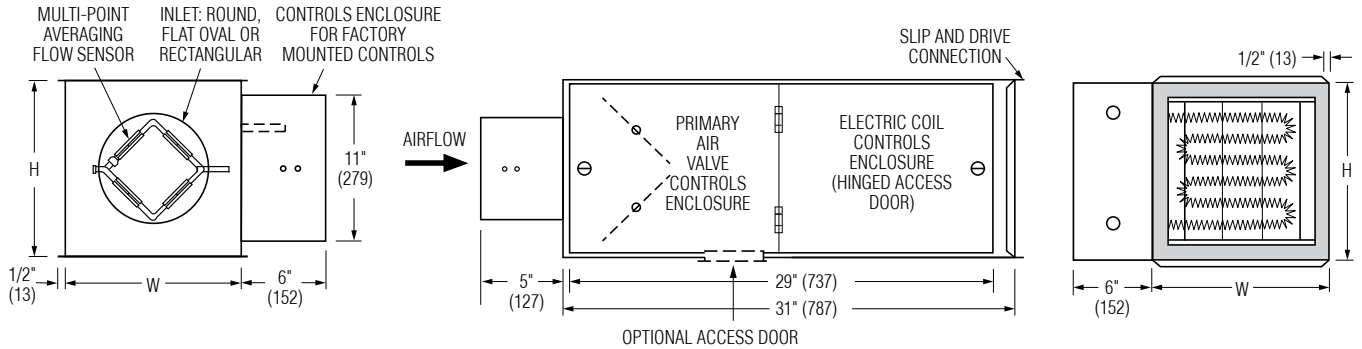




**SINGLE DUCT TERMINAL UNIT WITH  
ELECTRIC REHEAT  
DIGITAL CONTROLS • PRESSURE INDEPENDENT  
MODEL: D30RE**



**Dimensional Data**

| Unit Size | Min.- Max. Airflow Range*<br>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 signal from Diamond Flow Sensor.

**Standard Features:**

- 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 low voltage controls enclosure for factory mounted controls.

- 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 plenum 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.

**Digital Controls:**

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

**Options and Accessories:**

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

- Perforated metal liner.
- Solid metal liner.
- Fiberglass liner.
- 1" (25) liner.
- Low temperature construction.
- Round/Oval discharge collar.
- FMI Removable insert type Flow Sensor.
- 20 ga. (1.00) construction.
- Dust tight enclosure seal.
- Bottom access door.
- 24 VAC Control transformer.
- Hanger brackets.
- Ultra low leakage casing.
- Controls enclosure for field mounted controls.

**Seismic Certification:**

- Seismic Source International (Standard)
- HCAI (formerly OSHPD, California)
- Special Features: \_\_\_\_\_

**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).

|             |                 |                   |                    |
|-------------|-----------------|-------------------|--------------------|
| <b>DATE</b> | <b>B SERIES</b> | <b>SUPERSEDES</b> | <b>DRAWING NO.</b> |
| 2 - 27 - 24 | 3000            | 11 - 3 - 23       | D30RE-1            |



**SINGLE DUCT TERMINAL UNIT WITH  
ELECTRIC REHEAT  
DIGITAL CONTROLS • PRESSURE INDEPENDENT  
MODEL: D30RE**

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 | 220V | 240V | 277V | 347/480V | 208V        | 380V | 480V | 600V |
| 4         | 25 – 225 (12 – 106)      | 3.0          | 3.0  | 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  | 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  | 7.5  | 7.5  |
| 7         | 95 – 800 (45 – 378)      | 5.5          | 9.5  | 9.5  | 9.5  | 9.5  | 9.5      | 9.5         | 9.5  | 9.5  | 9.5  |
| 8         | 125 – 1100 (59 – 519)    | 5.5          | 9.5  | 10.5 | 11.0 | 13.0 | 13.0     | 13.0        | 13.0 | 13.0 | 13.0 |
| 9         | 165 – 1400 (78 – 661)    | 5.5          | 9.5  | 10.5 | 11.0 | 13.0 | 16.0     | 16.0        | 16.0 | 16.0 | 16.0 |
| 10        | 215 – 1840 (101 – 868)   | 5.5          | 9.5  | 10.5 | 11.0 | 13.0 | 16.5     | 17.0        | 21.0 | 21.0 | 21.0 |
| 12        | 290 – 2500 (137 – 1180)  | 5.5          | 9.5  | 10.5 | 11.0 | 13.0 | 16.5     | 17.0        | 24.5 | 30.0 | 30.0 |
| 14        | 360 – 3125 (170 – 1475)  | 5.5          | 9.5  | 10.5 | 11.0 | 13.0 | 16.5     | 17.0        | 24.5 | 31.0 | 38.5 |
| 16        | 430 – 3725 (203 – 1758)  | 5.5          | 9.5  | 10.5 | 11.0 | 13.0 | 16.5     | 17.0        | 24.5 | 31.0 | 38.5 |
| 24 x 16   | 960 – 8330 (453 – 3931)  | 5.5          | 9.5  | 10.5 | 11.0 | 13.0 | 16.5     | 17.0        | 24.5 | 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. 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 (33 l/s) per kilowatt must be maintained. 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 air proving switch.
- Class A 80/20 Ni/Cr wire.
- Magnetic contactor per stage.
- Line terminal block.
- High performance ceramic insulators.
- ETL Listed as an assembly.
- Hinged door control enclosure.
- Slip and drive discharge connection.

**Voltage:**

- Single phase, 50 Hz, 60 Hz.
- 120V     208V     240V
  - 277V     347V     480V
  - 220V (50 Hz)
- Three phase, 50 Hz, 60 Hz.
- 208V     480V     600V
  - 380V (50 Hz)
  - \_\_\_\_\_

**Coil Options and Accessories:**

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

|                       |                                |                 |                   |                    |
|-----------------------|--------------------------------|-----------------|-------------------|--------------------|
| <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            | 11 - 3 - 23       | D30RE-1            |