

Heat exchangers and air heaters

Type EL-UK



For the electric reheating of airflows in circular ducting

Circular electric air heater for the heating of airflows, suitable for VAV terminal units Type TVR and mechanical self-powered CAV controllers Type RN or VFC

- Outlet airflow temperature max. 50 °C
- Smooth surface stainless steel heating element 1.4301
- Integral overheating protection with temperature monitor (auto reset) and thermal cut-out (manual reset)
- Control equipment for 0 - 10V control signal
- Built in electronic flow monitor
- Installation in horizontal or vertical ducts independent of airflow direction
- Suitable for circular ducts to EN 1506 or EN 13180
- With lip seal
- Protection level IP 43
- Casing air leakage to EN 15727, up to class D



Heat exchanger with smooth surface stainless steel heating elements

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Application

Application

- Electric air heater Type EL-UK for reheating the airflow in circular ducting
- For VAV terminal units Type TVR and for CAV

controllers Type RN or VFC

Nominal sizes

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

Description

Parts and characteristics

- Ready-to-install air heater
- Encased smooth surface stainless steel heating elements
- Overheating protection with temperature monitor (auto reset) and thermal cut-out (manual reset)
- Connection terminals inside
- Casing is ready for cable penetration; wire clamping bracket 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

- Control equipment for 0 - 10V control signal
- Built in electronic flow monitor

Materials and surfaces

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

Standards and guidelines

- Casing air leakage to EN 15727, class D

Maintenance

- Maintenance-free as construction and materials are not subject to wear

| | |
|--|---|
| Nominal sizes | 100 – 400 mm |
| Volume flow rate range | 12 – 750 l/s or 43 – 2700 m ³ /h |
| Thermal output | 0.4 – 9 kW |
| Minimum airflow velocity | 1.5 m/s |
| Maximum outlet airflow temperature | 50 °C |
| Max. operating temperature | 40 °C |
| Min. operating temperature | - 40 °C |
| Static differential pressure | 5 – 75 Pa |
| Supply voltage for nominal sizes 100 – 250 | 230 V AC, 1-phase |
| Supply voltage for nominal sizes 315, 400 | 400 V AC, 3-phase |
| Protection level | IP 43 |
| EC conformity | EMC to 2004/108/EU, low voltage to 2006/95/EU |

EL for TVR, RN and VFC

| Nominal size | \dot{V} l/s | \dot{V} m ³ /h | Δp_{st} Pa | $t_e = 16\text{ °C}$ | |
|--------------|------------------|--------------------------------|-----------------------|----------------------|-------------|
| | | | | \dot{Q} kW | t_a °C |
| 100 | 12 | 43 | 5 | 0.40 | 41.8 |
| | 20 | 72 | 10 | 0.40 | 31.4 |
| | 30 | 108 | 15 | 0.40 | 26.3 |
| | 40 | 144 | 25 | 0.40 | 23.7 |
| | 45 | 162 | 30 | 0.40 | 22.9 |
| 125 | 20 | 72 | 5 | 0.88 | 50.0 |
| | 35 | 126 | 20 | 0.90 | 35.8 |
| | 50 | 180 | 40 | 0.90 | 29.9 |
| | 65 | 234 | 60 | 0.90 | 26.7 |
| | 75 | 270 | 80 | 0.90 | 25.3 |
| 160 | 30 | 108 | 5 | 1.20 | 46.9 |
| | 50 | 180 | 10 | 1.20 | 34.5 |
| | 70 | 252 | 15 | 1.20 | 29.2 |
| | 95 | 342 | 25 | 1.20 | 25.7 |
| | 115 | 414 | 35 | 1.20 | 24.1 |
| 200 | 50 | 180 | 5 | 2.10 | 48.4 |
| | 80 | 288 | 20 | 2.10 | 36.3 |
| | 115 | 414 | 35 | 2.10 | 30.1 |
| | 150 | 540 | 55 | 2.10 | 26.8 |
| | 180 | 648 | 80 | 2.10 | 25.0 |
| 250 | 75 | 275 | 5 | 3.00 | 46.9 |
| | 125 | 450 | 15 | 3.00 | 34.5 |
| | 180 | 648 | 25 | 3.00 | 28.9 |
| | 235 | 846 | 40 | 3.00 | 25.9 |
| | 290 | 1044 | 60 | 3.00 | 24.0 |
| 315 | 115 | 414 | 5 | 5.07 | 50.0 |
| | 200 | 720 | 15 | 6.00 | 39.1 |
| | 285 | 1026 | 25 | 6.00 | 32.2 |
| | 375 | 1350 | 40 | 6.00 | 28.3 |
| | 460 | 1656 | 60 | 6.00 | 26.1 |
| 400 | 190 | 684 | 5 | 8.37 | 50.0 |
| | 325 | 1170 | 15 | 9.00 | 37.4 |
| | 465 | 1674 | 30 | 9.00 | 30.9 |
| | 605 | 2178 | 50 | 9.00 | 27.5 |
| | 750 | 2700 | 75 | 9.00 | 25.3 |

\dot{Q} :
 t_e :
 t_a :

Thermal output
Inlet airflow temperature
Outlet airflow temperature

This specification text describes the general properties of the product. Texts for variants can be generated with our Easy Product Finder design programme.

Circular electric air heater for reheating the airflow in air conditioning systems
Dimensions fit VAV terminal units TVR as well as CAV controllers RN and VFC.
Integral overheating protection with temperature monitor (auto reset) and thermal cut-out (manual reset).
Control equipment for 0 - 10V control signal.
Built in electronic flow monitor.
Spigot with lip seal, for circular connecting ducts to EN 1506 or EN 13180.
Casing air leakage to EN 15727, class C.

Materials and surfaces

- Casing and switch cabinet made of galvanised sheet steel

- Heating element made of stainless steel 1.4301

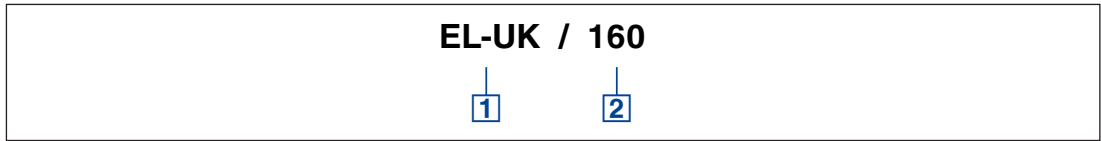
Technical data

- Volume flow rate range: 12 to 750 l/s or 43 to 2700 m³/h
- Thermal output: 0.4 – 9 kW
- Maximum outlet airflow temperature: 50 °C
- Static differential pressure: 5 – 75 Pa
- Supply voltage: 1 × 230 V AC – 3 × 400 V AC
- Protection level: IP 43

Sizing data

- \dot{V} _____
[m³/h]
- \dot{Q} _____

EL-UK



1 Type

EL-UK Electric air heater for VAV terminal units
Type TVR and for CAV controllers Type RN
or VFC

2 Nominal size [mm]

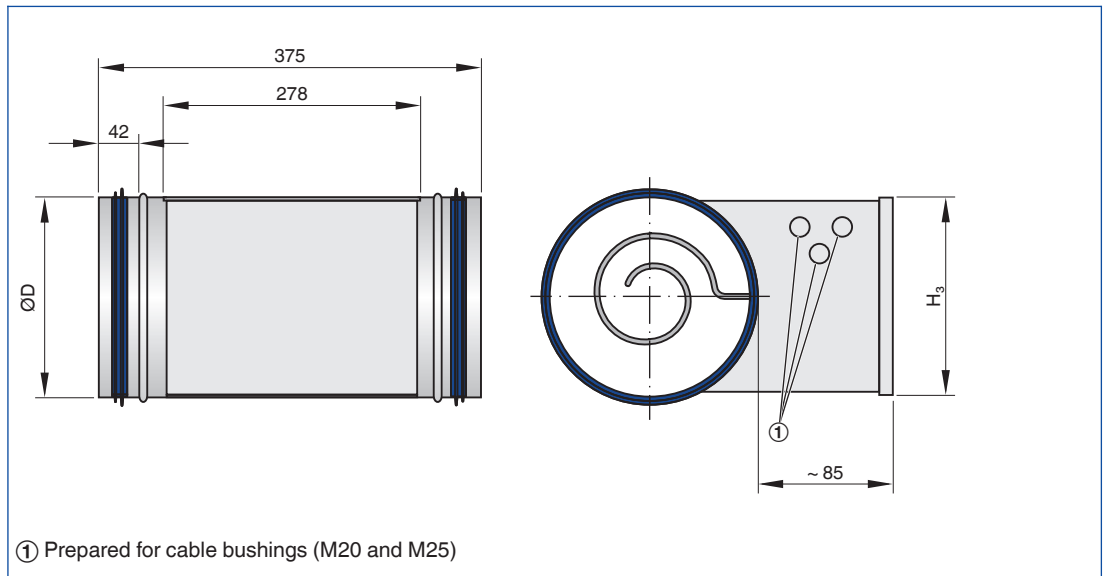
100
125
160
200
250
315
400

Order Example: EL-UK/160

Nominal size

160 mm

EL-UK



EL-UK

| Nominal size | $\varnothing D$ | H_3 | m |
|--------------|-----------------|-------|-----|
| | mm | mm | kg |
| 100 | 99 | 116 | 2.0 |
| 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 |

- ① EL-UK
- ② EL-UK with secondary silencer TX

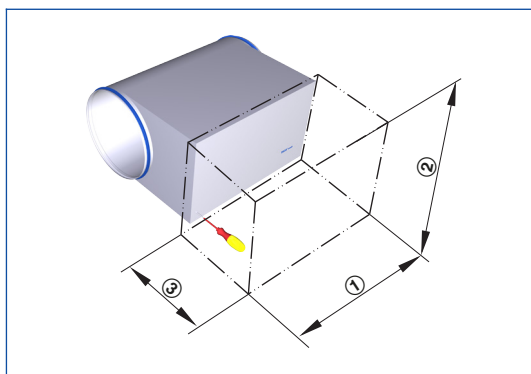
Installation and commissioning

- Installation in horizontal or vertical ducts
- Capacity control and supply connections to be provided by others
- A straight duct section of at least 2D upstream or downstream is required between a bend, a branch, etc., and a component, fan, or flow adjustment damper.
- Airflow direction is indicated by an arrow
- Switch cabinet can be located on top or at the side

Space required for commissioning and maintenance

Sufficient space must be kept clear near any attachments to allow for commissioning and maintenance. It may be necessary to provide sufficiently sized inspection access openings.

Access to attachments



Space required

| Nominal size | ① | ② | ③ |
|--------------|-----|-----|-----|
| | mm | | |
| 100 | 375 | 115 | 300 |
| 125 | 375 | 140 | 300 |
| 160 | 375 | 175 | 300 |
| 200 | 375 | 215 | 300 |
| 250 | 375 | 265 | 300 |
| 315 | 375 | 330 | 300 |
| 400 | 375 | 415 | 300 |

Principal dimensions

ØD [mm]

Outer diameter of the spigot

L [mm]

Length of unit including connecting spigot

L₁ [mm]

Length of casing or acoustic cladding

B [mm]

Duct width

B₁ [mm]

Screw hole pitch of flange (horizontal)

B₂ [mm]

Outside dimension of flange (width)

B₃ [mm]

Width of device

H [mm]

Duct height

H₁ [mm]

Screw hole pitch of flange (vertical)

H₂ [mm]

Outside dimension of flange (height)

H₃ [mm]

Unit height

R ["]

Diameter of connecting threaded pipes

m [kg]

Unit weight including the minimum required attachments (e.g. Compact controller)

Nomenclature

\dot{V} [m³/h] and [l/s]

Volume flow rate

Δp_{st} [Pa]

Static differential pressure

Δp_v [kPa]

Water-side differential pressure

\dot{Q} [kW]

Thermal output

\dot{m}_w [kg/h]

Water flow rate

PWW [°C]

Pumped hot water heating system, flow temperature/return temperature

t_e [°C]

Inlet airflow temperature

t_a [°C]

Outlet airflow temperature