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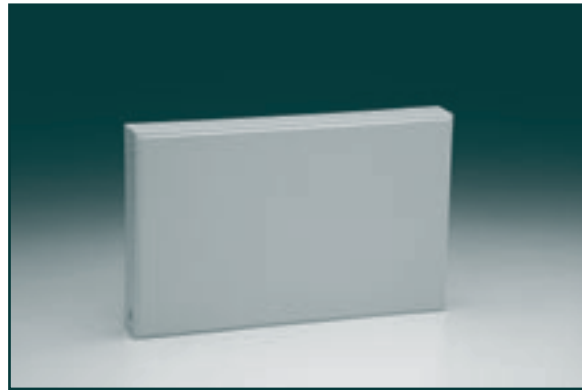
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Fionia 68



Fionia 98



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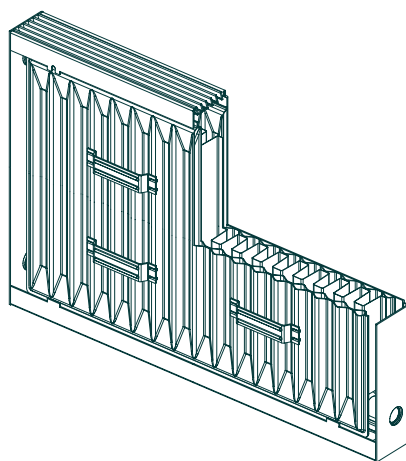
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Features

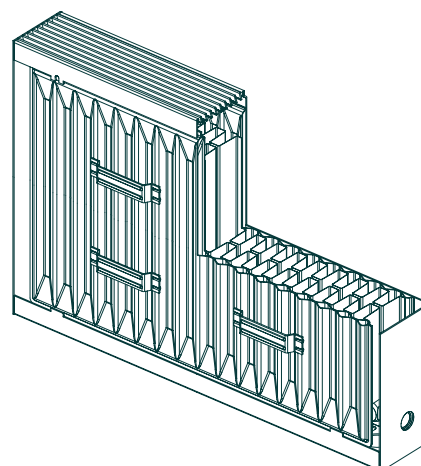
- Water-filled front plate
- Discreet appearance to compliment any architecture
- Extremely robust
- Easy to clean due to flat front
- Integrated white top grille as standard
- Range of stock sizes available

Product description

Fionia



Fionia 68 with cutaway, rear view



Fionia 98 with cutaway, rear view

Description

Radiator manufactured from steel plate. It has a smooth rebated front plate and integrated top grille and closed ends. Other panel plates have pressed vertical waterways. Water circulates between the plates of each panel, and interconnections allow water to circulate between the two panels.

The Fionia 68 has 1 set of convector fins welded to the rear of the front panel. The Fionia 98 has 2 sets of convector fins; 1 welded to the rear of the front panel, and 1 welded to the front of the rear panel.

Material

Front plate: 2.00 mm steel EN 10051

Rear plate: 1.25 mm steel EN 10130

Fionia convector fins: 0.50 mm steel EN 10130

Top grille: Anodised aluminium (painted to radiator colour)

Test pressure

10 bar

Max. operating pressure

7.7 bar in accordance with EN 442

Max. operating temperature

95°C

Surface treatment

Pre-treatment:

- Degreasing and iron-phosphating

Priming:

- Primed with water based paint in pale grey colour

Paint finish:

- White RAL 9010: Powder PE, gloss approx. 50%
- Other colours: Powder painted as above or wet painted, gloss approx. 50%
- Surface treatment in accordance with DIN 55900 and EN 442

Outputs

See output tables page 3.2.1

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3.8



Fig. 3.1.1
Height and length

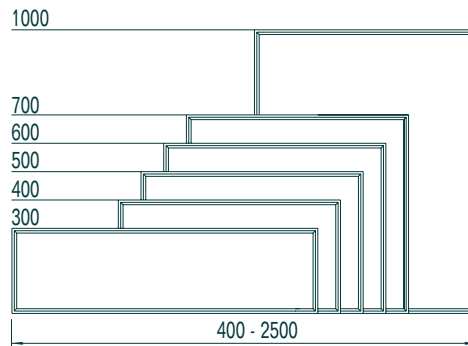


Fig. 3.1.2
Fionia 68,
profile

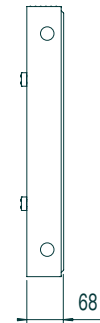
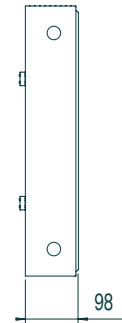


Fig. 3.1.3
Fionia 98,
profile



Length	400-2500 mm (12-75 sections) in increments of 100 mm
Height	Fionia 68/98: 300, 400, 500, 600, 700 and 1000 mm
Depth	Fionia 68: 68 mm Fionia 98: 98 mm
Tappings	1/2" standard, adapter for 3/4" NOTE: Certain underside tappings are supplied with adapters. See pages 3.2.3 and 3.4.1.
Mounting	Wall or floor mounted, see pages 3.3.1 - 5 Brackets are included, see page 3.3.1 Air vent is supplied, see page 3.6.1
Colour	Powder coated in white RAL 9010 Option: Painted in other standard RAL and BS colours VARIANT
Packing	Packed securely in environmentally friendly materials. Mounting is possible without unpacking, for protection. NOTE: Max. flow temperature when using before unpacking of radiator is 70°C
Optional extras (Variant or Individual)	<ul style="list-style-type: none"> • Built-in valve, see pages 3.4.1 - 2



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Output

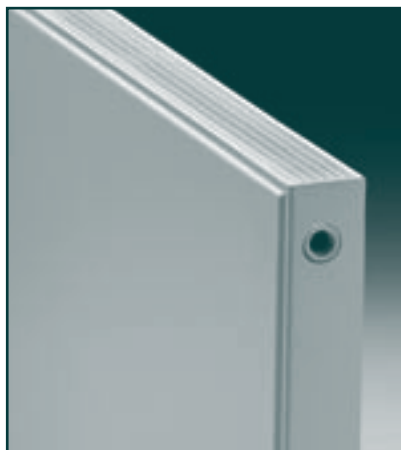
Table 3.2.1

Fionia 68	Output			Water content		Weight		
	Height mm	W/metre 75/65-20	W/metre 90/70-20	W/section 75/65-20	litres/metre	litres/section	kg/metre	kg/section
	300	625	792	20.8	2.3	0.08	15.7	0.52
	400	810	1028	27.0	3.0	0.10	21.1	0.70
	500	990	1257	33.0	3.8	0.13	26.5	0.88
	600	1166	1483	38.9	4.5	0.15	31.9	1.06
	700	1340	1705	44.7	5.2	0.17	37.2	1.24
	1000	1847	2358	61.6	7.6	0.25	52.8	1.76

Table 3.2.2

Fionia 98	Output			Water content		Weight		
	Height mm	W/metre 75/65-20	W/metre 90/70-20	W/section 75/65-20	litres/metre	litres/section	kg/metre	kg/section
	300	743	943	24.8	2.3	0.08	17.7	0.59
	400	965	1228	32.2	3.0	0.10	24.1	0.80
	500	1182	1504	39.4	3.8	0.13	30.6	1.02
	600	1396	1779	46.5	4.5	0.15	37.1	1.24
	700	1607	2048	53.6	5.2	0.17	43.4	1.45
	1000	2224	2839	74.1	7.6	0.25	62.6	2.09

Tapping designation

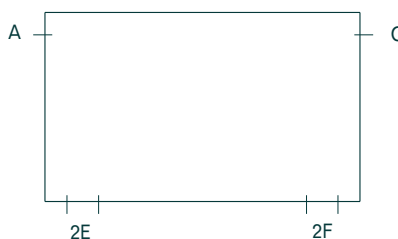


Fionia 68 with side tapping

Fig. 3.2.3 Tapping designation



Fig. 3.2.4 Tapping designation, 2E and 2F



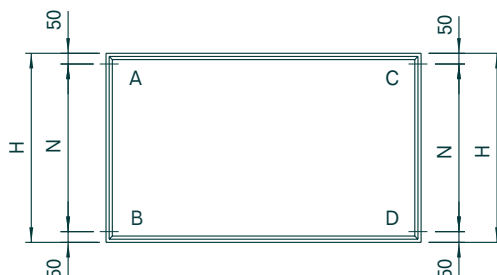
Side Tappings A, B, C, D

Sizes

1/2" standard, adapter for 3/4"

Position

Fig. 3.2.5
1/2" side tappings



Where radiators exceed 2000 mm, and same-side tappings are required, (A-B or C-D), radiators will be factory-fitted with an internal flow diverter to ensure optimum water flow.

Table 3.2.6
Centre distance N for A, B, C, D tappings

Radiator height H, mm	Centre distance N, mm
300	200
400	300
500	400
600	500
700	600
1000	900

Fig. 3.2.7
Fionia 68, profile

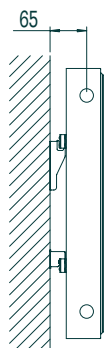
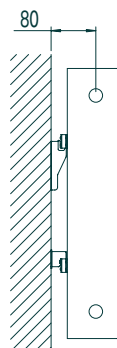


Fig. 3.2.8
Fionia 98, profile



Technical specifications

Fionia

Underside tappings E, F, 2E, 2F

VARIANT

Sizes

1/2" standard at E-F tappings.
3/4" male eurocones at 2E and 2F tappings, supplied with 1/2" adapters.

Position

Fig. 3.2.9
Underside tappings

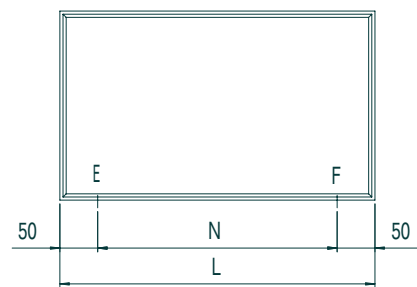


Fig. 3.2.10
Fionia 68,
profile

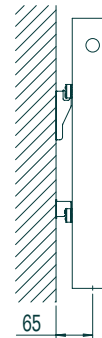
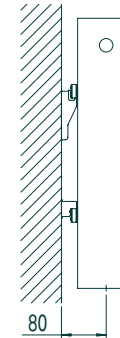


Fig. 3.2.11
Fionia 98,
profile



Centre distance N for E-F is calculated as:
Radiator length L – 100 mm

Fig. 3.2.12
2E and 2F tappings

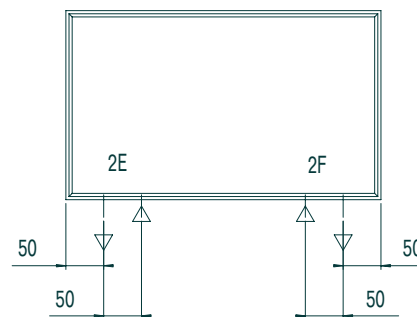


Fig. 3.2.13
Fionia 68,
profile

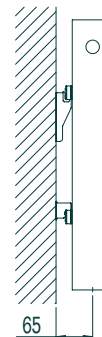
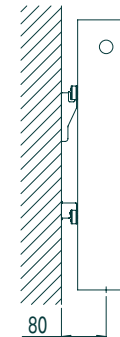


Fig. 3.2.14
Fionia 98,
profile



Other options

Please contact Hudevad. **INDIVIDUAL**

Where radiators exceed 2000 mm, and same-side tappings are required, (2E/2F), radiators will be factory-fitted with flow diverter to ensure optimum water flow

Water resistance

Maximum expected pressure loss - calculated from the largest possible radiators.								
Watertemperature - flow	t_f	°C	75	70	70	65	90	55
Watertemperature - return	t_r	°C	65	40	55	35	70	45
At Fionia 68: H = 1000 mm and L = 4000 mm								
Pressure loss		kPa	2.8	0.2	0.9	0.2	1.3	0.8
At Fionia 98: H = 1000 mm and L = 4000 mm								
Pressure loss		kPa	4.0	0.3	1.5	0.2	1.9	1.3

Pressure losses for other heights/lengths can be approximated on a proportional basis



Bracket 30 mm

Accessory for Fionia 68/98. Supplied unless otherwise stated.

Construction Bracket and spacer in galvanised steel with nylon inserts for noise suppression.
Wall distance: 30 mm to rear of radiator.

Fig. 3.3.1
Bracket 30 mm

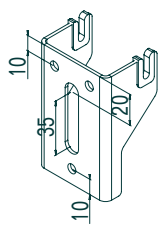
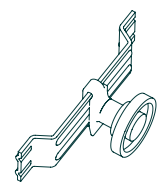


Fig. 3.3.2
Adjustable spacer for bracket 30 mm



Dimensions

Fionia 68/98: radiator height 300 - 700 & 1000 mm

Fig. 3.3.3
Fionia 68, profile

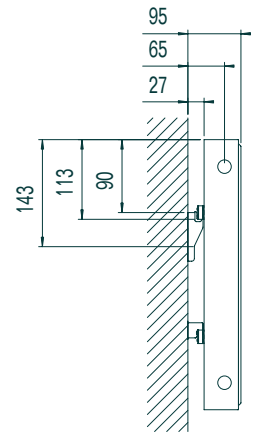


Fig. 3.3.4
Fionia 98, profile

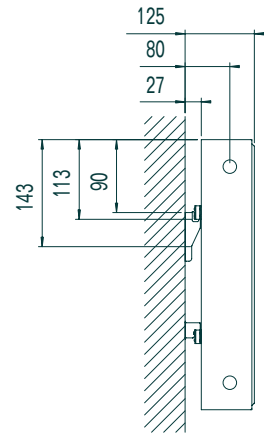
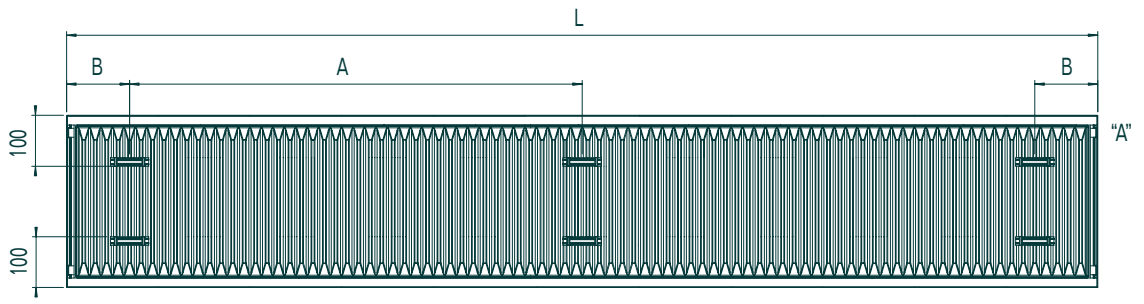


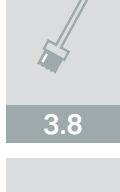
Fig. 3.3.5
Fionia 68/98, radiator height 300 - 700 & 1000 mm, position of goal posts/rails, rear view



If no. of brackets is 3 or more and uneven no. of sections, the rail in the middle is displaced 17 mm towards tapping "A"

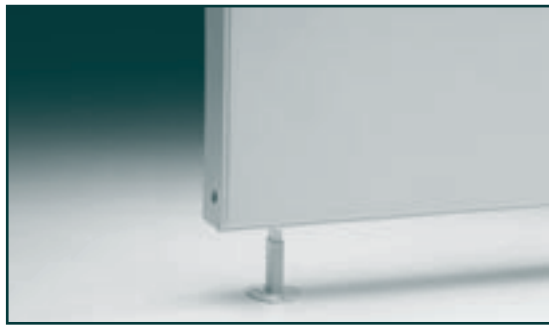
Table 3.3.6
Fionia 68/98, position of goal posts and no. of brackets

Radiator length L, mm	No. of sections	No. of brackets/spacers /goal posts	A mm	B mm
400-600	12-18	2/2/4	-	L/2
700-1500	21-45	2/2/4	L-366	183
1600-2500	48-75	3/3/6	(L-366)/2	183



Adjustable feet
PR

VARIANT



Fionia 68/98 with adjustable feet

Accessory for

Fionia 68/98

Application

For areas where wall-mounting is not possible, e.g. in front of windows etc.

Construction

Adjustable feet in 2 mm rectangular steel tube rectangular, welded directly to the 3 mm steel foot plate. Mounted to floor with coach screws.

Colour

RAL 9010 (same as radiator)

Dimensions

PR feet, low: 95 - 150 mm

PR feet, high: 200 - 320 mm

Fig. 3.3-7

PR feet, low - for Fionia 68 & 98

PR feet, high - for Fionia 68 & 98

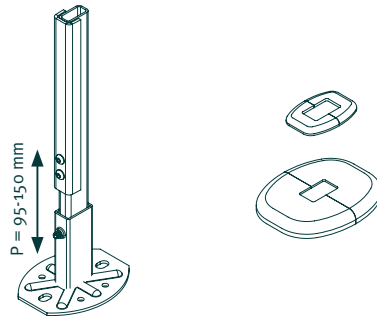


Fig. 3.3-7/A
Fionia 68/98 with feet PR, profile

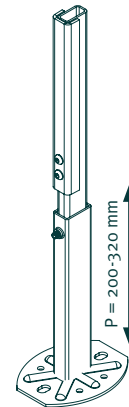
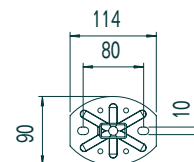
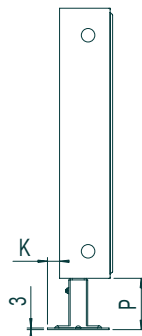


Fig. 3.3-7/B
Foot plate for feet PR, plan view



NOTE: If rose fitted add 5 mm each side

Smallest wall distance is K + thickness of skirting, see table 3.3.7/C

Table 3.3.7/C

Distance K for foot plate

Depth, mm	K, mm
68	23
98	23

Position and no. of feet

Fig. 3.3.8
Radiator with 2 feet

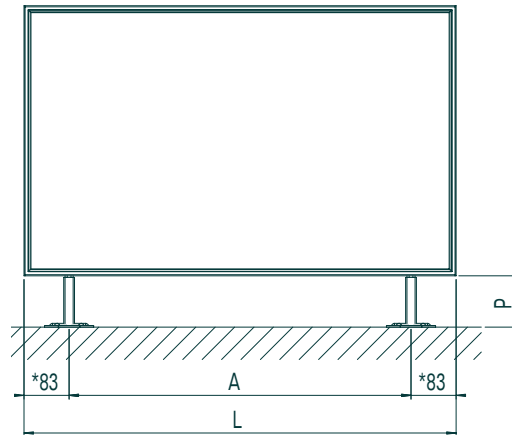
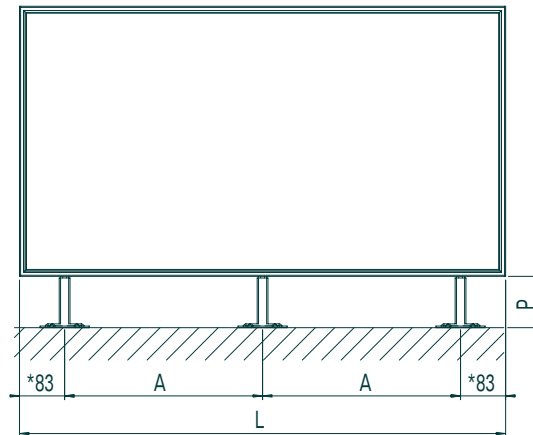


Fig. 3.3.9
Radiator with 3 feet



* At ABCD tappings, feet can be positioned 83 mm from end of radiator.
At 2E/2F and EF tappings, feet can be positioned 183 mm from end of radiator

Table 3.3.10
Position and no. of feet

Radiator length L, mm	No. of sections	No. of feet	A mm
400-1500	12-45	2	L-166 (*366)
1600-2500	48-75	3	L-166 (*366)/2

NOTE: Hudevad do not recommend the use of feet for radiator heights of 700 and 1000mm, without additional top restraints being used.



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3.8

Mounting

Fionia

Console feet FH3-FH7 & FH10

VARIANT



Fionia 68/98 with console feet FH

Accessory for

Fionia 68/98

Application

For use where wall mounting is not possible. The foot plate can be fixed through a raised floor or embedded in concrete. Console feet allows the radiator to be adjusted in height.

Colour

Upright and foot plate: Powder coated in white RAL 9010
Adjustable collars: Galvanised

Dimensions

Fig. 3.3.11
FH3-7 & FH10 for
Fionia 68 with
consolefeet, profile

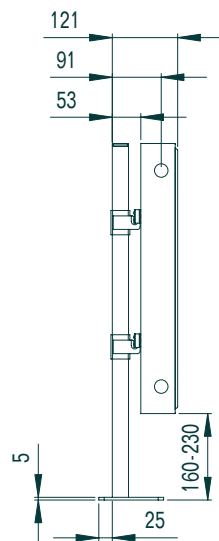


Fig. 3.3.12
FH3-7 & FH10 for
Fionia 98 with
consolefeet, profile

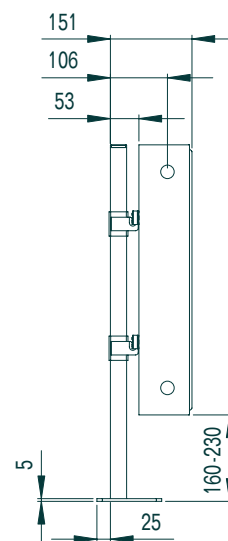
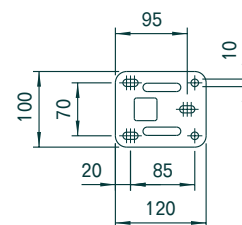


Fig. 3.3.13
FH3-7 & FH10 foot plate,
Fionia view



NOTE: If greater or lesser height from floor is required, taller or shorter feet FH can be selected, e.g. FH4 for radiator height 500 mm



Position of rails/goal posts

See pages 3.3.1

No. of feet and type

Table 3.3.14
No. of feet FH

Radiator length L, mm	No. of sections	No. of feet
400-1500	12-45	2
1600-2500	48-75	3

Table 3.3.15
Type of feet FH

Radiator height H, mm	Height of feet mm	Type of feet
300	460	FH3
400	560	FH4
500	660	FH5
600	760	FH6
* 700	860	FH7
* 1000	1160	FH10

*** NOTE:** Hudevad do not recommend the use of feet for radiator heights of 700 and 1000 mm, without additional top restraints being used.



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3.8

Built-in valve

Fionia

Built-in valve

VARIANT



Fionia 68/98 with built-in valve Format 3 (side)

Application

For use where a thermostatic valve is to be integrated within the radiator, where discreet pipework is required or for the ease of installation.

Construction

The valve body and associated pipework are fitted in the radiator. The sensor head attaches to an extension which projects through a hole in the side of the radiator (Format 3). A special integrated valve with pre-setting for limiting the maximum water flow is used.

There are different sensor head options to suit the following valve bodies:

- 1: Danfoss type RAN Integrated valve body, for Danfoss heads having click-on coupling.
- 2: Danfoss type RAN Integrated valve body with M30 x 1.5 mm connection thread adapter, for Oventrop, Heimeier, MNG, Drayton and Honeywell sensors.

NOTE: Built-in valves are manufactured with 3/4" male eurocone and supplied with adapter. See page 3.6.1.

Please note the built in thermostatic valve does not isolate the radiator, additional isolation and lockshield valves are still required.

Tappings

Format 3 combinations 2E, 2F or E-F can be ordered. The airvent will be opposite the built-in valve.

Position of goal posts/ rails

See page 3.3.1

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2

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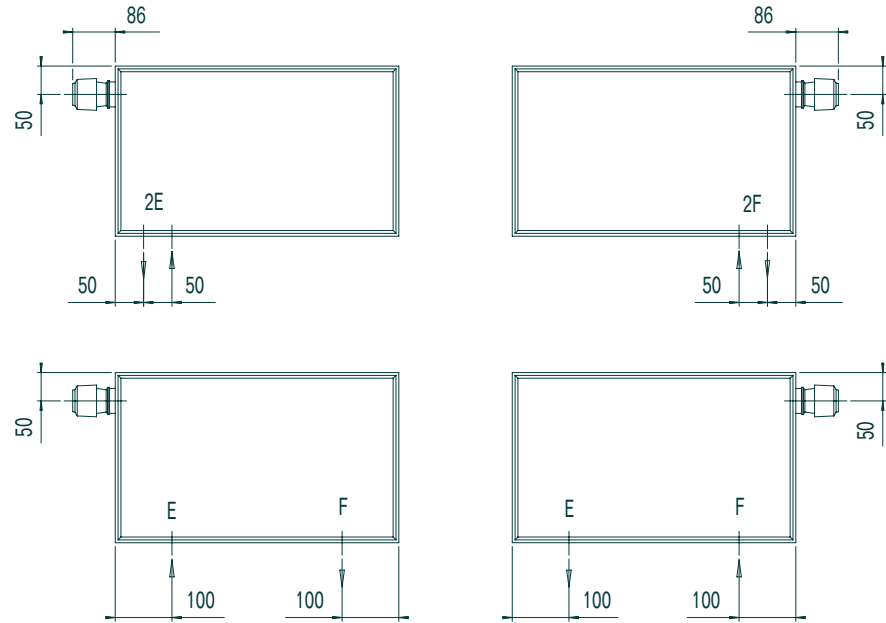
3.8



Format 3

Format 3 Sensor head, side facing, and downward facing tappings (3/4" collar nut x 1/2" female thread adapter) **VARIANT**

Fig. 3-4.1
Fionia 68/98, built-in valve Format 3



NOTE: Measurement is for Danfoss sensor head RA 2990.

Fig. 3-4.2
Fionia 68, built-in valve Format 3,
profile

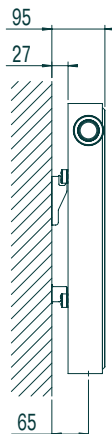
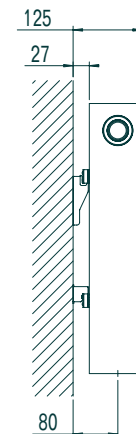


Fig. 3-4.3
Fionia 98, built-in valve Format 3,
profile



Ordering

When ordering please state the built-in valve format, type of sensor head connections, position of valve - left or right hand - and the tapping requirements.
Example: Fionia 68: 500/68 - 2000, Format 3, Danfoss, left, E & F

For other sensor heads

Please contact Hudevad.

- 1
- 2
- 3.0
- 3.1
- 3.2
- 3.2
- 3.3
- 3.3
- 3.4
- 3.4
- 3.6
- 3.6
- 3.7
- 3.7
- 3.8
- 3.8

Accessories

Fionia

Accessories

Air vent with O-ring

1/2" supplied unless otherwise specified.



Air vent with O-ring and revolving spout

1/2"



Plug with O-ring

1/2"



Square key for air vents



Sensor head

Danfoss RA 2990
Supplied unless otherwise specified.



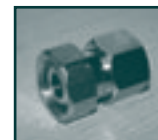
Other brackets

For 40 mm brackets,
please contact Hudevad.



3/4" collar nut x 1/2 female thread adapter

3/4" collar nut x 1/2" female thread adapter



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Fionia 68	<p>“Hudevad radiator, model Fionia 68, front panel with flat 2 mm rebated plate, and integrated top grille. Rear plate with 1.25 mm plate with pressed vertical and horizontal waterways and a 0.50 mm convector fins welded-on the waterways in between the front and rear plates. Water circulating directly behind the front plate. No clip-ons or covers. Painted with oven dried powder coat or wet coat. Surface treatment in accordance with DIN 55900 and EN 442. Test and operating pressure 10 bar/7.7 bar.”</p>
Fionia 98	<p>“Hudevad radiator, model Fionia 98, front panel with flat 2 mm rebated plate, and integrated top grille. Rear plate with 1.25 mm plate with pressed vertical and horizontal waterways and two 0.50 mm convector fins welded-on the waterways in between the front and rear plates. Water circulating directly behind the front plate. No clip-ons or covers. Painted with oven dried powder coat or wet coat. Surface treatment in accordance with DIN 55900 and EN 442. Test and operating pressure 10 bar/7.7 bar.”</p>
Adjustable feet PR (page 3.3.2)	<p>“Adjustable feet in 2 mm square steel tube rectangular, welded directly to the 3 mm steel foot plate, and expanded between convectors. Painted same colour as radiator. Mounted with coach screws, provided by the installer.”</p>
Console feet FH (page 3.3.4)	<p>“Console feet FH, from 30 x 30 mm steel tube with height adjustable collars and 5 mm foot plate, in radiator colour.”</p>
Built-in valve (page 3.4.1)	<p>Format 3: “Built-in valve Format 3 with sideways facing sensor head and underside tappings.”</p>
Order guide	<p>When stating the size and type of radiator, please use the following format: <u>Model height / depth - length</u>. All measurements are to be stated in mm.</p> <p>Fionia 68: 500/68 - 2000 1/2” A, 1/2” B, 1/2” C, 1/2” D Please state flow and return position</p>



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Maintenance

Fionia

Maintenance

Painting of primed radiators

Paint suitable for steel surfaces should be used

Repair of powder or wet coated radiators

Water based acrylic paint obtained from a decorating wholesaler can be used

Recoating of powder or wet coated radiators

After cleaning, powder or wet coated radiators can be recoated with the following:

Powder coat: PE powder

Wet coat: Synthetic, non yellowing coat. Water based or similar acrylic paint

Hardening: 180°C curing temperature for 10 min.

Packaging

Packaging can be left on the radiators for protection against damage etc. during fitting and re-decoration, but the flow temperature should not exceed 70°C.

Venting

Venting of the radiators is required at commissioning, or if the heating system has been drained. It is recommended that radiators are vented, using a cloth to prevent splashing, when the system is cold and the pump is off.

Cleaning

Light household cleaning materials can be used for painted surfaces. Abrasive materials such as scouring powder should not be used. The rear of the radiator can be cleaned with a soft brush, if necessary, together with a vacuum cleaner.



3.0



3.1



3.2



3.3



3.4



3.6



3.7



3.8