

## Electric Heating Coils Selection, Capacities and Features

Models: 30RE, 30REQ and 30HQE

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

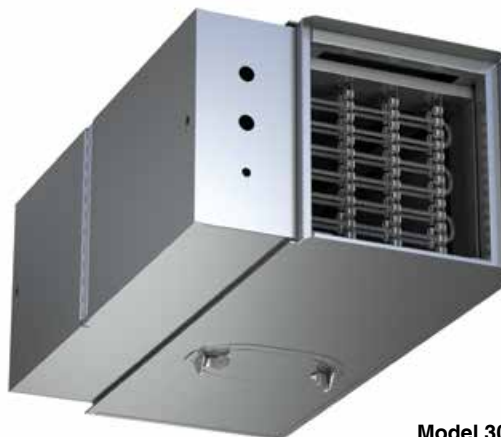
All terminals with electric heat have been tested and ETL listed as an assembly, eliminating the need to mount coils a minimum of 36" (914) downstream or having to ship a bulky length of ductwork when coils are to be supplied mounted on the terminal.

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. 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 transfer.

### Selection Guidelines:

The table below 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



Model 30RE

ventilation rate when heating from the ceiling. Never select kW to exceed a discharge temperatures of 115°F (46°C).

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

The coil 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.

### Electric Coil Limitations

Unit Size	Heating Range* cfm (l/s)	Maximum kW										
		Single Phase						Three Phase				
		120V	208V	220V	240V	277V	347V	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	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	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	7.5
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	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	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	16.0
10	215 – 1840 (101 – 868)	5.5	9.5	10.5	11.0	13.0	16.5	17.0	16.5	21.0	21.0	
12	290 – 2500 (137 – 1180)	5.5	9.5	10.5	11.0	13.0	16.5	17.0	16.5	30.0	30.0	
14	360 – 3125 (170 – 1475)	5.5	9.5	10.5	11.0	13.0	16.5	17.0	16.5	31.0	38.5	
16	430 – 3725 (203 – 1758)	5.5	9.5	10.5	11.0	13.0	16.5	17.0	16.5	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	16.5	31.0	38.5	

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

### Standard Features:

- Primary auto-reset high limit thermal cut-out.
- Secondary manual reset high limit thermal cut-outs (one per element).
- Positive pressure airflow switch.
- Derated high quality nickel-chrome alloy heating elements.
- Magnetic or safety contactors and/or PE switches as required.
- Control transformer. Class II, 24 Vac for digital and analog controls.
- Line terminal block.
- ETL Listed as an assembly.
- Hinged door control enclosure.
- High performance arrowhead insulators.

- Slip and drive discharge connection.
- Class A 80/20 Ni/Cr wire.

### Options:

- Quiet contactors.
- Mercury contactors.
- Toggle type disconnect switch.
- Door interlock disconnect switch.
- Power circuit fusing.
- Dust tight construction.
- SCR control.



Intertek

Tested and approved to the following standards:

ANSI/UL 1996, 4<sup>th</sup> ed.

CSA C22.2 No. 155-M1986.

A SINGLE DUCT TERMINAL UNITS