



HEAT EXCHANGER  
TYPE EL



ELECTRIC AIR HEATER  
WITH PLAIN STAINLESS  
STEEL HEATING COIL

Electric air heater with plain  
stainless steel heating coil

## EL-UK

### FOR THE ELECTRIC REHEATING OF AIRFLOWS IN CIRCULAR DUCTING

Circular electric air heater for reheating airflows, suitable for VAV terminal units TVR and mechanical self-powered CAV controllers RN and VFC

- Outlet airflow temperature 50 °C max.
- Plain heating coil, stainless steel 1.4301
- Integral overheating protection with temperature monitor (auto reset) and thermal cut-out (manual reset)
- For horizontal or vertical ducts
- Suitable for circular ducts to EN 1506 or EN 13180
- With lip seal
- Protection level: IP 43
- Casing leakage according to EN 15727, class C

## General information

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### Application

- Electric air heater for reheating airflows up to 50 °C in circular ducts
- For VAV terminal units Type TVR and for CAV controllers Type RN or VFC

### Nominal sizes

- 100, 125, 160, 200, 250, 315, 400



#### Parts and characteristics

- Ready-to-install air heater
- Twofold overheating protection:
  - Temperature monitor with automatic reset
  - Thermal cut-out with manual reset
- Connection terminals inside
- Casing is ready for cable feedthrough; strain relief and cable gland (M20 or M25) to be provided by others

#### Construction features

- Circular casing with rectangular switch cabinet
- Spigot with lip seal, for circular connecting ducts to EN 1506 or EN 13180
- The heating coil is an encased plain pipe
- IP 43

#### Materials and surfaces

- Casing and switch cabinet made of galvanised sheet steel
- Heating coil made of stainless steel 1.4301

#### Standards and guidelines

- Casing air leakage to EN 15727, class C

#### Maintenance

- Regular functional tests, especially of the thermal cut-out

#### Useful additions

- Capacity control is required (to be provided by others)
- Airflow monitoring is required (to be provided by others)

## INFORMATION TECHNIQUE

Technical data, Quik sizing, Specification text, Order code

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|   |  |
|---|--|
| <b>Nominal sizes</b>                                | 100 - 400 mm   |
| <b>Volume flow rate range</b>                       | 12 - 750 l/s or 43 - 2700 m <sup>3</sup> /h  |
| <b>Electrical power consumption</b>                 | 0,4 - 9 kW   |
| <b>Minimum airflow velocity</b>                     | 1.5 m/s (airflow monitoring required, by others)   |
| <b>Maximum outlet airflow temperature</b>           | 50 °C (capacity control required, by others)   |
| <b>Maximum operating temperature</b>                | Without integral control = 40 °C max.  |
| <b>Release temperature - temperature monitor TW</b> | Approx. 60 °C (automatic reset if the value falls below this temperature; hysteresis approx. 15 K) |
| <b>Release temperature for thermal cut-out</b>      | Approx. 90 °C (manual reset on the air heater required)  |
| <b>Air-side static differential pressure</b>        | 5 - 75 Pa  |
| <b>Supply voltage NS 100</b>                        | 230 V AC, 400 W  |
| <b>Supply voltage NS 125</b>                        | 230 V AC, 900 W  |
| <b>Supply voltage NS 160</b>                        | 230 V AC, 1200 W   |
| <b>Supply voltage NS 200</b>                        | 230 V AC, 2100 W   |
| <b>Supply voltage NS 250</b>                        | 400 V AC 2-phase, 3000 W   |
| <b>Supply voltage NS 315</b>                        | 400 V AC 3-phase, 6000 W   |
| <b>Supply voltage NS 400</b>                        | 400 V AC 3-phase, 9000 W   |
| <b>Protection level</b>                             | IP 43  |
| <b>EC conformity</b>                                | EMC to 2014/30/EU, low voltage to 2014/35/EU   |
| <b>Licence</b>                                      | CE, UKCA, S, EAC   |

Technical data - electric air heater

Basic units: TVR, RN and VFC

| NS  | q <sub>v</sub> |                   | Δp <sub>st</sub> [Pa] | t <sub>e</sub> = 16 °C |                     |
|-----|----------------|-------------------|-----------------------|------------------------|---------------------|
|     | l/s            | m <sup>3</sup> /h |                       | P [kW]                 | t <sub>a</sub> [°C] |
| 100 | 12             | 43                | 5                     | 0.4                    | 44                  |
| 100 | 20             | 72                | 10                    | 0.4                    | 33                  |
| 100 | 30             | 108               | 15                    | 0.4                    | 27                  |
| 100 | 40             | 144               | 25                    | 0.4                    | 24                  |
| 100 | 45             | 162               | 30                    | 0.4                    | 23                  |
| 125 | 24             | 85                | 5                     | 0.9                    | 48                  |
| 125 | 35             | 126               | 20                    | 0.9                    | 37                  |
| 125 | 50             | 180               | 40                    | 0.9                    | 31                  |
| 125 | 65             | 234               | 60                    | 0.9                    | 27                  |
| 125 | 75             | 270               | 80                    | 0.9                    | 26                  |
| 160 | 30             | 108               | 5                     | 1.2                    | 49                  |
| 160 | 50             | 180               | 10                    | 1.2                    | 36                  |
| 160 | 70             | 252               | 15                    | 1.2                    | 30                  |
| 160 | 95             | 342               | 25                    | 1.2                    | 26                  |
| 160 | 115            | 414               | 35                    | 1.2                    | 25                  |
| 200 | 59             | 210               | 5                     | 2.1                    | 46                  |
| 200 | 80             | 288               | 20                    | 2.1                    | 38                  |
| 200 | 115            | 414               | 35                    | 2.1                    | 31                  |
| 200 | 150            | 540               | 55                    | 2.1                    | 28                  |
| 200 | 180            | 648               | 80                    | 2.1                    | 26                  |
| 250 | 77             | 275               | 5                     | 3                      | 49                  |
| 250 | 125            | 450               | 15                    | 3                      | 36                  |
| 250 | 180            | 648               | 25                    | 3                      | 30                  |
| 250 | 235            | 846               | 40                    | 3                      | 27                  |
| 250 | 290            | 1044              | 60                    | 3                      | 25                  |
| 315 | 153            | 550               | 5                     | 6                      | 49                  |
| 315 | 200            | 720               | 15                    | 6                      | 41                  |
| 315 | 285            | 1026              | 25                    | 6                      | 33                  |
| 315 | 375            | 1350              | 40                    | 6                      | 29                  |
| 315 | 460            | 1656              | 60                    | 6                      | 27                  |
| 400 | 228            | 820               | 5                     | 9                      | 49                  |
| 400 | 325            | 1170              | 15                    | 9                      | 39                  |
| 400 | 465            | 1674              | 30                    | 9                      | 32                  |
| 400 | 605            | 2178              | 50                    | 9                      | 28                  |
| 400 | 750            | 2700              | 75                    | 9                      | 26                  |

P: Electrical power consumption

t<sub>e</sub>: Inlet airflow temperature

t<sub>a</sub>: Outlet airflow temperature

q<sub>v</sub>: Volume flow rate

Δp<sub>st</sub>: Static differential pressure

## Specification text

Electric air heater for reheating airflows in ventilation and air conditioning systems. Dimensions fit VAV terminal units TVR as well as CAV controllers RN and VFC. Integral twofold overheating protection with temperature monitor and thermal cut-out. Spigot with lip seal for ducts according to EN 1506 or EN 13180. Casing leakage according to EN 15727, class C.

## Materials and surfaces

- Casing and switch cabinet made of galvanised sheet steel
- Heating coil made of stainless steel 1.4301

## Technical data

- Volume flow rate range: 12 to 750 l/s or 43 to 2700 m<sup>3</sup>/h
- Electrical power consumption: 0.4 to 9 kW
- Maximum outlet airflow temperature: 50 °C
- Static differential pressure: 5 to 80 Pa
- Supply voltage: 1 × 230 V AC to 3 × 400 V AC
- Protection level: IP 43

## Sizing data

- $q_v$  [m<sup>3</sup>/h]
- P [kW]

EL  
|  
1

/

160  
|  
2

### 1 Type

EL Electric air heater for VAV terminal units TVR and for CAV controllers RN and VFC

### 2 Nominal size [mm]

100, 125, 160, 200, 250, 315, 400

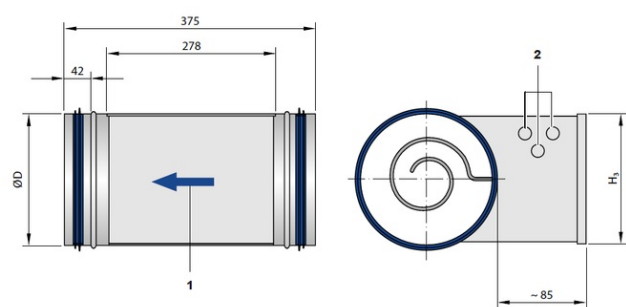
Order Example: EL/160

Nominal size 160 mm

## Dimensions and weights of the electric air heater

| NS  | ØD  | H <sub>3</sub> | m [kg] |
|-----|-----|----------------|--------|
| 100 | 99  | 116            | 2      |
| 125 | 124 | 141            | 2.5    |
| 160 | 159 | 176            | 2.9    |
| 200 | 199 | 216            | 3.7    |
| 250 | 249 | 266            | 4.5    |
| 315 | 314 | 331            | 6.7    |
| 400 | 399 | 416            | 8.1    |

Electric air heater - dimensions



1 Arrow indicating the airflow direction (on the side of the control equipment box)

2 Cable penetrations

## General information on commissioning

- Installation in horizontal or vertical ducts
- Installation only in ducts made of non-cumbersome and temperature resistant material
- An arrow at the side of the casing indicates the only acceptable airflow direction
- A straight duct section of at least 2D is required upstream and downstream of:
  - components such as volume flow controllers, flow adjustment dampers, valves and filters
  - bends, junctions or a narrowing or widening of the duct
- We recommend installing the air heater downstream of a VAV terminal unit, otherwise the terminal unit's flow rate measuring system may be affected by the higher air temperature
- The control equipment box may be fitted on the top or at the side (90° max.). The control equipment box must not be fitted at the bottom of the duct
- At least 30 mm distance between the sheet metal casing and wood or other combustible materials
- Capacity control and supply connections to be provided by others
- Airflow monitoring is required and to be provided by others

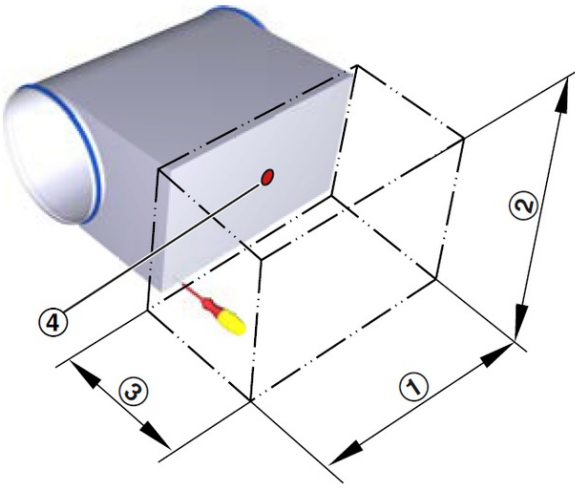
**Correct assignment of types for installation, wiring and commissioning; see also the manufacturer's documentation**

| Order code | Type according to manufacturer (see installation manual) |
|------------|--|
| EL/100     | CV10 - 04 - 1M   |
| EL/125     | CV12 - 09 - 1M   |
| EL/160     | CV16 - 12 - 1M   |
| EL/200     | CV20 - 21 - 1M   |
| EL/250     | CV25 - 30 - 2M   |
| EL/315     | CV31 - 60 - 3M   |
| EL/400     | CV40 - 90 - 3M   |

## Space required

| NS  | ①   | ②   | ③   |
|-----|-----|-----|-----|
| 100 | 320 | 125 | 300 |
| 125 | 320 | 150 | 300 |
| 160 | 320 | 185 | 300 |
| 200 | 320 | 225 | 300 |
| 250 | 320 | 275 | 300 |
| 315 | 320 | 340 | 300 |
| 400 | 320 | 425 | 300 |

Access to control equipment box and reset device for the thermal cut-out



④ Reset button