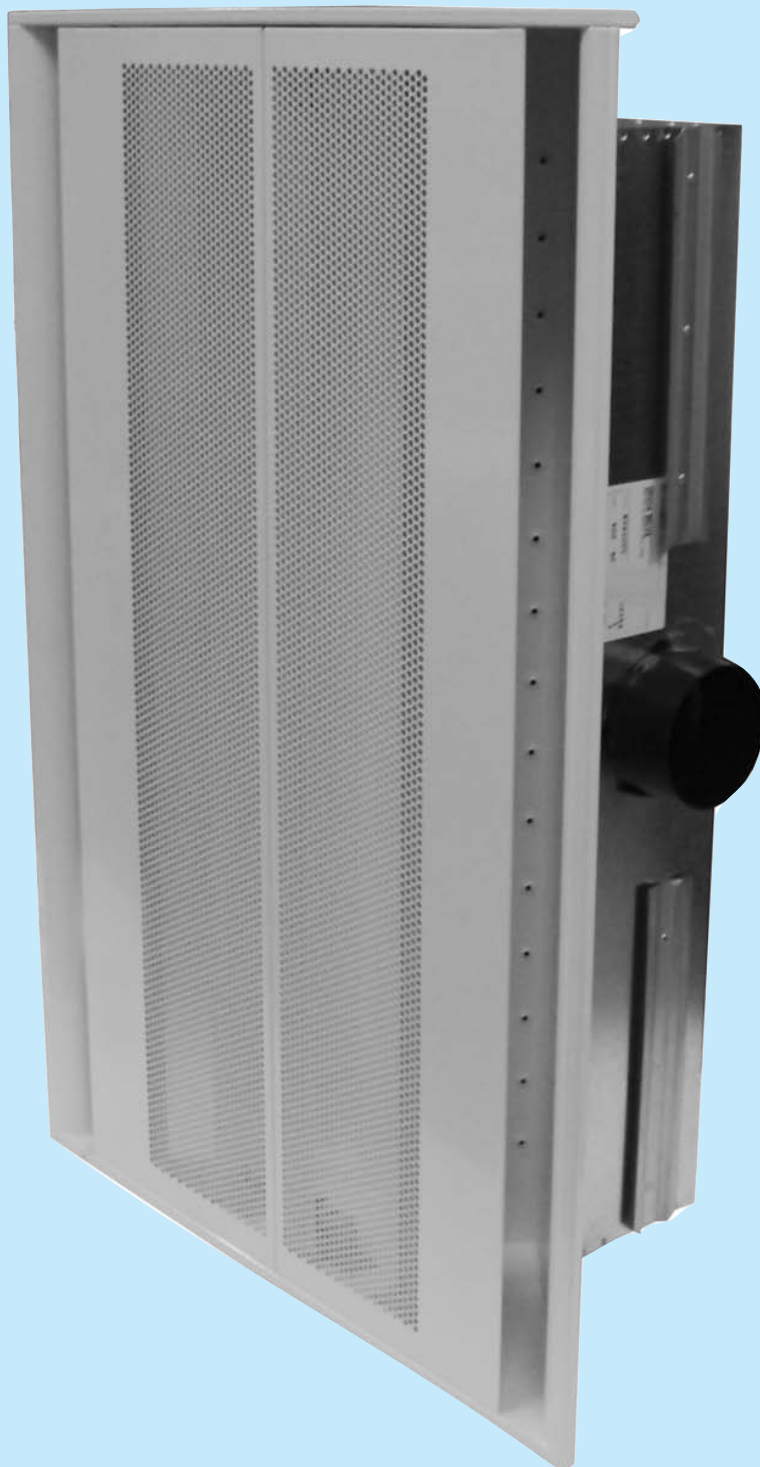


CLOSED ACTIVE BEAM K-60

EUROVENT
CERTIFIED PERFORMANCE



Introduction

The closed active beam K-60 (600 mm wide) is designed to provide sensible cooling, ventilation and also heating if necessary. Standard active heat exchangers lengths of 600, 900, 1000, 1100, 1200, 1500, 1800, 2100, 2400, 2700 and 2950 mm are offered to suit many applications including offices, hotels, retail shops, bank halls, hospitals,...

The benefits of this beam include:

- free cooling (Supply water 14-18°C)
- low noise
- easy set up with static pressure
- minimal primary fresh air
- linear capacity control utilising Variable Air Volume
- dummy sections can be ordered
- choice of perforated face panel
- can be used for either heating or cooling
- simple installation using integral hanging rail and mounting brackets
- suitable for all ceilings: T-bar, recessed or surface mounting

Description

The K-60 closed active beam has a nominal width of 600 mm and provides a 2 way opposite horizontal air pattern. A choice of perforated steel faceplate is possible, with either a circular $\text{Ø}4,1$ mm (51% open) or a square 6 mm (44% open) mesh. The standard colour finish is RAL 9010, other RAL-colours upon request. The beam is supplied in standard modular total lengths of 600, 900, 1000, 1100, 1200, 1500, 1800, 2100, 2400, 2700 and 2950 mm to suit the application.

Other special lengths are also available upon request. The overall height is 250 mm including the plenum box, although inactive beams are 160 mm and dummy beams are only 70 mm.

Plenum boxes are normally supplied without internal lining with a $\text{Ø}125$ mm spigot, but can also optionally be supplied with 6 mm melamine internal lining.

All our closed active beams are certified by Eurovent.

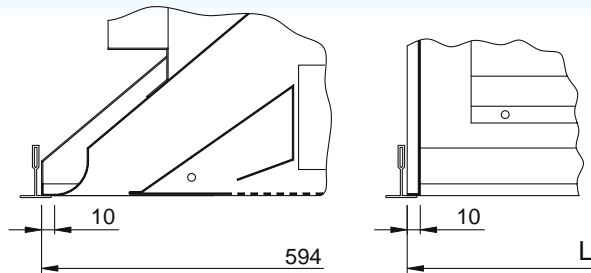
www.eurovent-certification.com

When the primary air is > 130 m³/h, the plenum will be provided with 2 spigots of Ø 125 mm. A heat exchanger with aluminium fins and 4 separate Ø 12 mm copper pipes are pulled into the beam casing. These pipes have plain tails and are suitable for compression fittings.

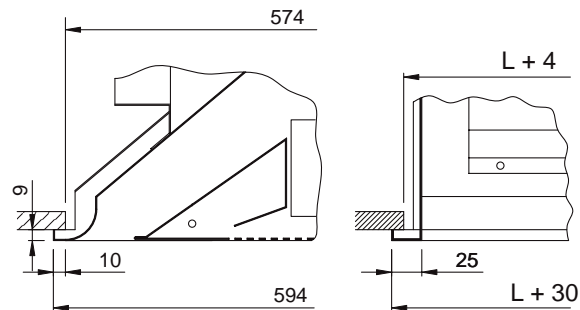
The K-60 has a hinged front panel, providing easy access to the heat exchanger for any routine maintenance. The heat exchanger should be industrially cleaned once every 1-5 years depending on the use of area. The more dust generated during use, the more often it needs cleaning. The beam does not have filters or condensation collection drains and pipes which require cleaning.



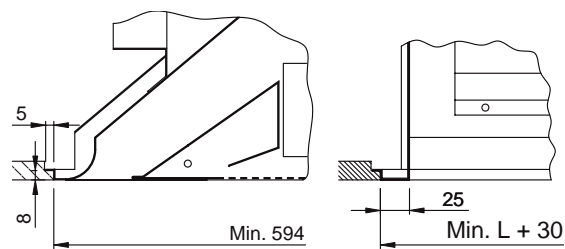
T-bar mounting - KT



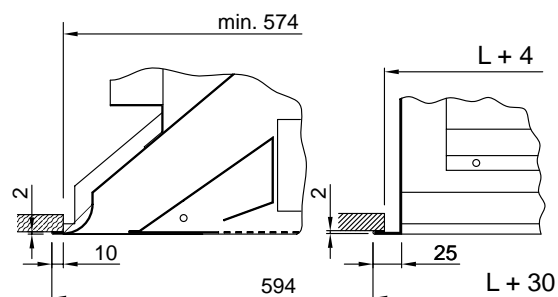
Recessed mounting - KS



Surface mounting - KZ



Flush mounting - KV



Operation

A closed active beam is used for cooling and heating. Active beams contain a supply air plenum. Primary fresh air is supplied directly into the plenum where it is forced through induction nozzles. The air leaves the nozzles and the induction effect pull the secondary room air through the heat exchanger from below the beam. The mixture of the primary supply air and induced secondary air enters the room, through the longitudinal slots at both sides of the beam, with a horizontal air pattern.

The chilled beam system is a dry-cooling system. To avoid condensation, the inlet water temperature for the beam should always be above the dew point temperature of the surrounding air. If windows can be opened, the water flow to the beams should be disabled to avoid condensation.

If for some reason the room air has become too humid, the water circulation must be stopped and the ventilation should be switched on. After the area is dehumidified, the water circulation can be restarted.

The principle method for individual room temperature control is by regulating water flow ON/OFF. This method of continuous air movement and fresh primary air provide optimum comfort. The capacity can also be controlled by using Variable Air Volume units for the primary air. By zoning the chilled beams, the diversity resulting from VAV control allows a reduction of the primary supply air.

Standard required water temperatures are 14-18 °C for cooling and 35-50 °C for heating, which allows free cooling using a heat pump system or ground source energy.

Maximum water pressure is 7 bar.

Primary air: 16-20 °C (summer) and 18-21 °C (winter) is standard. The dew point of the surrounding air should always be 1-2 °C below the cold water supply temperature to allow dehumidification.

Optimum minimum plenum pressure of the primary air is 100 Pa.

Minimum primary air plenum pressure is 50 Pa.

Dehumidification of the primary air from the main air-handling unit is necessary to control humidity levels and to avoid condensation.

Due to the aerodynamic design of the nozzles greater levels of primary air can be introduced into the beam, creating high secondary cooling. This is particularly useful for higher air volume applications.

Standard sizes:

600 mm
900 mm
1000 mm
1100 mm
1200 mm
1500 mm
1800 mm
2100 mm
2400 mm
2700 mm
2950 mm

Product specifications

Material

Steel beam casing with a choice of perforated front panel with either circular Ø 4.1 mm (51% free area) or square 6 mm (44% free area) mesh. Heat exchanger coil with aluminium fins and Ø 12 mm copper pipes. Galvanised steel sheet plenum box.

Construction

Single sheet beam casing with mechanically joined end plates with a hinged perforated front panel. The plenum box section has a Ø 125 mm circular spigot with end plates mechanically joined and sealed to the beam casing.

Plenum Box with pressure measuring-point behind front panel.

Installation

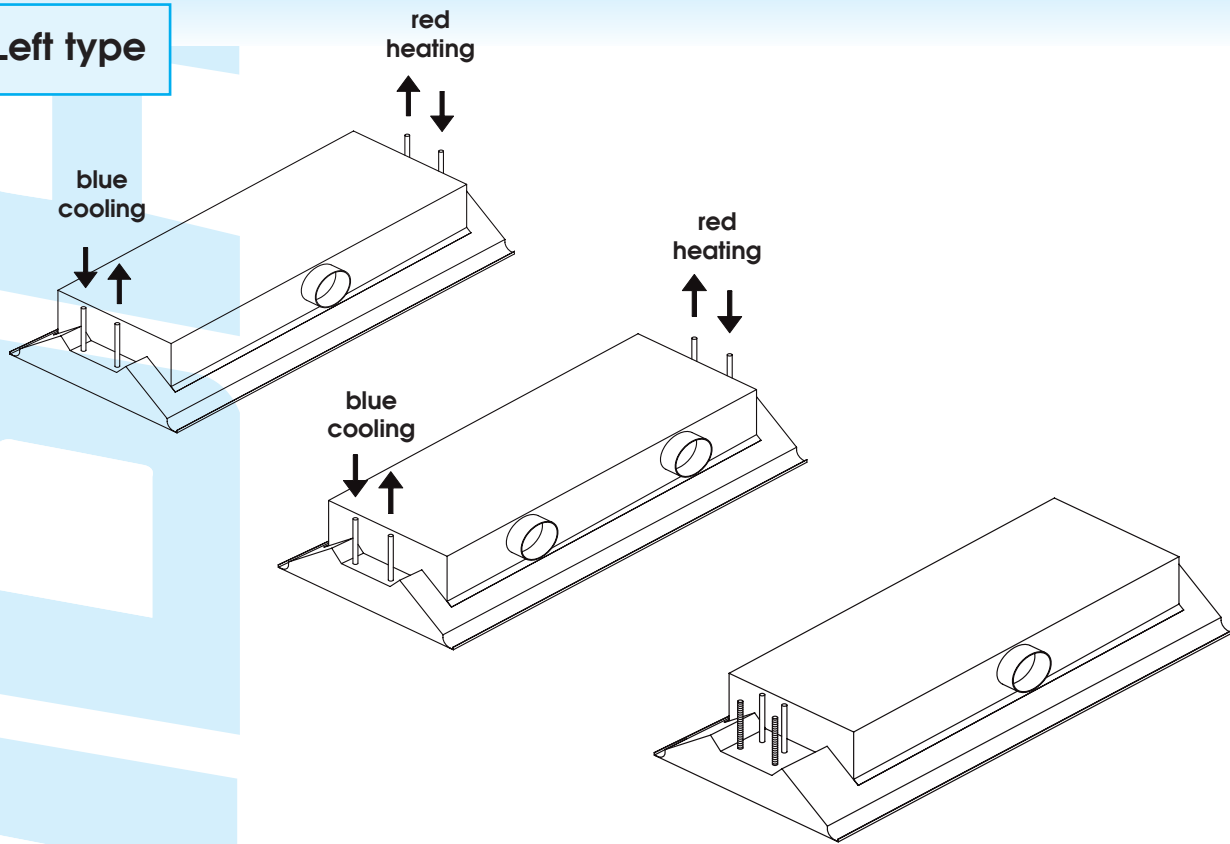
Possibility to mount with drop rod or wire using preformed lugs with a sliding rail-arrangement. Suitable for T-Bar, surface or recessed ceiling systems.

Heat exchanger coil, Ø 12 mm copper pipes have plain tails suitable for compression fittings.

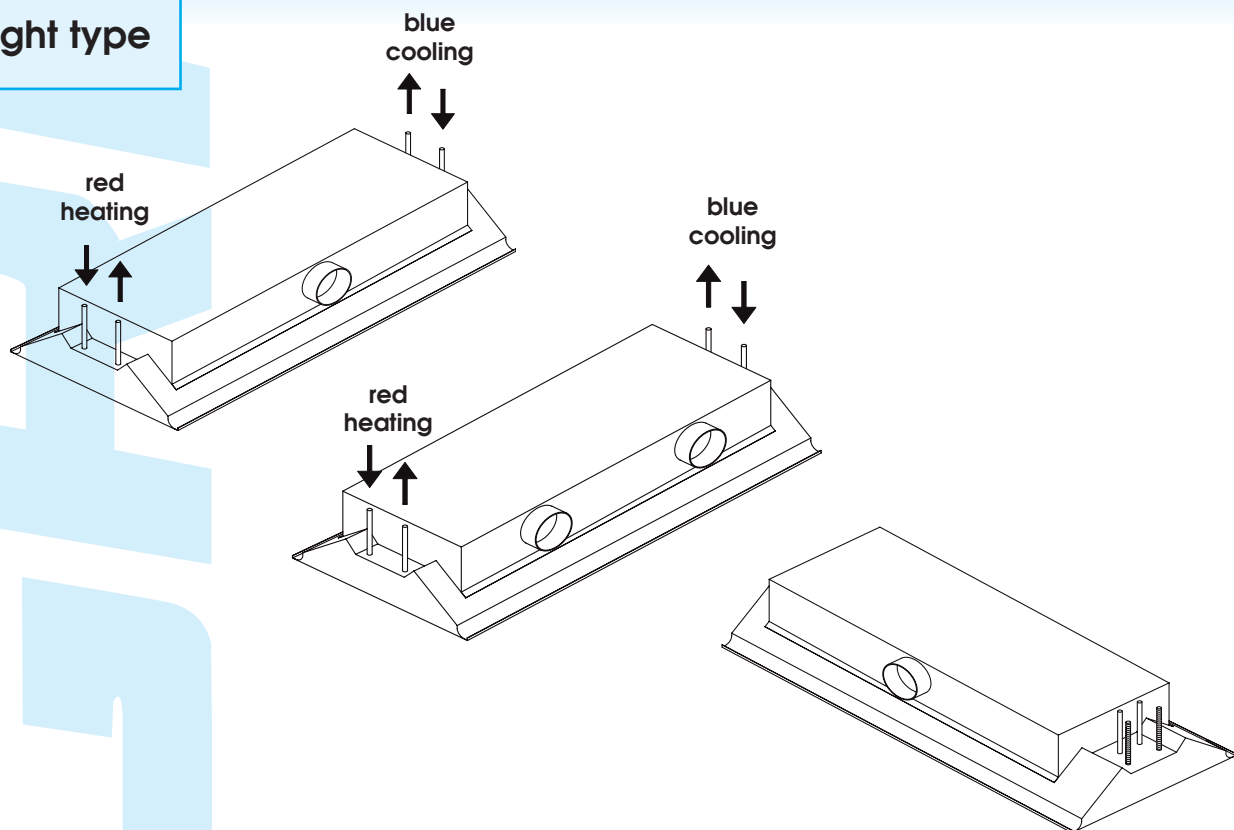
Finish

RAL 9010 standard finish

Left type



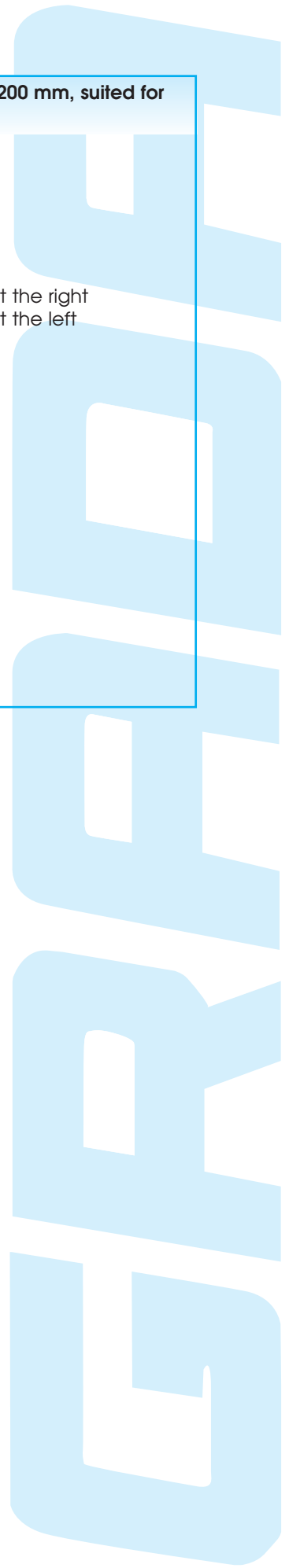
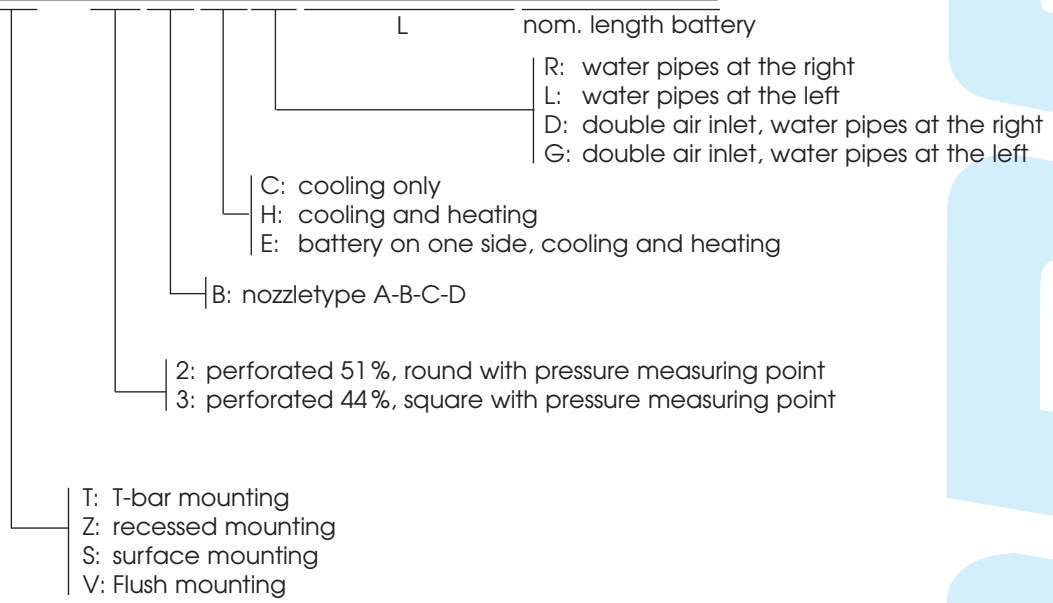
Right type

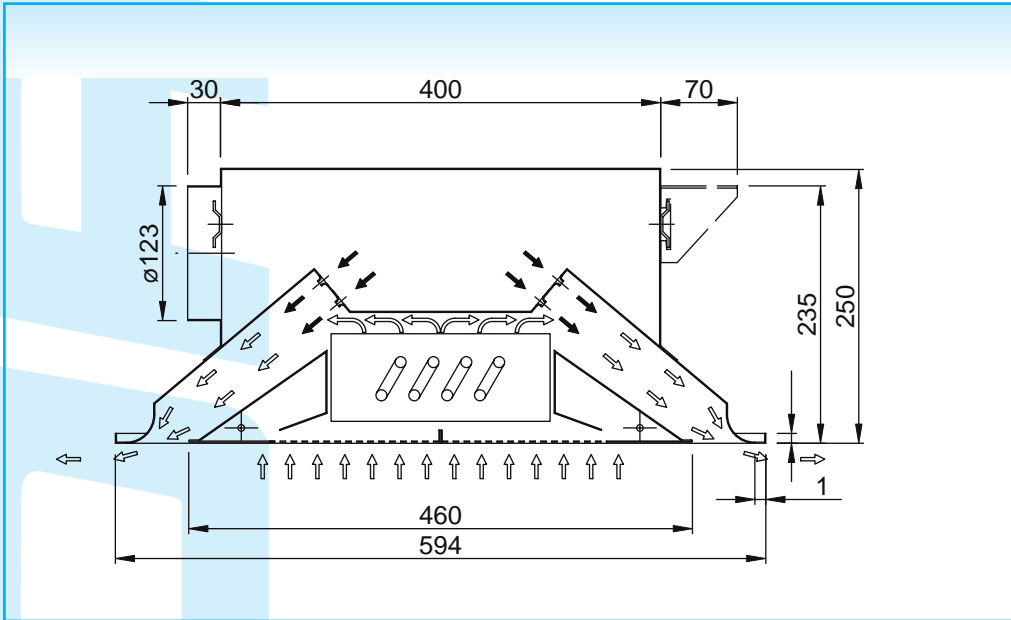


How to order

Chilled beam unit, KT60BH 1500, 600 mm wide, L = 1494 mm, nominal length of the battery 1200 mm, suited for T-bar mounting with heating and cooling, nozzle type B.

K	T	6	0	B	H	R	1	4	9	4	1	2	0	0
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L (mm)	L ₁ (mm)	L (mm)	L ₁ (mm)
594	462	2094	1962
894	762	2394	2262
1194	1062	2694	2562
1494	1362	2950	2862
1794	1662		

L = total length
L₁ = plenum length

T-Bar mounting

