

MODEL EEDU

ENERGY EFFICIENT INDOOR, POWER-VENTED, GAS-FIRED DUCT FURNACE FOR COMMERCIAL/INDUSTRIAL USE



DESCRIPTION

Reznor Venturion® EEDU Series Indoor Duct Furnaces were developed to provide an annual fuel use improvement of up to 25% when compared with gravity-vented duct furnaces. The use of a factory-installed power venter, with metered combustion air, limits burner flue losses while reducing the required vent pipe size. A sealed vent product collection chamber, in lieu of a draft diverter, reduces the loss of dilution air from the room in both the on and off cycles.

The Series EEDU duct furnaces are available for use with either natural or propane gas, as specified, in sizes from 75,000 through 400,000 BTUH gas input. They are designed for use as heating components in heating, heating/cooling, or makeup air systems and require a separate blower system for air delivery. The furnace has a Reznor Thermocore® aluminized steel heat exchanger with venturi-design tubes. The die formed burners are of aluminized steel and include flared ports with stainless steel insert.

The EEDU model is approved for temperature rise of 50° to 90°F and includes “finger-baffles” for proper air distribution at these lower air volumes. Removing the finger-baffles will increase the air flow. These field converted units are approved for a temperature rise of 20° to 70°F.

Included as standard on the EEDU Series are an intermittent spark pilot and a single-stage 24-volt gas valve. Model EEDU Series units are designed for field connection to a 24-volt thermostat for automatic operation. All required limit and safety controls are provided, including a combustion air pressure switch, which verifies proper vent flow prior to allowing operation of the gas valve.

STANDARD FEATURES

- Orifices for natural gas
- Aluminized steel heat exchanger
- Aluminized steel burners with stainless steel insert
- 120-volt supply voltage
- Factory-installed power venter
- 120-volt limit control
- 24-volt control voltage transformer
- Combustion air pressure switch
- Redundant single-stage combination gas valve (see note 1)
- Spark-ignited intermittent safety pilot with electronic flame supervision
- Burner rack access (pullout drawer)
- Hanger/support angle
- Vertical vent cap - (Canada only)

OPTIONAL FEATURES - FACTORY INSTALLED

- Unit equipped for propane gas
- E-3 (409) stainless steel heat exchanger (see note 2)
- E-3 (409) stainless steel burners (see note 2)
- E-3 (409) stainless steel drip pan (see note 2)
- Gas Controls
 - ♦ Spark-ignited intermittent safety pilot with electronic flame supervision and timed lockout
 - ♦ Two-stage gas controls (Not available on size 75 for propane gas)
 - ♦ Electronic modulation - 50%-100% firing rate
- Burner air shutters (required for propane gas)
- 208/230-volt 1-phase voltage alternate
- Heat exchanger side panels

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.
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.

MODEL EEDU (cont'd)

ENERGY EFFICIENT INDOOR, POWER-VENTED, GAS-FIRED DUCT FURNACE FOR COMMERCIAL/INDUSTRIAL USE

OPTIONAL FEATURES - FIELD INSTALLED

- Transformer for 277/460V voltage alternate (used with standard 120V unit)
- Multiple coupling kit (one - five furnaces)
- Condensate drain flange kit
- Vent terminal cap
- 1" pipe hanger kit (includes four free-turning female threaded sockets)
- Manual shut-off valve and union (packaged inside unit)
- Adjustable fan control (bimetal helix type)
- Room override for electronic modulation with ductstat
- Single-stage thermostat (40° to 90°F)
- Two-stage thermostat (40° to 90°F)
- Thermostat guard with locking cover

TECHNICAL DATA

Model EEDU	Size	75	100	125	140	170	200	225	250	300	350	400
Input Heating Capacity	BTUH (kW)	75,000 (22.0)	100,000 (29.3)	125,000 (36.6)	140,000 (41.0)	170,000 (49.8)	200,000 (58.6)	225,000 (65.9)	250,000 (73.3)	300,000 (87.9)	350,000 (102.6)	400,000 (117.2)
Output Heating Capacity (80%) ^A	BTUH (kW)	60,000 (17.6)	80,000 (23.4)	100,000 (29.3)	112,000 (32.8)	136,000 (39.9)	160,000 (46.9)	180,000 (52.8)	200,000 (58.6)	240,000 (70.3)	280,000 (82.1)	320,000 (93.8)
Full Load Amps (115V)		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Unit Control Amps (24V)		0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Air Volume w/ Finger-Baffles	cfm (m ³ /hr)	615-1,105 (1,045-1,877)	820-1,480 (1,393-2,514)	1,025-1,850 (1,741-3,143)	1,150-2,065 (1,954-3,508)	1,390-2,505 (2,362-4,256)	1,635-2,945 (2,778-5,003)	1,840-3,315 (3,126-5,632)	2,045-3,685 (3,474-6,261)	2,455-4,420 (4,171-7,509)	2,865-5,160 (4,867-8,767)	3,275-5,895 (5,564-10,015)
Air Volume w/o Finger-Baffles ^B	cfm (m ³ /hr)	850-2,765 (1,444-4,698)	1,135-3,685 (1,928-6,261)	1,420-4,605 (2,413-7,824)	1,585-5,160 (2,693-8,767)	1,790-6,265 (3,041-10,644)	2,105-7,370 (3,576-12,521)	2,370-8,295 (4,027-14,093)	2,630-9,215 (4,468-15,656)	3,160-11,060 (5,369-18,790)	3,685-12,900 (6,261-21,916)	4,210-14,745 (7,153-25,051)
Net Weight	lbs (kg)	104 (47)	104 (47)	126 (57)	128 (58)	150 (68)	172 (78)	194 (88)	216 (98)	262 (119)	306 (139)	328 (149)
Ship Weight	lbs (kg)	128 (58)	128 (58)	142 (64)	144 (65)	168 (76)	192 (87)	216 (98)	240 (109)	292 (132)	338 (153)	362 (164)
Gas Connection (in.) Natural ^C		1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	3/4	3/4	3/4
Venter Outlet Size ^D		4"	4"	4"	4"	4"	4"	5"	5"	6"	6"	6"

^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.

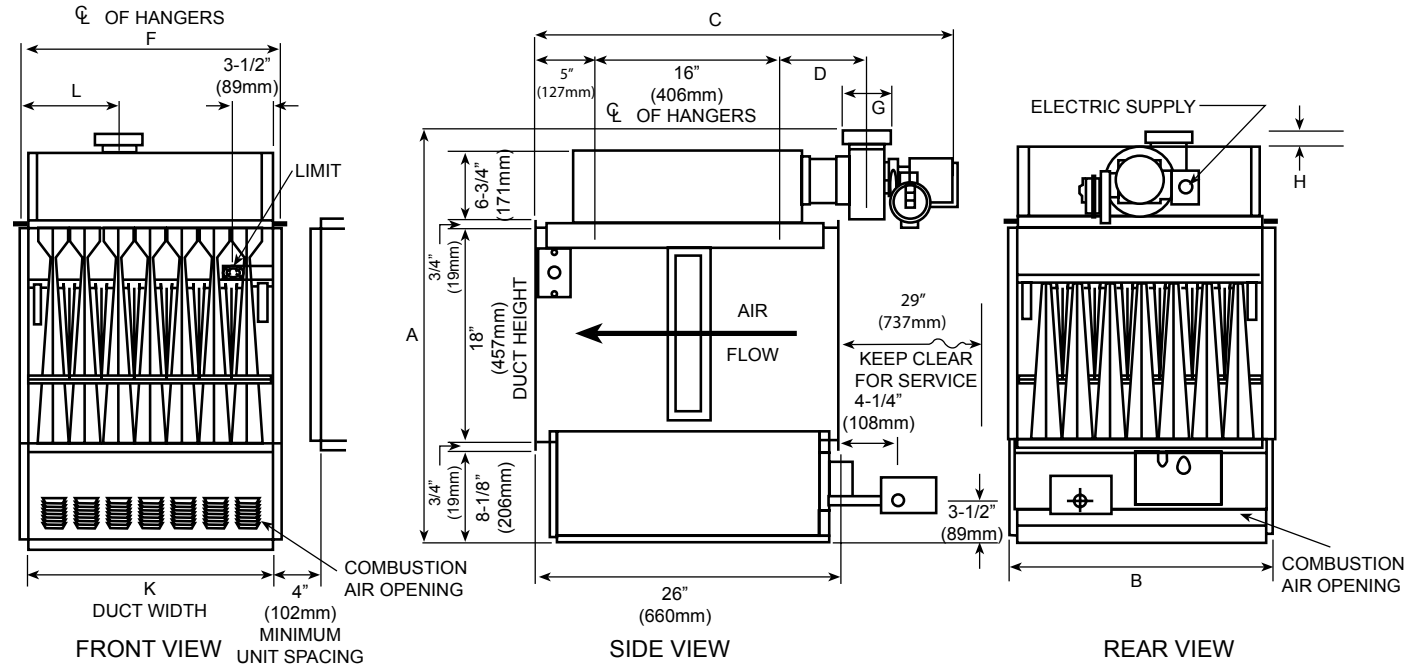
^C Sizes shown are for natural gas connections, NOT supply line size. Propane gas connection is 1/2" for all sizes.

^D Refer to power venting arrangements and wall or roof penetration details.

MODEL EEDU (cont'd)
ENERGY EFFICIENT INDOOR, POWER-VENTED, GAS-FIRED DUCT FURNACE FOR
COMMERCIAL/INDUSTRIAL USE

DIMENSIONS

±1/8" (3mm)



Size		A	B	C	D	F	G	H	K	L
75	in.	35	14 1/4	35 11/16	7 1/4	14 5/8	4	5/8	12 1/2	4 5/8
	(mm)	(889)	(362)	(906)	(184)	(371)	(102)	(16)	(318)	(117)
100	in.	35	14 1/4	35 11/16	7 1/4	14 5/8	4	5/8	12 1/2	4 5/8
	(mm)	(889)	(362)	(906)	(184)	(371)	(102)	(16)	(318)	(117)
125	in.	35	17	35 11/16	7 1/4	17 3/8	4	5/8	15 1/4	6
	(mm)	(889)	(432)	(906)	(184)	(441)	(102)	(16)	(387)	(152)
140	in.	35	17	35 11/16	7 1/4	17 3/8	4	5/8	15 1/4	6
	(mm)	(889)	(432)	(906)	(184)	(441)	(102)	(16)	(387)	(152)
170	in.	35	19 3/4	35 11/16	7 1/4	20 1/8	4	5/8	18	7 3/8
	(mm)	(889)	(502)	(906)	(184)	(511)	(102)	(16)	(457)	(187)
200	in.	35	22 1/2	35 11/16	7 1/4	22 7/8	4	5/8	20 3/4	8 3/4
	(mm)	(889)	(572)	(906)	(184)	(581)	(102)	(16)	(527)	(222)
225	in.	35 3/4	25 1/4	35 11/16	7 1/4	25 5/8	5	1 3/8	23 1/2	10 1/8
	(mm)	(908)	(641)	(906)	(184)	(651)	(127)	(35)	(597)	(257)
250	in.	35 3/4	28	35 11/16	7 1/4	28 3/8	5	1 3/8	26 1/4	11 1/2
	(mm)	(908)	(711)	(906)	(184)	(721)	(127)	(35)	(667)	(292)
300	in.	36	33 1/2	38 1/8	9 9/16	33 7/8	6	1 5/8	31 3/4	13 7/8
	(mm)	(914)	(851)	(968)	(243)	(860)	(152)	(41)	(806)	(352)
350	in.	36	39	38 1/8	9 9/16	39 3/8	6	1 5/8	37 1/4	16 5/8
	(mm)	(914)	(991)	(968)	(243)	(1,000)	(152)	(41)	(946)	(422)
400	in.	36	44 1/2	38 1/8	9 9/16	44 7/8	6	1 5/8	42 3/4	19 3/8
	(mm)	(914)	(1,130)	(968)	(243)	(1,140)	(152)	(41)	(1,086)	(492)

CLEARANCE FROM COMBUSTIBLES

1. Top, flue connections, front - 6" (152mm)
2. Bottom, sides - 12" (305mm)
3. Back, service access requires 29" (737mm)