



ANSI Z83.8



CGA 2.6



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 "separated 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 available with SC Series units requires only a single-building penetration for both exhaust and combustion air.

Reznor Model SC 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 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.

Model SC is approved for a temperature rise range of 30°F to 90°F and include "finger-baffles" for proper air distribution at these lower air volumes. Removing these finger-baffles increases the air flow. These field converted units are approved for a temperature rise of 20°F to 75°F.

Model SC 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
- High limit safety cutout
- Post-purge control sequence
- Terminal block wiring
- Side access for burners and controls (slide-out burner drawer)
- Adjustable fan control
- Threaded suspension couplings (2) for 1" pipe hangers

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. or as noted on the rating plate. 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.
3. See 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.

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

OPTIONAL FEATURES - FACTORY INSTALLED

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

OPTIONAL FEATURES - FIELD INSTALLED

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

TECHNICAL DATA

Model SC	Size	100	125	150	175	200	225	250	300	350	400
Input Heating Capacity	BTUH	100,000	125,000	150,000	175,000	200,000	225,000	250,000	300,000	350,000	400,000
	(kW)	(29.3)	(36.6)	(44.0)	(51.3)	(58.6)	(65.9)	(73.3)	(87.9)	(102.6)	(117.2)
Output Heating Capacity (80%) ^A	BTUH	80,000	100,000	120,000	140,000	160,000	180,000	200,000	240,000	280,000	320,000
	(kW)	(23.4)	(29.3)	(35.2)	(41.0)	(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
Air Volume w/ Finger-Baffles	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)
Air Volume w/o Finger-Baffles ^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"	ft	40	50	50	50	50	50	50	30	30
	Pipe	(M)	(12.2)	(15.2)	(15.2)	(15.2)	(15.2)	(15.2)	(15.2)	(9.1)	(9.1)
	7"	ft	N/A	N/A	N/A	N/A	70	70	70	70	70
	Pipe	(M)	N/A	N/A	N/A	N/A	(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 For high air volume the finger-baffles in the heat exchanger section are removed during unit installation. See installation manual for instructions.

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

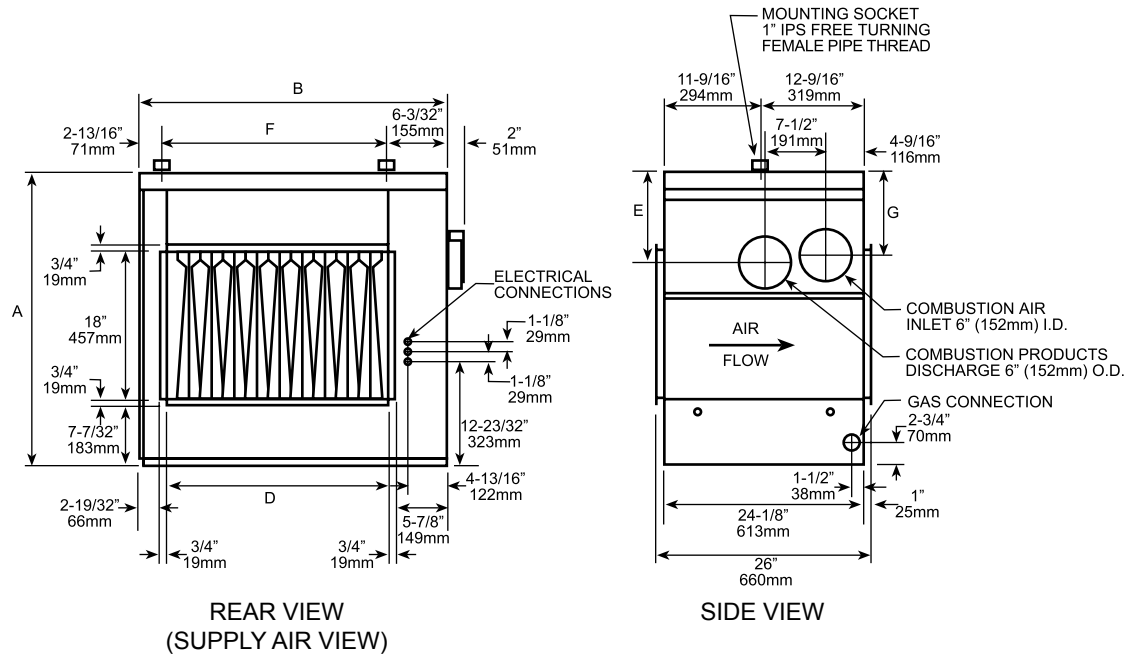
MODEL SC (cont'd)

Series 6

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

DIMENSIONS

±1/8" (3mm)



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

CLEARANCE FROM COMBUSTIBLES

1. Top, flue connections, side opposite controls - 6" (152mm)
2. Bottom - 6" (152mm)
3. Control side - width of unit plus 6" (152mm)

NOTES

1. Standard air flow as shown. Direction of air flow may be reversed by field relocation of air flow baffles.
2. See venting arrangements section for more information.
3. Burner and control access shown left hand side. Specify right hand side for opposite access and connections.