REZNOR®

MODEL SC Series 6

INDOOR, SEPARATED COMBUSTION, GAS-FIRED, DUCT FURNACE FOR COMMERCIAL/ INDUSTRIAL USE

ANSI Z83.8a

CGA 2.6a

DESCRIPTION

Reznor Model SC Series Separated Combustion gas-fired duct furnaces are designed to separate their combustion air from the air in the heated space. These units are designed and manufactured in accordance with the ANSI definition of “separate combustion.” While discharging exhaust air, the power venter draws in combustion air from the outside atmosphere. Exclusive outside combustion air prevents dirt, lint, dust or other contaminants in the heated space from entering the combustion zone of the furnace. The separated combustion furnace is designed for use in building areas with negative pressure and/or extremely dirty or mildly corrosive atmospheres. A specially designed combustion air inlet/vent terminal assembly supplied with SC Series units requires only a single-building penetration for both exhaust and combustion air.

Reznor Model SC/HSC Series 6 duct furnaces are available in sizes from 100,000 through 400,000 BTUH gas input for use with either natural or propane gas, as specified. These units are designed for duct connection and require a separate air moving device upstream from the furnace. Model SC/HSC Series 6 furnaces are **80% thermal efficient**.

Standard features include a spark-ignited intermittent safety pilot and a single-stage, 24-volt gas valve. Each unit is equipped with all required limit and safety controls, including a combustion air pressure differential switch to verify proper vent flow before allowing the gas valve to function. Operation of the heater is controlled through field connection to a remote 24-volt thermostat.

Reznor’s Model SC Series separated combustion duct furnaces are available in two temperature rise ranges. The SC Models are approved for a temperature rise range of 30°F to 90°F and include “finger bottles” for proper air distribution at these lower air volumes. The HSC Models are approved for a temperature rise range of 20°F to 75°F.

Model SC/HSC furnaces are approved for installation downstream of an air conditioning coil. (When used in this application, installing an optional condensate drain on the furnace is strongly recommended. Also recommended, is the selection of optional stainless steel burners and heat exchanger.)

STANDARD FEATURES

- Orifices for natural gas
- Aluminized steel heat exchanger
- Aluminized burners with a stainless steel insert
- 115 volt supply voltage
- 115 volt venter motor with stainless steel shaft
- 24 volt control voltage transformer
- Redundant single-stage combination gas valve
- Spark-ignited intermittent safety pilot with electronic flame supervision (see page 18)
- High limit safety cutout
- Post-purge control sequence
- Terminal block wiring
- Side access for burners and controls (slide-out burner drawer)
- Threaded suspension couplings (2) for 1’’ pipe hangers

OPTIONAL FEATURES - FACTORY INSTALLED

- Unit equipped for propane gas
- E-3 (409) stainless steel heat exchanger (see note 2)
- 321 stainless steel heat exchanger (see note 2)
- E-3 stainless steel bottom drip pan
- E-3 (409) stainless steel burner (see note 2)
- Spark-ignited intermittent safety pilot with electronic flame supervision and timed lockout (see page 18)
- Two-stage gas controls (see page 18-19)
- Electronic modulation - 50%-100% firing rate (see page 18-19)
- Electronic modulation gas control, 20/28%-100% firing rate (see page 19) - not available on size 350
- Burner air shutters (required for units equipped for propane gas)
- 208/230/460/-volt/60/1 supply voltage
- Adjustable fan control (see page 19)
- Freezestat
- Firestat
- Manifold approved to meet Illinois School Code
- High and low gas pressure switches
- Right side controls (facing air stream)

ACCESSORIES - FIELD INSTALLED

- Condensate drain flange kit
- Manual shut-off valve and union
- Room override for electronic modulation with ductstat
- Horizontal or vertical vent terminal/combustion air assembly (see page 17) - installation required
- Single-stage thermostat
- Thermostat guard with locking cover

NOTES:

1. Regulated combination redundant gas valve consists of combination pilot solenoid valve, electric gas valve, pilot filter, pressure regulator, pilot shut-off, and manual shut-off, all in one body. Gas supply pressure must not exceed 0.5 PSI (8 oz. - 14 “ W.C.). Minimum inlet pressure for natural gas is 5” W.C. Minimum inlet pressure for propane gas is 11” W.C.
2. For air inlet temperatures below 40°F or temperature rise less than 40°F, an optional stainless steel heat exchanger is recommended (see page 22).
3. See page 21 for temperature rise and pressure drop tables.
4. Blower must be placed on entering side of furnace.
5. Approved for installation downstream of an air conditioning coil (optional drain flange, stainless steel heat exchanger, and stainless steel burners are recommended).
6. **Not** approved for residential use.

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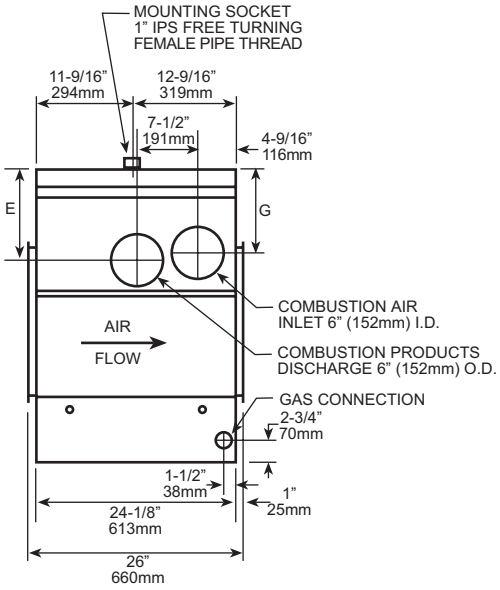
Technical Data

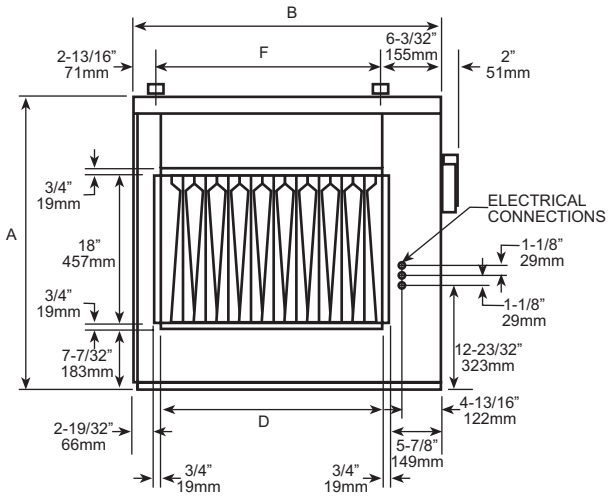
Size			100	125	150	175	200	225	250	300	350	400
Input Heating Capacity	BTUH		100,000	125,000	140,000	170,000	200,000	225,000	250,000	300,000	350,000	400,000
	kW		29.3	36.6	41.0	49.8	58.6	65.9	73.3	87.9	102.6	117.2
Output Heating Capacity (80%) [A]	BTUH		80,000	100,000	112,000	136,000	160,000	180,000	200,000	240,000	280,000	320,000
	kW		23.4	29.3	32.8	39.9	46.9	52.8	58.6	70.3	82.1	93.8
Full Load Amps (115V)			1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Unit Control Amps (24V)			0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
SC Air Volume Range	cfm		820-1,480	1,025-1,850	1,235-2,200	1,440-2,590	1,645-2,960	1,850-3,330	2,055-3,700	2,465-4,440	2,880-5,185	3,290-5,925
	m^3/hr		1,393-2,514	1,741-3,143	2,098-3,738	2,446-4,400	2,795-5,029	3,143-5,657	3,491-6,286	4,188-7,543	4,893-8,809	5,590-10,066
HSC Air Volume Range [B]	cfm		985-3,700	1,230-4,630	1,480-5,555	1,725-6,480	1,975-7,405	2,020-8,330	2,465-9,255	2,960-11,110	3,455-12,960	3,950-14,815
	m^3/hr		1,673-6,286	2,090-7,866	2,514-9,438	2,931-11,009	3,355-12,581	3,432-14,152	4,188-15,724	5,029-18,875	5,870-22,018	6,711-25,170
Net Weight	lbs		158	178	203	203	283	283	321	321	350	410
	kg		72	81	92	92	128	128	146	146	159	186
Ship Weight	lbs		184	204	244	244	314	314	354	354	384	447
	kg		83	93	111	111	142	142	161	161	174	203
Gas Connection (in.) Natural [C]			1/2	1/2	1/2	1/2	1/2	1/2	1/2	3/4	3/4	3/4
Maximum Vent Length [C]	6" Pipe	ft	40	50	50	50	50	50	50	50	30	30
		M	12.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	9.1	9.1
	7" Pipe	ft	N/A	N/A	N/A	N/A	70	70	70	70	70	70
		M	N/A	N/A	N/A	N/A	21.3	21.3	21.3	21.3	21.3	21.3

[A] In U.S. ratings are for altitudes to 2,000 feet. Above 2,000 feet derate by orifice change, 4% for each 1,000 feet above sea level. In Canada ratings are for altitudes to 2,000 feet. For high altitude units (2,001-4,500 ft.) derate by 10% of maximum input.

[B] Prefix "H" indicates high CFM units without finger baffles.

[C] Sizes shown are for natural gas connections, NOT supply line size. Propane gas connection is 1/2" for all sizes.





Dimensions ±1/8" (3mm)

Size	A		B		D		E		F		G	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
100	32 1/4	819	22 15/32	571	12 1/2	318	8 1/8	206	13 9/16	344	6 15/16	176
125	32 1/4	819	25 7/32	641	15 1/4	387	8 1/8	206	16 15/16	430	6 15/16	176
150, 175	32 1/4	819	30 23/32	780	20 3/4	527	8 1/8	206	21 13/16	554	6 15/16	176
200, 225	35 1/4	895	36 7/32	920	26 1/4	667	10 3/4	273	27 5/16	694	9 15/16	252
250, 300	35 1/4	895	44 15/32	1130	34 1/2	876	10 3/4	273	35 9/16	903	9 15/16	252
350	35 1/4	895	49 31/32	1269	40	1016	10 3/4	273	41 1/16	1043	9 15/16	252
400	35 1/4	895	55 15/32	1409	45 1/2	1156	10 3/4	273	46 9/16	1183	9 15/16	252

CLEARANCE FROM COMBUSTIBLES

1. Top, flue connections, side opposite controls - 6"
2. Bottom - 6"
3. Control side - width of unit plus 6"

NOTES

1. Standard air flow as shown. Direction of air flow may be reversed by field relocation of air flow baffles.
2. For venting arrangements, see pages 16 and 17.
3. Burner and control access shown left hand side. Specify right hand side for opposite access and connections.