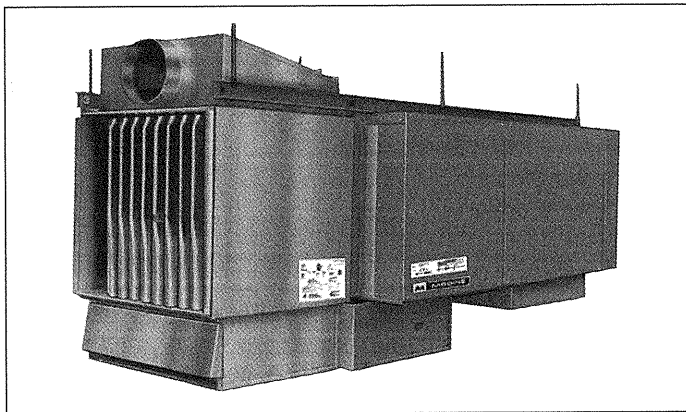


INSTALLATION AND SERVICE MANUAL

gas-fired duct furnace/make-up air units model DHE

Figure 1
Model DHE



⚠ WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death, and could cause exposure to substances which have been determined by various state agencies to cause cancer, birth defects or other reproductive harm. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

FOR YOUR SAFETY

The use and storage of gasoline or other flammable vapors and liquids in open containers in the vicinity of this appliance is hazardous.

FOR YOUR SAFETY

If you smell gas:

1. Open windows.
2. Don't touch electrical switches.
3. Extinguish any open flame.
4. Immediately call your gas supplier.

Please Note

Modine model DHE units use a standard duct furnace heating section (Model DJE) which is pre-assembled at the factory to a blower section to provide a completely factory-assembled heating and ventilating package. For this reason, these installation and service instructions are to be used in conjunction with the standard installation and service instructions for DJE models, Bulletin 5-505. Both sets of instructions are packaged and shipped with each DHE unit.

The Table of Contents in this manual indicates those installation and service items which are to be referenced in Bulletin 5-505.

Inspection on Arrival

1. Inspect unit upon arrival. In case of damage, report immediately to transportation company and your local Modine sales representative.
2. Check model identification plate on unit to verify that the power supply meets available electric at the point of installation.
3. Inspect unit received for conformance with description of product ordered (including specifications where applicable.)

General Information

Installation must comply with ANSI Z223.1 - latest edition (CAN/CGA-B149 in Canada).

Before installation review all applicable local codes and ANSI Z223.1-latest edition, "National Fuel Gas Code", (or CAN/CGA-B149 in Canada). This standard is also known as NFPA 54 published by the National Fire Protection Association.

1. All installation and service of this unit must be performed by a qualified installation and service agency only (as defined in ANSI Z223.1 - latest edition, CAN/CGA-B149 in Canada).
2. This unit contains an A.G.A. or C.G.A. designed certified duct furnace with controls as furnished. For replacement parts submit the complete model, control code, power code and serial number shown on Model Identification Plate attached to unit. (See last page of this manual). Modine reserves the right to substitute other authorized controls as replacements.
3. Information on controls is supplied separately.
4. These units use a single burner for natural and propane gases.

As Modine Manufacturing Company has a continuous product improvement program, it reserves the right to change design and specifications without notice.

**THIS MANUAL IS THE PROPERTY OF THE OWNER.
PLEASE BE SURE TO LEAVE IT WITH HIM WHEN YOU
LEAVE THE JOB.**

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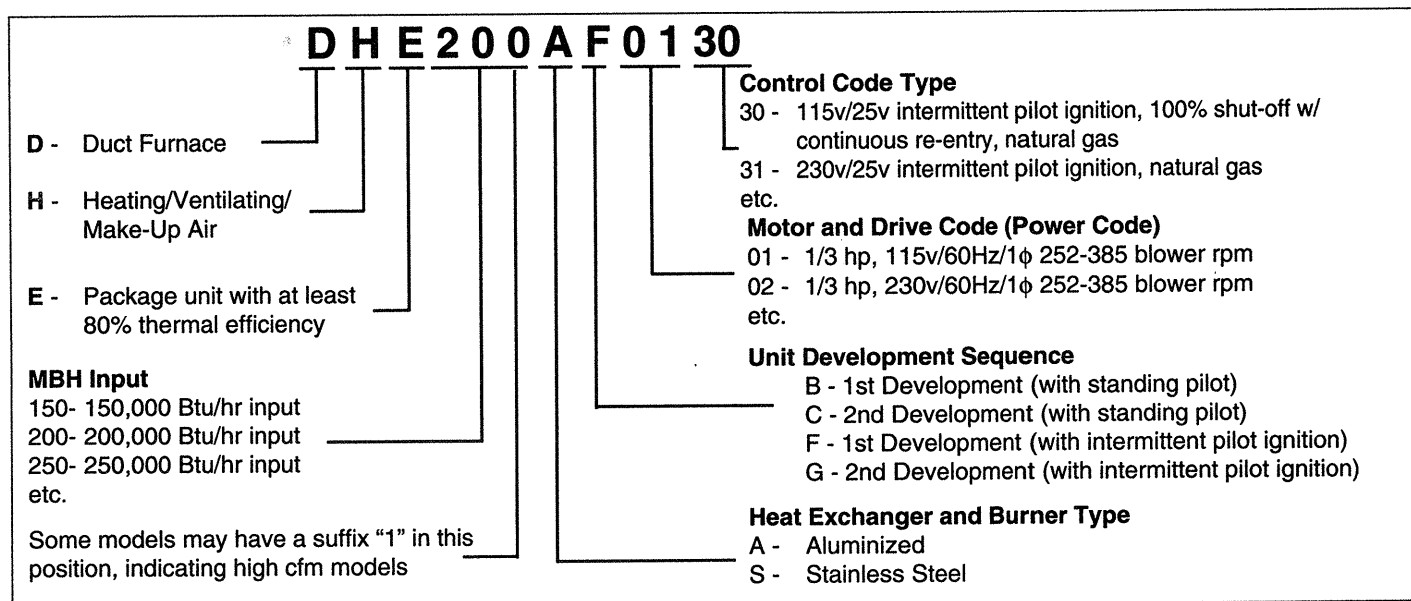
Installation

Model Nomenclature

Model DHE units are gravity vented indoor gas-fired furnace/make-up air units designed for indoor installation for use as heating, heating/ventilating or make-up air units.

Model DHE includes an A.G.A. or C.G.A. design certified duct furnace. The duct furnace and blower sections are factory mounted to support rails for overheat suspension and are completely factory pre-assembled.

Figure 2 – Model Nomenclature



Special Precautions

1. Disconnect power supply before making wiring connections to prevent electrical shock and equipment damage. All units must be wired strictly in accordance with wiring diagram furnished with the unit.
2. Turn off all gas before installing duct furnace.
3. Gas pressure to unit controls must never exceed 14" W.C. The unit and its individual shutoff valve must be disconnected from the gas supply during any pressure testing of the piping system at test pressures in excess of 1/2 psi. At test pressures of 1/2 psi or less, close the manual shutoff valve on the unit during pressure testing.
4. Check the gas supply pressure at the unit upstream from the pressure regulator. **For the purpose of input adjustment, the minimum supply pressure should be 6" W.C. on natural gas or 11" W.C. on propane gas. The maximum inlet pressure is 14" W.C. If supply pressure exceeds 14" W.C., install an additional pressure regulator upstream of the combination gas valve.** The pilot flame must be adjusted, as described on page 10, or a pilot pressure regulator must be applied. Purging of air from gas lines, piping, and lighting the pilot should be performed as described in ANSI Z223.1, latest edition, "National Fuel Gas Code," or CAN/CGA-B149 codes.

continued

INSTALLATION

Special Precautions *continued*

5. The maximum allowable temperature rise through these units is 85°F for models DHE75-250 & 400. For DHE300 & 350 the maximum allowable temperature rise is 100°F. The maximum final air temperature allowable is 150°F. Do not exceed any of these temperature limits. Adjust the air throughput within the range shown on the rating plate.
6. Use selection and performance curves shown on pages 8 through 16 to determine correct blower rpm setting. Blower drive must be correctly adjusted before equipment is put into service.
7. If dampers are used, check damper operation and sequence to be sure proper damper adjustment has been made.
8. **To prevent premature heat exchanger failure do not locate ANY gas-fired unit in areas where chlorinated, halogenated or acid vapors are present in the atmosphere.**
9. Minimum clearance to combustibles from rear of unit is 0.0" with a minimum of 6" clearance from the front, bottom, top and sides of unit.
10. Units are designed for indoor installation only.
DO NOT LOCATE UNITS OUTDOORS.
11. Do not modify or block combustion or ventilation air openings, or venting system.
12. Allow 24" clearance below gas controls cover of unit for removal and service of burner. Consideration must also be given for service access at the side of the unit blower section, and a minimum clearance of 24" is recommended.
13. Installation must conform to local building codes, or in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1 - latest edition. In Canada install in accordance with CAN/CGA -B149.1. "Installation Code for National Gas Burning Equipment" or CAN/CGA -B149.2, "Installation Code for Propane Gas Burning Appliances and Equipment."
15. DHE units are shipped fully crated with skids supports below the unit. **DO NOT attempt to lift the unit from the bottom with a fork lift unless the shipping skids are left in place.**
Caution: When lifting units, make sure unit load is balanced.
16. Consult piping, electrical, and venting instructions before installation.
17. All literature shipped with your unit, including vendor instruction, should be kept for future use for servicing or service diagnosis. Do not discard any literature shipped with your unit.

Unit Location

CAUTION

Units are designed for indoor installation only.
DO NOT LOCATE UNITS OUTDOORS.
Units must not be installed where they may be exposed to explosive or flammable atmospheres.

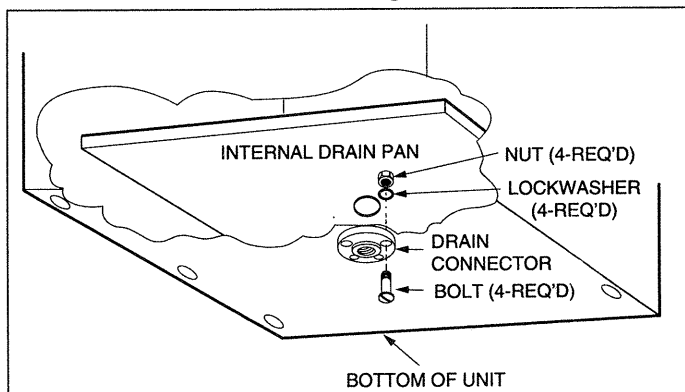
1. Do not locate any gas-fired unit in areas where chlorinated or acid vapors are present in the atmosphere.
2. When locating the unit, consider general space and heating requirements, availability of gas and electrical supply.
3. Units are designed for installation on non-combustible surfaces with a minimum clearance to combustibles of 0" from the rear of the unit and 6" from the sides.
4. Allow 24" clearance below the gas controls cover of the unit for service and removal of the burner. A minimum clearance of 24" at the side of the unit is recommended for service access.
5. Do not modify or block combustion or ventilation air openings or the venting system.
6. Units installed downstream from refrigeration systems, or exposed to inlet air temperatures of 40°F or less, may experience condensation and therefore provisions should be made to dispose of the condensate. Figure 3a shows how an optional condensate drain connection may be attached to the bottom of the duct furnace section of the unit.
7. Be sure the structural support at the unit location site is adequate to support the weight of the unit (See Dimensional Data for weights). For proper operation the unit must be installed in a level horizontal position. (Check with a spirit level.) Clearances to combustibles as specified above must be strictly maintained.
8. Adequate space must be provided in the discharge air duct for field installation of leaktight access panels for heat exchanger inspection.

9. Provide air tight seals between ductwork and unit. Ducts having seams with excessive gaps should be permanently caulked and/or taped.
10. Provide sufficient and uniform air flow over the heat exchanger. Install the discharge air duct as shown in fig. 3b to insure even air flow across the heat exchanger.

For economical installation and operation, locate each unit close to the space it will serve and close to the utilities that will serve the unit.

A minimum clearance of 24" should be maintained below the gas control cover of the unit for burner service, and a minimum of 24" clearance should be maintained from the side of the unit's blower section access door for servicing of the motor and blower drive components.

Figure 3a
Drain Connector and Mounting Method



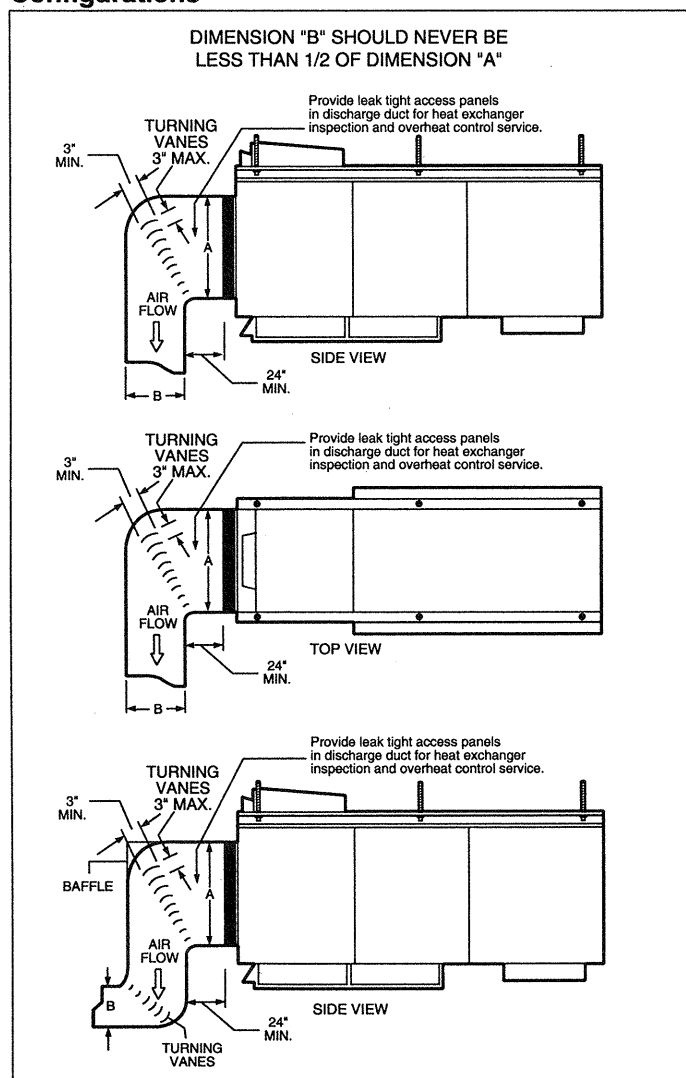
INSTALLATION

⚠ CAUTION

Check for red heat exchanger tubes by looking at the heat exchanger through the field installed access panels in the discharge air ductwork. If the bottom of the tubes become red while the unit is operating, check to be sure the blower has been set to the proper rpm for the application. Refer to pages 13 through 16 for blower performance selection and blower rpm.

Sound and Vibration Levels

Figure 3b
Recommended Field Installed Discharge Duct Configurations



All mechanical equipment generates some sound and vibration that may require attenuation. Libraries, private offices and hospital facilities will require more attenuation, and in such cases, an acoustical consultant may be retained to assist in the application. Locating the equipment away from the critical area is desirable within ducting limitations.

Generally a unit should be located within 15 feet of a primary support beam. Smaller deflections mean lesser vibration and noise transmission.

Duct Extensions

Duct flanges are provided as an integral part of each unit. Flanges are provided for discharge, fresh and return air duct. Acoustic duct liners are recommended on internal supply and return air ducts. When ducts are installed prior to unit arrival, flexible connections should be included in duct runs to make connections easier and to simplify possible future service.

Lifting Instructions

All DHE units are shipped fully crated with skid supports below the unit. The unit may be lifted from the bottom by means of a fork lift or other lifting device only if the shipping support skids are left in place. **DO NOT attempt to lift the unit from the bottom unless the shipping skid supports are still in place.** DO NOT UNSKID UNIT AND PLACE UNIT ON FLOOR, DAMAGE TO UNIT MAY OCCUR.

Caution: When lifting units, make sure load is balanced.

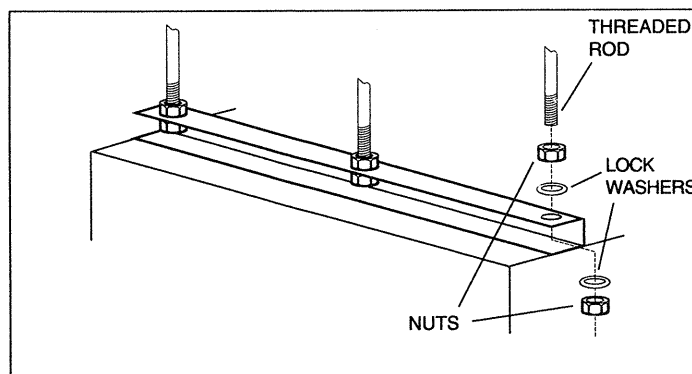
Unit Suspension

Model DHE units are designed for overhead suspension and the units are provided with two suspension channels, one on each side of the unit. Each rail is provided with three 9/16" clearance holes for mounting to support system.

Figure 4 demonstrates how the unit should be suspended and fastened to the unit support system. If required, vibration isolators may be added.

Refer to Dimensional Data Table 12, for mounting hole locations and unit weights.

Figure 4 – Unit Suspension Using Threaded Rod, Lock Washers and Nuts



Electrical Connections

⚠ CAUTION

Disconnect power supply before making wiring connections to prevent electrical shock and equipment damage.

⚠ WARNING

All units must be wired strictly in accordance with wiring diagram furnished with the unit and in accordance with the National Electrical Code ANSI/NFPA 70 - Latest Edition. Unit must be electrically grounded in conformance to this code. In Canada, wiring must comply with CSA C22.1 part 1, electrical code.

Any wiring different from wiring diagram may be hazardous to persons and property.

INSTALLATION

Any damage to or failure of Modine units caused by incorrect wiring of the units is not covered by MODINE'S STANDARD WARRANTY.

Gas control wiring diagrams are located in the junction box inside of the duct furnace controls enclosure. Motor, damper and supply voltage wiring diagrams are located in the junction box inside the unit's blower section cabinet. (See Figure 5).

The power supply to the furnace should be protected with a fused disconnect switch. External electrical service connections that must be installed include:

1. Power supply connection (120, 208, 240, or 480 volts).
2. Room thermostat connection (25 volts).
3. Connection of remote-monitoring panel, night setback thermostat, time-clocks or any other accessories that may be supplied (25 volts).

Supply voltage must be within 10 percent of the power rating with each phase balanced within 2 percent of each other. If not, advise the power company. If low current ground fault protection is desired it must be furnished separately and external to the unit. Most utilities, the National Electrical Code and local codes will require additional over-current protection and a disconnect switch for primary circuits at each of the unit connections.

Note: If non-metallic conduit is used and the equipment is isolated from the grounded structural metal frame, connect a separate ground wire from the equipment frame in accordance with the National Electric Code and any local codes that may apply.

Thermostat connections must be made separately in accordance with the proper wiring diagram furnished in the control enclosure of each unit.

Before powering unit, make sure all multi-voltage components (transformers, motors, etc.) are wired in accordance with the supply voltage.

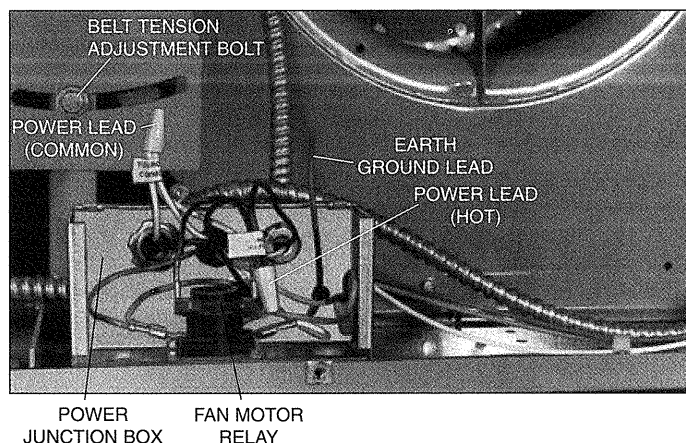
Electrical Control Box

To provide a separate and safer electrical grouping for operation, maintenance, and service, all electrical terminations are made to a control box located in the blower section.

Figure 5

Power Supply Junction Box

The junction box is located in the left hand side of the blower section when looking into the discharge end of the unit.



Venting

⚠ CAUTION

Gas duct furnaces must be vented – do not operate unvented. A built-in draft diverter is provided – Additional external diverters are not required or permitted.

See page 6 of Bulletin 5-505 for complete venting instructions.

Piping

⚠ CAUTION

Gas pressure to duct furnace controls must never exceed 14" W.C. Testing piping system - the appliance and its individual shut-off valve must be disconnected from the gas supply piping system during any pressure testing if the test pressure is in excess of 1/2 psi.

The appliance must be isolated from the gas supply piping system by closing its individual manual shut-off valve during any pressure testing of the gas supply system at test pressures equal to or less than 1/2 psi.

See page 7 of Bulletin 5-505 for complete piping instructions.

Operation

⚠ CAUTION

Start-up adjustment procedures must be performed by a qualified serviceman. Gas pressure to unit heater must never exceed 14" W.C. Testing Piping System - the appliance and its individual shut-off valve must be disconnected from the gas supply piping system during any pressure testing if the test pressure is in excess of 1/2 psi.

The appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply system at test pressures equal to or less than 1/2 psi.

Check the gas supply pressure at the unit upstream from the pressure regulator. **For the purpose of input adjustment, the minimum supply pressure should be 6" W.C. on natural gas or 11" W.C. on propane. The maximum inlet pressure on natural gas should be 7" W.C. and 14" W.C. on propane. Supply pressure with any gas may never exceed 14" W.C.;** if so, install an additional pressure regulator upstream of the combination gas valve. The pilot flame must be adjusted, as described on p. 9 of Bulletin 5-505, or a pilot pressure regulator must be applied. Purging of air from gas lines, piping, and lighting the pilot should be performed as described in ANSI Z223.1 – latest edition National Fuel Gas Code (CAN/CGA-B149 in Canada).

OPERATION

Prior to Operation

See page 9 of Bulletin 5-505 for special instructions prior to operation.

Pilot Flame Adjustment

See page 9 of Bulletin 5-505 for complete pilot flame adjustment instructions.

Natural Gas Flame Control

See page 10 of bulletin 5-505 for complete natural gas flame control instructions.

Propane Gas Flame Control

See page 10 of Bulletin 5-505 for complete propane gas flame control instructions.

Checking Input Rate

⚠ CAUTION

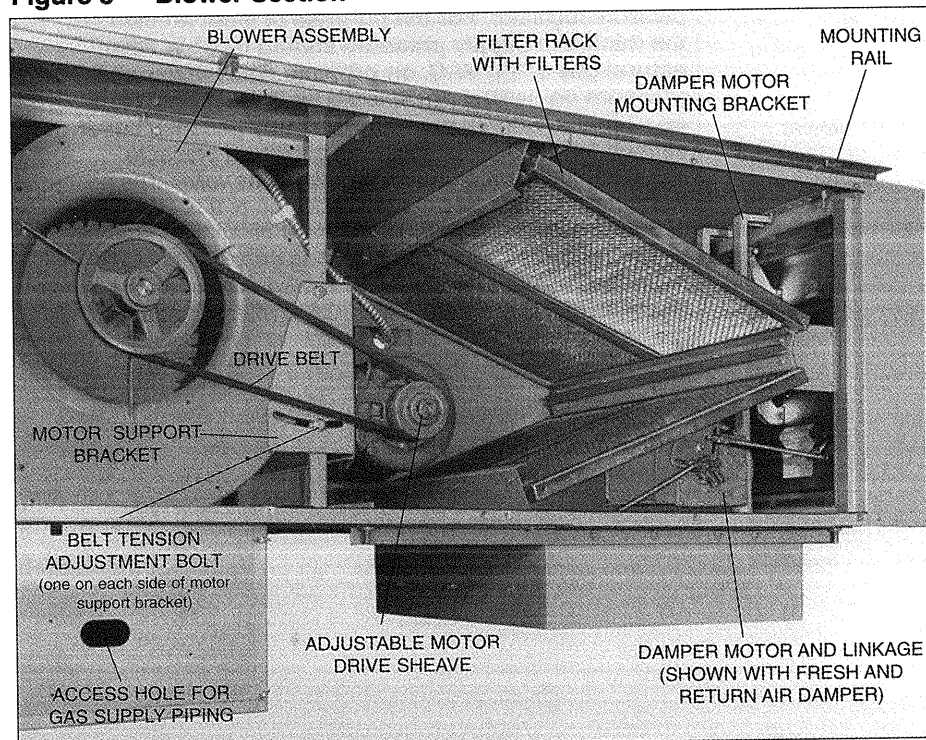
Check the gas supply pressure at the unit upstream from the pressure regulator. **For the purpose of input adjustment, the minimum supply pressure should be 6" W.C. on natural gas or 11" W.C. on propane. The maximum inlet pressure is 14" W.C. If supply pressure exceeds 14" W.C.,** install an additional pressure regulator upstream of the combination gas valve. The pilot flame must be adjusted, as described on page 9 of Bulletin 5-505, or a pilot pressure regulator must be applied. Purging of air from gas lines, piping, and lighting the pilot should be performed as described in ANSI Z223.1 – latest edition National Fuel Gas Code (CAN/CGA-B149 in Canada).

See page 10 of Bulletin 5-505 for complete instructions for checking unit input rate.

Blower Adjustments

Following electrical connections, check blower rotation to assure blow-through heating. If necessary, interchange wiring to reverse blower rotation. Start blower motor and check blower sheave RPM

Figure 8 — Blower Section



with a hand-held or strobe-type tachometer. RPM should check out with the speeds listed in Performance Data curves shown in this manual, according to the job specifications. A single-speed motor with an adjustable motor sheave is supplied with these units. If blower fan speed changes are required, adjust motor sheave as follows:

1. Refer to Table 12 to determine correct blower speed according to job requirements, then proceed with Steps 2 through 8.
2. Loosen motor base and take belt off of motor sheave.
2. Loosen set screw on outer side of adjustable motor sheave.
4. Turn outer side of motor sheave clockwise until motor sheave is fully closed.
5. From fully closed position, turn outer side of motor sheave counter clockwise until the proper number of turns open are achieved.
6. Retighten motor sheave set screw, replace belt and retighten motor base. Motor base should be shifted for proper belt tension which is 3/4" deflection with about 5 lbs. of force.

Figure 6

Motor Sheave Adjustment

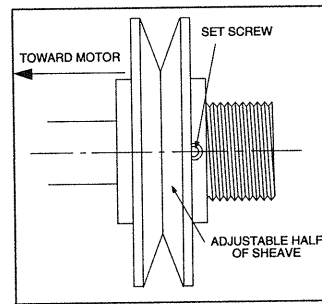
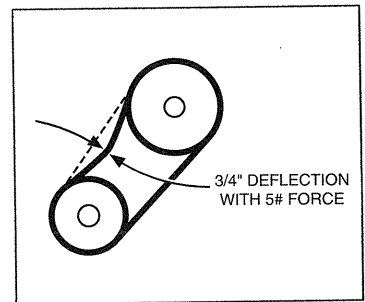


Figure 7

Belt Tension Adjustment



7. Re-check blower rpm after adjustment.

Note: Do not fire unit until blower adjustment has been made or unit may cycle on high limit (overheat) control.

8. Check motor amps. Do not exceed NPA shown on motor nameplate.

PERFORMANCE AND SELECTION

Table 1 – General Performance Data – Models DHE ①

	Model Size															
	DHE75	DHE100	DHE125	DHE126	DHE150	DHE200	DHE201	DHE225	DHE226	DHE250	DHE251	DHE300	DHE301	DHE350	DHE351	DHE400
				①			③		③		③		③		③	③
Btu/Hr Input ②	75,000	100,000	125,000	125,000	150,000	200,000	200,000	225,000	225,000	250,000	250,000	300,000	300,000	350,000	350,000	400,000
Btu/Hr Output	60,000	80,000	100,000	100,000	120,000	160,000	160,000	180,000	180,000	200,000	200,000	240,000	240,000	280,000	280,000	320,000
Temp. Rise Range (°F)	21-85	28-85	45-85	21-50	27-85	37-85	25-40	40-85	30-45	45-85	30-50	35-100	30-60	45-100	37-70	50-85
CFM Range	654-2646	871-2646	1089-2058	1852-4409	1307-4115	1743-4004	3704-5926	1961-4167	3704-5556	2179-4115	3704-6173	2222-6349	3704-6944	2593-5761	3704-7007	3486-5926
Total Static Pressure Range (Inches of Water)	0-2.0	0-2.0	0-2.0	0-1.4	0-2.0	0-2.0	0-1.4	0-2.0	0-1.4	0-2.0	0-1.4	0-1.4	0-1.4	0-1.4	0-1.4	0-1.4

① All are approved for use in California by CEC when equipped with intermittent pilot ignition gas controls.

② Ratings are shown for elevations up to 2000 feet. For higher elevations, the input rating should be reduced at the rate of 4% for each 1000 feet above sea level. Does not apply in Canada – See rating plate.

③ Models 126, 201, 226 251, 301 351 and 401 are identical to parent models 125, 200, 225, 250, 300, 350 and 400 respectively, except they have different blower assemblies for higher cfm applications.

Table 2 – Air Temperature Rise – Models DHE

Btu/Hr ①		Air Temperature Rise Through Unit (°F)																
Input	Output	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
		CFM (Standard Air)																
75,000	60,000	2646 ②	2222	1852	1587	1389	1235	1111	1010	926	855	794	741	694	654	—	—	—
100,000	80,000	—	2646 ③	2469	2116	1852	1646	1481	1347	1235	1140	1058	988	926	871	—	—	—
125,000	100,000	4409 ④	3704	3086	2646	2315	2058	1852	1684	1563	1442	1339	1250	1172	1103	—	—	—
150,000	120,000	—	4115 ⑤	3704	3175	2778	2469	2222	2020	1852	1709	1587	1481	1389	1307	—	—	—
200,000	160,000	—	5926	4938	4233	3704	3292	2963	2694	2469	2279	2116	1975	1852	1743	—	—	—
225,000	180,000	—	—	5556	4762	4167	3704	3333	3030	2778	2564	2381	2222	2083	1961	—	—	—
250,000	200,000	—	—	6173	5291	4630	4115	3704	3367	3086	2849	2646	2469	2315	2179	—	—	—
300,000	240,000	—	—	6944 ⑥	6349	5556	4938	4444	4040	3704	3419	3175	2963	2778	2614	2469	2339	2222
350,000	280,000	—	—	—	7007 ⑦	6481	5761	5185	4714	4321	3989	3704	3457	3241	3050	2881	2729	2593
400,000	320,000	—	—	—	—	7055 ⑧	6584	5926	5387	4938	4558	4233	3951	3704	3486	—	—	—

① Ratings are shown for elevations up to 2000 ft. For higher elevations the input rating should be reduced at the rate of 4% for each 1000 feet above sea level. Does not apply in Canada-See rating plate.

② At 21°F temperature rise.

③ At 28°F temperature rise.

④ At 21°F temperature rise.

⑤ At 27°F temperature rise.

⑥ At 32°F temperature rise.

⑦ At 37°F temperature rise.

⑧ At 42°F temperature rise.

Unit Selection Procedure - DHE Models

Step 1) Select Basic Model Size

From the General Performance Tables 1 and 2, select the basic unit size based on the required job specifications.

Example:

Select a unit which can deliver approximately 3700 cfm of air with an air temperature rise of 40°F. The unit is to be used to deliver 3700 cfm at an external static pressure of 0.3" water column.

Solution:

Refer to Table 2 - Air Temperature Rise - Models DHE. Enter the top of the table at the 40°F temperature rise column and read down the column until a cfm of approximately 3700 cfm is found. At that cfm, read to the left and note the btu/hr input and output required to achieve a 40°F temperature rise.

For this example, a cfm of 3704 is shown under the 40°F column, and the required btu/hr input is 200,000 btu/hr, with an output of 160,000 btu/hr.

Next, refer to Table 1 - General Performance Data and locate the model which meets the btu/hr input and output required. For this example, the base model number is either a DHE200 or a DHE201.

Given that there are two possible units which can achieve the desired conditions we must go through the selection procedure and compare the units for optimum operation. Not all capacities have more than one unit associated with them.

It is necessary to select a motor and drive which will deliver the required cfm at the specified external static pressure, but before the motor and drive can be selected, it is necessary to

determine what the internal static pressure drops will be when using the DHE200 or DHE201 unit with an air delivery of 3704 cfm. These internal pressure drops must be added to the external static pressure to arrive at a total static pressure, which is to be used with the DHE blower performance curves shown in this manual.

Step 2) Determine Pressure Drop of DHE Heating Section and Blower Connector Kit

To determine the pressure drop through a particular DHE heating section, refer to pressure drop Curve #1 or #2 shown on page 11, depending on unit size. Using the pressure drop curve corresponding to the model being selected, enter that curve at the desired operating cfm and read up the cfm line until it intersects the pressure drop curve for the model being used. At the point of intersection, read across to the left and find the pressure drop through the heating section.

Example:

Find the pressure drop through the heating section of a model DHE200/201 with a cfm through-put of 3704 cfm.

Solution:

Enter the bottom of Curve #2 at 3704 cfm.

Read up the 3704 cfm line until it intersects the pressure drop curve for a DHE200/201 unit.

At the point of intersection, read across the curve to the left, and note the pressure drop. For this example the pressure drop is shown to be approximately 0.23" water column.

PERFORMANCE AND SELECTION

Step 3) Determine Pressure Drop for Filters

If filters are to be used with the DHE unit, the pressure drop of the filters must also be added to the external static pressure and DHE heating section pressure drop to arrive at a total static pressure. The filter curves are shown on page 12. Curve #3 is used to estimate the filter pressure drop based on unit size and cfm.

Example:

A model DHE200/201 is to be operated at 3704 cfm and will include 1" filters. Determine the filter pressure drop for this unit.

Solution:

Enter the bottom of Curve #3 at 3704 cfm. Move up the curve on the 3704 cfm line until it intersects the one inch filter curve for a model DHE200/201. At the point of intersection, read across the curve to the left to find the expected pressure drop. For this example, the expected pressure drop would be 0.33" w.c.

Step 4) Determine Total Static Pressure Drop for Application

The total static pressure drop is determined by adding the internal pressure drops to the external static pressure under which the unit is to operate. These internal unit pressure drops are the pressure loss through DHE heating section and connector kit, and through the filters if they are used.

Example:

Determine the total static pressure for a DHE unit which is to deliver 3704 cfm of air against an external static pressure of 0.3" of water column. The unit is to be supplied with filters.

Solution:

Using steps #2 and #3, it is found that the internal pressure drops for this example are 0.23" w.c. for the heating section, and 0.33" w.c. for the filters. The external static pressure is given as 0.3" w.c.

The total static pressure is the sum of the internal and external pressure losses or,

$$\begin{aligned}\text{Total Static Pressure} &= 0.23 + 0.33 + 0.3 \\ &= 0.86" \text{ water column}\end{aligned}$$

Step 5) Select Unit Motor Horsepower and Blower Speed

Once the Total Static Pressure has been determined as shown in Steps #2 through #4, the required motor horsepower and blower speed can be determined. Blower Performance Curves #4 through #10 as shown on pages 13 through 16 are used for this selection. We must select the motor horsepower and blower speed for both units so we can compare the units and make our selection.

Example:

Determine the correct motor horsepower and blower speed for a DHE200 and DHE201 delivering 3704 cfm with a total static pressure of 0.86" w.c.

Solution:

Refer to the Blower Performance Curves shown on pages 13 through 16, and locate the curve which lists the DHE200 model (curve #6) and DHE201 (curve #7).

Enter the bottom of the performance curves at 3704 cfm and read up the curve until it intersects with the 0.86" w.c. static pressure line. At the point of intersection, read off the motor horsepower and blower speed.

Note:

The solid lined curves show the blower speed in rpms. The dotted lined curves shown the motor horsepower.

Important:

When selecting motor horsepower, always read the horsepower to the right of the selection point. The blower speed is determined by interpolating the speed between the rpm curves on either side of the selection point.

For this example, the correct horsepower is 3 hp and the estimated blower speed is 1105 rpm for the DHE200. For the DHE201 the correct horsepower is 1 1/2 hp and the estimated blower speed is 705 rpm. Once the points of operation are determined the units can be compared. For this example let's assume the DHE201 is picked based on the attractiveness of a smaller motor operating at lower speed.

Step 6) Determine Complete Unit Model Number

Steps #1 through #5 determine what the basic model size, motor horsepower, and blower speed are to be based on specific job specification. Once the model size is determined, the model number is modified by adding a code letter to specify heat exchanger material, adding a two-digit Power Code to specify the motor voltage and drive, and adding a two-digit Control Code to specify the type of gas controls to be used. The following examples show how the basic model number is modified.

Select Heat Exchanger Material

Example:

Select a heat exchanger material for the unit selected in Steps #1 through #5.

Solution:

The basic model selected was a DHE201. To select a heat exchanger material, add the letter "A" to the model number for the unit with an aluminized steel heat exchanger, or the letter "S" for a unit with a stainless steel heat exchanger.

eg. DHE201AB* - 200,000 btu/hr input unit with an aluminized steel heat exchanger.

eg. DHE201SF* - 200,000 but/hr input unit with a stainless steel heat exchanger.

*Stainless steel is recommended for applications where the entering temperature to the DHE unit can be expected to be below 40°F or where high humidity levels are expected.

The code letters following the heat exchanger material code letter are used to identify whether a unit is supplied with standing pilot gas controls or with intermittent pilot ignition gas controls. These code letters are automatically added when a unit is ordered, depending on the type of gas controls ordered, and it is not necessary to enter these letters when determining a complete model number.

Power Code Designation

After checking the job specifications and determining the unit performance requirements, check the unit model number nomenclature to be sure the unit has been supplied with the correct motor horsepower and voltage, and that the desired rpm can be obtained.

This check can be made by referring to the Power Code Description Tables 5 through 10, shown on pages 18 through 20, matching the Power Code Number on the unit identification plate (See model nomenclature) with those shown in the Power Code Description Tables.

eg. A model DHE201SF4156 unit would have a Power Code 41. Referring to Table 8, it is seen that Power Code 41 for a 201 size unit would include a 1-1/2 hp 230/460v/60Hz/3φ motor and a C54 drive package. Table 4 shows that the C54 drive package has a drive rpm range of 653 to 845 rpm.

Follow the instructions for Motor and Drive Data, under the heading "Selecting Blower Drive Setting", to determine how to properly adjust and set the blower speed (See Table 4).

PERFORMANCE AND SELECTION

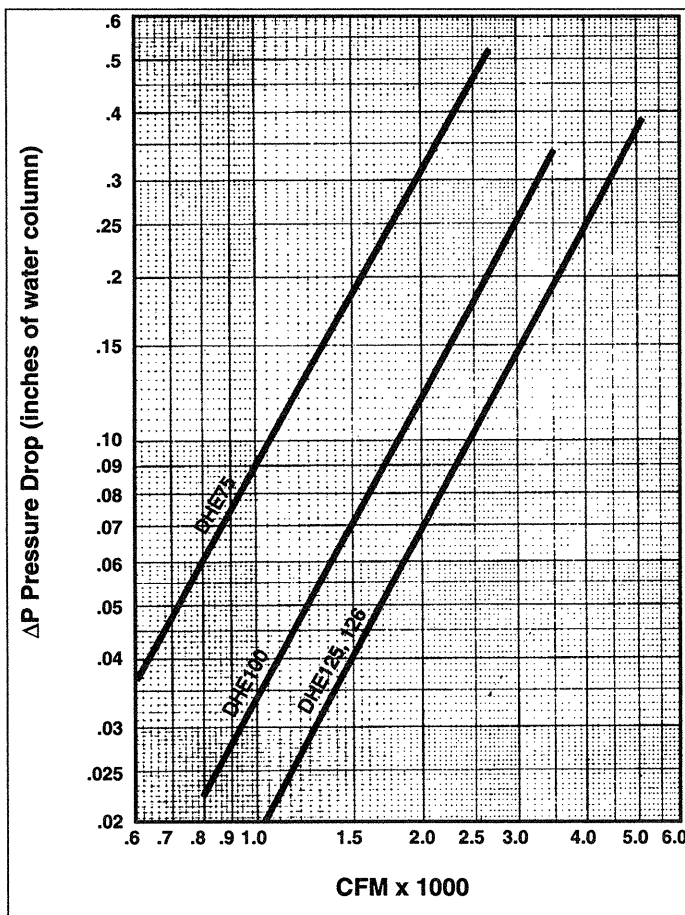
Control Code Designation

To determine what type of controls have been furnished with the unit, it is again necessary to refer to the model number on the Identification Plate on the unit, and to the Model Designation nomenclature. The Control Code Number is the last two digits of the model number.

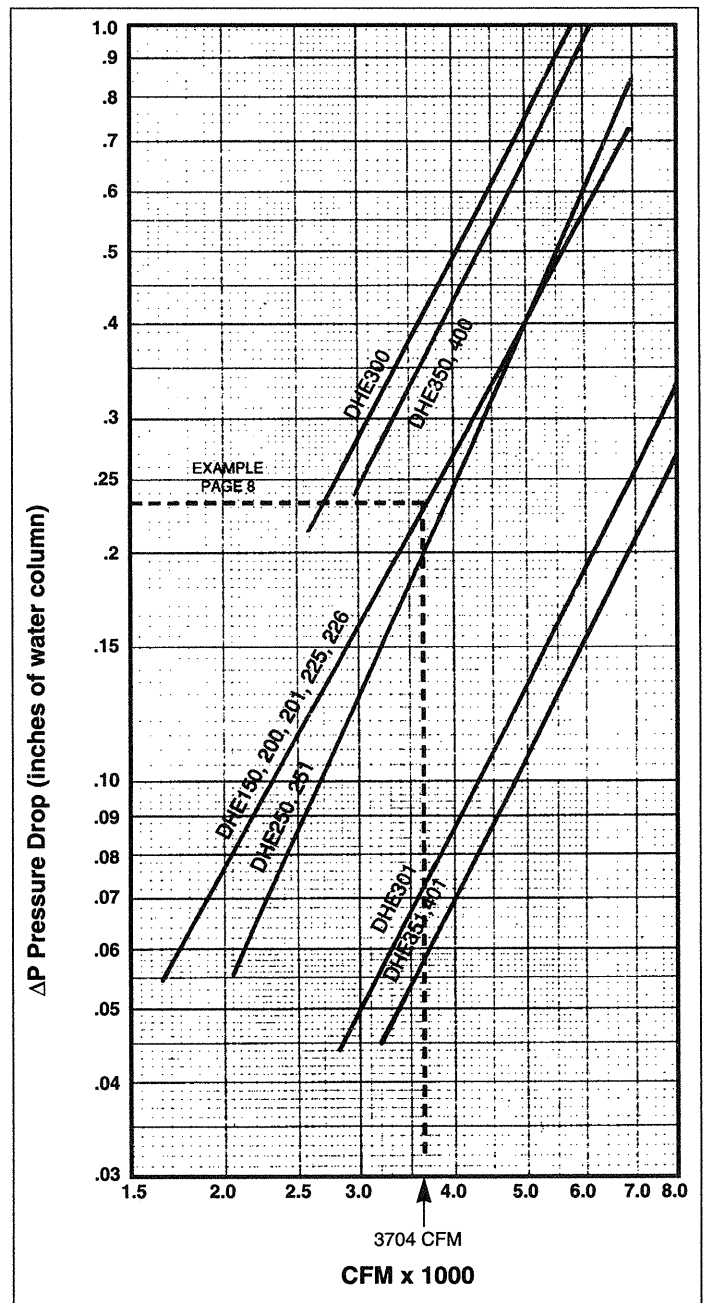
After determining what the Control Number is, refer to Table 13 and locate the column which lists the Control Code numbers. Find the Control Code number which matches the number shown on the unit Identification Plate. The description in Table 13 provides the detail on the type of gas controls supplied.

eg. A model DHE201SF4156 unit has a Control Code number of 56. Referring to Table 13 it is seen that this example unit would have been supplied with 230v/25v two-stage gas controls with intermittent duty pilot ignition for use with natural gas.

Curve 1 Pressure Drop Curves for Model DHE75 Through DHE126 Heating Section & Blower Connector Kits

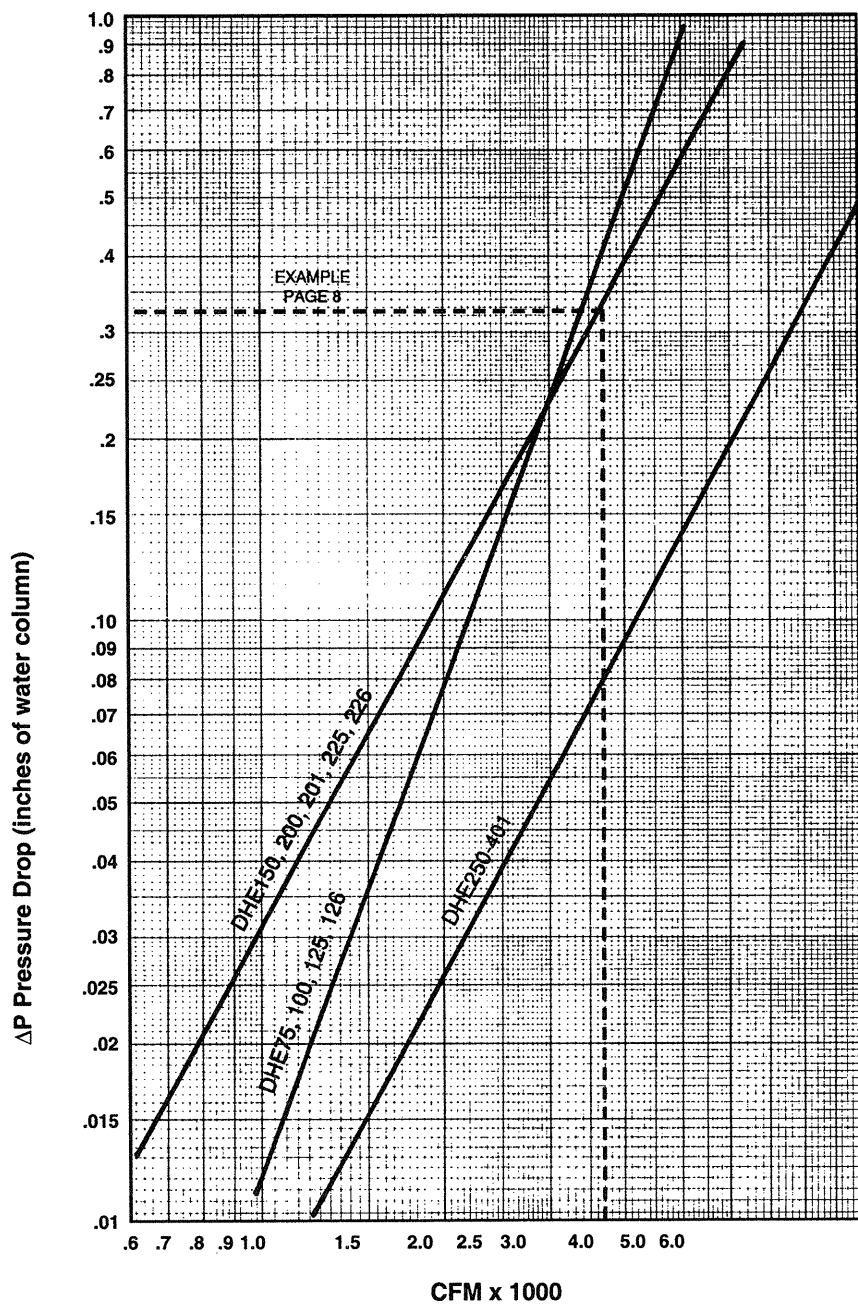


Curve 2 Pressure Drop Curves for Model DHE150 Through DHE401 Heating Section & Blower Connector Kits



PERFORMANCE

Curve 3
Filter Resistance (Clean Filters)



- ① Before using Blower Performance Curves, make sure the pressure drop for the DHE heating section and blower connector kit, and filters if used, is added to the required external static pressure required for the application.

PERFORMANCE

Curve 4

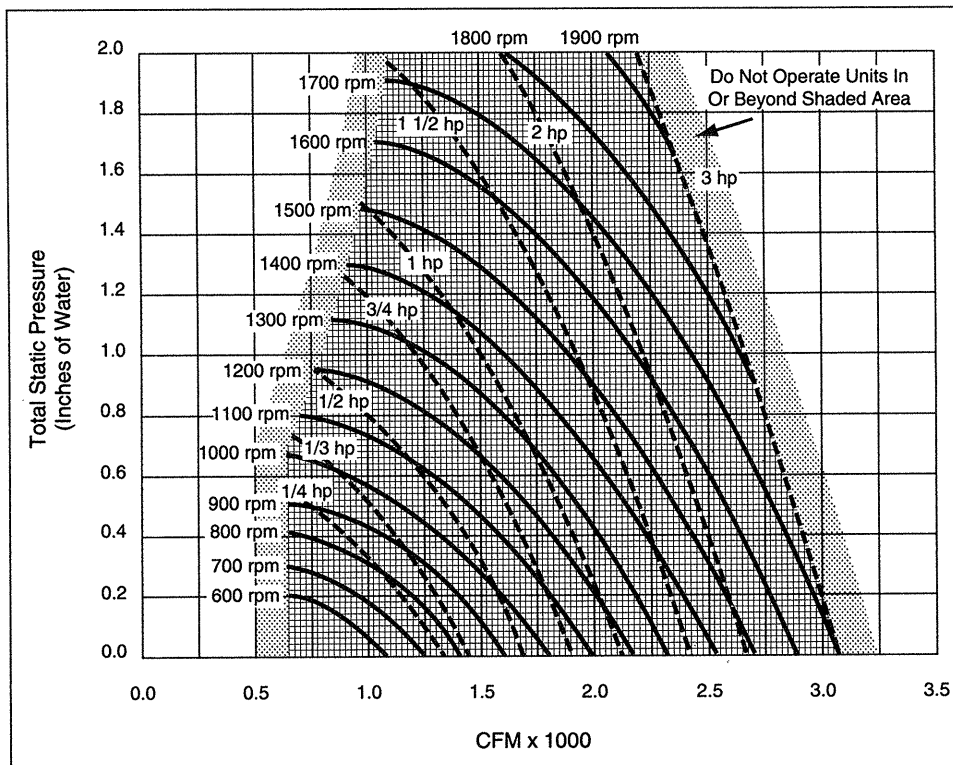
Blower Performance Curves

Models DHE75, DHE100, DHE125 ①



CAUTION

Do not operate units outside of CFM range listed for each model.



Model	Min CFM	Max CFM
DHE75	654	2778
DHE100	871	2849
DHE125	1089	2646

- ① Before using Blower Performance Curves, make sure the pressure drop for the DHE heating section and blower connector kit, and filters if used, is added to the required external static pressure required for the application.

Table 4

Motor Power Code Selection – Models DHE75, 100 & 125

HP	Voltage	Blower RPM Ranges			
		546-834	819-1250	1173-1518	1466-1898
		Power Code	Power Code	Power Code	Power Code
1/4	115v/60Hz/1φ	01	–	–	–
1/3	115v/60Hz/1φ	02	10	–	–
1/3	230v/60Hz/1φ	03	11	–	–
1/3	200v/60Hz/3φ	04	12	–	–
1/3	230v/460v/60Hz/3φ	05	13	–	–
1/2	115v/60Hz/1φ	06	14	–	–
1/2	230v/60Hz/1φ	07	15	–	–
1/2	200v/60Hz/3φ	08	16	–	–
1/2	230v/460v/60Hz/3φ	09	17	–	–
3/4	115v/60Hz/1φ	–	18	28	–
3/4	230v/60Hz/1φ	–	19	29	–
3/4	200v/60Hz/3φ	–	20	30	–
3/4	230v/460v/60Hz/3φ	–	21	31	–
1	115v/230v/60Hz/1φ	–	22	32	–
1	200v/60Hz/3φ	–	23	33	–
1	230v/460v/60Hz/3φ	–	24	34	–
1-1/2	115v/230v/60Hz/1φ	–	25	35	42
1-1/2	200v/60Hz/3φ	–	26	36	43
1-1/2	230v/460v/60Hz/3φ	–	27	37	44
2	200v/60Hz/3φ	–	–	38	45
2	230v/460v/60Hz/3φ	–	–	39	46
3	200v/60Hz/3φ	–	–	40	47
3	230v/460v/60Hz/3φ	–	–	41	48

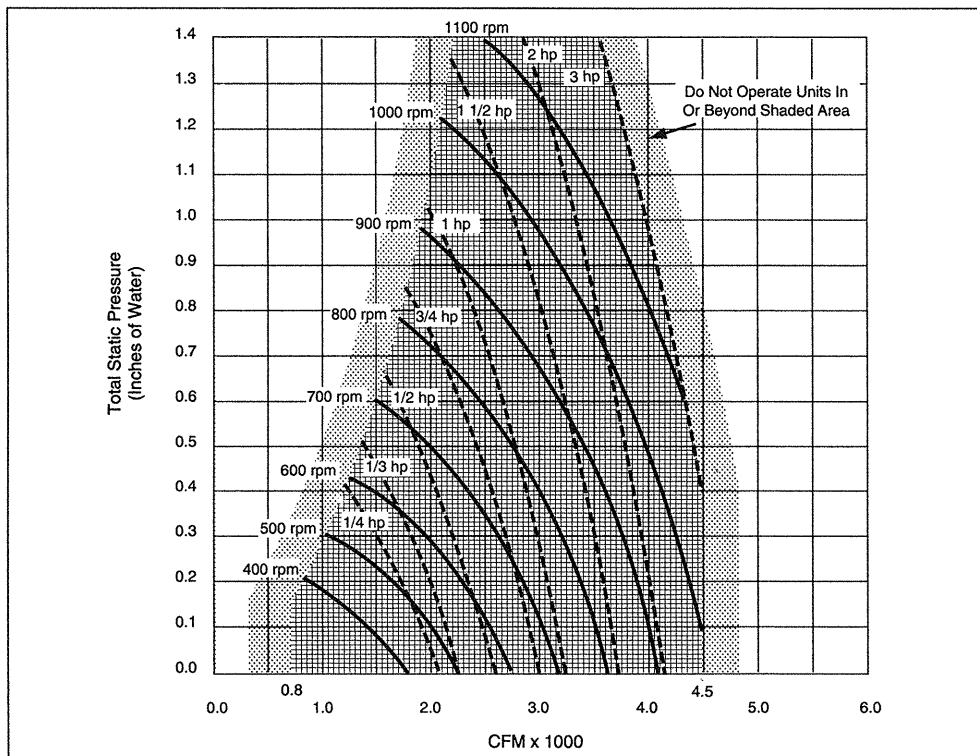
PERFORMANCE

Curve 5 Blower Performance Curves Model DHE126 ①



CAUTION

Do not operate units outside of CFM range listed for each model.



Model	Min CFM	Max CFM
DHE126	1543	4409

- ① Before using Blower Performance Curves, make sure the pressure drop for the DHE heating section and blower connector kit, and filters if used, is added to the required external static pressure required for the application.

Table 5
Motor Power Code Selection – Models DHE126

HP	Voltage	Blower RPM Ranges				
		252-385	365-555	545-833	820-1250	975-1265
		Power Code	Power Code	Power Code	Power Code	Power Code
1/4	115v/60Hz/1φ	39	37	–	–	–
1/3	115v/60Hz/1φ	–	01	03	–	–
1/3	230v/60Hz/1φ	–	02	04	–	–
1/3	200v/60Hz/3φ	–	21	15	–	–
1/3	230v/460v/60Hz/3φ	–	22	16	–	–
1/2	115v/60Hz/1φ	–	–	05	–	–
1/2	230v/60Hz/1φ	–	–	07	–	–
1/2	200v/60Hz/3φ	–	–	11	–	–
1/2	230v/460v/60Hz/3φ	–	–	12	–	–
3/4	115v/60Hz/1φ	–	–	06	23	–
3/4	230v/60Hz/1φ	–	–	08	24	–
3/4	200v/60Hz/3φ	–	–	13	27	–
3/4	230v/460v/60Hz/3φ	–	–	14	28	–
1	115v/230v/60Hz/1φ	–	–	09	25	–
1	200v/60Hz/3φ	–	–	17	29	–
1	230v/460v/60Hz/3φ	–	–	18	30	–
1-1/2	115v/230v/60Hz/1φ	–	–	10	26	–
1-1/2	200v/60Hz/3φ	–	–	19	31	–
1-1/2	230v/460v/60Hz/3φ	–	–	20	32	–
2	200v/60Hz/3φ	–	–	–	33	–
2	230v/460v/60Hz/3φ	–	–	–	34	–
3	200v/60Hz/3φ	–	–	–	–	35
3	230v/460v/60Hz/3φ	–	–	–	–	36

PERFORMANCE

Curve 6

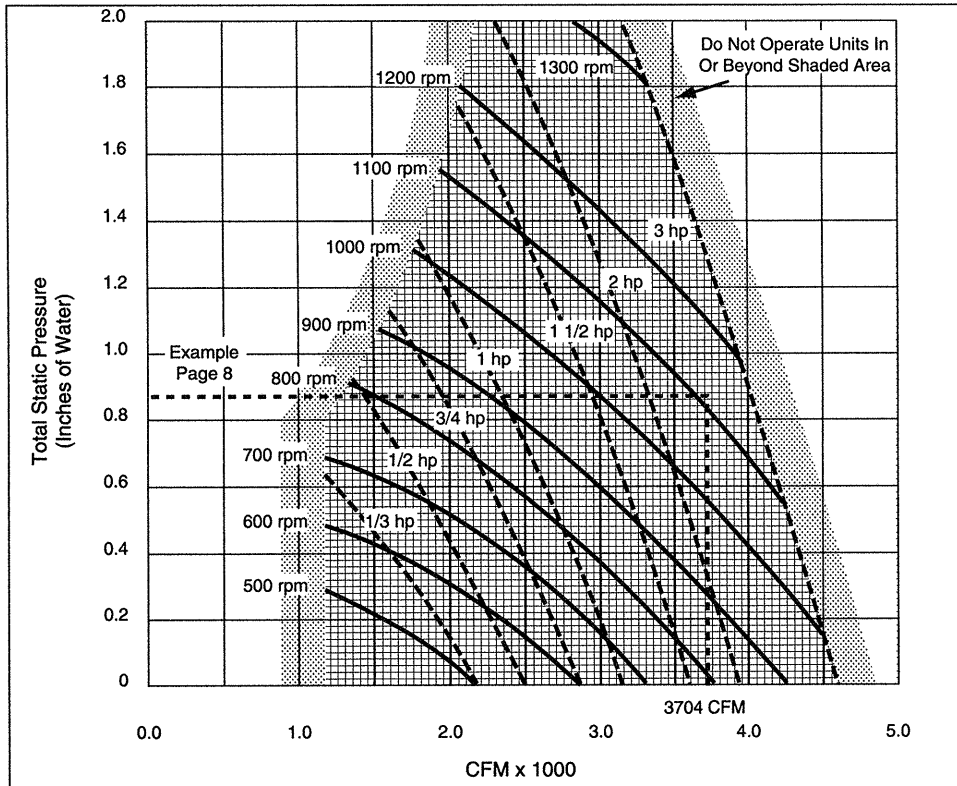
Blower Performance Curves

Models DHE150, DHE200, DHE225 ①



CAUTION

Do not operate units outside of CFM range listed for each model.



① Before using Blower Performance Curves, make sure the pressure drop for the DHE heating section and blower connector kit, and filters if used, is added to the required external static pressure required for the application.

Model	Min CFM	Max CFM
DHE150	1307	4115
DHE200	1743	4004
DHE225	1961	4167

Table 6

Motor Power Code Selection – Models DHE150, 200 & 225

HP	Voltage	Blower RPM Ranges									
		468-715		690-936		838-1084		978-1265		1173-1380	
		Power Code		Power Code		Power Code		Power Code		Power Code	
		150/200	225	150/200	225	150/200	225	150/200	225	150/200	225
1/3	115v/60Hz/1φ	01	–	–	–	–	–	–	–	–	–
1/3	230v/60Hz/1φ	02	–	–	–	–	–	–	–	–	–
1/3	200v/60Hz/3φ	03	–	–	–	–	–	–	–	–	–
1/3	230v/460v/60Hz/3φ	04	–	–	–	–	–	–	–	–	–
1/2	115v/60Hz/1φ	05	01	19	–	–	–	–	–	–	–
1/2	230v/60Hz/1φ	06	02	20	–	–	–	–	–	–	–
1/2	200v/60Hz/3φ	07	03	21	–	–	–	–	–	–	–
1/2	230v/460v/60Hz/3φ	08	04	22	–	–	–	–	–	–	–
3/4	115v/60Hz/1φ	09	05	23	15	37	–	–	–	–	–
3/4	230v/60Hz/1φ	10	06	24	16	38	–	–	–	–	–
3/4	200v/60Hz/3φ	11	07	25	17	39	–	–	–	–	–
3/4	230v/460v/60Hz/3φ	12	08	26	18	40	–	–	–	–	–
1	115v/230v/60Hz/1φ	13	09	27	19	41	29	51	–	–	–
1	200v/60Hz/3φ	14	10	28	20	42	30	52	–	–	–
1	230v/460v/60Hz/3φ	15	11	29	21	43	31	53	–	–	–
1-1/2	115v/230v/60Hz/1φ	16	12	30	22	44	32	54	39	61	–
1-1/2	200v/60Hz/3φ	17	13	31	23	45	33	55	40	62	–
1-1/2	230v/460v/60Hz/3φ	18	14	32	24	46	34	56	41	63	–
2	200v/60Hz/3φ	–	–	33	25	47	35	57	42	64	46
2	230v/460v/60Hz/3φ	–	–	34	26	48	36	58	43	65	47
3	200v/60Hz/3φ	–	–	35	27	49	37	59	44	66	48
3	230v/460v/60Hz/3φ	–	–	36	28	50	38	60	45	67	49

PERFORMANCE

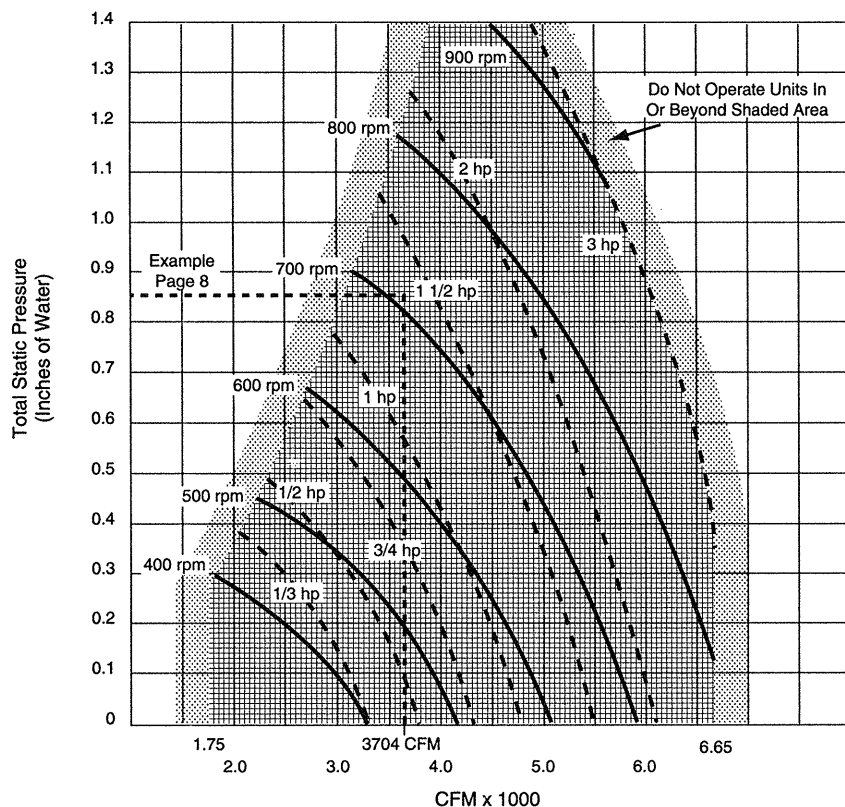
Curve 7 Blower Performance Curves Models DHE201, DHE226 ①



CAUTION

Do not operate units outside of CFM range listed for each model.

- ① Before using Blower Performance Curves, make sure the pressure drop for the DHE heating section and blower connector kit, and filters if used, is added to the required external static pressure required for the application.



Model	Min CFM	Max CFM
DHE201	1743	5926
DHE226	1961	5556

Table 7
Motor Power Code Selection – Models DHE201 & 226

HP	Voltage	Blower RPM Ranges				
		252-385	365-555	533-690	650-845	733-950
		Power Code	Power Code	Power Code	Power Code	Power Code
1/3	115v/60Hz/1φ	01	05	–	–	–
1/3	230v/60Hz/1φ	02	06	–	–	–
1/3	200v/60Hz/3φ	03	16	–	–	–
1/3	230v/460v/60Hz/3φ	04	17	–	–	–
1/2	115v/60Hz/1φ	–	07	–	–	–
1/2	230v/60Hz/1φ	–	09	–	–	–
1/2	200v/60Hz/3φ	–	12	–	–	–
1/2	230v/460v/60Hz/3φ	–	13	–	–	–
3/4	115v/60Hz/1φ	–	08	21	–	–
3/4	230v/60Hz/1φ	–	10	23	–	–
3/4	200v/60Hz/3φ	–	14	28	–	–
3/4	230v/460v/60Hz/3φ	–	15	29	–	–
1	115v/230v/60Hz/1φ	–	11	24	36	–
1	200v/60Hz/3φ	–	18	30	38	–
1	230v/460v/60Hz/3φ	–	19	31	39	–
1-1/2	115v/230v/60Hz/1φ	–	–	25	37	–
1-1/2	200v/60Hz/3φ	–	–	32	40	–
1-1/2	230v/460v/60Hz/3φ	–	–	33	41	–
2	200v/60Hz/3φ	–	–	34	42	–
2	230v/460v/60Hz/3φ	–	–	35	43	–
3	200v/60Hz/3φ	–	–	–	44	48
3	230v/460v/60Hz/3φ	–	–	–	45	49

PERFORMANCE

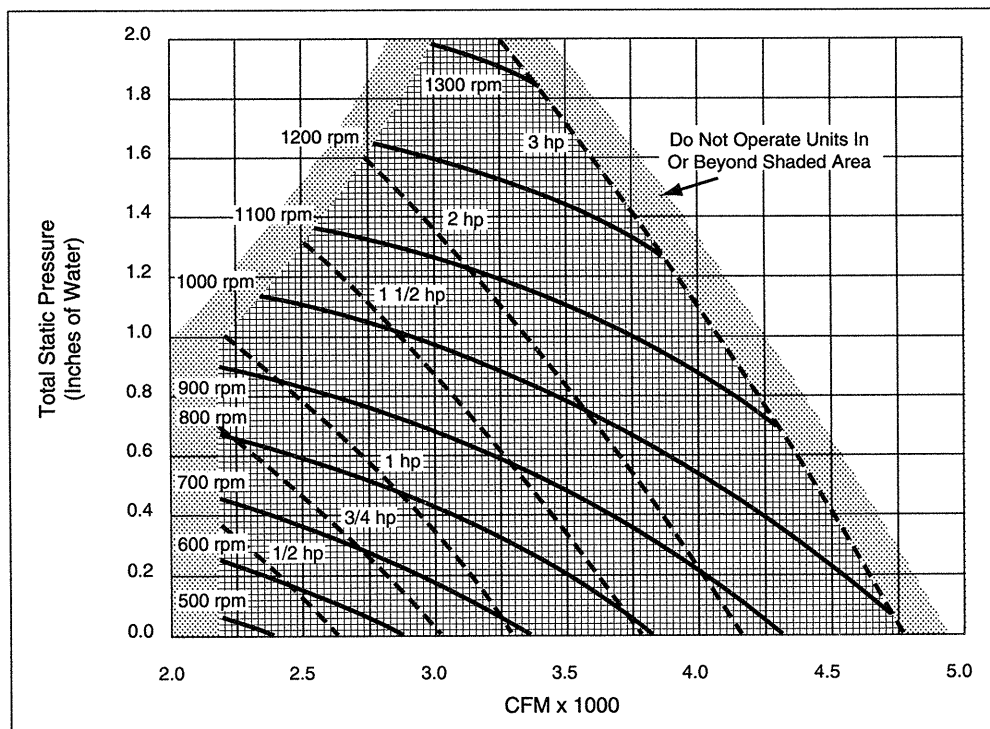
Curve 8
Blower Performance Curves
Model DHE250 ①



CAUTION

Do not operate units outside of CFM range listed for each model.

① Before using Blower Performance Curves, make sure the pressure drop for the DHE heating section and blower connector kit, and filters if used, is added to the required external static pressure required for the application.



Model	Min CFM	Max CFM
DHE250	2179	4630

Table 8
Motor Power Code Selection – Models DHE250

HP	Voltage	Blower RPM Ranges				
		468-715	690-936	838-1084	978-1265	1173-1311
		Power Code	Power Code	Power Code	Power Code	Power Code
1/2	115v/60Hz/1φ	01	–	–	–	–
1/2	230v/60Hz/1φ	02	–	–	–	–
1/2	200v/60Hz/3φ	03	–	–	–	–
1/2	230v/460v/60Hz/3φ	04	–	–	–	–
3/4	115v/60Hz/1φ	05	15	–	–	–
3/4	230v/60Hz/1φ	06	16	–	–	–
3/4	200v/60Hz/3φ	07	17	–	–	–
3/4	230v/460v/60Hz/3φ	08	18	–	–	–
1	115v/230v/60Hz/1φ	09	19	29	–	–
1	200v/60Hz/3φ	10	20	30	–	–
1	230v/460v/60Hz/3φ	11	21	31	–	–
1-1/2	115v/230v/60Hz/1φ	12	22	32	39	–
1-1/2	200v/60Hz/3φ	13	23	33	40	–
1-1/2	230v/460v/60Hz/3φ	14	24	34	41	–
2	200v/60Hz/3φ	–	25	35	42	46
2	230v/460v/60Hz/3φ	–	26	36	43	47
3	200v/60Hz/3φ	–	27	37	44	48
3	230v/460v/60Hz/3φ	–	28	38	45	49

PERFORMANCE

Curve 9

Blower Performance Curves

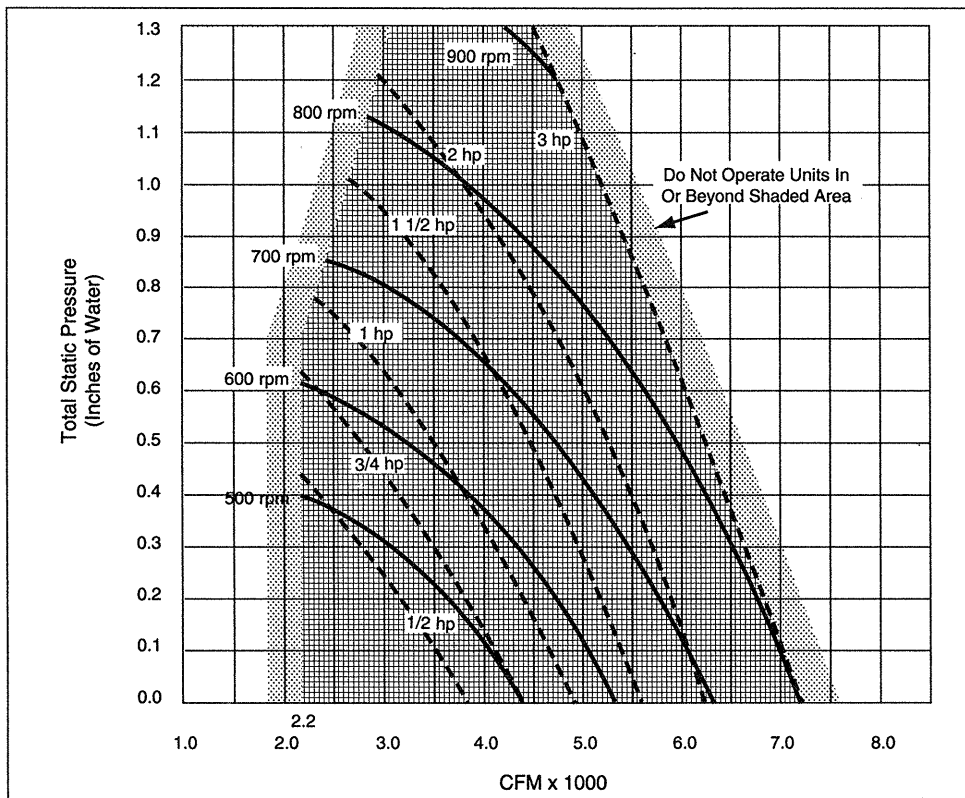
Models DHE251, DHE300, DHE350, DHE400 ①



CAUTION

Do not operate units outside of CFM range listed for each model.

- ① Before using Blower Performance Curves, make sure the pressure drop for the DHE heating section and blower connector kit, and filters if used, is added to the required external static pressure required for the application.



Model	Min CFM	Max CFM
DHE251	2179	6173
DHE300	2222	6349
DHE300	2593	5761
DHE400	3486	5926

Table 9

Motor Power Code Selection – Models DHE251, 300, 350, & 400

HP	Voltage	Blower RPM Ranges				
		252-385	365-555	533-690	650-845	733-950
		Power Code	Power Code	Power Code	Power Code	Power Code
1/3	115v/60Hz/1φ	01	05	–	–	–
1/3	230v/60Hz/1φ	02	06	–	–	–
1/3	200v/60Hz/3φ	03	16	–	–	–
1/3	230v/460v/60Hz/3φ	04	17	–	–	–
1/2	115v/60Hz/1φ	–	07	–	–	–
1/2	230v/60Hz/1φ	–	09	–	–	–
1/2	200v/60Hz/3φ	–	12	–	–	–
1/2	230v/460v/60Hz/3φ	–	13	–	–	–
3/4	115v/60Hz/1φ	–	08	21	–	–
3/4	230v/60Hz/1φ	–	10	23	–	–
3/4	200v/60Hz/3φ	–	14	28	–	–
3/4	230v/460v/60Hz/3φ	–	15	29	–	–
1	115v/230v/60Hz/1φ	–	11	24	36	–
1	200v/60Hz/3φ	–	18	30	38	–
1	230v/460v/60Hz/3φ	–	19	31	39	–
1-1/2	115v/230v/60Hz/1φ	–	–	25	37	–
1-1/2	200v/60Hz/3φ	–	–	32	40	–
1-1/2	230v/460v/60Hz/3φ	–	–	33	41	–
2	200v/60Hz/3φ	–	–	34	42	–
2	230v/460v/60Hz/3φ	–	–	35	43	–
3	200v/60Hz/3φ	–	–	–	44	48
3	230v/460v/60Hz/3φ	–	–	–	45	49

PERFORMANCE

Curve 10

Blower Performance Curves

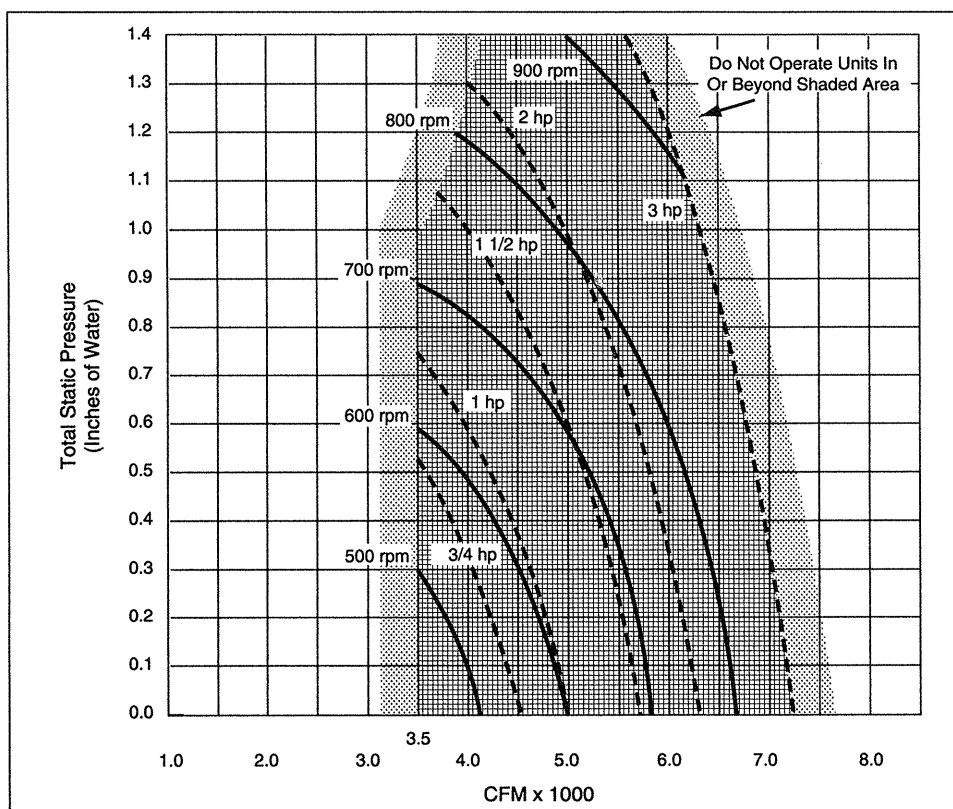
Models DHE301, DHE351, DHE401 ①



CAUTION

Do not operate units outside of CFM range listed for each model.

- ① Before using Blower Performance Curves, make sure the pressure drop for the DHE heating section and blower connector kit, and filters if used, is added to the required external static pressure required for the application.



Model	Min CFM	Max CFM
DHE301	3704	6944
DHE351	3503	7007
DHE401	3486	7055

Table 10

Motor Power Code Selection – Models DHE301, 351, 401

HP	Voltage	Blower RPM Ranges				
		252-385	365-555	533-690	650-845	733-950
		Power Code	Power Code	Power Code	Power Code	Power Code
1/3	115v/60Hz/1φ	01	05	–	–	–
1/3	230v/60Hz/1φ	02	06	–	–	–
1/3	200v/60Hz/3φ	03	16	–	–	–
1/3	230v/460v/60Hz/3φ	04	17	–	–	–
1/2	115v/60Hz/1φ	–	07	–	–	–
1/2	230v/60Hz/1φ	–	09	–	–	–
1/2	200v/60Hz/3φ	–	12	–	–	–
1/2	230v/460v/60Hz/3φ	–	13	–	–	–
3/4	115v/60Hz/1φ	–	08	21	–	–
3/4	230v/60Hz/1φ	–	10	23	–	–
3/4	200v/60Hz/3φ	–	14	28	–	–
3/4	230v/460v/60Hz/3φ	–	15	29	–	–
1	115v/230v/60Hz/1φ	–	11	24	36	–
1	200v/60Hz/3φ	–	18	30	38	–
1	230v/460v/60Hz/3φ	–	19	31	39	–
1-1/2	115v/230v/60Hz/1φ	–	–	25	37	–
1-1/2	200v/60Hz/3φ	–	–	32	40	–
1-1/2	230v/460v/60Hz/3φ	–	–	33	41	–
2	200v/60Hz/3φ	–	–	34	42	–
2	230v/460v/60Hz/3φ	–	–	35	43	–
3	200v/60Hz/3φ	–	–	–	44	48
3	230v/460v/60Hz/3φ	–	–	–	45	49

MOTOR AND DRIVE DATA

Selecting Blower Drive Setting

Tables 5 through 10 give the Power Code Numbers used on Modine Indoor Duct Furnace/Make-up Air units. The power code number describes the motor horsepower, voltage and amp draw and also indicates the drive number furnished with the unit. The power code number is found on the units Model Identification Plate (See page 30).

To determine how many turns open the motor sheave should be set for:

1. Follow the Selection Procedure found on pages 8 and 9 to determine what blower rpm is required to meet the job specifications.
2. Locate the unit model identification plate and note the Power Code number shown for the unit. This is a two digit number and follows the model number on the rating plate.
3. Once the power code number is known, enter Table #13 through #18, depending on the model number of the unit and locate the corresponding Power Code number. The drive used with the power code is shown in these tables.
Example: A Power Code 60 for a DHE200 unit uses a 3 hp, 230v/460v/60Hz/3 ϕ motor with a C141 drive.
4. After the drive has been determined from Tables 13 thru 18, enter Table #12 and locate the same drive number. The approximate blower rpms are shown in the body of this table. Across the top of the table are the required turns open to achieve the rpm listed. Example: A C141 drive would require that the adjustable motor sheave be set at approximately 2-1/2 turns open to achieve a blower rpm of approximately 1121 rpm.
5. Set the motor sheave as described on page 6 and check blower rpm with tachometer.
6. Check the motor amps. Do not exceed NPA shown on motor nameplate.

Table 11
Blower Drive Numbers

Drive No.	Browning Belt No.	Blower Pulley		Motor Pulley	
		Pitch Dia. (inches)	Bore (inches)	Pitch Dia. (inches)	Bore (inches)
C44	A49	9	3/4	2.9	1/2
C45	A45	6	3/4	2.9	1/2
C46	A45	6	3/4	2.9	5/8
C47	A42	4	3/4	2.9	5/8
C48	A41	4	3/4	2.9	7/8
C49	A48	6	3/4	4.4	1-1/8
C50	A55	13	3/4	2.9	1/2
C51	A53	9	1	2.9	1/2
C52	A53	9	1	2.9	5/8
C53	A59	11	1	4.4	5/8
C54	A56	9	1	4.4	5/8
C55	A55	9	1	4.4	7/8
C56	A55	8	1	4.4	1-1/8
C58	A59	11	1	4.4	7/8
C59	A57	9	1	4.4	1-1/8
C60	A60	13	1	2.9	1/2
C121	A47	6	3/4	2.9	1/2
C122	A47	6	3/4	2.9	5/8
C123	A43	4	3/4	2.9	1/2
C124	A44	4	3/4	2.9	5/8
C125	A48	5	3/4	4.4	5/8
C126	A48	5	3/4	4.4	7/8
C127	A50	5	3/4	4.4	1-1/8
C128	A46	4	3/4	4.4	5/8
C129	A46	4	3/4	4.4	7/8
C130	A48	4	3/4	4.4	1-1/8
C131	A51	7	3/4	2.9	1/2
C132	A52	7	3/4	2.9	5/8
C133	A53	7	3/4	3.8	5/8
C134	A53	7	3/4	3.8	7/8
C135	A55	7	3/4	3.8	1-1/8
C136	A54	7	3/4	4.4	5/8
C137	A54	7	3/4	4.4	7/8
C138	A56	7	3/4	4.4	1-1/8
C139	A52	6	3/4	4.4	5/8
C140	A52	6	3/4	4.4	7/8
C141	A54	6	3/4	4.4	1-1/8
C142	A50	5	3/4	4.4	5/8
C143	A50	5	3/4	4.4	7/8
C144	A52	5	3/4	4.4	1-1/8

MOTOR AND DRIVE DATA

Table 12
Blower Drive Numbers

Drive Number	Turns Open										
	0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5
	Blower RPM										
C44	555	536	517	498	478	459	440	421	402	383	364
C45	833	804	776	747	718	689	661	632	603	574	546
C46	833	804	776	747	718	689	661	632	603	574	546
C47	1250	1207	1164	1121	1078	1034	991	948	905	862	819
C48	1250	1207	1164	1121	1078	1034	991	948	905	862	819
C49	1265	1236	1208	1179	1150	1121	1093	1064	1035	1006	978
C50	384	371	358	344	331	318	305	291	278	265	252
C51	555	536	517	498	478	459	440	421	402	383	364
C52	555	536	517	498	478	459	440	421	402	383	364
C53	690	674	659	643	627	612	596	580	565	549	533
C54	845	826	807	787	768	749	730	711	691	672	653
C55	845	826	807	787	768	749	730	711	691	672	653
C56	950	928	907	885	864	842	820	799	777	756	734
C58	690	674	659	643	627	612	596	580	565	549	533
C59	845	826	807	787	768	749	730	711	691	672	653
C60	385	372	358	345	332	319	305	292	279	266	252
C121	834	805	776	748	719	690	661	633	604	575	546
C122	834	805	776	748	719	690	661	633	604	575	546
C123	1250	1207	1164	1121	1078	1034	991	948	905	862	819
C124	1250	1207	1164	1121	1078	1034	991	948	905	862	819
C125	1518	1484	1449	1415	1380	1346	1311	1277	1242	1208	1173
C126	1518	1484	1449	1415	1380	1346	1311	1277	1242	1208	1173
C127	1518	1484	1449	1415	1380	1346	1311	1277	1242	1208	1173
C128	1898	1855	1812	1769	1725	1682	1639	1596	1553	1510	1467
C129	1898	1855	1812	1769	1725	1682	1639	1596	1553	1510	1467
C130	1898	1855	1812	1769	1725	1682	1639	1596	1553	1510	1467
C131	715	690	666	641	616	592	567	542	518	493	468
C132	715	690	666	641	616	592	567	542	518	493	468
C133	936	911	887	862	837	813	788	764	739	714	690
C134	936	911	887	862	837	813	788	764	739	714	690
C135	936	911	887	862	837	813	788	764	739	714	690
C136	1084	1059	1035	1010	985	961	936	912	887	862	838
C137	1084	1059	1035	1010	985	961	936	912	887	862	838
C138	1084	1059	1035	1010	985	961	936	912	887	862	838
C139	1265	1236	1208	1179	1150	1121	1093	1064	1035	1006	978
C140	1265	1236	1208	1179	1150	1121	1093	1064	1035	1006	978
C141	1265	1236	1208	1179	1150	1121	1093	1064	1035	1006	978
C142	-	-	-	-	1380	1346	1311	1277	1242	1208	1173
C143	-	-	-	-	1380	1346	1311	1277	1242	1208	1173
C144	-	-	-	-	1380	1346	1311	1277	1242	1208	1173

Table 13
Motor Power Codes Models DHE75, 100, 125 ①

Power Code	Motor Type	Electric Power	Amps	HP	Drive
01	T.E. w/TOL	115V/60Hz/1φ	3.7	1/4	C121
02	T.E. w/TOL	115V/60Hz/1φ	5.0	1/3	C121
03	T.E. w/TOL	230V/60Hz/1φ	2.5	1/3	C121
04	T.E. - P.P.	200V/60Hz/3φ	1.2	1/3	C121
05	T.E. - P.P.	230V/460V/60Hz/3φ	1.2/0.6	1/3	C121
06	T.E. w/TOL	115V/60Hz/1φ	7.2	1/2	C122
07	T.E. w/TOL	230V/60Hz/1φ	3.6	1/2	C122
08	T.E. - P.P.	200V/60Hz/3φ	2.1	1/2	C122
09	T.E. - P.P.	230V/460V/60Hz/3φ	2.2/1.1	1/2	C122
10	T.E. w/TOL	115V/60Hz/1φ	5.0	1/3	C123
11	T.E. w/TOL	230V/60Hz/1φ	2.5	1/3	C123
12	T.E. - P.P.	200V/60Hz/3φ	1.8	1/3	C123
13	T.E. - P.P.	230V/460V/60Hz/3φ	1.2/0.6	1/3	C123
14	T.E. w/TOL	115V/60Hz/1φ	7.2	1/2	C124
15	T.E. w/TOL	230V/60Hz/1φ	3.6	1/2	C124
16	T.E. - P.P.	200V/60Hz/3φ	2.1	1/2	C124
17	T.E. - P.P.	230V/460V/60Hz/3φ	2.2/1.1	1/2	C124
18	T.E. w/TOL	115V/60Hz/1φ	11.0	3/4	C124
19	T.E. w/TOL	230V/60Hz/1φ	5.5	3/4	C124
20	T.E. - P.P.	200V/60Hz/3φ	2.8	3/4	C124
21	T.E. - P.P.	230V/460V/60Hz/3φ	2.8/1.4	3/4	C124
22	T.E. w/TOL	115V/230V/60Hz/1φ	12.0/6.0	1	C124
23	T.E. - P.P.	200V/60Hz/3φ	4.0	1	C124
24	T.E. - P.P.	230V/460V/60Hz/3φ	3.8/1.9	1	C124
25	T.E. w/TOL	115V/230V/60Hz/1φ	15.0/7.5	1-1/2	C124
26	T.E. - P.P.	200V/60Hz/3φ	4.8	1-1/2	C124
27	T.E. - P.P.	230V/460V/60Hz/3φ	4.8/2.4	1-1/2	C124
28	T.E. w/TOL	115V/60Hz/1φ	11.0	3/4	C125
29	T.E. w/TOL	230V/60Hz/1φ	5.5	3/4	C125
30	T.E. - P.P.	200V/60Hz/3φ	2.8	3/4	C125
31	T.E. - P.P.	230V/460V/60Hz/3φ	2.8/1.4	3/4	C125
32	T.E. w/TOL	115V/230V/60Hz/1φ	12.0/6.0	1	C125
33	T.E. - P.P.	200V/60Hz/3φ	4.0	1	C125
34	T.E. - P.P.	230V/460V/60Hz/3φ	3.8/1.9	1	C125
35	T.E. w/TOL	115V/230V/60Hz/1φ	15.0/7.5	1-1/2	C125
36	T.E. - P.P.	200V/60Hz/3φ	4.8	1-1/2	C125
37	T.E. - P.P.	230V/460V/60Hz/3φ	4.8/2.4	1-1/2	C125
38	T.E. - P.P.	200V/60Hz/3φ	6.8	2	C126
39	T.E. - P.P.	230V/460V/60Hz/3φ	5.8/2.9	2	C126
40	T.E. - P.P.	200V/60Hz/3φ	10.1	3	C127
41	T.E. - P.P.	230V/460V/60Hz/3φ	8.8/4.4	3	C127
42	T.E. w/TOL	115V/230V/60Hz/1φ	15.0/7.5	1-1/2	C128
43	T.E. - P.P.	200V/60Hz/3φ	4.8	1-1/2	C128
44	T.E. - P.P.	230V/460V/60Hz/3φ	4.8/2.4	1-1/2	C128
45	T.E. - P.P.	200V/60Hz/3φ	6.8	2	C129
46	T.E. - P.P.	230V/460V/60Hz/3φ	5.8/2.9	2	C129
47	T.E. - P.P.	200V/60Hz/3φ	10.1	3	C130
48	T.E. - P.P.	230V/460V/60Hz/3φ	8.8/4.4	3	C130

① Split phase motors 1/4-3/4 hp., capacitor start type motors
1 hp. - 3 hp. 1/4-2 hp. motors - 1725, 3 hp. motors - 1755
rpm.

Abbreviations used in tables:

T.E. = Totally enclosed motor

W/T.O.L. = Motor with thermal overload protection

S.P. = Split-phase motor

P.P. = Polyphase motor

All motors used on Modine products are produced, rated and tested by reputable manufacturers in accordance with NEMA standards and carry the standard warranty of both the motor manufacturer and Modine. All motors are totally enclosed. Single phase motors have built-in thermal overload protection.

MOTOR AND DRIVE DATA

Table 14

Motor Power Codes Model DHE126 ①

Power Code	Motor Type	Electric Power	Amps	HP	Drive
01	T.E. w/TOL	115V/60Hz/1φ	5.0	1/3	C44
02	T.E. w/TOL	230V/60Hz/1φ	2.5	1/3	C44
03	T.E. w/TOL	115V/60Hz/1φ	5.0	1/3	C45
04	T.E. w/TOL	230V/60Hz/1φ	2.5	1/3	C45
05	T.E. w/TOL	115V/60Hz/1φ	7.2	1/2	C46
06	T.E. w/TOL	115V/60Hz/1φ	11.0	3/4	C46
07	T.E. w/TOL	230V/60Hz/1φ	3.6	1/2	C46
08	T.E. w/TOL	230V/60Hz/1φ	5.5	3/4	C46
09	T.E. w/TOL	115V/230V/60Hz/1φ	12.0/6.0	1	C46
10	T.E. w/TOL	115V/230V/60Hz/1φ	15.0/7.5	1-1/2	C46
11	T.E. - P.P.	200V/60Hz/3φ	2.1	1/2	C46
12	T.E. - P.P.	230V/460V/60Hz/3φ	2.2/1.1	1/2	C46
13	T.E. - P.P.	200V/60Hz/3φ	2.8	3/4	C46
14	T.E. - P.P.	230V/460V/60Hz/3φ	2.8/1.4	3/4	C46
15	T.E. - P.P.	200V/60Hz/3φ	1.2	1/3	C45
16	T.E. - P.P.	230V/460V/60Hz/3φ	1.2/0.6	1/3	C45
17	T.E. - P.P.	200V/60Hz/3φ	4.0	1	C46
18	T.E. - P.P.	230V/460V/60Hz/3φ	3.8/1.9	1	C46
19	T.E. - P.P.	200V/60Hz/3φ	4.8	1-1/2	C46
20	T.E. - P.P.	230V/460V/60Hz/3φ	4.8/2.4	1-1/2	C46
21	T.E. - P.P.	200V/60Hz/3φ	1.2	1/3	C44
22	T.E. - P.P.	230V/460V/60Hz/3φ	1.2/0.6	1/3	C44
23	T.E. w/TOL	115V/60Hz/1φ	11.0	3/4	C47
24	T.E. w/TOL	230V/60Hz/1φ	5.5	3/4	C47
25	T.E. w/TOL	115V/230V/60Hz/1φ	12.0/6.0	1	C47
26	T.E. w/TOL	115V/230V/60Hz/1φ	15.0/7.5	1-1/2	C47
27	T.E. - P.P.	200V/60Hz/3φ	2.8	3/4	C47
28	T.E. - P.P.	230V/460V/60Hz/3φ	2.8/1.4	3/4	C47
29	T.E. - P.P.	200V/60Hz/3φ	4.0	1	C47
30	T.E. - P.P.	230V/460V/60Hz/3φ	3.8/1.9	1	C47
31	T.E. - P.P.	200V/60Hz/3φ	4.8	1-1/2	C47
32	T.E. - P.P.	230V/460V/60Hz/3φ	4.8/2.4	1-1/2	C47
33	T.E. - P.P.	200V/60Hz/3φ	6.8	2	C48
34	T.E. - P.P.	230V/460V/60Hz/3φ	5.8/2.9	2	C48
35	T.E. - P.P.	200V/60Hz/3φ	10.1	3	C49
36	T.E. - P.P.	230V/460V/60Hz/3φ	8.8/4.4	3	C49
37	T.E. w/TOL	115V/60Hz/1φ	3.7	1/4	C44
39	T.E. w/TOL	115V/60Hz/1φ	3.7	1/4	C50

① Split phase motors 1/4-3/4 hp., capacitor start type motors 1 hp. - 3 hp. 1/4-2 hp. motors - 1725, 3 hp. motors - 1755 rpm.

Abbreviations used in tables:

T.E. = Totally enclosed motor

W/T.O.L. = Motor with thermal overload protection

S.P. = Split-phase motor

P.P. = Polyphase motor

All motors used on Modine products are produced, rated and tested by reputable manufacturers in accordance with NEMA standards and carry the standard warranty of both the motor manufacturer and Modine. All motors are totally enclosed. Single phase motors have built-in thermal overload protection.

Table 15

Motor Power Codes Models DHE150 & 200 ①

Power Code	Motor Type	Electric Power	Amps	HP	Drive
01	T.E. w/TOL	115V/60Hz/1φ	5.0	1/3	C131
02	T.E. w/TOL	230V/60Hz/1φ	2.5	1/3	C131
03	T.E. - P.P.	200V/60Hz/3φ	1.2	1/3	C131
04	T.E. - P.P.	230V/460V/60Hz/3φ	1.2/0.6	1/3	C131
05	T.E. w/TOL	115V/60Hz/1φ	7.2	1/2	C132
06	T.E. w/TOL	230V/60Hz/1φ	3.6	1/2	C132
07	T.E. - P.P.	200V/60Hz/3φ	2.1	1/2	C132
08	T.E. - P.P.	230V/460V/60Hz/3φ	2.2/1.1	1/2	C132
09	T.E. w/TOL	115V/60Hz/1φ	11.0	3/4	C132
10	T.E. w/TOL	230V/60Hz/1φ	5.5	3/4	C132
11	T.E. - P.P.	200V/60Hz/3φ	2.8	3/4	C132
12	T.E. - P.P.	230V/460V/60Hz/3φ	2.8/1.4	3/4	C132
13	T.E. w/TOL	115V/230V/60Hz/1φ	12.0/6.0	1	C132
14	T.E. - P.P.	200V/60Hz/3φ	4.0	1	C132
15	T.E. - P.P.	230V/460V/60Hz/3φ	3.8/1.9	1	C132
16	T.E. w/TOL	115V/230V/60Hz/1φ	15.0/7.5	1-1/2	C132
17	T.E. - P.P.	200V/60Hz/3φ	4.8	1-1/2	C132
18	T.E. - P.P.	230V/460V/60Hz/3φ	4.8/2.4	1-1/2	C132
19	T.E. w/TOL	115V/60Hz/1φ	7.2	1/2	C133
20	T.E. w/TOL	230V/60Hz/1φ	3.6	1/2	C133
21	T.E. - P.P.	200V/60Hz/3φ	2.1	1/2	C133
22	T.E. - P.P.	230V/460V/60Hz/3φ	2.2/1.1	1/2	C133
23	T.E. w/TOL	115V/60Hz/1φ	11.0	3/4	C133
24	T.E. w/TOL	230V/60Hz/1φ	5.5	3/4	C133
25	T.E. - P.P.	200V/60Hz/3φ	2.8	3/4	C133
26	T.E. - P.P.	230V/460V/60Hz/3φ	2.8/1.4	3/4	C133
27	T.E. w/TOL	115V/230V/60Hz/1φ	12.0/6.0	1	C133
28	T.E. - P.P.	200V/60Hz/3φ	4.0	1	C133
29	T.E. - P.P.	230V/460V/60Hz/3φ	3.8/1.9	1	C133
30	T.E. w/TOL	115V/230V/60Hz/1φ	15.0/7.5	1-1/2	C133
31	T.E. - P.P.	200V/60Hz/3φ	4.8	1-1/2	C133
32	T.E. - P.P.	230V/460V/60Hz/3φ	4.8/2.4	1-1/2	C133
33	T.E. - P.P.	200V/60Hz/3φ	6.8	2	C134
34	T.E. - P.P.	230V/460V/60Hz/3φ	5.8/2.9	2	C134
35	T.E. - P.P.	200V/60Hz/3φ	10.1	3	C135
36	T.E. - P.P.	230V/460V/60Hz/3φ	8.8/4.4	3	C135
37	T.E. w/TOL	115V/60Hz/1φ	11.0	3/4	C136
38	T.E. w/TOL	230V/60Hz/1φ	5.5	3/4	C136
39	T.E. - P.P.	200V/60Hz/3φ	2.8	3/4	C136
40	T.E. - P.P.	230V/460V/60Hz/3φ	2.8/1.4	3/4	C136
41	T.E. w/TOL	115V/230V/60Hz/1φ	12.0/6.0	1	C136
42	T.E. - P.P.	200V/60Hz/3φ	4.0	1	C136
43	T.E. - P.P.	230V/460V/60Hz/3φ	3.8/1.9	1	C136
44	T.E. w/TOL	115V/230V/60Hz/1φ	15.0/7.5	1-1/2	C136
45	T.E. - P.P.	200V/60Hz/3φ	4.8	1-1/2	C136
46	T.E. - P.P.	230V/460V/60Hz/3φ	4.8/2.4	1-1/2	C136
47	T.E. - P.P.	200V/60Hz/3φ	6.8	2	C137
48	T.E. - P.P.	230V/460V/60Hz/3φ	5.8/2.9	2	C137
49	T.E. - P.P.	200V/60Hz/3φ	10.1	3	C138
50	T.E. - P.P.	230V/460V/60Hz/3φ	8.8/4.4	3	C138
51	T.E. w/TOL	115V/230V/60Hz/1φ	12.0/6.0	1	C139
52	T.E. - P.P.	200V/60Hz/3φ	4.0	1	C139
53	T.E. - P.P.	230V/460V/60Hz/3φ	3.8/1.9	1	C139
54	T.E. w/TOL	115V/230V/60Hz/1φ	15.0/7.5	1-1/2	C139
55	T.E. - P.P.	200V/60Hz/3φ	4.8	1-1/2	C139
56	T.E. - P.P.	230V/460V/60Hz/3φ	4.8/2.4	1-1/2	C139
57	T.E. - P.P.	200V/60Hz/3φ	6.8	2	C140
58	T.E. - P.P.	230V/460V/60Hz/3φ	5.8/2.9	2	C140
59	T.E. - P.P.	200V/60Hz/3φ	10.1	3	C141
60	T.E. - P.P.	230V/460V/60Hz/3φ	8.8/4.4	3	C141
61	T.E. w/TOL	115V/230V/60Hz/1φ	15.0/7.5	1-1/2	C142
62	T.E. - P.P.	200V/60Hz/3φ	4.8	1-1/2	C142
63	T.E. - P.P.	230V/460V/60Hz/3φ	4.8/2.4	1-1/2	C142
64	T.E. - P.P.	200V/60Hz/3φ	6.8	2	C143
65	T.E. - P.P.	230V/460V/60Hz/3φ	5.8/2.9	2	C143
66	T.E. - P.P.	200V/60Hz/3φ	10.1	3	C144
67	T.E. - P.P.	230V/460V/60Hz/3φ	8.8/4.4	3	C144

MOTOR AND DRIVE DATA

Table 16
Motor Power Codes Models DHE201 & 226 ①

Power Code	Motor Type	Electric Power	Amps	HP	Drive
01	T.E. w/TOL	115V/60Hz/1φ	5.0	1/3	C60
02	T.E. w/TOL	230V/60Hz/1φ	2.5	1/3	C60
03	T.E. - P.P.	200V/60Hz/3φ	1.2	1/3	C60
04	T.E. - P.P.	230V/460V/60Hz/3φ	1.2/0.6	1/3	C60
05	T.E. - P.P.	115V/60Hz/1φ	5.0	1/3	C51
06	T.E. w/TOL	230V/60Hz/1φ	2.5	1/3	C51
07	T.E. w/TOL	115V/60Hz/1φ	7.2	1/2	C52
08	T.E. w/TOL	115V/60Hz/1φ	11.0	3/4	C52
09	T.E. w/TOL	230V/60Hz/1φ	3.6	1/2	C52
10	T.E. w/TOL	230V/60Hz/1φ	5.1	3/4	C52
11	T.E. w/TOL	115V/230V/60Hz/1φ	12.0/6.0	1	C52
12	T.E. - P.P.	200V/60Hz/3φ	2.1	1/2	C52
13	T.E. - P.P.	230V/460V/60Hz/3φ	2.2/1.1	1/2	C52
14	T.E. - P.P.	200V/60Hz/3φ	2.8	3/4	C52
15	T.E. - P.P.	230V/460V/60Hz/3φ	2.8/1.4	3/4	C52
16	T.E. - P.P.	200V/60Hz/3φ	1.2	1/3	C51
17	T.E. - P.P.	230V/460V/60Hz/3φ	1.2/0.6	1/3	C51
18	T.E. - P.P.	200V/60Hz/3φ	10.1	3	C52
19	T.E. - P.P.	230V/460V/60Hz/3φ	8.8/4.4	3	C52
21	T.E. w/TOL	115V/60Hz/1φ	11.0	3/4	C53
23	T.E. w/TOL	230V/60Hz/1φ	5.5	3/4	C53
24	T.E. w/TOL	115V/230V/60Hz/1φ	12.0/6.0	1	C53
25	T.E. w/TOL	115V/230V/60Hz/1φ	15.0/7.5	1-1/2	C53
28	T.E. - P.P.T.E.	200V/60Hz/3φ	2.8	3/4	C53
29	- P.P.	230V/460V/60Hz/3φ	2.8/1.4	3/4	C53
30	T.E. - P.P.	200V/60Hz/3φ	4.0	1	C53
31	T.E. - P.P.	230V/460V/60Hz/3φ	3.8/1.9	1	C53
32	T.E. - P.P.	200V/60Hz/3φ	4.8	1-1/2	C53
33	T.E. - P.P.T.E.	230V/460V/60Hz/3φ	4.8/2.4	1-1/2	C53
34	- P.P.	200V/60Hz/3φ	6.8	2	C58
35	T.E. - P.P.	230V/460V/60Hz/3φ	5.8/2.9	2	C58
36	T.E. w/TOL	115V/230V/60Hz/1φ	12.0/6.0	1	C54
37	T.E. w/TOL	115V/230V/60Hz/1φ	15.0/7.5	1-1/2	C54
38	T.E. - P.P.	200V/60Hz/3φ	4.0	1	C54
39	T.E. - P.P.	230V/460V/60Hz/3φ	3.8/1.9	1	C54
40	T.E. - P.P.	200V/60Hz/3φ	4.8	1-1/2	C54
41	T.E. - P.P.	230V/460V/60Hz/3φ	4.8/2.4	1-1/2	C54
42	T.E. - P.P.	200V/60Hz/3φ	6.8	2	C55
43	T.E. - P.P.	230V/460V/60Hz/3φ	5.8/2.9	2	C55
44	T.E. - P.P.	200V/60Hz/3φ	10.1	3	C59
45	T.E. - P.P.	230V/460V/60Hz/3φ	8.8/4.4	3	C59
48	T.E. - P.P.	200V/60Hz/3φ	10.1	3	C56
49	T.E. - P.P.	230V/460V/60Hz/3φ	8.8/4.4	3	C56

① Split phase motors 1/4-3/4 hp., capacitor start type motors 1 hp. - 3 hp. 1/4-2 hp. motors - 1725, 3 hp. motors - 1755 rpm.

Abbreviations used in tables:

T.E. = Totally enclosed motor

W/T.O.L. = Motor with thermal overload protection

S.P. = Split-phase motor

P.P. = Polyphase motor

All motors used on Modine products are produced, rated and tested by reputable manufacturers in accordance with NEMA standards and carry the standard warranty of both the motor manufacturer and Modine. All motors are totally enclosed. Single phase motors have built-in thermal overload protection.

Table 17
Motor Power Codes Models DHE225 & 250 ①

Power Code	Motor Type	Electric Power	Amps	HP	Drive
01	T.E. w/TOL	115V/60Hz/1φ	7.2	1/2	C132
02	T.E. w/TOL	230V/60Hz/1φ	3.6	1/2	C132
03	T.E. - P.P.	200V/60Hz/3φ	2.1	1/2	C132
04	T.E. - P.P.	230V/460V/60Hz/3φ	2.1/1.1	1/2	C132
05	T.E. w/TOL	115V/60Hz/1φ	11.0	3/4	C132
06	T.E. w/TOL	230V/60Hz/1φ	5.5	3/4	C132
07	T.E. - P.P.	200V/60Hz/3φ	2.8	3/4	C132
08	T.E. - P.P.	230V/460V/60Hz/3φ	2.8/1.4	3/4	C132
09	T.E. w/TOL	115V/230V/60Hz/1φ	12.0/6.0	1	C132
10	T.E. - P.P.	200V/60Hz/3φ	4.0	1	C132
11	T.E. - P.P.	230V/460V/60Hz/3φ	3.8/1.9	1	C132
12	T.E. w/TOL	115V/230V/60Hz/1φ	15.0/7.5	1-1/2	C132
13	T.E. - P.P.	200V/60Hz/3φ	4.8	1-1/2	C132
14	T.E. - P.P.	230V/460V/60Hz/3φ	4.8/2.4	1-1/2	C132
15	T.E. w/TOL	115V/60Hz/1φ	11.0	3/4	C133
16	T.E. w/TOL	230V/60Hz/1φ	5.5	3/4	C133
17	T.E. - P.P.	200V/60Hz/3φ	2.8	3/4	C133
18	T.E. - P.P.	230V/460V/60Hz/3φ	2.8/1.4	3/4	C133
19	T.E. w/TOL	115V/230V/60Hz/1φ	12.0/6.0	1	C133
20	T.E. - P.P.	200V/60Hz/3φ	4.0	1	C133
21	T.E. - P.P.	230V/460V/60Hz/3φ	3.8/1.9	1	C133
22	T.E. w/TOL	115V/230V/60Hz/1φ	15.0/7.5	1-1/2	C133
23	T.E. - P.P.	200V/60Hz/3φ	4.8	1-1/2	C133
24	T.E. - P.P.	230V/460V/60Hz/3φ	4.8/2.4	1-1/2	C133
25	T.E. - P.P.	200V/60Hz/3φ	6.8	2	C134
26	T.E. - P.P.	230V/460V/60Hz/3φ	5.8/2.9	2	C134
27	T.E. - P.P.	200V/60Hz/3φ	10.1	3	C135
28	T.E. - P.P.	230V/460V/60Hz/3φ	8.8/4.4	3	C135
29	T.E. w/TOL	115V/230V/60Hz/1φ	12.0/6.0	1	C136
30	T.E. - P.P.	200V/60Hz/3φ	4.0	1	C136
31	T.E. - P.P.	230V/460V/60Hz/3φ	3.8/1.9	1	C136
32	T.E. w/TOL	115V/230V/60Hz/1φ	15.0/7.5	1-1/2	C136
33	T.E. - P.P.	200V/60Hz/3φ	4.8	1-1/2	C136
34	T.E. - P.P.	230V/460V/60Hz/3φ	4.8/2.4	1-1/2	C136
35	T.E. - P.P.	200V/60Hz/3φ	6.8	2	C137
36	T.E. - P.P.	230V/460V/60Hz/3φ	5.8/2.9	2	C137
37	T.E. - P.P.	200V/60Hz/3φ	10.1	3	C138
38	T.E. - P.P.	230V/460V/60Hz/3φ	8.8/4.4	3	C138
39	T.E. w/TOL	115V/230V/60Hz/1φ	15.0/7.5	1-1/2	C139
40	T.E. - P.P.	200V/60Hz/3φ	4.8	1-1/2	C139
41	T.E. - P.P.	230V/460V/60Hz/3φ	4.8/2.4	1-1/2	C139
42	T.E. - P.P.	200V/60Hz/3φ	6.8	2	C140
43	T.E. - P.P.	230V/460V/60Hz/3φ	5.8/2.9	2	C140
44	T.E. - P.P.	200V/60Hz/3φ	10.1	3	C141
45	T.E. - P.P.	230V/460V/60Hz/3φ	8.8/4.4	3	C141
46	T.E. - P.P.	200V/60Hz/3φ	6.8	2	C143
47	T.E. - P.P.	230V/460V/60Hz/3φ	5.8/2.9	2	C143
48	T.E. - P.P.	200V/60Hz/3φ	10.1	3	C144
49	T.E. - P.P.	230V/460V/60Hz/3φ	8.8/4.4	3	C144

MOTOR AND DRIVE DATA

Table 18

Motor Power Codes Models DHE251-401 ①

Power Code		Electric Power	Amps	HP	Drive
01	T.E. w/TOL	115V/60Hz/1φ	5.0	1/3	C60
02	T.E. w/TOL	230V/60Hz/1φ	2.5	1/3	C60
03	T.E. - P.P.	200V/60Hz/3φ	1.2	1/3	C60
04	T.E. - P.P.	230V/460V/60Hz/3φ	1.2/0.6	1/3	C60
05	T.E. - P.P.	115V/60Hz/1φ	5.0	1/3	C51
06	T.E. w/TOL	230V/60Hz/1φ	2.5	1/3	C51
07	T.E. w/TOL	115V/60Hz/1φ	7.2	1/2	C52
08	T.E. w/TOL	115V/60Hz/1φ	11.0	3/4	C52
09	T.E. w/TOL	230V/60Hz/1φ	3.6	1/2	C52
10	T.E. w/TOL	230V/60Hz/1φ	5.5	3/4	C52
11	T.E. w/TOL	115V/230V/60Hz/1φ	12.0/6.0	1	C52
12	T.E. - P.P.	200V/60Hz/3φ	2.1	1/2	C52
13	T.E. - P.P.	230V/460V/60Hz/3φ	2.2/1.1	1/2	C52
14	T.E. - P.P.	200V/60Hz/3φ	2.8	3/4	C52
15	T.E. - P.P.	230V/460V/60Hz/3φ	2.8/1.4	3/4	C52
16	T.E. - P.P.	200V/60Hz/3φ	1.2	1/3	C51
17	T.E. - P.P.	230V/460V/60Hz/3φ	1.2/0.6	1/3	C51
18	T.E. - P.P.	200V/60Hz/3φ	10.1	3	C52
19	T.E. - P.P.	230V/460V/60Hz/3φ	8.8/4.4	3	C52
21	T.E. w/TOL	115V/60Hz/1φ	11.0	3/4	C53
23	T.E. w/TOL	230V/60Hz/1φ	5.5	3/4	C53
24	T.E. w/TOL	115V/230V/60Hz/1φ	12.0/6.0	1	C53
25	T.E. w/TOL	115V/230V/60Hz/1φ	15.0/7.5	1-1/2	C53
28	T.E. - P.P.T.E.	200V/60Hz/3φ	2.8	3/4	C53
29	- P.P.	230V/460V/60Hz/3φ	2.8/1.4	3/4	C53
30	T.E. - P.P.	200V/60Hz/3φ	4.0	1	C53
31	T.E. - P.P.	230V/460V/60Hz/3φ	3.8/1.9	1	C53
32	T.E. - P.P.	200V/60Hz/3φ	4.8	1-1/2	C53
33	T.E. - P.P.T.E.	230V/460V/60Hz/3φ	4.8/2.4	1-1/2	C53
34	- P.P.	200V/60Hz/3φ	6.8	2	C58
35	T.E. - P.P.	230V/460V/60Hz/3φ	5.8/2.9	2	C58
36	T.E. w/TOL	115V/230V/60Hz/1φ	12.0/6.0	1	C54
37	T.E. w/TOL	115V/230V/60Hz/1φ	15.0/7.5	1-1/2	C54
38	T.E. - P.P.	200V/60Hz/3φ	4.0	1	C54
39	T.E. - P.P.	230V/460V/60Hz/3φ	3.8/1.9	1	C54
40	T.E. - P.P.	200V/60Hz/3φ	4.8	1-1/2	C54
41	T.E. - P.P.	230V/460V/60Hz/3φ	4.8/2.4	1-1/2	C54
42	T.E. - P.P.	200V/60Hz/3φ	6.8	2	C55
43	T.E. - P.P.	230V/460V/60Hz/3φ	5.8/2.9	2	C55
44	T.E. - P.P.	200V/60Hz/3φ	10.1	3	C59
45	T.E. - P.P.	230V/460V/60Hz/3φ	8.8/4.4	3	C59
48	T.E. - P.P.	200V/60Hz/3φ	10.1	3	C56
49	T.E. - P.P.	230V/460V/60Hz/3φ	8.8/4.4	3	C56

① Split phase motors 1/4-3/4 hp., capacitor start type motors
1 hp. - 3 hp. 1/4-2 hp. motors - 1725, 3 hp. motors - 1755 rpm.

Abbreviations used in tables:

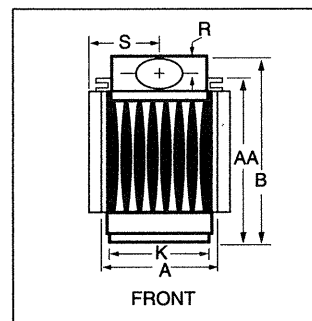
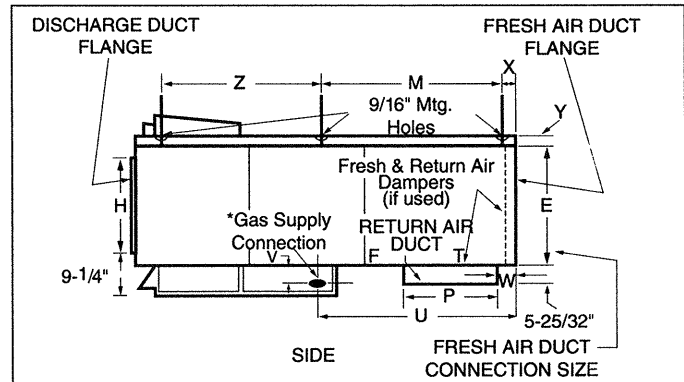
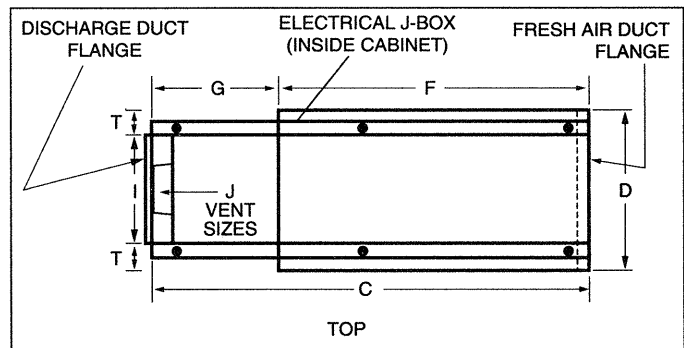
T.E. = Totally enclosed motor

W/T.O.L. = Motor with thermal overload protection

S.P. = Split-phase motor

P.P. = Polyphase motor

All motors used on Modine products are produced, rated and tested by reputable manufacturers in accordance with NEMA standards and carry the standard warranty of both the motor manufacturer and Modine. All motors are totally enclosed. Single phase motors have built-in thermal overload protection.



*Gas can be supplied from either side of unit.

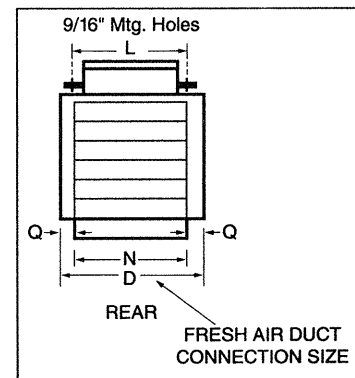


Table 19

Minimum Clearances to Combustibles

Model	Top	Side	Rear	Front	Bottom
DHE75	6"	6"	0"	6"	6"
DHE100	6"	6"	0"	6"	6"
DHE125/126	6"	6"	0"	6"	6"
DHE150	6"	6"	0"	6"	6"
DHE200/201	6"	6"	0"	6"	6"
DHE225/226	6"	6"	0"	6"	6"
DHE250/251	6"	6"	0"	6"	6"
DHE300/301	6"	6"	0"	6"	6"
DHE350/351	6"	6"	0"	6"	6"
DHE400/401	6"	6"	0"	6"	6"

DIMENSIONAL DATA

Table 20
Dimensions (in Inches) Model DHE ①

Dimension Symbol	Model Number						
	DHE75	DHE100	DHE125 DHE126	DHE150 DHE200 DHE201 DHE225 DHE226	DHE250 DHE251	DHE300 DHE301	DHE350 DHE351 DHE400 DHE401
A	16-1/4	18-1/4	22-1/2	24-3/4	27-3/4	32-3/4	38-7/8
B	30-7/8	30-7/8	36-5/8	41-5/8	41-5/8	44-3/8	45-3/4
C	86-3/8	86-3/8	83-5/8	91-7/8	91-7/8	91-7/8	91-7/8
D	30-3/32	30-3/32	30-3/32	34-3/32	42-3/32	42-3/32	42-3/32
E	20-19/32	20-19/32	20-19/32	24-7/16	24-7/16	24-7/16	24-7/16
F	57-1/8	57-1/8	57-1/8	62-3/8	62-3/8	62-3/8	62-3/8
G	29-1/4	29-1/4	26-1/2	29-1/2	29-1/2	29-1/2	29-1/2
H	15	15	19	23	23	23	23
I	15-1/4	17-1/4	21-1/2	23-3/4	26-3/4	31-3/4	37-7/8
J	5	6	7	8	9	10	10
K	15	17	21-1/4	23-3/8	26-3/8	31-3/8	37-3/4
L	17-3/4	19-3/4	24	26-1/4	29-1/4	34-1/4	40-1/4
M	39	39	39	42	42	42	42
N	24-3/32	24-3/32	24-3/32	30-3/32	36-3/32	36-3/32	36-3/32
P	18-1/8	18-1/8	18-1/8	24-1/8	24-1/8	24-1/8	24-1/8
Q	3	3	3	2	3	3	3
R	2-1/2	2-1/2	3-1/4	4	4	4	4-1/4
S	15-1/32	15-1/32	15-1/32	17-1/32	21-1/32	21-1/32	21-1/32
T	7-7/16	6-7/16	4-5/16	5-3/16	7-21/32	5-5/32	2-1/8
U	50-7/16	50-7/16	50-7/16	55-11/16	55-11/16	55-11/16	55-11/16
V	5-1/32	5-1/32	5-1/32	5-1/32	5-1/32	5-1/32	5-1/32
W	8-1/8	8-1/8	8-1/8	8	8	8	8
X	4-3/4	4-3/4	4-3/4	4-23/32	4-23/32	4-23/32	4-23/32
Y	2	2	2	2	2	2	2
Z	40-1/2	40-1/2	40-1/2	42	42	42	42
AA	31-3/4	31-3/4	31-3/4	35-3/4	35-3/4	35-3/4	35-3/4
Gas Connection Size (IPS)	1/2	1/2	1/2	1/2	3/4	3/4	3/4
Approx. Net Weight ②	325#	345#	390#	528#	623#	686#	734#
Approx. Shipping Weight ③	387#	409#	463#	634#	750#	824#	883#

① All dimensions are in inches. All dimensions are for reference only.

As Modine Manufacturing Company has a continuous product improvement program, it reserves the right to change design and specifications without notice.

② Approximate Net Weight is based on units with motor/drive, filters and fresh & return air dampers.

③ Approximate Shipping Weight is based on units with motor/drive, filters and fresh & return air dampers.

Table 21 – Control Options

Control System Description	Control Code	Service Voltage	Thermostat Voltage	Type of Gas
Single-Stage, Standing Pilot, 100% Shut-Off – Utilizes a single stage combination gas control and thermocouple. Pilot needs to be manually lit initially and stays lit.	11	115V	25V	natural
	12	208V/230V	25V	natural
	81	115V	25V	propane
	82	208V/230V	25V	propane
Single-Stage, Intermittent Pilot Ignition, 100% Shut-Off with Continuous Retry – Utilizes a single-stage combination gas control and an ignition control (continuous retry). Pilot is automatically lit on a call for heat.	30	115V	25V	natural
	31	208V/230V	25V	natural
	85	115V	25V	propane
	86	208V/230V	25V	propane
Two-Stage, Standing Pilot, 100% Shut-Off – Utilizes a two-stage gas control (which fires at 50% or 100% of full rated input) and thermocouple. Pilot needs to be manually lit initially and stays lit.	25	115V	25V	natural
	26	208V/230V	25V	natural
	83	115V	25V	propane
	84	208V/230V	25V	propane
Two-Stage Intermittent Pilot Ignition, 100% Shut-Off with Continuous Retry – Utilizes a two-stage combination gas control (which fires at 50% or 100% of full rated input) and an ignition control (continuous retry). Pilot is automatically lit on a call for heat.	63	115V	25V	natural
	64	208V/230V	25V	natural
	87	115V	25V	propane
	88	208V/230V	25V	propane
Mechanical Modulation with Automatic Pilot Ignition, 100% Shut-Off with Continuous Retry – Utilizes a modulating combination gas control and an ignition control (continuous retry). Pilot is automatically lit when there is power to the unit. Modulation range is between 50% and 100% fire; gas control shuts off below 50% fire.	59	115V	25V	natural
	60	208V/230V	25V	natural
	89	115V	25V	propane
	90	208V/230V	25V	propane
Electronic Modulation with Intermittent Pilot Ignition, 100% Shut-Off with Continuous Retry – For use with room sensing or duct sensing with remote temperature set-point adjustment. Includes combination gas control, ignition control (continuous retry), modulating amplifier and modulating/regulator valve. Duct sensing requires addition of Maxitrol Duct Sensing System. Room sensing requires addition of Maxitrol Selectra-stat. When duct sensing is used, room override stat can be added.	43	115V	25V	natural
	44	208V/230V	25V	natural
	39	115V	25V	propane
	40	208V/230V	25V	propane

SERVICE INSTRUCTIONS

Maintenance Scheduling

Modine Model DHE indoor duct furnace/make-up air units are designed for minimum maintenance. Determination of a maintenance schedule (monthly, quarterly, or annually) is usually dependent on such operating conditions as:

1. Dusty atmospheres – (will require more frequent filter service as well as lubrication).
2. Blower speed setting – (blower speeds above 1000 rpm supplying higher cfm will need a monthly schedule).
3. Operating schedule – (year-round operation for make-up air units will require more frequent service than those used only during the heating season).

General Maintenance

1. Service air moving components annually
 - a. On blowers, this should include:
 - (1) Checking motor and blower bearings for lubrication.
 - (2) Checking belts and pulleys for proper alignment and adjustment.
 - (3) Checking cleanliness of blower wheel and filters.
2. Keep unit free from dust, dirt, grease, and foreign matter, paying particular attention to –
 - a. Combustion air intake openings.
 - b. Burner ports, pilot burner and main burner orifices (avoid use of hard, sharp instruments capable of damaging surfaces, for cleaning these ports).
 - c. Primary air shutters.
3. Check wiring for possible loose connections or deteriorated insulation.
4. Controls – See control instruction sheets furnished separately with unit.
5. Damper and linkage inspection.

Blower Section Service

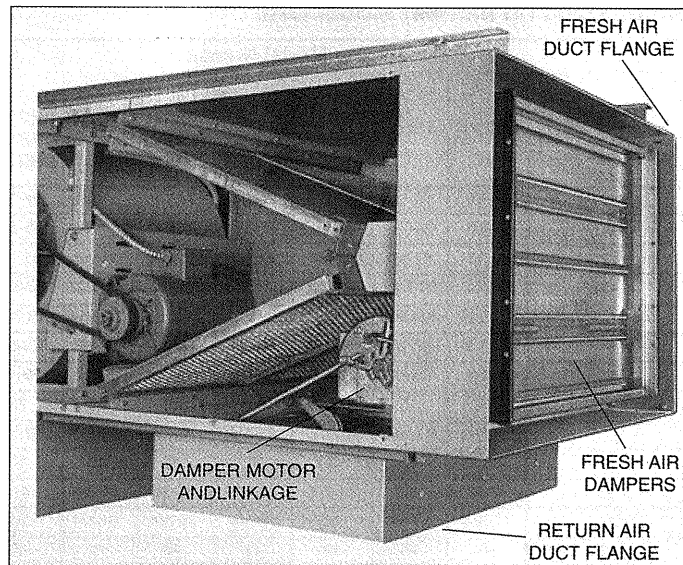
Shut off all unit power at main disconnected switch. Remove blower compartment access panel. Then, per schedule:

1. Inspect belt tension. Too much tension will overheat motor bearings and cause vibration. Too much slack and resulting belt slip will decrease air capacity and accelerate belt wear. Proper belt tension is achieved when belt(s) can be depressed 3/4 inch with about 5 lbs. of force. Adjust motor base mounting for proper tension. (See Figure 7).
2. Lubricate blower bearings.
3. Lubricate motor bearings.

Filter Maintenance

Shut off all unit power at main disconnect switch. Remove blower compartment access panel. Filters can be slid out of their supports for service. Standard filters furnished are the cleanable mesh type that must be brushed clean with hot, soapy water and allowed to dry. If a water soluble filter coating has been used the filters may simply be flushed in a stream of water. When dry, brush on a light motor oil coating on the air intake side of each filter and return them to the unit. If available, brush on Research Products Super Filter Coat adhesive which is water soluble. Replace compartment panels before returning unit to service.

Figure 9



Damper Motor and Linkage

CAUTION

Never turn damper motor shaft with a wrench or crank; this may damage internal gears.

One of two types of electrical damper motors may be furnished with these units. The two-position type provides only the open and closed positions. The proportional type will position the damper at any point between fully open and fully closed, proportioning air delivery to controller demand. Both types have a return spring mechanism that will drive the dampers to fully closed upon electric power interruption. Check adjustment for proper operation by running actuator and driven shaft between limits of travel. If crankarm does not provide correct travel, reset linkage connectors at crankarm. **When adjusting damper linkage, damper motor must be powered and allowed to rotate to maximum position.** After motor has travelled to its maximum powered position, set linkage to the fresh and/or return air dampers to required operating position. When power is interrupted to damper motor the spring return will return the dampers to closed position or minimum fresh air position. **Do not attempt to adjust linkage without powering damper motor to fully open position.** All blades should pivot easily in response to motor operation. Remove any obstacles that cause binding.

Limit Control (Overheat Switch)

Important Note: The limit control (overheat switch) on this duct furnace will shut off the gas should discharge air temperatures become excessive.

This overheat switch should operate only when something is seriously wrong with the unit. Anytime this control operates, correct the difficulty immediately or serious damage may result. If the overheat switch cuts off the gas supply during normal operation:

1. See that there are not any obstructions in the air inlet, discharge or connecting ducts.
2. Check actual input to unit against rated input. (See page 9, Bulletin 5-505)
3. Check to be sure blower motor is operating.

SERVICE INSTRUCTIONS

4. Check blower drive belts and pulleys for tightness or damage.
5. Check blower speed against job requirements (See Table 4 for blower rpm speed determination), check for restrictions in ducts and for dirty filters.
6. Check to make sure the venting system is not damaged or blocked. Also check to be sure unit is venting normally and that there is not negative pressure in the building adversely affecting draft.
7. Clean heat exchanger tubes inside and out if necessary.
8. If items 1-7 do not solve the problem, check overheat switch and replace if necessary.

Access to the temperature sensing bulb, which is positioned between two heat exchanger tubes at the center of the furnace can be made through the downstream field installed access panel. Before removing bulb from mounting bracket, note position of bulb relative to bracket, then remove. Inspect temperature sensing bulb to be sure it is straight. When positioning bulb, care should be taken to place it in the defective bulb's original position in the center between the two exchanger tubes. The long tubing between the sensing bulb and the switch mechanism should be placed to protect it from cuts, blows, wear due to vibration, etc. The rubber grommet should be replaced to prevent air leakage and damage to switch tubing.

Note: To prevent unnecessary rapid cycling and damage to capillary tube make sure the capillary tube does not touch the heat exchanger.

Figure 10

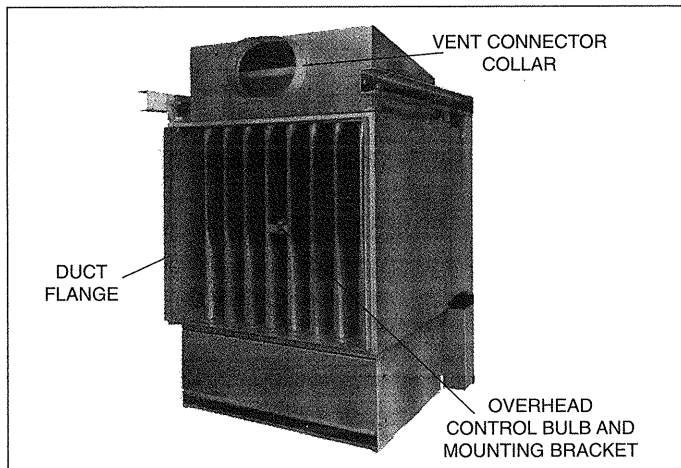


Figure 11

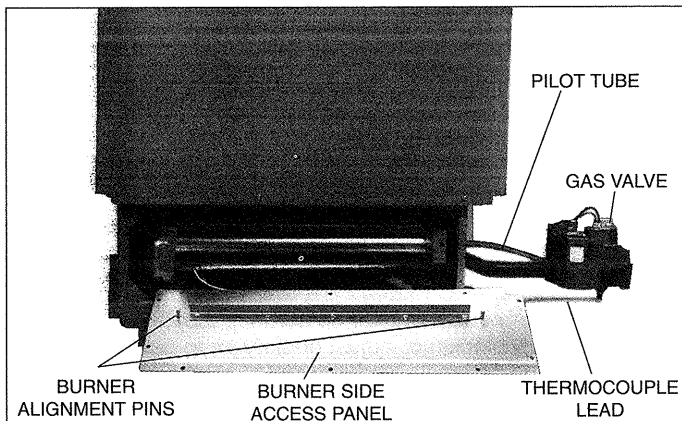
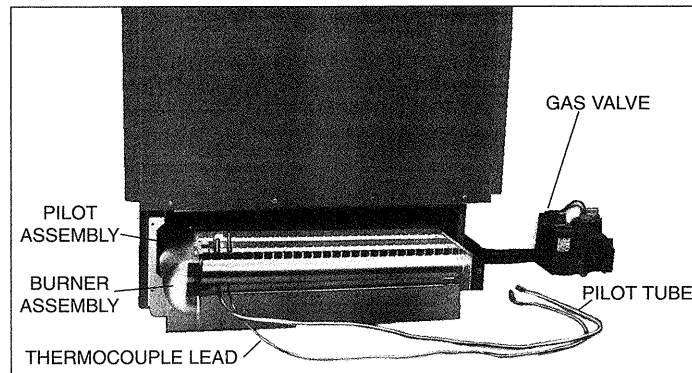


Figure 12



To Remove Burner (Refer to Figure 11 and 12)

1. Turn off power and gas supply to unit.
2. Disconnect the pilot supply line and thermocouple leads from the gas valve. (If unit is supplied with intermittent pilot ignition, remove ignition and sensor cable from control module in addition to removing pilot tubing at gas valve.) See Figure 11.
3. The burner may be removed from either side of the duct furnace. To remove the burner, remove all of the sheet metal screws holding the side burner access panel in place. (Note: with the side access panel screws removed, the access panel is free to move, be careful not to drop the panel.)
4. Remove the side access panel to expose the furnace burner assembly.
5. Carefully thread the pilot tube and thermocouple leads through the combustion air slot (at the rear of the unit) into the burner box so they may be drawn out with the burner.
6. Slide the complete burner assembly out of the burner box. The complete burner and pilot assembly are now free for service (see Figure 12).
7. To replace the burner, follow the above steps in reverse order, being careful to align the burner assemble properly on the alignment pins of the access panels on both sides of the duct furnace (see Figure 11).

Blocked Vent Safety Switch



CAUTION

Do not reset unit until vent pipe is inspected and cleared of any obstructions. Unit with blocked vent could cause personal injury or death.

A blocked vent safety switch is supplied on all gravity-vented duct furnaces and is designed to prevent operation of the main gas burner if the venting system is blocked.

If the blocked vent switch has tripped, turn off the gas and electric supply to the duct furnace. Check the entire vent system connected to the duct furnace for blockage or damage.

After the vent system has been cleared, or if no blockage or damage is found in the vent system, the blocked vent switch may be reset. To reset the blocked vent switch, locate switch on top of draft diverter and depress the reset button located on the switch.

With the switch reset, turn on the electric and gas supply to the duct furnace and restart the unit. Carefully observe the operation of the unit to assure that it is operating correctly. If the blocked vent switch does not allow the unit to function, or trips

SERVICE INSTRUCTIONS

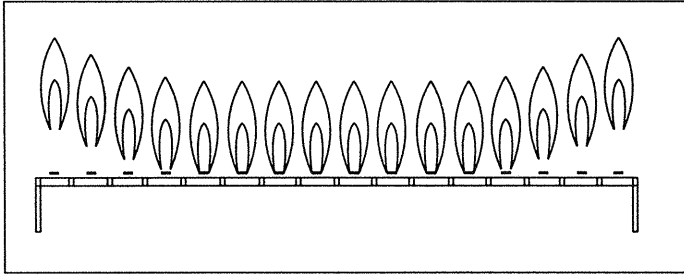
after the unit has operated for a period of time, call a qualified service agency to service the equipment. **Do not attempt to bypass the blocked vent safety switch. Do not attempt to replace a defective blocked vent switch with any switch other than that supplied by the duct furnace manufacturer.**

SERVICE DIAGNOSIS

Combustion Diagnosis

To realize full gas heating value requires periodic inspections with proper combustion control corrections as outlined and illustrated here.

Figure 13
Lifting Flame Condition



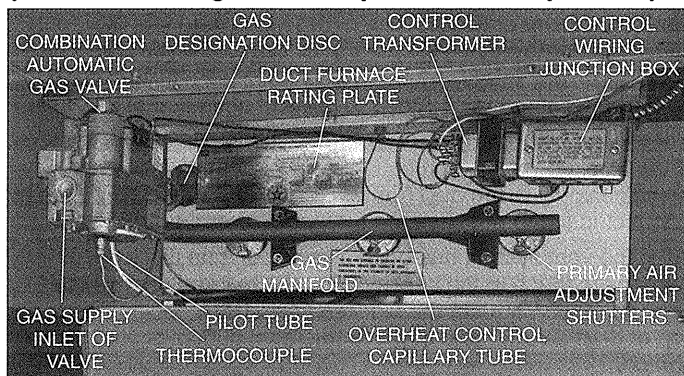
1. Lifting Flames

Lifting flames rise unevenly above the burner port and may occur on few or all the ports. Sometimes the flames drop and lift intermittently. Lifting can be eliminated by reducing primary air. If flame cannot be adjusted properly, check input rate to heater and manifold gas pressure; reduce if necessary. Check the orifice size with those listed in Bulletin 5-505 to be sure the unit is not operating over rated input.

2. Yellow Tipping

Yellow tipping of a normally blue flame is caused by insufficient primary air, and indicates incomplete combustion producing carbon monoxide, aldehydes, and free carbon (soot). A dirty orifice or one that is out of line, can also reduce primary air and cause yellow tipping. Check orifice, clean, realign, or replace if necessary. With propane gas, some yellow tipping is always present, but is not objectionable.

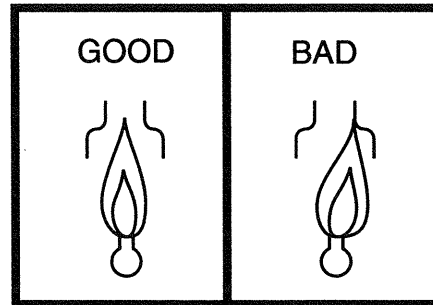
Figure 14
Gas Controls and Primary Air Shutters
(Shown with hinged access panel in down position)



3. Flashback

Flashback occurs when air-gas mixture ignites inside the burner to burn near the orifice. Flashback on ignition or during burner operation usually can be eliminated by reducing primary air. The burner may also be operating below its rated capacity. Check input rate and adjust to correct value by increasing orifice size or manifold gas pressure.

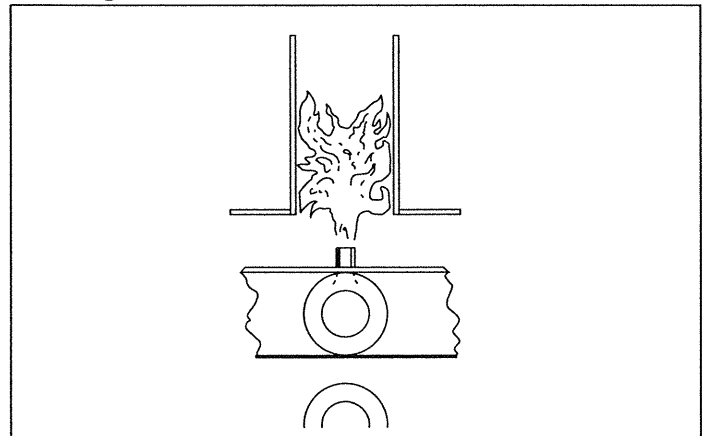
Figure 15
Wavering Flame or Misalignment



4. Wavering Flames

Drafts across burners may cause flames to waver or appear unstable. Wavering flames can lead to incomplete combustion if flames impinge on cool surfaces. Wavering can be caused by air drafts into the burner compartment or by misalignment of the burner. Draft-blown flames may indicate a cracked heat exchanger.

Figure 16
Floating Flame Condition

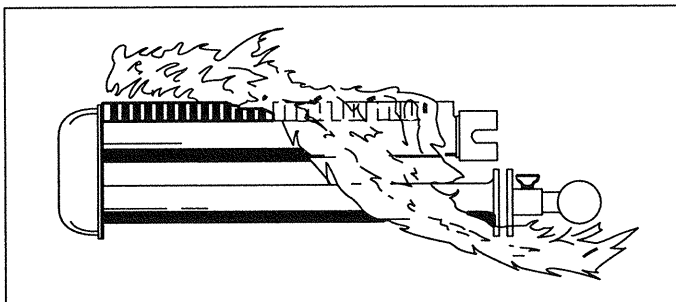


5. Floating Flames

Floating flames are long – do not have well-defined cones, roll around in the combustion chamber, sometimes completely off the ports. Usually an aldehyde odor is present to indicate incomplete combustion. If combustion air supply is reduced too far, burner flames will float. Often the pilot flame near the port smothers and goes out. Lack of combustion air causes burner flames to float. The unit may be overfired so its flue outlet area may be too small for the increased firing rate. Check input rate and reduce if necessary. Soot or dust may be blocking the flue. Check flue and clear any blockage. Adjust primary air to get rid of yellow tipping that may produce soot to block flueways. Make sure combustion air inlets are not blocked.

SERVICE DIAGNOSIS

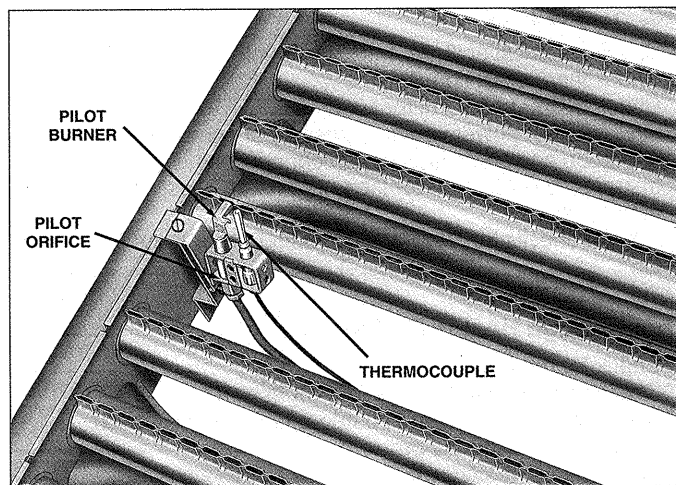
Figure 17
Flame Rollout Appearance



6. Flame Rollout

Flames rolling out of the combustion air inlets when the burner is turned on can create a fire hazard, scorch unit finish, burn wires, or damage controls. Gas in the burner mixer may be ignited, producing flashback. Flame rollout is a variation of floating flames, with flames reaching for air outside the combustion chamber. Basic cause is lack of combustion air that may be due to overfiring, poor draft, flue blockage, or blocked combustion air openings.

Figure 18
Pilot and Burner



Standing Pilot Systems

1. If Pilot does not Light:

- 1a. Check that manual gas control (knob or lever) on combination gas control is in the pilot position.
- 1b. Bleed air from pilot line. (Use special care in bleeding propane units.)
- 1c. If pilot sputters, check pilot line for condensation or other obstruction.
- 1d. If pilot flame is feeble or short, check pilot orifice for cleanliness. Replace if necessary. Do not enlarge orifice.
- 1e. Be sure thermocouple contact point is clean. If problem persists, replace thermocouple and/or pilot safety valve.
- 1f. If the above steps do not correct the condition, consult your local qualified installation and service contractor or appropriate utility company.

2. If Standing Pilot does not Stay Lit:

- 2a. Check manifold pressure with all units operating, making certain that there is proper pressure.
- 2b. Check pipe or tubing size to unit. See Bulletin 5-505.

- 2c. Be sure all pilot connections are tight.
- 2d. Check for excessive drafts.
- 2e. Check for clogged pilot orifice or pilot line.
- 2f. Check for leaks around pilot fittings. If leaks cause flame impingement on thermocouple lead, thermocouple may become inoperative.

3. Effect of Pilot Operation on Safety Controls:

- 3a. A weak pilot flame may cause poor ignition and result in the controls not opening the combination gas control or reduce heat on thermocouple to the point where the automatic controls become inoperative, thereby shutting off gas supply to main burners. This may result from a plugged orifice, dirty pilot valve or poor adjustment.
- 3b. Check electrical connection from the thermocouple element to the safety valve to assure good electrical contact. Also check location of pilot flame in relation to thermocouple element.

4. If main burners do not light:

- 4a. Check gas supply to burners.
- 4b. Bleed air from pipe lines.
- 4c. Be sure pilot is lit, correctly positioned and strong enough to ignite burner ports.
- 4d. Check wiring (electric power supply) to automatic gas valve.
- 4e. If the above does not correct the condition, consult your local gas company.

SERVICE DIAGNOSIS

Intermittent Pilot Ignition Systems

See separate instructions shipped with duct furnace.

Intermittent Pilot Ignition Systems

1. Pilot will not Light or Stay Lit.

Possible Cause	Possible Remedy
1a. No spark at ignitor.	1a. Check connections. Check for proper spark gap, cracked or broken electrode ceramic, blown controller fuse or brittle, cracked or loose high tension cable.
1b. Defective flame sensor or loose connections to flame sensor.	1b. Check milli-amps of sensor. Tighten loose connections. Replace flame sensor if necessary.
1c. Pilot valve electrical connections loose.	1c. Tighten connections.
1d. Defective pilot valve.	1d. Replace.
1e. Poor ground connections.	1e. Check grounding means.
1f. No power from control transformer.	1f. Check transformer voltage on secondary side for 25v.
1g. Spark not located in pilot gas stream.	1g. Correct or replace pilot.
1h. Dirty or plugged pilot orifice.	1h. Clean or replace.
1i. Pilot line kinked or obstructed.	1i. Correct or replace pilot line.
1j. Pilot flame too low.	1j. Check pilot flame and adjust per valve manufacturer's recommendations.
1k. Flame sensor out of position.	1k. Reposition.
1l. Defective ignition controller.	1l. Replace.

2. Pilot Lights, Main Burner will not Light.

Possible Cause	Possible Remedy
2a. Gas valve in off position.	2a. Turn to on position.
2b. System in lock-out mode.	2b. Reset system.
2c. Cracked or broken sensor ceramic.	2c. Replace sensor.
2d. Defective or loose connections to flame sensor or flame sensor lead.	2d. Correct or replace.
2e. Incorrect gas pressure.	2e. Check and adjust if necessary to manufacturer's recommendations.
2f. Insufficient current signal from flame sensor.	2f. Check current according to manufacturer's recommendations and replace if necessary.
2g. Incorrect or loose wiring.	2g. Check wiring.
2h. Poor ground to ignition controller.	2h. Check grounding means.
2i. No power to ignition controller or gas valve	2i. Check voltage to controller and gas valve.
2j. Loose limit control connections or defective limit.	2j. Check connections. Replace limit control if necessary.
2k. Defective or plugged gas valve regulator.	2k. Inspect gas valve regulator. Replace if necessary.
2l. Defective thermostat or thermostat out of calibration.	2l. Calibrate thermostat or replace if necessary.
2m. Thermostat heat anticipator incorrectly set.	2m. Check anticipator setting and correct if necessary.
2n. Defective ignition controller.	2n. Replace.
2p. Blocked vent safety switch tripped.	2p. Refer to page 25 for instructions

3. System Goes Into Lock-Out.

Possible Cause	Possible Remedy
3a. Refer to "Pilot will not stay lit."	3a. Reset system. If lock-out persists, recheck 1a through 2n. Replace lock-out or controller.

4. System Shuts Down Before Thermostat is Satisfied.

Possible Cause	Possible Remedy
4a. Flame sensing circuit failure.	4a. Check flame sensing rod, sensor ceramic, sensor lead and connections for damage or loss of continuity; Replace defective elements.

5. System Fails to Shut Off After Thermostat is Satisfied.

Possible Cause	Possible Remedy
5a. Faulty thermostat or improper heat anticipator setting.	5a. Check thermostat and anticipator setting. Replace if defective.
5b. Defective ignition controller.	5b. Replace.
5c. Defective gas valve.	5c. Replace

If No Heat is Problem

1. Check electrical and gas supplies to unit.
2. Check thermostat connections.
3. Check overheat control for continuity.
4. On units with power venter accessory check power venter operation and centrifugal switch connections.
5. Inspect blower section for loose or broken belts, damaged motor, etc.
6. Review checks for "No Pilot" or "Main Burner Does Not Come On".

If Not Enough Heat is Problem

1. Check for dirty filters
2. Check blower drive settings for proper rpm.
3. Check maximum setting of outdoor damper. Too much outside air may be the problem.
4. Check for obstructions or leaks in duct system.
5. Check belt tension adjustment.
6. Check gas supply pressure to unit gas controls.

When servicing, repairing or replacing parts on these units always give the complete Model Number (which includes power code and control code) and Serial Number from the unit rating plate.

See last page of this manual for Model Number and Serial Number Designations.

MODEL IDENTIFICATION

Determining the Model Number

Modine indoor duct furnace/make-up air units (Model DHE) consist of a duct furnace (Model DJE) and blower section. All models contain a Serial plate (Figure 20) which is located on the outside of the duct furnace. The unit also contains a Model Identification plate (Figure 21) used to identify the DHE model which includes the blower section. See Figure 19 for plate locations.

When servicing, repairing or replacing parts on these units, always give the complete Model Number and Serial Number from the Serial Plate and Model Identification Plate. Examples of both plates are shown below along with an explanation of the breakdown of the Model Number and Serial Number.

Figure 19
Serial Plate and Model Identification Plate Locations

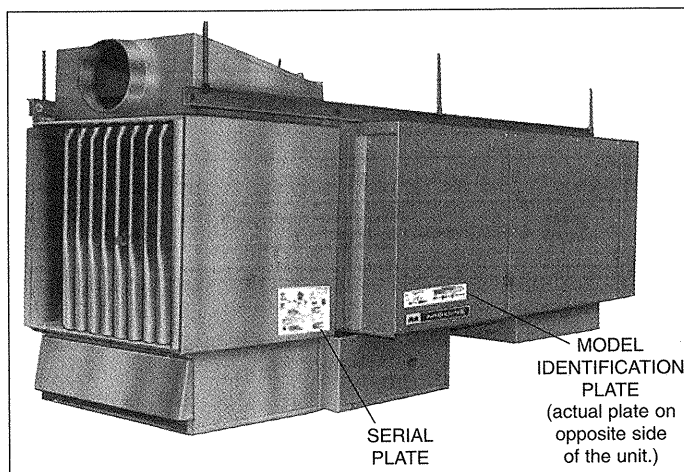



Figure 20
Serial Plate

GAS-FIRED DUCT FURNACE FOR INDUSTRIAL/COMMERCIAL USE GENÉRATEUR D' AIR CHAUD A GAZ POUR USAGE INDUSTRIEL/COMMERCIAL Made in U.S.A.									
Modine Manufacturing Company 1221 Magnolia Ave., Buena Vista, VA 24416 Phone: 540-261-2166		MODEL NUMBER NUMERO DE MODELE		DJE100SFM 43		MIN. INPUT BTU/HR DEBIT CALORIFIQUE MIN. BTU/HEURE		50000	
SERIAL NUMBER NUMERO DE SERIE		2012696-0007		MIN. INLET PRESS. FOR PURPOSE OF INPUT ADJUSTMENT PRESSION D' ALIMENTATION EN GAZ MIN. ADMISE		6		IN. W.C. PO.C.D'E	
TYPE OF GAS TYPE DE GAZ		Natural		MANIFOLD PRESSURE PRESSION A LA TUBULURE D' ALIMENTATION		3.5		IN. W.C. PO.C.D'E	
TEMPERATURE RISE RANGE ELEVATION DE TEMPERATURE		20 - 85 °F		MAXIMUM EXTERNAL STATIC PRESSURE PRESSION STATIQUE EXTERIEUR MAXIMUM		2		IN. W.C. PO.C.D'E	
		0 TO 2000 FT. 0 ET 610 M.		(IN CANADA) 2000 TO 4500 FT. 610 ET 1370 M.		AIR THROUGHPUT DEBIT D' AIR			
INPUT BTU/HR DEBIT CALORIFIQUE BTU/HEURE		100000		90000		WITH AIR BAFFLE AVEC PARTITION POUR L' AIR		W/O AIR BAFFLE SANS PARTITION POUR L' AIR	
OUTPUT BTU/HR RENDEMENT BTU/HEURE		80000		72000		MIN. CFM		871	
ORIFICE SIZE DIM. DE L' INJECTEUR		30		31		MAX. CFM		1347	
						MIN. CFM		1347	
						MAX. CFM		3704	
GENERAL FOR OUTDOOR INSTALLATIONS ONLY. MINIMUM AMBIENT TEMPERATURE -40°F. MINIMUM CLEARANCE TO COMBUSTIBLE MATERIAL IS 6 INCHES FROM REAR AND 24 INCHES FROM SIDES. DO NOT LOCATE UNIT UNDER OVERHANGS. FOR INSTALLATION DOWN STREAM OF REFRIGERATION SYSTEMS. DESIGNED FOR INSTALLATION ON COMBUSTIBLE FLOORS. INSTALL ON POSITIVE PRESSURE SIDE OF AIR CIRCULATION BLOWER.									
LIGHTING INSTRUCTIONS FOR UNITS WITH INTERMITTENT PILOT 1. TURN OFF POWER. TURN THERMOSTAT DOWN CLOSE ALL GAS VALVES AND WAIT 5 MINUTES. 2. OPEN ALL GAS VALVES. TURN ON POWER. 3. SET THERMOSTAT TO DESIRED SETTING. (PILOT AND MAIN BURNER WILL LIGHT AUTOMATICALLY WHEN THERMOSTAT CALLS FOR HEAT).									
SHUT DOWN INSTRUCTIONS - TURN OFF POWER & CLOSE ALL GAS VALVES.									
COMMON REPLACEMENT PARTS For parts ordering, contact the parts wholesaler or the manufacturer's representative serving your area. A complete listing of both can be found in your Installation and Service Manual. When inquiring about parts, always provide model number, serial number, description and part number. When ordering parts, provide part number listed. For service, contact your local qualified installation and service contractor or appropriate utility company.				Combination Gas Control / Pilot Valve 5H73205B1		Burner 3H33074B4		Modulating Valve 5H71573B2	
				Ignition Control 5H73325B		Transformer 5H70875A1		Flame Sensor NONE	
				Limit Control 5H67364B1		Pilot Assembly Kit 3H33062C4		Amplifier 5H71575A	
				Heat Exchanger 3H33839C4		Wiring Diagram 5H70833C63		5H73057A1	
GÉNÉRAL SEULEMENT POUR L'INSTALLATION EXTERIEURE. LA TEMPERATURE MINIMUM DE L' AIR DEHORS EST -40°C. LA DISTANCE MINIMUM A MATIERE COMBUSTIBLE EST. 15.24CMS DE L'ARRIERE AT 20.32 CMS DES COTES. NE PLACER PAS L'UNITE AU-DESSOUS DES SURPLOMES. POUR L'INSTALLATION QUE SUIVE LES SYSTEMS REFRIGERANTS. DESIGNER POUR L'INSTALLATION SUR LES ETAGES COMBUSTIBLES. INSTALLER SUR LE COTE DE LA PRESSION POSITIVE DU SOUFFLEUR.									
INSTRUCTIONS D'ALLUMAGE POUR UNITE EQUIPEE D' UNE VIEILLEUSE INTERMITTENTE 1. COUPER LE COURANT. BAISSER LE THERMOSTAT. FERMER TOUTES LES ROBINETS A GAZ ET ATTENDRE 5 MINUTES. 2. OUVRIR TOUTES LES ROBINETS A GAZ. DONNER LE COURANT. 3. REGLER LE THERMOSTAT SUR LA POSITION DESIREE. (LA VIEILLEUSE ET LE BRULEUR PRINCIPAL S' ALLUMERONT AUTOMATIQUEMENT LORSQUE LE THERMOSTAT DEMANDERA DE LA CHALEUR).									
INSTRUCTIONS DE FERMETURE - COUPER LE COURANT ET FERMER TOUTES LES ROBINETS A GAZ. 5H73205B									

MODEL DESIGNATIONS

Figure 21
Model Identification Plate

MODEL IDENTIFICATION PLATE				COMMON REPLACEMENT PARTS		
Model Number DHE100SFM2543		Serial Number 01102012696-0002		<p>For parts ordering, contact the parts wholesaler or the manufacturer's representative serving your area. A complete listing of both can be found in your Installation and Service Manual.</p> <p>When inquiring about parts, always provide model number, serial number, description and part number. When ordering parts, provide part number listed.</p> <p>For service, contact your local qualified installation and service contractor or appropriate utility company.</p>		
MOTOR DATA						
Voltage 115/230	Hertz 60	Phase 1	Amps. 15.0/7.5	Blower Motor 9F90090A	Blower Sheave 5H63081B14	Blower Belt 5H59828A44
 MODINE Modine Manufacturing Company 1500 DeKoven Avenue Racine, Wisconsin 53403-2552				Fan Timer 5H71790B	Motor Sheave 5H58065C2	

5H73416B

Figure 22
Model Number Designations

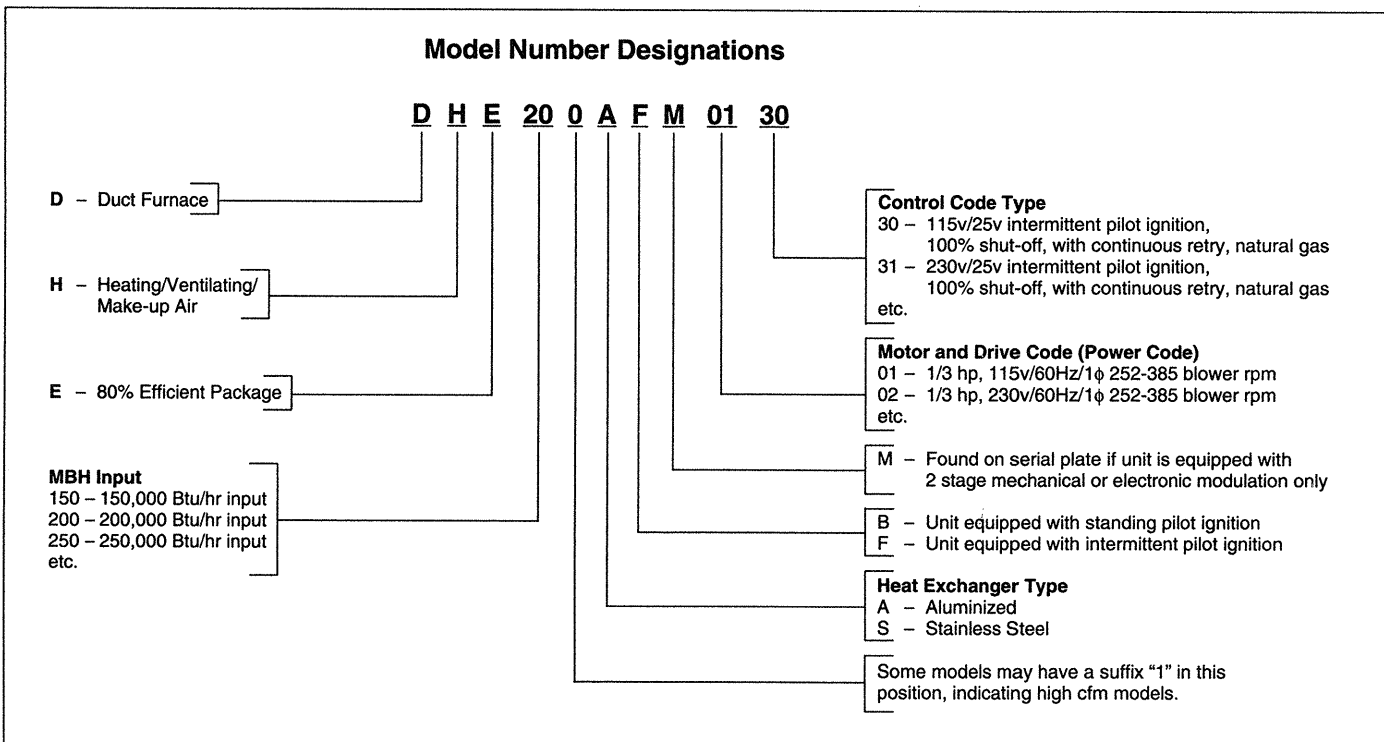


Figure 23
DJE Serial Number Designations

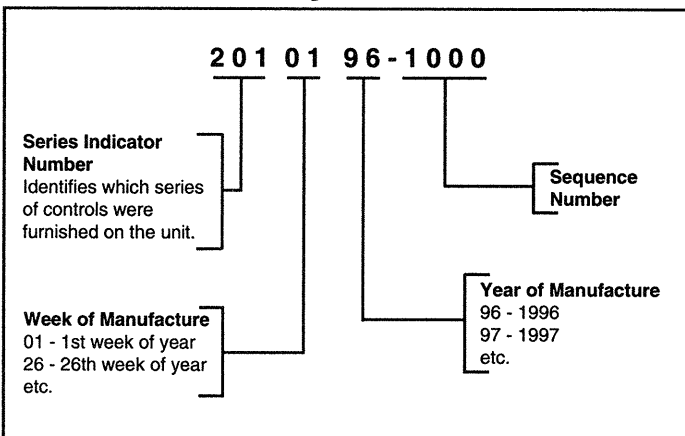
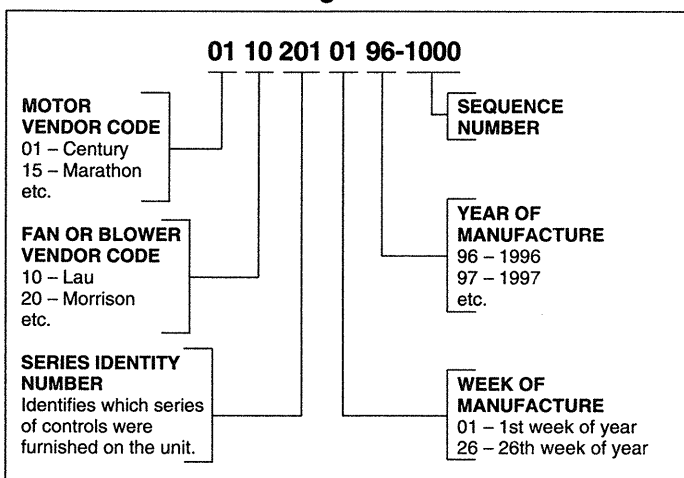


Figure 24
DHE Serial Number Designations



For local parts and service assistance, contact one of the following:

Sales Representatives

ALABAMA

Watts Engr. Sales
Birmingham, AL
(205) 871-4673

ALASKA

Heating & Vent. Sales
Anchorage, AK
(907) 345-3483

ARIZONA

Climatec, Inc.
Phoenix, AZ
(602) 944-3330

ARKANSAS

John Lynn Co., Inc.
North Little Rock, AR
(501) 771-4343

CALIFORNIA

A/C Specialties
LaHabra, CA
(562) 694-8543

Envir. Indus. Prod.
Mountain View, CA
(415) 964-6161

COLORADO

MJM Associates
Denver, CO
(303) 790-7000

CONNECTICUT

E.W. Leonard, Inc.
Moodus, CT
(860) 873-8691

DISTRICT OF COLUMBIA

Marva Sales, Unicon
Troutville, VA
(540) 992-4620

Unicon Services, Inc.
Vienna, VA
(703) 255-5569

FLORIDA

T.H. Brooks
Apopka, FL
(407) 886-8405

T.H. Brooks
Tampa, FL
(813) 622-7000

Aeromechanical, Inc.
Gulf Breeze, FL
(904) 932-2011

GEORGIA

Herring Company, Inc.
Norcross, GA
(770) 416-0044

IDAHO

A.A. Maycock
Salt Lake City, UT
(801) 364-1926

ILLINOIS

John A. Sandberg Co.
East Moline, IL
(309) 796-2371

Fleming Hanson Sales
Downers Grove, IL
(630) 829-4060

Burden-Cooper, Inc.
Rockford, IL
(815) 633-6555

INDIANA

Jay Kress Assoc.
Indianapolis, IN
(317) 251-2498

IOWA

Capitol Rep & Distr.
Des Moines, IA
(515) 266-0844

KANSAS

Jorban Riscoe Assoc.
Kansas City, KS
(913) 722-1244

Jorban Riscoe Assoc.
Lenexa, KS
(913) 438-1244

KENTUCKY

Climate Conditioning
Louisville, KY
(502) 267-4696

LOUISIANA

Schully Strawn
Metairie, LA
(504) 831-0000

MAINE

Emerson-Swan, Inc.
Randolph, MA
(617) 986-2000

MARYLAND

Marva Sales, Inc.
Baltimore, MD 21217
(410) 945-0171

MASSACHUSETTS

Emerson-Swan, Inc.
Randolph, MA
(617) 986-2000

E.W. Leonard, Inc.
Moodus, CT
(203) 873-8691

MICHIGAN

Raley Brothers
Grand Rapids, MI
(616) 742-0150

Christian & Co., Inc.
West Bloomfield, MI
(248) 851-5660

MINNESOTA

Walters-Climate, Inc.
Minneapolis, MN
(612) 544-8626

MISSISSIPPI

Ward Mechanical
Jackson, MS
(601) 956-3002

MISSOURI

Evans, Maille
St. Louis, MO
(314) 822-1023

MONTANA

Vemco, Inc.
Billings, MT
(406) 248-8373

NEBRASKA

Ward Mechanical
Jackson, MS
(601) 956-3002

NEBRASKA

B.G. Peterson Co.
Omaha, NE
(402) 344-4311

NEVADA

John A. Sandberg Co.
Las Vegas, NV
(702) 367-1657

NEW HAMPSHIRE

Emerson-Swan, Inc.
Randolph, MA
(617) 986-2000

NEW JERSEY

C.R. Hutcheon, Inc.
Bloomfield, NJ
(201) 743-9770

NEW MEXICO

TK Marketing
Corrales, NM
(505) 898-4804

NEW YORK

Emerson-Swan, Inc.
East Greenbush, NY
(518) 435-9900

Emerson-Swan, Inc.
Buffalo, NY
(716) 668-1403

Emerson-Swan, Inc.
Central Square, NY
(315) 668-7476

Wales-Darby, Inc.
Ronkonkoma, NY
(516) 585-6800

NORTH CAROLINA

L.R. Gorrell Co.
Asheville, NC
(704) 253-1856

L.R. Gorrell Co.
Charlotte, NC
(704) 333-8436

L.R. Gorrell Co.
Greensboro, NC
(910) 373-1281

L.R. Gorrell Co.
Raleigh, NC
(919) 821-1161

NORTH DAKOTA

Walters-Climate, Inc.
Minneapolis, MN
(612) 544-8626

OHIO

R.G. Anderson Co.,
Cincinnati, OH
(513) 527-2300

Mussun Sales, Inc.
Cleveland, OH
(216) 431-5088

Mussun Sales, Inc.
Columbus, OH
(614) 294-4822

Stoermer Equipment
Dayton, OH
(937) 275-5007

Toledo Thermal
Toledo, OH
(419) 475-7100

OKLAHOMA

A.M.E., Inc.
Oklahoma City, OK
(405) 843-9788

OREGON

Canby Sales
Boring, OR
(503) 658-8346

PENNSYLVANIA

H & H Associates
Mechanicsburg, PA
(717) 796-2401

B.J. Terroni
Bensalem, PA
(215) 639-3600

Charles W. Stanger
Allison Park, PA
(412) 492-9220

RHODE ISLAND

Emerson-Swan, Inc.
Randolph, MA
(617) 986-2000

SOUTH CAROLINA

L.R. Gorrell Co.
Greenville, SC
(864) 297-7810

L.R. Gorrell Co.
Charleston, SC 29418
(803) 824-9449

SOUTH DAKOTA

Walters-Climate, Inc.
Minneapolis, MN
(612) 544-8626

Vemco, Inc.
Rapid City, SD
(605) 394-5790

TENNESSEE

Mech. & Indus. Sales
Gallaway, TN
(901) 867-0435

Charles F. Sexton Co.
Knoxville, TN
(423) 588-9691

Aircon Sales Agency
Nashville, TN
(615) 292-5555

TEXAS

SWK, Inc.
Dallas, TX
(214) 351-9985

Barnhart-Taylor
El Paso, TX
(915) 533-1231

Paschal-Harper, Inc.
San Antonio, TX
(210) 494-5493

UTAH

A.A. Maycock Co.
Salt Lake City, UT
(801) 364-1926

VERMONT

E.W. Leonard, Inc.
Moodus, CT
(860) 873-8691

VIRGINIA

L.A. Prillaman Co.
Richmond, VA
(804) 798-1455

WASHINGTON

Canby Sales
Bellevue, WA
(425) 867-3110

H.P. Heating Co., Inc.
Charleston, WV
(304) 345-9916

WISCONSIN

C & S Hydronics, Inc.
Delafield, WI
(414) 646-6325

WYOMING

Vemco, Inc.
Billings, MT
(406) 248-8373

MJM Associates
Englewood, CO
(303) 790-7000

Long & Associates.
Englewood, CO
(303) 922-6660

A.A. Maycock Co.
Salt Lake City, UT
(801) 364-1926

A.A. Maycock Co.
Salt Lake City, UT
(801) 364-1926

Canadian Sales Outlets

ALBERTA

Kehoe Equipment Co.
Edmonton, Alberta
(403) 420-0040

Summit Engineering Sales
Calgary, Alberta
(403) 250-9780

BRITISH COLUMBIA

Dierks Equipment Sales
Vancouver, BC
(604) 872-7891

MANITOBA

D.M. Industrial, Ltd.
Winnipeg, Manitoba
(204) 694-8637

NOVA SCOTIA

MacLeod and Grant, Ltd.
Stellarton, NS
(902) 752-5532

ONTARIO

Michael Stuart Company, Ltd.
Concord, Ontario
(905) 738-6008

Kemo Products, Ltd.
Thunder Bay, Ontario
(807) 622-3311

QUEBEC

G. Mitchell Heating & A/C
St. Laurent, Quebec
(514) 332-8929

SASKATCHEWAN

Cypress Sales
Regina, Saskatchewan
(306) 757-5656

Cypress Sales
Saskatoon, Saskatchewan
(306) 242-3333

Parts Wholesalers

CONNECTICUT

E.W. Leonard, Inc.
Moodus, CT
(860) 873-8691

COLORADO

MJM Associates
Englewood, CO
(303) 790-7000

GEORGIA

Herring Company, Inc.
Norcross, GA
(770) 416-0044

ILLINOIS

Heinlein Supply.
Chicago, IL
(773) 774-8616

KANSAS

Jorban Riscoe Assoc.
Kansas City, KS
(913) 722-1244

MARYLAND

Marva Sales
Baltimore, MD
(410) 945-0171

MASSACHUSETTS

Emerson-Swan, Inc.
Randolph, MA
(617) 986-2000

MICHIGAN

Christian & Co.
West Bloomfield, MI
(810) 851-5660

Raley Brothers
Grand Rapids, MI
(616) 742-0150

MINNESOTA

Walters Climate, Inc.
Minneapolis, MN
(612) 544-8626

MONTANA

Vemco, Inc.
Great Falls, MT
(406) 727-5335

NEW JERSEY

C.R. Hutcheon, Inc.
Bloomfield, NJ
(201) 743-9770

NEW YORK

ABCO Supply
Middle Village, NY
(718) 497-5245

H.C. Oswald Co.
New York, NY
(212) 722-7000

OHIO

Wolff Bros. Sply, Inc.
Medina, OH
(330) 725-3451

Toledo Thermal Equip. Co.
Toledo, OH
(419) 475-7100

PENNSYLVANIA

B.J. Terroni Co., Inc.
Bensalem, PA
(215) 639-3600

Myers Distributing Co., Inc.
Duquesne, PA
(412) 469-1010

H & H Associates
Mechanicsburg, PA
(717) 796-2401

TENNESSEE

A. T. Distributors
Memphis, TN
(901) 388-4118

TEXAS

K. Sales, Inc.
Dallas, TX
(972) 484-8885

UTAH

A.A. Maycock Company
Salt Lake City, UT
(801) 364-1926

VIRGINIA

L.A. Prillaman Co., Inc.
Ashland, VA
(804) 798-1455

WASHINGTON, DC

Marva Sales
Leesburg, VA
(540) 338-2009

WISCONSIN

C & S Hydronics, Inc.
Delafield, WI
(414) 646-6325

For service contact your local qualified installation and service contractor or appropriate utility company.

WARRANTY

Modine warrants its products to be free from defects in material and workmanship. EXCLUSIVE, HOWEVER, of failures attributable to the use of materials substituted under emergency conditions for materials normally employed. This warranty covers replacement of any parts furnished from the factory of Modine but does not cover labor of any kind and materials not furnished by Modine, or any charges for any such labor or materials whether such labor, materials or charges thereon are due to replacement of parts, adjustments, repairs, or any other work done. This warranty does not apply to any equipment which shall have been repaired or altered outside the factory of Modine in any way so as, in the judgment of Modine, to affect its stability, nor which has been subjected to misuse, negligence, or operating conditions in excess of those for which such equipment was designed. This warranty does not cover the effects of physical or chemical properties of water or steam or other liquids or gases used in the equipment.

BUYER AGREES THAT MODINE'S WARRANTY OF ITS PRODUCTS TO BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP, AS LIMITED HEREIN, SHALL BE IN LIEU OF AND EXCLUSIVE OF ALL OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED, WHETHER ARISING FROM LAW, COURSE OF DEALING, USAGE OF TRADE, OR OTHERWISE. **THERE ARE NO OTHER WARRANTIES, INCLUDING WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.**

This warranty is void if the input to the product exceeds the rated input as indicated on the product serial plate by more than 5% on gas-fired and oil fired units, or if the product in the judgment of MODINE has been installed in a corrosive atmosphere, or subjected to corrosive fluids or gases, been subjected to misuse, negligence, accident, excessive thermal shock, excessive humidity, physical damage, impact, abrasion, unauthorized alterations, or operation contrary to MODINE's printed instructions, or if the serial number has been altered, defaced or removed.

Heat Exchangers

Models PA, BA, PAE, BAE, PAH, BAH, GHE, GHG unit heaters.

BUYER'S REMEDY FOR BREACH OF WARRANTY, EXCLUSIVE OF ALL OTHER REMEDIES PROVIDED BY LAW, IS LIMITED TO REPAIR OR REPLACEMENT AT THE FACTORY OF MODINE, ANY HEAT EXCHANGER WHICH SHALL, WITHIN TEN YEARS FROM DATE OF FIRST BENEFICIAL USE BY BUYER OR ANY OTHER USER, WITHIN TEN YEARS FROM DATE OF RESALE BY BUYER IN ANY UNCHANGED CONDITIONS, OR WITHIN ONE HUNDRED TWENTY-SIX MONTHS FROM DATE OF SHIPMENT FROM MODINE, WHICHEVER OCCURS FIRST, BE RETURNED TO MODINE WITH TRANSPORTATION CHARGES PREPAID AND WHICH THE EXAMINATION OF MODINE SHALL DISCLOSE TO HAVE BEEN DEFECTIVE; EXCEPT THAT WHEN THE PRODUCT IS TO BE USED BY BUYER AS A COMPONENT PART OF EQUIPMENT MANUFACTURED BY BUYER, BUYER'S REMEDY FOR BREACH, AS LIMITED HEREIN, SHALL BE LIMITED TO ONE YEAR FROM DATE OF SHIPMENT FROM MODINE. FOR GAS-FIRED PRODUCTS INSTALLED IN HIGH HUMIDITY APPLICATIONS AND UTILIZING STAINLESS STEEL HEAT EXCHANGERS, BUYER'S REMEDY FOR BREACH, AS LIMITED HEREIN, SHALL BE LIMITED TO TEN YEARS FROM DATE OF SHIPMENT FROM MODINE.

Heat Exchanger (Condenser) for models listed below, and Burners and Sheet Metal for all models

Models PSH, BSH, DJE, BJ, WDG, WDP, WGD, WPD, WBG, WBP, WGB, WPB, WSG, WSP, WGS, WPS, PBG, PBP, PSG, PSP, DMS, DMW, DHE, DHP, L, RH, RS, GB, PAB, PBH, GLW, HE, VE, PTE, POH, HS, V, PT, VSS, PTS, and GHS units, CABINET UNIT HEATERS, FIN TUBE RADIATION AND KICK SPACE HEATERS. BUYER'S REMEDY FOR BREACH OF WARRANTY, EXCLUSIVE OF ALL OTHER REMEDIES PROVIDED BY LAW, IS LIMITED TO REPAIR OR REPLACEMENT AT THE FACTORY OF MODINE, ANY HEAT EXCHANGER (CONDENSER) OR BURNER WHICH SHALL, WITHIN ONE YEAR FROM DATE OF FIRST BENEFICIAL USE BY BUYER OR ANY OTHER USER, WITHIN ONE YEAR FROM DATE OF RESALE BY BUYER IN ANY UNCHANGED CONDITIONS, OR WITHIN EIGHTEEN MONTHS FROM DATE OF SHIPMENT FROM MODINE, WHICHEVER OCCURS FIRST, BE RETURNED TO MODINE WITH TRANSPORTATION CHARGES PREPAID AND WHICH THE EXAMINATION OF MODINE SHALL DISCLOSE TO HAVE BEEN DEFECTIVE, EXCEPT THAT WHEN THE PRODUCT IS TO BE USED BY BUYER AS A COMPONENT PART OF EQUIPMENT MANUFACTURED BY BUYER, BUYER'S REMEDY FOR BREACH, AS LIMITED HEREIN, SHALL BE LIMITED TO ONE YEAR FROM DATE OF SHIPMENT TO MODINE.

All Other Components Excluding Heat Exchanger (Condenser), Burner, and Sheet Metal

All Modine Heating Products

BUYER'S REMEDY FOR BREACH OF WARRANTY EXCLUSIVE OF ALL OTHER REMEDIES PROVIDED BY LAW, IS LIMITED TO REPAIR OR REPLACEMENT AT THE FACTORY OF MODINE, ANY PART OR PARTS WHICH SHALL, WITHIN TWO YEARS FROM DATE OF FIRST BENEFICIAL USE BY BUYER OR ANY OTHER USER, WITHIN TWO YEARS FROM DATE OF RESALE BY BUYER IN ANY UNCHANGED CONDITION, OR WITHIN THIRTY MONTHS FROM DATE OF SHIPMENT FROM MODINE, WHICHEVER OCCURS FIRST, BE RETURNED TO MODINE WITH TRANSPORTATION CHARGES PREPAID AND WHICH THE EXAMINATION OF MODINE SHALL DISCLOSE TO HAVE BEEN DEFECTIVE, EXCEPT THAT WHEN THE PRODUCT IS TO BE USED BY BUYER AS A COMPONENT PART OF EQUIPMENT MANUFACTURED BY BUYER, BUYER'S REMEDY FOR BREACH, AS LIMITED HEREIN, SHALL BE LIMITED TO ONE YEAR FROM DATE OF SHIPMENT FROM MODINE.

BUYER AGREES THAT IN NO EVENT WILL MODINE BE LIABLE FOR COSTS OF PROCESSING, LOST PROFITS, INJURY TO GOODWILL OR ANY OTHER CONSEQUENTIAL OR INCIDENTAL DAMAGES OF ANY KIND RESULTING FROM THE ORDER OR USE OF ITS PRODUCT, WHETHER ARISING FROM BREACH OF WARRANTY, NONCONFORMITY TO ORDERED SPECIFICATIONS, DELAY IN DELIVERY, OR ANY LOSS SUSTAINED BY THE BUYER.

To prevent premature heat exchanger failure do not locate ANY gas-fired unit in areas where chlorinated, halogenated or acid vapors are present in the atmosphere.

As Modine Manufacturing Company has a continuous product improvement program, it reserves the right to change design and specifications without notice.

THIS MANUAL IS THE PROPERTY OF THE OWNER. PLEASE BE SURE TO LEAVE IT WITH HIM WHEN YOU LEAVE THE JOB.



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Commercial HVAC&R Division

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Buena Vista, Virginia 24416
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Fax: 540-261-1903 (Service & Parts)