

TECHNICAL SPECIFICATIONS FOR MODEL SSCBL

GAS-FIRED, INDOOR, COMMERCIAL/INDUSTRIAL AIR HANDLER: PACKAGED SEPARATED-COMBUSTION DUCT FURNACE(S) AND HIGH-CAPACITY BLOWER



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In keeping with our policy of continuous product improvement, we reserve the right to alter, at any time, the design, construction, dimensions, weights, etc., of equipment information shown here.

TECHNICAL SPECIFICATIONS—CONTINUED

Unit Sizes

These packaged duct furnace/high-capacity blower units are available in seven unit sizes based on 400,000–1,200,000 BTU/h input.

Features

- 208V supply
- Extended-capacity
- Aluminized-steel burner with stainless steel insert
- Aluminized-steel heat exchanger
- Options for complete stainless steel heat exchanger and burner components
- Intermittent spark pilot
- Twin centrifugal blowers with adjustable belt drive
- Natural gas or propane
- Corrosion-resistant Galvalume® cabinet with interlocking-joint construction
- Separated-combustion system with limit and safety controls
- Available with DX or chilled water cooling coil cabinet

Factory-Installed Options

Option	Description
AA1	Natural gas
AA2	Propane
AB1–AB8	Installation elevations of 0–9000 feet (may be field-converted)
AC1	Aluminized-steel heat exchanger
AC2	Stainless steel heat exchanger
AD1	Aluminized-steel burner
AD2	Stainless steel burner
AE1	No burner air shutters
AE2	Burner air shutters (required on propane units)
AF1	Aluminized-steel drip pan/bottom panel
AF2	Stainless steel drip pan/bottom panel
AG1	Single-stage combination gas valve
AG2	Two-stage combination gas valve
AG3	Two-stage combination gas valve with unit-mounted ductstat
AG7	Electronic modulation with room thermostat
AG8	Electronic modulation with 2:1 turndown ratio and ductstat
AG9	Electronic modulation with 2:1 turndown ratio and with ductstat and remote temperature selector
AG11	Two-stage gas control with digital thermostat
AG15, AG17	Two-stage combination gas valve with electronic ductstat and remote temperature selector
AG21	Electronic modulation with Maxitrol signal conditioner
AG39, AG41	Electronic modulation with 4:1 turndown ratio and remote temperature selector (natural gas units)
AG40, AG42	Electronic modulation with 4:1 turndown ratio and DDC interface (natural gas units)
AGA	US installation rating plate
AH2	Intermittent spark pilot
AH3	Intermittent spark pilot with timed lockout
AJ1	Left side controls (facing airstream)

Option	Description
AJ2	Right side controls (facing airstream)
AK2	208/1/60 voltage
AK3	230/1/60 voltage
AK5	208/3/60 voltage
AK6	230/3/60 voltage
AK7	460/3/60 voltage
AK8	575/3/60 voltage
AL6	1-HP open drip-proof motor
AL7	1-1/2-HP open drip-proof motor
AL8	2-HP open drip-proof motor
AL9	3-HP open drip-proof motor
AL10	5-HP open drip-proof motor
AL11	7-1/2-HP open drip-proof motor
AL12	10-HP open drip-proof motor
AL15	15-HP open drip-proof motor
AL16	20-HP open drip-proof motor
AL23	1-HP totally-enclosed motor
AL24	1-1/2-HP totally-enclosed motor
AL25	2-HP totally-enclosed motor
AL26	3-HP totally-enclosed motor
AL27	5-HP totally-enclosed motor
AL32	7-1/2-HP totally-enclosed motor
AM2-AM24	451-1600 RPM belt drives
AN2	Motor contactor
AN10	Motor starter
AR1	Cabinet with horizontal inlet
AR4	Cabinet with bottom inlet
AR8	100% outside air hood with motorized damper
AR15	Modulating outside air and return air mixing damper
AR17	Alternating 100% outside air or 100% return air damper
AR18	Modulating 100% outside air and return air mixing damper with remote potentiometer
AR23	Modulating 100% outside air and return air dampers with pressure null switch
AR25	Modulating 100% outside air and return air mixing damper with DDC control
AW7, AW9, AW11, AW40	Various filter rack options
AY3	Insulated double-wall cabinet(s)
BD2	Firestat, 200°F
BE2	Adjustable, automatic-reset discharge temperature low limit control with time delay relay
BG7A-BG7Z, BG9	Various relay options
BN2	Adjustable (0-100°F) high ambient temperature limit control
BP4	High- and low-pressure gas pressure safety switches
BW1	Air flow pressure proving switch
CGA	Canadian installation rating plate
PC12	Vibration isolation rails
VFD2	Variable frequency drives
VFCA, VFCA, VFC2	Variable frequency drive controls

TECHNICAL SPECIFICATIONS—CONTINUED

Field-Installed Options

Option	Description
AS2	100% outside air screened intake hood with rain baffles
AU2	CHW cooling cabinet for field-supplied CHW coil
BE4	Evaporator froststat
CC2	Vertical vent terminal kit
CC6	Horizontal vent terminal kit
CL1	Single-stage thermostat
CL9	Electronic modulating room override
CL22	Two-stage thermostat
CL23	Two-stage programmable thermostat
CL33	Two-stage digital thermostat
CM1	Locking cover for CL1, CL22, and CL23 thermostats
CM1B	Locking cover for CL33 thermostat
CN1A–CN3Z	Various remote switch options
CP1, CP2, CP3, CP17	Disconnect switches (US only)
CP41	Disconnect switch (Canada only)
DR2, DR4, XB2	Replacement belts for belt-drive motor
SA1	Photoelectric air duct smoke detector

Technical Data

Parameter	Unit of Measure	Unit Size (MBTUh)						
		400	500	600	700	800	1050	1200
Input heating capacity	BTUh	400,000	500,000	600,000	700,000	800,000	1,050,000	1,200,000
	kW	117.2	146.6	175.9	205.2	234.5	307.8	351.7
Output heating capacity (80%)	BTUh	320,000	400,000	480,000	560,000	640,000	840,000	960,000
	kW	93.8	117.2	140.7	164.1	187.6	246.2	281.4
Air volume	CFM	3300–14,000	3700–12,000	4450–12,500	5200–13,500	5900–13,500	6500–13,500	7400–13,500
	meter ³ /hr	5607–23,785	6286–20,387	7560–21,237	8835–22,936	10,024–22,936	11,043–22,936	12,572–22,936

Parameter	Unit of Measure	Unit Size (MBTUh)					
		400	500, 600	700	800	1050	1200
Full load amps (120V, less motor)	amp	3.1	3.3	3.6	4.5	5	5.9
Unit control amps (24V)		1.67					
Maximum vent length, 6-inch pipe	foot	30	50	30			
Maximum vent length, 7-inch pipe		70					
Gas connection	inch	1	1-1/4				

Certification

- These packaged systems include duct furnaces that are design-certified to ANSI and CSA standards by the Canadian Standards Association and that are approved for installation in the United States and in Canada. The furnaces are approved for use with either natural gas or propane. The type of gas for which the furnace is equipped, the correct firing rate, and electrical requirements are shown on the unit's rating plate.
- These gas-fired products are certified by ANSI Z83 family of standards governing the safe usage of heating equipment in the industrial/commercial marketplace. This includes using the heaters in makeup air applications to supply corridor pressurization in commercial buildings such as office structures and apartment complexes.
- The heaters are not certified as residential heating equipment and should not be used as such.

Installation Codes

- These units must be installed in accordance with local building codes. In the absence of local codes, in the United States, the unit must be installed in accordance with the *National Fuel Gas Code* (NFPA 54/ANSI Z223.1, latest edition). A Canadian installation must be in accordance with the *Natural Gas and Propane Installation Code* (CSA B149, latest edition). This code is available from CSA Information Services, 1-800-463-6727. Local authorities having jurisdiction should be consulted before installation is made to verify local codes and installation procedure requirements.
- Installations in aircraft hangars should be in accordance with the *Standard for Aircraft Hangars* (ANSI/NFPA No. 409, latest edition). Installations in public garages should be in accordance with the *Standard for Parking Structures* (ANSI/NFPA No. 88A, latest edition). Installations in repair garages should be in accordance with the *Standard for Repair Garages* (ANSI/NFPA No. 88B, latest edition). In Canada, installations in aircraft hangars public garages should be in accordance the CSA B149 code.
- Clearances from the heater and vent to combustible construction or material in storage must conform with the *National Fuel Gas Code* (NFPA 54/ANSI Z223.1, latest edition) pertaining to gas-burning devices, and such material must not attain a temperature over 160°F (71°C) by continued operation of the heater.
- If the heater is being installed in the Commonwealth of Massachusetts, installation must be performed by a licensed plumber or licensed gas fitter.

Separated Combustion

Separated-combustion units are designed to separate air for combustion and flue products from the environment of the building in which the unit is installed. Separated-combustion appliances are recommended for use in dust-laden and some corrosive-fume environments. As the definition states, all separated-combustion, power-vented equipment must be equipped with both combustion-air and exhaust piping to the outdoors. This separated-combustion unit is designed and manufactured in accordance with the ANSI definition of separated combustion, which reads:

Separated Combustion System Appliance: A system consisting of an appliance and a vent cap(s) supplied by the manufacturer, and (1) combustion air connections between the appliance and the outside atmosphere, and (2) flue gas connections between the appliance and vent cap, of a type(s) specified by the manufacturer but supplied by the installer, constructed so that, when installed in accordance with the manufacturer's instructions, air for combustion is obtained from the outside atmosphere and flue gases are discharged to the outside atmosphere.

Unit Location

⚠ CAUTION ⚠

Do not locate the unit where it may be exposed to water spray, rain, or dripping water.

- Select a location that complies with the requirements in this manual.
- There are a variety of factors, such as system application, building structure, dimensions, and weight, that contribute to selecting the location.
- The location must be in accordance with the **Clearances** section.

Halogenated Hydrocarbons

Halogenated hydrocarbons are a family of chemical compounds characterized by the presence of halogen elements (fluorine, chlorine, bromine, etc.). These compounds are used in refrigerants, cleaning agents, and solvents and are heavier than air, a fact that should be kept in mind when determining the installation location of heaters and building exhaust systems.

⚠ CAUTION ⚠

CORROSION HAZARD: Halogenated hydrocarbons, when exposed to flame, precipitate with any condensation present in the heater to form hydrochloric acid, which readily attacks all metals, including 300 grade stainless steel. Care should be taken to separate these vapors from the combustion process. An outside air supply MUST BE provided to the burner whenever the presence of these compounds is suspected.

TECHNICAL SPECIFICATIONS—CONTINUED

Curb Cap Base

- Units are equipped with a load bearing curb cap that forms an integral part of the unit. The curb cap is welded at all joints.
- The curb cap has suspension holes at each corner and hanger brackets on the sides. Each suspension location requires a 1/2-inch threaded rod.
- Refer to the installation, operation, and maintenance manual provided with the unit for further information on curb dimensions, assembly, and installation.

Mounting

⚠ DANGER ⚠

Before installation, check the supporting structure to ensure that it has sufficient load-carrying capacity to support the weight of the unit along with any optional equipment.

NOTES:

- **Prior to installation, ensure that the method of support is in agreement with all local building codes.**
- **The system can have a variety of configurations that affect installation.**

The unit is are designed for either suspension or mounting on a field-supplied support assembly (rails). Lift the unit using a suitable hoist and spreader bars and set it on the rails. Leave the ends open underneath for ventilation. Refer to the installation, operation, and maintenance manual provided with the unit for further information on mounting the unit.

Venting/Combustion Air Requirements

⚠ WARNING ⚠

Do not use an existing venting system. Each furnace section requires installation of the combustion air/vent system ordered with the unit (either option CC2 or CC6). Vent installation to be any listed vent system manufacturer. Do not intermix different vent system parts from different manufacturers in the same venting system.

NOTE: All model SSCBL installations require a vent/combustion air kit for each furnace section.

- All separated-combustion, power-vented units **MUST BE** equipped with both combustion air and exhaust piping to the outdoors. The unique concentric adapter box designed for use with this heater allows for both combustion air and exhaust piping with only one horizontal or vertical penetration hole in the building.
- Refer to the installation manual for further information on venting/combustion air requirements.

Ductwork Requirements

⚠ CAUTION ⚠

- To prevent possible motor overloading, ensure that the external duct system static pressure is within the limits shown on the rating plate and that the motor pulley and belt are properly adjusted.
- The joint where the supply air duct attaches to the furnace must be sealed securely to prevent air leakage into draft hood or burner rack area. Leakage can cause poor combustion and pilot problems, can shorten heat exchanger life, and can cause poor performance.

Refer to the installation, operation, and maintenance manual provided with the unit for further information on ductwork requirements.

System Configurations

Unit Size (MBTUh)	No. of Furnace Sections	No. of Blower Cabinets
400	1	1
500, 600, 700, 800	2	
1050, 1200	3	

Clearances

Clearance to combustibles is defined as the minimum distance—from the heater to a surface or object—that is necessary to ensure that a surface temperature of 90°F (50°C) above the surrounding ambient temperature is not exceeded. For safety, adequate combustion air, and convenient installation and service, ensure that clearances are as follows:

Unit Surface	Minimum Clearance (Inches (mm))
Top	6 (152)
Control side	56 (1422)
Side opposite controls, to combustibles	6 (152)
Side opposite controls, for motor access	30 (762)
Bottom	6 (152)

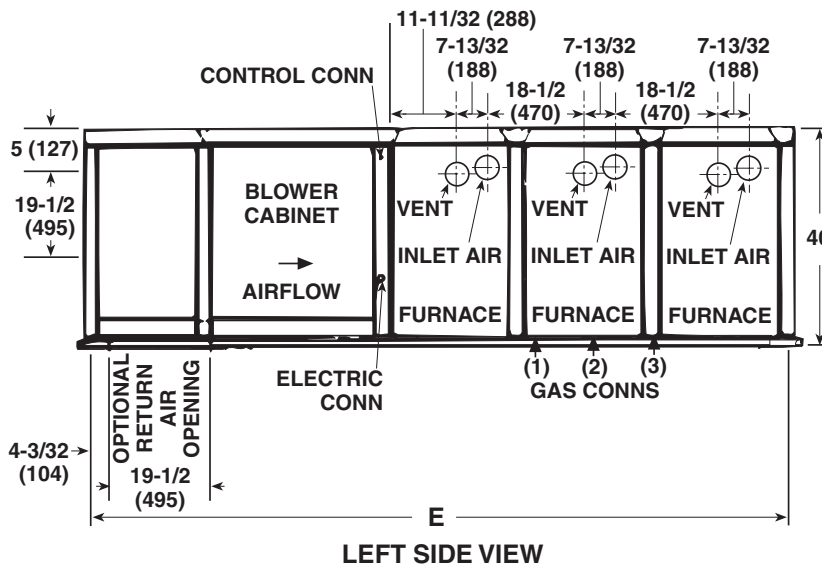
Weights

NOTE: The total weight of the system will vary based on its factory- and field-installed options, which may include insulated cabinets and blower motors.

Type	Unit Size (MBTUh)					
	400	500, 600	700	800	1050	1200
Pounds (kg)						
Unit	849 (385)	1104 (500)	1184 (537)	1245 (565)	1476 (670)	1565 (710)
Shipping (base unit)	1218 (552)	1588 (720)	1668 (757)	1898 (861)	2148 (974)	2243 (1017)
Cooling cabinet (option AU2)	507 (230)	394 (179)	449 (204)	507 (230)	449 (204)	507 (230)

TECHNICAL SPECIFICATIONS—CONTINUED

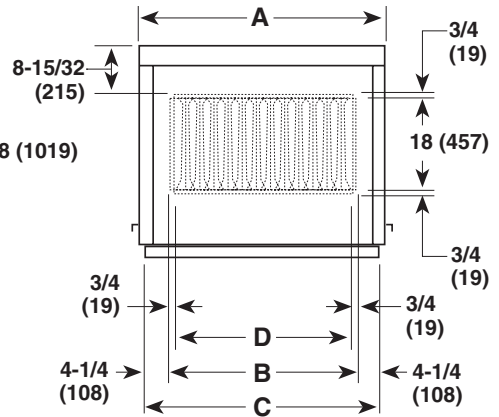
Dimensions



NOTES:

Inches (mm)

The vent pipe collar OD = 6 (152). The inlet air collar ID = 6 (152).



LEFT SIDE VIEW

FRONT VIEW

Dimension (See Graphic Above)	Unit Size (MBTUh)					
	400	500, 600	700	800	1050	1200
	Inches (mm)					
A	58-7/8 (1495)	47-7/8 (1216)	53-3/8 (1356)	58-7/8 (1495)	53-3/8 (1356)	58-7/8 (1495)
B	47-5/8 (1210)	36-5/8 (930)	42-1/8 (1070)	47-5/8 (1210)	42-1/8 (1070)	47-5/8 (1210)
C	56-1/8 (1426)	45-1/8 (1146)	50-5/8 (1286)	56-1/8 (1426)	50-5/8 (1286)	56-1/8 (1426)
D	45-1/2 (1156)	34-1/2 (876)	40 (1016)	45-1/2 (1156)	40 (1016)	45-1/2 (1156)
E	83-1/2 (2121)	109-1/2 (2781)		135-1/2 (3442)		
Air Opening (See Graphic Above)			Inches (mm)			
Horizontal air inlet opening			19-1/2 (495) × B			
Optional return air opening (bottom)						
Horizontal discharge air opening			18 (457) D			
Gas Connection Location* (See Graphic Above)		Approximate Distance from Inside Curb Cap on Blower End of System (Inches (mm))			Unit Size (MBTUh)	
1		89–90 (2261–2286)			400	
2		103–104 (2616–2642)			500, 600, 700, 800	
3		110–111 (2794–2819)			1050, 1200	

*The gas connection is at curb cap height on the control side of the system.

Gas Supply Pressure

- The unit is equipped for a maximum gas supply pressure of 1/2 psi, 3.5 kPa, or 14 IN WC for natural gas or propane. The minimum supply pressure, as measured while the unit is operating at full fire, is 5 IN WC for natural gas or 11 IN WC for propane.
- Supply pressure higher than 1/2 psi requires the installation of an additional service regulator external to the unit.
- **Pressure testing supply piping:** For test pressures **above** 1/2 psi, disconnect the heater and manual valve from the gas supply line to be tested and cap or plug the supply line. For test pressures **below** 1/2 psi, before testing, close the manual valve on the heater.

Gas Supply Piping

- The heater is orificed for operation with natural gas having a heating value of 1,000 (± 50) BTU per cubic foot or with propane gas having a heating value of 2,550 (± 100) BTU per cubic foot. Sizing of gas supply lines depends on piping capacity and is based on cubic feet per hour based on a 0.3 IN WC pressure drop, a 0.6 specific gravity for natural gas at 1,000 BTU per cubic feet, and a 1.6 specific gravity for propane at 2,550 BTU per cubic feet. If the gas at the installation does not meet this specification, consult the factory for proper orificing.
- Variables for sizing gas supply lines are listed below. When sizing supply lines, consider the possibility of future expansion and increased requirements. Refer to the *National Fuel Gas Code* for additional information on line sizing.

Pipe Length (Feet)	Natural Gas					Propane				
	Pipe Diameter (Inches)									
	1	1-1/4	1-1/2	2	2-1/2	1	1-1/4	1-1/2	2	2-1/2
	Cubic Feet per Hour									
20	350	730	1100	2100	3300	214	445	671	1281	2013
30	285	590	890	1650	2700	174	360	543	1007	1647
40	245	500	760	1450	2300	149	305	464	885	1403
50	215	440	670	1270	2000	131	268	409	775	1220
60	195	400	610	1105	1850	119	244	372	674	1129
70	180	370	560	1050	1700	110	226	342	641	1037
80	170	350	530	990	1600	104	214	323	604	976
90	160	320	490	930	1500	98	195	299	567	915
100	150	305	460	870	1400	92	186	281	531	854
125	130	275	410	780	1250	79	168	250	476	763
150	120	250	380	710	1130	73	153	232	433	689
175	110	225	350	650	1050	67	137	214	397	641
200	100	210	320	610	980	61	128	195	372	598

Disconnect Switch

A disconnect switch is a required part of this installation. Switches are available as options or parts or may be supplied locally. When ordered as an optional component, the disconnect switch is shipped separately. The disconnect switch may be fusible or non-fusible. When providing or replacing fuses in a fusible disconnect switch, use dual element time delay fuses and size according to $1.25 \times$ maximum total input amps. When installing, ensure that the conduit and switch housing are clear of furnace panels and inspection plates. Allow at least 4 feet (1.2 meters) of service room between the switch and removable panels. Refer to the installation, operation, and maintenance manual provided with the unit for further information on electrical connections.

TECHNICAL SPECIFICATIONS—CONTINUED

Blower Performance Data

Unit Size (MBTUh)	CFM	With Clean Disposable 2-Inch Filters	With Clean Permanent 2-Inch Aluminum Filters	With Clean Pleated 2-Inch Filters	With Outside Air Hood	With Dampers	With Downturn Plenum
		Pressure Drop (IN WC)					
400	3300	0.02	0.03	0.03	0.06	0.01	0.02
	4000	0.03	0.05	0.06	0.10	0.01	0.03
	5000	0.04	0.08	0.10	0.15	0.02	0.05
	6000	0.06	0.12	0.14	0.23	0.02	0.07
	7000	0.08	0.16	0.19	0.31	0.03	0.10
	8000	0.10	0.21	0.25	0.40	0.04	0.13
	9000	0.13	0.26	0.31	0.50	0.06	0.17
	10,000	—	0.33	0.39	0.62	0.07	0.21
	11,000	—	0.40	0.47	0.76	0.08	0.25
	12,000	—	0.48	0.56	0.90	0.10	0.30
	13,000	—	0.56	—	1.05	0.12	0.35
500, 600	14,000	—	0.65	—	1.22	0.14	0.40
	3700	0.04	0.04	0.06	0.13	0.01	0.04
	4000	0.05	0.06	0.08	0.16	0.02	0.06
	5000	0.08	0.10	0.12	0.25	0.03	0.08
	6000	0.12	0.14	0.17	0.36	0.04	0.12
	7000	0.16	0.20	0.23	0.49	0.05	0.16
	8000	—	0.25	0.31	0.64	0.07	0.20
	9000	—	0.31	0.40	0.81	0.09	0.26
	10,000	—	0.39	—	1.00	0.11	0.32
	11,000	—	0.46	—	1.21	0.13	0.40
700	12,500	—	0.60	—	1.57	0.14	0.52
	5200	0.06	0.08	0.10	0.19	0.02	0.06
	6000	0.06	0.10	0.15	0.28	0.03	0.10
	7000	0.08	0.14	0.20	0.38	0.04	0.14
	8000	0.10	0.18	0.27	0.50	0.05	0.16
	9000	—	0.24	0.33	0.63	0.07	0.22
	10,000	—	0.30	0.41	0.77	0.09	0.28
	11,000	—	0.36	—	0.94	0.10	0.34
800	12,000	—	0.42	—	1.12	0.12	0.40
	13,000	—	0.50	—	1.31	0.15	0.46
	5900	0.05	0.10	0.12	0.20	0.02	0.06
	6000	0.06	0.12	0.14	0.23	0.02	0.07
	7000	0.08	0.16	0.19	0.31	0.03	0.10
	8000	0.10	0.21	0.25	0.40	0.04	0.13
	9000	0.13	0.26	0.31	0.50	0.06	0.17
	10,000	—	0.33	0.39	0.62	0.07	0.21
	11,000	—	0.40	0.47	0.76	0.08	0.25
1050	12,000	—	0.48	0.56	0.90	0.10	0.30
	13,000	—	0.56	—	1.05	0.12	0.35
	6500	0.06	0.10	0.08	0.29	0.03	0.10
	7000	0.08	0.14	0.12	0.38	0.04	0.14
	8000	0.10	0.18	0.16	0.50	0.05	0.16
	9000	—	0.24	0.20	0.63	0.07	0.22
	10,000	—	0.30	0.24	0.77	0.09	0.28
	11,000	—	0.36	—	0.94	0.10	0.34
12,000	—	0.42	—	1.12	0.12	0.40	
13,000	—	0.50	—	1.31	0.15	0.46	

Unit Size (MBTUh)	CFM	With Clean Disposable 2-Inch Filters	With Clean Permanent 2-Inch Aluminum Filters	With Clean Pleated 2-Inch Filters	With Outside Air Hood	With Dampers	With Downturn Plenum
		Pressure Drop (IN WC)					
1200	7400	0.08	0.16	0.19	0.31	0.03	0.10
	8000	0.10	0.21	0.25	0.40	0.04	0.13
	9000	0.13	0.26	0.31	0.50	0.06	0.17
	10,000	—	0.33	0.39	0.62	0.07	0.21
	11,000	—	0.40	0.47	0.76	0.08	0.25
	12,000	—	0.48	0.56	0.90	0.10	0.30
	13,000	—	0.56	—	1.05	0.12	0.35

Unit Size (MBTUh)	Rise (°F)	CFM	Total Adjusted Pressure Drop (IN WC)							
			0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6
400	90	3300	420/0.4	530/0.55	600/0.7	720/1.0	760/1.2	810/1.3	880/1.5	940/1.8
	85	3500	440/0.5	550/0.65	610/0.80	730/1.1	770/1.25	820/1.4	890/1.8	950/1.9
	74	4000	470/0.6	570/0.8	640/1.0	740/1.25	780/1.4	830/1.8	900/1.9	970/2.1
	59	5000	540/1.0	610/1.25	700/1.5	780/1.8	810/2.0	880/2.2	950/2.6	1000/3.0
	49	6000	600/1.5	690/1.75	740/2.0	820/2.5	860/2.7	900/3.0	970/3.2	1020/3.6
	42	7000	710/2.3	770/2.7	820/3.0	890/3.5	920/3.7	960/4.0	1000/4.2	1050/4.6
	37	8000	800/3.3	850/3.8	900/4.1	950/4.5	990/4.7	1020/5.0	1050/5.1	1110/5.6
	33	9000	880/4.5	910/4.9	970/5.1	1010/6.0	1050/6.3	1080/7.0	1110/7.3	1200/7.8
	30	10000	960/6.2	1010/7.0	1050/7.5	1120/8.0	1150/8.5	1200/8.8	1210/9.0	1260/9.1
	27	11000	1100/8.7	1140/9.0	1180/9.5	1210/10.0	1240/10.2	1260/11.0	1300/11.5	1310/12.0
	25	12000	1200/11.0	1240/11.5	1280/12.5	1300/13.0	1320/13.5	1350/14.0	1380/14.5	1400/14.7
	23	13000	1300/14.5	1310/14.8	1350/15.2	1380/16.0	1400/16.2	1420/16.5	1450/17.0	1460/17.4
21	14000	1380/17.5	1410/18.0	1400/19.0	1480/19.5	1500/20.0	—	—	—	
500	100	3700	560/0.8	610/0.9	680/1.1	770/1.3	810/1.5	880/1.6	940/1.9	990/2.0
	93	4000	590/0.9	650/1.1	710/1.3	790/1.4	830/1.6	890/1.75	950/2.0	1000/2.2
	74	5000	650/1.3	710/1.6	790/1.9	860/2.1	890/2.2	930/2.5	990/2.7	1030/3.0
	62	6000	780/2.2	810/2.5	880/2.7	920/3.0	970/3.2	1000/3.5	1050/3.9	1100/4.2
	53	7000	880/3.3	910/3.7	980/4.1	1020/4.4	1050/4.8	1100/5.0	1130/5.3	1160/5.6
	46	8000	1000/5.0	1030/5.1	1070/5.5	1100/6.0	1150/6.2	1170/6.8	1200/7.2	1290/7.7
	41	9000	1140/7.0	1160/7.2	1200/7.8	1230/8.0	1260/8.5	1290/8.7	1310/9.0	1360/9.5
	37	10000	1240/9.5	1280/10.0	1310/10.5	1350/11.0	1380/11.5	1400/12.0	1420/12.3	1470/12.7
	34	11000	1360/13.0	1400/13.5	1440/14.0	1470/14.5	1500/15.0	1520/15.1	1520/15.5	1570/16.0
	31	12000	1480/16.0	1510/17.0	1550/17.5	1580/18.0	1600/18.5	—	—	—
600	100	4450	620/1.1	680/1.3	740/1.6	820/1.7	850/1.9	910/2.1	970/2.5	1010/2.7
	89	5000	650/1.3	710/1.6	790/1.9	860/2.1	890/2.2	930/2.5	990/2.7	1030/3.0
	74	6000	780/2.2	810/2.5	880/2.7	920/3.0	970/3.2	1000/3.5	1050/3.9	1100/4.2
	63	7000	880/3.3	910/3.7	980/4.1	1020/4.4	1050/4.8	1100/5.0	1130/5.3	1160/5.6
	56	8000	1000/5.0	1030/5.1	1070/5.5	1100/6.0	1150/6.2	1170/6.8	1200/7.2	1290/7.7
	53	9000	1140/7.0	1160/7.2	1200/7.8	1230/8.0	1260/8.5	1290/8.7	1310/9.0	1360/9.5
	44	10000	1240/9.5	1280/10.0	1310/10.5	1350/11.0	1380/11.5	1400/12.0	1420/12.3	1470/12.7
	40	11000	1360/13.0	1390/13.5	1440/14.0	1470/14.5	1500/15.0	1520/15.1	1520/15.5	1570/16.0
	39	11500	1420/15.0	1450/15.2	1500/16.0	1530/16.5	1550/17.2	1590/17.5	1600/18.0	—
	36	12500	1540/18.0	1560/18.6	1600/19.6	—	—	—	—	—
700	100	5200	590/1.3	660/1.4	730/1.6	800/1.8	880/2.2	910/2.5	980/2.8	1040/3.2
	86	6000	640/1.6	730/1.9	790/2.3	850/2.6	900/3.0	940/3.2	1000/3.7	1060/4.0
	74	7000	760/2.6	800/3.0	860/3.2	920/3.7	960/4.0	1000/4.2	1050/4.6	1100/4.8
	65	8000	850/3.7	900/4.0	950/4.5	1000/4.8	1030/5.0	1060/5.5	1100/6.0	1150/6.5
	58	9000	950/5.0	980/5.3	1030/6.0	1070/6.5	1100/7.0	1130/7.5	1200/8.0	1240/8.3
	52	10000	1040/7.5	1110/7.8	1150/8.0	1180/8.5	1200/8.7	1230/9.0	1280/9.8	1320/10.0
	47	11000	1200/8.7	1220/10.0	1250/10.6	1290/11.3	1310/11.8	1330/12.0	1370/12.6	1410/13.0
	43	12000	1300/12.7	1320/13.0	1360/14.0	1380/14.5	1400/14.9	1430/15.5	1470/16.8	1490/17.0
	40	13000	1390/16.2	1400/16.5	1440/17.0	1470/17.5	1500/18.0	1520/19.0	—	—
	38	13500	1440/17.0	1460/18.0	1490/19.0	1530/20.0	—	—	—	—

TECHNICAL SPECIFICATIONS—CONTINUED

Blower Performance Data—Continued

Unit Size (MBTUh)	Rise (°F)	CFM	Total Adjusted Pressure Drop (IN WC)							
			0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6
800	100	5900	650/1.6	730/2.0	800/2.4	860/2.6	900/3.0	940/3.2	1010/3.6	1060/4.0
	85	7000	770/2.6	800/2.9	890/3.4	930/3.8	960/4.0	1000/4.2	1050/4.5	1100/4.9
	74	8000	860/3.7	900/4.0	960/4.5	1000/4.8	1030/5.0	1070/5.5	1100/6.0	1150/6.4
	66	9000	950/5.0	990/5.5	1040/6.0	1080/6.8	1100/7.2	1180/7.6	1200/8.0	1240/8.3
	59	10000	1100/7.8	1130/8.1	1190/8.8	1220/9.0	1240/9.6	1280/9.8	1300/10.0	1330/11.0
	54	11000	1210/9.9	1220/10.1	1260/11.0	1300/11.5	1320/12.3	1350/12.5	1380/12.8	1410/14.0
	49	12000	1300/12.7	1340/13.0	1360/14.0	1400/14.8	1410/15.0	1450/15.5	1480/16.4	1500/17.0
	46	13000	1400/16.2	1420/16.5	1450/17.5	1490/17.8	1510/18.2	1540/19.0	1560/19.5	—
	44	13500	1440/17.5	1470/18.2	1510/19.5	1530/20.0	—	—	—	—
1050	120	6500	710/2.0	770/2.4	820/2.7	900/3.1	930/3.3	980/3.7	1040/4.0	1090/4.3
	111	7000	770/2.7	810/3.1	870/3.4	940/3.75	960/4.0	1010/4.3	1060/4.7	1120/5.0
	97	8000	870/3.8	910/4.1	960/4.6	1010/4.9	1040/5.1	1070/5.6	1110/6.1	1160/6.6
	86	9000	960/5.1	1000/5.5	1040/6.2	1080/7.0	1120/7.5	1190/7.8	1220/8.1	1250/8.5
	78	10000	1100/7.7	1120/8.0	1160/8.5	1200/8.8	1240/9.0	1260/9.5	1290/10.0	1330/10.5
	71	11000	1200/9.9	1220/10.1	1260/10.6	1300/11.5	1320/11.5	1340/12.0	1380/12.5	1420/13.2
	65	12000	1310/12.8	1330/13.1	1370/14.5	1400/14.8	1410/15.0	1440/15.2	1460/15.7	1510/17.1
	60	13000	1400/16.5	1410/17.0	1460/17.6	1490/18.0	1510/18.5	1540/19.0	1560/19.5	—
	58	13500	1450/18.0	1480/18.5	1520/19.0	—	—	—	—	—
1200	120	7400	810/3.1	870/3.5	920/3.8	970/4.1	1000/4.6	1050/4.8	1080/5.0	1130/5.2
	111	8000	870/3.8	910/4.1	960/4.7	1000/4.9	1040/5.2	1080/5.8	1110/6.1	1160/6.5
	99	9000	960/5.1	1000/5.7	1050/6.4	1080/7.0	1110/7.3	1190/7.8	1210/8.1	1250/8.6
	89	10000	1110/7.8	1140/8.2	1200/9.0	1230/9.1	1250/9.7	1290/9.9	1310/10.5	1340/11.1
	81	11000	1220/10.0	1230/10.2	1270/11.1	1310/11.6	1330/12.4	1360/12.5	1390/13.0	1420/14.0
	74	12000	1310/12.8	1340/13.1	1370/14.1	1410/15.0	1420/15.4	1470/16.0	1490/16.5	1510/17.1
	68	13000	1410/16.5	1420/17.0	1460/17.8	1500/18.2	1520/19.0	1550/19.6	—	—
	66	13500	1470/18.0	1490/18.5	1520/19.6	1540/20.0	—	—	—	—

Unit Size (MBTUh)	Rise (°F)	CFM	Total Adjusted Pressure Drop (IN WC)						
			1.8	2.0	2.2	2.4	2.6	2.8	3.0
400	90	3300	1000/2.0	1040/2.2	1090/2.7	1140/2.9	1190/3.1	1260/3.5	1270/3.6
	85	3500	1020/2.3	1050/2.5	1110/2.8	1150/3.0	1200/3.2	1270/3.6	1280/3.75
	74	4000	1030/2.6	1060/2.7	1120/3.0	1160/3.3	1205/3.6	1280/4.0	1290/4.2
	59	5000	1060/3.3	1100/3.5	1140/3.8	1180/4.0	1220/4.3	1285/4.7	1300/4.8
	49	6000	1080/4.0	1110/4.2	1150/4.5	1190/4.7	1230/4.9	1290/5.1	1310/5.5
	42	7000	1110/4.8	1140/5.0	1190/5.2	1210/6.0	1260/6.3	1300/7.0	1350/7.5
	37	8000	1150/6.2	1180/7.0	1200/7.2	1250/7.5	1300/8.0	1350/8.2	1370/8.7
	33	9000	1240/8.2	1260/8.6	1300/8.9	1320/9.1	1350/9.6	1400/10.0	1420/11.0
	30	10000	1290/9.9	1310/10.1	1350/10.5	1380/11.0	1410/12.0	1450/12.5	1470/12.7
	27	11000	1360/12.5	1380/12.7	1400/13.0	1460/14.0	1480/14.9	1520/15.5	1530/16.0
	25	12000	1420/15.0	1450/15.2	1470/16.0	1500/16.5	1530/17.0	1560/17.5	1590/18.0
	23	13000	1500/18.0	1510/18.2	1530/19.0	1580/19.5	1600/20.0	—	—
	500	100	3700	1080/2.5	1110/2.6	1140/2.8	1180/3.0	1220/3.3	1280/4.5
93		4000	1090/2.7	1120/2.8	1150/2.9	1190/3.2	1230/3.8	1290/4.9	1300/5.0
74		5000	1100/3.5	1130/3.8	1160/4.1	1200/4.5	1240/5.0	1300/5.5	1320/6.0
62		6000	1140/4.5	1180/4.9	1200/5.1	1250/5.7	1280/6.2	1320/6.6	1350/7.0
53		7000	1210/6.2	1250/6.9	1270/7.0	1300/7.4	1380/7.6	1410/7.9	1450/8.5
46		8000	1320/8.0	1340/8.2	1370/8.6	1400/8.8	1440/9.2	1490/9.6	1510/10.0
41		9000	1400/10.0	1420/10.2	1460/10.6	1480/11.0	1510/11.2	1540/12.0	1580/12.5
37		10000	1510/13.0	1520/13.5	1550/14.0	1580/14.5	1600/15.0	—	—
34	11000	1600/16.5	—	—	—	—	—	—	

Unit Size (MBTUh)	Rise (°F)	CFM	Total Adjusted Pressure Drop (IN WC)						
			1.8	2.0	2.2	2.4	2.6	2.8	3.0
600	100	4450	1090/2.9	1120/3.1	1150/3.5	1190/4.0	1230/4.8	1290/5.2	1310/5.5
	89	5000	1100/3.5	1130/3.8	1160/4.1	1200/4.5	1240/5.0	1300/5.5	1320/6.0
	74	6000	1140/4.5	1180/4.9	1200/5.1	1250/5.7	1280/6.2	1320/6.6	1250/7.0
	63	7000	1210/6.2	1250/6.9	1270/7.0	1300/7.4	1380/7.6	1410/7.9	1450/8.5
	56	8000	1320/8.0	1340/8.2	1370/8.6	1400/8.8	1440/9.2	1490/9.6	1510/10.0
	53	9000	1400/10.0	1420/10.2	1460/10.6	1480/11.0	1510/11.2	1540/12.0	1580/12.5
	44	10000	1500/13.0	1520/13.5	1550/14.0	1580/14.5	1600/15.0	—	—
	40	11000	1600/16.5	—	—	—	—	—	—
700	100	5200	1090/3.6	1120/3.8	1160/4.0	1200/4.2	1240/4.5	1290/4.8	1300/4.9
	86	6000	1100/4.2	1140/4.4	1180/4.6	1210/4.9	1250/5.2	1300/4.8	1320/6.0
	74	7000	1140/5.0	1160/5.2	1200/5.5	1240/6.1	1280/6.6	1310/7.1	1340/7.3
	65	8000	1200/7.0	1240/7.3	1260/7.5	1300/7.9	1340/8.4	1380/9.0	1410/9.3
	58	9000	1280/8.6	1300/9.0	1320/9.5	1360/9.8	1400/10.2	1440/11.0	1460/11.5
	52	10000	1350/10.5	1370/11.0	1400/12.0	1420/12.4	1470/12.6	1490/12.8	1500/13.0
	47	11000	1450/14.0	1460/14.5	1490/15.0	1500/15.5	1540/15.9	1570/16.4	1600/16.9
	43	12000	1540/17.3	1550/18.2	1570/18.5	1600/18.9	—	—	—
800	100	5900	1110/4.2	1140/4.4	1180/4.6	1210/5.0	1260/5.6	1300/6.0	1330/6.3
	85	7000	1150/5.2	1180/5.9	1210/6.1	1240/6.5	1290/7.0	1310/7.2	1340/7.5
	74	8000	1190/6.9	1230/7.1	1280/7.5	1300/8.0	1340/8.7	1390/9.0	1410/9.3
	66	9000	1280/8.6	1300/9.0	1320/9.3	1360/9.9	1400/10.2	1440/11.0	1470/11.5
	59	10000	1370/11.4	1380/11.9	1420/12.4	1450/12.6	1480/13.2	1510/13.5	1540/14.4
	54	11000	1460/14.4	1490/15.2	1500/15.3	1510/15.5	1550/16.0	1600/17.0	—
	49	12000	1530/17.5	1540/17.9	1580/18.2	1600/18.8	—	—	—
	1050	120	6500	1150/4.9	1170/4.9	1190/5.0	1230/5.2	1260/5.4	1300/5.9
111		7000	1160/5.2	1180/5.5	1210/5.8	1250/6.2	1290/6.9	1320/7.2	1350/7.4
97		8000	1210/7.1	1250/7.4	1270/7.6	1300/8.0	1350/8.5	1400/9.1	1420/9.4
86		9000	1290/8.8	1310/9.1	1330/9.6	1380/10.0	1410/10.5	1450/11.1	1470/11.8
78		10000	1360/11.0	1390/11.5	1410/12.1	1440/12.5	1480/13.0	1510/13.6	1530/14.0
71		11000	1460/14.2	1470/14.5	1490/15.0	1510/15.6	1550/16.1	1580/16.5	1660/17.0
65		12000	1550/17.4	1560/17.7	1580/18.6	1610/19.0	—	—	—
1200		120	7400	1180/5.5	1210/6.0	1240/6.4	1280/6.8	1330/7.5	1360/7.8
	111	8000	1200/7.0	1250/7.5	1290/7.7	1310/8.1	1360/8.8	1400/9.1	1420/9.5
	99	9000	1290/9.0	1310/9.3	1330/9.7	1390/10.0	1410/10.6	1460/11.5	1490/12.0
	89	10000	1380/11.5	1390/12.0	1430/12.5	1460/12.7	1490/13.3	1530/14.1	1550/14.5
	81	11000	1470/14.5	1480/14.7	1510/15.5	1520/15.6	1560/16.1	1590/17.1	—
	74	12000	1550/17.6	1560/18.0	1590/18.6	1610/19.0	—	—	—

Unit Size (MBTUh)	Actual Heating Airflow Range		Standard Cooling Airflow Range*
	Maximum	Minimum	
	CFM (Meter ² /Hour)		
400	14,000 (23,785)	3300 (5607)	8200 (13,931)
500	12,000 (20,387)	3,700 (6,286)	6,180 (10,499)
600	12,500 (21,237)	4,450 (7,560)	6,180 (10,499)
700	13,500 (22,936)	5,200 (8,835)	7,190 (12,215)
800	13,500 (22,936)	5,900 (10,024)	8,200 (13,931)
1050	13,500 (22,936)	6,500 (11,043)	7,190 (12,215)
1200	13,500 (22,936)	7,400 (12,572)	8,200 (13,931)

*Maximum = 550 SFPM (2.8 M/s).

TECHNICAL SPECIFICATIONS—CONTINUED

Filter Pressure Drops

Unit Size (Configuration)	CFM	Filter Type		
		Disposable	Permanent	Pleated
		Pressure Drop (IN WC)		
400 (one size 400 furnaces + one blower)	3300	0.02	0.03	0.03
	4000	0.03	0.05	0.06
	5000	0.04	0.08	0.10
	6000	0.06	0.12	0.14
	7000	0.08	0.16	0.19
	8000	0.10	0.21	0.25
	9000	0.13	0.26	0.31
	10,000	—	0.33	0.39
	11,000	—	0.40	0.47
	12,000	—	0.48	0.56
	13,000	—	0.56	—
500 (two size 250 furnaces + one blower)	3700	0.04	0.04	0.06
	4000	0.05	0.06	0.08
	5000	0.08	0.10	0.12
	6000	0.12	0.14	0.17
	7000	0.16	0.20	0.23
	8000	—	0.25	0.31
	9000	—	0.31	0.40
	10,000	—	0.39	—
	11,000	—	0.46	—
	12500	—	0.60	—
	700 (two size 350 furnaces + one blower)	5200	0.06	0.08
6000		0.06	0.10	0.15
7000		0.08	0.14	0.20
8000		0.10	0.18	0.27
9000		—	0.24	0.33
10,000		—	0.30	0.41
11,000		—	0.36	—
12,000		—	0.42	—
13,000		—	0.50	—
800 (two size 400 furnaces + one blower)	5900	0.05	0.10	0.12
	6000	0.06	0.12	0.14
	7000	0.08	0.16	0.19
	8000	0.10	0.21	0.25
	9000	0.13	0.26	0.31
	10,000	—	0.33	0.39
	11,000	—	0.40	0.47
	12,000	—	0.48	0.56
	13,000	—	0.56	—

Unit Size (Configuration)	CFM	Filter Type		
		Disposable	Permanent	Pleated
		Pressure Drop (IN WC)		
1050 (three size 350 furnaces + one blower)	6500	0.06	0.10	0.08
	7000	0.08	0.14	0.12
	8000	0.10	0.18	0.16
	9000	—	0.24	0.2
	10,000	—	0.30	0.24
	11,000	—	0.36	—
	12,000	—	0.42	—
	13,000	—	0.50	—
1200 (three size 400 furnaces + one blower)	7400	0.08	0.16	0.19
	8000	0.10	0.21	0.25
	9000	0.13	0.26	0.31
	10,000	—	0.33	0.39
	11,000	—	0.40	0.47
	12,000	—	0.48	0.56
	13,000	—	0.56	—

⚠ DANGER ⚠

FIRE OR EXPLOSION HAZARD

- Failure to follow safety warnings exactly could result in serious injury, death, or property damage.
- Improper installation, adjustment, alteration, service, or maintenance can cause serious injury, death, or property damage.
- Installation and service must be performed by a qualified installer, service agency, or the gas supplier.
- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Leave the building immediately.
- Immediately call your gas supplier from a phone remote from the building. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

For more information on Reznor HVAC products:

- **Contact your local Reznor representative at 1-800-695-1901**
- **Refer to the manuals and additional consumer materials found at www.reznorhvac.com**

