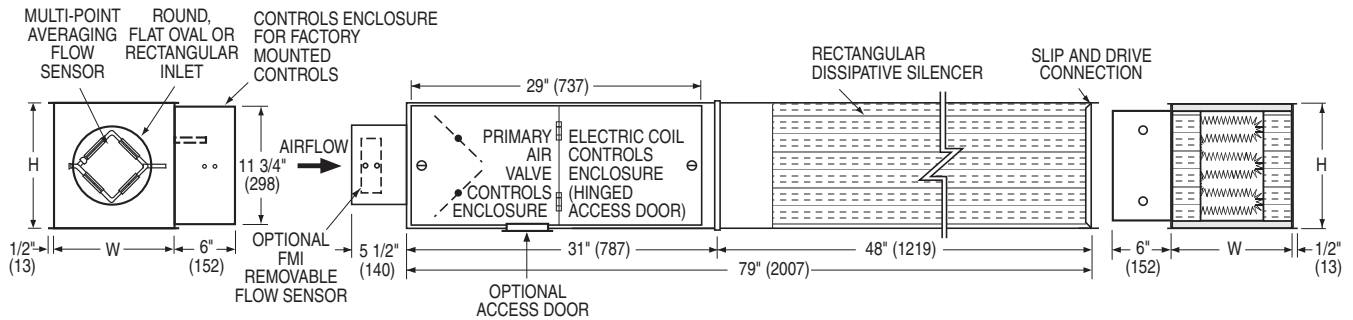




**SINGLE DUCT TERMINAL UNIT WITH
ELECTRIC REHEAT AND DISSIPATIVE SILENCER
DIGITAL CONTROLS • PRESSURE INDEPENDENT
MODEL: D30REQ**



Dimensional Data

Unit Size	Min.- Max. Airflow Range* cfm (l/s)	W	H	Inlet Size
4	25 – 180 (12 – 85)	10 (254)	10 (254)	3 7/8 (98) Round
5	45 – 325 (21 – 153)	10 (254)	10 (254)	4 7/8 (124) Round
6	65 – 450 (31 – 212)	10 (254)	10 (254)	5 7/8 (149) Round
7	95 – 650 (45 – 307)	12 (305)	12 1/2 (318)	6 7/8 (175) Round
8	125 – 900 (59 – 425)	12 (305)	12 1/2 (318)	7 7/8 (200) Round
9	165 – 1150 (78 – 543)	14 (356)	12 1/2 (318)	8 7/8 (225) Round
10	215 – 1500 (101 – 708)	14 (356)	12 1/2 (318)	9 7/8 (251) Round
12	290 – 2050 (137 – 967)	18 (457)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval
14	360 – 2550 (170 – 1203)	24 (610)	12 1/2 (318)	16 7/16 x 9 13/16 (408 x 249) Oval
16	430 – 3040 (203 – 1435)	28 (711)	12 1/2 (318)	19 3/16 x 9 13/16 (487 x 249) Oval
24 x 16	960 – 6800 (453 – 3209)	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.

* Minimum flows are based upon 0.02" w.g. differential pressure from flow sensor. The maximum flow rate represents the diamond flow sensor's differential pressure reading at 1" w.g. (250 Pa).



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. (1.63) 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. Aluminum construction. 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.
- 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 Steri-Liner insulation on top and bottom optimizes sound reduction and eliminates need for external field applied thermal duct wrap.

Digital Controls (by others):

- Factory mount. (See separate submittal)
- Field mount.

Options and Accessories:

- Bottom access door.
- FMI Removable insert type Diamond Flow Sensor.
- 24 VAC control transformer.
- Toggle disconnect switch.
- Hanger brackets.
- Controls enclosure for field mounted controls.
- Dust tight enclosure seal.
- Special Features: _____

Terminal Unit Liner:

- Steri-liner.
- Steri-liner + Perforated metal liner.
- Fiber-free liner.
- Solid metal liner.
- Perforated liner.

Silencer Acoustic Media:

- Mylar/Spacer liner.
- Fiberglass Cloth liner.

Electric Coil Features, Options and Accessories: See page 2 of 2.

SCHEDULE TYPE					
PROJECT					
ENGINEER		DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR		9 - 22 - 10	3000	5 - 10 - 10	D30REQ

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Dimensions are in inches (mm).



**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	347V	208V	480V	600V
4	25 – 180 (12 – 85)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
5	45 – 325 (21 – 153)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
6	65 – 450 (31 – 212)	5.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
7	95 – 650 (45 – 307)	5.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
8	125 – 900 (59 – 425)	5.5	9.5	11.0	13.0	13.0	13.0	13.0	13.0
9	165 – 1150 (78 – 543)	5.5	9.5	11.0	13.0	16.0	16.0	16.0	16.0
10	215 – 1500 (101 – 708)	5.5	9.5	11.0	13.0	16.5	17.0	21.0	21.0
12	290 – 2050 (137 – 967)	5.5	9.5	11.0	13.0	16.5	17.0	30.0	30.0
14	360 – 2550 (170 – 1203)	5.5	9.5	11.0	13.0	16.5	17.0	31.0	38.5
16	430 – 3040 (203 – 1435)	5.5	9.5	11.0	13.0	16.5	17.0	31.0	38.5
24 x 16	960 – 6800 (453 – 3209)	5.5	9.5	11.0	13.0	16.5	17.0	31.0	38.5



Intertek
Tested and approved
to the following
standards:
ANSI/UL
1996, 1st ed.
CSA C22.2
No. 155-M1986.

* Minimum airflow must be the greater of the air volume listed or 70 cfm per kilowatt (33 L / s/kW)

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).

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

The coils ranges listed are restricted to a maximum of 48 amps and do not require circuit fusing to meet NEC code requirements. Total pressure at the airflow switch should be at least 0.07" w.g. (17 Pa) to ensure correct coil operation and avoid possible nuisance tripping of the thermal cutouts due to insufficient airflow over the coil elements. Check that desired minimum airflow is within recommended operating range.

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 airflow switch.
- Derated high quality nickel-chrome alloy heating elements.
- 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
 Three phase, 60 Hz.
 208V 480V 600V

Coil Options and Accessories:

- Toggle type disconnect switch.
- Door interlock disconnect switch.
- Mercury contactors.
- Power circuit fusing.
- Dust tight construction.
- SCR control.
- Class 'A' 80/20 wire.
- Special Features: _____

SCHEDULE TYPE
PROJECT
ENGINEER
CONTRACTOR

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

DATE	B SERIES	SUPERSEDES	DRAWING NO.
9 - 22 - 10	3000	5 - 10 - 10	D30REQ