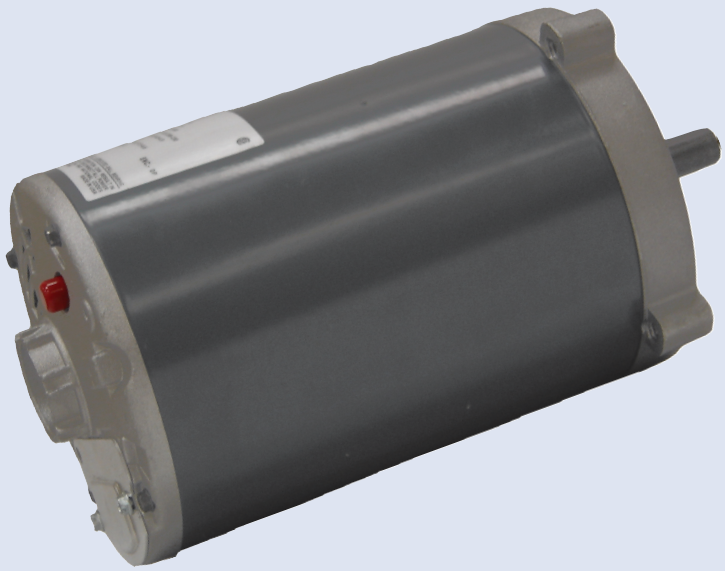
Carlin™
Combustion Technology, Inc.

Model 27730 27748

3/4 HP Capacitor Start Motor

Data sheet

For use with Carlin Model 801CRD



Installing and Wiring

1. Warning: Motor must be installed and serviced only by a qualified service technician.
2. Always disconnect power source before wiring to avoid electrical shock or damage to the electrical components. All wiring must comply with applicable codes and ordinances.
3. Disconnect existing motor lead wires from motor contactor.
4. Remove mounting bolts securing motor mounting ring to blower housing.
5. Remove motor/mounting ring from burner.
6. Oil burners: Check condition of oil pump coupling and coupling ends. Replace if necessary.
7. Remove shaft extension, blower wheel and mounting ring from existing motor. Clean the wheel if needed to remove lint and other debris.
8. Install motor mounting ring on the new motor.
9. Install blower wheel, shaft extension, and key on new motor. See burner manual for correct gap between blower wheel and motor rabbet.
10. Mount new motor on blower housing. Tighten bolts evently to prevent misalignment of the motor/blower wheel on housing.
11. Insert motor wires through flexible metal conduit and connect to motor contactor.

Part number	27730	27748	
Power input (VAC)	1-Phase 115/208-230	3-Phase 208-230/460	3-Phase 190/380
Frequency (HZ)	60		50
Rating (HP)	3/4		1/2
Starting/running currents (AMPS RMS)	9.8/4.8-4.9	3.0-3.2/1.6	2.8/1.4
Speed (RPM)	3450		2850
Frame	56C		
Rotation (Looking from rear)	Clockwise	Reversable	
Agencies	CSA		

Application tips

1. The high running torque of the design ensures more consistent air flow to the burner head. Perform a combustion test with the new motor installed and set the air adjustments as needed to provide the CO2 and O2 specified in the appliance manual.
2. Thermal overload - Overload will trip after approximately 3 minutes of running at locked rotor condition.

Construction

1. Utilizes a capacitor to assist startup of the motor. This eliminates the need for a start switch used in the split phase motor. The motor capacitor is field replaceable for ease of service.
2. Sealed ball bearings - not sleeve bearings. The ball bearings are sealed and permanently lubricated - no oiling required. Ball bearing design eliminates much of the end play of typical motor shafts and allows for more consistent air flow to the combustion head.
3. The motor capacitor is located for convenient mounting to any burner.

Operation

1. The superior design and construction of this motor allows for more consistent airflow to the combustion head of the burner.
2. Notice: As with any component change on a burner, when installing this motor you should expect performance changes to the burner. The installing technician must perform a combustion test to determine how the airflow to the burner was affected by the new motor. This motor will usually provide more airflow through the burner than a typical split phase motor.
3. You should notice a reduction in mechanical noise emission compared to a typical split phase motor.

Troubleshooting

To check to capacitor operation:

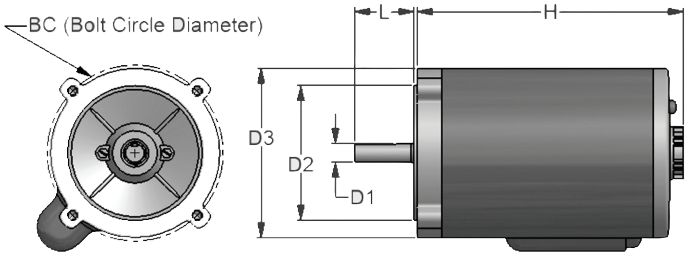
1. Disconnect electrical power to the burner.
2. Use insulated electrical pliers to carefully remove the two wires from the capacitor, one at a time. Electrical shock hazard: Do not attempt to reinstall a capacitor removed from use until you have followed the procedure below to remove any stored charge. Handle the capacitor with care, avoiding contact with the terminals. Failure to comply could result in severe personal injury or death.
3. You must discharge the capacitor in case it holds any stored charge. Use a shorting bar if available, specifically designed for this purpose. Do not attempt to use a screwdriver or any other device. Connect the shorting bar to one capacitor terminal and lay the other end on the other terminal. If there is a residual charge, a spark will occur.

Troubleshooting (Continued)

To check to capacitor operation:

Keep your hands away from the terminal. Do not discharge the capacitor if there are flamable liquids or vapors near your work area. An explosion could occur.

4. You will need an ohmmeter, preferably a VOM (analog meter). Digital meters may not respond quickly enough to resistance changes. Connect one meter lead to each of the capacitor terminals. The meter should show to a non-infinite reading immediately and then rapidly increase to an infinity reading (within about a second). If the meter stays on a non-infinite reading, the capacitor has an open circuit. If the meter reads a constant zero ohm reading, the capacitor has a short. Replace the capacitor if either of these conditions occurs.



27730		
H	**L**	**BC**
8.88	2.06	5.88
D1	**D2**	**D3**
0.625	4.5	5.69

27748		
H	**L**	**BC**
8.37	2.06	5.88
D1	**D2**	**D3**
0.625	4.5	6.48