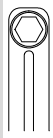
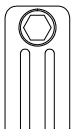
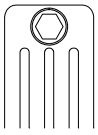
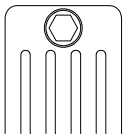
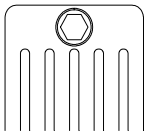
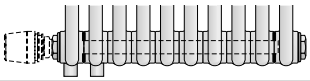
Section 8
Column radiators

CE

8

	Description	Connections Standard without built-in valve -or- Version with built-in valve	Air vent, Drain	Fixing and mounting	Pressure versions, Fittings, Surface finishes, Special versions	Heat output	Technical data
Column radiator • Element spacing 45 mm • as bench	8-**2**	8-**4**	8-**10**	8-**12**	8-**13** 8-**23**	8-**24**	8-**27**	8-**48**
CAMBIOTHERM • Replacement model	8-**50**	–	–	–	–	–	8-**51**	8-**55**
Sano radiator • Element spacing 65 mm	8-**56**	8-**58**	8-**62**	8-**64**	8-**65**	8-**68**	8-**70**	8-**90**
Bench radiator • Horizontal elements	8-**92**	8-**94**	–	8-**95**	8-**96**	8-**97**	–	8-**98**

Description

Model	2...	3...	4...	5...	6...
Standard without built-in valve					
Depth	65 mm	105 mm	145 mm	185 mm	225 mm
Explanation model code	2 : 2 columns ... : height in cm	3 : 3 columns ... : height in cm	4 : 4 columns ... : height in cm	5 : 5 columns ... : height in cm	6 : 6 columns ... : height in cm
Example	2026	2 : 2 columns 26 : height 26 cm			
Model	**2...V**	**3...V**	**4...V**	**5...V**	**6...V**
Version with built-in valve	V: with built-in valve 				

General

The compact room heater sized to suit. Anybody who chooses column radiators from Arbonia has chosen well. These technically and aesthetically top-notch products provide the comfort that the demanding client expects: more comfort thanks to the ideal distribution of heat by radiation and convection, more options due to the wide range of room heater dimensions available, and also more safety (GUV-tested), because they do not have any corners or sharp edges. This is a valuable advantage particularly in children's rooms and schools.
Arbonia column radiators are also highly valued in the residential sector, in public buildings, in residential homes, etc. because they are very easy to clean.

Range available

Column radiator

- 5 depths: 65–225 mm (2–6 columns)
- 21 heights: 180–3000 mm
- Length:
  - Calculation: number of elements x 45 mm [1)]
  - Length steps: 45 mm (1 element)
  - Minimum length: 270 mm (6 elements)
  - Maximum length per block: 450–2700 mm (dependent on depth and height) [2)]
  - Maximum total length: 3 blocks (to be coupled on site, high-pressure version: 1 block)
- 2-tube connections, side
- Installation as bench possible:
  - Maximum room heater height: 350 mm
  - Height with bracket (adjustable, without bench): 465–710 mm
  - Brackets ZB0046 (B223) must be ordered as accessories

The room heaters are supplied as assembled elements. Plugs and reducers with internal thread, coupling nipples and seals are included.

For column radiators with connections on the same end, from a certain length and height an insert tube is supplied to guarantee the correct water circulation.

Special versions

Column radiator

- 2-tube connections
- 1-tube connections
- Version with built-in valve
- Built-in air vent
- High-pressure version: 16 bar (1600 kPa)
- Insert tube
- Rear lugs
- Welded feet
- Coupled in the factory (for column radiators in several blocks)
- Angled or curved version
- Intermediate heights (special connection centre line)
- Individual elements
- Heights over 3000 mm

Surface finishes

- AllFinish in pure white (AF) RAL 9010 – standard version
- AllFinish in traffic white (AF) RAL 9016
- Primed in cream-white (ET)
- Primed in cream-white and packed in plastic sheet (EF)
- ColorFinish in standard colour (CF)
- SuperFinish in colour of choice (SF) [3)]
- Textured paint after priming
  - In white (SL)
  - In colour of choice (KL) [3)]
- Clear lacquer (TF)
- Hot-dip galvanised outside, for wet rooms (swimming pools, cellar rooms for washing etc.), does not apply for damp rooms (bathroom and WC)
  - Without paint finish (ZN)
  - With textured paint in white (ZL)
  - With textured paint in colour of choice (ZK) [3)]
- Anti-microbial coating (AM)

All finishes are baked at 170 °C.

For detailed information see "Colour Fashion of the Arbonia Radiators".

[1)] The manufacturing tolerance on the length is ±1 %. This tolerance is to be taken into account on pre-assembly
[2)] The maximum length per block is limited for weight and transport reasons
[3)] Not in all colours

Operating conditions

- For closed water heating systems in accordance with DIN 18380 and water quality in accordance with VDI 2035
- Can be used in conventional and low temperature areas
- Can be used for district heating and high-rise buildings, as high permissible operating pressure
- Not suitable for steam-based heating systems

Properties of relevance to operation	Standard version	High-pressure version
	2–6 columns	2–6 columns
Operating pressure [bar (kPa)]	10,0 (1000)	16,0 (1600)
Test pressure [bar (kPa)]	13,0 (1300)	20,8 (2080)
Max. temperature [°C]	120	120

Minimum water flow rate

The minimum water flow rate must not be less than 20 % of the standard water flow rate in accordance with EN 442 to avoid a reduction in the heat output. This applies both to connection on same end and on opposite ends.

Pressure drop Δp

$\Delta p = \zeta \times \rho/_2 \times w^2$

Δp: Pressure drop [Pa]
ζ: Resistance coefficient Zeta []
ρ: Density of the water [kg/m^3]
w: Water velocity [m/s]

The entire pressure drop on column radiators can be calculated using a ζ value of 2,5. This value applies for a water velocity of up to 1 m/s.

Heat outputs

The heat outputs given are determined and registered in accordance with the guidelines in EN 442:

DIN CERTCO registered.

RAL tested and registered.

Tender text

Arbonia column radiators

Room heater of separate element design, 2–6-column made of steel; individual elements (length standard 45 mm) as welded assembly, comprising head pieces (strip steel-pressed parts) and round precision steel tubes (Ø 25 x 1,25). Blocks up to maximum length of the delivery unit welded together from elements. Ready to install with 4 threaded plugs for flow and return, as well as air vent and drain. Rounded edges all round with R_{min} = 2 mm.

Priming in accordance with DIN 55900 part 1 and powder coating in accordance with DIN 55900 part 2.

Design features comply with the basic principles for the testing of the health and safety of room heaters (statutory accident insurance). Winner of award from the Institut für Umwelt- und Krankenhaushygiene at Philipps-Universität Marburg for compliance with high hygiene requirements.

Pressure and leak tested.

Heat output tested and measured in accordance with EN 442.

CE marked.

Suitable for closed water heating systems in accordance with DIN 18380 and water quality in accordance with VDI 2035.

Maximum permissible operating temperature: 120 °C

Max. operating pressure:

2–6 columns 10 bar / 1000 kPa

Suitably packed for transport.

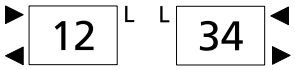
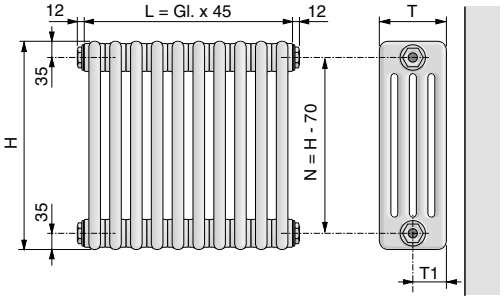
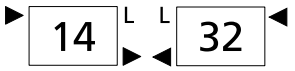
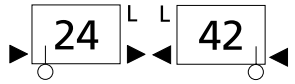
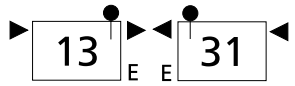
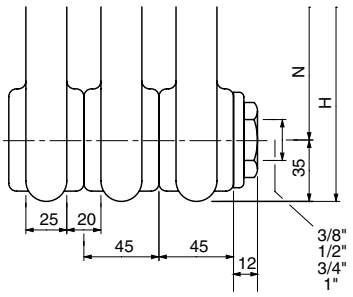
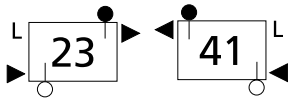
Maximum length

For weight and transport-related reasons, column radiators can only be supplied from the factory in one piece up to a maximum length. If the maximum length in one piece is significantly exceeded, the column radiators are supplied in several blocks. These blocks must be coupled together on site (see "Fixing and mounting").

The overall length for column radiators is limited to three blocks.

Column radiators in the high-pressure version cannot be coupled. The overall length for the high-pressure version is therefore limited to the maximum length on one piece from the factory.

Connection options flow / return

Con-nection system	Ord. code |5|	ζ value	Arrangement Ordering code |6|	Con-nec. size	Ordering code |7| Flow	Ordering code |7| Re-turn	Dimension drawings
2-tube, side	2	2,5		G 3/8"	38	38	
				G 1/2"	12	12	
				G 3/4"	34	34	
				G 1"	10	10	Detail: 
							

Number of columns	T [mm]	T1 [mm]
2-columns	65	32,5
3-columns	105	52,5
4-columns	145	72,5
5-columns	185	92,5
6-columns	225	112,5

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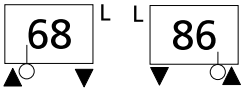
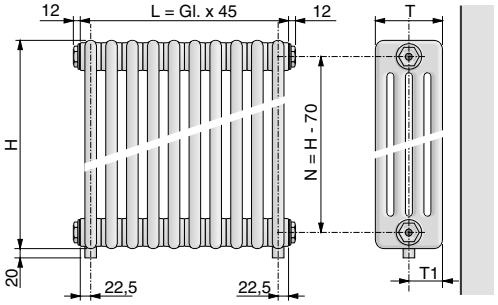
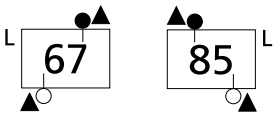
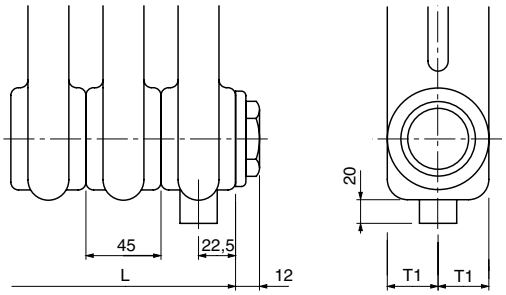
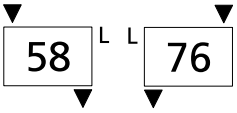
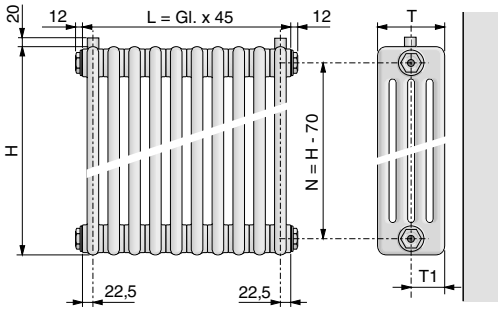
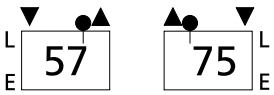
Con-nection system	Ord. code |5|	ζ value	Arrangement Ordering code |6|	Con-nec. size	Ordering code |7| Flow	Ordering code |7| Re-turn	Dimension drawings
2-tube, bottom, top	2	2,5		G $^{3}/_{8}$"	38	38	
				G $^{1}/_{2}$"	12	12	Detail: 
				G $^{3}/_{4}$"	34	34	
							

Number of columns	T [mm]	T1 [mm]
2-columns	65	32,5
3-columns	105	52,5
4-columns	145	72,5
5-columns	185	92,5
6-columns	225	112,5

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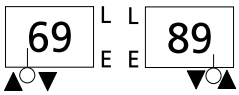
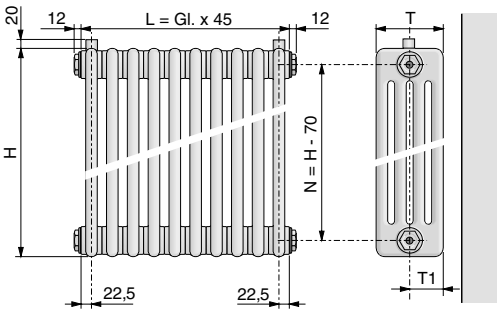
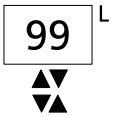
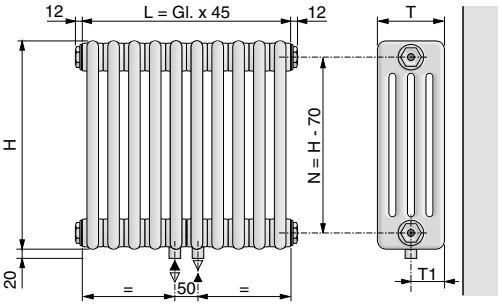
Connections – standard without built-in valve

Con-nection system	Ord. code |5|	ζ value	Arrangement Ordering code |6|	Con-nec. size	Ordering code |7| Flow	Re-turn	Dimension drawings
2-tube, bottom, adjacent	2	2,5		G 3/8″ G 1/2″	38 12	38 12	

Number of columns	T [mm]	T1 [mm]
2-columns	65	32,5
3-columns	105	52,5
4-columns	145	72,5
5-columns	185	92,5
6-columns	225	112,5

2-tube, bottom, middle-middle, vertical underside	2	2,3		G 1/2″	12	12	

Number of columns	T [mm]	T1 [mm]
2-columns	65	32,5
3-columns	105	52,5
4-columns	145	72,5
5-columns	185	92,5
6-columns	225	112,5

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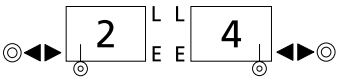
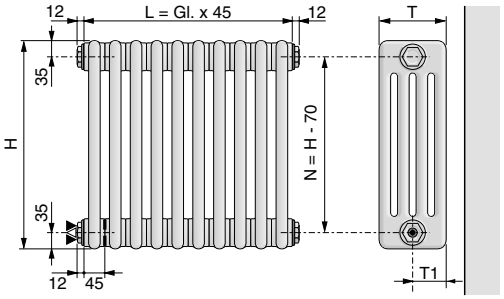
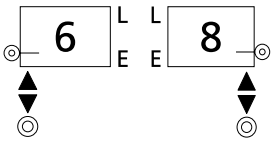
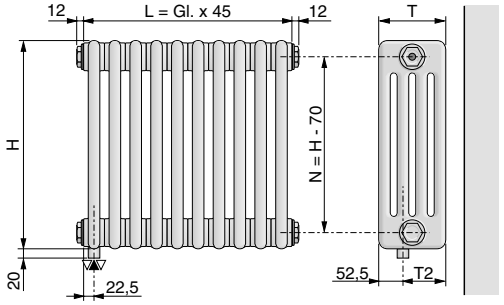
Con-nection system	Ord. code |5|	ζ value	Arrangement Ordering code |6|	Con-nec. size	Ordering code |7| Flow	Re-turn	Dimension drawings
1-tube, for valve with dip tube, side with dip tube Ø 11 mm	10	2,5		G 1/2"	12	12	
1-tube for valve with dip tube, bottom with dip tube Ø 11 mm	10	2,5		G 1/2"	12	12	

Number of columns	T [mm]	T1 [mm]
2-columns	65	32,5
3-columns	105	52,5
4-columns	145	72,5
5-columns	185	92,5
6-columns	225	112,5

Dip tube length at the valve at least 70 mm
Dip tube is return

Number of columns	T [mm]	T2 [mm]
2-columns	65	12,5
3-columns	105	52,5
4-columns	145	92,5
5-columns	185	132,5
6-columns	225	172,5

Dip tube length at the valve at least 150 mm
Dip tube is flow

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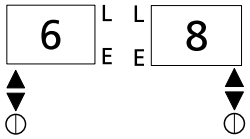
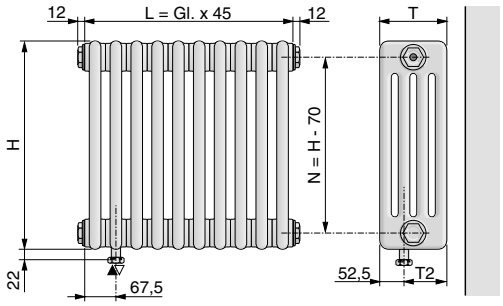
Connections – standard without built-in valve

Con-nection system	Ord. code |5|	ζ value	Arrangement Ordering code |6|	Con-nec. size	Ordering code |7| Flow	Ordering code |7| Re-turn	Dimension drawings
1-tube, for TKM valve, bottom with dip tube	12	2,5		G $^3/_4$"	34	34	

Number of columns	T [mm]	T2 [mm]
2-columns	65	12,5
3-columns	105	52,5
4-columns	145	92,5
5-columns	185	132,5
6-columns	225	172,5

L: recommended position for air vent tapping; E: recommended position for drain tapping

○ Standard baffle; ◎ baffle with Ø 12 mm hole; ● 100 % sealing baffle; ⓞ valve with dip tube; ⏀ TKM valve

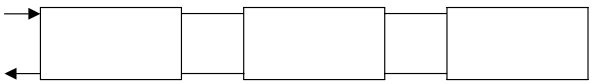
From a height of 1800 mm, a drain is also fitted with some connections for manufacturing reasons

For room heaters without rear lugs, the versions for the connection side left / right are identical (e. g. ordering code |6|: 12 / 34)

Depending on the connection arrangement selected (ordering code |6|), baffles are welded in the room heater in the factory to ensure correct water flow.

Coupled room heaters

- Column radiators are supplied separately
- Connections are to be installed on site
- Recommended connection size between the room heaters: G $^{3}/_{4}$" (or one size larger than feed / return)

Connection system	Description	Order of coupled room heaters (enter in "Special features" column) First room heater 1	Middle room heater 2	Last room heater 3	Ordering code |5|
Connection on same end	• Max. 3 room heaters • Maximum length: - for height 180–600 mm: L_{max} = 12 m - for height 750–1000 mm: L_{max} = 6,5 m - for height over 1200 mm: L_{max} = 2,5 m • Please provide a drawing with the order				75
Connection opposite ends	• Length and number are theoretically unlimited • Note transport and weight limitations • Please provide a drawing with the order				76

Special connections

Description	Ordering code |5|
Version as per drawing	99

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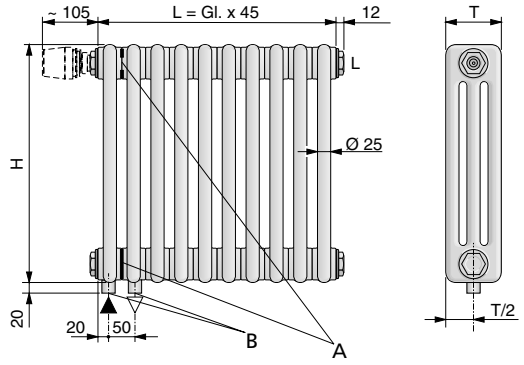
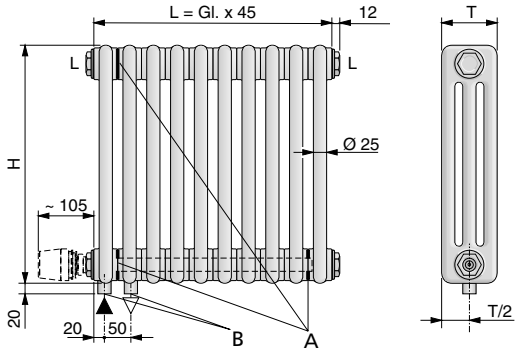
Version with built-in valve

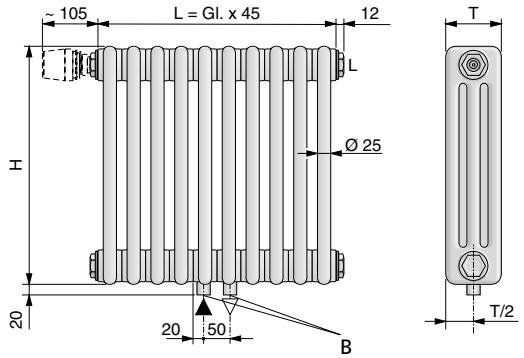
Built-in valve top



Built-in valve bottom



Built-in valve middle bottom



A: Baffle

B: G$^1/_2$" inside or G$^3/_4$" outside

On this special version of the column radiator, a valve with adjustable k_{VS} value is fitted in the factory in the top or bottom head piece.

- Maximum length as for column radiators without built-in valve (see "Room heater length"):
  - Can be coupled with valve arranged at top (delivery in sub-blocks possible)
  - Can be coupled with valve arranged at bottom (delivery in one piece)
- Surface finish as for column radiators without built-in valve

Range available

- Built-in valve with adjustable k_{VS} valve (valve characteristic), arranged either top or bottom, left or right
- Standard version:
  - 2-tube connection bottom, same end (on side of valve) with connection centre line 50 mm
  - Connection size: G $^1/_2$" internal thread
  - Flow welded in the 1st element, return in the 2nd element
  - Two air bleeds are provided for the version with valve arranged at bottom
- Thermostatic head not included, must be ordered as an accessory
- Not available in high-pressure version

Special versions

- Connection size: G $^3/_4$" outside thread
- 2-tube connections (for valve arranged at top or bottom, on request):
  - Top, same end
  - Top, opposite ends
- Built-in valve top and 2-tube connection bottom, middle with connection centre line 50 mm
- Angled or curved version:
  - With valve arranged at top
  - The first three elements cannot be angled or curved
- Version as additional block that can be coupled:
  - With valve arranged at top
  - Length 2 elements

Accessories

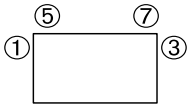
- Fittings
  - Angled for 2-tube or 1-tube systems: ZT00480001 (Z252)
  - Straight for 2-tube or 1-tube systems: ZT00470001 (Z255)
- Thermostatic head with thread M 30 x 1,5: ZV00020001 (Z297)

Connection options

Description	Feature	Ordering code
Connection system		
Valve position side top		
• Standard valve with thread M 30 x 1,5	|5|	31
• Standard valve with clamp thread	|5|	32
• Valve with fine adjustment and thread M 30 x 1,5	|5|	41
• Valve with fine adjustment and clamp thread	|5|	42
Arrangement		
Connections bottom, adjacent		
• Valve left, flow left, return left	|6|	69
• Valve right, flow right, return right	|6|	89
• Valve left, flow middle left, return middle right	|6|	98
• Valve right, flow middle right, return middle left	|6|	96
Connection size		
G $^{1}/_{2}$" internal thread feed	|7|VL	12
G $^{1}/_{2}$" internal thread return	|7|RL	12
G $^{3}/_{4}$" outside thread flow	|7|VL	84
G $^{3}/_{4}$" outside thread return	|7|RL	84

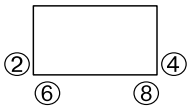
Description	Feature	Ordering code
Connection system		
Valve position side bottom		
• Standard valve with thread M 30 x 1,5	|5|	61
• Standard valve with clamp thread	|5|	62
• Valve with fine adjustment and thread M 30 x 1,5	|5|	81
• Valve with fine adjustment and clamp thread	|5|	82
Arrangement		
Connections bottom, adjacent		
• Valve left, flow left, return left	|6|	69
• Valve right, flow right, return right	|6|	89
Connection size		
G $^{1}/_{2}$" internal thread feed	|7|VL	12
G $^{1}/_{2}$" internal thread return	|7|RL	12
G $^{3}/_{4}$" outside thread flow	|7|VL	84
G $^{3}/_{4}$" outside thread return	|7|RL	84

Air vent

Description	Feature	Ordering code
Version		
Air vent tapping – standard version	|8|	4
Built-in air vent with rotating outlet	|8|	1
No air vent, only if imperative	|8|	3
Arrangement		
Position recommended by the factory – standard version [1]	|9|	–
Position on request [2]	|9|	
Tapping size		
G $^{3}/_{8}$" internal thread	|10|	38
G $^{1}/_{2}$" internal thread	|10|	12

[1] For position see illustration of the arrangement of the connections in the "Connection options flow / return" table
[2] If the tapping cannot be arranged in the required position for technical reasons, the tapping will instead be arranged in the position recommended by the factory

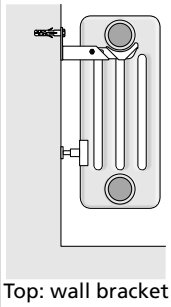
Drain

Description	Feature	Ordering code
Version		
No drain, only if imperative – standard version [1]	|11|	3
Drain tapping	|11|	4
Arrangement		
Position recommended by the factory – standard version [2]	|12|	–
Position on request [3]	|12|	
Tapping size		
G $^{1}/_{2}$" internal thread	|13|	12
G $^{3}/_{8}$" internal thread	|13|	38

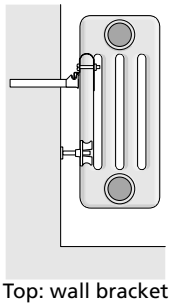
[1] If a drain tapping is necessary for technical reasons, this will be fitted as standard in the factory
[2] For position see illustration of the arrangement of the connections in the "Connection options flow / return" table
[3] If the tapping cannot be arranged in the required position for technical reasons, the tapping will instead be arranged in the position recommended by the factory

Fixing with brackets and spacers

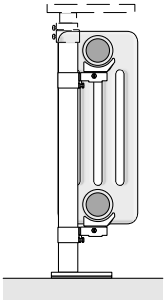
Fixing type	Description and dimension drawings	Ordering code |16|
Without rear lugs	• The number of fixing brackets must not be reduced • It may be possible to replace spacers with fixing lugs • For all models up to height 750 mm, fixing with soil stand brackets is possible • Please request information on the exact position of the fixing points • Wall brackets or built into wall brackets are to be ordered separately, see "Accessories"	B1



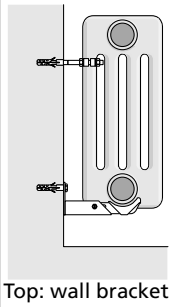
Top: wall bracket
ZB0010 (W161-W164)
Bottom: spacer
ZB0073 (H121.01)



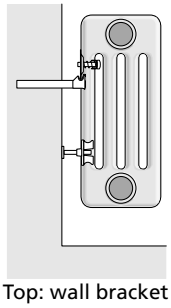
Top: wall bracket
ZB0001 (W101-W104)
Top middle: clamp
ZB0014 (H103)
Bottom: spacer
ZB00160001 (H121)



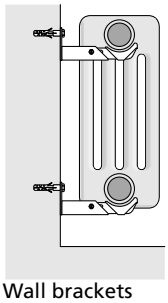
Soil stands
ZB0019 (B131-B139)
with soil stand brackets
ZB0025 (B192)



Top: wall bracket
ZB0003 (H151-H152)
Bottom: wall bracket
ZB0010 (W161-W163)



Top: wall bracket
ZB0001 (W101-W104)
Top middle: clamp
ZB0014 (H103)
Bottom: spacer
ZB00160001 (H121)



Wall brackets
ZB0010 (W161-W164)

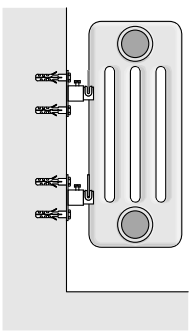
Minimum number of fixing brackets and spacers

as a function of the model and the length in elements

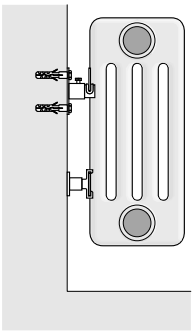
Model	Length [el.]	2 columns		3 columns		4 columns		5 columns		6 columns	
		Fixing brackets [pcs.]	Spacers [pcs.]	Fixing brackets [pcs.]	Spacers [pcs.]	Fixing brackets [pcs.]	Spacers [pcs.]	Fixing brackets [pcs.]	Spacers [pcs.]	Fixing brackets [pcs.]	Spacers [pcs.]
.019-.075	up to 25	2	2	2	2	2	2	2	2	4	0
	26–50	3	3	3	3	3	3	4	4	8	0
	51–75	4	4	4	4	4	4	5	5	10	0
	76–90	5	5	5	5	5	5	–	–	–	–
.090-.200	up to 25	2	2	2	2	2	2	3	3	–	–
	26–50	3	3	3	3	3	3	5	5	–	–
	51–60	4	4	4	4	–	–	–	–	–	–
	up to 15	–	–	–	–	–	–	–	–	6	0
	16–30	–	–	–	–	–	–	–	–	10	0
.220-.300	up to 25	4	0	4	0	6	0	6	0	–	–
	31–60	6	0	6	0	10	0	10	0	–	–
	up to 15	–	–	–	–	–	–	–	–	8	0
	16–30	–	–	–	–	–	–	–	–	12	0

Please check the characteristics of the wall and choose the fixing variant and the plugs and screws to suit.

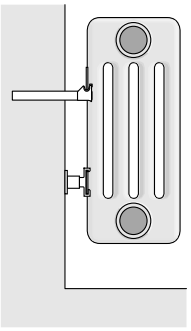
Fixing type	Description and dimension drawings	Ordering code |16|
With rear lugs	• The number of fixing brackets must not be reduced • The wall stays ZB0012 (H101) and ZB0014 (H103) can be replaced with welded rear lugs	B2



Wall brackets
ZB0006 (W146),
ZB0005 (W186)



Top: wall bracket
ZB0006 (W146),
ZB0005 (W186)
Bottom:
spacer ZB0009 (H141-H142),
spacer ZB00470001 (H143)



Top: wall bracket
ZB0002 (W121-W125)
Bottom:
spacer ZB0009 (H141-H142),
spacer ZB00470001 (H143)

Minimum number of fixing brackets

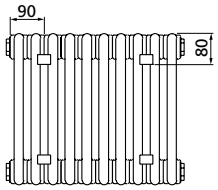
as a function of the model and the length in elements

Model	Length [el.]	2 columns Fixing brackets [pcs.]	3 columns Fixing brackets [pcs.]	4 columns Fixing brackets [pcs.]	5 columns Fixing brackets [pcs.]	6 columns Fixing brackets [pcs.]
.019-.075	up to 25	4	4	4	4	4
	26–45	6	6	6	8	8
	46–65	8	8	8	10	10
	66–85	10	10	10	-	-
.090-.200	up to 25	4	4	4	6	6
	26–45	6	6	6	8	-
	46–65	8	-	-	-	-
.220-.300	up to 25	4	4	4	6	(up to 20) 6

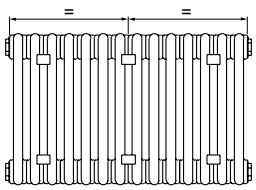
Rear lug spacing (rear view)

as a function of the number

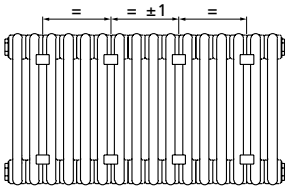
4 rear lugs



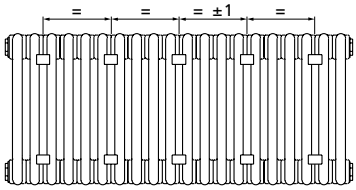
6 rear lugs



8 rear lugs



10 rear lugs

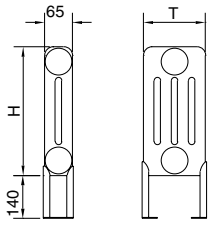
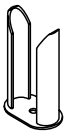
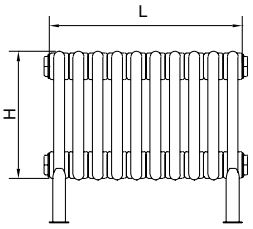


Please check the characteristics of the wall and choose the fixing variant and the plugs and screws to suit.

From 6 rear lugs and

- Even number of elements: arrangement of the lugs in the middle
- Odd number of elements: middle lug offset to right (front view)

Fixing with welded feet

Fixing type	Description and dimension drawings	Type of feet	Ordering code |16|
With welded feet	• Height of the feet: 140 mm • Welded on in the factory (for 2 columns 1-piece feet, for 3–6 columns 2-piece feet), cannot be fitted later • Extension of the outer rounding on the element • Not height adjustable • From a height or more than 600 mm, wall fixing at the top of the room heater is necessary (one wall fixing per foot)	 single	FU
	2 columns 3–6 columns 	 double	
	Position of the feet with side connections 		
	Along with these standard feet FU, other variants are available – version on request		

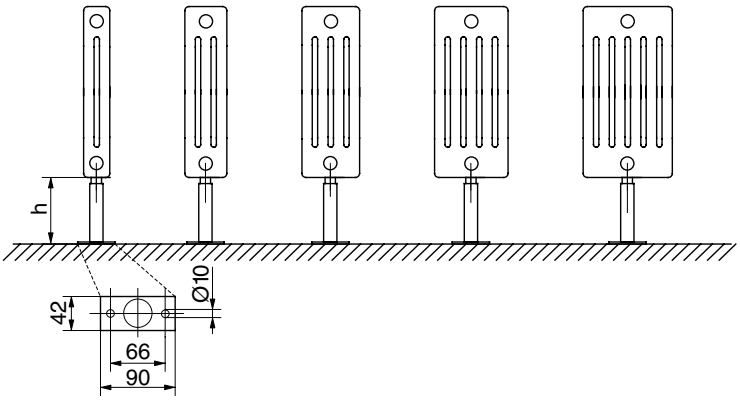
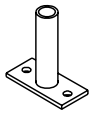
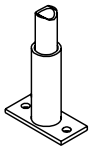
Minimum number of feet

as a function of the model and the length in elements

Model	Length [el.]	2 columns Feet [pcs.]	3 columns Feet [pcs.]	4 columns Feet [pcs.]	5 columns Feet [pcs.]	6 columns Feet [pcs.]
.019-.075	up to 25	2	2	2	2	2
	26–45	3	3	3	4	4
	46–65	4	4	4	5	5
	66–85	5	5	5	-	-
.090-.200	up to 25	2	2	2	3	3
	26–45	3	3	3	4	-
.220-.300	up to 25	2	2	2	3	(up to 20) 3

Please check the characteristics of the wall and choose the fixing variant and the plugs and screws to suit.

Fixing with round tube feet

Fixing type	Description and dimension drawings	Type of feet	Ordering code |16|
With round tube feet	• Standard height h: 150 mm • Extension range 40 % of the standard height without loss of stability • Welded in the factory • Fixed or adjustable • Position of feet to customer requirement • For number of feet required, see table below • From a height or more than 600 mm, wall fixing at the top of the room heater is necessary (one wall fixing per foot) 	 Fixed	RF
		 Adjusta-ble	RV

Minimum number of feet

as a function of the model and the length in elements

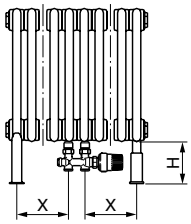
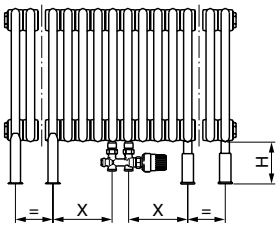
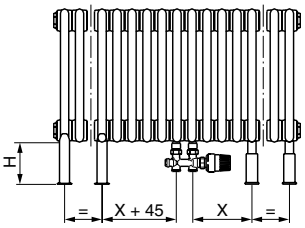
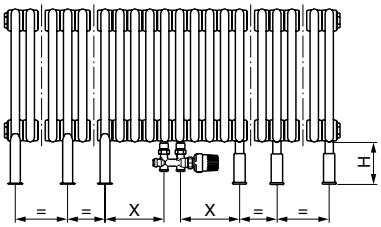
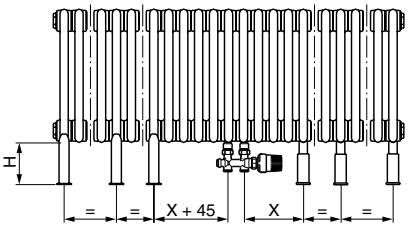
Model	Length [el.]	2 columns Feet [pcs.]	3 columns Feet [pcs.]	4 columns Feet [pcs.]	5 columns Feet [pcs.]	6 columns Feet [pcs.]
.019-.075	up to 25	2	2	2	2	2
	26–45	3	3	3	4	4
	46–65	4	4	4	5	5
	66–85	5	5	5	-	-
.090-.200	up to 25	2	2	2	3	3
	26–45	3	3	3	4	-
.220-.300	up to 25	2	2	2	3	(up to 20) 3

Please check the characteristics of the wall and choose the fixing variant and the plugs and screws to suit.

8

Position and number of feet

as a function of the number of elements

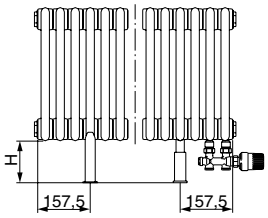
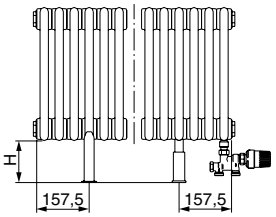
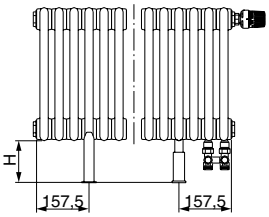
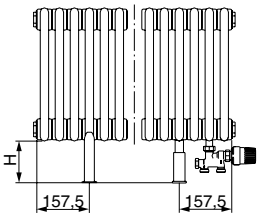
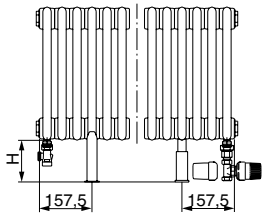
Ordering code |6|	Even number of elements	Odd number of elements
2-tube: 96 / 98 / 99	Front view  Dimension X: at least 2 free elements	
2-tube: 96 / 98 / 99	Front view  Dimension X: at least 2 free elements Dimension = corresponds to number of elements / 3	Front view  Dimension X: at least 2 free elements Dimension = corresponds to number of elements / 3
2-tube: 96 / 98 / 99	Front view  Dimension X: at least 3 free elements Dimension = corresponds to number of elements / 5	Front view  Dimension X: at least 3 free elements Dimension = corresponds to number of elements / 5

Figures show all connection 99
Dimension X corresponds to the spacing from foot to sleeve

8

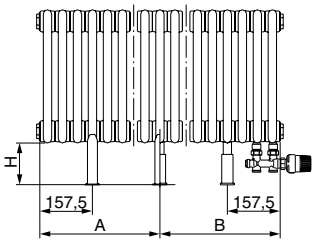
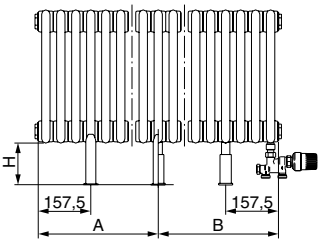
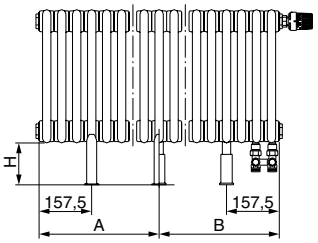
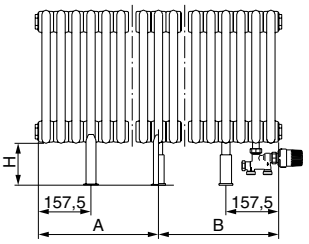
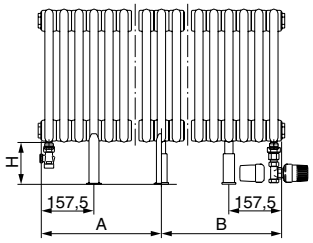
as a function of the connections

for 2 feet

Ordering code |6|	2-tube connection bottom	Ordering code |6|	1-tube connection bottom
Connection without built-in valve: 69 / 89	Front view  Figure shows connection 89	Valve with dip tube: 6 / 8	Front view  Figure shows connection 8
Connection with built-in valve: 69 / 89	Front view  Figure shows connection 89	TKM valve: 6 / 8	Front view  Figure shows connection 8
68 / 86	Front view  Figure shows connection 86		

8

for 3 feet

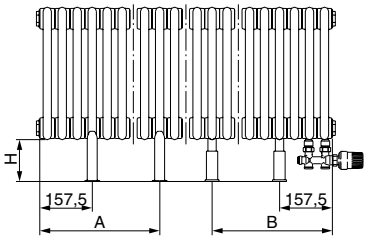
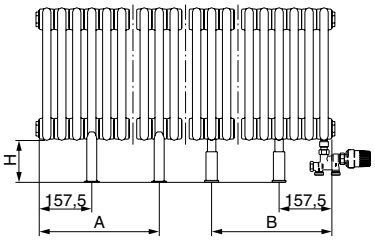
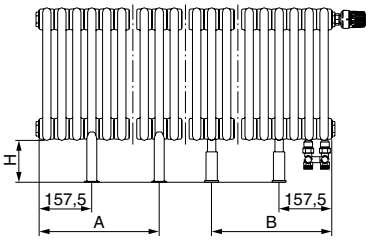
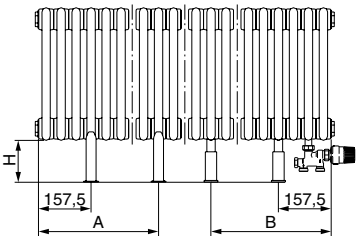
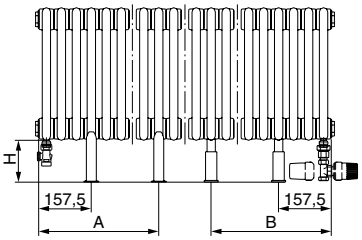
Ordering code |6|	2-tube connection bottom	Ordering code |6|	1-tube connection bottom
Connection without built-in valve: 69 / 89	Front view  Figure shows connection 89	Valve with dip tube: 6 / 8	Front view  Figure shows connection 8
Connection with built-in valve: 69 / 89	Front view  Figure shows connection 89	TKM valve: 6 / 8	Front view  Figure shows connection 8
68 / 86	Front view  Figure shows connection 86		

For odd number of elements:
- Dimension A = number of elements / 2
- Dimension B = number of elements / 2

For even number of elements:
- Dimension A = number of elements / 2 – 22,5 mm
- Dimension B = number of elements / 2 + 22,5 mm

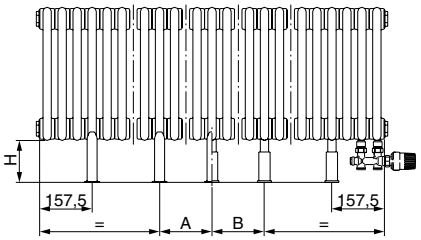
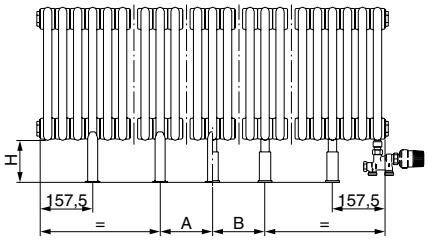
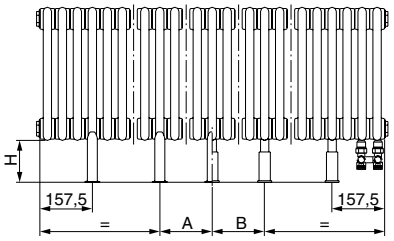
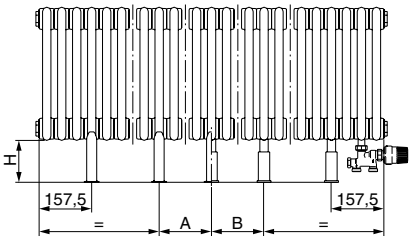
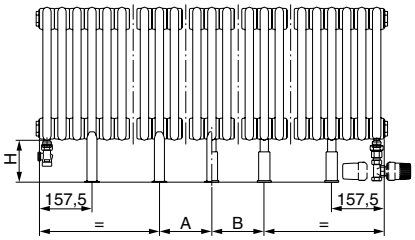
8

for 4 feet

Ordering code |6|	2-tube connection bottom	Ordering code |6|	1-tube connection bottom
Connection without built-in valve: 69 / 89	Front view  Figure shows connection 89	Valve with dip tube: 6 / 8	Front view  Figure shows connection 8
Connection with built-in valve: 69 / 89	Front view  Figure shows connection 89	TKM valve: 6 / 8	Front view  Figure shows connection 8
68 / 86	Front view  Figure shows connection 86		

- Dimension A = (number of elements / 3 * 45) ± 45
- Dimension B = (number of elements / 3 * 45) ± 45

for 5 feet

Ordering code |6|	2-tube connection bottom	Ordering code |6|	1-tube connection bottom
Connection without built-in valve: 69 / 89	Front view  Figure shows connection 89	Valve with dip tube: 6 / 8	Front view  Figure shows connection 8
Connection with built-in valve: 69 / 89	Front view  Figure shows connection 89	TKM valve: 6 / 8	Front view  Figure shows connection 8
68 / 86	Front view  Figure shows connection 86		

Dimension = corresponds to (number of elements / 3 * 45) ± 45

- Dimension A = (number of elements / 6 * 45) ± 45
- Dimension B = (number of elements / 6 * 45) ± 45

8

Installation

Description	Feature	Ordering code
Installation [1]		
Coupled on site	|19|	BG
Coupled in the factory	|19|	WG
Individual elements		
For column radiator and CAMBIOTHERM	on request	
Height over 3000 mm		
For column radiator	on request	
Room divider installation		
For column radiator and CAMBIOTHERM	on request	

[1] High-pressure version column radiators and CAMBIOTHERM cannot be coupled (supplied as one block)

Coupling instructions

Instructions on coupling

For weight and transport-related reasons, column radiators can only be supplied from the factory in one piece up to a maximum length. If the maximum length in one piece is significantly exceeded, the column radiators are supplied in several blocks. These blocks must be coupled together on site

Assembly of column radiators

Column radiators are assembled from individual element blocks and connected together using coupling nipples. The connections on the individual element blocks and the coupling nipples have a G $^5/_4$" right-hand or left-hand thread. Inside the coupling nipple there are two diametrically opposite lugs with which the end of the coupling nipple key engages on assembly.

Careful compliance with the following instructions is a prerequisite for reliable sealing of the coupling nipple connections:

- Place element blocks horizontally on a flat surface or two blocks of wood
- Thoroughly clean rust, paint and dirt from the construction site from the front faces of the connections on the elements
- Only use coupling nipples and seals supplied by Arbonia
- Screw coupling nipples into both connections on a block; here attention must be paid to right-hand or left-hand thread; a left-hand thread is marked with notches
- Slide one seal onto each coupling nipple
- Press next element block against the first block
- Measure depth outside the radiator and mark on the coupling nipple rod
- Insert coupling nipple rod into the coupling nipple at the join
- Tighten the element blocks together by alternately turning the coupling nipple rod in both connections. Uneven tightening will cause leaks. To tighten the coupling nipples, only use a ring spanner (square) with a length of 600–800 mm.
  The tightening torque is 320–400 Nm.
  When using a ring spanner 800 mm long, this tightening torque is achieved on tightening firmly (400–500 N at the end of the spanner).

Connections

The end elements of column radiators are sealed with blanking plugs and connected to the tubes using connection plugs. Blanking plugs and connection plugs are supplied with right-hand or left-hand thread as required; the flow connection plug must always have a right-hand thread.

Careful compliance with the following instructions is a prerequisite for reliable sealing of the blanking plugs and connection plugs:

- Only use blanking plugs, connection plugs and seals provided by Arbonia.
- Carefully clean rust, paint and soiling from the construction site from the connection faces on the radiators and the sealing surfaces on the plugs.
- Check condition of sealing surface and thread.
- Slide on one seal per plug.
- Screw in plug by hand, pay attention to right-hand or left-hand thread. Prior to plug collar contact, align the seal radially so the entire cross-section is effective and the seal does not deform during final tightening.
- Protect painted plugs with hex socket insert ZT00260001 (Z223) and tighten using AF46 ring spanner or open-ended spanner 600 mm long. The tightening torque is at least 250–300 Nm. When using a spanner 600 mm long, this tightening torque is achieved on tightening firmly (400–500 N at the end of the spanner). It is not allowed to use pipe wrenches or similar tools for this purpose.

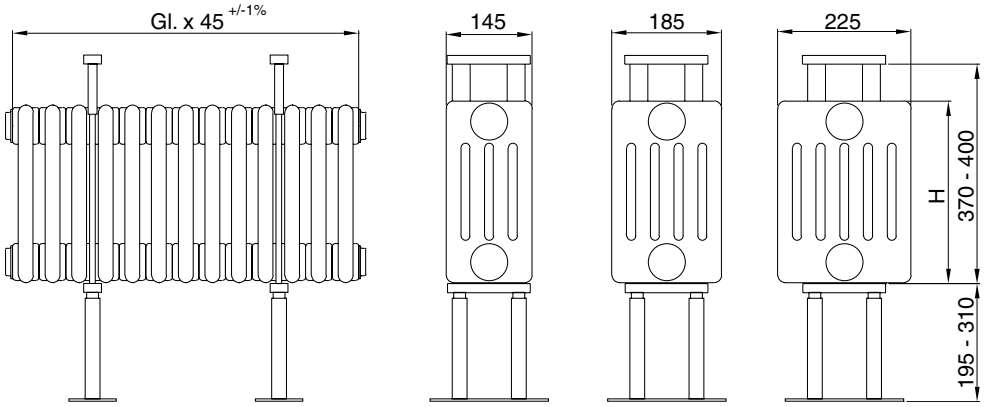
Note

On systems that are expected to operated with treated water, the plugs are to be re-tightened at the earliest after two hours due to the settling behaviour of the seal material.

Standard column radiator as bench

This standard column radiator as a bench combines the advantages of column radiators such as comfortable heat output, safety (GUV-tested) and ease of cleaning with the practical and useful function as a shelf or bench in a harmonious manner.

The column radiators up to an including a height of 350 mm can be installed as a bench using brackets ZB0046 (B223).



The brackets ZB0046 (B223) are not included and must be ordered separately.

The bench itself is to be attached on site. The bench is not available from Arbonia.

Note

For connection dimensions, see "Connection options flow / return" table

Number of brackets

Height [mm]	Length from [el.]	Length to [el.]	Brackets Number [pcs.]
190–350	12	25	2
	26	50	3
	51	75	4
	76	100	5

8

Pressure versions

Description	Ordering code |14|
Standard version 10 bar (1000 kPa)	10
High-pressure version 16 bar (1600 kPa)	16

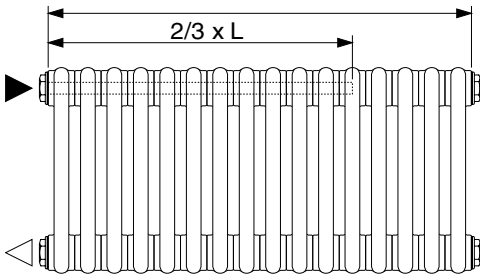
Fittings

Description	Ordering code |15|
Insert tube on request (provide drawing)	99

Need for an insert tube

Number of columns	Insert tube required from length [el.]	[mm]
2 columns	85	3825
3 columns	83	3735
4 columns	80	3600
5 columns	70	3150
6 columns	60	2700

From the lengths given in the table, an insert tube is fitted in the factory on column radiators with connections on same end. The insert tube is fitted at $^2/_3$ of the length to ensure correct water circulation.



Surface finishes

Description	Finish Ordering code |17|	Colour Ordering code |18/0|	Colour number Ordering code |18|
AllFinish in white			
Pure white RAL 9010 – standard version	AF	RAL	9010
Traffic white RAL 9016	AF	RAL	9016
Primed in cream-white	ET	–	–
Primed in cream-white and packed in plastic sheet	EF	–	–
ColorFinish, finished in standard colour [1]	CF	RAL colour	Colour number from colour card
	CF	Sanitary colour [1]	–
SuperFinish in colour of choice [1] [2]	SF	Manufacturer's colour	Colour number manufacturer's colour
	SF	Arbonia special colour [1]	–
SuperFinish in gloss silver	SF	GLS	–
Clear lacquer	TF	–	–
Textured paint after priming			
Pure white RAL 9010 – standard version	SL	RAL	9010
Traffic white RAL 9016	SL	RAL	9016
In colour of choice (manufacturer's colour) [1] [2]	KL	Manufacturer's colour	Colour number manufacturer's colour
In colour of choice (Arbonia special colour) [1] [2]	KL	Arbonia special colour [1]	–
Hot-dip galvanised, outside, for wet rooms			
Without paint finish	ZN	–	–
With textured paint in pure white RAL 9010 – standard version	ZL	RAL	9010
With textured paint in traffic white RAL 9016	ZL	RAL	9016
With structured paint in colour of choice (manufacturer's colour) [1] [2]	ZK	Manufacturer's colour	Colour number manufacturer's colour
With textured paint in colour of choice (sanitary colour) [1] [2]	ZK	Sanitary colour [1]	–
With textured paint in colour of choice (Arbonia special colour) [1] [2]	ZK	Arbonia special colour [1]	–
Anti-microbial coating			
Pure white RAL 9010 – standard version	AM	RAL	9010
Traffic white RAL 9016	AM	RAL	9016

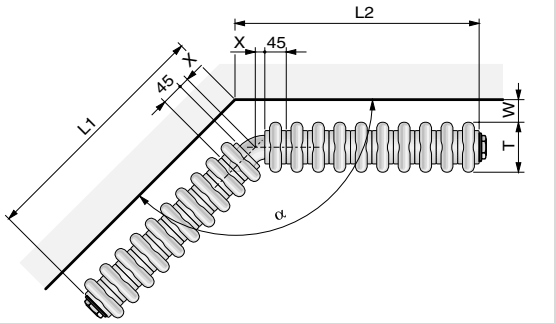
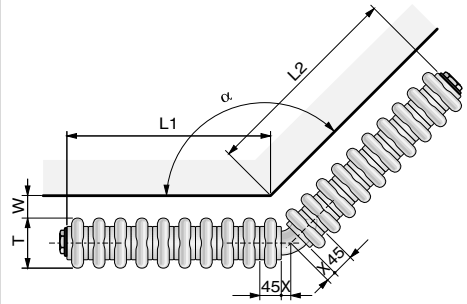
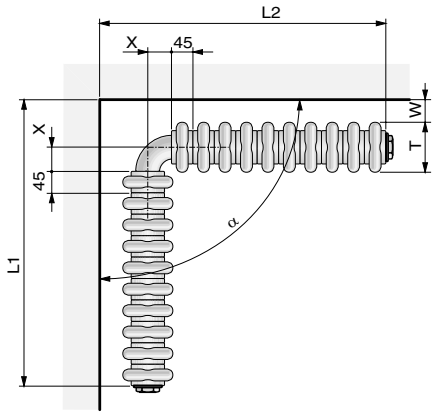
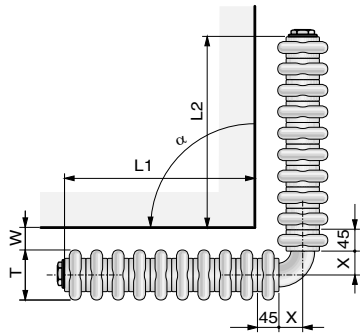
[1] For information on ordering, see ordering process section 1 „General information“ and colour chart
[2] Not in all colours

Special versions

Description	Ordering code |20|
Version as per drawing	99

Angled version

- The limbs must be coupled together on site.
- A complete delivery is made in consultation with the factory
- Please provide a drawing with dimensions or template with the order.

Description / dimension drawings	Ordering code |20|
   	71

L1, L2: Length of the limb, measured on the wall

α: Angle

W: Wall spacing

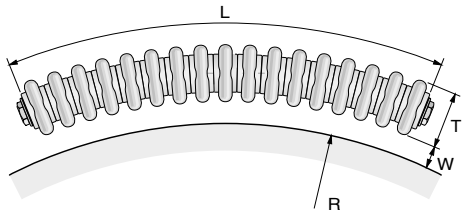
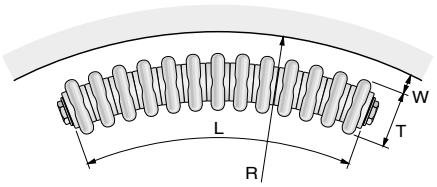
X: Portion of the axis length

Portion of the axis length of the connecting piece per limb
as a function of the depth and the angle α

Number of columns	Depth [mm]	Portion of the axis length X [mm]					
		α = 90° / 270°	**α = 105° / 195°**	**α = 120° / 210°**	**α = 135° / 225°**	**α = 150° / 240°**	**α = 165° / 255°**
2 columns	65	34	27	21	16	11	7
3 columns	105	49	37	27	18	12	6
4 columns	145	69	52	38	27	17	8
5 columns	185	89	67	50	35	22	11
6 columns	225	109	83	61	43	28	13

Curved version

- Minimum length: 12 elements.
- The outer 3 elements cannot be bent in each case.
- Please provide a drawing with dimensions or template with the order.

Description / dimension drawings		Ordering code |20|
 Inside radius	 Outside radius	70

W: Wall spacing

R: Bending radius (inside radius / outside radius)

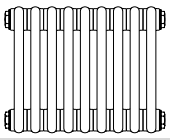
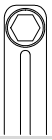
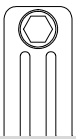
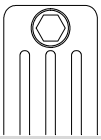
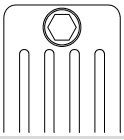
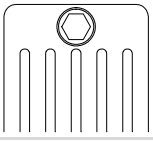
Minimum bending radius R_{min}

as a function of the depth (number of columns)

Number of columns	Depth [mm]	R_{min} [mm]
2 columns	65	400
3 columns	105	650
4 columns	145	750
5 columns	185	900
6 columns	225	1000

Height 180–190 mm

with heat outputs as a function of lenght and depth

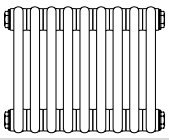
Model		2019	3019	4019	5018	6018
Height H [mm]		190	190	190	180	180
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		0,3	0,5	0,7	0,9	1,1
Surface per element A [m²/El.]		0,03	0,05	0,07	0,08	0,01
Volume per element V [dm³/El.]		0,28	0,40	0,52	0,62	0,74
Standard water flow rate per element q_{ms} [kg/h El.]		1,2	1,7	2,2	2,5	2,8
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,23	1,27	1,25	1,29	1,31
Φ_L ΔT 50K [Watt/El.]		15	20	27	32	39
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	87	122	160	191	232
360	8	116	162	214	254	310
450	10	145	203	267	318	387
540	12	174	244	320	382	464
630	14	203	284	374	445	542
720	16	232	325	427	509	619
810	18	261	365	481	572	697
900	20	290	406	534	636	774
990	22	319	447	587	700	851
1080	24	348	487	641	763	929
1170	26	377	528	694	827	1006
1260	28	406	568	748	890	1084
1350	30	435	609	801	954	1161
1440	32	464	650	854	1018	1238
1530	34	493	690	908	1081	1316
1620	36	522	731	961	1145	1393
1710	38	551	771	1015	1208	1471
1800	40	580	812	1068	1272	1548
1890	42	609	853	1121	1336	1625
1980	44	638	893	1175	1399	1703
2070	46	667	934	1228	1463	1780
2160	48	696	974	1282	1526	1858
2250	50	725	1015	1335	1590	1935
2340	52	754	1056	1388	1654	2012
2430	54	783	1096	1442	1717	2090
2520	56	812	1137	1495	1781	2167
2610	58	841	1177	1549	1844	2245
2700	60	870	1218	1602	1908	2322
Max. el.		60	60	60	60	60

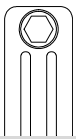
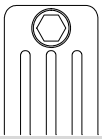
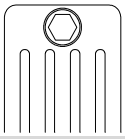
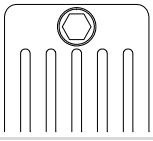
Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 260 mm

with heat outputs as a function of lenght and depth



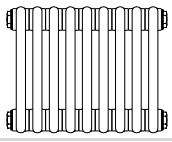
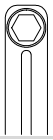
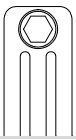
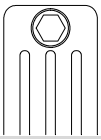
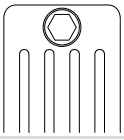
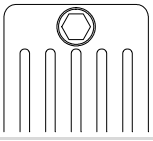





Model		2026	3026	4026	5026	6026
Height H [mm]		260	260	260	260	260
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		0,4	0,7	0,9	1,2	1,4
Surface per element A [m²/El.]		0,04	0,07	0,09	0,11	0,13
Volume per element V [dm³/El.]		0,34	0,48	0,63	0,78	0,93
Standard water flow rate per element q_{ms} [kg/h El.]		1,6	2,2	2,8	3,6	4,0
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,25	1,31	1,30	1,33	1,36
Φ_L ΔT 50K [Watt/El.]		20	28	36	45	53
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	122	167	218	267	316
360	8	162	222	290	356	422
450	10	203	278	363	445	527
540	12	244	334	436	534	632
630	14	284	389	508	623	738
720	16	325	445	581	712	843
810	18	365	500	653	801	949
900	20	406	556	726	890	1054
990	22	447	612	799	979	1159
1080	24	487	667	871	1068	1265
1170	26	528	723	944	1157	1370
1260	28	568	778	1016	1246	1476
1350	30	609	834	1089	1335	1581
1440	32	650	890	1162	1424	1686
1530	34	690	945	1234	1513	1792
1620	36	731	1001	1307	1602	1897
1710	38	771	1056	1379	1691	2003
1800	40	812	1112	1452	1780	2108
1890	42	853	1168	1525	1869	2213
1980	44	893	1223	1597	1958	2319
2070	46	934	1279	1670	2047	2424
2160	48	974	1334	1742	2136	2530
2250	50	1015	1390	1815	2225	2635
2340	52	1056	1446	1888	2314	2740
2430	54	1096	1501	1960	2403	2846
2520	56	1137	1557	2033	2492	2951
2610	58	1177	1612	2105	2581	3057
2700	60	1218	1668	2178	2670	3162
Max. el.		60	60	60	60	60

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

Height 300 mm

with heat outputs as a function of lenght and depth

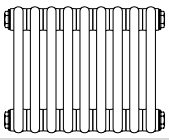
Model		2030	3030	4030	5030	6030
Height H [mm]		300	300	300	300	300
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		0,5	0,8	1,0	1,3	1,6
Surface per element A [m²/El.]		0,05	0,08	0,10	0,13	0,15
Volume per element V [dm³/El.]		0,37	0,53	0,69	0,86	1,02
Standard water flow rate per element q_{ms} [kg/h El.]		1,9	2,7	3,4	4,1	4,9
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,26	1,33	1,33	1,36	1,39
Φ_L ΔT 50K [Watt/El.]		24	33	43	53	62
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	143	196	256	316	372
360	8	191	262	342	422	496
450	10	239	327	427	527	620
540	12	287	392	512	632	744
630	14	335	458	598	738	868
720	16	382	523	683	843	992
810	18	430	589	769	949	1116
900	20	478	654	854	1054	1240
990	22	526	719	939	1159	1364
1080	24	574	785	1025	1265	1488
1170	26	621	850	1110	1370	1612
1260	28	669	916	1196	1476	1736
1350	30	717	981	1281	1581	1860
1440	32	765	1046	1366	1686	1984
1530	34	813	1112	1452	1792	2108
1620	36	860	1177	1537	1897	2232
1710	38	908	1243	1623	2003	2356
1800	40	956	1308	1708	2108	2480
1890	42	1004	1373	1793	2213	2604
1980	44	1052	1439	1879	2319	2728
2070	46	1099	1504	1964	2424	2852
2160	48	1147	1570	2050	2530	2976
2250	50	1195	1635	2135	2635	3100
2340	52	1243	1700	2220	2740	3224
2430	54	1291	1766	2306	2846	3348
2520	56	1338	1831	2391	2951	3472
2610	58	1386	1897	2477	3057	3596
2700	60	1434	1962	2562	3162	3720
Max. el.		60	60	60	60	60

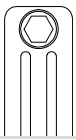
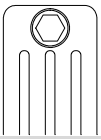
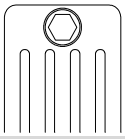
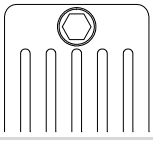
Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 350 mm

with heat outputs as a function of lenght and depth



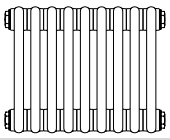
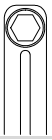
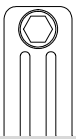
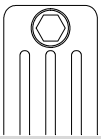
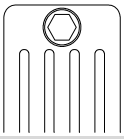
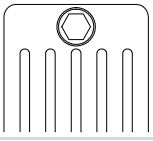
						
Model		**2035**	**3035**	**4035**	**5035**	**6035**
Height H [mm]		350	350	350	350	350
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		0,6	0,9	1,2	1,5	1,8
Surface per element A [m²/El.]		0,06	0,09	0,12	0,15	0,18
Volume per element V [dm³/El.]		0,41	0,59	0,77	0,96	1,14
Standard water flow rate per element q_{ms} [kg/h El.]		2,2	3,1	4,0	4,8	5,7
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,31	1,36	1,35	1,39	1,41
Φ_L ΔT 50K [Watt/El.]		28	38	49	61	72
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	166	228	296	366	429
360	8	222	304	395	488	572
450	10	277	380	494	610	715
540	12	332	456	593	732	858
630	14	388	532	692	854	1001
720	16	443	608	790	976	1144
810	18	499	684	889	1098	1287
900	20	554	760	988	1220	1430
990	22	609	836	1087	1342	1573
1080	24	665	912	1186	1464	1716
1170	26	720	988	1284	1586	1859
1260	28	776	1064	1383	1708	2002
1350	30	831	1140	1482	1830	2145
1440	32	886	1216	1581	1952	2288
1530	34	942	1292	1680	2074	2431
1620	36	997	1368	1778	2196	2574
1710	38	1053	1444	1877	2318	2717
1800	40	1108	1520	1976	2440	2860
1890	42	1163	1596	2075	2562	3003
1980	44	1219	1672	2174	2684	3146
2070	46	1274	1748	2272	2806	3289
2160	48	1330	1824	2371	2928	3432
2250	50	1385	1900	2470	3050	3575
2340	52	1440	1976	2569	3172	
2430	54	1496	2052	2668	3294	
2520	56	1551	2128	2766	3416	
2610	58	1607	2204	2865	3538	
2700	60	1662	2280	2964	3660	
Max. el.		60	60	60	60	50

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 400 mm

with heat outputs as a function of lenght and depth

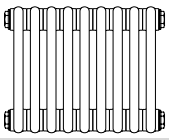
Model		**2040**	**3040**	**4040**	**5040**	**6040**
Height H [mm]		400	400	400	400	400
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		0,6	1,0	1,3	1,7	2,0
Surface per element A [m²/El.]		0,07	0,10	0,13	0,17	0,20
Volume per element V [dm³/El.]		0,45	0,65	0,85	1,06	1,26
Standard water flow rate per element q_{ms} [kg/h El.]		2,4	3,5	4,5	5,5	6,5
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,31	1,36	1,35	1,39	1,41
Φ_L ΔT 50K [Watt/El.]		31	43	56	69	81
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	188	259	335	414	485
360	8	251	345	447	552	646
450	10	314	431	559	690	808
540	12	377	517	671	828	970
630	14	440	603	783	966	1131
720	16	502	690	894	1104	1293
810	18	565	776	1006	1242	1454
900	20	628	862	1118	1380	1616
990	22	691	948	1230	1518	1778
1080	24	754	1034	1342	1656	1939
1170	26	816	1121	1453	1794	2101
1260	28	879	1207	1565	1932	2262
1350	30	942	1293	1677	2070	2424
1440	32	1005	1379	1789	2208	2586
1530	34	1068	1465	1901	2346	2747
1620	36	1130	1552	2012	2484	2909
1710	38	1193	1638	2124	2622	3070
1800	40	1256	1724	2236	2760	3232
1890	42	1319	1810	2348	2898	3394
1980	44	1382	1896	2460	3036	3555
2070	46	1444	1983	2571	3174	3717
2160	48	1507	2069	2683	3312	3878
2250	50	1570	2155	2795	3450	4040
2340	52	1633	2241	2907	3588	
2430	54	1696	2327	3019	3726	
2520	56	1758	2414	3130	3864	
2610	58	1821	2500	3242	4002	
2700	60	1884	2586	3354	4140	
Max. el.		60	60	60	60	50

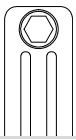
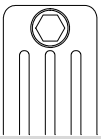
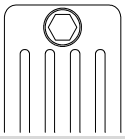
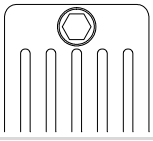
Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 450 mm

with heat outputs as a function of lenght and depth



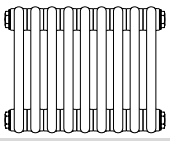
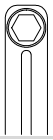
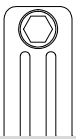
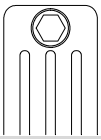
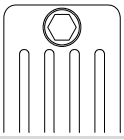
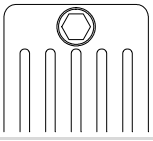
						
Model		**2045**	**3045**	**4045**	**5045**	**6045**
Height H [mm]		450	450	450	450	450
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		0,7	1,1	1,5	1,8	2,2
Surface per element A [m²/El.]		0,07	0,11	0,15	0,19	0,22
Volume per element V [dm³/El.]		0,49	0,71	0,93	1,16	1,38
Standard water flow rate per element q_{ms} [kg/h El.]		2,8	4,0	5,0	6,2	7,2
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,31	1,36	1,35	1,39	1,41
Φ_L ΔT 50K [Watt/El.]		35	48	62	77	90
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	210	289	374	461	540
360	8	280	386	498	615	720
450	10	350	482	623	769	900
540	12	420	578	748	923	1080
630	14	490	675	872	1077	1260
720	16	560	771	997	1230	1440
810	18	630	868	1121	1384	1620
900	20	700	964	1246	1538	1800
990	22	770	1060	1371	1692	1980
1080	24	840	1157	1495	1846	2160
1170	26	910	1253	1620	1999	2340
1260	28	980	1350	1744	2153	2520
1350	30	1050	1446	1869	2307	2700
1440	32	1120	1542	1994	2461	2880
1530	34	1190	1639	2118	2615	3060
1620	36	1260	1735	2243	2768	3240
1710	38	1330	1832	2367	2922	3420
1800	40	1400	1928	2492	3076	3600
1890	42	1470	2024	2617	3230	
1980	44	1540	2121	2741	3384	
2070	46	1610	2217	2866	3537	
2160	48	1680	2314	2990	3691	
2250	50	1750	2410	3115	3845	
2340	52	1820	2506	3240		
2430	54	1890	2603	3364		
2520	56	1960	2699	3489		
2610	58	2030	2796	3613		
2700	60	2100	2892	3738		
Max. el.		60	60	60	50	40

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 500 mm

with heat outputs as a function of lenght and depth

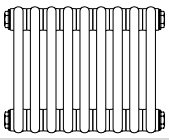
Model		**2050**	**3050**	**4050**	**5050**	**6050**
Height H [mm]		500	500	500	500	500
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		0,8	1,2	1,6	2,0	2,4
Surface per element A [m²/El.]		0,08	0,12	0,17	0,21	0,25
Volume per element V [dm³/El.]		0,53	0,77	1,01	1,26	1,50
Standard water flow rate per element q_{ms} [kg/h El.]		3,2	4,4	5,6	6,9	8,1
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,31	1,36	1,35	1,39	1,41
Φ_L ΔT 50K [Watt/El.]		39	53	69	85	99
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	232	319	412	509	595
360	8	309	426	549	678	793
450	10	386	532	686	848	991
540	12	463	638	823	1018	1189
630	14	540	745	960	1187	1387
720	16	618	851	1098	1357	1586
810	18	695	958	1235	1526	1784
900	20	772	1064	1372	1696	1982
990	22	849	1170	1509	1866	2180
1080	24	926	1277	1646	2035	2378
1170	26	1004	1383	1784	2205	2577
1260	28	1081	1490	1921	2374	2775
1350	30	1158	1596	2058	2544	2973
1440	32	1235	1702	2195	2714	3171
1530	34	1312	1809	2332	2883	3369
1620	36	1390	1915	2470	3053	3568
1710	38	1467	2022	2607	3222	3766
1800	40	1544	2128	2744	3392	3964
1890	42	1621	2234	2881	3562	
1980	44	1698	2341	3018	3731	
2070	46	1776	2447	3156	3901	
2160	48	1853	2554	3293	4070	
2250	50	1930	2660	3430	4240	
2340	52	2007	2766	3567		
2430	54	2084	2873	3704		
2520	56	2162	2979	3842		
2610	58	2239	3086	3979		
2700	60	2316	3192	4116		
Max. el.		60	60	60	50	40

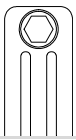
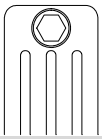
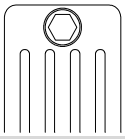
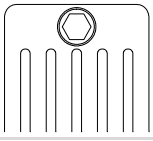
Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 550 mm

with heat outputs as a function of lenght and depth



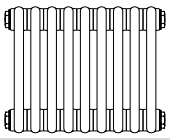
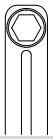
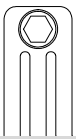
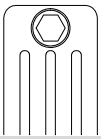
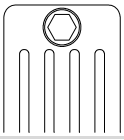
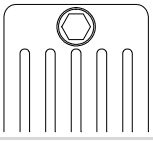
Model		2055	3055	4055	5055	6055
Height H [mm]		550	550	550	550	550
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		0,8	1,3	1,7	2,2	2,6
Surface per element A [m²/El.]		0,09	0,14	0,18	0,23	0,27
Volume per element V [dm³/El.]		0,57	0,83	1,09	1,36	1,62
Standard water flow rate per element q_{ms} [kg/h El.]		3,5	4,7	6,1	7,5	8,9
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,31	1,36	1,35	1,39	1,41
Φ_L ΔT 50K [Watt/El.]		42	58	75	93	108
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	253	350	449	555	648
360	8	338	466	599	740	864
450	10	422	583	749	925	1080
540	12	506	700	899	1110	1296
630	14	591	816	1049	1295	1512
720	16	675	933	1198	1480	1728
810	18	760	1049	1348	1665	1944
900	20	844	1166	1498	1850	2160
990	22	928	1283	1648	2035	2376
1080	24	1013	1399	1798	2220	2592
1170	26	1097	1516	1947	2405	2808
1260	28	1182	1632	2097	2590	3024
1350	30	1266	1749	2247	2775	3240
1440	32	1350	1866	2397	2960	
1530	34	1435	1982	2547	3145	
1620	36	1519	2099	2696	3330	
1710	38	1604	2215	2846	3515	
1800	40	1688	2332	2996	3700	
1890	42	1772	2449	3146		
1980	44	1857	2565	3296		
2070	46	1941	2682	3445		
2160	48	2026	2798	3595		
2250	50	2110	2915	3745		
2340	52	2194	3032			
2430	54	2279	3148			
2520	56	2363	3265			
2610	58	2448	3381			
2700	60	2532	3498			
Max. el.		60	60	50	40	30

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 600 mm

with heat outputs as a function of lenght and depth

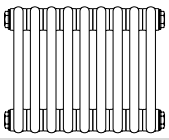
Model		**2060**	**3060**	**4060**	**5060**	**6060**
Height H [mm]		600	600	600	600	600
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		0,9	1,4	1,9	2,4	2,9
Surface per element A [m²/El.]		0,10	0,15	0,20	0,25	0,29
Volume per element V [dm³/El.]		0,61	0,89	1,17	1,45	1,74
Standard water flow rate per element q_{ms} [kg/h El.]		3,8	5,2	6,6	8,2	9,7
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,31	1,36	1,35	1,39	1,41
Φ_L ΔT 50K [Watt/El.]		46	63	81	100	117
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	275	379	487	600	702
360	8	366	506	649	800	936
450	10	458	632	811	1000	1170
540	12	550	758	973	1200	1404
630	14	641	885	1135	1400	1638
720	16	733	1011	1298	1600	1872
810	18	824	1138	1460	1800	2106
900	20	916	1264	1622	2000	2340
990	22	1008	1390	1784	2200	2574
1080	24	1099	1517	1946	2400	2808
1170	26	1191	1643	2109	2600	3042
1260	28	1282	1770	2271	2800	3276
1350	30	1374	1896	2433	3000	3510
1440	32	1466	2022	2595	3200	
1530	34	1557	2149	2757	3400	
1620	36	1649	2275	2920	3600	
1710	38	1740	2402	3082	3800	
1800	40	1832	2528	3244	4000	
1890	42	1924	2654	3406		
1980	44	2015	2781	3568		
2070	46	2107	2907	3731		
2160	48	2198	3034	3893		
2250	50	2290	3160	4055		
2340	52	2382	3286			
2430	54	2473	3413			
2520	56	2565	3539			
2610	58	2656	3666			
2700	60	2748	3792			
Max. el.		60	60	50	40	30

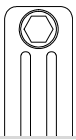
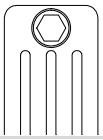
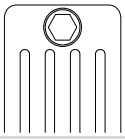
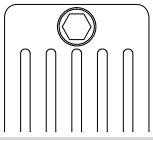
Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 750 mm

with heat outputs as a function of lenght and depth



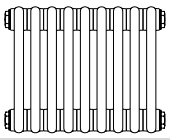
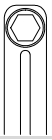
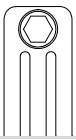
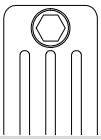
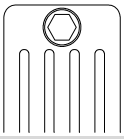
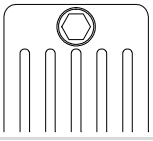





Model		2075	3075	4075	5075	6075
Height H [mm]		750	750	750	750	750
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		1,1	1,7	2,3	2,9	3,5
Surface per element A [m²/El.]		0,12	0,18	0,24	0,30	0,37
Volume per element V [dm³/El.]		0,73	1,07	1,41	1,75	2,10
Standard water flow rate per element q_{ms} [kg/h El.]		4,7	6,5	8,2	10,1	11,8
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,31	1,36	1,35	1,39	1,40
Φ_L ΔT 50K [Watt/El.]		57	78	100	123	143
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	339	467	597	738	858
360	8	452	623	796	984	1144
450	10	565	779	995	1230	1430
540	12	678	935	1194	1476	1716
630	14	791	1091	1393	1722	2002
720	16	904	1246	1592	1968	2288
810	18	1017	1402	1791	2214	2574
900	20	1130	1558	1990	2460	2860
990	22	1243	1714	2189	2706	3146
1080	24	1356	1870	2388	2952	3432
1170	26	1469	2025	2587	3198	3718
1260	28	1582	2181	2786	3444	4004
1350	30	1695	2337	2985	3690	4290
1440	32	1808	2493	3184		
1530	34	1921	2649	3383		
1620	36	2034	2804	3582		
1710	38	2147	2960	3781		
1800	40	2260	3116	3980		
1890	42	2373	3272			
1980	44	2486	3428			
2070	46	2599	3583			
2160	48	2712	3739			
2250	50	2825	3895			
2340	52	2938				
2430	54	3051				
2520	56	3164				
2610	58	3277				
2700	60	3390				
Max. el.		60	50	40	30	30

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

Height 900 mm

with heat outputs as a function of lenght and depth

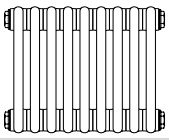
Model		**2090**	**3090**	**4090**	**5090**	**6090**
Height H [mm]		900	900	900	900	900
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		1,3	2,0	2,7	3,4	4,1
Surface per element A [m²/El.]		0,15	0,22	0,29	0,36	0,44
Volume per element V [dm³/El.]		0,84	1,25	1,65	2,05	2,45
Standard water flow rate per element q_{ms} [kg/h El.]		5,8	7,7	9,6	11,9	14,0
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,31	1,36	1,35	1,39	1,40
Φ_L ΔT 50K [Watt/El.]		67	92	117	144	168
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	402	554	702	864	1008
360	8	536	738	936	1152	1344
450	10	670	923	1170	1440	1680
540	12	804	1108	1404	1728	2016
630	14	938	1292	1638	2016	2352
720	16	1072	1477	1872	2304	2688
810	18	1206	1661	2106	2592	3024
900	20	1340	1846	2340	2880	3360
990	22	1474	2031	2574		
1080	24	1608	2215	2808		
1170	26	1742	2400	3042		
1260	28	1876	2584	3276		
1350	30	2010	2769	3510		
1440	32	2144	2954			
1530	34	2278	3138			
1620	36	2412	3323			
1710	38	2546	3507			
1800	40	2680	3692			
Max. el.		40	40	30	20	20

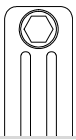
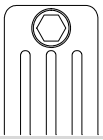
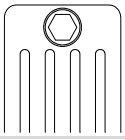
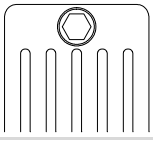
Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 1000 mm

with heat outputs as a function of lenght and depth



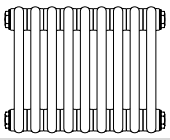
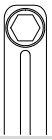
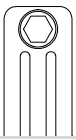
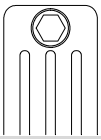
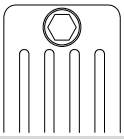
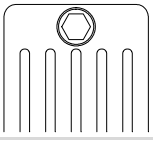
Model		2100	3100	4100	5100	6100
Height H [mm]		1000	1000	1000	1000	1000
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		1,5	2,3	3,0	3,8	4,6
Surface per element A [m²/El.]		0,16	0,24	0,32	0,40	0,48
Volume per element V [dm³/El.]		0,92	1,37	1,81	2,25	2,69
Standard water flow rate per element q_{ms} [kg/h El.]		6,3	8,4	10,7	13,0	15,5
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,32	1,36	1,35	1,38	1,40
Φ_L ΔT 50K [Watt/El.]		74	102	129	158	185
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	444	612	774	948	1110
360	8	592	816	1032	1264	1480
450	10	740	1020	1290	1580	1850
540	12	888	1224	1548	1896	2220
630	14	1036	1428	1806	2212	2590
720	16	1184	1632	2064	2528	2960
810	18	1332	1836	2322	2844	3330
900	20	1480	2040	2580	3160	3700
990	22	1628	2244	2838		
1080	24	1776	2448	3096		
1170	26	1924	2652	3354		
1260	28	2072	2856	3612		
1350	30	2220	3060	3870		
1440	32	2368	3264			
1530	34	2516	3468			
1620	36	2664	3672			
1710	38	2812	3876			
1800	40	2960	4080			
Max. el.		40	40	30	20	20

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 1100 mm

with heat outputs as a function of lenght and depth

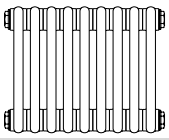
Model		**2110**	**3110**	**4110**	**5110**	**6110**
Height H [mm]		1100	1100	1100	1100	1100
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		1,6	2,5	3,3	4,2	5,0
Surface per element A [m²/El.]		0,18	0,27	0,35	0,44	0,53
Volume per element V [dm³/El.]		1,00	1,49	1,97	2,45	2,93
Standard water flow rate per element q_{ms} [kg/h El.]		6,9	9,2	11,6	14,2	16,9
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,32	1,35	1,35	1,38	1,40
Φ_L ΔT 50K [Watt/El.]		81	111	141	172	201
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	486	666	846	1032	1206
360	8	648	888	1128	1376	1608
450	10	810	1110	1410	1720	2010
540	12	972	1332	1692	2064	2412
630	14	1134	1554	1974	2408	2814
720	16	1296	1776	2256		
810	18	1458	1998	2538		
900	20	1620	2220	2820		
990	22	1782	2442	3102		
1080	24	1944	2664	3384		
1170	26	2106	2886			
1260	28	2268	3108			
1350	30	2430	3330			
Max. el.		30	30	24	14	14

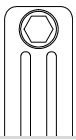
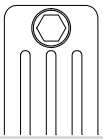
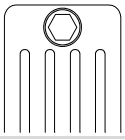
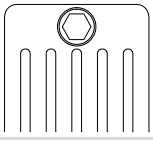
Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 1200 mm

with heat outputs as a function of lenght and depth



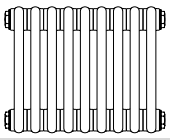
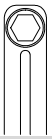
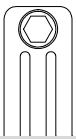
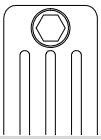
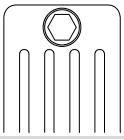
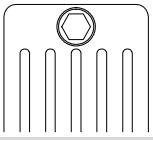
Model		**2120**	**3120**	**4120**	**5120**	**6120**
Height H [mm]		1200	1200	1200	1200	1200
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		1,8	2,7	3,6	4,5	5,4
Surface per element A [m²/El.]		0,19	0,29	0,38	0,48	0,58
Volume per element V [dm³/El.]		1,08	1,60	2,13	2,65	3,17
Standard water flow rate per element q_{ms} [kg/h El.]		7,4	10,0	12,6	15,4	18,0
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,32	1,35	1,35	1,38	1,40
Φ_L ΔT 50K [Watt/El.]		88	120	152	186	217
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	528	720	912	1116	1302
360	8	704	960	1216	1488	1736
450	10	880	1200	1520	1860	2170
540	12	1056	1440	1824	2232	2604
630	14	1232	1680	2128	2604	3038
720	16	1408	1920	2432		
810	18	1584	2160	2736		
900	20	1760	2400	3040		
990	22	1936	2640	3344		
1080	24	2112	2880	3648		
1170	26	2288	3120			
1260	28	2464	3360			
1350	30	2640	3600			
Max. el.		30	30	24	14	14

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 1500 mm

with heat outputs as a function of lenght and depth

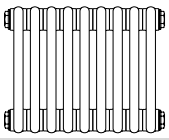
Model		**2150**	**3150**	**4150**	**5150**	**6150**
Height H [mm]		1500	1500	1500	1500	1500
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		2,2	3,3	4,4	5,6	6,7
Surface per element A [m²/El.]		0,24	0,36	0,48	0,60	0,72
Volume per element V [dm³/El.]		1,32	1,96	2,60	3,24	3,88
Standard water flow rate per element q_{ms} [kg/h El.]		9,1	12,3	15,5	18,5	21,5
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,32	1,35	1,35	1,37	1,40
Φ_L ΔT 50K [Watt/El.]		109	147	186	225	264
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	654	882	1116	1350	1584
360	8	872	1176	1488	1800	2112
450	10	1090	1470	1860	2250	2640
540	12	1308	1764	2232		
630	14	1526	2058	2604		
720	16	1744	2352	2976		
810	18	1962	2646	3348		
900	20	2180	2940	3720		
990	22	2398				
1080	24	2616				
1170	26	2834				
1260	28	3052				
1350	30	3270				
Max. el.		30	20	20	10	10

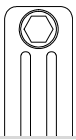
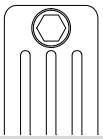
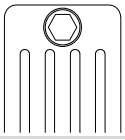
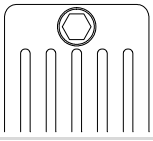
Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 1800 mm

with heat outputs as a function of lenght and depth



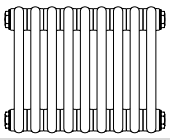
Model		2180	3180	4180	5180	6180
Height H [mm]		1800	1800	1800	1800	1800
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		2,6	4,0	5,3	6,6	8,0
Surface per element A [m²/El.]		0,29	0,43	0,57	0,72	0,86
Volume per element V [dm³/El.]		1,56	2,32	3,08	3,84	4,60
Standard water flow rate per element q_{ms} [kg/h El.]		10,8	14,6	18,4	22,0	25,5
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,32	1,35	1,34	1,37	1,39
Φ_L ΔT 50K [Watt/El.]		130	173	219	263	309
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	780	1038	1314	1578	1854
360	8	1040	1384	1752	2104	2472
450	10	1300	1730	2190	2630	3090
540	12	1560	2076	2628		
630	14	1820	2422	3066		
720	16	2080	2768	3504		
810	18	2340	3114	3942		
900	20	2600	3460	4380		
990	22	2860				
1080	24	3120				
1170	26	3380				
1260	28	3640				
1350	30	3900				
Max. el.		30	20	20	10	10

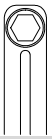
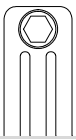
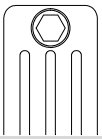
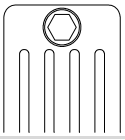
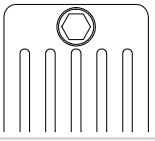
Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 2000 mm

with heat outputs as a function of lenght and depth



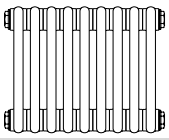
						
Model		**2200**	**3200**	**4200**	**5200**	**6200**
Height H [mm]		2000	2000	2000	2000	2000
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		2,9	4,4	5,9	7,4	8,8
Surface per element A [m²/El.]		0,32	0,48	0,64	0,80	0,95
Volume per element V [dm³/El.]		1,72	2,56	3,40	4,24	5,08
Standard water flow rate per element q_{ms} [kg/h El.]		12,0	16,3	20,4	24,3	28,4
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,32	1,34	1,34	1,37	1,39
Φ_L ΔT 50K [Watt/El.]		144	190	241	287	339
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	864	1140	1446	1722	2034
360	8	1152	1520	1928	2296	2712
450	10	1440	1900	2410	2870	3390
540	12	1728	2280	2892		
630	14	2016	2660	3374		
720	16	2304	3040	3856		
810	18	2592	3420	4338		
900	20	2880	3800	4820		
990	22	3168				
1080	24	3456				
1170	26	3744				
1260	28	4032				
1350	30	4320				
Max. el.		30	20	20	10	10

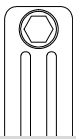
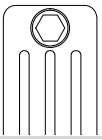
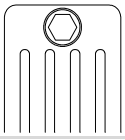
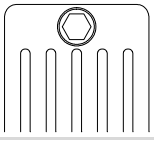
Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 2200 mm

with heat outputs as a function of lenght and depth



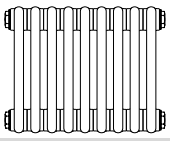
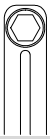
Model		2220	3220	4220	5220	6220
Height H [mm]		2200	2200	2200	2200	2200
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		3,2	4,8	6,4	8,1	9,7
Surface per element A [m²/El.]		0,35	0,52	0,70	0,87	1,05
Volume per element V [dm³/El.]		1,88	2,80	3,72	4,64	5,55
Standard water flow rate per element q_{ms} [kg/h El.]		13,2	17,9	22,4	26,5	31,0
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,32	1,34	1,34	1,36	1,39
Φ_L ΔT 50K [Watt/El.]		158	207	262	310	367
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	948	1242	1572	1860	2202
360	8	1264	1656	2096	2480	2936
450	10	1580	2070	2620	3100	3670
540	12	1896	2484	3144		
630	14	2212	2898	3668		
720	16	2528	3312	4192		
810	18	2844	3726	4716		
900	20	3160	4140	5240		
990	22	3476				
1080	24	3792				
1170	26	4108				
1260	28	4424				
1350	30	4740				
Max. el.		30	20	20	10	10

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 2500 mm

with heat outputs as a function of lenght and depth

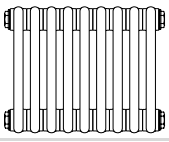
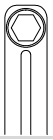
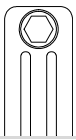
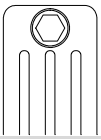
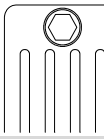
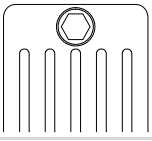
							
Model		**2250**	**3250**	**4250**	**5250**	**6250**
Height H [mm]		2500	2500	2500	2500	2500
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		3,6	5,5	7,3	9,1	11,0
Surface per element A [m²/El.]		0,40	0,59	0,79	0,99	1,19
Volume per element V [dm³/El.]		2,12	3,16	4,19	5,23	6,27
Standard water flow rate per element q_{ms} [kg/h El.]		15,0	20,3	25,4	29,8	34,7
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,32	1,34	1,34	1,36	1,39
Φ_L ΔT 50K [Watt/El.]		179	231	293	343	408
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	1074	1386	1758	2058	2448
360	8	1432	1848	2344	2744	3264
450	10	1790	2310	2930	3430	4080
540	12	2148				
630	14	2506				
720	16	2864				
810	18	3222				
900	20	3580				
Max. el.		20	10	10	10	10

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 2800 mm

with heat outputs as a function of lenght and depth

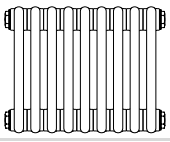
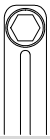
							
Model		**2280**	**3280**	**4280**	**5280**	**6280**
Height H [mm]		2800	2800	2800	2800	2800
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		4,0	6,1	8,2	10,2	12,3
Surface per element A [m²/El.]		0,44	0,67	0,89	1,11	1,33
Volume per element V [dm³/El.]		2,36	3,51	4,67	5,83	6,99
Standard water flow rate per element q_{ms} [kg/h El.]		16,8	22,5	28,2	33,1	38,6
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,33	1,34	1,34	1,35	1,38
Φ_L ΔT 50K [Watt/El.]		200	255	323	374	448
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	1200	1530	1938	2244	2688
360	8	1600	2040	2584	2992	3584
450	10	2000	2550	3230	3740	4480
540	12	2400				
630	14	2800				
720	16	3200				
810	18	3600				
900	20	4000				
Max. el.		20	10	10	10	10

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 3000 mm

with heat outputs as a function of lenght and depth

							
Model		**2300**	**3300**	**4300**	**5300**	**6300**
Height H [mm]		3000	3000	3000	3000	3000
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		4,3	6,5	8,7	10,9	13,1
Surface per element A [m²/El.]		0,48	0,71	0,95	1,19	1,43
Volume per element V [dm³/El.]		2,51	3,75	4,99	6,23	7,46
Standard water flow rate per element q_{ms} [kg/h El.]		17,9	24,0	30,1	35,3	41,3
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,33	1,33	1,34	1,35	1,38
Φ_L ΔT 50K [Watt/El.]		214	270	343	394	474
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	1284	1620	2058	2364	2844
360	8	1712	2160	2744	3152	3792
450	10	2140	2700	3430	3940	4740
540	12	2568				
630	14	2996				
720	16	3424				
810	18	3852				
900	20	4280				
Max. el.		20	10	10	10	10

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Technical data per element

Height H [mm]	Depth T [mm]	Model	Heat output EN 442				Radiator classification n [Exp]	Weight per element M [kg/El.]	Volume per element V [dm³/El.]	Surface per element A [m²/El.]	Standard water flow rate per element q_{ms} [kg/h El.]	Radiated portions [%]
			Φ ΔT 60K 90/70/20°C [Watt/El.]	**Φ_L ΔT 50K 75/65/20°C [Watt/El.]**	Φ ΔT 42K 70/55/20°C [Watt/El.]	Φ ΔT 30K 55/45/20°C [Watt/El.]						
180	185	5018	40	**32**	25	16	1,29	0,9	0,62	0,08	2,5	30
	225	6018	49	**39**	31	20	1,31	1,1	0,74	0,01	2,8	27
190	65	2019	18	**15**	12	8	1,23	0,3	0,28	0,03	1,2	49
	105	3019	26	**20**	16	11	1,27	0,5	0,40	0,05	1,7	38
	145	4019	34	**27**	21	14	1,25	0,7	0,52	0,07	2,2	33
260	65	2026	25	**20**	16	11	1,25	0,4	0,34	0,04	1,6	49
	105	3026	35	**28**	22	14	1,31	0,7	0,48	0,07	2,2	38
	145	4026	46	**36**	29	19	1,30	0,9	0,63	0,09	2,8	33
	185	5026	57	**45**	35	23	1,33	1,2	0,78	0,11	3,6	30
	225	6026	68	**53**	42	26	1,36	1,4	0,93	0,13	4,0	27
300	65	2030	30	**24**	19	13	1,26	0,5	0,37	0,05	1,9	49
	105	3030	42	**33**	26	17	1,33	0,8	0,53	0,08	2,7	38
	145	4030	54	**43**	34	22	1,33	1,0	0,69	0,10	3,4	33
	185	5030	67	**53**	42	26	1,36	1,3	0,86	0,13	4,1	30
	225	6030	80	**62**	49	30	1,39	1,6	1,02	0,15	4,9	27
350	65	2035	35	**28**	22	14	1,31	0,6	0,41	0,06	2,2	49
	105	3035	49	**38**	30	19	1,36	0,9	0,59	0,09	3,1	38
	145	4035	63	**49**	39	25	1,35	1,2	0,77	0,12	4,0	33
	185	5035	79	**61**	48	30	1,39	1,5	0,96	0,15	4,8	30
	225	6035	92	**72**	56	35	1,41	1,8	1,14	0,18	5,7	27
400	65	2040	40	**31**	25	16	1,31	0,6	0,45	0,07	2,4	49
	105	3040	55	**43**	34	21	1,36	1,0	0,65	0,10	3,5	38
	145	4040	72	**56**	44	28	1,35	1,3	0,85	0,13	4,5	33
	185	5040	89	**69**	54	34	1,39	1,7	1,06	0,17	5,5	30
	225	6040	104	**81**	63	39	1,41	2,0	1,26	0,20	6,5	27
450	65	2045	44	**35**	28	18	1,31	0,7	0,49	0,07	2,8	49
	105	3045	62	**48**	38	24	1,36	1,1	0,71	0,11	4,0	38
	145	4045	80	**62**	49	31	1,35	1,5	0,93	0,15	5,0	33
	185	5045	99	**77**	60	38	1,39	1,8	1,16	0,19	6,2	30
	225	6045	116	**90**	70	44	1,41	2,2	1,38	0,22	7,2	27
500	65	2050	49	**39**	31	20	1,31	0,8	0,53	0,08	3,2	49
	105	3050	68	**53**	42	27	1,36	1,2	0,77	0,12	4,4	38
	145	4050	88	**69**	54	34	1,35	1,6	1,01	0,17	5,6	33
	185	5050	109	**85**	67	42	1,39	2,0	1,26	0,21	6,9	30
	225	6050	128	**99**	78	48	1,41	2,4	1,50	0,25	8,1	27
550	65	2055	54	**42**	34	22	1,31	0,8	0,57	0,09	3,5	49
	105	3055	75	**58**	46	29	1,36	1,3	0,83	0,14	4,7	38
	145	4055	96	**75**	59	38	1,35	1,7	1,09	0,18	6,1	33
	185	5055	119	**93**	73	45	1,39	2,2	1,36	0,23	7,5	30
	225	6055	140	**108**	85	53	1,41	2,6	1,62	0,27	8,9	27
600	65	2060	58	**46**	36	23	1,31	0,9	0,61	0,10	3,8	49
	105	3060	81	**63**	50	32	1,36	1,4	0,89	0,15	5,2	38
	145	4060	104	**81**	64	41	1,35	1,9	1,17	0,20	6,6	33
	185	5060	129	**100**	78	49	1,39	2,4	1,45	0,25	8,2	30
	225	6060	151	**117**	92	57	1,41	2,9	1,74	0,29	9,7	27
750	65	2075	72	**57**	45	29	1,31	1,1	0,73	0,12	4,7	49
	105	3075	100	**78**	61	39	1,36	1,7	1,07	0,18	6,5	38
	145	4075	127	**100**	79	50	1,35	2,3	1,41	0,24	8,2	33
	185	5075	158	**123**	97	61	1,39	2,9	1,75	0,30	10,1	30
	225	6075	185	**143**	112	70	1,40	3,5	2,10	0,37	11,8	27
900	65	2090	85	**67**	53	34	1,30	1,3	0,84	0,15	5,8	49
	105	3090	118	**92**	73	46	1,36	2,0	1,25	0,22	7,7	38
	145	4090	150	**117**	92	59	1,35	2,7	1,65	0,29	9,6	33
	185	5090	185	**144**	113	71	1,39	3,4	2,05	0,36	11,9	30
	225	6090	217	**168**	132	82	1,40	4,1	2,45	0,44	14,0	27

Height H [mm]	Depth T [mm]	Model	Heat output EN 442				Radiator classification n [Exp]	Weight per element M [kg/El.]	Volume per element V [dm³/El.]	Surface per element A [m²/El.]	Standard water flow rate per element q_{ms} [kg/h El.]	Radiated portions [%]
			Φ ΔT 60K 90/70/20°C [Watt/El.]	**Φ_L ΔT 50K 75/65/20°C [Watt/El.]**	Φ ΔT 42K 70/55/20°C [Watt/El.]	Φ ΔT 30K 55/45/20°C [Watt/El.]						
	65	2100	94	**74**	59	38	1,32	1,5	0,92	0,16	6,3	49
	105	3100	131	**102**	81	51	1,36	2,3	1,37	0,24	8,4	38
1000	145	4100	165	**129**	102	65	1,35	3,0	1,81	0,32	10,7	33
	185	5100	203	**158**	124	78	1,38	3,8	2,25	0,40	13,0	30
	225	6100	239	**185**	145	90	1,40	4,6	2,69	0,48	15,5	27
	65	2110	103	**81**	64	41	1,32	1,6	1,00	0,18	6,9	49
	105	3110	142	**111**	88	56	1,35	2,5	1,49	0,27	9,2	38
1100	145	4110	180	**141**	111	71	1,35	3,3	1,97	0,35	11,6	33
	185	5110	221	**172**	135	85	1,38	4,2	2,45	0,44	14,2	30
	225	6110	259	**201**	157	98	1,40	5,0	2,93	0,53	16,9	27
	65	2120	112	**88**	70	45	1,32	1,8	1,08	0,19	7,4	49
	105	3120	154	**120**	95	60	1,35	2,7	1,60	0,29	10,0	38
1200	145	4120	194	**152**	120	76	1,35	3,6	2,13	0,38	12,6	33
	185	5120	239	**186**	146	92	1,38	4,5	2,65	0,48	15,4	30
	225	6120	280	**217**	170	106	1,40	5,4	3,17	0,58	18,0	27
	65	2150	139	**109**	87	56	1,32	2,2	1,32	0,24	9,1	49
	105	3150	188	**147**	116	74	1,35	3,3	1,96	0,36	12,3	38
1500	145	4150	238	**186**	147	94	1,35	4,4	2,60	0,48	15,5	33
	185	5150	289	**225**	177	111	1,37	5,6	3,24	0,60	18,5	30
	225	6150	341	**264**	207	129	1,40	6,7	3,88	0,72	21,5	27
	65	2180	165	**130**	103	66	1,32	2,6	1,56	0,29	10,8	49
	105	3180	221	**173**	137	87	1,35	4,0	2,32	0,43	14,6	38
1800	145	4180	280	**219**	173	110	1,34	5,3	3,08	0,57	18,4	33
	185	5180	338	**263**	207	131	1,37	6,6	3,84	0,72	22,0	30
	225	6180	398	**309**	242	152	1,39	8,0	4,60	0,86	25,5	27
	65	2200	183	**144**	114	73	1,32	2,9	1,72	0,32	12,0	49
	105	3200	243	**190**	150	96	1,34	4,4	2,56	0,48	16,3	38
2000	145	4200	308	**241**	191	121	1,34	5,9	3,40	0,64	20,4	33
	185	5200	368	**287**	226	143	1,37	7,4	4,24	0,80	24,3	30
	225	6200	437	**339**	266	167	1,39	8,8	5,08	0,95	28,4	27
	65	2220	201	**158**	125	80	1,32	3,2	1,88	0,35	13,2	49
	105	3220	264	**207**	164	104	1,34	4,8	2,80	0,52	17,9	38
2200	145	4220	335	**262**	207	132	1,34	6,4	3,72	0,70	22,4	33
	185	5220	397	**310**	244	155	1,36	8,1	4,64	0,87	26,5	30
	225	6220	473	**367**	288	180	1,39	9,7	5,55	1,05	31,0	27
	65	2250	228	**179**	142	91	1,32	3,6	2,12	0,40	15,0	49
	105	3250	295	**231**	183	117	1,34	5,5	3,16	0,59	20,3	38
2500	145	4250	374	**293**	232	148	1,34	7,3	4,19	0,79	25,4	33
	185	5250	439	**343**	271	171	1,36	9,1	5,23	0,99	29,8	30
	225	6250	525	**408**	320	201	1,39	11,0	6,27	1,19	34,7	27
	65	2280	255	**200**	159	102	1,33	4,0	2,36	0,44	16,8	49
	105	3280	325	**255**	202	129	1,34	6,1	3,51	0,67	22,5	38
2800	145	4280	412	**323**	256	163	1,34	8,2	4,67	0,89	28,2	33
	185	5280	479	**374**	295	187	1,35	10,2	5,83	1,11	33,1	30
	225	6280	577	**448**	352	221	1,38	12,3	6,99	1,33	38,6	27
	65	2300	273	**214**	170	109	1,33	4,3	2,51	0,48	17,9	49
	105	3300	344	**270**	214	137	1,33	6,5	3,75	0,71	24,0	38
3000	145	4300	438	**343**	272	173	1,34	8,7	4,99	0,95	30,1	33
	185	5300	504	**394**	311	198	1,35	10,9	6,23	1,19	35,3	30
	225	6300	610	**474**	373	234	1,38	13,1	7,46	1,43	41,3	27

Individual calculation of heat outputs see section 1: „General information"

CAMBIOTHERM: version as replacement model

General

The attractive, safe and GUV-tested CAMBIOTHERM is a column radiator with a special connection centre line. It is ideally suited to the replacement of steel radiators / cast iron radiators in accordance with DIN 4722 (from 1938).

As not only the heat output and connection centre line, but also the element length (45 mm) match, cost-saving replacement is ensured. The replacement with CAMBIOTHERM can be made without changing the tubes to suit the connection centre line.

The CAMBIOTHERM has the technical properties – except height, connection centre line and heat output – of the column radiators.

Note

The element length for steel radiators / cast iron radiators in accordance with DIN 4722 from 1961 is 50 mm. On replacement with CAMBIOTHERM (element length: 45 mm) attention must be paid to the different length.

CAMBIOTHERM

- 5 depths: 65–225 mm (2–6 columns)
- 4 heights: 570–870 mm (connection centre line: 500–800 mm)
- Length:
  - Calculation: number of elements x 45 mm
  - Length steps: 45 mm (1 element)
  - Minimum length: 270 mm (6 elements)
  - Maximum length per block: 450–2700 mm (dependent on depth and height)
  - Maximum total length: 3 blocks (to be coupled on site, high-pressure version: 1 block)
- 2-tube connections, side

For CAMBIOTHERM with connections on the same end, from a certain length and height an insert tube is supplied at an extra charge to guarantee the correct water circulation.

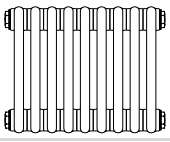
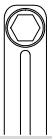
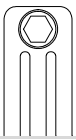
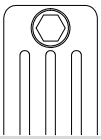
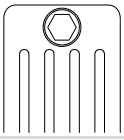
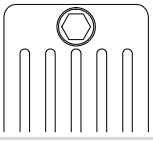
Special versions

CAMBIOTHERM

- 2-tube connections
- Built-in air vent
- High-pressure version: 16 bar (1600 kPa)
- Insert tube
- Rear lugs
- Welded feet
- Coupled in the factory (for column radiators in several blocks)
- Intermediate heights (special connection centre line)
- Length from 90 mm (2 elements)
- Room heater installation

Height 570 mm

with heat outputs as a function of lenght and depth

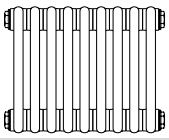







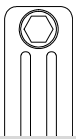
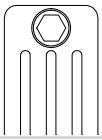
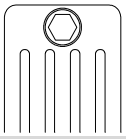
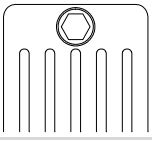
Model		**2057**	**3057**	**4057**	**5057**	**6057**
Height H [mm]		570	570	570	570	570
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		0,8	1,3	1,7	2,2	2,6
Surface per element A [m²/El.]		0,09	0,14	0,18	0,23	0,27
Volume per element V [dm³/El.]		0,57	0,78	1,03	1,28	1,53
Standard water flow rate per element q_{ms} [kg/h El.]		3,5	4,8	6,1	7,4	8,8
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,30	1,30	1,30	1,30	1,30
Φ_L ΔT 50K [Watt/El.]		42	58	74	90	105
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	252	348	444	540	630
360	8	336	464	592	720	840
450	10	420	580	740	900	1050
540	12	504	696	888	1080	1260
630	14	588	812	1036	1260	1470
720	16	672	928	1184	1440	1680
810	18	756	1044	1332	1620	1890
900	20	840	1160	1480	1800	2100
990	22	924	1276	1628	1980	2310
1080	24	1008	1392	1776	2160	2520
1170	26	1092	1508	1924	2340	2730
1260	28	1176	1624	2072	2520	2940
1350	30	1260	1740	2220	2700	3150
1440	32	1344	1856	2368	2880	
1530	34	1428	1972	2516	3060	
1620	36	1512	2088	2664	3240	
1710	38	1596	2204	2812	3420	
1800	40	1680	2320	2960	3600	
1890	42	1764	2436	3108		
1980	44	1848	2552	3256		
2070	46	1932	2668	3404		
2160	48	2016	2784	3552		
2250	50	2100	2900	3700		
2340	52	2184	3016			
2430	54	2268	3132			
2520	56	2352	3248			
2610	58	2436	3364			
2700	60	2520	3480			
Max. el.		60	60	50	40	30

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

Height 670 mm

with heat outputs as a function of lenght and depth



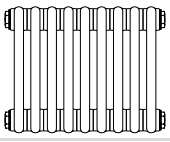
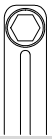
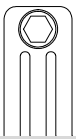
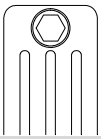
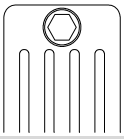
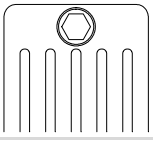





Model		2067	3067	4067	5067	6067
Height H [mm]		670	670	670	670	670
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		0,9	1,5	2,0	2,5	3,1
Surface per element A [m²/El.]		0,10	0,16	0,21	0,27	0,32
Volume per element V [dm³/El.]		0,61	0,92	1,21	1,51	1,80
Standard water flow rate per element q_{ms} [kg/h El.]		3,8	5,7	7,1	8,7	10,4
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,30	1,30	1,30	1,30	1,30
Φ_L ΔT 50K [Watt/El.]		51	68	86	106	124
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	306	408	516	636	744
360	8	408	544	688	848	992
450	10	510	680	860	1060	1240
540	12	612	816	1032	1272	1488
630	14	714	952	1204	1484	1736
720	16	816	1088	1376	1696	1984
810	18	918	1224	1548	1908	2232
900	20	1020	1360	1720	2120	2480
990	22	1122	1496	1892	2332	2728
1080	24	1224	1632	2064	2544	2976
1170	26	1326	1768	2236	2756	3224
1260	28	1428	1904	2408	2968	3472
1350	30	1530	2040	2580	3180	3720
1440	32	1632	2176	2752		
1530	34	1734	2312	2924		
1620	36	1836	2448	3096		
1710	38	1938	2584	3268		
1800	40	2040	2720	3440		
1890	42	2142	2856			
1980	44	2244	2992			
2070	46	2346	3128			
2160	48	2448	3264			
2250	50	2550	3400			
2340	52	2652				
2430	54	2754				
2520	56	2856				
2610	58	2958				
2700	60	3060				
Max. el.		60	50	40	30	30

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

Height 770 mm

with heat outputs as a function of lenght and depth

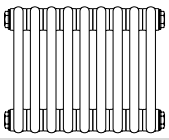
Model		**2077**	**3077**	**4077**	**5077**	**6077**
Height H [mm]		770	770	770	770	770
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		1,1	1,7	2,3	2,9	3,5
Surface per element A [m²/El.]		0,12	0,18	0,24	0,30	0,37
Volume per element V [dm³/El.]		0,73	1,07	1,41	1,75	2,10
Standard water flow rate per element q_{ms} [kg/h El.]		4,7	6,5	8,2	10,1	11,8
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,30	1,30	1,30	1,30	1,30
Φ_L ΔT 50K [Watt/El.]		58	80	102	126	146
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	348	480	612	756	876
360	8	464	640	816	1008	1168
450	10	580	800	1020	1260	1460
540	12	696	960	1224	1512	1752
630	14	812	1120	1428	1764	2044
720	16	928	1280	1632	2016	2336
810	18	1044	1440	1836	2268	2628
900	20	1160	1600	2040	2520	2920
990	22	1276	1760	2244	2772	3212
1080	24	1392	1920	2448	3024	3504
1170	26	1508	2080	2652	3276	3796
1260	28	1624	2240	2856	3528	4088
1350	30	1740	2400	3060	3780	4380
1440	32	1856	2560	3264		
1530	34	1972	2720	3468		
1620	36	2088	2880	3672		
1710	38	2204	3040	3876		
1800	40	2320	3200	4080		
1890	42	2436	3360			
1980	44	2552	3520			
2070	46	2668	3680			
2160	48	2784	3840			
2250	50	2900	4000			
2340	52	3016				
2430	54	3132				
2520	56	3248				
2610	58	3364				
2700	60	3480				
Max. el.		60	50	40	30	30

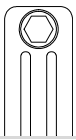
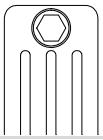
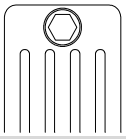
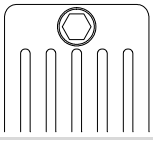
Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 870 mm

with heat outputs as a function of lenght and depth



Model		2087	3087	4087	5087	6087
Height H [mm]		870	870	870	870	870
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		1,3	2,0	2,7	3,4	4,1
Surface per element A [m²/El.]		0,15	0,22	0,29	0,36	0,44
Volume per element V [dm³/El.]		0,84	1,25	1,65	2,05	2,45
Standard water flow rate per element q_{ms} [kg/h El.]		5,8	7,7	9,6	11,9	14,0
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,30	1,30	1,30	1,30	1,30
Φ_L ΔT 50K [Watt/El.]		65	89	114	140	163
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
270	6	390	534	684	840	978
360	8	520	712	912	1120	1304
450	10	650	890	1140	1400	1630
540	12	780	1068	1368	1680	1956
630	14	910	1246	1596	1960	2282
720	16	1040	1424	1824	2240	2608
810	18	1170	1602	2052	2520	2934
900	20	1300	1780	2280	2800	3260
990	22	1430	1958	2508		
1080	24	1560	2136	2736		
1170	26	1690	2314	2964		
1260	28	1820	2492	3192		
1350	30	1950	2670	3420		
1440	32	2080	2848			
1530	34	2210	3026			
1620	36	2340	3204			
1710	38	2470	3382			
1800	40	2600	3560			
1890	42					
1980	44					
2070	46					
2160	48					
2250	50					
2340	52					
2430	54					
2520	56					
2610	58					
2700	60					
Max. el.		40	40	30	20	20

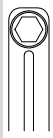
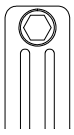
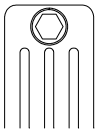
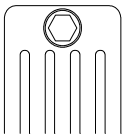
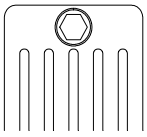
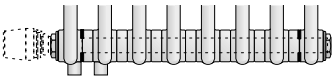
Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height H [mm]	Depth T [mm]	Model	Heat output EN 442				Radiator classification n [Exp]	Weight per element M [kg/El.]	Volume per element V [dm³/El.]	Surface per element A [m²/El.]	Standard water flow rate per element q_{ms} [kg/h El.]	Radiated portion s [%]
			Φ ΔT 60K 90/70/20°C [Watt/El.]	**Φ_L ΔT 50K 75/65/20°C [Watt/El.]**	Φ ΔT 42K 70/55/20°C [Watt/El.]	Φ ΔT 30K 55/45/20°C [Watt/El.]						
	65	2057	53	**42**	34	21	1,30	0,8	0,57	0,09	3,5	49
	105	3057	73	**58**	47	30	1,30	1,3	0,78	0,14	4,8	38
570	145	4057	93	**74**	59	38	1,30	1,7	1,03	0,18	6,1	33
	185	5057	113	**90**	72	46	1,30	2,2	1,28	0,23	7,4	30
	225	6057	132	**105**	84	54	1,30	2,6	1,53	0,27	8,8	27
	65	2067	64	**51**	41	26	1,30	0,9	0,61	0,10	3,8	49
	105	3067	86	**68**	55	35	1,30	1,5	0,92	0,16	5,7	38
670	145	4067	108	**86**	69	44	1,30	2,0	1,21	0,21	7,1	33
	185	5067	133	**106**	85	54	1,30	2,5	1,51	0,27	8,7	30
	225	6067	156	**124**	99	63	1,30	3,1	1,80	0,32	10,4	27
	65	2077	73	**58**	47	30	1,30	1,1	0,73	0,12	4,7	49
	105	3077	101	**80**	64	41	1,30	1,7	1,07	0,18	6,5	38
770	145	4077	128	**102**	82	52	1,30	2,3	1,41	0,24	8,2	33
	185	5077	158	**126**	101	64	1,30	2,9	1,75	0,30	10,1	30
	225	6077	184	**146**	117	75	1,30	3,5	2,10	0,37	11,8	27
	65	2087	82	**65**	52	33	1,30	1,3	0,84	0,15	5,8	49
	105	3087	112	**89**	71	45	1,30	2,0	1,25	0,22	7,7	38
870	145	4087	143	**114**	91	58	1,30	2,7	1,65	0,29	9,6	33
	185	5087	176	**140**	112	72	1,30	3,4	2,05	0,36	11,9	30
	225	6087	205	**163**	131	83	1,30	4,1	2,45	0,44	14,0	27

Individual calculation of heat outputs see section 1: „General information“

Description

Model	M2...	M3...	M4...	M5...	M6...
Standard without built-in valve					
Depth	65 mm	105 mm	145 mm	185 mm	225 mm
Explanation model code	M : Sano radiator	M : Sano radiator	M : Sano radiator	M : Sano radiator	M : Sano radiator
	2 : 2 columns	3 : 3 columns	4 : 4 columns	5 : 5 columns	6 : 6 columns
	... : height in cm	... : height in cm	... : height in cm	... : height in cm	... : height in cm
Example			M2026 M : Sano radiator 2 : 2 columns 026 : height 26 cm		
Model	**M2...V**	**M3...V**	**M4...V**	**M5...V**	**M6...V**
Version with built-in valve	V: with built-in valve				
					

General

The compact room heater sized to suit. Anybody who chooses Sano radiators from Arbonia has chosen well. These technically and aesthetically top-notch products provide the comfort that the demanding client expects: more comfort thanks to the ideal distribution of heat by radiation and convection, more options due to the wide range of room heater dimensions available, and also more safety (GUV-tested), because they do not have any corners or sharp edges. This is a valuable advantage particularly in children's rooms and schools. Arbonia Sano radiators are also highly valued in the residential sector, in public buildings, in residential homes, etc. because they are very easy to clean.

The Sano radiator is a special version for hospitals, retirement homes, sanatoriums, schools, children's homes, etc. The increased element spacing makes the Sano radiator particularly easy to clean and hygienic.

Range available

- 5 depths: 65–225 mm (2–6 columns)
- 20 standard heights: 260–3000 mm
- Length:
  - Calculation: (Number of elements x 65 mm) – 20 mm [1)]
  - Length steps: 65 mm (1 element)
  - Minimum length: 370 mm (6 elements)
  - Maximum length per block: 630–3880 mm (dependent on depth and height) [2)]
  - Maximum total length: 3 blocks (to be coupled on site, high-pressure version: 1 block)
- 2-tube connections, side

The room heaters are supplied as assembled elements. Plugs and reducers with internal thread, coupling nipples and seals are included.

For Sano radiators with connections on the same end, from a certain length and height an insert tube is supplied to guarantee the correct water circulation.

Special versions

- 2-tube connections
- 1-tube connections
- Version with built-in valve
- Built-in air vent
- High-pressure version: 16 bar (1600 kPa)
- Insert tube
- Rear lugs
- Angled version
- Intermediate heights (special connection centre line)
- Length from 130 mm (2 elements)

Surface finishes

- AllFinish in pure white (AF) RAL 9010 – standard version
- AllFinish in traffic white (AF) RAL 9016
- Primed in cream-white (ET)
- Primed in cream-white and packed in plastic sheet (EF)
- ColorFinish in standard colour (CF)
- SuperFinish in colour of choice (SF) [3)]
- Textured paint after priming
  - In white (SL)
  - In colour of choice (KL) [3)]
- Clear lacquer (TF)
- Hot-dip galvanised outside, for wet rooms (swimming pools, cellar rooms for washing etc.), does not apply for damp rooms (bathroom and WC)
  - Without paint finish (ZN)
  - With textured paint in white (ZL)
  - With textured paint in colour of choice (ZK) [3)]
- Anti-microbial coating (AM)

All finishes are baked at 170 °C.

For detailed information see "Colour Fashion of the Arbonia Radiators".

[1)] The manufacturing tolerance on the length is ±1 %. This tolerance is to be taken into account on pre-assembly
[2)] The maximum length per block is limited for weight and transport reasons
[3)] Not in all colours

Operating conditions

- For closed water heating systems in accordance with DIN 18380 and water quality in accordance with VDI 2035
- Can be used in conventional and low temperature areas
- Can be used for district heating and high-rise buildings, as high permissible operating pressure
- Not suitable for steam-based heating systems

Properties of relevance to operation	Standard version	High-pressure version
	2–6 columns	2–6 columns
Operating pressure [bar (kPa)]	10,0 (1000)	16,0 (1600)
Test pressure [bar (kPa)]	13,0 (1300)	20,8 (2080)
Max. temperature [°C]	120	120

Minimum water flow rate

The minimum water flow rate must not be less than 20 % of the standard water flow rate in accordance with EN 442 to avoid a reduction in the heat output. This applies both to connection on same end and on opposite ends.

Pressure drop Δp

$\Delta p = \zeta \times \rho/_2 \times w^2$

Δp: Pressure drop [Pa]
ζ: Resistance coefficient Zeta []
ρ: Density of the water [kg/m^3]
w: Water velocity [m/s]

The entire pressure drop on Sano radiators can be calculated using a ζ value of 2,5. This value applies for a water velocity of up to 1 m/s.

Heat outputs

The heat outputs given are determined in accordance with the guidelines in EN 442.

RAL tested and registered.

Note

On Sano radiators the heat output per element is slightly higher than for column radiators. For reasons of clarity, however, only the standard heat output in accordance with EN 442 is given.

Tender text

Arbonia Sano radiator

Room heater of separate element design, 2–6–column made of steel; individual elements (length 65 mm) as welded assembly, comprising head pieces (strip steel-pressed parts) and round precision steel tubes (Ø 25 x 1,25). Blocks up to maximum length of the delivery unit welded together from elements. Ready to install with 4 threaded plugs for flow and return, as well as air vent and drain. Rounded edges all round with R_{min} = 2 mm.

Priming in accordance with DIN 55900 part 1 and powder coating in accordance with DIN 55900 part 2.

Design features comply with the basic principles for the testing of the health and safety of room heaters (statutory accident insurance). Winner of award from the Institut für Umwelt- und Krankenhaushygiene at Philipps-Universität Marburg for compliance with high hygiene requirements.

Pressure and leak tested.

Heat output determined in accordance with EN 442.

CE marked.

Suitable for closed water heating systems in accordance with DIN 18380 and water quality in accordance with VDI 2035.

Maximum permissible operating temperature: 120 °C

Max. operating pressure:

2–6 columns 10 bar / 1000 kPa

Suitably packed for transport.

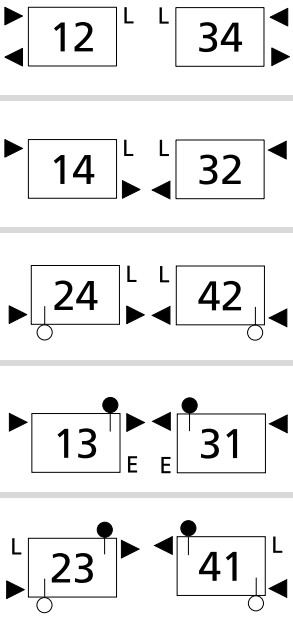
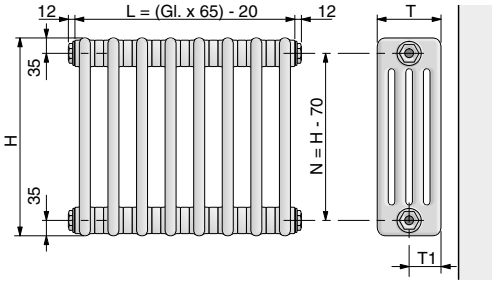
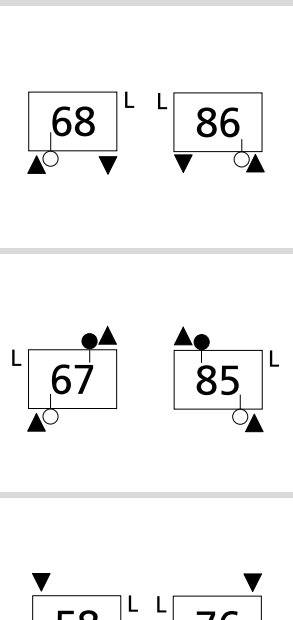
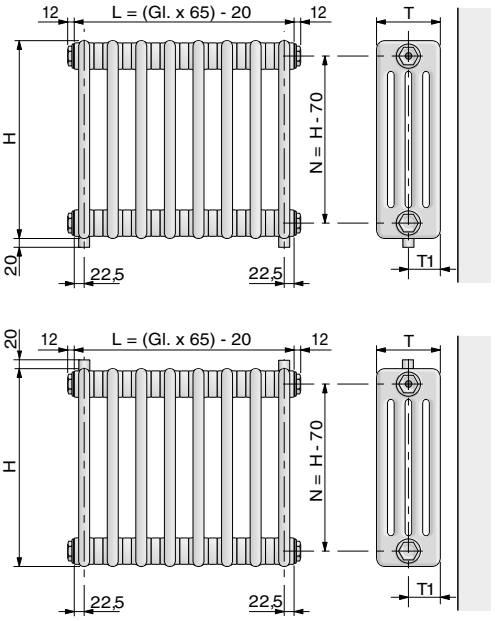
Maximum length

For weight and transport-related reasons, Sano radiators can only be supplied from the factory in one piece up to a maximum length. If the maximum length in one piece is significantly exceeded, the Sano radiators are supplied in several blocks. These blocks must be coupled together on site (see "Fixing and mounting").

The overall length for Sano radiators is limited to three blocks.

Sano radiators in the high-pressure version cannot be coupled. The overall length for the high-pressure version is therefore limited to the maximum length on one piece from the factory.

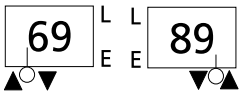
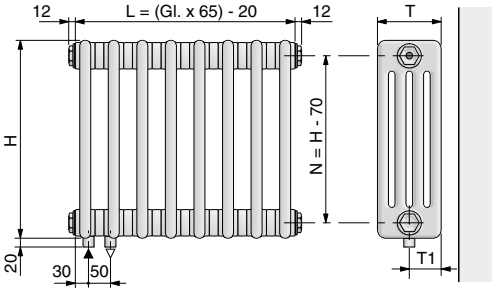
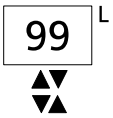
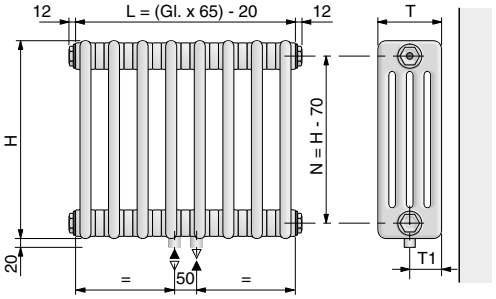
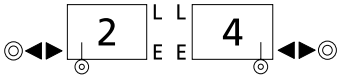
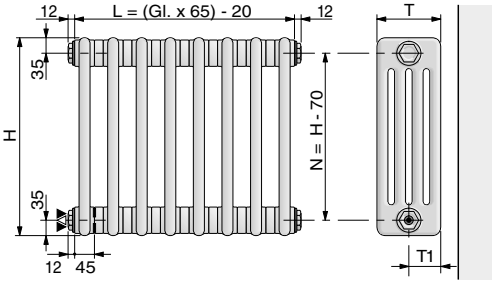
Connection options flow / return

Con-nection system	Ord. code |5|	ζ value	Arrangement Ordering code |6|	Con-nec. size	Ordering code |7| Flow	Ordering code |7| Re-turn	Dimension drawings
2-tube, side	2	2,5		G 3/8" G 1/2" G 3/4" G 1"	38 12 34 10	38 12 34 10	
2-tube, bottom, top	2	2,5		G 3/8" G 1/2" G 3/4"	38 12 34	38 12 34	

Number of columns	T [mm]	T1 [mm]
2-columns	65	32,5
3-columns	105	52,5
4-columns	145	72,5
5-columns	185	92,5
6-columns	225	112,5

Number of columns	T [mm]	T1 [mm]
2-columns	65	32,5
3-columns	105	52,5
4-columns	145	72,5
5-columns	185	92,5
6-columns	225	112,5

8

Con-nection system	Ord. code |5|	ζ value	Arrangement Ordering code |6|	Con-nec. size	Ordering code |7| Flow	Re-turn	Dimension drawings
2-tube, bottom, adjacent	2	2,5		G 3/8" G 1/2"	38 12	38 12	
2-tube, bottom, middle-middle, vertical underside	2	2,3		G 1/2"	12	12	
1-tube, for valve with dip tube, side with dip tube Ø 11 mm	10	2,5		G 1/2"	12	12	

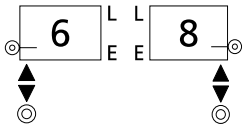
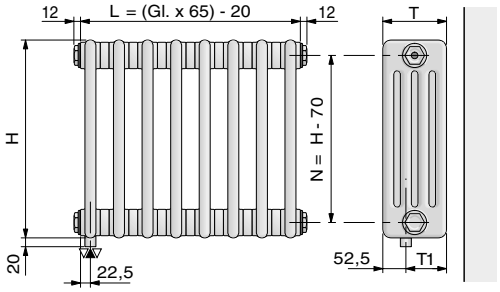
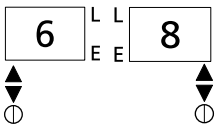
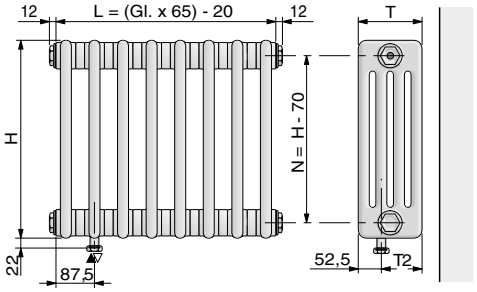
Number of columns	T [mm]	T1 [mm]
2-columns	65	32,5
3-columns	105	52,5
4-columns	145	72,5
5-columns	185	92,5
6-columns	225	112,5

Number of columns	T [mm]	T1 [mm]
2-columns	65	32,5
3-columns	105	52,5
4-columns	145	72,5
5-columns	185	92,5
6-columns	225	112,5

Number of columns	T [mm]	T1 [mm]
2-columns	65	32,5
3-columns	105	52,5
4-columns	145	72,5
5-columns	185	92,5
6-columns	225	112,5

Dip tube length at the valve at least 150 mm
Dip tube is return

8

Con-nection system	Ord. code |5|	ζ value	Arrangement Ordering code |6|	Con-nec. size	Ordering code |7| Flow	Re-turn	Dimension drawings
1-tube for valve with dip tube, bottom with dip tube Ø 11 mm	10	2,5		G 1/2"	12	12	
1-tube, for TKM valve, bottom, with dip tube	12	2,5		G 3/4"	34	34	

Number of columns	T [mm]	T2 [mm]
2-columns	65	12,5
3-columns	105	52,5
4-columns	145	92,5
5-columns	185	132,5
6-columns	225	172,5

Dip tube length at the valve at least 150 mm
Dip tube is flow

Number of columns	T [mm]	T2 [mm]
2-columns	65	12,5
3-columns	105	52,5
4-columns	145	92,5
5-columns	185	132,5
6-columns	225	172,5

L: recommended position for air vent tapping; E: recommended position for drain tapping

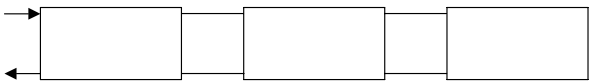
○ Standard baffle; ◎ baffle with Ø 12 mm hole; ● 100 % sealing baffle; ◎ valve with dip tube; ⓘ TKM valve

From a height of 1800 mm, a drain is also fitted with some connections for manufacturing reasons

For room heaters without rear lugs, the versions for the connection side left / right are identical (e. g. ordering code |6|: 12 / 34)

Coupled room heaters

- Sano radiators are supplied separately
- Connections are to be installed on site
- Recommended connection size between the room heaters: G $^{3}/_{4}$" (or one size larger than feed / return)

Connection system	Description	Order of coupled room heaters (enter in "Special features" column) First room heater 1	Middle room heater 2	Last room heater 3	Ordering code |5|
Connection on same end	• Max. 3 room heaters • Maximum length: - for height 180–600 mm: L_{max} = 12 m - for height 750–1000 mm: L_{max} = 6,5 m - for height over 1200 mm: L_{max} = 2,5 m • Please provide a drawing with the order				75
Connection opposite ends	• Length and number are theoretically unlimited • Note transport and weight limitations • Please provide a drawing with the order				76

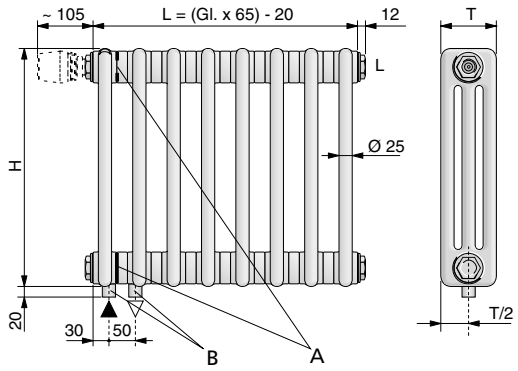
Special connections

Description	Ordering code |5|
Version as per drawing	99

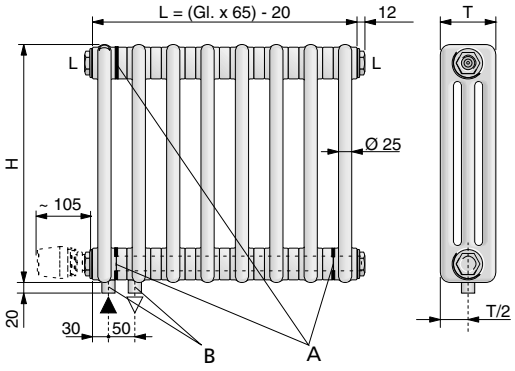
8

Version with built-in valve

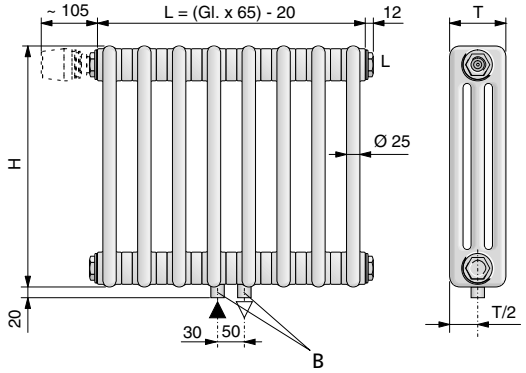
Built-in valve top



Built-in valve bottom



Built-in valve middle bottom



A: Baffle

B: G$^1/_2$" inside or G$^3/_4$" outside

On this special version of the Sano radiator, a valve with adjustable k_{VS} value is fitted in the factory in the top or bottom head piece.

- Maximum length as for Sano radiators without built-in valve (see "Room heater length"):
  - Can be coupled with valve arranged at top (delivery in sub-blocks possible)
  - Can be coupled with valve arranged at bottom (delivery in one piece)
- Surface finish as for column radiators without built-in valve

Range available

- Built-in valve with adjustable k_{VS} valve (valve characteristic), arranged either top or bottom, left or right
- Standard version:
  - 2-tube connection bottom, same end (on side of valve) with connection centre line 50 mm
  - Connection size: G $^1/_2$" internal thread
  - Flow welded in the 1st element, return in the 2nd element
  - Two air bleeds are provided for the version with valve arranged at bottom
- Thermostatic head not included, must be ordered as an accessory
- Not available in high-pressure version

Special versions

- Connection size: G $^3/_4$" outside thread
- 2-tube connections (for valve arranged at top or bottom, on request):
  - Top, same end
  - Top, opposite ends
- 2-tube connection bottom, middle with connection centre line 50 mm
- Angled version:
  - With valve arranged at top
  - The first three elements cannot be angled
- Version as additional block that can be coupled:
  - With valve arranged at top
  - Length 2 elements

Accessories

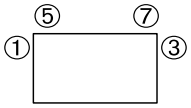
- Fittings
  - Angled for 2-tube or 1-tube systems: ZT00480001 (Z252)
  - Straight for 2-tube or 1-tube systems: ZT00470001 (Z255)
- Thermostatic head with thread M 30 x 1,5: ZV00020001 (Z297)

Connection options

Description	Feature	Ordering code
Connection system		
Valve position side top		
• Standard valve with thread M 30 x 1,5	|5|	31
• Standard valve with clamp thread	|5|	32
• Valve with fine adjustment and thread M 30 x 1,5	|5|	41
• Valve with fine adjustment and clamp thread	|5|	42
Arrangement		
Connections bottom, adjacent		
• Valve left, flow left, return left	|6|	69
• Valve right, flow right, return right	|6|	89
• Valve left, flow middle left, return middle right	|6|	98
• Valve right, flow middle right, return middle left	|6|	96
Connection size		
G $^1/_2$" internal thread feed	|7|VL	12
G $^1/_2$" internal thread return	|7|RL	12
G $^3/_4$" outside thread flow	|7|VL	84
G $^3/_4$" outside thread return	|7|RL	84

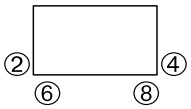
Description	Feature	Ordering code
Connection system		
Valve position side bottom		
• Standard valve with thread M 30 x 1,5	|5|	61
• Standard valve with clamp thread	|5|	62
• Valve with fine adjustment and thread M 30 x 1,5	|5|	81
• Valve with fine adjustment and clamp thread	|5|	82
Arrangement		
Connections bottom, adjacent		
• Valve left, flow left, return left	|6|	69
• Valve right, flow right, return right	|6|	89
Connection size		
G $^1/_2$" internal thread feed	|7|VL	12
G $^1/_2$" internal thread return	|7|RL	12
G $^3/_4$" outside thread flow	|7|VL	84
G $^3/_4$" outside thread return	|7|RL	84

Air vent

Description	Feature	Ordering code
Version		
Air vent tapping – standard version	|8|	4
Built-in air vent with rotating outlet	|8|	1
No air vent, only if imperative	|8|	3
Arrangement		
Position recommended by the factory – standard version [1]	|9|	–
Position on request [2]	|9|	
Tapping size		
G $^{3}/_{8}$" internal thread	|10|	38
G $^{1}/_{2}$" internal thread	|10|	12

[1] For position see illustration of the arrangement of the connections in the "Connection options flow / return" table
[2] If the tapping cannot be arranged in the required position for technical reasons, the tapping will instead be arranged in the position recommended by the factory

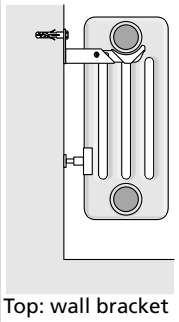
Drain

Description	Feature	Ordering code
Version		
No drain, only if imperative – standard version [1]	|11|	3
Drain tapping	|11|	4
Arrangement		
Position recommended by the factory – standard version [2]	|12|	–
Position on request [3]	|12|	
Tapping size		
G $^{1}/_{2}$" internal thread	|13|	12
G $^{3}/_{8}$" internal thread	|13|	38

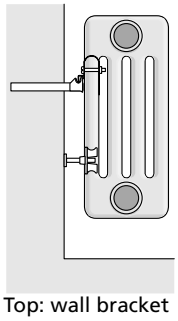
[1] If a drain tapping is necessary for technical reasons, this will be fitted as standard in the factory
[2] For position see illustration of the arrangement of the connections in the "Connection options flow / return" table
[3] If the tapping cannot be arranged in the required position for technical reasons, the tapping will instead be arranged in the position recommended by the factory

Fixing with brackets and spacers

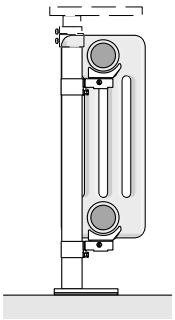
Fixing type	Description and dimension drawings	Ordering code |16|
Without rear lug	• The number of fixing brackets must not be reduced • It may be possible to replace spacers with fixing lugs • For all models up to height 750 mm, fixing with soil stand brackets is possible • Please request information on the exact position of the fixing points • Wall brackets or built into wall brackets are to be ordered separately (see "Accessories")	B1



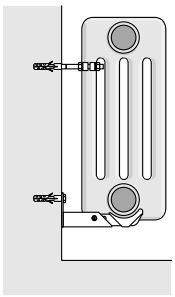
Top: wall bracket
ZB0010 (W161-W164)
Bottom: spacer
ZB0073 (H121.01)



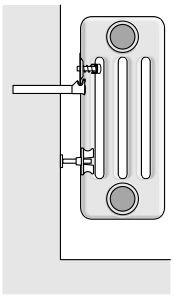
Top: wall bracket
ZB0001 (W101-W104)
Top middle: clamp
ZB0014 (H102)
Bottom: spacer
ZB00160001 (H121)



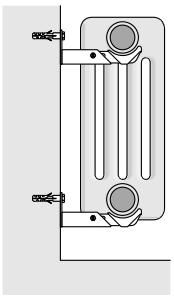
Soil stands
ZB0019 (B131-B139)
with soil stand brackets
ZB0025 (B192)



Top: wall bracket
ZB0003 (H151-H152)
Bottom: wall bracket
ZB0010 (W161-W163)



Top: wall bracket
ZB0001 (W101-W104)
Top middle: clamp
ZB0014 (H102)
Bottom: spacer
ZB00160001 (H121)



Wall brackets
ZB0010 (W161-W164)

8

Minimum number of fixing points

as a function of the model and the length in elements

Model	Length [el.]	Fixing points [pcs.]
M2026	up to 25	4
	26–45	6
	46–65	8
	66–85	10
M2090–M2200	up to 25	4
	26–45	6
M2220–M2300	up to 25	4
M3026–M3075	up to 25	4
	26–45	6
	46–65	8
	66–85	10
M3090–M3200	up to 25	4
	26–45	6
M3220–M3300	up to 25	4
M4026–M4075	up to 25	4
	26–45	6
	46–65	8
	66–85	10
M4090–M4200	up to 25	4
	26–45	6
M4220–M4300	up to 25	4
M5026–M5075	up to 25	4
	26–45	8
	46–65	10
M5090–M5200	up to 25	6
	26–45	8
M5220–M5300	up to 25	6
M6026–M6075	up to 25	4
	26–45	8
	46–65	10
M6090–M6200	up to 25	6
M6220–M6300	up to 20	6

Please check the characteristics of the wall and choose the fixing variant and the plugs and screws to suit.

Installation

Description	Feature	Ordering code
Installation [1]		
Coupled on site	|19|	BG
Coupled in the factory	|19|	WG

[1] High-pressure version Sano radiators cannot be coupled (supplied as one block)

Coupling instructions

Instructions on coupling

For weight and transport-related reasons, Sano radiators can only be supplied from the factory in one piece up to a maximum length. If the maximum length in one piece is significantly exceeded, the Sano radiators are supplied in several blocks. These blocks must be coupled together on site

Assembly of Sano radiators

Sano radiators are assembled from individual element blocks and connected together using coupling nipples. The connections on the individual element blocks and the coupling nipples have a G $^{5}/_{4}$" right-hand or left-hand thread. Inside the coupling nipple there are two diametrically opposite lugs with which the end of the coupling nipple key engages on assembly.

Careful compliance with the following instructions is a prerequisite for reliable sealing of the coupling nipple connections:

- Place element blocks horizontally on a flat surface or two blocks of wood
- Thoroughly clean rust, paint and dirt from the construction site from the front faces of the connections on the elements
- Only use coupling nipples and seals supplied by Arbonia
- Screw coupling nipples into both connections on a block; here attention must be paid to right-hand or left-hand thread; a left-hand thread is marked with notches
- Slide one seal onto each coupling nipple
- Press next element block against the first block
- Measure depth outside the radiator and mark on the coupling nipple rod
- Insert coupling nipple rod into the coupling nipple at the join
- Tighten the element blocks together by alternately turning the coupling nipple rod in both connections. Uneven tightening will cause leaks. To tighten the coupling nipples, only use a ring spanner (square) with a length of 600–800 mm.
  The tightening torque is 320–400 Nm.
  When using a ring spanner 800 mm long, this tightening torque is achieved on tightening firmly (400–500 N at the end of the spanner).

Connections

The end elements of Sano radiators are sealed with blanking plugs and connect to the tubes using connection plugs. Blanking plugs and connection plugs are supplied with right-hand or left-hand thread as required; the flow connection plug must always have a right-hand thread.

Careful compliance with the following instructions is a prerequisite for reliable sealing of the blanking plugs and connection plugs:

- Only use blanking plugs, connection plugs and seals provided by Arbonia.
- Carefully clean rust, paint and soiling from the construction site from the connection faces on the radiators and the sealing surfaces on the plugs.
- Check condition of sealing surface and thread.
- Slide on one seal per plug.
- Screw in plug by hand, pay attention to right-hand or left-hand thread. Prior to plug collar contact, align the seal radially so the entire cross-section is effective and the seal does not deform during final tightening.
- Protect painted plugs with hex socket insert ZT00260001 (Z223) and tighten using AF46 ring spanner or open-ended spanner 600 mm long. The tightening torque is at least 250–300 Nm. When using a spanner 600 mm long, this tightening torque is achieved on tightening firmly (400–500 N at the end of the spanner). It is not allowed to use pipe wrenches or similar tools for this purpose.

Note

On systems that are expected to operated with treated water, the plugs are to be re-tightened at the earliest after two hours due to the settling behaviour of the seal material.

Pressure versions

Description	Ordering code |14|
Standard version 10 bar (1000 kPa)	10
High-pressure version 16 bar (1600 kPa)	16

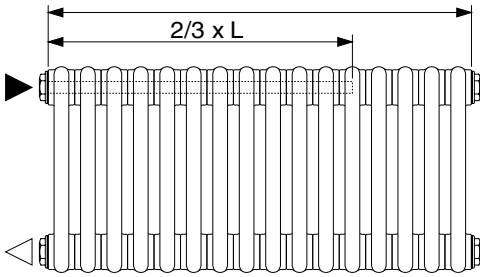
Fittings

Description	Ordering code |15|
Insert tube on request (provide drawing)	99

Need for an insert tube

Number of columns	Insert tube required from length [el.]	[mm]
2 columns	60	3825
3 columns	58	3735
4 columns	56	3600
5 columns	49	3150
6 columns	42	2700

From the lengths given in the table, an insert tube is fitted in the factory on Sano radiators with connections on same end. The insert tube is fitted at $^2/_3$ of the length to ensure correct water circulation.



Surface finishes

Description	Finish Ordering code |17|	Colour Ordering code |18/0|	Colour number Ordering code |18|
AllFinish in white			
Pure white RAL 9010 – standard version	AF	RAL	9010
Traffic white RAL 9016	AF	RAL	9016
Primed in cream-white	ET	–	–
Primed in cream-white and packed in plastic sheet	EF	–	–
ColorFinish, finished in standard colour [1]	CF	RAL colour	Colour number from colour card
	CF	Sanitary colour [1]	–
SuperFinish in colour of choice [1] [2]	SF	Manufacturer's colour	Colour number manufacturer's colour
	SF	Arbonia special colour [1]	–
SuperFinish in gloss silver	SF	GLS	–
Clear lacquer	TF	–	–
Textured paint after priming			
Pure white RAL 9010 – standard version	SL	RAL	9010
Traffic white RAL 9016	SL	RAL	9016
In colour of choice (manufacturer's colour) [1] [2]	KL	Manufacturer's colour	Colour number manufacturer's colour
In colour of choice (Arbonia special colour) [1] [2]	KL	Arbonia special colour [1]	–
Hot-dip galvanised, outside, for wet rooms			
Without paint finish	ZN	–	–
With textured paint in pure white RAL 9010 – standard version	ZL	RAL	9010
With textured paint in traffic white RAL 9016	ZL	RAL	9016
With structured paint in colour of choice (manufacturer's colour) [1] [2]	ZK	Manufacturer's colour	Colour number manufacturer's colour
With textured paint in colour of choice (sanitary colour) [1] [2]	ZK	Sanitary colour [1]	–
With textured paint in colour of choice (Arbonia special colour) [1] [2]	ZK	Arbonia special colour [1]	–
Anti-microbial coating			
Pure white RAL 9010 – standard version	AM	RAL	9010
Traffic white RAL 9016	AM	RAL	9016

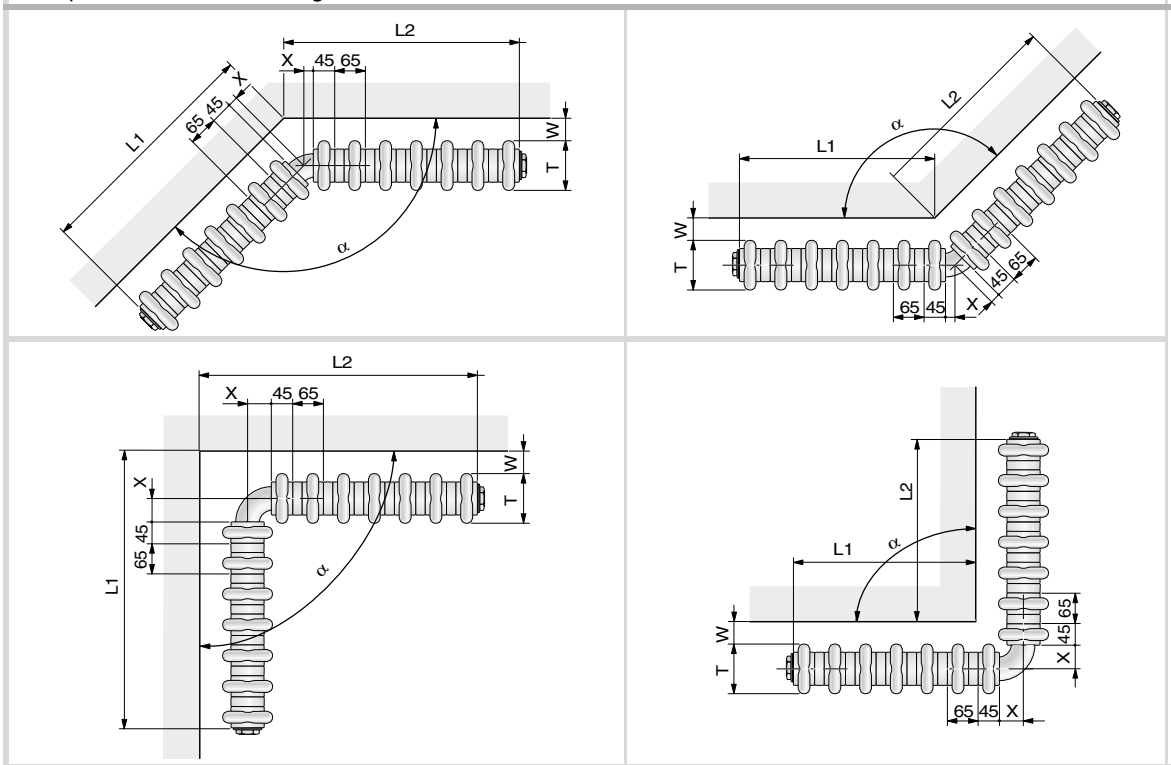
[1] For information on ordering, see ordering process section 1 „General information“ and colour chart
[2] Not in all colours

Special versions

Description	Ordering code |20|
Version as per drawing	99

Angled version

- The limbs must be coupled together on site.
- A complete delivery is made in consultation with the factory
- Please provide a drawing with dimensions or template with the order.

Description / dimension drawings	Ordering code |20|
	71

L1, L2: Length of the limb, measured on the wall

α: Angle

W: Wall spacing

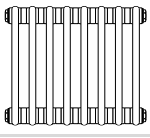
X: Portion of the axis length

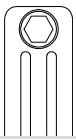
Portion of the axis length of the connecting piece per limb
as a function of the depth and the angle α

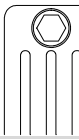
Number of columns	Depth T [mm]	Portion of the axis length X [mm]					
		α = 90° / 270°	α = 105° / 255°	α = 120° / 240°	α = 135° / 225°	α = 150° / 240°	α = 165° / 255°
2 columns	65	34	27	21	16	11	7
3 columns	105	49	37	27	18	12	6
4 columns	145	69	52	38	27	17	8
5 columns	185	89	67	50	35	22	11
6 columns	225	109	83	61	43	28	13

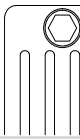
Height 260 mm

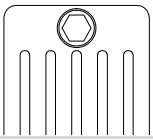
with heat outputs as a function of lenght and depth









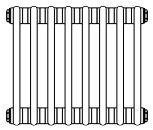
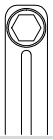
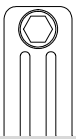
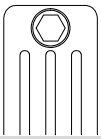
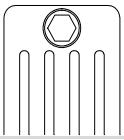
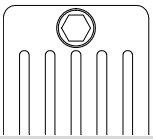


Model		M2026	M3026	M4026	M5026	M6026
Height H [mm]		260	260	260	260	260
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		0,4	0,7	0,9	1,2	1,4
Surface per element A [m²/El.]		0,04	0,07	0,09	0,11	0,13
Volume per element V [dm³/El.]		0,34	0,48	0,63	0,78	0,93
Standard water flow rate per element q_{ms} [kg/h El.]		1,6	2,2	2,8	3,6	4,0
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,25	1,31	1,30	1,33	1,36
Φ_L ΔT 50K [Watt/El.]		25	33	42	51	61
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
370	6	149	197	251	306	367
500	8	198	262	334	408	489
630	10	248	328	418	510	611
760	12	298	394	502	612	733
890	14	347	459	585	714	855
1020	16	397	525	669	816	978
1150	18	446	590	752	918	1100
1280	20	496	656	836	1020	1222
1410	22	546	722	920	1122	1344
1540	24	595	787	1003	1224	1466
1670	26	645	853	1087	1326	1589
1800	28	694	918	1170	1428	1711
1930	30	744	984	1254	1530	1833
2060	32	794	1050	1338	1632	1955
2190	34	843	1115	1421	1734	2077
2320	36	893	1181	1505	1836	2200
2450	38	942	1246	1588	1938	2322
2580	40	992	1312	1672	2040	2444
2710	42	1042	1378	1756	2142	2566
2840	44	1091	1443	1839	2244	2688
2970	46	1141	1509	1923	2346	2811
3100	48	1190	1574	2006	2448	2933
3230	50	1240	1640	2090	2550	3055
3360	52	1290	1706	2174	2652	3177
3490	54	1339	1771	2257	2754	3299
3620	56	1389	1837	2341	2856	3422
3750	58	1438	1902	2424	2958	3544
3880	60	1488	1968	2508	3060	3666
Max. el.		60	60	60	60	60

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

Height 300 mm

with heat outputs as a function of lenght and depth

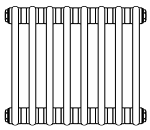
Model		M2030	M3030	M4030	M5030	M6030
Height H [mm]		300	300	300	300	300
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		0,5	0,8	1,0	1,3	1,6
Surface per element A [m²/El.]		0,05	0,08	0,10	0,13	0,15
Volume per element V [dm³/El.]		0,37	0,53	0,69	0,86	1,02
Standard water flow rate per element q_{ms} [kg/h El.]		1,9	2,7	3,4	4,1	4,9
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,26	1,33	1,33	1,36	1,39
Φ_L ΔT 50K [Watt/El.]		28	37	48	58	70
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
370	6	167	224	286	349	419
500	8	223	298	382	465	558
630	10	279	373	477	581	698
760	12	335	448	572	697	838
890	14	391	522	668	813	977
1020	16	446	597	763	930	1117
1150	18	502	671	859	1046	1256
1280	20	558	746	954	1162	1396
1410	22	614	821	1049	1278	1536
1540	24	670	895	1145	1394	1675
1670	26	725	970	1240	1511	1815
1800	28	781	1044	1336	1627	1954
1930	30	837	1119	1431	1743	2094
2060	32	893	1194	1526	1859	2234
2190	34	949	1268	1622	1975	2373
2320	36	1004	1343	1717	2092	2513
2450	38	1060	1417	1813	2208	2652
2580	40	1116	1492	1908	2324	2792
2710	42	1172	1567	2003	2440	2932
2840	44	1228	1641	2099	2556	3071
2970	46	1283	1716	2194	2673	3211
3100	48	1339	1790	2290	2789	3350
3230	50	1395	1865	2385	2905	3490
3360	52	1451	1940	2480	3021	3630
3490	54	1507	2014	2576	3137	3769
3620	56	1562	2089	2671	3254	3909
3750	58	1618	2163	2767	3370	4048
3880	60	1674	2238	2862	3486	4188
Max. el.		60	60	60	60	60

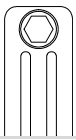
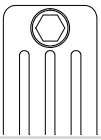
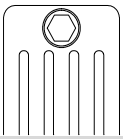
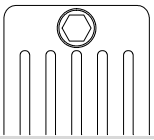
Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 350 mm

with heat outputs as a function of lenght and depth



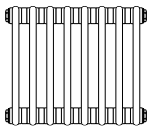
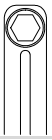
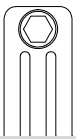
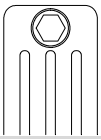
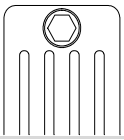
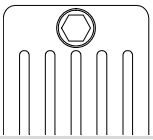





Model		M2035	M3035	M4035	M5035	M6035
Height H [mm]		350	350	350	350	350
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		0,6	0,9	1,2	1,5	1,8
Surface per element A [m²/El.]		0,06	0,09	0,12	0,15	0,18
Volume per element V [dm³/El.]		0,41	0,59	0,77	0,96	1,14
Standard water flow rate per element q_{ms} [kg/h El.]		2,2	3,1	4,0	4,8	5,7
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,31	1,36	1,35	1,39	1,41
Φ_L ΔT 50K [Watt/El.]		32	43	55	67	81
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
370	6	190	257	329	401	484
500	8	254	343	439	535	645
630	10	317	429	549	669	806
760	12	380	515	659	803	967
890	14	444	601	769	937	1128
1020	16	507	686	878	1070	1290
1150	18	571	772	988	1204	1451
1280	20	634	858	1098	1338	1612
1410	22	697	944	1208	1472	1773
1540	24	761	1030	1318	1606	1934
1670	26	824	1115	1427	1739	2096
1800	28	888	1201	1537	1873	2257
1930	30	951	1287	1647	2007	2418
2060	32	1014	1373	1757	2141	2579
2190	34	1078	1459	1867	2275	2740
2320	36	1141	1544	1976	2408	2902
2450	38	1205	1630	2086	2542	3063
2580	40	1268	1716	2196	2676	3224
2710	42	1331	1802	2306	2810	3385
2840	44	1395	1888	2416	2944	3546
2970	46	1458	1973	2525	3077	3708
3100	48	1522	2059	2635	3211	3869
3230	50	1585	2145	2745	3345	4030
3360	52	1648	2231	2855	3479	
3490	54	1712	2317	2965	3613	
3620	56	1775	2402	3074	3746	
3750	58	1839	2488	3184	3880	
3880	60	1902	2574	3294	4014	
Max. el.		60	60	60	60	50

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

Height 400 mm

with heat outputs as a function of lenght and depth

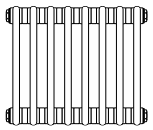
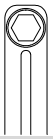
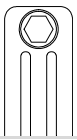
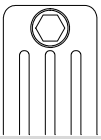
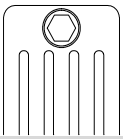
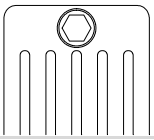
Model		M2040	M3040	M4040	M5040	M6040
Height H [mm]		400	400	400	400	400
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		0,6	1,0	1,3	1,7	2,0
Surface per element A [m²/El.]		0,07	0,10	0,13	0,17	0,20
Volume per element V [dm³/El.]		0,45	0,65	0,85	1,06	1,26
Standard water flow rate per element q_{ms} [kg/h El.]		2,4	3,5	4,5	5,5	6,5
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,31	1,36	1,35	1,39	1,41
Φ_L ΔT 50K [Watt/El.]		36	48	62	76	91
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
370	6	213	290	373	454	547
500	8	284	387	497	605	730
630	10	355	484	621	756	912
760	12	426	581	745	907	1094
890	14	497	678	869	1058	1277
1020	16	568	774	994	1210	1459
1150	18	639	871	1118	1361	1642
1280	20	710	968	1242	1512	1824
1410	22	781	1065	1366	1663	2006
1540	24	852	1162	1490	1814	2189
1670	26	923	1258	1615	1966	2371
1800	28	994	1355	1739	2117	2554
1930	30	1065	1452	1863	2268	2736
2060	32	1136	1549	1987	2419	2918
2190	34	1207	1646	2111	2570	3101
2320	36	1278	1742	2236	2722	3283
2450	38	1349	1839	2360	2873	3466
2580	40	1420	1936	2484	3024	3648
2710	42	1491	2033	2608	3175	3830
2840	44	1562	2130	2732	3326	4013
2970	46	1633	2226	2857	3478	4195
3100	48	1704	2323	2981	3629	4378
3230	50	1775	2420	3105	3780	4560
3360	52	1846	2517	3229	3931	
3490	54	1917	2614	3353	4082	
3620	56	1988	2710	3478	4234	
3750	58	2059	2807	3602	4385	
3880	60	2130	2904	3726	4536	
Max. el.		60	60	60	60	50

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 450 mm

with heat outputs as a function of lenght and depth

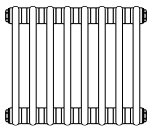
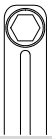
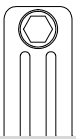
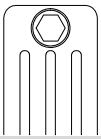
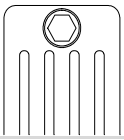
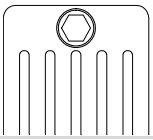







Model		M2045	M3045	M4045	M5045	M6045
Height H [mm]		450	450	450	450	450
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		0,7	1,1	1,5	1,8	2,2
Surface per element A [m²/El.]		0,07	0,11	0,15	0,19	0,22
Volume per element V [dm³/El.]		0,49	0,71	0,93	1,16	1,38
Standard water flow rate per element q_{ms} [kg/h El.]		2,8	4,0	5,0	6,2	7,2
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,31	1,36	1,35	1,39	1,41
Φ_L ΔT 50K [Watt/El.]		39	54	69	84	102
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
370	6	235	323	415	506	612
500	8	314	430	554	674	816
630	10	392	538	692	843	1020
760	12	470	646	830	1012	1224
890	14	549	753	969	1180	1428
1020	16	627	861	1107	1349	1632
1150	18	706	968	1246	1517	1836
1280	20	784	1076	1384	1686	2040
1410	22	862	1184	1522	1855	2244
1540	24	941	1291	1661	2023	2448
1670	26	1019	1399	1799	2192	2652
1800	28	1098	1506	1938	2360	2856
1930	30	1176	1614	2076	2529	3060
2060	32	1254	1722	2214	2698	3264
2190	34	1333	1829	2353	2866	3468
2320	36	1411	1937	2491	3035	3672
2450	38	1490	2044	2630	3203	3876
2580	40	1568	2152	2768	3372	4080
2710	42	1646	2260	2906	3541	
2840	44	1725	2367	3045	3709	
2970	46	1803	2475	3183	3878	
3100	48	1882	2582	3322	4046	
3230	50	1960	2690	3460	4215	
3360	52	2038	2798	3598		
3490	54	2117	2905	3737		
3620	56	2195	3013	3875		
3750	58	2274	3120	4014		
3880	60	2352	3228	4152		
Max. el.		60	60	60	50	40

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

Height 500 mm

with heat outputs as a function of lenght and depth

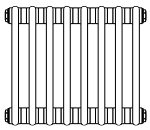
Model		M2050	M3050	M4050	M5050	M6050
Height H [mm]		500	500	500	500	500
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		0,8	1,2	1,6	2,0	2,4
Surface per element A [m²/El.]		0,08	0,12	0,17	0,21	0,25
Volume per element V [dm³/El.]		0,53	0,77	1,01	1,26	1,50
Standard water flow rate per element q_{ms} [kg/h El.]		3,2	4,4	5,6	6,9	8,1
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,31	1,36	1,35	1,39	1,41
Φ_L ΔT 50K [Watt/El.]		43	59	76	93	112
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
370	6	257	355	457	557	672
500	8	343	473	610	742	896
630	10	429	591	762	928	1120
760	12	515	709	914	1114	1344
890	14	601	827	1067	1299	1568
1020	16	686	946	1219	1485	1792
1150	18	772	1064	1372	1670	2016
1280	20	858	1182	1524	1856	2240
1410	22	944	1300	1676	2042	2464
1540	24	1030	1418	1829	2227	2688
1670	26	1115	1537	1981	2413	2912
1800	28	1201	1655	2134	2598	3136
1930	30	1287	1773	2286	2784	3360
2060	32	1373	1891	2438	2970	3584
2190	34	1459	2009	2591	3155	3808
2320	36	1544	2128	2743	3341	4032
2450	38	1630	2246	2896	3526	4256
2580	40	1716	2364	3048	3712	4480
2710	42	1802	2482	3200	3898	
2840	44	1888	2600	3353	4083	
2970	46	1973	2719	3505	4269	
3100	48	2059	2837	3658	4454	
3230	50	2145	2955	3810	4640	
3360	52	2231	3073	3962		
3490	54	2317	3191	4115		
3620	56	2402	3310	4267		
3750	58	2488	3428	4420		
3880	60	2574	3546	4572		
Max. el.		60	60	60	50	40

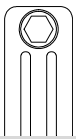
Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

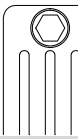
8

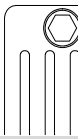
Height 550 mm

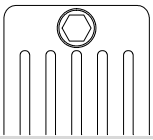
with heat outputs as a function of lenght and depth









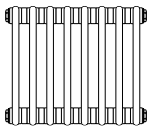
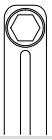
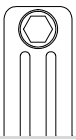
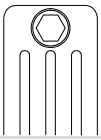
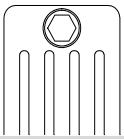
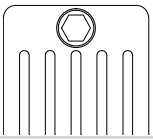


Model		M2055	M3055	M4055	M5055	M6055
Height H [mm]		550	550	550	550	550
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		0,8	1,3	1,7	2,2	2,6
Surface per element A [m²/El.]		0,09	0,14	0,18	0,23	0,27
Volume per element V [dm³/El.]		0,57	0,83	1,09	1,36	1,62
Standard water flow rate per element q_{ms} [kg/h El.]		3,5	4,7	6,1	7,5	8,9
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,31	1,36	1,35	1,39	1,41
Φ_L ΔT 50K [Watt/El.]		47	65	83	101	123
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
370	6	279	387	499	606	738
500	8	372	516	666	808	984
630	10	465	645	832	1010	1230
760	12	558	774	998	1212	1476
890	14	651	903	1165	1414	1722
1020	16	744	1032	1331	1616	1968
1150	18	837	1161	1498	1818	2214
1280	20	930	1290	1664	2020	2460
1410	22	1023	1419	1830	2222	2706
1540	24	1116	1548	1997	2424	2952
1670	26	1209	1677	2163	2626	3198
1800	28	1302	1806	2330	2828	3444
1930	30	1395	1935	2496	3030	3690
2060	32	1488	2064	2662	3232	
2190	34	1581	2193	2829	3434	
2320	36	1674	2322	2995	3636	
2450	38	1767	2451	3162	3838	
2580	40	1860	2580	3328	4040	
2710	42	1953	2709	3494		
2840	44	2046	2838	3661		
2970	46	2139	2967	3827		
3100	48	2232	3096	3994		
3230	50	2325	3225	4160		
3360	52	2418	3354			
3490	54	2511	3483			
3620	56	2604	3612			
3750	58	2697	3741			
3880	60	2790	3870			
Max. el.		60	60	50	40	30

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

Height 600 mm

with heat outputs as a function of lenght and depth

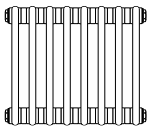
Model		M2060	M3060	M4060	M5060	M6060
Height H [mm]		600	600	600	600	600
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		0,9	1,4	1,9	2,4	2,9
Surface per element A [m²/El.]		0,01	0,15	0,20	0,25	0,29
Volume per element V [dm³/El.]		0,61	0,89	1,17	1,45	1,74
Standard water flow rate per element q_{ms} [kg/h El.]		3,8	5,2	6,6	8,2	9,7
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,31	1,36	1,35	1,39	1,41
Φ_L ΔT 50K [Watt/El.]		50	70	90	110	133
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
370	6	301	419	541	660	798
500	8	402	558	721	880	1064
630	10	502	698	901	1100	1330
760	12	602	838	1081	1320	1596
890	14	703	977	1261	1540	1862
1020	16	803	1117	1442	1760	2128
1150	18	904	1256	1622	1980	2394
1280	20	1004	1396	1802	2200	2660
1410	22	1104	1536	1982	2420	2926
1540	24	1205	1675	2162	2640	3192
1670	26	1305	1815	2343	2860	3458
1800	28	1406	1954	2523	3080	3724
1930	30	1506	2094	2703	3300	3990
2060	32	1606	2234	2883	3520	
2190	34	1707	2373	3063	3740	
2320	36	1807	2513	3244	3960	
2450	38	1908	2652	3424	4180	
2580	40	2008	2792	3604	4400	
2710	42	2108	2932	3784		
2840	44	2209	3071	3964		
2970	46	2309	3211	4145		
3100	48	2410	3350	4325		
3230	50	2510	3490	4505		
3360	52	2610	3630			
3490	54	2711	3769			
3620	56	2811	3909			
3750	58	2912	4048			
3880	60	3012	4188			
Max. el.		60	60	50	40	30

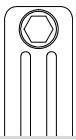
Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

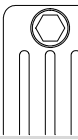
8

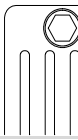
Height 750 mm

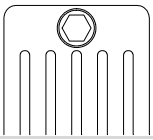
with heat outputs as a function of lenght and depth









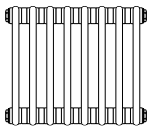
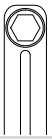
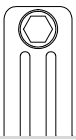
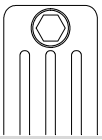
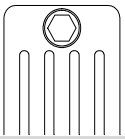
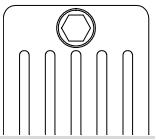


Model		M2075	M3075	M4075	M5075	M6075
Height H [mm]		750	750	750	750	750
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		1,1	1,7	2,3	2,9	3,5
Surface per element A [m²/El.]		0,12	0,18	0,24	0,30	0,37
Volume per element V [dm³/El.]		0,73	1,07	1,41	1,75	2,10
Standard water flow rate per element q_{ms} [kg/h El.]		4,7	6,5	8,2	10,1	11,8
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,31	1,36	1,35	1,39	1,40
Φ_L ΔT 50K [Watt/El.]		61	86	111	135	163
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
370	6	366	513	666	810	978
500	8	488	684	888	1080	1304
630	10	610	855	1110	1350	1630
760	12	732	1026	1332	1620	1956
890	14	854	1197	1554	1890	2282
1020	16	976	1368	1776	2160	2608
1150	18	1098	1539	1998	2430	2934
1280	20	1220	1710	2220	2700	3260
1410	22	1342	1881	2442	2970	3586
1540	24	1464	2052	2664	3240	3912
1670	26	1586	2223	2886	3510	4238
1800	28	1708	2394	3108	3780	4564
1930	30	1830	2565	3330	4050	4890
2060	32	1952	2736	3552		
2190	34	2074	2907	3774		
2320	36	2196	3078	3996		
2450	38	2318	3249	4218		
2580	40	2440	3420	4440		
2710	42	2562	3591			
2840	44	2684	3762			
2970	46	2806	3933			
3100	48	2928	4104			
3230	50	3050	4275			
3360	52	3172				
3490	54	3294				
3620	56	3416				
3750	58	3538				
3880	60	3660				
Max. el.		60	50	40	30	30

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

Height 900 mm

with heat outputs as a function of lenght and depth

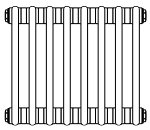
Model		M2090	M3090	M4090	M5090	M6090
Height H [mm]		900	900	900	900	900
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		1,3	2,0	2,7	3,4	4,1
Surface per element A [m²/El.]		0,15	0,22	0,29	0,36	0,44
Volume per element V [dm³/El.]		0,84	1,25	1,65	2,05	2,45
Standard water flow rate per element q_{ms} [kg/h El.]		5,8	7,7	9,6	11,9	14,0
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,31	1,36	1,35	1,39	1,40
Φ_L ΔT 50K [Watt/El.]		72	101	131	160	193
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
370	6	431	606	786	960	1158
500	8	575	808	1048	1280	1544
630	10	719	1010	1310	1600	1930
760	12	863	1212	1572	1920	2316
890	14	1007	1414	1834	2240	2702
1020	16	1150	1616	2096	2560	3088
1150	18	1294	1818	2358	2880	3474
1280	20	1438	2020	2620	3200	3860
1410	22	1582	2222	2882		
1540	24	1726	2424	3144		
1670	26	1869	2626	3406		
1800	28	2013	2828	3668		
1930	30	2157	3030	3930		
2060	32	2301	3232			
2190	34	2445	3434			
2320	36	2588	3636			
2450	38	2732	3838			
2580	40	2876	4040			
Max. el.		40	40	30	20	20

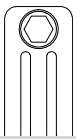
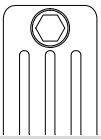
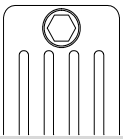
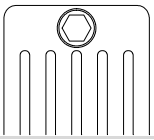
Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 1000 mm

with heat outputs as a function of lenght and depth



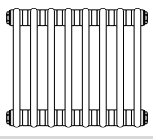
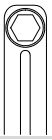
Model		M2100	M3100	M4100	M5100	M6100
Height H [mm]		1000	1000	1000	1000	1000
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		1,5	2,3	3,0	3,8	4,6
Surface per element A [m²/El.]		0,16	0,24	0,32	0,40	0,48
Volume per element V [dm³/El.]		0,92	1,37	1,81	2,25	2,69
Standard water flow rate per element q_{ms} [kg/h El.]		6,3	8,4	10,7	13,0	15,5
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,32	1,36	1,35	1,38	1,40
Φ_L ΔT 50K [Watt/El.]		79	111	144	176	212
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
370	6	476	666	864	1056	1272
500	8	634	888	1152	1408	1696
630	10	793	1110	1440	1760	2120
760	12	952	1332	1728	2112	2544
890	14	1110	1554	2016	2464	2968
1020	16	1269	1776	2304	2816	3392
1150	18	1427	1998	2592	3168	3816
1280	20	1586	2220	2880	3520	4240
1410	22	1745	2442	3168		
1540	24	1903	2664	3456		
1670	26	2062	2886	3744		
1800	28	2220	3108	4032		
1930	30	2379	3330	4320		
2060	32	2538	3552			
2190	34	2696	3774			
2320	36	2855	3996			
2450	38	3013	4218			
2580	40	3172	4440			
Max. el.		40	40	30	20	20

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 1100 mm

with heat outputs as a function of lenght and depth

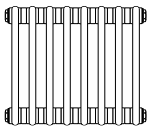
							
Model		**M2110**	**M3110**	**M4110**	**M5110**	**M6110**
Height H [mm]		1100	1100	1100	1100	1100
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		1,6	2,5	3,3	4,2	5,0
Surface per element A [m²/El.]		0,18	0,27	0,35	0,44	0,53
Volume per element V [dm³/El.]		1,00	1,49	1,97	2,45	2,93
Standard water flow rate per element q_{ms} [kg/h El.]		6,9	9,2	11,6	14,2	16,9
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,32	1,35	1,35	1,38	1,40
Φ_L ΔT 50K [Watt/El.]		87	122	157	192	232
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
370	6	520	732	942	1152	1392
500	8	693	976	1256	1536	1856
630	10	866	1220	1570	1920	2320
760	12	1039	1464	1884	2304	2784
890	14	1212	1708	2198	2688	3248
1020	16	1386	1952	2512		
1150	18	1559	2196	2826		
1280	20	1732	2440	3140		
1410	22	1905	2684	3454		
1540	24	2078	2928	3768		
1670	26	2252	3172			
1800	28	2425	3416			
1930	30	2598	3660			
Max. el.		30	30	24	14	14

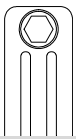
Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

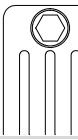
8

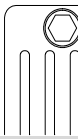
Height 1200 mm

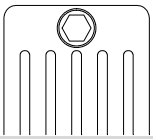
with heat outputs as a function of lenght and depth









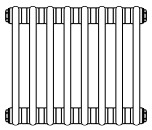
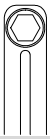
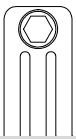
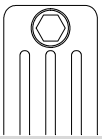
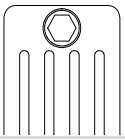
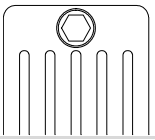


Model		M2120	M3120	M4120	M5120	M6120
Height H [mm]		1200	1200	1200	1200	1200
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		1,8	2,7	3,6	4,5	5,4
Surface per element A [m²/El.]		0,19	0,29	0,38	0,48	0,58
Volume per element V [dm³/El.]		1,08	1,60	2,13	2,65	3,17
Standard water flow rate per element q_{ms} [kg/h El.]		7,4	10,0	12,6	15,4	18,0
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,32	1,35	1,35	1,38	1,40
Φ_L ΔT 50K [Watt/El.]		94	132	170	209	251
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
370	6	565	792	1020	1254	1506
500	8	753	1056	1360	1672	2008
630	10	941	1320	1700	2090	2510
760	12	1129	1584	2040	2508	3012
890	14	1317	1848	2380	2926	3514
1020	16	1506	2112	2720		
1150	18	1694	2376	3060		
1280	20	1882	2640	3400		
1410	22	2070	2904	3740		
1540	24	2258	3168	4080		
1670	26	2447	3432			
1800	28	2635	3696			
1930	30	2823	3960			
Max. el.		30	30	24	14	14

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

Height 1500 mm

with heat outputs as a function of lenght and depth

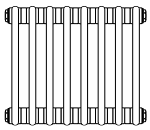
						
Model		**M2150**	**M3150**	**M4150**	**M5150**	**M6150**
Height H [mm]		1500	1500	1500	1500	1500
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		2,2	3,3	4,4	5,6	6,7
Surface per element A [m²/El.]		0,24	0,36	0,48	0,60	0,72
Volume per element V [dm³/El.]		1,32	1,96	2,60	3,24	3,88
Standard water flow rate per element q_{ms} [kg/h El.]		9,1	12,3	15,5	18,5	21,5
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,32	1,35	1,35	1,37	1,40
Φ_L ΔT 50K [Watt/El.]		117	163	208	257	307
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
370	6	702	978	1248	1542	1842
500	8	936	1304	1664	2056	2456
630	10	1170	1630	2080	2570	3070
760	12	1404	1956	2496		
890	14	1638	2282	2912		
1020	16	1872	2608	3328		
1150	18	2106	2934	3744		
1280	20	2340	3260	4160		
1410	22	2574				
1540	24	2808				
1670	26	3042				
1800	28	3276				
1930	30	3510				
Max. el.		30	20	20	10	10

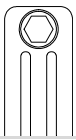
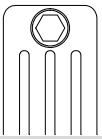
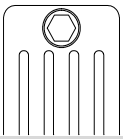
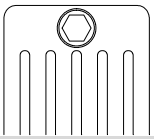
Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 1800 mm

with heat outputs as a function of lenght and depth



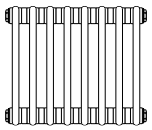
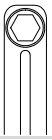
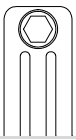
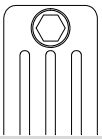
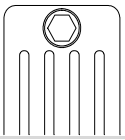
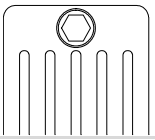
Model		M2180	M3180	M4180	M5180	M6180
Height H [mm]		1800	1800	1800	1800	1800
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		2,6	4,0	5,3	6,6	8,0
Surface per element A [m²/El.]		0,29	0,43	0,57	0,72	0,86
Volume per element V [dm³/El.]		1,56	2,32	3,08	3,84	4,60
Standard water flow rate per element q_{ms} [kg/h El.]		10,8	14,6	18,4	22,0	25,5
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,32	1,35	1,34	1,37	1,39
Φ_L ΔT 50K [Watt/El.]		141	193	246	305	361
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
370	6	846	1158	1476	1830	2166
500	8	1128	1544	1968	2440	2888
630	10	1410	1930	2460	3050	3610
760	12	1692	2316	2952		
890	14	1974	2702	3444		
1020	16	2256	3088	3936		
1150	18	2538	3474	4428		
1280	20	2820	3860	4920		
1410	22	3102				
1540	24	3384				
1670	26	3666				
1800	28	3948				
1930	30	4230				
Max. el.		30	20	20	10	10

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 2000 mm

with heat outputs as a function of lenght and depth

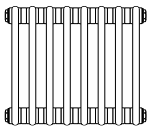
Model		M2200	M3200	M4200	M5200	M6200
Height H [mm]		2000	2000	2000	2000	2000
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		2,9	4,4	5,9	7,4	8,8
Surface per element A [m²/El.]		0,32	0,48	0,64	0,80	0,95
Volume per element V [dm³/El.]		1,72	2,56	3,40	4,24	5,08
Standard water flow rate per element q_{ms} [kg/h El.]		12,0	16,3	20,4	24,3	28,4
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,32	1,34	1,34	1,37	1,39
Φ_L ΔT 50K [Watt/El.]		157	214	270	337	397
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
370	6	942	1284	1620	2022	2382
500	8	1256	1712	2160	2696	3176
630	10	1570	2140	2700	3370	3970
760	12	1884	2568	3240		
890	14	2198	2996	3780		
1020	16	2512	3424	4320		
1150	18	2826	3852	4860		
1280	20	3140	4280	5400		
1410	22	3454				
1540	24	3768				
1670	26	4082				
1800	28	4396				
1930	30	4710				
Max. el.		30	20	20	10	10

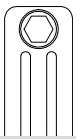
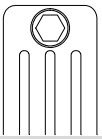
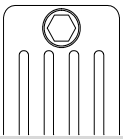
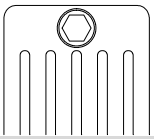
Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 2200 mm

with heat outputs as a function of lenght and depth



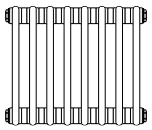
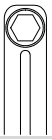
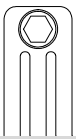
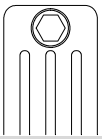
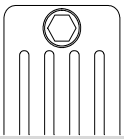
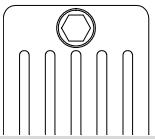
Model		M2220	M3220	M4220	M5220	M6220
Height H [mm]		2200	2200	2200	2200	2200
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		3,2	4,8	6,4	8,1	9,7
Surface per element A [m²/El.]		0,35	0,52	0,70	0,87	1,05
Volume per element V [dm³/El.]		1,88	2,80	3,72	4,64	5,55
Standard water flow rate per element q_{ms} [kg/h El.]		13,2	17,9	22,4	26,5	31,0
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,32	1,34	1,34	1,36	1,39
Φ_L ΔT 50K [Watt/El.]		175	235	295	369	432
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
370	6	1050	1410	1770	2214	2592
500	8	1400	1880	2360	2952	3456
630	10	1750	2350	2950	3690	4320
760	12	2100	2820	3540		
890	14	2450	3290	4130		
1020	16	2800	3760	4720		
1150	18	3150	4230	5310		
1280	20	3500	4700	5900		
1410	22	3850				
1540	24	4200				
1670	26	4550				
1800	28	4900				
1930	30	5250				
Max. el.		30	20	20	10	10

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 2500 mm

with heat outputs as a function of lenght and depth

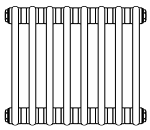
Model		M2250	M3250	M4250	M5250	M6250
Height H [mm]		2500	2500	2500	2500	2500
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		3,6	5,5	7,3	9,1	11,0
Surface per element A [m²/El.]		0,40	0,59	0,79	0,99	1,19
Volume per element V [dm³/El.]		2,12	3,16	4,19	5,23	6,27
Standard water flow rate per element q_{ms} [kg/h El.]		15,0	20,3	25,4	29,8	34,7
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,32	1,34	1,34	1,36	1,39
Φ_L ΔT 50K [Watt/El.]		201	266	331	417	483
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
370	6	1206	1596	1986	2502	2898
500	8	1608	2128	2648	3336	3864
630	10	2010	2660	3310	4170	4830
760	12	2412				
890	14	2814				
1020	16	3216				
1150	18	3618				
1280	20	4020				
Max. el.		20	10	10	10	10

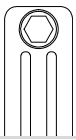
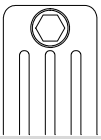
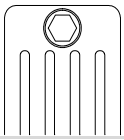
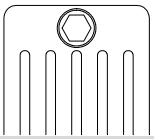
Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 2800 mm

with heat outputs as a function of lenght and depth



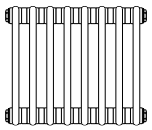
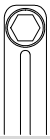
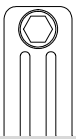
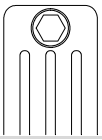
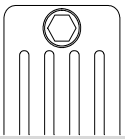
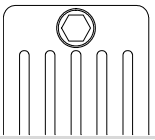
						
Model		**M2280**	**M3280**	**M4280**	**M5280**	**M6280**
Height H [mm]		2800	2800	2800	2800	2800
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		4,0	6,1	8,2	10,2	12,3
Surface per element A [m²/El.]		0,44	0,67	0,89	1,11	1,33
Volume per element V [dm³/El.]		2,36	3,51	4,67	5,83	6,99
Standard water flow rate per element q_{ms} [kg/h El.]		16,8	22,5	28,2	33,1	38,6
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,33	1,34	1,34	1,35	1,38
Φ_L ΔT 50K [Watt/El.]		230	297	366	466	533
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
370	6	1380	1782	2196	2796	3198
500	8	1840	2376	2928	3728	4264
630	10	2300	2970	3660	4660	5330
760	12	2760				
890	14	3220				
1020	16	3680				
1150	18	4140				
1280	20	4600				
Max. el.		20	10	10	10	10

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

Height 3000 mm

with heat outputs as a function of lenght and depth

						
Model		**M2300**	**M3300**	**M4300**	**M5300**	**M6300**
Height H [mm]		3000	3000	3000	3000	3000
Depth T [mm]		65	105	145	185	225
Weight per element M [kg/El.]		4,3	6,5	8,7	10,9	13,1
Surface per element A [m²/El.]		0,48	0,71	0,95	1,19	1,43
Volume per element V [dm³/El.]		2,51	3,75	4,99	6,23	7,46
Standard water flow rate per element q_{ms} [kg/h El.]		17,9	24,0	30,1	35,3	41,3
Radiated portion s [%]		49	38	33	30	27
Radiator classification n [Exp]		1,33	1,33	1,34	1,35	1,38
Φ_L ΔT 50K [Watt/El.]		250	318	390	498	566
Length L [mm]	Length [El.]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]	Φ_S ΔT 50K 75/65/20°C [Watt]
370	6	1500	1908	2340	2988	3396
500	8	2000	2544	3120	3984	4528
630	10	2500	3180	3900	4980	5660
760	12	3000				
890	14	3500				
1020	16	4000				
1150	18	4500				
1280	20	5000				
Max. el.		20	10	10	10	10

Φ_S ΔT 50K: standard heat output at 75/65/20°C (ΔT 50K) (EN 442)
ΔT 50K: standard temperature rise
Weight per radiator > 125 kg (dry)

8

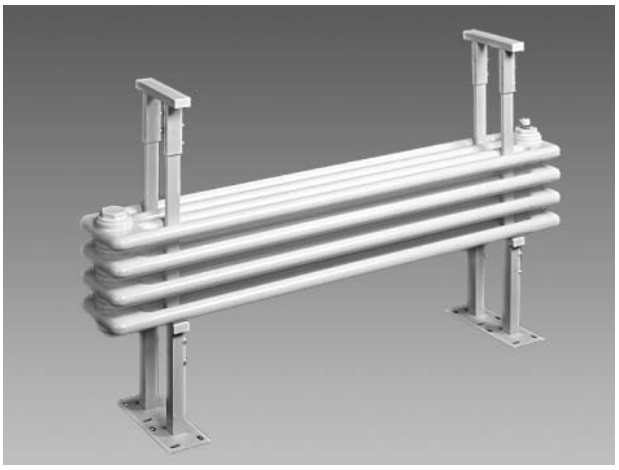
Technical data per element

Height H [mm]	Depth T [mm]	Model	Heat output EN 442				Radiator classification n [Exp]	Weight per element M [kg/El.]	Volume per element V [dm³/El.]	Surface per element A [m²/El.]	Standard water flow rate per element q_{ms} [kg/h El.]	Radiated portions [%]
			Φ ΔT 60K 90/70/20°C [Watt/El.]	**Φ_L ΔT 50K 75/65/20°C [Watt/El.]**	Φ ΔT 42K 70/55/20°C [Watt/El.]	Φ ΔT 30K 55/45/20°C [Watt/El.]						
	65	M2026	31	**25**	20	13	1,25	0,4	0,34	0,04	1,6	49
	105	M3026	41	**33**	26	17	1,31	0,7	0,48	0,07	2,2	38
260	145	M4026	53	**42**	34	21	1,30	0,9	0,63	0,09	2,8	33
	185	M5026	65	**51**	41	26	1,33	1,2	0,78	0,11	3,6	30
	225	M6026	78	**61**	48	30	1,36	1,4	0,93	0,13	4,0	27
	65	M2030	35	**28**	23	15	1,26	0,5	0,37	0,05	1,9	49
	105	M3030	47	**37**	30	19	1,33	0,8	0,53	0,08	2,7	38
300	145	M4030	60	**48**	38	24	1,33	1,0	0,69	0,10	3,4	33
	185	M5030	74	**58**	46	29	1,36	1,3	0,86	0,13	4,1	30
	225	M6030	89	**70**	55	34	1,39	1,6	1,02	0,15	4,9	27
	65	M2035	40	**32**	25	16	1,31	0,6	0,41	0,06	2,2	49
	105	M3035	55	**43**	34	21	1,36	0,9	0,59	0,09	3,1	38
350	145	M4035	70	**55**	44	27	1,35	1,2	0,77	0,12	4,0	33
	185	M5035	86	**67**	53	33	1,39	1,5	0,96	0,15	4,8	30
	225	M6035	103	**81**	63	39	1,41	1,8	1,14	0,18	5,7	27
	65	M2040	45	**36**	28	18	1,31	0,6	0,45	0,07	2,4	49
	105	M3040	62	**48**	38	24	1,36	1,0	0,65	0,10	3,5	38
400	145	M4040	79	**62**	49	31	1,35	1,3	0,85	0,13	4,5	33
	185	M5040	97	**76**	60	37	1,39	1,7	1,06	0,17	5,5	30
	225	M6040	117	**91**	72	44	1,41	2,0	1,26	0,20	6,5	27
	65	M2045	49	**39**	31	20	1,31	0,7	0,49	0,07	2,8	49
	105	M3045	68	**54**	43	27	1,36	1,1	0,71	0,11	4,0	38
450	145	M4045	88	**69**	55	34	1,35	1,5	0,93	0,15	5,0	33
	185	M5045	108	**84**	67	41	1,39	1,8	1,16	0,19	6,2	30
	225	M6045	131	**102**	80	49	1,41	2,2	1,38	0,22	7,2	27
	65	M2050	54	**43**	34	22	1,31	0,8	0,53	0,08	3,2	49
	105	M3050	75	**59**	47	29	1,36	1,2	0,77	0,12	4,4	38
500	145	M4050	97	**76**	61	38	1,35	1,6	1,01	0,17	5,6	33
	185	M5050	119	**93**	73	45	1,39	2,0	1,26	0,21	6,9	30
	225	M6050	144	**112**	88	54	1,41	2,4	1,50	0,25	8,1	27
	65	M2055	59	**47**	37	24	1,31	0,8	0,57	0,09	3,5	49
	105	M3055	82	**65**	51	32	1,36	1,3	0,83	0,14	4,7	38
550	145	M4055	106	**83**	66	41	1,35	1,7	1,09	0,18	6,1	33
	185	M5055	129	**101**	80	49	1,39	2,2	1,36	0,23	7,5	30
	225	M6055	158	**123**	97	59	1,41	2,6	1,62	0,27	8,9	27
	65	M2060	63	**50**	40	25	1,31	0,9	0,61	0,01	3,8	49
	105	M3060	89	**70**	55	35	1,36	1,4	0,89	0,15	5,2	38
600	145	M4060	114	**90**	72	45	1,35	1,9	1,17	0,20	6,6	33
	185	M5060	141	**110**	87	54	1,39	2,4	1,45	0,25	8,2	30
	225	M6060	170	**133**	105	64	1,41	2,9	1,74	0,29	9,7	27
	65	M2075	77	**61**	49	31	1,31	1,1	0,73	0,12	4,7	49
	105	M3075	109	**86**	68	42	1,36	1,7	1,07	0,18	6,5	38
750	145	M4075	141	**111**	88	55	1,35	2,3	1,41	0,24	8,2	33
	185	M5075	172	**135**	107	66	1,39	2,9	1,75	0,30	10,1	30
	225	M6075	209	**163**	128	79	1,40	3,5	2,10	0,37	11,8	27
	65	M2090	91	**72**	58	36	1,31	1,3	0,84	0,15	5,8	49
	105	M3090	128	**101**	80	50	1,36	2,0	1,25	0,22	7,7	38
900	145	M4090	166	**131**	104	65	1,35	2,7	1,65	0,29	9,6	33
	185	M5090	204	**160**	126	78	1,39	3,4	2,05	0,36	11,9	30
	225	M6090	247	**193**	152	93	1,40	4,1	2,45	0,44	14,0	27

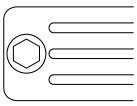
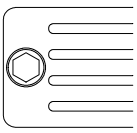
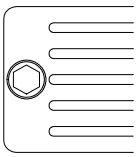
Height H [mm]	Depth T [mm]	Model	Heat output EN 442				Radiator classification n [Exp]	Weight per element M [kg/El.]	Volume per element V [dm³/El.]	Surface per element A [m²/El.]	Standard water flow rate per element q_{ms} [kg/h El.]	Radiated portions [%]
			Φ ΔT 60K 90/70/20°C [Watt/El.]	**Φ_L ΔT 50K 75/65/20°C [Watt/El.]**	Φ ΔT 42K 70/55/20°C [Watt/El.]	Φ ΔT 30K 55/45/20°C [Watt/El.]						
	65	M2100	100	**79**	63	40	1,32	1,5	0,92	0,16	6,3	49
	105	M3100	141	**111**	88	55	1,36	2,3	1,37	0,24	8,4	38
1000	145	M4100	183	**144**	115	72	1,35	3,0	1,81	0,32	10,7	33
	185	M5100	225	**176**	139	86	1,38	3,8	2,25	0,40	13,0	30
	225	M6100	271	**212**	167	103	1,40	4,6	2,69	0,48	15,5	27
	65	M2110	109	**87**	69	44	1,32	1,6	1,00	0,18	6,9	49
	105	M3110	155	**122**	97	61	1,35	2,5	1,49	0,27	9,2	38
1100	145	M4110	199	**157**	125	78	1,35	3,3	1,97	0,35	11,6	33
	185	M5110	245	**192**	152	94	1,38	4,2	2,45	0,44	14,2	30
	225	M6110	297	**232**	183	112	1,40	5,0	2,93	0,53	16,9	27
	65	M2120	119	**94**	75	48	1,32	1,8	1,08	0,19	7,4	49
	105	M3120	168	**132**	105	66	1,35	2,7	1,60	0,29	10,0	38
1200	145	M4120	216	**170**	135	85	1,35	3,6	2,13	0,38	12,6	33
	185	M5120	267	**209**	165	102	1,38	4,5	2,65	0,48	15,4	30
	225	M6120	321	**251**	198	122	1,40	5,4	3,17	0,58	18,0	27
	65	M2150	148	**117**	94	59	1,32	2,2	1,32	0,24	9,1	49
	105	M3150	207	**163**	130	81	1,35	3,3	1,96	0,36	12,3	38
1500	145	M4150	264	**208**	166	104	1,35	4,4	2,60	0,48	15,5	33
	185	M5150	328	**257**	204	126	1,37	5,6	3,24	0,60	18,5	30
	225	M6150	393	**307**	242	149	1,40	6,7	3,88	0,72	21,5	27
	65	M2180	178	**141**	113	71	1,32	2,6	1,56	0,29	10,8	49
	105	M3180	245	**193**	154	96	1,35	4,0	2,32	0,43	14,6	38
1800	145	M4180	312	**246**	196	123	1,34	5,3	3,08	0,57	18,4	33
	185	M5180	388	**305**	242	150	1,37	6,6	3,84	0,72	22,0	30
	225	M6180	462	**361**	285	176	1,39	8,0	4,60	0,86	25,5	27
	65	M2200	198	**157**	125	79	1,32	2,9	1,72	0,32	12,0	49
	105	M3200	271	**214**	170	107	1,34	4,4	2,56	0,48	16,3	38
2000	145	M4200	342	**270**	215	135	1,34	5,9	3,40	0,64	20,4	33
	185	M5200	429	**337**	267	166	1,37	7,4	4,24	0,80	24,3	30
	225	M6200	507	**397**	314	193	1,39	8,8	5,08	0,95	28,4	27
	65	M2220	221	**175**	140	88	1,32	3,2	1,88	0,35	13,2	49
	105	M3220	298	**235**	187	117	1,34	4,8	2,80	0,52	17,9	38
2200	145	M4220	374	**295**	235	147	1,34	6,4	3,72	0,70	22,4	33
	185	M5220	469	**369**	293	182	1,36	8,1	4,64	0,87	26,5	30
	225	M6220	552	**432**	341	211	1,39	9,7	5,55	1,05	31,0	27
	65	M2250	254	**201**	161	101	1,32	3,6	2,12	0,40	15,0	49
	105	M3250	337	**266**	212	133	1,34	5,5	3,16	0,59	20,3	38
2500	145	M4250	419	**331**	264	166	1,34	7,3	4,19	0,79	25,4	33
	185	M5250	530	**417**	331	207	1,36	9,1	5,23	0,99	29,8	30
	225	M6250	617	**483**	382	236	1,39	11,0	6,27	1,19	34,7	27
	65	M2280	291	**230**	184	116	1,33	4,0	2,36	0,44	16,8	49
	105	M3280	376	**297**	237	149	1,34	6,1	3,51	0,67	22,5	38
2800	145	M4280	463	**366**	292	183	1,34	8,2	4,67	0,89	28,2	33
	185	M5280	592	**466**	370	232	1,35	10,2	5,83	1,11	33,1	30
	225	M6280	680	**533**	422	261	1,38	12,3	6,99	1,33	38,6	27
	65	M2300	316	**250**	200	126	1,33	4,3	2,51	0,48	17,9	49
	105	M3300	402	**318**	254	160	1,33	6,5	3,75	0,71	24,0	38
3000	145	M4300	494	**390**	311	195	1,34	8,7	4,99	0,95	30,1	33
	185	M5300	632	**498**	396	248	1,35	10,9	6,23	1,19	35,3	30
	225	M6300	722	**566**	448	277	1,38	13,1	7,46	1,43	41,3	27

Individual calculation of heat outputs see section 1: „General information"

Bench radiator



Bench radiator
Including brackets for bench top
Example: 4 columns

Model	.F4...	.F5...	.F6...
Standard without built-in valve			
Depth	145 mm	185 mm	225 mm
Explanation model code	. : number of elements (4–7), corresponds to height	. : number of elements (4–7), corresponds to height	. : number of elements (4–7), corresponds to height
	F4 : bench radiator with 4 columns	F5 : bench radiator with 5 columns	F6 : bench radiator with 6 columns
	... : length in cm	... : length in cm	... : length in cm
Example	6F4150	6 : 6 elements, height = 250 mm F4 : 4 columns, depth = 145 mm 150 : 150 cm length	

8

General

The compact room heater sized to suit. Anybody who chooses bench radiators from Arbonia has chosen well. These technically and aesthetically top-notch products provide the comfort that the demanding client expects: more comfort thanks to the ideal distribution of heat by radiation and convection, more options due to the wide range of room heater dimensions available, and also more safety (GUV-tested), because they do not have any corners or sharp edges. This is a valuable advantage particularly in children's rooms and schools. Arbonia bench radiators are also highly valued in the residential sector, in public buildings, in residential homes, etc. because they are very easy to clean.

The bench radiator harmoniously combines the advantages of the column radiators with the practical and useful function as a shelf or bench.

Range available

- 3 depths: 145–225 mm (4–6 columns)
- 4 room heater heights: 160–295 mm
- Height with bracket (adjustable, without bench): 465–710 mm
- 5 lengths: 1500–3000 mm
- 2-tube connections
- Brackets ZB0032 (B221) included

The room heaters are supplied as assembled elements. Plugs and reducers with internal thread, coupling nipples and seals are included.

Special versions

- 1-tube connections
- Built-in air vent

Surface finishes

- AllFinish in pure white (AF) RAL 9010 – standard version
- AllFinish in traffic white (AF) RAL 9016
- Primed in cream-white (ET)
- Primed in cream-white and packed in plastic sheet (EF)
- ColorFinish in standard colour (CF)
- SuperFinish in colour of choice (SF) [2)]
- Textured paint after priming
  - In white (SL)
  - In colour of choice (KL) [1]
- Clear lacquer (TF)
- Hot-dip galvanised outside, for wet rooms (swimming pools, cellar rooms for washing etc.), does not apply for damp rooms (bathroom and WC)
  - Without paint finish (ZN)
  - With textured paint in white (ZL)
  - With textured paint in colour of choice (ZK) [2)]
- Anti-microbial coating (AM)

All finishes are baked at 170 °C.

For detailed information see "Colour Fashion of the Arbonia Radiators".

Operating conditions

- For closed water heating systems in accordance with DIN 18380 and water quality in accordance with VDI 2035
- Can be used in conventional and low temperature areas
- Can be used for district heating and high-rise buildings, as high permissible operating pressure
- Not suitable for steam-based heating systems

Properties of relevance to operation	Standard version
	2–6 columns
Operating pressure [bar (kPa)]	10,0 (1000)
Test pressure [bar (kPa)]	13,0 (1300)
Max. temperature [°C]	120

Minimum water flow rate

The minimum water flow rate must not be less than 20 % of the standard water flow rate in accordance with EN 442 to avoid a reduction in the heat output. This applies both to connection on same end and on opposite ends.

Pressure drop Δp

$\Delta p = \zeta \times \rho/_2 \times w^2$

Δp:	Pressure drop [Pa]
ζ:	Resistance coefficient Zeta []
ρ:	Density of the water [kg/m^3]
w:	Water velocity [m/s]

The entire pressure drop on bench radiators can be calculated using a ζ value of 2,5. This value applies for a water velocity of up to 1 m/s.

Heat outputs

The heat outputs given in the price list are determined in accordance with the guidelines in EN 442.

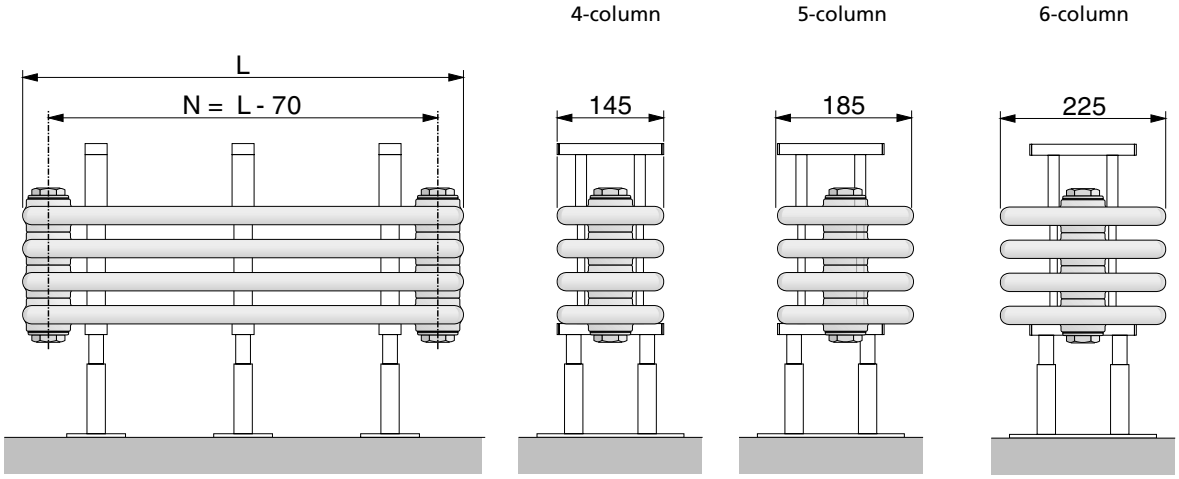
RAL tested and registered.

Tender text

Arbonia bench radiator

See column radiator

Dimension drawings



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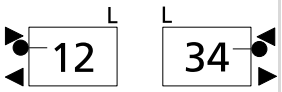
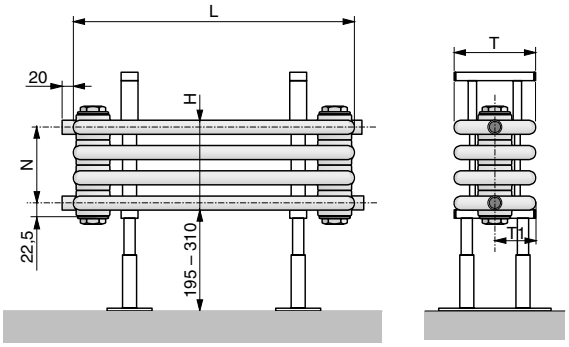
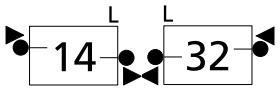
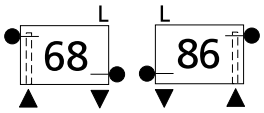
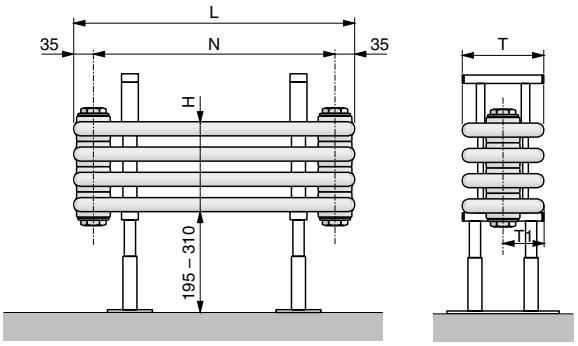
1. Not in all colours

Connection options flow / return

Connection system	Ord. code |5|	ζ value	Arrangement Ordering code |6|	Connec. size	Ordering code |7| Flow	Ordering code |7| Return	Dimension drawings
2-tube, side	2	2,5		G 3/8″ G 1/2″ G 3/4″	38 12 34	38 12 34	
							
2-tube, bottom	2	2,5		G 3/8″ G 1/2″ G 3/4″ G 1″	38 12 34 10	38 12 34 10	

Mod.	T mm	T1 mm
4-S	145	72,5
5-S	185	92,5
6-S	225	112,5

Mod. Gl	N mm
4F	135
5F	180
6F	225
7F	270

Mod.	T mm	T1 mm
4-S	145	72,5
5-S	185	92,5
6-S	225	112,5

L mm	N mm
1500	1430
1800	1730
2000	1930
2500	2430
3000	2930

1-tube connection on request

L: recommended position for air vent tapping
● 100 % sealing baffle

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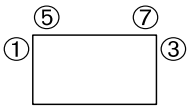
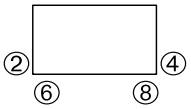
Air vent

Description	Feature	Ordering code
Version		
Air vent tapping – standard version	|8|	4
Built-in air vent with rotating outlet	|8|	1
No air vent, only if imperative	|8|	3
Arrangement		
Position recommended by the factory – standard version [1]	|9|	–
Position on request [2]	|9|	
Tapping size		
G $^3/_8$" internal thread	|10|	38
G $^1/_2$" internal thread	|10|	12

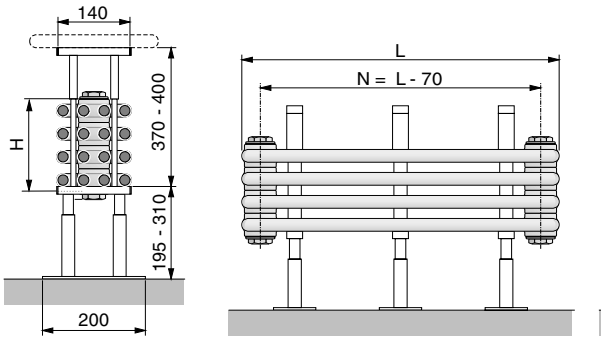
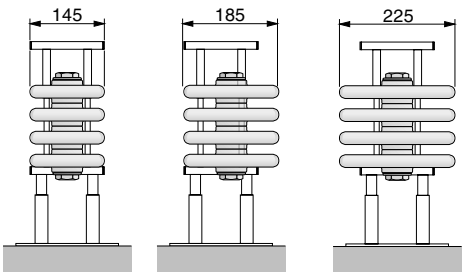
[1] For position see illustration of the arrangement of the connections in the "Connection options flow / return" table
[2] If the tapping cannot be arranged in the required position for technical reasons, the tapping will instead be arranged in the position recommended by the factory

Drain

Description	Feature	Ordering code
Version		
No drain, only if imperative – standard version [1]	|11|	3
Drain tapping	|11|	4
Arrangement		
Position recommended by the factory – standard version [2]	|12|	–
Position on request [3]	|12|	
Tapping size		
G $^1/_2$" internal thread	|13|	12
G $^3/_8$" internal thread	|13|	38

[1] If a drain tapping is necessary for technical reasons, this will be fitted as standard in the factory
[2] For position see illustration of the arrangement of the connections in the "Connection options flow / return" table
[3] If the tapping cannot be arranged in the required position for technical reasons, the tapping will instead be arranged in the position recommended by the factory

Fixing with brackets ZB0032 (B221)

Description	Maßzeichnungen
• The brackets (type ZB0032 (B221)) are included • Number of brackets: - 2 for L = 1,20 m - 3 up to L = 2,00 m - 4 for L > 2,00 m • Brackets are painted (also available galvanised) • Bench is to be fitted on site	 4-columns 5-columns 6-columns 

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Surface finishes

Description	Finish Ordering code |17|	Colour Ordering code |18/0|	Colour number Ordering code |18|
AllFinish in white			
Traffic white RAL 9016	AF	RAL	9016
Pure white RAL 9010	AF	RAL	9010
Primed in cream-white	ET	–	–
Primed in cream-white and packed in plastic sheet	EF	–	–
ColorFinish, finished in standard colour [1]	CF	RAL colour	Colour number from colour card
	CF	Sanitary colour [1]	–
SuperFinish in colour of choice [1] [2]	SF	Manufacturer's colour	Colour number manufacturer's colour
	SF	Arbonia special colour [1]	–
SuperFinish in gloss silver	SF	GLS	–
Clear lacquer	TF	–	–
Textured paint after priming			
Traffic white RAL 9016	SL	RAL	9016
Pure white RAL 9010	SL	RAL	9010
In colour of choice (manufacturer's colour) [1] [2]	KL	Manufacturer's colour	Colour number manufacturer's colour
In colour of choice (Arbonia special colour) [1] [2]	KL	Arbonia special colour [1]	–
Hot-dip galvanised, outside, for wet rooms			
Without paint finish	ZN	–	–
With textured paint in traffic white RAL 9016	ZL	RAL	9016
With textured paint in pure white RAL 9010	ZL	RAL	9010
With structured paint in colour of choice (manufacturer's colour) [1] [2]	ZK	Manufacturer's colour	Colour number manufacturer's colour
With textured paint in colour of choice (sanitary colour) [1] [2]	ZK	Sanitary colour [1]	–
With textured paint in colour of choice (Arbonia special colour) [1] [2]	ZK	Arbonia special colour [1]	–
Anti-microbial coating			
Traffic white RAL 9016	AM	RAL	9016
Pure white RAL 9010	AM	RAL	9010

[1] For information on ordering, see ordering process section 1 „General information“ and colour chart
[2] Not in all colours

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Depth T [mm]	Length L [mm]	Height H [mm]	Model	Heat output EN 442				Radiator classification [Exp]	Weight M [kg]	Volume V [dm³]	Surface A [m²]	Standard water flow rate q_{ms} [kg/h]	Radiated portions [%]
				Φ ΔT 60K 90/70/20°C [Watt]	**Φ_L ΔT 50K 75/65/20°C [Watt]**	Φ ΔT 42K 70/55/20°C [Watt]	Φ ΔT 30K 55/45/20°C [Watt]						
145	1500	**160**	4F4150	1176	**935**	750	478	1,30	17,8	10,4	1,9	62,0	33
		205	5F4150	1411	**1122**	900	573	1,30	22,2	13,0	2,4	77,5	33
		250	6F4150	1698	**1350**	1083	690	1,30	26,6	15,6	2,9	93,0	33
		295	7F4150	1904	**1514**	1214	773	1,30	31,1	18,2	3,4	108,5	33
	1800	**160**	4F4180	1405	**1117**	896	571	1,30	21,2	12,3	2,3	73,6	33
		205	5F4180	1688	**1342**	1076	685	1,30	26,5	15,4	2,9	92,0	33
		250	6F4180	1971	**1567**	1257	800	1,30	31,8	18,5	3,4	110,4	33
		295	7F4180	2275	**1809**	1451	924	1,30	37,1	21,6	4,0	128,8	33
	2000	**160**	4F4200	1561	**1241**	995	634	1,30	23,5	13,6	2,6	81,6	33
		205	5F4200	1835	**1459**	1170	745	1,30	29,4	17,0	3,2	102,0	33
		250	6F4200	2188	**1740**	1396	889	1,30	35,2	20,4	3,8	122,4	33
		295	7F4200	2525	**2008**	1611	1026	1,30	41,1	23,8	4,5	142,8	33
	2500	**160**	4F4250	1944	**1546**	1240	790	1,30	29,2	16,8	3,2	101,6	33
		205	5F4250	2333	**1855**	1488	947	1,30	36,5	21,0	4,0	127,0	33
		250	6F4250	2727	**2168**	1739	1107	1,30	43,7	25,1	4,7	152,4	33
		295	7F4250	3148	**2503**	2008	1278	1,30	51,0	29,3	5,5	177,8	33
	3000	**160**	4F4300	2359	**1876**	1505	958	1,30	34,9	20,0	3,8	120,4	33
		205	5F4300	2834	**2253**	1807	1151	1,30	43,6	25,0	4,8	150,5	33
		250	6F4300	3309	**2631**	2110	1344	1,30	52,3	29,9	5,7	180,6	33
		295	7F4300	3821	**3038**	2437	1552	1,30	61,0	34,9	6,7	210,7	33
185	1500	**160**	4F5150	1432	**1139**	914	582	1,30	22,3	13,0	2,4	74,0	30
		205	5F5150	1719	**1367**	1096	698	1,30	27,9	16,2	3,0	92,5	30
		250	6F5150	1996	**1587**	1273	811	1,30	33,4	19,4	3,6	111,0	30
		295	7F5150	2314	**1840**	1476	940	1,30	39,0	22,7	4,2	129,5	30
	1800	**160**	4F5180	1697	**1349**	1082	689	1,30	26,6	15,4	2,9	88,0	30
		205	5F5180	2035	**1618**	1298	826	1,30	33,2	19,2	3,6	110,0	30
		250	6F5180	2363	**1879**	1507	960	1,30	39,8	23,0	4,3	132,0	30
		295	7F5180	2742	**2180**	1749	1113	1,30	46,5	26,9	5,0	154,0	30
	2000	**160**	4F5200	1876	**1492**	1197	762	1,30	29,4	17,0	3,2	97,2	30
		205	5F5200	2207	**1755**	1408	896	1,30	36,8	21,2	4,0	121,5	30
		250	6F5200	2615	**2079**	1668	1062	1,30	44,1	25,4	4,8	145,8	30
		295	7F5200	3035	**2413**	1935	1232	1,30	51,5	29,7	5,6	170,1	30
	2500	**160**	4F5250	2325	**1849**	1483	944	1,30	36,5	20,9	4,0	119,2	30
		205	5F5250	2793	**2221**	1781	1134	1,30	45,7	26,2	5,0	149,0	30
		250	6F5250	3242	**2578**	2068	1317	1,30	54,8	31,4	5,9	178,8	30
		295	7F5250	3759	**2989**	2397	1527	1,30	63,9	36,6	6,9	208,6	30
	3000	**160**	4F5300	2779	**2210**	1773	1129	1,30	43,6	24,9	4,8	141,2	30
		205	5F5300	3340	**2656**	2130	1357	1,30	54,6	31,2	6,0	176,5	30
		250	6F5300	3875	**3081**	2471	1574	1,30	65,5	37,4	7,1	211,8	30
		295	7F5300	4497	**3576**	2868	1827	1,30	76,4	43,6	8,3	247,1	30

Depth T [mm]	Length L [mm]	Height H [mm]	Model	Heat output EN 442				Radiator classification [Exp]	Weight M [kg]	Volume V [dm³]	Surface A [m²]	Standard water flow rate q_{ms} [kg/h]	Radiated portions [%]
				Φ ΔT 60K 90/70/20°C [Watt]	**Φ_L ΔT 50K 75/65/20°C [Watt]**	Φ ΔT 42K 70/55/20°C [Watt]	Φ ΔT 30K 55/45/20°C [Watt]						
225	1500	**160**	4F6150	1717	**1356**	1095	697	1,30	26,8	15,5	2,9	86,0	27
		205	5F6150	2030	**1614**	1295	824	1,30	33,5	19,4	3,6	107,5	27
		250	6F6150	2368	**1883**	1510	962	1,30	40,2	23,3	4,3	129,0	27
		295	7F6150	2722	**2164**	1736	1105	1,30	46,9	27,2	5,0	150,5	27
	1800	**160**	4F6180	2027	**1612**	1293	823	1,30	31,9	18,4	3,4	102,0	27
		205	5F6180	2413	**1919**	1539	980	1,30	39,9	23,0	4,3	127,5	27
		250	6F6180	2815	**2238**	1795	1143	1,30	47,9	27,6	5,2	153,0	27
		295	7F6180	3235	**2572**	2063	1314	1,30	55,9	32,2	6,0	178,5	27
	2000	**160**	4F6200	2236	**1778**	1426	908	1,30	35,4	20,3	3,8	113,6	27
		205	5F6200	2661	**2116**	1697	1081	1,30	44,2	25,4	4,8	142,0	27
		250	6F6200	3105	**2469**	1980	1261	1,30	53,0	30,5	5,7	170,4	27
		295	7F6200	3569	**2838**	2276	1450	1,30	61,9	35,6	6,7	198,8	27
	2500	**160**	4F6250	2812	**2236**	1793	1142	1,30	43,9	25,1	4,8	138,8	27
		205	5F6250	3345	**2660**	2134	1359	1,30	54,9	31,4	6,0	173,5	27
		250	6F6250	3904	**3104**	2490	1585	1,30	65,8	37,6	7,1	208,2	27
		295	7F6250	4487	**3568**	2862	1822	1,30	76,8	43,9	8,3	242,9	27
	3000	**160**	4F6300	3373	**2682**	2151	1370	1,30	52,4	29,8	5,7	165,2	27
		205	5F6300	4016	**3193**	2561	1631	1,30	65,6	37,3	7,2	206,5	27
		250	6F6300	4685	**3725**	2988	1903	1,30	78,7	44,8	8,6	247,8	27
		295	7F6300	5383	**4280**	3433	2186	1,30	91,8	52,2	10,0	289,1	27

Individual calculation of heat outputs see section 1: „General information“

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