MEINERTZ Grilles and Convectors mounted in floor channels

Dimensions and performance values for floor channel mounting										
Convector			Channel dimensions (recommended)			Frame sizes		Thermal performance W/m (reduced by 20%)		
Type	Height	Depth	Depth	Width		Outer width		(90/70/20)°C	(75/65/20)°C	(70/40/20)°C
CL	mm	mm	mm	side m.*	centre m.*	side m.*	centre m.*	t 60 K	t 50 K	t 35 K
CL 0712	70	75	250	148	198	200	250	321	259	156
CL 0722	70	154	250	273	373	325	425	656	529	317
CL 0732	70	233	300	398	548	450	600	945	762	457
CL 1412	140	75	300	148	198	200	250	510	411	247
CL 1422	140	154	300	273	373	325	425	1038	837	502
CL 1432	140	233	350	398	548	450	600	1536	1238	743
CL 2112	210	83	400	148	198	200	250	597	482	289
CL 2122	210	170	450	273	373	325	425	1198	966	580
CL 2132	210	258	500	398	548	450	600	1729	1394	837
CL 2812	280	83	500	148	198	200	250	739	596	358
CL 2822	280	170	500	273	373	325	425	1419	1144	686
CL 2832	280	258	500	398	548	450	600	2057	1659	996

In swimming pools and other high humidity rooms hot-dip galvanised convectors are recommended.

*m. = mounted

Application

In the case of large picture windows with or without doors and strong incidence of cold, a compact and efficient thermal solution can be achieved if the convectors are installed in floor channels, as shown in the sketches.

Principle

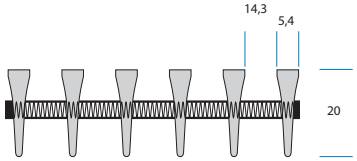
The principle is that the warm upward current creates a depression under the convector and the falling cold air can be drawn under the convector and heated by it.

This air circulation results in fast and efficient heat distribution in the room with less possibility of forming cold zones. The cold air from the windows and the floor is drawn into the convector, and the warm upward current generates a comfortable warm air curtain.

When mounting the convectors in channels a large part of the heat radiation of the radiator is lost, which reduces the thermal performance. When using MEINERTZ Rolling Grilles the total performance reduction can be limited to 20%. This performance reduction has been taken into account in the table above.

MEINERTZ Rolling Grilles

MEINERTZ Rolling Grilles for covering convector channels are manufactured from aerodynamic aluminium extrusions which are held together by strong steel springs with stable aluminium spacing pieces.



The rolling grilles, which have a free cross section of 72%, are supplied in their standard execution with angle frames with mounting holes in vertical and horizontal flanges. As an alternative the angle frame can be supplied with wall anchors. For mounting in wooden floors the grilles can be supplied in Z-frames. The grilles can be rolled up in order to enable easy convector channel cleaning.

MEINERTZ Rolling Grilles are supplied in all lengths from 400 to 6,000 mm and in all widths from 80 to 600 mm. In the case of widths larger than 500 mm a cover in area of passenger traffic is recommended.

We wish to draw attention to the fact that chairs should not be placed on the rolling grilles.

Type	Frame	Anodising colour	Layer thickn.
VAN	Angle	Al/natural	10 µm
ZAN	Z	Al/natural	10 µm
VAM	Angle	Al/brass	10 µm
ZAM	Z	Al/brass	10 µm
VAS	Angle	Al/black	20 µm
ZAS	Z	Al/black	20 µm
VAP	Angle	Al/powder-coated*	
ZAP	Z	Al/powder-coated*	

* In the case of powder coating the standard colour is RAL 9016. At additional cost the powder coating can also be carried out in other RAL-colours.

MEINERTZ ProLine

If the required channel depth can not be achieved it should be referred to MEINERTZ ProLine Convection Grilles. Read more in ProLine Product Catalogue.

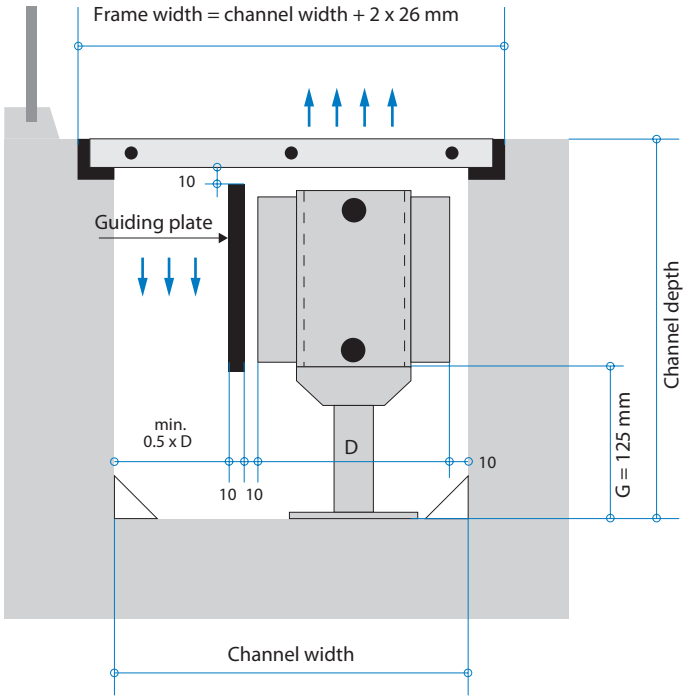
MEINERTZ Finned Tube

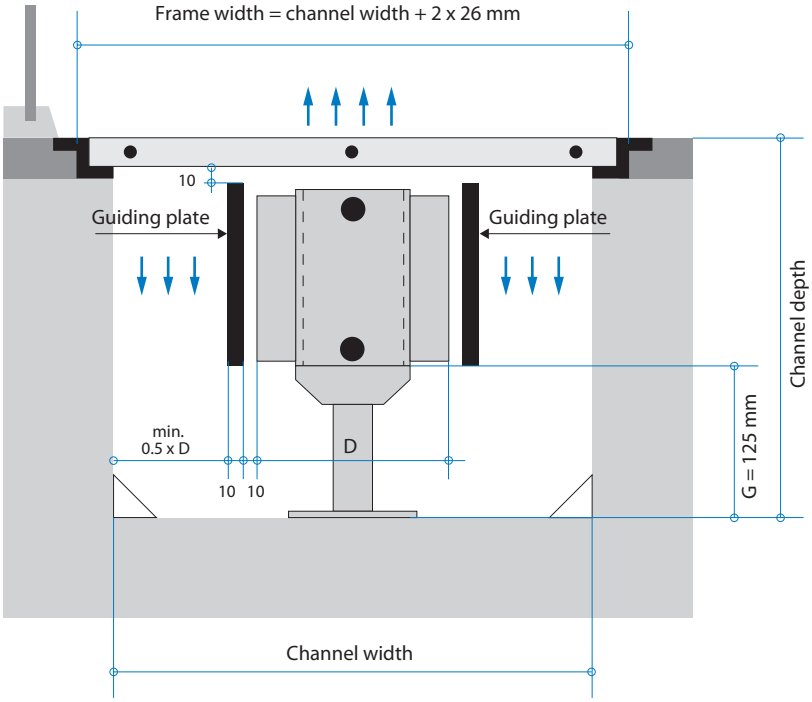
In some cases it may be advantageous to use MEINERTZ Finned Tube. Read more in Finned Tube Product Catalogue.

Radiator valves / Thermostatic valves

The use of thermostatic radiator valves with remote sensor, e. g. Danfoss RA 2612, is recommended or a valve with a remote adjusting device, e. g. Danfoss RA 2060, which enables valve adjustment. The remote adjusting device should be installed at a place which is easily accessible and where the sensor can at the same time measure the room temperature.

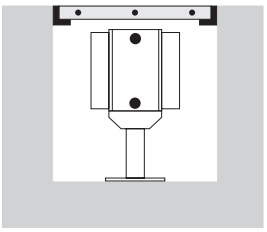
Convector Channels and Grilles / Frames





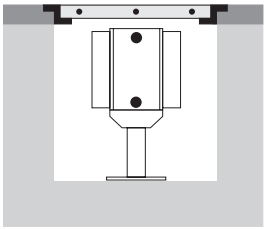
Side mounting with rectangular frame
If the convectors are exclusively to compensate for the heat demand of the cold air current of the window area, the convectors should be mounted in the channels on the room side.

Alternative mounting of rectangular frames
The vertical frame flange is bolted to the channel side.



Centre mounting with Z-frame
The convectors are installed in the channel centre, if the heat demand arises from the façade and the room.

Alternative mounting of Z-frames
The vertical profile sides of the Z-frames are bolted to the channel side.



For both frame mounting types the effective channel cross section is reduced, which may result in reduced air current and thermal performance. When ordering, the dimensions over the vertical outer frame sides should be indicated.

Ordering example:
VAN 450 x 4,000 mm. Rolling grille natural anodised, in rectangular frame, with indication of the outer frame dimensions

Channel execution
The sides and base of the convector channels should be as smooth as possible in order to reduce air friction. At the same time insulation of the sides and base must be as efficient as possible. In order to deflect the air current, diagonal strips can be installed as shown.

Guiding plates
Guiding plates can be mounted in order to separate the falling cold air current from the upward hot air current and in order to achieve a chimney effect, resulting in an increase of the thermal performance. The guiding plates should be from a non heat-conducting material.