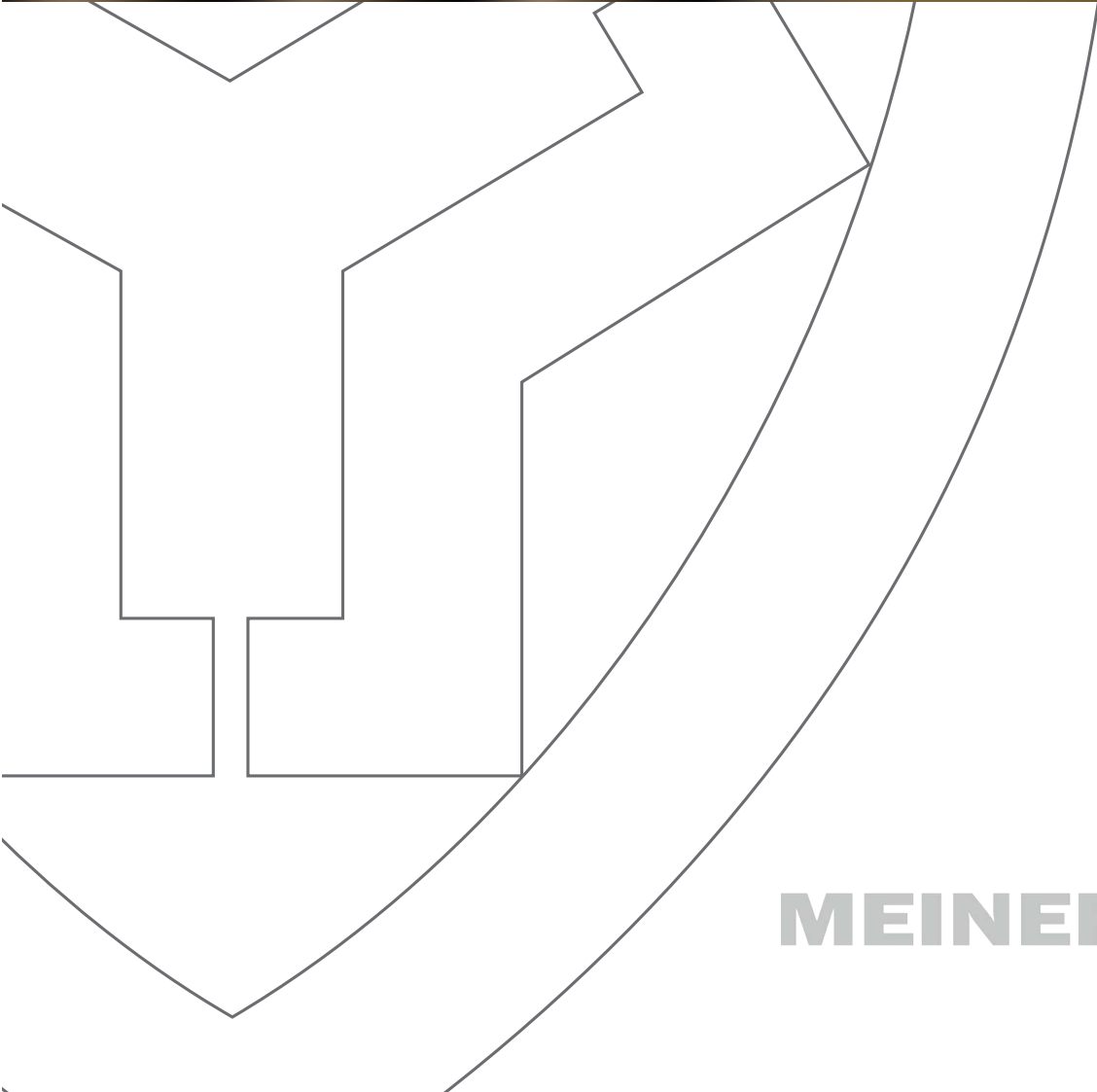




MEINERTZ FRONT-Line



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MEINERTZ A/S have together with BIG and architect Jan Besiakov developed a new type of integrated heating system to prevent cold draught on full height facade glazing, but also to comply with Danish/EU Building Regulations stating that cold draught in commercial buildings has to be below 0.15m/sec.

The heating along the glazing units acts as a static supplement to double glazed windows and the new MEINERTZ FRONT-Line is the slimmest and most efficient heater of its kind on the market today. Even though the FRONT-Line is fully integrated into the facade construction it can easily be mounted or removed at a later stage.

Use

The uniqueness of the MEINERTZ FRONT-Line is that it is fully integrated into the facade construction with the traverse supporting and heated part. By means of the bespoke brackets the FRONT-Line can be used at any depth in any facade construction. This also makes it easy to remove the radiator as well as the window if necessary.

Designation

MEINERTZ FRONT-Line, type FRL (number of water filled pipes)
Example MEINERTZ FRONT-Line FRL03

Product

MEINERTZ FRONT-Line is produced by 70 x 11 x 2.0 mm pressure-stable steel tubing. The individual elements are spaced 13 mm apart.

Heat output

The estimated heat output at the temperature set 70/40/20 is 70 watts per metre of water-filled tube.

Dimension

Depth: Number of elements X (13 + 11) – 13 mm
Height: 70 mm
Length: max 6000 mm
The units can be produced in bespoke dimensions.
The outer U-profile (40x5 mm) is welded 50 mm from both ends besides at every 400 mm.

Control and regulation

It is possible to connect up to 3 units of 6000mm - giving a total length of 18 metres connected in one string.
The heat output can be regulated by ordinary radiator or motorised valves.

Connection

3/8" or 1/2" tappings can be placed either the same or each end.
If tappings at the same end including internal baffle plates are required, following minimum widths are applicable:
Min. FRL04 when using 3/8" tappings
Min. FRL05 when using 1/2" tappings

Air venting

A 1/8" air vent is mounted.

Weight

2.31 kg/metre steel tubing.

Surface finishing

MEINERTZ FRONT-Line is supplied powder coated as standard in colours RAL 7024 (graphite grey), RAL 9007 (aluminium grey) or RAL 9016 (white). For a supplementary charge, the units can be supplied in other RAL colours.

Packaging

MEINERTZ FRONT-Line is carefully packaged in strong cardboard and wrapped in PE sheeting.

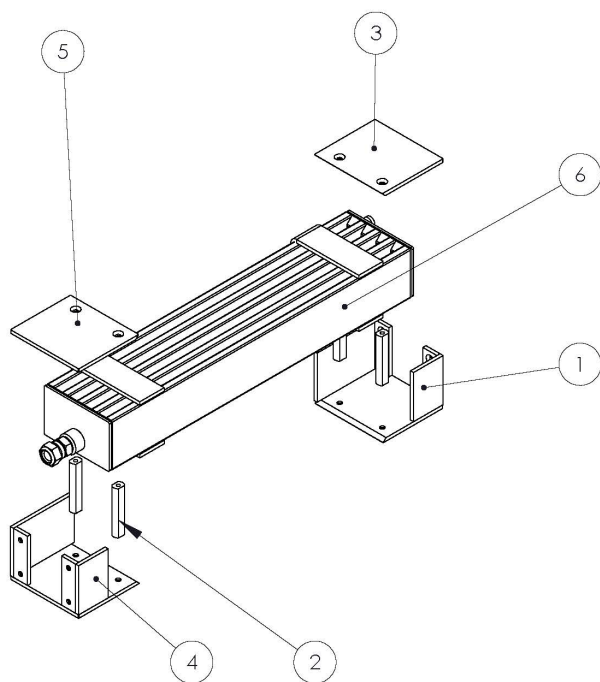
Warranty

A five-year guarantee against defects in materials or workmanship is offered, provided that the unit has been correctly handled and installed.

Maintenance

Cleaning may be performed with ordinary cleaning agents that do not contain abrasive. Scratches or damages to the surface lacquer may be repaired using traditional spray paint, or by hand-painting with a thin brush.

Technical data for FRONT-Line



Unique use in all types of construction

MEINERTZ FRONT-Line is not just a radiator. It can be integrated in many different types of construction and is delivered with millimeter accuracy - now also in a curved design, which combines MEINERTZ FRONT-Line with the architectural design of the facade.

Furthermore, MEINERTZ FRONT-Line can replace RHS-profiles in the construction of facades. Contact MEINERTZ for further information.

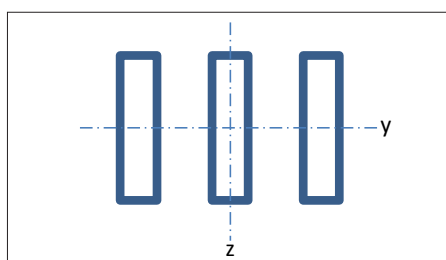
| No. | Designation | Number |
|-----|------------------------|--------|
| 1 | Support | 1 |
| 2 | Bar for support | 4 |
| 3 | 5 mm plate for bracket | 1 |
| 4 | Bracket for support | 1 |
| 5 | 5 mm plate for support | 1 |
| 6 | Water filled tube | 1 |

Relative strength

The table shows which FRONT-Line to use when replacing RHS-profiles.

| FRONT-Line type | FRONT-Line depth mm | Accordingly RHS profile dimension mm | Wall thickness mm |
|-----------------|---------------------|--------------------------------------|-------------------|
| FRL03 | 59 | 80x40 | 4 |
| FRL04 | 83 | 100x60 | 5,6 |
| FRL05 | 107 | 120x80 | 5 |
| FRL06 | 131 | 140x80 | 6,3 |
| FRL07 | 155 | 180x100 | 8,8 |
| FRL08 | 179 | 200x100 | 10 |
| FRL09 | 203 | 250x150 | 8 |
| FRL10 | 227 | 250x150 | 12,5 |

| Type | Width | Number of profiles | Cross-sectional area | Moment of inertia Y | First moment of area Y | Radius of gyration Y | Moment of inertia Z | First moment of area Z | Radius of gyration Z |
|-------|-------|--------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------------|-------------------------------------|-------------------------------------|----------------------|
| | | | A | I_y | W_y | i_y | I_z | W_z | i_z |
| | mm | | mm ² [x10 ³] | mm ⁴ [x10 ⁶] | mm ³ [x10 ³] | mm | mm ⁴ [x10 ⁶] | mm ³ [x10 ³] | mm |
| FRL03 | 55 | 3 | 0,924 | 0,440 | 12,574 | 21,8 | 0,372 | 12,624 | 20,1 |
| FRL04 | 83 | 4 | 1,232 | 0,587 | 16,766 | 21,8 | 0,911 | 21,952 | 27,2 |
| FRL05 | 107 | 5 | 1,540 | 0,734 | 20,960 | 21,8 | 1,803 | 33,701 | 34,2 |
| FRL06 | 131 | 6 | 1,848 | 0,880 | 25,151 | 21,8 | 3,140 | 47,939 | 41,2 |
| FRL07 | 155 | 7 | 2,156 | 1,027 | 29,343 | 21,8 | 5,009 | 64,632 | 48,2 |
| FRL08 | 179 | 8 | 2,464 | 1,174 | 33,543 | 21,8 | 7,498 | 83,777 | 55,2 |
| FRL09 | 203 | 9 | 2,772 | 1,320 | 37,714 | 21,8 | 10,70 | 105,42 | 62,1 |
| FRL10 | 227 | 10 | 3,080 | 1,467 | 41,914 | 21,8 | 14,69 | 129,43 | 69,1 |



The photo shows the horizontal and vertical axis of the used steel profile in MEINERTZ FRONT-Line.