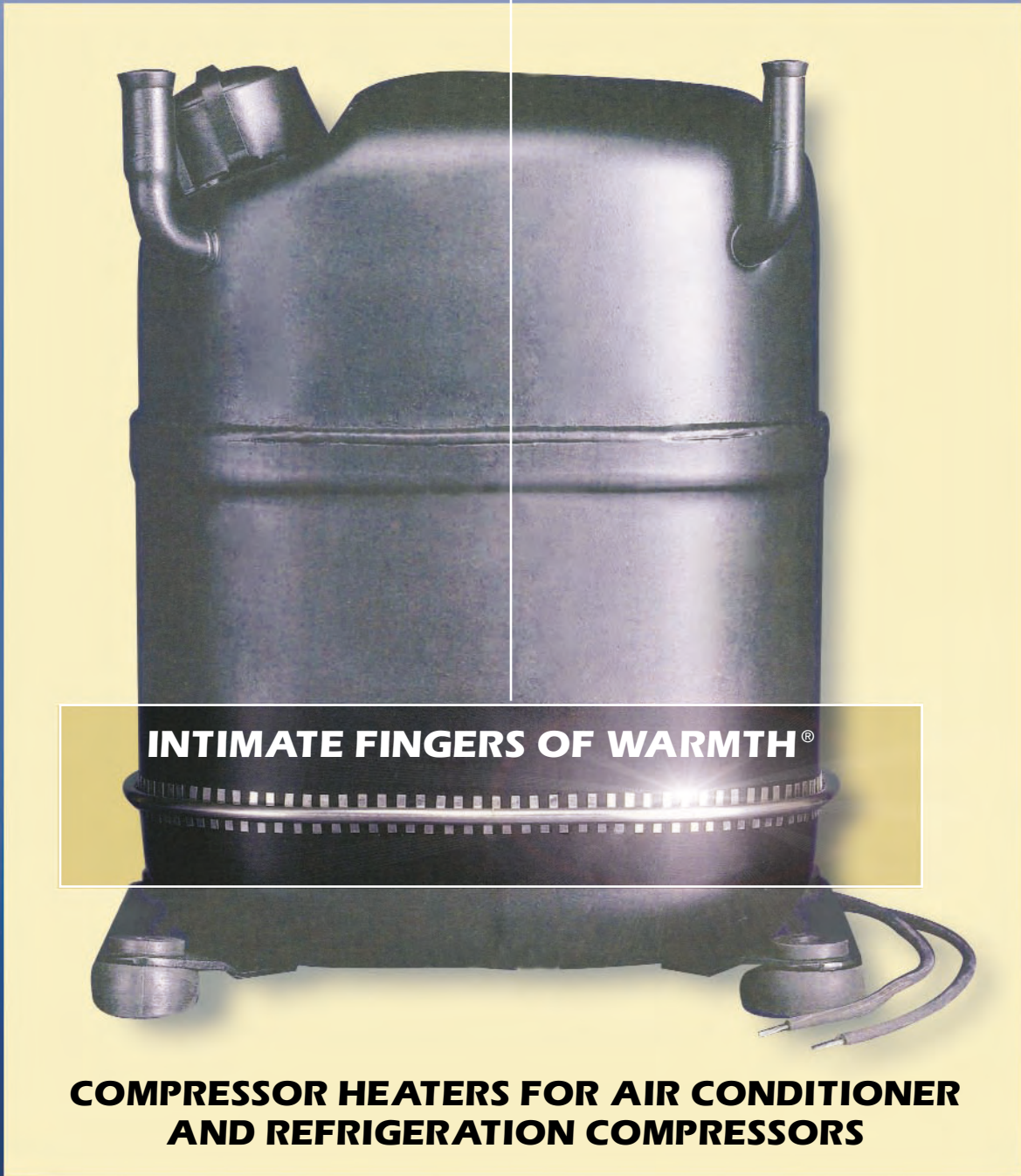


# **EXTENDS THE LIFE OF YOUR COMPRESSOR**



**INTIMATE FINGERS OF WARMTH®**

**COMPRESSOR HEATERS FOR AIR CONDITIONER  
AND REFRIGERATION COMPRESSORS**

# EFFICIENT HEAT TRANSMISSION FOR REFRIGERATION AND AIR CONDITIONING COMPRESSORS

## LIQUID REFRIGERANT MIGRATION

Within refrigeration and air conditioning systems, migration of liquid refrigerant to the compressor is a natural occurrence. The powerful affinity of oil for refrigerant is due to the difference in vapor pressures between the two fluids.

The amount and severity of this liquid refrigerant migration depends on several things, including refrigerant and oil charge, length of shutdown interval and, especially, the temperature difference between crankcase oil and the rest of the system. As the temperature of oil drops, refrigerant is absorbed faster and more completely.

## OIL SLUGGING

When refrigerant has mixed with oil and the compressor starts, oil

slugging occurs: the mixture foams violently and all or most of the oil charge is pumped out. The compressor tries to pump the liquid—a feature for which it was never designed—and broken valves, damaged pistons and blown head gaskets can result.

## COMPRESSOR FAILURE

In most compressors, the oil pickup is located at the bottom. From there, it is fed to the cylinders and bearings for lubrication. When refrigerant has migrated into oil, the mixture stratifies, and refrigerant settles at the bottom.

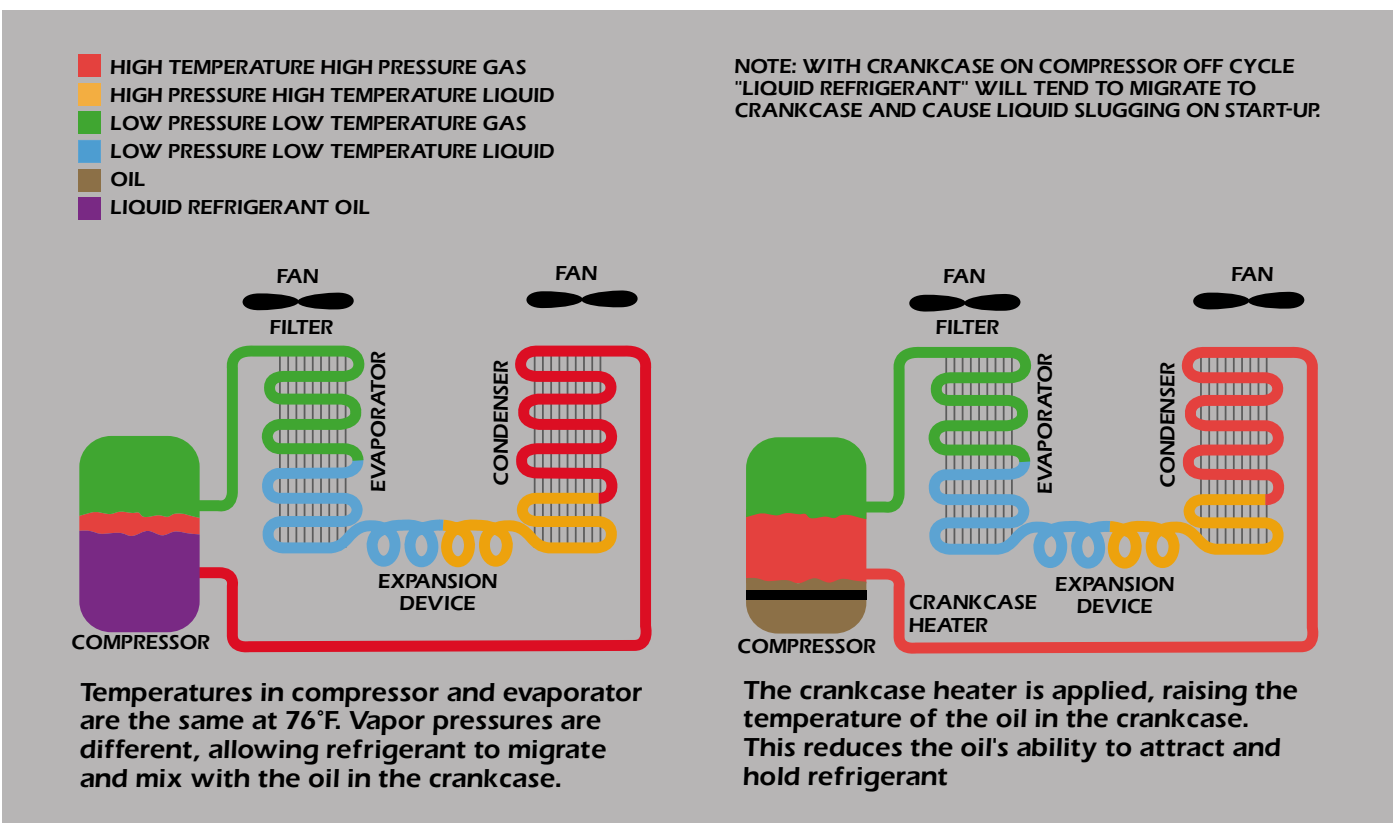
Originally Intended for lubrication the contaminated oil can no longer do its job. Instead, the refrigerant's solvent properties causes severe damage, resulting in immediate (or eventual) compressor failure.

## "INTIMATE FINGERS OF WARMTH"<sup>®</sup>

By optimizing the temperature of crankcase oil, our "Intimate Fingers of Warmth"<sup>®</sup> heater helps protect the compressor from refrigerant migration. Oil is kept as much as 30° warmer than the system temperature\* ...and refrigerant is forced to remain in the condenser, evaporator or accumulator.

The "Intimate Fingers of Warmth"<sup>®</sup> snugly clasps the compressor housing to provide positive, highly efficient transmission of heat. Acting as a heat sink, the crankcase can then absorb and transmit heat directly to the oil. Heat loss to ambient air is greatly reduced along with the major cause of refrigerant migration.

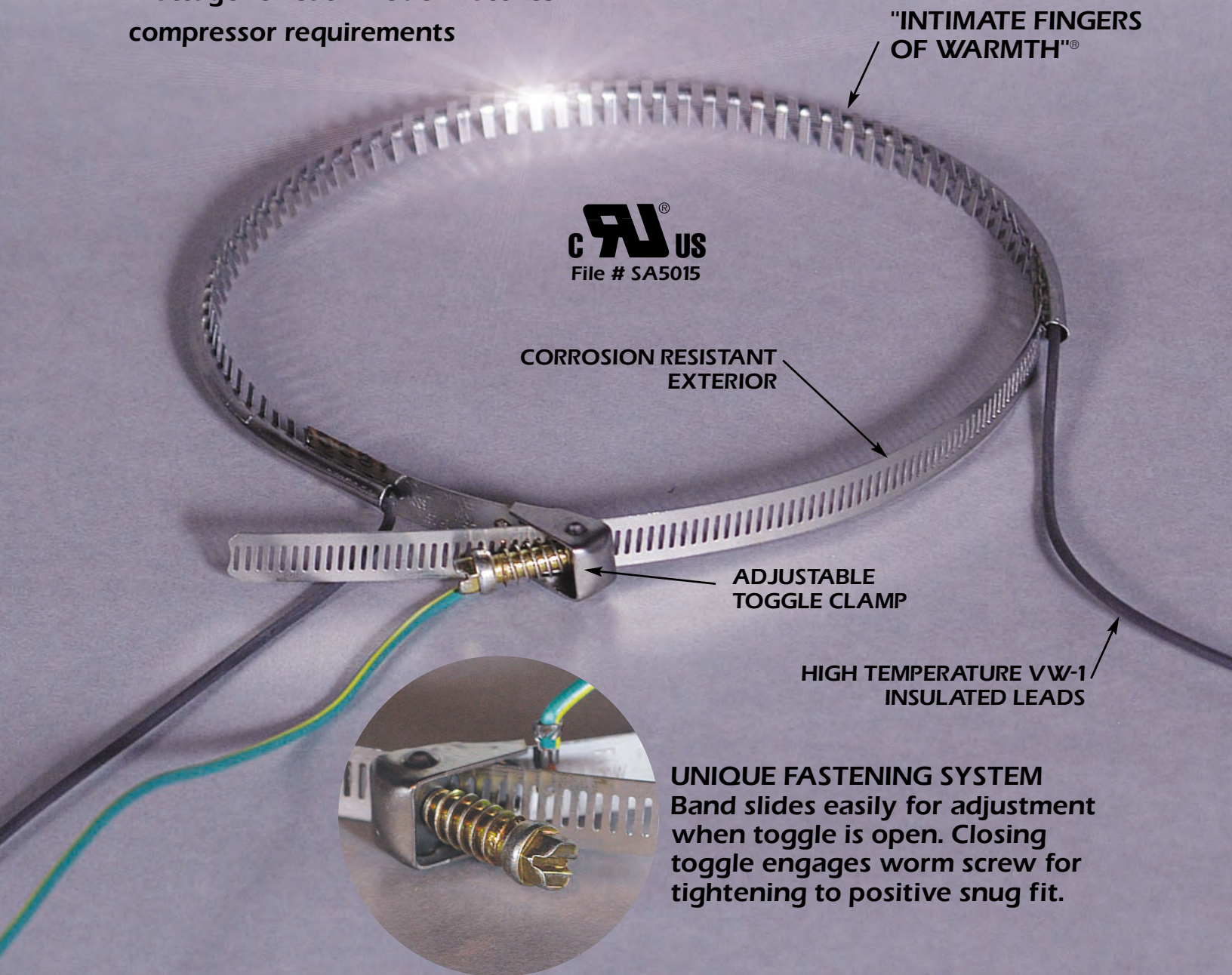
\* the off cycle heat required by many compressor manufacturer warranties.



# "INTIMATE FINGERS OF WARMTH"®

A SIZE FOR MOST COMPRESSORS

- Corrosion resistant exterior
- High temperature silicone rubber element and VW-1 insulated lead wires rated for 150°C
- Custom leads and terminations available
- Voltages through 600vac
- Wattage for each model matches compressor requirements
- Completely moisture-proof
- Quick and easy installation
- Nominal power consumption due to highly efficient heat transmission and low wattage
- U.L. recognized



"INTIMATE FINGERS OF WARMTH"®

**UL**®  
US  
File # SA5015

CORROSION RESISTANT  
EXTERIOR

ADJUSTABLE  
TOGGLE CLAMP

HIGH TEMPERATURE VW-1  
INSULATED LEADS

**UNIQUE FASTENING SYSTEM**  
Band slides easily for adjustment when toggle is open. Closing toggle engages worm screw for tightening to positive snug fit.

# HEATER MODEL INFORMATION

PART NUMBER	MODEL NUMBER	RATED VOLTS	RATED WATTS	FITS COMPRESSOR	GIRTH DIMENSIONS		
					MIN.	MAX.	SHAPE
02-3826-00	CH-184	240	45	Matsushita: 2PSI, 2K21C, 2K28C, Tec RK	13 13/16	21	RND
02-9750	CH-101-40	240		Aspera: H; Bendix/Westinghouse: E; Copeland CR;			
02-9750-1	CH-101-1-40	208		Bristol/Sundstrand: H10A, H21A, H2EA, H22A;			
02-9750-2	CH-101-2-40	120	54	Carrier: 6A25, 26, 28, 29, 6A35, 38, 45, 48;	27 7/16	39 5/8	OVL
02-9750-3	CH-101-3-40	480		Tecumseh: AH; Trane: D4350/689, D4359/690; Westinghouse: CD072, CD090			
02-9751	CH-102-40	240		Aspera: J;			
02-9751-1	CH-102-1-40	208		Bristol/Sundstrand: H10C, H20C, H21C, H22C;			
02-9751-2	CH-102-2-40	120	60	Tecumseh: AJ;	25 13/16	33	OVL
02-9751-3	CH-102-3-40	480		Trane: D4340/7669			
02-9752	CH-103-40	240		Bendix/Westinghouse: A;			
02-9752-1	CH-103-1-40	208		Bristol/Sundstrand: H1 OB, H20B, H21B, H22B;			
02-9752-2	CH-103-2-40	120	45	Copeland: RR, SR; Hitachi: 305FH2-HE,	24 13/16	32	OVL
02-9752-3	CH-103-3-40	480		402FH2-HE, 505FH2-HE; Tecumseh: AB, AW			
02-9753	CH-104-40	240		Bristol/Sundstrand: H10G, H20G, H21G,			
02-9753-1	CH-104-1-40	208		H22GH2NG-144; Carrier: 6A88;			
02-9753-2	CH-104-2-40	120	75	Fedders/Chrysler: 3009; Hitachi: 1500FH4-H;	41 9/16	48 3/4	RND
02-9753-3	CH-104-3-40	480		Maneurop: 5175/185; Tecumseh: FE, FB			
02-9759	CH-100-40	240		Bendix/Westinghouse: C, D;			
02-9759-1	CH-100-1-40	208		Carlisle: W (70-88); Copeland: Y;			
02-9759-2	CH-100-2-40	120	50	Hitachi: 753FH3-H, 100IFH4-H;	30 3/16	37 3/16	OVL
02-9759-3	CH-100-3-40	480		Tecumseh: B, C, CL, AG, AV			
02-9766	CH-105-40	240		Copeland: VR;			
02-9766-1	CH-105-1-40	208		Trane: D4340/7670;			
02-9766-2	CH-105-2-40	120	50	Westinghouse: CD072, CD090	31 13/16	39	RND
02-9766-3	CH-105-3-40	480					
02-9767-00	CH-244	240					
02-9767-03	CH-184	480	60	Tecumseh: 8.75" Quadro Flex DCAW	27 7/16	39 5/8	OVL
02-9768	CH-135-40	240		Copeland: JR;			
02-9768-2	CH-135-2-40	120	40	Tecumseh: AK	23 7/16	27 1/2	OVL
02-9769	CH-134-40 "	240					
02-9769-2	CH-134-2-40	120	40	Carrier/Carlisle: 6M	28 13/16	36	OVL
02-9770	CH-115-40	240					
02-9770-2	CH-115-2-40	120	40	Carrier/Carlisle: 6R	30 5/16	37 3/8	RND

replacement models have 30" lead with 1/2" of exposed wire

PART NUMBER	MODEL NUMBER	RATED VOLTS	RATED WATTS	FITS COMPRESSOR	GIRTH DIMENSIONS		
					MIN.	MAX.	SHAPE
02-9771	CH-197-40	240	25	Fedders/Chrysler: 2870908;	13 13/16	21	RND
02-9771-2	CH-197-2-40	120		Sanyo: CR15F, CR20F, CR33F			
02-9775-00	CH-198	240	35	Tecumseh: AE;	16 13/16	24	OVL
02-9775-02	CH-198-2	120		Copeland: AN			
02-9778-00	CH-196	240	40	Copeland: 6" Scroll ZR 16K, ZR42K	19 15/16	27 1/8	RND
02-9778-02	CH-196-2	120					
02-9778-03	CH-196-3	480					
02-9778-06	CH-196-6	575					
02-9779-06	CH-230-6	575	70	Copeland: 7/4" Scroll ZR46, ZR61; Carlysl: SR	21 13/16	29	RND
02-9779-03	CH-230-3	480					
02-9779-00	CH-230	240					
02-9780-00	CH-167	240	70	Bristol	31 13/16	38	RND
02-9780-07	CH-167-7	460					
02-9781-07	CH-147-7	460	95	Danfoss/Maneurop; Bristol	41 9/16	48 3/4	RND
02-9781-00	CH-147	240	100	Trane/GE.	32 13/16	35 1/2	RND
02-9781-07	CH-147-7	460	100				
02-9782-07	CH-176-7	460	92				
02-9783-07	CH-212-7	460	67				
02-9784-00	CH-205	240	40	Carrier; Copeland: ZR46, ZR61; Carlysl: SR; Hitachi: RCH;	21 3/16	24 3/8	RND
02-9784-07	CH-205-7	460					
02-9772-00	CH-202	240	70	Copeland: BR	3 39/16	37 3/8	RND
02-9772-02	CH-202-2	120					
02-9772-03	CH-202-3	480					
02-9789-02	CH-272-2	120	100	Trane	38	30 13/16	RND
02-9789-07	CH-272-7	460					
02-9789-09	CH-272-9	230					
02-9786-00	CH-255	240	100	Copeland	35 1/16	28 5/16	RND
02-9786-02	CH-255-2	120					
02-9786-03	CH-255-3	480					
02-9787-00	CH-280	240	70	Copeland	28	20 13/16	RND
02-9787-02	CH-280-2	120					
02-9787-03	CH-280-3	480					

replacement models have 30" lead with 1/2" of exposed wire

# COMPRESSOR HEATER INSTALLATION INSTRUCTIONS

**WARNING: DO NOT APPLY POWER TO A COMPRESSOR HEATER UNLESS IT IS PROPERLY INSTALLED PER THE FOLLOWING INSTRUCTIONS.**

- 1** This compressor heater was shipped preformed to fit a specific compressor. **DO NOT continue the compressor heater installation unless this heater is correct for the compressor.**
- 2** Once the compressor is confirmed as correct for this compressor heater, open the heater by lifting the screw and remove the band from the buckle (**See Fig.1**). Then place the compressor heater around the compressor housing at or below the oil level near the bottom of the compressor (**See Fig. 3**).
- 3** With the screw lifted, slip the end of the band thru the buckle and pull snug. Push the screw to engage the band (**See Fig. 2**).
- 4** Tighten the screw carefully ensuring that the compressor heater is uniformly tensioned along its entire length making sure all of the fingers are in complete contact with the compressor housing. Continue tightening until the heater conforms to the shape of the compressor housing. Finally, torque the screw to: **(20 inch-pounds minimum; 25 inch-pounds maximum)**.

**WARNING: THE INSTALLER MUST ASSURE THAT ALL THE COMPRESSOR HEATER FINGERS ARE IN COMPLETE CONTACT WITH THE COMPRESSOR HOUSING BEFORE APPLYING ANY POWER TO THE HEATER IN ORDER TO PREVENT PERMANENT DAMAGE TO THE HEATER, TO THE COMPRESSOR OR TO BOTH.**

**NOTE:** The compressor acts as a heat sink to draw heat from the heater. The compressor housing then transfers the heat to the oil with minimum heat loss to the surrounding air.

- 5** Connect the compressor heater lead wires to the appropriate power source.

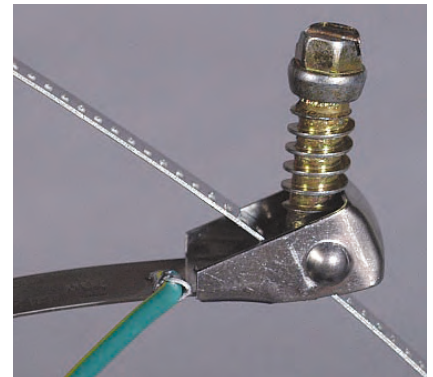


FIGURE 1

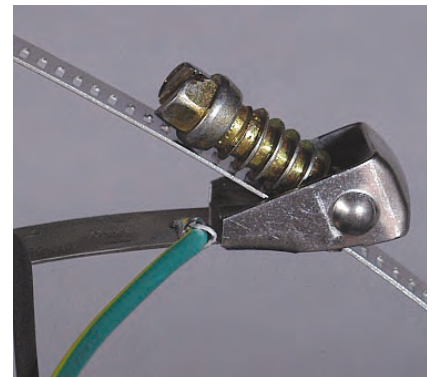


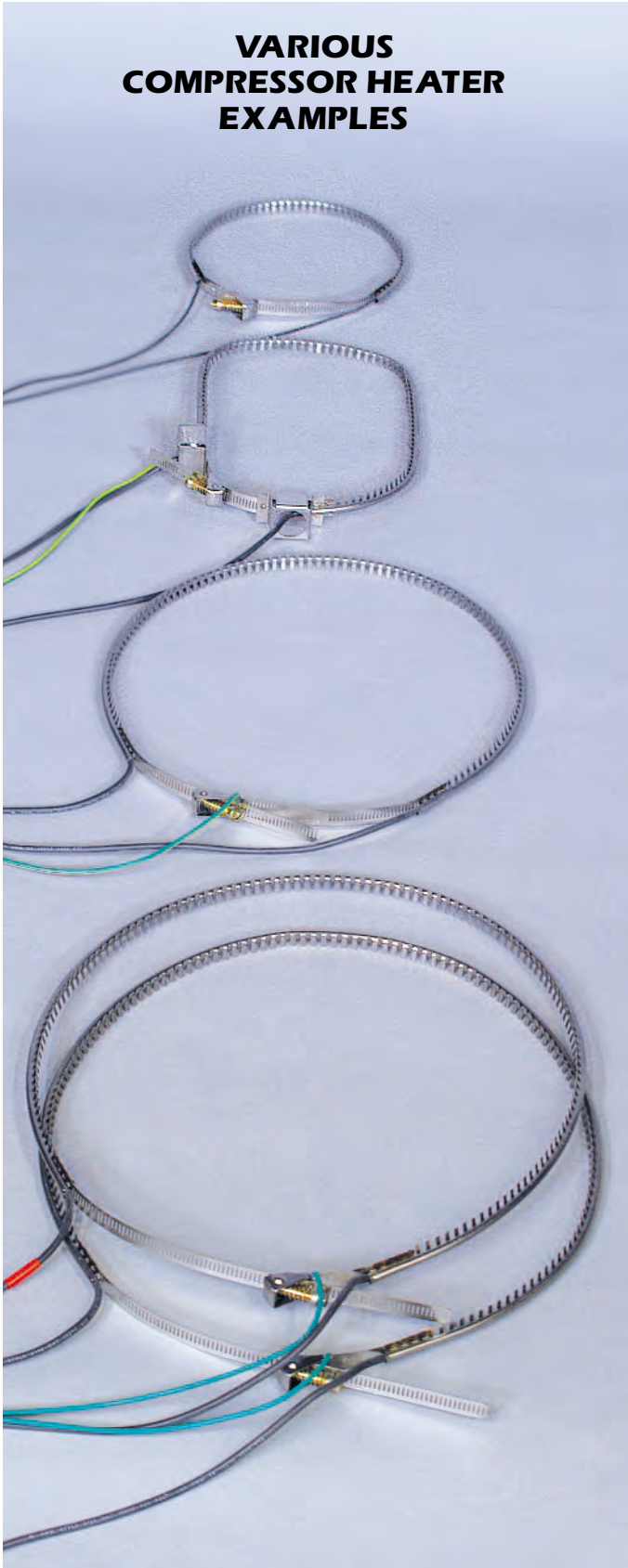
FIGURE 2



FIGURE 3

# WARRANTY

## VARIOUS COMPRESSOR HEATER EXAMPLES



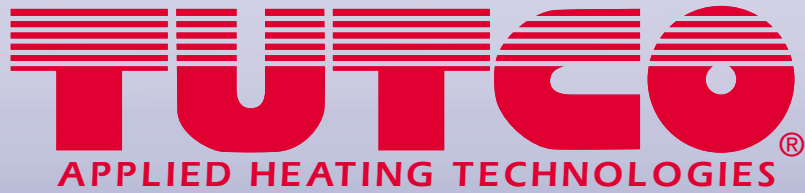
This warranty extends only to the first purchaser (Buyer) of TUTCO products and does not extend to any subsequent purchaser of any of these products.

Seller warrants to the Buyer that its products and components, when installed correctly according to instructions provided by Seller, and when properly maintained, will be free from defects in workmanship and materials for one year after installation, but not to exceed eighteen (18) months after manufacture. This warranty does not apply to defects caused by faulty installation, misuse, accident, alteration, improper care after installation, or chemical, electrical or physical abuse. If a product or a component is found not to comply with this warranty, the defective product or component shall be promptly returned, freight prepaid, to Seller's factory for examination. If the failure is due to causes other than faulty installation or Buyer abuse. Seller will repair, or at its option replace the component or parts found to be defective at no charge and return to Buyer with shipping charges prepaid, and issue credit for the incoming shipping charge.

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