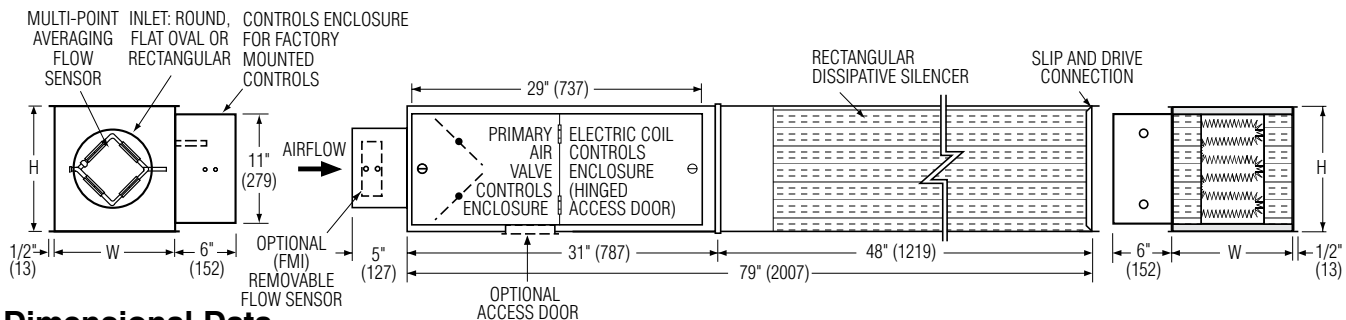




**SINGLE DUCT TERMINAL UNIT WITH  
ELECTRIC REHEAT AND DISSIPATIVE SILENCER  
DIGITAL CONTROLS • PRESSURE INDEPENDENT  
MODEL: D30REQ**



**Dimensional Data**

Unit Size	Min. – Max. Airflow Range* cfm (l/s)	W	H	Inlet Size
4	25 – 225 (12 – 106)	10 (254)	10 (254)	3 7/8 (98) Round
5	45 – 400 (21 – 189)	10 (254)	10 (254)	4 7/8 (124) Round
6	65 – 550 (31 – 260)	10 (254)	10 (254)	5 7/8 (149) Round
7	95 – 800 (45 – 378)	12 (305)	12 1/2 (318)	6 7/8 (175) Round
8	125 – 1100 (59 – 519)	12 (305)	12 1/2 (318)	7 7/8 (200) Round
9	165 – 1400 (78 – 661)	14 (356)	12 1/2 (318)	8 7/8 (225) Round
10	215 – 1840 (101 – 868)	14 (356)	12 1/2 (318)	9 7/8 (251) Round
12	290 – 2500 (137 – 1180)	18 (457)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval
14	360 – 3125 (170 – 1475)	24 (610)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval
16	430 – 3725 (203 – 1758)	28 (711)	12 1/2 (318)	19 3/16 x 9 13/16 (487 x 249) Oval
24 x 16	960 – 8330 (453 – 3931)	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.



\* Min & Max airflow limits are based on .02" w.g. (5 Pa) & 1.5" w.g. (373 Pa), respectively, differential pressure signals from Diamond Flow Sensor.

**Standard Features:**

- Designed for noise sensitive applications such as classrooms, libraries, studios and performance halls.
- 22 ga. (0.86) zinc coated steel casing, mechanically sealed, low leakage construction.
- 16 ga. (1.61) corrosion-resistant steel inclined opposed blade damper with extruded PVC seals (single blade on size 4, 5, 6). 45° rotation, CW to close. Tight close-off. Damper leakage is less than 2% of the terminal rated airflow at 3" w.g. (750 Pa).
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Multi-point averaging Diamond Flow Sensor. Supplied with balancing tees.
- Rectangular discharge with slip and drive cleat duct connection.
- Full NEMA 1 type controls enclosure for factory mounted controls.
- VAV section is lined with 3/4" (19), dual density insulation, exposed edges coated to prevent air erosion. Meets the requirements of NFPA 90A and UL 181.
- Electric Coil is mounted in an integral attenuator section.

- 24 VAC Control transformer.
- Right-hand controls location is standard (shown) when looking in direction of airflow. Optional left hand controls mounting is available.

**Silencer Section:**

- Designed to mate w/VAV section for optimum performance and super quiet operation.
- Optimized internal baffle geometry reduces self-generated noise, minimizes pressure drop and maximizes acoustic attenuation.
- 22 ga. (0.86) coated steel perforated baffles encapsulate fiberglass acoustic media.
- Internal insulation on top and bottom exposed panels optimizes sound reduction and eliminates need for external field applied thermal duct wrap.

**Digital Controls:**

- Factory mounted (supplied by others)
  - Field mounted (supplied by others)
  - Nailor EZvav
- See separate submittal.

**Options and Accessories:**

- 24 VAC control transformer.
  - FMI Removable insert type Flow Sensor.
  - Hanger brackets.
  - Duct Tight Enclosure Seal.
  - Bottom Access door.
  - Controls enclosure for field mounted controls.
  - 20 ga. (1.00) construction.
- Seismic Certification:
- Seismic Source International (Standard)
  - HCAI (formerly OSHPD, California)
  - Special Features: \_\_\_\_\_
- Terminal Unit Liner:**
- Fiber-free liner.
  - Perforated metal liner.
  - Solid metal liner.
  - Steri-liner.
  - Steri-liner + Perforated metal liner.
  - 1" (25) liner.
- Silencer Acoustic Media:**
- Fiberglass cloth liner.
  - Mylar/Spacer liner.
- Electric Coil Features, Options and Accessories:** See page 2 of 2.

<b>SCHEDULE TYPE:</b>	
<b>PROJECT:</b>	
<b>ENGINEER:</b>	
<b>CONTRACTOR:</b>	

Page 1 of 2.  
Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 27 - 24	3000	6 - 24 - 20	D30REQ



**SINGLE DUCT TERMINAL UNIT WITH  
ELECTRIC REHEAT AND DISSIPATIVE SILENCER  
DIGITAL CONTROLS • PRESSURE INDEPENDENT  
MODEL: D30REQ**

Nailor manufactures its own electric heating coils. They have been specifically designed and tested for use with variable air volume single duct terminal units.

All terminals with electric heat have been tested and ETL listed as an assembly, eliminating the need to mount coils a minimum of 36" (914) downstream or having to ship a bulky length of ductwork when coils are to be supplied mounted on the terminal.

Nailor electric coils are factory mounted as an integral part

of the terminal unit in an insulated extended plenum section. Total length of the casing including heater terminal is only 31" (787), providing a compact, easy to handle unit. Freight costs are therefore also reduced. The unique inclined opposed blade damper design provides improved and more even airflow over the coil elements compared with round butterfly damper designs, which helps to minimize air stratification, avoid nuisance tripping of the thermal cut-outs and maximize heat pick-up.

**Electric Coil Limitations**

Unit Size	Heating Range* cfm (l/s)	Maximum kW							
		Single Phase					Three Phase		
		120V	208V	240V	277V	347/480V	208V	480V	600V
4	25 – 225 (12 – 106)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
5	45 – 400 (21 – 189)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
6	65 – 550 (31 – 260)	5.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
7	95 – 800 (45 – 378)	5.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
8	125 – 1100 (59 – 519)	5.5	9.5	11.0	13.0	13.0	13.0	13.0	13.0
9	165 – 1400 (78 – 661)	5.5	9.5	11.0	13.0	16.0	16.0	16.0	16.0
10	215 – 1840 (101 – 868)	5.5	9.5	11.0	13.0	16.5	17.0	21.0	21.0
12	290 – 2500 (137 – 1180)	5.5	9.5	11.0	13.0	16.5	17.0	30.0	30.0
14	360 – 3125 (170 – 1475)	5.5	9.5	11.0	13.0	16.5	17.0	31.0	38.5
16	430 – 3725 (203 – 1758)	5.5	9.5	11.0	13.0	16.5	17.0	31.0	38.5
24 x 16	960 – 8330 (453 – 3931)	5.5	9.5	11.0	13.0	16.5	17.0	31.0	38.5

\* Maximum airflow limit is based upon 1.5" w.g. (373 Pa) max. differential pressure signals from Flow Sensor.

**Selection Guidelines:**

The table above provides a general guideline as to the voltages and maximum kilowatts available for each terminal unit size. Up to three stages of heat are available. A minimum of 0.5 kW/stage is required.

For optimum diffuser performance and maximum thermal comfort, ASHRAE recommends that discharge temperatures do not exceed 15°F (8°C) above room set point, as stratification and short circuiting may occur. ASHRAE Standard 62.1 limits discharge temperatures to 90°F (32°C) or increasing the ventilation rate when heating from the ceiling. Never select kW to exceed a discharge temperatures of 120°F (49°C).

**Standard Features:**

- Primary auto-reset high limit thermal cut-out (one per coil in control circuit).
- Secondary manual reset high limit thermal cut-outs (one per element).
- Positive pressure air proving switch.
- Class A 80/20 Ni/Cr wire.
- Magnetic contactor per stage.
- Line terminal block.
- High performance arrowhead insulators.
- ETL Listed as an assembly.
- Hinged door control enclosure.
- Slip and drive discharge connection.

**Voltage:**

- Single phase, 60 Hz.  
 120V     208V     240V  
 277V     347V     480V  
 Three phase, 60 Hz.  
 208V     480V     600V  
 \_\_\_\_\_ .

**Options and Accessories:**

- Toggle type disconnect switch.
- Door interlock disconnect switch.
- Dust tight construction.
- Mercury contactors.
- Quiet contactors.
- Power circuit fusing.
- SCR control.
- SCR w/discharge Temp. Control.
- Special Features: \_\_\_\_\_ .



**Intertek**

Tested and approved to the following standards:

ANSI/UL 1996, 1<sup>st</sup> ed.  
 CSA C22.2 No. 155-M1986.

$$\Delta T \text{ (Air Temp. Rise, } ^\circ\text{F)} = \frac{\text{kW} \times 3160}{\text{cfm}}$$

The coils ranges listed are restricted to a maximum of 48 amps and do not require circuit fusing to meet NEC code requirements. A minimum of .1" w.g. (25 Pa) of downstream static pressure is required to ensure proper operation of the heater. To avoid possible nuisance tripping of the thermal cutouts due to insufficient airflow, a minimum airflow of 70 cfm (33L/s) per kilowatt must be maintained. Check that desired minimum airflow is within recommended operating range.

<b>SCHEDULE TYPE:</b>	Page 2 of 2.			
<b>PROJECT:</b>	Dimensions are in inches (mm).			
<b>ENGINEER:</b>	<b>DATE</b>	<b>B SERIES</b>	<b>SUPERSEDES</b>	<b>DRAWING NO.</b>
<b>CONTRACTOR:</b>	2 - 27 - 24	3000	6 - 24 - 20	D30REQ