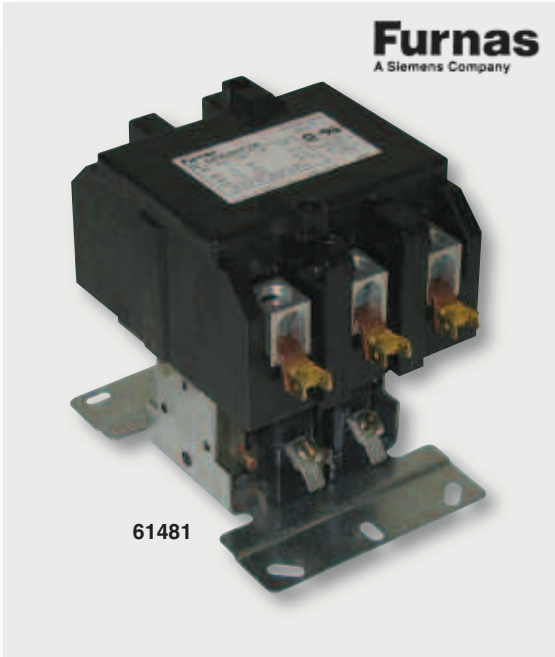
CLASS	POLES	F.L.A.	WATTS	VA (NOMINAL)		VOLTS (NOMINAL)	
				INBRUSH	SEALED	PICK-UP	DROP OUT
42	2 - 3	25 - 40	2.5	52	6.2	80%	50%
42	4	25 - 40	4.2	91	15.6	80%	50%
42	2 - 3	50 - 60	4.2	91	15.6	80%	50%

For Accessories and Dimensions see pages C-14 to C-16

Furnas/MARS 780 Definite Purpose Contactors

MARS SERIES **614**

COMPONENT



Class 42 3 Pole 75-150 Amp Contactors

The Furnas Centurion 2000 Contactors offer a high new standard in definite purpose control. When used with an appropriate pilot device they can provide either low voltage protection or low voltage release. These controls have been designed with a low drop out voltage making them ideal for air conditioning, heating and refrigeration applications.

The Centurion 2000 was designed to be a tougher, more compact, more versatile and quieter contactor than ever before.

Features:

- Compact size
- Interchangeable mounting
- Straight thru wiring
- Encapsulated Coils in a moisture proof epoxy
- Meets ARI-780, UL and CSA Standards
- Class 42 contactors offer reliable full voltage control of Compressor Motors and Electric Heating Loads.

3 Pole, 75-150 Amp, Class 42

MARS NO.	FURNAS NO.	F.L.A.	LOCKED ROTOR AMPS			NON INDUCTIVE AMPS	COIL VOLTS
			240V	480V	600V		
3 POLE							
61480	42FE35AJ106	75	450	375	300	93	24
61481	42FE35AF106						120
61482	42FE35AG106						240
61483	42FE35AL106						277
61490	42GE35AJ106	90	540	450	360	120	24
61491	42GE35AF106						120
61492	42GE35AG106						240
61501	42HF35AF	120	720	600	480	150	120
61502	42HF35AG						240
61511	42IF35AF	150	900	750	600	160	120

Coil Data

CLASS	POLES	F.L.A.	WATTS	VA (NOMINAL)		VOLTS (NOMINAL)	
				INBRUSH	SEALED	PICK-UP	DROP OUT
42	3	75 - 90	13.5	200	31	85%	53%
42	3	120	14	310	26	85%	50%

Horse Power Rating for 3 Pole

	240 V	480 V	600 V
75 amp	25	40	40
90 amp	30	50	50

For Accessories and Dimensions see pages C-14 to C-16



The largest selection of motors, components, and accessories for the HVAC/R Industry

Furnas/MARS 780 Definite Purpose Contactors

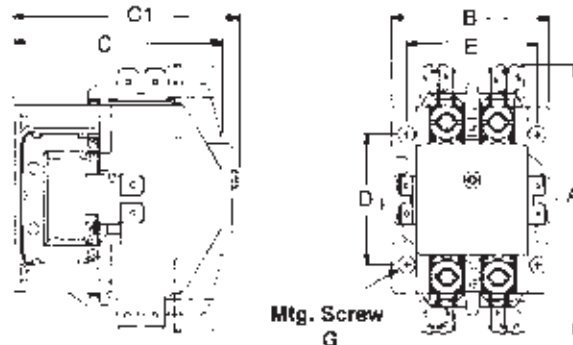
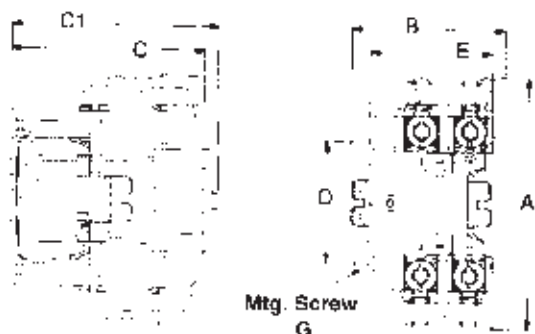
MARS SERIES **614**



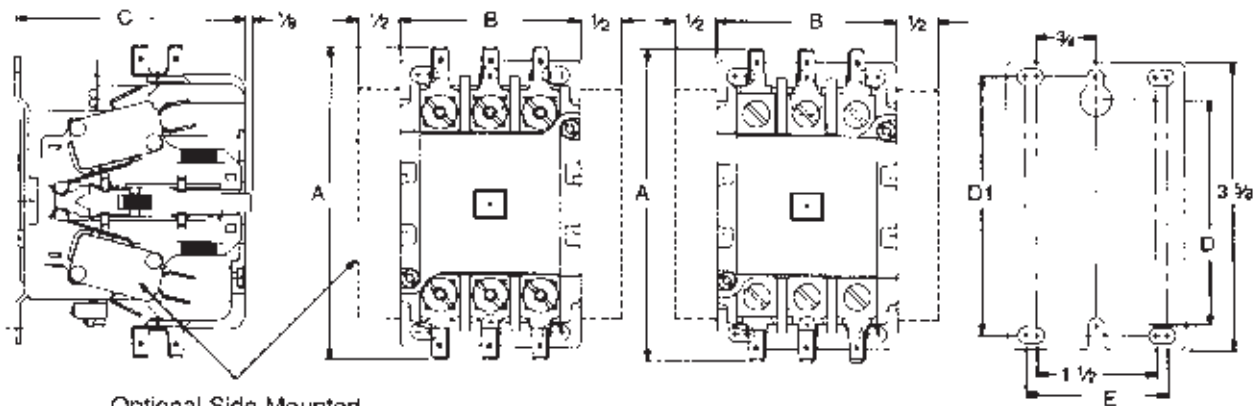
Renewal Parts and Accessories

20-40A 1 Pole

20-40A 2 Pole



25-40A 3 Pole



Optional Side Mounted Auxiliary Interlocks

MARS NO.	SIZE F.L.A.	POLES	OUTLINE DIMENSIONS				MTG DIMENSIONS			MTG SCREW G	MAX WIRE SIZE
			A	B	C	C1	D	D1	E		
61310-61334, 61720-61734	20-40	1	3-3/8	2-1/16	2-5/8	2-13/16	1-5/8	-	1-5/8	10	10
61335-61359, 61745-61759	20-40	2	3-3/8	2	2-11/16	2-27/32	1-5/8	-	1-5/8	10	10
61415-61419, 61434	25-30	3	3-31/32	2-1/4	2-7/8	-	3-1/8	3-1/4	1 13/16	10	8
61445-61449	40	3	3-31/32	2-1/4	2-7/8	-	3-1/8	3-1/4	1 13/16	10	2

Furnas/MARS 780 Definite Purpose Contactors

MARS SERIES **614**

COMPONENT



Renewal Parts and Accessories

Snap-On Side Mounted Auxiliary Interlocks – Class 42 Contactors

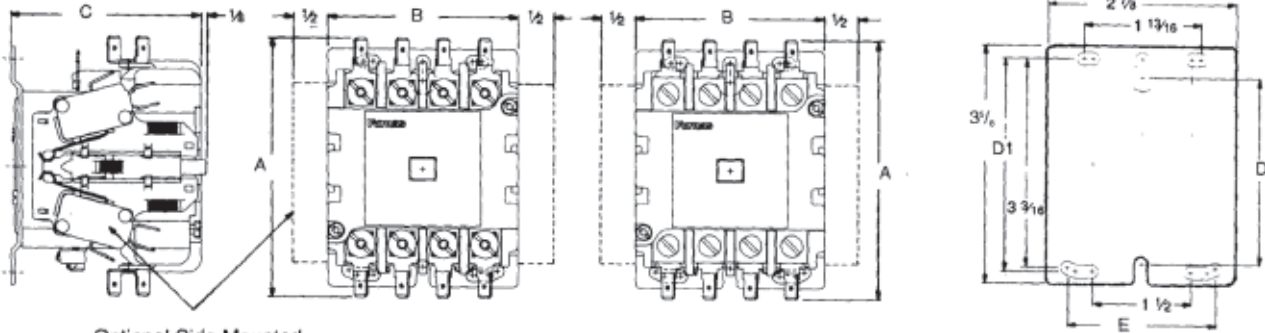
MARS NO.	FURNAS NO.	INTERLOCK CONTACTS	CONTACTOR F.L.A.	USED ON MARS NO.
61610	49ACRO	1 NO		
61611	49ACRC	1 NC		
61612	49ACR6	1 NO – 1 NC		
61613	49ACR7	2 NO	25 - 60	61410 - 61474
61614	49ACR8	2 NC		
61615	49D36098001	SPDT		
61616	49D36098003	DPDT		
61617	49CE42SPDT	SPDT		
61618	49D22125001	1 NO	75 - 90	61475 – 61494
61619	49D22125002	1 NC		

Furnas/MARS 780 Definite Purpose Contactors

MARS SERIES **614**

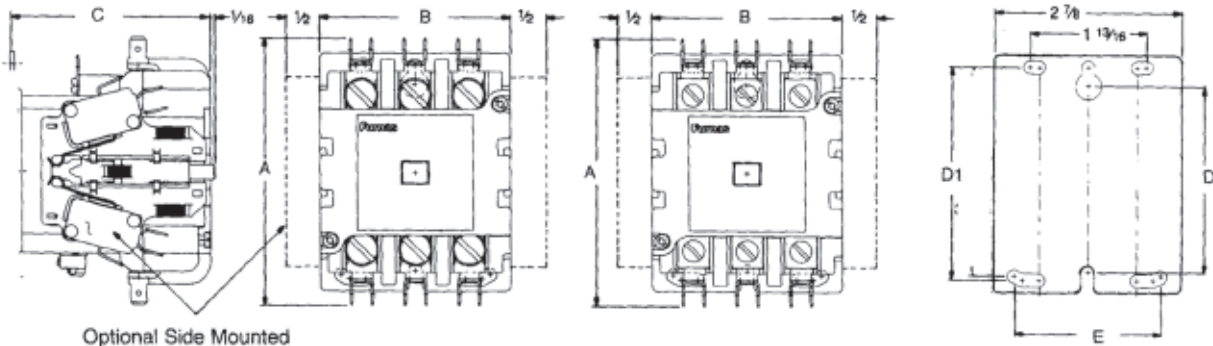


25-40A 4 Pole



Optional Side Mounted Auxiliary Interlocks

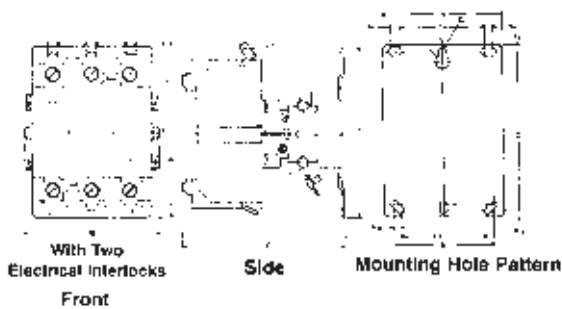
50A, 60A 3 Pole



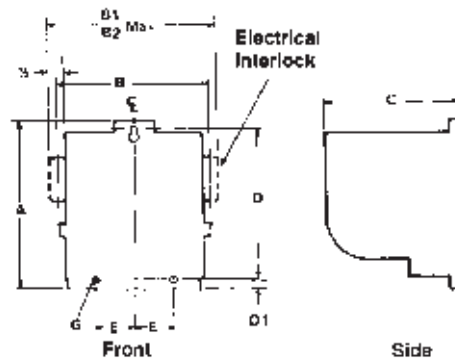
Optional Side Mounted Auxiliary Interlocks

MARS NO.	SIZE F.L.A.	POLES	OUTLINE DIMENSIONS			MTG DIMENSIONS			MTG SCREW G	MAX WIRE SIZE
			A	B	C	D	D1	E		
61420-61424, 61435-61439	25-30	4	3-31/32	2-7/8	2-7/8	3-1/8	3-1/4	2-1/4	10	8
61450-61454	40	4	3-31/32	2-7/8	2-7/8	3-1/8	3-1/4	2-1/4	10	2
61460-61464, 61470-61474	50-60	3	4-1/16	2-7/8	3-1/16	3-1/8	3-1/4	2-1/4	10	2

75A, 90A 3 Pole



120A, 150A 3 Pole



MARS NO.	SIZE F.L.A.	OUTLINE DIMENSIONS				MTG DIMENSIONS			MTG SCREW G	MAX WIRE SIZE
		A	B	B1	C	D	D1	E		
61475-61479, 61480-61484	75	5-3/16	4	-	4-3/4	4-5/8	-	2-7/8	10	1/0
61485-61489, 61490-61494	90	5-3/16	4	-	4-3/4	4-5/8	-	2-7/8	10	1/0
61495-61499, 61500-61504	120	6-1/8	5-1/8	5-1/4	5-1/16	5-5/8	1/4	3/4	1/4	000

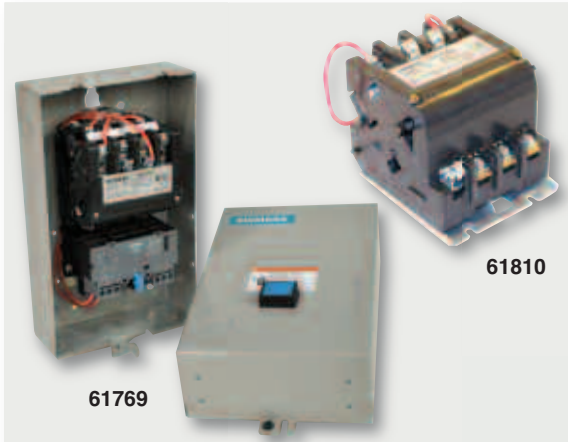
Dimensions for reference, not for construction.



Furnas NEMA Contactors & Starters

MARS SERIES **617**

COMPONENT



Application:

NEMA heavy duty contactors and starters are designed for across the line starting of 3 phase motors. Typical applications include cooling towers, refrigeration equipment, and commercial HVAC. NEMA contactors provide the switching (on/off) function. NEMA starters consist of a NEMA contactor with the addition of motor protection via a solid state overload relay which includes phase loss protection.

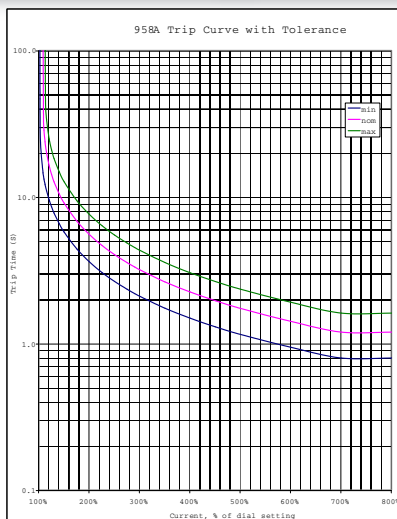
Standard NEMA Contactor Features:

- **Rugged Industrial Design**
Epoxy encapsulated coil seals out moisture, promotes heat transfer, and resists electrical, mechanical, and thermal stresses. The 45 degree wedge action contacts reduce tracking and provide faster arc quenching. The resulting self-cleaning and reduced contact bounce mean cooler operation and longer life for the large silver cadmium oxide contacts
- **Dual Voltage Coils**
120/240 VAC is standard
24 VAC and 240/480 VAC are available as accessories

- **Easy Coil Access**
Top mounted coil requires no tools to change

Standard NEMA Starter Features:

- **NEMA Contactor**
- **True Phase Loss Protection**
Trips within 3 seconds and is self protected from short circuits
- **High Accuracy** +/- 2% repeat trip accuracy
- **Self Powered** Requires no hard wiring or separate power source
- **Heaterless Construction**
Minimizes energy costs. Does not require the use of complicated heater charts. Simply set the dial on the overload relay to the motor F.L.A.
- **Overload trip class 20**



NEMA Starters

MARS NO.	SIEMENS NO.	NEMA SIZE	AMP RATING	HORSEPOWER			OVERLOAD RANGE	COIL VOLTAGE	ENCLOSURE
				200V	230V	460V			
61769	14BUB32BA	0	9	1/2	3/4	1-1/2	.75-3A	120/240	NEMA 1
61770	14CUC32BA	0	18	2	2	5	2.5-10A	120/240	NEMA 1
61771	14CUD32BA	0	18	3	3	-	9-18A	120/240	NEMA 1
61772	14DUC32BA	1	27	2	2	5	2.5-10A	120/240	NEMA 1
61773	14DUD32AA	1	27	3	3	10	9-18A	120/240	Not Included
61774	14DUD32BA	1	27	3	3	10	9-18A	120/240	NEMA 1
61775	14DUE32AA	1	27	7-1/2	7-1/2	-	13-27A	120/240	Not Included
61776	14DUE32BA	1	27	7-1/2	7-1/2	-	13-27A	120/240	NEMA 1
61779	14FUF32AA	2	45	-	-	15	13-27A	120/240	Not Included
61780	14FUF32BA	2	45	10	15	25	22-45A	120/240	NEMA 1
61781	14FUF32AA	2	45	10	15	25	22-45A	120/240	Not Included
61782	14HUG32BA	3	90	25	30	50	45-90A	120/240	NEMA 1
61783	14HUG32AA	3	90	25	30	50	45-90A	120/240	Not Included

NEMA Contactors

MARS NO.	SIEMENS NO.	NEMA SIZE	AMP RATING	HORSEPOWER			COIL VOLTAGE	ENCLOSURE
				200V	230V	460V		
61810	40CP32AA	0	18	3	3	5	120/240	Not Included
61811	40DP32AA	1	27	7-1/2	7-1/2	10	120/240	Not Included
61812	40EP32AA	1-3/4	40	10	10	15	120/240	Not Included
61813	40FP32AA	2	45	10	15	25	120/240	Not Included
61815	40HP32AA	3	90	25	30	50	120/240	Not Included



The largest selection of motors, components, and accessories for the HVAC/R Industry

Furnas NEMA Contactors & Starters

MARS SERIES **617**



Parts & Accessories for Starters & Contactors

MARS NO.	SIEMENS NO.	DESCRIPTION	NEMA SIZE
61652	75D73070J	Coil 24VAC	0-2
61650	75D73070A	Coil 120/240V	0-2
61653	75D73070C	Coil 240/480V	0-2
61654	75D73070D	Coil 208V	0-2.5
61655	75D73251C	Coil 240/480V	3
61656	75CF14	Replacement Contact Kits*	0
61657	75DF14	Replacement Contact Kits*	1
61658	75FP14	Replacement Contact Kits*	2
61659	49AB10	N.O. Auxiliary Contact	0-3
61660	49AB01	N.C. Auxiliary Contact	0-3
61671	49SBBIX637	NEMA 1 Hand-Off Auto Kit	—

* Replacement contacts are sold in kits that will re-build 1 power pole.
For Example: Use (3) 75DF14 contact kits to re-build a 3 pole device.

Solid State Overload Relays

MARS NO.	SIEMENS NO.	OVERLOAD RANGE	ENCLOSURE
61795	3UB81134AB2	.25-1A	Not Included
61796	3UB81134BB2	.75-3A	Not Included
61798	3UB81234DW2	9-18A	Not Included
61800	48ASGM20	20-40A	Not Included
61801	3UB81334FW2	13-27A	Not Included



GE Definite Purpose Contactors

MARS SERIES **130**

COMPONENT



Model 453 Definite Purpose Contactors

These compact models for 1-1/2, and 2 pole applications, and new 3 pole models that have been specially designed to accommodate IEC style auxiliaries and overloads.

The compact models feature universal mount bases, taped coils, and combination phillips/ slot head screws. 40 amp compact models feature box lugs and arc covers. All of the GE compact designs feature "no burn" coil design. These are self-protecting coils that meet the Trane specification. The Series 453 GE compact design contactors all meet ARI 780. Some other manufacturer's economy model compact contactors do not meet this rigorous spec. All of this is now available at attractive pricing!

Features:

- Compact overall size
- Combo phillips/slothead screws/hexhead on 30 amp
- Box lugs on 40 F.L.A. rated models
- Universal mount base

Specifications:

CR453C Compact, 30A, 40A, 1-Pole Plus Shunted Pole & 2-Pole

FULL LOAD AMPS	RESISTIVE AMPS PER POLE	LOCKED ROTOR AMPS SINGLE PHASE, 50/60 HZ			POLES
		240/277V	480V	600V	
30	40	180	150	120	1 + Shunt
					2
40	50	240	200	160	2*

* Ratings shown are for 1-phase, 2-pole.

MARS NO.	F.L.A.	RESISTIVE RATING PER POLE	POLES	VOLTAGE	GE MODEL	DIMENSIONS		
						HEIGHT	WIDTH	DEPTH
13101	30	40	1-1/2	24	453CC3HAAAM	2-9/16	2	3-1/4
13104	30	40	2	24	453CC2HAAAM	2-3/4	2	2-7/16
13105				120	453CC2AAAAM			
13106				240	453CC2BAAAM			
13107	40	50	2	24	453CE2HBBAM	2-3/4	2	2-7/16
13108				120	453CE2ABBAM			
13109				240	453CE2BBBAM			

GE Definite Purpose Contactors

MARS SERIES **130**



Model 453 Definite Purpose Contactors

GE's model 453 25-40 amp 3 pole contactors feature several significant innovations, including "finger safe" design and a visual indicator showing whether the contactor is energized. The model 453 25-40 amp 3 pole models also have been designed to accommodate IEC style auxiliaries.

Specifications:

CR453 Ratings-Full Voltage, Non-Reversing

FRAME SIZE	VAC	RATINGS				RESISTIVE RATINGS PER POLE
		F.L.A.	LRA	HORSEPOWER		
				1 PH	3 PH	
CR453AB	120	25	150	2	–	35
	240			3	7.5	
	480			–	10	
	600			–	10	
CR453AC	120	30	180	2	–	40
	240			5	10	
	480			–	15	
	600			–	15	
CR453AD	120	40	240	3	–	50
	240			7.5	10	
	480			–	20	
	600			–	20	

Features:

- Compact overall size
- Combo phillips/slothead/hexhead screws on 25 amp & 30 amp
- Box lugs on 40 F.L.A. rated models
- Universal mount base
- Unique coil fit for correct replacement every time
- Includes a visual indicator showing whether the contactor is energized
- Designed to accommodate IEC style auxiliaries & overloads
- A choice of terminal configurations allows diverse applications

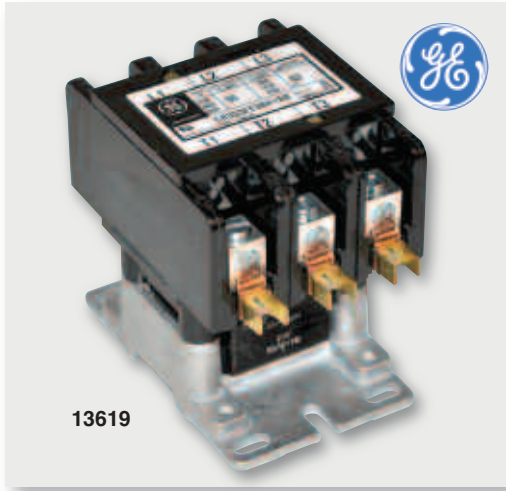
MARS NO.	F.L.A.	RESISTIVE RATING PER POLE	POLES	VOLTAGE	GE MODEL	DIMENSIONS		
						HEIGHT	WIDTH	DEPTH
13110	25	35	3	24	453AB3HAAA00AB	3-1/8	2-1/4	3-3/4
13111				120	453AB3AAAA00AB			
13112				240	453AB3BAAA00AB			
13113	30	40	3	24	453AC3HAAA00AB	3-1/8	2-1/4	3-3/4
13114				120	453AC3AAAA00AB			
13115				240	453AC3BAAA00AB			
13116	40	50	3	24	453AD3HBBA00AB	3-1/8	2-1/4	3-3/4
13117				120	453AD3ABBA00AB			
13118				240	453AD3BBBA00AB			



GE Definite Purpose Contactors

MARS SERIES **130**

COMPONENT



13619

50 and 60 Amp Contactors

General Electric has 50 and 60 amp 3 pole contactors. MARS numbers 13619 thru 13627 feature smaller size and a rugged die cast universal base for replacement of competitive contactors. These contactors feature famous General Electric quality and dependability.

Features:

- Used on air conditioning, refrigeration and heating
- Box lug terminals with quick-connects
- Terminal cover keeps out dust and dirt
- UL and CSA listings available

Specifications:

LOCKED ROTOR AMPS

- At 240V, 6 times F.L.A.
- At 480V, 5 times F.L.A.
- At 600V, 4 times F.L.A.

COIL DATA @ 60 Hz (50 Hz)

	INRUSH VA	HOLDING VA
13619-13627	100 (119)	11 (14)

Compact

MARS NO.	FULL LOAD AMPS	RESISTIVE AMPS	COIL VOLTAGE	POLES	HEIGHT	WIDTH	DEPTH
13619	50	62	24	3	3.75	2.75	3.56
13620			110-120				
13621			208-240				
13625	60	75	24	3	3.75	2.75	3.56
13626			110-120				
13627			208-240				



13260

75, 90, 120 and 150 Amp Contactors

General Electric 75 thru 150 amp contactors make the GE contactor line from MARS the most complete in the industry. Small size and straight thru wiring make these easy to install.

Features:

- Compact size
- 120 and 150 amp allow coil change and contact inspection in seconds without tools
- Box lug terminals with quick-connects on 75 and 90 amp models
- Pressure type terminals on 120 and 150 amp models
- Totally encapsulated coil
- UL and CSA listings available

Specifications:

LOCKED ROTOR AMPS

- At 240V, 6 times F.L.A.
- At 480V, 5 times F.L.A.
- At 600V, 4 times F.L.A.

COIL DATA @ 60 Hz (50 Hz)

AMPS	INRUSH VA	HOLDING VA
75,90	233	40
120	1150	80
150	1217	85

MARS NO.	FULL LOAD AMPS	RESISTIVE AMPS	COIL VOLTAGE	POLES	HEIGHT	WIDTH	DEPTH
13240	75	90	24	3	4.63	3.38	4.28
13241			115-120				
13242			208-240				
13260	90	90	24	3	4.63	3.38	4.28
13261			115-120				
13262			208-240				
13281	120	120	115-120	3	7.75	5.75	6.50
13282	120	120	208-240				
13301	150	150	115-120				



GE Definite Purpose Contactors

MARS SERIES **130**



Renewal Parts for GE Contactors

Contact Sets

MARS NO.	AMPERAGE OF DEVICE	MARS NUMBERS	USED ON	G.E. NUMBERS
92039	30	13113-13115	CR153C, CR154C, CR353AC, CR453AC	
92103	75	13240-13252	CR153GB, CR154GB, CR253GB, CR353EG	
92104	90	13260-13272	CR153L, CR154L, CR253LB, CR353EH	

Renewal Coils

MARS NO.	VOLTAGE		AMPERAGE OF DEVICE	MARS NUMBERS	USED ON	G.E. NUMBERS
	60HZ	50HZ				
92048	24	24	25, 30, 40	13110-13118,	CR153A, B, C, D, DA, CR154A, B, C, D, DA, BV, CV, DV, CR253DB, CR453AB, AC, AD, CR353AB, AC, AD, CR354AB, AC, AD, CR355AB, AC, AD	
92046	110-120	110-120		13413-13455, 13513, 13555,		
92047	208-240	208-240		13613-13615, 13110-13118		
92085	24	24	50, 60	13619-13627	CR253EB, FB, CR353FE, FF, CR354FE	
92086	110-120	110-120				
92087	208-240	208-240				
92120	24	—	75, 90	13240-13272	CR153GB, L, CR353EG, EH, CR355EG, EH	
92121	115-120	110				
92122	208-240	220				



Accessory Parts for GE Contactors

GE contactor accessory parts are designed to provide reliable switching options. Auxiliary switches feature easy installation in the field.

All auxiliaries are UL, CSA and CE listed

Auxiliary Switches

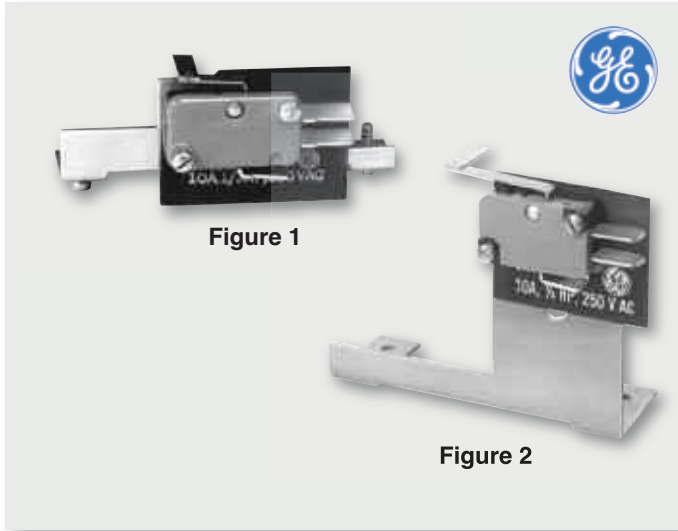
MARS NO.	GE MODEL NO.	DESCRIPTION
92320	CR453XC211	Single SPDT 250V Side Mount
92321	CR453XC222	Double SPDT 250V Side Mount
92324	CR453XC611	1NO-1NC 600V Side Mount w/QC
92322	BCLF10	1 NO 600V Top Mount
92323	BCLF01	1 NC 600V Top Mount



GE Definite Purpose Contactors

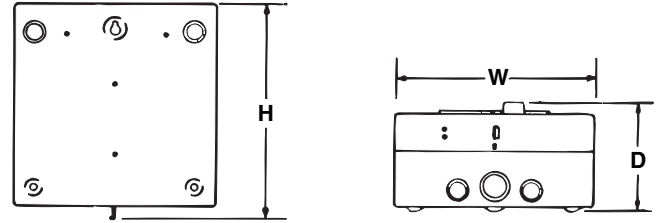
MARS SERIES **130**

COMPONENT



Auxiliary Contacts & Enclosures for GE Contactors and Starters

Enclosure Dimensions (See Chart Below)



Auxiliary Contacts 10 Amp at 240 VAC

MARS NO.	SWITCH ACTION	USED ON MARS NOS.	G.E. NOS.	APPLICATION	FIG. NO.
92301	SPDT	13110-13118, 13413-13455, 13513-13555, 13613-13627	CR153A, B, C, D, DA, CR154BV, CV, DV, CR253DB CR253EB, FB, CR353AB, AC, AD, FE, FF, CR354AB, AC, AD, FE	One switch can be added	1
92302	SPDT	13200-13272, 13473-13495, 13573-13575	CR153EB, FB, GB, L, CR154EV, FV, GV, LV, CR253GB, LB, CR353EE, EF, EG, EH	One switch can be added to each side	2

Enclosures

MARS NO.	USED ON	HEIGHT	WIDTH	DEPTH
92018	contactors thru 60 amp	10.00	6.00	4.03

ACC Contactors

MARS SERIES **600**



30-40 Amp Type C Power Contactors

One Pole With Shunt

The Type C contactor is used extensively in the Air Conditioning industry for single phase applications.

Two Pole Contactors

For applications where breaking both sides of the line and added safety is very important, the two pole Type C is the right selection.

Specifications:

- Line & load terminations: 10-32 phillips/slotted hex, washer head, box lug
- Tightening Torque: 25 in. lb.
- Quick connects: quad .250 standard (40 amp models have dual QC.)
- Coil termination: double .250 on each side
- Permissible ambient temperature: operate +60C/-40C, storage +90C/-50C
- Contact material: silver cadmium oxide
- Approximate mechanical life cycles: 1,000,000
- 30 amp models do not include covers. Add CJ suffix to part numbers if covers are desired (10 pc. min.) There will be an additional charge. 40 amp model is standard with covers.
- Dimensions & Accessories: pages C24

U.L. 508 GUIDE NO. NLDX2 / FILE NO. E75492
C.S.A. C22.2 NO. 14 / FILE NO. LR49598 or LR47771

1 Pole w/Shunt, 2 Pole Power Contactors, w/ Taped Wound Coils

1 POLE w/SHUNT		2 POLE		COIL VOLTS 50/60 HZ (1)	LINE/ LOAD VOLTS	FULL LOAD AMPS	LOCKED ROTOR AMPS		RES. AMPS	
MARS NO.	AH MODEL	MARS NO.	AH MODEL				1P	2P	1P	2P
60025	C301NU10	60030	C302U10	24	240/277 480	30	150	150	40	40
		60031	C302U20	120						
		60032	C302U30	208-240						
		60045	C402U10	24	240/277 480	40	240	240	50	50
		60046	C402U20	120						
		60047	C402U30	208-240						

Note: Replacement coils, contacts & auxiliary switches are not available for "C" contactors. (1) Nominal rated voltage at 50 Hz are 110V for U20/220V for U30 and 240V for U50.

Technical Data: 1 Pole, 1 Pole w/Shunt, 2 pole, - 20 - 40 Amps

AC COIL DATA (50/60 Hz)	VOLTAGE 1 POLE					VOLTAGE 2 POLE				
	24	120	240	277	480	24	120	240	277	480
Nominal Coil Voltage	24	120	240	277	480	24	120	240	277	480
Maximum Pick Up Volts	18	88	177	221	384	18	88	177	221	384
Drop Out Volts Range	6-15	20-70	40-140	50-180	(1)	6-15	20-70	40-140	50-180	(1)
Maximum Pick Up Time Milliseconds	30	30	30	30	30	30	30	30	30	30
Maximum Drop Out Time Milliseconds	20	20	20	20	20	20	20	20	20	20
Maximum Inrush VA 50 Hz	23	26	25	25	25	38	40	40	40	40
Maximum Inrush VA 60 Hz	22	24	23	23	23	35	37	37	30	37
Maximum Sealed VA 50 Hz	9	9	8	8	8	10	10	10	10	10
Maximum Sealed VA 60 Hz	6.5	7	7	7	7	8	8	8	6	8



25-90 Amp Contactors Millennium Series

ACC Millennium Series Contactors offers high performance as well as flexibility and reliability. They are designed to match numerous applications such as: motors, power supplies, food service equipment, compressors, business machines, resistive heating, air conditioning, refrigeration equipment and welding. Millennium Series Contactors feature a manual test button which directly closes movable contacts without energizing the coil.

Specifications:

- ARI 780 rated
- Quick connects: double .250 standard
- Coil termination: 6-32 screw & single QC
- Temperature range: -40°C to 65°C/-40°F to 150°F
- Contact material: silver cadmium oxide
- Approximate mechanical life cycles: 1,000, 000
- 25 and 30 amp models are standard with arc covers and QC terminals
- 40 amp models are standard with lugs and QC terminals
- Dimensions , Coil Data, Horsepower & Accessories
see page C24

U.L. 508 GUIDE NO. NLDX2/FILE NO. E75492

C.S.A. C22.2 NO. 14/FILE NO. LR49598

3 Pole Contactors, w/ Molded Encapsulated Coils

MARS NO.	AH MODEL NO.	COIL VOLTS 50/60 HZ	POLES	F.L.A. 600V	LOCKED ROTOR AMPS			RES AMPS PER POLE 600V
					240V	480V	600V	
60505	ACC238UMM10	24						
60506	ACC238UMM20	110/120	3	25	150	125	100	35
60507	ACC238UMM30	208/240						
60515	ACC338UMM10	24						
60516	ACC338UMM20	110/120	3	30	180	150	120	40
60517	ACC338UMM30	208/240						
60530	ACC438UMM10	24						
60531	ACC438UMM20	110/120	3	40	240	200	160	50
60532	ACC438UMM30	208/240						

50-60 Amp, 2 Pole Power Contactors, w/ Molded Encapsulated Coils

MARS NO.	AH MODEL 93	MARS NO.	AH MODEL 86	COIL VOLTS 50/60/HZ (1)	NO. OF POLES	FULL LOAD 600V	LOCKED ROTOR AMPS			RES. AMPS PER POLE		LOAD VOLTS	MAX. HP		
							240V	480V	600V	93	86		1PH	3PH	
60225	ACC633U10	60205	ACC630U10	24	3	60	360	300	240	75	-	-	-	-	

(1) Nominal rated voltage at 50 Hz are 110V for U20 & 220V for U30.

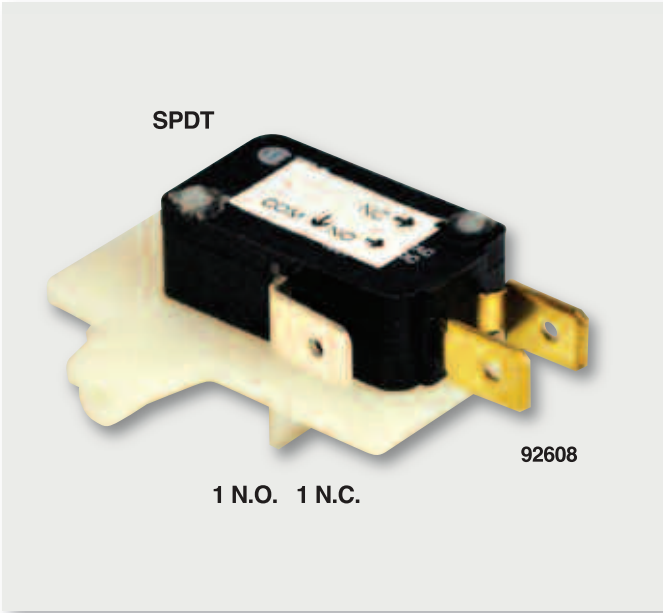
90 Amp, 3 Pole Power Contactors

MARS NO.	AH MODEL	COIL VOLTS 50/60/HZ (1)	NO. OF POLES	F.L.A. 600V	LOCKED ROTOR AMPS			RES. AMPS PER POLE 600V	LOAD/ LOAD VOLTS	MAX. HP	
					240V	480V	600V			1PH	3PH
60245	ACC937U10	24									
60246	ACC937U20	110-120	3	90	540	450	360	120	110-120	7.5 25	
60247	ACC937U30	208-240							200-240	15 30	

*Limited quantities available, while supplies last (1) Nominal rated voltage at 50 Hz are 110V for U20 & 220V for U30.

ACC Contactor Renewal Parts/Universal Enclosure

MARS SERIES **910 & 600**



ACC Contactor Renewal Parts

Selected renewal parts are available to extend the service of MARS definite purpose contactors.

ARROWHART/ACC Renewal/Accessory Parts Application Chart

MARS NO.	ARROWHART MODEL	IND. AMPS	VOLTS	SPDT AUX. SWITCH
60245	ACC937U10	90	24	92608
60246	ACC937U20	90	110-120	92608
60247	ACC937U30	90	208-240	92608

MARS NO.	ARROWHART MODEL NO.	COIL REPLACEMENT	MODEL NO.
92620	36320-501	110-120	93

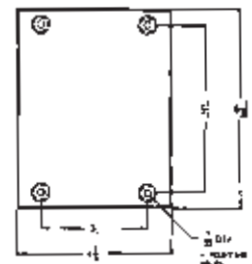
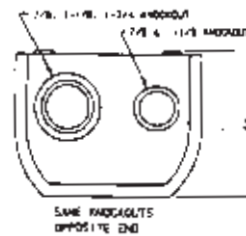
MARS NO.	ARROWHART MODEL NO.	SWITCHING ACTION	MODEL NO.
92608	34300-337	SPDT	86
92609	98220-332	1 N.O. 1 N.C.	Millenium Series
92610	98220-337	SPDT	Millenium Series



Universal Contactor Enclosure

The MARS 92680 Universal Contactor enclosure is specifically made for Arrowhart Contactors from 20 to 40 amp., but will also fit other brands of contactors from 20 to 40 amp. This enclosure will also fit the new smaller frame ACC533 and ACC633 contactors. Each enclosure comes with all the necessary mounting screws.

MARS NO.	MFG. PART NO.	DESCRIPTION
92680	AHK425A	Universal Contactor Enclosure

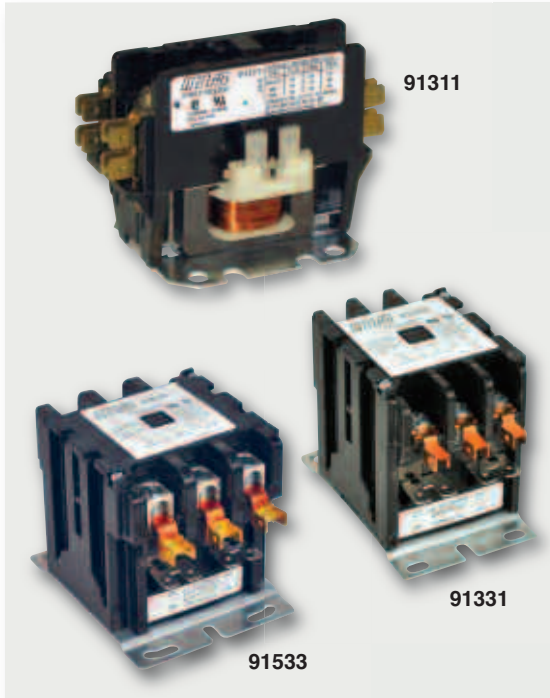




Definite Purpose Contactors

MARS SERIES **910**

COMPONENT



MARS Definite Purpose Contactors

MARS definite purpose contactors are designed for use on refrigeration, air conditioning, and electric heating systems. They are available in one pole with shunt (one and one half pole) configurations, from 30 thru 40 amps. MARS brand definite purpose contactors are also available in 2 pole models (30 and 40 amp) and 3 pole models (30 through 75 amp). The universal mounting base allows replacement of most contactor brands. Straight-thru wiring and small size speeds installation.

Features:

- Used on air conditioning, refrigeration and electric resistance heating
- Straight-thru wiring to speed installation
- Universal mounting base
- Small, compact design

Specifications:

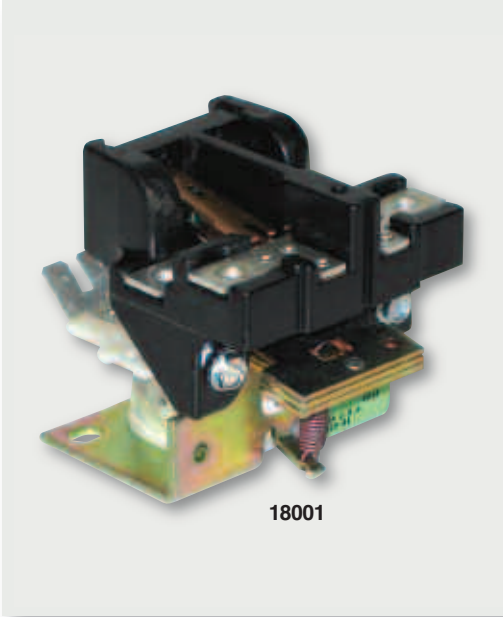
- ARI 780 rated
- UL and CSA recognized
- 1,000,000 cycle mechanical life

MARS NO.	FULL LOAD AMPS	RESISTIVE AMPS	LOCKED ROTOR AMPS @ 240/277	COIL VOLTAGE	POLES	HEIGHT	WIDTH	DEPTH
91311				24				
91312	30	40	150	110/120	1-1/2	2.44	2.00	3.25 in.
91313				208/240				
91411	40	50	240	24	1-1/2	2.44	2.00	3.25 in.
91321				24				
91322	30	40	150	110/120	2	2.44	2.13	3.25 in.
91323				208/240				
91331				24				
91332	30	40	180	110/120	3	3.00	2.50	3.25 in.
91333				208/240				
91421				24				
91422	40	50	240	110/120	2	3.00	2.50	3.25 in.
91423				208/240				
91431				24				
91432	40	50	240	110/120	3	3.00	2.50	3.25 in.
91433				208/240				
91531				24				
91532	50	65	300	110/120	3	3.56	2.75	4.13 in.
91533				208/240				
91631				24				
91632	60	75	360	110/120	3	3.56	2.75	4.13 in.
91633				208/240				
91731				24				
91732	75	93	450	110/120	3	4.06	3.75	5.00 in.
91733				208/240				



Magnetic Line Contactors

MARS SERIES **180**



18001

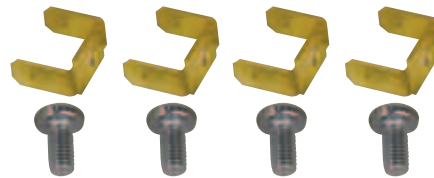
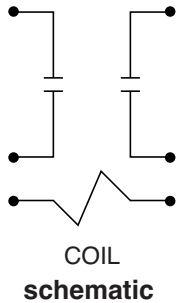
30 Amp Two Pole Contactors

The MARS Series 180 contactors are designed primarily to replace contactors used in air conditioning and electric heating to control blower motors. In addition they are used to switch pumps and computer power supplies. Replace General Electric Contactors and other manufacturers including WR, Essex/RBM and Honeywell.

Features:

- Replace all 3ARR8, 9, 27, and 28 General Electric contactors
- Replace WR, Essex/RBM and Honeywell
- Instructions and cross reference chart included
- Non-positional
- UL and CSA listings available

Cross Reference		
GEMLINE	HONEYWELL NO.	MARS REPLACEMENT
MC11	R850B1146	18001



4 SCREWS & 4 TERMINALS

KIT 93103

MARS NO.	DESCRIPTION	FULL LOAD AMPS	RESISTIVE AMPS	LOCKED ROTOR AMPS	COIL VOLTAGE	POLES	COIL VOLT	PICK-UP HOT	MAX COLD
18001	30 Amp 2 Pole Magnetic Line Contactor	30	30	120	24	2	24	20.5	19.2
93103	Push-On Terminals Adapters and Screws.								



MARS General Purpose Relays

MARS SERIES **420**

COMPONENT

For Motor Starting Circuits up to One Horsepower

Features:

- Replace Potter & Brumfield PR series, Deltrol, Guardian, Magnacraft, etc.
- Plastic enclosed coil minimizes damage, resists dirt and moisture
- 5/16" diameter silver contacts for long life
- Tough phenolic base
- Reinforced screw terminals
- UL and CSA listings available

Cross Reference Information

POTTER & BRUMFIELD	MARS NO.	DELTROL NO.	MARS NO.
PR3AY0-24V	43001	20237-82D	43001
PR3AY0-120V	43002	20238-83D	43002
PR3AY0-240V	43003	20238-84D	43003
PR5AY0-24V	43004	20239-82D	43004
PR5AY0-120V	43005	20239-83D	43005
PR5AY0-240V	43006	20239-84D	43006
PR7AY0-24V	43007	20240-82D	43007
PR7AY0-120V	43008	20240-83D	43008
PR7AY0-240V	43009	20240-84D	43009
PR11AY0-24V	43013	20241-82D	43013
PR11AY0-120V	43014	20241-83D	43014
PR11AY0-240V	43015	20241-84D	43015

Coil Data: 24-240 VAC @ 50/60 Hz; 9.5 VA Max. Sealed



SPST-NO

SPDT

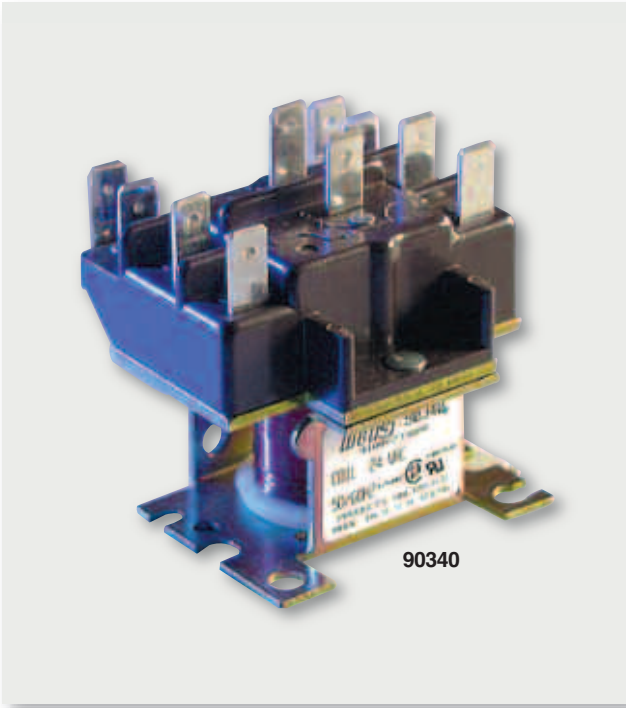
DPST-NO

DPDT with auxiliary

MARS NO.	P & B SERIES	CONTACTS ARRANGEMENT	AMP	COIL VOLTAGE	COIL RES. IN OHMS	NOM. POWER
43001	PRD3AY0	SPST-NO-DM	25	24	12	9.8VA
43002				120	290	
43003				240	1,200	
43004	PRD5AY0	SPDT	25	24	12	9.8VA
43005				120	290	
43006				240	1,200	
43007	PRD7AY0	DPST-NO	25	24	12	9.8VA
43008				120	290	
43009				240	1,200	
43013	PRD11AY0	DPDT	25	24	12	9.8VA
43014				120	290	
43015				240	1,200	
43016	35D013	Metal dust cover for PRD series relays. Length: 4-7/8 in.; Width: 3-7/8 in.; Height: 3 in.				

MARS General Purpose Switching Relays

MARS SERIES **903**

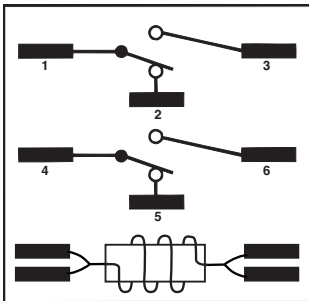


2-Pole Air Conditioning Relays

The MARS Series 903 switching relays are intended for many applications in air conditioning, refrigeration, and heating. Other uses include general purpose switching in appliances, fan controls, and vending machines. Our relays are available in 24, 110/120, and 208/240 coil voltages with various combinations of power and pilot duty contacts.

Features:

- Replaces Honeywell and White-Rodgers/RBM - cross reference on package
- Double quick-connect terminals on coil
- 2.13 x 1.88 x 2.25 in.
- Base is designed for easy replacement of competitive relays
- Molded terminal numbers and circuit diagram on top of relay
- UL and CSA listings available



	POWER		PILOT	
	120V	208/240V	120V	208/240V
Full Load Amps	12	6	—	—
Resistive Amps*	15	15	3	3
Locked Rotor Amps	60	35	—	—
Horsepower	3/4	3/4	1/10	1/10

*277 VAC

Cross Reference Information

MARS NO.	COIL VOLTAGE	TERMINALS 1-2-3	TERMINALS 4-5-6
90340	24		
90341	110/120	Power	Power
90342	208/240		
90343	24		
90344	110/120	Power	Pilot
90345	208/240		
90346	24	Pilot	Pilot
90348	208/240		

WR/RBM No.	MARS Replacement	HONEYWELL No.	MARS Replacement
90-340	90340	R4222B1082	90344
90-341	90341	R4222B1090	90345
90-342	90342	R4222D1013	90341
90-343	90343	R4222D1021	90342
90-344	90344	R4222N1010	90348
90-345	90345	R4222V1002	90344
90-346	90346	R4222V1010	90345
90-348	90348	R8222B1067	90343
		R8222D1014	90340
		R8222N1011	90346
		R8222V1003	90343

Coil Data: 24-240 VAC @ 50/60 Hz; 21.5 VA Max.
Inrush; 9.5 VA Max. Sealed



MARS General Purpose Switching Relays

MARS SERIES **903**

COMPONENT

SPST and SPDT Fan Relays

The MARS Series 903 relays are among the most popular relays used in air conditioning today. They will replace the WR/Essex/RBM Type 84 (90-290 thru 90-295) quick-connect and screw terminal versions.*

Features:

- 0.25 inch quick-connect terminals
- Packaged with instructions and cross reference
- Replace 90-290 thru 90-295 and 90-290Q thru 90-295Q
- Dimensions: 2.38 x 1.63 x 1.50 in.
- UL and CSA listings available

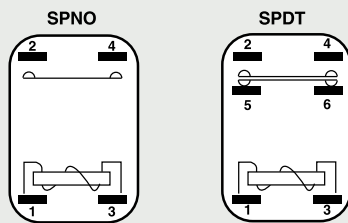
COIL VOLTAGE	MARS NO. SPST	MARS NO. SPDT
24	90290	90293
110/120	90291	90294
208/240	90292	90295

Contact Rating—All Models/Amps

VOLTAGE	FULL LOAD	LOCKED ROTOR	RESISTIVE
120	12	60	18
240	8	48	18
277	7	42	18

SPDT

MARS NO.	COIL VOLTAGE	CONTACT RATING 125 VAC	CONTACT RATING 250 VAC
90296	24	3 amps	1.5 amps



Cross Reference Information

WR/RBM NO.	MARS REPLACEMENT	WR/RBM NO.	MARS REPLACEMENT
90-290*	90290	90-293*	90293
90-290Q	90290	90-293Q	90293
90-291*	90291	90-294*	90294
90-291Q	90291	90-294Q	90294
90-292*	90292	90-295*	90295
90-292Q	90292	90-295Q	90295

Coil Data: 24-240 VAC @ 50/60 Hz;
5 VA Max. Inrush; 3.0 VA Max. Sealed

*For Screw Terminal Versions, use MARS No. 93029 push-on to screw-on adaptors.

Heavy Duty Fan Relays

MARS Heavy Duty Fan Relays are used on heating and air conditioning equipment to provide switching of heavier loads with a compact size relay.

MARS Heavy Duty Fan Relays replace WR/Essex/RBM type 184.

Features:

- 0.25 inch quick-connect terminals
- Packaged with instructions and cross reference
- Replaces WR/Essex/RBM Type 184
- Universal mounting bracket
- UL and CSA listings available

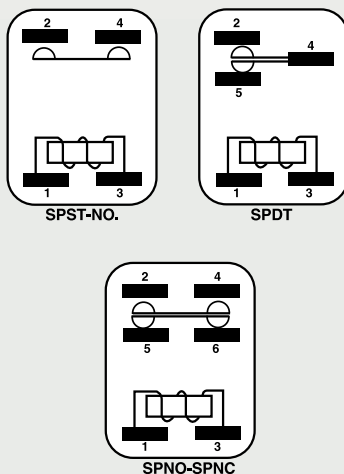
COIL VOLTAGE	MARS NO. SPST	MARS NO. SPDT	MARS NO. SPNO-SPNC
24	90360	90370	90380
110/120	90362	90372	90382
208/240	90364	90374	90384
277		90377	

Contact Rating—All Models/Amps

VOLTAGE	FULL LOAD	LOCKED ROTOR	RESISTIVE
120	12	60	18
240	8	48	18
277	7	42	18

Coil Data

COIL VOLTAGE	MAX INRUSH	MAX. SEALED
24	5 VA	3 VA
120	5 VA	3 VA
208/240	5 VA	3 VA



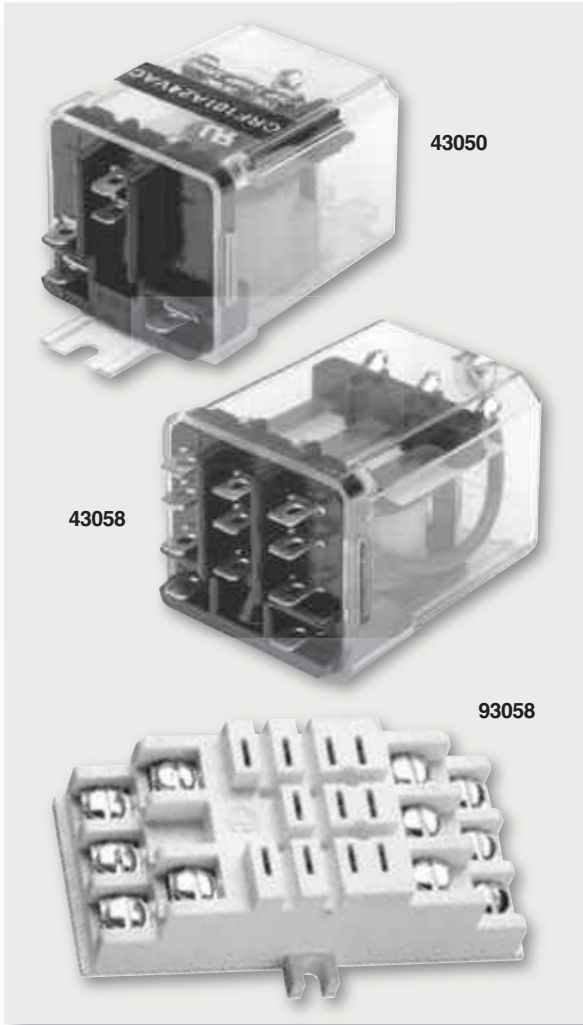
Cross Reference Information

WR/RBM	MARS NO.	WR/RBM	MARS NO.
90-360	90360	90-374	90374
90-362	90362	90-380	90380
90-364	90364	90-382	90382
90-370	90370	90-384	90384
90-372	90372		



MARS Enclosed Relays

MARS SERIES **430**



MARS Enclosed Switching Relays

MARS enclosed switching relays are heavy duty general purpose relays suitable for a variety of applications. They are commonly used in heating, air conditioning, vending machines, office machines, control panels and other general purpose applications. They are available in single pole, two pole and three pole models for either bracket or plug-in mounting. All MARS enclosed switching relays are protected by a tough polycarbonate cover to keep out dust and dirt. Blade type terminals fit standard plug-in mounts plus allow use with 3/16 inch quick-connect terminals or direct soldering.

Features:

- Simple connections
- One, two and three pole models
- Plug-in or bracket mount
- See-through protective cover
- Three-way blade terminals. Plug-in, quick-connect or solder
- UL and CSA listings available

Specifications:

DIMENSIONS: 2.0 X 1 1/2 X 1 3/8

TERMINALS: 3/16 blade

COIL DATA: 2.0 VA

CONTACT MATERIAL: Silver alloy, gold flashed

MARS NO.	COIL VOLTAGE	HZ	AMP RATING	HORSEPOWER		SWITCH ACTION	TYPE MOUNT
				120V	240V		
43050	24	50/60	10	1/3	1/2	SPDT	bracket
43053	24						
43054	120	50/60	10	1/3	1/2	DPDT	bracket
43055	240						
43056	24						
43057	120	50/60	10	1/3	1/2	3PDT	bracket
43058	240						
43060	24						
43061	120	50/60	10	1/3	1/2	SPDT	plug-in
43063	24						
43064	120	50/60	10	1/3	1/2	DPDT	plug-in
43065	240						
43066	24						
43067	120	50/60	10	1/3	1/2	3PDT	plug-in
43068	240						

93058 Socket Base. Can be surface or DIN rail mounted.



MARS Current Relays

MARS SERIES **270**

COMPONENT



MARS 27000 Series
Current Relay

MARS "One-on-One" Current Relays for Tecumseh Applications

MARS brand current relays were designed by GE for Tecumseh compressor applications. Tecumseh compressors, utilizing current relays designed by GE can be found in refrigerators, freezers, water coolers, pumps and vending machines.

Features:

- Reliable rugged GE 3ARR12 design
- Replaces plug-on, bracket-type, split phase and capacitor-start current relays
- Clearly labeled terminals for fast wiring

Cross Reference

MARS NO.	GE NO. 3ARR12 PAC	MAX PICK-UP	MIN DROP OUT
27035	172S	30.5	25
27036	178S	10.4	8.5

TECUMSEH PART NO.	MARS NO.
82481-1	27035
82489-1	27036



Universal Replacement

12 MARS current relays manufactured by General Electric can replace almost any current relay found on refrigerators, freezers, water cooler, pumps and vending machines.

Features:

- Replace plug-on, bracket-type, split-phase, and capacitor-start current relays
- Covers replacement needs of 1/12 H.P. 115V to 1-1/2 H.P. 230V and parts kits
- Clearly labeled terminals for fast wiring
- Each relay packaged with installation instructions and wiring diagrams
- UL and CSA listings available

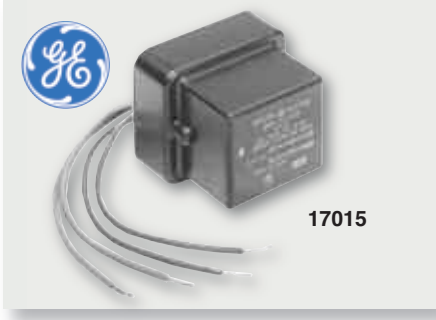
MARS NO.	GE NO. 3ARR12 PAC	MAX PICK-UP	MIN DROP OUT	APPLICATION SURVEY BY HORSEPOWER ¹ (AT 115) ²							
				1/12	1/8	1/6	1/5	1/4	1/3	1/2	3/4
27001	309A	3.8	3.2	■	□	□	□	□	□	□	□
27002	310A	5.2	4.4	□	■	□	□	□	□	□	□
27003	311A	6.8	5.8	□	■	■	■	□	□	□	□
27004	312A	8.3	7.1	□	□	■	■	■	□	□	□
27005	313A	10.5	8.7	□	□	□	■	■	□	□	□
27006	314A	11.8	9.8	□	□	□	■	■	■	□	□
27007	315A	13.8	11.5	□	□	□	□	■	■	□	□
27008	316A	15.1	12.6	□	□	□	□	■	■	■	□
27009	317A	16.8	14.0	□	□	□	□	□	■	■	□
27010	318A	22.5	18.0	□	□	□	□	□	■	■	□
27011	319A	25.4	20.3	□	□	□	□	□	■	■	■
27012	320A	31.0	25.0	□	□	□	□	□	□	■	■

1. Current relays cannot be replaced by horsepower, amperage, or nameplate data alone. Refer to cross reference information for proper replacement of original equipment current relays by part numbers.
 2. These current relays are often used on 230 volt applications, however this horsepower survey refers only to 115 volt applications.



GE Relays

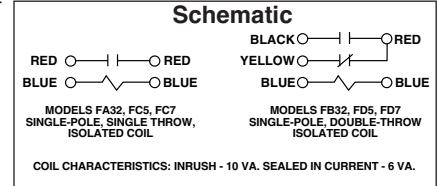
MARS SERIES **190**



Totally Enclosed Switching Relays

Features:

- Replaces GE, Honeywell, WR/Essex/RBM, White-Rodgers, etc.
- Designed for standard conduit box mounting for remote control of air conditioning and heating systems and remote power switching of motors, power tools, fans and blowers.
- Totally enclosed with heavy, impact resistant phenolic cover
- Non-positional
- Color-coded lead wires
- UL and CSA listings available

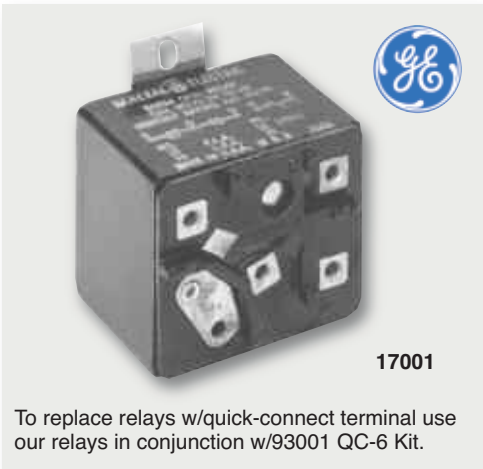


MARS NO.	GE NO.	COIL VOLTAGE	CONTACT ARRANGEMENT	MAX. HP @ 240V N.O. N.C.	F.L.A.	LOCKED MOTOR AMPS N.O. N.C.	LEAD LENGTH
17015	3ARR4 FA32	24					16 in.
17016	3ARR4 FC7	120	SPST	1-1/2	—	55	6 in.
†17018	3ARR4 FB32	24					16 in.
†17019	3ARR4 FD7	120	SPDT	1-1/2	3/4	55 35	6 in.
†17020	3ARR4 FD5	240					6 in.

† S.P.D.T relays may be used on S.P.S.T. applications by eliminating use of yellow lead for normally open applications or eliminating use of black lead for normally closed applications.

Cross Reference Information

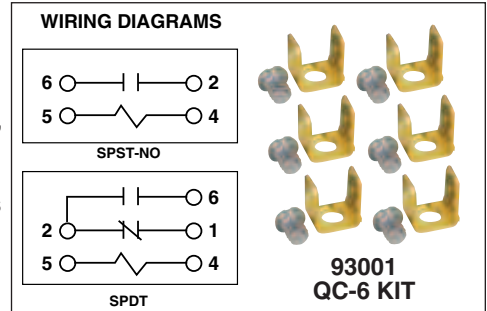
WHITE-RODGERS NO.	MARS REPLACEMENT	HONEYWELL NO.	MARS REPLACEMENT	WHITE-RODGERS NO.	MARS REPLACEMENT
90-120	17015	R8225A	17018	8A04-1	17018
90-121	17016	R8225B	17015		
90-122	17017				
90-123	17018				
90-124	17019				
90-125	17020				



Switching and Shunt Relays

Features:

- MARS 17001—Economical replacement for SPST relays with 24 volt coil
- Reduce inventory on 3ARR4 relays. Four magnetic line relays now replace over 200 different models. SPDT relays will replace both single pole single throw and single pole double throw models
- Used for remote control of heating and air conditioning systems and remote power switching of motors, power tools, fans and blowers on GE, Day & Night, Carrier, York, Bryant, American Standard, Lennox, etc.
- Purchase of 93001 QC-6 Kit converts screw-on to push-on type terminals for even more replacements
- UL and CSA listings available



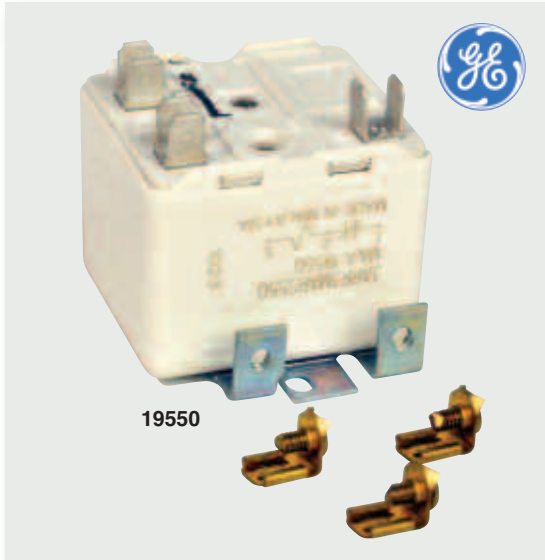
MARS NO.	GE CAT. NO.	COIL VOLTAGE	F.L.A.	LOCKED MOTOR AMPS N.O. CONTACTS N.C. CONTACTS	CONTACT ARRANGEMENT
17001	3ARR4 A32	24	18	55	— SPST-NO
17002	3ARR4 CA32	24			
17004	3ARR4 CA7	120	18	55 35	SPDT
17006	3ARR4 CA5	240			
93001	QC-6				

Cross Reference To WR/Essex/RBM

WR/ESSEX NO.	WR/ESSEX MARS REPLACEMENT	MARS NO.	REPLACEMENT
90-100	17004	90-104	17001
90-101	17004	90-105	17002
90-102	17006	90-106	17002
90-103	17006	90-107	17004
		90-108	17006

Coil Data: 24-240 VAC @ 50/60 Hz; 10 VA Max. inrush; 6 VA Max. Sealed

Coil Data: 24-240 VAC @ 50/60 Hz; 10 VA Max. inrush; 6 VA Max. Sealed



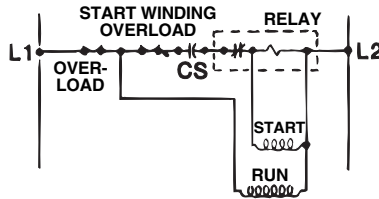
19550

For Submersible Pump Applications

The MARS 550 and 551 relays were specifically developed for submersible pump and other motor starting applications in high moisture environments. Because the control panels for these are often located in areas of high humidity, the components on them must resist the effects of moisture. Chrome plating on the core and armature and the relatively small area of contact eliminates armature sticking due to organic contaminants which was the number one cause of relay failure.

Features:

- Used on F.E. Meyers, Franklin Electric, Jacuzzi, Red Jacket, Sta-Rite, and Tait
- 2 relays replace over 25 O.E.M. relays
- Universal break-off bracket on each relay. Simply snap off parts not needed
- Individually packaged with 3 adapters to convert push-on terminals to screw-on terminals
- UL and CSA listings available



MARS NO.	MARS MODEL NO.	CONTINUOUS COIL VOLTAGE	PICK-UP		DROP-OUT	
			MIN.	MAX	MIN.	MAX
19550	MARS 550	130	111	134	15	40
19551	MARS 551	332	244	270	40	90

Cross Reference Information

MANUFACTURER	OEM NO.	GE CATALOG NO.	MARS REPLACEMENT	MANUFACTURER	OEM NO.	GE CATALOG NO.	MARS REPLACEMENT
F.E. Myers	13178-A	3ARR3D7J4	19550	Jacuzzi	23-1308-26	3ARR3EA9V5	19551
	13179-A	3ARR3D3V4	19551		23-1308-00	3ARR3EA7J5	19550
	13180-A	3ARR3D3A4	19551		23-1308-18	3ARR3EA7BB5	19550
	17891-A	3ARR3EA3A4	19551		23-1308-34	3ARR3EA5U5	19551
	17890-A	3ARR3EA3V4	19551		23-1308-42	3ARR3EA7M5	19550
	17889-A	3ARR3EA7J4	19550		23-1308-49	3ARR3EA5C5	19551
Franklin Electric	155031-101	3ARR3J7J4	19550	Red Jacket	71-69	3ARR3EA7M5	19550
	155031-102	3ARR3J9V4	19551		71-70	3ARR3EA5B5	19551
	155031-104	3ARR3J2P3	19550		71-47	3ARR3J3V2	19551
	155031-103	3ARR3J9U4	19551	Sta-Rite	U18-325	3ARR3J3V3	19551
	155031-105	3ARR3J7M1	19550		U18-665	3ARR3J3A3	19551
					U18-810	3ARR3J2P3	19550
					U18-811	3ARR3J5V3	19551
				Tait	A124P2	3ARR3EA5A5	19551
					A124P1	3ARR3EA7K5	19550

MARS NO.	G.E. NO.	USED BY
16104	3ARR3J3G3	Barnes [Burks, Decator] & Myers

GE Potential Relays

MARS SERIES **190**



One-On-One™ Direct Replacement Potential Relays

The relays are exact replacements for Bristol & Copeland applications. They conform to specifications and in most cases are the one-on-one™ replacement relay used by the manufacturer

Other relays available on special order. Contact your local wholesaler or MARS Customer Service.

BRISTOL	MARS	BRISTOL	MARS	BRISTOL	MARS	COPELAND	MARS	COPELAND	MARS	COPELAND	MARS
650058	16028	650919	16069	650975	16054	040-0001-30	16097	040-0001-64	16098	040-0001-82	16132
650097	16058	650926	16070	650976	16055	040-0001-31	16094	040-0001-66	16103	040-0001-83	16137
650143	16030	650929	16071	650977	16053	040-0001-34	16099	040-0001-67	16120	040-0001-84	16138
650153	16032	650942	16072	650978	16056	040-0001-35	16090	040-0001-65	16153	040-0001-85	16139
650155	16059	650943	16073	650979	16057	040-0001-36	16096	040-0001-66	16103	040-0001-86	16140
650160	16060	650944	16074			040-0001-48	16093	040-0001-67	16120	040-0001-87	16141
650169	16061	650946	16076			040-0001-49	16087	040-0001-68	16099	040-0001-88	16151
650304	16029	650947	16077			040-0001-50	16085	040-0001-69	16088	040-0001-89	16155
650409	16047					040-0001-51	16021	040-0001-70	16125	040-0007-00	16105
650410	16062					040-0001-52	16094				
650512	16048					040-0001-53	16095				
650567	16049					040-0001-54	16089				
650568	16063					040-0001-55	16023				
650569	16050					040-0001-56	16096				
650570	16064					040-0001-57	16097				
650571	16065					040-0001-59	16090				
650855	16051					040-0001-60	16091				
650879	16066					040-0001-61	16086				
650887	16067					040-0001-62	16035				
650889	16068										

Universal Replacement

Quick Reference Relay Selection Chart For General Electric Relays

1. Determine the General Electric model number of the Relay to be replaced—the “FORM” and “GROUP”

EXAMPLE:	3ARR3*	1 or 2 Letters	One number plus 1 or 2 Letters	
	Basic Type	A	3B	3
		FORM	GROUP	Non-Positional

*Also refers to basic type 3ARR1

Cross Reference Information

WR/RBM NO.	MARS	WR/RBM NO.	MARS	WR/RBM NO.	MARS	TECUMSEH NO.	MARS
90-1	19002	90-13	19005	90-25	19006	82777	19002
90-2	19009	90-14	19003	90-26	19008	82778	19004
90-3	19004	90-15	19006	90-27	19005	82779	19008
90-4	19003	90-16	19007	90-40	19004	82781	19010
90-5	19006	90-17	19002	90-41	19008	82783	19003
90-6	19006	90-18	19008	90-63	19002	82784	19009
90-7	19004	90-19	19006	90-64	19003	82785	19006
90-8	19003	90-20	19007	90-65	19004	82787	19007
90-9	19007	90-21	19002	90-66	19005		
90-10	19008	90-22	19003	90-67	19006		
90-11	19003	90-23	19007	90-68	19007		
90-12	19007	90-24	19008	90-69	19001		

2. Locate in the following table the Relay GROUP and select the corresponding MARS Replacement Relay from the kit.

- 19002** MARS 63 replaces Relay GROUPS 2J; 2K; 2L; 2M; 5N; 7J; 7K; 7L; 7M; 7N; 8L; 8M; 8N
- 19003** MARS 64 replaces Relay GROUPS 3A; 3B; 3AV; 3AU; 4A; 4B; 6A; 6B; 6AV; 10A; 10B; 10AU; 10AV
- 19004** MARS 65 replaces Relay GROUPS 3P; 3R; 3AP; 5P; 5R; 5S; 5T; 22S
- 19005** MARS 66 replaces Relay GROUPS 3U; 3V; 3AT; 6U; 6V; 6W
- 19006** MARS 67 replaces Relay GROUPS 3C; 3D; 3AA; 4C; 4D; 4BK; 6C; 6D; 6AA; 10C; 10D; 26A; 26B; 26C; 26D
- 19007** MARS 68 replaces Relay GROUPS 3E; 3F; 3AB; 3AC; 4E; 4F; 4G; 6E; 6F; 6G; 10H; 10AB; 10AC; 26E; 26F; 26G; 26H; 27E; 27F; 27G
- 19008** MARS 69 replaces Relay GROUPS 3S; 3T; 10S; 10T; 25S; 25T; 10AS
- 19009** MARS 70 replaces Relay GROUPS 5B; 5C; 5D; 5AA; 8B; 8C; 8D
- 19010** MARS 71 replaces Relay GROUPS 6TV; 6TW; 10V

3. Install relay in accordance with instructions in MARS Replacement Kit



GE Potential Relays

MARS SERIES **190**

COMPONENT

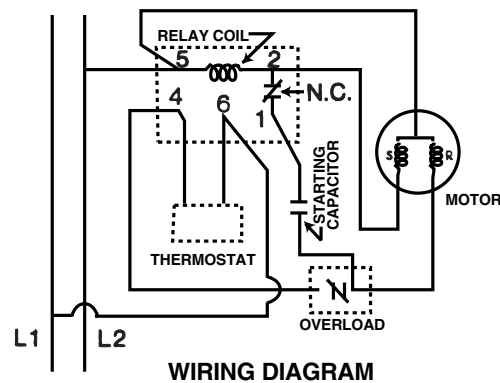
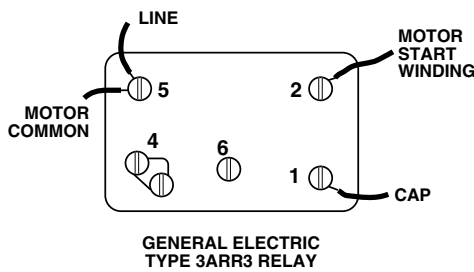


Universal Replacement

The MARS potential relay service kit has become an industry standard since its introduction twenty years ago. Its long-term reliability and easy replacement have been the key to its success. The wide calibration ranges and the universal bracket make the MARS potential relay service kit a must on every service truck.

Features:

- Genuine MARS relays replace thousands of O.E.M. models
- *Non-Positional*
- Wide range of selectivity
- QC-6 Kit included with each relay to convert screw-on to push-on
- Instructions and wiring diagram included in each relay
- Universal break-off bracket on each relay. Simply snap-off parts not needed
- The six most popular relays available in a service kit—19001 MARS 6 PAK—complete cross reference guide included in each kit
- UL and CSA listings available



Calibration Specifications

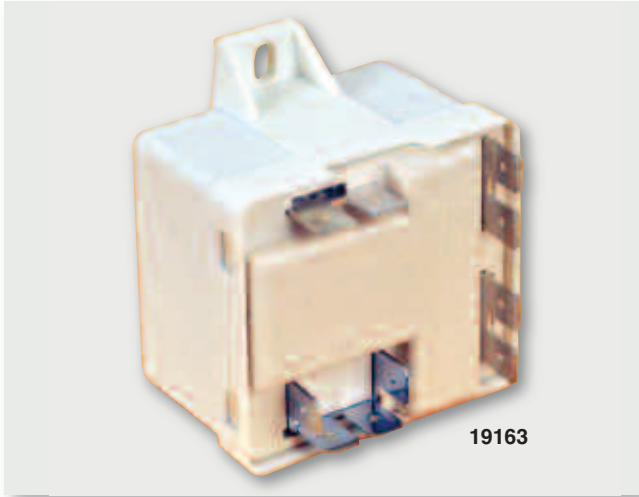
MARS NO.	MARS MODEL NO.	CONTINUOUS COIL VOLTAGE	PICK-UP		DROP-OUT MAX
			MIN.	MAX	
19001	MARS 6 PAK	—	—	—	—
19002	MARS 63	170	139	153	55
19003	MARS 64	395	260	275	120
19004	MARS 65	332	168	182	90
19005	MARS 66	395	215	225	120
19006	MARS 67	420	295	315	125
19007	MARS 68	502	325	345	135
19008*	MARS 69	336	180	195	105
19009*	MARS 70	253	285	305	77
19010*	MARS 71	420	212	232	121
93001	QC-6				

*Not included in 19001 MARS 6- PAK



Potential Relays

MARS SERIES **191**

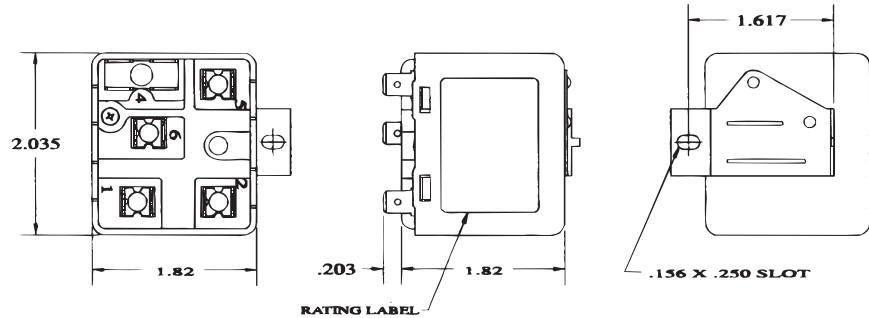
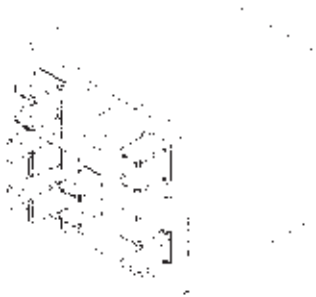


Universal Replacement Potential Relays

MARS II series relays are manufactured for the HVAC industry. These relays meet all requirements for original equipment relays. They feature a universal break-off bracket to fit your specific application.

Features:

- 50/60 cycle
- UL and CSA approved
- Contact rating 35 amp, 480 VAC
- Non-positional
- Instructions and wiring diagram included in each relay



Calibration Specifications

MARS2 NO.	MARS MODEL NO	CONTINUOUS COIL VOLTAGE	PICK-UP		DROP-OUT MAX
			MIN.	MAX.	
19163	MARS II 163	170	139	153	55
19164	MARS II 164	395	260	275	120
19165	MARS II 165	332	168	182	90
19166	MARS II 166	395	215	225	120
19167	MARS II 167	420	295	315	125
19168	MARS II 168	502	325	345	135
19169	MARS II 169	332	180	193	105
19170	MARS II 170	253	285	305	77
19171	MARS II 171	420	212	232	121



25307

MARS H-10PM Manual and/or Automatic Balance Universal Refrigerant Leak Detector

The MARS H-10PM is the latest design in traditional style H-10 portable leak detectors which combines and enhances all features of the previous H-10 Series models into one full featured unit. Now with manual or automatic auto zero balance control, it's unique sensor calibration system will pinpoint both small & large leaks. It is the most sensitive and accurate battery powered leak detector able to detect all CFC, HFC, and HCFC refrigerants. The MARS H-10PM is certified by UL (SA9717) to satisfy the requirements of SAE standard J1627 and is CE marked. The MARS H-10PM is shipped complete with a carrying case, shoulder strap, built-in rechargeable battery, battery charger, and instruction sheet. An optional adapter (MARS No. Z5325) is available that allows the MARS H-10PM to run on 120VAC power while simultaneously re-charging the battery.

Features:

- Manual or automatic auto zero balance control
- Impact resistant professional case
- Power source: internal battery - AC or DC powered.
- Halogen selective (minimal false alarms)
- Unique on-board electronic sensor calibration system
- Highly visible neon lamp indicates leaks for any refrigerant gas or blend (CFC, HFC, HCFC)

NOTE: sensors are consumed in normal operation. It is good practice to have a spare sensor available at all times.

Specifications:

- Nominal Leak Range:** Small leak switch position: .5 oz./yr., R-134a .1 oz./yr., R-12
 Medium leak switch position: 1.0 oz./yr., R-134A .5 oz./yr., R-12
 Large leak switch position: 5.0 oz./yr., R-134A 3.0 oz./yr., R-12
- Power Supply:**
12VDC- internal rechargeable, sealed lead acid battery
12VDC- external battery using battery clamp/cigarette lighter plug cord.
120VAC- wall adapter converts to 13.5VDC, 500ma. to charge unit.
120VAC- optional wall adapter to charge and continuously operate unit from AC power.
- Reference Leak:** Approx. 0.4 oz./yr. (1 lb./40 yr.), R-134a approx. 6 month life
- Ambient Operating Temperature:** 32° to 104°F
- Low Battery Indicator:** Red LED light on (indicates approx. 5 min. left)
- Battery Life:** Approx. 1.5 hours before recharge with continuous operation
- Warm Up Time:** Approx. 2 min.
- Probe Length:** 4.5 feet
- Dimensions:** 5.5" x 10.5" x 8.5"

MARS NO.	CATALOG NO.	DESCRIPTION
25307	H-10PM	Battery powered universal refrigerant leak detector



25303

MARS H-10G Universal Refrigerant Leak Detector

The MARS H-10G is the latest generation of the original General Electric design that has earned recognition as the industry's standard for field service leak detectors. This rugged, 115 volt powered, leak detector is the most reliable field service instrument of its type. The MARS H-10G will detect chlorine and fluorine based refrigerants. The MARS H-10G uses a unique heated diode sensor that is the most powerful technology available for leak detection. An air pump inside the MARS H-10G provides a controlled volume sample from the area being tested. The MARS H-10G comes with a reference leak and an instruction manual.

Features:

- Two leak signals - 80 db horn in the control unit and flashing light in the probe tip
- Air flow indicator in probe tip
- On/off power switch
- Protective case with fold-away cover
- Flexible probe assembly
- Reliable sensor
- Top mount controls
- Easily accessible reference leak
- Easy sensor and filter replacement

Specifications:

- Refrigerants:** Sensitive to R-12, R-123, R-134a, R-22, R-502, HP-62, R410A
- Sensitivity:** Chlorine based refrigerants .05 oz./yr.
 fluorine based refrigerants .5 oz./yr.
- Response:** Approx. 1/2 second
- Alarm:** 80db horn and flashing light
- Distance:** Alarm will sound at a distance of 1/2" with probe moving at a speed not to exceed 2 inches per second for either R-12 or R-134 a refrigerant in accordance with SAE specifications

MARS NO.	MODEL NO.	VOLTAGE	DIMENSIONS	WEIGHT
25303	H-10G	115V 50/60 Hz.	2.7" D x 5" W x 8.5" L	3.4 lbs.

Leak Detectors

MARS SERIES **253**



Renewal Parts

MARS stocks genuine renewal parts for MARS, GE, and Bacharach H-10 Series Leak Detectors.

Renewal Parts For H-10 Professional, H-10N, H-10G, and H-10B

MARS NO.	CATALOG NO.	DESCRIPTION	H-10 Pro/PM	H-10N	H-10G	H-10B
25310	M1101UD	Maintenance kit (100 filters, 3 rubber probe tips)	✓	✓	✓	✓
25315	H10N04	Plug-in sensor element	✓	✓	✓	✓
25308	M1101UV	Probe assembly	✓	✓	✓	✓
25314	M1101UU	Probe tip - clear plastic	✓	✓	✓	✓
25309	E7076DX	Rubber tip for probe	✓	✓	✓	
25322	B9017MM	Metal probe extension, 14" long	✓	✓	✓	✓
25325	M1101AH	Battery charger	✓			
25320	B9017LC	Battery charger (included with 25331)		✓		
25333	M1101VS	Cigarette lighter adapter	✓	✓		
25331	B9017LB	Rechargeable 12 volt battery pack		✓		
25319	M1101HV	Power cord			✓	✓
25323	M1101UC	Super tune up kit; sensor, leak vial, 100 filters 3 flow balls and 3 rubber probe tips	✓	✓	✓	✓
25326	M1101AD	Battery for H-10 Pro	✓			
25321	K9344AH	Reference Leak Assembly	✓	✓	✓	✓

Renewal Parts for MARS Top Gun, H-10XPro

MARS NO.	CATALOG NO.	DESCRIPTION
25377	M1109YB	Top Gun Sensor Assembly



Recovery System

MARS SERIES **250**

COMPONENT



Professional Recovery System

COMPACT, LIGHTWEIGHT, RELIABLE!

The STINGER, manufactured by Bacharach, is the smallest and lightest recovery system of its kind. Despite its small size, this machine is built to perform. The STINGER features a revolutionary single valve compressor driven by a powerful 8 amp motor. This machine WILL NOT be damaged by liquid. The compressor works together with a high performance condenser and two cooling fans for fast recovery - even on the hottest days.

The STINGER is a universal recovery system, recovering all medium and high-pressure refrigerants - including R-410A. Its simple purge system prevents cross-contamination of refrigerants WITHOUT changing hoses. The STINGER features a tangle-free power cord and an innovative storage slot to make operating instructions readily available.

With its compact size, lightweight design and durable plastic housing, the STINGER sets a new professional standard for size and performance in refrigerant recovery systems.



25011

Features:

- Extremely compact and lightweight
- Advanced oil-less compressor
- Durable plastic housing
- Universal refrigerant - including R-410A
- Recovers liquid without damage
- Reliable - built to last

Specifications:

Unit: MARS No. 25011

Power Source: 115 VAC 50/60 Hz
230 VAC 50/60 Hz

Weight: 24 lbs. **Dimensions:** 11" x 17" x 9.5"

Compressor: Oil-less w/ single valve liquid head

Motor: 8 amp. **Vacuum Rating:** 13" Hg +

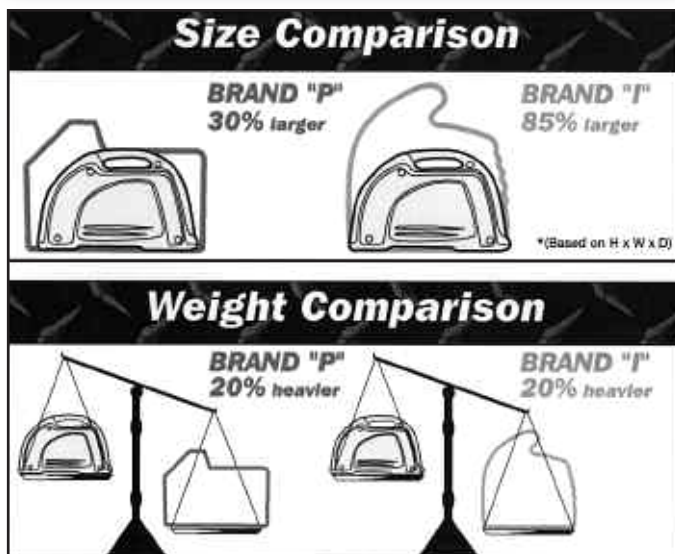
High Pressure Limit: 550 PSI

Recovery Rate: Liquid 2.2 lbs./min. Vapor* 0.3 lbs./min. (*ARI rating for R-22)

Auto 80% Tank Shut-Off: Optional

Self Purging System: No hose changes

Refrigerants: R-12, R-22, R-114, R-134A, R-410A, R-401B, R-401C, R-402A, R-402B, R-404A, R-406A, R-407A, R-407B, R-407C, R-407D, R-408A, R-409A, R-410A, R-411A, R-411B, R-412A, R-500A, R-502B, R-507, R-509



MARS NO.	Description	Vacuum Rating	Dimensions
25011	Recovery System	13" Hg +	11" x 17" x 9.5"



The largest selection of motors, components, and accessories for the HVAC/R Industry

MARS Start Assist

MARS SERIES **327**



32708

MARS AllStart™ Hard Start Device

The MARS AllStart™ is a two wire hard start device designed to provide maximum starting torque for single phase PSC and CSIR compressors up through 10HP. The MARS AllStart™ recycles instantly for maximum convenience on troublesome hard start jobs.

Independent testing has determined that the MARS AllStart™ provides more starting torque than other competitive models, and this results in quicker starts. Test results on a range of head pressures from 166 to 300 PSI indicate that the MARS AllStart™ started the test compressor in an average of 21.7% **less** time than the leading competitor! More available starting torque means less time to get problem compressors started.

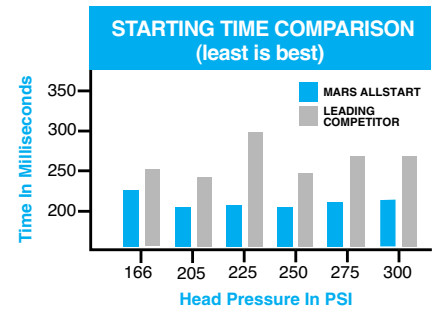
MARS offers the largest assortment of refrigeration and air conditioning compressor starting components. When the proper starting relay and capacitor combination is a must, they are available from MARS. When getting a problem compressor started in the field "NOW" is the job, rely on the new MARS AllStart™.

Features:

- Maximum Starting Torque!
- More Than 20% Faster Starts!
- Easy Two Wire Installation
- Recycles Instantly
- Individually packaged with wiring instructions

Cross Reference

SUPPLIER	PART NO.	MARS REPLACEMENT
KICKSTART	TO5	32708
SUPCO	SPP8	32708
WATSCO	WSX-1	32708



MARS NO.	MODEL NO.	H.P.	VOLT MAX.
32708	AllStart	1/2 to 10	115-277V



32741

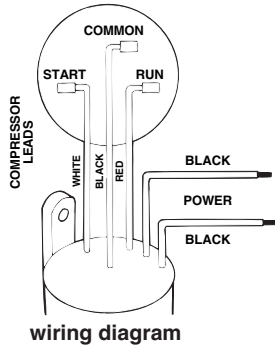
MARS Combination Starters

The MCS is a combination start relay, start capacitor, and motor overload. It is designed to replace those components on a 115 volt single phase refrigeration compressor installed on a capillary tube system.

The MCS is factory wired and comes with a connection diagram on the product label for maximum convenience.

Features:

- Factory wired
- Wiring diagram on the product label
- Compressor leads have push-on terminals for easy installation
- Compact design
- Universal application reduces inventory



Cross Reference

SUPPLIER	PART NO.	MARS REPLACEMENT
GEMLINE	HS 410	32741
	HS 810	32781
	HS 210	32725
ROBERTSHAW	600-410	32741
	600-810	32781
	600-210	32725
SUPCO	RCO 410	32741
	RCO 810	32781
	RCO 210	32725

MARS NO.	MODEL NO.	HORSEPOWER	VOLT MAX.
32741	MCS 41	1/4 to 1/3	115V
32781	MCS 81	1/12 to 1/5	115V
32725	MCS 21	1/2	115V



Hard Start Kits

The new SS-1 and SS-5 are two-wire electro-mechanical hard start kits. These hard start kits feature genuine GE brand potential relays for reliable starts, time after time, every time.

The SS-1 and SS-5 also feature a durable North American made start capacitor.

For single phase 208V, 230V, 265V A/C refrigeration and heat pump compressors.

Features:

- Simple to install
- 2-Wire Design
- Features a genuine GE potential relay
- Replaces Kickstart®
- Individually packaged
- Assembled in the USA

Wiring Diagram Simple Two Wire Connection



Connect Blue Leads to run Capacitor
No Polarity Required

MARS NO.	H.P.	MAX VOLTS	CROSS REFERENCE
32703	1 to 3	265V	Kickstart® TO-5 Kickstart® KS8 Supco SPP9E
32704	3.5 to 5	265V	Kickstart® KS1 Supco SPP10E

MARS Solid State Motor Starting Devices

MARS SERIES **325**



32330

MARS Solid State Motor Starting Relay for Refrigerators and Freezers

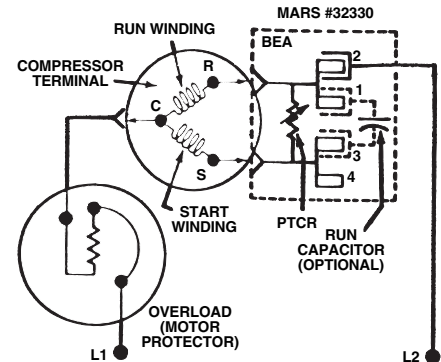
MARS 32330 is a solid state PTC motor starting relay that mounts directly to any 3-pin fuseite connector. One model replaces thousands of current relays used on 1/12 HP to 1/3 HP compressors.

Features:

- Replaces Tecumseh Relays SSR2 and SSR3 for push-on applications.
- Non-positional
- One model for 1/12 HP to 1/3 HP, 120 volt
- UL and CSA listings available

MARS NO.	HORSEPOWER	VOLTAGE
32330	1/12 - 1/3	120

WIRING DIAGRAM FOR USE WITH SPLIT PHASE OR PSC MOTOR



32721

MARS Snap-On Relays

The MARS snap-on relays are easy to install and will replace ALL current type relays. One size relay fits compressors from 1/12 HP thru 1/2 HP. They can be used with or without a start capacitor.

These snap-on relays can be mounted on the inside of the terminal box of the compressor with the quick "snap-on-bracket" or installed in any convenient location by using screws through the mounting holes.

UL recognized

MARS NO.	HORSEPOWER	VOLT MAX.
32721	1/12 thru 1/2	115
32722	1/12 to 1/2	230



32723

MARS Push-On Relays

The MARS push-on relays are easy to install and will replace ALL push-on current type relays. One size relay fits compressors from 1/12 HP thru 1/2 HP. The MARS push-on relay can be used with or without a start capacitor.

These push-on relays are mounted on compressors with "pin type" terminals. The MARS push-on relays are the lowest resistance in solid state relays available today, with the fastest test cool down time of all solid state relays. UL recognized

MARS NO.	HORSEPOWER	VOLT MAX.
32723	1/12 thru 1/2	115
32724	1/12 to 1/2	230



MARS Motor Torque Multiplier



The MARS MT^x 100, MT^x 200 and MT^x 300 motor torque multipliers feature a combination PTC solid state device, and start capacitor in one compact unit.

The MT^x 100 is designed for use on PSC motors and compressors up to 5HP, 277V maximum; the MT^x 200 is designed for use on PSC motors and compressors up to 10HP, 277V maximum; and the MARS MT^x 300 is designed for use on PSC motors & compressors from 1-1/2 up to 10HP, 115-230V. These units are easily installed by connecting the two leads from the MT^x unit to the motor run capacitor terminals.

Features:

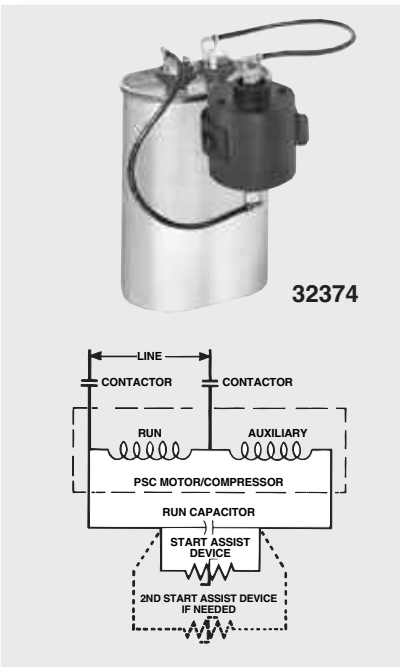
- Totally solid state integrated design
- Fast, easy two wire installation
- Three mounting options; clip, screw, or capacitor bracket
- Individually packaged

Cross Reference

SUPPLIER	PART NO.	MARS REPLACEMENT
GEMLINE	HS600	32701
	HS650	32702
ROBERTSHAW	600-052	32702
	600-057	32701
SUPCO	SPP5	32701
	SPP6	32702

MARS NO.	MODEL NO.	H.P.	VOLT MAX.
32701	100	1/2 to 5	277V
32702	200	1/2 to 10	277V

Solid State Start Assist Device



MARS Series 327 Start Assists are solid ceramic devices that increase the starting torque of permanent split capacitor (PSC) motor by as much as 500%.

Three different models to choose from let you select the one that's best for each application. MARS Start Assists come equipped with standard 0.25" quick-connect terminals and a handy mounting bracket for safe, fast, easy installation.

Performing in a manner similar to that of a motor starting capacitor and potential relay, our device improves the starting ability of a PSC motor by momentarily increasing the current supplied to the auxiliary winding. When voltage is applied, the MARS Start Assist heats up and changes from very low to very high resistance. Thus, it becomes essentially non-conductive, permitting the compressor motor to return to PSC running operation. MARS motor starters are designed for use on PSC compressor motors of air conditioners, heat pumps, commercial refrigeration pumps, etc. They are connected in parallel with the run capacitor, as the diagram shows.

Features:

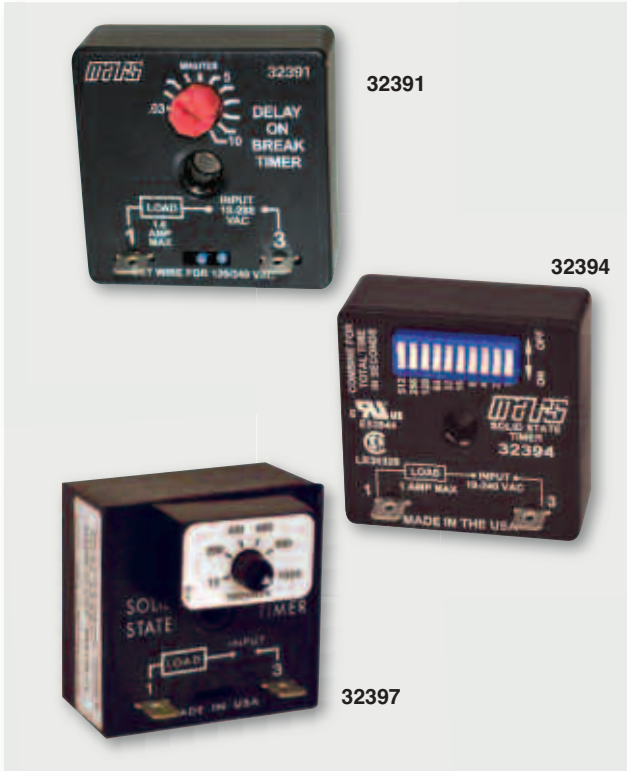
- Less expensive than conventional start capacitor/ relay combination
- Only one component to connect. No relay coil voltages to worry about
- Three different ratings permit choice of unit for best performance
- Constructed of solid ceramic material...no moving parts or contacts to wear or fail
- UL and CSA listings available

Try our 32375 Super Starter. It is as powerful as 2 start assists wired in parallel.

MARS NO.	SUGGESTED MAX. HP	APPROX. STARTING* TORQUE INCREASE	RESISTANCE (OHMS)	MAX. LINE VOLTAGE
32370	5	225%	50±20%	292
32374	7.5	335%	25±20%	292
32375	7.5+	500+%	13±20%	292

MARS Solid State Timers

MARS SERIES **325**



MARS Solid State Timers Delay On Make

The MARS 32391 is the top-selling timer in the industry. Its reliability has been proven in the field by knowledgeable contractors.

The MARS 32391 will **not** be fooled by **the thermostat** anticipator.

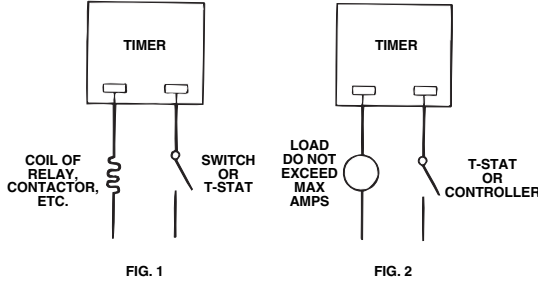
Heavy duty MARS timers are offered for higher current applications.

Features:

- Easy two-wire installation
- Proven reliability, all solid state
- .25 in. quick connect terminals
- Mounts in any position
- Compact size
- High accuracy
- Totally enclosed and encapsulated for proper heat dissipation

Specifications:

- .040 amps min. latch current



MARS NO.	TYPE DELAY	TIME DELAY RANGE	TYPE OF ADJUSTMENT	INPUT VOLTAGE	HZ	MAX AMPS.	VOLTAGE DROP	CONNECTION DIAGRAM
32391	on make	6 sec...8 min.	dial	19...240VAC	50/60	1	2.5 at 1 amp.	1
32394	on make	1 sec...1023 sec.	slide switch adjustable in 1 second increments.	19...144VAC	50/60	1	2.5 at 1 amp.	1
32396	on make	1 sec...1023 sec.	slide switch adjustable in 1 second increments.	80...240VAC	50/60	1	2.5 at 1 amp.	1

Heavy Duty

32397	on make	10...1000 sec.	dial	24 VAC	50/60	6	2 at 6 amp.	1 or 2
32398	on make	10...1000 sec.	dial	120 VAC	50/60	10	2.1 at 10 amp.	1 or 2
32399	on make	10...1000 sec.	dial	230 VAC	50/60	10	5 at 10 amp.	1 or 2



MARS Solid State Timers

MARS SERIES **325**

COMPONENT

MARS Solid State Timers Delay On Break

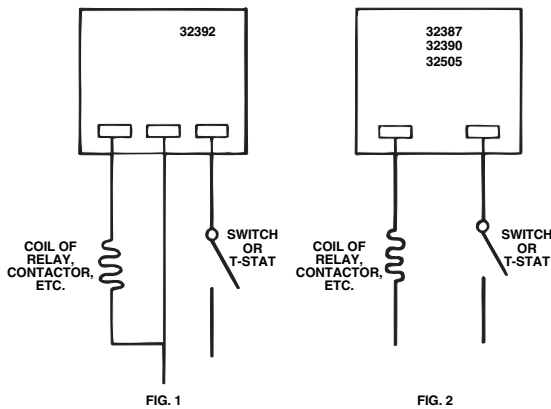
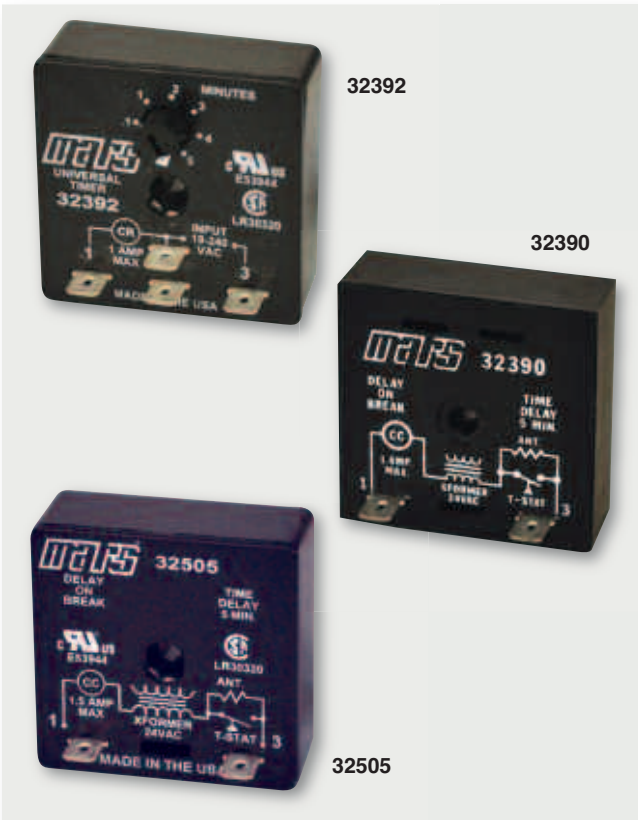
MARS solid state delay on break timers are designed to prevent short cycling of air conditioning, refrigeration and heat pump compressors. Upon application of power the load is energized. When the thermostat opens, or if there is a momentary loss of power, the load is de-energized and the delay period begins. The compressor will not start again during the delay period.

MARS number 32392 is a versatile three wire timer that features adjustable timing and can be used with any voltage from 19 thru 240 VAC, 50 or 60 Hz. MARS 32387 features easy to install two wire connection. Model 32387 incorporates circuitry to allow continuous current flow through the thermostat anticipator. Ideal for heat pumps.

The MARS 32390 and the new 32505 are the most simple and economic ways to stop short cycling on 24 VAC controlled systems. Both devices are fixed 5 minute delay on break timers.

Features:

- 1 to 3 second random re-start
- Models for two-wire or three-wire connection
- 32387 for use with anticipator thermostats
- Dial adjustable
- Compact size
- Mounts in any position
- .25 in. quick connect terminals
- Proven reliability
- MARS delay-on-break timers are not load sensitive
- MARS 32505 features two wire leads



Adjustable

MARS NO.	TYPE DELAY	TIME DELAY RANGE	TYPE OF ADJUSTMENT	INPUT VOLTAGE	HZ	MAX AMPS.	VOLTAGE DROP	CONNECTION DIAGRAM
32392	on break	6 sec...5 min.	dial	19...240 VAC	50/60	1	2.5 at 1 amp.	1
32387	on break	120...300 sec.	dial	24 VAC	50/60	1	3 at 1 amp.	2

Fixed Delay

32390	on break	5 min.	none	24 VAC	50/60	1	2.5 at 1 amp.	2
32505	on break	5 min.	none	20-30 VAC	50/60	1	3 at 1 amp.	2



MARS Solid State Devices

MARS SERIES **325**

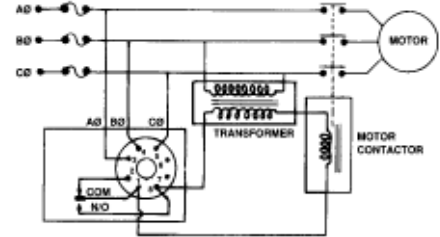


32532

MARS Phase Reversal Protector

Features:

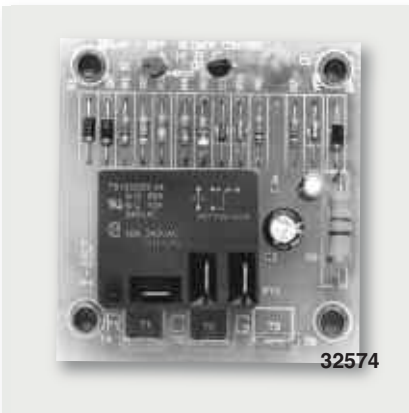
- Disconnects the motor pilot circuit on loss of one or more phases or when the voltage imbalance between any of the two phases exceeds 7%
- Re-energizes the pilot circuit only when all 3 phases are present and the voltage imbalance is less than 7%
- 208-277VAC, 50-60Hz
- Contact Rating: NO/NC (type "C") 5A/240V, 10A/120V
- 1/4" male spade terminals
- Compact design: 2.35" x 2.425" x 1.1"



Phase Reversal Protector

MARS NO.	NOMINAL VOLTAGE	INPUT VOLTAGE	SPDT RELAY CONTACTS AMP RATING
32532	240 VAC	175-255 VAC	10 amps res.
32534	480 VAC	380-500 VAC	8 amps res
93057*	8 Pin Octal Base, 35mm Din Rail or Surface Mount		

* Base not included



32574

Fan Time Delay Module

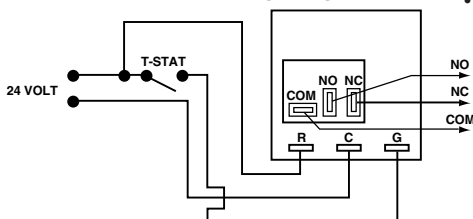
The MAHBC fan time delay module is a replacement for the direct motor control used by leading OEMs in high efficiency residential central air conditioning systems. The purpose of the control is to keep the blower motor running for 60 seconds after the thermostat has been satisfied. The result is an increase in residual cooling from the indoor coil without running the condensing unit, and thus, higher energy efficiency.

The MAHBC is ideal for retrofit where improved efficiency is desirable.

Features:

- Wide ambient temperature operating range -40°F to 175°F
- 1/4" male quick connect terminals
- Easy surface mount with four #6 screws
- UL and CSA recognized

Wiring Diagram



Cross Reference

OEM	PART NO.
BARD	8201-056
RHEEM	42-22515-01
SNYDER GENERAL	0001395336

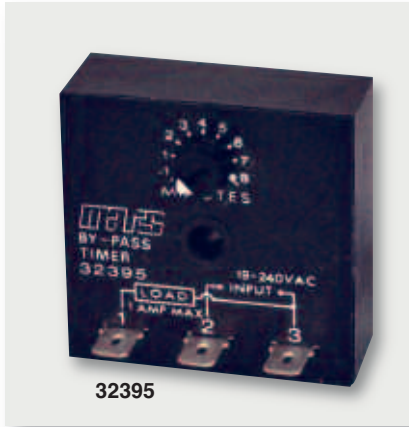
MARS NO.	MARS MODEL	VOLTAGE	OUTPUT		TIME DELAY	ACTION
			120V	240V		
32574	MAHBC	24VAC	1 HP	2 HP	60 SEC.	SPDT



MARS Solid State Timers

MARS SERIES **325**

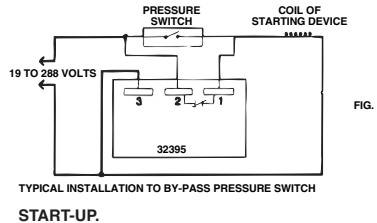
COMPONENT



MARS Bypass Timer

MARS 32395 is an adjustable, multi-voltage bypass timer that allows the temporary bypass of a control or device during start-up. At the end of the delay period the control is returned to the circuit.

Eliminate nuisance trips!



Low pressure switch bypass application.

FIGURE 1
LOAD IS BYPASSED ON RETURNS TO CIRCUIT AFTER DELAY PERIOD.

MARS NO.	TYPE DELAY	TIME DELAY RANGE	TYPE OF ADJUSTMENT	INPUT VOLTAGE	HZ	MAX AMPS.	VOLTAGE DROP	CONNECTION DIAGRAM
32395	by-pass	6 sec...8 min.	dial	19...240VAC	50/60	1	2 at 1 amp.	1



Compressor Anti-Short Cycle Timer with Low Voltage Brownout Protection

Delay on break.

OEM replacement timers for Lennox, Rheem, Ruud, Trane, Heil Quaker, Keep Rite, Mc Quay, Snyder General and others.

Features:

- Lockout delay prevents rapid cycling compensated resistor type wall thermostats
- Single hole mounting (.25 inch diameter)
- Non-positional
- Brownout protection prevents startup when voltage is below normal conditions
- Reduces nuisance service calls due to short cycling
- Delay on Break Lockout delay starts with opening of thermostat or loss of power
- .25 in. quick-connect terminals
- Eliminates relay chatter due to thermostat bounce
- Small size 2.00 x 2.00 x .75 in.
- UL and CSA listings available

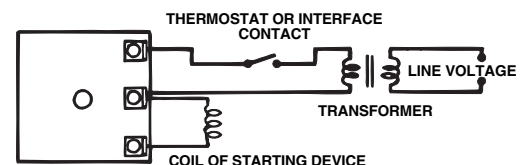
Operation:

On initial closure of the thermostat, the compressor relay energizes immediately. When the thermostat opens, a lockout condition and a time delay is initiated. During this lockout time delay period, the compressor cannot be energized.

Brownout protection prevents energizing of the compressor when the line voltage is below normal conditions.

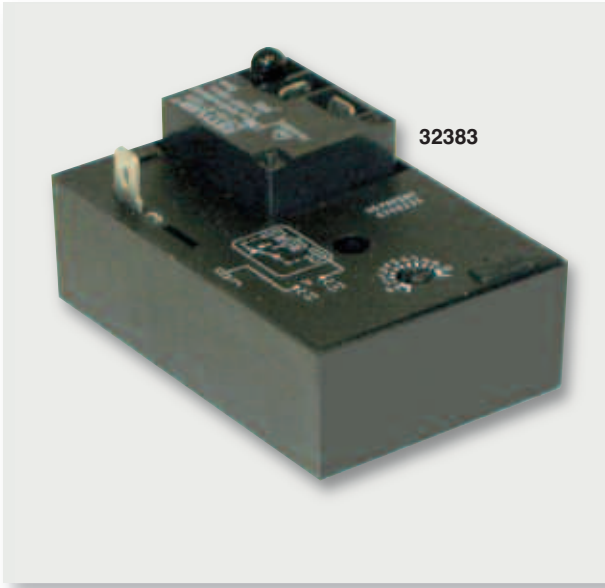
With Integral Brownout Protection

MARS NO.	MODEL NO.	OPERATING VOLTAGE (NOMINAL)	TIME DELAY (MIN.) ± 2%	MAX AMPS
32381	TA24A3	24 VAC	3	1.5
32382	TA24A5	24 VAC	5	1.5



MARS Solid State Timers

MARS SERIES **325**



MARS High Power Delay-On-Make Time Delay Relay

The MARS 32383 delay timer relay is a combination of electromechanical relay & digital solid state circuitry. The high rating of the output contacts allows for direct operation of heavy loads such as compressors, pumps, blower motors, heaters, etc.

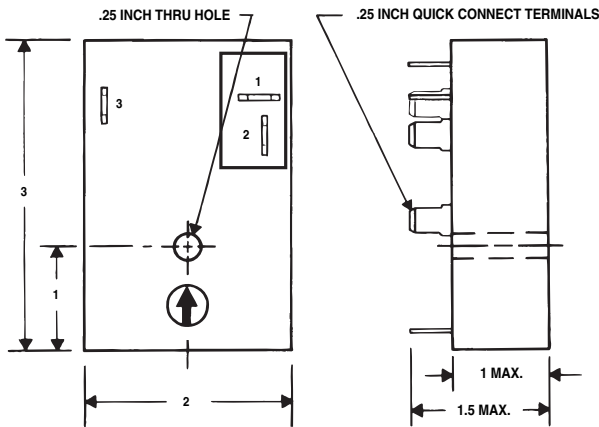
Features:

- Solid state circuitry with relay contacts
- Encapsulated digital circuitry
- Use for OEM or general replacement
- Knob adjustable from 0.1 to 10 mins.

Specifications:

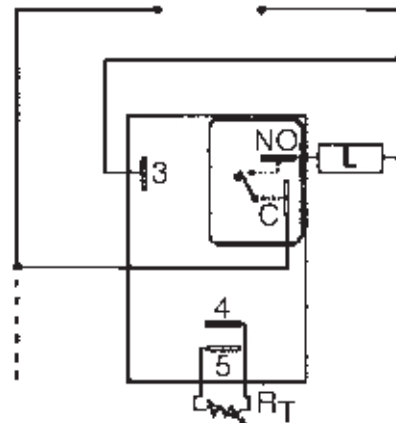
- 15 amps resistive SPST relay contacts
- 120 VAC operating voltage
- 50/60 hertz
- Operating temp: -20° to 60° C
- Repeat accuracy: ± 0.5%
- UL & CSA

Mechanical:



NOTE: All dimensions in inches.

Wiring:



MARS NO.	TYPE DELAY	TIME DELAY RANGE	TYPE OF ADJUSTMENT	INPUT VOLT	SWITCH	MAX AMPS
32383	Delay-On-Make	0.1 to 10 min	DIAL	120	SPDT	15 Resistive, 1 HP DP:15 FLA, 90 LRA @ 125VAC



MARS Solid State Timers

MARS SERIES **325**

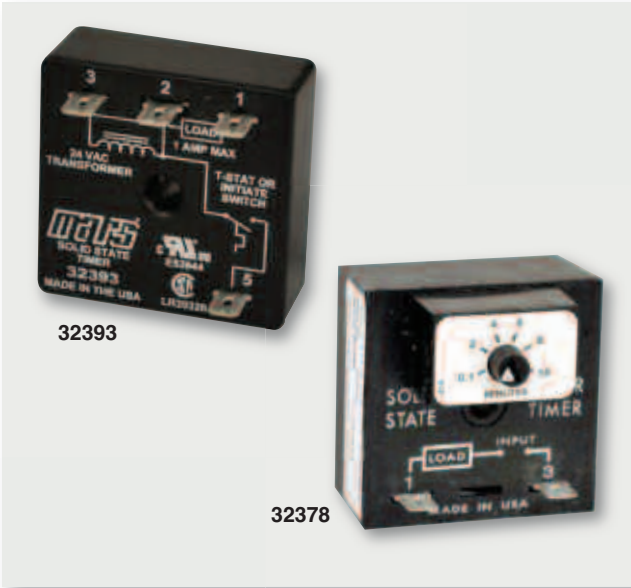
COMPONENT

MARS Fan Delay/Post Purge Timers

These MARS solid state timers provide for convenient control of a variety of functions.

MARS number 32393 is a fixed 2 minute, 24V off-delay timer that allows the fan to continue to operate after the thermostat is satisfied to purge the ducts of conditioned air.

MARS numbers 32377, 32378 and 32379 are versatile, high amp timers which, depending on installation (see connection diagrams 2 and 3), will perform either on-delay or off-delay functions. On-delay is especially useful for controlling unloader valves. Off-delay can be used for fan off-delay, pump down systems or post purge applications. The off-delay may also serve an anti-bounce function as a pump flutter bypass switch.



32393

32378

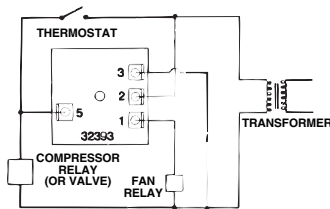


FIG. 1

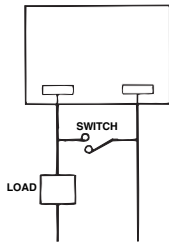


FIG. 2
POST PURGE

WITH THE SWITCH CLOSED, THE LOAD IS ENERGIZED. WHEN THE SWITCH OPENS, THE LOAD REMAINS ENERGIZED AND THE TIME DELAY BEGINS. AT THE END OF THE DELAY PERIOD THE LOAD IS DE-ENERGIZED.

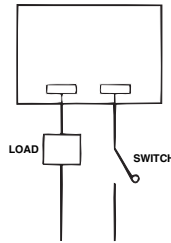


FIG. 3
INTERVAL - ON

WHEN THE SWITCH CLOSSES, THE TIME DELAY BEGINS. AT THE END OF THE DELAY PERIOD, THE LOAD IS DE-ENERGIZED.

Features:

- Wide selection of models
- Easy installation
- Compact size
- Mounts in any position
- Totally solid state
- High accuracy

Specifications:

- 100 milliamps minimum latch current

MARS NO.	TYPE DELAY	TIME DELAY RANGE	TYPE OF ADJUSTMENT	INPUT VOLTAGE	HZ	MAX AMPS.	VOLTAGE DROP	CONNECTION DIAGRAM
32393	off delay	2 min. fixed	—	24 VAC	50/60	1	2 at 1 amp.	1
32377	off delay/ interval	6 sec...10 min.	dial	24 VAC	50/60	6	2 at 6 amp.	2 or 3
32378	off delay/ interval	6 sec...10 min.	dial	120 VAC	50/60	10	2.1 at 10 amp.	2 or 3
32379	off delay/ interval	6 sec...10 min.	dial	230 VAC	50/60	10	5 at 10 amp.	2 or 3



MARS 3/4" Motor Protectors

MARS SERIES **350**



Universal Replacements for Refrigeration and Air Conditioning

30 MARS motor protectors solve the serviceman's most annoying problem—finding suitable replacements for motor overload protectors.

Features:

- Used in refrigeration, room air conditioners, heating, appliances, and electric motors
- Each overload has six-inch leads and two wire nuts for simple installation
- UL and CSA listings available

Application Survey By Horsepower*

MARS NO.	HORSEPOWER															
	110/115							208/240V								
	1/20	1/12	1/8	1/6	1/5	1/4	1/3	1/2	1/12	1/8	1/6	1/5	1/4	1/3	1/2	1
35009	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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3/4" A/C Overloads

MARS NO.	TEMPERATURE CODE
35101	MRA-3763-529
35105	MRP-00-AIU-529

*Motor protectors cannot be replaced by horsepower, amperage, or nameplate data alone. Refer to cross reference information for proper replacement of original equipment motor protectors by part number.



Klixon 3-Phase Motor Protectors

MARS SERIES **370**



On-Winding Overheat Protection

Klixon SL-11 kits are mounted on the windings of general purpose motors and hermetically sealed compressors. They supplement conventional current overload relays in magnetic starters providing modern total protection for most older motors in use today.

Features:

- Allow motors to perform at full-load capacity but will protect against dangerous running overloads
- Protect against blocked ventilation, high ambient temperatures, single phasing
- Each kit contains three matched motor-winding thermostats
- When starter overloads operate, the SL-11 will protect against re-starting at unsafe winding temperatures if the starter overloads reset when the motor is still too hot
- These motor winding thermostats do not replace overloads in the starter
- UL & CSA listed

Installation:

SL-11 thermostats are tied in place on the end turns of appropriate winding bundles, one to each phase or buried in the windings during motor rewind. They are connected in series between the starter coil and its power supply.

Selection:

- Pick thermostat temperature to operate at the mid-point between the "maximum normal running" temperature and the "maximum allowed running temperature."
- Subtract the gradient temperature (outlined in the chart below) from the mid-point to obtain the operating temperature of the thermostat.

Maximum Contact Rating Amperes			
Klixon #	24V	115V	230V
9700K	18	18	12

MOTOR TYPE	THERMOSTAT LOCATION	
	TIED ON END TURNS	BURIED IN END TURNS
OPEN TYPE	30°C	15°C
TOTALLY ENCLOSED		
FAN COOLED	25°C	10°C
TOTALLY ENCLOSED		
NON-VENTILATED	20°C	5°C

Epoxy-Sealed Thermostats For General-Purpose Motors.

MARS NO.	KLIXON KIT NO	KLIXON CAT. NO	OPERATING TEMPERATURE
37075	SL-11-75	9700K51-146	75°C
37090	SL-11-90	9700K21-146	90°C
37100	SL-11-100	9700K26-146	100°C
37110	SL-11-110	9700K36-146	110°C
37120	SL-11-120	9700K01-146	120°C
37130	SL-11-130	9700K11-146	130°C
37135	SL-11-135	9700K06-146	135°C
37140	SL-11-140	9700K66-146	140°C
37145	SL-11-145	9700K76-146	145°C
37150	SL-11-150	9700K46-146	150°C

Three thermostats per package

Klixon Motor Protectors

MARS SERIES **360**



1" Universal Replacements

Eleven MARS 1-inch motor protectors manufactured by Klixon replace hundreds of original equipment motor protectors used on air conditioning and refrigeration compressors.

Features:

- Covers 1/2 to 2 HP range
- Replace 2- and 3- terminal overloads
- Reduce inventories
- Electrical ratings are same as originals

MARS NO.	KLIXON NO.	HP*	VOLTAGE	HZ	NO. OF TERMINALS
36010	CSM 16 HX	1/2	115	60	2
36011	CSO 67 AJN	3/4, 1	230	60	3
36012	CSM 00 ANN	1	208/230	50/60	2
36014	CSM 36 AIN	1	208/230	60	2
36015	CSM 40 ALN	3/4	115	60	2
36016	CSO 67 AFN	2	230	60	3
36017	CSM 00 AHN	1	115	50/60	2

*Motor protectors *cannot* be replaced by horsepower, amperage, or nameplate data alone. Refer to cross reference information for proper replacement of original equipment motor protectors by part number. These ratings are those of compressors on which the original overloads are found and are intended as a stocking guide only.

MARS Motor Protector Reference Information

Copeland

PROTECTOR MODEL	MARS NO.
071-0090-00	36021
071-0090-01	36022
071-0090-03	36024
071-0090-04	36025
071-0090-05	36026
071-0090-19	36030
071-0092-06	36032
071-0092-16	36034
071-0092-18	36035
071-0092-23	36036
071-0092-25	36037
071-0092-27	36038
071-0092-39	36044
071-0099-00	36040
071-0099-01	36017
071-0099-04	36045
071-0119-01	36041
071-0092-39	36044

Klixon

PROTECTOR MODEL	MARS NO.
RA1910	36010
RA1959	36010
RA1986	36010
BRA2904	36041
BYA1216	36022
BYT23WX-7	36030
CRA2930	36010
CRA2938	36010
CRA2972	36012
CRA2980	36014
CRA2982	36011
CRA2987	36012
CRA3787-18	36044
CRA3786-157	36045
CRA3935	36015
CRA3946	36014
CRA3949	36036
CRA3963	36014

Klixon (cont.)

PROTECTOR MODEL	MARS NO.
CRA3978	36010
CRA3982	36015
CRA3993	36014
CRA3997	36014
CRA4998	36012
CRA5948	36014
CRA5949	36013
CRA5952	36017
CRA5960	36014
CRA5961	36013
CRA5984	36017
CRA5989	36017
CRA5993	36011
CRA6926	36017
CRA6934	36015
CRA6945	36015
CRA6947	36017
CRA7902-157	36040
CRA7903	36036

Klixon (cont.)

PROTECTOR MODEL	MARS NO.
CRA7944	36017
CRA7956	36017
CRA7963	36017
CRA7973	36010
CRA8936	36010
CRA8940	36012
CRA9993-109	36010
CRB2955	36011
CRB3908	36016
CRB3950	36016
CRB4910	36011
CRB4955	36016
CRB6914	36011
CRB7985	36011
CRP38JX-18	36037
CRT20HY-18	36032
CRT32EY-18	36035
CRT36EV-18	36034
CSM16HX	36010

Klixon (cont.)

PROTECTOR MODEL	MARS NO.
CSTOOAHN-3	36017
CSTOOAHN-38	36017
CSTOOAHN-67	36017
CSTOOAHN-68	36017
CSTOOAHN-79	36017
CSTOOAHN-81	36017
CSTOOAHN-82	36017
CSTOOAHN-86	36017
CSTOOAHN-87	36017
CSTOOAHN-88	36017
CSTOOAHN-111	36017
CSTOOAHN-121	36017
CSTOOAHN-124	36017
CSTOOAHN-131	36017
CSTOOAHN-133	36017
CSPOOANN-115	36012
CSPOOANN-133	36012
CSTOOANN-60	36012
CSTOOANN-86	36012

Klixon (cont.)

PROTECTOR MODEL	MARS NO.
CSTOOANN-124	36012
CSTOOANN-131	36012
CSTOOANN-133	36012
CSTOOANN-136	36012
CST67AJN-105	36011
CYA1225	36021
CYA1227	36024
CYA1228	36025
CYA1231	36026

Commercial Refrigeration Thermostats

MARS SERIES **330**

COMPONENT



Refrigeration Cases and Coils

MARS has selected the most popular Klixon disc-type thermostats found in commercial refrigeration. These controls cover a wide assortment of applications including supermarket cases and walk-in, reach-in, and beverage coolers.

Features:

- Used on refrigeration cases, coils, with many other commercial applications
- *Long lead wires supplied to satisfy most requirements*
- Used by Hussman, Friedrich, Larkin, Schaefer, etc.
- 1 inch discs fully encapsulated for trouble-free use
- Mounts directly on coil tube or surface for maximum temperature response
- UL and CSA listings available
- 25 resistive amps maximum

Electrical Rating

		TERMINALS 1-3	TERMINALS 1-2
Full load amps	120V	13	5.8
	240V	10	2.9
Locked rotor amps	120V	60	34.8
	240V	45	17.4
Pilot Duty	120/240V	125	125
Resistive amps	120/240V	25	25
	277V	15	15

Tube Mounting

MARS NO.	KLIXON NO.	O.E.M.	O.E.M. PART NO.	SWITCH ACTION	OPERATING TEMPERATURES F°		TUBE MOUNTING IN	LEADS IN
					OPEN	CLOSE		
33405	20420D24-106-63	Bally	—	D	70	20	5/8	18
33415	20420D24-399-350		—	D	65	20	5/8	20
33420	20428F1-4-676	Friedrich	606-038-00	F	35	55	3/8	20
33425	20420L15-913-302		794-824-00	L	40	25	5/8	11
33430	20420D1-166-336		—	D	50	35	1/2	18
33435	20420L28-229-89	Hussman	P211-119696	L	20	5	3/4	40
33440	20420F32-381-533		—	F	20	30	3/4	48
33455	20420F19-63-294	Schaefer	C10872-19	F	20	60	5/8	36
33460	20420L19-202-274		C10872-6	L	35	5	5/8	54
33470	20420L15-376-218		125211	L	50	30	5/8	36
33475	20420L15-722-218	Tyler Ref.	146291	L	40	20	5/8	36
33480	20420L15-767-257		146739	L	80	50	5/8	90

Surface Mount

MARS NO.	KLIXON NO.	O.E.M.	O.E.M. PART NO.	SWITCH ACTION	OPERATING TEMPERATURES F°		LEADS IN
					OPEN	CLOSE	
33017	20425L153-B22-B54	Heatcraft	5708L	L	75	40	18 w/ quick connects
33025	20425D56-520-B10	Heatcraft	5709L	D	55	35	18 w/ quick connects

1D=SPDT, no. 1 is common - no label, no. 2 either opens or closes temp. rise - red label, no. 3 is opposite of no. 2 - blue label

F= close on temperature rise, SPST

L= open on temperature rise, SPST

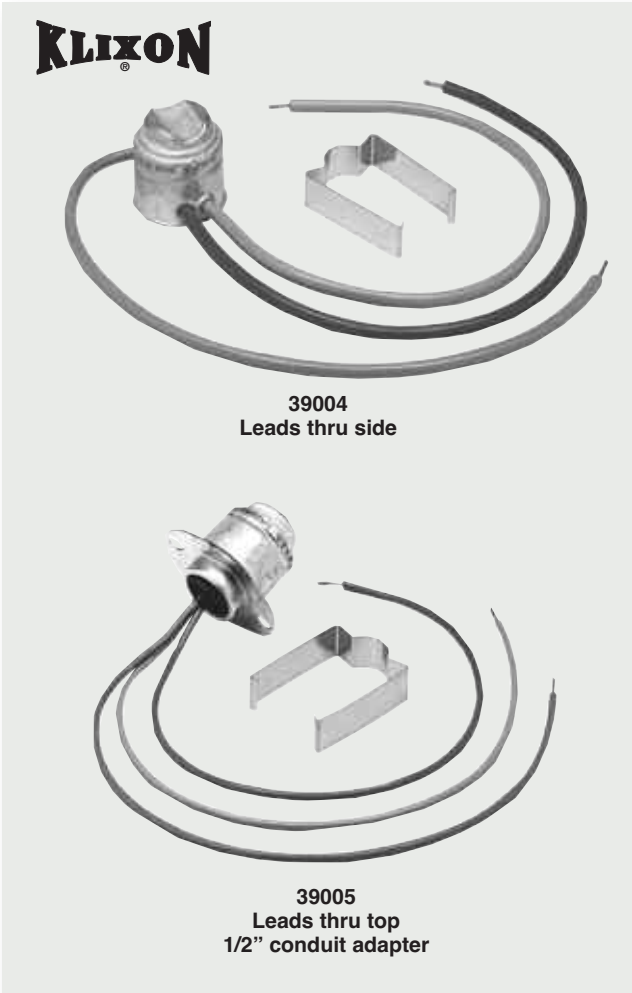
2 mounting is not limited to this size, see mounting clips above.



The largest selection of motors, components, and accessories for the HVAC/R Industry

Klixon Fan & Limit Switches

MARS SERIES **390**



Change-Over Switches for Fan-Coil Systems

The MARS Series 390 change-over switches are used for summer-winter change-over of electric thermo-stats in hydronic heating - cooling fan-coil units.

Features:

- Color coded leads allow easy installation
- SL-8 thermostat is enclosed in sealed case for trouble-free operation
- Snap-acting disc type, insures accurate temperature repeatability
- Can be mounted in any position
- UL and CSA listings available

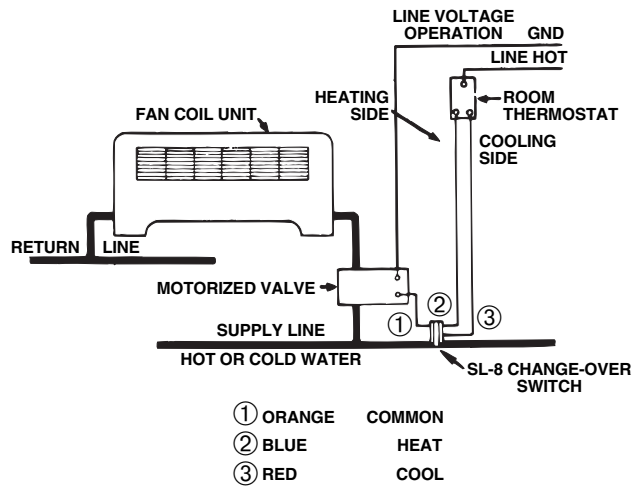
Installation

The SL-8 change-over switch is located on the main run of the supply line where it can quickly sense the maximum temperature of the hot or cold water passing through. If the SL-8 switch is exposed to surrounding temperatures, thermal insulation should be wrapped around the switch case to maintain desired thermal response.

Specifications:

Pipe size: 5/8 in O.D.
Leads: 12 in. color coded
Switch Action: SPDT
Temperature: 88°F (31°C)—terminals 1 & 2 close, 1 & 3 open
 73°F (23°C)—terminals 1 & 3 close, 1 & 2 open
Mounting: mounting clip supplied with each kit
Electrical: terminals 1 & 3 25 amp at 120/240 VAC
 Terminals 1 & 2 10 amp at 120 VAC, 5 amp at 240 VAC

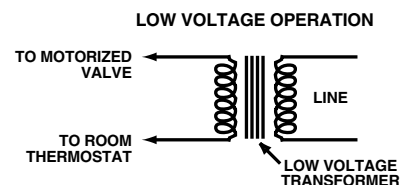
MARS NO.	KLIXON KIT NO.	KLIXON NO.	DESCRIPTION
39004	SL8-5	20425D27-160-356	leads thru side of cup
39005	SL8-5A	20425D69-160-287	leads thru top of cup with 1/2" conduit adapter



- ① ORANGE COMMON
- ② BLUE HEAT
- ③ RED COOL

Cross Reference

HONEYWELL NO.	MARS REPLACEMENT	WHITE RODGERS NO.	MARS REPLACEMENT
L6076A	39004	752-1	39004
L6076B	39005	752-2	39005





Defrost Thermostats

MARS SERIES **330**

COMPONENT



33008

For Defrost Termination

MARS Series 330 defrost controls are designed to replace many defrost thermostats. The leads are of sufficient length for the connection to be made at the same location as was the control removed. The connection should be insulated in a manner similar to that on the original equipment.

The selection of the proper thermostat can be made by matching the temperature code of the thermostat removed to the code on the MARS Thermostat.

Features:

- Refrigerators, A/C units, & heat pumps, dehumidifiers, icemakers or any place where a fixed temperature control is required in a wet or dirty environment.
- Thermostats have 32" leads.

MARS NO.	TEMPERATURE CODE	OPENING TEMP. F°	CLOSING TEMP F°
33008	L45	45	25
33010	L55	55	35
33011	L60	60	40
33012	L70	70	50
33020	L80	80	60

Temperature Selection Guide

TEMP. CODE	USE MARS NO.	TEMP. CODE	USE MARS NO.	TEMP. CODE	USE MARS NO.
L40-3.0	33008	L58-4.3	33011	L65-4.0	33012
L42-2.0		L60-2.0		L67-4.2	
L45-3.0		L60-2.5		L70-4.0	
L45-3.0		L60-3.0		L75-5.0	
		L60-3.5			
L55-1.5	33010	L60-4.0	33020	L80-3.0	
L55-2.0		L60-4.5		L80-4.0	
L55-2.5				L80-4.5	
L55-3.0				L80-5.0	
L55-3.5					
L55-4.0					

VOLTS	INDUCTIVE	
	F.L.A.	L.R.A.
120	5.8	25
240	2.9	70



33101

MARS Freeze Stat

The MARS 33101 is designed to help stop flood back to compressor crankcases caused by low ambient temperatures.

Features:

- Simple to install
- Refrigerators, freezers, A/C, food dispensing equipment
- 24" leads.

MARS NO.	OPENING TEMP. F°	CLOSING TEMP F°
33101	34	45



Klixon Pressure Switches

MARS SERIES **333**



KLIXON

33329

Fixed Setting Pressure Controls

Low pressure controls.

Specifications:

- Contacts rated at 6 amps, 24-240 volts
- 18" leads

Features:

- Tamper proof construction
- Direct mounting on tubing
- UL & CSA recognized

The 4 - Series Klixon Pressure Switches. This newest set of designs delivers the reliability and performance that has made Klixon the most trusted name in the electromechanical sensor business. The 4 - Series line of pressure switches covers many new R410A applications along with traditional pressure setting switches.

Klixon Brand, UL and CUL, Compact size, light weight for direct mounting, Factory Set, Hermetically Sealed Sensor.

5.8 FLA - 34.8 LRA @ 120 VAC, 2.9 FLA - 15.0 LRA @ 240 VAC, 100,000 Cycle Life at Rated Current.

Low Pressure Cut-Out - Open on Pressure Drop, Automatic Reset Normally Open

3 SERIES MARS NO.	4 SERIES MARS NO.	CUT OUT	CUT IN	NOTES
33329	43341	5	20	1/4" Female Flare S.A.E. Mounting
	43342	5	30	1/4" Female Flare S.A.E. Mounting
33330	43343	10	25	1/4" Female Flare S.A.E. Mounting
33333	43344	15	35	1/4" Female Flare S.A.E. Mounting
	43371	15	40	1/4" Copper Clad SS Tube, 90 degree elbow w/36" leads
	43345	20	45	1/4" Female Flare S.A.E. Mounting
	43372	22	50	1/4" Copper Clad SS Tube w/38" leads
33334		23	48	1/4" Female Flare S.A.E. Mounting
	43373	25	40	Gold Contacts 1/4" Female Flare w/36" leads
33362	43346	25	50	1/4" Female Flare S.A.E. Mounting
33336	43347	25	65	1/4" Female Flare S.A.E. Mounting
33363	43348	25	80	1/4" Female Flare S.A.E. Mounting
	43349	35	60	1/4" Female Flare S.A.E. Mounting
33364	43350	40	80	1/4" Female Flare S.A.E. Mounting
	43351	45	60	1/4" Female Flare S.A.E. Mounting
33339	43352	50	90	1/4" Female Flare S.A.E. Mounting
	43374	50	95	1/4" Copper Clad SS Tube w/36" leads
33342	43353	75	100	1/4" Female Flare S.A.E. Mounting
	43375	90	120	1/4" Female Flare, w/18" leads
	43354	150	225	1/4" Female Flare S.A.E. Mounting
	43355	170	250	1/4" Female Flare S.A.E. Mounting
	43361	165	215	1/4" Female Flare S.A.E. Mounting w/Quick Connects
	43362	200	240	1/4" Female Flare S.A.E. Mounting w/Quick Connects, SPDT



Klixon Pressure Switches

MARS SERIES **333**

KLIXON



33353

Fixed Setting Pressure Controls High Pressure Cut-Outs

MARS offers the most complete line of high pressure cut-outs available.

Specifications:

- Contacts rated at 6 amps, 24-240 volts
- 1/4" female flare S.A.E. mounting
- 18" leads

Features:

- Tamper proof construction
- Direct mounting on tubing
- UL & CSA recognized

The 4 - Series Klixon Pressure Switches. This newest set of designs delivers the reliability and performance that has made Klixon the most trusted name in the electromechanical sensor business. The 4 - Series line of pressure switches covers many new R410A applications along with traditional pressure setting switches.

Klixon Brand, UL and CUL, Compact size, light weight for direct mounting, Factory Set, Hermetically Sealed Sensor.

5.8 FLA - 34.8 LRA @ 120 VAC, 2.9 FLA - 15.0 LRA @ 240 VAC, 100,000 Cycle Life at Rated Current.

High Pressure Cut-Out - Open on Pressure Rise, Automatic Reset, Normally Closed

3 SERIES MARS NO.	4 SERIES MARS NO.	CUT OUT	CUT IN	NOTES
33353		200	150	1/4" Female Flare S.A.E. Mounting
	43321	225	150	1/4" Female Flare S.A.E. Mounting
33354	43322	250	150	1/4" Female Flare S.A.E. Mounting
33310	43324	275	195	1/4" Female Flare S.A.E. Mounting
33355	43325	300	200	1/4" Female Flare S.A.E. Mounting
	43326	325	225	1/4" Female Flare S.A.E. Mounting
33313		325	230	1/4" Female Flare S.A.E. Mounting
33316		350	245	1/4" Female Flare S.A.E. Mounting
33356	43327	350	250	1/4" Female Flare S.A.E. Mounting
33319		375	265	1/4" Female Flare S.A.E. Mounting
	43328	375	275	1/4" Female Flare S.A.E. Mounting
33357	43329	400	200	1/4" Female Flare S.A.E. Mounting
33322	43330	400	280	1/4" Female Flare S.A.E. Mounting
33370		400	300	1/4" Female Flare S.A.E. Mounting w/24" leads (1 stripped, 1 w/1/4" female flag QC)
33358	43331	400	300	1/4" Female Flare S.A.E. Mounting w/24" leads (1 stripped, 1 w/1/4" female flag QC)
33365 ¹	43313 ¹	410	290	1/4" Female Flare S.A.E. Mounting
33360		420	320	1/4" Female Flare S.A.E. Mounting
33325	43332	425	300	1/4" Female Flare S.A.E. Mounting
	43333	425	325	1/4" Female Flare S.A.E. Mounting
33359	43334	450	250	1/4" Female Flare S.A.E. Mounting
	43365	590	418	1/4" Female Flare w/snubber
33361	43335	600	475	1/4" Female Flare S.A.E. Mounting
	43366	610	420	1/4" Copper Clad SS Tube, 90 degree elbow w/snubber
	43376	610	420	1/4" Copper Clad SS Tube w/snubber
33369		630	480	1/4" Female Flare S.A.E. Mounting
	43367	650	450	1/4" Copper Clad SS Tube w/snubber

¹ Manual reset

Klixon Pressure Switches

MARS SERIES **333**



Condenser Fan Cycling Switches

Fan cycling switches provide refrigeration and air conditioning from low ambient conditions.

Specifications:

- Contacts rated at 6 amps, 24-240 volts
- 1/4" female flare S.A.E. mounting
- 18" leads

Features:

- Tamper proof construction
- Direct mounting on tubing
- UL & CSA recognized



Fan Cycling - Close on Pressure Rise

3 SERIES MARS NO.	4 SERIES MARS NO.	CUT OUT	CUT IN	NOTES
33340	43301	75	100	1/4" Female Flare S.A.E. Mounting
	43302	110	170	1/4" Female Flare S.A.E. Mounting
	43303	125	265	1/4" Female Flare S.A.E. Mounting
	43304	150	225	1/4" Female Flare S.A.E. Mounting
	43305	190	275	1/4" Female Flare S.A.E. Mounting
33341	43370	180	240	New! 1/4" Female Flare
	43306	210	275	1/4" Female Flare S.A.E. Mounting
	43307	300	400	1/4" Female Flare S.A.E. Mounting



Manual Reset - High Pressure Cut Out Open on Pressure Rise

3 SERIES MARS NO.	4 SERIES MARS NO.	CUT OUT	CUT IN	NOTES
33350 33352	43312	375	Manual	1/4" Female Flare S.A.E. Mounting
	43313	410	Manual	1/4" Female Flare S.A.E. Mounting
	43314	415	Manual	Capillary Tube
	43315	440	Manual	Capillary Tube
	43316	475	Manual	1/4" Female Flare S.A.E. Mounting
	43368	590	Manual	1/4" Female Flare w/snubber
	43369	610	Manual	1/4" Female Flare w/snubber



Heat Pump Thermostats

MARS SERIES **330**

COMPONENT



Heat Pump Defrost Thermostats

MARS heat pump defrost thermostats are designed for direct replacement of most existing controls of this type. The temperature settings and tubing sizes have been carefully selected from the most popular OEM settings. Each MARS thermostat comes complete with extra long 54 inch leads, mounting clamp, and installation instructions for fast and simple field installation.

Features:

- Four controls cover most requirements
- Tapered mounting edge for maximum heat transfer
- Extra long 54 inch leads for simple wiring
- Individually boxed with mounting clamp and instructions
- UL & CUL listed

Electrical Ratings:

CYCLES X1000	VOLTS	FLA	LRA	RESISTIVE AMPS	VA
100	120VAC	5.8	34.8	10	125
100	240VAC	2.9	17.4	10	125
30	120VAC	10.0	40.0	—	—
30	240VAC	10.0	40.0	—	—
100	30VDC	—	—	1	—

MARS NO.	OPERATING TEMPERATURES F°		TUBE MOUNTING IN	LEADS IN
	OPEN	CLOSE		
33490	80	30	3/8	54
33492	80	30	1/2	54
33494	65	30	3/8	54
33496	65	30	1/2	54



MARS Solid State Devices

MARS SERIES **347**



MARS Heat Pump Defrost Timer

MARS Heat Pump Defrost Timer replaces General Electric and Paragon timers on heat pumps with time initiated and time or temperature terminated defrost systems.

The MARS Heat Pump Timer features a defrost interval adjustment that allows selection of either 90 minutes or 45 minutes between defrost periods.

The MARS Heat Pump Defrost Timer will replace Paragon timers used by Carrier, Bryant, and other OEMs with the addition of a mounting bracket.

Specifications:

Time Delays:	Digital Interval delay duration: jumper selectable as 45 or 90 min. D faults to 45 min. if jumper wire is not connected.
Defrost Delay Duration:	10 min. or terminated upon the defrost thermostat opening
Defrost Window Delay Duration:	50 seconds
Operating Voltage:	240 VAC +10% - 25%
Output:	relay/contactor output Type - solid state Form - SPDT N.O. Rating - .50 amp steady state
Protection:	25% or greater shutdown
Surface Mount:	With two #6 screws .25 inch male quick connect terminal
Operating Temp:	-40°C to +85°C
Humidity:	95% relative

Features:

- Adjustable 90 or 45 minute defrost interval
- Replaces GE directly
- Replaces Paragon with bracket
- Telechron S1 motor
- 50/60 Hertz
- UL and CSA listings available

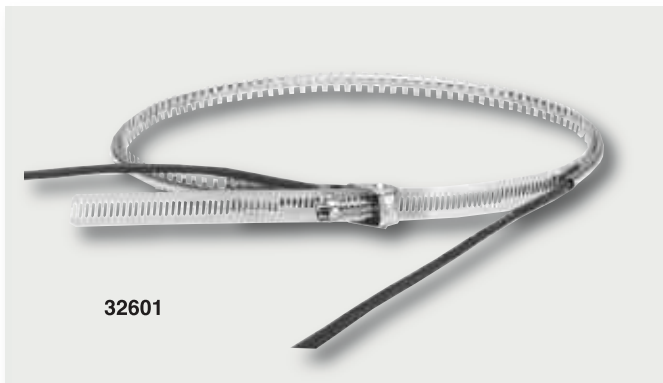
MARS NO.	DEFROST INTERVAL	DEFROST TIMING PERIOD	DEFROST INITIATION	SWITCHING
34790	90 or 45	10	50 Sec.	SPST N.O.



The largest selection of motors, components, and accessories for the HVAC/R Industry

Compressor Heaters

MARS SERIES **326**



Application Reference Chart for TUTCO™ Compressor Heaters

Manufacturer	Model	MARS No.
Aspera	H	32605-32608
Aspera	J	32609-32612
Bendix/Westinghouse	A	32613-32616
Bendix/Westinghouse	C, D	32601-32604
Bendix/Westinghouse	E	32605-32608
Bristol/Sundstrand	H10A, H21A, H2EA, H2A	32605-32608
Bristol/Sundstrand	H10B, H20B, H21B, H22B	32613-32616
Bristol/Sundstrand	H10G, H20G, H12G, H22G, H2NG-144	32617-32620
Carrier	6A25, 26, 28, 29, 6A35, 38, 45, 48	32605-32608
Carrier	6A88	32617-32620
Carrier/Carlisle	6R	32625-32626
Carlisle	W (70-88)	32601-32604
Copeland	BR	32633-32635
Copeland	CR	32605-32608
Copeland	JR	32629-32630
Copeland	RR, SR	32613-32616
Copeland	ZR	32621-32624
Copeland	Y	32601-32604
Fedders/Chrysler	3009	32617-32620
Fedders/Chrysler	2870908	32631-32632
Hitachi	1500FH4-H	32617-32620
Hitachi	305FH2HE, 402FH2-HE, 505FH2-HE	32613-32616
Hitachi	753FH3-H, 1001FH4-H	32601-32604
Sanyo	CR151F, CR20F, CR33F	32631-32632
Tecumseh	AB	32613, 32616
Tecumseh	AH	32605-32608
Tecumseh	AJ	32609-32612
Tecumseh	AK	32629-32630
Tecumseh	B, C, CL, AG, AV	32601-32604
Tecumseh	FE, FB	32617-32620
Trane	D4340/7669	32609-32612
Trane	D4340/7670	32621-32624
Trane	D4350/689, D4359/690	32605-32608
Westinghouse	CD072, CD090	32605-32608
Westinghouse	CD072, CD090	32621-32624

TUTCO™ Compressor Heaters for A/C And Refrigeration

Features:

- Corrosion resistant exterior
- High temperature silicone rubber element and insulated leads
- 30" leads
- Wattage for each model matches compressor requirements
- Completely moisture proof
- Installs quickly and easily
- Nominal power consumption
- UL & CSA Listed

MARS NO.	DESCRIPTION	VOLTS	WATTS	INCHES		SHAPE
				MIN.	MAX	
32601	CH-100	240	50	30 3/16	37	OVL
32602	CH-100-1	208		30 3/16	37	
32604	CH-100-3	480		30 3/16	37	
32605	CH-101	240	54	27 7/16	34 1/4	OVL
32608	CH-101-3	480		27 7/16	34 1/4	
32609	CH-102	240	60	25 3/4	32 9/16	OVL
32610	CH-102-1	208		25 3/4	32 9/16	
32611	CH-102-2	120		25 3/4	32 9/16	
32613	CH-103	240	45	24 3/4	31 9/16	OVL
32616	CH-103-3	480		24 3/4	31 9/16	
32617	CH-104	240	75	41 1/2	48 5/16	RND
32618	CH-104-1	208		41 1/2	48 5/16	
32619	CH-104-2	120		41 1/2	48 5/16	
32620	CH-104-3	480		41 1/2	48 5/16	
32621	CH-105	240		32 1/2	39 5/16	
32622	CH-105-1	208	50	32 1/2	39 5/16	RND
32624	CH-105-3	480		32 1/2	39 5/16	
32625	CH-115	240	40	30 3/16	37	RND
32626	CH-115-2	120		30 3/16	37	
32629	CH-135	240	45	20 5/16	27 1/8	OVL
32630	CH-135-2	120		20 5/16	27 1/8	
32631	CH-197	240	25	13 3/4	20 9/16	RND
32633	CH-202	240	70	33 3/4	36 3/4	RND
32634	CH-202-2	120		33 3/4	36 3/4	
32635	CH-202-3	480		33 3/4	36 3/4	



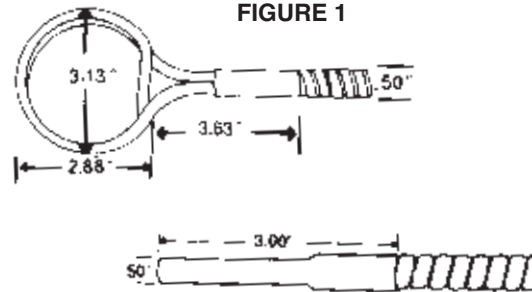
Crankcase Heaters

MARS SERIES **324**

COMPONENT



Direct Replacement Crankcase Heaters for Copeland



K&H Series Crankcase Heaters

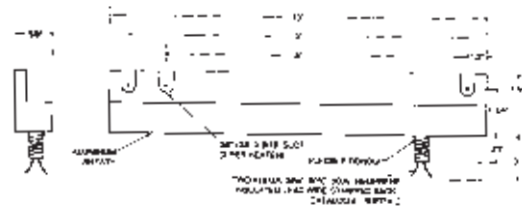
MARS NO.	COPELAND NO.	WATTS	VOLTS	FIGURE	COMPRESSOR MODEL
32443	9980118-06(018-0028-02)	50	240	1	K & H

BR Series Crankcase Heaters

MARS NO.	COPELAND NO.	WATTS	VOLTS	FIGURE	COMPRESSOR MODEL
32445	018-0022-01	60	120	3.00	2



Universal Replacement Crankcase Heaters for Copeland



MARS NO.	COPELAND NO.	WATTS	VOLTS	HEATER LENGTH IN.	CAN REPLACE	ACCESSORIES
32490	018-0034-00	65	120	10.00	4R,6R,6T,9R,9T,9W,E,MW 3A,3R,LA,MR,NR,EA,ER,LW,MD	2 bolts
32491	018-0034-01	65	240	10.00	4R,6R,6T,9R,9T,9W,E,MW 3A,3R,LA,MR,NR,EA,ER,LW,MD	2 bolts
32492	018-0034-02	65	480	10.00	E,9R,9W,MW,3A,3R,LA,MR, NR,EA,ER,LW,MD	2 bolts

Crankcase Heaters

MARS SERIES **324**



Direct Replacement Crankcase Heaters for Copeland

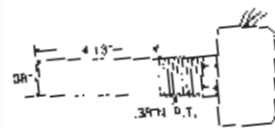
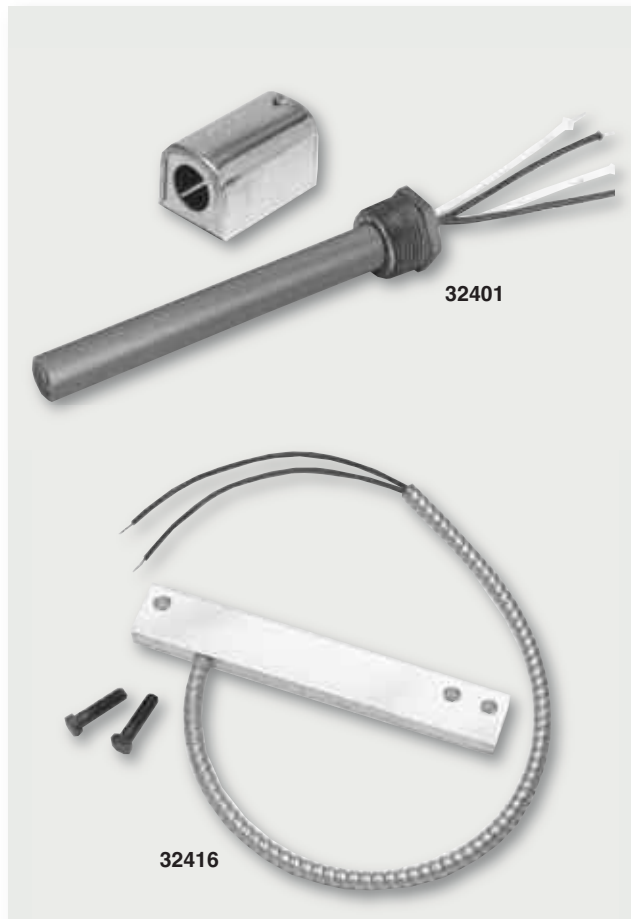


FIGURE 1

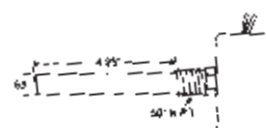


FIGURE 2

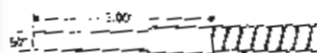


FIGURE 3

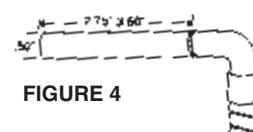


FIGURE 4



FIGURE 5

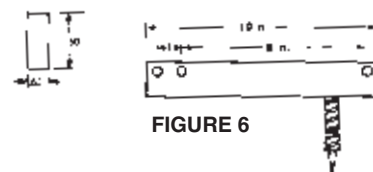


FIGURE 6

Crankcase Heaters for Copeland

NOTE: All heaters requiring clips or brackets are packaged with the appropriate clips or brackets required.

MARS NO.	COPELAND NO.	WATTS	VOLTS	HEATER LENGTH IN.	FIGURE	COMPRESSOR MODEL	ACCESSORIES
32401	518-0001-01						2 bolts
32403	518-0001-02	65	240	4.13	1	3D,9D,9R	
32405	518-0001-03						2 bolts
32408	518-0002-01						
32409	518-0002-02	100	240	4.25	2	4R,6R,6T,4D,6D	
32410	518-0002-03						
32416	518-0009-01	65	240	10.00	6	E,9R,9W,MW,3A,3R,LA,MR,NR	
32429	018-0029-00	60	240	3.00	3	BR	
32431	018-0021-04		120				
32432	018-0021-05	200	240	3.50	4	6RJ,4RJ,4RR	
32437	018-0023-01		240				
32439	018-0023-00	50	120	5.00	5	K & H	



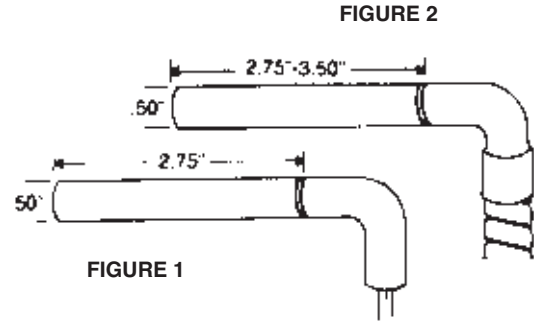
Crankcase Heaters

MARS SERIES **324**

COMPONENT

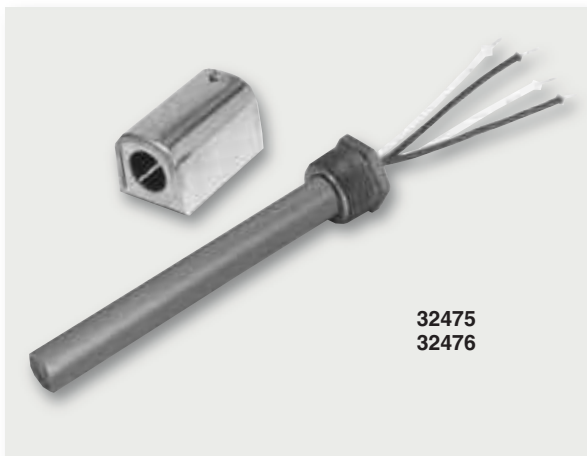


Direct Replacement Crankcase Heaters for Carrier

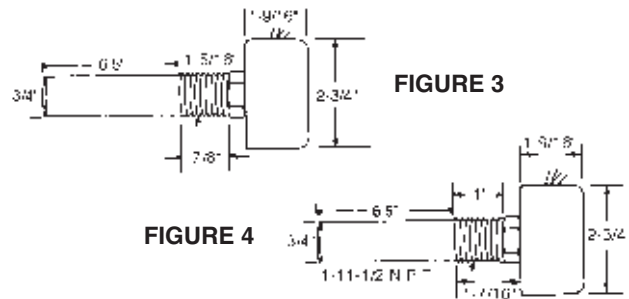


Crankcase Heaters for Carrier

MARS NO.	CARRIER NO.	WATTS	VOLTS	HEATER LENGTH IN.	LEAD LENGTH IN.	FIGURE	COMPRESSOR MODEL
32452	HT36DL172	125	120	2.75	25	2	
32456	HT36ES363	75	120	2.75	36.5	1	AB:AC:AD:38AA
32458	HT36FS364	75	120	2.75	52	2	AB:AC:AD:38AA
32460	HT36NS377	75	120	2.75	88	2	EB:30EA:30HH:30HJ:48DD:50DD
32462	HT36NS477	75	230	2.75	88	2	6D:06D
32464	HT36FS474	75	240	2.75	52	2	EM:6D:06D
32466	HT36XS575	75	240	2.75	36	1	
32468	HT36FL463	125	240	2.75	49	2	
32472	HT36FL379	125	120	2.75	60	2	EM:06DM:306B:50EQ
32474	HT36FL479	125	240	2.75	68	2	EM:06DM:30HR:30HS



One-On-One™ Crankcase Heaters



MARS NO.	OEM	OEM NO.	WATTS	VOLTS	LENGTH	DIA.	FIGURE
32475	Trane	661A-16093-12-4-C*	100	115/230	6 1/2"	3/4"	4
32476	Trane	661A-13881-12-4-C*	75	115/230	6 1/2"	3/4"	3
32478	Trane	X13140729-01	140	115/230	11"	3/4"	4



Crankcase Heaters

MARS SERIES **324**



PTCR Crankcase Heaters

MARS solid state crankcase heater is a PTCR self regulating device which performs in a similar manner to a heater and thermostat combination. Unlike conventional resistance heater and thermostat combinations which provide only fully on or fully off operation, MARS solid state crankcase heater emits heat in proportion to the compressor requirements.

As compressor temperature decreases, current flow through the heater increases causing it to heat up. When the compressor is warm and additional heat is not required, current flow decreases. Only enough electricity is consumed to maintain the correct temperature. MARS solid state crankcase heaters are self adjusting to voltage variations.

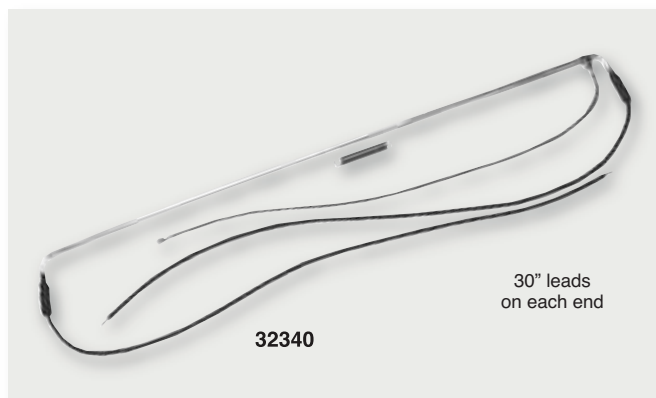
Application:

MARS 32342 is for use on heaterless compressors to help correct refrigerant migration or as a preventative maintenance precaution. It will replace belly-band heaters on compressors up to 5 HP, 120 and 240 VAC. MARS 32342 attaches to the compressor using high temperature, pressure sensitive aluminum foil. If more heat is required, a second 32342 may be wired in parallel and applied to the opposite side of the compressor.

MARS NO.	TYPE	WATTS	VOLTS
32342	Heater with self-stick foil	28	600 Max

Features:

- Total solid state reliability
- Self regulating
- 32342—fast, easy installation
- UL E49372, SA5202
- CSA LR46861, LR80111



Universal Crankcase Heater

MARS 32340 universal crankcase heater is for use on air conditioning and heat pump compressors located in cool ambient temperatures, to prevent refrigerant migration. MARS 32340 is a soft aluminum sheath which is formed around the base of the compressor and attached with the supplied mounting spring. This unique design will fit most hermetic compressors used in residential systems.

Features:

- Universal application
- Simple installation
- UL and CSA listed

MARS NO.	TYPE	WATTS	VOLTS
32340	Universal wrap-around	50	230



Replacement Coil Kits and Accessories for Electric Heat

MARS Replacement coil kits for electric heat let you repair strip heaters quickly and economically. Each kit contains one close wound, stretch to length, resistance coil with welded terminal bolts; two each male and female ceramic terminal insulators; two each .375 and .450 inch standard ceramic bushings; two each .375 and .450 inch extra long ceramic bushings; necessary nuts, washers, and installation instructions.

Select the right MARS kit from the chart below and order one kit for each circuit to be repaired. Thermal fuse links are rated 25 amps res. at 120 and 240 VAC.

Features:

- Welded terminal bolts for low resistance and long life
- Close wound coil, stretch to fit many applications
- Complete with bushings, insulators and hardware

MARS NO.	WATTAGE AT			INCHES		STRETCHED LENGTH METERS		
	240V	208V	480V	277V	MIN	MAX	MIN	MAX
34602	5000	3750	—	—	44.62	127.48	1.13	3.24
34604	—	—	5000	—	61.78	176.53	1.57	4.48
34606	—	—	—	5000	59.44	169.82	1.51	4.31
34608	3500	2625	—	—	50.75	145.00	1.29	3.68
34610	—	—	3500	—	42.27	120.76	1.07	3.07
34614	2000	1500	—	—	25.90	74.01	0.66	1.88
34616	2500	1875	—	—	30.89	88.26	0.78	2.24
34620	—	—	—	2500	27.61	78.87	0.70	2.00
34622	1500	1125	—	—	17.04	48.69	0.43	1.24
34624	4500	3375	—	—	42.33	120.95	1.07	3.07
34626	—	—	4500	—	46.05	131.98	1.17	3.35
34630	—	—	2000	—	40.12	114.64	1.02	2.91
34652	6600	4950	—	—	70.56	201.59	1.79	5.12
34654	—	—	6600	—	65.39	186.71	1.66	4.74
34656	6000	4500	—	—	54.43	155.50	1.38	3.95
34658	—	—	6000	—	71.88	205.38	1.83	5.22
34660 ¹	5000	3756	—	—	25.00	70.00	—	—

¹ Larger diameter coil - 5/8"

Thermal Fuse Links*

MARS NO.	°F	°C	DESCRIPTION
34700	204	95.56	Fuse Link
34702	283	139.45	Fuse Link
34704	333	167.22	Fuse Link
34706	300	148.89	Fuse Link
34708	300	148.89	Fuse Link—Round Ceramic Base
34710	227	108.33	Fuse Link—Oblong Ceramic Base
34712	300	148.89	Fuse Link—Oblong Ceramic Base

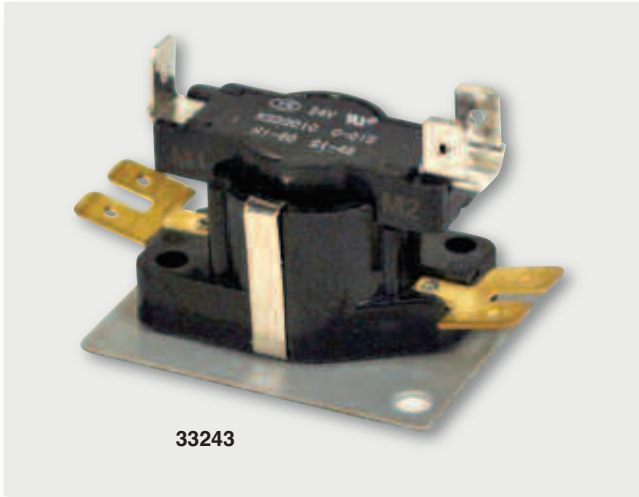
*10 per pack

Replacement Coil Economy Kits

MARS NO.	DESCRIPTION
34600	5000 Watt @ 240 V; includes coil, insulators & hardware
34601	5000 Watt @ 240 V; includes 300° fuse link, coil, insulators & hardware

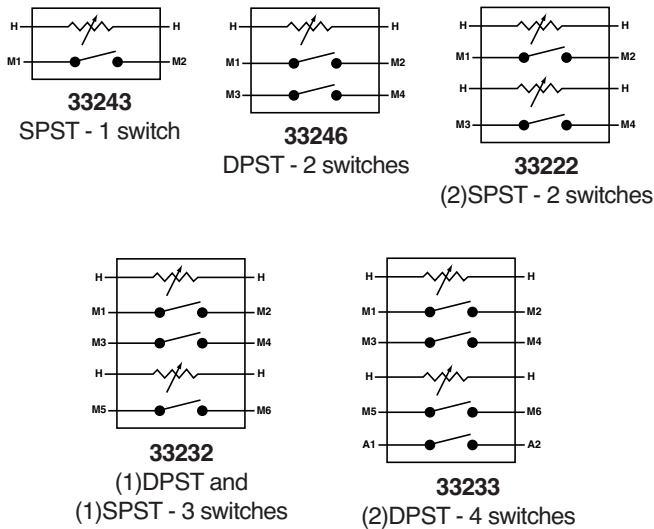
Relays & Sequencers

MARS SERIES **332**



33243

Schematic



Electric Heat Sequencers

A new simple method for selecting and replacing electric heat sequencers with only five basic controls. Replace sequencers in almost any existing system.

Sequencer selection:

- A. Determine the number of circuits to be switched. (Electrical rating of auxiliary switch same as main switch.) When more than one (1) sequencer is required the sequencers are to be wired in series with the last switch in each sequencer energizing the control circuit of the next sequencer.
- B. Select from the chart the sequencers needed for the number of circuits to be switched. These sequencers may be wired in series to allow sequencing of virtually any number of heating elements and fans.

If the sequencers control the fan/blower circuit, the first switch (M1-M2) of each sequencer must always control the fan. This provides a fan interlock to insure that the fan will remain on until all elements are de-energized.

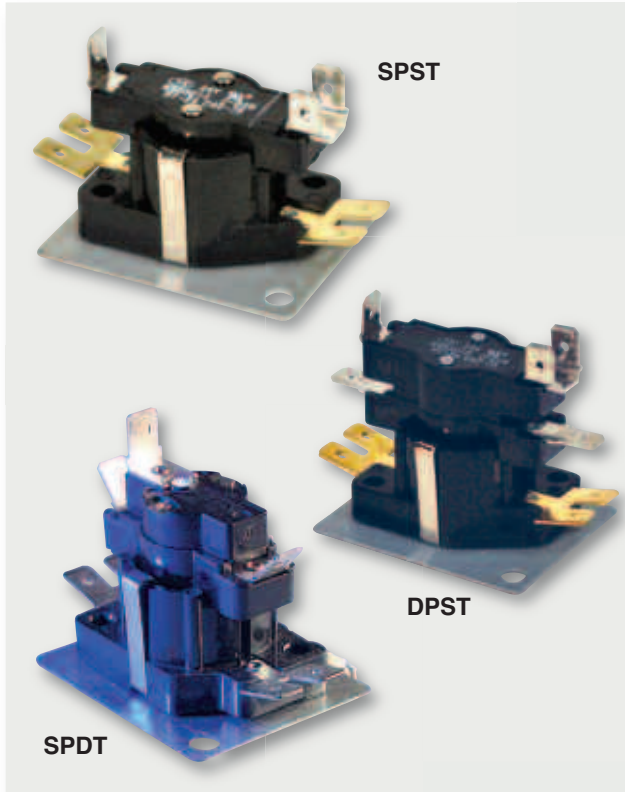
Features:

- *Solid State dependability*
- Replaces Honeywell and White-Rodgers
- Ambient rated from 20°F. to 160°F.
- Used on both separate blower and element and combination blower and element systems
- Total 24 Volt control
- Standard *double quick-connect terminals* for combination fan and element systems
- Full-load-rated auxiliary contacts
- 7.2 KW combination fan and element rated contacts (23A. resistive, 7A. motor load)
- *Non-positional*
- *Voltage and ambient self compensating* positive temperature coefficient (PTC) heater elements
- Individually packaged with wiring diagrams for up to seven element furnaces.
- UL and CSA listing available

Contact Rating Chart

VAC	RES AMPS	FLA	LRA	PILOT DUTY VA
120	30	23	84	672
240	30	23	60	960
277	23	23	42	775
480	12.5	5	10	400

NO. OF SWITCHES	MARS NO.	REPLACES KLIXON NO.	SWITCH TIMING: MIN-MAX IN SECONDS											
			Switch Sequence		Switch No. 1 (Terminals M1 / M2)		Switch No. 2 (Terminals M3 / M4)		Switch No. 3 (Terminals M5 / M6)		Switch No. 4 (2) (Terminals A1 / A2)			
			FIRST ON	LAST ON	LAST OFF	FIRST OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
1	33243	6000AOM	(1)				1-60	1-45						
2	33246	6000EOM	(1)				1-60	1-45	1-60	1-45				
2	33222	51172-22	No. 1	No. 2			1-24	45-75	30-70	1-40				
3	33232	51172-32	No. 1, No. 2	No. 3			1-24	45-75	1-24	45-75	30-70	1-40		
4	33233	51172-33	No. 1, No. 2	No. 3, No. 4			1-24	45-75	1-24	45-75	30-70	1-40	30-70	1-40



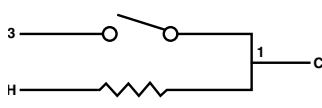
Thermal Time Delay Relays Sequencers

These time delay relays are used for a variety of applications in heating and air conditioning. They operate by means of a solid state PTC (positive temperature coefficient) device which heats up as current passes through it from the control circuit. This heat causes a positive, snap-acting disc to make or break the necessary contacts.

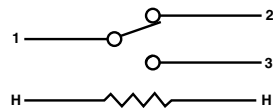
Features:

- Shock & vibration resistant internal snap action automatic reset switch mechanism assures positive make/break action
- Non-positional
- Wide selection for any application
- Voltage and ambient compensated
- UL and CSA listed
- Used for electric heat, air conditioning, heat pumps, gas & oil furnaces, unit heaters and commercial refrigeration

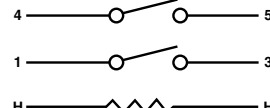
Diagrams:



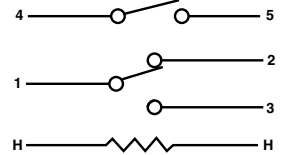
Single Pole Single Throw



Single Pole Double Throw
(Contacts 1 and 3 are normally open)



Double Pole Single Throw

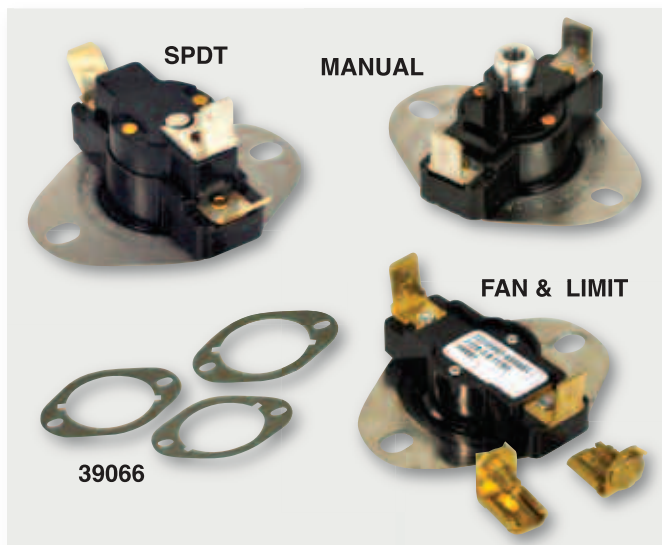


Double Pole Single Throw
Single Pole Double Throw
(Contacts 1 and 3 are normally open)

MARS NO.	REPLACES KLIXON TYPE 6000	SWITCH TYPE	CONTROL VOLTAGE	DELAY (SEC.)	
				ON	OFF
33215	G0-18	DPST & SPDT 1 & 3 N.O.	24	1-60	1-45
33217	G4-9	1 & 2 N.C., 4 & 5 N.O.	240	20-70	20-80
33241	AOM	SPST N.O.	24	1-24	45-75
33242	AOM		24	30-75	1-40
33243	AOM		24	1-60	1-45
33244	EOM	DPST N.O.	24	1-24	45-75
33245	EOM		24	30-75	1-40
33246	EOM		24	1-60	1-45
33247	COM-21	SPDT 1 & 3 N.O.	24	1-24	15-75
33255	E4	DPST N.O.	120	30-110	15-65
33256	E4		120	20-70	20-80
33265	E4	DPST N.O.	240	30-110	15-65
33266	E4		240	20-70	20-80
33267	C4M-13	SPDT 1 & 3 N.O.	240	20-70	20-80

Fan & Limit Disc Thermostats

MARS SERIES **390**



Heating Applications

MARS Series 390 thermostats are designed for quick on-the-job replacements. One thermostat, when used in conjunction with only one listed, can solve almost any mounting problems you encounter.

Our thermostats have been carefully selected to cover the widest temperature ranges with the fewest models.

Features:

- Each 3/4" thermostat has an integral oval flange to match the most commonly used mounting option
- Thermostats have 0.25 inch quick-connect terminals, with adapters supplied for conversion to screw-type terminals
- Widest range of replacements in the industry
- UL and CSA listings available

Fan Switches—Close On Temperature Rise

MARS NO.	KLIXON TEMP. CODE	TEMPERATURE °F OPEN	TEMPERATURE °F CLOSE
39105	F90-2	70	90
39006	F110-2	90	110
39007	F120-2	100	120
39008	F130-2	110	130
39009	F140-2	120	140
39010	F150-2	130	150
39011	F160-2	140	160
39112	F175-2	155	175
39113	F195-2	175	195
39015	F210-2	190	210
39016	F250-4	210	250
39017	F350-4	310	350

Manual Reset Limit Switches—Open On Temperature Rise

MARS NO.	REPLACES KLIXON TEMP. CODE	TEMPERATURE °F OPEN °F
39099	MR125	125
39037	MR140	140
39038	MR150	150
39039	MR160	160
39095	MR170	170
39096	MR180	180
39097	MR190	190
39098	MR200	200
39040	MR210	210
39041	MR220	220
39042	MR240	240
39043	MR300	300

Limit Switches—Open On Temperature Rise

MARS NO.	REPLACES KLIXON TEMP. CODE	TEMPERATURE °F CLOSE	TEMPERATURE °F OPEN
39086	L125-2	105	125
39087	L130-4	90	130
39018	L140-4	100	140
39019	L150-4	110	150
39020	L160-4	120	160
39021	L170-4	130	170
39022	L180-4	140	180
39023	L190-4	150	190
39024	L200-4	160	200
39025	L210-4	170	210
39026	L220-4	180	220
39027	L230-4	190	230
39028	L240-4	200	240
39029	L250-4	210	250
39030	L270-4	230	270
39130	L290-4	250	290
39031	L300-4	260	300
39032	L325-4	285	325
39033	L350-4	310	350

Single Pole Double Throw Switches

MARS NO.	REPLACES KLIXON TEMP. CODE	TEMPERATURE °F 1-2 OPEN OPEN	TEMPERATURE °F 1-2 CLOSE CLOSE
39077	D130-2	110	130
39078	D140-2	120	140
39045	D150-2	130	150
39046	D160-2	140	160
39081	D170-2	150	170
39147	D195-4	155	195
39082	D205-4	165	205
39084	D245-4	195	245
39085	D270-4	220	270

Electrical Rating

		TERMINALS 1-3	TERMINALS* 1-2
Full load amps	120V	10	5.8
	240V	5	2.9
Resistive amps	120V	25	10
	240/277V	25	5
Pilot Duty	120/240/277V	125VA	125VA

*for SPDT thermostats

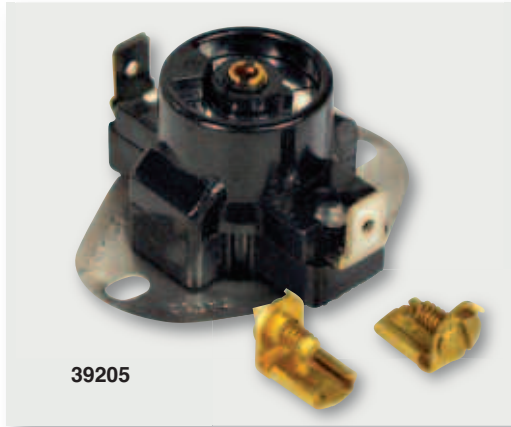
Mounting Flanges—3 Per Package

MARS NO.	DESCRIPTION	TYPE OF MOUNTING	SWITCH DIAMETER
39066	small oval flat	flush	3/4"



Fan & Limit Disc Thermostats

MARS SERIES **390**



Adjustable Fan or Limit Thermostats

MARS adjustable fan or limit thermostats let you reduce inventory and still have on hand the most popular thermostat ratings.

MARS adjustable thermostats are easily set for the desired temperature by turning the indicator dial built into the control. Each MARS adjustable thermostat features integral 2 hole oval mounting flanges and .25 inch quick connect terminals.

Features:

- Easy dial adjustment
- Six controls cover most requirements
- Integral oval flange
- .25 inch quick connect terminals
- UL and CSA listings available

MARS NO.	TYPE	RANGE °F	DIFF. °F	SWITCHING ACTION
39205	Fan	90-130	20	Close on rise
39210	Fan	140-180	20	Close on rise
39220	Limit	135-175	40	Open on rise
39225	Limit	175-215	40	Open on rise
39230	Limit	210-250	40	Open on rise
39235	Limit	250-290	40	Open on rise

Cross Reference Information

GEM NO.
AT 012
AT 013
AT 014
AT 015
AT 021
AT 022

MARS NO.
39220
39225
39230
39235
39205
39210

WHITE-RODGERS NO.
3F05-1
3F05-2
3L05-1
3L05-2
3L05-3

MARS NO.
39205
39210
39220
39225
39230



Electric Heat High Limit Thermostats

MARS electric heat high limit thermostats are designed for easy accurate replacement of OEM thermostats on electric furnaces. Temperature ratings and differentials have been carefully selected for safe operation.

MARS electric heat high limit thermostats feature an exposed matte finish disc for fast response. Easy matching of OEM mountings using the integral round flange, accessory oval flange or the terminal mounting adapter. Complete instructions and push-on to screw-on terminal adapters are also included.

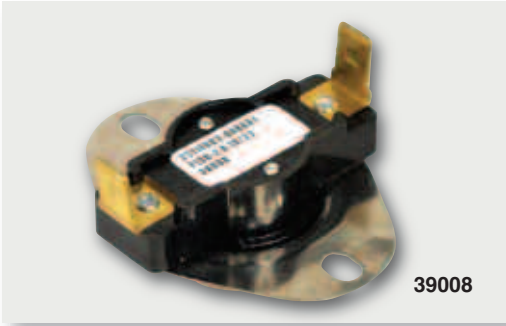
Features:

- Exposed matte finish disc for fast response
- Unique terminal mounting adapter for simple secure mounting
- Oval mounting flange supplied to match many popular mounts
- 0.25 inch quick connect terminals, with push-on to screw-on adapters
- Twelve models replace most popular OEM thermostats
- Individually bagged with instructions
- UL and CSA listings available

MARS NO.	TEMPERATURE °F		DIFFERENTIAL
	OPEN	CLOSE	
39310	110	90	20
39312	120	100	20
39314	130	100	30
39316	140	100	40
39318	145	105	40
39320	150	110	40
39322	155	115	40
39324	160	120	40
39326	170	130	40
39328	180	140	40
39330	190	150	40
39332	200	160	40

Fan & Limit Disc Thermostats

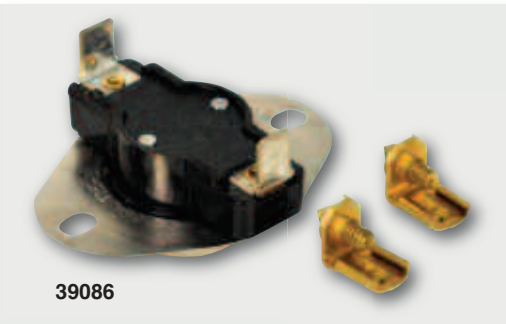
MARS SERIES **390**



Pro-Series Heating Service Kit

MARS has selected the most popular fan and limit switches used in heating applications. Each switch has an integral small oval flange to duplicate the most popular mounting. UL and CSA listings available.

MARS NO.	SWITCH TYPE	KLIXON TEMP. CODE	TEMPERATURE °F CLOSE	TEMPERATURE °F OPEN	TEMPERATURE °C CLOSE	TEMPERATURE °C OPEN
39008	Fan	F130-2	130°F	110°F	54°C	43°C
39009	Fan	F140-2	140	120	60	49
39010	Fan	F150-2	150	130	66	54
39011	Fan	F160-2	160	140	71	60
39022	Limit	L180-4	140°F	180°F	60°C	82°C
39023	Limit	L190-4	150	190	66	88
39024	Limit	L200-4	160	200	71	93
93029	0.25 inch spade to screw adapters					



Home Laundry Applications

MARS has carefully selected the most popular multi-purpose thermostats for home laundry and drier equipment. MARS Operating Limit Thermostats range from 125°F to 180°F and have narrow differentials (20°F).

Features:

- UL and CSA listings available.

Operating Limit Thermostats – Open On Temperature Rise

MARS NO.	KLIXON TEMP. CODE	TEMP °F-OPEN	TEMP. °F-CLOSE
39086	L125-2	125	105
39055	L130-2	130	110
39054	L135-2	135	115
39051	L150-2	150	130
39090	L155-2	155	135
39048	L180-2	180	160
93029	0.25 inch quick connect screw adapters		

Cross Reference Information

WR NO.	MARS REPLACEMENT	WR NO.	MARS REPLACEMENT	WR NO.	MARS REPLACEMENT
3F01-110	39006	3L01-120	39086	3L02-160	39039
3F01-120	39007	3L01-130	39087	3L02-170	39095
3F01-130	39008	3L01-140	39018	3L02-180	39096
3F01-140	39009	3L01-180	39022	3L02-190	39097
3F01-150	39010	3L01-190	39023	3L02-200	39098
3F01-160	39011	3L01-200	39024		
3F01-180	39112	3L01-230	39027	3L03-140	39078
3F01-200	39113	3L01-250	39029	3L03-190	39147
3F01-350	39017	3L01-300	39031	3L03-325	39093
		3L01-350	39033		
		3L01-550	39036		

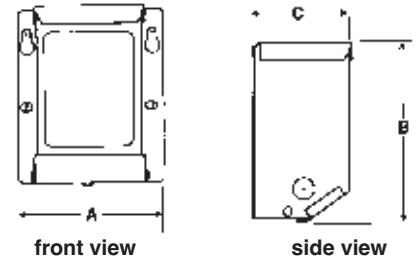


Single Phase Dry Type Transformers

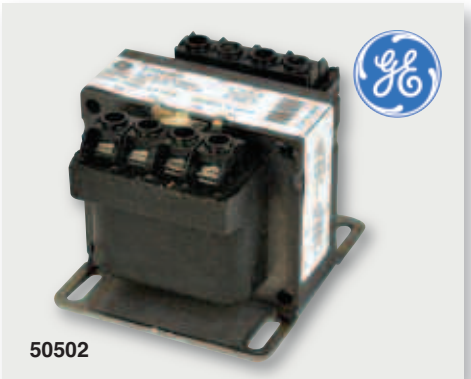
GE dry type transformers are designed for low voltage power distribution. They are made of a heavy gauge steel construction, suitable for indoor or outdoor NEMA 3R use in commercial and industrial power applications. Knockouts are provided for easy wiring. A schematic connection diagram is located on the enclosure nameplate for quick referral.

Features:

- Single phase
- 6 inch leads - clearly marked
- 60 Hertz
- Indoor/outdoor NEMA 3R
- UL listed
- CSA certified



MARS NO.	KVA RATING	PRIMARY	SECONDARY	DIMENSIONS		
				A	B	C
50530	.10	240/480	120/240	5.125	6.375	3.25
50531	.15	240/480	120/240	6.125	7.375	4.25
50533	.50	240/480	120/240	6.875	8.375	4.875
50534	.75	240/480	120/240	7.875	9.625	5.50
50535	1.00	240/480	120/240	7.875	9.625	5.50
50536	1.50	240/480	120/240	9.375	11.125	6.7188

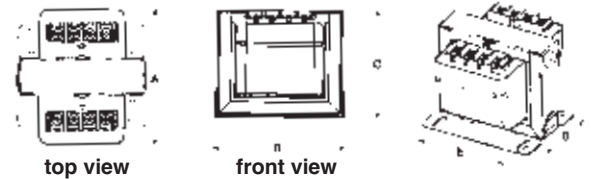


Type Ip Core and Coil Transformers

GE type IP transformers are core and coil units designed for industrial control, panel board, HVAC and general purpose applications. They conform to ANSI C89.2, and are UL listed and CSA certified. These transformers are lightweight, small and designed for minimum mounting dimensions.

Features:

- 60 Hertz
- Encapsulated thru 500VA
- Control power applications
- UL listed, UL-506 File E2739
- CSA certified, C22.2 Number 66, File 3272
- 50 Hertz available on special order basis



Encapsulated Style Views

Encapsulated

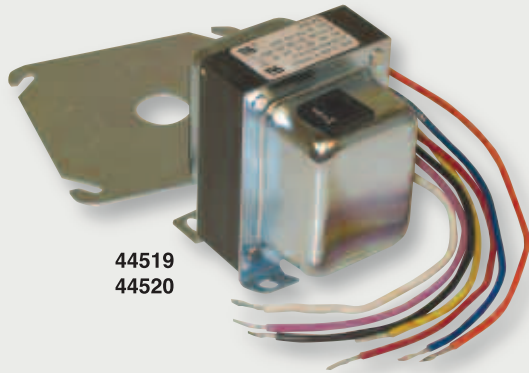
MARS NO.	CONT. KVA	PRIMARY	SECONDARY	A	B	DIMENSIONS		
						C	D	E
50502	.075	240/480	120/240	4.22	3.29	2.79	2.41	2.50
50503	.100	240/480	120/240	4.17	4.04	3.29	2.16	3.12
50504	.150	240/480	120/240	4.67	4.04	3.29	2.66	3.12
50505	.200	240/480	120/240	4.92	4.04	3.29	2.91	3.12
50506	.250	240/480	120/240	5.17	4.04	3.29	3.16	3.12
50507	.300	240/480	120/240	5.17	4.04	3.29	3.16	3.12
50508	.375	240/480	120/240	5.67	4.04	3.29	3.66	3.12
50509	.500	240/480	120/240	5.82	4.79	3.92	3.31	3.79

Step-by-Step Selection of Core and Coil Transformers:

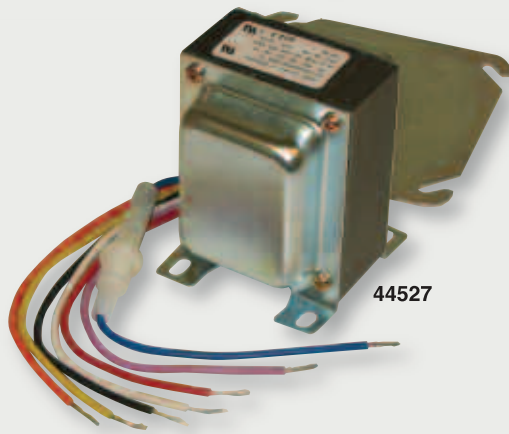
1. Determine the input voltage, output voltage and frequency.
2. Determine the continuous power (VA) drawn by each load device. Calculate the maximum continuous power of all load devices that could be energized at the same time.
3. Determine if any of the load devices are voltage sensitive. NEMA standards require electromagnetic components to operate reliably at 85% of rated voltage. This includes devices such as contactors, relays and solenoids. For applications with voltage sensitive devices, determine the inrush current of each load device. Inrush is the power (VA) drawn by a device the instant it is energized. Electromechanical devices have an inrush from 3 to 10 times their continuous power rating. The inrush of resistive devices is the same as their continuous power rating. Calculate the maximum inrush power. This is the inrush of all devices being energized at a given instant, plus the continuous power of all devices already energized. A number of load device combinations may have to be examined to determine which produces the maximum inrush current.

JARD Transformers

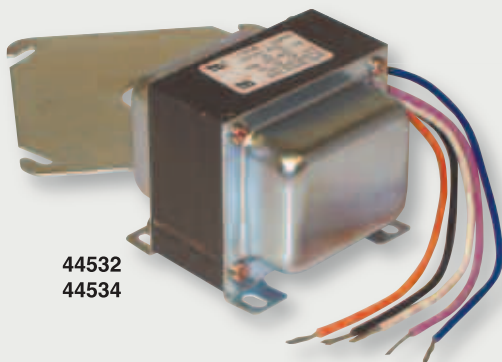
MARS SERIES **445**



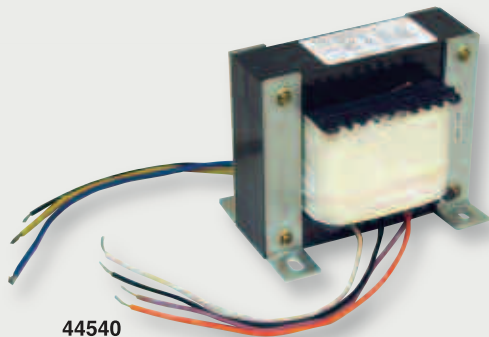
44519
44520



44527



44532
44534



44540

Hub-Mounted Transformers with Circuit Breakers and Multiple Inputs of 120/208/240/480 VAC

Available either in 50VA or 75 VA, these 2 versatile transformers replace Honeywell® AT150F and AT175F. All leads pass through the chase nipple.

- Model 5041MCB, 50 VA, Model 7541MCB, 75 VA
- Plate mount or foot mount
- Four inputs including 120/208/240/480 VAC
- UL Recognized

MARS NO.	JARD NO.	VA	PRIMARY VAC	SECONDARY VAC
44519	5041MCB	50	120/208/240/480	24
44520	7541MCB	75	120/208/240/480	24

Multi-Mount Transformers Closed Construction, 4" x 4" Plate

- Optional 3-way mounting for maximum flexibility.
- Safety agency approved.
- Welded laminations for quiet operation.

MARS NO.	JARD NO.	VA	PRIMARY VAC	SECONDARY VAC
44522	4011M	40	120	24
44523	4021M	40	208/240	24
44524	4031M	40	120/208/240	24
44525	5031M	50	120/208/240	24
44526	5032M	48	120/208/240	2.5/12/24
44527	7541M	75	120/208/240/480	24
44528	7541STM	75	120/240/277/575	24

Fully Enclosed Junction Box Ready

- Several models with dual voltage output.
- Welded laminations for quiet operation
- Conservative heat rise characteristics.
- UL 506

MARS NO.	JARD NO.	VA	PRIMARY VAC	SECONDARY VAC
44532	5048PC	50	240/480	120
44533	5048STPC	50	208/277/575	120
44534	10048PC	100	240/480	120
44535	10048STPC	100	208/277/575	120

Open Construction Foot Mount Wire Leads

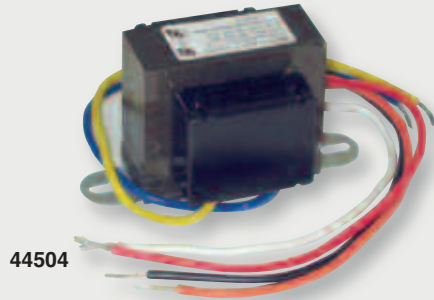
MARS NO.	JARD NO.	VA	PRIMARY VAC	SECONDARY VAC
44536	5024P	50	208/240	120/24
44538	7524P	75	208/240	120/24
44539	75481P	75	480	120



JARD Foot Mount Transformers

MARS SERIES **445**

COMPONENT



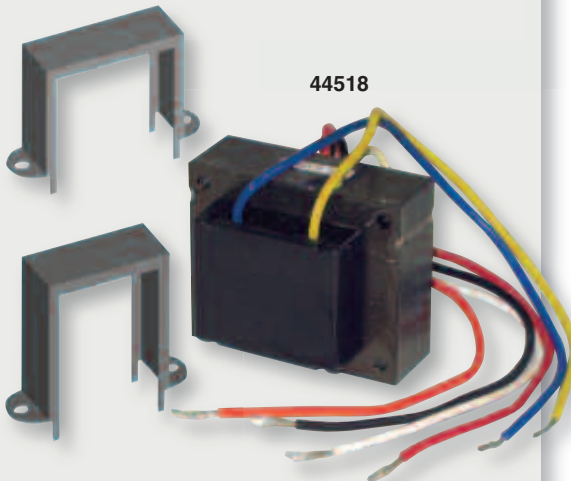
44504



44513



44517



44518

JARD # 4031VM - Includes 2 Brackets

Open Construction, Wire Leads

- Safety agency approved.
- Inherently limited design provides protection from short circuiting

MARS NO.	JARD NO.	VA	PRIMARY VAC	SECONDARY VAC
44501	2031F	20	120/208/240	24
44502	4011F	40	120	24
44503	4021F	40	208/240	24
44504	4031F	40	120/208/240	24
44505	*4032F	40	120/208/240	2.5/12/24
44506	40241F	40	240	24
44507	40271F	40	277	24
44508	5031F	50	120/208/240	24
44509	5032F	50	120/208/240	2.5/12/24
44510	*7531F	75	120/208/240	24

* In-line fuse protection.

Closed Construction With Circuit Breaker

- All models feature a UL recognized manual reset circuit breaker.
- Safety agency approved.

MARS NO.	JARD NO.	VA	PRIMARY VAC	SECONDARY VAC
44511	5041C	50	120/208/240/480	24
44512	6041C	60	120/208/240/480	24
44513	7541C	75	120/208/240/480	24
44514	7541STC	75	120/277/380/575	24
44515 ⁽¹⁾	10041C	100	120/208/240/480	24
44516 ⁽¹⁾	10041STC	100	120/208/277/575	24

⁽¹⁾ Not UL, UL 506

Closed Construction Quick Connect

MARS NO.	JARD NO.	VA	PRIMARY VAC	SECONDARY VAC
44517	4031OEM	40	120/208/240	24

Versatile 3-Way Mounting

MARS NO.	JARD NO.	VA	PRIMARY VAC	SECONDARY VAC
44518	4031VM	40	120/208/240	24

Transformers

MARS SERIES **503**



MARS Control Transformers NEMA Class II Open Construction

MARS compact open construction transformers are less than 2 1/4" in height. This makes them ideal as replacements within existing equipment.

MARS control transformers are available with various outputs and voltages for special applications.

Application:

Provide power source for control circuit for air conditioning, heating, or refrigeration systems.

Features:

- UL class 2 recognized
- Low heat rise
- Primary color coded leads
- Secondary color coded leads, or 1/4" male quick connects
- Foot-mount

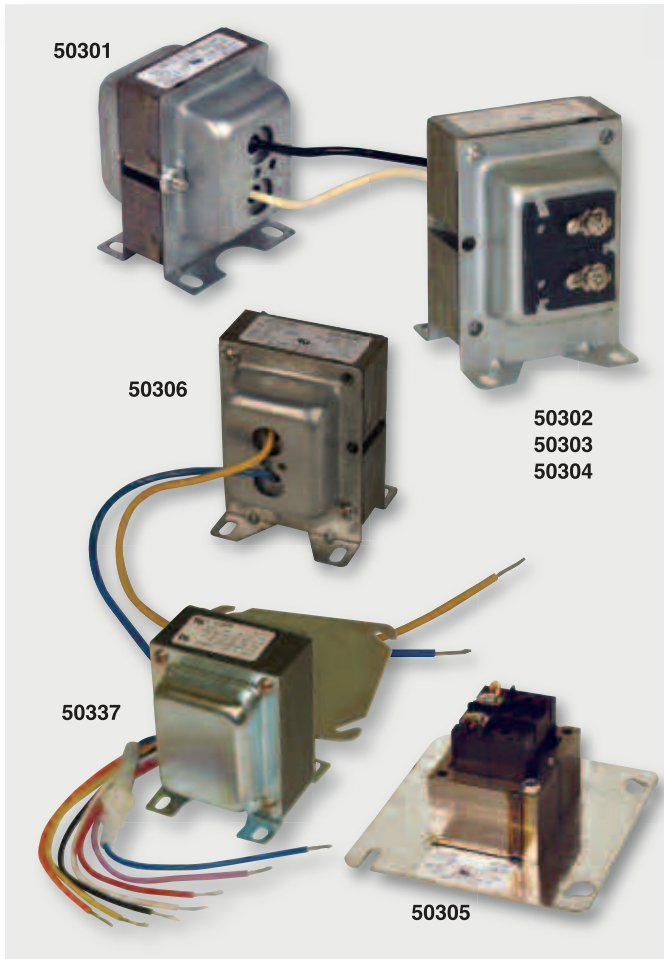
Foot-Mount Open Construction

MARS NO.	FORMER MARS JARD NO.	JARD NO.	VA RATING	HZ	PRIMARY		SECONDARY	
					VOLTAGE	CONNECTIONS	VOLTAGE	CONNECTIONS
50351	-	-	20	50/60	120	Color coded leads	24	Color coded leads
50352	44502	4011F	40	50/60	120	Color coded leads	24	Color coded leads
50353	44503, 44506	4021F, 40241F	40	50/60	208/240	Color coded leads	24	Color coded leads
50354	44504	4031F	40	60	120/208/240	Color coded leads	24	Color coded leads
50355*	-	-	40	60	120	Color coded leads	12/24	Color coded leads
50350	44501	2031F	20	50/60	120/208/240	Color coded leads	24	Color coded leads
50357	44507	40271F	40	50/60	277	Color coded leads	24	Color coded leads
50359 ⁽¹⁾	44505	4032F	40	50/60	120/208/240	Color coded leads	24/12/2.5	Color coded leads
50308	44508	5031F	50	50/60	120/208/240	Color coded leads	24	Color coded leads

* Not UL listed
(1) In line fuse protection

Foot-Mount Open Construction With Primary & Secondary Quick Connects

MARS NO.	FORMER MARS JARD NO.	JARD NO.	VA RATING	HZ	PRIMARY		SECONDARY	
					VOLTAGE	CONNECTIONS	VOLTAGE	CONNECTIONS
50362	-	-	40	50/60	120	1/4" Male quick connects	24	1/4" Male quick connects
50364	44517	40310OEM	40	50/60	120/208/240	1/4" Male quick connects	24	1/4" Male quick connects
50363	-	-	50	50/60	208/240	1/4" Male quick connects	24	1/4" Male quick connects



MARS Control Transformers NEMA Class II End Bell Type

MARS end bell transformers provide enclosures for the primary and secondary windings, MARS multi-mount models offer three mounting options - Foot, Plate, or Conduit mount.

MARS control transformers are available with various outputs and voltages for special applications.

Application:

Provide power source for control circuit for air conditioning, heating, or refrigeration systems.

Features:

- UL class 2 recognized
- Low heat rise
- Primary color coded leads
- Secondary color coded leads, or screw terminals
- Multi-mount or plate-mount

Foot-Mount End Bell Type

MARS NO.	VA RATING	HZ	PRIMARY VOLTAGE	PRIMARY CONNECTIONS	SECONDARY VOLTAGE	SECONDARY CONNECTIONS
50301	20	60	120	Color coded leads	24	Color coded leads

Multi-Mount End Bell Type

MARS NO.	FORMER MARS JARD NO.	JARD NO.	VA RATING	HZ	PRIMARY VOLTAGE	PRIMARY CONNECTIONS	SECONDARY VOLTAGE	SECONDARY CONNECTIONS
50302	44522	4011M	40	50/60	120	Color coded leads	24	Screw terminals
50303	44523	4021M	40	50/60	208/240	Color coded leads	24	Screw terminals
50304	44524	4031M	40	60	120/208/240	Color coded leads	24	Screw terminals
50306*	-	-	48	60	277	Color coded leads	24	Color coded leads
50314	44525	5031M	50	50/60	120/208/240	Color coded leads	24	Color coded leads
50333*	44526	5032M	48	50/60	120/208/240	Color coded leads	24/12/2.5	Color coded leads
50337	44527	7541M	75	50/60	120/208/240	Color coded leads	24	Color coded leads

* Not UL listed

Plate-Mount End Bell Type

MARS NO.	VA RATING	HZ	PRIMARY VOLTAGE	PRIMARY CONNECTIONS	SECONDARY VOLTAGE	SECONDARY CONNECTIONS
50305	40	50/60	120	Color coded leads	24	Screw terminals

Transformers

MARS SERIES **503**



MARS Control Transformers NEMA Class II Heavy Duty End Bell Type

MARS control transformers are available with various outputs and voltages for special applications.

Application:

MARS heavy duty end bell transformers offer a wide variety of higher VA rated models. These models are the choice when extra power is the solution.

Features:

- UL class 2 recognized
- 50/60 Hz
- Low heat rise
- Color coded leads
- Foot-mount

Foot-Mount End Bell Type

MARS NO.	FORMER MARS JARD NO.	JARD NO.	VA RATING	HZ	PRIMARY VOLTAGE	PRIMARY CONNECTIONS	SECONDARY VOLTAGE	SECONDARY CONNECTIONS
50316	-	-	60	50/60	208/240	Color coded leads	24	Color coded leads
50320 ⁽¹⁾	44510	7531F	75	50/60	120/208/240/480	Color coded leads	24	Color coded leads
50324	-	-	75	50/60	208/240	Color coded leads	24	Color coded leads
50326	-	-	75	50/60	480	Color coded leads	24	Color coded leads
50340*	-	-	100	50/60	120/208/240/480	Color coded leads	24	Color coded leads

*100 VA does not qualify for NEMA Class II

(1) Inline fuse

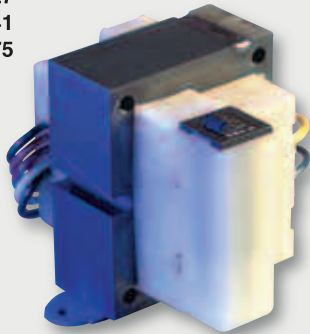
Foot Mounted Open Construction

MARS NO.	FORMER MARS JARD NO.	JARD NO.	VA RATING	HZ	PRIMARY VOLTAGE	PRIMARY CONNECTIONS	SECONDARY VOLTAGE	SECONDARY CONNECTIONS
50339 ⁽²⁾	44539	75481P	75	50/60	480	Color coded leads	120	Color coded leads

(2) UL 506



50321
50327
50341
50375



MARS Control Transformers NEMA Class II Manual Reset Style

MARS control transformers are available with various outputs and voltages for special applications.

Application:

Provide power source for control circuit for air conditioning, heating, or refrigeration systems.

Features:

- UL class 2 recognized
- Low heat rise
- Color coded leads or quick connect terminals
- Foot-mount



50380

MARS Power Transformers

Application:

Provide 120V power source for air conditioning, heating, or refrigeration systems. MARS power transformers provide dual purpose options — **120V** or **24V secondary** with 208V/240V/480V primary connections. Three VA selections offer a true powerhouse!

Features:

- Color coded leads
- Compact size
- Low heat rise

Foot-Mount End Bell Type with Manual Reset

MARS NO.	FORMER MARS JARD NO.	JARD NO.	VA RATING	HZ	PRIMARY		SECONDARY	
					VOLTAGE	CONNECTIONS	VOLTAGE	CONNECTIONS
50327	44511	5041C	50	60	120/208/240/480	Color coded leads	24	Color coded leads
50321	44513	7541C	75	50/60	120/208/240/480	Color coded leads	24	Color coded leads
50375	-	-	75	50/60	120/208/240/575	Color coded leads	24	Color coded leads
50341*	44515	10041C	100	50/60	120/208/240/480	Color coded leads	24	Color coded leads
50312	44512	6041C	60	50/60	120/208/240/480	Color coded leads	24	Color coded leads
50370	44514	7541STC	75	50/60	120/277/380/575	Color coded leads	24	Color coded leads
50371	44516	10041STC	100	50/60	120/208/277/575	Color coded leads	24	Color coded leads

Power Transformers Foot-Mount Open Construction

MARS NO.	FORMER MARS JARD NO.	JARD NO.	VA RATING	HZ	PRIMARY		SECONDARY	
					VOLTAGE	CONNECTIONS	VOLTAGE	CONNECTIONS
50380 ⁽¹⁾	44536	5024P	50	60	208/240/480	Color coded leads	120/24	Color coded leads
50381 ⁽²⁾	-	-	100	60	208/240/480	Color coded leads	120/24	Color coded leads

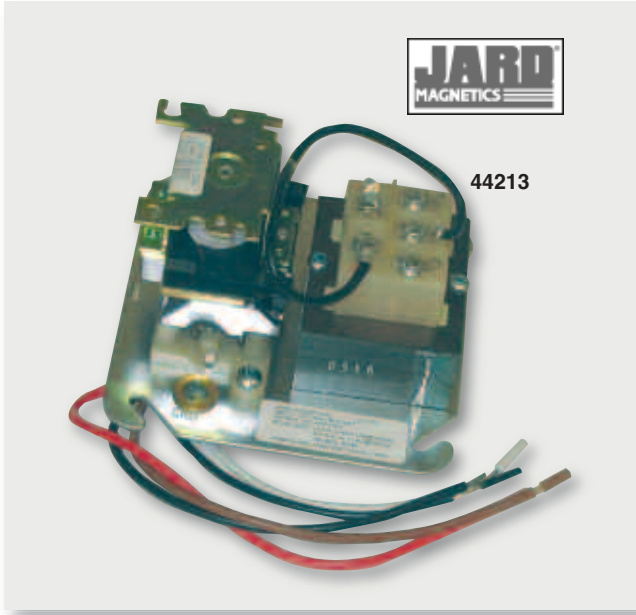
* 100VA and higher does not qualify for NEMA Class II

(1) Not UL listed

(2) UL 506

Fan Centers

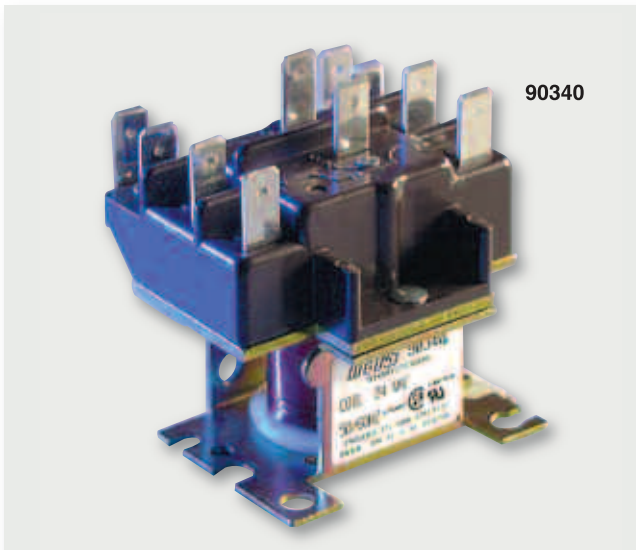
MARS SERIES **240**



JARD Fan Centers

- Plug-in style relay for easy field replacement.
- Pre-stripped, color coded leads simplify wiring.
- Combination screw/solder terminals for low voltage wiring.
- Standard double-throw relays handle both one and two speed motors.

MARS NO.	JARD NO.	VA	PRIMARY VAC	SECONDARY VAC	CONTACT CONFIGURATION	HP RATING
44213	4011FC	40	120	24	SPDT	3/4
44210	4031FC	40	120/208/240	24	DPDT	3/4



Replacement Relay for Fan Control Centers

MARS fan center replacement relay provides quick and easy plug-in installation to restore like new operation without replacing the entire fan center. The universal relay will cover all MARS fan centers and many competitive brands.

MARS NO.	USED ON	DESCRIPTION
90340	24010, 24012, 24013, 24014	DPDT universal plug-in replacement relay



MARS Relay/Transformer Fan Control Centers

MARS series 240 fan centers provide convenient low voltage control of one and two speed fan motors and auxiliary circuits in heating, cooling, or heating/cooling applications. Each MARS fan center is a reliable, compact unit consisting of a 24 volt control transformer and a plug-in switching relay mounted on a 4" square electrical junction box cover. All line voltage connections are made inside the box with color coded pre-stripped leads. Low voltage connections are made at a convenient terminal board mounted to the transformer.

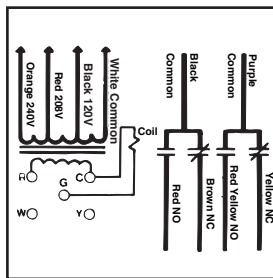
Features:

- Choice of SPDT, SPNO / SPNC or DPDT relay switching options
- UL 1585 40VA transformer
- Color coded leads
- Low voltage terminal board
- Mounts directly to 4" electrical box

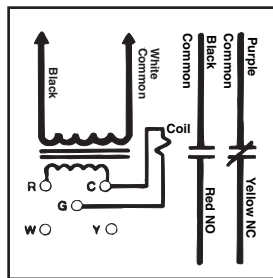
40VA 3/4 HP

MARS NO.	TRANSFORMER		CONTACT RATINGS						
	PRIMARY VOLTAGE	SECONDARY CONNECTIONS	24V	Terminal board with 5 screw terminals	FULL RELAY	120V AC (amps) LOCKED LOAD	FULL ROTOR	240V AC (amps) LOCKED LOAD	ROTOR
24010	120/208/240	Color coded leads, pre-stripped	24V	Terminal board with 5 screw terminals	DPDT	13.8	82.8	6.9	41.4
24012	120	Color coded leads, pre-stripped	24V	Terminal board with 5 screw terminals	SPNO/SPNC	13.8	82.8	6.9	41.4
24013	120	Color coded leads, pre-stripped	24V	Terminal board with 5 screw terminals	SPDT	13.8	82.8	6.9	41.4

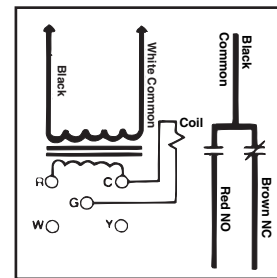
Schematic:



24010



24012



24013

Hot Surface Igniters

MARS SERIES **679**



MARS Universal Silicon Nitride Igniter

MARS Universal Silicon Nitride Igniter is designed to replace over 100 silicon nitride igniter applications. The universal bracket kit is used in a simple series of combinations for a quick and easy installation. Extremely low iron content makes the MARS Universal Silicon Nitride Igniter very durable and reliable. Low energy consumption makes it perfect for any 120 VAC application.

Features:

- Gas Fired Forced Air Furnaces and Boilers
- Easy to Install
- Universal Bracket Fits Most Furnaces
- Fits over 100 Applications

Specifications:

- Input Voltage 120VAC
- Time to ignition Temperature: 16 Seconds
- CSA Certified
- Steady current 1.3 amps (± 0.3 amps @ 120V)



MARS NO.	DESCRIPTION
68040	Universal SiN Round Silicone Nitride Igniter



Hot Surface Igniters

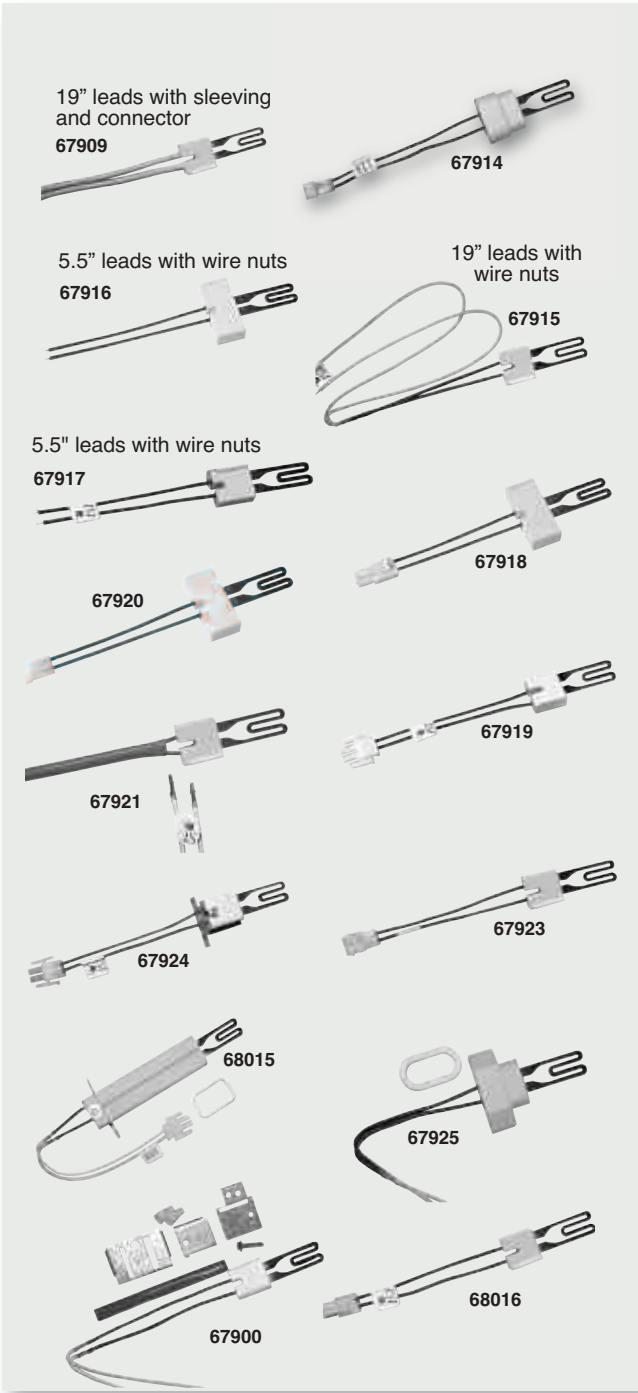
MARS SERIES **679**

COMPONENT

Gas Furnace Igniters

- Compatible with 17, 34, and 45 second warm-up modules
- Full 115/120 volt rated (no step down module required for silicon nitride)
- Wire nuts or OEM plugs and mounting hardware included
- New laminated pictorial cross reference and contractor tri-folds available

Flat silicon carbide: The most economical solution.
Silicon nitride: The newest technology is virtually indestructible.



Direct Replacements

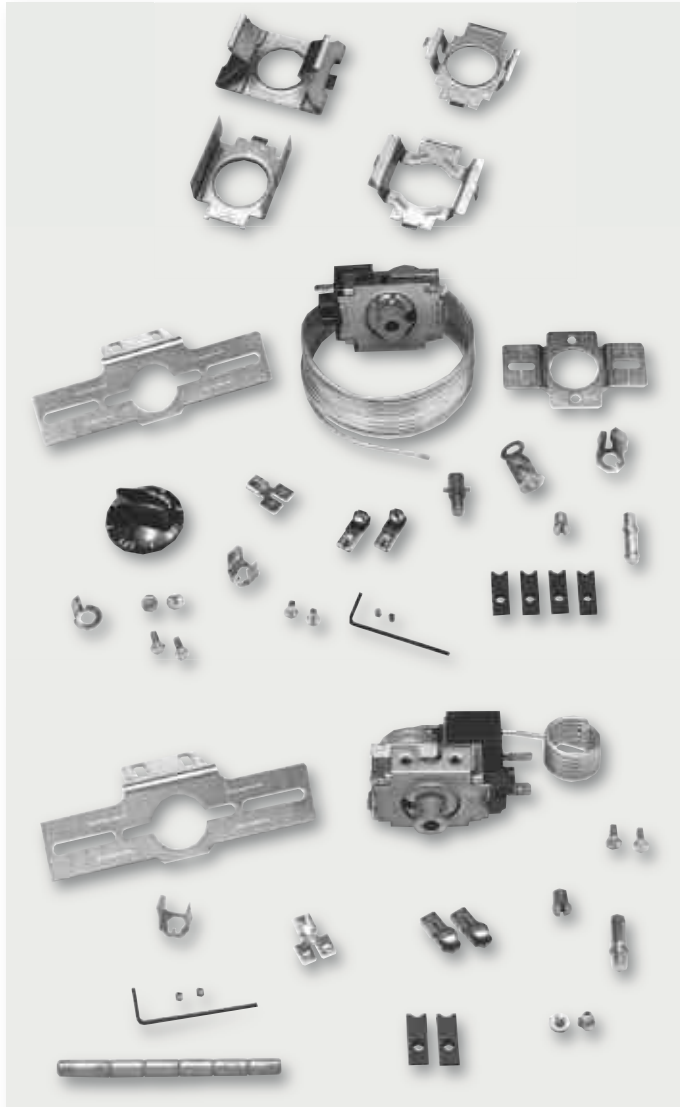
FLAT SILICON CARBIDE	INDUSTRY RECOGNIZED REFERENCE
67914	41-401
67915	41-402
67916	41-403
68017	41-404
67917	41-405
67925	41-406
67918	41-407
67919	41-408
67920	41-409
68016	41-410
68013	41-411
68014	41-412/41-414
67915	41-238/41-242
68015	Rheem 62-22669-92
67909	Coleman 1474-051P / 052P
67921	Lennox 33J37
67924	Goodman B1401015 / B1401018S
67923	York 025-32625-000

Universal

FLAT SILICON CARBIDE	SILICON NITRIDE	SUPCO	WHITE-RODGERS
67900	N/A	SIG1100	
N/A	68040	SSN2000	21D64-2

Cold Controls

MARS SERIES **260**



MARS Super-Fit™ Universal Replacement Cold Controls

MARS Super-Fit™ cold controls are designed for the serviceman who wants to lower his inventory yet still have on hand the necessary controls to meet most replacement needs in the field. MARS Super-Fit™ cold controls are individually boxed with all necessary brackets and hardware to match almost any control mounting you're likely to find. And MARS Super-Fit™ cold controls come in a wide choice of temperature ranges and capillary lengths so you can make replacements that look and work like the original.

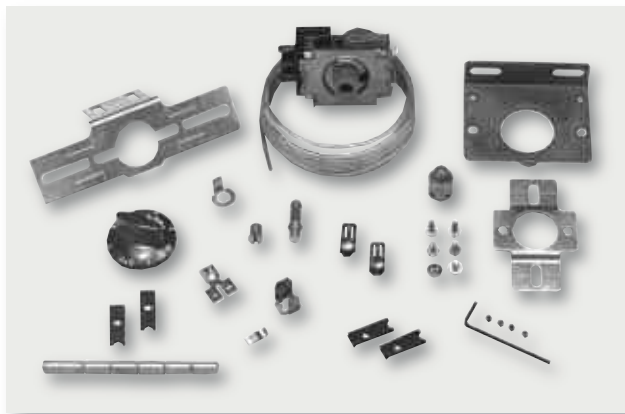
Save time and gasoline by keeping a selection of MARS Super-Fit™ cold controls on hand to finish the job on the *first* service call.

- Packed with mounting accessories and instructions
- Special brackets, shaft adaptors and fittings included where necessary
- UL and CSA approved

Features:

- Wide selection, temperature ranges and capillary lengths
- Models for refrigerators, freezers, beverage coolers and room air conditioners
- Each control clearly labeled with all necessary information

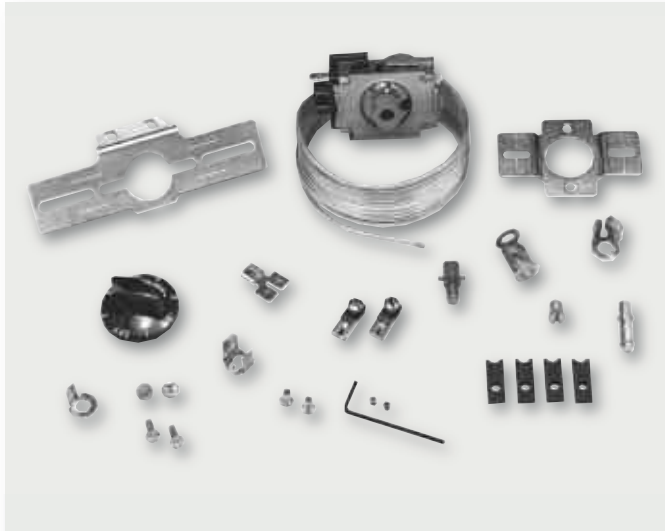
ELECTRICAL RATING: 120 VAC—10 FLA, 60 LRA
 (Applies to all controls except where noted) 240 VAC— 5 FLA, 30 LRA
 Switch—SPST



Super-Fit™ Beverage Cooler Cold Controls—Constant Differential

MARS Super-Fit™ beverage cooler cold controls feature the same universal mounting capabilities found on all MARS Super-Fit™ cold controls. Temperature ranges and capillary lengths have been carefully selected for application on beverage, milk and water coolers. Individually boxed for protection, clearly labeled for accurate selection and complete with brackets, hardware and instructions.

MARS NO.	WARM ON °F	ON °F	MID OFF °F	COLD OFF °F	CAP LENGTH
26274	52.0	39	17	2.0	78"
26273	56.4	36	24	-5.0	78"
26272	65.5	47.5	41.5	24.5	78"



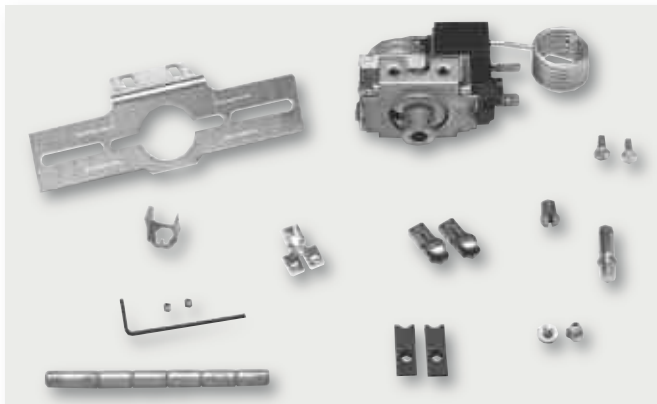
Super-Fit™ Refrigeration Cold Controls—Constant Differential

MARS Super-Fit™ constant differential refrigeration cold controls always maintain the same difference between on and off temperature over the entire dial range. The knob selects the operating temperature.

MARS Super-Fit™ constant differential controls are complete with brackets, hardware and instructions, and available in a wide selection of temperature ranges and capillary lengths to match almost any requirement.

Individually boxed and clearly labeled with all necessary information.

MARS NO.	WARM ON	MID ON	OFF	COLD OFF	CAP. LENGTH
26255	19.3	0	-14	-21	42"
26256	27.4	-2	-10	-20.5	42"
26244	42.0	20	9	-24	42"
26238	49.8	37	30	14.5	76"
26252	51.8	35	19	-5.5	30"



Super-Fit™ Room Air Conditioner Controls

MARS Super-Fit™ air conditioner controls are designed to replace GE, Ranco, Cutler Hammer, Robertshaw and most other OEM controls. Packaged with brackets, hardware and complete instructions, MARS Super-Fit™ RAC controls are available in a wide selection of temperature ranges, capillary lengths and styles. Clearly labeled with all necessary information.

MARS NO.	RANGE °F WARM ON	COLD OFF	DIFFERENTIAL °F	CAP. LENGTH	SWITCH	RATING FLA	LRA
26002	91.5	40.0	6.0	39" bulb	SPDT	25	80
26003	93.0	52.0	6.0	31" bulb	SPDT	25	80
26004	93.0	52.0	6.0	48" st. cap	SPST	30	125

Cold Control Cross Reference

RANCO-MARS CROSS REFERENCE

RANCO	MARS	RANCO	MARS
A22-1113	26004	A10-311	26255
A22-2451	26003	A10-312	26256
A22-2453	26002	A10-313	26256
A30-119	26238	A10-314	26256 ⁽¹⁾
A30-120	26244	A10-315	26256
A30-127	26256	A10-316	26256
A30-180	26244	A10-393	26256 ⁽²⁾
A30-185	26244	A10-394	26256 ⁽²⁾
A30-203	26252	A30-451	26004
A30-261	26272	A30-X451	26004
A30-262	26273	K-607	26256
A30-263	26274	K-608	26255

(1) 42" cap length (2) No alarm circuit

GEM-MARS CROSS REFERENCE

GEM	MARS	GEM	MARS
GA222451	26003	GC501	26244
GA222453	26002	GC505	26238
GA30180	26244	GC506	26252
GA30185	26244	GC604	26255
GA30261	26272	GC607	26256
GA30262	26273	GC608	26255
GA30263	26274	GC702	26004
GA30311	26255	GC708	26003
GA30312	26256	GC709	26004
GA30313	26256	GC714	26004
GA30314	26256	GC902	26273
GA30451	26004	GC903	26272
GC108	26256	GC904	26238
GC115	26272	GC905	26274
GC180	26244		

Condensate Pumps

MARS SERIES **217**



21784

MARS Low Profile 22' Pump

Features:

- Low Profile Pump
- Compact Design
- Integrated Safety Switch
- Quick Service Check Valve
- Drip Proof Housing
- Class Leading Performance

MARS NO.	DESCRIPTION
21784	115 V, 60 Hz, Low Profile 22' Lift, 3/8 Check Valve, Safety Switch
21785	230 V, 60 Hz, Low Profile 22' Lift, 3/8 Check Valve, Safety Switch



21786

MARS 16' Lift Pump

Features:

- 16' Lift Pump
- Whisper Quiet
- ½ Gal Reservoir
- Rubber Isolation Feet
- Quick Service Check Valve
- Class Leading Performance

MARS NO.	DESCRIPTION
21786	115 V, 60 Hz, 16' Lift 3/8 Check Valve, Safety Switch, Medium Reservoir

MARS NO.	DIMENSIONS		
	LENGTH	WIDTH	HEIGHT
21784	10.25	5.04	5.28
21785	10.25	5.04	5.28
21786	10.25	5.125	6.375

Check Valve Replacement

MARS NO.	DESCRIPTION
21787	Check Valve Replacement Kit



Condensate Pumps

MARS SERIES **217**

COMPONENT



21780

MARS Condensate Pump - 24 Foot Lift

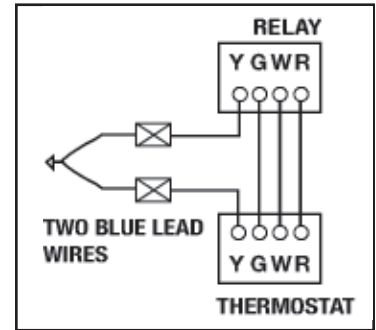
MARS new line of medium condensate pumps are designed to outperform the competition while providing quiet operation and reliability.

The MARS pump design couples industry leading performance with the installation flexibility and features you need to get the job done.

The quick release silicone check valve allows for quick and efficient servicing without the need to remove the condensate line. The integrated safety switch can be wired for equipment shut down or directly to a high level alarm.

Features:

- 24 foot lift
- 125 GPH
- 0.5 gal Reservoir
- Patent Pending, Quick Release Check Valve
- Field serviceable "Duck Bill" Check Valve
- Rubber Isolation Feet
- Drip Proof Housing Design
- Solid Float
- Integrated Safety Switch 250 volt and Float Switches
- ABS and Stainless Steel construction



MARS NO.	DESCRIPTION
21780	115 V, 60 Hz, 0.91 Amps, 71 Watts 6' Cord, 3/8" Check Valve, Safety Switch Medium Reservoir
21781	115 V, 60 Hz, 0.91 Amps, 71 Watts 6' Cord, 3/8" Check Valve, Safety Switch 20' Tubing, Medium Reservoir
21782	230 V, 60 Hz, 0.6 Amps, 75 Watts 6' Cord, 3/8" Check Valve, Safety Switch Medium Reservoir
21783	230 V, 60 Hz, 0.6 Amps, 75 Watts 6' Cord, 3/8" Check Valve, Safety Switch 20' Tubing, Medium Reservoir

Gallons Per Hour Pump Performance Comparison Chart

FOOT LIFT	1	5	10	15	20	24
MARS	125	98	74	70	43	7
Comp. 1	84	75	60	42	10	0
Comp. 2	117	98	70	58	11	0
Comp. 3	105	95	73	36	0	0

Specifications

MODEL NO.	Performance - Gallons per hour @ height in feet					
	1	5	10	15	20	24
21780	125	98	74	70	43	7
21781	125	98	74	70	43	7
21782	139	119	70	50	28	7
21783	139	119	70	50	28	7

Condensate Pump vs. Competition

FEATURE	MARS	COMP. 1	COMP. 2	COMP. 3
24 ft. Lift	●			
Motor Corrosion Protection	●			
Drip Proof Motor Housing	●	●		●
Drip Proof Motor & Switches	●			
Vibration Absorbing Rubber Feet	●	●	●	
Side Mount	●	●	●	●
Quick Release Check Valve	●	●		
Internal Safety Switch	●		●	
Solid Float	●	●		●

MODEL NO.	DIMENSIONS		
	Length	Width	Height
21780	10.25	5.125	6.375
21781	10.25	5.125	6.375
21782	10.25	5.125	6.375
21783	10.25	5.125	6.375

Dimensions in inches



NOTES

Service & Installation

Section

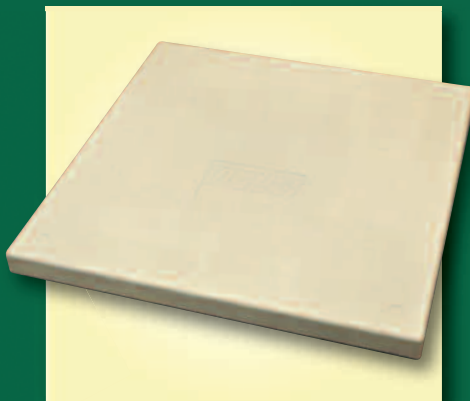
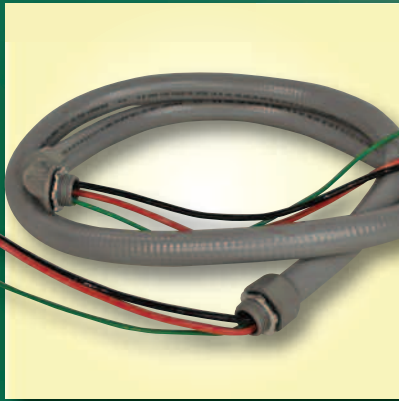


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MARS A/C Condenser Pads

MARS SERIES **935**



MARS A/C Condenser Pads

Motors & Armatures is pleased to offer a full line of Air Conditioning Condenser Pads. These gray plastic pads are molded from polypropylene. The lightweight, one piece constructed pads are virtually unbreakable and built to last. Two and three inch thick pads are available.

Features & Benefits:

- UV stable – prevents weathering or cracking
- Chemical resistant • Solid wall construction
- Will not chip or crack • Lightweight
- Textured surface – prevents unit from sliding
- Unique footpads – prevent unit from sinking into ground
- Size molded in side of pad
- Drillable for attachment of unit

MARS NO.	DESCRIPTION	CASE QTY.	MARS NO.	DESCRIPTION	CASE QTY.
93560	24" x 24" x 2"	44	93578	24" x 36" x 3"	16
93561	24" x 36" x 2"	22	93584	30" x 30" x 3"	16
93564	30" x 24" x 2"	22	93585	30" x 36" x 3"	16
93565	30" x 30" x 2"	22	93586	30" x 40" x 3"	16
93566	30" x 36" x 2"	22	93587	32" x 32" x 3"	16
93567	30" x 40" x 2"	22	93589	32" x 38" x 3"	16
93562	32" x 32" x 2"	22	93591	32" x 44" x 3"	16
93563	32" x 38" x 2"	22	93592	36" x 36" x 3"	16
93572	32" x 44" x 2"	22	93593	36" x 40" x 3"	16
93573	36" x 36" x 2"	22	93594	36" x 48" x 3"	16
93576	36" x 40" x 2"	22	93598*	48" x 48" x 3"	1
93575	36" x 48" x 2"	22	93557*	48" x 72" x 3"	1
93577	24" x 24" x 3"	16	93558*	60" x 60" x 3"	1
93583	24" x 30" x 3"	16			

* Mechanically fastened

93560

• Rugged, easy to handle

• Weed wackers won't destroy the corners

SERVICE & INSTALLATION



A/C Mounting Brackets

MARS SERIES **936**

MARS A/C Mounting Brackets

Heavy duty engineered steel A/C brackets are used for mounting A/C condensers and heat pumps on vertical walls. Brackets include mounting holes and are finished in a durable gray powder coat.

MARS NO.	DESCRIPTION	MARS PACK
93630	30" Powder Coated Steel Bracket	1 Pair
93631	36" Powder Coated Steel Bracket	1 Pair
93632	42" Powder Coated Steel Bracket	1 Pair
93636	48" Powder Coated Steel Bracket	1 Pair

93630



Anti-Vibration Pads

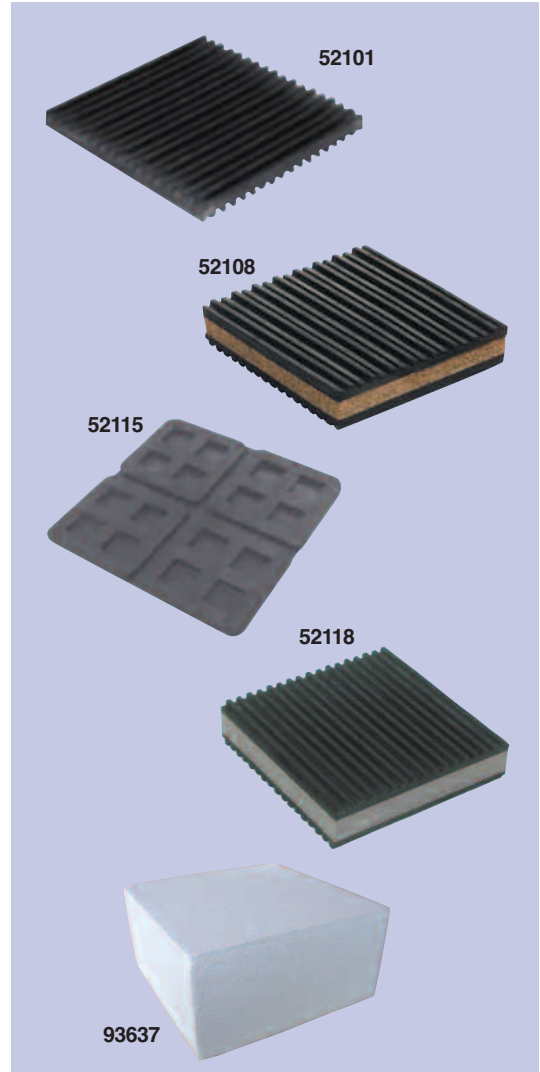
MARS SERIES **521**



Anti-Vibration Pads

MARS offers a complete line of anti-vibration pads. These high quality rubber pads provide maximum loading of 60 lbs. per square inch. Anti-vibration pads can be used on any type of mechanical/electrical machines such as pumps, motors, air conditioning units, generators, compressors, etc. The plain rubber pads have grooves on both sides. The cork rubber pads are the same but with the added advantage of reduction in sound level. The natural rubber Iso-Pads can be easily cut for odd sized dimensions under equipment legs and supports. The use of these pads eliminates the need for bolting down equipment to the floor. These Iso-Pads provide superior isolation, attenuation and vibration characteristics.

MARS NO.	DESCRIPTION	MARS PACK
52101	2" x 2" x 3/8" Rubber	1
52102	3" x 3" x 3/8" Rubber	1
52103	4" x 4" x 3/8" Rubber	1
52104	6" x 6" x 3/8" Rubber	1
52107	18" x 18" x 3/8" Rubber	1
52108	2" x 2" x 7/8" Cork/Rubber	1
52109	3" x 3" x 7/8" Cork/Rubber	1
52110	4" x 4" x 1" Cork/Rubber	1
52111	6" x 6" x 7/8" Cork/Rubber	1
52114	18" x 18" x 7/8" Cork/Rubber	1
52115	2" x 2" x 3/4" Iso-Pad	1
52116	4" x 4" x 3/4" Iso-Pad	1
52117	18" x 18" x 3/4" Iso-Pad	1
52119	2" x 2" x 7/8" Foam/Rubber	1
52118	4" x 4" x 7/8" Foam/Rubber	1
52120	6" x 6" x 7/8" Foam/Rubber	1
52122	18"x18"x7/8" Foam/Rubber	1



MARS Air Handler Blocks

- Lightweight 2 lb styrofoam block
- 8" x 8" x 4"

Packaged in boxes of 20 (21 boxes per pallet)

MARS NO.	DESCRIPTION	MARS PACK
93637	8" x 8" x 4" Air Handler Block	20

Heat Pump Risers

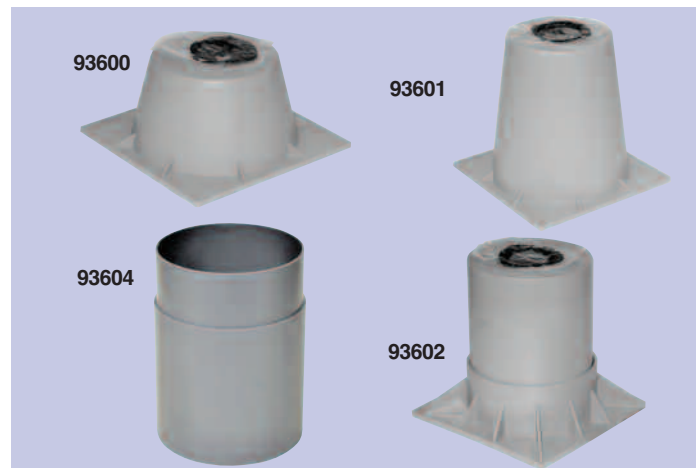
MARS SERIES **936**



MARS Heat Pump Risers

Heavy duty composite heat pump risers are available in 2 popular heights in a cost effective 1 piece design as well as a 2 piece terrain adaptable design. Each riser includes factory installed buytl mastic patches on the top and bottom to absorb vibration and reduce noise.

MARS NO.	DESCRIPTION	MARS PACK
93600	3" 1 Piece Heat Pump Riser	48
93602	3" 2 Piece Heat Pump Riser	32
93601	6" 1 Piece Heat Pump Riser	24
93603	6" 2 Piece Heat Pump Riser	16
93604	4" Riser Extension	16



Roof Flashings & Furnace Legs

MARS SERIES **790**

Roof Flashings

Galvanized no calk® roof flashings feature a one-piece construction which insures a positive leakproof installation every time. Specially formulated elastomeric collar allows the vent stack plenty of room for expansion and contraction. The patented double seal no-calk collar "gives" with the pipe, without breaking the water tight seal. The galvanized base is made from 24 gauge deep drawing steel extra high with no seams.

Flex Flash flashings are manufactured from a special formulated elastomer material which is extremely flexible and durable. They permit the vent stack to expand and contract freely without disrupting the seal between pipe and flashing collar. The flashing adjusts to most any angle and adapts to all type of pipe; copper, cast iron, galvanized or plastic. Fits up to 45° angle.

MARS NO.	DESCRIPTION	MARS PACK
79360	1 1/4" - 1 1/2" no calk galvanized	12
79361	2" no calk galvanized	12
79362	3" no calk galvanized	12
79364	1/2", 3/4", 1" no calk galvanized solar	12

MARS Easy Leveler™ Furnace Legs

- Includes 4 easy leveler legs & sheet metal screws
- Designed to level a furnace & air conditioning coil for proper drainage.
- Proper leveling helps eliminate standing water, thus reducing bacteria
- Easily adjustable even after installation
- Legs can support up to 400 lbs.
- Adjustable from 2-3/4" to 4" in height

MARS NO.	DESCRIPTION	MARS PACK
79095	Adjustable furnace legs	12

Economy Furnace Mounting Blocks

- Holds furnace 2" off the floor
- Composite construction
- Absorbs vibration, reduces noise
- Peel & stick installation

MARS NO.	DESCRIPTION	MARS PACK
79085	Economy furnace mounting blocks	12



SERVICE & INSTALLATION



C-Port Rooftop Support Systems

MARS SERIES **939**

Rooftop Support Systems

Economy CX-Series

- Base only
- Material – 100% recycled rubber, UV resistant
- Maximum Load – 2 – 800 lbs.

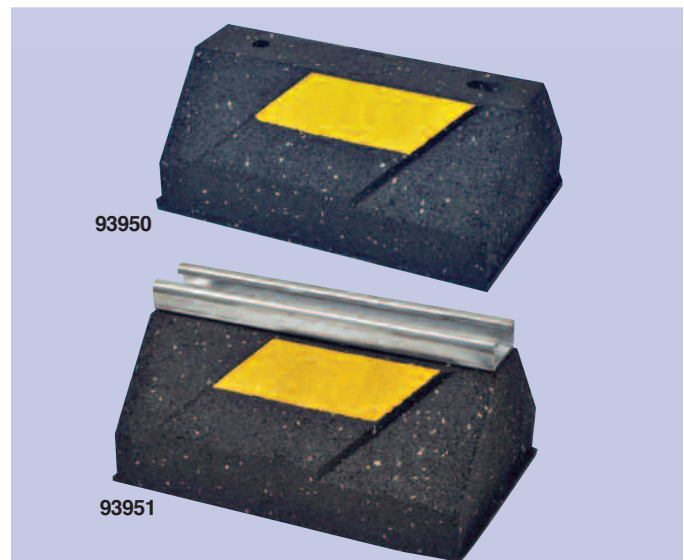
CX Series rooftop support is designed as an economic alternative when a high load bearing is not required. They are perfect for supporting conduit or smaller pipe.

C-Series

- Material – 100% recycled rubber, UV resistant
- Maximum Load – 750 lbs./ft

C Series channel support is designed for superior support of gas and refrigeration piping systems, cable tray, electrical conduit multiple lines, HVAC equipment and many other applications.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
93950	CX-Series 4" H x 6" W x 9.6" L	1	170
93951	C-Series 4 7/8" H x 6" W x 9.6" L	1	170



The largest selection of motors, components and accessories for the HVAC/R Industry

Rooftop Support Systems

MARS SERIES **939**

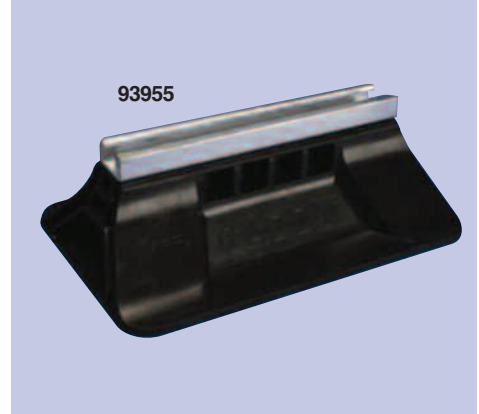


Caddy® Pyramid ST Series Rooftop Support

Caddy® Pyramid ST Series Rooftop Support is roof-friendly, high-quality, versatile and durable for roofing applications.

Features:

- Thermoplastic base is UV stabilized and weatherproof for long lasting
- Fixed-height mounting platform 4" off the roof surface and 10" of usable strut length, provides excellent load distribution
- Structurally engineered to support up to 1,000 lbs
- Hot-dipped galvanized finish
- Superior corrosion protection
- Supports the green building requirements, bases are made from recycled material and can contribute toward earning LEED credit



93955

MARS NO.	Mfg No.	Height	Length (1)	Length (2)	Width	Surface Area	MAX. Rec. Load
93955	RPS360400	4"	10"	12.5"	8"	94.3"	1,000 lbs.

* Max. recommended load at 10.6 psi roof loading. Contact project or roofing engineer for maximum allowable load on individual project roof system.

SERVICE & INSTALLATION

Disconnects & Safety Switches

MARS SERIES **833 & 803**



MARS Front Open Pullout Disconnect Boxes - NEMA 3R

MARS offers both fusible and non-fusible single phase air conditioner disconnects. These units provide a disconnecting means which should be located within sight from and readily accessible from the air conditioning or refrigerating equipment. UL listed. MARS #83315 is also CUL listed.

MARS NO.	DESCRIPTION	CASE QTY
83315	60 amp non-fused, single phase	6
83316	30 amp fused, single phase	6
83317	60 amp fused, single phase	6
83396	30 amp fused, single phase	6
83335	Generic brand disconnect box	6

MARS Side Open Pullout Disconnect Boxes - NEMA 3R

The MARS Side Open Disconnect Boxes are contractor friendly and feature a unique side opening door, allowing easy access to the work area. The powder coated UV rated finish provides superior esthetics and greater longevity. The patented "finger safe" pullout section prevents accidental contact with electrodes. Easy to remove knockouts and a secure locking mechanism are also featured. This Pullout Disconnect Box is the ideal choice for the busy contractor.

Specifications:

- Single phase, 240V
- 10,000 amp rated
- NEMA 3R, rainproof
- UL & CUL rated

MARS NO.	DESCRIPTION	STD. PACK	CASE QTY
80315	60 amp non-fused	6	6
80316	30 amp fused	6	6
80317	60 amp fused	6	6



83316, 17

83335

83315

80315

Easy to remove concentric knockouts & secure locking mechanism

Unique side opening door permits greater visibility and access to work area

Patented "Finger Safe" Pullout section prevents accidental contact with electrodes

Disconnects & Safety Switches

MARS SERIES **833 & 803**

Midwest A/C Disconnects - NEMA 3R

MARS NO.	DESCRIPTION	CASE QTY.
83385	60 amp non-fused, single phase	6
83386	30 amp fused, single phase	6
83387	60 amp fused, single phase	6

Pullouts For MARS Disconnect Boxes

MARS offers both fusible and non-fusible single phase non-metallic air conditioner disconnects. These horse power rated units are constructed of Noryl® thermoplastic for extended and rugged durability. Units are corrosion resistant, weatherproof, and maintenance free. UL listed and CSA certified.

MARS NO.	DESCRIPTION	CASE QTY
83313	60 amp non-fused pullout for 83315	1
83314	30 amp fused pullout for 83316	1
83318	60 amp fused pullout for 83317	1
80312	60 amp non-fused pullout for 80315 & 80308	1
80313	30 amp fused pullout for 80316	1
80314	60 amp fused pullout for 80317	1

MARS A/C Disconnect/GFCI Receptacle Combination

MARS A/C Disconnect/ GFCI Receptacle Combination disconnects provide a convenient low cost means to satisfy NEC Article 210.63 requirements for HVAC/R Equipment Outlets and Article 406.8(B)(1) for Receptacle – Wet Locations. The NEMA 3R design insures a safe, weather tight installation for residential, light commercial and even some industrial applications.

Features & Benefits:

- 60 amp, non-fused, pullout type
- 240 volt A/C, single phase
- 15 amp, 125V GFCI duplex receptacle included
- UL & CUL listed
- Meets NEC #210.63 & #406.8(B)(1)
- Compact size – 5"x7"x4"
- Removable cover
- Heavy galvanized 'G90' steel with highest quality electro-deposition finish resists corrosion and fading
- NEMA 3R rated

MARS NO.	DESCRIPTION	MARS PACK
83308	Pullout disconnect/receptacle	4

MARS Side Open Pullout Disconnect w/GFCI Receptacle

The MARS Side Open Disconnect w/GFCI Receptacle provides a convenient low cost means to satisfy NEC 2003 code changes requiring that a GFCI receptacle with a "while in use" cover be within a 25ft line of sight of the condenser unit. The pre-wired receptacle with stripped wire ends makes installation of disconnect and receptacle quick and easy. This unit provides a significantly lower "installed cost" to the contractor when compared to installing a standard disconnect and separate GFCI receptacle with "while in use" cover to comply with the new NEC code change.

Additional features and benefits include: Convenient electrical power cord channel w/retaining clip for easy and safe use of portable tools; Large wiring compartment for both disconnect switch and receptacle; Angled receptacle mounting to eliminate the possibility of crushing portable electrical plugs when closing "while in use" cover; Attractive side opening cover design for ease of installation; Ultra UV powder coating.

Specifications:

- 60 amp, non-fused, pullout type
- Pre-wired 15A, 125V GFCI receptacle included
- 240 volt, single phase
- 10,000 amp rated
- NEMA 3R & UL rainproof
- UL & CUL approved
- Rated for 10HP @ 240 volts
- Meets NEC #210.63 & #406.8(B)(1)
- Multiple patents pending

MARS NO.	DESCRIPTION	STD. PACK	CASE QTY
80308	Pullout disconnect W/GFCI receptacle	6	6



SERVICE & INSTALLATION



The largest selection of motors, components and accessories for the HVAC/R Industry

Disconnects & Safety Switches

MARS SERIES **833**



Midwest Non-Metallic Disconnects - NEMA 3R

Midwest Electric offers both fusible and non-fusible single phase non-metallic air conditioner disconnects. These horse power rated units are constructed of Noryl® thermoplastic for extended and rugged durability. Units are corrosion resistant, weatherproof, and maintenance free. UL listed and CSA certified.

MARS NO.	DESCRIPTION	CASE QTY
83312	60 amp non-fused, single phase	6
83306	30 amp fused, single phase	6
83307	60 amp fused, single phase	6



Midwest Three Phase Pullout Disconnects - 240V - NEMA 3R

Midwest Electric three phase pull out disconnects and single phase non-automatic switches are manufactured of heavy zinc coated steel with highest quality electro-deposition paint finish for maximum corrosion resistance. The three phase disconnects are available with and without fuse protection. Fusible units require three fuses. NEMA 3R.

MARS NO.	DESCRIPTION	CASE QTY
83321	60 amp non-fused, three phase	4
83322	30 amp fused, three phase	4
83323	60 amp fused, three phase	4



Midwest Non-Automatic Disconnects - Nema 3R

Midwest Electric has developed a new NEMA 3R, non-automatic A/C disconnect with a patent pending on/off switch mechanism so there is no pullout to lose. This UL and CSA listed disconnect features: a keyhole mounting slot for easy installation, a removable door for easy wiring access, straight in and out lugs for quick connections and six 1/2" x 3/4" x 1" concentric knockouts.

The single phase non-automatic disconnects do not provide overcurrent protection with manual internal on/off switch.

MARS NO.	DESCRIPTION	CASE QTY
83328	60 amp, 240V, 10 HP	4



Midwest Heat Pump Disconnects - NEMA 3R

Multiple disconnect devices are offered for heat pump applications that require individual disconnects for the heating and cooling cycles. The dual pull outs accommodate either a 30A/60A or 60A/60A puller combination. Units require four fuses.

MARS NO.	DESCRIPTION	CASE QTY
83324	90 amp fused	1
83325	100 amp fused	1



Midwest Evaporative Cooler Disconnects - NEMA 3R

Evaporative cooler applications not only require fusing but switching or receptacle functions depending on equipment type and local codes. The 20 ampere unit utilizes 2 T plug fuses. The 40 ampere unit utilizes 3 S plug fuses.

MARS NO.	DESCRIPTION	CASE QTY
83327	40 amp fused, receptacles	1



SERVICE & INSTALLATION

All Whips Bagged

MARS A/C Whips Non-Metallic Fittings

MARS NO.	DESCRIPTION	MARS PACK
84131	4' x 1/2" #10 ga. non-metallic whip UL	12
84133	4' x 3/4" #8 ga. non-metallic whip UL	1
84135	6' x 1/2" #10 ga. non-metallic whip UL	12
84137	6' x 3/4" #8 ga. non-metallic whip UL	12
84139	8' x 1/2" #10 ga. non-metallic whip	1
84141	8' x 3/4" #8 ga. non-metallic whip	1

MARS A/C Whips Metallic Fittings

Non-metallic conduit with metal fittings

MARS NO.	DESCRIPTION	MARS PACK
84132	4' x 1/2" #10 ga. metallic whip UL	1
84134	4' x 3/4" #8 ga. metallic whip UL	1
84136	6' x 1/2" #10 ga. metallic whip UL	1
84138	6' x 3/4" #8 ga. metallic whip UL	1

MARS A/C Whips W/Two Straight Fittings

Metallic conduit with metal fittings

MARS NO.	DESCRIPTION	MARS PACK
84148	4' x 1/2" #10 ga. non-metallic whip	1
84145	4' x 1/2" #10 ga. non-metallic whip	1

MARS A/C Whips All Metallic

MARS NO.	DESCRIPTION	MARS PACK
84125	4' x 1/2" all metallic whip	1
84126	4' x 3/4" all metallic whip	1
84127	6' x 1/2" all metallic whip	1
84128	6' x 3/4" all metallic whip	1

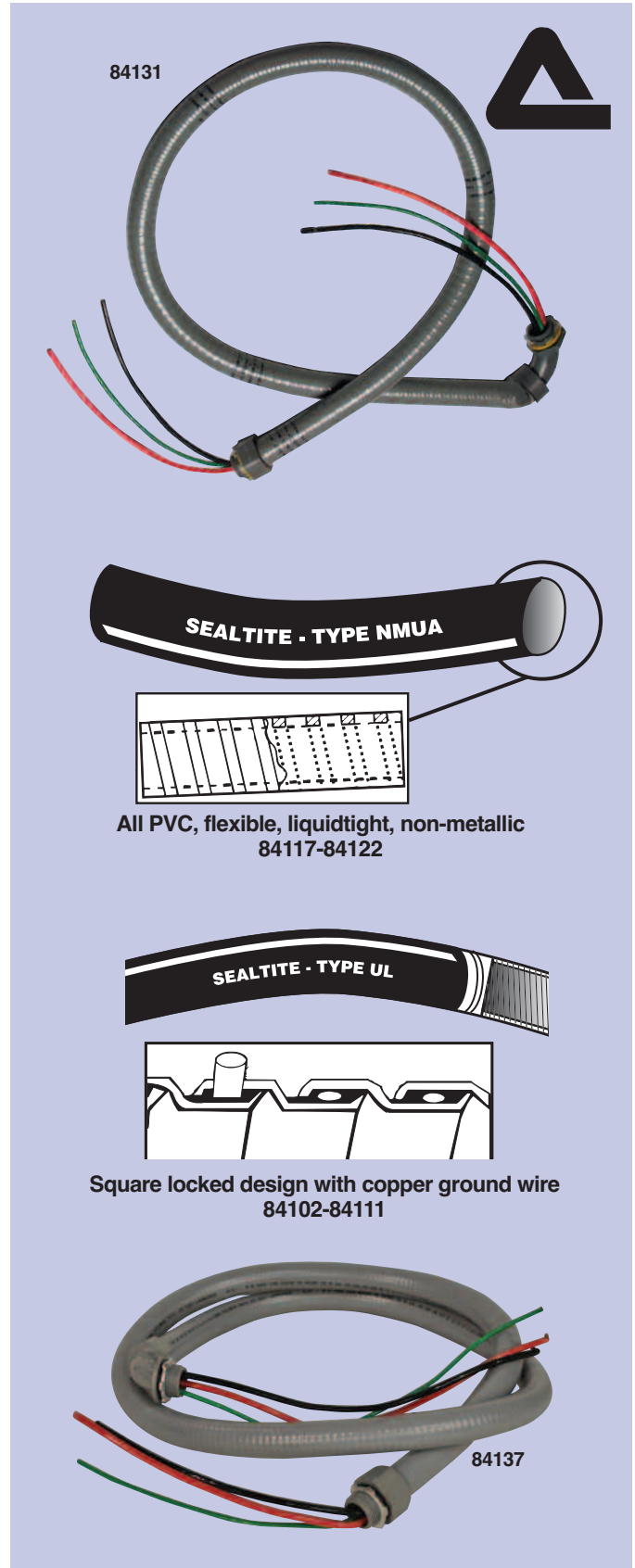
Sealtite® Flexible Metallic Conduit

Sealtite® flexible conduit provides protection for wet or oily locations. UL listed conduit has a continuous copper ground built into the core. All UL listed Sealtite® is UV resistant.

MARS NO.	DESCRIPTION	MARS PACK
84102	1/2", metallic conduit, UL, boxed 100 ft	1
84103	3/4", metallic conduit, UL, boxed 100 ft	1
84110	1/2", metallic conduit, boxed 100 ft	1
84111	3/4", metallic conduit, boxed 100 ft	1

Sealtite® Flexible Non-Metallic Conduit

MARS NO.	DESCRIPTION	MARS PACK
84117	3/8", non-metallic conduit, UL, boxed 100 ft	1
84118	1/2", non-metallic conduit, UL, boxed 100 ft	1
84119	3/4", non-metallic conduit, UL, boxed 100 ft	1
84120	1", non-metallic conduit, UL, boxed 100 ft	1
84121	1/2", 100 ft non-metallic conduit, UL, polybag 25 ft	1
84122	3/4", non-metallic conduit, UL, polybag 25 ft	1



Thermostat Guards

MARS SERIES **702**



MARS Designer Series - Plastic Cover And Base

INSIDE DIMENSIONS (inches)	BASE	HEIGHT	WIDTH	DEPTH
	Solid	4.25	7.63	2.13
	Ring	4.13	7.07	2.25

MARS NO.	DESCRIPTION	BASE	MARS PACK	CASE QTY.
70217	BTG-DK clear plastic	Dual	1	12
70219	BTG-DO opaque plastic	Dual	1	12

MARS Universal Series

INSIDE DIMENSIONS (inches)	BASE	HEIGHT	WIDTH	DEPTH
	Solid	8.25	5.38	3.25
	Ring	8.13	4.63	3.63
	Solid	7.25	5.38	3.25
	Ring	6.75	4.25	3.56

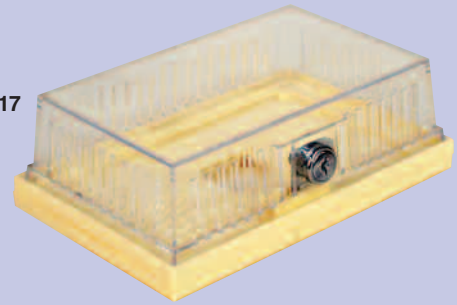
MARS NO.	DESCRIPTION	BASE	MARS PACK	CASE QTY.
70220	BTG-UK2 clear plastic	Dual	1	12
70222	BTG-UO2 opaque plastic	Dual	1	12
70223	BTG-UM metal	Solid	1	12
70224	BTG-UWM metal	Ring	1	12
70236	F336, extra key for all BTG guards		1	1

MARS Universal Series - White Metal Cover & Base

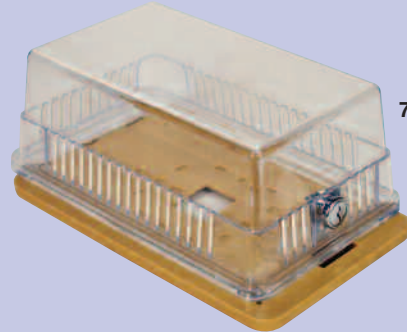
INSIDE DIMENSIONS (inches)	BASE	HEIGHT	WIDTH	DEPTH
	Solid	6.25	9.38	3.00
	Ring	6.25	9.38	3.00
	Opening dim. of ring base	5.50	8.25	.38

MARS NO.	DESCRIPTION	BASE	MARS PACK	CASE QTY.
70238	BTG-UWM1 hinged wht. mtl. solid cover	Ring	1	12
70243	BTG-UM1D0H hinged wht. mtl. T-7300 Honeywell display & override opening	Solid	1	12
70247	BTG-UM1D0WR hinged wht. mtl. IF90 White Rogers override-display opening	Solid	1	12

70217



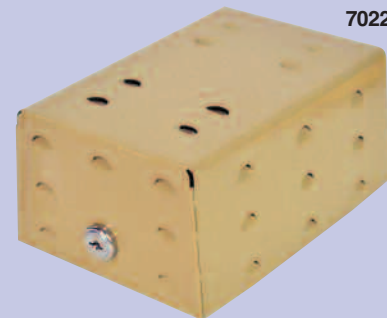
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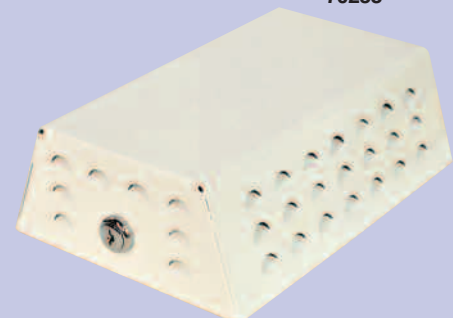
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70224



70238



SERVICE & INSTALLATION

Thermostat Guards

MARS SERIES **702**



MARS Elite Series - Plastic Base

MARS offers a broad selection of thermostat guards. Popular models available include metal, clear plastic and opaque plastic designs. MARS thermostat guards are ideal for protecting thermostats in schools, industrial plants institutions, public facilities and other areas where unauthorized tampering could be a problem. These attractive units feature a rugged, light weight and compact design. All units supplied with key. Extra keys are available. Order part #70236 for the BTG thermostat guard key.

INSIDE DIMENSIONS (inches)	BASE	HEIGHT	WIDTH	DEPTH
	Solid	3.88	3.5	2.5

MARS NO.	DESCRIPTION	BASE	MARS PACK	CASE QTY.
70201	BTG-EK clear plastic cover	Solid	1	12
70204	BTG-EM metal cover	Solid	1	12

MARS Classic Series - Plastic Base

INSIDE DIMENSIONS (inches)	BASE	HEIGHT	WIDTH	DEPTH
	Solid	5.25	4.63	3.00
	Ring	5.25	4.63	3.25

MARS NO.	DESCRIPTION	BASE	MARS PACK	CASE QTY.
70205	BTG-K clear plastic cover	Dual	1	12
70207	BTG-O opaque plastic cover	Dual	1	12
70208	BTG-KM metal cover	Solid	1	12
70209	BTG-KWM metal cover	Sing	1	12

MARS Regal Series - Plastic Base

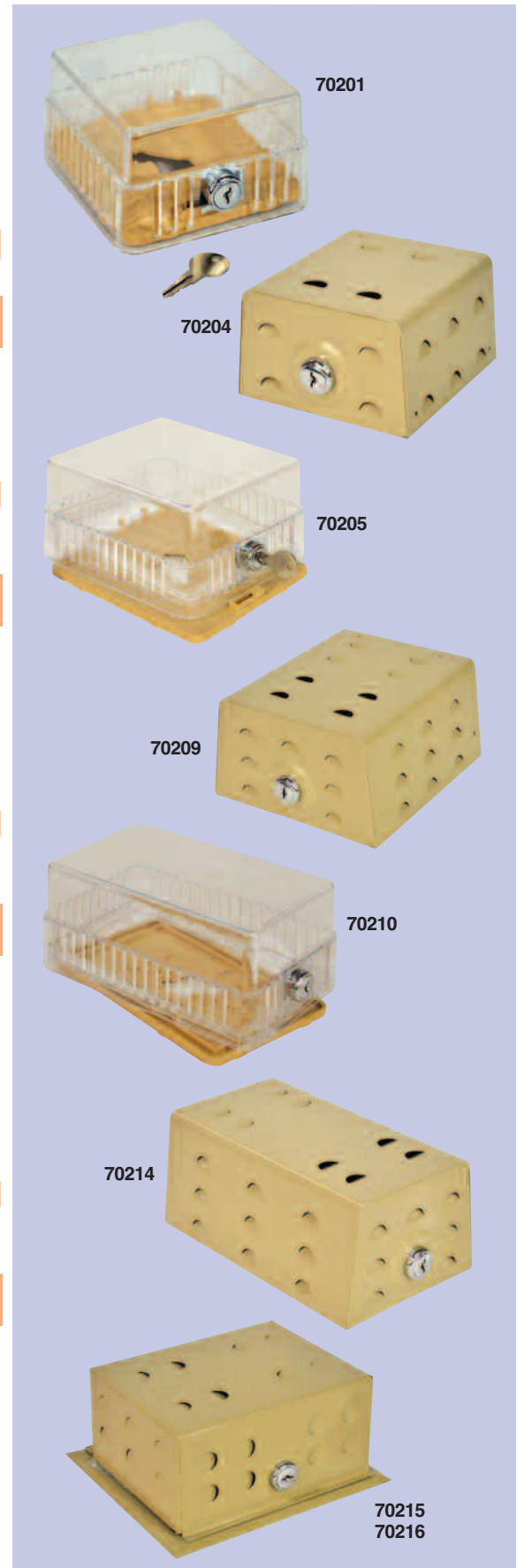
INSIDE DIMENSIONS (inches)	BASE	HEIGHT	WIDTH	DEPTH
	Solid	6.38	3.5	3.00
	Ring	6.38	3.5	3.25

MARS NO.	DESCRIPTION	BASE	MARS PACK	CASE QTY.
70210	BTG-RK clear plastic cover	Dual	1	12
70212	BTG-RO opaque plastic cover	Dual	1	12
70213	BTG-RM metal cover	Solid	1	12
70214	BTG-RWM metal cover	Ring	1	12
70226	F229R Plastic base for BTG-RO, RWM, RK, RB	Ring	1	10

MARS Sentinel Series - Metal Cover And Base

INSIDE DIMENSIONS (inches)	BASE	HEIGHT	WIDTH	DEPTH
	Solid	6.25	4.75	3.00
	Ring	6.00	3.82	3.13

MARS NO.	DESCRIPTION	BASE	MARS PACK	CASE QTY.
70215	BTG-54VL metal hinged	Solid	1	12
70216	BTG-54VLW metal hinged	Ring	1	12



SERVICE & INSTALLATION

Circuit Breaker Branch Panels

MARS SERIES **832**

I-T-E® EQ® Load Center Enclosures

I-T-E EQ® load centers with main lugs feature a combination trim boxed in one package.

- The trim fits both surface and flush mounting applications saving money and space.
- Interiors offer removal in seconds
- Single phase, 3-wire design, 120/240 VAC
- One piece Albus bar construction. Designed for use only with I-T-E circuit breakers. UL listed.
- Rated for 100,000AIR
- Exclusive split neutral
- Main lugs and neutral on same plane, same drive
- Simple upper pan adjustment after trim is installed
- UL listed for 60/75 C° conductors
- 100% circuit breaker twistouts
- Indoor and outdoor enclosures available

MARS NO.	DESCRIPTION	MARS PACK
83271	60a-2 pole 4 circuit, surface branch panel - type 1	1
83273	125a-4 pole 8 circuit, surface branch panel - type 1	1

Outdoor Enclosures - Type 3R

MARS NO.	DESCRIPTION	MARS PACK
83277	60a-2 pole 4 circuit, outdoor enclosure	1
83278	125a-4 pole 8 circuit, outdoor enclosure	1

EQ Load Center

Main Lug and Main Breaker with Copper Bus

Features:

- Interiors offer removal in seconds
- Single Phase
- One piece bus bar construction designed for use only with circuit breakers
- Positive load side circuit breaker hook rails
- Outdoor NEMA Type 3R devices use HS Type hubs
- UL listed

Specifications:

- 1000,000 IR
- 4-16 Circuits, 100-225 Amperes
- 1 Phase, 3-Wire, SN
- 120/240V AC

The EQ Load Center is suitable for use as service entrance equipment when a main breaker (125A maximum) is back-fed in a branch and used with main breaker retainer clip. Copper Bus load centers are recommended for those applications where the environment may be severe. (i.e. farm and coastal areas)

Main Lug Load Center - Outdoor

MARS NO.	AMP RATING	MAX 1 POLE NO. OF SPACES	NO OF CIRCUITS	QP MAX. 2-POLES	MARS PACK
83265	125	8	16	4	1

DIMENSIONS

H	W	D
14-3/4	12-1/8	4-1/4

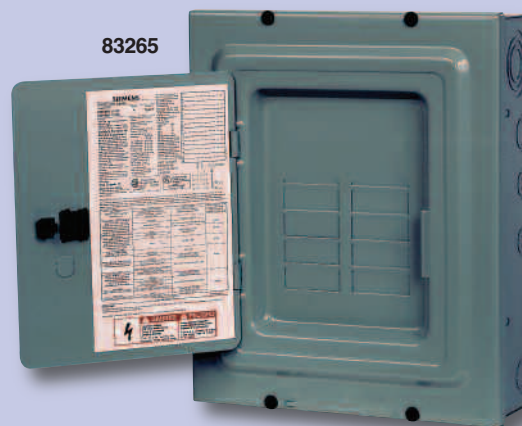
SIEMENS
I-T-E® Electrical Products



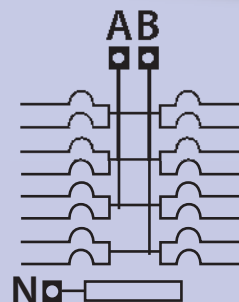
83271



83277



83265



W0816ML1125CU
16-Poles Max.

SERVICE & INSTALLATION



The largest selection of motors, components and accessories for the HVAC/R Industry

Cartridge Fuses

MARS SERIES **820**



Cartridge Fuses, Type TRS

Time delay (class RK5, 600 volt)

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
82103	2/10a - 600V, TRS fuse	10	100
82106	1/2a - 600V, TRS fuse	10	100
82109	1a - 600V, TRS fuse	10	100
82110	1.6a - 600V, TRS fuse	10	100
82111	2a - 600V, TRS fuse	10	100
82112	2.25a - 600V, TRS fuse	10	100
82124	5a - 600V, TRS fuse	10	200
82125	6a - 600V, TRS fuse	10	200
82132	10a - 600V, TRS fuse	10	200
82133	12a - 600V, TRS fuse	10	200
82134	15a - 600V, TRS fuse	10	200
82136	20a - 600V, TRS fuse	10	200
82137	25a - 600V, TRS fuse	10	200
82138	30a - 600V, TRS fuse	10	200
82139	35a - 600V, TRS fuse	10	100
82140	40a - 600V, TRS fuse	10	100
82147	45a - 600V, TRS fuse	10	100
82141	50a - 600V, TRS fuse	10	100
82142	60a - 600V, TRS fuse	10	100
82143	70a - 600V, TRS fuse	5	5
82144	80a - 600V, TRS fuse	5	5
82145	90a - 600V, TRS fuse	5	5
82146	100a - 600V, TRS fuse	5	5
82154	110a - 600V, TRS fuse	1	1
82148	125a - 600V, TRS fuse	1	1
82149	150a - 600V, TRS fuse	1	1
82150	175a - 600V, TRS fuse	1	1
82151	200a - 600V, TRS fuse	1	1
82152	250a - 600V, TRS fuse	1	1
82153	300a - 600V, TRS fuse	1	1

Cartridge Fuses, Type TRS Clamshell Packaging For Merchandisers

Time delay (class RK5, 600 volt)

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
82632	10a - 600V, (3 pk) TRS fuse	1	1
82634	15a - 600V, (3 pk) TRS fuse	1	1
82636	20a - 600V, (3 pk) TRS fuse	1	1
82637	25a - 600V, (3 pk) TRS fuse	1	1
82638	30a - 600V, (3 pk) TRS fuse	1	1
82639	35a - 600V, (3 pk) TRS fuse	1	1
82640	40a - 600V, (3 pk) TRS fuse	1	1
82647	45a - 600V, (3 pk) TRS fuse	1	1
82641	50a - 600V, (3 pk) TRS fuse	1	1
82642	60a - 600V, (3 pk) TRS fuse	1	1

Gen. Purpose Cartridge Fuses, Type OT

One-time non-renewable, class K-5

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
82210	10a - 250V, OT fuse	10	100
82212	15a - 250V, OT fuse	10	100
82213	20a - 250V, OT fuse	10	100
82214	25a - 250V, OT fuse	10	100
82215	30a - 250V, OT fuse	10	100
82216	35a - 250V, OT fuse	10	100
82217	40a - 250V, OT fuse	10	100
82218	45a - 250V, OT fuse	10	100
82219	50a - 250V, OT fuse	10	100
82220	60a - 250V, OT fuse	10	100
82221	70a - 250V, OT fuse	5	100
82224	100a - 250V, OT fuse	5	100

FERRAZ SHAWMUT IS NOW MERSEN

MERSEN



SERVICE & INSTALLATION



Cartridge Fuses

MARS SERIES **820**

Cartridge Fuses, Type TR

Time delay (class RK5, 250 volt)

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
82006	1/2a-250V, TR fuse	10	100
82009	1a-250V, TR fuse	10	100
82016	2a-250V, TR fuse	10	100
82017	2 1/2a-250V, TR fuse	10	100
82019	3a-250V, TR fuse	10	100
82020	3 2/10a-250V, TR fuse	10	100
82021	4a-250V, TR fuse	10	100
82024	5a-250V, TR fuse	10	100
82025	5 6/10a-250V, TR fuse	10	100
82026	6a-250V, TR fuse	10	100
82027	6 1/4a-250V, TR fuse	10	100
82029	7a-250V, TR fuse	10	100
82030	8a-250V, TR fuse	10	100
82032	10a-250V, TR fuse	10	100
82033	12a-250V, TR fuse	10	100
82034	15a-250V, TR fuse	10	100
82035	17 1/2a-250V, TR fuse	10	100
82036	20a-250V, TR fuse	10	100
82037	25a-250V, TR fuse	10	100
82038	30a-250V, TR fuse	10	100
82039	35a-250V, TR fuse	10	100
82040	40a-250V, TR fuse	10	100
82041	45a-250V, TR fuse	10	100
82042	50a-250V, TR fuse	10	100
82043	60a-250V, TR fuse	10	100
82044	70a-250V, TR fuse	5	100
82045	80a-250V, TR fuse	5	100
82046	90a-250V, TR fuse	5	100
82047	100a-250V, TR fuse	5	100
82048	110a-250V, TR fuse	1	1
82049	125a-250V, TR fuse	1	1
82050	150a-250V, TR fuse	1	1
82051	175a-250V, TR fuse	1	1
82052	200a-250V, TR fuse	1	1
82053	225a-250V, TR fuse	1	1
82054	350a-250V, TR fuse	1	1
82056	400a-250V, TR fuse	1	1
82055	600a-250V, TR fuse	1	1

Cartridge Fuses, Type TR Clamshell Packaging For Merchandisers

Time delay (class RK5, 250 volt)

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
82532	10a - 250V, (3 pk) TR fuse	1	1
82534	15a - 250V, (3 pk) TR fuse	1	1
82536	20a - 250V, (3 pk) TR fuse	1	1
82537	25a - 250V, (3 pk) TR fuse	1	1
82538	30a - 250V, (3 pk) TR fuse	1	1
82539	35a - 250V, (3 pk) TR fuse	1	1
82540	40a - 250V, (3 pk) TR fuse	1	1
82541	45a - 250V, (3 pk) TR fuse	1	1
82542	50a - 250V, (3 pk) TR fuse	1	1
82543	60a - 250V, (3 pk) TR fuse	1	1

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SERVICE & INSTALLATION



The largest selection of motors, components and accessories for the HVAC/R Industry

Midget & Specialty Fuses

MARS SERIES **820**



Midget Fast Acting Fuses, Type ATM

Fast acting

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
82907	1/2a - 600V, ATM fuse	10	100
82909	1a - 600V, ATM fuse	10	100
82910	1 1/2a - 600V, ATM fuse	10	100
82911	2a - 600V, ATM fuse	10	100
82916	3a - 600V, ATM fuse	10	100
82912	4a - 600V, ATM fuse	10	100
82913	5a - 600V, ATM fuse	10	100
82914	6a - 600V, ATM fuse	10	100
82918	7a - 600V, ATM fuse	10	100
82915	8a - 600V, ATM fuse	10	100
82917	10a - 600V, ATM fuse	10	100
82919	15a - 600V, ATM fuse	10	100
82920	20a - 600V, ATM fuse	10	100
82922	30a - 600V, ATM fuse	10	100

Specialty Fuses

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
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Small Dimension (Electronic) Fuses, 5 x 20mm — N. American Standards, Fast Acting

82881	GGM 2 250V fuse	5	5
82879	GGM .5 250V fuse	5	5
82882	GGM 10 250V fuse	10	10

Small Time Delay Fuses, Rejection Style (PC Boards and small Dimension Fuses)

82880	GMQ 3.2a, 300V fuse	5	100
82884	GMQ4a, 300V fuse	5	100

Fast Acting Size Rejection Special Type Fuse (PC Boards and small Dimension Fuses)

82980	GLQ 3.0a, 300V fuse	5	100
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Fast Acting Non Rejecting Special Type Fuse (Low voltage supplementary fuses)

82886	GLR 1.5a, 300V fuse	5	100
82887	GLR 1.6a, 300V fuse	5	100
82891	GLR 10a, 300V fuse	5	100
82890	GLR 15a, 300V fuse	5	100
82883	GSC 1a, 300V fuse	5	100

Slo Blo Fuses

82439	3AB-326 1a, 250V fuse	5	100
82442	3AB-326 5a, 250V fuse	5	100
82445	3AB-326 15a, 250V fuse	5	100
82444	3AB-326 20a, 250V fuse	5	100

Time Delay, 1/4 x 1 1/4", Glass Type Fuses (PC Boards and small Dimension Fuses)

82978	WVR heat limiter	10	10
82979	WUR heat limiter	10	10

Small Dimension Time Delay Non Rejecting Special Fuse (PC Boards and small Dimension Fuses)

82888	SMF 3.2a, (LMF 3.2)	5	5
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MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
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Low Voltage Supplementary Time Delay Fuse, 10X38 or 13/32 X 1-1/2 Size

82956	TRM .2a, 250V fuse	10	100
82953	TRM .8a, 250V fuse	10	100
82958	TRM 1a, 250V fuse	10	100
82959	TRM 2a, 250V fuse	10	100
82960	TRM 3a, 250V fuse	10	100
82963	TRM 4a, 250V fuse	10	100
82965	TRM 5a, 250V fuse	10	100
82946	TRM 6a, 250V fuse	10	100
82954	TRM 8a, 250V fuse	10	100
82969	TRM 10a, 250V fuse	10	100
82970	TRM 15a, 250V fuse	10	100
82972	TRM 20a, 250V fuse	10	100
82973	TRM 25a, 250V fuse	10	100
82974	TRM 30a, 250V fuse	10	100

Low Voltage Branch Circuit Rated Fuses, R Class CC

82977	ATMR -2a, 600V fuse	10	100
82966	ATMR -3a, 600V fuse	10	100
82967	ATMR -4a, 600V fuse	10	100
82971	ATMR -10a, 600V fuse	10	100
82976	ATMR -12a, 600V fuse	10	100
82968	ATMR -15a, 600V fuse	10	100
82981	ATMR 20a, 600V fuse	10	100

SERVICE & INSTALLATION



Cartridge & Midget Fuses

MARS SERIES **820**

Gen. Purpose Cartridge Fuses, Type OTS

One time non-renewable, Class K-5

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
82249	10a - 600V, OTS fuse	10	100
82251	15a - 600V, OTS fuse	10	100
82252	20a - 600V, OTS fuse	10	100
82253	25a - 600V, OTS fuse	10	100
82254	30a - 600V, OTS fuse	10	100
82255	35a - 600V, OTS fuse	10	100
82256	40a - 600V, OTS fuse	10	100
82259	60a - 600V, OTS fuse	10	100
82264	100a - 600V, OTS fuse	5	100

Midget Fuses, Type OTM

Fast acting

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
82702	2a - 250V, OTM fuse	10	100
82705	5a - 250V, OTM fuse	10	100
82710	15a - 250V, OTM fuse	10	100
82711	20a - 250V, OTM fuse	10	100

Midget Time Delay Fuses, Type ATQ

Time delay

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
82932	1/4a - 500V, ATQ fuse	10	100
82933	1/2a - 500V, ATQ fuse	10	100
82936	1a - 500V, ATQ fuse	10	100
82941	2a - 500V, ATQ fuse	10	100
82942	3a - 500V, ATQ fuse	10	100
82943	4a - 500V, ATQ fuse	10	100
82944	5a - 500V, ATQ fuse	10	100
82945	6a - 500V, ATQ fuse	10	100
82714	7a - 500V, ATQ fuse	10	100
82947	10a - 500V, ATQ fuse	10	100
82940	12a - 500V, ATQ fuse	10	100
82952	15a - 500V, ATQ fuse	10	100
82948	20a - 500V, ATQ fuse	10	100
82949	25a - 500V, ATQ fuse	10	100
82951	30a - 500V, ATQ fuse	10	100

Midget Time Delay Fuse, Type ATQ Clamshell Packaging For Merchandisers

Time delay

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
82715	1a - 500V, (6 pk), ATQ fuse	1	1
82716	3a - 500V, (6 pk), ATQ fuse	1	1
82718	5a - 500V, (6 pk), ATQ fuse	1	1
82719	10a - 500V, (6 pk), ATQ fuse	1	1
82720	15a - 500V, (6 pk), ATQ fuse	1	1
82721	20a - 500V, (6 pk), ATQ fuse	1	1
82722	25a - 500V, (6 pk), ATQ fuse	1	1
82723	30a - 500V, (6 pk), ATQ fuse	1	1

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The largest selection of motors, components and accessories for the HVAC/R Industry

Specialty Fuses & Fuse Display

MARS SERIES **820**



MARS HVACR Glass Fuse Display

MARS NO.	DESCRIPTION	MARS PACK
82395	Glass fuse assortment display-300 fuses	1
82396	Glass fuse display-empty	1

Ceramic Body Fast Acting Fuses, Type GAB

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
82403	1/2a -250V, GAB ceramic fuse	5	5
82404	1a -250V, GAB ceramic fuse	5	5
82402	1 1/2a -250V, GAB ceramic fuse	5	5
82405	2a -250V, GAB ceramic fuse	5	100
82406	2 1/2a -250V, GAB ceramic fuse	5	5
82407	3a -250V, GAB ceramic fuse	5	5
82408	4a -250V, GAB ceramic fuse	5	5
82409	5a -250V, GAB ceramic fuse	5	5
82410	6a -250V, GAB ceramic fuse	5	5
82411	7a -250V, GAB ceramic fuse	5	5
82412	8a -250V, GAB ceramic fuse	5	5
82413	10a -250V, GAB ceramic fuse	5	5
82414	12a -250V, GAB ceramic fuse	5	5
82415	15a -250V, GAB ceramic fuse	5	5
82416	20a -250V, GAB ceramic fuse	5	5
82417	25a -250V, GAB ceramic fuse	5	5
82418	30a -250V, GAB ceramic fuse	5	5

Glass Body Non-Time Delay Fuses, Type GGC

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
82448	1/10a -250V, GGC glass fuse	5	5
82450	1/4a -250V, GGC glass fuse	5	100
82451	3/10a -250V, GGC glass fuse	5	5
82453	1/2a -250V, GGC glass fuse	5	100
82455	3/4a -250V, GGC glass fuse	5	5
82456	1a -250V, GGC glass fuse	5	100
82457	1 1/4a -250V, GGC glass fuse	5	5
82458	1 1/2a -250V, GGC glass fuse	5	100
82460	2a -250V, GGC glass fuse	5	100
82461	2 1/2a -250V, GGC glass fuse	5	100
82462	3a -250V, GGC glass fuse	5	100
82459	3 2/10a -250V, GGC glass fuse	5	100
82463	4a -250V, GGC glass fuse	5	100
82464	5a -250V, GGC glass fuse	5	5
82465	6a -250V, GGC glass fuse	5	100
82466	7 1/2a -250V, GGC glass fuse	5	5
82467	8a -250V, GGC glass fuse	5	100
82468	10a -250V, GGC glass fuse	5	100
82474	12a -125V, GGC glass fuse	5	100
82469	15a -125V, GGC glass fuse	5	100
82471	20a -32V, GGC glass fuse	5	100
82472	25a -32V, GGC glass fuse	5	5
82473	30a -32V, GGC glass fuse	5	5

Electronic/Glass Fuses, Type GGX

Fast acting 1/4" x 1"

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
82878	.4a -250V, GGX glass fuse	5	5
82470	2/10a -250V, GGX glass fuse	5	5
82484	1/2a -250V, GGX glass fuse	5	100
82486	1a -250V, GGX glass fuse	5	100
82488	2a -250V, GGX glass fuse	5	5
82491	5a -125V, GGX glass fuse	5	5
82877	3a -125V, GGX glass fuse	5	5

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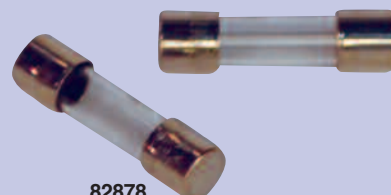
82395



82403



82448



82878

SERVICE & INSTALLATION



Specialty Fuses (Cont.)

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
Low Voltage Supplementary Fast Acting Fuses			
82608	BLS/BBS 1a, 250V fuse	10	100
82609	BLS/BBS 2a, 250V fuse	10	100
82610	BLS/BBS 3a, 250V fuse	10	100
82611	BLS/BBS 4a, 600V fuse	10	100
82612	BLS/BBS 5a, 600V fuse	10	100
Medium Voltage Fuses Class J Fast Acting			
82158	A4J -6a, 600V fuse	10	100
82160	A4J -15a, 600V fuse	10	100
82161	A4J -20a, 600V fuse	10	100
82163	A4J -30a, 600V fuse	10	100
82169	A3T -40a, 600V fuse	10	100
82170	A6T -25a, 600V fuse	10	100
82179	A6T -30a, 600V fuse	10	100
82181	A6T -35a, 600V fuse	10	100
82182	A6T -60a, 600V fuse	10	100
82964	RFS -40a, 600V fuse	10	100
Fuse Reducer			
82975	263M/H632 fuse reducer(1 pair)	1	10
Automotive Blade Type Fuse Acting 32V DC			
82230	ATC-3a, auto blade fuse(5 pk)	1	5
82232	ATC -4a, auto blade fuse	5	5
82231	ATC -5a, auto blade fuse (5 pk)	1	5
82233	ATC -7.5a, auto blade fuse	1	5
82234	ATC -10a, auto blade fuse	5	5
82235	ATC -15a, auto blade fuse	5	5
82236	ATC -20a, auto blade fuse	5	5
82237	ATC -25a, auto blade fuse	5	5
82238	ATC -30a, auto blade fuse	5	5
ATDR Time Delay Class CC (Small motors, Contactors, Branch Circuit Protection)			
82226	ATDR -6.25a, 600V fuse, class CC	10	10
82228	ATDR-10a, 600V fuse	10	10
ATQR Time Delay Class CC (Control Transformers, Solenoids, Inductive Loads)			
82227	ATQR -15a, 600V fuse	10	10

Class G Fuses 480 Volt, 600 Volt Type AG = Type SC

Time delay (above 5A) current limiting

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
82271	1a -600V, AG fuse	4	100
82290	2a -600V, AG fuse	4	100
82272	3a -600V, AG fuse	4	100
82291	4a -600V, AG fuse	4	100
82273	5a -600V, AG fuse	4	100
82274	6a -600V, AG fuse	4	100
82275	8a -600V, AG fuse	4	100
82276	10a -600V, AG fuse	4	100
82278	15a -600V, AG fuse	4	100
82279	20a -600V, AG fuse	4	100
82280	25a -480V, AG fuse	4	100
82281	30a -480V, AG fuse	4	100
82282	35a -480V, AG fuse	2	100
82283	40a -480V, AG fuse	2	100
82285	50a -480V, AG fuse	2	100
82286	60a -480V, AG fuse	2	100



Glass Body Time Delay Fuses, Type GDL

Time delay 1/4" x 1 1/4"

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
82502	1a -250V, GDL glass fuse	5	100
82505	1.5a -250V, GDL glass fuse	5	100
82507	2a -250V, GDL glass fuse	5	100
82508	2.5a -250V, GDL glass fuse	5	100
82510	3a -250V, GDL glass fuse	5	100
82512	4a -250V, GDL glass fuse	5	100
82513	5a -250V, GDL glass fuse	5	100
82514	7a -250V, GDL glass fuse	5	100
82517	8a -250V, GDL glass fuse	5	100
82518	10a -125V, GDL glass fuse	5	100
82519	15a -125V, GDL glass fuse	5	100

SERVICE & INSTALLATION

Glass & Plug Fuses

MARS SERIES **820**



SERVICE & INSTALLATION

Dual Element, Time Delay (Type S) UL 125V

Plug fuses all UL listed; CSA models also listed

Rejection Time delay, tamper resistant

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
82307	1 1/4a, S plug fuse	4	100
82308	1 6/10a, S plug fuse	4	100
82311	2a, S plug fuse	4	100
82313	2 1/2a, S plug fuse	4	100
82315	3a, S plug fuse	4	100
82316	3 2/10a, S plug fuse	4	100
82318	4a, S plug fuse	4	100
82320	5a, S plug fuse	4	100
82323	6 1/4a, S plug fuse	4	100
82325	8a, S plug fuse	4	100
82326	9a, S plug fuse	4	100
82327	10a, S plug fuse	4	100
82328	12a, S plug fuse	4	100
82330	15a, S plug fuse	4	100
82331	20a, S plug fuse	4	100
82332	25a, S plug fuse	4	100
82333	30a, S plug fuse	4	100

Dual Element Time Delay Fuse-Type S Clamshell Packaging For Merchandisers

Rejection Time delay, tamper resistant

MARS NO.	DESCRIPTION	MARS PACK
82745	15 a, S plug fuse 125V, (6 pk)	1
82746	20 a, S plug fuse 125V, (6 pk)	1
82747	25 a, S plug fuse 125V, (6 pk)	1
82748	30 a, S plug fuse 125V, (6 pk)	1

Dual Element, Time Delay (Type TL) UL 125V

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
82334	1 1/4a, TL plug fuse	4	100
82337	2a, TL plug fuse	4	100
82344	2.5a, TL plug fuse	4	100
82338	3.2a, TL plug fuse	4	100
82339	4a, TL plug fuse	4	100
82340	5a, TL plug fuse	4	100
82341	6 1/4a, TL plug fuse	4	100
82342	8a, TL plug fuse	4	100
82343	10a, TL plug fuse	4	100
82346	15a, TL plug fuse	4	100
82347	20a, TL plug fuse	4	100
82348	25a, TL plug fuse	4	100
82349	30a, TL plug fuse	4	100

Dual Element, Time Delay (Type TD) UL 125V

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
82350	15a, TD plug fuse-CSA	4	100
82351	20a, TD plug fuse-CSA	4	100
82352	25a, TD plug fuse-CSA	4	100
82353	30a, TD plug fuse-CSA	4	100

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82308



82337



82350



82735



Dual Element Time Delay Fuse-Type T Clamshell Packaging For Merchandisers

MARS NO.	DESCRIPTION	MARS PACK
82735	15 a, 125V, T plug fuse (6 pk)	1
82736	20 a, 125V, T plug fuse (6 pk)	1
82737	25 a, 125V, T plug fuse (6 pk)	1
82738	30 a, 125V, T plug fuse (6 pk)	1



Plug Fuses

MARS SERIES **820**

S Plug Fuse Adapters, UL 125

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
82375	2 1/2a, S plug fuse	4	100
82376	3 2/10a, S plug fuse	4	100
82379	6 1/4a, S plug fuse	4	100
82382	15a, S plug fuse	4	100
82383	20a, S plug fuse	4	100
82384	30a, S plug fuse	4	100

Fast Acting, (Type W) UL 125V

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
82360	10a, W plug fuse	4	100
82363	15a, W plug fuse	4	100
82364	20a, W plug fuse	4	100
82365	25a, W plug fuse	4	100
82366	30a, W plug fuse	4	100

Dual Element, Time Delay Fuse - Type W Clamshell Packaging For Merchandisers

MARS NO.	DESCRIPTION	MARS PACK
82755	15a, 125V, W plug fuse (6 pk)	1
82756	20a, 125V, W plug fuse (6 pk)	1
82757	25a, 125V, W plug fuse (6 pk)	1
82758	30a, 125V, W plug fuse (6 pk)	1

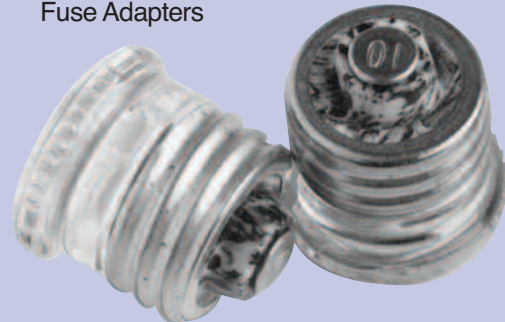
"W" Fuse

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Fuse Adapters



SERVICE & INSTALLATION



Fuse Blocks

MARS SERIES **820**

Fuse Blocks - Class H & K 250 Volts

Mersen manufactures the highest quality 250 to 600 volt fuse blocks handling current capacities of 30 to 600 amperes. These durable fuse blocks are designed for class H, J, K, R, CC and Midget fuses. All blocks are UL listed and CSA certified.

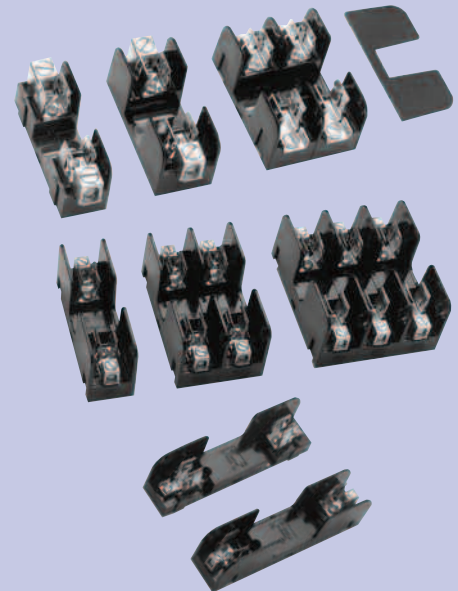
Mersen fuse blocks feature a unique adder block which can be snapped on to form multi-pole segmented blocks of as many poles as desired. Multiple pole blocks thus formed save valuable space, are permanent, and can be added to in the future.

Fuse block insulators are constructed of either phenolic or molded polycarbonate. Three types of wire connectors are used. Screw type is for copper wire with terminals. Pressure plate type is for bare copper wire where vibration may be a factor. Box type connectors are the most durable and versatile for stranded or solid wire. All fuse clips are one piece high-conductivity tin-plated copper for low resistance connections and cool operation.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
83010	Adder 30 amp - Al box	1	50
83011	1 pole 30 amp - Al box	1	50
83012	1 pole 30 amp - screw	1	50
83013	2 pole 30 amp - screw	1	50
83015	Adder 60 amp - Al box	1	50
83017	2 pole 60 amp - Al box	1	25
83018	3 pole 60 amp - Al box	1	25

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Fuse & Power Blocks

MARS SERIES **820**



SERVICE & INSTALLATION

Fuse Blocks - Midget Fuses 600 Volts

Mersen power distribution blocks (pdb), afford a safe, convenient way of splicing cables, splitting primary power into a variety of secondary circuits or providing a fixed junction tap - off point. Insulators are virtually unbreakable polycarbonate. Standard aluminum box connectors accommodate aluminum and copper wire. Connector bars are all one piece and tin plated. The pdbs are UL listed and CSA certified.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
83061	1 pole 30 amp - screw	1	50
83062	2 pole 30 amp - screw	1	25
83063	3 pole 30 amp - screw	1	25
83065	1 pole 30 amp - plate	1	50
83066	2 pole 30 amp - plate	1	25
83067	3 pole 30 amp - plate	1	25

Power Distribution Blocks - 600 Volts

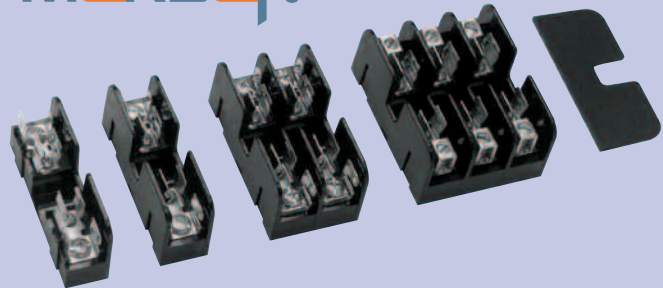
MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
83090	1 pole pdb 1 to 4 #4-#14ga	1	50
83091	2 pole pdb 1 to 4 #4-#14ga	1	25
83092	3 pole pdb 1 to 4 #4-#14ga	1	25

Fuse Holders

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
82994	panel mount glass holder 1/4" x 1 1/4" screw type knob	1	100
82995	panel mount midget holder 13/32" x 1 1/2" bayonet knob	1	100
82996	base mount glass fuse block 1/4" x 1 1/4"	10	100
82997	in-line midget holder-screw cap	1	100
83001	in-line glass holder-screw cap (5 pk)	1	100
83002	in-line glass holder-snap cap (5 pk)	1	100
82987	HPF-EE fuse holder	10	100
82989	HPF-SC fuse holder-panel mount	10	100
82990	HHB fuse holder	10	100
82991	HKP-HH fuse holder	1	10
82993	HRK fuse holder	10	100

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Edison Fuses

Applications:

- Recommended for AC power distribution system mains, feeders, and branch circuits.
- Protection of motors and motor branch circuits.
- Protection of transformers and other inductive loads.
- All general-purpose applications including lighting, heating and other non-inductive loads.

Benefits:

- True dual-element construction allows sizing of 125% FLA for motor backup protection.
- Superior overload and cycling capabilities.
- Current limiting provides component short-circuit protection.

ECNR/ECSR Specifications

Dual-Element Time-Delay

Voltage Rating: ECNR - 250Vac, ECSR - 600Vac

Amp Rating: 1 - 600 Amps

Interrupting Rating: 200,000 RMS Symmetrical Amps

Current Limiting: RK5 Fuse

Agency Approvals:

UL Listed, Class RK5, Guide JDDZ, File E162363

CSA Certified, C22.2, No. 248.12, Class 1422-02, File 700489

Self-Certified DC Ratings:

Voltage Rating: ECNR (1-60A, 110-200A) 125Vdc;
(225-600A) 250Vdc
ECSR (1-600A) 300Vdc

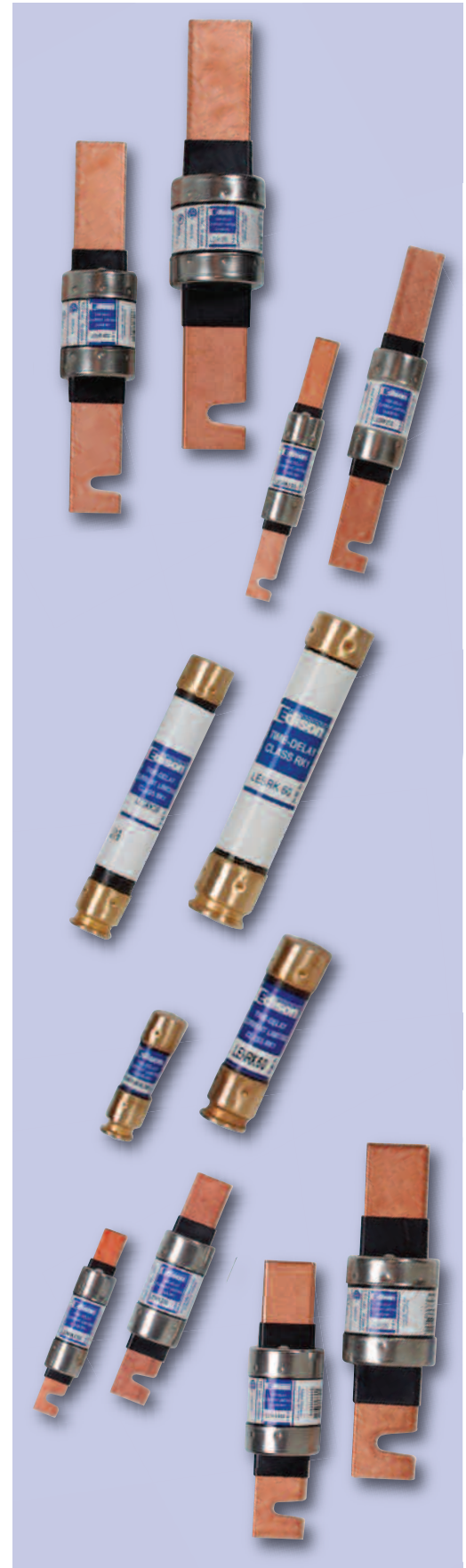
Interrupting Rating: ECNR/ECSR 20,000 Amps DC

ECNR Fuses

MARS NO.	DESCRIPTION	MARS PACK
81006	.5A - 250V	10
81009	1A -250V	10
81016	2A - 250V	10
81017	2.5A - 250V	10
81019	3A - 250V	10
81020	3.2A - 250V	10
81021	4A - 250V	10
81024	5A - 250V	10
81025	5.6A - 250V	10
81026	6A -250V	10
81027	6.25A -250V	10
81029	7A -250V	10
81030	8A -250V	10
81032	10A -250V	10
81033	12A -250V	10
81034	15A -250V	10
81035	17.5A -250V	10
81036	20A - 250V	10
81037	25A -250V	10
81038	30A -250V	10
81039	35A -250V	10
81040	40A -250V	10
81041	45A -250V	10
81042	50A -250V	10
81043	60A -250V	10
81044	70A -250V	5
81045	80A -250V	5
81046	90A -250V	5
81047	100A -250V	5
81048	110A -250V	1
81049	125A -250V	1
81050	150A -250V	1
81051	175A -250V	1
81052	200A -250V	1
81053	225A -250V	1
81054	350A -250V	1
81056	400A -250V	1
81055	600A -250V	1

ECSR Fuses

MARS NO.	DESCRIPTION	MARS PACK
81103	.2A -600V	10
81106	.5A -600V	10
81109	1A -600V	10
81110	1.6A -600V	10
81111	2A -600V	10
81112	2.25A -600V	10
81077	4A -600V	10
81124	5A -600V	10
81125	6A -600V	10
81078	8A - 600V	10
81132	10A -600V	10
81133	12A -600V	10
81134	15A -600V	10
81076	17.5A -600V	10
81136	20A -600V	10
81137	25A -600V	10
81138	30A -600V	10
81139	35A -600V	10
81140	40A -600V	10
81147	45A -600V	10
81141	50A -600V	10
81142	60A -600V	10
81143	70A -600V	5
81144	80A -600V	5
81145	90A -600V	5
81146	100A -600V	5
81154	110A -600V	1
81148	125A -600V	1
81149	150A -600V	1
81150	175A -600V	1
81151	200A -600V	1
81152	250A -600V	1
81153	300A -600V	1



SERVICE & INSTALLATION

Edison Fuses

MARS SERIES **810**



JDL Time Delay Fuses - Class J

UL Fuses: Current Limiting

MARS NO.	DESCRIPTION	MARS PACK
81621	7 A 600V Fuse Time Dly CL-J	10
81613	10A 600V Fuse Time Dly CL-J	10
81614	15A 600V Fuse Time Dly CL-J	10
81615	20A 600V Fuse Time Dly CL-J	10
81616	30A 600V Fuse Time Dly CL-J	10
81617	35A 600V Fuse Time Dly CL-J	10
81618	40A 600V Fuse Time Dly CL-J	10
81619	45A 600V Fuse Time Dly CL-J	10
81620	60A 600V Fuse Time Dly CL-J	10
81622	80A 600V Fuse Time Dly CL-J	5

JFL Fast-Acting Fuses - Class J

UL Fuses: Current Limiting

MARS NO.	DESCRIPTION	MARS PACK
81158	6A UL CLASS J Fast Acting 600V	10
81160	15A UL CLASS J Fast Acting 600V	10
81161	20A UL CLASS J Fast Acting 600V	10
81163	30A UL CLASS J Fast Acting 600V	10
81623	70A UL CLASS J Fast Acting 600V	5

TJN (300Vac) Class T Extremely Fast-Acting Fuses

UL Fuses: Current Limiting

Compact, space saving size. These fuses are ideal as the main fuse protection for panelboards, load centers and meter stacks.

MARS NO.	DESCRIPTION	MARS PACK
81664	30A TJN Fast Acting 300V Class T	10
81665	60A TJN Fast Acting 300V Class T	10
81663	150A TJN Fast Acting 300V Class T	1

TJS (600Vac) Class T Extremely Fast-Acting Fuses

UL Fuses: Current Limiting

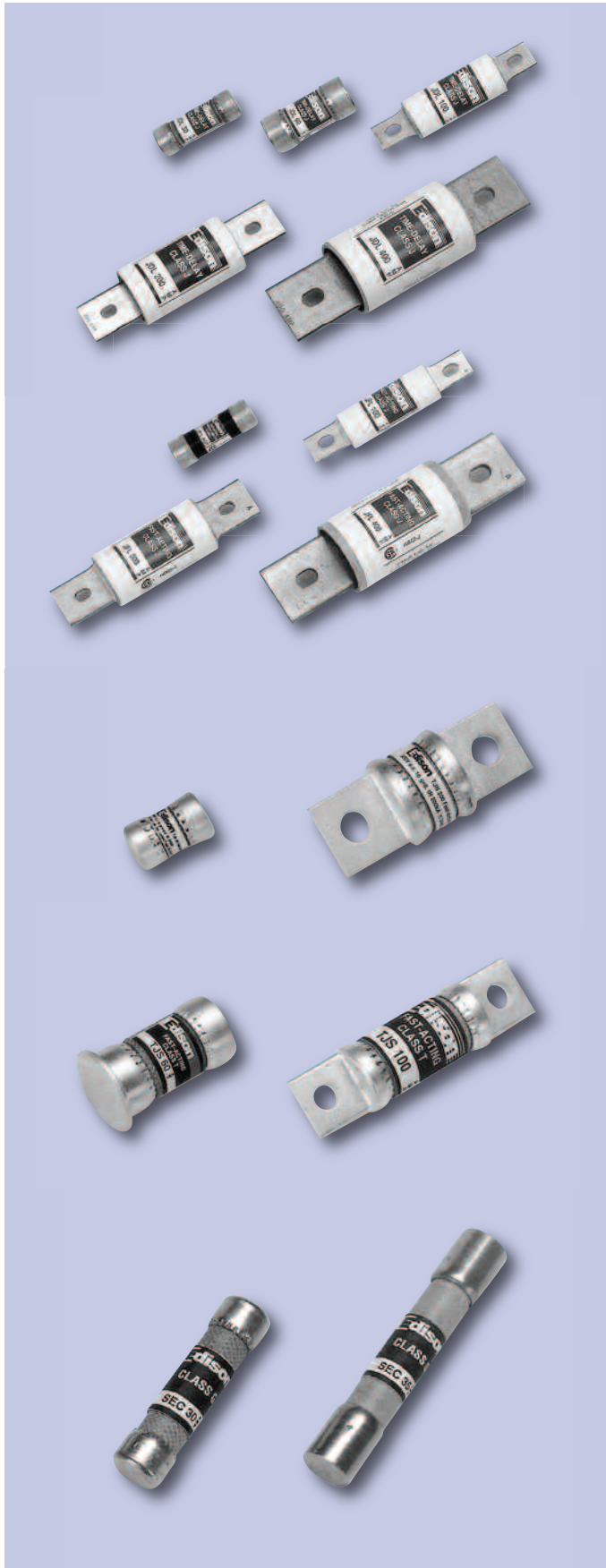
Compact, space saving size. These fuses are ideal as the main fuse protection for panelboards, load centers and meter stacks.

MARS NO.	DESCRIPTION	MARS PACK
81666	10A TJSFast Acting 600V Class T	10
81668	15A TJS Fast Acting 600V Class T	10
81669	40A TJSFast Acting 600V Class T	10
81670	45A TJSFast Acting 600V Class T	10
81671	50A TJSFast Acting 600V Class T	10
81672	70A TJSFast Acting 600V Class T	5
81673	80A TJSFast Acting 600V Class T	5
81674	90A TJSFast Acting 600V Class T	5
81667	100A TJSFast Acting 600V Class T	5

SEC Fast Acting & Time Delay - Class G Fuse

UL Fuses: Current Limiting

MARS NO.	DESCRIPTION	MARS PACK
81271	1A UL CLASS GTime Delay 600V	10
81290	2A UL CLASS G Time Delay 600V	10
81272	3A UL CLASS G Time Delay 600V	10
81273	5A UL CLASS G Time Delay 600V	10
81274	6A UL CLASS G Time Delay 600V	10
81275	8A UL CLASS G Time Delay 600V	10
81276	10A UL CLASS G Time Delay 600V	10
81278	15A UL CLASS G Time Delay 600V	10
81279	20A UL CLASS G Time Delay 600V	10
81280	25A UL CLASS G Time Delay 480V	10
81281	30A UL CLASS G Time Delay 480V	10
81282	35A UL CLASS G Time Delay 480V	10
81283	40A UL CLASS G Time Delay 480V	10
81285	50A UL CLASS G Time Delay 480V	10
81286	60A UL CLASS G Time Delay 480V	10



SERVICE & INSTALLATION



MOL Midget Fuses, Fast-Acting

UL Fuses: General Purpose (13/32" x 1 1/2")

MARS NO.	DESCRIPTION	MARS PACK
81702	2A UL MOL Fast Act Midget Fus 250V	10
81705	5A UL MOL Fast Act Midget Fus 250V	10
81710	15A UL MOL Fast Act Midget Fus 250V	10
81711	20A UL MOL Fast Act Midget Fus 250V	10

EBS Midget Fuses, Fast-Acting

UL Fuses: General Purpose (13/32" x 1 1/2")

MARS NO.	DESCRIPTION	MARS PACK
81608	1A UL EBS Fast Act Midget Fuse 600V	10
81609	2A UL EBS Fast Act Midget Fuse 600V	10
81610	3A UL EBS Fast Act Midget Fuse 600V	10
81611	4A UL EBS Fast Act Midget Fuse 600V	10
81612	5A UL EBS Fast Act Midget Fuse 600V	10

MEN Midget Fuses, Time Delay

UL Fuses: General Purpose (13/32" x 1 1/2")

MARS NO.	DESCRIPTION	MARS PACK
81956	.2A UL MEN Time Dly Midget Fuse 250V	10
81953	.8A UL MEN Time Dly Midget Fuse 250V	10
81958	1A UL MEN Time Dly Midget Fuse 250V	10
81959	2A UL MEN Time Dly Midget Fuse 250V	10
81960	3A UL MEN Time Dly Midget Fuse 250V	10
81644	3.2A UL MEN Time Dly Midget Fuse 250V	10
81963	4A UL MEN Time Dly Midget Fuse 250V	10
81965	5A UL MEN Time Dly Midget Fuse 250V	10
81946	6A UL MEN Time Dly Midget Fuse 250V	10
81954	8A UL MEN Time Dly Midget Fuse 250V	10
81969	10A UL MEN Time Dly Midget Fuse 250V	10
81970	15A UL MEN Time Dly Midget Fuse 250V	10
81972	20A UL MEN Time Dly Midget Fuse 250V	10
81973	25A UL MEN Time Dly Midget Fuse 250V	10
81974	30A UL MEN Time Dly Midget Fuse 250V	10

MEQ Midget Fuses, Time Delay

UL Fuses: General Purpose (13/32" x 1 1/2")

MARS NO.	DESCRIPTION	MARS PACK
81645	.1A UL MEQ Time Dly Midget Fuse 500V	10
81932	.25A UL MEQ Time Dly Midget Fuse 500V	10
81933	.5A UL MEQ Time Dly Midget Fuse 500V	10
81646	.6A UL MEQ Time Dly Midget Fuse 500V	10
81936	1A UL MEQ Time Dly Midget Fuse 500V	10
81648	1.5A UL MEQ Time Dly Midget Fuse 500V	10
81941	2A UL MEQ Time Dly Midget Fuse 500V	10
81649	2.5A UL MEQ Time Dly Midget Fuse 500V	10
81942	3A UL MEQ Time Dly Midget Fuse 500V	10
81650	3.2A UL MEQ Time Dly Midget Fuse 500V	10
81651	3.5A UL MEQ Time Dly Midget Fuse 500V	10
81943	4A UL MEQ Time Dly Midget Fuse 500V	10
81944	5A UL MEQ Time Dly Midget Fuse 500V	10
81945	6A UL MEQ Time Dly Midget Fuse 500V	10
81653	6.25A UL MEQ Time Dly Midget Fuse 500V	10
81714	7A UL MEQ Time Dly Midget Fuse 500V	10
81654	8A UL MEQ Time Dly Midget Fuse 500V	10
81947	10A UL MEQ Time Dly Midget Fuse 500V	10
81940	12A UL MEQ Time Dly Midget Fuse 500V	10
81952	15A UL MEQ Time Dly Midget Fuse 500V	10
81948	20A UL MEQ Time Dly Midget Fuse 500V	10
81949	25A UL MEQ Time Dly Midget Fuse 500V	10
81951	30A UL MEQ Time Dly Midget Fuse 500V	10



81710



81612



81969



81951

SERVICE & INSTALLATION

Edison Fuses

MARS SERIES **810**



SERVICE & INSTALLATION

EDCC Time-Delay CLASS CC Fuses

UL Fuses: Current Limiting

MARS NO.	DESCRIPTION	MARS PACK
81079	1/2A 600V T/D Class CC	10
81080	1A 600V T/D Class CC	10
81081	1.5A 600V T/D Class CC	10
81086	3A 600V T/D Class CC	10
81097	3-1/2A 600V T/D Class CC	10
81088	4A 600V T/D Class CC	10
81089	5A 600V T/D Class CC	10
81093	5 6/10 600V T/D Class CC	10
81094	6A 600V T/D Class CC	10
81095	7A 600V T/D Class CC	10
81096	8A 600V T/D Class CC	10
81228	10A 600V T/D Class CC	10
81082	15A 600V T/D Class CC	10
81083	20A 600V T/D Class CC	10
81084	25A 600V T/D Class CC	10
81087	30A 600V T/D Class CC	10

HCTR Time Delay - Class CC

UL Fuses: Current Limiting

MARS NO.	DESCRIPTION	MARS PACK
81194	.25A UL CLASS CC Time Delay 600V	10
81195	.3A UL CLASS CC Time Delay 600V	10
81197	2A UL CLASS CC Time Delay 600V	10
81199	3.2A UL CLASS CC Time Delay 600V	10
81601	4A UL CLASS CC Time Delay 600V	10
81602	5A UL CLASS CC Time Delay 600V	10
81603	6A UL CLASS CC Time Delay 600V	10
81226	6.25A UL CLASS CC Time Delay 600V	10
81604	8A UL CLASS CC Time Delay 600V	10
81605	9A UL CLASS CC Time Delay 600V	10
81196	10A UL CLASS CC Time Delay 600V	10
81227	15A UL CLASS CC Time Delay 600V	10
81198	20A UL CLASS CC Time Delay 600V	10
81600	30A UL CLASS CC Time Delay 600V	10

HCLR Fast Acting - Class CC

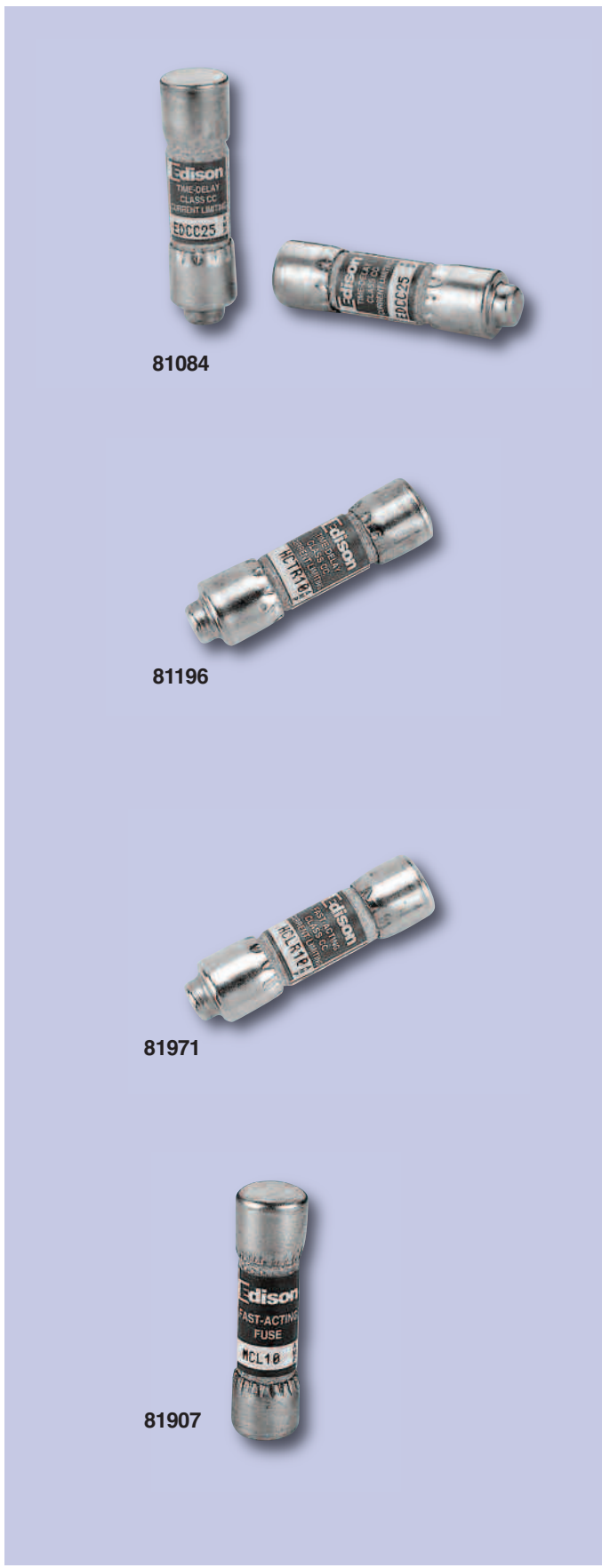
UL Fuses: Current Limiting

MARS NO.	DESCRIPTION	MARS PACK
81189	1A UL CLASS CC Fast Act 600V	10
81977	2A UL CLASS CC Fast Act 600V	10
81966	3A UL CLASS CC Fast Act 600V	10
81191	3.5A UL CLASS CC Fast Act 600V	10
81967	4A UL CLASS CC Fast Act 600V	10
81192	5A UL CLASS CC Fast Act 600V	10
81193	6A UL CLASS CC Fast Act 600V	10
81971	10A UL CLASS CC Fast Act 600V	10
81976	12A UL CLASS CC Fast Act 600V	10
81968	15A UL CLASS CC Fast Act 600V	10
81981	20A UL CLASS CC Fast Act 600V	10
81190	25A UL CLASS CC Fast Act 600V	10

MCL Midget Fuses, Fast-Acting

UL Fuses: General Purpose (13/32" x 1 1/2")

MARS NO.	DESCRIPTION	MARS PACK
81907	.5A UL MCL Fast Act Midget Fus 600V	10
81909	1A UL MCL Fast Act Midget Fus 600V	10
81910	1.5A UL MCL Fast Act Midget Fus 600V	10
81911	2A UL MCL Fast Act Midget Fus 600V	10
81916	3A UL MCL Fast Act Midget Fus 600V	10
81628	3.5A UL MCL Fast Act Midget Fus 600V	10
81912	4A UL MCL Fast Act Midget Fus 600V	10
81913	5A UL MCL Fast Act Midget Fus 600V	10
81914	6A UL MCL Fast Act Midget Fus 600V	10
81918	7A UL MCL Fast Act Midget Fus 600V	10
81915	8A UL MCL Fast Act Midget Fus 600V	10
81917	10A UL MCL Fast Act Midget Fus 600V	10
81919	15A UL MCL Fast Act Midget Fus 600V	10
81920	20A UL MCL Fast Act Midget Fus 600V	10
81627	25A UL MCL Fast Act Midget Fus 600V	10
81922	30A UL MCL Fast Act Midget Fus 600V	10





T Edison Base Plug Fuses - Dual Element, Time Delay

UL Fuses: General Purpose

MARS NO.	DESCRIPTION	MARS PACK
81334	1 1/4AT PLG Fuse Dual Element TD 125V	4
81337	2AT PLG Fuse Dual Element TD 125V	4
81344	2 1/2AT PLG Fuse Dual Element TD 125V	4
81338	3 2/10AT PLG Fuse Dual Element TD 125V	4
81339	4AT PLG Fuse Dual Element TD 125V	4
81340	5AT PLG Fuse Dual Element TD 125V	4
81341	6 1/4AT PLG Fuse Dual Element TD 125V	4
81342	8AT PLG Fuse Dual Element TD 125V	4
81343	10AT PLG Fuse Dual Element TD 125V	4
81660	15AT PLG Fuse Dual Element TD 125V	4
81661	20AT PLG Fuse Dual Element TD 125V	4
81662	30AT PLG Fuse Dual Element TD 125V	4

TL Edison Base Plug Fuses - Time Delay

UL Fuses: General Purpose

MARS NO.	DESCRIPTION	MARS PACK
81346	15A Time Dly Base Plg FS TL 125V	4
81347	20A Time Dly Base Plg FS TL 125V	4
81348	25A Time Dly Base Plg FS TL 125V	4
81349	30A Time Dly Base Plg FS TL 125V	4

TC and P Edison Base Plug Fuses - Dual Element, Time Delay

UL Fuses: General Purpose

MARS NO.	DESCRIPTION	MARS PACK
81350	15A Dual Element TimeDly TYP TC 125V	4
81370	15A Dual Element TimeDly TYP TC 125V	4
81351	20A Dual Element TimeDly TYP TC 125V	4
81352	25A Dual Element TimeDly TYP TC 125V	4
81353	30A Dual Element TimeDly TYP TC 125V	4

GDA Fast Acting Ceramic Tube Small Dimension (Electronic) Fuses

5 x 20mm — IEC Standards High-Breaking Capacity Fuses UL Fuses: General Purpose

MARS NO.	DESCRIPTION	MARS PACK
81168	630mA Fast Acting High Break GDA 250V	4

GDB Fast Acting Glass Tube Small Dimension (Electronic) Fuses

5 x 20mm — IEC Standards Low Breaking Capacity Fuses UL Fuses: General Purpose

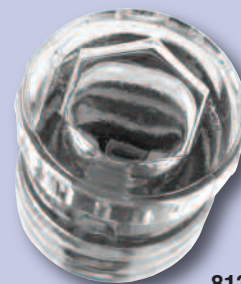
MARS NO.	DESCRIPTION	MARS PACK
81171	630mA Fast Acting Low Break GDB 250V	5
81169	3.15A Fast Acting Low Break GDB 250V	5
81170	4A Fast Acting Low Break GDB 250V	5



81334



81346



81350



81168



81171

Edison Fuses

MARS SERIES **810**



SERVICE & INSTALLATION

KON/KOS Fast Acting - Class H & K5

“One Time” UL Fuses: General Purpose

MARS NO.	DESCRIPTION	MARS PACK
81624	1A UL CLASS K5 Fast Act KON 250V	10
81210	10A UL CLASS K5 Fast Act KON 250V	10
81212	15A UL CLASS K5 Fast Act KON 250V	10
81213	20A UL CLASS K5 Fast Act KON 250V	10
81214	25A UL CLASS K5 Fast Act KON 250V	10
81215	30A UL CLASS K5 Fast Act KON 250V	10
81216	35A UL CLASS K5 Fast Act KON 250V	10
81217	40A UL CLASS K5 Fast Act KON 250V	10
81218	45A UL CLASS K5 Fast Act KON 250V	10
81219	50A UL CLASS K5 Fast Act KON 250V	10
81220	60A UL CLASS K5 Fast Act KON 250V	10
81221	70A UL CLASS H Fast Act KON 250V	5
81625	80A UL CLASS H Fast Act KON 250V	5
81224	100A UL CLASS H Fast Act KON 250V	5
81626	5A UL CLASS H Fast Act KOS 600V	10
81249	10A UL CLASS H Fast Act KOS 600V	10
81251	15A UL CLASS K5 Fast Act KOS 600V	10
81252	20A UL CLASS K5 Fast Act KOS 600V	10
81253	25A UL CLASS K5 Fast Act KOS 600V	10
81254	30A UL CLASS K5 Fast Act KOS 600V	10
81255	35A UL CLASS K5 Fast Act KOS 600V	10
81256	40A UL CLASS K5 Fast Act KOS 600V	10
81259	60A UL CLASS K5 Fast Act KOS 600V	10
81264	100A UL CLASS H Fast Act KOS 600V	5

S Rejection Base Plug Fuses - Dual Element, Time Delay

UL Fuses: General Purpose

MARS NO.	DESCRIPTION	MARS PACK
81307	1-1/4AS Reject Base Dual Element TD 125V	4
81308	1-6/10AS Reject Base Dual Element TD 125V	4
81311	2AS Reject Base Dual Element TD 125V	4
81313	2-1/2AS Reject Base Dual Element TD 125V	4
81315	3AS Reject Base Dual Element TD 125V	4
81316	3-2/10AS Reject Base Dual Element TD 125V	4
81318	4AS Reject Base Dual Element TD 125V	4
81320	5AS Reject Base Dual Element TD 125V	4
81323	6-1/4AS Reject Base Dual Element TD 125V	4
81325	8AS Reject Base Dual Element TD 125V	4
81326	9AS Reject Base Dual Element TD 125V	4
81327	10AS Reject Base Dual Element TD 125V	4
81328	12AS Reject Base Dual Element TD 125V	4
81658	15AS Reject Base Dual Element TD 125V	4

SL Rejection Base Plug Fuses - Time Delay

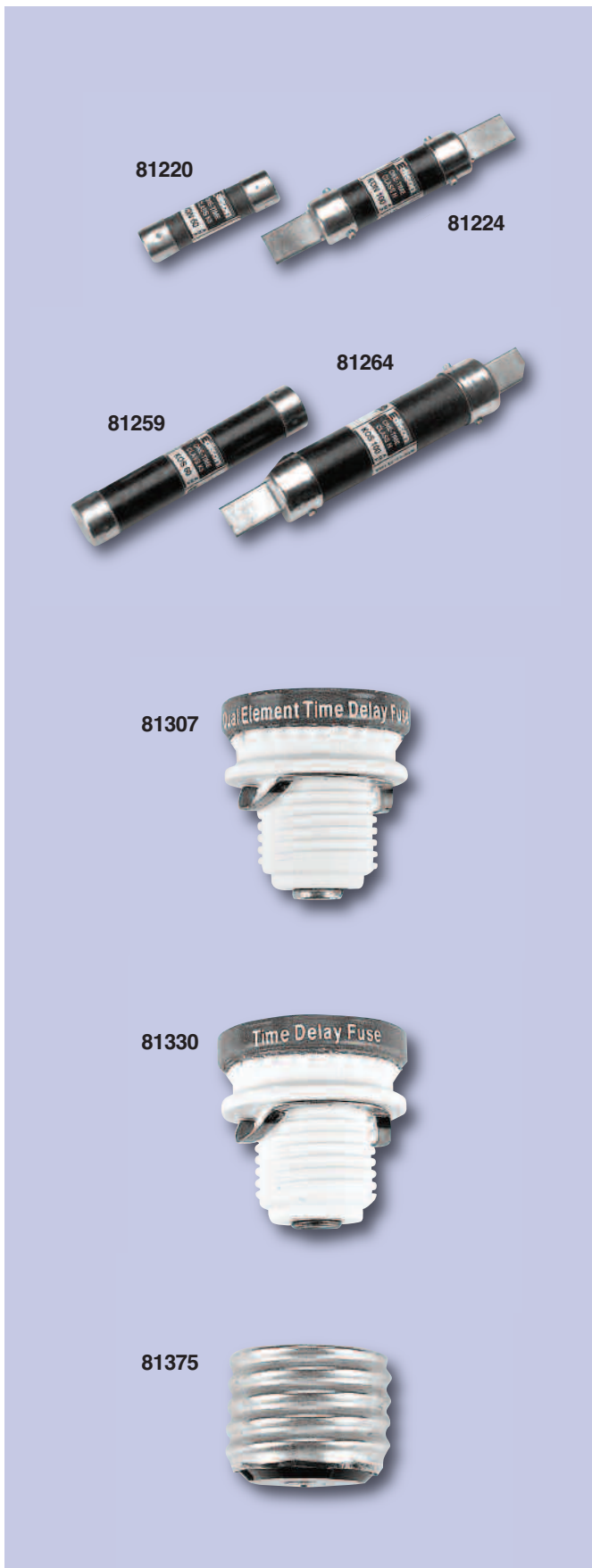
UL Fuses: General Purpose

MARS NO.	DESCRIPTION	MARS PACK
81330	15A Time Dly Base Plg FS SL 125V	4
81331	20A Time Dly Base Plg FS SL 125V	4
81332	25A Time Dly Base Plg FS SL 125V	4
81333	30A Time Dly Base Plg FS SL 125V	4

SA Rejection Base Fuse Adapter

UL Fuses: General Purpose

MARS NO.	DESCRIPTION	MARS PACK
81375	2-1/2ASA Reject Base Fuse Adapter	4
81376	3-2/10ASA Reject Base Fuse Adapter	4
81379	6-1/4ASA Reject Base Fuse Adapter	4
81382	15ASA Reject Base Fuse Adapter	4
81383	20ASA Reject Base Fuse Adapter	4
81384	30ASA Reject Base Fuse Adapter	4





ABC Small Dimension (Electronic) Fuses

1/4" x 1 1/4" Fast-Acting Fuses UL Fuses:
General Purpose

MARS NO.	DESCRIPTION	MARS PACK
81402	1.5A ABC Sm Dim Fast Act 250V	5
81403	1/2A ABC Sm Dim Fast Act 250V	5
81404	1A ABC Sm Dim Fast Act 250V	5
81405	2A ABC Sm Dim Fast Act 250V	5
81406	2.5A ABC Sm Dim Fast Act 250V	5
81407	3A ABC Sm Dim Fast Act 250V	5
81408	4A ABC Sm Dim Fast Act 250V	5
81409	5A ABC Sm Dim Fast Act 250V	5
81410	6A ABC Sm Dim Fast Act 250V	5
81411	7A ABC Sm Dim Fast Act 250V	5
81412	8A ABC Sm Dim Fast Act 250V	5
81413	10A ABC Sm Dim Fast Act 250V	5
81414	12A ABC Sm Dim Fast Act 250V	5
81415	15A ABC Sm Dim Fast Act 250V	5
81416	20A ABC Sm Dim Fast Act 250V	5
81417	25A ABC Sm Dim Fast Act 125V	5
81418	30A ABC Sm Dim Fast Act 125V	5

AGC Small Dimension (Electronic) Fuses

1/4" x 1 1/4" Fast-Acting Fuses UL Fuses:
General Purpose

MARS NO.	DESCRIPTION	MARS PACK
81070	1/16AAGC Sm Dim Glass Fast Act 250V	5
81448	1/10AAGC Sm Dim Glass Fast Act 250V	5
81450	1/4AAGC Sm Dim Glass Fast Act 250V	5
81453	1/2AAGC Sm Dim Glass Fast Act 250V	5
81470	2/10AAGC Sm Dim Glass Fast Act 250V	5
81451	3/10AAGC Sm Dim Glass Fast Act 250V	5
81455	3/4AAGC Sm Dim Glass Fast Act 250V	5
81456	1AAGC Sm Dim Glass Fast Act 250V	5
81457	1-1/4AAGC Sm Dim Glass Fast Act 250V	5
81458	1-1/2AAGC Sm Dim Glass Fast Act 250V	5
81460	2AAGC Sm Dim Glass Fast Act 250V	5
81461	2-1/2AAGC Sm Dim Glass Fast Act 250V	5
81462	3AAGC Sm Dim Glass Fast Act 250V	5
81459	3-2/10AAGC Sm Dim Glass Fast Act 250V	5
81071	3.5AAGC Sm Dim Glass Fast Act 250V	5
81463	4AAGC Sm Dim Glass Fast Act 250V	5
81464	5AAGC Sm Dim Glass Fast Act 250V	5
81465	6AAGC Sm Dim Glass Fast Act 250V	5
81072	7AAGC Sm Dim Glass Fast Act 250V	5
81466	7-1/2AAGC Sm Dim Glass Fast Act 250V	5
81467	8AAGC Sm Dim Glass Fast Act 250V	5
81468	10AAGC Sm Dim Glass Fast Act 250V	5
81474	12AAGC Sm Dim Glass Fast Act 250V	5
81469	15AAGC Sm Dim Glass Fast Act 32V	5
81471	20AAGC Sm Dim Glass Fast Act 32V	5
81472	25AAGC Sm Dim Glass Fast Act 32V	5
81473	30AAGC Sm Dim Glass Fast Act 32V	5

AGX Small Dimension (Electronic) Fuses

1/4" x 1" Fast-Acting Fuses UL Fuses:
General Purpose

MARS NO.	DESCRIPTION	MARS PACK
81484	1/2A AGX Sm Dim Glass Fast Act 250V	5
81878	4/10A AGX Sm Dim Glass Fast Act 250V	5
81486	1A AGX Sm Dim Glass Fast Act 250V	5
81488	2A AGX Sm Dim Glass Fast Act 250V	5
81877	3A AGX Sm Dim Glass Fast Act 250V	5
81491	5A AGX Sm Dim Glass Fast Act 250V	5



Edison Fuses

MARS SERIES **810**



SERVICE & INSTALLATION

GDC Time Delay Glass Tube Small Dimension (Electronics) Fuses

5 x 20mm — IEC Standards Low Breaking Capacity Fuses UL Fuses: General Purpose

MARS NO.	DESCRIPTION	MARS PACK
81172	2A Time Delay Low Break GDC 250V	5
81173	3.15A Time Delay Low Break GDC 250V	5
81174	5A Time Delay Low Break GDC 250V	5
81175	FUSE Glass 6.3a 250V	5

GMA Fast Acting, Glass Fuses, Small Dimension (Electronic) Fuses

5 x 20mm — N. American Standards, Fast Acting UL Fuses: General Purpose

MARS NO.	DESCRIPTION	MARS PACK
81879	.5A GMA Glass tube Fast Act fus 250V	5
81181	1A GMA Glass tube Fast Act fus 250V	5
81179	1.25A GMA Glass tube Fast Act fus 250V	5
81881	2A GMA Glass tube Fast Act fus 250V	5
81182	3.15A GMA Glass tube Fast Act fus 125V	5
81183	3A GMA Glass tube Fast Act fus 250V	5
81184	4A GMA Glass tube Fast Act fus 125V	5
81185	5A GMA Glass tube Fast Act fus 125V	5
81882	10A GMA Glass tube Fast Act fus 125V	5

GLR Fast Acting Non Rejecting

Florescent Light

MARS NO.	DESCRIPTION	MARS PACK
81886	1-1/2A Fast Act Non Reject 300V	5
81887	1-6/10A Fast Act Non Reject 300V	5
81176	1A Fast Act Non Reject 300V	5
81177	3A Fast Act Non Reject 300V	5
81178	5A Fast Act Non Reject 300V	5
81891	10A Fast Act Non Reject 300V	5
81890	15A Fast Act Non Reject 300V	5

GLQ Fast Acting Size Rejecting

Florescent Light

MARS NO.	DESCRIPTION	MARS PACK
81980	3A GLQ Fast Act Size Reject 300V	5

GMQ Time Delay Fuses, Size Rejecting

Florescent Light

MARS NO.	DESCRIPTION	MARS PACK
81188	8/10A GLQ Time Dly Size Reject 300V	5
81186	3A GLQ Time Dly Size Reject 300V	5
81880	3-2/10A GLQ Time Dly Size Reject 300V	5
81884	4A GLQ Time Dly Size Reject 300V	5
81187	5A GLQ Time Dly Size Reject 300V	5

GMF Time delay, Non Rejecting

Florescent Light

MARS NO.	DESCRIPTION	MARS PACK
81888	3-2/10A Time Delay Non Reject 300V	5





MDA Small Dimension (Electronic) Ceramic Fuses, 1/4" x 1-1/4"

Time-Delay UL Fuses: General Purpose

MARS NO.	DESCRIPTION	MARS PACK
81439	1A Ceramic Fuse Time Dly 250V	10
81629	2A Ceramic Fuse Time Dly 250V	10
81630	4A Ceramic Fuse Time Dly 250V	10
81442	5A Ceramic Fuse Time Dly 250V	5
81445	15A Ceramic Fuse Time Dly 250V	5
81444	20A Ceramic Fuse Time Dly 250V	5

MDL Small Dimension (Electronic) Fuses

1/4" x 1-1/4" Time-Delay Fuses UL Fuses: General Purpose

MARS NO.	DESCRIPTION	MARS PACK
81631	1/2A Glass Fuse Time Dly 250V	5
81635	3/10A Glass Fuse Time Dly 250V	5
81502	1A Glass Fuse Time Dly 250V	10
81505	1-1/2A Glass Fuse Time Dly 250V	10
81507	2A Glass Fuse Time Dly 250V	10
81508	2-1/2A Glass Fuse Time Dly 250V	10
81510	3A Glass Fuse Time Dly 250V	10
81512	4A Glass Fuse Time Dly 250V	5
81513	5A Glass Fuse Time Dly 250V	5
81514	7A Glass Fuse Time Dly 250V	5
81517	8A Glass Fuse Time Dly 250V	5
81518	10A Glass Fuse Time Dly 250V	5
81519	15A Glass Fuse Time Dly 250V	5
81633	20A Glass Fuse Time Dly 250V	5
81643	30A Glass Fuse Time Dly 250V	5

ATM Automotive Blade Type Fuse - Fast Acting UL Fuses

General Purpose Zinc ATM Fuses are Silver Plated

MARS NO.	DESCRIPTION	MARS PACK
81354	10A ATM Auto BLADE-TYPE, Red 32V DC	1

ATC Automotive Blade Type Fuse - Fast Acting UL Fuses

General Purpose Plastic Housing with Zinc Fuse Element

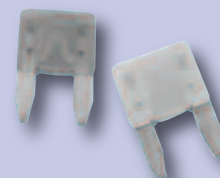
MARS NO.	DESCRIPTION	MARS PACK
81073	1A ATC Auto BLADE-TYPE, Black 32V DC	5
81074	2A ATC Auto BLADE-TYPE, Gray 32V DC	5
81230	3A ATC Auto BLADE-TYPE, Violet 32V DC	5
81232	4A ATC Auto BLADE-TYPE, Pink 32V DC	5
81231	5A ATC Auto BLADE-TYPE, Tan 32V DC	5
81233	7.5A ATC Auto BLADE-TYPE, Brown 32V DC	5
81234	10A ATC Auto BLADE-TYPE, Red 32V DC	5
81235	15A ATC Auto BLADE-TYPE, Blue 32V DC	5
81236	20A ATC Auto BLADE-TYPE, Yellow 32V DC	5
81237	25A ATC Auto BLADE-TYPE, Clear 32V DC	5
81238	30A ATC Auto BLADE-TYPE, Green 32V DC	5



81439



81631



81354



81073

Edison Fuse Blocks

MARS SERIES **810**



SERVICE & INSTALLATION

2 Pole, Supplementary Fuse Block, Type M 600V

MARS NO.	DESCRIPTION	MARS PACK
81062	30A 2P Buss Fuseblk Scrw QC, BM6032SQBS	8
81066	30A 2P Buss Fseblk Prss Plt QC, BM6032PQ	10

3 Pole, Supplementary Fuse Block, Type M 600V

MARS NO.	DESCRIPTION	MARS PACK
81063	30A 3P BUSS FUSEBLK SCRW QC, BM6033SQ	6
81067	30A 3P BUSS FSEBLK PRSS PLT QC, BM6033PQ	10

Power Distribution & Terminal Blocks

MARS NO.	DESCRIPTION	MARS PACK
81090	1 Pole 600V Power Terminal Block, 16220-1	48
81091	2 Pole 600V Power Terminal Block, 16220-2	24
81092	3 Pole 600V Power Terminal Block, 16220-3	24

BG and G Series Fuse Blocks - G Series Fuses (SEC)

MARS NO.	DESCRIPTION	MARS PACK
81075	15A 3P 600V Screw w/QC, Class G, BG3013SQ	1
81167	30A 3P 480V Box Lug w/Clip G30060-3CR	1
81166	60A 3P 600V Box Lug w/clip, G30060-3C	1

Fuse Pullers

MARS NO.	DESCRIPTION	MARS PACK
81165	Class T Fuses, 0 – 60A, 300/600V for dia 13/32" to 13/16"	1
81098	0 – 60A, 250V 0 – 30A, 600V, for dia 13/32" to 13/16"	1
81099	70 – 200A, 250V 35 – 200A, 600V, for dia 1" to 1 3/4"	1

Panel-Mount and In-Line Fuse Holders Standard Fuse Holders With Screw

Type Knob: For use with 13/32" x 1 5/16" to 1 1/2" fuses

MARS NO.	DESCRIPTION	MARS PACK
81987	HPF-EE, 15A 480V (Sec) 0-15, 13/32" X 1 3/8" Fuses	10
81989	HPF-C Buss Fuseholder	10

Standard Fuseholders

For use with 1/4" x 1-1/4" fuses (Edison type ABC, AGC, MDL, MDA etc.)

MARS NO.	DESCRIPTION	MARS PACK
81991	HKP-HH, 15A 250V with 1/4" QC Terminal	10



Edison Fuse Blocks

MARS SERIES **810**



1 Pole, Class H/K5 Fuse Block, 250V

For Use With KON, ERN, PONC, and CDNC Fuses

MARS NO.	DESCRIPTION	MARS PACK
81011	1/10 - 30 Amps, Box Lug W/Clip and Reinforced Spring, H25030-1CR-BN	1
81012	1/10 - 30 Amps, Screw W/Clip and Reinforced Spring, H25030-1Sr-Bn	1
81116	31 - 60 Amps, Box Lug W/Clip and Reinforced Spring H25060-1CR-BN	1

2 Pole, Class H/K5 Fuse Block, 250V

For Use With KON, ERN, PONC, and CDNC Fuses

MARS NO.	DESCRIPTION	MARS PACK
81117	1/10 - 30 Amps, Box Lug W/Clip and Reinforced Spring, H25030-2CR-BN	1

3 Pole, Class H/K5 Fuse Block, 250V

For Use With KON, ERN, PONC, and CDNC Fuses

MARS NO.	DESCRIPTION	MARS PACK
81018	1/10 - 30 Amps, Box Lug w/ Clip and Reinforced Spring, H25030-3CR-BN	1

1 Pole, Class H/K5 Fuse Block, 600V

For Use With KOS, ERS, and CDSC Fuses

MARS NO.	DESCRIPTION	MARS PACK
81031	1/10 - 30 Amps, Box lug w/ Clip and Reinforced Spring, H60030-1CR-BN	1
81130	1/10 - 30 Amps, Screw, H60030-1S	1

2 Pole, Class H/K5 Fuse Block, 600V

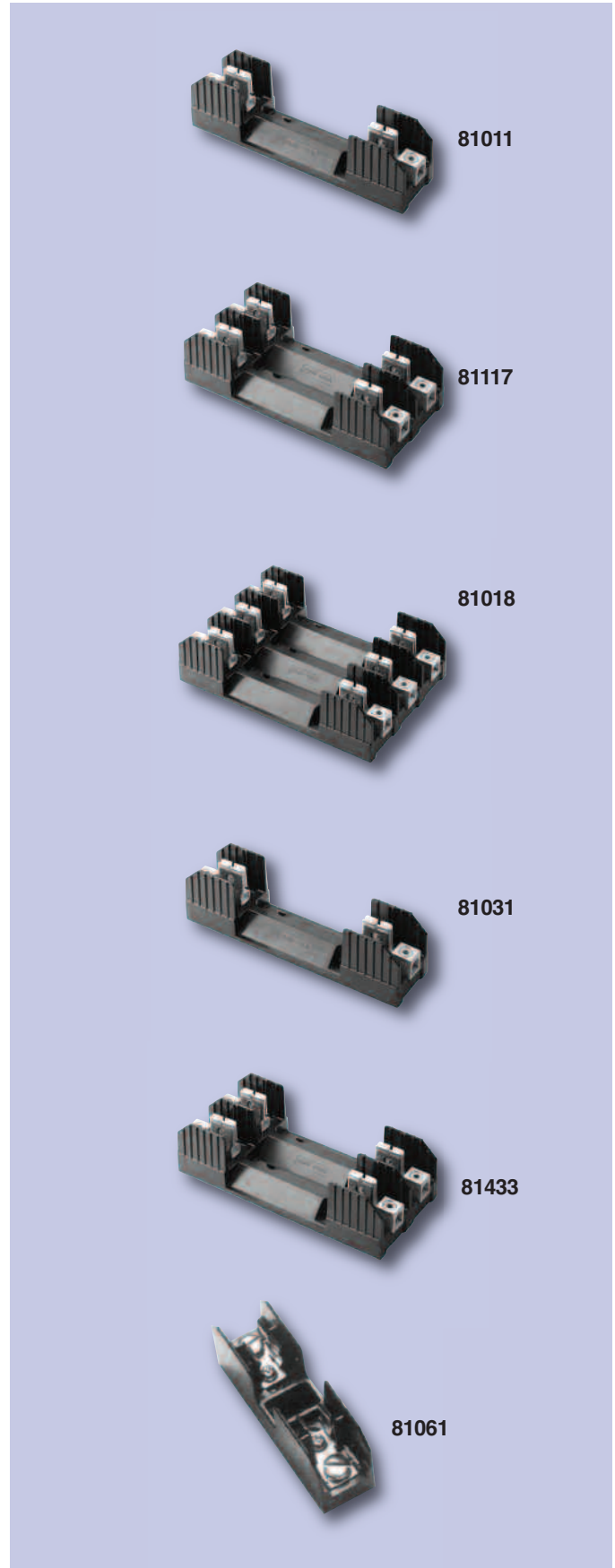
For Use With KOS, ERS, and CDSC Fuses

MARS NO.	DESCRIPTION	MARS PACK
81433	1/10 - 30 Amps, Screw, H60030-2S	1

Type M Supplementary Fuseblocks

For use with any 13/32" x 1 1/2' Fuses (Bussmann KTK, FNQ, FNM, BAF, BAN, and AGU) 1 Pole, Supplementary Fuse Block, Type M 600V

MARS NO.	DESCRIPTION	MARS PACK
81061	30A 1P Buss Fuseblk Scrw QC, BM6031SQ	10
81069	30A 1P Buss Fuseblock Bx Lug, BM6031B	10
81065	30A 1P Buss Fseblk Prss Plt QC, BM6031PQ	10



SERVICE & INSTALLATION

Edison Fuse Blocks

MARS SERIES **810**



Universal In-Line Fuseholder

For use with 1/4" x 7/8" to 1-1/4" fuses

MARS NO.	DESCRIPTION	MARS PACK
81993	HRK, 15A 32V 1/4" dia fuses of different lengths	10

In-Line Fuseholders For 13/32" x 1-1/2" Fuses

MOL MEN, MEQ and MCL (1/10 -30A)

MARS NO.	DESCRIPTION	MARS PACK
81997	HEB-AA 30A 1P 600V Buss Fuseholder	10

Fuse Reducers for Class H & K

Dimension Fuses KON, ERN, PONC, CDNC KOS, ERS, CDSC

MARS NO.	DESCRIPTION	MARS PACK
81975	250V, 30A, Buss Fuse Reducer	1

HLQ Fuseholder Use with: GLQ and GMQ

MARS NO.	DESCRIPTION	MARS PACK
81607	In-Line Fuse Holder HLQ-3 2/10	10
81606	Fuse Holder 16-wire, 16A	10

Class R Fuseblocks

(250V ECNR, LENRK, and NCLR & 600V ECSR, LESRK, and SCLR) Catalog Data Terminal Type (Suffix No.) Dimensions

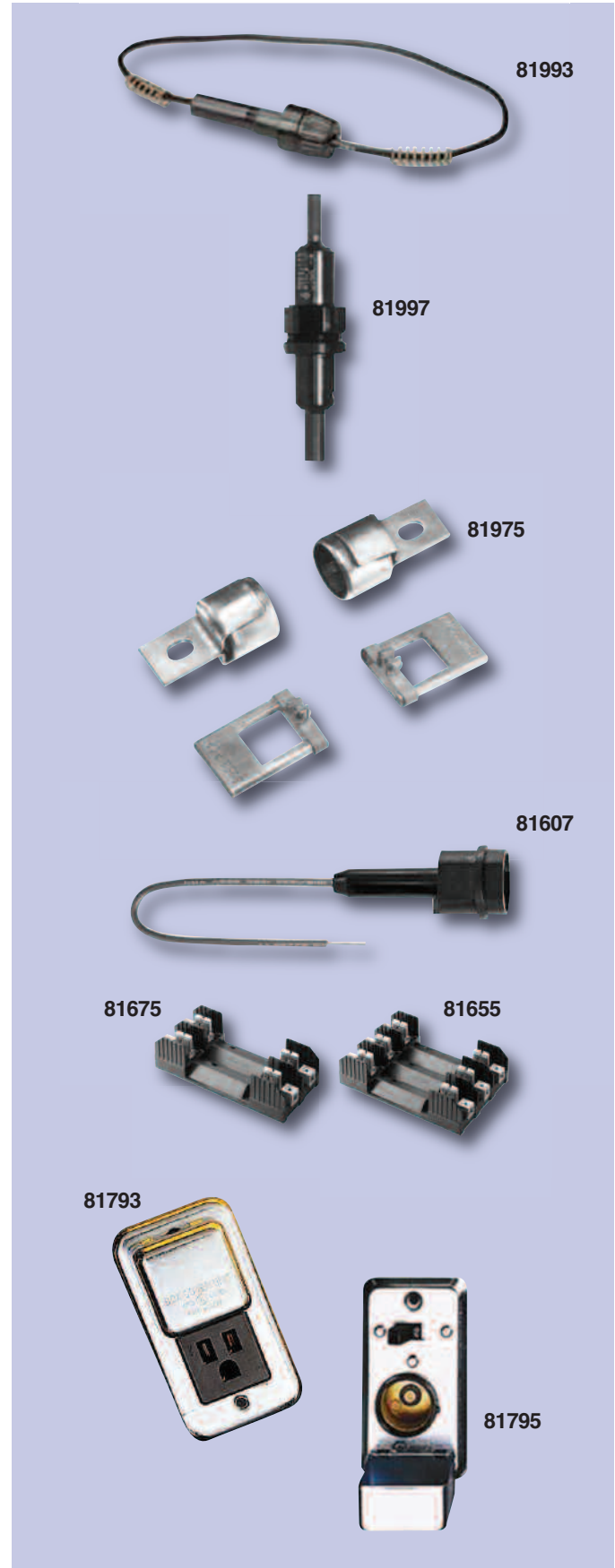
MARS NO.	DESCRIPTION	MARS PACK
81675	60A 2P Box Lug 250V Fuse Block R25060-2CR	1
81655	30A 3P Box Lug 250V Fuse Block R25030-3CR	1
81657	100A 3P Box Lug 600V Fuse Block R60100-3CR	1
81676	FUSE BLOCK 60-AMP, 250VAC	1

Box Cover Units for Plug Fuses

Plug-Fuse Box Cover Units provide a simple inexpensive way to protect small motors with Edison dual-element type "T" or type "TL" plug fuses.

MARS NO.	DESCRIPTION	MARS PACK
81793	2-1/4" Handy Single Fuse holder 125V 15A for Plg Fuse w/Rcptcl, Max Motor Size 1/2HP SRU	1
81795*	2-1/4" Handy Single Fuse holder 125V 15A for Plg Fuse w/Rcptcl, Control Switch, Max Motor Size 1/2HP SSU (Do not use on DC)	1

*Switch turns power to fused load OFF or ON



Fuses With A Resealable Plastic Pouch

MARS NO.	DESCRIPTION	MARS PACK
08569	3 Amp Standard Size Plastic, 25/pk	1
08570	5 Amp Standard Size Plastic, 25/pk	1
08571	Assorted Fuses, 25/pk	1

Fuses & Fuse Holders

Zebra Instruments offers a 4 pack Medium Duty (15A) standard size plastic fuses and fuse holder. This allows you to replace (or install) fuse protection for transformer outputs (and other devices) in HVAC systems .

MARS NO.	DESCRIPTION	MARS PACK
08568	4 kits – Medium duty 15Amp Standard Size Plastic	1



Wiring Devices

Toggle Switches With Ground

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
84712	15a -120V, 1P, silent, brown (bulk)	10	100
84800	15a -120V, 1P, silent, ivory (bulk)	10	100
84706	15a -120/277V, 1P, silent, ivory (bulk)	10	100
84727	20a -120/277V, 1P, silent, brown (bulk)	10	100
84707	20a -120/277V, 1P, silent, ivory (bulk)	10	100
84708	15a -120/277V, 2P, silent, ivory (bulk)	10	100
84709	20a -120/277V, 2P, silent, ivory (bulk)	10	100
84799	Combo switch/receptacle ivory (bulk) switch 15a-120/277V, 1P receptacle 15a-125V, 2P, 3W	10	100

Toggle Switches Without Ground

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
84798	15a -120V, 1P, silent, ivory (bulk)	10	100
84726	15a -120/277V, 1P, switch w/pilot light (card)	1	100

Metal Bat Handle Switches - Screw Terminals 10a-250V, 15a-125V, 3/4 HP 120/240

MARS NO.	DESCRIPTION	MARS PACK
84760	SPST on off	1

Straight Blade Receptacles With Ground

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
84721	Single, ivory, 20a, 125V, 2P, 3W (bulk)	10	100
84723	Single, ivory, 20a, 250V, 2P, 3W (bulk)	10	100
84746	Single, brn, 20a, 250V, 2P, 3W (bulk)	10	100
84715	Duplex, ivory, 15a, 125V, 2P, 3W (bulk)	10	100
84748	Duplex, brn, 15a, 125V, 2P, 3W (bulk)	10	100
84797	Dup, ivory, EZ wire/screw, 15a,125V, (bulk)	100	
84716	Dup, ivory, 20a, 125V, 2P, 3W (bulk)	10	100
84756	Dup, brn, 20a, 125V, 2P, 3W (bulk)	10	100



SERVICE & INSTALLATION

Wiring Devices

MARS SERIES **847**



Plugs, Connectors And Adapters

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
84770	Grnd rubr hndl plug, 2P, 3W, 15a, 125V, black	10	100
84772	Armrd plug, 2P, 3W, 15a, 125V,	10	100
84785	Blk rubr rnd conn, 2P, 3W, 15a, 125V	10	100
84773	Blk armored conn, 2P, 3W, 15a, 125V	10	100
84786	Blk armrd conn, 2P, 3W, 15a, 125V (card)	1	10

GFCI Duplex Receptacles

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
84767	15a, 125V, ivory, EZ wire & screw	1	10
84768	15a, 125V, ivory, EZ wire & screw (card)	1	10

Wall Plates - Plastic

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
84751	Single toggle ivory	25	250
84809	Duplex receptacle ivory	25	100

Pullchain Lampholders - White

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
84719	Porcelain lampholder w/ receptacle	1	50

Box Cover Units - 125V - For T Plug Fuses

MARS NO.	DESCRIPTION	MARS PACK
84793	2 1/4" handy box receptacle cover, CRU	1
84795	2 1/4" handy box switch cover, CSU	1
84794	4" square box switch cover, CSY	1
84814	4" octagon box switch cover, CSX	1



SERVICE & INSTALLATION



Wire Nut Connectors

MARS SERIES **259**

Ideal Wire Nut® Wire Connectors

IDEAL's Wire Nut® wire connectors are second to none and preferred by electricians industry wide. There are five color coded models covering every wiring combination. Some features include: positive grip design, flame retardant thermoplastic shell, longest fully seated square wire spring, threaded entry, deep skirt and wide throat entry. All Wire Nut® wire connectors are UL listed and CSA certified

Greenie® grounding connectors enjoy all the benefits of the other Wire Nut® connectors, but are designed for making ground connections with a built-in hole for copper ground hook. They have a live action, square wire spring for easy and strong connections with built-in contoured wings.

Twister® wire connectors have become widely accepted due to their unsurpassed features: ribbed cap, fluted surface, compact, swept wings, hexagonal shape, tough thermoplastic shell, live action square wire spring and deep threaded skirt entry. Nutmaster™ nutdrivers can be used to install Twister® wire connectors quickly and securely. Twister® wires are UL and CSA approved. Exceptional wire range capacity for their size, just two Twister® wire connectors handle all wire combinations. This means reduced inventories and lower costs!

Wing Nut® wire connectors were first introduced by IDEAL in 1958 and remain the most comfortable, easy to use connector on the market. The wings act as a built in wrench to provide extra leverage for secure connections...every time. Wing Nut® wire connectors handle a wide range of branch circuit and fixture wiring requirements. Just three color coded models handle UL listed wire combinations from (2) No. 18's to (1) No. 6 with (2) No. 8's, solid or stranded wire.

MARS #25998 is a great merchandising display for Wire-Nut® connectors!

MARS NO.	DESCRIPTION	BOX QTY.	MFG. NO	MARS PACK	CASE QTY.
25930	Gray wire nut, 22-14 AWG	100	30-071	1	10
25931	Blue wire nut, 22-14 AWG	100	30-072	1	10
25932	Orange wire nut, 22-14 AWG	100	30-073	1	10
25933	Yellow wire nut, 18-10 AWG	100	30-074	1	10
25934	Red wire nut, 18-8 AWG	100	30-076	1	10
25935	Greenie conn., 14-10 AWG	100	30-092	1	10
25936	Tan twister conn., 22-10 AWG	100	30-341	1	10
25976	Tan twister conn., 22-10 AWG	500	30-641	1	10
25937	Gray twister conn., 16-8 AWG	50	30-342	1	20
25938	Yellow wing nut, 18-10 AWG	100	30-451	1	10
25939	Red wing nut, 18-10 AWG	100	30-452	1	10
25979	Red wing nut, bag, 18-10 AWG	500	30-652	1	10
25940	Blue wing nut, 14-6 AWG	25	30-454	1	10



SERVICE & INSTALLATION

Wire Connectors

MARS SERIES **259 & 842**



MARS Wire Connectors

MARS wire connectors are available in five color coded models: gray, blue, orange, yellow and red. Some features include a positive grip design and flame retardant thermoplastic shell. The large throat provides easy wire entrance and the deep skirt prevents shorts and grounds.

MARS NO.	DESCRIPTION	MARS PACK
25860	Gray wire connector, 300V (25/bag)	1
25880	Gray wire connector, 300V (100/bag)	1
25861	Blue wire connector, 300V (25/bag)	1
25881	Blue wire connector, 300V (100/bag)	1
25862	Orange wire connector, 600V (25/bag)	1
25882	Orange wire connector, 600V (100/bag)	1
25863	Yellow wire connector, 600V (25/bag)	1
25883	Yellow wire connector, 600V (100/bag)	1
25864	Red wire connector, 600V (25/bag)	1
25884	Red wire connector, 600V (100/bag)	1
25868	Yellow wing connector, 600V (25/bag)	1
25888	Yellow wing connector, 600V (100/bag)	1
25869	Red wing connector, 600V (25/bag)	1
25889	Red wing connector, 600V (100/bag)	1
25870	Blue wing connector, 600V (10/bag)	1
25800	Blue wing connector, 600V (50/bag)	1



25882



25878

MARS Wire Connectors - Jar

MARS NO.	DESCRIPTION	MARS PACK
25875	MARS Yellow Wire connectors, 600V, 100/Jar	1
25876	MARS Orange Wire connectors, 600V, 100/Jar	1
25877	MARS Red Wire connectors, 600V, 50/Jar	1
25878	MARS Winged Blue Wire connectors, 600V, 25/Jar	1

Wiregard Color-Coded Screw-On Wire Connectors

MARS now offers Gardner Bender wire connectors. The industry's standard screw-on connector, with high quality, performance and durability.

- UL listed, CSA approved.
- Color-coded for easy size selection.
- Makes quick, secure connections for positive continuity. Tightens without ratcheting, removeable for re-use. Fluted shell surface allows for easy finger-tight connections.
- Thermoplastic shell shields against environmental extremes. Flame retardant up to 221 degrees F.
- Superior flash-over protection. High-dielectric shell features deep skirt design to prevent exposure of bare wire.
- Versatile size selection covers building wire combinations from #22 to #10 AWG.
- Complies with Federal Specification W-5-610d.

MARS NO.	MFG. NO.	MODEL/SIZE	COLOR	BOX QTY.	CASE QTY.
25950	10-001	GB-1	Gray	100 Box	10
25941	10-002	GB-2	Blue	100 Box	10
25942	10-003	GB-3	Orange	100 Box	10
25943	10-004	GB-4	Yellow	100 Box	10
25944	10-006	GB-6	Red	100 Box	10



25950

GB
Gardner
Bender



25941



25942



25943



25944



Wire Products

MARS SERIES **842**

Stranded Copper Building Wire, 19 Strands 10-14 Ga. THHN, 16-18 Ga. TFFN, 600V, 90°C

MARS NO.	DESCRIPTION			MARS PACK
84289	16 gauge	red	100' spool	1
84292	16 gauge	black	100' spool	1
84295	16 gauge	white	100' spool	1
84301	16 gauge	blue	100' spool	1
84304	16 gauge	yellow	100' spool	1
84307	14 gauge	red	100' spool	1
84308	14 gauge	red	500' spool	1
84310	14 gauge	black	100' spool	1
84311	14 gauge	black	500' spool	1
84313	14 gauge	white	100' spool	1
84314	14 gauge	white	500' spool	1
84319	14 gauge	blue	100' spool	1

Solid Copper Building Wire, 10-14 Ga. THHN, 600V, 90°C

MARS NO.	DESCRIPTION			MARS PACK
84361	14 gauge	black	500' spool	4
84362	14 gauge	white	500' spool	4
84363	14 gauge	green	500' spool	4



SERVICE & INSTALLATION

Wire Products

MARS SERIES **842**



Stranded Copper Building Wire, 19 Strands 10-14 Ga. THHN, 16-18 Ga. TFFN, 600V, 90°C (cont.)

MARS NO.	DESCRIPTION			MARS PACK
84322	12 gauge	red	100' spool	1
84325	12 gauge	black	100' spool	1
84328	12 gauge	white	100' spool	1
84337	10 gauge	red	100' spool	1
84340	10 gauge	black	100' spool	1
84341	10 gauge	black	500' spool	1
84343	10 gauge	white	100' spool	1
84344	10 gauge	white	500' spool	1
84346	10 gauge	green	100' spool	1
84349	10 gauge	blue	100' spool	1
84352	8 gauge	black	500' spool	1

Non-Metallic Sheathed Cable - Romex Wire Cable Type NM-B 600V - 90°C

MARS NO.	DESCRIPTION			MARS PACK
84251	6 AWG,	2 conductors w/ground	125' coil	1
84253	8 AWG,	2 conductors w/ground	125' coil	1
84255	10 AWG,	2 conductors w/ground,	250' roll, boxed	1
84257	12 AWG,	2 conductors w/ground,	250' roll, boxed	1
84259	14 AWG,	2 conductors w/ground,	250' roll, boxed	1

SJ Wire - 250 Foot Rolls

MARS NO.	DESCRIPTION			MARS PACK
84380	12/3	250 ft. roll		1
84381	14/3	250 ft. roll		1
84382	16/3	250 ft. roll		1

Mini-Split Installation Wire

Corra/Clad MC Cable consists of UL listed THHN soft drawn annealed solid copper conductors, cabled with fillers and wrapped with an overall solid Flexi-Rib aluminum sheath. The continuous sheath provides watertight protection and it is covered with a PVC outer jacket for outdoor use or direct burial. Cost effective, easy to strip and install. Meets all national codes and is suitable for outdoor use, under concrete, underground, and through interior walls and ceilings.

Compact 600 and Shielded Low Voltage Cables offer additional options to provide power and control to mini-split installations. Compact 600 uses a TPE jacket and is flexible, easy to strip, and is burial rated.

Corra/Clad MC Cable: 600V, UL, NEC 330 Direct Burial

MARS NO.	DESCRIPTION
84470	14/3 Solid THHN w/Ground – 50' Roll w/Connector
84471	14/3 Solid THHN w/Ground – 250' Reel
84472	Liquid-tight MC Cable Connector

Compact 600 Cable: 600V, UL, UV Rated, Direct Burial

MARS NO.	DESCRIPTION
84473	14/4 Solid THHN Compact 600 – 50' Roll
84474	14/4 Solid THHN Compact 600 – 250' Reel
84479	14/4 Stranded THHN Compact 600V - 50' Roll
84475	14/7 Stranded THHN Compact 600 – 250' Reel

Shielded Low Voltage Cable: 300V, NEC 725/800, ETL, CMR/CL3R

MARS NO.	DESCRIPTION
84476	18/2 Stranded BC Shielded – 50' Roll
84478	18/4 Stranded BC Shielded – 50' Reel

For LG Mini-Splits





Thermostat Wire

MARS SERIES **842**

MARS 18 Gauge Thermostat Cable - UL Listed

Specifications: UL type CL2. UV rated. Temp rating -20° + 60°C. Meets UL subject 13 per article 725 of the 1990 National Electric Code (NEC) for power limited circuit cable. Soft drawn bare copper, semi-rigid pvc insulation and PVC overall jacket.

MARS NO.	DESCRIPTION	LBS. MFT	MARS PACK
84201	18 AWG, 2 conductors, 500 ft. spool	15	4
84202	18 AWG, 3 conductors, 500 ft. spool	21	4
84203	18 AWG, 4 conductors, 250 ft. spool	27	4
84204	18 AWG, 5 conductors, 250 ft. spool	34	4
84205	18 AWG, 6 conductors, 250 ft. spool	40	4
84206	18 AWG, 7 conductors, 250 ft. spool	45	4
84207	18 AWG, 8 conductors, 250 ft. spool	51	4
84209	18 AWG, 10 conductors, 250 ft. spool	63	4
84210	18 AWG, 12 conductors, 250 ft. spool	74	4
84231	18 AWG, 2 conductors, 250 ft. spool	15	4
84232	18 AWG, 3 conductors, 250 ft. spool	21	4

MARS 20 Gauge Thermostat Cable - UL Listed

MARS NO.	DESCRIPTION	LBS. MFT	MARS PACK
84211	20 AWG, 2 conductors, 500 ft. spool	11	4
84212	20 AWG, 3 conductors, 500 ft. spool	15	4
84213	20 AWG, 4 conductors, 250 ft. spool	20	4
84214	20 AWG, 5 conductors, 250 ft. spool	24	4
84215	20 AWG, 6 conductors, 250 ft. spool	27	4
84217	20 AWG, 8 conductors, 250 ft. spool	35	4

Shielded Plenum T-Stat Wire - UL Listed - Type CL2P-Stranded

MARS NO.	DESCRIPTION	LBS. MFT	MARS PACK
84461	18 AWG, 2 conductors, 500 ft spool	4	4
84462	18 AWG, 3 conductors, 500 ft spool	4	4
84466	18 AWG, 8 conductors, 500 ft spool	4	4

84210



84211



SERVICE & INSTALLATION

Thermostat Wire

MARS SERIES **842**



SERVICE & INSTALLATION

18 Ga UL Thermostat Wire – Self Dispensing Coils

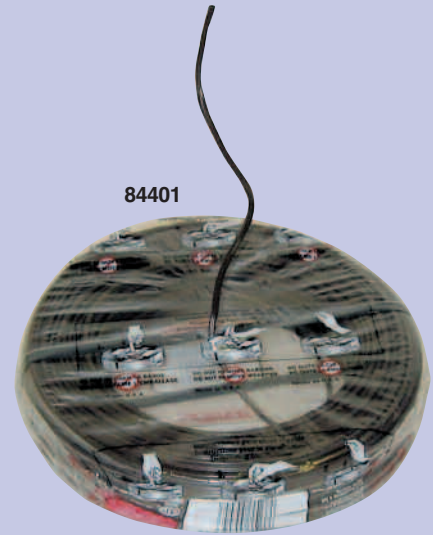
MARS thermostat wire is now available in self dispensing coil packs. These shrink wrapped coils are easier to use and more convenient to store than the traditional thermostat wire sold on spools/reels.

Features & benefits:

- Heavy duty shrink wrapped coils for durability
- No reels to bend, break, or rust
- Compact coils are easier to store – takes up less space
- Easier to handle
- Stacks better
- Easy and convenient to use

How to use:

- Simply punch hole in center of wrap. (Do not remove wrap)
- Pull loose end of wire from center (Wire will pull out easily)
- Snip off the required amount of wire
- Tuck loose end back into the coil for storage



MARS NO.	DESCRIPTION	MARS PACK
84401	18/2 500 ft. Coils	4
84402	18/3 500 ft. Coils	4
84403	18/4 250 ft. Coils	4
84404	18/5 250 ft. Coils	4
84405	18/6 250 ft. Coils	4
84406	18/7 250 ft. Coils	4
84407	18/8 250 ft. Coils	4

Plenum T-Stat Wire - Solid UL Listed

Temp rating (-20°C to 75°C) • UL type, CL2P
 Thermoplastic jacket (2500 psi min)
 Thermoplastic insulation (2000 psi min)
 Can be used in overhead plenum area without conduit

MARS NO.	DESCRIPTION	MARS PACK
84241	18 AWG, 2 conductors, 500 ft. spool	4
84242	18 AWG, 3 conductors, 500 ft. spool	4
84243	18 AWG, 4 conductors, 250 ft. spool	4
84244	18 AWG, 5 conductors, 250 ft. spool	4
84245	18 AWG, 6 conductors, 250 ft. spool	4
84246	18 AWG, 8 conductors, 250 ft. spool	4

MARS NO.	DESCRIPTION	MARS PACK
84441	18 AWG, 2 conductors, 500 ft. spool	4
84443	18 AWG, 4 conductors, 500 ft. spool	4
84444	18 AWG, 6 conductors, 500 ft. spool	4

84241





BX & Flexible Cable Cutter

MARS SERIES **861 & 790**

BX & Flexible Cable Cutter

Cuts BX, MC, AC, and Liquid Tight 3/8".

Features

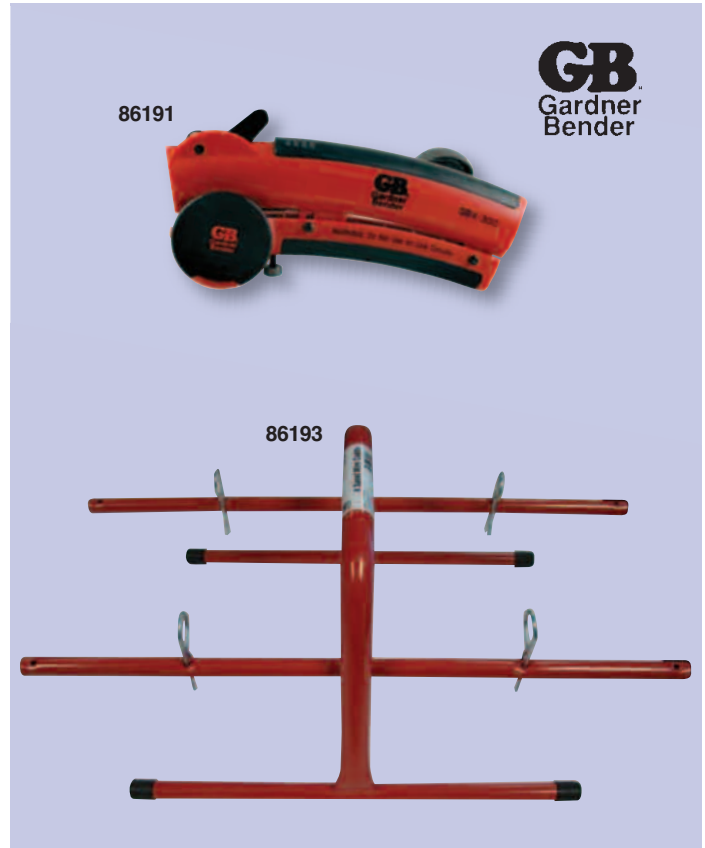
- High durability blade provides 2X normal wear
- Storage space for replacement blades
- 25 foot drop test
- Thumbwheel for easy blade change, no tools required
- Quick Clamp feature automatically adjusts to cable size and secures it for splitting
- Automatic release ejects cable
- Cutting depth adjustment ensures clean cuts without nicking cable

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
86191	BX Armour Cutter, & 1/4" Length	1	5
86192	Replacement Blade for 86191, 3/pk	1	10

Hand Wire Caddy

Rugged Construction, epoxy coated to reduce chipping & peeling
Holds up to 8 reels, 7" D x 5" W, or 4 reels 7" D x 6" to 10" W

MARS NO.	DESCRIPTION	MARS PACK
86193	Wire Hand Caddy, 22-1/2" L x 13-1/2" W x 9-1/2" H	1



GB
Gardner
Bender

86191

86193

SERVICE & INSTALLATION



Wire Markers

MARS SERIES **256**

Adhesive Wire Markers

Wire marker dispenser measures 3" x 6" and holds 10 tape rolls at once. Rugged, sturdy case fits in your pocket. Durable long lasting tapes are excellent for wire, pipe and conduit identification.

Wire marker booklets contain 10 pages each. Plastic impregnated cloth marker resists abrasion, moisture, dirt and oil. Markers are 1-1/2" in length and can be separated into half-length sizes.

MARS NO.	DESCRIPTION	MFG. NO.	MARS PACK	CASE QTY.
25920	Wire marker dispenser, 0-9 legends	42-301	1	5
25921	Wire marker book, 0-9 legends	44-101	5	5
25922	Wire marker book, A-Z legends	44-102	5	5
25923	Wire marker book, 1-45 legends	44-103	5	5



IDEAL

25920

25923

Light Bulbs

MARS SERIES **791**



SERVICE & INSTALLATION

Appliance Bulbs - 130 Volt

MARS NO.	DESCRIPTION	MFG. NO.	CASE QTY.
79183	25W clear, intermediate screw base	25T61/2	25
79185	25W clear, intermediate base	25T8N	25
79188	40W clear, intermediate base	40T61/2	25

Pilot And Indicator Bulbs - 130 Volt

MARS NO.	DESCRIPTION	MFG. NO.	CASE QTY.
79193	7W clear, candelabra, screw base	7C7	25

Rough Service Bulbs 130 Volt

MARS supplies 130V rough service, 130V rough service shatterproof coated, and 120V long life general service light bulbs. The 130V design provides an extended life cycle of filament and increases energy savings.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79171	50 watt 130V bulb	6	120
79172	75 watt 130V bulb	6	120
79173	100 watt 130V bulb	6	120

Rough Service Coated Shatterproof Bulbs 130 Volt

MARS supplies 130V rough service, 130V rough service shatterproof coated, and 120V long life general service light bulbs. The 130V design provides an extended life cycle of filament and increases energy savings.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79175	75 watt 130V bulb	6	120
79176	100 watt 130V bulb	6	120

General Service Bulbs - 120 Volt

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79177	60 watt 120V bulb	120	120
79178	75 watt 120V bulb	120	120
79179	100 watt 120V bulb	120	120





Outlet Boxes

MARS SERIES **849**

4" Octagon Steel Boxes

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
84931	2-1/8" D 1/2" & 3/4" K.O.	1	25
84932	1-1/2" D 1/2" K.O.	1	25

Square Steel Boxes

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
84936	4", 2-1/2"D 1/2" & 3/4" K.O.	1	25
84937	4", 1-1/2"D 1/2" K.O.	1	25
84938	4", 1-1/2"D 1/2" & 3/4" K.O.	1	25
84939	4", 1-1/4"D 1/2" K.O.	1	25
84943	4-11/16", 2-1/8" D 1/2" & 3/4" K.O.	1	25

2-1/8" x 4" Steel Utility Boxes

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
84947	1-1/2"D 1/2" K.O.	1	25
84948	1-7/8"D 1/2" K.O.	1	25
84949	2-1/8"D 1/2" K.O.	1	25
84950	1-7/8"D 3/4" K.O.	1	25

Steel Extension Rings

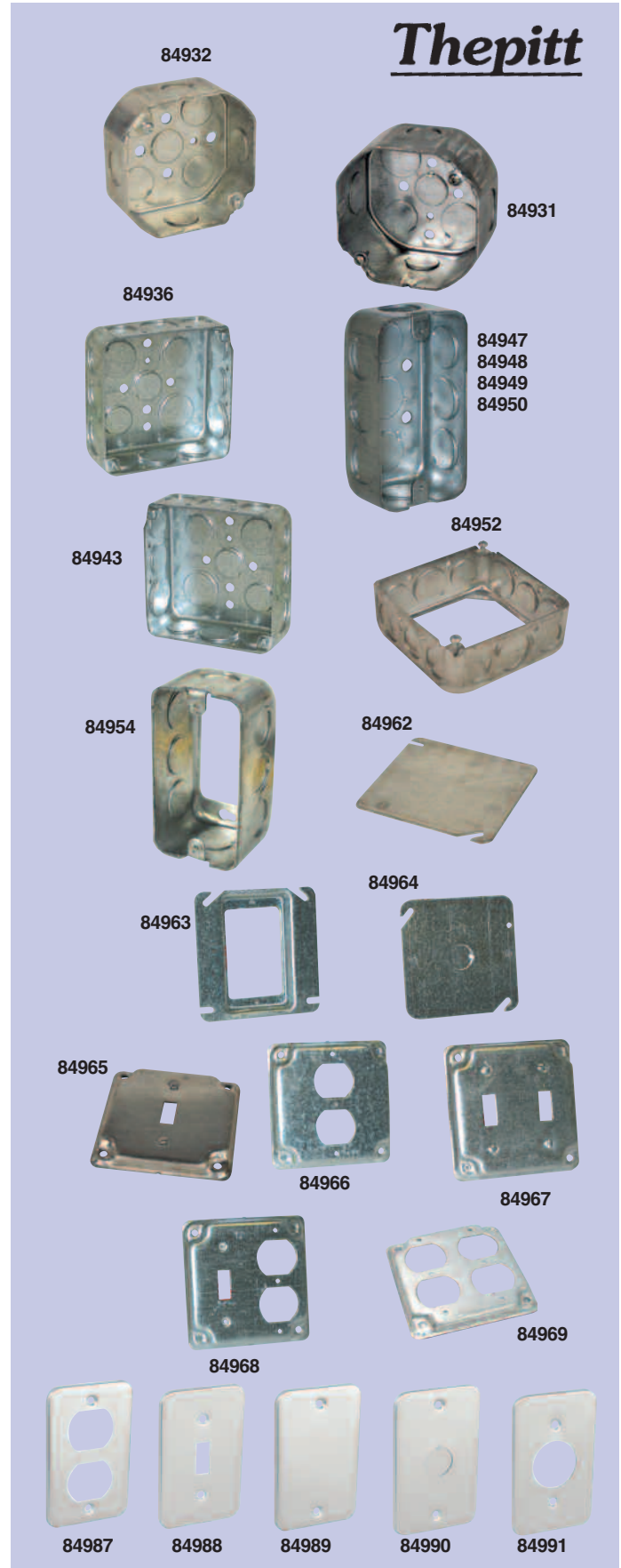
MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
84952	1-1/2"D 1/2" & 3/4" K.O. (4" sq.)	1	25
84954	1-7/8"D 1/2" K.O. (utility)	1	25

Square Steel Covers

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
84962	4", flat blank	1	25
84963	4", 1/2" depth, single flush	1	25
84964	4", flat, 1/2" K.O. in center	1	25
84965	4", 1/2" raised, single toggle switch	1	25
84966	4", 1/2" raised, 1 duplex receptacle	1	25
84967	4", 1/2" raised, 2 toggle switch	1	25
84968	4", 1/2" raised, 1 toggle sw. & 1 dup. recept.	1	25
84969	4", 1/2" raised, 2 duplex receptacle	1	25

2-1/8" x 4" Steel Utility Box Covers

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
84987	Duplex receptacle	1	25
84988	Toggle switch	1	25
84989	Blank	1	25
84990	Blank with 1/2" K.O. in center	1	25
84991	Single receptacle	1	25



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The largest selection of motors, components and accessories for the HVAC/R Industry

Weatherproof & PVC Outlet Boxes

MARS SERIES **849**



SERVICE & INSTALLATION

One Gang - Weatherproof Outlet Boxes

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
85901	Three 1/2" holes with lugs	1	50
85902	Three 3/4" holes with lugs	1	50
85904	Five 1/2" holes with lugs	1	50

Two Gang - Weatherproof Outlet Boxes

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
85910	Three 1/2" holes with lugs	1	10
85911	Three 3/4" holes with lugs	1	10

Self Closing GFCI Weatherproof Covers

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
85932	One gang for vertical devices	1	10

Self Closing Weatherproof Covers

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
85939	One gang vertical for single receptacle, or switch	1	50
85940	One gang for for duplex receptacle, switches or combo devices	1	50

Weatherproof Blank Covers

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
85950	One gang for vertical devices	1	25
85951	Two gang with gasket and screws	1	10

4" Octagon Steel COVERS

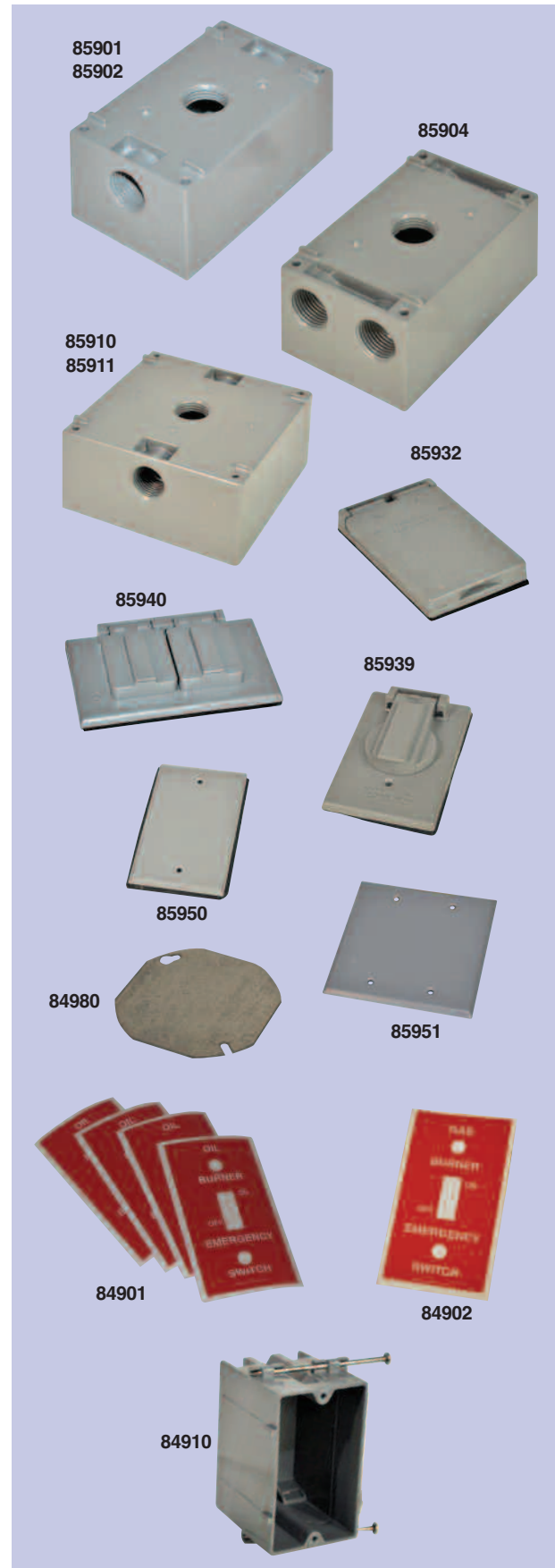
MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
84980	Flat blank	1	25

Emergency Switch Cover Labels

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
84901	Oil burner switch label; 4" x 2 1/8"	10	1
84902	Gas burner switch label; 4" x 2 1/8"	10	1

PVC Switch Boxes - Angles Nails

MARS NO.	DESCRIPTION	MARS PACK
84910	16 cubic content inches, 2 1/2"D	100





Electrical Fittings

MARS SERIES **850**

Electrical Fittings-EMT Type-Carded

MARS NO.	DESCRIPTION	CASE QTY.
85325	1/2" EMT set screw connector, 3/cd	10
85115	1/2" EMT set screw connector, bulk	50
85326	3/4" EMT set screw connector, 2/cd	5
85327	1/2" EMT set screw coupling, 2/cd	10
85329	1/2" EMT compression connector, 3/cd	10
85330	3/4" EMT compression connector, 2/cd	5
85332	1/2" EMT compression coupling, 3/cd	10
85333	3/4" EMT compression coupling, 2/cd	5
85335	1/2" EMT one-hole strap, 5/cd	10
85336	3/4" EMT one-hole strap, 4/cd	10
85302	3/4" EMT one-hole strap, bulk	100
85337	1" EMT one-hole strap, 2/cd	10
85338	1 1/4" EMT one hole strap, 4/polybag	20
85306	1/2" rigid IMC strap, bulk	100
85307	3/4" rigid IMC strap, bulk	100
85308	1" rigid IMC strap, bulk	50
85345	1/2" EMT pull elbows, 1/cd	10
85347	1/2" EMT two-hole strap, 5/cd	10
85348	3/4" EMT two-hole strap, 4/cd	10
85349	1" EMT two-hole strap, 2/cd	10

Electrical Fittings-Rigid Conduit-Carded

MARS NO.	DESCRIPTION	CASE QTY.
85355	1/2" rigid conduit offset, threaded, 2/cd	10
85356	3/4" rigid conduit offset, threaded, 1/cd	5
85359	1/2" rigid conduit locknut, 5/cd	10
85360	3/4" rigid conduit locknut, 5/cd	10
85364	3/4" x 1/2" reducing washer, 4/cd	10
85365	1" x 1/2" reducing washer, 4/cd	10
85366	1" x 3/4" reducing washer, 4/cd	10
85279	1 1/4" x 3/4" reducing washer, bulk	50
85280	1 1/4" x 1" reducing washer, bulk	50
85281	1 1/2" x 1/2" reducing washer, bulk	50
85282	1 1/2" x 3/4" reducing washer, bulk	50
85284	2" x 3/4" reducing washer, bulk	25
85374	1/2" - 1" ground clamps, 1/cd	10
85375	1/2" plastic staples, 15/cd	10
85377	1/2" KO seals, 4/cd	10
85378	3/4" KO seals, 4/cd	10

Electrical Fittings-BX/Romex/Armored-Carded

MARS NO.	DESCRIPTION	CASE QTY.
85386	1/2" arm./flex. squeeze connector, 2/cd	5
85387	3/4" arm./flex. squeeze connector, 2/cd	5
85389	3/8" arm./flex. 90° squeeze conn, 2/cd	10
85402	3/8" arm./flex. 90° squeeze conn, bulk	50
85390	1/2" arm./flex. 90° squeeze conn, 1/cd	5
85155	1/2" arm./flex. 90° squeeze conn, bulk	25
85156	3/4" arm./flex. 90° squeeze conn, bulk	10
85392	3/8" BX/Greenfield set screw conn, 4/cd	10
85393	1/2" BX/Greenfield set screw conn, 1/cd	10
85395	3/8" arm./flex. duplex connector, 1/cd	5
85175	3/8" arm./flex. duplex connector, bulk	25
85396	3/8" BX/MC/Romex connector, 3/cd	10
85403	3/8" BX/MC/Romex connector, bulk	100
85397	3/8" Romex squeeze connector, 4/cd	10
85185	3/8" Romex squeeze connector, bulk	100
85398	3/4" Romex squeeze connector, 2/cd	10
85186	3/4" Romex squeeze connector, bulk	25
85399	1" Romex squeeze connector, 2/bag	20
85187	1 1/2" Romex squeeze connector, bulk	50
85188	2" Romex squeeze connector, bulk	50



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Electrical Fittings

MARS SERIES **850**



SERVICE & INSTALLATION

Liquid-Tight Flexible Metallic Fittings

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
85000	3/8" straight metallic connector	25	250
85001	1/2" straight metallic connector	20	250
85002	3/4" straight metallic connector	10	100
85003	1" straight metallic connector	5	50
85004	3/8" 90° metallic connector	10	100
85005	1/2" 90° metallic connector	10	100
85006	3/4" 90° metallic connector	10	100
85007	1" 90° metallic connector	5	50

Liquid-Tight PVC Flexible Non-Metallic Fittings

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
85015	3/8" straight non-metallic connector	25	250
85016	1/2" straight non-metallic connector	25	250
85017	3/4" straight non-metallic connector	10	100
85018	1" straight non-metallic connector	5	50
85019	3/8" 90° non-metallic connector	10	100
85020	1/2" 90° non-metallic connector	10	100
85021	3/4" 90° non-metallic connector	10	100
85022	1" 90° non-metallic connector	5	50

Liquid-Tight 45° PVC Connectors

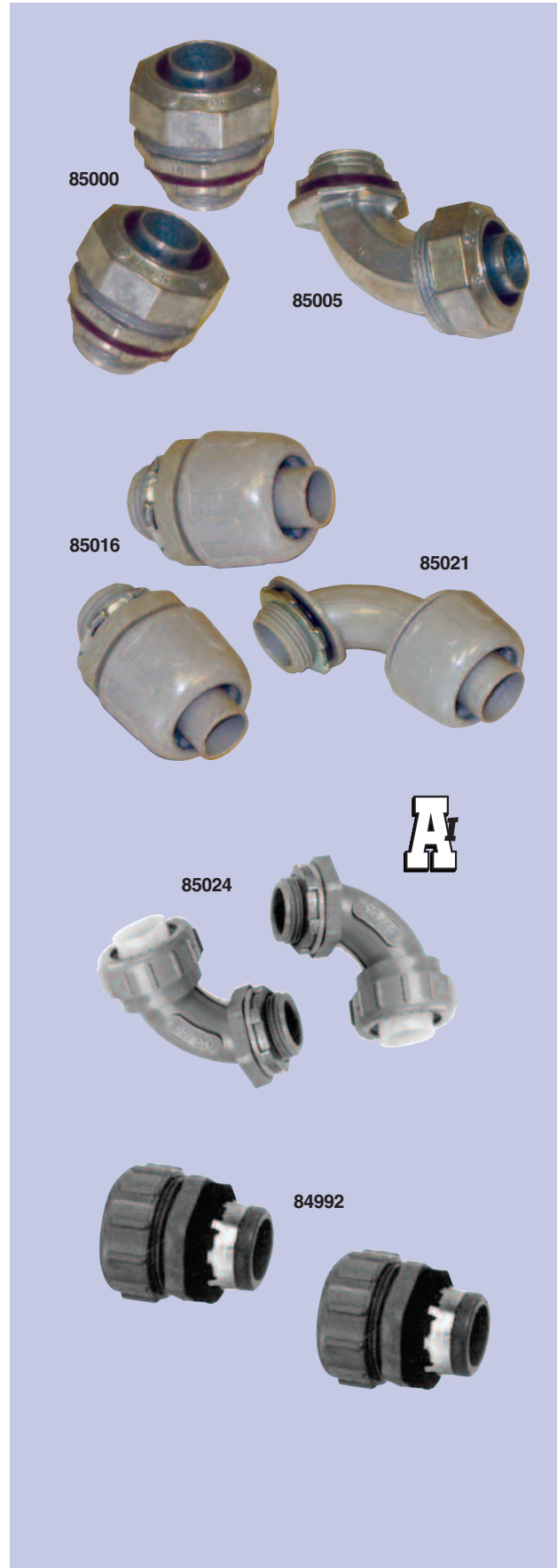
Arlington's liquid-tight 45° pvc connectors are for use with non-metallic, liquid-tight conduit, type B. The 45° connector has the same smooth raceway as the 90° connector for easier pulling or pushing or wiring. These are UV rated like our other pvc fittings.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
85024	1/2" x 45° non-metallic connector	10	50

Liquid-Tight Screw On Connectors

This attractive one pc design allows superior liquid-tight seal & Optimum pull strength without compression nut. PVC construction produced from UV rated material for long outdoor life. Ideal for conduit assemblies & installers. "O" ring & steel locknut included.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
84992	1/2" Straight Screw On	25	100
84993	3/4" Straight Screw On	25	100
84994	1/2" 90 Deg Sweep Screw On	10	100
84995	3/4" 90 Deg Sweep Screw On	10	100





Appliance Cords & Cord Sets

MARS SERIES **846 & 847**

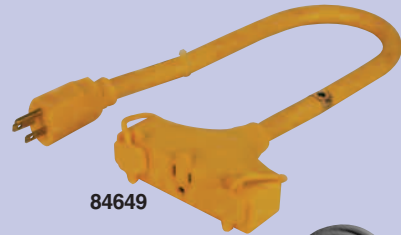
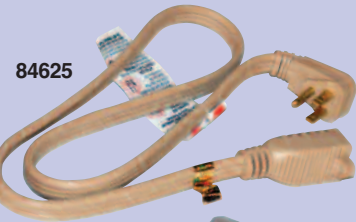
MARS Range And Dryer Receptacles

MARS NO.	DESCRIPTION	CASE QTY.
84700	30a-250V, surface mount dryer receptacle	10
84701	30a-250V, flush mount dryer receptacle	25
84702	50a-250V, surface mount range receptacle	10
84699	30a-250V, srfc. mnt. dryer recept., 3P4W, ground	10
84705	50a-250V, srfc. mnt. range recept., 3P4W, ground	10



MARS Major Appliance Extension Cords, UL Listed

MARS NO.	DESCRIPTION	CASE QTY.
84625	15a-125V, 14/3 spt, 3 foot appliance ext.	30
84626	15a-125V, 14/3 spt, 6 foot appliance ext.	25
84627	15a-125V, 14/3 spt, 9 foot appliance ext.	15
84629	15a-125V, 14/3 spt, 15' appl. ext., non UL	12
84633	20a-250V, 12/3 spt, 6 foot appliance ext.	25



MARS Pigtails/Replacement Cords - 13 Amp, 125V

MARS NO.	DESCRIPTION	CASE QTY.
84669	16/3 pigtail 3 ft. SPT-3 RT	50
84670	16/3 pigtail 6 ft. SPT-3 RT	50
84671	16/3 pigtail 8 ft. SPT-3 RT	50
84673	16/3 pigtail 3 ft. SPT-3 STR	50
84674	16/3 pigtail 6 ft. SPT-3 STR	50
84679	16/3 pigtail 6 ft. SJT-BL STR	50
84681	14/3 pigtail 6 ft. SJT-BL STR	50

Power Block Type Extension Cords, 15a-125V - UL listed

MARS NO.	DESCRIPTION	CASE QTY.
84649	Power block ext. 12/3 sjtwa, 2 foot	4

Outdoor Heavy Duty Ext. Cords, Orange - UL Listed - SJTWA

MARS NO.	DESCRIPTION	CASE QTY.
84652	Outdoor ext. 16/3, 13a-125V, 25 foot	24
84653	Outdoor ext. 14/3, 15a-125V, 25 foot	14
84655	Outdoor ext. 16/3, 13a-125V, 50 foot	12
84656	Outdoor ext. 14/3, 15a-125V, 50 foot	10
84657	Outdoor ext. 12/3, 15a-125V, 50 foot	6
84658	Outdoor ext. 16/3, 10a-125V, 100 foot	6
84659	Outdoor ext. 14/3, 13a-125V, 100 foot	6

84649

84655



84696

Trouble Lights, One Grounded Outlet - UL Listed

MARS NO.	DESCRIPTION	CASE QTY.
84696	Metal cage trouble light, 16/3, SJT, 13a, 25'	8
84697	Metal cage trouble light, 16/3, SJT, 13a, 50'	6

Portable Lighting

MARS NO.	DESCRIPTION	CASE QTY.
84689	8-1/2" clamp light - 6 ft cord	6



84689

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The largest selection of motors, components and accessories for the HVAC/R Industry

Condenser Filter

MARS SERIES **285**



Wrap-Around Style Condenser Filter

Debris clogged cooling fins and dirty coils reduce air flow, impair heat exchange, and cause compressor run-on. According to EPA research, 0.042 in. of dirt on an air conditioning coil can reduce its efficiency by 21%. The Permatron electrostatic filter is designed to keep any central air conditioning unit from clogging up with outdoor debris cause by construction dust, dryer lint, bugs, seeds, leaves or clippings that get pulled into the equipment air intake.

- Attractively designed to fit residential central air conditioning unit
- Low resistance to airflow .02 in. w.g.
- 5-Year warranty
- No system modifications – easy to install – easy to clean

MARS NO.	DESCRIPTION	MARS PACK
28624	Small (25" x 80") filter	14

Great For New Equipment Add-On Sales!

PERMATRON®



Keeps equipment operating at MAX efficiency!

SERVICE & INSTALLATION

Polypropylene Web Duct Strap

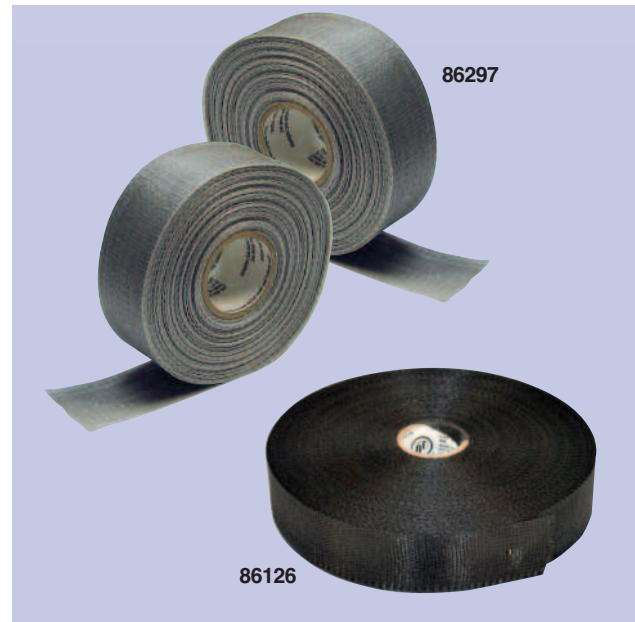
MARS SERIES **863**



Polypropylene Web Duct Strap

- UL 723 Flame and Smoke

MARS NO.	DESCRIPTION	MARS PACK
86126	Black 1 3/4" x 100 yds.	24
86296	Black 3" x 100 yds	8
86297	Silver 1-3/4" x 100 yds	24
86298	Silver 3" x 100 yds	8





Rope, Tie Downs & Tarps

MARS SERIES **790**

Truck And Equipment Tarps

MARS equipment tarps provide a durable blue protective covering for truck beds, construction material and contractors tools.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79115	8' x 10' blue tarp	1	20
79116	12' x 12' blue tarp	1	12

Molded Rubber Straps

Molded rubber straps are made of high quality black rubber. Sturdy hooks will not loosen.

MARS NO.	DESCRIPTION	MARS PACK
79591	19" length - bulk	48
79592	24" length - bulk	24
79593	35" length - bulk	24

Nylon Tie-Down Straps And Tow Straps - Clamshell Pkg

MARS NO.	DESCRIPTION	CASE QTY.
79596	10' universal tie down with non-slip cambuckle and vinyl coated steel hooks	12
79598	15' ratchet tie down with "J" hooks & "D" rings	12

Truck Rope-Polypropylene - USA

MARS truck rope is made of a polypropylene construction. All ropes are made in the USA. Applications range from hoisting, truck bed material tie down, job site tie off and a wide variety of other uses. MARS #79059 and #79060 include handy safety hook.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79053	3/8" x 50' yellow	1	12
79055	3/8" x 50' blk/orange	1	12
79056	3/8" x 100' blk/orange	1	12
79057	1/2" x 50' blk/orange	1	12
79059	3/8" x 50' blk/orange with safety hook	1	12
79060	1/2" x 50' blk/orange with safety hook	1	12

Canvas Drop Cloths

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79118	6 Oz. Canvas Drop Cloth 9 x 12, 3 Mil	1	6
79119	6 Oz. Canvas Drop Cloth 12 x 15, 1 Mil	1	4
79120	6 Oz. Canvas Drop Cloth 4 x 12, 2 Mil	1	12



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The largest selection of motors, components and accessories for the HVAC/R Industry

Duct Straps, Pipe Hangers & Hooks

MARS SERIES **863**



Galvanized Duct Straps

The perforated, galvanized duct strap has 1/4" and 9/64" holes for nails & bolts.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
86025	28 gauge 3/4" x 10' RL bulk	100	100
86026	28 gauge 3/4" x 50' RL boxed	1	1
86027	28 gauge 3/4" x 100' RL boxed	1	1
86031	20 gauge 3/4" x 10' RL bulk	100	100
86032	20 gauge 3/4" x 25' RL boxed	6	6
86033	20 gauge 3/4" x 50' RL boxed	1	1

Duct Straps And Hangers

The wire duct strap is used for all square duct run below the joist. Hammers right into duct and joist. No nails, screws or rivets are needed.

The pipe hanger is the fastest way to install round 5", 6" or 7" heating pipes below the joist. No nails needed.

Duct straps are for use on all square ducts run below the joist.

The DWV pipe hangers are designed for rapid installation of both ABS and PVC plastic DWV piping with standard flat head galvanized nails. Galvanized steel construction.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
86037	Duct strap DS 3	100	100
86040	DWV pipe hanger 2" x 12"	50	50
86041	DWV pipe hanger 3" x 12"	50	50

Mechanics Hanging Wire - Plasta-Reel™

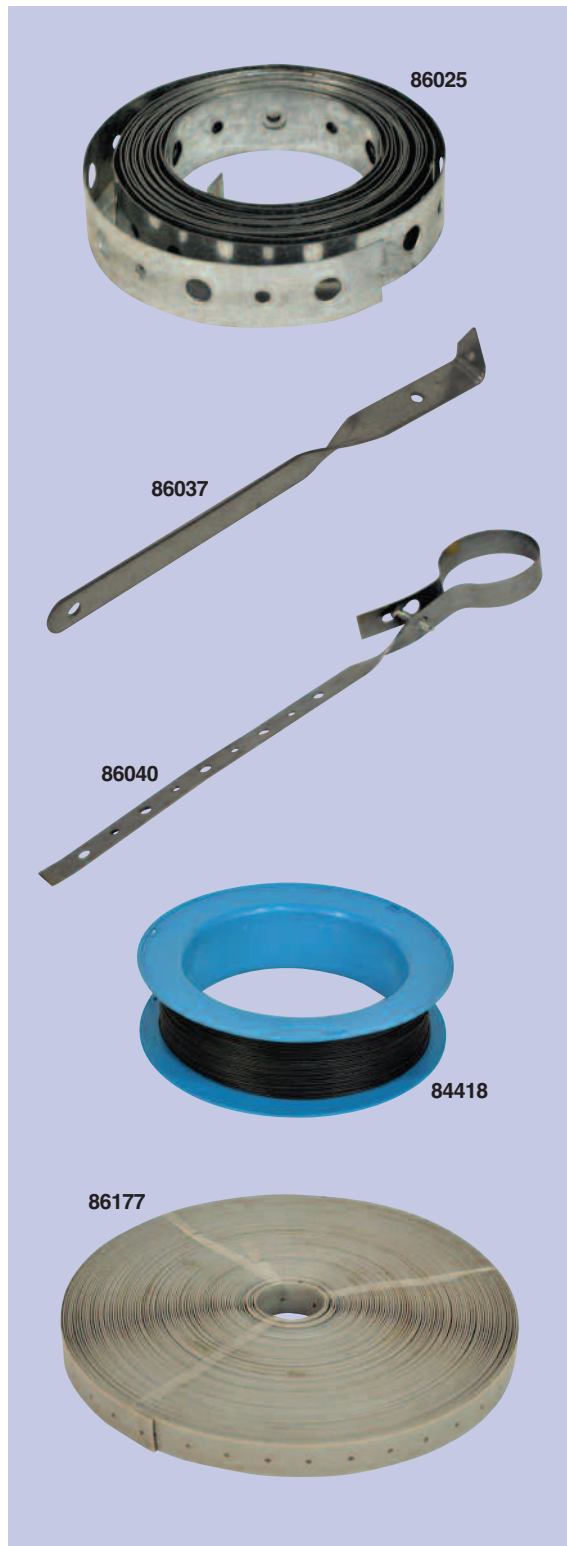
MARS presents hanging wire on a Handi-Reel™. This convenient reel unwinds easily. Hangs over post or peg on truck bed, from a 2 x 4 or nail. Plasta-Reel™ prevents tangling. This polyethylene reel is smooth and safe to handle. Never blisters, burns or cuts the skin as metal might do! 4,150 ft. per roll.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
84418	18 gauge Black Ann 5 lbs.	50	500
84419	18 gauge Galvanized 5 lbs.	50	500

MARS Plastic Hanger Strap

- Flexible, non-conductive. 3/4" wide x .050 thick 100' roll
- 1/8" holes spaced every 3/4"
- Uses: pipe/duct hanging
- Convenient dispenser box keeps roll neat and tidy

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
86177	Hanger strap 100L	1	1



SERVICE & INSTALLATION



MARS Wire Ties, 100 Packs

MARS nylon wire ties and duct straps are available in a wide variety of styles, color and tensile strengths. They range in sizes from 4" to 36" with tensile strengths from 18 lbs. to 175 lbs. All MARS wire ties and duct straps feature the bent tip design for ease and insertion.

MARS NO.	DESCRIPTION			MARS PACK	
86100	4"	natural	standard	3/4" dia. x 18 lbs.	1
86101	4"	black	standard	3/4" dia. x 18 lbs.	1
86104	5.5"	natural	standard	1 1/4" dia. x 40 lbs.	1
86105	5.5"	black	standard	1 1/4" dia. x 40 lbs.	1
86106	8"	natural	standard	1 3/4" dia. x 40 lbs.	1
86107	8"	black	standard	1 3/4" dia. x 40 lbs.	1
86151	8"	blue	standard	2" dia. x 50 lbs.	1
86108	11"	natural	standard	3" dia. x 50 lbs.	1
86109	11"	black	standard	3" dia. x 50 lbs.	1
86153	14"	black	standard	4" dia. x 120 lbs.	1
86110	14.5"	natural	standard	4" dia. x 50 lbs.	1
86111	14.5"	black	standard	4" dia. x 50 lbs.	1
86112	6"	natural	screw mount	1 1/4" dia. x 30 lbs.	1
86113	6"	black	screw mount	1 1/4" dia. x 30 lbs.	1
86114	7.5"	natural	screw mount	1 3/4" dia. x 50 lbs.	1
86115	7.5"	black	screw mount	1 3/4" dia. x 50 lbs.	1
86155	11"	black	screw mount	3" dia. x 50 lbs.	1
86156	14"	black	screw mount	4" dia. x 50 lbs.	1
86157	14"	natural	screw mount	4" dia. x 50 lbs.	1

MARS Wire Ties, Bulk Packs

MARS NO.	DESCRIPTION			MARS PACK	
86116	8"	natural	standard	1 3/4" dia. x 40 lbs. (1000 pk)	1
86117	8"	black	standard	1 3/4" dia. x 40 lbs. (1000 pk)	1
86152	8"	blue	standard	2" dia. x 50 lbs. (1000 pk)	1
86118	11"	natural	standard	3" dia. x 50 lbs. (500 pk)	1
86119	11"	black	standard	3" dia. x 50 lbs. (500 pk)	1
86120	14.5"	natural	standard	4" dia. x 50 lbs. (500 pk)	1
86122	14.5"	black	standard	4" dia. x 50 lbs. (500 pk)	1

MARS Wire Ties, Assortment Packs

MARS NO.	DESCRIPTION			MARS PACK		
86123	(100) 4"	(100) 8"	natural	assortment	1	
86124	(100) 8"	(50) 11"	natural	assortment	1	
86125	(200) 5"	(200) 8"	(50) 11"	natural	assortment	1

MARS Duct Straps, 175 lbs., 50 Packs

MARS NO.	DESCRIPTION			MARS PACK
86127	24" duct strap for up to	6" duct	natural	1
86128	36" duct strap for up to	10" duct	natural	1
86129	48" duct strap for up to	14" duct	natural	1
86102	24" duct strap for up to	6" duct	black	1
86103	36" duct strap for up to	10" duct	black	1



SERVICE & INSTALLATION

Utility Knife

MARS SERIES **256 & 274**



Ready Utility Knife

- Featuring the QUICKEST blade change in the industry.
- Rugged all steel construction
- Folds to a very compact size
- Easily and quickly change blades with the push of a button
- Set includes knife, nylon carrying case, and 5 standard blades

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
25784	Utility knife	1	48

MARS Knife Sharpener

Finally, a Knife Sharpener anyone can use! No more messy oils or stones. Sharpen knives in about 10 seconds (even serrated knives), cleavers, axes, machetes, and many other cutting tools. The full length finger guard protects your fingers. Sharpening blades are Diamond Honed Tungsten Carbide for years of reliable use. AccuSharp Knife Sharpeners will not rust and can be cleaned with soap and water or in the dishwasher.

MARS NO.	DESCRIPTION	CASE QTY.
27520	MARS Knife Sharpener	12

Cable Tie Tool

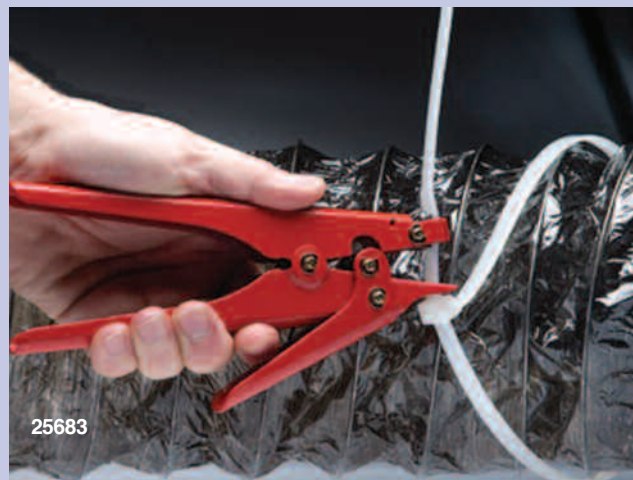
Cable Tie Tools are economical, lightweight and easy to use.

Ideal for heavy duty ties and duct straps. Constructed from high grade steel.

- Heavy duty construction
- Installer controls tensioning
- Squeeze to cut excess

MARS NO.	DESCRIPTION LENGTH	COLOR	BAG	CASE QTY.
25683	175 lbs	Red	1	100

Ready



Access Fittings & Service Valves

MARS SERIES **654**

Braze-On Service Valves - Saddle Valves

Braze-on self-piercing copper service valves are widely used and easily installed on a charged line. After brazing the saddle portion onto the line, the steel pin with valve core penetrates the line and is locked into place simply by tightening the cap. Available in sizes from 1/4" to 1 1/8".

MARS NO.	DESCRIPTION	MARS PACK
65425	1/4" qty 6 per bag	1
65426	5/16" qty 6 per bag	1
65427	3/8" qty 6 per bag	1
65428	1/2" qty 4 per bag	1
65429	5/8" qty 3 per bag	1
65430	3/4" qty 2 per bag	1
65431	7/8" qty 2 per bag	1
65432	1 1/8" qty 2 per bag	1

Economy Line Service Valves - Extended Copper Tubes

- With valve core & flat cap (#65408)
- 1/4" male flare access fitting

MARS NO.	DESCRIPTION	MARS PACK
65438	3/16" copper tube extension, qty. 6 / bag	1
65439	1/4" copper tube extension, qty. 6 / bag	1
65440	5/16" copper tube extension, qty. 6 / bag	1
65441	3/8" copper tube extension, qty. 6 / bag	1
65442	1/8" copper tube extension, qty. 6 / bag	1
65434	5/16" copper tube extension, bulk	100
65435	3/8" copper tube extension, bulk	100
65436	3/16" copper tube extension, bulk	100
65437	1/4" copper tube extension, bulk	100
65443	1/8" copper tube extension, bulk	100

Copper Tees - 1/4" Male Flare

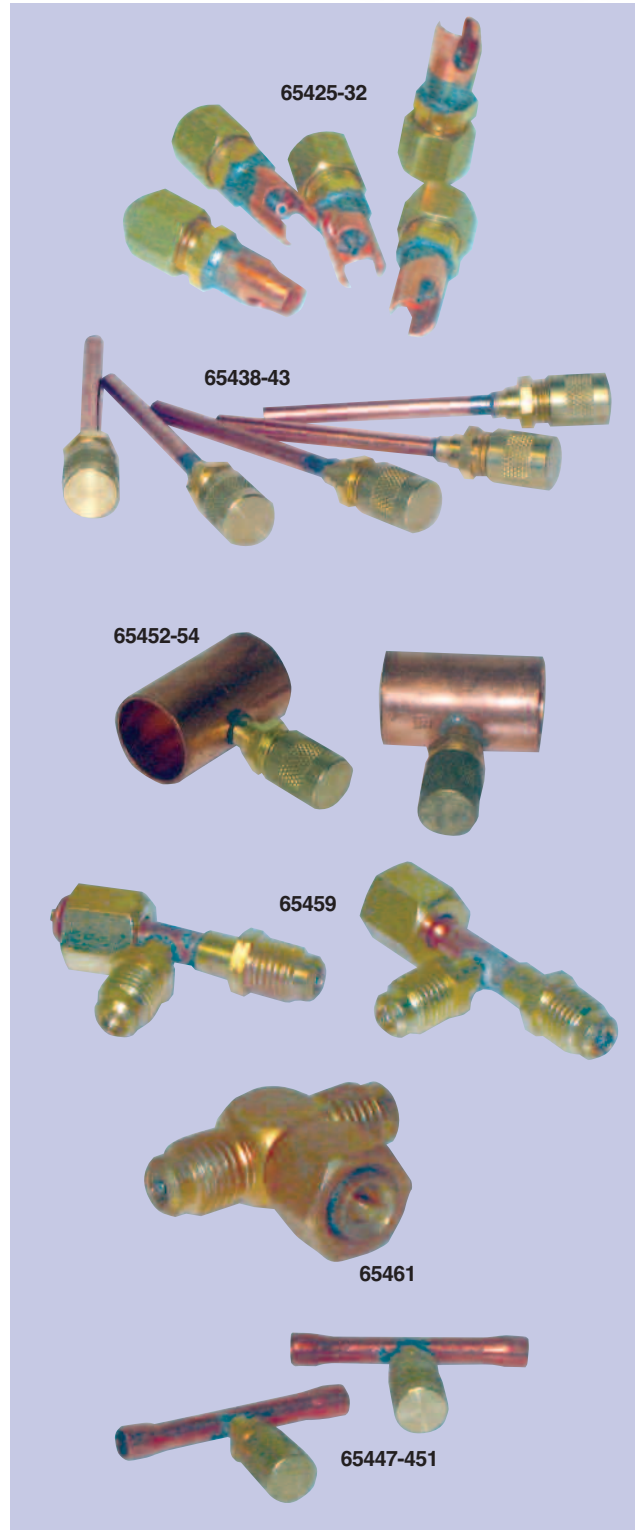
Copper tees have bodies brazed on. Using copper for the tee portion allows tubing to be attached to each end and allows using a solderless than silver solder, such as 95-5. They are to be used where two line ends have not yet been attached or where it is desirable to cut a line rather than drive a hole on an uncharged system. Copper tees save time and money. • includes valve core and flat cap (#65408).

MARS NO.	DESCRIPTION	MARS PACK
65447	Tee for 1/4" O.D. tube (2 bag)	1
65448	Tee for 5/16" O.D. tube (2 bag)	1
65449	Tee for 3/8" O.D. tube (2 bag)	1
65450	Tee for 1/2" O.D. tube (2 bag)	1
65451	Tee for 5/8" O.D. tube (2 bag)	1
65452	Tee for 3/4" O.D. tube (2 bag)	1
65453	Tee for 7/8" O.D. tube (2 bag)	1
65454	Tee for 1 1/8" O.D. tube (2 bag)	1

Tees Connectors

Tee connectors are used to connect controls to check oil pressure on larger compressors having positive pressure oil pumps and to check the accuracy of oil pressure gauges installed on the equipment by the manufacturer against your gauge with known accuracy.

MARS NO.	DESCRIPTION	MARS PACK	MARS NO.	DESCRIPTION	MARS PACK
65459	1/4" m. flare x 1/4" f. flare nut w/ depressor tip x 1/4" m. flare on the branch w/one valve core (qty. 2 per bag)	1	65461	All brass tee connector 1/4" m. flare with valve core & cap x 1/4" m. flare x 1/4" f. flare nut with depressor tip on branch (qty. 1 per bag)	1
65460	1/4" m. flare with valve core x 1/4" m. flare x 1/4" f. flare nut w/ depressor tip on the branch (qty. 2 per bag)	1			



SERVICE & INSTALLATION



The largest selection of motors, components and accessories for the HVAC/R Industry

SI-55

Access Fittings & Service Valves

MARS SERIES **654**



Brass Bodies - Half Unions

MARS brass bodies have a 1/4" standard male flare above the hex. Below the hex are various threads, outside diameters and inside diameters for accepting different sizes of tubing and connections. A flat top brass cap and teflon valve core are included.

MARS NO.	DESCRIPTION	MARS PACK
65401	1/4" MPT dry seal x 1/4" male flare 5/16" I.D. hole accommodates 5/16" O.D. tube. Qty. 2 per bag	1
65402	1/8" MPT dry seal x 1/4" male flare 1/4" I.D. hole accommodates 1/4" O.D. tube. Qty. 6 per bag	1
65403	1/4" male flare for 1/8" I D hole - accomodates 1/8" O.D. tube. (3/16", 1/4", 5/16" O.D. steps) Qty 6 per bag	1

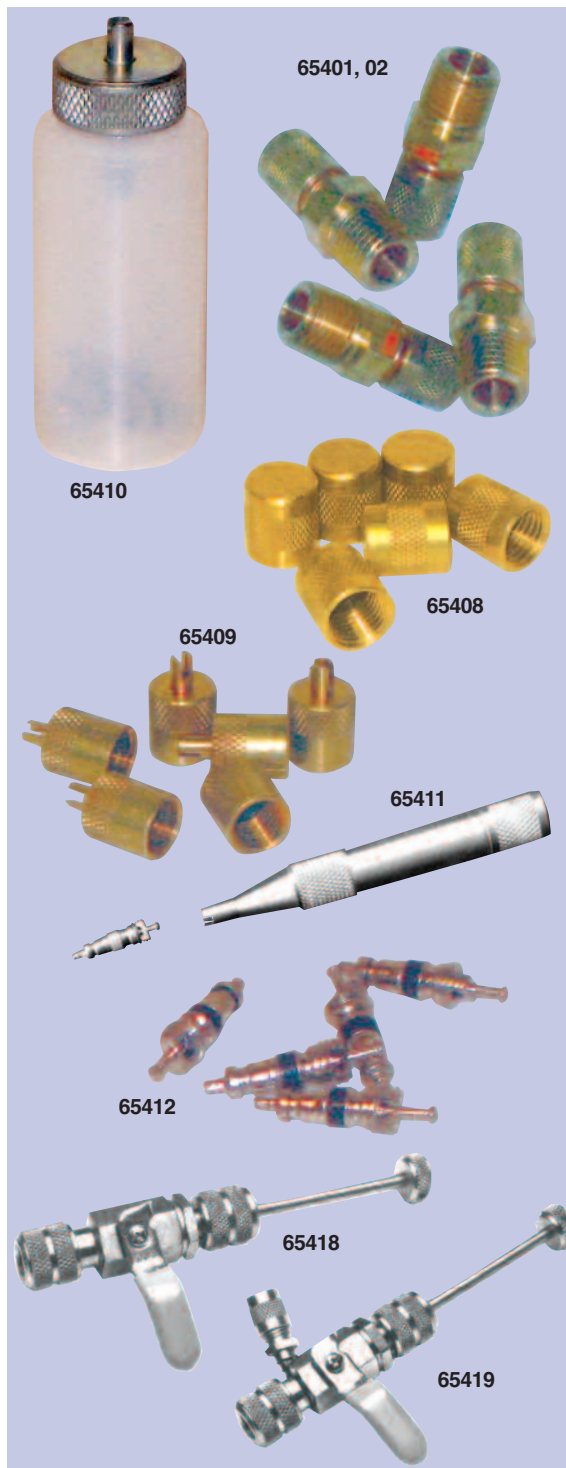
Brass Caps & Valve Cores

MARS NO.	DESCRIPTION	MARS PACK
65408	Round brass flat cap w/neoprene O-ring seal for 1/4" flare, qty 6 per bag	1
65409	Round brass cap w/ core wrench top and neoprene O-ring seal for 1/4" flare, qty 6 per bag	1
65410	Plastic core container - includes six valve cores and a core wrench and thread chaser	1
65411	Brass core remover container with wrench tip - includes three valve cores	1
65412	Valve core w/teflon seal, qty. 6 per bag	1

Core Removal Tools With Ball Valve

MARS core removal tools are used to remove and replace valve cores in a 1/4" flare without losing refrigerant. Because it has a ball valve inside rather than a stem-type valve, the tool can be closed with just a quarter turn. This convenient compact size tool is ideal for working in close quarters.

MARS NO.	DESCRIPTION	MARS PACK
65418	Core removal tool	1
65419	Core removal tool w/ 1/4" male flare side port	1



SERVICE & INSTALLATION

Chemicals

Thawzone liquid dehydrant chemically “dries” all refrigerants (R12, R22, R134, etc.), methyl chloride, and methylene chloride. Thawzone frees frozen systems due to moisture in five minutes. It prevents refreezing, does not leave any residue, does not contain any dissolved solids or methanol, and works with or without solid dryers. Available in 1 oz., 4 oz. and 16 oz. plastic bottles.

Leak Lock joint sealer is a soft setting pipe joint compound for sealing threaded joints, flanged joints, gasket surfaces and mating surfaces. This resin based brushable paste remains permanently flexible, adheres to internal surfaces and fills voids. It is ideal for use on metal and plastic materials subject to extreme vibrations, temperatures from -100°F (-73°C) to 400°F (204°C) full vacuums to 10,000 PSI. Leak Lock seals all refrigerants (R12, R22, R502, R134A, etc.) petroleum products, natural and manufactured gases, steam, water, air, etc. Available in 1 1/3 oz. plastic tube and 4 oz. and 1 pint brushtop plastic jars.

Red Epoxy aluminum sealer is a high performance heat cured, two part epoxy kit for patching or sealing on all metals and some plastics. Red Epoxy is cured within minutes and equipment is serviceable immediately. It is excellent for sealing threaded or unthreaded pipes and is great as a field repair kit for aluminum evaporators, coils, radiators, pipes, tanks, etc. Temperature range: -100°F (-73°C) to 300°F (149°C). Tensil strength: 600psi. working pressure tested in excess of 3000 psi. Kit includes resin & hardener. (.5 oz. tube each)

Low-Temp Gas Leak Detector is non-toxic and non-hazardous and does not contain ethylene glycol. This non-freezing, viscous flourescent, bubble type gas leak detector is rated to -30°F (-34°C). The leaks appear as large strong bubbles which cling to the applied surface and are flourescent under a black light. For use on hot and cold piping and equipment containing most gases such as air, natural gas, all refrigerants (R12, R134A, R22, R502, etc.) ammonia, SO₂ etc.

The mid-temp gas leak detector is non-toxic and non-hazardous. It is a viscous, flourescent, bubble-type gas leak detector rated to 27°F (-3°C). Leaks appear as large strong bubbles which cling to the applied surface and are flourescent under a black light. For use on hot and cold piping equipment containing most gases such as air, natural gas, all refrigerants (R12, R134A, R22, R502A, etc.), ammonia, SO₂ etc.

Solderlene is a high quality, paste type, non-acid soldering flux with industrial strength wetting agents to promote solder flow. For use with all low and mid temperature soft solders, both lead bearing and lead-free, on all metals except aluminum and magnesium.

Trace is a red dye trace type internal leak detector for use with mineral oil base refrigerant lubricants and hydraulic systems. Leaks show as intense red stains. Trace is non-volatile, will not sludge oil or deposit gum. Trace is soluble in the lubricant and liquid refrigerant but not the gas and travels with the lubricant. Oil separators will remove trace and should be bypassed. Trace passes through solid core dryers but the color intensity may be reduced.

MARS NO.	DESCRIPTION	MARS PACK
93801	Thawzone 1 oz. bottle	24
93802	Thawzone 4 oz. bottle	12
93815	Thawzone 16 oz. bottle	6
93803	Leak Lock 1 1/3 oz. tube	12
93804	Leak Lock 4 oz. brush top jar	12
93805	Leak Lock 1 pint brush top jar	12
93806	Red Epoxy kit .5 oz. tube	24
93807	Low Temp Gas Detector 8 oz. dauber bottle	24
93808	Low Temp Gas Detector 32 oz. trigger spray	12
93809	Mid-temp gas detector 8 oz. dauber bottle	24
93810	Mid-temp gas detector 32 oz. trigger spray	12
93811	Screwloose® Solderlene 4 oz. brushtop jar	24
93812	Solderlene 1 pint brush top jar	12
93813	Trace® 4 oz. bottle	12
93814	Trace® 16 oz. bottle	6



SERVICE & INSTALLATION

Liquid Line Filter Driers

MARS SERIES **201**

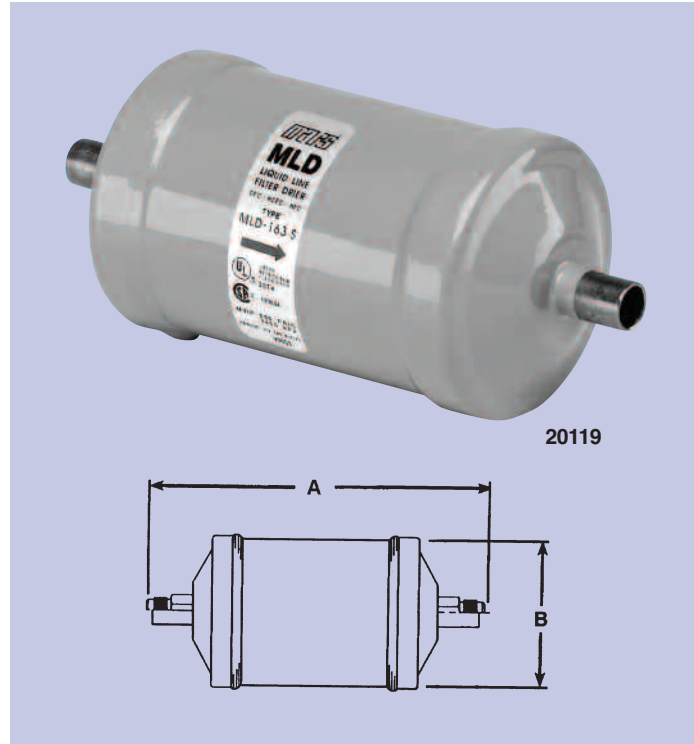


MARS Liquid Line Filter Driers

The MARS Liquid Line Filter Driers are designed to offer complete protection of your refrigerant system. The desiccant block is a carefully selected blend of molecular sieve and activated alumina, providing for maximum removal of moisture, acid, and foreign materials. This molded desiccant block allows for efficient filtration and retention of solid contaminants, while insuring minimum pressure drop. The solid molded block exposes maximum surface area and provides even distribution of filtered material as the refrigerant flows through the drier. These driers are intended for use on R-134A, R-404A, R-410A, R-507, R-12, R-500, R-502

Features & Benefits:

- High moisture removal
- High organic & inorganic acid removal
- Solid block desiccant core
- For use with HCFCs, CFCs, and the lubricants that go with them
- Nickel plated SAE flare and solid copper ODF fittings
- Corrosion resistant
- Maximum working pressure 600 PSIG
- Minimum burst pressure 2500 PSIG
- UL & CSA listed



20119

SERVICE & INSTALLATION

MARS NO.	MODEL NO.	CONNECTIONS SIZE & TYPE	DIMENSIONS		Flow Capacity ¹ Tons @ 1 PSI			CASE QTY.
			A	B	R-134A	R-22/R410A	R404A/R507	
20106	MLD-032	1/4 SAE	4.32	1.63	2.0	1.9	1.2	12
20107	MLD-032S	1/4 ODF	3.76	1.63	3.0	2.8	1.8	12
20108	MLD-052	1/4 SAE	4.88	2.50	2.1	2.0	1.3	12
20109	MLD-052S	1/4 ODF	4.33	2.50	3.0	2.9	1.9	12
20111	MLD-053S	3/8 ODF	4.53	2.50	6.0	5.8	3.8	12
20112	MLD-082	1/4 SAE	5.80	2.50	2.1	2.1	1.3	12
20113	MLD-082S	1/4 ODF	5.24	2.50	3.1	3.0	1.9	12
20114	MLD-083	3/8 SAE	6.10	2.50	4.9	4.7	3.0	12
20115	MLD-083S	3/8 ODF	5.43	2.50	6.2	5.9	3.9	12
20116	MLD-162	1/4 SAE	6.58	2.50	2.1	2.1	1.3	12
20117	MLD-162S	1/4 ODF	6.02	2.50	3.1	3.0	1.9	12
20118	MLD-163	3/8 SAE	6.89	2.50	5.1	4.9	3.2	12
20119	MLD-163S	3/8 ODF	6.22	2.50	6.4	6.2	4.0	12
20120	MLD-164	1/2 SAE	7.13	2.50	8.8	8.4	5.5	12
20121	MLD-164S	1/2 ODF	6.27	2.50	9.2	8.8	5.7	12
20123	MLD-165S	5/8 ODF	6.54	2.50	15.3	14.6	9.5	6
20125	MLD-303S	3/8 ODF	8.90	3.00	7.5	7.2	4.7	6
20126	MLD-304	1/2 SAE	9.80	3.00	9.9	9.5	6.2	6
20127	MLD-304S	1/2 ODF	8.94	3.00	12.3	11.8	7.7	6
20128	MLD-305	5/8 SAE	10.18	3.00	12.6	12.1	7.9	6
20129	MLD-305S	5/8 ODF	9.21	3.00	16.8	16.1	10.5	6
20130	MLD-306S	3/4 ODF	9.63	3.00	18.1	17.4	11.3	6
20131	MLD-307S	7/8 ODF	9.80	3.00	19.0	18.2	11.8	6

¹ All ratings in accordance with ARI standard 710-04, 86°F Liquid Refrigerant Temperature, 5°F Saturated Temperature
4.0 lbs./min./ton for R-134a, 2.9 lbs./min./ton for R-22, 4.0 lbs./min./ton for R-404A/R-507



Bi-Flow Heat Pump Driers

MARS SERIES **201**

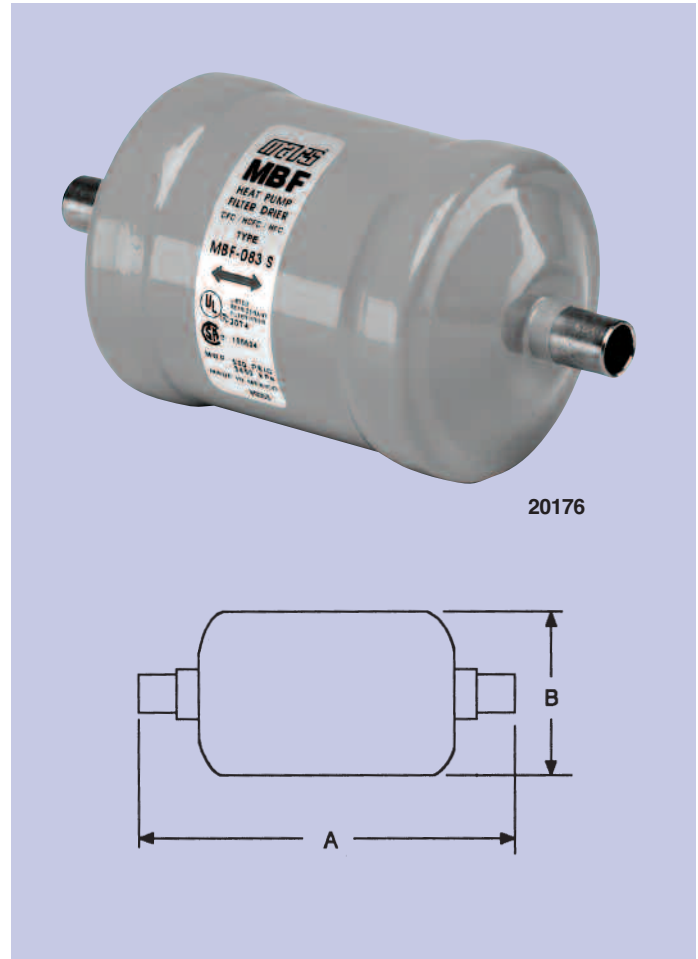
MARS Bi-Flow Heat Pump Driers

The MARS Bi-Flow Heat Pump Driers are designed to provide complete protection to the heat pump or reverse cycle system. The molded block core exposes maximum surface area for efficient filtration and retention of solid contaminants. The internal check valves prevent the release of collected contaminants when the heat pump cycles from the heating to cooling modes.

The use of molecular sieve and activated alumina in the desiccant core block provide the heat pump drier maximum moisture and acid removal. The addition of charcoal to the desiccant core allows for the removal of wax that may occur at low evaporator temperatures, giving protection to your expansion device.

Features & Benefits:

- For use on R134A, R12, R22, R500, R404A, R410A, R507
- For heat pump or reverse cycle applications
- High organic & inorganic acid removal
- Solid block desiccant core
- Proven, nylon internal check valves
- High moisture removal
- Nickel plated SAE flare and solid copper ODF fittings
- Corrosion resistant paint
- Maximum working pressure 600 PSIG
- Minimum burst pressure 2500PSIG
- UL & CSA listed



SERVICE & INSTALLATION

MARS NO.	MODEL NO.	CONNECTIONS SIZE & TYPE	DIMENSIONS		Flow Capacity ¹ Tons @ 1 PSI R-22/R410A	CASE QTY.
			A	B		
20176	MBF-083S	3/8 ODF	5.63	2.63	7.4	12
20178	MBF-084S	1/2 ODF	5.66	2.63	9.4	12
20181	MBF-163	3/8 SAE	6.97	3.09	6.7	12
20182	MBF-163S	3/8 ODF	6.31	3.09	7.5	12
20186	MBF-165S	5/8 ODF	6.63	3.09	12.4	12

¹ All ratings in accordance with ARI standard 710-04
2.9 lbs./min./ton for R-22

Suction Line Filter Driers

MARS SERIES **201**



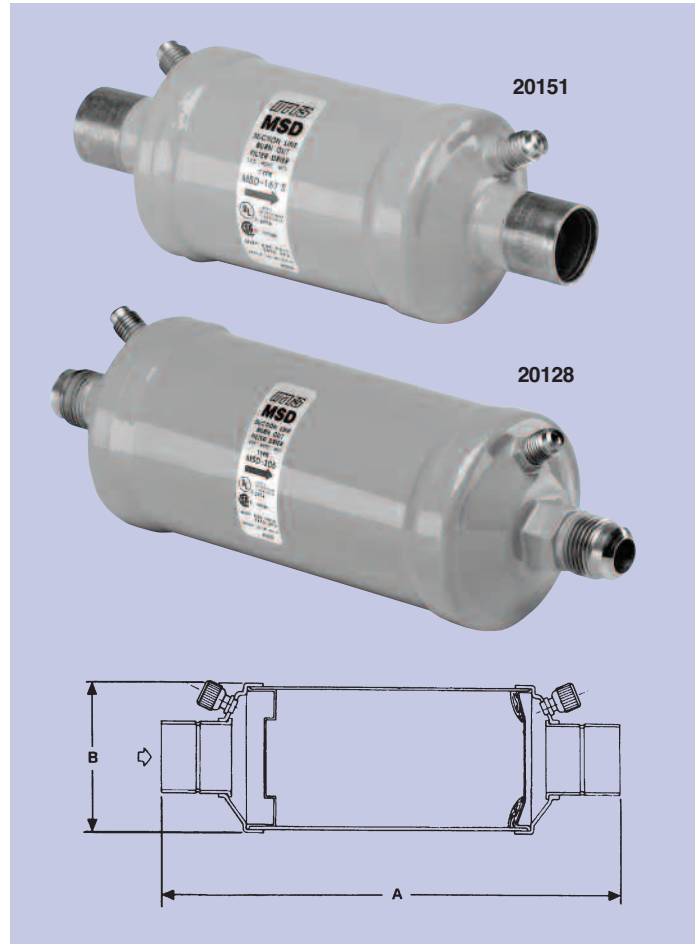
MARS suction line driers - flow capacities¹ in refrigerant tons at selected evaporator temps

The MARS Suction Line Filter Driers are designed to effectively clean up the refrigerant system by removing solid contaminants and harmful acids that were created during a motor burnout. As well as motor burnout applications, the MARS Suction Line Drier should be installed in remote systems with long refrigerant lines. The filter drier will collect and hold any dirt that is in the evaporator or suction line at start up. Any field built-up system requires the protection that the MARS Suction Line Drier offers.

The desiccant block core effectively removes and holds a maximum amount of contaminants with minimum pressure drop. The binding material in the core protects the core from acid decomposition and allows it to collect and hold organic and inorganic acids from motor burnout. An inlet deflector spreads the refrigerant flow evenly across the molded core to provide full filtration capacity and to prevent erosion of the core.

Features & Benefits:

- For use on R134A, R12, R22, R500, R404A, R410A, R507
- Dual access valve for accurate pressure drop readings
- Solid block desiccant core
- High organic & inorganic acid removal
- For use with HCFCs, CFCs and the lubricants that go with them
- Nickel plated SAE flare and solid copper ODF fittings
- Corrosion resistant paint
- Maximum working pressure 600 PSIG
- Minimum burst pressure 2500 PSIG
- UL & CSA listed



SERVICE & INSTALLATION

MARS NO.	R-134A Pressure Drop In P.S.I.				R-22 Pressure Drop In P.S.I.					R-502 Pressure Drop In P.S.I.					R410A Flow Capacity Evaporator Temperature (F°)				
	2	1.5	1	0.5	3	2	1.5	1	0.5	3	2	1.5	1	0.5	3	2	1.5	1	0.5
20141	0.8	0.5	0.3	0.2	1.3	0.8	0.6	0.4	0.2	1.0	0.7	0.5	0.3	0.1	1.7	1.1	0.8	0.5	0.3
20143	1.7	1.2	0.7	0.4	2.7	1.8	1.2	0.8	0.4	2.2	1.4	1.0	0.6	0.3	2.8	1.9	1.3	0.8	0.5
20145	2.4	1.6	1.0	0.5	3.8	2.5	1.7	1.1	0.6	3.1	2.0	1.3	0.8	0.4	3.9	2.6	1.7	1.1	0.6
20149	2.2	1.5	0.9	0.5	3.4	2.2	1.5	1.0	0.5	2.8	1.8	1.2	0.8	0.4	3.5	2.2	1.5	1.0	0.5
20150	2.6	1.8	1.1	0.6	4.1	2.7	1.8	1.2	0.6	3.4	2.2	1.5	0.9	0.5	4.2	2.8	1.8	1.2	0.6
20151	2.7	1.8	1.1	0.6	4.6	2.8	1.9	1.1	0.6	4.3	2.6	1.7	1.0	0.6	4.2	2.8	1.8	1.2	0.6
20154	3.4	2.3	1.4	0.7	5.4	3.5	2.4	1.5	0.8	4.4	2.8	1.9	1.2	0.6	5.5	3.6	2.4	1.5	0.8
20155	3.8	2.5	1.6	0.8	5.9	3.9	2.6	1.7	0.9	4.9	3.1	2.1	1.3	0.7	6.0	4.0	2.6	1.7	0.9
20156	3.9	2.6	1.6	0.8	6.1	4.0	2.7	1.7	0.9	5.0	3.2	2.2	1.3	0.7	6.2	4.1	2.8	1.7	0.9

Flow Capacity In Tons Refrigerant¹ (For kW, Multiply Tons By 3.5)

¹ All ratings in accordance with ARI standard 730-04

² Example: 1.0 tons x 3.5 = 3.5 kW

MARS NO.	MODEL NO.	SIZE & TYPE	DIMENSION	
			A	B
20141	MSD-83S	3/8 ODF	5.43	2.5
20143	MSD-84S	1/2 ODF	5.48	2.5
20145	MSD-85S	5/8 ODF	5.74	2.5

MARS NO.	MODEL NO.	SIZE & TYPE	DIMENSION	
			A	B
20149	MSD-165S	5/8 ODF	6.54	2.5
20150	MSD-166S	3/4 ODF	6.95	2.5
20151	MSD-167S	7/8 ODF	7.13	2.5

MARS NO.	MODEL NO.	SIZE & TYPE	DIMENSION	
			A	B
20154	MSD-306S	3/4 ODF	9.63	3.0
20155	MSD-307S	7/8 ODF	9.80	3.0
20156	MSD-309S	1-1/8 ODF	9.80	3.0



Compact Suction Line Driers

MARS SERIES **201**

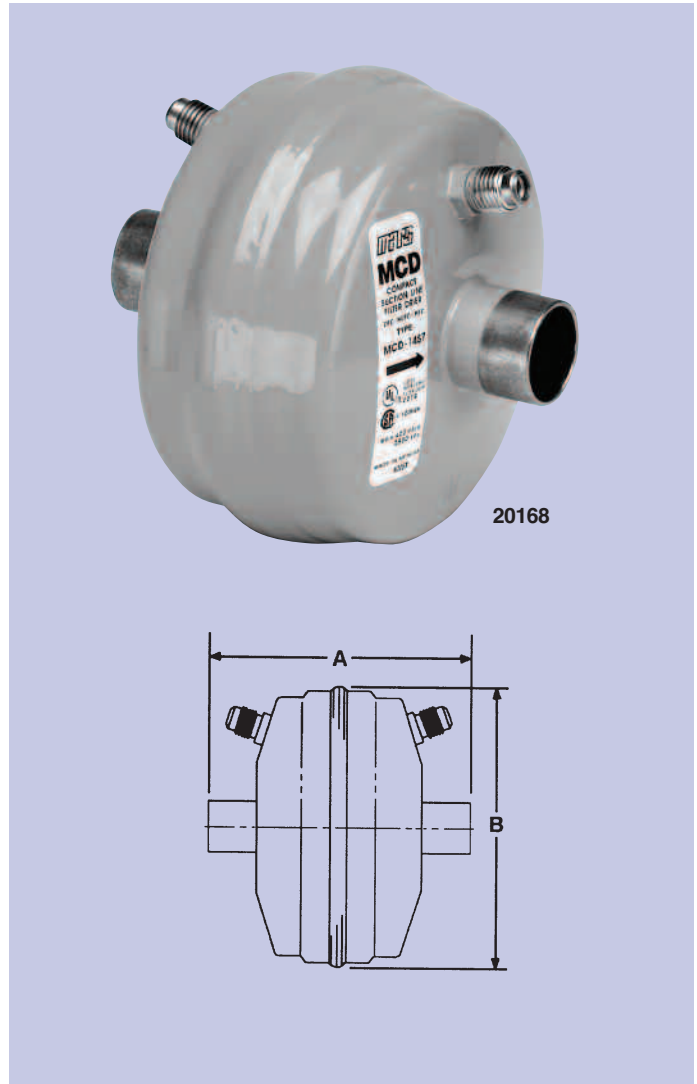
MARS compact suction line driers - flow capacities in refrigerant tons at selected evaporator temperatures

The MARS compact suction line driers are designed for use in air conditioning, heat pump, and refrigeration systems in which the available space in the suction line is limited. This is especially useful in heat pump systems where the drier must be placed between the reversing valve and the compressor. This compact suction drier should be used for motor burnout clean-up applications, and installed in remote systems with long refrigerant lines. The filter drier will collect and hold any dirt that is in the evaporator or suction line at start up.

The molded desiccant core block effectively removes and holds a maximum amount of contaminants with a minimum pressure drop. The binding material in the core protects the core from acid decomposition and allows it to collect and hold organic acids from a motor burnout. An inlet deflector, spreads the refrigerant flow evenly to prevent erosion and effectively uses the full filtration capacity of the filtering system.

Features & Benefits:

- For use on R134A, R12, R22, R500, R404A, R507, R502
- High organic & inorganic acid removal
- Dual access valves for accurate pressure drop readings
- Solid block desiccant core
- For use with HCFCs, CFCs and the lubricants that go with them
- Solid copper ODF fittings
- Corrosion resistant paint
- Maximum working pressure 302 PSIG
- Minimum burst pressure 1510 PSIG



SERVICE & INSTALLATION

MARS NO.	MODEL NO.	SIZE & TYPE	DIMENSION		+40°F	+20°F	0°F	-20°F	+40°F	+20°F	0°F	-20°F	-40°F	+40°F	+20°F	0°F	-20°F	-40°F
					R-134A				R-22				R-502					
					Pressure Drop In P.S.I.				Pressure Drop In P.S.I.				Pressure Drop In P.S.I.					
A	B	2	1.5	1	0.5	3	2	1.5	1	0.5	3	2	1.5	1	0.5			
20167	MCD-14S6	3/4 ODF	4.37	4.57	3.1	2.1	1.3	0.7	4.9	3.2	2.2	1.4	0.7	3.6	2.3	1.5	0.9	0.5
20168	MCD-14S7	7/8 ODF	4.55	4.57	3.3	2.2	1.4	0.7	5.2	3.4	2.3	1.5	0.8	3.6	2.3	1.5	0.9	0.5

Replacement Cores

MARS SERIES **201**



MARS Interchangeable Replacement Core

The MARS replaceable cores are molded using selected desiccant materials for high acid, moisture and wax removal capabilities. They are molded for high mechanical strength using the same process used in our sealed liquid and suction line driers. The cores are fully activated and sealed in individual foil packages. The core is then packaged with a set of replacement gaskets that include a flange gasket, core gasket and a gasket for other manufacturer's shells.

The Burnout Core is for wax removal in low temperature R22 and R404A/R507 systems and for cleanup in all types of systems where motor burnout has occurred.



20193

MARS NO.	MODEL NO.	Core Type	Dimension		Water Capacity ¹ at 75°F			Water Capacity ¹ at 125°F		
			A	B	R-134A	R-22	R502	R-134A	R-22	R502
20193	MBRC-48	Burnout	3.66	5.50	345	345	400	224	224	277

¹ R-134A = drops @ 60 ppm, R-22 = drops @ 60 ppm, R-502 = drops @ 30 ppm

SERVICE & INSTALLATION

Moisture Indicator Sight Glass

MARS SERIES **656**



MARS Sight Glass - Moisture Indicators

The MARS Moisture Indicators are constructed of forged brass bodies with brass fittings. The large viewing area of the sight glass allows for quick and easy inspection of the refrigerant as it flows through the system. Bubbles passing through the sight glass may be an indication of a low system charge or a restriction in the refrigerant system.

The moisture Indicators are designed to provide an accurate method of determining when the moisture content is dangerously wet in a refrigerant system and when the liquid line drier is no longer effective. An indicator element is highly sensitive to moisture and will gradually change color in reaction to the moisture content of the refrigerant system. Maximum working pressure is 500 PSIG. Minimum Burst pressure is 2500PSIG. UL and CSA listed.

MARS NO	MARS MODEL NO.	DESCRIPTION	LENGTH x HEIGHT INCHES	CASE QTY.
65634	MSG-2FM	1/4 Female x Male Flare	2.56 x 1.29	12
65635	MSG-3FM	3/8 Female x Male Flare	2.97 x 1.38	12
65636	MSG-4FM	1/2 Female x Male Flare	3.99 x 1.66	12
65638	MSG-2SS	1/4 Solder x Solder	4.57 x 1.11	12
65639	MSG-3SS	3/8 Solder x Solder	4.69 x 1.11	12
65640	MSG-4SS	1/2 Solder x Solder	4.88 x 1.29	12
65641	MSG-5SS	5/8 Solder x Solder	4.88 x 1.38	12
65642	MSG-7SS	7/8 Solder x Solder	5.90 x 1.66	12



Thermo Expansion Valves

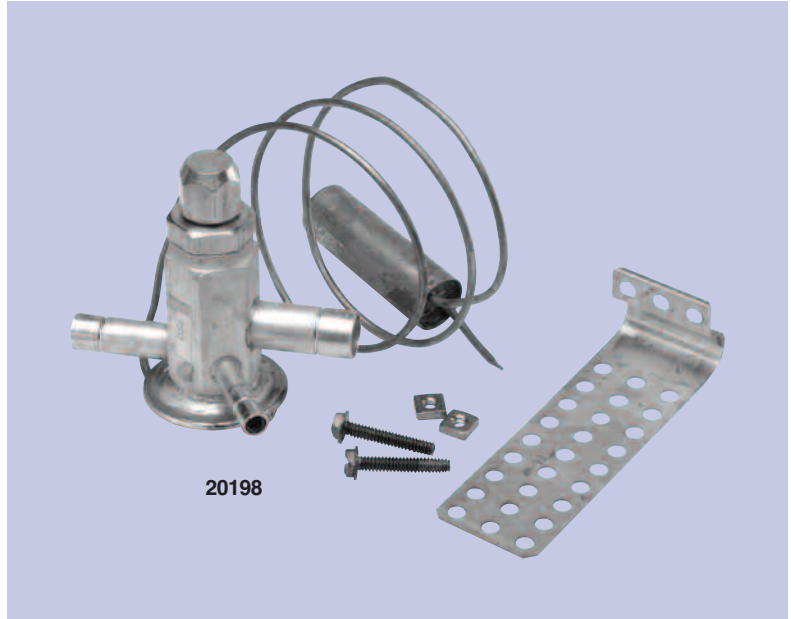
MARS SERIES **201**

MARS Thermo Expansion Valves

The MARS Thermo Expansion Valves are used for heat pump, air conditioning, food service and commercial applications. These valves incorporate a high stability charge designed for R-22 HVAC applications. The wide range charge provides greater superheat stability, allowing two valves to cover a wide range of capabilities from 1 to 5 tons. These thermo expansion valves allow the wholesaler to consolidate inventory by replacing several valves with the two wide range valves we offer.

Features & Benefits:

- Hermetic construction eliminates external leakage
- Compact size allows installation in limited spaces
- External equalizer
- Stainless steel power element eliminates corrosion and prevents valve failure
- Integral check valve
- Maximum working pressure 600 PSIG
- Designed for R-22 applications



20198

MARS NO.	MODEL NO.	CAPACITY	R-22 CAPACITY RANGE	CONNECTIONS	CAP. TUBE	CASE QTY.
20198	MXV2-1/2	2-1/2 Ton	1 – 3 Tons	3/8 x 1/2 ODF S/T	30"	12
20199	MXV5	5 Ton	1 – 5 Tons	3/8 x 1/2 ODF S/T	30"	12

SERVICE & INSTALLATION



Spun Copper Driers

MARS SERIES **201**

MARS Spun Copper Driers

The MARS Spun Copper Liquid Line Filter Driers are recommended for use in original equipment or replacement residential, air-conditioning or refrigeration equipment. These driers feature 100% molecular sieve for a high capacity of water retention. They provide 100 micron filtration. MARS Spun Copper driers are to be used with R-134A blends and systems with conventional refrigerants.



20101

MARS NO.	MODEL NO.	DESCRIPTION	CONNECTIONS TONS		CAPACITY TONS R-134A	CAPACITY DESICCANT R-22	LENGTH in GRAMS	OUTER in INCHES	DIAMETER
			INLET	OUTLET					
20101	MSCD-80	Std. Duty	1/4	CAP	1/3	1/2	10	9-5/8	5/8



Spun Copper Driers

MARS SERIES **201**



MARS Spun Drier Capacity Table

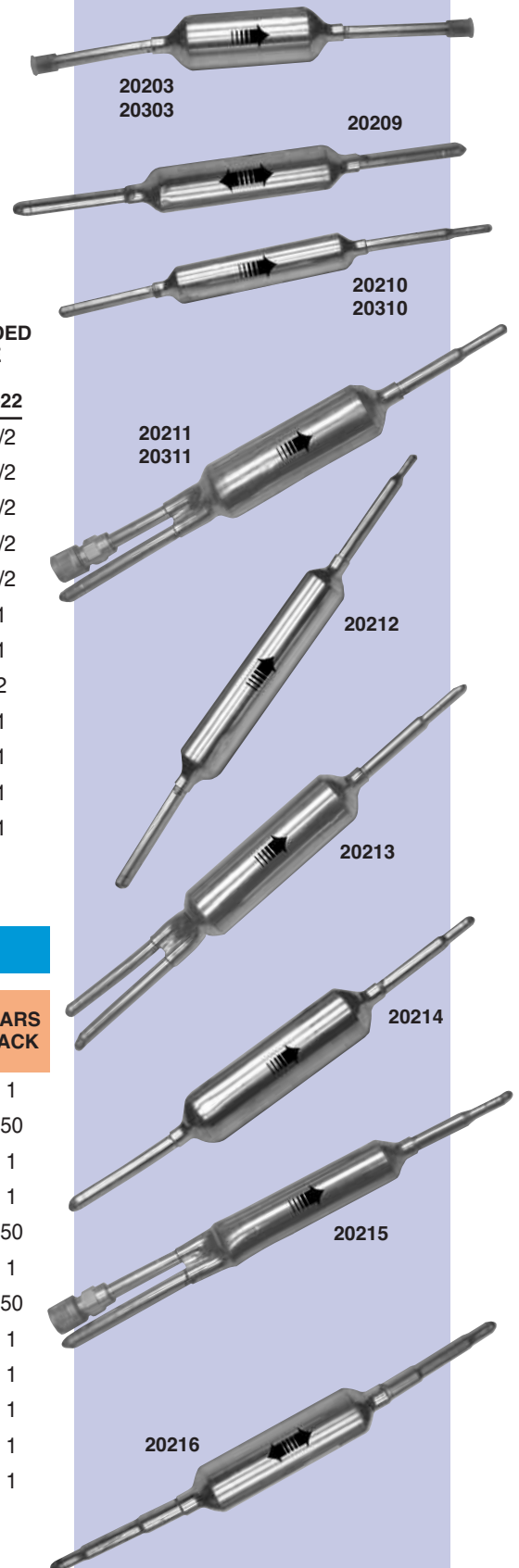
Features:

- Recommended for use on original equipment, residential and commercial refrigerators, freezers and air conditioners
- XH-9 beaded molecular sieve for maximum water capacity in HFC refrigerants
- High quality – high capacity
- Hermetically sealed
- Easy break off grooved ends
- Copper shells and end tubes
- Compatible with R134

MARS NO	DESCRIPTION	DROPS OF WATER REMOVED				RECOMMENDED TONNAGE	
		R-12		R-22		R-12	R-22
		75°	125°	75°	125°		
20203	Plugged Ends	37.5	34	34	32	1/3	1/2
20303	Plugged Ends	37.5	34	34	32	1/3	1/2
20209	Non-Directional	37.5	34	34	32	1/3	1/2
20210	Fused Ends	37.5	34	34	32	1/3	1/2
20310	Fused Ends	37.5	34	34	32	1/3	1/2
20211	Charging Drier	74	38	68	64	3/4	1
20311	Charging Drier	74	38	68	64	3/4	1
20212	Step Down Drier	99	93	95	90	1	2
20213	Double Inlet	74	68	68	64	3/4	1
20214	Fused Ends	74	68	68	64	3/4	1
20215	Charging Drier	37.5	34	34	32	1/3	1
20216	Step Down Drier	74	68	68	64	3/4	1

MARS Spun Copper Driers

MARS NO	DESCRIPTION	INLET	OUTLET	LENGTH	DIA.	MARS PACK
20203	Plugged Ends	1/4" OD	1/4" OD	7-3/4"	1"	1
20303	Plugged Ends	1/4" OD	1/4" OD	7-3/4"	1"	50
20209	Non-Directional	1/4" OD	1/4" OD	8-1/2"	3/4"	1
20210	Fused Ends	1/4" OD	1/4" OD	8-3/4"	3/4"	1
20310	Fused Ends	1/4" OD	1/4" OD	8-3/4"	3/4"	50
20211	Charging Drier	1/4" OD 1/4" Flare	1/4" OD or Cap.	8-3/4"	1"	1
20311	Charging Drier	1/4" OD 1/4" Flare	1/4" OD or Cap.	8-3/4"	1"	50
20212	Step Down Drier	5/16"OD	5/16" OD or Cap.	10-3/4"	1"	1
20213	Double Inlet	(2) 1/4" OD	1/4" OD	8-3/4"	1"	1
20214	Fused Ends	1/4" ID 1/4" OD	1/4" OD or Cap.	9"	1"	1
20215	Charging Drier	1/4" ID 1/4"OD 1/4"Flare	1/4" OD or Cap.	9"	3/4"	1
20216	Step Down Drier	3/16, 1/4, 5/16" ID	5/16" ID or Cap.	8-3/4"	1"	1





Tubing Tools

MARS SERIES **650**

Tubing Cutters And Accessories

Imperial Eastman offers a quality line of tube working tools, well recognized as standards of excellence in the HVACR industry. All tubing tools are made in the U.S.A. and come with a limited lifetime warranty.

Imperial tube cutters can be used on hard or soft copper, aluminum, brass, thin wall steel, stainless steel, monel, titanium and other metal tubing. The Hi-Duty® tube cutters (MARS #65001 and #65002) feature rollers with flare cut-off groove, fold away reamer and a spare cutting wheel. MARS #65003 is a combination tube constrictor and cutter. This combo cutter is used for brazed or sweat type connections. A roller is used in place of cutter wheel.

MARS #65004, Imp® tube cutter, requires only 1 1/4" swing radius and a 1 3/8" swing radius with 5/8" tube. This tube cutter features rollers on the bottom of the tool which allows for easier cutter engagement on tubing. The enclosed feed design minimizes contamination, assuring continued free operation. MARS #65005 requires only 1 11/16" swing radius.

The Big-Imp™ tube cutter, MARS #65006, requires only 1 15/16" swing radius and a 2 1/4" swing radius with 1 1/8" tube.

MARS NO.	MFG. NO.	DESCRIPTION	CASE QTY.
65001	TC1000	Hi-Duty® 1/8" to 1 1/8" OD	20
65002	312FC	Hi-Duty® 1/4" to 1 5/8" OD	10
65003	TC1020	Hi-Duty® combo 1/8" to 1 1/8" OD	10
65004	TC1050	Imp® cutter 1/8" to 5/8" OD	20
65005	TC2050	Imp® cutter 3/16" to 7/8" OD	10
65006	174F	Big Imp™ 3/8" to 1 1/8" OD	10
65008	S75015	Standard cutter wheel (10 pk) for use on #65001, 65002, 65003, 65006	10
65009	S75046	Cutter wheel for stainless steel and hard temper tubing (5 pk) for use on #65001, 65002, 65003, 65006	10
65010	S74762	Screws for cutter wheel (5 pk) for use on #65008, 65009	10
65011	TC1A	Cutter wheel service kit includes: 3 standard cutter wheels 1 screw for cutter wheel	10
65012	TC1B	Cutter wheel stainless service kit includes: 3 cutter wheels for stainless steel and hard temper tubing 1 screw for cutter wheel	10
65013	TC1C	Cutter wheel service kit includes: 2 cutter wheels for #65004 1 screw for cutter wheel	10
65014	206FB	Adj.-O-Matic® 1/8" - 2-5/8" OD	1
65072	S74761	Cutter wheel 5 pak for use on 65014	1
65076	S77511	Screw for cutter wheel for #65072	1
65056	S32633	Cutter wheel 5 pk. on 65004, 65015	1
65073	S26883	Screw for cutter wheel for 65056	1
65088	406FA	Hi Duty Adj-O-Matic® 2" - 4-1/8" OD	1
65074	S74833	Cutter wheel for 65088	1
65075	S74834	Screw for cutter wheel for #65074	1



SERVICE & INSTALLATION



The largest selection of motors, components and accessories for the HVAC/R Industry

Tubing Tools

MARS SERIES **650 & 256**



Tube Benders

Imperial lever type tube benders are used for soft copper, aluminum, brass, steel and other metal tubing. Each tool bends one size. The open size design slips over tube at any point. Our tube benders make smooth short radius bends up to 180°. Each bender tool is calibrated to show angle of bend. The wide hook grips tubing securely and the new fixed hook has easy 90° start. Our line of lever tube benders feature a swivel handle which may be repositioned to regain leverage for bends greater than 90°, eliminating bender twisting and handle crossing. The enclosed swivel mechanism provides extended life. Ideal for bending stainless steel, as well as other tubing.

Imperial Imp® triple header benders feature calibrated markings for accurate left-hand, right-hand and offset bends. 90° start requires less effort - making bending fast and easy.

Imperial spring type tube benders are for use on soft copper and aluminum tubing. These tools allow hand bending of soft tubing to any shape without collapsing walls. Special spring steel, nickel finished. End belled for quick tube removal.

MARS NO.	MFG. NO.	DESCRIPTION	CASE QTY.
65018	364FHA06	Lever type 3/8" OD	10
65063	364FHA10	Lever type 5/8" OD	10
65021*	364FHB06	Lever type with swivel handle 3/8" OD	5
65022*	364FHB08	Lever type with swivel handle 1/2" OD	5
65024	368FH	Triple header; 1/4", 5/16", 3/8" OD 15/16" radius to center	10
65025	102F04	Spring type 1/4" OD	10
65026	102F06	Spring type 3/8" OD	10
65028	102F08	Spring type 1/2" OD	10
65031	102F10	Spring type 5/8" OD	10
65032	102F12	Spring type 3/4" OD	10
65033	102F14	Spring type 7/8" OD	10
65029	163F	Spring set; 1/4", 3/8", 1/2", 5/8" OD	10

*patented

MARS Tube Benders

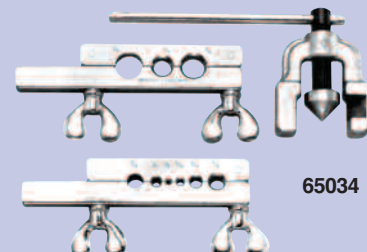
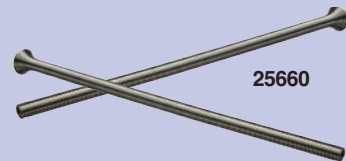
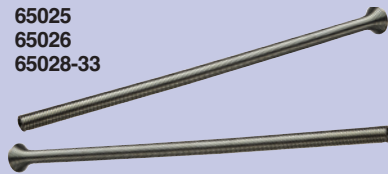
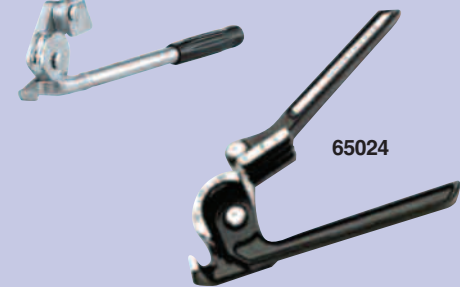
MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
25660	External spring type tube benders, 1/4", 3/8", 1/2" & 5/8", set of 4	1	24

Tubing Tool Kits

MARS #65059, 45° flaring and swaging tool kit is for use on 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2" and 3/4" OD tubing. Flares or swages. Converts quickly. Features screw-type feed. Ideal close quarters tool. Swivel type swaging adapters and spreader cone are hard-chrome finished for easy operation. Self centering, slip-on forged steel yoke. Includes five swage adapters for 3/16", 1/4", 5/16", 3/8", 1/2" and 3/4" OD tubing. Packaged in a plastic kit.

MARS #65034, 45° flaring kit is for use on 1/8" - 3/4" OD tubing. This compact kit contains two flaring bars & one yoke. The self centering forged steel yoke has a slip-on feature. The swivel flaring cone reduces effort. Packaged in plastic case.

MARS NO.	MFG. NO.	DESCRIPTION	CASE QTY.
65059	275FS	45° flaring and swaging tool	1
65034	375FS	45° flaring kit for 1/8" - 3/4"	1





Flaring Tools

Imperial MARS #65035, Rol-Air® flaring tool, is used for soft copper, aluminum and brass. This flaring tool flares and burnishes 3/16", 1/4", 5/16", 3/8", 1/2" and 5/8" OD tubing. The faceted, hard chrome finished cone rolls out perfect 37° flares above die block - then automatically burnishes flare face. Original wall thickness is maintained at base of flare. Slip-on yoke permits use in tight quarters. The heat treated dies grip tubing without scoring.

MARS #65036, 37° flaring tool, is for use on copper, aluminum, steel, stainless steel and other metal tubing. Three rollers in flaring cone roll out a 37° flare above die block. There is an extension on the yoke for clamping in vise. This flaring tool is for 3/16", 1/4", 5/16", 3/8", 1/2" and 5/8" OD tubing and is furnished in a plastic kit.

Imperial's 45° flaring tool, MARS #65037, is for 3/16", 1/4", 5/16", 3/8", 7/16", 1/2" and 5/8" OD tubing. This tool features a self-centering yoke with swivel-type, hard chrome finished flaring cone to form better flares with less effort. The yoke is designed to permit flaring where there is little space between nut and tube end. This flaring tool is for use on soft copper, aluminum and brass tubing.

The 45° Rol-Air® flaring tool, MARS #65038, is used for flaring and burnishing 3/16", 1/4", 5/16", 3/8", 1/2" and 5/8" OD tubing. The flares are rolled out above die bar by a super-smooth faceted cone. Automatically burnishes flare face. The slip-on yoke permits use in tight quarters. Heat treated dies grip tubing without scoring. For use on soft copper, aluminum and brass tubing.

Imperial's Grabber™ Rol-Air® flaring tool flares and burnishes 3/16" to 5/8" OD tubing. This 45° flaring tool is for use on soft copper, aluminum and brass tubing. MARS #65039 features a unique, self-adjusted, tube holding mechanism which permits use in tight quarters. The faceted, hard chrome finished cone rolls out and burnishes a perfect 45° flare above the tube holding mechanism.

MARS NO.	MFG. NO.	DESCRIPTION	CASE QTY.
65035	507FB	Rol-Air® 37° for 3/16" to 5/8" OD	1
65037	195FC	45° for 3/16" to 5/8" OD	10
65038	500FC	Rol-Air® 45° for 3/16" to 5/8" OD	10
65039	525F	Grabber™ Rol-Air® 45° for 3/16" to 5/8" OD	10
65046	103FS	45° for 3/4", 7/8", 1" OD	1
65047	203FA	45° for 5/8" to 1-1/8" OD	1
65048	296FC	45° for 3/16" to 5/8" OD	1
65049	300FB	Hi Duty 45° for 3/16" to 5/8" OD	1

Pinch Off Tool

Pinch-off tool temporarily closes soft copper, aluminum or steel tubing so no liquid or gas passes. Lets you disconnect line while making repairs without loss of liquid or gas. Also opens tubing and rounds it back into shape. For use on 1/4", 3/8" and 1/2" OD tubing.

MARS NO.	MFG. NO.	DESCRIPTION	CASE QTY.
65050	105FF	Pinch off tool (copper tubing)	1



SERVICE & INSTALLATION

Tubing Tools

MARS SERIES **650 & 790**



Reamers, Swaging Tools, Wrenches & Tube Adapters

Imperial inner/outer reamers and deburring tools ream both inside and outside edges of tube with three hollow ground tool steel cutters. Fits comfortably in hand. MARS #65066, inner/outer reamer and deburring tool is used for copper, aluminum and brass tubing and has a blue finish.

Swaging tools are to be used on soft copper, aluminum and brass tubing. Our punch-type swaging tools make tubing connections without the use of fittings. Simply enlarge end of tube, insert another tube and solder like a sweat fitting. MARS #65069 swaging punch tool is for 1/2" OD tubing. The swaging punch kit, MARS #65070, contains four swaging punches - 1/4", 3/8", 1/2" and 5/8" OD. Packaged in vinyl case.

Imperial's tube adapter is used for charging and testing. To connect a hermetic system, pinch-off tube is cut off and adapter is slipped over cut end of tube and tightened. Synthetic rubber seal of adapter grips outside of tube. This gives a 1/4" male flare connection to system for purging, charging or testing. After system is recharged, tube is pinched off next to adapter. Adapter is then removed and tube is cut off and sealed with solder. Adapter can be used repeatedly.

MARS #65082 is a combination wrench with the four sizes most needed for servicing air conditioning units. MARS #65083 is for use on compressors with access valves in hard to reach places. This reversible ratchet is chrome plated.

MARS NO.	MFG. NO.	DESCRIPTION	CASE QTY.
65066	208F	Inner/outer reamer and deburring tool	10
65069	94S	1/2", 5/8", 7/8" OD swaging punch tool	1
65070	193S	swaging punch kit	20
65085	93S03	3/16" OD swaging punch	20
65086	93S04	1/4" OD swaging punch	1
65089	93S05	5/16" OD swaging punch	1
65093	93S12	3/4" OD swaging punch	1
65094	93S14	7/8" OD swaging punch	1
65051	241F04	Tube adapter 1/4" O.D.	1
65082	124C	9/16" and 1/2" hex; 3/16" & 1/4" sq. ratchet	1
65083	127C	1/4", 3/8", 3/16", 5/16" square ratchet	1

SURE CUT Ratchet Tubing Cutter

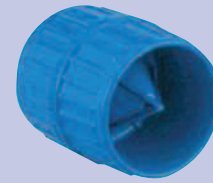
- Cuts copper, brass, aluminum tubing and thin-wall conduit
- Ratchets for fast, easy cuts in tight areas
- Self feeding action for automatic cutting
- Strong, lightweight nylon & fiberglass handle
- Spare cutting wheel is supplied in the handle

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
65201	5/16" to 1 1/8" OD	1	12
65202	1/4" to 7/8" OD	1	12
65203	Replacement Blades	1	12

EASY BEND Ratcheting Tubing Bender

- For bending OD tubing sizes from 3/8" to 7/8"
- Use on soft copper, coated soft copper, thin wall hydraulic tubing and plastic coated aluminum composite pipe
- Kit includes impact resistant carry case, tubing cutter and ID/OD reamer
- Single-hand manual ratchet operation

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
65210	Tubing Bender	1	3



65066



65070



65069



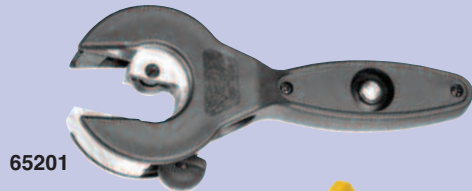
65051



65082



65083



65201



65210

Service Manifolds & Accessories

MARS SERIES **651**

Service Manifolds

Imperial and Motors & Armatures, Inc., offer refrigeration and air conditioning service manifolds. The Man Handler™ 4-valve manifolds feature up to four times faster system evacuation. The 4 valve efficiency provides vacuum, low side, high side and refrigerant lines individually connected and controlled. No need to switch charging lines. T-grip controls offer non-slip operation. Other features include swivel hanger, brass hose end closure bracket and a deep, vacuum valve design. The red and blue gauges are calibrated in psi. MARS #65101 is a standard 4 valve manifold and MARS #65102 is a 4 valve manifold with four 60" std. fitting charging lines (one 3/8" line, three 1/4" lines). MARS #65103 is a 4 valve manifold with sight glass. For R-12, R-22 and R-502 refrigerants.

Imperial's convertible 2 valve brass manifolds feature non-flutter gauges, tough gauge crystals, swivel hanger, brass hose end closure spuds, soft-seat valves and color coded controls. The red and blue gauges are calibrated in psi. MARS #65104 is the standard 2 valve manifold. MARS #65105 is the 2 valve manifold with three 36" std. fitting charging lines. For R-12, R-22 and R-502 refrigerants.

MARS NO.	MFG. NO.	DESCRIPTION	CASE QTY.
65101 ¹	620C	4 valve manifold	20
65102 ¹	621C	4 valve manifold with (4) 60" hoses	20
65103 ¹	620CS	4 valve manifold with sight glass	1
65104	495C	2 valve manifold	30
65105	496C	2 valve manifold with (3) 36" hoses	30
65108	400RL	Low side repair kit for 2 valve	1
65111	400RH	High side repair kit for 2 valve	1
65109	S8922562	Hook assembly for 4 valve	1
65110	S9449101	Closure bracket plate for 4 valve	1
65116	600R	Diaphragm replacement seal kit	1
65117	601R	Replacement VAC & REF knobs w/stems	1
65118	602R	Replacement HI & LO	1

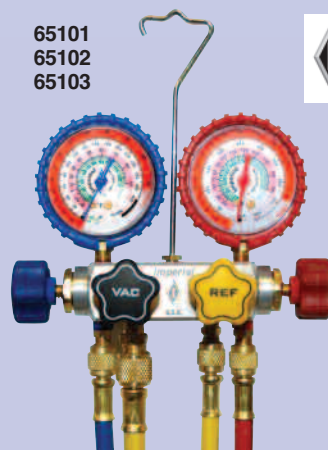
¹ Patented, UL recognized for commercial refrigeration & A/C applications

Manifold Accessories

Imperial patented, UL recognized kwik-couplers are intended for use with refrigeration/air conditioning service manifold high and low side hoses, when connecting to core valve type service fittings. Simply push to connect and pull to disconnect. Valve cores are depressed automatically without adjustments or loss of refrigerant. An automatic shut off valve retains refrigerant pressure in disconnect hose.

MARS NO.	MFG. NO.	DESCRIPTION	CASE QTY.
65139	16C	Straight coupler (45° flare) 1/4"F x 1/4"M	20
65140	17C	90° elbow coupler (45° flare) 1/4"F x 1/4"M	20
65141	18C	Coupler set (#16C and 17C)	15
65151	535C	Kwik charge liquid low side	1

65101
65102
65103



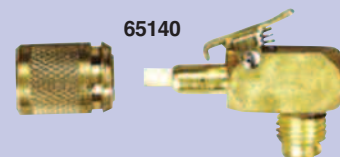
65104
65105



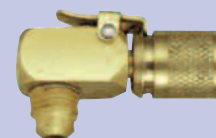
65108
65111



65139



65140



65141



65151

SERVICE & INSTALLATION



The largest selection of motors, components and accessories for the HVAC/R Industry

SI-69

Vibration Absorbers

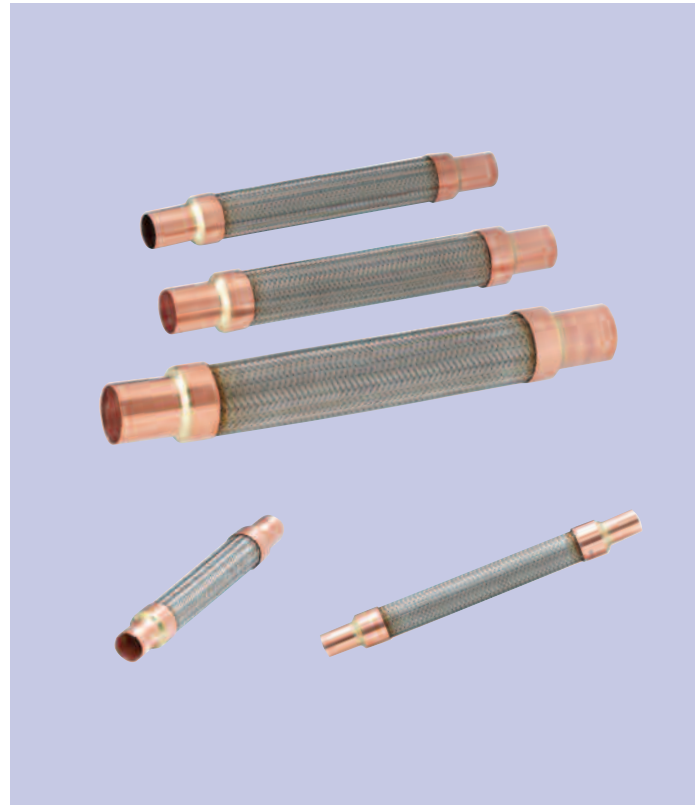
MARS SERIES **523**



Stainless Steel Vibration Absorbers

- 100% Copper connections
- Hose and copper braze welded
- Each unit dehydrated and vacuum tested
- Units individually packaged in poly bags and corrugate boxes
- UL, cUL, and CE

MARS NO.	DESCRIPTION	MARS PACK
52329	1/4" Vibration Absorber	1
52330	3/8" Vibration Absorber	1
52331	1/2" Vibration Absorber	1
52332	5/8" Vibration Absorber	1
52333	3/4" Vibration Absorber	1
52334	7/8" Vibration Absorber	1
52335	1-1/8" Vibration Absorber	1
52336	1-3/8" Vibration Absorber	1
52337	1-5/8" Vibration Absorber	1
52338	2-1/8" Vibration Absorber	1
52339	2-5/8" Vibration Absorber	1
52340	3-1/8" Vibration Absorber	1



Wrot Copper Fittings

MARS SERIES **647**

9600 RS Couplings-Rolled Stop-Copper To Copper

MARS NO.	MODEL NO.	DESCRIPTION	MARS PACK	CASE QTY.
64721	W1001	3/16" O.D.	10	100
64722	W1003	1/4" O.D.	100	1000
64720	W10142	5/16" O.D.	100	4000
64723	W1009	3/8" O.D.	100	2000
64724	W1017	1/2" O.D.	100	2000
64725	W1022	5/8" O.D.	100	1000
64726	W1028	3/4" O.D.	100	500
64727	W1034	7/8" O.D.	50	500
64728	W1047	1 1/8" O.D.	25	250
64729	W1055	1 3/8" O.D.	25	250

9600 Reducing Couplings - W/Stop-Copper To Copper

MARS NO.	MODEL NO.	DESCRIPTION	MARS PACK	CASE QTY.
64734	W1010	3/8" x 5/16" O.D.	10	1000
64735	W1011	3/8" x 1/4" O.D.	50	1000
64739	W1025	5/8" x 3/8" O.D.	10	2000
64740	W1029	3/4" x 5/8" O.D.	50	500
64741	W1030	3/4" x 1/2" O.D.	10	1000
64742	W1035	7/8" x 3/4" O.D.	50	500
64745	W1049	1 1/8" x 7/8" O.D.	25	250

9607LT 90° Elbows - Long Radius Copper To Copper

MARS NO.	MODEL NO.	DESCRIPTION	MARS PACK	CASE QTY.
64823	W2715	1/4" O.D.	50	3000
64825	W2716	3/8" O.D.	50	2000
64826	W2717	1/2" O.D.	50	1000
64827	W2722	5/8" O.D.	50	500
64828	W2728	3/4" O.D.	50	500
64829	W2734	7/8" O.D.	25	250
64830	W2747	1 1/8" O.D.	10	1000
64831	W2055	1 3/8" O.D.	5	100

9607 90° Elbows-Short Radius Copper To Copper

MARS NO.	MODEL NO.	DESCRIPTION	MARS PACK	CASE QTY.
64800	W2003	1/4" O.D.	50	500
64801	W2009	3/8" O.D.	50	2000
64802	W2017	1/2" O.D.	50	1000
64803*	W2022	5/8" O.D.	100	1000
64804*	W2028	3/4" O.D.	50	500
64805*	W2034	7/8" O.D.	50	250

*intermediate radius

9607-2LT 90° Street Elbows - Long Radius

MARS NO.	MODEL NO.	DESCRIPTION	MARS PACK	CASE QTY.
64813	W2809	3/8" O.D.	50	500
64814	W2817	1/2" O.D.	50	500
64815	W2822	5/8" O.D.	50	500
64816	W2828	3/4" O.D.	25	250
64817	W2834	7/8" O.D.	25	250
64818	W2847	1 1/8" O.D.	10	100
64819	W2350	1 3/8" O.D.	10	100

NIBCO
AHEAD OF THE FLOW™



64721-64729



64734-64745



64823-31



64800-05



64813-19

SERVICE & INSTALLATION

Brazing Alloys, Solders & Fluxes

MARS SERIES **793**



Sil-Fos Brazing Alloys - 1/8" X .05" X .20"- 1 Lb. Spool

Sil-Fos® alloys allow the joining of copper to copper without a flux and copper based alloys (brass and bronze) with a flux. Sil-Fos® is the workhorse filler metal used in the a/c and refrigeration industry. A key factor is the ductility of Sil-Fos® 15. It can be readily bent (without heating), thus permitting easier access to the backsides of joints.

The Sil-Fos® 15 is the best alloy for general copper-copper brazing in the Sil-Fos® family. The phosphorus in the Sil-Fos® product serves as the fluxing agent and no separate flux is necessary. For brass applications however, flux is recommended. For use where close fit-ups cannot be maintained Sil-Fos® 15 works well to "bridge" gaps. Sil-Fos® 15 is the most ductile of the entire Sil-Fos® family to best withstand the stresses inherent in refrigeration applications. Slow Flow.

The Sil-Fos® 6M is recommended for use where close fit-ups cannot be maintained. It has the ability to fill gaps and form fillets without affecting joint strength. Slow Flow.

The Sil-Fos® 5 is designed primarily for those applications where close fit-ups cannot be maintained. It has the ability to fill gaps and form fillets without adversely affecting joint strength. Slow Flow.

Fos-Flo® 7 is an economical, very fluid medium temperature filler metal for use with copper, brass and bronze. Withstands moderate vibration. Fast Flow.

Also available for merchandising assistance is the point of purchase display rack suitable for counter top display or hanging on pegboard. This display #78300 is available at no charge upon request with a \$1500 minimum order of Lucas brazing/solder products. Cardboard display dimensions: 25"H x 23"W x 10 1/5" deep at base x 6 1/4" deep at top (30 3/4" overall height including header).

HH Lucas-Milhaupt, Inc. **M**
A Handy & Harman Company



SERVICE & INSTALLATION

MARS NO.	AWS SPEC	COMPOSITION %			TEMPERATURE		MARS PACK	CASE QTY.	
		Ag	Cu	P	MELT	FLOW			
78301	Sil-Fos® 15	BCuP-5	15	80	5	1190° F	1475° F (1300°)	1	25
78302	Sil-Fos® 6M	BCuP-4	6	88	6	1190° F	1460° F (1300°)	1	25
78303	Sil-Fos® 5	BCuP-3	5	89	6	1125° F	1495° F (1300°)	1	25
78304	Fos-Flo® 7	BCuP-2		92.8	7.2	1310° F	1460° F (1350°)	1	25

Brazing Alloys, Solders & Fluxes

MARS SERIES **793**

High Silver Brazing Alloys - 1/16" Dia. Coils

In refrigeration applications, much of the brazing involves joining copper tubing. However, there are numerous applications where other materials need to be joined (steel, brass, stainless, etc.). These high silver brazing alloys facilitate the joining of these metals. The one alloy in particular which is highly recommended for virtually all above mentioned base metals is Braze® 505. It's advantages over 56% and 45% include:

- It contains 2% Nickel which enhances wetting and strength and facilitates the joining of steels, stainless steel, carbide, etc.
- It doesn't contain tin. This prevents the formation of brittle intermetallics which can cause joint failures when stresses accumulate.
- The flow characteristics can be easily manipulated by either fast or slow heating techniques - this allows bridging of gaps.
- It's available in flux-coated rod for added convenience and ease-of-use: No separate fluxing operation.

Braze® 450 is a general purpose filler metal for joining ferrous, non-ferrous and dissimilar metals with large joint clearances. Cadmium-free.

Braze® 505 is the best general purpose filler metal available. It is the only alloy recommended for stainless steel (as it retards/eliminates interface corrosion) and carbide applications. Nickel content provides superior adhesion ("wetting") to base metal surfaces. Available, and especially convenient, as flux coated rod. Cadmium-free.

Braze® 560 is the lowest temperature, Cadmium-free filler metal available. This is a good general purpose alloy for close joint tolerances.

Lucas-Milhaupt, Inc.
A Handy & Harman Company



SERVICE & INSTALLATION

MARS NO.		AWS SPEC	COMPOSITION %					TEMPERATURE		MARS PACK	CASE QTY.
			Ag	Cu	Zn	Sn	Other	MELT	FLOW		
78305	Braze® 450 1oz	BAg-5	45	30	25			1225° F	1370° F	1	24
78306	Braze® 450 3oz									1	24
78307	Braze® 450 5oz									1	24
78308	Braze® 505 1oz	BAg-24	50	20	28	2 Ni		1220° F	1305° F	1	24
78309	Braze® 505 3oz									1	24
78310	Braze® 505 5oz									1	24
78314	Braze® 505 F/C, Flux coated rod, 18" stick x 1/4 lb tube	BAg-24	50	20	28	2 Ni		1220° F	1305° F	1	15

Brazing & Solder Fluxes

Where fluxing is required as part of the brazing operation, Handy Flux is recommended. Handy Flux is an all-purpose flux for use in brazing both ferrous and non-ferrous metals and alloys. Handy Flux conforms to: AWS Brazing Flux Type #3A, Federal Spec. O-F-499d (216185) Type B, Society of Automotive Engineers AMS-3410G. For soldering applications we offer two different flux products depending on the materials to be joined. They include Clean-n-Brite Flux for general purpose applications and TEC Liquid Flux where more aggressive fluxing is required for the more difficult-to-solder materials (e.g. steel, stainless steel, etc.).

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
78315	Handy Flux - 7oz. jar w/brush cap	1	24
78319	TEC Liquid Flux - 4oz. squeeze bottle	1	48
78320	Clean-n-Brite Flux -4oz. paste w/brush	1	24



Brazing Alloys, Solders & Fluxes

MARS SERIES **793**



Silver Bearing Soft Solders - 1/8" X 1 Lb. Spool

Clean-n-Brite solders are a high strength general purpose solder. They offer a higher strength than Tin/Lead solders and are safe for potable water systems. These alloys are widely used in low stress, low pressure copper-copper and copper-steel applications (e.g. sight glasses where temperature must be kept low, etc.). For copper-copper, Clean-n-Brite Paste Flux is the flux of choice. For copper-steel applications, TEC Liquid Flux is recommended as it is more aggressive at keeping the metal surfaces to be joined free of oxides. TEC is a more corrosive flux however, and subsequent flux residue removal is recommended.

Clean-n-Brite is a Lead-free, silver-bearing high-strength solder used for applications requiring close joint clearances.

Clean-n-Brite 6 is a Lead-free, silver-bearing high-strength solder used for applications requiring large joint clearances. It is the easiest Silver-bearing soft solder to work with as temperature range permits "bridging" loose fit-ups if necessary.

Clean-n-Brite No Lead is a Silver-bearing solder with good strength used in potable water system applications requiring no lead.



SERVICE & INSTALLATION

MARS NO.		COMPOSITION %			TEMPERATURE		MARS PACK	CASE QTY.
		Ag	Cu	P	MELT	FLOW		
78316	Clean-n-Brite	3.6		96.4	431° F	431° F	1	24
78317	Clean-n-Brite 6	6		94	431° F	535° F	1	24
78318	Clean-n-Brite No Lead	0.5	4	95.5	428° F	446° F	1	24

MARS Cross Reference Guide

MARS NO.	HANDY HARMON	LUCAS MILHAUPT	J.W. HARRIS	ENGELHARD
78301	Sil-Fos15	95150	61035 (Stay-Silv 15)	Silvaloy 15
78302	Sil-Fos 6M	95120	66000 (Dynaflow)	Silvaloy 6
78303	Sil-Fos 5	95060	41035 (Stay-Silv 5)	Silvaloy 5
78304	Fos-Flo 7	95000	21035 (Stay-Silv 0)	Silvaloy 0
78305	Braze 450 (1oz.)	98000	76310 (Safety-Silv 45)	Silvaloy A-45
78306	Braze 450 (3oz.)	98001	76313 (Safety-Silv 45)	Silvaloy A-45
78307	Braze 450 (5oz.)	98002	76315 (Safety-Silv 45)	Silvaloy A-45
78308	Braze 505 (1oz.)	98070		
78309	Braze 505 (3oz.)	98071		
78310	Braze 505 (5oz.)	98072		
78311	Braze 560 (1oz.)	98060	75310 (Safety-Silv 56)	Silvaloy A-56
78314	Braze 505 F/C	98110		
78315	Handy Flux	97030	40022 (Stay-Silv Flux)	Ultra Flux
78316	Clean-n-Brite	96000	10001 (Stay-Brite)	Silvabrite
78317	Clean-n-Brite 6	96010	10009 (Stay-Brite 8)	Silvabrite S
78318	Clean-n-Brite (no lead)	96150	15000 (Stay-Safe 50)*	Silvabrite 100
78319	Tec Liquid Flux	97000	40002 (Stay-Clean)	70001
78320	Clean-n-Brite Flux	97020	40027 (Stay-Clean Solder Flux)	71003

* While this material does not have a chemistry exactly equivalent, it is similar in composition to Clean-n-Brite no lead and typically used in similar applications.

Soft Copper Refrigeration Coils

MARS SERIES **649**

Soft Copper Refrigeration Coils

- 50' Length
- ASTMB280
- Individually shrink wrapped rolls

MARS NO.	SIZE	COILS/SKID	COILS/BOX
50014	1/4"	440	10
50516	5/16"	480	10
50038	3/8"	416	8
50012	1/2"	100	5
50058	5/8"	100	5
50034	3/4"	69	3
50078	7/8"	60	3
50118	1-1/8"	42	1



50014



Lines & Tubing

MARS SERIES **799**

MARS Pilot Burner Gas Lines

MARS pilot burner gas line is 6.5 ft of clean aluminum tubing with compression nuts and sleeves. Coiled and individually polybagged. 50' coils do not include fittings.

MARS NO.	DESCRIPTION	MARS PACK
79126	1/4" OD x 6.5' aluminum tubing	1

MARS Clear Vinyl Tubing, - Boxed

MARS NO.	DESCRIPTION	CASE QTY.
79131	1/4" ID clear tubing 32 PSI - .375 O.D.	100 feet
79132	3/8" ID clear tubing 27 PSI - .500 O.D.	100 feet
79133	1/2" ID clear tubing 24 PSI - .625 O.D.	100 feet
79134	5/8" ID clear tubing 21 PSI - .750 O.D.	100 feet
79135	3/4" ID clear tubing 19 PSI - .890 O.D.	100 feet
79136	7/8" ID clear tubing 16 PSI - 1.015 O.D.	50 feet

MARS Polyethylene Tubing, FDA Approved

MARS NO.	DESCRIPTION	CASE QTY.
79137	1/4" OD clear tubing boxed 135 PSI @ room temp.	100 feet

MARS Humidifier/Icemaker Kit

The MARS humidifier/icemaker tubing kit includes 25' of FDA approved, 1/4" OD, non-toxic polyethylene tubing. Self tapping saddle valve and compression fittings also included. Polybagged.

MARS NO.	DESCRIPTION	CASE QTY.
79129	Humidifier/icemaker kit	36
79139	MARS saddle valve	1



79126

79131-36

79137

79139



The largest selection of motors, components and accessories for the HVAC/R Industry

SI-75

SERVICE & INSTALLATION

Specialty Tools

MARS SERIES **790**



Specialty Tools

The MARS telescoping pilot match holder with magnet collapses to fit in shirt pocket. Extends to 25". Attractively packaged and barcoded for merchandising.

MARS NO.	DESCRIPTION	MARS PACK
79130	Pilot match holder	1

Inspection Mirrors

MARS offers inspection mirrors for virtually any application! Telescoping types available, along with round glass, oval glass, rectangular glass, round metal and rectangular metal. Attractively carded and barcoded.

MARS NO.	DESCRIPTION	MARS PACK
79350	1 1/4" round dia.glass mirror with 6" arm, adjustable angle	1
79351	2 1/4 round dia.glass mirror with 10 1/2" arm, adjustable angle	1
79352	1" x 2" oval glass mirror with 6" arm, adjustable angle	1
79353	2 1/8" x 3-1/2" rectangle glass mirror with 11"-12" extendible arm	1
79358	2 1/4" dia.round magnifying glass mirror with vinyl grip handle 14 1/2"	1



EVERSPARK Electronic Igniter

Designed to fit your hand. Makes igniting any burner or torch quick & easy. Stands up to the most demanding field applications.

MARS # 79275 is designed for soldering, brazing, cutting, welding, plumbing, heating, refrigeration, air conditioning and process piping, etc...

MARS # 79274 is designed for use with natural or bottled gas. Applications include: hot water heaters, pilots, gas bbq's, gas logs, gas appliances, industrial, residential, camping & RV's.

MARS NO.	DESCRIPTION	CASE QTY.
79275	Everspark Torch Ignitor	12
79274	Everspark II Long Reach Gas Ignitor	12

SERVICE & INSTALLATION

Compressor Terminal Repair Kit

MARS SERIES **862**



Compressor Terminal Repair Kit

Zebra Instruments offers a compressor terminal repair kit. The terminals are high-temp soldered to the 10ga. Fine strand, color coded wires for the best connection. These special terminals allow clearance for compressor post, and lay flat under the safety cover, Twist on wire nuts also provided.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
08565	Compressor Terminal Repair Kit 1 set of 3, terminals/wires/connectors	1	24



Compressor Stake On Repair Kits

MARS SERIES **862**

MARS Compressor Stake On Repair Kits

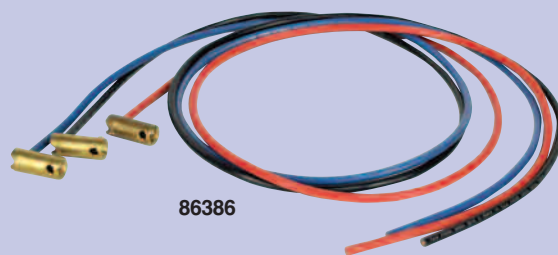
MARS Term-Lok compressor stake on repair kits are designed with the technician in mind! During servicing of the air conditioning system or refrigeration system, it is not unusual for a technician to remove the compressor cover to find the electrical connector or spade terminal broken or melted away from the compressor. In reconnecting the electrical power, the metal plate is often found to have deteriorated to such an extent that the conventional female connector will no longer attach to the spade type male connector. Technology for reattaching a metal plate to the metal pin without damaging the encapsulated block is not normally available thus requiring the technician to attempt various types of crimping arrangements to avoid replacing the compressor assembly (which normally does not work).

The MARS Term-Lok is a brass cylindrical tube with a diameter large enough to slip over the pins and has a stainless set screw to lock onto the terminal. Term-Lok comes in packages of one or three terminal locks with color coded 65 strands, 600 volt permanently attached wire, with wrench provided for easy application. Once installed the compressor cover may be placed back over the terminals without any obstructions.

It takes approximately 15 minutes to install on most systems, thus saving the technician time and the customer money, with virtually no call backs.

MARS NO.	DESCRIPTION	MFG. NO.	CASE QTY.
86386	Brass stake on 12 gauge - 3 wire	TLC-3-12	1
86388	Brass stake on 10 gauge - 3 wire	TLC-3-10	1
86390	Brass stake on 8 gauge - 3 wire	TLC-3-8	1

Term-Lok



86386



Solderless Terminals

MARS SERIES **862**

Quick Disconnects - Insulated (105°C)

MARS solderless terminals are competitively priced, yet manufactured of superior quality materials to rigid quality control standards. Seams are brazed to ensure perfect crimps EVERY TIME!

MARS solderless terminals are UL listed and CSA certified. Terminals are all manufactured in the USA. They are provided in clear, reclosable plastic display boxes. These attractive boxes, with clear and easy-to-read labels provide for visual inspection of the product and encourage impulse buying.

All packages display a MARS bar code for your convenience. MARS solderless terminals are available in two different package sizes. Both sizes enhance contractor self service. The MARS mini-pak display boxes contain very reasonable quantities with all types and sizes sold at one price. Perfect for the handyman, do-it-yourselfer and your sales and counter people. The MARS mini-pak is excellent for that small, unique HVACR odd job. The MARS super-pak contains much larger quantities of the more common solderless terminals at a super value. The contractor and tradesman will make great use of this size reclosable package. Ask your MARS sales representative about our solderless terminal merchandiser program!

MARS NO.	MINI-PAK QTY	SIZE	DESCRIPTION	MARS NO.	SUPER PAK QTY.
86200	20	22-18	.250 (1/4) female tab	86500	100
86201	20	16-14	.187 (3/16) female tab	86501	100
86202	20	16-14	.250 (1/4) female tab	86502	100
86203	15	12-10	.250 (1/4) female tab	86503	50
86219	20	22-18	.187 (3/16) female tab		
86205	20	16-14	.250 (1/4) male tab	86505	100
86207	12	22-18	.250 (1/4) female full insul.	86507	100
86208	12	16-14	.250 (1/4) female full insul.	86508	100
86209	8	12-10	.250 (1/4) female full insul.	86509	50
86220	7	16-14	.250 (1/4) female flag fully insul.	86520	25
86221	6 pair		combo of #86208, 09		
86211	12	16-14	.250 (1/4) male fully insul.		
86216	12	22-18	.250 (1/4) male/female p/back		
86217	12	16-14	.250 (1/4) male/female p/back	86517	100
86218	8	12-10	.250 (1/4) male/female p/back	86518	50



SERVICE & INSTALLATION



The largest selection of motors, components and accessories for the HVAC/R Industry

Solderless Terminals

MARS SERIES **862**



Quick Disconnects - Non-Insulated (149°C)

MARS NO.	MINI-PAK QTY.	SIZE	DESCRIPTION	MARS NO.	SUPER-PAK QTY.
86226	25	16-14	.250 (1/4) female tab	86526	100
86229	25	16-14	.250 (1/4) female flag	86529	100
86236	13	12-10	.250 (1/4) female flag		

Quick Disconnects - Hi Temp To 900°F

MARS NO.	MINI-PAK QTY.	SIZE	DESCRIPTION	MARS NO.	SUPER-PAK QTY.
86239	15	16-14	.250 (1/4) female tab		
86240	12	12-10	.250 (1/4) female tab		
86241	15	16-14	.250 (1/4) female w/crimp		
86242	15	16-14	.250 (1/4) female flag		
86243	10	12-10	.250 (1/4) female flag		
		16-14	.187 (3/16) male tab	86544	100

Rings - Insulated (105°C)

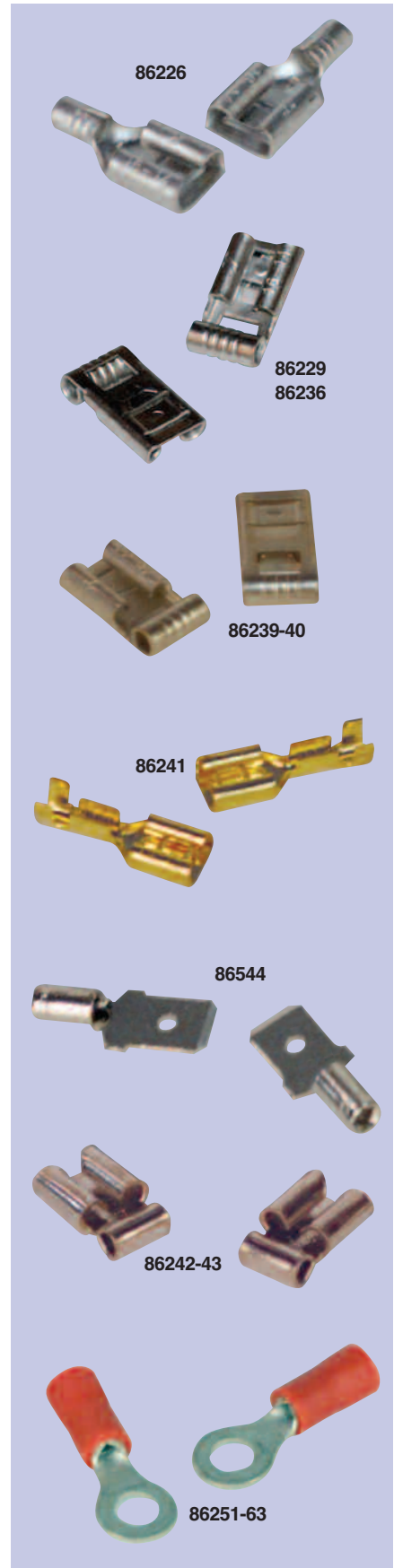
MARS NO.	MINI-PAK QTY.	SIZE	DESCRIPTION	MARS NO.	SUPER-PAK QTY.
86251	20	22-18	#8 stud 11/64 i.d.	86551	100
86252	20	22-18	#10 stud 13/64 i.d.		
86253	20	16-14	#6 stud 9/64 i.d.		
86254	20	16-14	#8 stud 11/64 i.d.	86554	100
86255	20	16-14	#10 stud 13/64 i.d.	86555	100
86258	12	12-10	#8 stud 11/64 i.d.		
86259	12	12-10	#10 stud 13/64 i.d.	86559	50
86260	12	12-10	1/4 stud 17/64 i.d.		
86262	5	8	1/4 stud 17/64 i.d.	86562	25
86263	3	6	1/4 stud 17/64 i.d.		

Rings - Non-Insulated (149°C)

MARS NO.	MINI-PAK QTY.	SIZE	DESCRIPTION	MARS NO.	SUPER-PAK QTY.
		22-18	#10 stud 13/64 i.d.	86569	100
86275	15	12-10	#10 stud 13/64 i.d.		

Rings - High Temp To 900°F

MARS NO.	MINI-PAK QTY.	SIZE	DESCRIPTION
86283	20	16-14	#10 stud 13/64 i.d.
86285	15	12-10	#10 stud 13/64 i.d.



SERVICE & INSTALLATION



Spade Flanged - Insulated (105°C)

MARS NO.	MINI-PAK QTY.	SIZE	DESCRIPTION
86294	15	16-14	#10 stud 13/64 i.d.
86295	12	12-10	#10 stud 13/64 i.d.

Spade - Insulated (105°C)

MARS NO.	MINI-PAK QTY.	SIZE	DESCRIPTION	MARS NO.	SUPER-PAK QTY.
86300	20	22-18	#8 stud 11/64 i.d.	86600	100
86303	20	16-14	#8 stud 11/64 i.d.	86603	100
86304	20	16-14	#6 stud 9/64 i.d.		
86301	15	16-14	#10 stud 13/64 i.d.	86601	100
86302	12	12-10	#10 stud 13/64 i.d.	86602	50

Spade Flanged - Non- Insulated (149°C)

MARS NO.	MINI-PAK QTY.	SIZE	DESCRIPTION
86307	20	22-18	#8 stud 11/64 i.d.
86308	20	22-18	#10 stud 13/64 i.d.

Spade - Non- Insulated (149°C)

MARS NO.	MINI-PAK QTY.	SIZE	DESCRIPTION
86315	25	22-18	#10 stud 13/64 i.d.
86317	15	12-10	#10 stud 13/64 i.d.

Spade Hi Temp To 900°F

MARS NO.	MINI-PAK QTY.	SIZE	DESCRIPTION	MARS NO.	SUPER-PAK QTY.
86323	20	16-14	#10 stud 13/64 i.d.	86623	100

Butt Connectors And Plugs And Receptacles

MARS NO.	MINI-PAK QTY.	SIZE	DESCRIPTION	MARS NO.	SUPER-PAK QTY.
86329	20	22-18	Insulated	86629	100
86330	20	16-14	Insulated	86630	100
86331	15	12-10	Insulated	86631	50
		16-14	Non-insulated	86633	100
86334	20	12-10	Non-insulated		
		8	Non-insulated	86635	25
		22-18	Plug insulated	86637	50 pairs
		16-14	Recept - fully insulated		
			Plug insulated	86638	50 pairs
			Recept - fully insulated		



Solderless Terminals

MARS SERIES **862 & 930**



Closed End Connectors (105°C)

MARS NO.	MINI-PAK QTY.	SIZE	DESCRIPTION	MARS NO.	SUPER-PAK QTY.
86341	25	22-18	Insulated crimp type		
86342	20	16-14	Insulated crimp type	86642	100
86343	15	12-10	Insulated crimp type	86643	50

Tab Adapters - Non Insulated (149°C)

MARS NO.	MINI-PAK QTY.	SIZE	DESCRIPTION	MARS NO.	SUPER-PAK QTY.
86350	20	-	.250 (1/4) 2 male x 1 female	86650	100
86351	15	-	.250 (1/4) 2 male x 1 female	86651	50
			8 stud, male tab, straight, .250		
86353	12	-	.250 (1/4) 2 male x 1 female		

Compressor Terminals - Non Insulated (149°C)

MARS NO.	MINI-PAK QTY.	SIZE	DESCRIPTION	MARS NO.	SUPER-PAK QTY.
86358	13	12-10	.250 (1/4) tab notched for bending	86658	50
86359	8	12-8	.250 (1/4) tab	86659	50

Spade Spring - Insulated (105°C)

MARS NO.	MINI-PAK QTY.	SIZE	DESCRIPTION	MARS NO.	SUPER-PAK QTY.
86366	20	16-14	#8 stud	86666	100
86367	20	16-14	#6 stud		

Line Tap Connectors

MARS NO.	MINI-PAK QTY.	SIZE	DESCRIPTION
86373	8	18-14	tap blue

Compressor Terminal W/Wire Kit

MARS NO.	DESCRIPTION	MARS PACK
86379	Includes 3 color coded #10AWG type AWM extra flexible lead wires in 10" lengths. One end with .250" x .032" female tab 12-10 quick disconnect. Other end stripped 5/16". Supplied with three 12-10 shrink tube butt connectors.	1

Push-On Terminal Kit

The MARS push on terminal kit includes; four push on terminal adapters and four screws. Converts screw type terminals to push on. Use with the MARS 18000 series contactors.

MARS NO.	DESCRIPTION	MARS PACK
93103	(4) push on terminal adapters (4) screws	1



SERVICE & INSTALLATION



Slic-Tite® paste - thread sealants

- Contains more Teflon particles for greater sealing power • Use on metal, PVC, CPVC, and ABS plastic pipe threads • For sealing water, air, steam, natural gas, LP gas, refrigerants, ammonia, gasoline, and oil
- Do not use on Oxygen service, use Teflon tape or Oxytite® Paste • Washes off hands and clothing easily • Non-toxic, non-drying • Sealing temperature range: -50° F to 500° F (-46° C to 260° C)
- Working pressures: 3,000 PSI (204 BAR) for Gas, 10,000 PSI (680 BAR) for liquids
- USDA approved for use in federally inspected meat and poultry plants.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95400*	1.5 oz. tube	12	24
95401	1/4 pt. w/ brushcap	24	24
95402	1/2 pt. w/ brushcap	24	24
95403	1 pt. w/ brushcap	24	24
95406	1qt. w/ brushcap	12	12

* packaged in one dozen per display box

Slic-Tite® Stik w/ Teflon - Thread Sealant

- PTFE thread compound in handy stick form • use on metal and PVC pipe thread connections for water, air, natural gas, steam, gasoline, oil, refrigerants and ammonia
- Do not use on Oxygen service, use Teflon tape • working pressures: 5,000 PSI (340 BAR) - liquid to 500 PSI (34 BAR) -gas
- Temperature range: -50° F to 350° F (-46° C to 177° C)

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95407*	1 1/4 oz. stick	12	24

* packaged in one dozen per display box

Low Density Teflon Tape

- Thickness 3 mils. • Standard grade, low density
- Provides a highly resistant seal on pipe threads for all types of service
- Suitable for use with solvents, chemicals, oxygen, and on food lines
- Non-toxic • Permits easy disassembly, even after years of service
- Meets Mil. Spec. T-27730A
- Sealing temperature range: -450° F to 550° F (-268° C to 288° C)
- Working pressures: 2,000 PSI (136 BAR)
- Sold in case quantities only

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95409	1/2" x 260"	144	144
95410	1/2" x 520"	144	144
95412	3/4" x 520"	144	144

High Density Slic-Tite® Teflon Tape

- Thickness 3 mils. • High density
- Provides a highly resistant seal on pipe threads for all types of service
- Made in USA • Suitable for use with solvents, chemicals, oxygen, and on food lines
- Non-toxic • Permits easy disassembly, even after many years
- Meets Mil. Spec. T-27730A
- Sealing temperature range: -450° F to 550° F, (-268° C to 288° C)
- Working pressures: 2,000 PSI (136 BAR)

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95525	1/4" x 300"	12	12
95526	1/4" x 600"	12	12
95527	1/2" x 300"	12	12
95528	1/2" x 600"	12	12
95530	3/4" x 300"	12	12
95532	1" x 300"	12	12



SERVICE & INSTALLATION

Plumbing & Piping Products

MARS SERIES **954**



SERVICE & INSTALLATION

T.O.T.® Pipe Joint Compound

- No-drip, siliconized for fast application on metal threads
- For water, steam, air, and natural gas service
- Lead free, non-toxic
- Certified by NSF to meet ANSI/NSF Std. 61 for use on potable water
- Do not use on Oxygen service, use Teflon® tape or Oxytite
- Sealing temperature: up to 350° F (177° C)
- Working pressures: to 500 PSI (34 BAR) for liquids to 350 PSI (24 BAR) for gases

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95415	1/2 pt. w/ brushcap	48	48

Pipetite® Paste - Pipe Thread Compound

- Soft set pipe thread compound
- For refrigerants, butane, gasoline, oil, as well as water, steam, air, natural and lp gas
- Use on metal threads
- Classified by Underwriters Laboratories in USA and Canada
- Do not use on oxygen service, use Teflon® or Oxytite®
- Sealing temperature: up to 400° F (204° C)
- Pressures: to 5,000 PSI (340 BAR) for liquids to 2,600 PSI (177 BAR) for gases

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95419	1/4 pt. w/brush cap	24	24
95420	1/2 pt. w/brush cap	24	24

Anaerobic Pipe Thread Sealant

- Contains Teflon® for a positive seal
- Anaerobic adhesive provides locking power
- Contains no solvents, won't shrink and weaken seal
- Seals and locks in the absence of air
- Ideal for threads in heavy vibration areas such as compressors and reciprocating equipment
- Classified by Underwriters Laboratories in USA and Canada
- Do not use on Oxygen service, use Teflon® tape or Oxytite
- Sealing temperature range: -65° F to 400° F (-54° C to 204° C)
- Working pressures: to 10,000 PSI (680 BAR) for liquids to 3,000 PSI (204 BAR) for gases

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95421	50 ml (1.69 oz.)	12	12
95422	250 ml (8.45 oz.)	6	6

Teflon Cords

- Use as packing for faucets, valves, pumps, etc. Also as gasket between flanges
- Smaller sizes come packaged in a unique Visu-Kit that keeps cord clean and ready for use. The durable kit can be mounted over the work bench or carried in a tool box
- Sealing temperature range: -450° F to 550° F (-268° C to 288° C)

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95425	3/32" x 50'	6	6
95426	5/32" x 50'	6	6
95427	7/32" x 10'	6	6

LA-CO®

95415



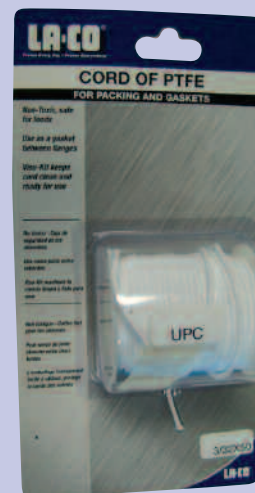
95420



95421



95425





Heat-Seal Stik®

- Fast repairs completed in 90 seconds
- One part epoxy, no mixing or measuring needed
- Stick melts, seals and cures in one operation
- Use on aluminum, copper and other metals, glass and ceramics
- Ideal for use on high and low side of refrigeration systems
- Sealing temperature : up to 350° F (177° C)
- Pressures: to 600 PSI (41 Bar)

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95430	3/8 oz. stick, carded	12	12

Bloc-it® Heat Absorbing Paste

- Effectively absorbs surface heat
- Protects adjoining surfaces that may be damaged by excessive heat
- Safe to use: non-toxic, no asbestos, harmless to skin, and odorless
- Easy to use: apply directly to surface from tube
- Easy to clean: wipe off with cloth or wash with water. Leaves no stains
- Typical uses: protects rubber and plastic components in ball, dielectric, and solenoid valves during soldering; protects painted or finished surfaces from adjacent soldering, brazing or welding; prevents distortion to light gauge metals during brazing or welding

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95455	10 oz. tube	24	24

Cool Gel - Heat Dissipating Spray

- Helps prevent heat damage to components and surrounding materials during soldering, brazing, and welding
- Unique gelled formula sticks to surfaces without dripping or running off
- Clear, non-staining gel leaves no residue, eliminating cleanup
- Safe, non-toxic, harmless to skin and odorless
- Saves time - by eliminating the costly disassembly of valves and other components before soldering, brazing or welding
- Protects the seals and seats in ball, dielectric, and solenoid valves
- Protects painted and finished surfaces from discoloration due to adjacent torch operations
- Protects soldered joints from loosening when soldering adjacent joints

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95536	1 quart	12	12

Regular Flux Paste

- Super detergent action cleans as it solders
- Non-acid, non-toxic, lead free
- Contains no zinc chloride
- Use with all common soft solders including: tin-silver, 96/4, 94/6, 95/5, 50/50, 40/60 and 60/40
- For use on copper, brass, galvanized iron, lead, zinc, tin, silver, nickel, mild steel, terne plate, and malleable iron
- Meets Mil. Spec. Mil-F4995 Type II, Meets ASTM B813
- Water soluble for faster flushing from pipe lines

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95441	2 oz	48	48
95443	4 oz. w/brushcap	48	48
95444	1 lb	24	24



SERVICE & INSTALLATION

Plumbing & Piping Products

MARS SERIES **954**



Silver Brazing Flux Paste

- Powerful cleaning action reduces waste of expensive silver solders
- Packed in break-resistant plastic jars
- Use with torch, furnace, resistance or induction heating
- Meets Mil. Spec. MIL-F-4883
- Certified by NSF to meet ANSI/NSF Std. 61 for use on potable water
- Temperature range: 1000° F to 1700° F (538° C to 927° C)

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95448	2 oz.	48	48
95449	6 oz. w/brushcap	24	24

Regular Soldering Flux Liquid

- Contains no zinc chloride or other heavy metal chloride
- Non-acid, non-toxic, lead free
- Use with new lead-free, tin/silver, plus 40/60, 50/50, 60/40 and 95/5 solders
- For high speed production and mechanized soldering equipment
- For use on copper, galvanized iron, sheet lead, zinc, nickel, tin, silver, mild steel, terne plate, malleable iron
- Packed in break resistant plastic bottles

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95445	1 qt.	12	12

Aluminum Flux Paste & Solder Kit

- Complete repair kit for tradesmen and repairmen
- Solders aluminum easily
- For repairing aluminum evaporators and tubing, ducts, and gutters
- Also solders aluminum to copper
- Blister carded for impulse sales

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95454	1 oz. of alum. flux and 1/2 oz. of #60 solder	12	12

Flux-Rite 90® Flux

- Meets ASTM B-813
- Completely water soluble for faster flushing from pipe lines
- Super detergent action cleans as it solders
- Non-acid, non-toxic, lead-free
- Contains no zinc chloride
- Use with all common soft solders including: tin-silver, 96/4, 94/6, 95/5, 50/50, 40/60 and 60/40
- For use on copper, brass, galvanized iron, lead, zinc, tin, silver, nickel, mild steel, terne plate, and malleable iron

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95456	4 oz.	24	24

Visu-Glow® Leak Detector

- High visibility, fluorescent color shows brightly, even in dimly lit places
- High viscosity, stays on vertical surfaces
- Makes it easy to find leaks
- Temperature range: 15° F to 200° F (-9° C to 93° C)
- Safe for oxygen
- Non-corrosive, non-toxic

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95462	8 oz.	24	24

Sure-Check® All Temperature Leak Detector

- All temperature formula: -55° F to 200° F (-48° C to 93° C)
- Ultra-sensitive, long-lasting bubbles
- Available in handy spray bottle
- Fluorescent for improved visibility
- Safe for oxygen
- Non-corrosive, non-toxic
- Green liquid

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95466	1 pint	24	24
95468	1 quart	12	12

LA-CO®



95449



95445



95454

95456



95466



95462

SERVICE & INSTALLATION



Residential Self Regulating Pipe Tracing Cable

- Cut to length (3 watts/ft @ 120VAC) up to 75 ft.
- Braided metal jacket for dry location application
- Connection kit provides end seal and plugs into standard 120 VAC outlet
- Automatically varies heat output with changes in surrounding temperature
- For use on plastic or metal pipes

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
70701	100' Reel	1	1
70704	Connection Kit	1	10
70705	Pre-set Thermostat (38 degrees)	1	10

Commercial Pipe Freeze Protection Cable

- No thermostat, no plug
- 2 foot orange 14/3 cold lead
- Jacketed for wet or dry applications
- 120 VAC unless noted
- For use on metal pipes only

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
70720	3.28' length, 23 watts	1	20
70721	6.56' length, 46 watts	1	20
70722	6.56' length, 46 watts (240V)	1	20
70723	9.84' length, 69 watts	1	20
70724	13.12' length, 92 watts	1	20
70725	13.12' length, 92 watts (240V)	1	20
70726	16.41' length, 115 watts	1	20
70727	19.69' length, 138 watts	1	20
70728	19.69' length, 138 watts (240V)	1	20
70729	22.97' length, 161 watts	1	10
70730	26.25' length, 184 watts (240V)	1	10
70731	29.53' length, 207 watts	1	10
70732	32.81' length, 230 watts (240V)	1	10

Residential Pipe Freeze Protection Cable

- For use on plastic or metal pipes
- Jacketed for wet or dry applications
- Preassembled ready to install
- Plugs into standard 120 VAC outlet
- Built-In fixed thermostat

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
70710	3' length, 21 watts	1	10
70711	6' length, 42 watts	1	10
70712	9' length, 63 watts	1	10
70713	12' length, 84 watts	1	10
70714	15' length, 105 watts	1	10
70715	18' length, 126 watts	1	5
70716	24' length, 168 watts	1	5
70717	30' length, 210 watts	1	5
70718	40' length, 280 watts	1	5



EASYHEAT



SERVICE & INSTALLATION

Commercial Sr Trace Self Regulating Pipe Tracing Cable

- Cut to length, up to 458' (120VAC)
- Wet (J jacket) or dry (copper braid) applications
- Automatically varies heat output with changes in surrounding temperature

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
70742	250' reel, J jacket 5 watts/ft, (120V)	1	1
70743	250' reel, J jacket 5 watts/ft (240V)	1	1
70744	Heat shrink end seal kit	1	5
70745	Heat shrink power/end connection kit	1	1
70746	Heat shrink splice and "T" connection kit	1	2
70747	250' reel, CB Jacket (120V)	1	1

Hose Clamps

MARS SERIES **783**



Ideal 52 Series - 1/2" Clamps

Ideal manufactures a broad line of standard worm drive and specialty hose clamps designed to satisfy a wide range of applications. The completely mechanical design locks the one piece housing directly to the band using the full strength of the material to provide maximum anti-shear protection. No spot welds to rupture under stress or corrosion, and a one piece housing can not come apart under high loading.

Ideal's 52 series clamps are comprised of a 1/2" stainless steel band with carbon steel housing and a 5/16" plated hex head screw.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79310	Size 06 3/8"-7/8" clamp dia.	10	100
79311	Size 08 7/16"-1" clamp dia.	10	100
79312	Size 10 1/2"-1 1/8" clamp dia.	10	100
79313	Size 12 1/2"-1 1/4" clamp dia.	10	100
79314	Size 16 3/4"-1 1/2" clamp dia.	10	100
79315	Size 20 3/4"-1 3/4" clamp dia.	10	100
79317	Size 24 1"-2" clamp dia.	10	100
79318	Size 28 1 5/16"-2 1/4" clamp dia.	10	100
79316	Size 32 1 9/16"-2 1/2" clamp dia.	10	100
79319	Size 36 7/8"-2 3/4" clamp dia.	10	100
79345	Size 40 1-1/8"-3" clamp dia.	10	100
79309	Size 72 3-1/8"-5" clamp dia.	10	100

Ideal 67-5 Series 1/2" Clamps

Ideal's 67-5 series clamps are all stainless steel. They are comprised of a 1/2" 300 series stainless steel band, housing and a 5/16 hex head screw.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79320	Size 06 3/8"-7/8" clamp dia.	10	100
79321	Size 08 7/16"-1" clamp dia.	10	100
79322	Size 10 1/2"-1 1/8" clamp dia.	10	100
79323	Size 12 1/2"-1 1/4" clamp dia.	10	100
79324	Size 16 3/4"-1 1/2" clamp dia.	10	100
79325	Size 20 3/4"-1 3/4" clamp dia.	10	100
79328	Size 24 1"-2" clamp dia.	10	100
79307	Size 28 1 5/16"-2 1/4" clamp dia.	10	100
79326	Size 32 1 9/16"-2 1/2" clamp dia.	10	100
79327	Size 36 7/8"-2 3/4" clamp dia.	10	100
79308	Size 72 3"-5" clamp dia.	10	100
79304	Size 128 6 1/2"-8 1/2" clamp dia.	50	100
79305	Size 152 8"-10" clamp dia.	50	100
79306	Size 188 10"-12" clamp dia.	50	50

Ideal 50" All Stainless 1/2" Clamp For Ducts

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79329	Size 248 14"-16" clamp dia.	50	100

IDEAL





Hose Clamps & Merchandisers

MARS SERIES **783**

Ideal 52 Series Micro Gear Clamps

Ideal's 52 series micro-gear clamps consist of a 5/16" stainless steel band with carbon steel housing and 1/4" plate hex-head screw.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79330	Size 04 7/32"-5/8" clamp dia.	10	100
79331	Size 06 5/16"-7/8" clamp dia.	10	100
79332*	Size 12 9/16"-1 1/4" clamp dia.	10	100
79333*	Size 16 11/16"-1 1/2" clamp dia.	10	100
79334*	Size 20 7/8"-1 3/4" clamp dia.	10	100

* size 12 and larger have a stainless steel housing

Ideal 62M Series Micro Gear Clamps

Ideal's 62M series micro gear clamps are all stainless. They are comprised of a 5/16" stainless steel band, housing and 1/4" hex-head screw.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79340	Size 04 7/32"-5/8" clamp dia.	10	100
79341	Size 06 5/16"-7/8" clamp dia.	10	100
79342	Size 12 9/16"-1 1/4" clamp dia.	10	100
79343	Size 16 11/16"-1 1/2" clamp dia.	10	100
79344	Size 20 7/8"-1 3/4" clamp dia.	10	100



IDEAL

SERVICE & INSTALLATION

Flexible Gas Appliance Fittings & Valves

MARS SERIES **734 & 643**



Flexible Stainless Steel Gas Range Connectors 1/2" I.D. (5/8" O.D.) With Fittings

Brass Craft coated stainless steel gas connectors are known for superior quality and reliable performance. The ProCoat polymer based yellow coating resists corrosion from sea, salt, UV rays and the harsh chemical vapors from common household cleaning, plumbing repair and building products such as: ammonia, chlorine, solder flux, muratic acid, and bleach. These ProCoat gas connectors provide great strength and flexibility making installation easier.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
73402	18"L-1/2" MIP x 1/2" MIP	1	25
73403	24"L-1/2" MIP x 1/2" MIP	1	25
73404	36"L-1/2" MIP x 1/2" MIP	1	25
73405	48"L-1/2" MIP x 1/2" MIP	1	25
73410	24"L-3/4" FIP x 3/4" FIP	1	25
73411	36"L-3/4" FIP x 3/4" FIP	1	25
73412	48"L-3/4" FIP x 3/4" FIP	1	25
73418	36"L-1/2" FIP x 1/2" FIP	1	25
73419	48"L-1/2" FIP x 1/2" FIP	1	25
73422	12"L-3/4" FIP x 3/4" MIP	1	25
73423	18"L-3/4" FIP x 3/4" MIP	1	25
73424	24"L-3/4" FIP x 3/4" MIP	1	25
73425	36"L-3/4" FIP x 3/4" MIP	1	25
73426	48"L-3/4" FIP x 3/4" MIP	1	25
73427	60"L-3/4" FIP x 3/4" MIP	1	25
73429	12"L-1/2" FIP x 1/2" MIP	1	25
73430	18"L-1/2" FIP x 1/2" MIP	1	25
73431	24"L-1/2" FIP x 1/2" MIP	1	25
73432	36"L-1/2" FIP x 1/2" MIP	1	25
73433	48"L-1/2" FIP x 1/2" MIP	1	25
73434	60"L-1/2" FIP x 1/2" MIP	1	12

Flexible Stainless Steel Gas Dryer Connectors 3/8" I.D. (1/2" O.D.) With Fittings

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
73438	24"L-1/2" MIP x 1/2" MIP	1	25
73439	36"L-1/2" MIP x 1/2" MIP	1	25
73440	48"L-1/2" MIP x 1/2" MIP	1	25
73445	24"L-1/2" FIP x 1/2" MIP	1	25
73446	36"L-1/2" FIP x 1/2" MIP	1	25
73447	48"L-1/2" FIP x 1/2" MIP	1	25
73448	60"L-1/2" FIP x 1/2" MIP	1	12

Flexible Stainless Steel Gas Dryer Connectors 3/8" I.D. (1/2" O.D.) With Valves

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
73457	18"L-1/2" MIP x 1/2" FIP-BALL	1	25
73458	24"L-1/2" MIP x 1/2" FIP-BALL	1	25
73459	36"L-1/2" MIP x 1/2" FIP-BALL	1	25

Flexible Stainless Steel Gas Heater Connectors 1/4" I.D. (3/8" O.D.) With Fittings

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
73461	12"L-1/2" FIP x 1/2" MIP	1	25
73464	36"L-1/2" FIP x 1/2" MIP	1	25

Steel Gas Fittings For 7/8" O.D. Connectors

With MARS male gas fittings, wholesalers need fewer items on the shelf and contractors need fewer parts on the job. Tapped gas fittings hook up gas connectors to male or female iron pipe and female in-line gas valves. One fitting does many jobs.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
73480	straight-5/8" OD x 1/2" MIP (tapped 3/8" FIP)	25	25
73481	straight-5/8" OD x 3/4" MIP (tapped 1/2" FIP)	25	25

Steel Gas Fittings For 1/2" O.D. Connectors

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
73483	straight-1/2" OD x 1/2" FIP	25	25

MARS Gas Ball Valves

MARS gas ball valves are for use with natural, manufactured and mixed gases, as well as liquified petroleum and LP gas/air mixtures. Corrosion fighting chrome plated brass ball and aluminum, quarter turn handle. MARS gas ball valves feature threads that conform to all appropriate standards.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
73492	straight-1/2" OD x 1/2" FIP	10	10
73494	straight-5/8" OD x 3/4" FIP	10	10
73495	straight-1/2" FIP x 1/2" FIP	10	10
73496	straight-3/4" FIP x 3/4" FIP	10	10

NIBCO Gas Ball Valves - Type GB1

- Tamper proof brass ball valve
- Female x Female threads
- Lever Handle
- 5 psi for indoor shutoff
- 1/2 psi for indoor appliance connections
- AGA 3-88, CGA 9.1, CGA 9.2, CR91-002, ANSI Z21.15

MARS NO.	NOM. SIZE	DIMENSIONS (INCHES)				MARS PACK	CASE QTY.
		A	B	C	D		
64317	1/2	2.21	1.34	1.93	0.47	20	120
64318	3/4	2.38	1.41	1.93	0.59	10	120

MARS Cross Reference Guide

MARS NO.	NIBCO	MUELLER	B & K	HAMMOND	LEGEND
64317	GB1 1/2	T220012	110-523	875 1/2	T3000 1/4
64318	GB1 3/4	T220034	110-524	875 3/4	T3000 3/4

SERVICE & INSTALLATION

PVC Cement, Cleaner & Primer

MARS SERIES **730**

Oatey All Purpose Cement - ABS, PVC, CPVC

Oatey all purpose cement is a heavy bodied, clear cement recommended for use on ABS, PVC or CPVC pipe and fittings. For all pipe schedules, potable water pressure pipe, gas, conduit, drain waste and vent pipe. Flows freely and provides a thick layer of cement on the pipe. Helps to fill gaps in larger diameter pipe and loose fitting joints. Apply at temperature 40°F to 100°F. Exceeds performance requirements of ASTM D-2564, D-2864, D-2235, F-493. Special applicator brush cap for fast and easy installation.



MARS NO.	DESCRIPTION	MARS PACK
73161	4 oz. clear	24
73162	8 oz. clear	24
73163	16 oz. clear	24

Oatey Heavy Duty Cement - PVC

Oatey heavy duty cement is recommended for use on pvc pipe and fittings up to 12" in diameter for schedule 40 and schedule 80 potable water pressure pipe, gas, conduit, drain waste and vent pipe. This heavy bodied cement flows freely and provides a thick layer of cement on the pipe. A special brush cap applicator is provided. Apply at temperatures 40°F to 100°F. This clear cement helps to fill gaps in larger diameter pipe and loose fitting joints. Exceeds ASTM D-2564.



MARS NO.	DESCRIPTION	MARS PACK
73165	4 oz. clear	24
73166	8 oz. clear	24
73167	16 oz. clear	24

Oatey Regular Cement - PVC

Oatey regular cement is recommended for use on PVC pipe and fittings up to 4" for DWV or schedule 40 and up to 2" for schedule 80 potable water pressure pipe, gas, conduit, drain waste and vent pipe. It flows freely and sets up quickly. Apply at temperatures 40°F to 100°F. Exceeds ASTM D-2564. Special brush top applicator.



MARS NO.	DESCRIPTION	MARS PACK
73174	4 oz. clear	24
73175	8 oz. clear	24
73176	16 oz. clear	24
73177	32 oz. clear	12

Oatey Rain-R-Shine™ Cement - PVC

Oatey Rain-R-Shine™ is a blue colored cement recommended for PVC pipe and fittings up to 6" in diameter. A very fast setting cement formulated for wet conditions and/or when quick pressurization and fast installation is needed. For schedule 40 and schedule 80 potable water pressure pipe, irrigation, gas, conduit, drain waste and vent pipe. This medium bodied cement flows freely and covers with a thicker layer than regular PVC. Apply at temperatures 40°F to 100°F.



MARS NO.	DESCRIPTION	MARS PACK
73150	4 oz. blue	24
73151	8 oz. blue	24

Oatey Clear Primer - NSF Listed - PVC, CPVC

Oatey clear primer is a clear aggressive primer for use on PVC and CPVC pipe and fittings for all schedules and diameters. This NSF listed formula removes all surface dirt, grease and grime as well as softens pipe in preparation for solvent cement. Meets ASTM F-656.

MARS NO.	DESCRIPTION	MARS PACK
73186	16 oz. clear	24

Oatey All Weather Cement-PVC

Oatey all weather cement is recommended for use on PVC pipe and fittings up to 6" in diameter. Formulated for fast initial set up at temperatures down to 10°F, for schedule 40 and schedule 80 potable water pressure pipe, gas, conduit, drain waste and vent pipe. This medium bodied, clear cement flows freely and maintains good gap filling properties. Apply at temperatures 10°F to 100°F. Exceeds ASTM D-2564.



MARS NO.	DESCRIPTION	MARS PACK
73156	16 oz. clear	24
73157	32 oz. clear	12

Oatey Purple Primer - PVC, CPVC

Oatey purple primer is recommended for use on PVC and CPVC pipe and fittings, all schedules and diameters. This purple tinted aggressive primer is formulated to remove surface dirt, grease and grime, as well as, soften the pipe surface to allow for a fast, secure and permanent solvent weld. For use in area where code calls for verification that a primer has been used. Exceeds ASTM F-656.



MARS NO.	DESCRIPTION	MARS PACK
73178	4 oz. purple	24
73179	8 oz. purple	24
73180	16 oz. purple	24
73185	32 oz. purple	24

Oatey All Purpose Cleaner - PVC, CPVC, ABS

Oatey all purpose cleaner is recommended for use on ABS, PVC and CPVC pipe and fittings, all schedules and diameters. This fast acting cleaner removes surface dirt, grease and grime. Flows freely and evaporates quickly. Does not penetrate pipe surface. Apply at temperatures 40°F to 100°F.

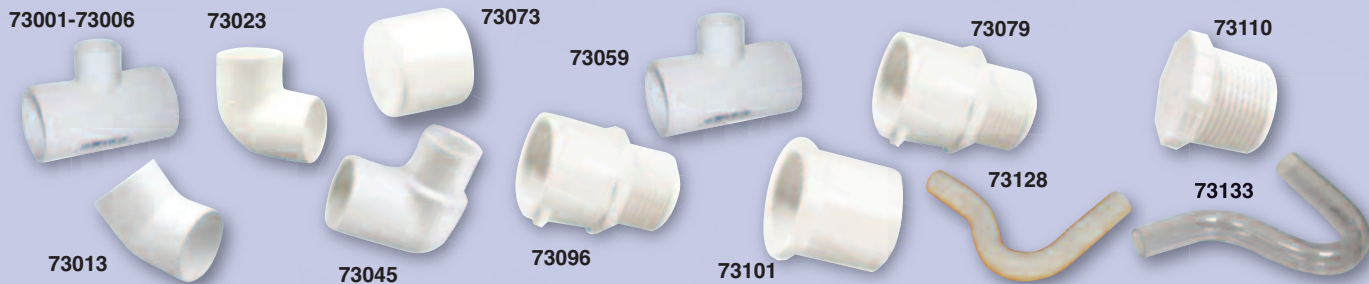


MARS NO.	DESCRIPTION	MARS PACK
73170	8 oz. clear	24
73171	16 oz. clear	24
73172	32 oz. clear	12

SERVICE & INSTALLATION

Schedule 40 PVC Fittings & Traps

MARS SERIES **730**



SERVICE & INSTALLATION

Schedule 40 - PVC Couplings

MARS NO.	DESCRIPTION	MARS PACK
73001	1/2" slip x slip	100
73002	3/4" slip x slip	50
73003	1" slip x slip	50
73006	2" slip x slip	25

Schedule 40 - PVC Elbow 45°

MARS NO.	DESCRIPTION	MARS PACK
73013	3/4" slip x slip	50

Schedule 40 - PVC Elbow 90°

MARS NO.	DESCRIPTION	MARS PACK
73023	1/2" slip x slip	50
73024	3/4" slip x slip	50
73025	1" slip x slip	50
73033	3/4" slip x FPT	50

Schedule 40 - PVC Street Elbow 90°

MARS NO.	DESCRIPTION	MARS PACK
73045	3/4" slip x slip	50
73051	3/4" slip x MPT	50

Schedule 40 - PVC Caps

MARS NO.	DESCRIPTION	MARS PACK
73073	3/4" slip	100
73075	3/4" FPT	100

Schedule 40 - PVC Reducing Adapters

MARS NO.	DESCRIPTION	MARS PACK
73096	3/4" MPT x 1/2" slip	50

Schedule 40 - PVC Tees

MARS NO.	DESCRIPTION	MARS PACK
73059	1/2" all slip	50
73060	3/4" all slip	50
73061	1" all slip	50
73058	3/4" slip x FPT x slip	50
73066	3/4" clean-out tee (2 pk)	1

Schedule 40 - PVC Adapters

MARS NO.	DESCRIPTION	MARS PACK
73079	1/2" slip x MPT	50
73080	3/4" slip x MPT	50
73081	1" slip x MPT	50
73086	3/4" slip x FPT	50
73087	1" slip x FPT	50

Schedule 40 - PVC Reducing Bushings

MARS NO.	DESCRIPTION	MARS PACK
73101	3/4" slip x 1/2" slip	50
73102	1" slip x 3/4" slip	50

Schedule 40 - PVC Plugs

MARS NO.	DESCRIPTION	MARS PACK
73110	3/4" MPT plug	50

Schedule 40 - PVC Traps

MARS NO.	DESCRIPTION	MARS PACK
73126	3/4" P-trap	1
73128	3/4" mini P-trap	1
73129	3/4" super P-trap	1
73131	3/4" R trap	1
73133	3/4" PVC P-trap Clear	1
73134	3/4" PVC Mini P-trap Clear	1
73135	3/4" PVC Super P-trap Clear	1
73136	3/4" PVC R-trap Clear	1

MARS Nylon & Galvanized Fittings & Nipples

MARS SERIES **730**

Excellent for clear vinyl tubing! All nylon parts are white.

Adapter Nylon Fitting

MARS NO.	DESCRIPTION	CASE QTY.
73201	Adapter 1/4 barb x 1/4 MPT - 10/pack	1
73203	Adapter 3/8 barb x 3/8 MPT - 10/pack	1
73204	Adapter 3/8 barb x 1/2 MPT - 8/pack	1
73206	Adapter 1/2 barb x 1/2 MPT - 6/pack	1
73207	Adapter 1/2 barb x 3/4 MPT - 4/pack	1
73208	Adapter 5/8 barb x 3/4 MPT - 4/pack	1
73209	Adapter 3/4 barb x 3/4 MPT - 4/pack	1

Elbow Nylon Fitting

MARS NO.	DESCRIPTION	CASE QTY.
73227	Elbow 3/8 barb x 3/8 MPT - 4/pack	1
73229	Elbow 1/2 barb x 1/2 MPT - 4/pack	1
73230	Elbow 1/2 barb x 3/4 MPT - 4/pack	1
73231	Elbow 5/8 barb x 1/2 MPT - 4/pack	1
73232	Elbow 5/8 barb x 3/4 MPT - 4/pack	1
73234	Elbow 3/4 barb x 3/4 MPT - 4/pack	1
73243	Hose mender 3/8 barb - 5/pack	1
73244	Hose mender 1/2 barb - 4/pack	1
73245	Hose mender 5/8 barb - 4/pack	1

Tee Nylon Fitting

MARS NO.	DESCRIPTION	CASE QTY.
73252	Tee 3/8 x 3/8 x 3/8 barb - 5/pack	1
73253	Tee 1/2 x 1/2 x 1/2 barb - 4/pack	1
73265	Drain plug 3/4 square head - 5/pack	1
73268	Drain plug 3/4 hex head - 5/pack	1

NIBCO DWV Couplings

MARS NO.	DESCRIPTION	CONNECTION TYPE	CASE QTY.
73269	2" coupling	hub x hub	100
73270	3" coupling	hub x hub	50
73271	3" X 2" adapter coupling	hub x hub	50

NIBCO DWV Couplings 90° Elbows

MARS NO.	DESCRIPTION	CONNECTION TYPE	CASE QTY.
73274	2" 90° elbow long turn	hub x hub	50
73275	3" 90° elbow long turn	hub x hub	25
73278	2" 90° street elbow long turn	spg x hub	20

NIBCO DWV Couplings 45° Elbows

MARS NO.	DESCRIPTION	CONNECTION TYPE	CASE QTY.
73280	2" 45° elbow	hub x hub	50
73281	3" 45° elbow	hub x hub	20
73282	2" 45° street elbow	spg x hub	50



SERVICE & INSTALLATION

Condensate Products

MARS SERIES **932 & 934**



MARS Condensate Clean-Out Tablets

MARS **TAB™**, condensate and drip pan clean-out tablets, prevent plugging of air conditioning condensate drip pans and drain lines.

MARS **TAB™** does not release any chlorine or other noxious fumes. This economical, simple positive protection can be used on steel, copper, galvanized, painted surfaces and other materials without damage. It is one of the few treatments that will not stain exterior wall when line drains outside.

MARS NO.	DESCRIPTION	MARS PACK
93202	MARS TAB™ (100 tablets per bottle)	18

MARS One-Shot® Kits - 24 Applications Per Can

MARS One-Shot® is all it takes to instantly clear clogs. MARS One-Shot® drain opener kit instantly clears blockages in all types of fixtures and drains while simultaneously delivering a specially designed enzyme ingredient. This enzyme continues to dissolve grease buildup in the drain long after the initial blockage was cleared. The kit includes: One-Shot drain opener can 3.6 oz., three foot extension hose and twist fit adapter for ice markers and condensate drain pans.

Benefits & Features:

- Enzyme activated
- No ozone depleting chemicals
- Safe for sewers & septic systems
- Works instantly
- Sanitary and easy to use
- Universal adapter for all types of fixtures
- Seamless aluminum container will not rust
- For drains from 3/8" i.d. to 7/8 i.d.
- Made in the USA
- 12 applications per can

For Use On:

- Condensate pans
- Ice machines
- Bar sinks
- Toilets
- Bathtubs
- Kitchen sinks
- Shower drains
- Floor drains.
- Lavatories

MARS NO.	DESCRIPTION	MARS PACK
93220	MARS One-Shot® drain opener (7 oz.)	25
93221	MARS One-Shot® refill can (7 oz.)	36

Panseal

Seals and Restores Leaking and Rusted Drain Pans

Panseal is a unique multi-component 2 part epoxy designed to quickly and permanently seal, repair, and restore leaking and corroded drain pans. The product is available in caulk gun cartridges for easy application, gallon size containers for larger surfaces such as cooling towers, patch kits for vertical surfaces and single use 250 gram burst-seal bags. All contain pre-measured amounts of resin and hardener.

- Works in standing water
- Seals leaks immediately
- No surface preparation
- No system down time
- Works on both metal and plastic pans
- 100% solids and entirely free of solvents and volatile organic compounds

MARS NO.	DESCRIPTION	MARS PACK
93526	Panseal Cartridge	1
93527	Panseal Gallon	1
93528	Panseal Patch	1
93579	Panseal Bag	1
93500	Cartridge Nozzle	12



SERVICE & INSTALLATION

X-Treme Tape

MARS SERIES **932**

X-Treme Tape

Originally developed for the military, X-Treme Tape is a high quality wrap made from a special silicone compound that adheres to itself when wrapped under tension. 1"W x 10'L roll is packaged in a clamshell and sold in 18 count display cases. Great for emergency repairs of all kinds:

- No Adhesive, bonds to itself
- Cures into a homogeneous mass
- Won't melt up to 500° F
- Remains flexible to -60° F
- Forms a permanent air & water tight seal
- Tensile strength of 600 psi
- Insulates to 8,000 Volts
- Conforms to irregular shapes, stretches to 3x's its length

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
93299	X-Treme tape	18	18



93299

SERVICE & INSTALLATION



Circuit Protection Products

MARS SERIES **832**

Circuit Protection

The ZBreaker set from Zebra Instruments protects systems that you install or service from damage caused by shorts, overheating, or wiring problems. A sticker is included so that, if the Tech desires, he can inform his customer where to press the "reset" button and possibly save a midnight service call.

The same circuit breakers now found on many high-end transformers and systems, but at a great price! Kit includes wires and pre-installed terminals that allow you to easily plug it in to the connectors where a plastic-type fuse existed. 3 Amp Size.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
08574	ZBreaker Set - 3A	1	24

The Short-Pro Tool is a 24 volt system "short-finder". This helps the tech locate a control voltage short. A built-in automatically resetting circuit breaker turns on a bright red LED when tripped. As the tech removes the short, the breaker automatically resets, the LED goes out, and the circuit is restored. Lightweight and compact, with two 18" leads.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
08577	Short Finder Pro Tool	1	24



08574

08577



MARS Multimeters

MARS SERIES **657**



MARS Digital Multimeters

MARS digital multimeter #65748 is a compact pocket sized multimeter for measuring DC and AC voltage, DC current, resistance and diode. This economy digital multimeter offers full range overload protection and low battery voltage indication. Unit comes complete with a 9V battery and test leads, and also includes a temperature probe.

SPECIFICATIONS

FUNCTION	RANGE	RESOLUTION	ACCURACY
DCV	200 mV	100 μ V	$\pm 0.5\%$ of rdg $\pm 2D$
	2 V	1 mV	
	20 V	10 mV	
	200 V	100 mV	
	1000 V	1 V	
AC (50/60Hz)	200 V	100 mV	$\pm 0.8\%$ of rdg $\pm 2D$
	750 V	1 V	
DCA	200 μ A	0.1 μ A	$\pm 1\%$ of rdg $\pm 2D$
	2000 μ A	1 μ A	$\pm 1\%$ of rdg $\pm 2D$
	20 mA	10 μ A	$\pm 1\%$ of rdg $\pm 2D$
	200 mA	100 μ A	$\pm 1.2\%$ of rdg $\pm 2D$
	10 A	10 mA	$\pm 2\%$ of rdg $\pm 2D$
OHM	200 Ω	100 m Ω	$\pm 0.8\%$ of rdg $\pm 2D$
	2000 Ω	1 Ω	$\pm 0.8\%$ of rdg $\pm 2D$
	20 K Ω	10 K Ω	$\pm 0.8\%$ of rdg $\pm 2D$
	200 K Ω	100 K Ω	$\pm 0.8\%$ of rdg $\pm 2D$
	2000 K Ω	1 K Ω	$\pm 1\%$ of rdg $\pm 2D$
Diode Test	Test current 1.6mA: Voltage 2.8V		
Transistor Test	0-1000 hFE of PNP or NPN transistors		
* Temperature	-4 $^{\circ}$ F to 2498 $^{\circ}$ F -20 $^{\circ}$ C to 1370 $^{\circ}$ C		

65748



65749



MARS Digital Clamp-On Meters

Features:

- AC Current • DC/AC Voltage • Resistance • Continuity Check
- Continuity check buzzer sounds at approx. 50 ohm max
- Peak Hold & Data Hold • 1.3" (33mm) Clamp Jaw Opening
- Large 0.68", 3-1/2 digit LCD with low battery indicator
- Includes test leads, manual and carry case
- Overload protection provided for all ranges
- Meets IEC 1010 Safety Standard • 9 volt battery included

Range: 0-600 A

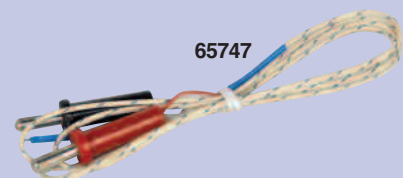
Resolution: 1 A

Frequency: 50/60 Hz (+/- 1.5% rdg +/- 4 dgt)
40-400 Hz (+/- 2.5% rdg +/- 4 dgt)

MARS Multimeters

MARS NO.	DESCRIPTION	MARS PACK
65748*	Digital multimeter w/temperature	1
65749	Digital clamp-on meter	1
65747	Replacement temp. leads for 65748	1

65747





MARS Capacitor Tester

Features:

- Easy to use
- 9V battery and test leads included
- Low battery indicator

Specifications:

Range	Resolution	Accuracy	Test Frequency
200pF	0.1pF	± (0.8% + 7)	800Hz
2000pF	1pF	± (0.8% + 5)	
20nF	10 pF		
200nF	100pF	± (0.5% + 5)	80Hz
2 μF	1000pF	± (0.8% + 5)	
20 μF	0.01 μF		
200 μF	0.1 μF	± (2.0% + 5)	8Hz
2000 μF	1 μF	± (2.0% + 5)	
20mF	10 μF	± (5.0% + 5)	

MARS Analog Multimeter

The MARS analog multimeter, MARS #86143, offers fuse and diod protection. This meter is ideal for testing electrical and electronic circuits. This pocket size, lightweight meter features easy to read, two color scale, recessed safety designed input terminals and 12 ranges plus separate off position. Comes complete with test leads, battery, fuse and instruction manual.

Specifications:

- DC voltage: 0-10/50/250/500Vdc
- AC voltage: 0-50/250/500Vdc
- DC current: 0-50/250mAdc
- Battery: 1.5V button cell/1.5V "AA"
- Resistance: 0-10M Ohm (5K Ohm mid-scale)
- Decibels: -20 to +56dB (on AC ranges)

MARS Test Instruments

MARS NO.	DESCRIPTION	MARS PACK
65746	MARS capacitor tester	1
86143	MARS economy analog multimeter	1

Safety Power Adapters

Zebra'Dapter's provide visual indication of voltage levels before damage can occur. One is a fused power tap cordset & the other is a cheater cord used for a safer way to obtain and use 120V power. They are lighted to show the voltage level available, and if the indicator light is ignored, the fused circuit provides a last line of defense to protect you and your customer's equipment. These adapters are significantly a safer way to obtain 120V power.

MARS No. 08566 (Male end) has an in-Line fuse. (Two fuses included). Safer Power from Outlet to test Motors, Components & Systems

MARS No. 08567 (Female end) shows the voltage level at the plug. Used to check 120V power to run vacuum pumps, charging scales, drop lights, etc. lighting

Lighted Plug confirms Power

- No light means no power
- Normal light means 120VAC
- A brilliant light means you accidently hooked it up to 240VAC

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
08566	Fused Cheater Power Cord (male end)	1	12
08567	Fused Power Tap Cordset (female end)	1	12



SERVICE & INSTALLATION

Electrical Testers

MARS SERIES **861**



MARS Volt Stick

The Volt Stick is an instrument for safely checking the presence of an AC voltage in cables, wall outlets, fuses, circuit breakers, junction boxes, power tools and appliances. Also, distinguishes between live and neutral wire in single or three phase supplies. No current flow is needed for correct operation of the Volt Stick. When a voltage is detected, a red indicator in the plastic tip of the Volt Stick illuminates. No contact is needed, unit operates at 1/8" distance from device.

Specifications

- Voltage range: 110 to 480 volts AC
- Not sensitive to stray electromagnetic static
- Response time: instantaneous
- Case breakdown: 4000 volts
- Operation temp: 0° to 120°F
- Batteries: two AAA, 1.5 volt alkalines included

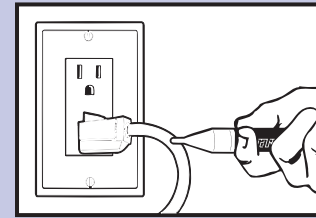
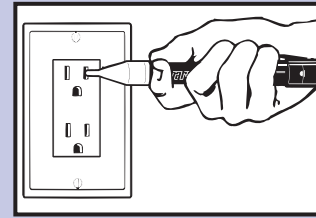
MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
86142	Volt Stick	1	12

MARS Voltage Tester - Carded

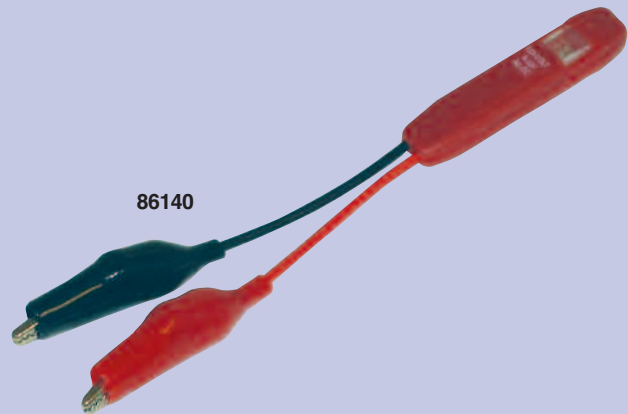
The low voltage tester with insulated leads is the fast, easy way to trace and check low voltage AC or DC circuits from 5 to 50 volts. The built-in indicator lamp lights up dim or bright depending on the voltage tested. Comes with pocket clip.

MARS NO.	DESCRIPTION	MARS PACK
86140	Low voltage tester	1

86142



86140





Heat Shrink Tubing & Test Leads

MARS SERIES **861**

MARS Heat Shrink Tubing - Black

The MARS heat shrink tubing shrinks to fit approximately one half its diameter. This polyolefin, flame retardent tubing insulates wiring, repairs cords, covers tool handles, makes strong rope loops and neat ends. It may be easily assembled over irregular shapes. UL and CSA rated. Operating temperature; -55°C to 110°C. Shrink temperature; 120°C to 250°C. Attractively packaged in a dispenser disk for easy dispensing. Simply unwind and cut the amount you need, then wind the unused tubing back into the disk. This clear disk permits visual stock status and keeps tubing clean and protected. Disk packs are center punched for merchandising.

MARS NO.	TUBE SIZE	EXPAND DIA.	RECOVER DIA.	LENGTH	MARS PACK	CASE QTY.
86163	3/16"	.187	.093	4'	1	10
86164	1/4"	.250	.125	4'	1	10
86165	5/16"	.312	.156	4'	1	10
86166	3/8"	.375	.187	4'	1	10
86167	1/2"	.500	.250	4'	1	10
86168	3/4"	.750	.375	4'	1	10

MARS Heat Shrink Tubing Kit And Replacement Packs

MARS NO.	DESCRIPTION	KIT QTY	MARS PACK	CASE QTY.
86170	Heat shrink tubing kit			
86173	3/8" exp. i.d. red 4"L 24/bag	12	1	1

MARS Test Leads - Pkg'd In Poly Bags

MARS NO.	CLIP SIZE	TYPE	CASE COLORS	WIRE SIZE	L	BAG QTY.
86070	Sm	Alligator	Wht, red, blk, yellow, grn	18	18"	10
86071	Med	Alligator	Red/blk w/boots	18	24"	2
86073	Lg	Alligator	Red/blk w/boots	14	24"	2
86074	Lg	Battery	Red/blk w/boots	16	36"	2

MARS Special Leads - Pkg'd In Poly Bags

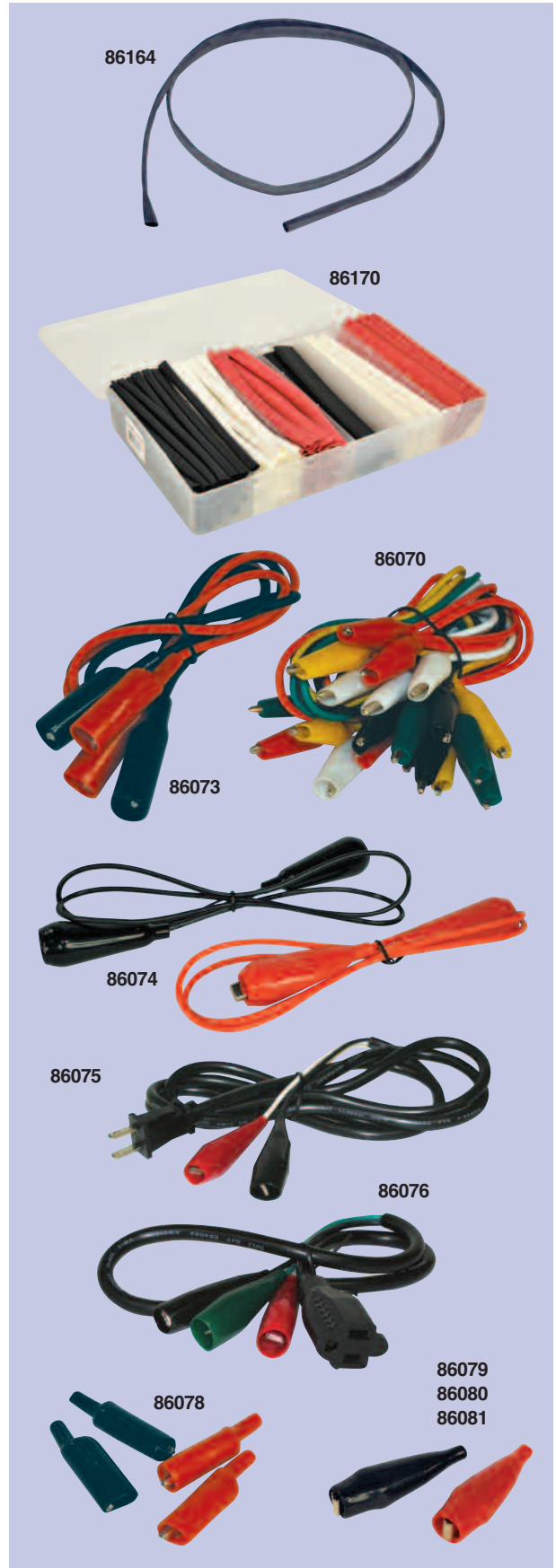
MARS NO.	CLIP SIZE	DESCRIPTION	WIRE SIZE
86075	Med	6'-2 wire test cord w/red & blk insul. clips	16
86076	Med	24" - 3 wire test cord w/fem plug & 3 insul. clips	16

MARS Alligator & Battery Clips - Pkg'd in Zip Lock Bag

MARS NO.	CLIP SIZE	TYPE	DESCRIPTION	BAG QTY.
86078	Med	Alligator	Red/blk (1 ea. color boot - 2 clips)	1 pr.
86079	Sm	Battery	Red/blk (1 ea. color boot - 2 clips)	1 pr.
86080	Med	Battery	Red/blk (1 ea. color boot - 2 clips)	1 pr.
86081	Lg	Battery	Red/blk (1 ea. color boot - 2 clips)	1 pr.

Zebra Alligator Leads - Clamshell

MARS NO.	CLIP SIZE	TYPE	DESCRIPTION	BAG QTY.
08572	Sm	Alligator	5 different colors (up to 6A)	5
08573	Med	Alligator	8 different colors (up to 15A)	8



SERVICE & INSTALLATION



Batteries

MARS SERIES **794**



SERVICE & INSTALLATION

Eveready Industrial Alkaline - Bulk

Motors & Armatures, Inc., and the Eveready Battery Company offer a complete line of alkaline, general purpose and lantern batteries. These high quality batteries are made in the U.S.A. and are competitively priced.

The Eveready Energizer Industrial Alkaline batteries are environmentally safe. The new black and green shell signifies the "ZMA" (zero mercury added) formulation. This provides a better discharge rate, lower impedance and better low temperature performance than carbon zinc. These ZMA alkaline batteries are also less sensitive to changes in the discharge rate or duty cycle.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79401	D cell - 1.5V	12	72
79402	C cell - 1.5V	12	72
79403	AA - 1.5V	24	144
79404	AAA - 1.5V	24	144
79406	6V GP lantern battery	12	72
79405	9V	12	72
79458	lithium coin - 3V	6	6

Eveready Industrial Alkaline - Carded

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79441	D cell - 2 pack	12	48
79442	C cell - 2 pack	12	48
79443	AA - 4 pack	12	48
79444	AAA - 4 pack	12	48
79445	9V - 4 pack	12	48
79457	AAAA - 2 pack	6	6

Bulk Battery Counter Display

Increase your battery sales with the MARS battery counter display. This attractive, eye-catching display incorporates a gravity feed design that conveniently dispenses one battery at a time. This space saver display holds (11) D cells, (14) C cells, (26) AA cells, (36) AAA cells and (14) 9V batteries. Purchase three MARS bulk packs of each alkaline battery size and receive your display FREE! Ask your MARS Representative for details!

MARS NO.	DESCRIPTION	MARS PACK
79410	Counter display (empty)	1

Eveready Watch/Calculator Batteries

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79467	#386 1.5V repl. SR43W, SP386, GP86, H, S150, SG12	6	480
79468	#393 1.5V repl. SR48, RW48, F, SR754W, 546, 515	5	100
79469	#357 1.5V repl. SR44, RW42, J, SR44W, 541, 547	6	480



Flashlights & Laser Engraving Program

MARS SERIES **792**

MAGLITE® Laser Engraving Program

Motors & Armatures is pleased to offer the Mag-Lite Laser Engraving Program. A Maglite® flashlight can be permanently laser engraved with your company's name or logo. This makes an outstanding gift when you, or your company want to be remembered in the very finest light.

Flashlights are available in our standard blister pack or an attractive presentation gift box for an additional nominal fee per flashlight. The minimum order quantity for the Maglite® Laser Engraving Program is 48 pieces per size.

Engraving Charges

Mini Maglite AA, AAA & Solitaire(50¢ per imprint area)
 Standard Maglite(\$1.00 per imprint area)

***Note: Engraving is not available on Mag's rechargeable flashlight**
Set Up Charge \$50.00 (ea. size)

Artwork Mag requires camera ready artwork. An authorization release to print corporate logos must be obtained prior to engraving.

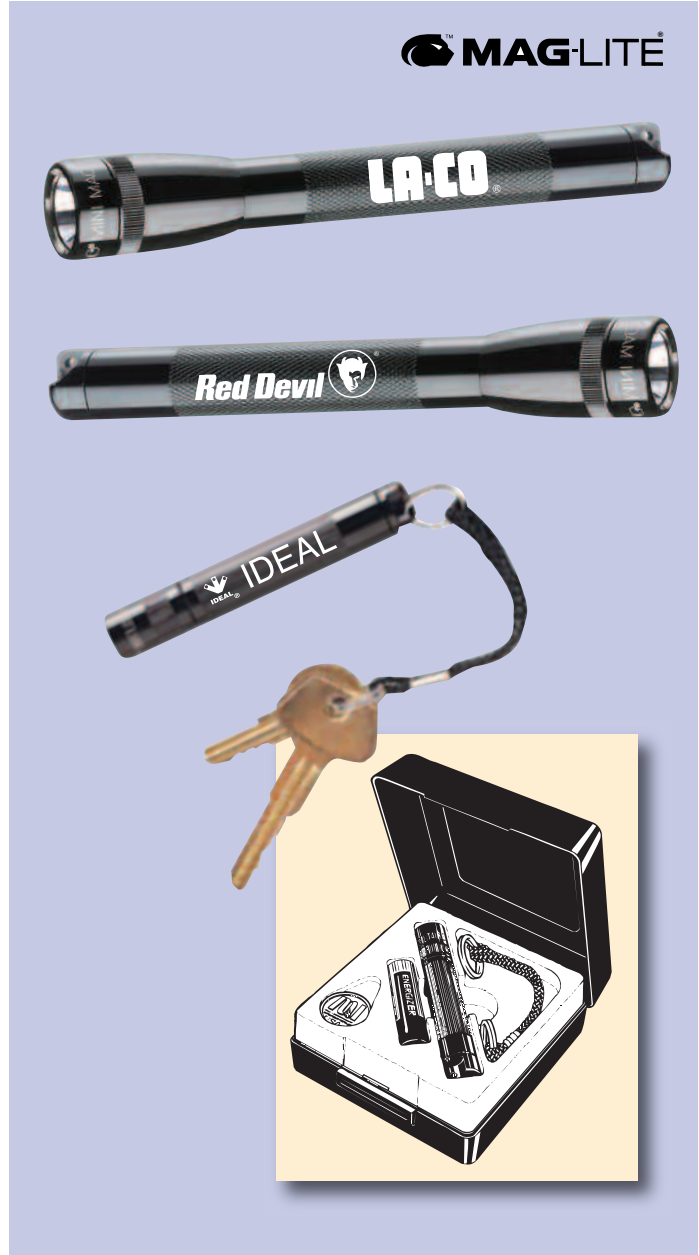
Lead Time Approximately five days after receipt of artwork and order, paper proof will be sent via fax for approval. If the fax transmission is sufficient for approval, Mag must be notified so that the actual flashlights may be engraved.

Following approval of the sample, the order will be shipped within approximately ten to fifteen working days.

Special Colors A minimum 10,000 unit order and approximately three week leadtime is required on special color orders.

Imprint Area

	Head	Switch	Knurl	End
Solitaire®	N/A	N/A	5/16 x 1-1/4	5/16 x 1/4
Mini Maglite® AAA	7/16 x 5/8	5/16 x 3/8	5/16 x 1-3/4	5/16 x 1/2
Mini Maglite® AA	5/8 x 3/4	7/16 x 1/4	7/16 x 2-1/8	7/16 x 1/2
Standard Maglite® 2C	1-7/16 x 1	3/4 x 1-3/4	3/4 x 2-3/4	3/4 x 1/2
Standard Maglite® 3C	1-7/16 x 1	3/4 x 1-3/4	3/4 x 3-3/4	3/4 x 1-3/8
Standard Maglite® 4C	1-7/16 x 1	3/4 x 1-3/4	3/4 x 4-3/4	3/4 x 2-1/8
Standard Maglite® 5C	1-7/16 x 1	3/4 x 1-3/4	3/4 x 5-3/4	3/4 x 2-7/8
Standard Maglite® 6C	1-7/16 x 1	3/4 x 1-3/4	3/4 x 7-3/4	3/4 x 3-5/8
Standard Maglite® 2D	1-7/16 x 1	1 x 1-3/4	1 x 2-3/4	1 X 1-3/4
Standard Maglite® 3D	1-7/16 x 1	1 x 1-3/4	1 x 3-3/4	1 X 3
Standard Maglite® 4D	1-7/16 x 1	1 x 1-3/4	1 x 4-3/4	1 X 4/3/8
Standard Maglite® 5D	1-7/16 x 1	1 x 1-3/4	1 x 5-3/4	1 X 5-1/2



SERVICE & INSTALLATION

Flashlights

MARS SERIES **792**



SERVICE & INSTALLATION

MAGLITE® Flashlights

MARS and Maglite® are committed to providing a full selection of flashlight products designed for use by professionals. Features include anodized aircraft aluminum with knurled grip, o-ring sealed for minimum water resistance and adjustable beams from pinpoint spot to flood. All Maglite flashlights are designed and tested for high impact, precise illumination and longer use. All units have a limited lifetime warranty for repair and replacement of all internal and external components.

MARS NO.	DESCRIPTION	MAG. NO.	CASE QTY.
79205	Mini-mag AAA (black)	M3A016	12
79201	Mini-mag AA (black)	M2A016	12
79230	Mini-mag AA (blue)	M2A116	12
79252	Mini-mag AA (camouflage)	M2A026	12
79207	Mag-light 2C-cell (black)	S2C016	12
79203	Mag-light 2D-cell (black)	S2D016	12
79204	Mag-light 3D-cell (black)	S3D016	12
79210	Mag-light 4D-cell (black)	S4D016	12
79202	AA combo pack (black)	M2A01C	12
79215	AA mag holster combo (black)	M2A01H	12

MAGLITE® Led Flashlights

MARS NO.	DESCRIPTION	MAG. NO.	CASE QTY.
79238	MiniMaglite 2AA LED (black)	SP221H	6
79239	Maglite 2D-cell LED (black)	SP221H	6
79212	MiniMaglite XL200 3AAA LED (black)	XL200- S3016	6
79240	Maglite Pro 2AA LED (black)	SP2P01H	6
79241	Maglite Pro + 2AA LED (black)	SP+P01H	6

MAGLITE® Accessories

MARS NO.	DESCRIPTION	MAG. NO.	CASE QTY.
79222	AA nylon holster (black)	AM2A056	12
79226	AA leather holster (black)	AM2A026	12

MAGLITE® Replacement Lamps

MARS NO.	DESCRIPTION	MAG. NO.	CASE QTY.
79223	AA/AAA bulb 2 pack	LM2A001	12
79221	2D-2C krypton bulb	LMSA201	12
79220	3D-3C krypton bulb	LMSA301	12
79219	4D-4C krypton bulb	LMSA401	12
79278	Halogen Replacement lamp	LR00001	12

Upgrade LED Kits for MAGLITE®

MARS NO.	DESCRIPTION	MAG. NO.	CASE QTY.
79233	AA LED Upgrade	LRB-07	6
79234	C & D LED Upgrade	LRB-07-PR	6
79227	AA MiniMaglite IQ Switch	NIQ-07-AA	6
79228	AA MiniMaglite LED Upgrade II	LRB2-07-1W	6
79229	AA MiniMaglite LED II & Switch	NIQ2-07-1WC	6



Lumilite® Lanterns & Industrial Flashlights

Motors & Armatures is pleased to re-introduce Lumilite Flashlights. Our Lumilite product offering provides the wholesaler with high quality lanterns and flashlights at competitive prices and attractive packaging.

The Lumilite 6-Volt Krypton Lanterns are constructed of heavy duty yellow plastic. These lantern flashlights use one 6 volt spring terminal battery. The MARS #79471 is a 6-volt lantern with 4-D battery adapter, 4-D batteries and provided with clamshell packaging.

The 6-Volt Z-Lite Lantern, MARS #79472, features a gray rubberized body. This floatable lantern features an adjustable stand for hands free operation. The unit is provided in clamshell packaging and includes a 4-D battery adapter and 4-D batteries. Unit will operate with a 6-volt spring terminal battery or the 4-D battery adapter.

Lumilite Industrial Flashlights feature a rugged, shockproof polypropylene body. All units come with a super bright krypton bulb and batteries. Yellow safety color. Attractive clamshell packaging. Available in 2AA, 2D, 2D with magnet and 3D sizes.

The Lumilite LED Headlight, MARS #79477, includes an adjustable strap with head cushion and 2 AA batteries. The ratchet headlight rotates up and down for directional beam.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79472	6-volt Z-Lite lantern w/4D adapter & 4D batteries	1	6
79474	2D flashlight w/batteries	1	12
79475	2D with magnet and batteries	1	12
79476	3D flashlight with batteries	1	12

MARS Extendable Magnetic Flashlight

Introducing the MARS Extendable Magnetic Flashlight

The extendable, flexible, lighted, magnetic pickup tool
Tool box utility in your shirt pocket

- Flexible shaft
- Telescopes from 6" to 21"
- 3 Super bright LED's
- Durable machined aluminum body
- Powerful magnetic head and tail
- Uses 4 LR44 batteries (included)

MARS NO.	DESCRIPTION	MARS PACK
79479	Extendable Magnetic Flashlight	

MARS Accessories

MARS NO.	DESCRIPTION	MARS PACK
79460	LR44, Batteries for 79479, 4 pk	1



Electronic P/T Chart

MARS SERIES **657**



Electronic Refrigerant Pressure/Temperature Chart

"Throw away your worn out paper charts"

- Pocket sized
- Includes 61 refrigerants
- Pressure readings in PSI, BAR & MPa
- Temp readings in Fahrenheit and Celsius
- Battery included
- Clamshell packaging

MARS NO.	MARS PACK
65700	1



SERVICE & INSTALLATION

Infra-Red Thermometers

MARS SERIES **255**



MARS Infra-Red Laser Thermometer

- Built-in laser pointer
- Data hold & Auto power off
- Temperature Range: -50°C to 350°C (-58°F to 662°F)
- Accuracy: $\pm 2\%$ of reading or $\pm 2^\circ\text{C}/\pm 4^\circ\text{F}$ • D:S=8:1
- Complete with 9V battery
- Quickly and easily take the surface temperature of any object. Just point, pull the trigger, and read the temperature on the display.
- °C / °F switchable button
- Backlit LCD display

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
25580	Infrared thermometer	1	500





Scales

MARS SERIES **790**

Pelouze Refrigerant Scales

MARS #79040, the 250 lb platform scale, is ideal for weighing heavy packages and containers. Activated by either hand or foot, the unique “memory lock” holds reading when dial is obscured. The platform and body feature a combination of steel subframe and glass fiber reinforced nylon. Scratch, rust and chemical resistant

The Pelouze electronic scale #79042 features a heavy duty “no-slip” platform, LCD display, and a wall mount control panel. Automatic shut off. Low battery indicator. Displays in 0.2lb/0.1kg increments. All steel construction. Tare functions and remote display head on a 9’ cord. Operates on AC adapter (included) or a 9V battery (not included).

MARS #79043 is the ideal electronic scale for heavy duty weighing. This 400 lb x 1/2 lb scale features an easy to read LCD display, automatic shut off, and low battery indicator. The control panel can be wall mounted for easy viewing. Tare functions. Strain gauge weighing operates on AC adapter (included) or one 9V battery (not included).



MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79040	250 lb. x 1 lb. platform scale	1	1
79042	150 lb. x .2 lb. electronic scale	1	4
79043	400 lb. x 1/2 lb. electronic scale	1	1

MARS Hand Held Scale

- Ideal for weighing and checking most gas and refrigerant cylinders
- Easy to use
- Push button for accuracy
- Auto shut off
- Max scale up to 55 lbs
- 9V battery included
- Accuracy up to +/- 2%
- LBS/KGS switch

MARS NO.	DESCRIPTION	MARS PACK
79039	Digital hand held scale	1



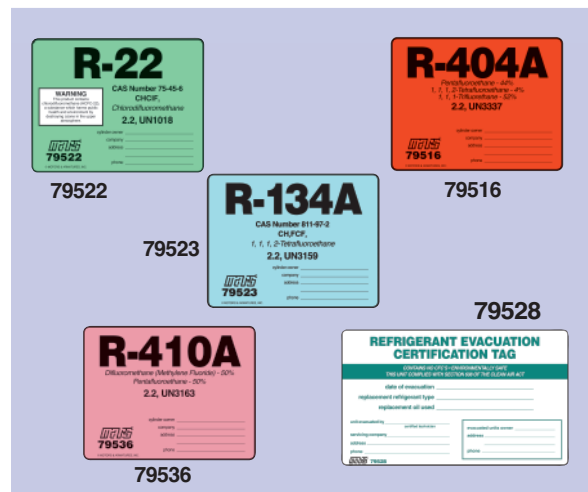
Refrigerant I.D. Labels

MARS SERIES **790**

MARS Refrigerant I.D. Labels

MARS refrigerant I.D. labels are color coded to conform to each particular refrigerant. Each label specifies the type of refrigerant, the chemical name, the UN # and a space for the name and address of the cylinder owner. These self-adhering labels are 4 1/2” x 3 1/2”, except for MARS #79528, Refrigerant Evacuation Certificate, which is 7 1/2” x 4 1/2”.

MARS NO.	DESCRIPTION	MARS PACK
79522	R-22 refrigerant label (10 pk)	1
79523	R-134A refrigerant label (10 pk)	1
79516	R-404A SUVA® HP62 refrig. label (10 pk)	1
79536	R410A GENETRON® AZ-20 refrig. label (10 pk)	1
79528	Refrigerant evacuation certification (5 pk)	1



SERVICE & INSTALLATION

Thermometers

MARS SERIES **255**



MARS Pocket Bi-Metal Dial Thermometers

MARS pocket dial thermometers consist of stainless steel cases with 5" stem. Thermometers are completely waterproof. Units are protected by flexible plastic case with clip. They can be recalibrated for accuracy.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
25510	1" dial -40° F to 160°F thermometer	1	12
25520	1" dial 0° F to 220°F thermometer	1	12



MARS Pocket Digital Thermometers

MARS #25531 deluxe digital pocket thermometer features an on/off switch and a data hold button. The easy to read LCD digits can be displayed in both fahrenheit and centigrade. The new slim design fits nicely in your pocket. Pocket clip and battery are included. $\pm 2^\circ$ accuracy. Uses MARS #79467 replacement battery. Water and drop resistant. Auto power off is also a new feature.

The multi feature round digital thermometer features an "on/off" switch and "clear" button. This pocket thermometer displays both fahrenheit and centigrade. A "min/max" button is also featured and a clear protective plastic sheath with pocket clip is included.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
25531	Deluxe digital pocket, -40°F to 300°F, -50°C to +150°C	1	12
79467	#386 replacement battery for #25531	6	480
79468	#393 replacement battery for #25532	6	48

Deltatrak Environmental Temperature Recorders

The 5 day **disposable** temperature recorder is an inexpensive, one-time use temperature recorder indispensable for HVAC/R uses. It gives an accurate 5-day strip chart recording of a wide ambient temperature range. It can be easily changed on the job! After use, recycle it. Drop in any mailbox using the postage paid return label.

Single-Use Deltatrak features & benefits:

- Inexpensive (cheaper than renting a recorder)
- Factory calibrated, no need for field calibration
- Security sealed, tamper proof and built rugged
- Ideal monitor/verification of performance of HVAC or refrigeration units, after installation or repair
- Worry-free from loss or breakage of an expensive recorder
- Simple to understand & use
- The DeltaTRAK cost can easily be charged to the job at a profit
- Ideal to use when a number of jobs are in progress and several recorders become necessary
- Never need to repair since they are used only once
- Ideal for the occasional user of a recorder
- Displays both Fahrenheit and Centigrade.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
25563	5 day disposable model	1	20

MARS Refrigerator/Oven Thermometers

Horizontal refrigerator/freezer thermometer is most often specified for commercial applications. Hang, stand, or permanent mount. Stainless steel refrigerator or oven models utilize 2" easy to read dial. Hang or stand.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
25540	Horizontal glass tube refrig. -40°F to 80°F, -40°C + 0° to +26°C	1	6
25542	Stainless steel refrigerator -20°F to 80°F, -29°C to +26°C	1	6

Visual Heat Exchanger Inspection System

The Visible Defects Heat Exchanger Inspection System is a tool that provides service technicians with an accurate, cost effective, and non-destructive means for evaluating heat exchangers in fuel fired furnaces. Cracked heat exchangers emit carbon monoxide gas into the living space of the dwelling which can result in sickness or death.

To perform the test, the technician simply inserts the brass spray nozzle fully into the air side of the heat exchanger and slowly pulls the nozzle out while spraying the patent pending green fluorescent dye and coating the inside of the heat exchanger. Next, the technician uses the black UV light to illuminate any dye that breaches the wall (via a crack) between the air-side and combustion-side of the heat exchanger. The test is fast, easy, and very effective. The real value lies in the fact that the service technician can easily show the furnace owner the existing problem.

The kit includes:

- Instructional Video
- Patent Pending Spray Applicator w/2 Nozzles
- Super Bright LED UV Light
- UV Blocking Safety Glasses
- Acrylic Inspection Mirror
- 2 Gallons of Crack Finder Dye
- 1 year Warranty

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
93800	VD Detection kit	1	1
93816	Dye-Gallon Refill	1	4
93817	22" Replacement Nozzle Set	1	1
93818	Replacement Spray Bottle	1	1



93800

Welding/Brazing/Cutting/Heating Tools

MARS SERIES **256**



SERVICE & INSTALLATION

Oxy Fuel Outfits

These light/medium duty outfits are designed for a variety of HVAC, Plumbing, Refrigeration and general maintenance work. They include cylinders and a tough, lightweight polypropylene carrier. All components are UL listed.

- Torch Handles are machined from high quality forged brass and feature a Tube-in-a-Tube design for high handle strength.
- Oxygen and acetylene regulators are compact rear entry inlet design for better balance and come with 2" easy view gauges.
- Check valves prevent reverse flow of gases which can cause dangerous mixtures. • All cylinders are shipped empty.

MARS #26901

Kit Includes:

- | | |
|------------------------------------------|---------------------------------|
| 1 welding/brazing tip | 1 single flint striker |
| 1 multi-flame rosebud tip | 1 pair torch end check valves |
| 1 torch handle | 1 plastic carrier |
| 1 acetylene regulator (rear mount) | 1 "type 40" oxygen cylinder |
| 1 oxygen regulator (rear mount) | 1 "MC" acetylene cylinder |
| 1 12' grade "R" welding & soldering hose | 1 eye cup style welding goggles |

MARS #26902

Kit includes:

- All items included with 26901
- 1 cutting attachment

Welding/Brazing/Heating Tips

MARS welding & brazing tips have red copper tip ends and are ideal for soldering, brazing, heating and hardfacing, etc. Interchangeable with all major manufacturers.

MARS NO.	METAL THICKNESS	DRILL SIZE	OXYGEN (PSIG)	ACETYLENE (PSIG)	ACETYLENE (SCFH)
26904	3/64" – 3/32"	60(.040)	3/5	3/5	3/6
26905	1/16" – 1/8"	56(.046)	3/5	3/5	5/10
26906	1/8" – 3/16"	53(.060)	4/7	3/6	8/18
26907	3/16 – 1/4"	49(.0730)	5/10	4/7	10/25

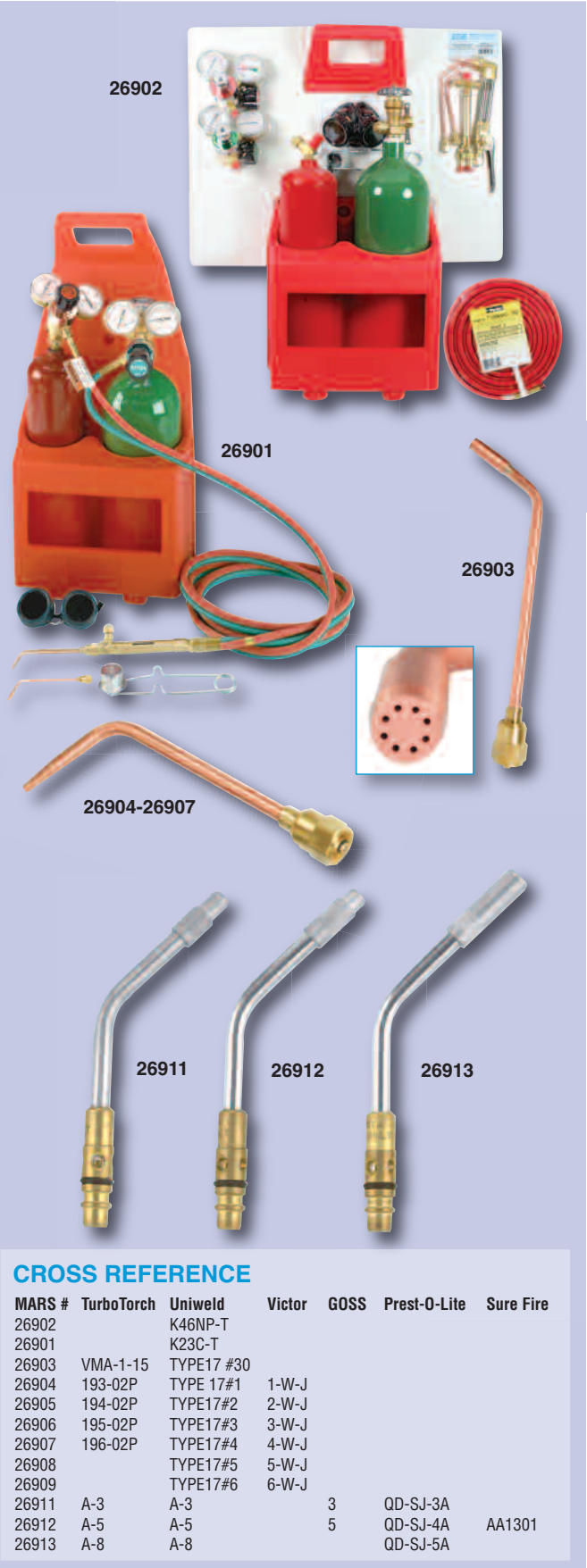
MARS Rosebud tips are multi-flamed tips designed for heating in confined areas.

MARS NO.	OXYGEN (PSIG)	BRAZING CAPACITY FOR COPPER
26903	15	1/2" – 6"

Air Acetylene Swirl Flame Tips

MARS swirl flame tips are constructed with replaceable stainless steel tips ends, an industry exclusive, for easy repair and maintenance. These tips produce a very hot flame that expands the heat zone providing maximum combustion efficiency for fast soldering and brazing. All swirl flame tips are interchangeable with all major manufacturers.

MARS NO.	COPPER TUBING CAPACITY SOFT SOLDER	SILVER SOLDER
26911	1/4"-1"	1/8"-1/2"
26912	3/4"-1 1/2"	1/4"-3/4"
26913	1"-2"	1/2"-1"



CROSS REFERENCE

MARS #	TurboTorch	UniWeld	Victor	GOSS	Prest-O-Lite	Sure Fire
26902		K46NP-T				
26901		K23C-T				
26903	VMA-1-15	TYPE17 #30				
26904	193-02P	TYPE 17#1	1-W-J			
26905	194-02P	TYPE17#2	2-W-J			
26906	195-02P	TYPE17#3	3-W-J			
26907	196-02P	TYPE17#4	4-W-J			
26908		TYPE17#5	5-W-J			
26909		TYPE17#6	6-W-J			
26911	A-3	A-3	3	QD-SJ-3A		
26912	A-5	A-5	5	QD-SJ-4A		AA1301
26913	A-8	A-8		QD-SJ-5A		



MARS hardware and fasteners are competitively priced and exhibit superior quality required by the HVACR contractor and tradesman.

All fasteners are available in two different package configurations. Both configurations enhance contractor self service and encourage impulse purchases.

Round Head Combo Slotted/Phillips Machine Screws - Steel Zinc Plated

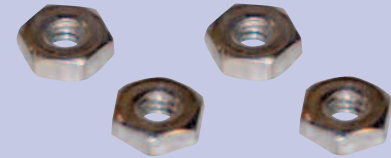
MARS NO.	MINI-PAK QTY.	DESCRIPTION
79808	25	1/4-20 x 3/4
79809	25	1/4-20 x 1
79811	25	1/4-20 x 1 1/2



79808

Hexagon Nuts - Steel Zinc Plated

MARS NO.	MINI-PAK QTY.	DESCRIPTION	MARS NO.	SUPER-PAK QTY.
79836	25	6-32 for 1/8 bolt		
79837	25	8-32 for 5/32 bolt		
79838	25	1/4-20 for 1/4 bolt	80038	100
79839	25	3/8-16 for 3/8 bolt	80039	100



79836

Pan Hd Combo Slotted/Phillips Tap Screws - Zinc Chromate

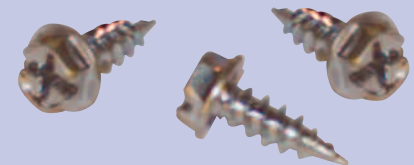
MARS NO.	MINI-PAK QTY.	DESCRIPTION
79860	25	12 x 1



79860

Indented Hex Washer Hd Slotted Drill Screws - Zinc Plated

MARS NO.	MINI-PAK QTY.	DESCRIPTION	MARS NO.	SUPER-PAK QTY.
79871	25	8 x 1/2 x 1/4 hd	80071	100
79872	25	10 x 3/4 x 5/16 hd	80072	100
79873	25	10 x 1 x 5/16 hd	80073	100
79874	25	10 x 1 1/4 x 5/16 hd		
79875	25	10 x 1 1/2 x 5/16 hd		
79876	25	10 x 2 x 5/16 hd		



79871

Indented Hex Washer Hd Self Drill Screw - Steel Zinc Chrom.

MARS NO.	MINI-PAK QTY.	DESCRIPTION	MARS NO.	SUPER-PAK QTY.
79887	25	8 x 1/2 x 1/4 hd	80087	100
		8 x 3/4 x 1/4 hd	80088	100
79889	25	10 x 1/2 x 5/16 hd	80089	100
79890	25	10 x 3/4 x 5/16 hd	80090	100
79891	25	10 x 1 x 5/16 hd	80091	100



79887



Drywall Screw - Bugle Hd Phillips 20 Ga. Max Steel Stud, Blk

MARS NO.	MINI-PAK QTY.	DESCRIPTION
79904	25	6 x 1 5/8
79905	25	6 x 2

Fender Washers - Steel Zinc Chromate

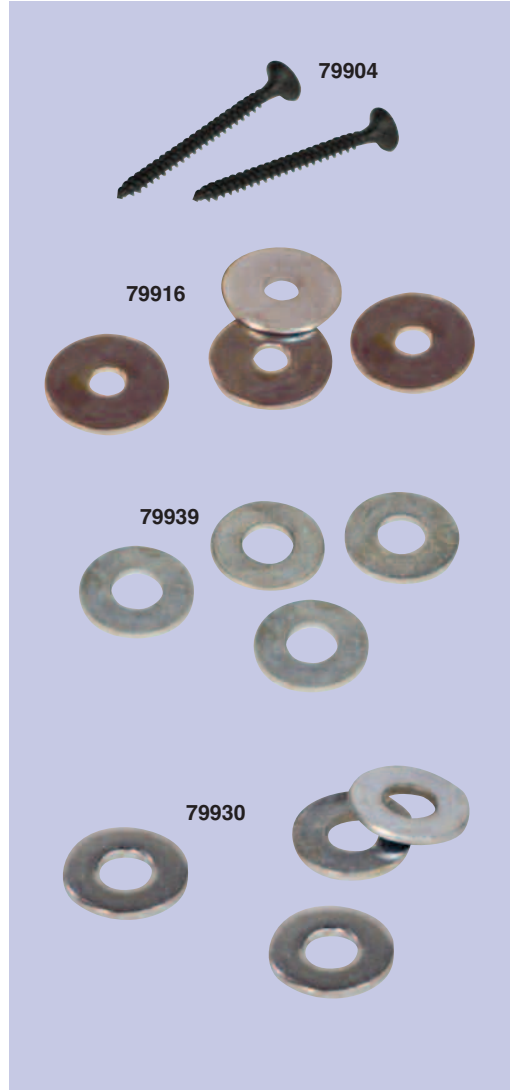
MARS NO.	MINI-PAK QTY.	DESCRIPTION	MARS NO.	SUPER-PAK QTY.
79916	25	1/4 x 1 for 1/4 bolt		
79917	25	1/4 x 1 1/4 for 1/4 bolt	80117	100
79918	25	3/8 x 1 1/4 for 3/8 bolt	80118	100
79919	25	3/8 x 1 1/2 for 3/8 bolt		

Flat Wrought Washers - Steel Zinc Chromate

MARS NO.	MINI-PAK QTY.	DESCRIPTION
79939	25	1/4 USS for 1/4 bolt
79940	25	3/8 USS for 3/8 bolt

Flat SAE Washers - Steel Zinc Chromate

MARS NO.	MINI-PAK QTY.	DESCRIPTION	MARS NO.	SUPER-PAK QTY.
79930	25	10 SAE for 3/16 bolt		
79931	25	1/4 SAE for 1/4 bolt	80131	100
79932	25	3/8 SAE for 3/8 bolt	80132	100





Spring Wing Toggle Bolts - Zinc Plated - Mushroom Head

MARS NO.	MINI-PAK QTY.	DESCRIPTION
79953	10	1/4-20 x 4

MARS Plastic Anchor Kits

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79974	Plastic conical anchor with pan head combo kit contents: (100) 1/4 plastic anchors, (100) #10 x 1 pan combo hd screw zinc, (1) 1/4 x4 masonry drill	1	200
79975	Plastic conical anchor with hex washer head kit contents: 100) 1/4 plastic anchors, (100) #10 x 1 hex washer hd slot screws zinc, (1) 1/4 x4 masonry drill	1	200
79976	Plastic screw-in anchor with pan head combo kit contents: (50) plastic screw-in anchors, (50) #8 1 1/2 pan combo hd screw zinc	1	100
79977	Metal screw-in anchor with pan head combo kit contents: (50) metal screw-in anchors, (50) #8 1 1/2 pan combo hd screws zinc	1	100

Green Grounding Screws & Box Clips

MARS NO.	MINI-PAK QTY.	DESCRIPTION	MARS PACK
80160	25	10-32 x 3/8" slotted hex head washer type	1

Plastic Anchor Kits

Plastic anchors are designed to be used with either woodscrews or sheet metal screws. They are recommended for quick, easy fastening of fixtures such as thermostats, thermostat guards, shelf brackets, cabinets, mirrors, pictures, etc. All plastic anchor kits include plastic anchor, screws and carbide masonry drill bit. All kits are packaged in a durable, see-through reclosable plastic storage case.

MARS NO.	DESCRIPTION	CASE QTY.
80168	8-10 x 7/8" plastic anchor kit with slotted pan screw, contains: (100) 8-10 conical anchors, (100) 8 x 1" slotted pan screw, (1) 3/16" x 4" carbide masonry drill bit	1
80169	8-10 x 7/8" plastic anchor kit with pan combo screw, contains: (100) conical anchors, (100) 8 x 1" phillips/slotted pan screw, (1) 3/16" x 4" carbide masonry drill bit	1
80171	10-12 x 1" plastic anchor kit with slotted pan screw, contains: (100) 1/4" conical anchors, (100) 10 x 1 1/4" phillips, slotted pan screw, (1) 1/4" x 4" carbide masonry drill bit	1
80172	10-12 x 1" plastic anchor kit with hex washer slotted screw, contains: (100) 1/4" conical anchors, (100) 10 x 1 1/4" hex washer slotted screw, (1) 1/4" x 4" carbide masonry drill bit	1
80174	14-16 x 1 3/8" plastic anchor kit with slotted pan screw, contains: (50) conical anchors, (50) 14 x 1" slotted pan screw, (1) 5/16" x 4" carbide masonry drill bit	1

Hollow Wall Anchor Kits

MARS NO.	DESCRIPTION	CASE QTY.
80179	#6 hollow wall anchor kit, contains: (50) #6 hollow wall plastic anchors (50) 6 x 1" slotted phillips pan screw	1
80180	#8 hollow wall anchor kit, contains: (50) #8 self drill hollow wall plastic anchors (50) 8 x 1 1/4" slotted phillips pan screw	1



MARS Brushes

MARS SERIES **788**



SERVICE & INSTALLATION

Tube Fitting Brushes - Heavy Duty Stainless Steel

MARS NO.	DESCRIPTION	MARS PACK
78801	1/4" OD 1/8" ID fitting brush (2 bag)	6
78802	3/8" OD 1/4" ID fitting brush (2 bag)	6
78803	1/2" OD 3/8" ID fitting brush (2 bag)	6
78804	5/8" OD 1/2" ID fitting brush (2 bag)	6
78805	3/4" OD 5/8" ID fitting brush (2 bag)	6
78806	7/8" OD 3/4" ID fitting brush (2 bag)	6
78808	1 1/8" OD 1" ID fitting brush (2 bag)	6
78809	1 3/8" OD 1 1/4" ID fitting brush (2 bag)	3

Tube Cleaning Brushes

MARS NO.	DESCRIPTION	MARS PACK
78818	3/8" x 3/4" OD refrig. 4-1 brush tool	12
78819	1/2" x 3/4" OD refrig. 4-1 brush tool	12
78820	5/8" x 7/8" OD refrig. 4-1 brush tool	12

Refrigeration Coil Brush

MARS NO.	DESCRIPTION	MARS PACK
78828	5/8" to 1 5/8" fiber condenser cleaner 32"	12
78829	5/8" to 1 5/8" tapered condenser cleaner 29"	12
78830	3/4" to 1 5/8" tapered refrig. coil brush 28"	12

Fin And Coil Brushes

MARS NO.	DESCRIPTION	MARS PACK
78833	Fin and coil whiskbrush, 6 3/4"	12
78834	Fin and comb scraping tool, adjustable	12
78835	6-in-one fin comb (8, 9, 10, 12, 14, 15 fins per inch)	12

Acid And Flux Brushes

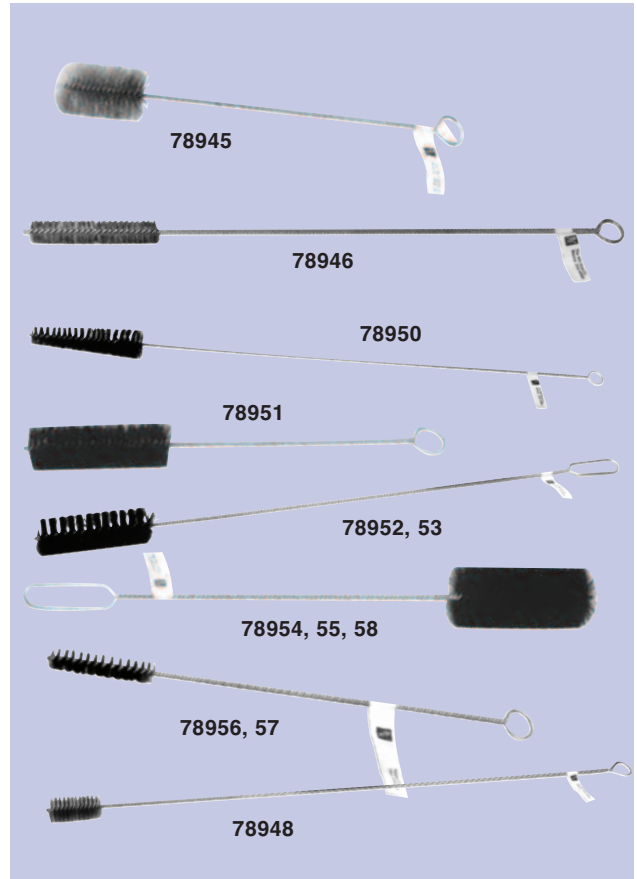
MARS NO.	DESCRIPTION	MARS PACK
78839	#1 acid brush 1/4" - 48 box	1
78840	#2 acid brush 3/8" - 48 box	1
78841	#1 acid brush 1/4" - 10 bag	10
78842	#2 acid brush 3/8" - 6 bag	10





Flue And Boiler Brushes

MARS NO.	DESCRIPTION	MARS PACK
78945	1 1/2" x 1 1/8", 30" OAL, Weil-McClain boiler brush	6
78946	1/2" x 1", 27" OAL, Columbia boiler brush	6
78947	2 1/2" dia., 20" OAL, tapered Slant Fin boiler brush	6
78948	1 1/2" x 1 1/8" x 36", Weil - McClain heavy duty gold series	6
78949	1 1/2" -1" x 30", horsehair boiler brush	6
78950	1 7/8" x 1 1/8", 42" OAL, horsehair boiler brush	6
78951	1" dia., 16" OAL, horsehair tube brush	6
78952	2" dia., 27" OAL, horsehair tube brush	6
78953	3" dia., 27" OAL, horsehair tube brush	6
78954	2" dia., 42" OAL, fiber/horsehair tube brush	6
78955	3" dia., 42" OAL, fiber/horsehair tube brush	6
78956	1/2" dia., 18" OAL, stainless steel tube brush	12
78957	3/4" dia., 24" OAL, stainless steel tube brush	12
78958	1 1/2" dia., 42" OAL, carbon steel brush, 4" loop	6



SERVICE & INSTALLATION

MARS Brushes

MARS SERIES **788**



Applicator Brushes, Natural Bristle

MARS NO.	DESCRIPTION	MARS PACK
78902	1 1/2" economy paint brush-wood handle	36
78903	2" economy paint brush-wood handle	24
78904	2 1/2" economy paint brush-wood handle	12
78905	3" economy paint brush-wood handle	12
78906	4" economy paint brush-wood handle	12

Utility And Appliance Brushes

MARS NO.	DESCRIPTION	MARS PACK
78910	Plastic handle stainless brush, 3 x 7 rows, 3 pk.	12
78911	Wood handle stainless brush, 2 x 9 rows, 3 pk.	12
78912	1 1/16" dia. parts cleaning brush	6
78913	Bent handle carbon scratch brush, 4 x 18 rows	12
78915	Shoe handle carbon scratch brush, 4 x 16 rows	12

Abrasive Cloth And Pads

MARS NO.	DESCRIPTION	MARS PACK
78920	1 1/2" x 5 yds. open coat white cloth	24
78921	1 1/2" x 10 yds. open coat white cloth	24
78922	1 1/2" x 25 yds. open coat white cloth	20
78923	1 1/2" x 5 yds. open nylon mesh cloth	24
78924	1 1/2" x 10 yds open nylon mesh cloth	24
78925	1 1/2" x 25 yds. open nylon mesh cloth	20
78926	4" x 6" med. nylon abrasive pad, maroon, 10 pk	1
78928	1 1/2" x 10 yds competitive abrasive cloth	1
78918	1 1/2" x 25 yds. competitive abrasive cloth	1

Accessories

MARS NO.	DESCRIPTION	MARS PACK
78930	Solder/braze heat shield, 9" x 12" x 1/2" temperatures up to 2500°F	10
78931	Solder heat shield, 9" x 12" temperatures up to 2500°F	10
78932	Heavy duty deburring tool, 3 blades	10
78933	Deburring tool replacement blades, 5 pack	10
78935	Heavy duty plastic stackable utility box, 12"x6"x6"	12



SERVICE & INSTALLATION



PowerCrown Outward Clinch Tackers

Model PC4000-OC1 & PC4000-OC2 Features:

- Easy squeeze design
- Compact, lightweight
- Convenient bottom load
- Unique design turns staple legs outward
- For pipe wrap, duct board and corrugated

MARS NO.	DESCRIPTION	MFG. NO.	CASE QTY
73349	Outward Clinch Tacker	T6-80C2	12
73346	1/4" Staples / 5M Box	STCR5019 1/4"	20
73347	3/8" Staples / 5M Box	STCR5019 3/8"	20
73350	1/2" Staples / 4M Box	STCR5019 1/2"	20
73351	9/16" Staples / 4M Box	STCR5019 9/16"	20

PowerCrown Outward Clinch Tacker - Model PC3000-OC2

Model PC3000-OC2 Features:

- Professional quality
- Drives 1/2" light wire Bostitch PowerCrown staples
- Powerful direct drive
- Unique design turns staple legs outward
- Convenient bottom load
- For pipe wrap, duct board and corrugated

MARS NO.	DESCRIPTION	MFG. NO.	CASE QTY
73343	Outward Clinch Tacker	T6-60C2	12
73348	1/2" Staples / 5.8M Box	STCR2619 1/2"	20

PowerClench™ Stapling Plier

Model P6C-8 Features:

- Ergonomic design
- Easy squeeze action
- Fast loading of staples
- Top loading

MARS NO.	DESCRIPTION	MFG. NO.	CASE QTY
73352	Stapling Plier	P6C-8	12
73353	3/8" staples / 5.8M Box	STH5019	20

MARS Multi Purpose Cutters

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
25656	Compound ratchet action cutter, cuts hose, cable and plastic pipe 1 1/8" OD, replaceable bade, internal parts and pivots all stainless	1	12

Vise-Grip® Locking Pliers And Clamps

MARS offers Vice-Grip hand tools for the HVAC/R contractor. MARS #25700 is a "Quick Pierce" Vise-Grip for the extraction of refrigerant from A/C units and appliances. Excellent for recovery applications. This plier adjusts to various tube sizes.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
25700	MARS Quick Pierce tool (pouch)	1	1
25688	Quick Pierce replacement tip (bulk)	1	100



73343
73349



73346
73347
73348
73351
73353



73352



25656



25700

Hand Tools

MARS SERIES **283**



Channellock Pliers

For over a century Channellock has been the leader in manufacturing professional quality tools for all trades. All tools are made in the U.S.A. The MARS line of Channellock tools are housed in attractive merchandiser hang type style packaging to generate impulse sales and increase your profits.

Channellock pliers are hand honed perfectly matched cutters which are heat treated to hold their edge. These pliers are precision made of fine polished, high carbon drop forged steel and features blue plastic comfort grips. MARS #28310, 9" linemans Wiremaster™ plier provides high leverage and an enclosed joint design to hold cutter in perfect alignment for the life of the plier.

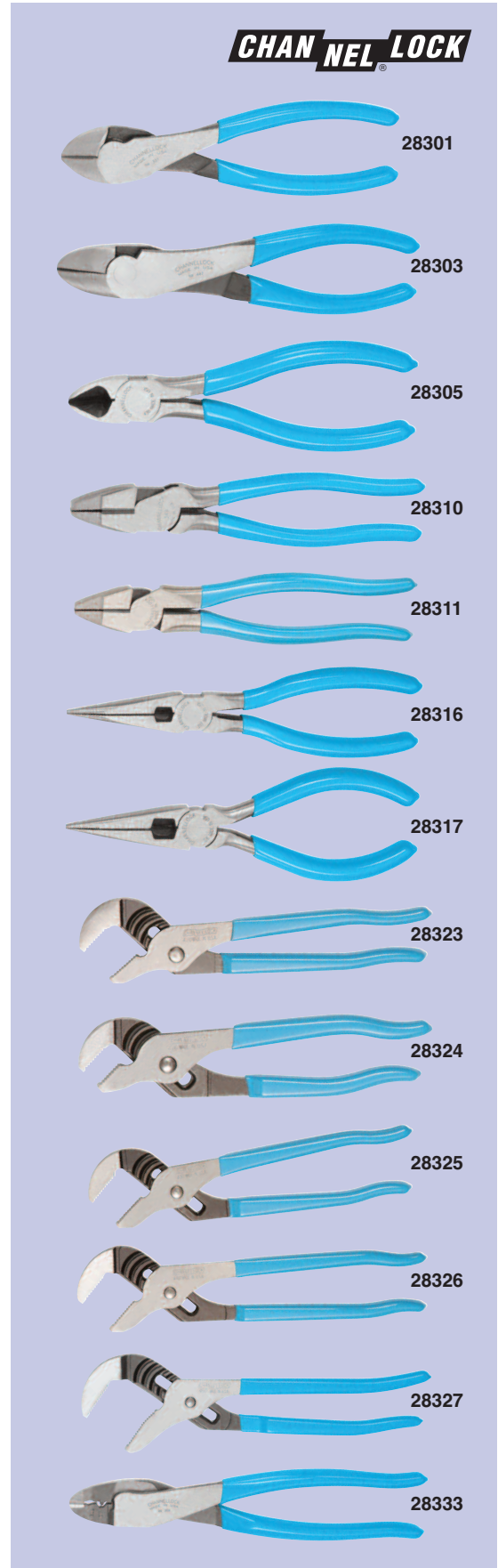
Channellock Long Nose Pliers feature slender, perfectly matched jaws with no side wobble to provide a firm grip on fine work in tight places. MARS #28316 and #28317 also feature a side cutter.

The popular Tongue and Groove Pliers provide right angle teeth that grip in all directions for maximum bite and minimum wear. The undercut tongue and groove design assures the strongest non-slip jaw action and the patented PermaLock® fastener provides safer and smoother working than the old-time bolt and nut.

The Channellock crimping tool, MARS #28333, is used for crimping and cutting of both insulated and non-insulated solderless connections and terminals.

SERVICE & INSTALLATION

MARS NO.	DESCRIPTION	MFG. NO.	CASE QTY.
28301	7" cutting plier - lap joint diagonal	337	20
28303	7 3/4" cutting plier - lap joint curved diag.	447	20
28305	6" cutting plier - box joint	436	20
28310	9" Wire Master™ linemans plier	349	20
28311	9" high leverage linemans plier	369	20
28316	7 1/2" Long Nose Plier with side cutter	317	20
28317	6" Long Nose Plier with side cutter	326	20
28323	9 1/2" Tongue & Groove Plier 5 Adjustments - 1 1/2" capacity	420	20
28324	6 1/2" Tongue & Groove Plier 5 adjustments - 7/8" capacity	426	20
28325	10" Tongue & Groove Plier 7 adjustments - 2" capacity	430	20
28326	12" Tongue & Groove Plier 7 adjustments - 2 1/2" capacity	440	20
28327	16" Tongue & Groove Plier	460	20
28333	Crimping tool	909	20





Fuse Pullers

MARS #25915, medium fuse puller is molded of tough, high impact nylon for greater strength. Handles with no-slip gripping surface, protective finger stops and yellow color are provided for extra safety.

MARS NO.	DESCRIPTION	MFG. NO.	MARS PACK	CASE QTY.
25915	7-1/4" medium puller for 0-100A fuses	34-016	1	10

Torpedo Level

Torpedo level measures 9" and consists of aluminum frame. Has magnetic edge and "v" grooved edge for pipe work. A window in each vial provides easy reading of plumb, level and 45° mitre in dim lighting.

MARS NO.	DESCRIPTION	MFG. NO.	MARS PACK	CASE QTY.
25840	9" torpedo level	35-205	1	3

Terminal Strips, 600V, 30a, UL & CSA

MARS NO.	DESCRIPTION	MFG. NO.	MARS PACK	CASE QTY.
25952	3 circuit terminal strip	89-203	1	10
25953	4 circuit terminal strip	89-204	1	10
25954	6 circuit terminal strip	89-206	1	10
25955	8 circuit terminal strip	89-208	1	10
25956	10 circuit terminal strip	89-210	1	10
25957	12 circuit terminal strip	89-212	1	10

Tap-Pak® Fish Tape

IDEAL Tape-Pak® fish tape reels and winders provide maximum strength and flexibility for fishing long runs of conduit. The case is built of high impact plastic that never dents or rusts. Use as a handle for pulling on fish tape to eliminate the dangers of bare-handed pulling as well as handy tape storage system. High grade tempered steel tape is fully protected and locked in reel when not in use so tape cannot kink spring free. Excellent for snaking long runs of thermostat wire.

MARS NO.	DESCRIPTION	MFG. NO.	MARS PACK	CASE QTY.
25849	50' fish tape - 8 1/2" dia.	31-033	1	1

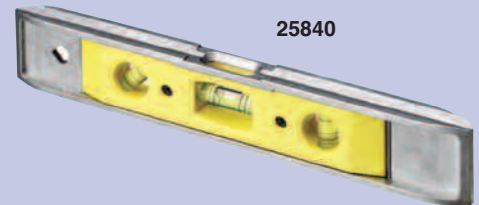
Safe-T-Grip® Fuse Pullers

IDEAL's Safe-T-Grip® Fuse Pullers provide maximum efficiency and convenience when removing or replacing cartridge fuses. Constructed of fully insulated, reinforced, high-dielectric engineering plastic. Notched handles for a no-slip safe grip. Clearly marked amperage ranges. Moisture resistant...will not warp. Bright yellow in color.

MARS NO.	DESCRIPTION	MFG. NO.	MARS PACK	CASE QTY.
25911	5" midget for fuses 9/32-1/2 dia.	34-001	1	1
25912	7 1/2" pocket for 0-100A fuses	34-002	1	10
25913	11 3/4" giant for 31-600A fuses	34-003	1	1



25915



25840



25952



25849



25911

25912

25913

Electricians Hand Tools

MARS SERIES **256, 650 & 798**



Wire Strippers And Crimpers

Preferred by professionals for over three decades and originated by IDEAL, these quality built T[®]-strippers feature built in wire cutters, looping holes, cushioned plastic grips and precision knife-type blades that give an accurate, easy strip every time.

The MARS #25705 stripper is a versatile seven-function tool featuring spring loaded handles for quick and easy use, cushioned grips for comfort and a locking panel to keep jaws closed when not in use. It strips, cuts wire, crimps terminals, cuts bolts and screw, gauges 6-18 AWG wire, loops wire and reams conduit (reams and de-burrs).

The multi-crimp tool provides excellent leverage for sure, easy crimping and cutting...even in close quarters. Crimps bare or insulated terminals and splices on wire sizes 10-22 AWG.

MARS NO.	DESCRIPTION	MFG. NO.	MARS PACK	CASE QTY.
25701	T [®] -5 Stripper 10-18 AWG solid	45-120	1	10
25702	T [®] -6 Stripper 16-26 AWG strand	45-121	1	10
25703	T [®] -8 Stripper 8-16 AWG strand	45-124	1	10
25705	7-in-1 Stripper Crimper	45-777	1	5
25711	Multi-crimp Tool	30-429	1	5

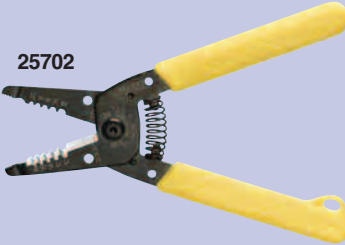
Refrigeration Wrenches

The Kwik-tite[®] ratchet wrenches (MARS #65079, 80, 81, 87) feature open jaw design which makes it easy to slip wrench onto fittings and fasteners - even in tight quarters. Flips quickly into tightening position with a sure grip on all hex surfaces. MARS #65082 is a combination wrench with the four sizes most needed for servicing air conditioning units. MARS #65083 & #65084 are designed for use on compressors with access valves in hard to reach places. This reversible ratchet is chrome plated.

MARS NO.	MFG. NO.	DESCRIPTION	CASE QTY.
65082	124C	9/16" and 1/2" hex; 3/16" & 1/4" sq. ratchet	1
65083	127C	1/4", 3/8", 3/16", 5/16" square ratchet	1

MARS Drill Screw Chuck With Magnetic Insert

MARS NO.	DESCRIPTION	MARS PACK
79990	1/4" hex x 1 5/8", 1/card	12
79991	5/16" hex x 1 5/8", 1/card	12



SERVICE & INSTALLATION



Hand Tools, Bits & Blades

MARS SERIES **256, 933 & 216**

MARS 6-in-1 Super Driver

The MARS Super driver features a comfort grip handle. The soft easy grip promotes excellent torque. This six-in-one driver includes 3/16" & 1/4" slotted bits, #1 & #2 phillips bits and 1/4" & 5/16" nutdriver. These screwdrivers are packaged twelve per counter display box.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
25984	MARS 6-in-1 super driver	12	12

Red Devil Putty Knives And Wall Scrapers

Red Devil offers professional high quality putty knives and wall scrapers. The black polypropylene comfort grip handles are shatterproof and solvent resistant for safety. Durable, high carbon, steel precision-ground blades extend through handles for maximum dependability. The blade has a mirror lacquered finish to prevent rust. Made in the U.S.A.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
93402	1 1/4" wide stiff putty knife	12	72
93280	1 1/2" wide stiff putty knife	12	72
93403	1 1/4" wide flexible putty knife	12	72
93281	2" wide flexible putty knife	12	72
93404	3" wide flexible putty knife	6	72

Magnetic Nut Setters

MARS NO.	DESCRIPTION	CASE QTY.
21620	1/4" mag nut setter 2 9/16"L (1/cd)	96
21621	5/16" mag nut setter 2 9/16"L (1/cd)	60
21627	1/4" mag nut setter 6"L (1/cd)	72
21628	5/16" mag nut setter 6"L (1/cd)	72

Flex A Bit™ Kits (Patented Worldwide)

MARS NO.	DESCRIPTION	CASE QTY.
21669	11" industrial flex a bit plus (1/cd)	36

Superior Tool Mini Hacksaw And Blades

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
25668	10" mini hacksaw - cuts wood, plaster, steel, brass, etc., cushioned handle	1	6
25669	6" high carbon steel repl. blades (10/card)	1	6



SERVICE & INSTALLATION

Knives & Blades

MARS SERIES **274 & 932**



Utility Knives And Blades

MARS #27401, retractable utility knife features a four position metal slider which accepts any utility blade. Zinc die cast construction. One heavy duty blade is provided with tool. Replacement heavy duty utility blades, MARS #27403, fits most utility knives. Used for cutting drywall, fiberglass, wood, plastic, cardboard and more!

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
27401	Retractable utility knife with blade	5	100
27403	H.D. utility blade (10 per dispenser)	10	60

Breakaway Knives And Blades

MARS #27410, is a heavy duty, retractable, 8 point, breakaway knife with a unique internal blade storage. The strong steel shank is molded into the durable plastic handle. Blade locks in place. Snap-cap tool accepts all standard 8 point blades. Ideal for cutting and trimming cardboard, wood, leather and more. Knife is carded and packaged with 3 blades.

The 13 point heavy duty retractable breakaway knife also features a unique internal blade storage where the steel shank is molded into the durable plastic handle. The blade locks in place and the snap-cap doubles as a pocket clip. Accepts all standard 13 point blades. Ideal for cutting and trimming wall coverings, vinyl, paper and more. Knife packaged with 3 blades.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
27410	H.D. 8 point knife with 3 blades	10	100
27411	8 point break blade (5/card)	10	60
27412	H.D. 13 point knife with 3 blades	10	200

Red Devil Knives And Blades

Red Devil's all purpose adjustable utility knife, #93271 is made of diecast metal and has a unique button lock blade to cut in 3 different positions. Contains an extra blade and is carded for hanging.

The heavy duty utility knife, #93274, has a breakaway blade design and has many uses. Posi-lock pull back button retains blade safely and tightly in cutting position. Stainless steel break away blade has eight sharp cutting edges. The automatic razor knife, #93275, is a heavy duty premium break away blade tool. The package includes 80 cutting edges, 3 blades in knife, 7 in dispenser. Both break away knives come attractively carded for your display.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
93271	Adjustable utility knife	6	72
93273	Blade for 93271, 5/card	10	120
93274	Heavy duty utility knife	6	72
93275	Automatic razor knife	12	72
93276	Blades for 93274, 93275, 3/card	10	150
93277	Blades for 93274,5, 10/dispenser	12	144

Techni Edge



Red Devil



SERVICE & INSTALLATION



Protective Garments & Safety Equipment

MARS SERIES **257, 795 & 782**

Knee Pads

The Superflex™ knee pads provide super duty protection for tough jobs. The long, soft rubber black cap is designed for traction and full knee coverage. Color: black. MARS #25679 includes a buckle fastening system.

MARS NO.	DESCRIPTION	CASE QTY.
25679	Superflex™ knee pads with buckle	20

Dust Masks

MARS NO.	DESCRIPTION	CASE QTY.
79170	50 pc. box, dust mask	12
79169	20 pc. box, dust & mist respirator	12

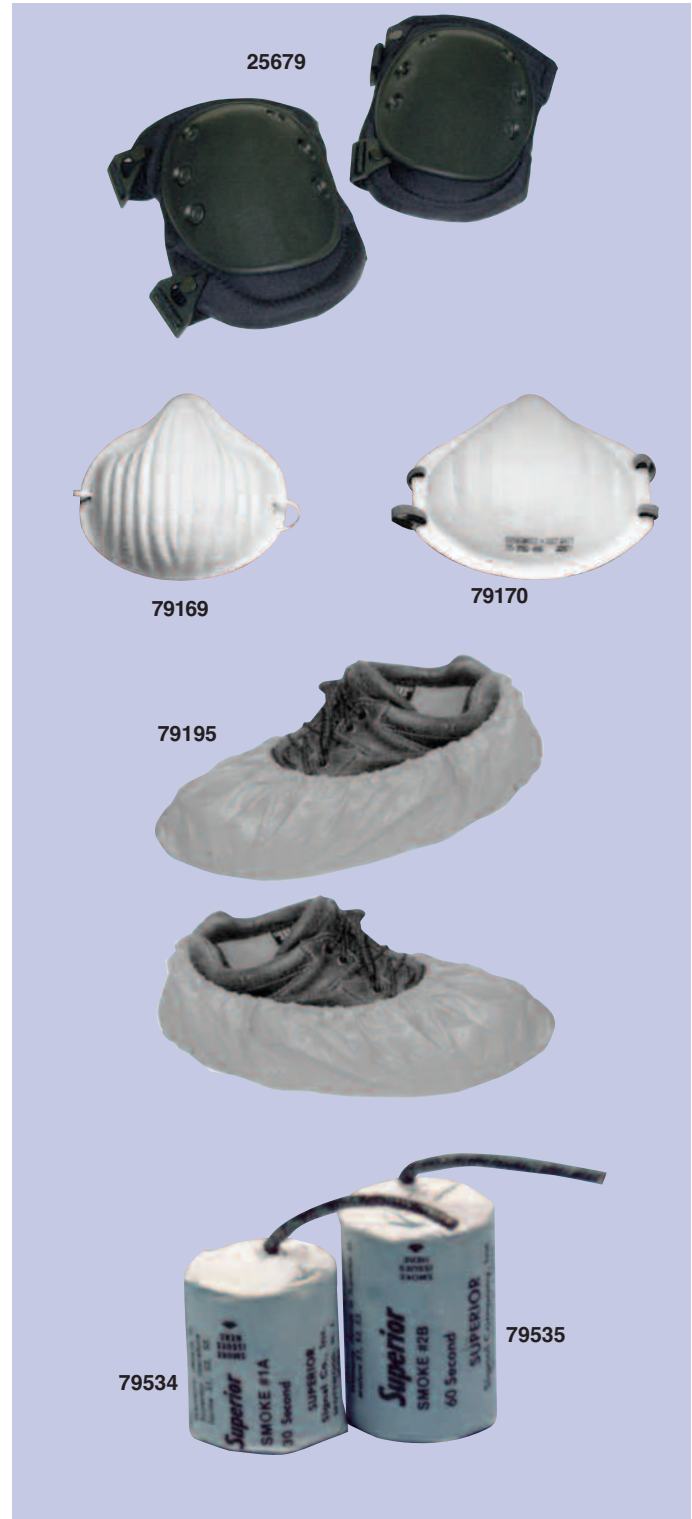
MARS Disposable Shoe Covers

Amphibious shoe covers are waterproof and made of a 6 MIL copolymer with a non slip embossed sole. In addition to providing protection to the customer's property, Amphibious shoe covers also keep the shoes dry when working in wet grass or hosing down equipment. Premium shoe covers are made of heavyweight breathable polypropylene with a non-slip PVC zigzag sole.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79195	Amphibious shoe covers - 300 XL covers/box	1	10
79100	Premium shoe covers - 300 XL covers/box	1	10
79103	Premium shoe covers - 50 XL covers/box	1	1

MARS Smoke Candles

MARS NO.	DESCRIPTION	CASE QTY.
79534	4000 cu. ft. smoke, 30 seconds	12
79535	8000 cu. ft. smoke, 1 minute	12



SERVICE & INSTALLATION

Industrial Work Gloves

MARS SERIES **782**



Cotton/Jersey Gloves

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79143	8 oz. cotton canvas gloves/individual pack	1	12
79149	10 oz. cotton hob nob/individual pack	1	12
79151	9 oz. brown jersey glove/individual pack	1	12
79148	9 oz. hob nob jersey	1	12
79153	Fleece lined cotton jersey/individual pack	1	12

Leather Gloves

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79157	Leather palm safety cuff/individual pack	1	12
79159	Split cowhide leather (suede)	1	12
79166	Grain cowhide leather	1	12
79162	Medium truckers glove	1	12
79165	Large truckers glove	1	12

PVC/Nitrile/Neoprene Gloves

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79145	PVC long gauntlet cuff gloves	1	12
79147	Coated neoprene gauntlet cuff	1	12

MARS Disposable Gloves

Disposable vinyl, latex, and nitrile gloves are heavy weight 5 mil and powdered. Packaged in a convenient dispenser box.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79096	Nitrile Gloves - L 100/box	1	10
79097	Nitrile Gloves - XL 100/box	1	10
79092	Latex Gloves - L 100/box	1	10
79098	Latex Gloves - XL 100/box	1	10
79093	Vinyl Gloves - L 100/box	1	10
79099	Vinyl Gloves - XL 100/box	1	10
79200	Black Nitrile Gloves - L 100/box	1	10



SERVICE & INSTALLATION

Hand Cleaners

MARS SERIES **931 & 932**



Goop Hand Cleaners

For nearly 50 years, Goop has been the only name you need to know in hand cleaners. It's a name that wholesalers and contractors alike know and trust. Goop is non-toxic and biodegradable. Goop will remove almost anything...from almost everything. Use Goop to clean the dirtiest, greasiest hands. Use it for other tough cleaning jobs as well, such as removing stains from washable clothing, cleaning vinyl, plastic, canvas, floor tile - or whatever else gets dirty.

MARS NO.	DESCRIPTION	MARS PACK
93150	14 oz. can	12

Orange Goop Hand Cleaners

For customers who want a fresh orange scent in a tough, natural liquid hand cleaner, get the Orange Goop. There are no harsh solvents - just natural citrus. Available in regular or pumice formula. Biodegradable, too. Orange Goop...just another example of how we're giving today's contractors what they want.

MARS NO.	DESCRIPTION	MARS PACK
93157	14 oz. can	12
93160	16 oz. liquid squeeze bottle	12
93162	1/2 gallon orange pumice liquid w/ pump	6
93163	16 oz. liquid squeeze bottle w/ pumice	12

CRC Citrus Hand Cleaner

CRC Mechanix Orange™ citrus hand cleaners are petroleum solvent free, natural formulations that effectively remove grease, oil, grime, paint and inks safely and quickly. The citrus based formula is PH balanced, highly concentrated and fortified with aloe vera, and other conditioners to help keep hands soft and smooth. All this with the great new scent of citrus. Fine pumice is easy on your skin.

MARS NO.	DESCRIPTION	MARS PACK
93228	Mechanix Orange™, 16 oz.	12

Scrubs in-a-Bucket™

Scrubs in-a-Bucket™ provide fast, easy and effective hand cleaning with portability. Can be used anywhere, anyplace, anytime on the toughest soils, greases, tar, graphite...even printers ink. Each dispensing canister contains 10 1/2" x 12 1/4" perforated high-strength absorbent cleaning towels, treated with a gentle-to-the-skin but effective heavy duty grease cutting and soil lifting formulation. Pumice performance, without the messy, gritty pumice! Leaves skin lotion-soft, with a natural citrus fragrance. Contains germ fighting Triclosan. No rinsing, no drying, no residue. Also ideal for cleaning tools, work in process and for spills.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
93201	Scrubs in-a-Bucket™ (72 towels)	6	42
93203	Scrubs in-a-Bucket™ (30 towels)	6	72



SERVICE & INSTALLATION



The largest selection of motors, components and accessories for the HVAC/R Industry

Maintenance Products

MARS SERIES **787, 790 & 932**



MARS Zoom Spout® Products

Used by virtually every mechanic and technician in the heating, ventilation, air conditioning and refrigeration field.

93240 Zoom Spout® Oiler

- Contains 4 oz. highest quality turbine oil
- Rust and oxidation inhibited
- Paraffin base...non-gumming
- Use on motor bearings and bushings
- Squeeze bottle action
- Spout extends to 14", wipes dry
- SAE 10 weight
- Non detergent

93241 Rust Buster

- Loosens rusted bolts, nuts, shafts, etc.
- Cleans corroded and dirty parts
- Contains no harsh chemicals such as acid or alkali
- Spout wipes itself dry
- Contents always visible
- Won't short out
- Spout extends to 14"

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
93240	Zoom Spout® Oiler 4 oz.	12	72
93241	Rust Buster 4 oz.	12	72

MARS Maintenance Products

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79036	WD-40 8 oz. spray smart straw	12	12
79037	WD-40 11 oz. spray smart straw	12	12

Kimberly-Clark Disposable Wiper/Towels

Kimberly-Clark® Kimtex® wipers are heavy duty oil and solvent wipers. Strong and durable, cloth-like feel and performance.

Kimberly-Clark® Kimtowels® are highly absorbent and versatile multi-ply tissue wipers. They quickly absorb water, oil and grease. Textured side for tough jobs and soft side for personal wiping. Contains no additives or glues.

Kimberly-Clark® Teri® wiper is durable for demanding jobs. Strong, even when wet. This 4-ply tissue wiper traps dirt and absorbs liquids quickly. Made with 100% recycled paper.

Workhorse™ manufactured rags by Kimberly-Clark® are made of a Hydroknit™ fast absorbing material. Workhorse™ rags stand up to water, oil, solvents and chemicals without falling apart. Amazingly strong when wet. Highly resistant to rips and tear wet or dry. Workhorse™ is the versatile and economical alternative to rags.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79110	Kimtex® 100 pc. pop-up™ box, 9-3/4" x 16-3/4"	1	5
79109	Kimtowels® 88 pc. pop-up™ box, 9-3/4" x 16-3/4"	1	10
79105	Teri® wipers 136 pc. pop-up™ box, 9-3/4" x 16-3/4"	1	10
79111	Workhorse™ manufactured rags, 150 pc. brag box, 12" x 16-3/4"	1	1

MARS Shop Towels

MARS shop towel rags are 100% cotton material. This 15" x 15" red cloth towel is extra absorbent and ideal for cleaning up grease on tools or machinery. Long lasting and machine washable. Hemmed edges.

The MARS 100% cotton terry towel is an all purpose, white terry cloth towel that can be used for drying, polishing, dusting and waxing.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79025	White terry towel (12 pack)	1	12
79026	Red cloth shop towel (12 pack)	1	18
79027	Red cloth shop towel (50 pack)	1	6





Maintenance Products

MARS SERIES **787, 790 & 932**

32 oz. Spray Bottle

MARS NO.	DESCRIPTION	MARS PACK
79009	32 oz. Spray Bottle	12

Blue Huck Towels

- Excellent absorbency!
- 5 lb. box
- Lint free
- Prewashed
- Approx. 22" x 13"
- 30-35 towels in box

MARS NO.	DESCRIPTION	MARS PACK
79024	Blue Huck Towels	1

Dyna-Wipes

- No Water Needed
- Removes Odors From Hands
- Gentle On Hands With 4 Skin Conditioners
- Non-Flammable
- Towel Size 9" x 12", 80 Towels In Each Tub

Use Them For:

- Hands
- Vinyl Windows
- Sports Equipment
- Leather
- Vinyl
- Much More!!
- Soiled Garments
- Tools & Equipment
- Counters
- Keyboards
- Stainless Steel Surfaces

Removes:

- Coffee Stains
- Permanent Marker
- Nail Polish
- Labels & Residue
- Urethane Sealants
- Carpet Spots
- Tar & Asphalt
- Gasket Cement
- Paints & Varnishes
- Many Inks
- Caulking
- Tree Pitch
- Scuff Marks
- Pipe Cement
- Most Graffiti
- Crayon Marks
- Counter Stains
- Plumbers Cement
- Tape Residue

Keep some with you... Wherever you go!

- RV's
- Cars
- Work Vans
- Shops
- Hiking
- Kitchens
- Fishing
- Garages
- Boats
- Sports
- Camping
- Bathrooms

MARS NO.	DESCRIPTION	MARS PACK
93200	Dyna-Wipes	8



SERVICE & INSTALLATION



The largest selection of motors, components and accessories for the HVAC/R Industry

Sealant Products

MARS SERIES **934**



MARS RTV Silicone Sealants

MARS HVAC/R Silicone Sealant is a superior quality silicone which remains flexible from -85° to 500°F. Never dries out. Has excellent adhesion to metals and can be used for virtually every HVAC need.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
93246	Silicone sealant almond 10.1 oz.	12	12
93249	Silicone sealant clear 10.1 oz.	12	12
93251	Silicone sealant white 10.1 oz.	12	12
93252	Silicone sealant gray 10.1 oz.	12	12
93264	Silicone sealant black 10.1 oz.	12	12
93253	Silicone sealant clear 2.8 oz.	12	12
93254	Silicone sealant white 2.8 oz.	12	12

MARS Heat Resistant Silicone

MARS HVAC/R Hi-Temp Red Silicone Sealant is a superior quality silicone which was formulated to perform at temperatures ranging from -85°F to 500°F (-65°C to 260°C) for continuous operation and 600°F (316°C) for intermittent exposure. These features make MARS HVAC/R Hi-Temp red Silicone ideal for use around furnace vent pipes, restaurant hoods and heat exchangers.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
93255	Hi-Temp. silicone red 10.1 oz.	12	12
93247	Heat resistant silicone red 2.8 oz.	12	12

Fire Stop Caulk

Red Devil Fire Stop Caulk effectively seals penetration openings against the spread of fire, smoke, toxic gases and water when applied properly.

- A Latex-based, high-solids Fire Stop compound
- No Shrinkage
- Withstands temperatures up to 2000° F and is up to 4 hour fire rated
- Sandable and Paintable
- Meets Fed. Specs ASTM E-814 (UL 1479) and ASTM E-84 (UL 723) and many UL Classifications

MARS NO.	DESCRIPTION	CASE QTY.
93293	Firestop Caulk, 10.5 FL Oz.- Red	12

Red Devil Celulon And Acrylic Caulk

Celulon™ plumbing and HVAC adhesive sealant is sometimes preferred over silicone. This easy to apply adhesive sealant adheres to all substances, is paintable, cleans up with water and has no offensive odor. Used to seal A/C ducts and lines. Application temp: 40° to 90°F. Service temp: -25° to 200°F.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
93256	Celulon HVAC sealant clear 10.1 oz.	12	12
93257	Celulon HVAC sealant white 10.1 oz.	12	12
93258	35 yr. acrylic caulk gray 10.1 oz.	12	12



SERVICE & INSTALLATION



Red Devil Butyl Sealants

Red Devil's butyl sealant is a high performance rubber-like sealant that is ideal for tough outdoor jobs and below grade applications. (marine usage above waterline) It can be used wherever watertight seal is required. This paintable sealant provides excellent adhesion to most building surfaces including aluminum, stone, wood, brick, fiberglass, plastic, metal, etc. This sealant is ideal for use on window/door frames, aluminum gutters, chimney roofs, concrete foundations etc. Sealant remains rubbery and flexible from 0°F to 225°F after full cure.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
93290	Butyl sealant white 10.1 oz.	12	12
93291	Butyl sealant aluminum gray 10.1 oz.	12	12
93292	Butyl sealant bronze 10.1 oz.	12	12

Red Devil Specialty Products

Red Devil's blacktop & roof repair is water resistant and stays flexible. This butyl rubber asphalt sealant adheres to cinder block, wood asphalt, concrete, brick and metal. Use on blacktop driveway cracks, chimney flashings, shingles & skylights. Apply at temperatures between 10°F & 100°F. Full cure in 72 hours

Red Devil speed demon latex caulk is a general purpose caulk that applies easily, dries quickly is paintable and won't stain or bleed.

Red Devil's QPF™ tub & tile caulk provides a long lasting water-tight seal around tubs, showers & sinks. This odorless and mildew resistant caulk is paintable & won't stain or bleed. The acrylic based caulk features a quick protection formular (QPF) which forms a protective outer covering in seconds allowing a bath or shower within 3-4 hours use of application.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
93244	Blacktop & roof repair black 10.1 oz.	12	12
93265	Speed demon latex caulk white 10.1 oz.	12	12
93248	Tub & tile caulk white 10.1 oz.	12	12

Expanding Foam Sealing Products

MARS foam sealant is a multi-purpose expanding polyurethane foam sealant, designed for the professional contractor. Excellent for HVAC projects and wall/floor penetrations. It is ideal for sealing around air conditioners, vents, ducts, electrical and plumbing penetrations. The Handi-Foam, MARS #93243, is a two component polyurethane foam to seal, bond, retrofit, insulate and dampen sound. Excellent for use in the HVAC, plumbing, roofing, cold storage, transportation and building maintenance applications, Expands and cures within seconds. Conforms to any shape. Each kit contains 2 cans (.88 lbs. ea.) of polyurethane expanding foam, two spray nozzles with 24" hoses and 1" clamp. Covers one cubic foot (12 board feet).

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
93268	Foam sealant 12 oz.	12	12
93267	Foam sealant 24 oz.	12	12
93243	Handi-Foam	1	12

MARS Duct Seal Putty

MARS Duct Sealing Putty is a non-hardening, non-toxic, gray putty compound used for countless applications in the refrigeration, heating and cooling, electrical trade, and plumbing fields. It can be shaped by hand to any form, and reused if necessary, for plugging openings through foundations, sealing around electrical boxes, refrigeration tube entry and so much more.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
93520	1 lb. slug - boxed	1	10
93521	5 lb. slug - boxed	1	10
93522	2 lb. slug - boxed	1	10



SERVICE & INSTALLATION

Sealant Products

MARS SERIES **934**



Caulking Guns

For your convenience, MARS also offers easy to load and operate caulking guns. Guns hold the standard 10.3 oz. cartridges. MARS #93269 skeleton gun is ideal for large jobs. This heavy duty but light weight unit saves time in loading for the busy contractor. The professional skeleton gun, MARS #93278, offers three times more thrusting power with a smooth rod parallel frame. The professional ratchet type caulking gun, MARS #93279, is a professional conventional type gun recommended for sealants from light to heavy consistencies.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
93269	Skeleton caulking gun	1	24
93278	Professional skeleton caulking gun	1	12
93270	Econo conventional caulking gun	1	24
93279	Professional ratchet caulking gun	1	24



Pipe Insulating Cork Tape

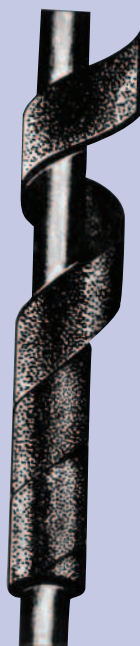
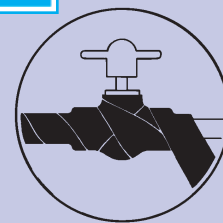
MARS SERIES **932**

MARS Cork Tape - 1/8" x 2" x 30' Roll

MARS Cork Tape is ozone resistant and specially designed for all types of climate. It insulates cold pipes for all kinds of air conditioners, freezers, and refrigerators. Cork Tape helps stop condensation problems. It is ideal for retarding heat gain in cold pipes and prevents heat loss in hot pipes. Can also be used for gasketing purposes. MARS Cork Tape sticks to all kinds of dry metals. This flexible tape seals tightly without drying. Temperature range: -20°F to 200°F / -29°C to 93°C.

Corktape is made from virgin cork specially imported from Portugal & Spain and has the following characteristics:

1. Compared to other cork tapes - our cork tape features rubber/asphalt & 100% virgin cork instead of asbestos / saw dust as used by other manufacturers.
2. The width is always 2" wide unlike other brands where size varies from 1-3/4" - 2".
3. Very good adhesion property. It sticks on the metal pipe tightly and does not come out in one piece if unwrapped.
4. A wide service temperature range -29° F - +200°F
5. Once installed the outer surface dries creating a shield against unwanted dust and dirt while the inner side remains wet. So even after a year or two, the user can remove the cork tape and reapply elsewhere without any change in the properties of the tape. Other brands such as Prestite/Virgin are mostly wet outside and inside making it vulnerable to dust and dirt which eventually deteriorates its insulation properties.



Physical properties:

Composition:
Polymer based material containing synthetic rubbers, asphalt and approximately 50% cork by volume. It has a grainy rubber-like consistency and contains no asbestos.

Solid Contents:
99.8%

Color:
Black

Thermal Conductivity:
0.60 BTU/hr /ft²/F/in at 75°F

Moisture / Vapor Transmission:
0.02 perms.
(ASTM E-90 Procedure C)

Water Absorption:
0.01% by volume
(ASTM D-1056)

Ozone Resistance:
Good

Thickness To Prevent Pipe Condensation

Ambient Temperature & %RH	Pipe Temperature	
	50°F (10°C)	32°F (0°C)
77°F (25°C) & 50% RH	Double Layer	Triple Layer
85°F (29°C) & 70% RH	Double Layer plus Double Layer	Triple Layer Plus Triple Layer

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
93505	Cork Tape	1	12



Self Adhesive Insulation Foam Tape

MARS SERIES **932**

MARS Foam Tape - 1/8"X 2"X 30' Roll

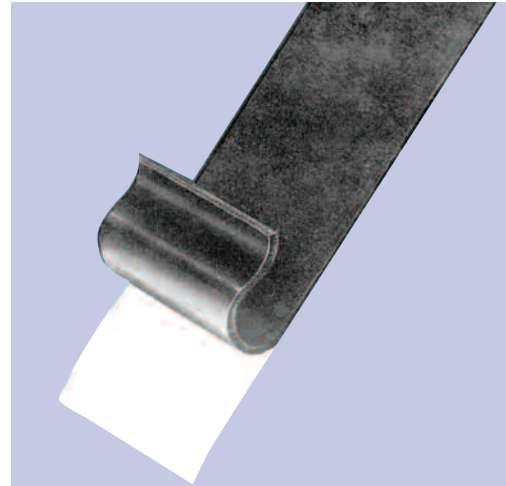
MARS Foam Tape is a self-adhering closed cell thermal insulation tape. This flexible tape is ideal for wrapping hot or cold pipings and fittings. The energy saving and very easy to use Foam Tape is excellent for preventing condensation problems. MARS Foam Tape is designed for retarding heat loss in hot pipings and preventing heat gain or frost formation on cold, chilled water pipings or refrigerant lines. Adheres firmly to all metals. Temperature range: -20°F to 200°F / -29°C to 93°C.

1. Good weather and UV resistant - reason being EPDM (Ethylene Propylene Diene Monomer) is the main compound in the manufacturing of Foamtape. In practice EPDM is also used in the manufacturing of glass window strips of cars, which lasts for more than 10 years outdoors without any replacement (inspite of being exposed to rain, heat & cold).
2. The specially coated acrylic adhesive provides extra adhering strength compared to other tapes. Once installed, the special adhesive will act as the bonding agent and won't let the tape delaminate.
3. Low thermal conductivity (0.26 BTU. in/sq. ft. hr. deg. F at 75°F) to prevent heat loss/heat gain and save energy.
4. An ozone friendly product manufactured under strict supervision of trained personnels with quality check at every production point.
5. Low halogen contents. Tests have proved that MARS Foam Tape (or FOAMTAPE excluding the adhesive) has chlorine and bromine content of 4.36% and 1.35% compared to NBR/PVC (Armstrong, Rubatex) based brand insulation which has 12.45% and 6.14% respectively.
6. Our vulcanization system uses negligible amount of Sulphur (chemical which corrodes copper tubings) and this special vulcanization process decomposes chemicals almost completely.

Thickness To Prevent Pipe Condensation

Ambient Temperature and Relative Humidity	Pipe Temperature	
	50°F (10°C)	35°F (2°C)
80°F (27°C) & 50% RH	Single Layer	50% Overlap
85°F (30°C) & 70% RH	50% Overlap plus Single Layer	50% Overlap Plus 50% Overlap

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
93506	Foam Tape	1	12



Physical properties:

Composition:

Closed cell, elastomeric thermal insulation.

Color:

Black

Density:

6±1 pounds per cubic feet.
(0.09-0.12 g/cm³)
(ASTM D-1667)

Thermal Conductivity:

0.26 BTU in./ft² hr. °F at 75°F
(0.04 W/mK at 24°C)
(ASTM C-177)

Water Absorption:

Max 5% by weight
(ASTM D-1056)

Water Vapor Permeability:

0.15 Perm-inch (ASTM C-355)

Temperature Range:

-20°F (-29°C) to +200°F (+93°C)

SERVICE & INSTALLATION



Maintenance Products

MARS SERIES **934**

Mortite Pipe Wraps

Mortite's no-drip[®] tape stops cold water pipe sweating permanently. Won't dry out, crack or shrink. This self-adhering tape insulates hot water pipes up to 160°F. No-drip[®] tape molds around valves, joints, tees and irregular fittings. The 2"W x 30'L roll covers 30 lineal feet of 1/2" O.D. pipe. Provides clean, neat appearance.

MARS NO.	DESCRIPTION	CASE QTY.
93516	No-drip [®] tape - 2" x 30' roll	10



93516



The largest selection of motors, components and accessories for the HVAC/R Industry

Maintenance Products

MARS SERIES **932**



Mortite Weather Stripping Products

MARS #93507, air conditioner window seal, seals the gap between window sill and air conditioner. This permanent, all season foam strip prevents heat loss in winter, cooling loss in summer. Attractively packaged in a colorful poly bag for pegboard merchandising.

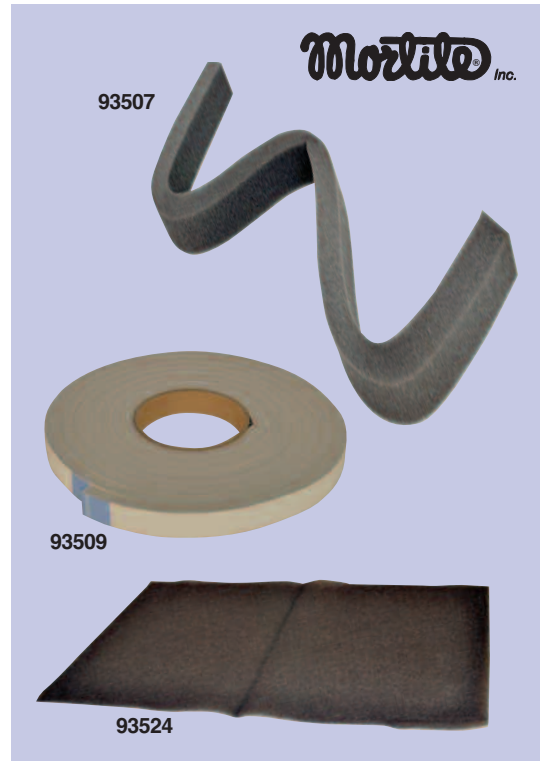
Mortite's closed-cell foam tape, MARS #93509 seals better in hot and cold climates. This durable vinyl tape stands up to extreme cold temperatures and will not freeze. Closed-cell means the cells prevent air from passing through the weatherstrip tape and won't absorb moisture. Self adhering, seals out drafts, dust and insects better than open-cell tape. MARS #93509 cushions and eliminates noisy vibrations around storm windows, A/C's and small appliances.

MARS NO.	DESCRIPTION	CASE QTY.
93507	Foam strip - 1/4" x 1-1/4" x 42"L	12
93509	Closed cell foam tape 3/8"T x 3/4"W x 10'L	12

Mortite A/C Foam Filter

Mortite's air conditioner filter helps to keep the room free from outside dust and dirt while increasing efficiency. This polyurethane foam filter is easy to install. And the 15" x 24" size can be cut to fit all window and through-wall air conditioners. Easy to clean - requires only regular detergent and water. Reusable.

MARS NO.	DESCRIPTION	CASE QTY.
93524	Foam filter - 15" x 24"	24



SERVICE & INSTALLATION

Tapes & Supplies

MARS SERIES **789**



Cloth Duct Tapes

MARS is committed to supply high quality tape products to the HVACR industry. MARS offers 5 grades of the most popular duct tapes for a wide variety of applications.

MARS #79070 is the tape of choice for professional contractors. This double-calendered adhesive system is designed to meet the most rigorous demands of HVAC and asbestos removal specialists. Also available in black.

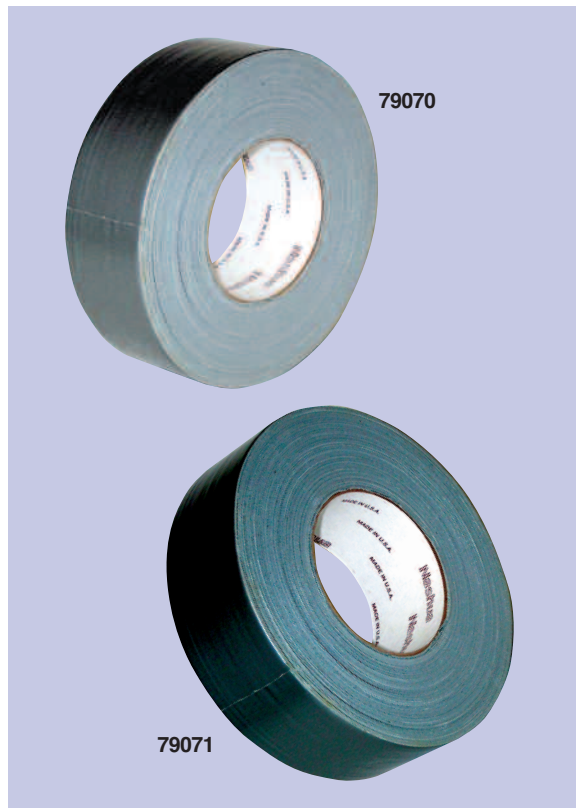
MARS #79072 and 79073 are recommended for use in many heating, air conditioning, ventilating and refrigeration applications.

MARS #79074 and 79075 has an excellent adhesion for a wide variety of surfaces. Excellent for most industrial applications.

MARS econo grade is an all around economical duct tape product for binding, patching and repair applications.

MARS #79088 is a heavy duty printed duct tape used to seal metal duct work, fiberglass insulations and to cover thermal insulations. Will not twist or curl during application. Meets UL723. Max temp 200°F with 4-1/2" repeat.

MARS NO.	DESCRIPTION	SIZE	MARS PACK
79070	Premium grade silver	2" x 60 yds.	24
79071	Premium grade black	2" x 60 yds.	24
79072	Professional grade silver	2" x 60 yds.	24
79073	Professional grade black	2" x 60 yds.	24
79074	Industrial grade silver	2" x 60 yds.	24
79075	Industrial grade black	2" x 60 yds.	24
79076	Plumbers grade silver	2" x 60 yds.	24
79077	MARS econo grade silver	2" x 60 yds.	24
79088	Heavy duty printed black	2" x 60 yds.	24





MARS Foil Duct Tapes

MARS #79081 and 79082 are dead-soft aluminum foils with aggressive adhesive properties. The FSK foil scrim kraft tape is a fiberglass scrim reinforced foil that gives the tape high tensile strength, yet it is flexible and easy to use.

MARS NO.	DESCRIPTION	SIZE	MARS PACK
79081	Aluminum foil tape	2" x 50 yds.	24
79082	Aluminum foil tape	3" x 50 yds.	16
79083	Foil scrim kraft tape	2" x 50 yds.	24
79084	Foil scrim kraft tape	3" x 50 yds.	16

U.L. Listed Tapes

MARS #79087 is a UL181A-P listed foil. This foil product has a more technically sophisticated acrylic adhesive system designed to meet the more stringent demands of UL.

MARS NO.	DESCRIPTION	SIZE	MARS PACK
79087	U.L. 181 foil tape	2 1/2" x 60 yds.	16

Spray Adhesive

MARS #79094 is especially designed to bond polyethylene to itself, concrete block, wood and other hard to bind surfaces. Does not contain methylene chloride. Very quick, aggressive tack. Excellent for HVAC insulation applications.

MARS NO.	DESCRIPTION	MARS PACK
79094	Spray adhesive, 17 fl. oz.	12

Liquid Electrical Tape

MARS NO.	DESCRIPTION	MARS PACK
86135	Liquid electrical tape (black), 4oz.	1

PVC Electrical Tape

PVC electrical tape provides excellent adhesion to aluminum and copper conductors and plastic and rubber insulations where quick identification is most needed. Due to its primary use in low temperatures, it can be stretched to conform to any shape without breaking. UL listed and CSA approved. PVC electrical tape is designed for general splicing and as a protective outer jacket. Flame retardant and cold and weather resistant. UL listed and CSA approved.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
86186	3/4" x 66' - red	1	100
86187	3/4" x 66' - white	1	100
86188	3/4" x 66' - green	1	100
86189	3/4" x 66' - blue	1	100
86184	3/4" x 60' - black	1	100
86133*	3/4" x 60' - black	10	100

* Non-UL



SERVICE & INSTALLATION

Tapes & Supplies

MARS SERIES **954 & 788**



Low Density Teflon Tape

- Thickness 3 mils.
- Standard grade, low density
- Provides a highly resistant seal on pipe threads for all types of service
- Suitable for use with solvents, chemicals, oxygen, and on food lines
- Non-toxic
- Permits easy disassembly, even after years of service
- Meets Mil. Spec. T-27730A
- Sealing temperature range: -450°F to 550°F (-268°C to 288°C)
- Working pressures: 2,000 PSI (136 BAR)
- Sold in case quantities only

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95409	1/2" x 260"	44	144
95410	1/2" x 520"	44	144
95412	3/4" x 520"	44	144

High Density Slick-Tite® Teflon Tape

- Thickness 3 mils.
- High density
- Provides a highly resistant seal on pipe threads for all types of service
- Made in USA
- Suitable for use with solvents, chemicals, oxygen, and on food lines
- Non-toxic
- Permits easy disassembly, even after many years
- Meets Mil. Spec. T-27730A
- Sealing temperature range: -450°F to 550°F (-268°C to 288°C)
- Working pressures: 2,000 PSI (136 BAR)

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95525	1/4" x 300"	12	12
95526	1/4" x 600"	12	12
95527	1/2" x 300"	12	12
95528	1/2" x 600"	12	12
95530	3/4" x 300"	12	12
95532	1" x 300"	12	12

MARS Teflon Tapes

MARS NO.	DESCRIPTION	MARS PACK
78940	1/2" x 260" - STD grade white teflon tape	12
78941	1/2" x 520" - STD grade white teflon tape	12
78942	1/2" x 260" - hi-density pink teflon tape	10
78944	1/2" x 260" - hi-density yellow (UL) gas tape	10

LA-CO®

95409



95528



78940



SERVICE & INSTALLATION



Plews Standard Grease Fitting

Standard grease fittings are precision engineered to withstand rugged use in most automotive and industrial applications. The feature steel fittings with corrosion resistant plated finish and built-in ball check.

The small grease fitting assortments contain the three most popular 1/4"-28 threaded fittings used when making a "change-over" from plugs to fittings. Ideal for the contractor.

Plews small 4-way grease fitting tool (MARS #93385) is for most popular 1/4"-28 and 6 mm fittings. Tap repairs 1/4"-28 threads. Wrench removes 5/16" and 3/8" hex fittings and plugs. Wrench installs new fittings. "Easy-out" removes broken fittings. Large tool (MARS #93384) is designed for 1/8" NPT fittings. Tap repairs 1/8" NPT threads. Wrench removes 7/16" and 3/8" hex fittings and plugs. Wrench installs new fittings. 1/8" NPT "Easy-out" removes broken fittings.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
93375	1/8" npt, short-straight fitting, 100/box	11-150	1
93376	1/8" npt, short-straight fitting, 10/card	11-151	10
93378	1/8" npt, short 45° fitting, 5/card	11-159	10
93372	1/8" npt, short-90° fitting, 5/card	11-167	10
93388	1/4" npt, straight fitting, 5/card	11-201	10
93383	8 assorted grease fitting kit	11-955	10
93384	Large 4-way grease fitting tool	11-901	5
93385	Small 4-way grease fitting tool	11-903	10
93386	1/4"-28 thread, short-straight fitng, 10/card	11-101	10

Standard fitting assortment includes:

93383 Qty.	Description	Thread
4	short-straight	1/4"-28
2	short 45°	1/4"-28
2	short 90°	1/4"-28

Plews Handled And Pistol Oilers

When you reach for an oiler, make sure it's a Plews! Plews oilers are truly the finest in the industry; for either the professional or the handyman. Epoxy finish handled oilers and pistol oilers are made of heavy duty, drawn steel bodies. Durable epoxy finish resists rust. Zinc plated, detachable flex spouts are featured.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
93390	Pint oiler w/9" flexible spout	50-337	1
93393	6 oz. oiler w/6" flexible spout	50-516	10

Plews Plastic Funnels

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
93396	5 1/2" utility funnel, 1 pint	75-062	1
93397	7" heavy duty funnel, 2 quart	75-070	1
93398	5 3/4" utility funnel w/screen includes 13" flex extension	75-007	1



Maintenance Products

MARS SERIES **933**



Plews Grease Guns

Plews grease guns allow one hand operation and are perfect for hard to reach jobs. Precision pump develops up to 7000 p.s.i. Easy three-way loading by standard 14 oz. cartridge or suction filled. There is a head cap port for adding air bleeder or bulk loader fitting. Available in two different styles. Both feature tough all-steel construction with rugged baked enamel finish and tough zinc plated handles. New non-slip knurl on barrel allows for positive grip.

The mini grease gun kit is a compact "tool box" size grease gun that goes where other grease guns can't.

Features include:

- Zinc die cast head cap
- Pistol grip for easy one hand operation combined with heavy duty performance
- Uses standard 3 oz. cartridge
- Kit includes gun with rigid pipe and coupler and one 3 oz. multi purpose grease cartridge

MARS #93353 is a general purpose grease gun with professional features. This grease gun offers 2 way loading: 14 oz. cartridge or suction. The lever action gun includes 5-3/8" pipe and coupler. Develops up to 6,000 psi. Durable baked enamel finish.

MARS #93355, professional grease gun features variable/short stroke for easy use in confined areas. This lever action gun provides an air bleeder and bulk loader fitting for 3-way loading (14 oz. cartridge, bulk or suction). Grease gun includes 5-3/8" pipe and coupler. Plated lever with comfortable oversized grip is also featured. Develops up to 10,000 psi.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
93350	Pistol grease gun, 12" hose	30-415	1 5
93351	Pistol grease gun, with pipe ass'y	30-425	1 5
93352	Mini grease gun kit, 3 oz.	30-132	1 10
93353	Lever action grease gun, 14 oz.	30-445	1 10
93355	Professional grease gun, 14 oz.	30-475	1 10



Plews Multi Purpose Grease

Plews multi-purpose lithium grease is a long lasting, hard working formula which delivers high performance in a wide range of heavy duty applications. NLG1 #1-1/2, drop point 350° F.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
93361	Multi purpose cartridge, 14 oz.	11-310	1 40
93362	Multi purpose cartridge, 3 oz./4 pk	11-300	1 10

Plews Lubrication Accessories

Plews standard jaw-type couplers feature a spring loaded ball check valve. Fits all 1/8" NPT threads. For all hand operated lube equipment (not for power lubricating equipment).

Recommended working pressure is 3,000 psi. Heavy duty coupler recommended working pressure is 4,000 psi.

For use on hand operated grease guns only, heavy duty hoses have high quality 1/8" NPT male fittings on each end. Recommended working pressure is 3,000 psi. Burst pressure is 12,000 psi. Meets U.S. Government Specification MIL-L-4387C.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
93365	Standard grease gun coupler	05-031	1 10
93366	Heavy duty grease gun coupler	05-035	1 10
93367	Heavy duty grease hose, 12"	10-212	1 10
93369	Heavy duty grease hose, 18"	10-219	1 10

SERVICE & INSTALLATION



Epoxy-Stik™

- Cures rock hard with no shrinkage
- Safe on portable water systems
- Withstands temperatures up to 250° F
- Hardens in 5-10 minutes, full cure in 24 hours
- Can be applied under water
- After 1 hour can be drilled, tapped, filed, sawed, sanded and painted

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95522*	4 oz. stick	24	24

* Packaged in one dozen per display box

Sharpie® #15 Fiber Tip Marker (Dura-Ink #15)

- Fine tip • Ideal for fine line marking • Extra tough tip, won't spread
- Smear resistant, water resistant
- Marks on metal, wood, cardboard, paper, plastic, glass, etc.
- For identification of parts, layout work, marking cartons and crates
- Meets U.S. Fed. Spec. TT-1-544

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95488	Black	12	72

Valve Action™ Paintmarker

- Marking range: -50° to 150°F / -46° to 66° C • Marks w/ real paint, dries in minutes
- Valve action nib releases paint as needed for continuous marking
- Marks on all surfaces including: metal, wood, glass, plastic, rubber, cardboard and paper • Lead - free, low halogens
- The fiber nib is replaceable to assure complete use of each marker
- Durable metal barrel • Meets California VOC regulations

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95480	Black	12	48
95481	Red	12	48
95485	Yellow	12	48

Dura-Ink® Fiber Tip Markers

- Larger ink supply, heavy duty metal barrel
- Water - resistant, fade - resistant
- Chisel tip makes fine lines or broad marks
- Meets Fed. Spec. TT-1- 544
- Use on cardboard, wood, metal, paper, ceramics, glass, etc.
- For identification of equipment, marking shipping cartons, sign making, etc.
- #20 is medium size, #25 is king size

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95500	Dura - Ink® #25 - black	12	48
95516	Markal Dura-Ink #25 Black Marker (2-pk)	1	24
95519	Black	1	36

Pipe Joint Compound

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95432	Oyltite Stick 1 oz.	12	24
95433	Pipertite Stick 1-1/4 oz.	12	144



Maintenance Products

MARS SERIES **954 & 730**



E-Z Break® Anti-Seize Compound

- Copper-based anti-seize and lubricating compound
- Resists rust and corrosion
- Recommended for coating nuts, bolts, valves, flanges, splines, for easy break out after years of service
- Meets Mil. Spec. Mil-A-907E
- Authorized by USDA for use in federally inspected meat and poultry plants
- Temperature: to 1800° F (982° C)

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95472	10 oz. w/brushcap	24	24

Pierce® Rust Remover Penetrant

- Drives under rust and penetrates into the tightest crevices to protect against rust and corrosion
- Removes asphalt, tar, grease, dirt from metal surfaces
- Colorless moisture repellent film guards against continuing rust and corrosion
- Use on all equipment tools, chain saws, cables, ignition systems, threaded parts, and any rotating or sliding metal surfaces.
- Lubricates and eliminates squeaks

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95423	12 oz. aerosol w/extension	24	24

Spray Weld

All-in-one cleaner, primer & cement in a handy aerosol can.

- Valve sprays in any angle, even when can is upside down!
- Commercial grade fast-setting, heavy-bodied, CFC's free aerosol propellant
- 11 oz. can yields up to 300 - 3/4" joints. That's over 100 more joints than a quart can of traditional brush-on cement!
- All-weather formula works Hot or Cold, Wet or Dry
- Sets in 1-2 minutes!
- Pressure test to 100 PSI in as little as 30 minutes!

For use on:

SDR 35CL200, Schedules 20, 40 & 80 up to 6" dia.

MARS NO.	DESCRIPTION	MARS PACK
73010	Clear	12
73011	Purple	12

Permatex® Adhesives & Sealants

Permatex® PermaPoxy™ 5 Minute General Purpose Epoxy and 30 Minute High Strength General Purpose Epoxy

- Versatile easy to use, clear appearance, 2 part adhesive and filler system. No need to weld or braze
- Fills gaps and will not shrink
- Temperature range -60°F to 180°F (-51°C to 82°C).
- 5 min. general purpose epoxy - permanent strength up to 3400 PSI
- 30 min high strength - permanent strength up to 3500 PSI

Permatex® Super Glue

This formulation was specially designed for a faster, long-lasting bond. It is easily applied and works on non-porous materials including metal, plastics, rubber, vinyl, paper, wood, textiles, and cork gaskets. Permanent transparent bond fills gaps to .004".

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
95555	5 Min Epoxy, .84 fl oz	12	12
95556	30 Min Epoxy, .84 fl oz dual syringe	12	12
95557	Super Glue Gel tube, 2 grams	12	12
95558	Super Glue tube, 2 grams	12	12



SERVICE & INSTALLATION



CRC Lubricants

CRC products incorporate the **MSD(L)™**, a removable material safety data sheet printed on the reverse side of the label. With this new labeling system, a MSDS is always where you need it the most, right on the product you are using!

CRC 3-36 is a multi purpose lubricant and penetrant that forms a clear film that lubricates and stops corrosion. Its high affinity for metal allows it to penetrate and displace moisture leaving a long lasting rust preventing film. Available in aerosol with a nonflammable CO2 propellant and 360° valve.

CRC Screwloose® Penetrating Oil is a no compromise penetrant that attacks rust and corrosion, penetrating through oxides and soil to free corroded fasteners and mechanical components.

CRC Power Lube® is a unique new lubricant that incorporates a sophisticated additives package with Teflon® to provide long lasting protection against friction and wear. It is able to work longer and better than other lubricants under the extremes of pressure and the environment. Unlike most lubricants with Teflon®, it contains no chlorinated solvents.

CRC Cutting Oil is a superior thread cutting lubricant for use on all types of metal. The low odor formula is safe for soft metals such as brass and aluminum, and is non-staining. The same formula is also used for steel and galvanized metal, and cuts without that strong sulphur smell. Aerosol formulation with viscosity improved for increased cling, and reduces waste.

CRC White Lithium grease with Teflon® is a high purity, high quality grade 2 white lithium based grease with an additive package that includes Teflon® for superior lubrication. It is truly white, smooth and buttery in consistency for optimum surface coverage. It has both rust and oxidation inhibitors to provide durable lubrication and protection in any application.

MARS NO.	DESCRIPTION	MARS PACK
93208	3-36 Multi Purpose Lubricant, 11 oz.	12
93211	Screwloose® Penetrating Oil, 11 oz.	12
93212	Power Lube® Teflon Lubricant, 11 oz.	12
93213	Cutting Oil, 12 oz.	12
93214	White Lithium Grease, 10 oz.	12
93284	2-26 Lubricant, 11 oz.	12

CRC Specialty Products

The Wasp and Hornet Killer Plus™ is a fast acting, high strength insecticide that kills wasps, hornets, black widow spiders, fire ants and scorpions. Will not damage plastic connectors and other insulating materials. Provides a dense accurate spray that will reach over 20 feet. Excellent for the A/C contractor.

HydroForce™ Glass Cleaner Professional Strength is formulated to clean streak-free – the first time and every time. The ammonia-fortified formula quickly cleans the toughest dirt, dust, fingerprint and haze deposits without leaving unsightly streaks due to residue. HydroForce™ is versatile and safe to use on all glass surfaces. The foaming, ready-to-use formula allows for greater coverage and less run-off when cleaning vertical surfaces. HydroForce™ is biodegradable, non-corrosive, non-flammable and non-abrasive. Let us prove it to you.

CRC Rubberized Spray Undercoating is a specially formulated rubberized product that dries quickly and is exceptionally resistant to abrasion, rust and corrosion. Seals underbody, fender, panels, frame, hood, doors, weld joints, etc., against moisture, salt and road debris.

Ask your MARS representative for information on how to become a full line CRC distributor and also for details on additional CRC problem solving products.

MARS NO.	DESCRIPTION	MARS PACK
93226	Wasp and Hornet Killer Plus™, 14 oz.	12
93227	HydroForce Glass Cleaner, 18 oz.	12
93233	Rubberized spray undercoating, 16 oz.	12



SERVICE & INSTALLATION

Maintenance Products

MARS SERIES **931**



CRC Cleaners/Degreasers

CRC Heavy Duty Degreaser is a chlorinated solvent based cleaner/degreaser that is chemically stable and extremely effective in most heavy duty applications. It has no fire or flash point, evaporates quickly with no residue and is non-conductive. New formula contains no ozone depleting compounds. Effectively removes grease, tar, oil, adhesives, etc. to increase operating efficiency.

CRC Industrial Contact Cleaner is designed to quickly and effectively clean sensitive electrical and electronic components. It has no flash point and evaporates quickly, leaving no residue. Contains no CFC's or VOC's

CRC QD Contact Cleaner is an alcohol based precision cleaner that is **100% free of CFC's**. For use on non-energized equipment, it evaporates rapidly and is harmless to most plastics. For use on electrical and electronic components where precision cleaning is necessary.

The CRC Contact Cleaner 2000™ is a revolutionary precision cleaning solvent designed to meet today's environmental challenges. This high purity solvent is a new generation HCFC and does not exhibit the same ozone depleting properties as conventional CFC solvents. It evaporates rapidly, has no flash point and leaves no residue (may affect some plastics).

CRC Gasket Remover is a solvent based high strength cleaner that effectively loosens and helps remove fiber gaskets, adhesives and sealants. It helps protect equipment surfaces by eliminating damage caused by scraping. Also removes paint and graffiti.

SERVICE & INSTALLATION

MARS NO.	DESCRIPTION	MARS PACK
93215	Heavy Duty Degreaser, 19 oz.	12
93217	Industrial Contact Cleaner, 14 oz.	12
93218	QD Contact Cleaner, 11 oz.	12
93219	Contact Cleaner 2000™, 14 oz.	12
93222	Gasket Remover, 12 oz.	12
93294	Lectra Clean	12



Maintenance Products

MARS SERIES **932 & 790**

CRC Food Grade Silicone

CRC Food Grade Silicone forms a colorless, tasteless, non-toxic and non-staining film that is authorized by the USDA for use in federally inspected meat and poultry plants. Its silicone lubrication film meets FDA specifications for incidental food contact.

MARS NO.	DESCRIPTION	MARS PACK
93210	Food Grade Silicone, 10 oz.	12

CRC RTV Silicone

CRC RTV Silicone Adhesive/Sealants are the perfect way to seal, bond and protect. With the press of the nozzle, a precise bead of high purity silicone is easily applied. No lumps, gaps, bubbles or waste. The package keeps the silicone fresh with the product in the nozzle forming a self sealing plug. Convenient and easy to use.

MARS NO.	DESCRIPTION	MARS PACK
93236	8 oz. clear	12

CRC Corrosion Inhibitors

CRC Zinc-It® Instant Cold Galvanize is a high performance 95% zinc-rich coating that restores hot dipped galvanized properties to ferrous metals. Its sacrificial coating helps fight rust and corrosion creepage with a durable, flexible film.

CRC Belt Dressing extends the life of drive belts by improving traction and allowing runs under reduced belt tension. Formulated with a synthetic polymer that is non-drying, water resistant and chemically stable. It also meets FDA regulations for incidental food contact.

MARS NO.	DESCRIPTION	MARS PACK
93223	Zinc-It®, 13 oz.	12
93224	Belt Dressing, 10 oz.	12

Industrial All Purpose Spray Enamel

Plasti-kote® industrial all purpose enamel is abrasion and corrosion resistant. This spray enamel features an adjustable fan spray valve. Fights rust and will not fade. One can covers 25 to 28 sq. ft. Can be used to identify refrigerant in cylinders. MARS offers a spray paint counter display. This sturdy wire rack display holds 48 cans and measures 1 1/2"W x 16"H x 12 1/2"D. Order 48 cans of paint and the display is yours **FREE!**

MARS NO.	DESCRIPTION	REFRIG. ID #	CASE QTY.
78976	Machinery light gray	R-23	6
78987	Machinery dark gray	R-123	6
78981	OSHA white (gloss)	R-12, R-406A	6
78982	White (flat)		6
78983	OSHA black (gloss)		6
78984	Black (flat)		6
78985	Aluminum		6

Reflect-All™ All Purpose Spray Coating

Reflect-All™ is a revolutionary light-reflective paint that can be applied to virtually any surface. The reflective microbeads capture, intensify and reflect light back to the source resulting in amazing nighttime visibility.

Reflect-All™ has unlimited applications. Wherever low-light or nighttime safety is a must, Reflect-All™ is your brilliant answer!

Goes on semi-transparent and dries in 10 minutes.

MARS NO.	DESCRIPTION	MARS PACK
78995	Reflect-All™ 12 oz.	6



SERVICE & INSTALLATION



The largest selection of motors, components and accessories for the HVAC/R Industry

Pipeseal

MARS SERIES **934**



Pipeseal

Pipeseal is a unique multi-component epoxy designed to quickly and permanently patch, seal and repair cracks, holes and leaks in all types of pipe.

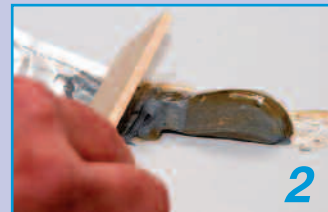
Seals Holes in Pipe to Full Pressure in Under Five Minutes!

- Works on all types of pipes including copper, steel, lead, cast iron and aluminum.
- Heat activated - Hardens fully in less than 1 minute.
- Withstands pressures up to 1200psi.
- No wrap/plug required.
- Suitable for refrigerant lines.
- Extreme chemical resistance
- 100% solids - No VOCs
- Permanently seals holes of up to 1/4 in. in diameter.

INSTRUCTIONS:

- 1** Prepare Surface around pipe hole/crack with sand paper or file.
- 2** Remove clip and cut-off the end with the clear material and apply entire content to mixing surface; ensure mixing surface is not porous.
- 3** Thoroughly mix entire contents.
- 4** Apply to pipe with a wooden stick or trowel.
- 5** Cover a 2-inch-wide area around pipe hole/crack.
- 6** Apply heat with a heat gun/hair dryer (approx. 140°) until Pipeseal cures and hardens (usually within 1minute).

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
93629	Pipeseal	1	12



Sprayers & Garden Hoses

MARS SERIES **797 & 790**

Chapin Sprayers & Accessories

MARS #79067, 2 gallon (1.5 gallon usable) polyethylene sprayer is a high density sprayer that resists breaking, leaking and chemical corrosion. This sprayer has a polymer shut off with lock on feature and a polymer nozzle that adjusts from fine spray to 30' stream, with a poly/brass extension that rotates 360°. Reinforced 36" hose resists crimping, cracking and leaking.

The Chapin acid sprayer is the ideal sprayer for cleaning and degreasing air conditioning coils, engines and many other uses. This 2 gallon (1.5 gallon usable) heavy-duty polyethylene tank features a new built-in relief valve/pressure gauge for added safety and polymer shut offs with lock off features to prevent accidental spraying. A 12" extension tube with adjustable poly cone nozzle ensures for better control when spraying chemically active liquids. Sprays coarse stream to fine mist. 42" hose included

MARS #79069, hand held pressure sprayer is a 48 oz. multi purpose sprayer for small areas. Heavy duty, chemical resistant poly tank features adjustable nozzle control for fine mist or straight stream spraying.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79067	2 gallon polyethylene sprayer	1	1
79068	2 gallon acid sprayer	1	1
79069	48 oz. hand held sprayer	1	1

Swan Garden Hoses

Fairlawn® reinforced garden hose combines excellent quality and good value. This light duty, three-ply strength hose offers good pressure capacity and is flexible for easy handling. Solid brass couplings. Two year warranty.

MARS #79539 and 79540, premium rubber hose, provide superior flexibility and pressure capacity. Maximum kink resistance and burst strength make this hose very durable. Handles hot water up to 160°F. Seal-tite™ washerless leakproof coupling. Lifetime warranty.

The professional hot water hose is designed for a wide range of applications requiring hot water use up to 200°F. The heavy duty rubber construction offers maximum wear and abrasion resistance. Industrial style reinforcing for high burst pressure and kink resistant. Seal-tite™ washerless leakproof coupling. All hoses are made in the U.S.A.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79538	Fairlawn® - 5/8" x 50'	1	5
79539	Premium rubber - 5/8" x 25'	1	5
79540	Premium rubber - 5/8" x 50'	1	5
79541	Hot water rubber - 5/8" x 25'	1	5
79542	Hot water rubber - 5/8" x 50'	1	5
79641	All weather - 5/8" x 50'	1	5
79642	All weather - 5/8" x 75'	1	5

Gilmour Full Size Pistol Grip Nozzles

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
79581	Insulated chrome plated	1	24
79582	Insulated threaded front	1	24
79583	Vinyl cushioned grip	1	24
79584	Metalized threaded front	1	48
79560	Hose washers, fits 5/8" hoses, 20/pk	1	1



Features of Gilmour® Pistol Grip Nozzles				
	79581	79582	79583	79584
Nozzle features	chrome plated, full-size	chrome plated, full-size	metal full-size	metalized full-size
All brass valve stem with permanent adjusting nut on all				
Hold-open clip on all				
Patented, insul. grip & industrial strength lever	yes	yes	no	no
Unique features	brass head insert	rubber head guard, brass head insert	vinyl molded comfort grip	
Stainless steel spring on all				
Lifetime duck packing seal on all				
Male hose threaded for attaching accessories	no	yes	yes	yes
Pack carded on all				

SERVICE & INSTALLATION

Custom Leather Craft Products

MARS SERIES **790**



Custom Leather Craft Products

Professional contractors require professional tools and accessories. Carrying a CLC Softside Tool Carrier is like owning a workshop to go. Loads of pockets, rugged polyester fabric, reinforced bottom panels, heavy duty stitching and bar tacking at critical stress points are features that make CLC a requested brand.

MARS NO.	DESCRIPTION	MARS PACK
79279	28 Pocket Tool Pouch <ul style="list-style-type: none"> 7" x 5-1/2" multi compartment tray slides into bottom of pouch Box shaped design prevents tipping Padded carrying handle and adjustable shoulder strap 8"L x 8"W x 17"H 	1
79280	15 Pocket, 16" Center Tray Tool Bag <ul style="list-style-type: none"> 13-1/2" x 9" multi compartment tray stores in middle of bag 8 pockets outside and 7 pockets inside Padded carrying handle and adjustable shoulder strap 16"L x 9"W x 9"H 	1
79281	4 Pocket Tool Holder <ul style="list-style-type: none"> Hang, strap, or clip on workbelts, suspenders, or pants Securely holds small tools or accessories 	1
79282	23 Pocket Large Tool Carrier <ul style="list-style-type: none"> 11" x 6" multi compartment plastic tray that slides into the bottom of the carrier 16 multi use outside pockets and 7 inside to organize tools & accessories Box shaped design prevents tipping 11"L x 10"W x 19"H 	1
79283	26 Pocket Backpack Bag <ul style="list-style-type: none"> 20 inside and 6 outside pockets organize a variety of tools & accessories Exclusive Tools-In-A-Row system folds open, then open again to layout your most used tools Padded adjustable shoulder straps 	1
79285	Mini Cell Phone Holder <ul style="list-style-type: none"> Specially designed to securely hold newer and smaller cell phones Versatile 2-way attachment for belt pants, etc. Elastic side panels and inside padding for protection 	1
79286	Large Cell Phone Holder <ul style="list-style-type: none"> Hang, strap, clip onto workbelts, suspenders, and pants Holds most brands of large cell phones Elastic side pockets for pens, pencils, small tools, etc. 	1
79287	Plastic Cap Swivel Kneepads <ul style="list-style-type: none"> One size fits all Exclusive grooved cap design prevents thread abrasion Foam padded with easy on/off hook and loop fasteners 	1
79270	Ultraflex® Non-Skid Professional Kneepads <ul style="list-style-type: none"> One size fits all Upper cap design for all day comfort and protection Soft, flexible outer shell protects and grips most surfaces without scratching or scuffing Slot n dot strap connections, Memory Flex™ synthetic rubber straps 	1
79288	Work Crew Gloves-L	1
79289	Work Crew Gloves-XL <ul style="list-style-type: none"> Synthetic leather palm is tough, soft, and comfortable Lycra side panels provide flexibility Spandex back ensures snug fit 	1



SERVICE & INSTALLATION



Custom Leather Craft Products

MARS SERIES **790**

MARS NO.	DESCRIPTION	MARS PACK
79263	14 Pocket Large Tray tote Bag <ul style="list-style-type: none"> • 2 Pockets inside, 12 outside • 13 1/2" x 6" multi-compartment plastic tray included, slides securely into bottom of bag. • 16"L x 9"W x 12"H 	1
79290	Work Right OC™-M	1
79291	Work Right OC™-L	1
79292	Work Right OC™-XL <ul style="list-style-type: none"> • Padded synthetic palm material is soft and comfortable • Open cuff design with textured pull-on tab for easy-on, easy off • Textured fingertip pads provide added abrasion resistance • Padded knuckles for protection against bumps • Stretch spandex back for flexibility and fit 	1
79264	Tradesmen High Dexterity Gloves-M (pair) <ul style="list-style-type: none"> • Clarino® synthetic leather is tough, soft and comfortable to wear, resists shrinking, stretching and hardening • Flexible neoprene wrist cuff keeps debris out • Flex-Spot™ thumb design for better flexibility • Stretch spandex for flexibility and fit • Padded knuckles provide protection against bumps 	1
79265	Tradesmen High Dexterity Gloves-L (pair)	1
79266	Tradesmen High Dexterity Gloves-XL (pair)	1
79267	Mossy Oak® 16" Bigmouth® Bag <ul style="list-style-type: none"> • 12 Multi-use pockets inside and 10 outside to organize tools and accessories • Heavy duty stitching and bar tacking at all stress points • 16"L x 8.5"W x 10"H 	1
79268	Mossy Oak® 12" Bigmouth Bag <ul style="list-style-type: none"> • 17 Multi-use pockets inside and 6 outside to organize and accessories • Opens wide for easy access to bags contents • Adjustable shoulder strap and padded reinforced web carrying handles • 12"L x 8.5"W x 8"H 	1
79269	48 Pocket Bucket Pockets <ul style="list-style-type: none"> • 14 Double row pockets inside and 34 triple row outside to organize a wide range of tools and accessories • Security pocket with hook and loop closure • Drill pocket with hook and loop handle strap • Designed to fit most 3 1/2 - 5 gallon buckets • Measuring tape strap and key clip included 	1
79276	50 Pocket Double Zipper Tote Bag <ul style="list-style-type: none"> • 9 Multi-use pockets inside and 41 outside to organize tools and accessories • Double pull zipper for easy access • Padded bottom will not scratch, mar countertops, floors and upholstery like metal tool boxes • 18"L x 6"W x 9"H 	1
79277	75 Pocket-Tool Backpack <ul style="list-style-type: none"> • 7"x 5" multi compartment plastic tray included • Adjustable padded shoulder straps and carry handles • 13"W x 17-1/2"H x 9"D 	1
79284	5 Pocket Cell Phone <ul style="list-style-type: none"> • The cell phone, tool and accessory holder you can HANG - STRAP - CLIP on workbelts, web suspenders, pants, etc. • Holds most brands of compact cell phones • Securely holds small tools and accessories like pliers, mini-flashlight, screwdrivers, multi-tools, etc. • Versatile 3-way attachment for pants, web suspenders, work aprons, etc. 	24

"Tools Not Included"



SERVICE & INSTALLATION



The largest selection of motors, components and accessories for the HVAC/R Industry

Tool Boxes & Organizers

MARS SERIES **790**



Tool Boxes

All Plano tool boxes and stowaway boxes are constructed of premium quality impact resistant plastics. Solid brass hardware and sturdy ABS drawbolt type latches, withstands rugged wear. All boxes are made in the U.S.A. and have a lifetime warranty!

The Plano Tote-More®, MARS #79368, features a multi compartment drawer and convenient handle for portability. Open top for easy access. Unit measures 14 3/4" L x 9 1/8" W x 6 7/8" H.

MARS NO.	DESCRIPTION	MARS PACK
79368	Tote More® w/draw - gray/black	4

Plano Tool Boxes

MARS NO.	DESCRIPTION	MARS PACK
79643	Clear StowAway 18 Fixed Compartments, 11.13" x 7.94" x 11.63"	6
79644	Clear StowAway - 5 to 9 Adj. Compt. Pro-Latch, 1' Deep Storage, 8.38"x5.38"x 9.88"	6
79645	Graphite Gray & Black 16" Tool Box with bulk storage space and tray, Removable StowAway Organizer built into the top, 19.38" x 16" x 16.63"	4
79646	Graphite Gray & Black 20" tool box with bulk storage space and tray, Heavy Duty handle, 22.38" x 20.69" x 19"	4
79647	Graphite Gray & Iron Yellow 22" tool box with extra deep storage space and tray, 21.88"x12.75"x13.75"	1

Stowaways - Plastic

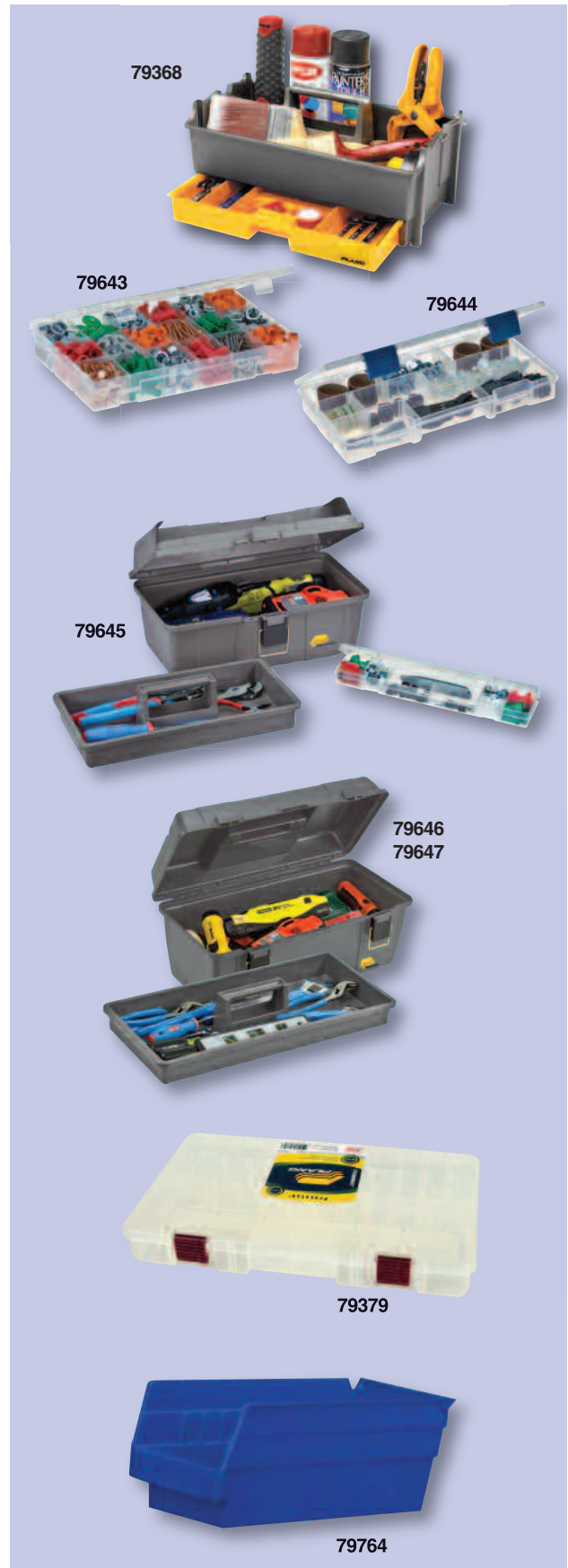
MARS stowaway boxes are ideal for the professionals or do it yourselfers. These utility boxes hold bolts, screws, washers, bits, solderless terminals and many other small items. MARS #79378 has 6-18 adjustable compartments and measures 11" L x 7 1/4"W x 1 3/4"H. MARS #79379 has 4-24 adjustable compartments and measures 13 3/4"L x 9 1/8"W x 2"H.

MARS NO.	DESCRIPTION	MARS PACK
79378	6-18 adj. stowaway box - translucent gray	6
79379	4-24 adjustable stowaway box - translucent gray	6

Storage Bins

- Heavy duty bins securely stack on top of each other, sit on shelving and hang from racks, panels, rails and carts
- Anti slide stop prevents stacked bins from shifting forward
- Guaranteed not to crack or break under normal load conditions
- Sturdy one piece construction is water, rust and corrosion proof.
- Large front label are for easy coding and scanning
- Curved bottom hopper makes it easy to retrieve small parts

MARS NO.	DESCRIPTION	MARS PACK
79764	12" Blue Shelf Bin 11 5/8" L x 4 1/8" W x 4" H	24
79765	12" Blue Shelf Bin 11 5/8" L x 6 5/8" W x 4" H	12
79766	12" Blue Shelf Bin 11 5/8" L x 8 3/8" W x 4" H	12





Clipboards & Formholders

MARS SERIES **790**

MARS Clipboards And Formholders

MARS aluminum Style A Formholder is versatile, efficient and easy to use. It can be used by both left and right handed people and will accommodate forms ruled either lengthwise or across the width. The storage compartment below keeps completed forms dry and protected.

The MARS Snapaks are very popular aluminum formholders that accommodate loose forms or sales books. Unit opens like a book. Clipboard is included on inside front cover. A hinged aluminum strap on inside back cover holds copies or sales books securely in place. The entire holder folds into a compact protective box to keep forms safe and dry.

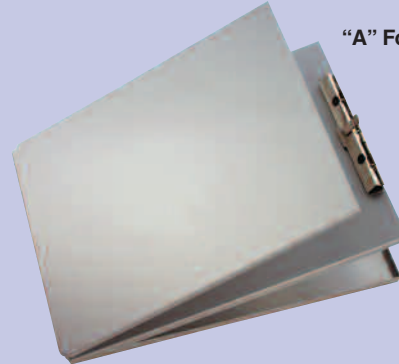
The MARS #79558 Redi-Rite is a clipboard on a box. This is the holder to have when you need to carry many forms. Extra storage capacity. All aluminum construction.

MARS #79559 Portfolio is simple yet functional. The cover is hinged on the left with a light spring action so it stays open and stays shut. Paper will stay safe under cover from wind, rain and dirt. Aluminum construction.

MARS NO.	DESCRIPTION	CASE QTY.
79552	"A" formholder 8-1/2" x 12"	12
79555	Snapak 8-1/2" x 12"	12
79558	Redi-Rite 8-1/2" x 12"	6
79559	Portfolio 8-1/2" x 12"	12



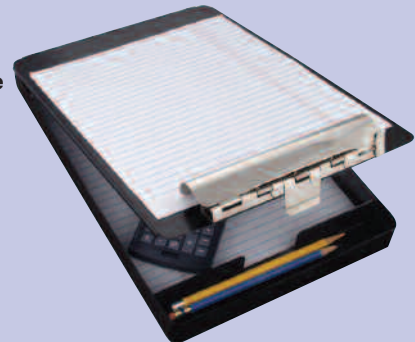
"A" Formholder



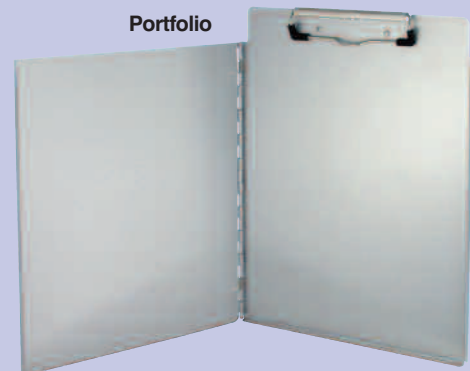
Snapak



Redi-Rite



Portfolio



SERVICE & INSTALLATION



HVAC/R Textbooks

MARS SERIES **790**



SERVICE & INSTALLATION

Reference Textbooks

Motors & Armatures is pleased to offer textbooks for the HVAC/R and electrical professionals.

Modern Refrigeration and Air Conditioning is the leader in the refrigeration and air conditioning field! It teaches fundamental principles and service techniques. The text tells and shows how to diagnose and remedy HVAC problems. It provides an excellent blend of theory with job-qualifying skills. Fully covers the practical application of refrigeration in all its branches including: Domestic, Commercial, Air Conditioning, Heat Pumps, Automotive Air Conditioning, Thermoelectric, Solar Energy, and Special Devices. Includes up-to-date information on refrigerant recovery, recycling, and reclaiming.

Emphasizing practical skills and presenting complete, up-to-date information, **Heating and Cooling Essentials** is the ideal introductory book for individuals who plan to enter the HVAC field. Special attention is paid to skills essential to the new technician, such as the familiarity with tools, materials, and fasteners; the ability to read dimensions and perform other math-related activities; and the ability to perform installation, service, and repair techniques. **Heating and Cooling Essentials** provides the new technician with a thorough discussion on temperature/pressure relationships, refrigerants (including the new ones that are replacing CFCs) and refrigerant recycling, valves and flow controls, compressors, HVAC electrical systems and components, major types of heating systems (including heat pumps), and the vital topic of customer relations.

Doolin's Trouble Shooters Bible is used by technicians and contractors everywhere. Partial contents include: electric motors, heat pumps, ice machines, gas and electric heating, central systems, servicing of commercial equipment, basic refrigeration and basic electricity. This reference book is available in a spanish edition as well.

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
78701	Modern refrigeration & A/C	1	8
78702	Heating & cooling essentials	1	10
78710	Doolin's trouble shooters bible	1	22
78711	Doolin's trouble shooters spanish edition	1	22

HVAC Professional Reference Books

DeWalt HVAC Technician Certification Exam Guide MARS # 78725

This comprehensive exam study guide for electricians can be utilized in every state. Based on the 2005 NEC, this book is ideal for preparing to take any one of the licensing exams currently required in the electrical industry. This book includes realistic sample exams with answer keys.

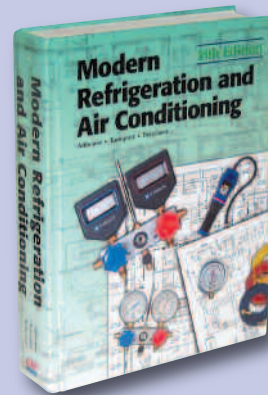
DeWalt HVAC/R Professional Reference-Master Edition MARS # 78726

This expanded edition contains approx. twice as much info as the earlier edition. This comprehensive jobsite solution for HVAC/R technicians covers formulas, design data, heating, ventilation, piping, service, troubleshooting, electrical motors & much more.

DeWalt HVAC Estimating Professional Reference MARS # 78727

This professional reference guide is the ideal pocket tool for any mechanical estimator. This book guides you through each step of the HVAC bidding process; includes checklist, worksheets, forms and more.

MARS NO.	DESCRIPTION
78725	DeWalt HVAC Technician Certification Exam Guide
78726	DeWalt HVAC/R Professional Reference-Master Edition
78727	DeWalt HVAC Estimating Professional Reference



78701



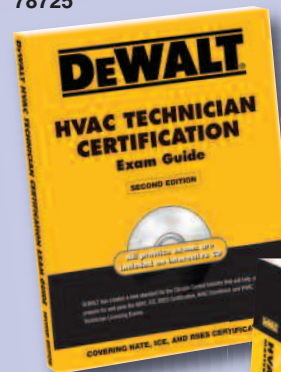
78702



78710



78725



78726



78727

MAF2

Section

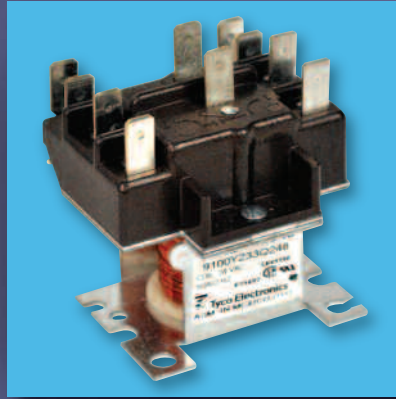


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Pullout Disconnect Boxes

The MARS2 Brand Disconnect Boxes are contractor friendly and feature a unique side opening door, allowing easy access to the work area. The powder coated UV rated finish provides superior esthetics and greater longevity. The patented "finger safe" pullout section prevents accidental contact with electrodes. Easy to remove knockouts and a secure locking mechanism are also featured. This Pullout Disconnect Box is the ideal choice for the busy contractor.

Specifications:

- Single phase, 240V
- 10,000 Amp Rated
- NEMA 3R, Rainproof
- UL & CUL Rated



MARS2 NO.	DESCRIPTION	STD. PACK	CASE QTY.
80315	60 amp non fused	6	6
80316	30 amp fused	6	6
80317	60 amp fused	6	6
80312	Pullout for 80315 & 80308	1	1
80313	Pullout for 80316	1	1
80314	Pullout for 80317	1	1

A/C Disconnects

MARS SERIES **803**



Pullout Disconnect w/GFCI Receptacle

The MARS2 Disconnect w/GFCI Receptacle provides a convenient low cost means to satisfy NEC 2003 code changes requiring that a GFCI receptacle with a "while in use" cover be within a 25ft line of sight of the condenser unit. The pre-wired receptacle with stripped wire ends makes installation of Disconnect and Receptacle quick and easy. This unit provides a significantly lower "installed cost" to the contractor when compared to installing a standard disconnect and separate GFCI receptacle with "while in use" cover to comply with the new NEC code change.

Additional features and benefits include: Convenient electrical power cord channel w/retaining clip for easy and safe use of portable tools; Large wiring compartment for both disconnect switch and receptacle; Angled Receptacle mounting to eliminate the possibility of crushing portable electrical plugs when closing "while in use" cover; Attractive side opening cover design for ease of installation; Ultra UV powder coating.

Specifications:

- 60 Amp, Non-Fused
- Pullout Type
- Pre-wired 15A, 125V GFCI Receptacle Included
- 240 Volt, Single Phase
- 10,000 Amp Rated
- NEMA 3R & UL Rainproof
- UL & CUL Approved
- Rated for 10HP @ 240 Volts
- Meets NEC #210.63 & #406.8(B)(1)
- Multiple Patents Pending

MARS2 NO.	DESCRIPTION	STD. PACK	CASE QTY.
80308	Pullout Disconnect W/GFCI Receptacle	6	6

MARS2

Motor Run Capacitors

MARS SERIES **129**

SINGLE SECTION

370 Volt Oval		440 Volt Oval		370 Volt Round		440 Volt Round	
MARS2 NO.	MICROFARAD	MARS2 NO.	MICROFARAD	MARS2 NO.	MICROFARAD	MARS2 No.	MICROFARAD
12902	2	12926	2	12992	2	12802	2
12903	3	12919	2.5	12993	3	12803	3
12904	4	12927	3	12994	4	12804	4
12905	5	12928	4	12995	5	12805	5
12906	6	12929	5	12996	6	12806	6
12907	7.5	12930	6	12997	7.5	12807	7.5
12908	10	12931	7.5	12998	10	12732	10
12909	12.5	12932	10	12999	12.5	12733	12.5
12910	15	12933	12.5	12710	15	12734	15
12912	17.5	12934	15	12911	16	12736	17.5
12914	20	12936	17.5	12712	17.5	12737	20
12915	25	12937	20	12714	20	12740	25
12917	30	12940	25	12715	25	12741	30
12918	35	12941	30	12717	30	12743	35
12921	40	12943	35	12718	35	12745	40
12923	45	12945	40	12721	40	12748	45
12925	50	12948	45	12723	45	12751	50
12924	55	12949	50	12725	50	12752	55
12987	60	12950	55	12726	55	12754	60
12988	65	12951	60	12727	60	12758	70
12989	70	12952	65	12828	65	12759	80
12990	80	12830	70	12729	70	12868	90
		12831	75	12899	80		
		12840	80	12916	100		

DUAL SECTION

370 Volt Oval		440 Volt Oval		370 Volt Round		440 Volt Round	
MARS2 NO.	MICROFARAD	MARS2 No.	MICROFARAD	MARS2 NO.	MICROFARAD	MARS2 NO.	MICROFARAD
12841	15/3	12765	10/5	12701	15/3	12811	10/5
12956	15/4	12970	10/10	12702	15/4	12818	15/5
12957	15/5	12770	15/4	12703	15/5	12656	15/10
12958	15/10	12771	15/5	12704	15/10	12650	17.5/5
12959	17.5/4	12777	15/10	12705	17.5/4	12780	20/5
12960	17.5/5	12880	20/5	12706	17.5/5	12654	20/7.5
12961	20/3	12983	20/15	12707	20/4	12651	20/10
12962	20/4	12884	25/5	12760	20/5	12812	20/15
12963	20/5	12882	25/7.5	12716	20/7.5	12653	25/3
12864	20/10	12883	25/10	12708	20/10	12655	25/4
12964	20/15	12886	25/15	12709	20/15	12778	25/5
12842	25/3	12881	30/4	12711	25/3	12779	25/7.5
12965	25/4	12887	30/5	12875	25/4	12813	25/10
12966	25/5	12982	30/7.5	12761	25/5	12814	25/15
12843	25/7.5	12835	30/10	12762	25/7.5	12826	30/3
12832	25/8	12985	35/3	12713	25/10	12820	30/4
12867	25/10	12879	35/4	12720	30/3	12781	30/5
12833	25/15	12885	35/5	12763	30/4	12782	30/7.5
12844	30/3	12888	35/7.5	12764	30/5	12652	30/10
12845	30/4	12876	35/8.5	12724	30/7.5	12977	35/3
12969	30/5	12772	35/10	12728	30/10	12870	35/4
12846	30/7.5	12877	40/3	12939	30/15	12783	35/5
12847	30/10	12986	40/5	12730	35/3	12784	35/7.5
12848	35/3	12889	40/7.5	12731	35/4	12797	35/10
12971	35/4	12773	40/10	12766	35/5	12978	40/3
12972	35/5	12890	45/5	12735	35/7.5	12785	40/4
12849	35/7.5	12774	45/7.5	12738	35/10	12786	40/5
12850	35/10	12808	50/5	12739	40/3	12920	40/6
12851	40/3	12913	50/7.5	12767	40/4	12787	40/7.5
12858	40/4	12775	55/5	12878	40/5	12798	40/10
12871	40/5	12822	55/10	12768	40/7.5	12979	45/3
12852	40/7.5	12809	60/5	12746	40/10	12891	45/4
12834	40/10	12776	60/7.5	12747	45/3	12788	45/5
12874	45/5	12810	65/10	12947	45/4	12827	45/6
12853	45/7.5	12815	80/5	12769	45/5	12789	45/7.5
12836	45/10	12898	80/7.5	12749	45/7.5	12872	45/10
12837	45/15			12750	45/10	12790	50/5
12838	50/5			12753	50/3	12791	50/7.5
12854	55/5			12755	50/5	12892	50/10
12855	55/7.5			12825	50/7.5	12719	50/12.5
12839	60/5			12757	50/10	12792	55/5
12856	60/7.5			12893	55/5	12793	55/7.5
12857	60/10			12894	55/7.5	12799	55/10
12859	65/5			12967	55/10	12860	60/3
12863	80/5			12976	60/3	12794	60/5
12817	80/7.5			12895	60/5	12795	60/7.5
				12896	60/7.5	12796	60/10
				12865	60/10	12861	60/12.5
				12742	65/5	12862	65/10
				12953	70/5	12823	70/5
				12954	70/7.5	12866	70/7.5
				12955	70/10	12869	70/10
				12744	75/5	12968	75/5
				12946	75/7.5	12901	75/7.5
				12984	75/10	12935	75/10
				12897	80/5	12801	80/5
				12819	80/7.5	12816	80/7.5
				12824	80/10	12821	80/10
				12722	80/12.5	12938	85/5
				12829	85/5	12942	85/7.5
				12756	85/7.5	12944	85/10
				12922	85/10		



The largest selection of motors, components and accessories for the HVAC/R Industry

Motor Start Capacitors

MARS SERIES **119**



11908

The MARS2 Motor Start Capacitors provide a low cost alternative to popular models available. MARS offers the largest assortment of capacitor ratings in the industry.

These electrolytic capacitors feature a hermetically sealed black bakelite case which permanently protects the capacitor from oil, dirt, grease or moisture.

110/125 Dual Voltage AC

MARS2 NO.	MICROFARAD	CASE SIZE
11902	21-25	1
11903	25-30	1
11904	30-36	1
11905	36-43	1
11906	43-56	1
11907	56-72	1
11908	72-88	1
11909	88-108	1
11910	108-130	1
11912	124-156	1
11911	130-156	1
11913	145-175	1
11914	161-193	1
11915	189-227	1
11916	200-240	1
11917	216-259	1
11918	233-292	1
11919	270-324	1
11920	300-360	1
11921	324-388	2
11922	340-408	2
11923	378-440	2
11924	400-480	4
11971	430-516	4
11925	460-552	4
11926	540-648	4
11927	590-708	4
11947	645-774	4
11928	708-850	4
11972	815-970	5
11929	829-995	5
11973	850-1020	5
11930	1000-1200	5
11974	1290-1548	5

165 Volts AC

MARS2 NO.	MICROFARAD	CASE SIZE
11975	72-88	1
11976	88-108	1
11977	108-130	1
11931	124-149	1
11932	145-175	1
11933	161-193	1
11934	189-227	1
11978	216-259	2
11935	233-292	2
11936	270-324	2
11979	340-408	4
11980	378-455	4
11994	400-480	4
11981	540-648	4
11982	710-850	5
11983	810-972	5

220/250 Dual Voltage AC

MARS2 NO.	MICROFARAD	CASE SIZE
11938	21-25	1
11939	25-30	1
11940	30-36	1
11941	36-43	1
11942	43-56	1
11943	56-72	1
11984	59-71	1
11937	64-77	1
11944	72-88	1
11945	88-108	2
11946	108-130	4
11948	124-156	4
11949	145-175	4
11950	161-193	5
11951	189-227	5
11952	216-259	5
11953	233-292	5
11954	270-324	5
11985	280-336	4
11986	320-384	4
11987	340-408	4
11988	378-455	5
11989	400-480	5
11990	430-516	5
11991	630-750	8

330 Volts AC

MARS2 NO.	MICROFARAD	CASE SIZE
11955	21-25	1
11956	25-30	1
11957	30-36	1
11958	36-43	1
11959	43-56	4
11995	56-72	2
11960	64-77	4
11961	72-88	4
11962	88-108	4
11963	108-130	4
11964	130-156	5
11965	124-156	5
11992	135-162	5
11966	145-175	5
11967	161-193	5
11968	189-227	5
11969	216-259	7
11970	270-324	7
11993	300-360	8

CASE DIMENSIONS*

CASE SIZE	DIAMETER IN INCHES	LENGTH INCHES
1	1.44	2.75
2	1.44	3.38
4	1.81	3.38
5	1.81	4.38
6	2.06	3.38
7	2.06	4.38
8	2.56	4.38

*Capacitors may be put in different case sizes occasionally, but will not be larger than those stated.

MARS2



Hard Starts

MARS2 Hard Start Kits are designed for use on Permanent Split Capacitor (PSC) single phase air conditioning and heat pump systems. These solid state devices provide quick two wire installation and can be easily screw or clip mounted.

The MARS2 Super Start is designed to optimize the starting torque for single phase PSC and CSIR A/C units up to 10HP. This relay and capacitor hard start device recycles instantly to maximize convenience on severe low voltage or hard starting compressors.

Combination Starters

The MARS2 Combo Starter is a combination start relay, start capacitor and motor overload. It is designed to boost the life of older refrigerators and freezers. The solid state design provides quick two wire installation and can be easily screw or clip mounted.

Hard Starts

MARS2 NO.	MODEL NO	BTU	HP	VOLTS MAX
35701	HS100	4,000 - 60,000	1/2 - 5	277
35702	HS200	4,000 - 120,000	1/2 - 10	277
35708	Super Start	5,000 - 120,000	1/2 - 10	288

Combination Starters

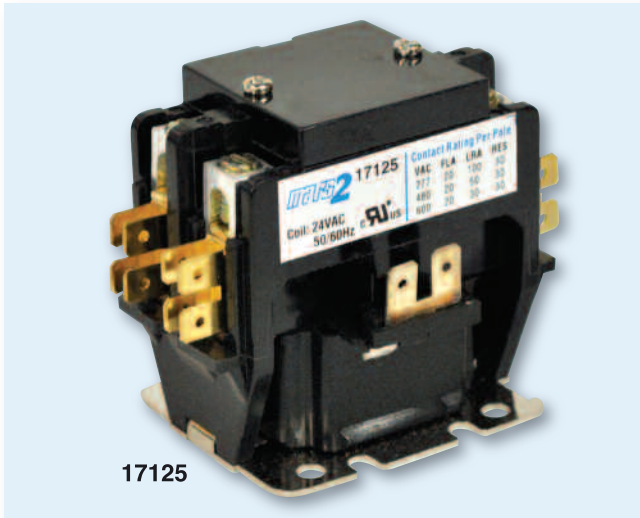
MARS2 NO.	MODEL NO	HP	VOLTS MAX
35741	CS41	1/4 - 1/3	120
35781	CS81	1/2 - 1/5	120

Start Assist Cross Reference

MARS2 NO.	MARS	GEM	SUPCO	ROBERTSHAW
35701	32701	HS600	SPP5	600-052
35702	32702	HS650	SPP6	600-057
35708	32708	HS800	SPP8	-
35741	32741	HS410	RCO410	600-410
35781	32781	HS810	RCO810	600-810

Definite Purpose Contactors

MARS SERIES **173**



17125

Definite Purpose Contactors

"A Low Cost Alternative By The Name You Trust"

MARS2 Definite Purpose Contactors are designed for use on refrigeration, air conditioning, and electric heating systems. The universal mounting base allows replacement of most contactor brands. Power connections can be made with either screws & quick connects or lugs & quick connects depending on the style.

- 2 styles: screw terminals with quick connects or lug terminals with quick connects
- UL (both styles)
- CSA (screw terminal style)
- CUL (lug terminal style)

MARS2 W/LUGS	MARS2 W/SCREWS	FULL LOAD AMPS	RESISTIVE AMPS	COIL VOLTAGE	POLES
17125	17121	20	30	24	2
17126	17122	20	30	120	2
17127	17123	20	30	240	2
17215	-	25	35	24	1-1/2
17216	-	25	35	120	1-1/2
17217	-	25	35	240	1-1/2
17225	17221	25	35	24	2
17226	17222	25	35	120	2
17227	17223	25	35	240	2
17315	17311	30	40	24	1-1/2
17316	17312	30	40	120	1-1/2
17317	17313	30	40	240	1-1/2
17325	17321	30	40	24	2
17326	17322	30	40	120	2
17327	17323	30	40	240	2
17335	17331	30	40	24	3
17336	17332	30	40	120	3
17337	17333	30	40	240	3
17415	-	40	50	24	1-1/2
17416	-	40	50	120	1-1/2
17417	-	40	50	240	1-1/2
17425	-	40	50	24	2
17426	-	40	50	120	2
17427	-	40	50	240	2
17435	-	40	50	24	3
17436	-	40	50	120	3
17437	-	40	50	240	3
17535	-	50	65	24	3
17536	-	50	65	120	3
17537	-	50	65	240	3
17635	-	60	75	24	3
17636	-	60	75	120	3
17637	-	60	75	240	3
17735	-	75	90	24	3
17736	-	75	90	120	3
17737	-	75	90	240	3
17935	-	90	120	24	3
17936	-	90	120	120	3
17937	-	90	120	240	3
17997	Auxiliary Contact- Fits 75 & 90A 3P models				
17998	Auxiliary Contact- Fits 50 & 60A 3P models				
17999	Auxiliary Contact- Fits 40A 3P models				

MARS2



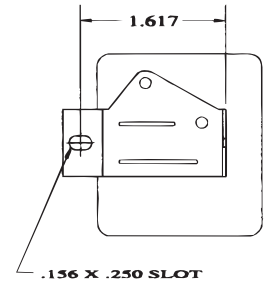
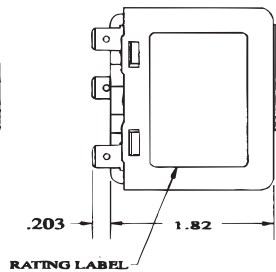
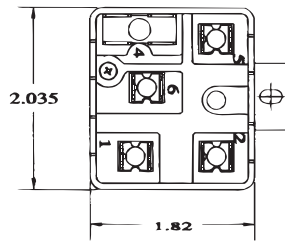
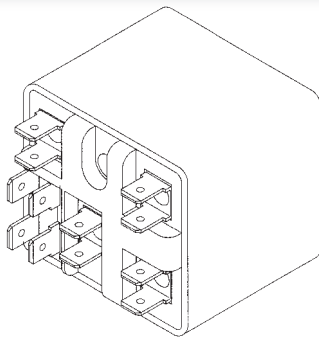
19163

Universal Replacement Potential Relays

MARS2 series relays are manufactured for the HVAC industry. These relays meet all requirements for original equipment relays. They feature a universal break-off bracket to fit your specific application.

Features:

- 50/60 cycle
- UL and CSA approved
- Contact rating 35 amp, 480 VAC
- Non-positional
- Instructions and wiring diagram included in each relay
- Universal break-off bracket on each relay, simply snap-off parts not needed



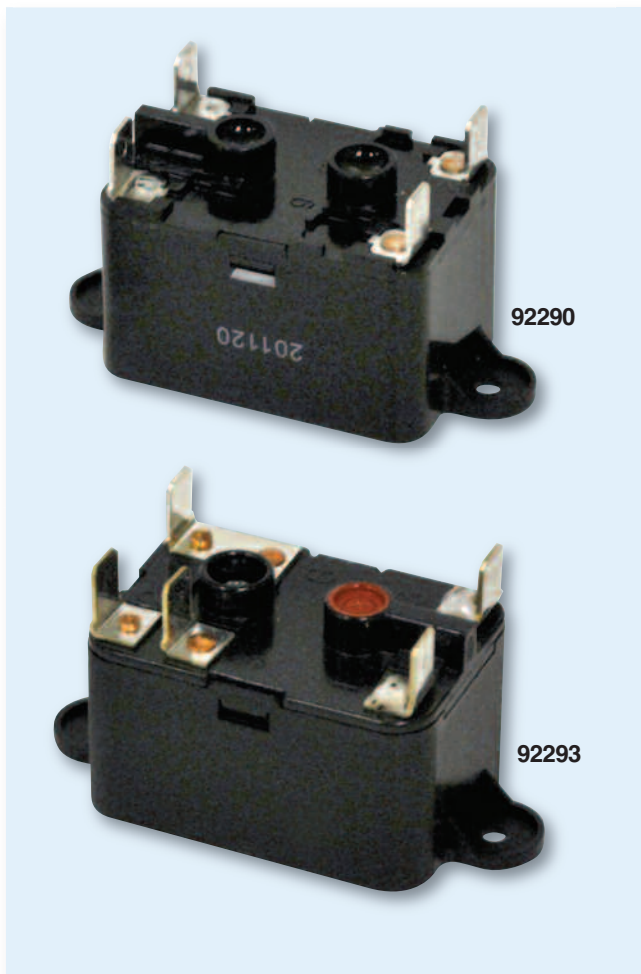
Calibration Specifications

MARS2 NO.	MARS MODEL NO	CONTINUOUS COIL VOLTAGE	PICK-UP		DROP-OUT MAX
			MIN.	MAX.	
19163	MARS2 163	170	139	153	55
19164	MARS2 164	395	260	275	120
19165	MARS2 165	332	168	182	90
19166	MARS2 166	395	215	225	120
19167	MARS2 167	420	295	315	125
19168	MARS2 168	502	325	345	135
19169	MARS2 169	332	180	193	105
19170	MARS2 170	253	285	305	77
19171	MARS2 171	420	212	232	121

MARS2

Switching Relays

MARS SERIES **902**



General Purpose Switching Relays

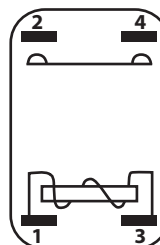
MARS2 SPST and SPDT Fan Relays are among the most popular electromechanical relays used in air conditioning, heating and refrigeration today.

Features:

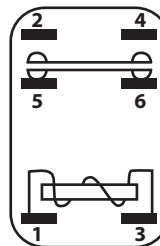
- 16 Amp switching
- 55 Amp inrush current
- Quick-connect terminals
- Universal mounting bracket
- UL and CUR

switch diagrams:

92290
92291
92292

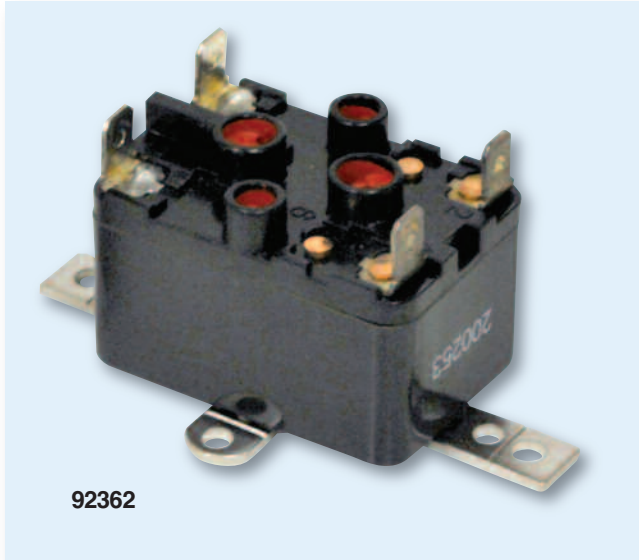


92293
92294
92295



MARS2

MARS2 No.	NORMALLY OPEN COIL VOLTAGE	CONTACT RATING		REPLACES ESSEX/RBM NO.
		INDUCTIVE	125/250 VAC RESISTIVE	
SPST				
92290	24	8 amps	16 amps	90-290, 90-290Q
92291	110-120	continuous	16 amps	90-291, 90-291Q
92292	208/240	25 amps inrush	16 amps	90-292, 90-292Q
SPDT				
92293	24	8 amps	16 amps	90-293, 90-293Q
92294	110-120	continuous	16 amps	90-294, 90-294Q
92295	208/240	25 amps inrush	16 amps	90-295, 90-295Q



92362

Heavy Duty Fan Switching Relays

MARS2 Heavy Duty Fan Relays are used on heating and air conditioning equipment to provide switching of heavier loads with a compact size relay.

Features:

- 25 Amp switching
- Universal mounting bracket
- Quick-connect terminals
- UL and CUR

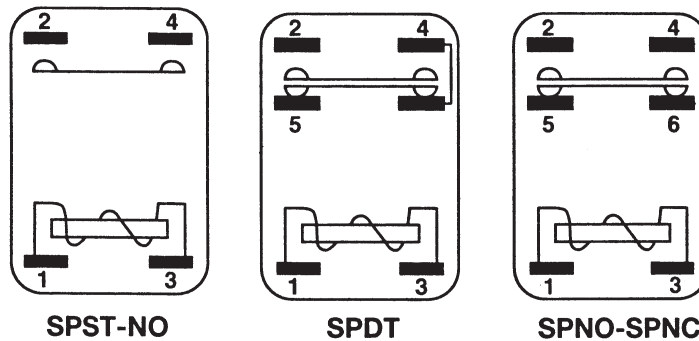
Model Identification

COIL VOLTAGE	MARS2 NO. SPST-NO.	MARS2 NO. NO. SPDT	MARS2 NO. SPNO-SPNC
24	92360	92370	92380
110/120	92362	92372	92382
208/240	92364	92374	92384

Contact Rating

VOLTAGE	FULL LOAD	LOCKED ROTOR	RESISTIVE
120	12	60	18
240	8	48	18
277	7	42	18

Terminal Identification

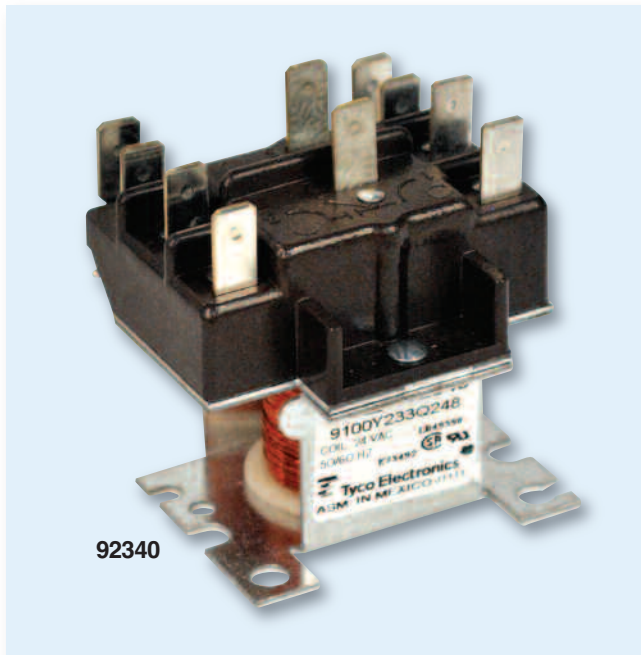


Cross Reference:

ESSEX/RBM	MARS2 NO.	ESSEX/RBM	MARS2 NO.
90-360Q	92360	90-374Q	92374
90-362Q	92362	90-380Q	92380
90-364Q	92364	90-382Q	92382
90-370Q	92370	90-384Q	92384
90-372Q	92372		

Switching Relays

MARS SERIES **902**

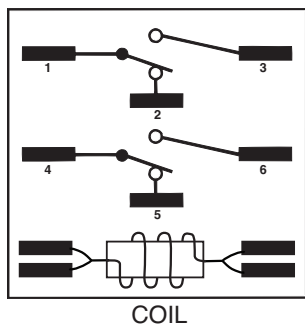


2PDT HVAC Relays

MARS2 2PDT relays are primarily used for various applications in heating, air conditioning and refrigeration. They are also suitable for general purpose switching applications in appliances, vending machines, fan controls, and business machines provided the device being controlled is within the electrical limits of the relay.

Features:

- Replaces Honeywell, White-Rodgers/RBM
- 2.13 x 1.88 x 2.25 inches
- Quick-connect terminals
- Base designed for easy replacement of competitive relays
- Molded terminal numbers and circuit diagram on top of relay
- UL and CUR



COIL

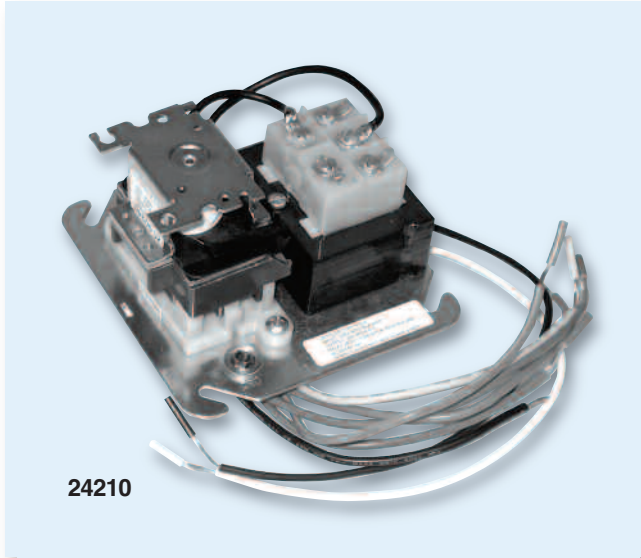
Terminals 1 & 2, 4 & 5 are normally closed
Terminals 1 & 3, 4 & 6 are normally open

Contact Rating

	POWER		PILOT	
	208/240V		208/240V	
	120V	277V	120V	277V
Full load Amps	12	6	-	-
Resistive	15	15	3	3
Locked Rotor Amps	60	35	-	-
Horsepower	3/4	3/4	1/10	1/10

MARS2

MARS2 NO.	COIL VOLTAGE	TERMINALS 1-2-3	TERMINALS 4-5-6	CROSS REFERENCE ESSEX / RBM	HONEYWELL
92340	24			90-340	R8222D1014
92341	110/120	Power	Power	90-341	R4222D1013
92342	208/240			90-342	R4222N1021



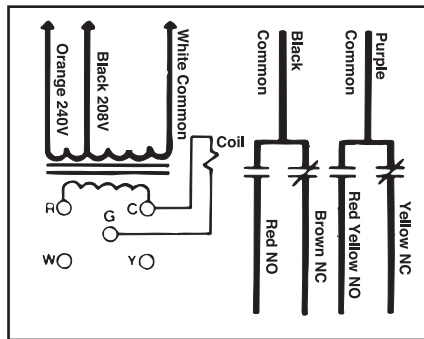
24210

Fan Centers

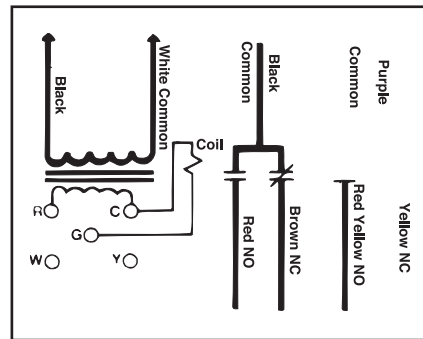
MARS2 Fan Centers provide low voltage control of the line voltage circuits and can be used to control two-speed blower motors and auxiliary circuits in heating or cooling equipment. Each Fan center is a reliable compact unit consisting of a 24V control transformer and a plug in switching relay mounted on an electrical junction box cover. All line voltage connections are made inside the box with color coded pre-stripped leads. Low voltage connections are made at a convenient terminal board mounted to the transformer.

Features:

- Class II 40 VA transformer
- 2PDT switching relay
- Non-resettable, non-replaceable overcurrent protection
- For general use in Class II heating or cooling applications
- Low voltage terminal board with standard terminal designation for each wiring
- 16 ga. Wire leads with quick connect plug-in terminals provide wire flexibility
- Mounts on standard 4" x 4" junction box



24210



24213

MARS2 NO.	TRANSFORMER PRIMARY (SECONDARY - 240; 40 VA)	RELAY SWITCHING	CONTACT RATINGS				HP
			120V AC (AMPS)		208/250V AC (AMPS)		
			FULL LOAD	LOCKED ROTOR	FULL LOAD	LOCKED ROTOR	
24210	208/240V	2PDT	13.8	82.8	6.9	41.4	3/4
24213	120V	2PDT	13.8	82.8	6.9	41.4	3/4

Pressure Switches

MARS SERIES **339**



Fixed Setting Pressure Controls

High Pressure Cut-Outs

MARS2 offers the most complete line of high pressure cut-outs available.

Specifications:

- Contacts rated at 6 amps, 24-240 volts
- 1/4" female flare S.A.E. mounting
- 18" leads

Features:

- Tamper proof construction
- Direct mounting on tubing
- UL & CSA recognized

High Pressure Cut-Outs, Automatic Reset, Open On Pressure Rise, Normally Closed

MARS2 NO.	MODEL NO.	OPENING PRESSURE	RESET PRESSURE
33954	PS80-K1-0336-250-150	250	150
33910	PS80-K1-0339-275-195	275	195
33955	PS80-K1-0341-300-200	300	200
33913	PS80-K1-0346-325-230	325	230
33916	PS80-K1-0348-350-250	350	245
33956	PS80-K1-0348-350-250	350	250
33919	PS80-K1-0353-375-265	375	265
33957	PS80-K1-0357-400-200	400	200
33922	PS80-K1-0358-400-280	400	280
33958	PS80-K1-0359-400-300	400	300
33925	PS80-K1-0360-425-300	425	300
33959	PS80-K1-0363-450-250	450	250
33960*	PS80-01-0926-420-320	420	320
33967*	PS80-01-0927-400-300	400	300

* With cap tube fitting

MARS2



Pressure Switches

MARS SERIES **339**



Fixed Setting Pressure Controls

Low pressure controls.

Specifications:

- Contacts rated at 6 amps, 24-240 volts
- 18" leads

Features:

- Tamper proof construction
- Direct mounting on tubing
- UL & CSA recognized

Low Pressure Control, Automatic Reset, Normally Open

MARS2 NO.	MODEL NO.	OPENING PRESSURE	RESET PRESSURE	SWITCH ACTION (OPEN ON PRESSURE)	MOUNTING	APPLICATION
33929	PS80-K2-F0305-020-005	5	20	Fall	1/4" Female S.A.E.	Low Pressure Control
33930	PS80-K2-F0307-025-010	10	25			
33933	PS80-K2-F0312-035-015	15	35			
33962	PS80-K2-F0316-050-025	25	50			
33936	PS80-K2-F0323-065-025	25	65			
33963	PS80-K2-F0325-080-025	25	80			
33964	PS80-K2-F0326-080-040	40	80			
33939	PS80-K2-F0328-090-050	50	90			



Condenser Fan Cycling Switches

Manual reset high pressure controls.

- MARS #33965 has 48" blue leads

MARS2 NO.	MODEL NO.	OPENING PRESSURE	RESET PRESSURE	SWITCH ACTION (OPEN ON PRESSURE)	MOUNTING	APPLICATION
33940	20PS116KA264G126G	126	264	Fall	1/4" Female S.A.E.	Condenser Fan Cycling Switch
33941	20PS107KA275K210K	210	275			
33965	29PSL012-32	410	290	Rise	1/4" Female S.A.E.	H.P.C.
33950	29PSL004-13	415	Manual	Rise	Solder Line Remote Panel, with Capillary Tube	

Sequencers

MARS SERIES **338**



Electric Heat Sequencers

The MARS2 heat sequencers are used in a variety of applications, including electric furnaces, baseboard heaters, heat pump blower control and heating element control. The sequencers stage electric heat to prevent circuit overload. These units operate by means of a PTC (positive temperature coefficient). The PTC is self current limiting, ensuring stable switching action over a wide range of voltages.

Features:

- Solid state dependability
- Replaces Honeywell, White Rodgers, and Klixon
- 12.5A to 25A contact ratings
- Quick connect terminals
- Various mounting positions
- Shock & vibration resistant
- Ambient rated from -50°F to 165°F
- Full-load rated auxiliary contacts

Single Load Contact Ratings

RESISTIVE (non-inductive)			MOTOR RATINGS (inductive)		
VAC	WATTS	AMPS	FULL LOAD	LOCKED ROTOR	PILOT DUTY
120	3000	25	10A	60A	125VA
240	6000	25	5A	30A	125VA
480	6000	12.5	3A	18A	480VA

Combined Load Ratings:

30A @ 240VAC - Total: 23A non-inductive + 7FLA / 42LRA inductive

Life at rated current: 10,000 cycles

MARS2 NO.	TIMINGS	SWITCHES	TIMINGS-ON					TIMINGS-OFF				
			M1-M2	M3-M4	M5-M6	M7-M8	M9-M10	M1-M2	M3-M4	M5-M6	M7-M8	M9-M10
33841	1	1	1-20	-	-	-	-	40-110	-	-	-	-
33842	1	1	-	-	30-90	-	-	-	■	-	1-30	-
33844 ⁽¹⁾	1	2	1-20	■ 1-20	-	-	-	40-110	■ 40-110	-	■	-
33845	1	2	-	-	30-90	■ 30-90	-	-	■	-	1-30	1-30
33832 ⁽¹⁾	2	3	1-110	■ 1-110	1-110	■	-	1-110	■	1-110	1-110	■
33833 ⁽¹⁾	2	4	1-110	■ 1-110	1-110	■ 1-110	-	1-110	■	1-110	1-110	1-110
33848 ⁽¹⁾⁽²⁾	4	5	1-160	■ 1-160	1-160	1-110	1-160	1-160	■	1-160	1-160	1-160

(1) M1-M2 and M3-M4 are always first switches to turn ON and to turn OFF. All other switches are random ON and random OFF

(2) #33848 - switch contacts designated F1-F2 instead of M1-M2

■ These contacts switch simultaneously

ON TIME – Elapsed time to make contacts after heater is energized (Min. to Max.)

OFF TIME – Elapsed time to make contacts after heater is de-energized (Min. to Max.)

OFF Timings determined after PTC heater has been electrified for a total of 5 minutes.



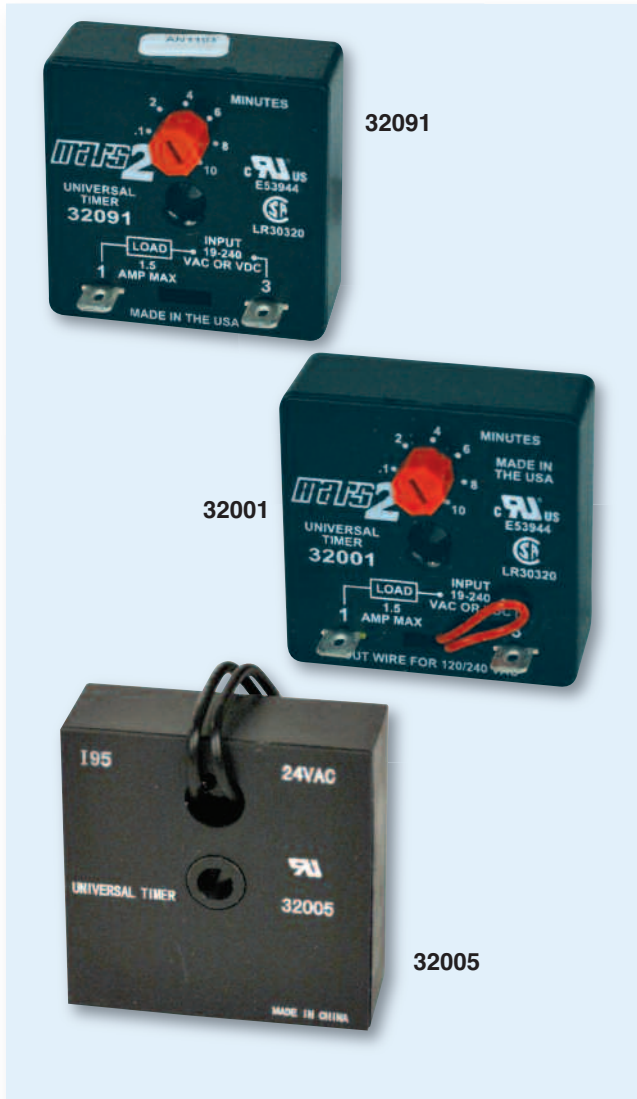
Solid State Timers

MARS SERIES **320**

Solid State Timers

The MARS2 Delay on Make Timer is designed to delay energization and prevent short cycling. This one unit covers all operating voltages and time delays. The compact timer mounts in any position and features easy two wire installation. UL recognized.

Two MARS2 Delay on Break Timers, dial adjustable or fixed, are designed to prevent short cycling of air conditioning and heat pump compressors. The compact timers mount in any position and are UL recognized.

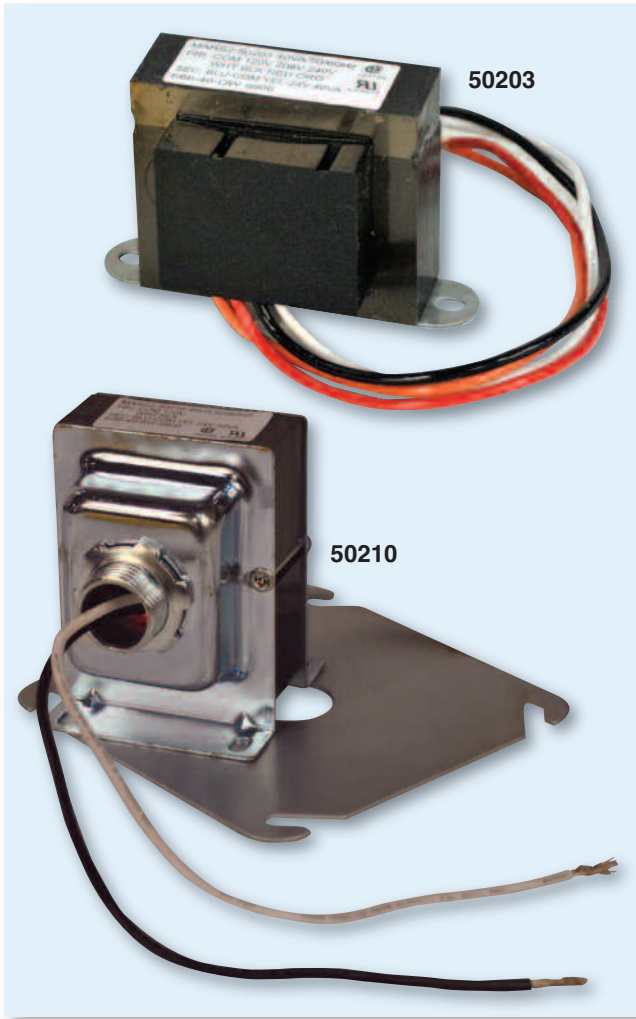


MARS2 NO.	REPLACES	VOLTAGE	DELAY TYPE	TIME DELAY RANGE	TYPE OF ADJUSTMENT
32091	ICM 105	19-240	On make	6 sec. – 10 min.	Dial
32001	ICM 203	19-240	On break	6 sec. – 10 min.	Dial adj. 2 terminal
32005	ICM 200	24	On break	5 min.	Fixed

MARS2

Control Transformers

MARS SERIES **502**



Control Transformers NEMA Class II

MARS2 Control Transformers are available with various outputs and voltages for special applications. They provide a power source for control circuits for air conditioning, heating or refrigeration systems. The heavy duty higher VA models are the choice when extra power is the solution.

Features:

- UL recognized
- Traditional designs
- 60 Hz
- Compact size

MARS2

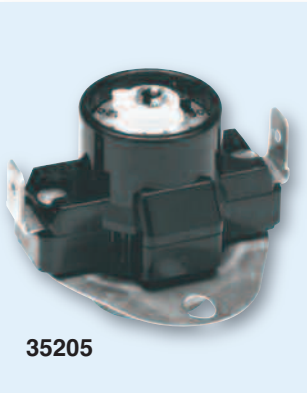
MARS2 NO.	MODEL NO.	JARED NO.	PRIMARY VOLTAGE	MOUNT	VA	SECONDARY VOLTAGE	CIRCUIT BREAKER
50201	TR405	4011F	120	Foot	40	24	No
50203	TR123	4031F	120/208/240	Foot	40	24	No
50210	TR403	4011M	120	3-way	40	24	No
50212	T503L	5031M	120/208/240	3-way	50	24	No
50213	T100E	4011M	120	3-way	40	24, term.	No
50215	T123MV	4031M	120/208/240	3-way	40	24, term.	No
50216	T500	5031M	120/208/240	3-way	50	24, term.	Fuse
50225	T750	7541M	120/208/240/480	Foot	75	24	Fuse
50227	T500C/B	5041C	120/208/240/480	Foot	50	24	Yes
50230	T600C/B	6041C	120/208/240/480	Foot	60	24	Yes
50231	T750C/B	7541C	120/208/240/480	Foot	75	24	Yes
50232	T1000C/B	10041C	120/208/240/480	Foot	100	24	Yes



Adjustable Fan & Limit Switches

MARS SERIES **352**

Fan & Limit Switches



35205

- Easy dial adjustment, integral oval flange
- .25" quick connect terminals

MARS2 NO.	TYPE	RANGE °F	DIFF. °F	SWITCHING ACTION
35205	fan	90-130	20	close on rise
35210	fan	140-180	20	close on rise
35220	limit	135-175	40	open on rise
35225	limit	175-215	40	open on rise
35230	limit	210-250	40	open on rise
35235	limit	250-290	40	open on rise

Cross Reference Information

MARS2	GEM	White-Rodgers
35205	AT 021	3F05-1
35210	AT 022	3F05-2
35220	AT 012	3L05-1
35225	AT 013	3L05-2
35230	AT 014	3L05-3
35235	AT 015	-



Thermocouples

MARS SERIES **722**



72248

Adapter fittings with each kit

Thermocouples

MARS2 universal replacement thermocouples are fully equipped with fittings and necessary hardware for quick and easy installation.

Each kit is packaged on a display card for easy identification.

Features:

- High temperature stainless steel element for long life and dependable operation
- Fully equipped with fittings and necessary hardware for quick and easy installation
- Individually display packaged for protection and easy identification

MARS2 NO.	MODEL NO.	LENGTH INCHES
72218	TC-18P	18
72224	TC-24P	24
72230	TC-30P	30
72236	TC-36P	36
72248	TC-48P	48

MARS2

Unit Bearing Motors

MARS SERIES **150**



Unit Bearing Motors

MARS2 Unit Bearing Cast Iron Motors are used on refrigerators, freezers, food & beverage coolers, vending machines, display cases, and many other fan duty applications.

Features:

- Cast iron construction
- Universal mount
- Mounting screws included
- Individually boxed
- UL recognized

MARS2 NO.	WATTS	VOLTS	ROTATION
15109	2	115	CW
15211	4	115	CW
15212	4	115	CCW
15221	4	230	CW
15222	4	230	CCW
15311	6	115	CW
15312	6	115	CCW
15119*	9	115	CW
15411	9	115	CW
15412	9	115	CCW
15421	9	230	CW
15422	9	230	CCW
15811	16	115	CW
15812	16	115	CCW
15821	16	230	CW
15822	16	230	CCW

* Note: 13" lead with lyall plug

MARS2



Cross Reference Guide

MARS2 to MARS Cross Reference Guide

Start Capacitors		Start Capacitors		Run Capacitors		Run Capacitors		Run Capacitors	
MARS2	MARS	MARS2	MARS	MARS2	MARS	MARS2	MARS	MARS2	MARS
11902	11002	11963	11063	12918	12018	12877	12080	12854	12154
11903	11003	11964	11064	12919	12019	12730	12082	12855	12155
11904	11004	11966	11066	12942	12020	12983	12083	12856	12156
11905	11005	11967	11067	12921	12021	12984	12084	12857	12157
11906	11006	11968	11068	12938	12022	12985	12085	12858	12158
11907	11007	11969	11069	12923	12023	12986	12086	12859	12159
11908	11008	11970	11070	12924	12024	12987	12087	12863	12163
11909	11009	11912	11112	12925	12025	12989	12089	12964	12164
11910	11010	11948	11148	12926	12026	12990	12090	12765	12165
11913	11013	11965	11165	12927	12027	12992	12092	12867	12167
11914	11014	11911	11011	12928	12028	12993	12093	12871	12171
11915	11015	11947	11047	12929	12029	12994	12094	12834	12173
11916	11016	11971	11071	12930	12030	12995	12095	12874	12174
11917	11017	11972	11072	12931	12031	12996	12096	12875	12175
11918	11018	11973	11073	12932	12032	12997	12097	12876	12176
11919	11019	11974	11074	12933	12033	12998	12098	12770	12177
11920	11020	11975	11075	12934	12034	12999	12099	12878	12178
11921	11021	11976	11076	12835	12035	12810	12101	12879	12179
11922	11022	11977	11077	12936	12036	12802	12102	12880	12180
11923	11023	11978	11078	12937	12037	12803	12103	12881	12181
11924	11024	11979	11079	12982	12038	12804	12104	12882	12182
11925	11025	11980	11080	12939	12039	12805	12105	12883	12183
11926	11026	11981	11081	12940	12040	12806	12106	12884	12184
11927	11027	11982	11082	12941	12041	12807	12107	12885	12185
11928	11028	11983	11083	12742	12042	12808	12108	12886	12186
11929	11029	11984	11084	12943	12043	12809	12109	12887	12187
11930	11030	11985	11085	12744	12044	12776	12110	12888	12188
11931	11031	11986	11086	12945	12045	12780	12115	12889	12189
11932	11032	11987	11087	12946	12046	12916	12116	12890	12190
11933	11033	11988	11088	12948	12048	12821	12117	12755	12191
11934	11034	11989	11089	12949	12049	12701	12121	12825	12192
11935	11035	11990	11090	12950	12050	12702	12122	12893	12193
11936	11036	11991	11091	12951	12051	12817	12123	12894	12194
11994	11037	11992	11092	12952	12052	12828	12128	12895	12195
11938	11038	11993	11093	12953	12053	12829	12129	12896	12196
11939	11039	11937	11137	12954	12054	12830	12130	12897	12197
11940	11040	11960	11160	12955	12055	12832	12131	12819	12198
11941	11041			12956	12056	12833	12133	12899	12199
11942	11042			12957	12057	12831	12135	12824	12201
11943	11043			12958	12058	12836	12136	12722	12202
11944	11044			12959	12059	12837	12137	12703	12203
11945	11045			12960	12060	12838	12138	12704	12204
11946	11046			12961	12061	12839	12139	12705	12205
11949	11049			12962	12062	12840	12140	12706	12206
11950	11050			12963	12063	12841	12141	12707	12207
11951	11051			12864	12064	12842	12142	12708	12208
11952	11052			12965	12065	12843	12143	12709	12209
11953	11053			12966	12066	12844	12144	12710	12210
11954	11054			12967	12067	12845	12145	12911	12211
11955	11055			12868	12068	12846	12146	12712	12212
11956	11056			12969	12069	12847	12147	12713	12213
11957	11057			12971	12071	12848	12148	12714	12214
11958	11058			12972	12072	12849	12149	12715	12215
11959	11059			12747	12073	12850	12150	12816	12216
11995	11060			12739	12074	12851	12151	12717	12217
11961	11061			12753	12075	12852	12152	12718	12218
11962	11062			12976	12076	12853	12153	12721	12221

Run Capacitors

MARS2 MARS

12944	12001
12902	12002
12903	12003
12904	12004
12905	12005
12906	12006
12907	12007
12908	12008
12909	12009
12910	12010
12988	12011
12912	12012
12913	12013
12914	12014
12915	12015
12716	12016
12917	12017

Cross Reference Guide



MARS2 to MARS Cross Reference Guide

Run Capacitors

MARS2	MARS
12922	12222
12723	12223
12724	12224
12725	12225
12726	12226
12727	12227
12728	12228
12729	12229
12756	12230
12731	12231
12732	12232
12733	12233
12734	12234
12735	12235
12736	12236
12737	12237
12738	12238
12757	12239
12740	12240
12741	12241
12711	12242
12743	12243
12720	12244
12745	12245
12746	12246
12947	12247
12748	12248
12749	12249
12750	12250
12751	12251
12752	12252
12754	12254
12758	12258
12759	12259
12760	12260
12761	12261
12762	12262
12763	12263
12764	12264
12865	12265
12766	12266
12767	12267
12768	12268
12769	12269
12771	12270
12777	12271
12772	12272
12773	12273
12774	12274
12775	12275
12822	12276
12815	12297
12898	12298
12651	12351
12654	12354
12935	12047
12870	12070

Run Capacitors

MARS2	MARS
12977	12077
12978	12078
12979	12079
12798	12088
12797	12091
12811	12111
12812	12112
12813	12113
12814	12114
12818	12118
12719	12119
12820	12120
12892	12124
12901	12125
12826	12126
12827	12127
12860	12160
12861	12161
12862	12162
12866	12166
12968	12168
12869	12169
12872	12172
12891	12219
12920	12220
12719	12253
12823	12255
12801	12257
12778	12278
12779	12279
12781	12281
12782	12282
12783	12283
12784	12284
12785	12285
12786	12286
12787	12287
12788	12288
12789	12289
12790	12290
12791	12291
12792	12292
12793	12293
12794	12294
12795	12295
12796	12296
12799	12299
12650	12350
12652	12352
12653	12353
12655	12355
12656	12356

Unit Bearing Motors

MARS2	MARS
15109	05109
15119	05119
15211	05211
15212	05212
15221	05221
15222	05222
15311	05311
15312	05312
15411	05411
15412	05412
15421	05421
15422	05422
15811	05811
15812	05812
15821	05821
15822	05822

Fan Centers

MARS2	MARS
24210	24010
24213	24013

Solid State Controls

MARS2	MARS
32001	32392
32005	32505
32091	32391

Start Assists/Hard Starts

MARS2	MARS
35701	32701
35702	32702
35708	32708
35741	32741
35781	32781

A/C Disconnects

MARS2	MARS
80308	83308
80312	83313
80313	83314
80314	83318
80315	83315
80316	83316
80317	83317

Thermocouples

MARS2	MARS
72218	
72224	
72230	
72236	
72248	

Transformers

MARS2	MARS
50201	50352
50203	50354
50210	50302
50212	50304
50215	50304
50225	50320
50227	50327
50230	
50231	50321
50232	50341

Switching Relays

MARS2	MARS
92290	90290
92291	90291
92292	90292
92293	90293
92294	90294
92295	90295
92340	90340
92341	90341
92342	90342
92360	90360
92362	90362
92364	90364
92370	90370
92372	90372
92374	90374
92380	90380
92382	90382
92384	90384

Pressure Switches

MARS2	MARS
33954	33354
33910	33310
33955	33355
33913	33313
33916	33316
33956	33356
33919	33316
33957	33357
33922	33322
33958	33358
33959	33359
33960	33360
33967	33367
33929	33329
33930	33330
33933	33333
33962	33362
33936	33336



Cross Reference Guide

MARS2 to MARS Cross Reference Guide

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MARS2	MARS
33963	33363
33964	33364
33939	33339
33934	33334
33940	33340
33941	33341
33965	33365
33950	33350
33952	33352

Sequencers

MARS2	MARS
33832	33232
33833	33233
33841	33241
33842	33242
33844	33244
33845	33245
33848	

Fan & Limit Switches

MARS2	MARS
35205	39205
35210	39210
35220	39220
35225	39225
35230	39230
35235	39235

Contactors

MARS2	MARS
17215	91311
17216	91312
17217	91313
17225	91321
17226	91322
17227	91323
17315	91311
17316	91312
17317	91313
17325	91321
17326	91322
17327	91323
17335	91331
17336	91332
17337	91333
17415	91411
17416	
17417	
17425	91421
17426	91422
17427	91423
17435	91431
17436	91432
17437	91433
17535	91531

Contactors

MARS2	MARS
17536	91532
17537	91533
17635	91631
17636	91632
17637	91633
17735	91731
17736	91732
17737	91733
17935	
17936	
17937	

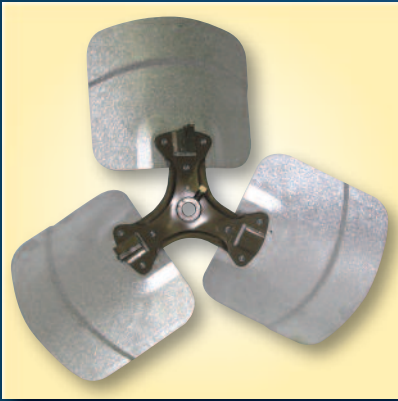
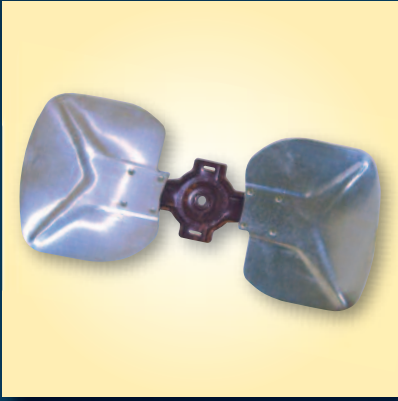
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MARS2	MARS
19163	19002
19164	19003
19165	19004
19166	19005
19167	19006
19168	19007
19169	19008
19170	19009
19171	19010

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Swept Wing Fan Blades

High SEER central air conditioning systems require unique condenser fan blade designs to provide maximum air flow with a minimum of noise. Motors & Armatures, Inc. is proud to offer some of the latest models of high efficiency condenser fan blades, designed and manufactured by Revcor, Inc. for the airMARS line of air moving components. Revcor, Inc. is a leader in advanced fan blade design and a major supplier to the HVAC/R Industry.

All Revcor assembled fans go through a rigorous set of quality checks and are individually balanced at the factory. This ensures smooth, quiet performance and ultra high efficiency.

Features:

- Low Noise
- Replaces many new OEM high efficiency, low noise condenser fan blades

MARS NO.	DIA.	BLADES	DEGREES PITCH	BORE	ROTATION	HUB POSITION	MATERIAL	MARS PACK
40410	24	2	25	0.5	CW	Intake	Alum.	2
40411	24	2	27	0.5	CW	Intake	Alum.	2
40413	27.6	2	22	0.5	CCW	Intake	Alum.	2
40414	27.6	2	24	0.5	CCW	Intake	Alum.	2
40415	27.6	2	26	0.5	CCW	Intake	Alum.	2
40416	27.6	2	28	0.5	CCW	Intake	Alum.	2
40417	28	2	30	0.5	CCW	Intake	Alum.	2
40420	18	3	26	0.5	CW	Intake	Galv. Alum.	2
40421	20	3	24	0.5	CW	Intake	Alum.	2
40422	22	3	22	0.5	CW	Intake	Alum.	2
40423	22	3	26	0.5	CCW	Intake	Alum.	2
40424	22	3	28	0.5	CCW	Intake	Alum.	2
40425	22	3	30	0.5	CCW	Intake	Alum.	2
40426	26	3	15	0.5	CCW	Intake	Alum.	2
40427	26	3	19	0.5	CW	Intake	Alum.	2
40428	26	3	24	0.5	CW	Intake	Alum.	2
40429	26	3	28	0.5	CCW	Intake	Alum.	2
40440	18	4	34	0.5	CW	Intake	Alum.	2

Air Moving Components

MARS SERIES **400**



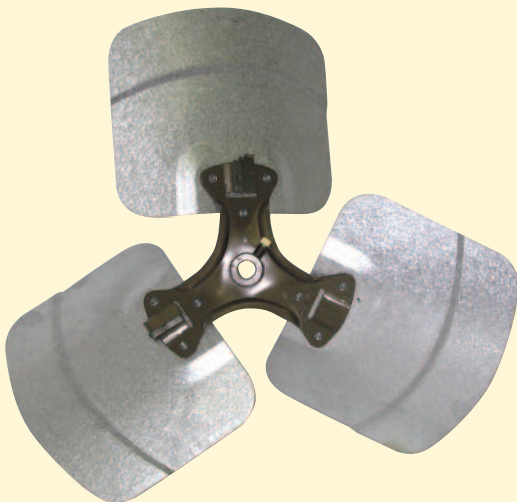
3 Wing Adapter Heavy Duty Condenser Fan Blades

airMARS 3 wing adapter, heavy duty condenser fan blades are designed for rigorous R/HVAC low pressure applications. They will accommodate universal hex/round adapter hubs. airMARS adapter fan blades are durable, efficient & quiet. They are manufactured using high strength aluminum alloy for the blades & sturdy steel for the blade spiders.

Blade depths and pitches specified for airMARS adapter fan blades allow for the replacement of a broad range of commonly used fan blades.

Typical applications are:

- Air Cooled Condensers
- Power Roof Ventilators
- Residential Air Conditioners
- Unit Heaters
- Heat Pumps
- Fan Coil Units
- Roof Top Air Conditioners



Universal Hex Adapter Hubs on page AM-21

MARS NO.	MODEL NO.	BLADE DIA.	PITCH DEG.	BLADE DEPTH	Static Pressure .10"			Static Pressure .30"			MARS PACK
					RPM	CFM	BHP	RPM	CFM	BHP	
40027	1027-3CW	10	27	2.19	825	104	0.006	825	N.A.	N.A.	2
					1075	241	0.01	1075	N.A.	N.A.	
					1725	572	0.03	1725	336	0.05	
40061	1219-3CW	12	19	1.56	825	121	0.008	825	N.A.	N.A.	2
					1075	295	0.01	1075	N.A.	N.A.	
					1725	625	0.04	1725	429	0.05	
40029 40030	1223-3CW 1223-3CCW	12	23	1.88	825	209	0.01	825	N.A.	N.A.	2
					1075	385	0.02	1075	N.A.	N.A.	
					1725	769	0.05	1725	580	0.07	
40031	1227-3CW	12	27	2.19	825	289	0.01	825	N.A.	N.A.	2
					1075	468	0.02	1075	N.A.	N.A.	
					1725	914	0.07	1725	714	0.09	
40033 40034	1423-3CW 1423-3CCW	14	23	2.67	825	568	0.02	825	N.A.	N.A.	2
					1075	892	0.04	1075	N.A.	N.A.	
					1725	1573	0.16	1725	1387	0.17	
40035 40036	1427-3CW 1427-3CCW	14	27	3.06	825	664	0.03	825	N.A.	N.A.	2
					1075	1006	0.05	1075	531	0.08	
					1725	1757	0.21	1725	1568	0.23	
40063	1619-3CW	16	19	2.56	825	610	0.02	825	N.A.	N.A.	2
					1075	1017	0.05	1075	305	0.06	
					1725	1811	0.17	1725	1549	0.20	
40037 40038	1622-3CW 1622-3CCW	16	22	2.94	825	748	0.03	825	N.A.	N.A.	2
					1075	1164	0.06	1075	481	0.08	
					1725	2039	0.23	1725	1815	0.25	
40039 40040	1627-3CW 1627-3CCW	16	27	3.56	825	1064	0.05	825	110	0.06	2
					1075	1525	0.10	1075	969	0.11	
					1725	2601	0.39	1725	2401	0.41	
40041 40042	1823-3CW 1823-3CCW	18	23	3.70	825	1202	0.06	825	464	0.10	2
					1075	1870	0.10	1075	972	0.13	
					1725	2487	0.32	1725	2629	0.33	

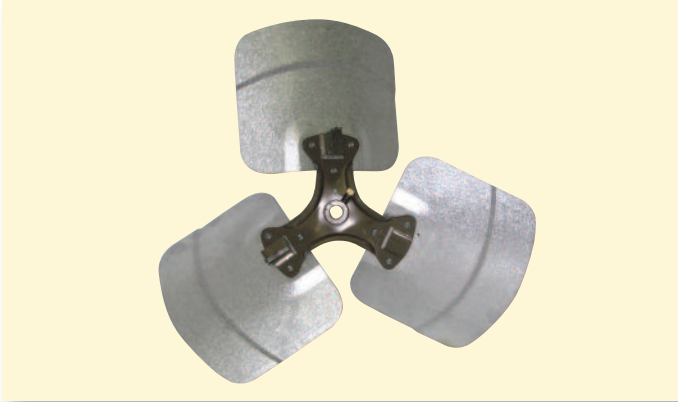
MAX RPM 10"- 18" DIA. 1725 RPM

continued on next page



Air Moving Components

MARS SERIES **400**



3 Wing Adapter Heavy Duty Condenser Fan Blades (cont.)

Universal Hex Adapter Hubs on page AM-21

MARS NO.	MODEL NO.	BLADE DIA.	PITCH DEG.	BLADE DEPTH	Static Pressure .10"			Static Pressure .30"			MARS PACK
					RPM	CFM	BHP	RPM	CFM	BHP	
40043 40044	1827-3CW 1827-3CCW	18	27	4.31	825	1711	0.08	825	637	0.12	2
					1075	2305	0.12	1075	1312	0.17	
					1725	4089	0.56	1725	3784	0.63	
40065 40066	1830-3CW 1830-3CCW	18	30	4.75	825	1882	0.09	825	794	0.14	2
					1075	2502	0.14	1075	1526	0.19	
					1725	4438	0.65	1725	4136	0.72	
40045 40046	1833-3CW 1833-3CCW	18	33	5.17	825	1993	0.11	825	914	0.15	2
					1075	2682	0.17	1075	1681	0.22	
					1725	4790	0.80	1725	4403	0.86	
40047 40048	2024-3CW 2024-3CCW	20	24	3.86	825	2306	0.12	825	1290	0.16	2
					1075	3052	0.18	1075	2063	0.22	
					1140	3383	0.26	1140	2781	0.31	
40049 40050	2028-3CW 2028-3CCW	20	28	4.47	825	2639	0.14	825	1513	0.18	2
					1075	3473	0.22	1075	2462	0.26	
					1140	3841	0.32	1140	3245	0.37	
40067 40068	2031-3CW 2031-3CCW	20	31	4.91	825	2884	0.16	825	1707	0.21	2
					1075	3790	0.26	1075	2727	0.30	
					1140	4186	0.38	1140	3552	0.43	
40051 40052	2033-3CW 2033-3CCW	20	33	5.17	825	3035	0.19	825	1851	0.23	2
					1075	3993	0.29	1075	2854	0.34	
					1140	4412	0.43	1140	3687	0.47	
40053 40054	2227-3CW 2227-3CCW	22	27	4.31	825	3383	0.18	825	2111	0.26	2
					1075	4478	0.28	1075	3323	0.34	
					1140	4969	0.41	1140	4169	0.47	
40069 40024	2230-3CW 2230-3CCW	22	30	4.75	825	3580	0.21	825	2376	0.31	2
					1075	4951	0.34	1075	3807	0.39	
					1140	5483	0.49	1140	4675	0.54	
40055 40056	2233-3CW 2233-3CCW	22	33	5.17	825	3982	0.26	825	2639	0.35	2
					1075	5259	0.41	1075	3978	0.48	
					1140	5828	0.60	1140	4923	0.65	
40057 40058	2426-3CW 2426-3CCW	24	26	4.17	825	4433	0.27	825	3028	0.33	2
					1075	5793	0.43	1075	4792	0.46	
					1140	6382	0.63	1140	5649	0.68	
40059 40060	2433-3CW 2433-3CCW	24	33	5.17	825	5287	0.40	825	3772	0.46	2
					1075	6906	0.65	1075	5782	0.68	
					1140	7607	0.96	1140	6763	1.00	

MAX RPM 10"- 18" DIA. 1725 RPM 20"-24" DIA. 1140 RPM



The largest selection of motors, components and accessories for the HVAC/R Industry

Air Moving Components

MARS SERIES **400**



4 Wing Adapter Heavy Duty Condenser Fan Blades

airMARS 4 wing adapter, heavy duty condenser fan blades are designed for rigorous R/HVAC pressure applications. They will accommodate universal hex/round adapter hubs for unlimited versatility. airMARS adapter fan blades are durable, efficient, and quiet. They are manufactured using high strength aluminum alloy for the blades and sturdy steel for the blade spiders.

Blade depths and pitches specified for airMARS adapter fan blades allow for the replacement of a broad range of commonly used fan blades.

Typical applications are:

- Air Cooled Condensers
- Power Roof Ventilators
- Residential Air Conditioners
- Unit Heaters
- Heat Pumps
- Fan Coil Units
- Roof Top Air Conditioners

Universal Hex Adapter Hubs on page AM-21

MARS NO.	MODEL NO.	BLADE DIA.	PITCH DEG.	BLADE DEPTH	Static Pressure .10"			Static Pressure .30"			MARS PACK
					RPM	CFM	BHP	RPM	CFM	BHP	
40070 40071	1023-4CW 1023-4CCW	10	23	2.28	825	100	0.008	825	N.A.	N.A.	2
					1075	250	0.009	1075	N.A.	N.A.	
					1625	550	0.03	1625	350	0.04	
40072 40073	1027-4CW 1027-4CCW	10	27	2.64	825	150	0.007	825	N.A.	N.A.	2
					1075	300	0.01	1075	N.A.	N.A.	
					1625	600	0.03	1625	400	0.04	
40074 40075	1033-4CW 1033-4CCW	10	33	3.16	825	220	0.01	825	N.A.	N.A.	2
					1075	360	0.02	1075	N.A.	N.A.	
					1625	720	0.06	1625	480	0.09	
40124	1220-4CW	12	20	2.00	825	190	0.009	825	N.A.	N.A.	2
					1075	371	0.02	1075	82	0.03	
					1725	789	0.07	1725	515	0.08	
40076 40077	1223-4CW 1223-4CCW	12	23	2.28	825	260	0.01	825	N.A.	N.A.	2
					1075	450	0.03	1075	140	0.04	
					1625	890	0.08	1625	480	0.11	
40078 40079	1227-4CW 1227-4CCW	12	27	2.64	825	300	0.01	825	N.A.	N.A.	2
					1075	570	0.03	1075	N.A.	N.A.	
					1625	1010	0.07	1625	790	0.09	
40080 40081	1233-4CW 1233-4CCW	12	33	3.16	825	410	0.02	825	N.A.	N.A.	2
					1075	690	0.03	1075	380	0.06	
					1625	1210	0.12	1625	960	0.12	
40126 40127	1416-4CW 1416-4CCW	14	16	1.91	825	435	0.02	850	N.A.	N.A.	2
					1075	698	0.03	1075	N.A.	N.A.	
					1725	1237	0.09	1725	N.A.	N.A.	

MAX RPM 10" - 16" DIA. 1725 RPM



Air Moving Components

MARS SERIES **400**

4 Wing Adapter Heavy Duty Condenser Fan Blades (cont.)

Universal Hex Adapter Hubs on page AM-21

MARS NO.	MODEL NO.	BLADE DIA.	PITCH DEG.	BLADE DEPTH	Static Pressure .10"			Static Pressure .30"			MARS PACK
					RPM	CFM	BHP	RPM	CFM	BHP	
40128	1420-4CW	14	20	2.34	825	518	0.02	825	N.A.	N.A.	2
					1075	809	0.03	1075	373	0.05	
					1625	1339	0.13	1625	1184	0.14	
40082 40083	1423-4CW 1423-4CCW	14	23	2.672	825	580	0.02	825	N.A.	N.A.	2
					1075	890	0.04	1075	440	0.06	
					1625	1470	0.14	1625	1100	0.13	
40084 40085	1427-4CW 1427-4CCW	14	27	3.063	825	650	0.02	825	N.A.	N.A.	2
					1075	970	0.04	1075	550	0.06	
					1625	1600	0.15	1625	1320	0.15	
40086 40087	1433-4CW 1433-4CCW	14	33	3.672	825	780	0.04	825	120	0.05	2
					1075	1180	0.07	1075	730	0.10	
					1625	1940	0.18	1625	1730	0.19	
40130	1620-4CW	16	20	2.69	825	927	0.04	825	372	0.06	2
					1075	1376	0.08	1075	878	0.10	
					1625	2265	0.32	1625	2052	0.34	
40088 40089	1623-4CW 1623-4CCW	16	23	3.063	825	1050	0.05	825	450	0.06	2
					1075	1520	0.08	1075	890	0.11	
					1625	2480	0.26	1625	2150	0.27	
40090 40091	1627-4CW 1627-4CCW	16	27	3.563	825	1180	0.07	825	730	0.10	2
					1075	1670	0.09	1075	1130	0.14	
					1625	2700	0.29	1625	2350	0.32	
40092 40093	1633-4CW 1633-4CCW	16	33	4.281	825	1420	0.05	825	930	0.09	2
					1075	2020	0.12	1075	1250	0.16	
					1625	3190	0.44	1625	2490	0.46	
40132	1819-4CW	18	19	3.09	825	1318	0.06	825	646	0.09	2
					1075	1815	0.08	1075	1080	0.13	
					1140	2802	0.50	1140	1196	0.53	
40094 40095	1823-4CW 1823-4CCW	18	23	3.703	825	1630	0.07	825	860	0.11	2
					1075	2160	0.12	1075	1470	0.17	
					1140	2310	0.14	1140	1780	0.19	
40096 40097	1827-4CW 1827-4CCW	18	27	4.313	825	1810	0.09	825	950	0.12	2
					1075	2430	0.15	1075	1820	0.19	
					1140	2690	0.18	1140	2250	0.26	
40134 40135	1830-4CW 1830-4CCW	18	30	4.75	825	1991	0.11	825	1132	0.14	2
					1075	2700	0.16	1075	1827	0.21	
					1140	2990	0.78	1140	2023	0.84	
40098 40099	1833-4CW 1833-4CCW	18	33	5.172	825	2150	0.12	825	1300	0.16	2
					1075	2880	0.20	1075	1970	0.25	
					1140	3190	0.28	1140	2240	0.29	
41809	2014-4CW	20	14	2.313	825			825			2
					1075			1075			
					1140			1140			
41811	2017-4CW	20	17	2.781	825			825			2
					1075			1075			
					1140			1140			
40136 41813	2019-4CW 2019-4CCW	20	19	3.09	825	1881	0.11	875	1126	0.16	2
					1075	1482	0.18	1075	1836	0.22	
					1140	2929	0.28	1140	2444	0.31	
40100 40101	2023-4CW 2023-4CCW	20	23	3.703	825	2120	0.13	825	1080	0.15	2
					1075	3120	0.24	1075	2150	0.26	
					1140	3110	0.25	1140	2360	0.30	

MAX RPM 10"- 16" DIA. 1725 RPM 18"-26" DIA. 1140 RPM

continued on next page



The largest selection of motors, components and accessories for the HVAC/R Industry

Air Moving Components

MARS SERIES **400**

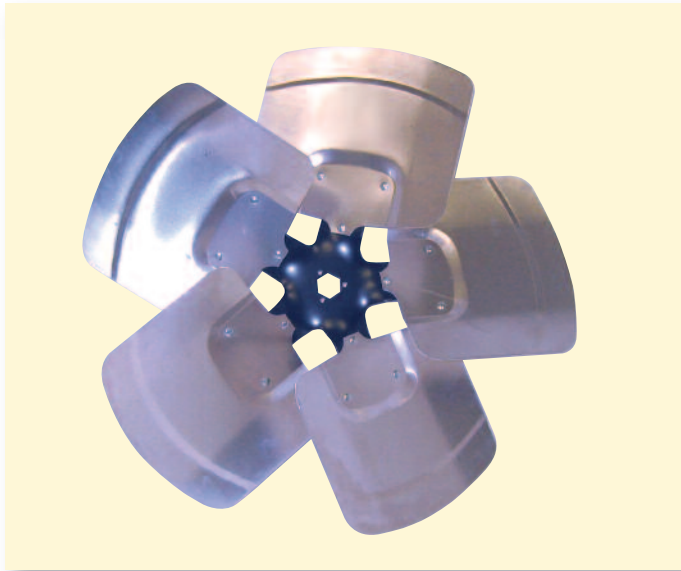


4 Wing Adapter Heavy Duty Condenser Fan Blades (cont.)

Universal Hex Adapter Hubs on page AM-21

MARS NO.	MODEL NO.	BLADE DIA.	PITCH DEG.	BLADE DEPTH	Static Pressure .10"			Static Pressure .30"			MARS PACK
					RPM	CFM	BHP	RPM	CFM	BHP	
40102 40103	2027-4CW 2027-4CCW	20	27	4.313	825	2340	0.14	825	1250	0.17	2
					1075	3250	0.26	1075	2550	0.32	
					1140	3430	0.28	1140	2820	0.41	
40137 40138	2029-4CW 2029-4CCW	20	29	4.63	825	2975	0.02	825	2022	0.25	2
					1075	3706	0.03	1075	2934	0.36	
					1140	4286	0.13	1140	3760	0.51	
40104 40105	2033-4CW 2033-4CCW	20	33	5.172	825	3170	0.17	825	1650	0.26	2
					1075	3880	0.39	1075	3095	0.44	
					1140	4120	0.45	1140	3210	0.49	
40106 40107	2223-4CW 2223-4CCW	22	23	3.703	825	3070	0.18	825	1990	0.23	2
					1075	4120	0.37	1075	3580	0.46	
					1140	4400	0.40	1140	3900	0.50	
40108 40109	2227-4CW 2227-4CCW	22	27	4.313	825	3560	0.21	825	2260	0.27	2
					1075	4780	0.44	1075	4270	0.54	
					1140	5210	0.44	1140	4640	0.57	
40110 40111	2233-4CW 2233-4CCW	22	33	5.172	825	4230	0.30	825	2450	0.37	2
					1075	5210	0.60	1075	4600	0.69	
					1140	5860	0.74	1140	5220	0.80	
40139	2235-4CW	22	35	5.44	825	4431	0.32	825	3197	0.42	2
					1075	5932	0.51	1075	4778	0.60	
					1140	6385	0.75	1140	5624	0.81	
41814	2413-4CW	24	13	2.156	825			825			2
					1075			1075			
					1140			1140			
40143 40144	2418-4CW 2418-4CCW	24	18	2.94	825	3352	0.13	825	2559	0.20	2
					1075	4442	0.21	1075	4019	0.27	
					1140	4757	0.30	1140	4432	0.37	
41816	2420-4CW	24	20	3.25	825	3648	0.20	825	2857	0.28	2
					1075	1848	0.33	1075	4296	0.40	
					1140	5199	0.48	1140	4781	0.57	
40112 40113	2423-4CW 2423-4CCW	24	23	3.703	825	3700	0.22	825	2280	0.30	2
					1075	5200	0.45	1075	4340	0.54	
					1140	5400	0.53	1140	4600	0.61	
40114 40115	2427-4CW 2427-4CCW	24	27	4.313	825	4300	0.34	825	2860	0.36	2
					1075	5900	0.55	1075	5170	0.64	
					1140	6220	0.66	1140	5500	0.75	
40116 40117	2433-4CW 2433-4CCW	24	33	5.172	825	4800	0.39	825	3000	0.50	2
					1075	6600	0.85	1075	5820	0.92	
					1140	7100	1.02	1140	6310	1.10	
40145 40146	2624-4CW 2624-4CCW	26	24	3.86	825	5383	0.39	825	4399	0.47	2
					1075	7129	0.61	1075	6376	0.70	
					1140	7629	0.89	1140	7099	1.00	
40118 40119	2627-4CW 2627-4CCW	26	27	4.313	825	5300	0.43	825	3590	0.51	2
					1075	7110	0.92	1075	6550	1.02	
					1140	7520	1.12	1140	7180	1.20	
40120 40121	2633-4CW 2633-4CCW	26	33	5.172	825	6050	0.52	825	4220	0.58	2
					1075	8200	1.13	1075	7250	1.18	
					1140	8810	1.30	1140	8100	1.42	

MAX RPM 10"-16" DIA. 1725 RPM 18"-26" DIA. 1140 RPM



5 Wing Adapter Heavy Duty Condenser Fan Blades

airMARS 5 wing adapter, heavy duty condenser fan blades are designed for rigorous R/HVAC pressure applications. They will accommodate universal hex/round adapter hubs for unlimited versatility. airMARS adapter fan blades are durable, efficient, and quiet. They are manufactured using high strength aluminum alloy for the blades and sturdy steel for the blade spiders.

Blade depths and pitches specified for airMARS adapter fan blades allow for the replacement of a broad range of commonly used fan blades.

Typical applications are:

- Air Cooled Condensers
- Roof Top Air Conditioners
- Residential Air Conditioners
- Unit Heaters
- Heat Pumps
- Fan Coil Units
- Power Roof Ventilators

Universal Hex Adapter Hubs on page AM-21

MARS NO.	MODEL NO.	BLADE DIA.	PITCH DEG.	BLADE DEPTH	Static Pressure .10"			Static Pressure .30"			MARS PACK
					RPM	CFM	BHP	RPM	CFM	BHP	
40150 40151	1627-5CW 1627-5CCW	16	27	3.33	825	1180	0.08	825	590	0.09	2
					1075	1570	0.11	1075	1250	0.14	
					1140	1800	0.13	1140	1450	0.16	
40152 40153	1633-5CW 1633-5CCW	16	33	3.98	825	1440	0.09	825	680	0.11	2
					1075	1920	0.15	1075	1410	1.17	
					1140	2200	0.18	1140	1600	0.22	
40154 40155	1827-5CW 1827-5CCW	18	27	4.25	825	1800	0.10	825	1100	0.14	2
					1075	2400	0.15	1075	1800	0.23	
					1140	2750	0.23	1140	2030	0.26	
40156 40157	1833-5CW 1833-5CCW	18	33	5.15	825	2120	0.13	825	1290	0.17	2
					1075	3150	0.28	1075	2199	0.34	
					1140	3270	0.31	1140	2331	0.37	
40158	2027-5CW	20	27	4.28	825	2620	0.14	825	1600	0.18	2
					1075	3520	0.35	1075	3050	0.38	
					1140	3790	0.40	1140	3300	0.46	
40160 40161	2033-5CW 2033-5CCW	20	33	5.15	825	3155	0.19	825	590	0.09	2
					1075	4230	0.14	1075	1250	0.14	
					1140	4503	0.48	1140	1450	0.16	
40162 40163	2227-5CW 2227-5CCW	22	27	4.31	825	3410	0.27	825	2250	0.34	2
					1075	4780	0.60	1075	4200	0.66	
					1140	5070	0.73	1140	4550	0.76	
40164	2233-5CW	22	33	5.15	825	4130	0.34	825	2950	0.41	2
					1075	5530	0.74	1075	5100	0.87	
					1140	5780	0.90	1140	5540	1.02	
40166	2427-5CW	24	27	4.31	825	4400	0.41	825	3500	0.47	2
					1075	6060	0.82	1075	5500	0.96	
					1140	6240	0.99	1140	5980	1.06	
40168	2433-5CW	24	33	5.15	825	5500	0.53	825	4350	0.62	2
					1075	7470	1.22	1075	6950	1.26	
					1140	7800	1.45	1140	7500	1.52	

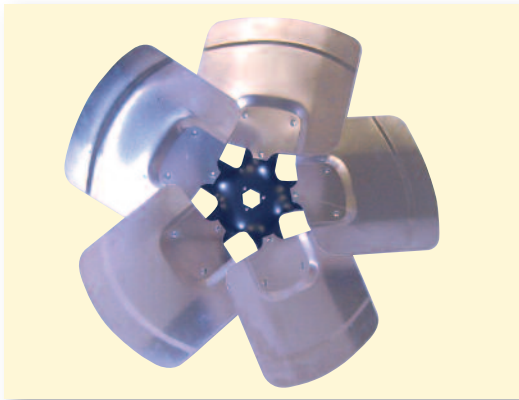
MAX RPM 16"-18" DIA. 1725 RPM 20"-24" DIA. 1140 RPM

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Air Moving Components

MARS SERIES **400**



5 Wing Adapter Heavy Duty Condenser Fan Blades (cont.)

Universal Hex Adapter Hubs on page AM-21

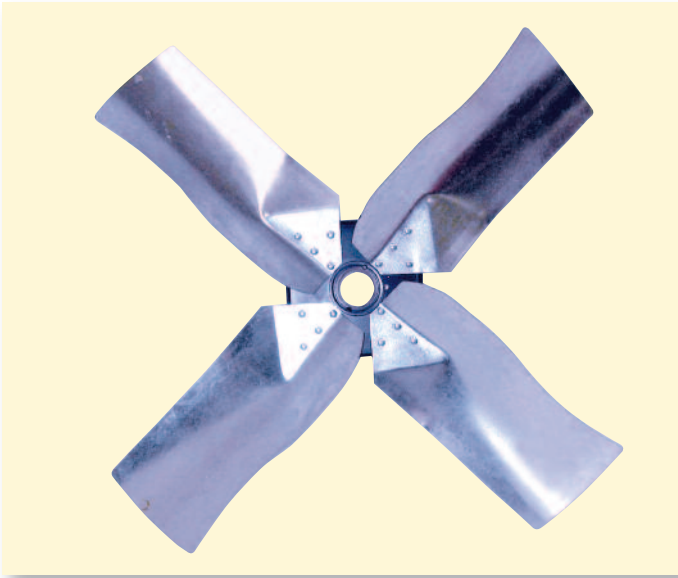
MARS NO.	MODEL NO.	BLADE DIA.	PITCH DEG.	BLADE DEPTH	Static Pressure .10"			Static Pressure .30"			MARS PACK
					RPM	CFM	BHP	RPM	CFM	BHP	
40170	2627-5CW	26	27	4.31	720 825	4358 5677	0.40 0.52	720 825	3477 4489	.46 .60	2
40172	2633-5CW	26	33	5.14	720 825	5593 6536	0.39 0.57	720 825	4423 5169	.46 .66	2
41829	2829-5CCW	28	29	5.89	720 825	6784 7882	0.54 0.80	720 825	5365 6233	.63 .94	2
40176	2833-5CW	28	33	6.61	720 825	7588 8803	0.68 1.00	720 825	6001 6962	.75 1.17	2
40178	3027-5CW	30	27	5.52	720 825	7519 8718	0.67 0.99	720 825	5946 6895	.74 1.16	2
41830	3029-5CW	30	29	5.89	720 825	8101 9382	0.73 1.08	720 825	6412 7420	.85 1.27	2
40180	3033-5CW	30	33	6.61	720 825	9160 10595	0.94 1.40	720 825	7244 8377	1.06 1.65	2

26"-30" DIA. 850 RPM



Air Moving Components

MARS SERIES **400**



KC & KH Blades

airMARS KC series blades are designed for use in air circulators, cooling towers, air cooled condensing units, and small cooling towers. Performance figures are based on applicable standards such as ASHRAE 51/AMCA 210. Suitability for an application is the responsibility of the customer.

See page AM-11 for KC blades with fixed 5/8" hubs. Taper lock bushings for KC and KH blades are also listed on page AM-11.

Features:

- 4 wing blades
- High quality steel
- Viewing from air discharge side - CW rotation

MARS NO.	MODEL NO.	NO.OF BLADES	BLADE DIA.	PITCH DEG.	BLADE DEPTH	Static Pressure .10"			Static Pressure .30"		MAX RPM
						RPM	CFM	BHP	CFM	BHP	
40200	5-3363	4	24	28	2.75	850	4306	0.25	2849	0.28	1450
						1000	5223	0.40	4272	0.45	
						1140	6057	0.59	5274	0.64	
40201	5-3362	4	24	34	3.25	850	5188	0.36	3481	0.38	1450
						1000	6286	0.58	3159	0.61	
						1140	7288	0.84	6406	0.90	
40202	5-3298	4	26	28	2.63	850	5621	0.38	4352	0.42	1140
						1000	6794	0.60	5812	0.65	
						1140	7867	0.88	7025	0.94	
40203	5-2225	4	26	38	3.25	850	7629	0.52	5906	0.57	1140
						1000	9220	0.81	7888	0.88	
						1140	10676	1.19	9534	1.27	
40204	5-3660	4	28	38	3.25	850	9516	0.75	7367	0.81	1140
						1000	11195	1.22	8667	1.35	
						1140	12763	1.80	9881	1.92	
40205	5-3300	4	30	22	2.19	850	6691	0.40	5176	0.43	1140
						1000	8070	0.63	7051	0.69	
						1140	9337	0.92	8446	1.00	
40206	5-3299	4	30	30	2.88	850	8985	0.73	7209	0.79	1140
						1000	10809	1.16	9471	1.25	
						1140	12482	1.70	11354	1.81	
40207	5-2189	4	30	38	3.63	850	10655	1.00	8684	1.01	1140
						1000	12812	1.62	11301	1.65	
						1140	14791	2.40	13498	2.43	
40208	5-3301	4	36	32	3.63	720	13226	1.26	11247	1.33	850
						850	15892	2.04	14340	2.14	
40209	5-3302	4	36	34	3.81	720	13749	1.40	11764	1.46	850
						850	16511	2.29	14936	2.38	
40211	5-2190	4	36	38	5.18	720	14608	1.56	13148	1.63	850
						850	17542	2.56	16694	2.66	

continued on next page



Air Moving Components

MARS SERIES **400**



KC & KH Blades (cont.)

MARS NO.	MODEL NO.	NO. OF BLADES	BLADE DIA.	PITCH DEG.	BLADE DEPTH	Static Pressure .10"			Static Pressure .30"		MAX RPM
						RPM	CFM	BHP	CFM	BHP	
40212	5-3340	4	42	30	4.69	500	13816	0.91	9352	1.00	850
						600	17126	1.56	14301	1.71	
						850	25081	4.31	23385	4.49	
40213	5-3304	4	42	38	5.75	500	16716	1.43	11123	1.48	850
						600	20609	2.42	17685	2.59	
						850	30078	6.74	28320	7.05	
40216	5-2192	4	48	38	4.25	500	26413	2.44	23059	2.76	700
						600	32170	4.14	29749	4.55	
						700	37853	6.51	35938	6.94	
40220	5-3279	4	60	38	4.00	300	16659	0.88	7311	1.19	500
						400	26210	2.02	15423	2.20	
						475	32492	3.30	24236	3.58	

KC Blades with 5/8" Hub

MARS NO.	MODEL NO.	NO. OF BLADES	BLADE DIA.	PITCH DEG.	BLADE DEPTH	Static Pressure .10"			Static Pressure .30"		MAX RPM
						RPM	CFM	BHP	CFM	BHP	
40396	5-3484	4	28	34	3.25	850	8374	0.67	6482	0.71	1140
						1000	9851	1.07	7627	1.18	
						1140	11231	1.58	8697	1.69	
40397	5-2223	4	30	30	2.88	850	8985	0.73	7209	0.79	1140
						1000	10809	1.16	9471	1.25	
						1140	12482	1.70	11354	1.81	



Taper Lock Bushings

For use with KC & KH blades listed on pages AM-10 & 11

MARS NO.	BORE	KEYWAYS
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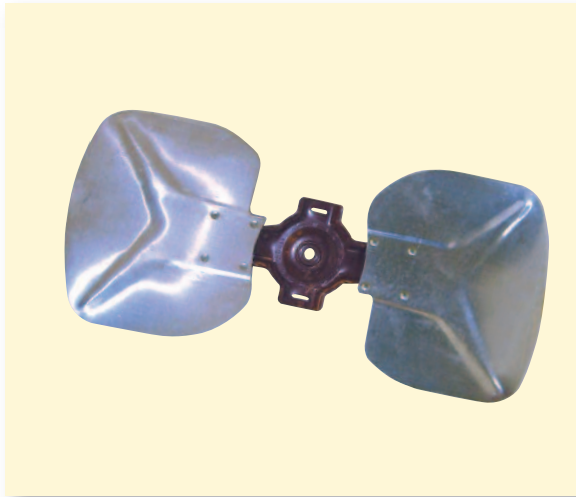
H Bushing for 24"- 48" Blades

40230	1/2"	Shaft
40232	5/8"	Shaft
40231	3/4"	Shaft
40233	13/16"	Shaft
40234	7/8"	Shaft
40235	1"	Shaft
40236	1-1/4"	Shaft
40237	1-1/8"	Shaft
40238	1-3/16"	Shaft
40239	1-3/8"	Shaft

MARS NO.	BORE	KEYWAYS
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P Bushing for 54"- 60" Blades

40243	3/4"	Shaft/Hub
40240	1"	Shaft/Hub
40241	1-1/4"	Shaft/Hub
40244	1-3/16"	Shaft/Hub



Fixed Hub Blades

airMARS 2 and 3 wing blades are designed for lower static pressure applications. They will fit OEM's such as Carrier, Rheem Rudd, GE, Trane, Singer-climate control, York and others.

Available from 14" to 24" blade diameter with 1/2" assembled hub.

Always note original fan blade hub location (intake or discharge) and match when selecting fixed hub replacement fan blades.

2-Wing Blades with 1/2" Hub

MARS NO.	MODEL NO.	ROTATION	BLADE DIA.	PITCH DEG.	HUB LOCATION	MARS PACK
40300 40301	6-9871-BP 6-9788	CW CCW	14	36°	Discharge Intake	2
40302	601274	CCW	18	19°	Intake	2
40305	T1802-24	CW	18	24°	Intake	2
40307 40308	6-9250 6-9205	CW CCW	18	29°	Intake	2
40408	T1802-32	CCW	18	33°	Intake	2
40309	6-9254	CCW	18	36°	Intake	2
40313	6-9252	CCW	20	25°	Intake	2
40314 40315	6-9251 6-9206	CW CCW	20	29°	Intake	2
40316	6-9253	CCW	20	34°	Intake	2
40317	601376	CCW	22	16°	Intake	2
40318	602152	CCW	22	21°	Intake	2
40319	T2202-22	CCW	22	22°	Intake	2
40320	600041	CCW	22	27°	Intake	2
40321	600455	CCW	22	29°	Intake	2
40324	6-9299	CCW	24	24°	Intake	2
40325	T2402-26	CW	24	26°	Discharge	2

Air Moving Components

MARS SERIES **400**



Fixed Hub Blades

airMARS 2 and 3 wing blades are designed for lower static pressure applications. They will fit OEM's such as Carrier, Rheem Rudd, GE, Trane, Singer-climate control, York and others.

Available from 14" to 26" blade diameter with 1/2" assembled hub.

Always note original fan blade hub location (intake or discharge) and match when selecting fixed hub replacement fan blades.

3-Wing Blades with 1/2" Hub

MARS NO.	MODEL NO.	ROTATION	BLADE DIA.	PITCH DEG.	HUB LOCATION	MARS PACK
40328	6-9255	CW	14	32°	Discharge	2
40329	602047	CCW	14	33°	Intake	2
40331	T1403-28	CW	16	28°	Intake	2
40332	T1403-30	CW	16	30°	Intake	2
40333	6-9257	CW	16	33°	Discharge	2
40334	600893	CCW	16	33°	Intake	2
40336	601275	CCW	18	22°	Intake	2
40338	T1803-26	CW	18	26°	Discharge	2
40339	T1803-27	CCW	18	26°	Intake	2
40340	601276	CW	18	27°	Discharge	2
40343	6-9259	CW	18	33°	Discharge	2
40347	6-0316	CW	20	23°	Discharge	2
40348	601278	CCW	20	25°	Intake	2
40349	601279	CW	20	31°	Discharge	2
40350	T2203-20	CW	22	20°	Intake	2
40353	600240	CW	22	24°	Intake	2
40352	UT Series	CW	22	24°	Discharge	2
40355	T2203-28	CW	22	28°	Intake	2
40356	600896	CW	22	33°	Intake	2
40357	600916	CCW	22	33°	Intake	2
40358	602048	CW	24	22°	Intake	2
40323	601280	CCW	24	22°	Intake	2
40359	601383	CW	24	30°	Intake	2
40360	602297	CW	24	33°	Intake	2
40362	601291	CW	26	26°	Discharge	2
40407	T2603-26	CCW	26	26°	Intake	2
40363	T2603-27	CW	26	27°	Intake	2
40364	601282	CW	26	37°	Intake	2

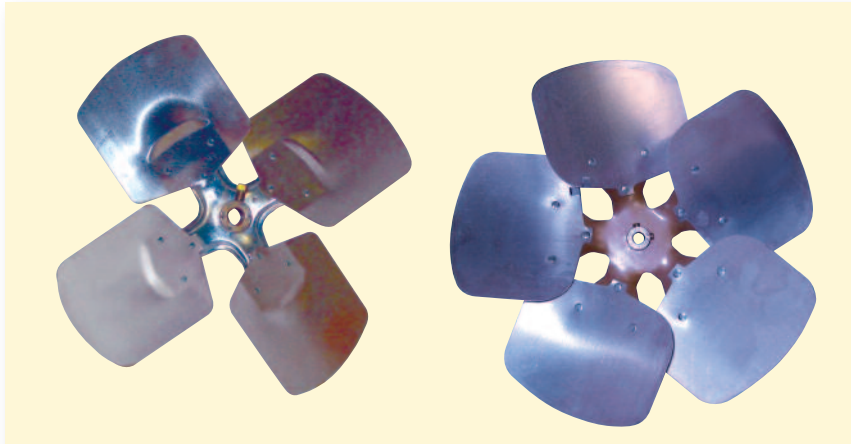
3-Wing Blades with 5/8" Hub

MARS NO.	MODEL NO.	ROTATION	BLADE DIA.	PITCH DEG.	HUB LOCATION	MARS PACK
40365	KA3018	CW	30	18°	Discharge	2



Air Moving Components

MARS SERIES **400**



Fixed Hub Blades

airMARS fixed hub heavy duty condenser fan blades have been designed to serve as drop-in replacements for many OEM applications.

Hub location is on the intake side unless otherwise noted.

Always note original fan blade hub location (intake or discharge) and match when selecting fixed hub replacement fan blades.

4-Wing Blades with Hub

MARS NO.	MODEL NO.	ROTATION	BLADE DIA.	PITCH DEG.	BORE & LOCATION	MARS PACK
40369	6-9256	CW	14	33°	1/2"	2
40372	6-9258	CW	16	33°	1/2" Discharge	2
40375	601375	CW	18	30°	1/2"	2
40376	6-9260	CW	18	33°	1/2" Discharge	2
40377	T2004	CW	20	20°	1/2" Discharge	2
40378	6-9992	CW	20	33°	1/2"	2
40379	602689	CW	20	36°	1/2"	2
40380	6-8745	CW	22	24°	1/2" Discharge	2
40381	T2204-26	CW	22	26°	1/2"	2
40382	600895	CCW	22	33°	1/2"	2
40383	T2404-20	CW	24	20°	1/2" Discharge	2
40384	T2404	CW	24	22°	1/2"	2
40387	600794	CCW	24	27°	1/2"	2
40389	601748	CW	26	30°	5/8" Discharge	2
40395	G2604-32	CW	26	32°	5/8" Discharge	2
40391	601293	CW	28	29°	1/2" Discharge	2
40392	601296	CW	30	22°	5/8"	2
40393	6-8154	CW	30	27°	5/8" Discharge	2
40394	601704	CW	30	40°	5/8"	2

12" - 18" DIA. MAX. RPM 1725 20" - 28" DIA. MAX. RPM 1140 30" DIA. MAX. RPM 850

5-Wing Blades with Hub

MARS NO.	MODEL NO.	ROTATION	BLADE DIA.	PITCH DEG.	BORE & LOCATION	MARS PACK
40402	600176	CW	16	33°	1/2" Discharge	2
40403	600177	CCW				
40404	600178	CW	18	33°	1/2" Discharge	2
40405	F1805-33	CCW				
40406	601292	CW	26	29°	5/8" Discharge	2

16" -18" DIA. MAX. RPM 1725 26" DIA. MAX. RPM 1140



The largest selection of motors, components and accessories for the HVAC/R Industry

AM-15

Air Moving Components

MARS SERIES **400**



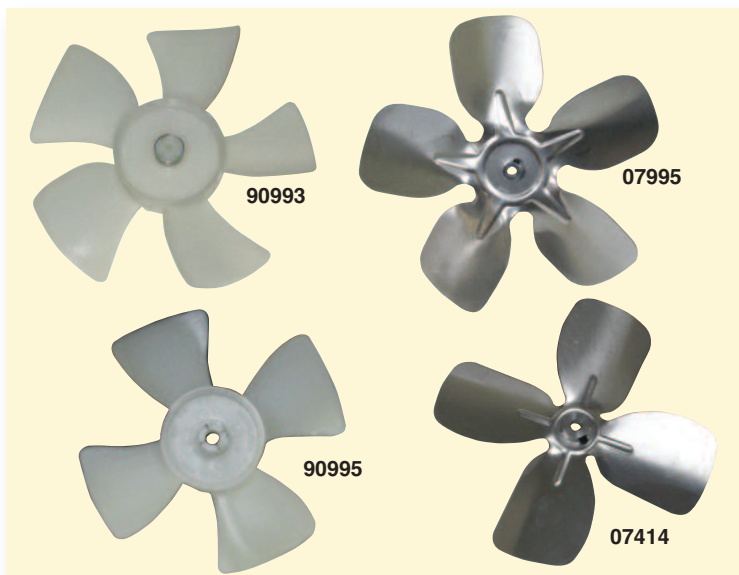
Single Piece Aluminum and Plastic Fan Blades

airMARS plastic fan blades are used in many applications that require quiet, efficient air flow within limited space.

airMARS one piece aluminum fan blades feature a patented hubbing method. airMARS fan blades are designed for low noise and energy efficient operation.

Applications:

- Walk-in coolers and freezers
- Icemakers
- Refrigerators
- Condensers
- Vending Machines



Plastic Fan Blades

MARS NO.	WINGS	BLADE DIA.	ROT.	BORE	APPROX. CFM 3000 RPM	ACME	PACKARD
90995	4	3.50	CW	3/16"	65	2303	—
90996	4	3.50	CCW	3/16"	65	2313	A61302
90992	5	4.00	CW	1/8"	110	2402	A61401
90993	5	4.00	CCW	1/8"	110	2412	A61403
90991	5	4.00	CCW	3/16"	110	2413	A61404
90987	4	6.00	CW	3/16"	216	2603	—

4 Wing Single Piece Aluminum Fan Blades

MARS NO.	WINGS	BLADE DIA.	DEG. PITCH	ROT.	BORE	HUB	APPROX. CFM 3000 RPM	LAU NO.	ACME	FASCO	PACKARD
07411	4	6.00	19	CW	3/16"	I	85				A61469
07414	4	6.00	19	CW	1/4"	I	85				A61470

5 Wing Single Piece Aluminum Fan Blades Hub on Discharge

MARS NO.	WINGS	BLADE DIA.	DEG. PITCH	ROT.	BORE	HUB	APPROX. CFM 1550 RPM	LAU NO.	ACME	FASCO	PACKARD
07081	5	8.00	24	CW	1/4"	D	300			5FR824-1	
07991	5	9.00	26	CW	5/16"	D	345				
07993	5	10.00	20	CW	5/16"	D	450				
07997	5	10.00	28	CW	5/16"	D	600				
07995	5	10.00	31	CW	5/16"	D	650				
07996	5	10.00	31	CCW	5/16"	D	650	60-8367-01			
07998	5	10.00	40	CW	5/16"	D	850				
07921	5	12.00	23	CW	5/16"	D	970				
07922	5	12.00	23	CCW	5/16"	D	970				



Air Moving Components

MARS SERIES **400**



Single Piece Aluminum Fan Blades

airMARS one piece aluminum fan blades feature a patented hubbing method. airMARS fan blades are designed for low noise and energy efficient operation.

Applications:

- Walk-in coolers and freezers
- Icemakers
- Refrigerators
- Condensers
- Vending Machines

5 Wing Hub on Intake

MARS NO.	WINGS	BLADE DIA.	DEG. PITCH	ROT.	BORE	HUB	APPROX. CFM 1550 RPM	LAU NO.	ACME	FASCO	TORIN AIRDEX	PACKARD
07451	5	5.50	27	CW	1/4"	I	85		35504			A65504
07452	5	5.50	27	CCW	1/4"	I	85		35514			A65515
07551	5	5.50	27	CW	5/16"	I	85					
07552	5	5.50	27	CCW	5/16"	I	85					
07471	5	7.00	27	CW	1/4"	I	200	60-8348-01	30704	5FR727-1		A60704
07472	5	7.00	27	CCW	1/4"	I	200	60-8349-01	30714	5FL727-1		A60714
07571	5	7.00	27	CW	5/16"	I	200	60-8350-01	30705	5FR727-2		
07572	5	7.00	27	CCW	5/16"	I	200	60-8351-01	30715	5FL727-2		
07481	5	8.00	24	CW	1/4"	I	300	60-8352-01		5FR824-1	1010352 CW	
07482	5	8.00	24	CCW	1/4"	I	300	60-8353-01		5FL824-1	1010632 CCW	
07581	5	8.00	24	CW	5/16"	I	300	60-8352-01		5FR824-2	1010642 CW	
07582	5	8.00	24	CCW	5/16"	I	300	60-8353-01		5FL824-2	1010652 CCW	
07483	5	8.00	32	CW	1/4"	I	330					
07484	5	8.00	32	CCW	1/4"	I	330					
07583	5	8.00	32	CW	5/16"	I	330			5FR832-2		
07584	5	8.00	32	CCW	5/16"	I	330			5FL832-2		
07491	5	9.00	26	CW	1/4"	I	345			5FR926-1		
07591	5	9.00	26	CW	5/16"	I	345	60-8362-01		5FR926-2		
07592	5	9.00	26	CCW	5/16"	I	345	60-8363-01		5FL926-2		
07493	5	10.00	20	CW	1/4"	I	450			5FR1020-1		
07494	5	10.00	20	CCW	1/4"	I	450			5FL1020-1		
07593	5	10.00	20	CW	5/16"	I	450	60-8368-01		5FR1020-2		
07594	5	10.00	20	CCW	5/16"	I	450	60-8369-01		5FL1020-2		
07595	5	10.00	31	CW	5/16"	I	650	60-8370-01		5FR1031-2	1010362 CW	
07596	5	10.00	31	CCW	5/16"	I	650	60-8371-01		5FL1031-2	1010692 CCW	
07521	5	12.00	23	CW	5/16"	I	920					

Air Moving Components

MARS SERIES **400**



Single Piece Aluminum Fan Blades

airMARS one piece aluminum fan blades for unit bearing motors are designed for low noise and energy efficient operation.

Applications:

- Evaporator Coils
- Refrigerators
- Vending Machines

4 & 5 Wing Unit Bearing Mount

MARS NO.	WINGS	BLADE DIA.	DEG. PITCH	ROT.	BORE	HUB	APPROX. CFM 1550 RPM	LAU NO.	ACME	FASCO	TORIN AIRDEX	PACKARD
07004	4	10.00	-	REV	UB	NONE	414			S-7004		
95131	5	5.50	31	CW	UB	NONE	100					
95621	5	6.00	21	CW	UB	NONE	118		3606			A61101
95622	5	6.00	21	CCW	UB	NONE	118		3616			A61102
95628	5	6.00	28	CW	UB	NONE	134					
95629	5	6.00	28	CCW	UB	NONE	134					
95641	5	6.00	40	CW	UB	NONE	300					
95711	5	7.00	15	CW	UB	NONE	130					
95721	5	7.00	21	CW	UB	NONE	150	60-8372-01	3706	5FR721		
95722	5	7.00	21	CCW	UB	NONE	150		3716			
95723	5	7.00	25	CW	UB	NONE	170					
95731	5	7.00	31	CW	UB	NONE	199	60-8373-01	3706-31		1010412 CW	
95732	5	7.00	31	CCW	UB	NONE	199		3716-31		1010472 CCW	
95741	5	7.00	40	CW	UB	NONE	300					
95742	5	7.00	40	CCW	UB	NONE	300					
95735	5	7.75	23	CW	UB	NONE	250					
95737	5	7.75	31	CW	UB	NONE	278					
95821	5	8.00	20	CW	UB	NONE	210					
95822	5	8.00	20	CCW	UB	NONE	210					
95823	5	8.00	25	CW	UB	NONE	280	60-8376-01	3806			A63816
95831	5	8.00	31	CW	UB	NONE	300	60-8377-01	3806-31	1010432 CW		
95832	5	8.00	31	CCW	UB	NONE	300		3816-31	1010492 CCW		
95841	5	8.00	40	CW	UB	NONE	400					
95842	5	8.00	40	CCW	UB	NONE	400					
95865	5	8.00	50	CW	UB	NONE	500					
95866	5	8.00	50	CCW	UB	NONE	500					

continued on next page



Single Piece Aluminum Fan Blades (cont.)

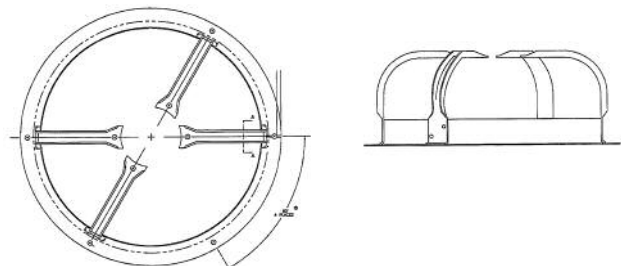
5 Wing Unit Bearing Mount

MARS NO.	WINGS	BLADE DIA.	DEG. PITCH	ROT.	BORE	HUB	APPROX. CFM 1550 RPM	LAU NO.	ACME	TORIN AIRDEX	PACKARD
95744	5	8.25	10	CW	UB	NONE					
95745	5	8.25	25	CW	UB	NONE					
95747	5	8.25	37	CW	UB	NONE					
95746	5	8.25	40	CW	UB	NONE					
95875	5	8.75	25	CW	UB	NONE	300				
95923	5	9.00	25	CW	UB	NONE	335				
95931	5	9.00	31	CW	UB	NONE	370	60-8379-01	3906-31	1010452 CW	
95932	5	9.00	31	CCW	UB	NONE	370		3916-31	1010512 CCW	
95941	5	9.00	40	CW	UB	NONE	425				
95021	5	10.00	20	CW	UB	NONE	450				
95022	5	10.00	20	CCW	UB	NONE	450				
95027	5	10.00	28	CW	UB	NONE	425		3106		A63126
95031	5	10.00	31	CW	UB	NONE	650	60-8381-01	3106-31	1010442 CW	A61108
95032	5	10.00	31	CCW	UB	NONE	650		3116-31	1010502 CCW	A63117
95041	5	10.00	40	CW	UB	NONE	880				



Motor Bracket Shroud

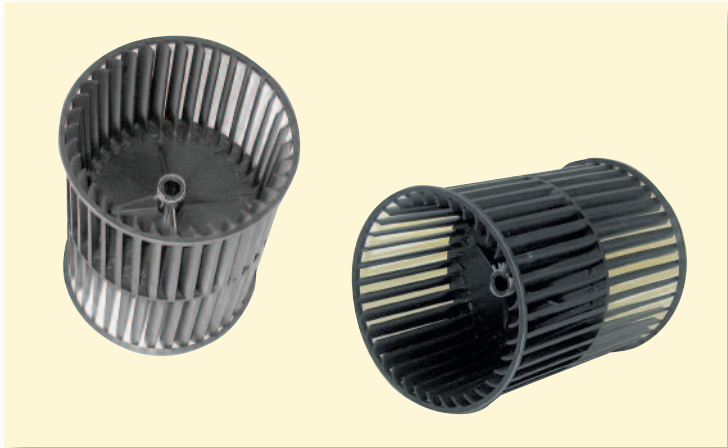
(8.25" Fan – 4 Leg)



MARS NO.	DESCRIPTION
95743	Fits 8.25" Fans

Air Moving Components

MARS SERIES **400**



Small Wheels

Double Inlet

airMARS plastic precision blower wheels are molded for reliable, efficient performance.

Plastic Wheels - Double Inlet

MARS NO.	MODEL NO.	WHEEL DIA.	WIDTH	BORE	MATERIAL
41500	2169-A	5.75	7.8	1/2	Poly-Pro CC



OEM Blower Wheels Single Inlet Blower Wheels

Special orders are available. Check with MARS customer service for minimum quantities on non-stock items.

Please review special order information request on page AM-44.

MARS NO.	MODEL NO.	ROTATION	WHEEL DIA.	WHEEL WIDTH	BORE	MAX RPM
41204	1-6444	CCW	7.12	1.87	1/2	4000
41205	1-6521	CCW	8.00	2.37	1/2	3200
41212	108389	CCW	8.50	2.00	5/8	3350
41208	107139	CCW	9.12	1.75	5/8	3500
41201	1-3265	CCW	9.87	2.00	5/8	3000
41202	1-3266	CCW	9.87	2.00	5/8	3000
41209	107140	CCW	9.87	2.50	5/8	2550
41213	101891	CCW	9.87	1.50	5/8	3475
41241	BC987-150S	CCW	9.87	1.50	5/8	3000
41242	BC987-212S	CCW	9.87	2.12	1/2	3000
41207	104950	CCW	10.75	1.75	5/8	3000
41221	106107	CW	10.75	2.00	5/8	1750



airMARS Accessories

Universal Hex Hubs

MARS Universal Hex Hubs are designed to provide a firm mechanical fit with hex or round bore adapter fan blades. These hubs are machined steel, designed with tri-point mount for secure spider/hub connections. MARS Universal Hex Hubs include 2 set screws, for shaft fastening, offset at 90 degrees.



Universal Hex Hubs

MARS NO.	BORE	PER PACK
40002	1/4"	1
40003	5/16"	1
40004	3/8"	1
40005	1/2"	1
40006	5/8"	1
40007	3/4"	1

airMARS Tools



40851

40852

MARS NO.	DESCRIPTION
40851	Fan Blade Pitch Gauge

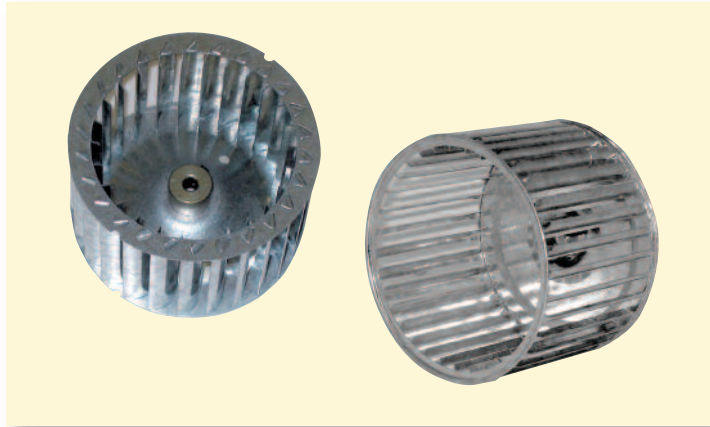
Follow these steps to measure propeller rotation and pitch:

- Step 1: Position the faceplate of the gauge on the blade of the fan.
- Step 2: Place the foot of the wire body of the Pitch Gauge on the center section (spider) of the fan.
- Step 3: The pointer gives a direct reading of the pitch in degrees, and the clockwise/counter-clockwise markings indicate the rotation.

MARS NO.	DESCRIPTION
40852	Fan Blade & Hub Puller

Air Moving Components

MARS SERIES **400**



Small Wheels

Single Inlet

airMARS Single Inlet wheels are used in a variety of commercial and residential applications, for room air conditioners, power burners, draft inducers, other heating and appliance devices. Rotation is determined viewing the closed end of the wheel.

MARS NO.	MODEL NO.	ROTATION	WHEEL DIA.	WHEEL WIDTH	HUB
40563	107039	CCW	4	2-1/2	1/4
40564	1-6696	CCW	4	1-1/2	5/16
40565	2-2443	CCW	4.25	2-7/8	1/4

MARS NO.	MODEL NO.	ROTATION	WHEEL DIA.	WHEEL WIDTH	HUB	RPM	.1" S.P. CFM	.1" S.P. BHP	.3" S.P. CFM	.3" S.P. BHP
40608	2-0047	CCW	5.25	2.50	5/16	1725	255	0.053	223	0.045
40609	2-0253	CW	5.25	2.50	5/16	1725	255	0.053	223	0.045
40610	2-0053	CW	5.25	3.00	5/16	1725	297	0.075	264	0.064
40612	2-0609	CCW	5.75	2.94	5/16	1725	381	0.122	341	0.108
40615	2-0353	CW	5.75	4.00	1/2	1000 1725	250 481	0.025 0.150	- 431	- 0.131

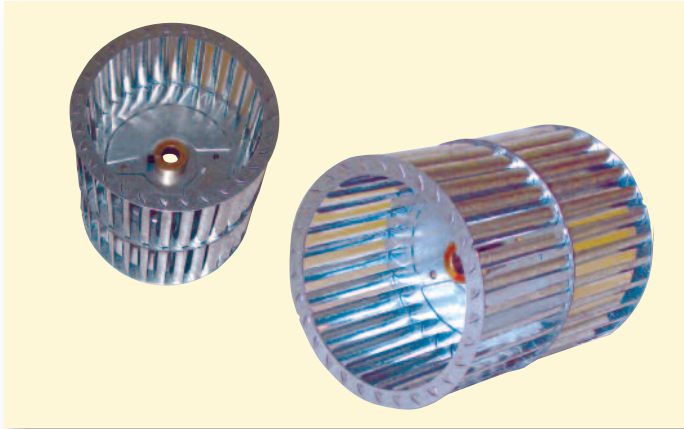
4" - 5.25" DIA. MAX. RPM 3600 RPM 5.25" DIA. MAX. RPM 2800 RPM Note: MARS No. 40612 only RPM 3000

MARS NO.	MODEL NO.	ROTATION	WHEEL DIA.	WHEEL WIDTH	HUB	RPM	.1" S.P. CFM	.1" S.P. BHP	.3" S.P. CFM	.3" S.P. BHP
40618	1-7890	CCW	6.31	2.00	1/2	3450	831	1.294	818	1.274
40619	1-3414	CW	6.31	2.50	1/2	1000 3450	268 1013	0.035 1.669	179 996	0.022 1.633
40630	107035	CW	6.31	4.00	1/2	1000	437	0.056	307	0.036
40631	107036	CCW	6.31	4.00	1/2	1725	804	0.320	753	0.289
40635	1-4880	CCW	7.47	3.50	1/2	1725	1031	0.780	976	0.645
40638	1-1992	CCW	8.50	4.00	1/2	1000 1550	902 1428	0.266 1.023	825 1387	0.229 0.977
40641	1-5266	CW	9.125	4.25	1/2	1000	1005	0.122	896	0.108
40642	1-8189	CW	9.875	2.00	5/8	1000	632	0.209	588	0.191
40643	1-2074	CCW	9.875	6.00	1/2	1000	1600	0.521	1465	0.456



Air Moving Components

MARS SERIES **400**



Small Wheels

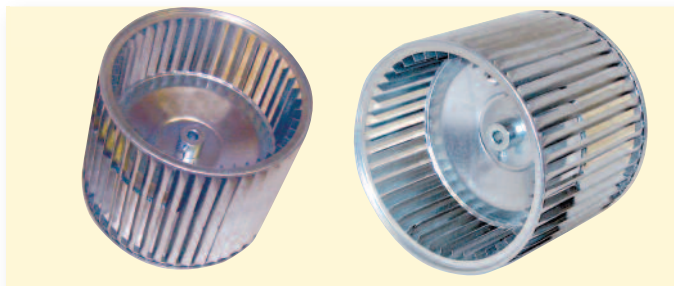
Double Inlet

airMARS Double inlet wheels are used in many popular air handlers. The wheels below are made of galvanized steel unless indicated otherwise. Rotation is determined viewing the hub extension.

MARS NO.	MODEL NO.	ROTATION	WHEEL DIA.	WHEEL WIDTH	HUB	RPM	.1" S.P. CFM	S.P. BHP	.3" S.P. CFM	S.P. BHP
41102	2-0414	CW	4.75	7.00	1/2	1725	555	0.115	455	0.092
41103	2-0415 Alum.	CCW				1725	555	0.115	455	0.092
41104	2-0513	CW	5.25	5.88	1/2	1000	307	0.025	-	-
						3450	1231	1.265	1412	1.483
41105	2-2401	CW	5.25	6.88	1/2	1000	359	0.029	-	-
41134	2-2386 Alum.	CW				3450	1450	1.563	1412	1.483
41107	2-0223	CW	5.25	7.00	1/2	1725	710	0.090	620	0.075
41108	2-0891	CCW				1725	710	0.090	620	0.075
41109	107622	CW	5.50	6.50	1/2	1000	396	0.042	-	-
41110	107623	CCW				1725	765	0.254	684	0.217
41111	2-2402	CW	5.75	5.16	1/2	1000	396	0.035	-	-
						1725	725	0.217	682	0.205
41112	2-0464	CW	5.75	5.88	1/2	1000	396	0.042	-	-
						1725	765	0.254	681	0.217
41113	2-2406	CW	5.75	6.88	1/2	1000	439	0.047	-	-
						1725	854	0.278	755	0.241
41114	2-0600	CW	5.75	7.625	1/2	1000	439	0.047	-	-
41115	2-0678	CCW				1725	854	0.278	755	0.241
41116	2-2408	CW	5.75	8.00	1/2	1000	500	0.065	-	-
41117	2-0304	CCW				1725	976	0.390	863	0.35
41118	106729	CW	5.75	8.50	1/2	1000	710	0.078	-	-
41121	103307 Alum.	CW	5.75	7.875	1/2	1000	455	0.047	105	0.011
41123	2-2405	CW	6.22	7.00	1/2	1000	626	0.040	406	0.120
41124	2-0089 Alum.	CCW	6.22	7.625	1/2	1725	274	0.063	212	0.047
41125	2-2407	CW	6.22	8.00	1/2	1000	705	0.042	500	1.250
41126	1-0439	CW	6.25	7.00	1/2	1000	625	0.077	415	0.046
41127	1-0438	CCW				1000	625	0.077	415	0.046
41130	106730	CW	6.31-25	7.625	1/2	1000	733	0.112	537	0.074
41131	2-2279	CW	6.50	7.87	1/2	1000	757	0.120	550	0.077
41132	802653	CW	7.50	9.00	1/2	1000	830	0.125	603	0.087

Air Moving Components

MARS SERIES **400**



Direct Drive Furnace Blower Wheels

44 separate quality checks ensure the production process for airMARS belt drive blower wheels. Rigorous quality standards, high quality raw material and experienced manufacturing all work together to make airMARS blower wheels your best choice.

airMARS Direct Drive Blower Wheels are designed to work as "drop in" replacements for all major HVAC OEM equipment.

MARS NO.	DESCRIPTION	ROT.	CENTER DISC	DIA.	WIDTH	BORE	LAU#	RPM	.1" S.P. CFM	.1" S.P. BHP	.3" S.P. CFM	.3" S.P. BHP
41303	9-6 DD Blower Wheel	CW	Convex	9.50	6.06	0.50	013335-01	1000	1395	.40	1240	.36
41302	9-6 DD Blower Wheel	CCW	Convex	9.50	6.06	0.50		1250	1744	.77	1650	.74
41301	9-6 DD Blower Wheel	CW	Concave	9.50	6.06	0.50		1000	1395	.40	1240	.36
41300	9-6 DD Blower Wheel	CCW	Concave	9.50	6.06	0.50		1250	1744	.77	1650	.74
41307	9-7 DD Blower Wheel	CW	Convex	9.50	7.12	0.50	013336-02	1000	1600	.50	1400	.42
41306	9-7 DD Blower Wheel	CCW	Convex	9.50	7.12	0.50	013336-03	1250	1950	1.01	1850	.89
41305	9-7 DD Blower Wheel	CW	Concave	9.50	7.12	0.50		1000	1600	.50	1400	.42
41304	9-7 DD Blower Wheel	CCW	Concave	9.50	7.12	0.50		1250	1950	1.01	1850	.89
41311	9-8 DD Blower Wheel	CW	Convex	9.50	8.06	0.50	013337-01	1000	1720	.50	1460	.42
41310	9-8 DD Blower Wheel	CCW	Convex	9.50	8.06	0.50	013337-03	1200	2000	.86	1850	.79
41309	9-8 DD Blower Wheel	CW	Concave	9.50	8.06	0.50		1000	1720	.50	1460	.42
41308	9-8 DD Blower Wheel	CCW	Concave	9.50	8.06	0.50		1200	2000	.86	1850	.79
41365	9-9 DD Blower Wheel	CW	Convex	9.50	9.50	0.50	013332-01	1000	1750	.51	1550	.43
41312	9-9 DD Blower Wheel	CW	Concave	9.50	9.50	0.50		1200	2150	.93	2000	.83
41361	9-9 DD Blower Wheel	CCW	Concave	9.50	9.50	0.50	013332-03					
41314	10-4 DD Blower Wheel	CW	Convex	10.62	4.50	0.50	013327-01	1000	1130	.36	1050	.33
41313	10-4 DD Blower Wheel	CW	Concave	10.62	4.50	0.50		1200	1395	.63	1300	.57
41316	10-6 DD Blower Wheel	CW	Concave	10.62	6.06	0.50		1000	1680	.36	1550	.31
41318	10-6 DD Blower Wheel	CW	Convex	10.62	6.06	0.50	013326-01	1200	2010	.62	1910	.59
41321	10-6 DD Blower Wheel	CW	Convex	10.62	6.06	0.62	013326-14	1000	1680	.36	1550	.31
41317	10-6 DD Blower Wheel	CCW	Convex	10.62	6.06	0.50	013326-02	1200	2010	.62	1910	.59
41320	10-6 DD Blower Wheel	CW	Concave	10.62	6.06	0.62		1000	1680	.36	1550	.31
41315	10-6 DD Blower Wheel	CCW	Concave	10.62	6.06	0.50		1200	2010	.62	1910	.59
41319	10-6 DD Blower Wheel	CCW	Concave	10.62	6.06	0.62						
41323	10-7 DD Blower Wheel	CW	Convex	10.62	7.12	0.50	013325-01	1000	2150	.85	1990	.71
41362	10-7 DD Blower Wheel	CCW	Convex	10.62	7.12	0.50	027102-04	1200	2600	1.57	2490	1.36
41322	10-7 DD Blower Wheel	CW	Concave	10.62	7.12	0.50						
41327	10-8 DD Blower Wheel	CW	Convex	10.62	8.06	0.50	013324-01	1000	2300	.83	2100	.71
41326	10-8 DD Blower Wheel	CCW	Convex	10.62	8.06	0.50	013324-02	1200	2800	1.49	2620	1.34
41325	10-8 DD Blower Wheel	CW	Concave	10.62	8.06	0.50		1000	2300	.83	2100	.71
41324	10-8 DD Blower Wheel	CCW	Concave	10.62	8.06	0.50		1200	2800	1.49	2620	1.34



Air Moving Components

MARS SERIES **400**



Direct Drive Furnace Blower Wheels

44 separate quality checks ensure the production process for airMARS belt drive blower wheels. Rigorous quality standards, high quality raw material and experienced manufacturing all work together to make airMARS blower wheels your best choice.

airMARS Direct Drive Blower Wheels are designed to work as "drop in" replacements for all major HVAC OEM equipment.

MARS NO.	DESCRIPTION	ROT.	CENTER DISC	DIA.	WIDTH	BORE	LAU#	RPM	.1" S.P. CFM	.1" S.P. BHP	.3" S.P. CFM	.3" S.P. BHP
41331	10-9 DD Blower Wheel	CW	Convex	10.62	9.50	0.50	013323-01	1000	2520	.90	2350	.81
41330	10-9 DD Blower Wheel	CCW	Convex	10.62	9.50	0.50		1150	2900	1.44	2780	1.29
41329	10-9 DD Blower Wheel	CW	Concave	10.62	9.50	0.50	013317-01	1000	2520	.90	2350	.81
41328	10-9 DD Blower Wheel	CCW	Concave	10.62	9.50	0.50	013317-04	1150	2900	1.44	2780	1.29
41335	10-10 DD Blower Wheel	CW	Convex	10.62	10.68	0.50	013322-03	1000	2700	1.07	2520	.95
41334	10-10 DD Blower Wheel	CCW	Convex	10.62	10.68	0.50		1150	3100	1.64	2990	1.51
41337	10-10 DD Blower Wheel	CW	Convex	10.62	10.68	0.62		1000	2700	1.07	2520	.95
41333	10-10 DD Blower Wheel	CW	Concave	10.62	10.68	0.50	013316-02	1150	3100	1.64	2990	1.51
41336	10-10 DD Blower Wheel	CW	Concave	10.62	10.68	0.62		1000	2700	1.07	2520	.95
41332	10-10 DD Blower Wheel	CCW	Concave	10.62	10.68	0.50	013316-06	1150	3100	1.64	2990	1.51
41337	11-6 DD Blower Wheel	CW	Concave	11.93	6.06	0.50		1000	1720	.64	1650	.62
41339	11-6 DD Blower Wheel	CW	Convex	11.93	6.06	0.50	026940-03	1150	2000	.99	1920	.96
41341	11-7 DD Blower Wheel	CW	Convex	11.93	7.12	0.50	026940-05	1000	2350	1.01	2250	.93
41340	11-7 DD Blower Wheel	CW	Concave	11.93	7.12	0.50		1150	2720	1.51	2610	1.40
41344	11-8 DD Blower Wheel	CCW	Convex	11.93	8.06	0.50	026940-08	1000	2680	1.19	2500	1.05
41343	11-8 DD Blower Wheel	CW	Concave	11.93	8.06	0.50	026941-07	1150	3100	1.78	3000	1.64
41342	11-8 DD Blower Wheel	CCW	Concave	11.93	8.06	0.50		1000	2680	1.19	2500	1.05
41345	11-8 DD Blower Wheel	CW	Convex	11.93	8.06	0.50	026940-07	1150	3100	1.78	3000	1.64
41349	11-9 DD Blower Wheel	CW	Convex	11.93	9.50	0.50	026940-09	1000	2880	1.25	2660	1.08
41348	11-9 DD Blower Wheel	CCW	Convex	11.93	9.50	0.50	026940-10	1150	3300	1.92	3280	1.78
41347	11-9 DD lower Wheel	CW	Concave	11.93	9.50	0.50		1000	2880	1.25	2660	1.08
41346	11-9 DD Blower Wheel	CCW	Concave	11.93	9.50	0.50		1150	3300	1.92	3280	1.78
41352	11-10 DD Blower Wheel	CW	Convex	11.93	10.68	0.50		1000	3100	1.31	2910	1.21
41351	11-10 DD Blower Wheel	CW	Concave	11.93	10.68	0.50	026941-11	1150	3600	2.05	3450	1.92
41350	11-10 DD Blower Wheel	CCW	Concave	11.93	10.68	0.50	026941-12					
41370	11-11 DD Blower Wheel	CCW	Concave	11.93	11.93	0.50		1000	3300	1.45	3090	1.29
41364	12-9 DD Blower Wheel	CW	Convex	12.87	9.50	0.50	013693-25	1000	3800	1.96	3620	1.79
41354	12-9 DD Blower Wheel	CW	Convex	12.87	9.50	0.62	013693-15	1150	4400	2.94	4300	2.78
41353	12-9 DD Blower Wheel	CW	Concave	12.87	9.50	0.62						
41355	12-12 DD Blower Wheel	CW	Concave	12.87	12.62	0.50	015565-07	1000	4700	2.56	4500	2.38
41356	12-12 DD Blower Wheel	CW	Concave	12.87	12.62	0.62	015565-04	1150	5500	3.83	5250	3.70

AIRMARS



The largest selection of motors, components and accessories for the HVAC/R Industry

AM-25

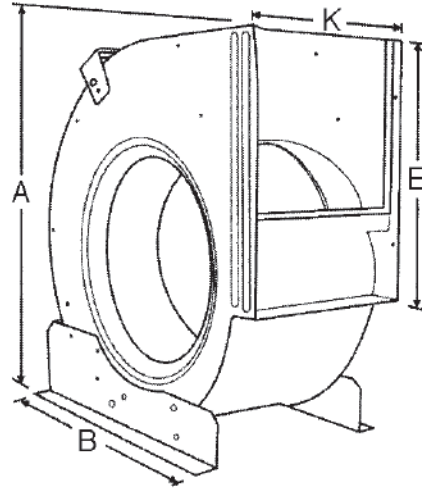
Air Moving Components

MARS SERIES 400



Belt Drive Blower Wheel With Housing Assembly

MARS #41405 is a belt drive blower assembly with a 10 x 10 belt drive blower wheel included. The 41405 features universal mounting.



MARS NO.	HOUSING DIMENSIONS				TYPE	BLOWER WHEEL		
	K	E	A	B		DIA.	WIDTH	BORE
41405	13-1/6"	11-3/8"	17-1/4"	16-1/2"	BD	10-1/2"	10-5/8"	3/4"



Belt Drive Blower Wheels

airMARS belt drive blower wheels with forward curved blades are constructed out of galvanized steel with offset tab-locked blades for superior strength. The unique design allows higher operating speeds and lower noise levels on blower wheels from 9" to 40". All wheels are balanced both statically and dynamically to a factor of Q=6.3. These wheels are available in both single and dual blower assemblies with galvanized steel housings.

44 separate quality checks ensure the production process for airMARS belt drive blower wheels. Rigorous quality standards, high quality raw material and experienced manufacturing all work together to make airMARS blower wheels your best choice.

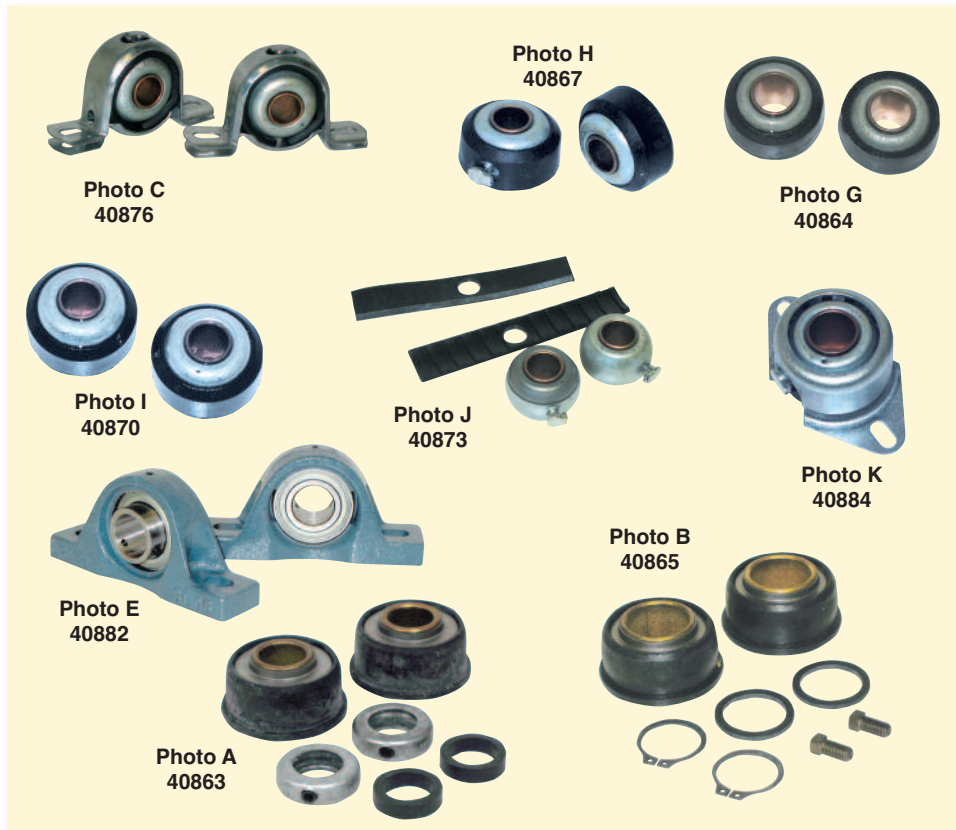
MARS NO.	DESCRIPTION	WHEEL DIA.	WHEEL WIDTH	BORE	NOMINAL DIA. X W.	LAU #	MAX. RPM
41507	10-8 BD 0.75 WHL	10.62	8.06	0.75	10-8	008361-12	2400
41508	10-9 BD 0.75 WHL	10.62	9.50	0.75	10-9	008362-12	2100
41510	10-10 BD 0.62 WHL	10.62	10.68	0.75	10-10	008360-10	1800
41509	10-10 BD 0.75 WHL	10.62	10.68	0.62	10-10	008360-12	1800
41517	12-11 BD 1.00 WHL	12.87	11.12	1.00	12-11	009867-16	2000
41520	12-12 BD 1.00 WHL	12.87	12.87	1.00	12-12	008403-16	1800
41525	12-15 BD 1.00 WHL	12.87	15.00	1.00	12-15	008747-16	1100
41533	15-15 BD 1.00 WHL	15.12	15.00	1.00	15-15	008276-16	1600

Special Dimension Belt Drive Blower Wheels

MARS NO.	WHEEL DIA.	WHEEL WIDTH	BORE	MAX RPM	MAX BHP	NO. OF BLADES
41575	9.84	8.86	0.75	2238	3	38

Air Moving Components

MARS SERIES 400



airMARS Belt Drive Blower Accessories

Bearings

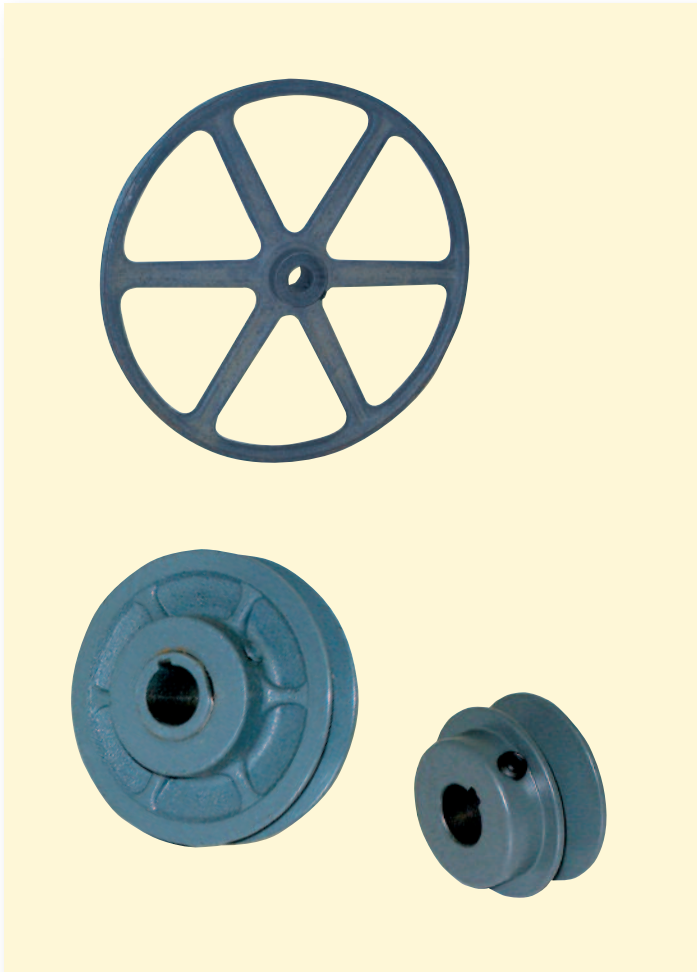
All airMars bearings and bearing assemblies are designed and manufactured to precise tolerance. Dedication to quality assures good fit and long life.

MARS NO.	TYPE	BORE	O.D.	PHOTO	BAG QTY.
40863	Cartridge	3/4"	1-13/16"	A	2
40864	Cartridge w/shaft	3/4"	1-13/16"	G	2
40865	Cartridge w/journal	3/4"	1-13/16"	B	2
40867	Oil	5/8"	1-13/16"	H	2
40868	Oil	3/4"	1-13/16"	H	2
40870	Sealed	5/8"	1-13/16"	I	2
40871	Sealed	3/4"	1-13/16"	I	2
40872	Sealed H.D.	1"	2-1/2"	I	2
40873	Randall Type	3/4"	1-27/32"	J	2
40874	Randall Oil	1"	1-27/32"	J	2
40875	Randall Oil	1"	2-1/2"	J	2
40876	Pillow Block	5/8"	-	C	2
40877	Pillow Block	3/4"	-	C	2
40878	Pillow Block	1"	-	C	2
40879	Pillow Block H.D.	1"	-	C	2
40880	Pillow Block-Ball Brg.	3/4"	-	E	2
40881	Pillow Block-Ball Brg.	1"	-	E	2
40882	Pillow Block-Ball Brg.	1-3/16"	-	E	2
40883	Pillow Block-Ball Brg.	1-7/16"	-	E	2
40884	Flange Bearing	3/4"	1-13/16"	K	2



airMARS Belt Drive Blower Accessories

Pulleys



Variable Pitch Pulleys

MARS NO.	DIA	BORE	MATERIAL
40831	3.25"	1/2"	Cast Iron
40832 ⁽¹⁾	3.25"	5/8"	Cast Iron
40833	3.25"	3/4"	Cast Iron
40834	3.75"	1/2"	Cast Iron
40835 ⁽¹⁾	3.75"	5/8"	Cast Iron
40836	3.75"	3/4"	Cast Iron
40837 ⁽¹⁾	3.75"	7/8"	Cast Iron
40838	4.15"	1/2"	Cast Iron
40839 ⁽¹⁾	4.15"	5/8"	Cast Iron
40840	4.15"	3/4"	Cast Iron
40841 ⁽¹⁾	4.15"	7/8"	Cast Iron
40842	4.15"	1-1/8"	Cast Iron
40844 ⁽¹⁾	4.75"	7/8"	Cast Iron
40829	2.5"	1/2"	Cast Iron
40830 ⁽¹⁾	2.5"	5/8"	Cast Iron

(1) with keyway

Blower Pulleys

MARS NO.	DIA	BORE	MATERIAL
40804	6"	5/8"	Cast Iron
40805	6"	3/4"	Cast Iron
40806	6"	1"	Cast Iron
40808	7"	3/4"	Cast Iron
40809	7"	1"	Cast Iron
40811	8"	3/4"	Cast Iron
40812	8"	1"	Cast Iron
40813	9"	3/4"	Cast Iron
40814	9"	1"	Cast Iron
40815	10"	3/4"	Cast Iron
40816	10"	1"	Cast Iron
40817	11"	3/4"	Cast Iron
40818	11"	1"	Cast Iron
40820	12"	1"	Cast Iron

Fixed Pulleys

MARS NO.	DIA	BORE	MATERIAL
40846	2.0"	1/2"	Cast Iron
40848	2.5"	1/2"	Cast Iron

Air Moving Components

MARS SERIES **400**



airMARS Belt Drive Blower Accessories

Shafts, Miscellaneous Accessories, etc.

All airMars bearings and bearing assemblies are designed and manufactured to precise tolerance. Dedication to quality assures good fit and long life.



Miscellaneous Accessories

MARS NO.	TYPE	PHOTO	PER PACK	Wt. EACH
40904	Hardware Kit for Blowers 9"-15"	-	1	.40
40905	Adjustable Tailpiece Assembly	-	1	.25
40897	5/8" Thrust Collar Kit	A	2	.20
40898	3/4" Thrust Collar Kit	A	2	.30
40899	1" Thrust Collar Kit	A	2	.50
40900	5/8" Thrust Spacer Kit	-	12	.10
40901	3/4" Thrust Spacer Kit	-	12	.10
40902	1" Thrust Spacer Kit	-	12	.10

Solid Shafts

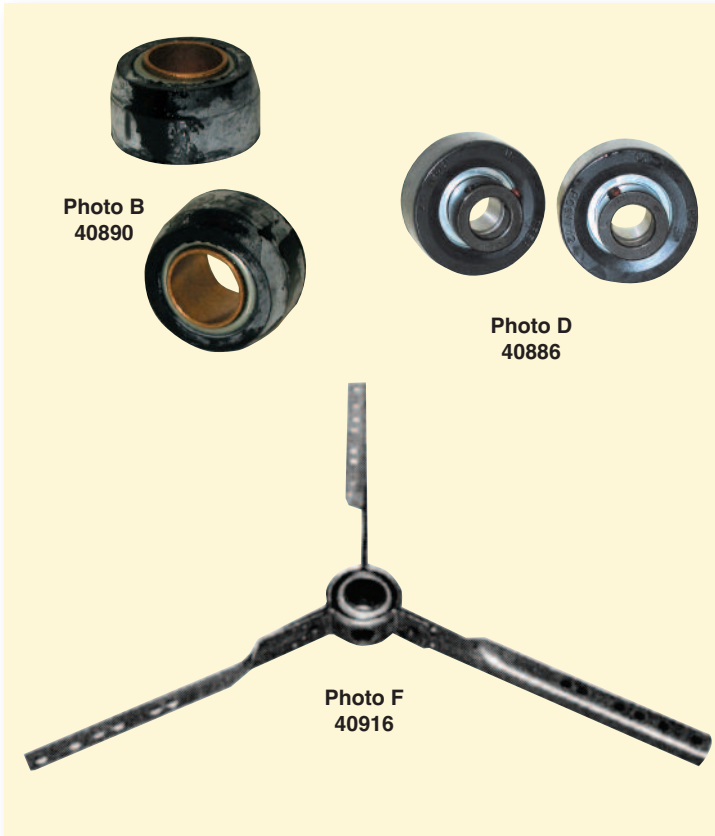
MARS NO.	BLADE DIA	LENGTH	FLATTED OR KEYWAY	WT. EACH
40906	5/8"	20"	Flatted	2.10
40907	3/4"	20"	Flatted	3.00
40908	1"	25"	Flatted	6.40
40910	1"	35"	Flatted	9.00
40911	1-3/16"	48"	Flatted	17.60
40912	1-3/16"	68"	Flatted	24.30
40913	1-7/16"	52"	Flatted	27.30
40909	3/4"	35"	Flatted	5.30
40914	3/4"	20"	Keyway	3.00
40915	1"	25"	Keyway	6.40

Note: excess can be cut off

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The largest selection of motors, components and accessories for the HVAC/R Industry





airMARS Belt Drive Blower Accessories

Bearings and Brackets

All airMars bearings and bearing assemblies are designed and manufactured to precise tolerance. Dedication to quality assures good fit and long life.

MARS NO.	TYPE	BORE	O.D.	PHOTO	BAG QTY.
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Bearings

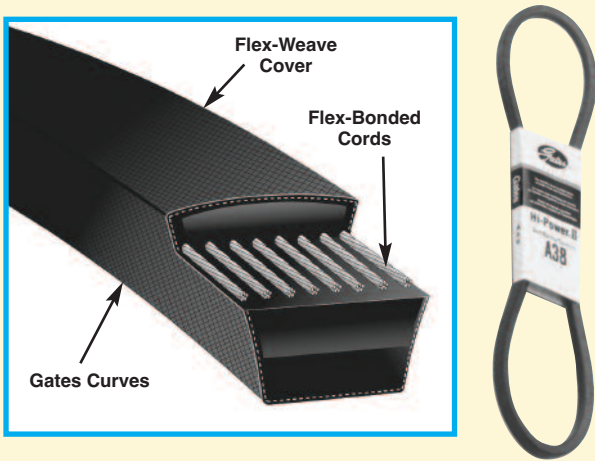
40885	Sealed Ball Bearing	3/4"	1-13/16"	D	2
40887	Sealed Ball Bearing	1"	2-27/32"	D	2
40888	Sealed Ball Bearing	1-3/16"	2-27/32"	D	2
40886	Sealed Ball Bearing	3/4"	2-27/32"	D	2
40889	Sealed Brundage Repl.	3/4"	2-1/16"	B	2
40890	Sealed Brundage Repl.	1"	2-1/16"	B	2
40891	Oil Brundage Repl.	3/4"	2-1/16"	B	2
40892	Oil Brundage Repl.	1"	2-1/16"	B	2

3-Wing Bearing Brackets

40916	Universal 3-Wing Bracket	3/4"		F	1
40917	Universal 3-Wing Bracket	1"		F	1
40918	3-Wing Bracket w/Hardware	3/4"	w/ 3/4" x 20" shaft	-	1 Kit
40919	3-Wing Bracket w/Hardware	1"	w/ 1" x 20" shaft	-	1 Kit

Gates V-Belts

MARS SERIES **741**



Gates Hi-Power® II Belts

Gates Hi-Power II belts are engineered for classical applications. They have patented concave sidewalls to distribute wear evenly while providing proper belt support for improved service life. Flex-bonded cords and flex-weave covers make them the No. 1 choice for heavy-duty conventional V-belt drives. Hi-Power II belts also resist the effects of oil, heat, ozone, weather and aging while meeting RMA standards for static conductivity.

Features & Benefits:

- See page AM-40
- MARS Pack 1



MARS NO.	CASE DESC.	CASE QTY.
A BELTS		

74327	A23	1
74328	A24	185
74329	A25	185
74330	A26	150
74331	A27	150
74332	A28	150
74333	A29	150
74334	A30	150
74335	A31	150
74336	A32	150
74337	A33	150
74338	A34	150
74339	A35	130
74340	A36	130
74341	A37	110
74342	A38	110
74343	A39	110
74344	A40	110
74345	A41	90
74346	A42	90
74347	A43	90
74348	A44	90
74349	A45	90
74350	A46	90
74351	A47	90
74352	A48	90
74353	A49	90
74354	A50	90
74355	A51	90
74356	A52	50
74357	A53	50
74358	A54	50
74359	A55	50
74360	A56	50
74361	A57	50
74362	A58	50
74363	A59	50
74366	A60	50

MARS NO.	CASE DESC.	CASE QTY.
A BELTS cont.		

74367	A61	50
74368	A62	50
74369	A63	50
74370	A64	50
74371	A65	75
74372	A66	75
74373	A67	75
74374	A68	50
74375	A69	7
74376	A70	42
74377	A71	75
74378	A72	75
74379	A73	75
74380	A74	42
74381	A75	75
74382	A76	75
74383	A77	75
74384	A78	75
74385	A79	50
74386	A80	75
74387	A81	25
74388	A82	50
74389	A83	60
74390	A84	25
74391	A85	50
74392	A86	10
74393	A87	10
74394	A88	30
74395	A89	60
74396	A90	60
74397	A91	60
74398	A92	60
74399	A93	60
74400	A94	60
74401	A95	60
74402	A96	50
74531	A97	5
74532	A98	4

MARS NO.	CASE DESC.	CASE QTY.
A BELTS cont.		

74403	A100	35
74404	A103	50
74405	A105	25
74406	A110	5
74407	A112	45
74408	A120	35
74409	A128	35
74410	A133	2
74411	A136	2
74412	A144	15
74416	A158	2
74417	A173	2
74415	A180	2
B BELTS		
74517	B28	10
74526	B280	2
74518	B29	95
74422	B30	20
74423	B31	95
74424	B32	10
74425	B33	10
74426	B34	25
74427	B35	100
74428	B36	25
74429	B37	20
74430	B38	90
74431	B39	20
74432	B40	75
74433	B41	75
74434	B42	75
74435	B43	75
74436	B44	75
74437	B45	75
74438	B46	65
74439	B47	60
74440	B48	60
74441	B49	60
74442	B50	40

MARS NO.	CASE DESC.	CASE QTY.
B BELTS cont.		

74443	B51	40
74444	B52	40
74445	B53	40
74446	B54	40
74447	B55	30
74448	B56	20
74449	B57	40
74450	B58	35
74451	B59	35
74452	B60	35
74453	B61	35
74454	B62	35
74455	B63	35
74456	B64	35
74457	B65	35
74458	B66	35
74459	B67	25
74460	B68	25
74461	B69	25
74462	B70	20
74463	B71	25
74464	B72	25
74465	B73	35
74466	B74	35
74467	B75	35
74468	B76	35
74469	B77	35
74470	B78	35
74471	B79	35
74472	B80	35
74473	B81	35
74474	B82	30
74475	B83	30
74476	B84	30
74477	B85	35
74478	B86	30
74479	B87	25
74480	B88	20

MARS NO.	CASE DESC.	CASE QTY.
B BELTS cont.		

74481	B89	30
74482	B90	30
74528	B91	25
74483	B92	30
74484	B93	30
74485	B94	30
74486	B95	30
74487	B96	30
74488	B97	30
74489	B98	5
74490	B99	15
74491	B100	30
74519	B101	30
74520	B102	30
74492	B103	30
74493	B105	30
74494	B106	30
74495	B108	30
74530	B109	25
74496	B110	25
74497	B112	15
74521	B114	30
74498	B115	30
74499	B116	30
74500	B118	30
74501	B120	30
74529	B122	5
74502	B124	30
74503	B126	35
74504	B128	30
74505	B131	20
74525	B133	20
74506	B136	20
74507	B140	20
74522	B142	20
74508	B144	20
74510	B150	15
74511	B154	2



Gates V-Belts

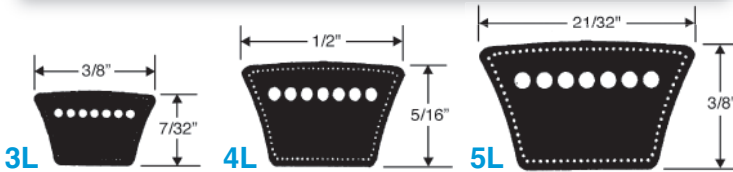
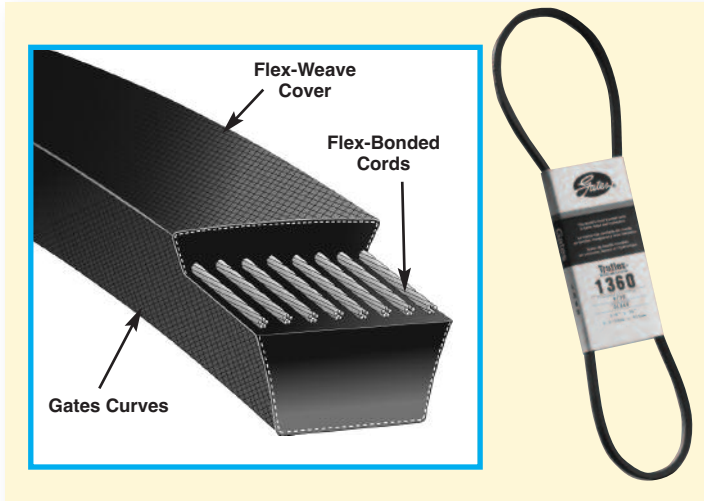
MARS SERIES **741**

Gates Truflex® V-Belts

Gates Truflex® belts offer improved performance on light duty, fractional horsepower (FHP) V-belt drives. Their unique patented construction provides smooth, quiet operation with less vibration.

Features & Benefits:

- Gates Curves provide proper cord support and full contact with the sheave-groove for uniform loading, uniform wear, and increased belt life.
- Flex-Bonded Cords are strongly bonded to the body of the belt resulting in equal load distribution and the absorption of bending stress without cord reduction.
- Flex-Weave® Cover is a patented fabric construction for longer cover life, providing extended protection to the belt core from oil, dirt and heat.
- Meets RMA static conductivity requirements.
- Meets RMA oil and heat resistant standards.
- MARS Pack 1



MARS NO.	CASE DESC.	CASE QTY.
B BELTS cont.		
74512	B158	10
74513	B162	20
3L BELTS		
74103	3L170	100
74104	3L180	100
74105	3L190	100
74106	3L200	100
74107	3L210	100
74108	3L220	100
74109	3L230	100
74110	3L240	100
74111	3L250	100
74112	3L260	100
74113	3L270	100
74114	3L280	10
74115	3L290	100
74116	3L300	10
74117	3L310	1
74118	3L320	100
74119	3L330	150
74120	3L340	100
74121	3L350	100
74122	3L360	100
74123	3L370	1
74124	3L380	1
74125	3L390	1
74126	3L400	1
74128	3L420	1
74129	3L430	150
74130	3L440	50
74132	3L460	1
4L BELTS		
74153	4L150	5
74154	4L160	124
74155	4L170	25

MARS NO.	CASE DESC.	CASE QTY.
4L BELTS cont.		
74156	4L180	100
74157	4L190	100
74158	4L200	100
74159	4L210	150
74160	4L220	100
74162	4L230	100
74163	4L240	100
74164	4L250	100
74165	4L260	100
74166	4L270	100
74167	4L280	100
74168	4L290	50
74169	4L300	50
74170	4L310	70
74171	4L320	50
74172	4L330	50
74173	4L340	50
74174	4L350	50
74175	4L360	75
74176	4L370	50
74177	4L380	50
74178	4L390	100
74179	4L400	50
74180	4L410	50
74181	4L420	50
74182	4L430	110
74183	4L440	50
74184	4L450	110
74185	4L460	50
74186	4L470	110
74187	4L480	50
74188	4L490	50
74189	4L500	110
74190	4L510	75
74191	4L520	75
74192	4L530	74

MARS NO.	CASE DESC.	CASE QTY.
4L BELTS cont.		
74193	4L540	60
74194	4L550	60
74195	4L560	60
74196	4L570	60
74197	4L580	60
74198	4L590	60
74199	4L600	80
74200	4L610	40
74201	4L620	80
74202	4L630	50
74203	4L640	75
74204	4L650	50
74205	4L660	75
74206	4L670	70
74207	4L680	74
74208	4L690	75
74209	4L700	75
74210	4L710	75
74211	4L720	75
74212	4L730	75
74213	4L740	75
74214	4L750	75
74215	4L760	75
74216	4L770	75
74217	4L780	75
74218	4L790	75
74219	4L800	75
74220	4L810	75
74221	4L820	75
74222	4L830	5
74223	4L840	60
74224	4L850	2
74225	4L860	2
74226	4L870	75
74227	4L880	55
74228	4L890	55

MARS NO.	CASE DESC.	CASE QTY.
4L BELTS cont.		
74229	4L900	55
74230	4L910	55
74231	4L920	55
74232	4L930	55
74233	4L940	1
74234	4L950	1
74235	4L960	55
74236	4L970	55
74237	4L980	1
74238	4L990	55
74239	4L1000	55
5L BELTS		
74246	5L240	150
74247	5L250	150
74248	5L260	150
74249	5L270	50
74250	5L280	35
74251	5L290	130
74252	5L300	130
74253	5L310	50
74254	5L320	10
74255	5L330	10
74256	5L340	90
74257	5L350	10
74258	5L360	90
74259	5L370	10
74260	5L380	20
74261	5L390	90
74262	5L400	90
74263	5L410	75
74264	5L420	75
74265	5L430	75
74266	5L440	75
74267	5L450	75
74268	5L460	75

MARS NO.	CASE DESC.	CASE QTY.
5L BELTS cont.		
74269	5L470	75
74270	5L480	75
74271	5L490	75
74272	5L500	75
74273	5L510	55
74274	5L520	60
74275	5L530	60
74276	5L540	25
74277	5L550	50
74278	5L560	25
74279	5L570	15
74280	5L580	25
74281	5L590	15
74282	5L600	35
74283	5L610	35
74284	5L620	20
74285	5L630	60
74286	5L640	60
74287	5L650	60
74288	5L660	25
74289	5L670	15
74290	5L680	27
74291	5L690	60
74292	5L700	10
74293	5L710	50
74294	5L720	25
74295	5L730	25
74296	5L740	50
74297	5L750	50
74298	5L760	50
74299	5L770	50
74300	5L780	15
74301	5L790	50
74302	5L800	15
74303	5L810	55
74304	5L820	55



The largest selection of motors, components and accessories for the HVAC/R Industry

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Gates V-Belts

MARS SERIES **741**



Tri-Power® Belts-AX, BX

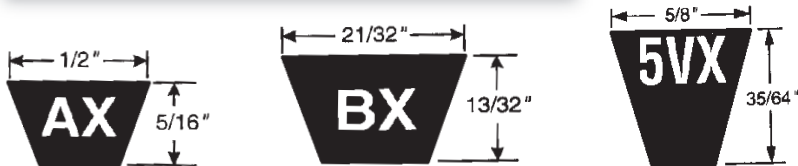
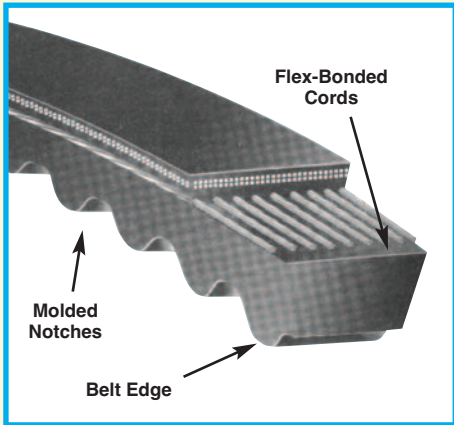
Constructed with Gates proprietary Vextra® construction, this belt has a superior combination of flex and load carrying capacity, as well as less stretch resulting in less maintenance. Suitable for all industrial applications, particularly where small or subminimal sheave diameters are required.

Super HC® Molded Notch Belts-5VX

Constructed with Gates proprietary construction, this belt has a superior combination of flex and load carrying capacity, as well as transmitting more horsepower than the classical cross sections in the same amount of drive space. Suitable for all industrial applications, particularly where space, weight and horsepower capacity are critical.

Features & Benefits:

- Notches molded in to the belt during manufacturing, make this belt well suited for drives with smaller diameter sheaves.
- Belt edge is machined for even sheave groove contact resulting in less slip and wear.
- Flex bonded cords are strongly bonded to the body of the belt resulting in equal load distribution and the absorption of bending stress without cord deterioration.
- Meets RMA oil and heat resistant standards
- Meets RMA static conductivity requirements.
- MARS Pack 1



MARS NO.	DESC.	CASE QTY.
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5L BELTS

74305	5L830	55
74306	5L840	45
74307	5L850	40
74308	5L860	40
74309	5L870	40
74310	5L880	40
74311	5L890	40
74312	5L900	40
74313	5L910	40
74314	5L920	40
74315	5L930	45
74316	5L940	45
74317	5L950	45
74318	5L960	45
74319	5L970	45
74320	5L980	45
74321	5L990	45
74322	5L1000	45

AX BELTS

74556	AX21	15
74557	AX22	5
74558	AX23	5
74553	AX24	5
74560	AX25	20
74566	AX26	25
74561	AX27	20

MARS NO.	DESC.	CASE QTY.
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AX BELTS cont.

74555	AX28	20
74563	AX29	20
74564	AX30	10
74565	AX31	10
74554	AX32	50
74567	AX33	14
74568	AX34	15
74569	AX35	15
74570	AX36	15
74571	AX37	15
74572	AX38	10
74562	AX39	10
74573	AX40	10
74574	AX41	10
74575	AX42	15
74576	AX43	30
74604	AX44	10
74608	AX45	10
74577	AX46	55
74579	AX47	10
74578	AX48	5
74580	AX49	20
74598	AX50	10
74581	AX51	10
74599	AX52	5
74551	AX53	5
74582	AX54	15

MARS NO.	DESC.	CASE QTY.
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AX BELTS cont.

74583	AX55	5
74600	AX56	10
74601	AX57	10
74584	AX58	5
74552	AX59	10
74585	AX60	4
74586	AX61	5
74587	AX62	5
74588	AX63	15
74589	AX64	10
74602	AX65	5
74603	AX66	5
74559	AX67	5
74590	AX68	5
74592	AX69	5
74749	AX70	5
74757	AX71	5
74514	AX72	5
74591	AX75	5
74593	AX80	5
74750	AX82	1
74594	AX85	1
74595	AX87	1
74596	AX90	5
74597	AX96	5

MARS NO.	DESC.	CASE QTY.
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BX BELTS

74650	BX28	1
74662	BX30	1
74605	BX32	1
74666	BX34	10
74609	BX35	1
74610	BX36	5
74611	BX37	1
74612	BX38	4
74613	BX39	40
74614	BX40	15
74615	BX41	1
74616	BX42	4
74617	BX43	5
74618	BX44	10
74710	BX45	10
74619	BX46	15
74620	BX48	10
74663	BX49	1
74621	BX50	20
74607	BX51	50
74622	BX52	10
74623	BX53	5
74624	BX54	20
74625	BX55	1
74626	BX56	5
74664	BX57	1
74629	BX58	10

MARS NO.	DESC.	CASE QTY.
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BX BELTS cont.

74630	BX59	25
74631	BX60	25
74627	BX61	15
74632	BX62	20
74628	BX63	20
74633	BX64	10
74634	BX65	15
74635	BX66	10
74636	BX67	10
74637	BX68	5
74638	BX70	10
74639	BX71	10
74641	BX72	15
74640	BX73	5
74646	BX75	10
74648	BX76	5
74651	BX77	5
74655	BX78	5
74656	BX79	5
74642	BX80	5
74643	BX81	10
74658	BX82	5
74644	BX83	5
74652	BX84	5
74645	BX85	2
74678	BX88	1
74679	BX89	1
74659	BX90	5

continued on next page



Gates V-Belts

MARS SERIES **741**

MARS CASE NO. DESC. QTY.

BX BELTS cont.		
74672	BX92	1
74661	BX93	1
74680	BX94	1
74660	BX95	1
74606	BX96	1
74681	BX97	30
74683	BX99	5
74647	BX100	1
74649	BX103	1
74653	BX105	1
74654	BX106	1
74685	BX108	1
74670	BX112	30
74686	BX116	1
74668	BX120	1

MARS CASE NO. DESC. QTY.

BX BELTS cont.		
74669	BX124	1
74687	BX128	1
74705	BX133	10
74748	BX162	1
74759	BX173	1
3VX BELTS		
74515	3VX315	1
74516	3VX355	1
74547	3VX670	1
74523	3VX710	1
74548	3VX750	5
74550	3VX800	1
74524	3VX850	1
74527	3VX900	1

MARS CASE NO. DESC. QTY.

5VX BELTS		
74712	5VX450	1
74711	5VX500	1
74688	5VX530	10
74713	5VX560	1
74714	5VX570	1
74715	5VX600	1
74702	5VX670	1
74716	5VX680	1
74703	5VX710	1
74689	5VX750	12
74708	5VX780	1
74704	5VX800	1
74690	5VX900	13
74691	5VX930	5
74706	5VX950	1

MARS CASE NO. DESC. QTY.

5VX BELTS cont.		
74692	5VX960	10
74693	5VX1000	10
74694	5VX1030	10
74718	5VX1050	1
74695	5VX1060	1
74696	5VX1080	10
74697	5VX1120	10
74698	5VX1150	10
74699	5VX1180	1
74700	5VX1320	10
74701	5VX1400	20
74725	5V630	1
74726	5V710	1
74728	5V750	1
74729	5V800	1

MARS CASE NO. DESC. QTY.

AP Belts		
74746	AP46	1
74751	AP51	1
74755	AP55	1
74756	AP56	1
74758	AP58	1
74760	AP59	1
Miscellaneous Belts		
74991	C85	1
74990	C100	5
74998	C136	1
74796	CX96	1



Gates Accessories

MARS SERIES **741**

Gates Maintenance Tools

Belt Sizer

Measures FHP belts up to 107" to determine equivalent Truflex® belt numbers.

MARS NO. Gates No.
74100 7401-0012

Sheave Gauge

Helps to identify worn sheaves and damaged belts.

MARS NO. Gates No.
74099 7401-0014

Tension Tester

Pencil type tension tester is for use with all small v-belts and synchronous belts. Maximum deflection force 30 lbs.

MARS NO. Gates No.
74101 7401-0076

Gates Merchandiser

Includes 12 three foot long strips with 8 hooks each.

MARS NO. Gates No.
74000 7645-0003



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The largest selection of motors, components and accessories for the HVAC/R Industry

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An effective preventive maintenance program saves time and money. Inspecting and replacing belts and faulty drive components **before they fail will reduce costly downtime.**

A comprehensive, effective program of preventive maintenance consists of several elements:

- Maintaining a safe work environment
- Regularly scheduled belt drive inspections
- Proper belt installation procedures
- Belt drive performance evaluations
- Belt product knowledge
- Belt storage and handling
- Trouble shooting

Sources of Drive Problems

- Rolling or prying on belts
- Misalignment
- Incorrect tension
- Improper handling of belts
- Mis-matched belts and/or pulley used
- Idler not taking tension up correctly
- Guard interference

- Sub-minimal diameters
- Under-designed drive
- Over-designed drive
- Excessive rim speed
- Incorrect belt type

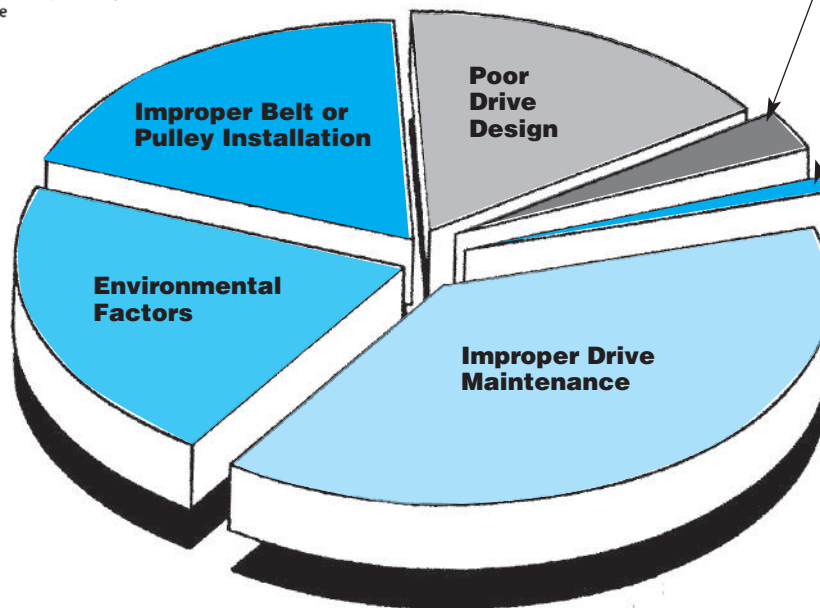
Improper Belt Storage or Handling

- Temperature
- High Humidity
- Storing for too long
- Too near ozone generating equipment
- Exposed to sunlight

Defective Drive Components

- Check for worn pulleys or sheaves
- Check for cracked or weakened bracketry
- Check for weak mounting brackets
- Check for worn belts
- Check for nonfunctioning idlers
- Check for damaged guards

- Dust
- Debris
- Water/humidity
- Oil/grease
- Heat/cold
- Rust



Ask your MARS Sales Representative about how MARS & Gates can help you provide your customers with superior product and superior product application knowledge.

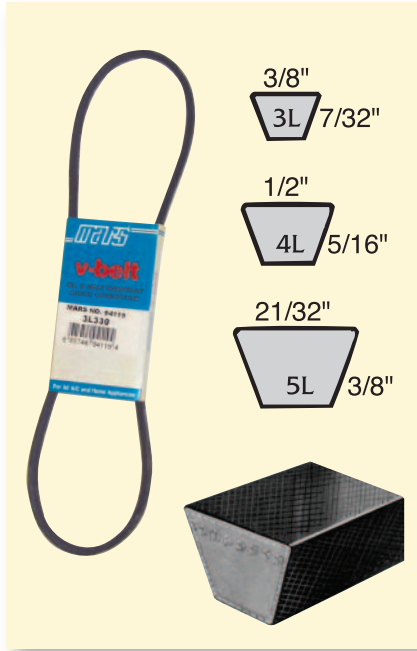


MARS FHP V-Belts

The airMARS FHP V-belt has been designed specifically for solving the problems of minimum space, small pulley diameters, large ratios and fractional horsepower requirements. Excellent for air conditioning, refrigeration and appliance equipment. This series of airMARS belts uses only top quality material in order to have superior performance. All belts are manufactured under strict quality control standards.

MARS FHP -2L & 3L V-belts - 3/8" top width

MARS NO.	DESC.	MARS PACK	CASE QTY.
94240	2L160		
94101	3L150	1	10
94102	3L160	1	10
94103	3L170	1	10
94104	3L180	1	10
94105	3L190	1	10
94106	3L200	1	10
94107	3L210	1	10
94108	3L220	1	10
94109	3L230	1	10
94110	3L240	1	10
94111	3L250	1	10
94112	3L260	1	10
94113	3L270	1	10
94114	3L280	1	10
94115	3L290	1	10
94116	3L300	1	10
94117	3L310	1	10
94118	3L320	1	10
94119	3L330	1	10
94120	3L340	1	10
94121	3L350	1	10
94122	3L360	1	10
94123	3L370	1	10
94124	3L380	1	10
94125	3L390	1	10
94126	3L400	1	10
94127	3L410	1	10
94128	3L420	1	10
94129	3L430	1	10
94130	3L440	1	10
94131	3L450	1	10
94132	3L460	1	10
94133	3L470	1	10
94134	3L480	1	10
94135	3L490	1	10
94136	3L500	1	10
94137	3L510	1	10
94138	3L520	1	10
94139	3L530	1	10
94140	3L540	1	10
94141	3L550	1	10
94142	3L560	1	10
94143	3L570	1	10
94144	3L580	1	10
94145	3L590	1	10
94146	3L600	1	10
94147	3L610	1	10
94148	3L620	1	10
94149	3L630	1	10



MARS FHP -4L V-belts - 1/2" top width

MARS NO.	DESC.	MARS PACK	CASE QTY.
94154	4L160	1	20
94155	4L170	1	20
94156	4L180	1	20
94157	4L190	1	20
94239	4L1000	1	20

MARS FHP -5L V-belts - 21/32" top width

MARS NO.	DESC.	MARS PACK	CASE QTY.
94245	5L230	1	10
94246	5L240	1	10
94247	5L250	1	10
94248	5L260	1	10
94249	5L270	1	10
94251	5L290	1	10
94252	5L300	1	10
94253	5L310	1	10
94254	5L320	1	10
94255	5L330	1	10
94256	5L340	1	10
94257	5L350	1	10
94258	5L360	1	10
94259	5L370	1	10
94260	5L380	1	10
94261	5L390	1	10
94262	5L400	1	10
94263	5L410	1	10
94264	5L420	1	10
94265	5L430	1	10
94266	5L440	1	10
94267	5L450	1	10
94268	5L460	1	10
94269	5L470	1	10

MARS FHP -5L V-belts - 21/32" top width

MARS NO.	DESC.	MARS PACK	CASE QTY.
94270	5L480	1	10
94271	5L490	1	10
94272	5L500	1	10
94273	5L510	1	10
94274	5L520	1	10
94275	5L530	1	10
94276	5L540	1	10
94277	5L550	1	10
94278	5L560	1	10
94279	5L570	1	10
94280	5L580	1	10
94281	5L590	1	10
94282	5L600	1	10
94283	5L610	1	10
94284	5L620	1	10
94285	5L630	1	10
94286	5L640	1	10
94287	5L650	1	10
94288	5L660	1	10
94289	5L670	1	10
94290	5L680	1	10
94291	5L690	1	10
94292	5L700	1	10
94293	5L710	1	10
94294	5L720	1	10
94295	5L730	1	10
94297	5L750	1	10
94298	5L760	1	10
94299	5L770	1	10
94300	5L780	1	10
94301	5L790	1	10
94302	5L800	1	10
94303	5L810	1	10
94304	5L820	1	10
94306	5L840	1	10
94307	5L850	1	10
94308	5L860	1	10
94309	5L870	1	10
94310	5L880	1	10
94311	5L890	1	10
94313	5L910	1	10
94314	5L920	1	10
94315	5L930	1	10
94322	5L1000	1	10

To replace an "A" belt with a "4L" belt or a "B" belt to a "5L" use this simple formula:

Take the "A" size and add two then add a zero.

For the "B" size add three and add a zero

Example: A32= 4L340 or B32= 5L350

To replace the "4L" with an "A" belt or "5L" with a "B" belt simply subtract two or three and delete the zero.

MARS V-Belts

MARS SERIES **941**

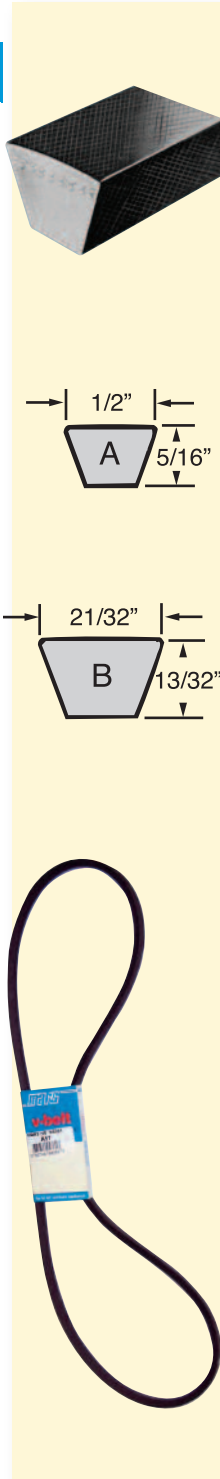


MARS Dual Rated V-Belts

MARS is pleased to offer our dual rated v-belts. These belts are a combination of the classical multiple belt and the FHP belt, allowing the wholesaler and contractor to consolidate inventory. There is no need to stock both the FHP and multiple belts when you use the MARS dual brand v-belts. These unmatch belts are the same size and type and will measure within the RMA matching limits.

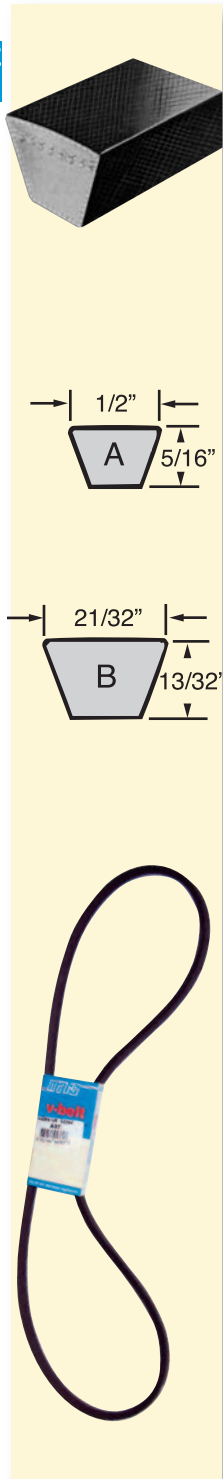
A/4L Dual Rated V-Belts

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
94416	A-18/4L200	1	10
94323	A-19/4L210	1	10
94324	A-20/4L220	1	10
94325	A-21/4L230	1	10
94326	A-22/4L240	1	10
94327	A-23/4L250	1	10
94328	A-24/4L260	1	10
94329	A-25/4L270	1	10
94330	A-26/4L280	1	10
94331	A-27/4L290	1	10
94332	A-28/4L300	1	10
94333	A-29/4L310	1	10
94334	A-30/4L320	1	10
94335	A-31/4L330	1	10
94336	A-32/4L340	1	10
94337	A-33/4L350	1	10
94338	A-34/4L360	1	10
94339	A-35/4L370	1	10
94340	A-36/4L380	1	10
94341	A-37/4L390	1	10
94342	A-38/4L400	1	10
94343	A-39/4L410	1	10
94344	A-40/4L420	1	10
94345	A-41/4L430	1	10
94346	A-42/4L440	1	10
94347	A-43/4L450	1	10
94348	A-44/4L460	1	10
94349	A-45/4L470	1	10
94350	A-46/4L480	1	10
94351	A-47/4L490	1	10
94352	A-48/4L500	1	10
94353	A-49/4L510	1	10
94354	A-50/4L520	1	10
94355	A-51/4L530	1	10
94356	A-52/4L540	1	10
94357	A-53/4L550	1	10
94358	A-54/4L560	1	10
94359	A-55/4L570	1	10
94360	A-56/4L580	1	10
94361	A-57/4L590	1	10
94362	A-58/4L600	1	10
94363	A-59/4L610	1	10
94366	A-60/4L620	1	10
94367	A-61/4L630	1	10



A/4L Dual Rated V-Belts (cont.)

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
94368	A-62/4L640	1	10
94369	A-63/4L650	1	10
94370	A-64/4L660	1	10
94371	A-65/4L670	1	10
94372	A-66/4L680	1	10
94373	A-67/4L690	1	10
94374	A-68/4L700	1	10
94375	A-69/4L710	1	10
94376	A-70/4L720	1	10
94377	A-71/4L730	1	10
94378	A-72/4L740	1	10
94379	A-73/4L750	1	10
94380	A-74/4L760	1	10
94381	A-75/4L770	1	10
94382	A-76/4L780	1	10
94383	A-77/4L790	1	10
94384	A-78/4L800	1	10
94385	A-79/4L810	1	10
94386	A-80/4L820	1	10
94387	A-81/4L830	1	10
94388	A-82/4L840	1	10
94389	A-83/4L850	1	10
94390	A-84/4L860	1	10
94391	A-85/4L870	1	10
94392	A-86/4L880	1	10
94393	A-87/4L890	1	10
94394	A-88/4L900	1	10
94395	A-89/4L910	1	10
94396	A-90/4L920	1	10
94397	A-91/4L930	1	10
94398	A-92/4L940	1	10
94399	A-93/4L950	1	10
94400	A-94/4L960	1	10
94401	A-95/4L970	1	10
94402	A-96/4L980	1	10
94403	A-100	1	10
94404	A-103	1	10
94417	A-104	1	10
94405	A-105	1	10
94406	A-110	1	10
94407	A-112	1	10
94408	A-120	1	10
94409	A-128	1	10
94411	A-136	1	10



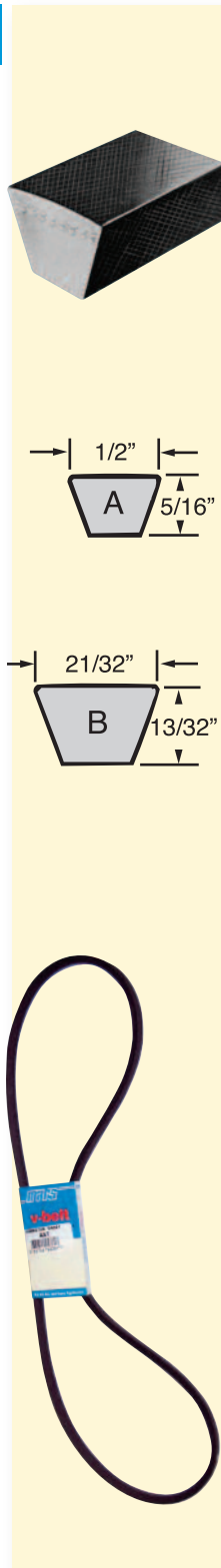


MARS Dual Rated V-Belts

MARS is pleased to offer our dual rated v-belts. These belts are a combination of the classical multiple belt and the FHP belt, allowing the wholesaler and contractor to consolidate inventory. There is no need to stock both the FHP and multiple belts when you use the MARS dual brand v-belts. These unimatch belts are the same size and type and will measure within the RMA matching limits.

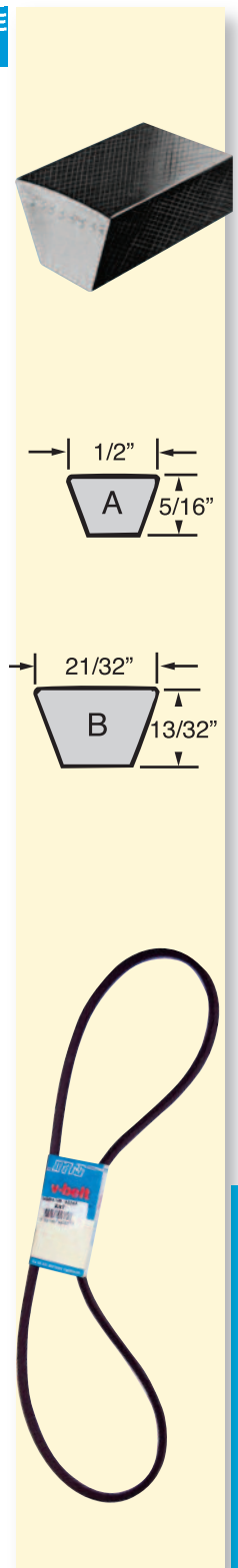
B/5L Dual Rated V-Belts

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
94526	B-20	1	10
94527	B-21/5L240	1	10
94418	B-22/5L250	1	10
94419	B-23/5L260	1	10
94420	B-24/5L270	1	10
94421	B-25/5L280	1	10
94422	B-30/5L330	1	10
94423	B-31/5L340	1	10
94424	B-32/5L350	1	10
94425	B-33/5L360	1	10
94426	B-34/5L370	1	10
94427	B-35/5L380	1	10
94428	B-36/5L390	1	10
94429	B-37/5L400	1	10
94430	B-38/5L410	1	10
94431	B-39/5L420	1	10
94432	B-40/5L430	1	10
94433	B-41/5L440	1	10
94434	B-42/5L450	1	10
94435	B-43/5L460	1	10
94436	B-44/5L470	1	10
94437	B-45/5L480	1	10
94438	B-46/5L490	1	10
94439	B-47/5L500	1	10
94440	B-48/5L510	1	10
94441	B-49/5L520	1	10
94442	B-50/5L530	1	10
94443	B-51/5L540	1	10
94444	B-52/5L550	1	10
94445	B-53/5L560	1	10
94446	B-54/5L570	1	10
94447	B-55/5L580	1	10
94448	B-56/5L590	1	10
94449	B-57/5L600	1	10
94450	B-58/5L610	1	10
94451	B-59/5L620	1	10
94452	B-60/5L630	1	10
94453	B-61/5L640	1	10
94454	B-62/5L650	1	10
94455	B-63/5L660	1	10
94456	B-64/5L670	1	10
94457	B-65/5L680	1	10
94458	B-66/5L690	1	10
94459	B-67/5L700	1	10
94460	B-68/5L710	1	10
94461	B-69/5L720	1	10
94462	B-70/5L730	1	10
94463	B-71/5L740	1	10
94464	B-72/5L750	1	10
94465	B-73/5L760	1	10
94466	B-74/5L770	1	10
94467	B-75/5L780	1	10



B/5L Dual Rated V-Belts (cont.)

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
94468	B-76/5L790	1	10
94469	B-77/5L800	1	10
94470	B-78/5L810	1	10
94471	B-79/5L820	1	10
94472	B-80/5L830	1	10
94473	B-81/5L840	1	10
94474	B-82/5L850	1	10
94475	B-83/5L860	1	10
94476	B-84/5L870	1	10
94477	B-85/5L880	1	10
94478	B-86/5L890	1	10
94479	B-87/5L900	1	10
94480	B-88/5L910	1	10
94481	B-89/5L920	1	10
94482	B-90/5L930	1	10
94528	B-91/5L940	1	10
94483	B-92/5L950	1	10
94484	B-93/5L960	1	10
94485	B-94/5L970	1	10
94486	B-95/5L980	1	10
94487	B-96/5L990	1	10
94488	B-97/5L1000	1	10
94489	B-98	1	10
94490	B-99	1	10
94491	B-100	1	10
94492	B-103	1	10
94493	B-105	1	10
94494	B-106	1	10
94495	B-108	1	10
94497	B-112	1	10
94498	B-115	1	10
94499	B-116	1	10
94500	B-118	1	10
94501	B-120	1	10
94502	B-124	1	10
94503	B-126	1	10
94504	B-128	1	10
94525	B-133	1	10
94506	B-136	1	10
94507	B-140	1	10
94508	B-144	1	10
94510	B-150	1	10
94512	B-158	1	10
94513	B-162	1	10
94515	B-180	1	10
94516	B-195	1	10



MARS V-Belts

MARS SERIES **941**



Cogged Raw Edge V-Belts

airMARS cogged raw edge V-belts are designed to keep drive costs and maintenance costs at a minimum. These belts are more compact and offer greater flexibility. Oil and heat resistant.

AX Cogged Raw Edge V-Belts

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
94564	AX22	1	10
94565	AX24	1	10
94566	AX26	1	10
94567	AX30	1	10
94568	AX31	1	10
94563	AX32	1	10
94569	AX33	1	10
94570	AX34	1	10
94571	AX35	1	10
94572	AX36	1	10
94573	AX37	1	10
94574	AX38	1	10
94562	AX39	1	10
94561	AX40	1	10
94603	AX41	1	10
94575	AX42	1	10
94576	AX43	1	10
94604	AX44	1	10
94577	AX46	1	10
94605	AX47	1	10
94578	AX48	1	10
94606	AX50	1	10
94579	AX51	1	10
94607	AX52	1	10
94580	AX53	1	10
94581	AX54	1	10
94582	AX55	1	10
94583	AX56	1	10
94673	AX57	1	10
94584	AX60	1	10
94674	AX61	1	10
94585	AX62	1	10
94675	AX63	1	10
94586	AX64	1	10
94587	AX66	1	10
94676	AX67	1	10
94588	AX68	1	10
94677	AX69	1	10
94589	AX70	1	10
94590	AX71	1	10
94678	AX72	1	10
94591	AX75	1	10
94592	AX78	1	10
94679	AX79	1	10
94593	AX80	1	10
94594	AX85	1	10
94595	AX90	1	10
94596	AX96	1	10
94597	AX105	1	10



BX Cogged Raw Edge V-Belts

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
94609	BX35	1	10
94610	BX36	1	10
94686	BX37	1	10
94611	BX38	1	10
94687	BX39	1	10
94612	BX40	1	10
94682	BX41	1	10
94613	BX42	1	10
94683	BX43	1	10
94614	BX45	1	10
94615	BX46	1	10
94616	BX48	1	10
94617	BX50	1	10
94618	BX51	1	10
94619	BX52	1	10
94620	BX53	1	10
94621	BX54	1	10
94622	BX55	1	10
94623	BX56	1	10
94624	BX58	1	10
94625	BX59	1	10
94626	BX60	1	10
94627	BX61	1	10
94628	BX62	1	10
94629	BX63	1	10
94630	BX64	1	10
94631	BX65	1	10
94632	BX66	1	10
94633	BX67	1	10
94634	BX68	1	10
94684	BX69	1	10
94635	BX70	1	10
94636	BX71	1	10
94685	BX73	1	10
94637	BX75	1	10
94638	BX77	1	10
94639	BX78	1	10
94640	BX79	1	10
94641	BX80	1	10
94642	BX81	1	10
94643	BX82	1	10
94644	BX83	1	10
94645	BX85	1	10
94646	BX90	1	10
94647	BX93	1	10
94648	BX95	1	10
94649	BX96	1	10
94652	BX100	1	10
94657	BX120	1	10
94658	BX124	1	10
94660	BX133	1	10
94663	BX150	1	10
94668	BX195	1	10



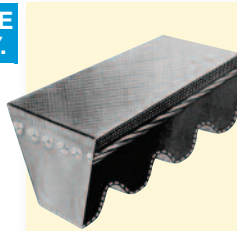


MARS Wedge V-Belts

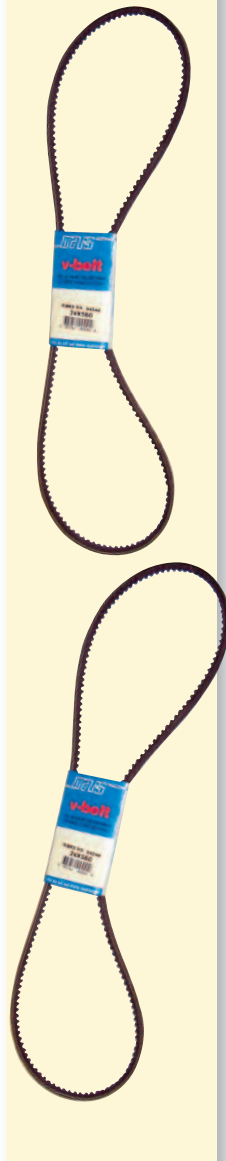
airMARS Wedge V-belts allow for compact drives and higher (lower cost) RPM motors. These belts are oil and heat resistant and static conducting.

Wedge V-Belts 3VX-3/8" X 5/16" 5VX-5/8" X 7/32"

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
94530	3VX250	1	10
94533	3VX300	1	10
94536	3VX355	1	10
94537	3VX375	1	10
94538	3VX400	1	10
94539	3VX425	1	10
94540	3VX450	1	10
94541	3VX475	1	10
94542	3VX500	1	10
94544	3VX560	1	10
94545	3VX600	1	10
94546	3VX630	1	10
94547	3VX670	1	10
94548	3VX710	1	10
94549	3VX750	1	10
94550	3VX800	1	10
94551	3VX850	1	10
94552	3VX900	1	10
94553	3VX950	1	10
94554	3VX1000	1	10
94555	3VX1060	1	10
94680	5VX630	1	10
94681	5VX710	1	10



3/8"
3VX 5/16"



MARS Accu-Link Adjustable V-belts

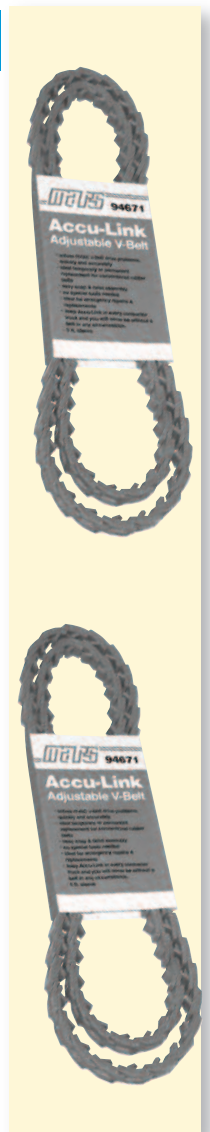
airMARS Wedge V-belts allow for compact drives and higher (lower cost) RPM motors. These belts are oil and heat resistant and static conducting.

- Solves HVAC v-belt drive problems, quickly and accurately
- Ideal temporary or permanent replacement for conventional rubber belts
- Easy snap & twist assembly
- No special tools needed
- Ideal for emergency repairs & replacements
- Keep Accu-Link in every contractor truck and you will never be without a belt in any circumstance.
- 5 ft. sleeve

MARS Accu-Link Adjustable V-Belt

MARS NO.	DESCRIPTION	MARS PACK	CASE QTY.
94670	3L Accu-Link	1	25
94671	A/4L Accu-Link	1	25
94672*	B/5L Accu-Link	1	25

* 6 foot sleeve





airMARS Cross Reference Information

LAU	MARS	LAU	MARS	LAU	MARS	LAU	MARS	LAU	MARS	LENNOX	MARS	MODINE	MARS
013336-03	41306	38-2241-01	74180	60-2670-01	40047	60-5611-01	40160	60-8041-01	40106	95C5901	40375	5H57845C0104	40033
013337-01	41311	38-2242-01	74181	60-2671-01	40048	60-5612-01	40161	60-8042-01	40107	98G5201	40101	5H57847C0104	40082
013337-03	41310	38-2243-01	74182	60-2693-01	40070	60-5613-01	40162	60-8043-01	40112	99K2101	40033	5H63036C0101	40061
013693-15	41354	38-2244-01	74183	60-2694-01	40071	60-5614-01	40163	60-8044-01	40113	99K4501	40057	5H63038C0104	40332
013693-25	41364	38-2245-01	74184	60-2853-01	40104	60-5615-01	40164	60-8142-01	40320	P-8-11098	40102	5H70435B0104	40057
015565-04	41356	38-2246-01	74185	60-2854-01	40105	60-5616-01	40165	60-8329-01	40200	P-8-8038	40137	5H63039B0104	40375
015565-07	41355	38-2247-01	74186	60-3315-01	40237	60-5617-01	40166	60-8330-01	40202			5H63980C0104	40069
020487-70	40638	38-2248-01	74187	60-3315-02	40238	60-5619-01	40168	60-8348-01	07471			5H73833B0101	40061
020553-02	40641	38-2249-01	74188	60-3315-03	40239	60-5622-01	40144	60-8349-01	07472	Magnetek MARS	1-0315	5H73834B0104	40031
024768-01	40833	38-2250-01	74189	60-3315-04	40230	60-5624-01	40113	60-8350-01	07571	1-0439	41123	5H73835B0101	40033
024768-09	40831	38-2272-01	40865	60-3315-05	40232	60-5626-01	40115	60-8351-01	07572	1-14721	41116	5H73835B0104	40033
024768-10	40832	38-2404-01	40867	60-3315-06	40231	60-5621-01	40408	60-8352-01	07481	1-2640	41335	5H73840B0104	40378
026940-03	41339	38-2431-01	40897	60-3315-07	40234	60-7161-01	40061	60-8353-01	07482	1-2657	41109		
026940-05	41341	38-2442-01	40868	60-3315-08	40235	60-7163-01	40029	60-8354-01	07483	1-2873	41110	NORDYNE MARS	
026940-07	41345	38-2443-01	40870	60-3315-09	40236	60-7164-01	40030	60-8355-01	07484	2-0223	41105	667303	40057
026940-08	41344	38-2443-02	40871	60-3795-01	93581	60-7165-01	40033	60-8362-01	07591	2-0600	41114	667309	40375
026940-09	41349	38-2443-03	40872	60-3795-02	93582	60-7166-01	40034	60-8363-01	07592	2-0678	41115	667323	40100
026940-10	41348	38-2446-01	40806	60-5553-01	40094	60-7167-01	40035	60-8366-01	07595	6-4328	40074	667355	40049
026941-07	41343	38-2449-01	40874	60-5554-01	40095	60-7168-01	40036	60-8367-01	07596	6-4329	40075	667356	40349
026941-11	41351	38-2450-01	40873	60-5555-01	40096	60-7169-01	40063	60-8368-01	07593	6-4330	40076	667359	40358
026941-12	41350	38-2491-01	40900	60-5556-01	40097	60-7171-01	40037	60-8369-01	07594	6-4331	40077	6672780	40067
027102-04	41362	38-2491-02	40901	60-5561-01	40043	60-7172-01	40038	60-8370-01	07595	6-4334	40080	6672790	40049
028957-43	40619	38-2491-03	40902	60-5562-01	40044	60-7175-01	40070	60-8371-01	07596	6-4335	40091	6672820	40102
028957-44	40620	38-2492-01	40910	60-5563-01	40065	60-7176-01	40071	60-8372-01	95721	6-4368	40340	6673180	40376
028957-74	40564	38-2508-01	40804	60-5564-01	40066	60-7177-01	40072	60-8373-01	95737	6-4370	40065	667206D	40103
028957-75	40563	38-2521-01	40904	60-5565-01	40045	60-7178-01	40073	60-8375-01	95737	6-4372	40045	667212C	40359
028958-02	41104	38-2523-01	40905	60-5566-01	40046	60-7179-01	40124	60-8376-01	95823	6-4376	40049	667212D	40359
028958-03	41105	38-2562-01	40888	60-5567-01	40049	60-7181-01	40076	60-8377-01	95831	6-4378	40067	667262B	40065
028958-04	41112	38-2565-01	40884	60-5568-01	40050	60-7182-01	40077	60-8379-01	95931	6-4380	40069	667312A	40387
028958-05	41113	38-2567-01	40880	60-5569-01	40067	60-7183-01	40078	60-8380-01	95021	6-4384	40057		
028958-06	41118	38-2568-01	40881	60-5570-01	40068	60-7184-01	40079	60-8381-01	95031	6-4385	40058	RHEEM MARS	
028958-07	41130	38-2569-01	40882	60-5571-01	40051	60-7185-01	40128	60-8417-01	40384	6-4388	40082	702060801	40321
028958-22	41114	38-2570-01	40883	60-5572-01	40052	60-7187-01	40082	60-9972-01	40395	6-4390	40086	704226801	40024
028958-23	41115	38-2588-01	40885	60-5573-01	40053	60-7188-01	40083	725138-08	40240	6-4391	40087	701989703	40323
028958-24	41116	38-2590-01	40887	60-5574-01	40054	60-7189-01	40084	725138-10	40241	6-4392	40088	701989704	40058
028958-25	41117	38-2601-01	40805	60-5575-01	40055	60-7190-01	40085	725138-12	40244	6-4393	40089	702185905	40308
029175-01	40918	38-2602-01	40808	60-5576-01	40056	60-7191-01	40130			6-4394	40092	702185906	40319
029176-01	40919	38-2602-02	40809	60-5577-01	40057	60-7193-01	40088	LENNOX MARS		6-4395	40093	704203501	40138
050998-01	40851	38-2603-01	40811	60-5578-01	40058	60-7194-01	40089	65248500	40328	6-4396	40096	7010132307	40052
052141-01	40850	38-2603-02	40812	60-5579-01	40059	60-7195-01	40090	65257200	40072	6-4397	40097	7010132306	40320
270-069-01	40831	38-2604-01	40813	60-5580-01	40060	60-7196-01	40091	65258600	40033	6-4398	40134	7010132309	40315
270-072-01	40832	38-2605-01	40815	60-5581-01	40096	60-7434-01	40300	65258700	40035	6-4400	40098		
270-089-12	40835	38-2605-02	40816	60-5582-01	40097	60-7599-01	40074	100060-02	40382	6-4401	40099	Springer MARS	
270-089-17	40834	38-2606-01	40817	60-5583-01	40134	60-7600-01	40075	100060-03	40339	6-4402	40102	17601025	40338
38-2086-01	40877	38-2606-02	40818	60-5584-01	40135	60-7601-01	40080	100060-04	40042	6-4403	40103	17601026	40053
38-2087-01	40878	38-2616-01	40818	60-5585-01	40098	60-7602-01	40081	100060-05	40099	6-4404	40137	17604220	40053
38-2091-01	40863	38-2617-01	40820	60-5586-01	40099	60-7603-01	40086	100060-07	40339	6-4406	40104		
38-2093-01	40879	38-2630-01	74169	60-5587-01	40102	60-7604-01	40087	100060-08	40097	6-4407	40105		
38-2094-01	40875	38-2631-01	74170	60-5588-01	40103	60-7605-01	40092	100060-09	40099	6-4408	40108	TORIN MARS	
38-2095-01	40908	38-2632-01	74171	60-5589-01	40137	60-7606-01	40093	100060-10	40382	6-4409	40109	B-2026-4CCW	40102
38-2096-01	40907	38-2633-01	74172	60-5590-01	40138	60-7607-01	40145	100060-13	40107	6-4410	40139	B-2029-4CCW	40138
38-2204-01	40876	38-2693-01	40909	60-5591-01	40104	60-7608-01	40146	16C0001	40057	6-4412	40114	B-2227-4CW	40114
38-2205-01	40906	38-2694-01	40889	60-5592-01	40105	60-7609-01	40118	24L2001	40137	6-4413	40115	B-2236-4CW	40110
38-2206-01	40898	38-2695-01	40890	60-5593-01	40108	60-7610-01	40119	27K7801	40072	6-4414	40116	B-2427-3CW	40057
38-2207-01	40899	38-2696-01	40891	60-5594-01	40109	60-7611-01	40120	32M9401	40382	6-4415	40117	B-2427-4CCW	40115
38-2214-01	40805	38-2697-01	40892	60-5595-01	40110	60-7612-01	40121	33G0601	40100	6-4416	40118	B-2427-4CW	40116
38-2215-01	40808	60-2622-01	40076	60-5596-01	40111	60-7613-01	40170	37L4801	40334	6-4418	40120	B-2628-4CW	40119
38-2216-01	40809	60-2623-01	40077	60-5597-01	40114	60-7615-01	40172	37L5001	40099	6-4595	07481	B-2727-3CCW	40058
38-2217-01	40811	60-2628-01	40084	60-5598-01	40115	60-7658-01	40002	43G3801	40108	6-4597	07581	N-1024-4CCW	40071
38-2218-01	40812	60-2629-01	40085	60-5599-01	40116	60-7658-02	40003	45C5101	40114	6-4598	07582	N-1024-4CW	40070
38-2219-01	40813	60-2638-01	40100	60-5600-01	40117	60-7658-03	40004	45F5801	40380	6-4601	07583	N-1027-4CCW	40073
38-2220-01	40814	60-2639-01	40101	60-5601-01	40150	60-7658-04	40005	54G3001	40112	6-4605	07591	N-1027-4CW	40072
38-2221-01	40815	60-2640-01	40102	60-5602-01	40151	60-7658-05	40006	56L7201	40359	6-4606	07592	N-1033-4CCW	40075
38-2222-01	40816	60-2641-01	40103	60-5603-01	40152	60-7658-06	40007	65C6801	40358	6-4609	07593	N-1233-4CW	40074
38-2234-01	74173	60-2652-01	40027	60-5604-01	40153	60-7725-01	40308	68J2601	40339	6-4610	07594	N-1223-4CCW	40077
38-2235-01	74174	60-2654-01	40029	60-5605-01	40154	60-7726-01	40315	68J2701	40097	6-4611	07595	N-1223-4CW	40076
38-2236-01	74175	60-2655-01	40030	60-5606-01	40155	60-7727-01	40317	68J2801	40099	6-4612	07596	N-1233-4CCW	40081
38-2237-01	74176	60-2658-01	40033	60-5607-01	40156	60-8002-01	40094	68J4301	40107	6-4941	40308	N-1233-4CW	40080
38-2238-01	74177	60-2659-01	40034	60-5608-01	40157	60-8003-01	40095	72H2901	40068	6-4942	40313	N-1423-4CCW	40083
38-2239-01	74178	60-2662-01	40037	60-5609-01	40158	60-8004-01	40100	72L9201	40352	6-4944	40320	N-1423-4CW	40082
38-2240-01	74179	60-2663-01	40038	60-5610-01	40159	60-8005-01	40101	93G9001	40389	6-5737	40143	N-1433-4CCW	

airMARS Cross Reference Information



TORIN	MARS	TORIN	MARS
N-1433-4CW	40086	2700772	40058
N-1623-4CCW	40089	2700802	40096
N-1623-4CW	40088	2700812	40097
N-1633-4CCW	40093	2700822	40134
N-1633-4CW	40092	2700832	40135
N-1827-3CCW	40044	2700842	40098
N-1827-3CW	40043	2700852	40099
N-1827-4CCW	40097	2700862	40103
N-1827-4CW	40096	2700882	40137
N-1830-4CCW	40135	2700892	40138
N-1830-4CW	40134	2700912	40138
N-1832-4CCW	40099	2700922	40108
N-1832-4CW	40098	2700942	40110
N-1834-3CW	40045	2700962	40114
N-2023-4CW	40102	2700972	40115
N-2024-3CW	40047	2700982	40116
N-2026-4CW	40137	2760212	40075
N-2028-3CW	40049	2760262	40080
N-2031-3CW	40067	2760462	40119
N-2033-4CCW	40105	2760682	40074
N-2033-4CW	40104	2760702	40076
N-2231-3CW	40053	2760712	40077
10334	40074	2760732	40081
10338	40075	2760742	40082
12234	40076	2760752	40083
12238	40077	2760762	40086
12334	40080	2760772	40087
12338	40081	2760782	40088
14234	40082	2760792	40089
14238	40083	2760802	40092
14334	40086	2760812	40093
14338	40087	2760822	40104
16234	40088	2760832	40105
16238	40089		
16334	40092		
16338	40093		
18273	40043		
18274	40096		
18277	40044		
18278	40097		
18304	40134		
18308	40135		
18324	40098		
18328	40099		
18343	40045		
20234	40046		
20243	40047		
20264	40137		
20268	40103		
20283	40049		
20294	40104		
20298	40138		
20313	40067		
20334	40105		
22274	40108		
22313	40053		
22364	40110		
24273	40057		
24274	40114		
24278	40115		
24344	40116		
26284	40119		
2700602	40043		
2700612	40044		
2700642	40045		
2700652	40046		
2700662	40047		
2700682	40049		
2700702	40067		
2700722	40053		
2700762	40057		

TRANE MARS

X38010305010	40069
X38010307050	40139
X38010309040	40098
X38010330010	40379

YORK MARS

02628198000	40096
02629094000	40380
02634091000	40305
02634092000	40045
02634093000	40356



airMARS Special Orders

Special order requirements can be a way to provide an extra level of service to your customers. Motors & Armatures Inc. encourages our wholesale customers to take advantage of the opportunity to place special orders for airMARS products that are not in this catalog.

Special orders are processed as separate production runs by the factory. A minimum quantity will always be required. In most cases, the minimum will be 25 pieces. Because special orders are non-stock items, once ordered they are non-cancellable. Also, special orders are not returnable.

Quotes normally take 3 to 4 working days to process. Following is check list for various airMARS components.

Direct Drive Wheels

- Diameter
- Width
- Material (aluminum, steel?)
- Rotation
- Type of hub & bore
- Finish (galvanized, paint?)
- Assembly (housing?)
- Construction (strip or tablock?)

Small Blower Wheels

- Diameter
- Width
- Bore
- Material (Aluminum Steel, etc.)
- Single or Double Inlet?
- Construction
- Assembly
- Back Plate Configuration

Fan Blades

- Diameter
- Pitch
- Number of Wings
- Material
- Hub Type (attached, adapter, bushing?)
- Bore
- Construction

Important Note:

Because special orders cannot be returned, it is highly recommended that your customer signs off on the check list specifications before the order is entered with the factory.

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MARS® *Presents*

More Powerful Pumps

**2
Year
Warranty**

24' Pump



**22' Pump
Low Profile**



16' Pump



Features:

- Class Leading Performance - 24', 22' & 16' Lifts
- Patent Pending, Quick Release Check Valve (Duck Bill)
- Rubber Isolation Feet
- Drip Proof Housing Design
- Solid Float
- Integrated Safety Switch
- Integrated Side Mount Brackets
- ABS and Stainless Steel Construction

**For more
information**

See Pages

C-86 – C-87

COMPONENT



SERVICE & INSTALLATION



MARS2

airMARS

