



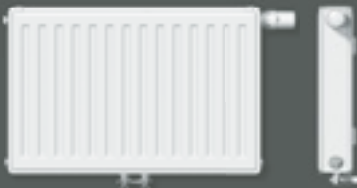
ULOW-E2



**ULOW-E2  
LOW-TEMPERATURE RADIATOR**

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PROFILE RADIATORS



**T6-CENTRALLY  
CONNECTED RADIATOR**

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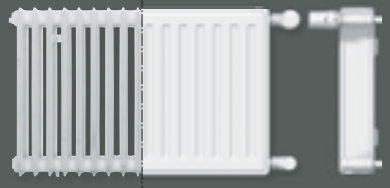
**HYGIENE T6-CENTRALLY  
CONNECTED RADIATOR**

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**HYGIENE COMPACT  
RADIATOR**

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**T6-PLAN CENTRALLY  
CONNECTED RADIATOR**

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## ULOW-E2 LOW-TEMPERATURE RADIATOR



**E2**  
Technology

**An unmatched concept**

The ULOW-E2 low-temperature radiator, with its E2 technology is the realisation of a unique product concept, that offers efficient, economic and aesthetic heat emission.



reddot design award  
winner 2013



### **Beauty and economy in one**

An avant-garde design meets all the demands of a modern interior and stylishly enhances any living space. Because of the small additional investment costs needed for the ULOW-E2's higher efficiency, it quickly pays for itself. Manual temperature control in each room makes for maximum comfort in every one of them.

### **Powerful and intelligent**

On the one hand, the ULOW-E2 gives a high proportion of radiant heat thanks to its water-filled panels, whilst on the other, it provides optimised, on-demand convection. Intelligent control, switches between static and dynamic operation and ensures quick heat emission and short reaction times, with high efficiency and a maximum of thermal comfort at supply temperatures of 40° C and less.

## The advantages of the ULOW-E2 low-temperature radiator at a glance.



### Low-temperature compatible

The ULOW-E2 low-temperature radiator gives problem-free use at supply temperatures of 40° C and less, with all modern, conventional energy sources (oil or gas burning heating systems, &c), as well as all renewable energy sources (heat pumps, solar heating, &c).



### Intelligent control

What makes the ULOW-E2 so special is that it is fitted with fans that enhance natural convection, combined with an intelligent control system that can switch between static and dynamic operation either fully automatically, or according to the user's operating requirements. The fans serve as a supplement and are only switched on when needed, as this equipment provides high basic performance even in static operation.



### High savings potential

Choosing it in preference to other products currently available on the market can give you huge energy savings, because of the significantly lower ambient operational temperatures. With the ULOW-E2, operating the entire heating system is much more energy-efficient.



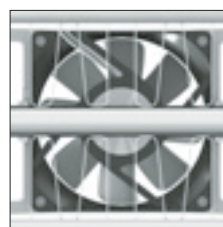
### State-of-the-art design

The ULOW-E2's extremely elegant plane optics and its futuristically reduced artistic style appeal to persons with a sophisticated awareness of their furnishings, whilst the rounded soft-line edges exude stylish harmony. VOGEL&NOOT are trend-setting trail blazers with their completely new round-aperture optics – another prominent feature is the classy looking, intuitive touchpad control panel.



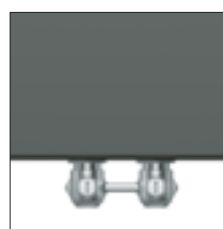
### Heat emission in next to no time and a short reaction time

Because of its high proportion of radiant heat and its on-demand fan-optimised convection, the ULOW-E2 ensures fast heat emission and short reaction times. In winter any night-time drop in temperature or heat loss from ventilating room can be compensated for, no problem, in next to no time.



### Tried and tested central-connection technology

In today's flexible building industry pre-piping has become indispensable. In this respect central-connection technology contributes significantly to reductions both in installation time and costs and in susceptibility to faults. It also ensures maximum freedom in planning and installation.



The advantages

## E2 Technology

ULOW-E2



### A higher proportion of radiant heat

In contrast to simple convectors the ULOW-E2 gives a much higher proportion of radiant heat, thanks to its water-filled panels to front and rear.



### Ideal for renovations and new buildings

After thermal renovation and the fitting of a modern heating source, the conditions for installing the ULOW-E2 are ideal. We recommend using ULOW-E2 low-temperature radiators on their own in renovations, but in combination with other heat emission systems in new buildings.



### Versatile electrical connection

To connect the ULOW-E2 to the power supply, there is a choice of two options – a plug connection or a direct cable connection. The power cable length is fully adjustable.



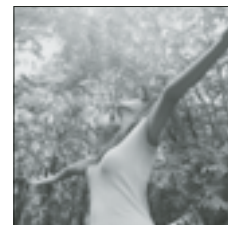
### Extremely easy installation

The ULOW-E2 is delivered as a ready to connect product, and can be installed just like any standard radiator - it's easy, efficient, flexible and inexpensive. Particularly with renovations this is very important.



### System compatibility

Operating in combinations in new buildings, the ULOW-E2 is perfectly compatible with other low-temperature heat emission systems, such as under-floor heating, under-floor convectors, wall heating, &c. As the ambient operational temperatures are mutually consistent, it is possible to install both on a single heating circuit.



### Living in comfort all year round

In winter the ULOW-E2 works as an efficient low-temperature radiator, with high-level control quality, to give perfect heating comfort. And then the summer breeze-effect ensures that on hot days the atmosphere in your living area is pleasantly cool thanks to gentle movement of the air.



### RENOVATION, A NEW BUILDING OR SIMPLY GREATER THERMAL COMFORT.



#### **Renovations: monovalent operation**

Provided thermal renovation ensures a good standard of insulation, or a modern heating source has been fitted, the conditions for installing the ULOW-E2 are ideal. Operation with all energy sources (oil, gas, firewood, pellets, district heating or a heat pump) at a supply temperature of 40 °C and less is perfectly possible.



#### **In new buildings: combined operation**

In modern style new buildings good standards of thermal insulation already apply and modern reduced-temperature heating systems (oil- or gas-fired) are installed, or renewable low-temperature energy sources are used (firewood, pellets, and/or district heating or heat pumps). The ULOW-E2 with supply temperature as low as 40 °C and less is compatible with these heat sources.

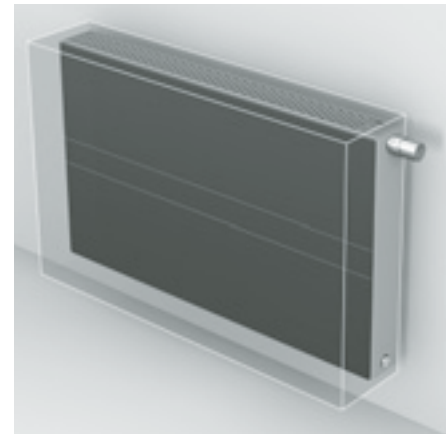
For sure, the ULOW-E2 can in principle also be used for monovalent operation in new buildings. However, combined operation with other low-temperature heat-emission systems, such as under-floor heating, under-floor convectors, wall heating, &c is particularly recommended. Combined operation is recommended for spaces that require fast room heating and short reaction times (bedroom, fitness room, work space, &c).

## THE UNIQUE ULOW-E2 CONCEPT.

ULOW-E2

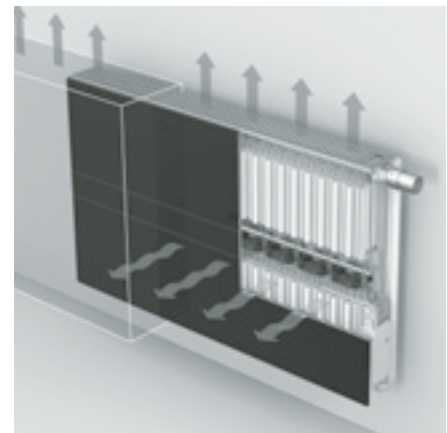
### The ULOW-E2 as compared with commercially available fan convectors:

- Fan convectors generally provide either no radiant warmth or only very little. The ULOW-E2 combines convection and radiant heat, thanks to its water-charged panels.
- In static operation the ULOW-E2 is superior to commercially available fan convectors on account of its high level of basic performance. This is because aluminium heat exchangers without fan support are less efficient.
- With most fan convectors, the fans are switched on whenever the heater is in service. The ULOW-E2 has an intelligent control mechanism, which switches automatically between static and dynamic operation. It only starts the fans when it is turned full-on, or when additional output is required.
- Fan convectors are strictly limited in their designer- and architectural pretensions, because of their clumsy construction. With its distinctive 'round-hole-look', the ULOW-E2 sets new standards in radiator design. Its slim profile and elegant plane surfaces are the perfect complement to any modern living environment.
- Maintenance and cleaning of fan convectors is usually an unpleasant, time-consuming chore. The ULOW-E2, by contrast, can be cleaned just like a standard flat radiator. The rows of fans just pull out to the side, with no tools required.
- With its high performance specifications, the ULOW-E2 offers top of the range price-for-quality value.
- Fan convectors are made up of very many individual parts, some of which are complex and can only be fitted on-site. By comparison, the ULOW-E2 is delivered as a ready-to-plug-in product.
- Fan convectors do not have central connections. With the ULOW-E2 these come as standard across the range, guaranteeing maximum flexibility for planning and installation.
- Installation of fan convectors is expensive and time consuming. The ULOW-E2 can for the most part be installed with no tools needed.



ULOW-E2: slim profile and modern design

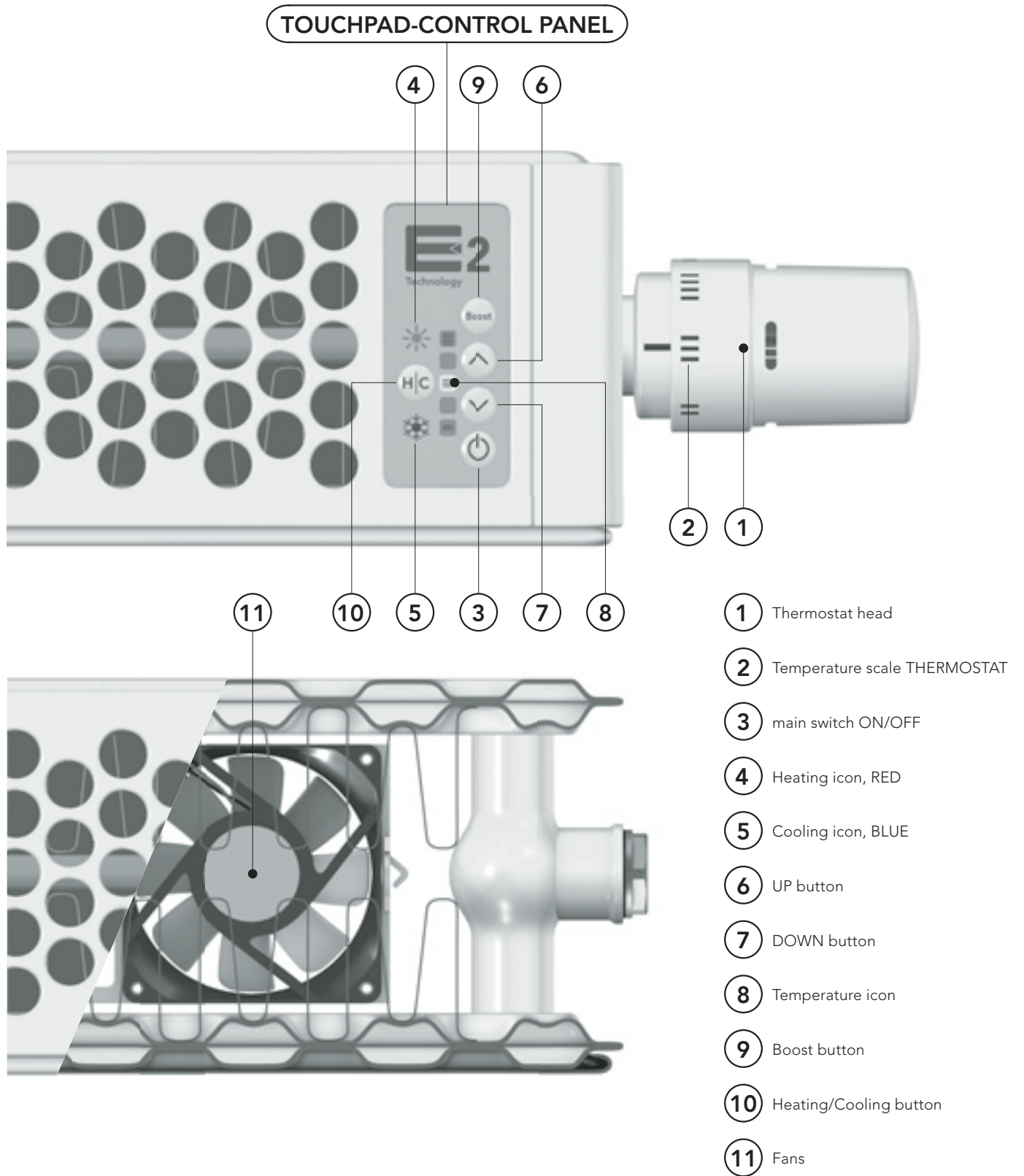
FAN CONVECTORS:  
Clumsy appearance and broad bulky structure



ULOW-E2: radiant heat and convection

FAN CONVECTORS:  
little radiant heat







## Functional and control elements

### Settings instructions

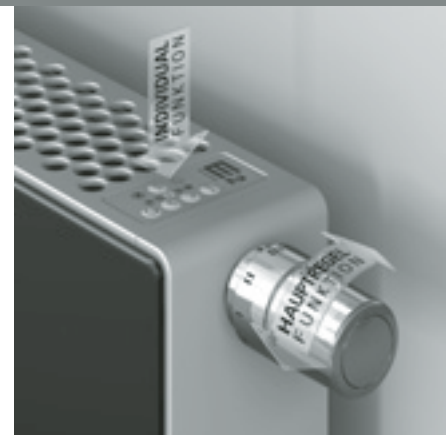
The thermostat head (1) is always the radiator's **MAIN CONTROL FUNCTION**, with the temperature scale (2) showing the setting selected. The ULOW-E2 is equipped with a clearly arranged **TOUCHPAD CONTROL PANEL**, with which the settings for the radiator's **INDIVIDUAL FUNCTIONS** can be entered.

The main switch ON/OFF (3) switches the electronics on or off. When the heating

mode is on. The factory setting for desired room temperature on first operation is 22° C. With the UP button (6) or the DOWN button (7) you can reset the temperature in 1° C increments, between 18 and 26° C. The new setting is displayed by the LED temperature icon (8).

The Boost button (9) activates 'Boost Mode', in which the power to the fans (11) is increased to its maximum value.

The maximum duration of 'Boost Mode' is preset by the factory at 120 mins. As



ULOW-E2

### Temperature settings

<b>18 °C</b> 1 <sup>st</sup> LED dimly lights	<b>18,5 °C</b> 1 <sup>st</sup> LED strong lights	<b>19 °C</b> 1 <sup>st</sup> and 2 <sup>nd</sup> LED dimly lights	<b>19,5 °C</b> 1 <sup>st</sup> and 2 <sup>nd</sup> LED strong lights	<b>20 °C</b> 2 <sup>nd</sup> LED dimly lights	<b>20,5 °C</b> 2 <sup>nd</sup> LED strong lights	<b>21 °C</b> 2 <sup>nd</sup> and 3 <sup>rd</sup> LED dimly lights	<b>21,5 °C</b> 2 <sup>nd</sup> and 3 <sup>rd</sup> LED strong lights	<b>22 °C</b> 3 <sup>rd</sup> LED dimly lights
<b>22,5 °C</b> 3 <sup>rd</sup> LED strong lights	<b>23 °C</b> 3 <sup>rd</sup> and 4 <sup>th</sup> LED dimly lights	<b>23,5 °C</b> 3 <sup>rd</sup> and 4 <sup>th</sup> LED strong lights	<b>24 °C</b> 4 <sup>th</sup> LED dimly lights	<b>24,5 °C</b> 4 <sup>th</sup> LED strong lights	<b>25 °C</b> 4 <sup>th</sup> and 5 <sup>th</sup> LED dimly lights	<b>25,5 °C</b> 4 <sup>th</sup> and 5 <sup>th</sup> LED strong lights	<b>26 °C</b> 5 <sup>th</sup> LED dimly lights	

soon as the selected room temperature is reached, the system automatically switches to 'Comfort Mode'.

With the Heating/Cooling button (10) you can switch from heating operation to cooling operation, and the cooling icon (5) lights up in blue.

For "Dry Comfort Cooling" operation some adaptations in the boiler house will be needed, particularly to ensure that temperatures do not fall below the dew-point. In addition the thermostat head needs to be fully opened anti-clockwise, and with extremely high room temperatures it may also occasionally be necessary to remove the thermostat head.

Pressing the Heating/Cooling button (10) again activates the "Air Circulation Mode" and the blue cooling icon (5) starts to blink. In this case the fans (11) operate independently of the temperature sensors. The factory-setting of 12 volts can be reduced to 8 or 5 volts, and vice versa, by pressing the UP (6) and DOWN (7) buttons. If you press the Heating/Cooling button (10) once more, you return to the heating mode.

For more detailed information see the operating instructions, enclosed with every ULOW-E2 low-temperature radiator delivery.

Service access, electrical connection und secure wall mounting

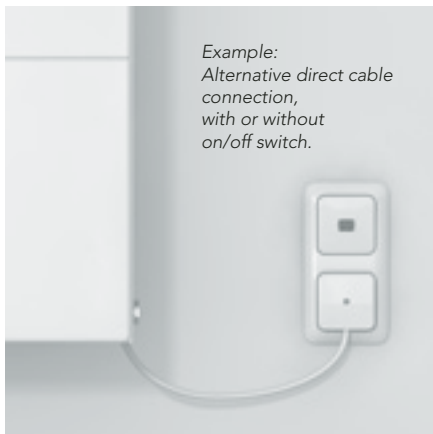
Service access, electrical connection und secure wall mounting

**Versatile electrical connection**

Connecting the ULOW-E2 to the power supply, can be done in a variety of ways and can fit in with every structural and architectural condition. The position of the cable is fully adjustable within an overall length of 1.20 m.



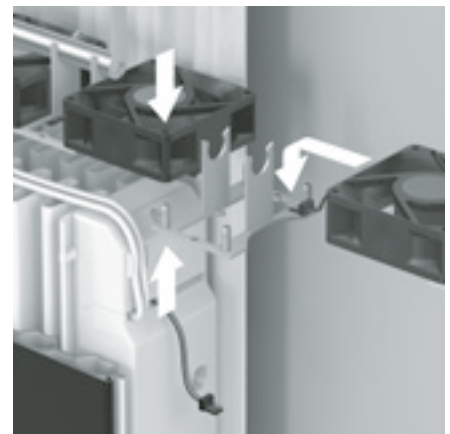
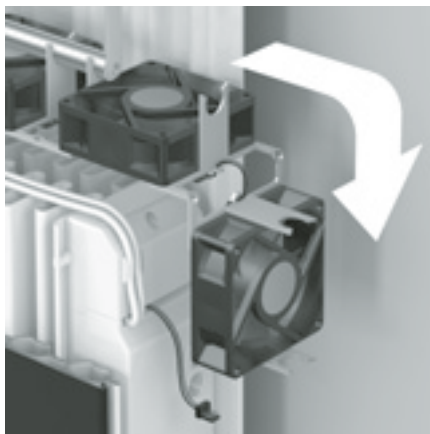
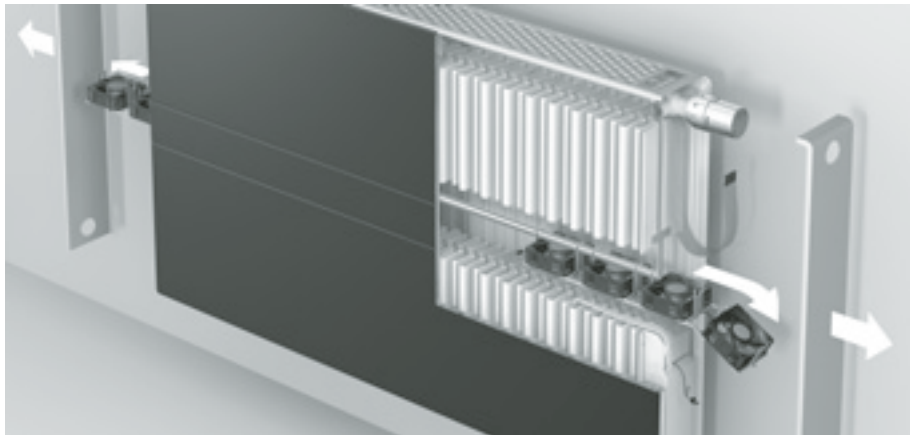
*Example:  
Standard plug  
connection.*



*Example:  
Alternative direct cable  
connection,  
with or without  
on/off switch.*

**Tool-free service access**

What is so special about service access for the ULOW-E2 is that not a single tool is required for removing and replacing the component parts. All functional units and electrical components are freely accessible and can be fitted by means of plug connections and clamp joints. This saves money and time for maintenance and cleaning. A ULOW-E2 is cleaned just the same way as a standard flat radiator. The fans sit on gliding cradles and can easily be slid out or in from the side of the radiator.

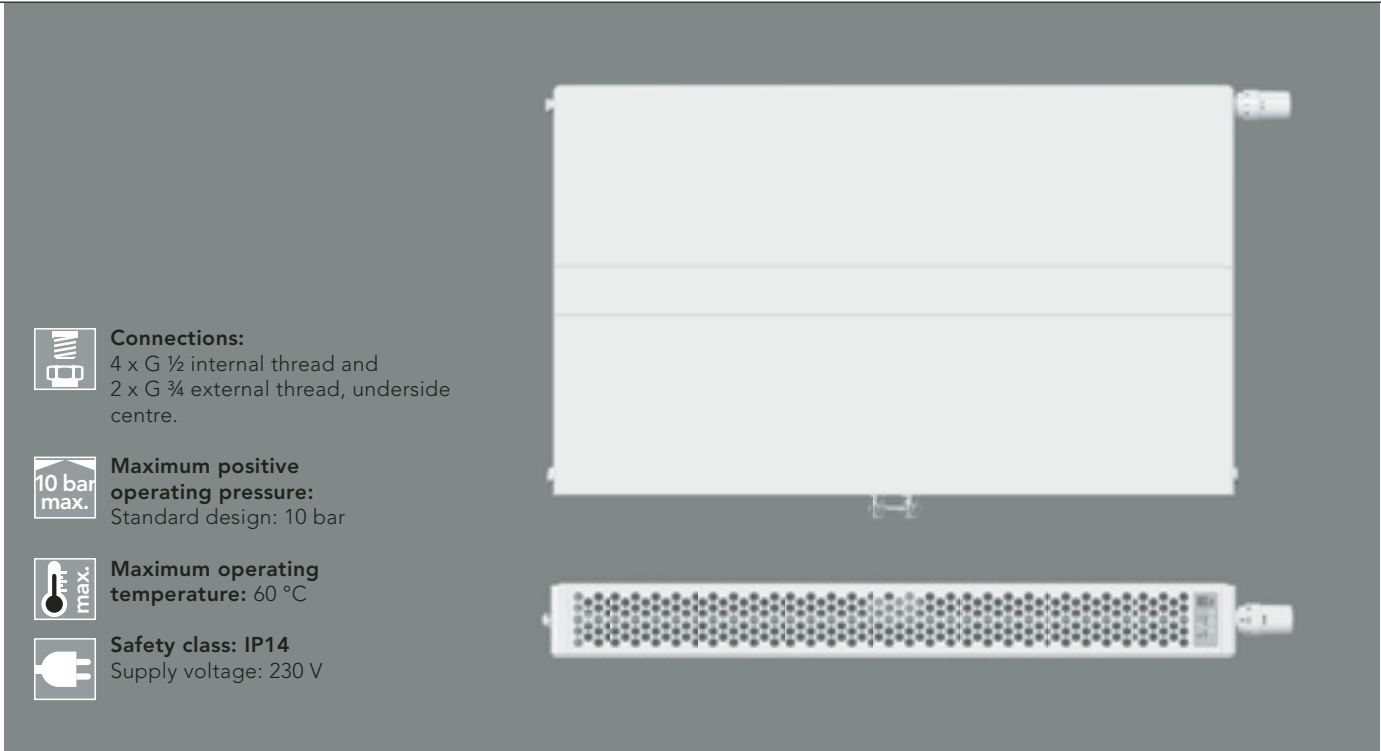


The sliding cradles for the fans are made of extremely flexible and resistant plastic. They can be bent to an angle of 90°. This is particularly useful for narrow niches and narrow side clearance with walls. Should the fan need to be replaced, press down the sliding cradle by hand and remove it from the plug connection/clamp-joint.



**Secure wall installation**

For wall-mounting the ULOW-E2, use only mounting brackets or wall-mounting systems with integrated connection locking.



**Connections:**  
4 x G ½ internal thread and  
2 x G ¾ external thread, underside  
centre.



**Maximum positive  
operating pressure:**  
Standard design: 10 bar



**Maximum operating  
temperature:** 60 °C



**Safety class: IP14**  
Supply voltage: 230 V

**Material:** cold-rolled sheet steel conforming to EN 442-1, 1 mm thick zinc-plated front panel.

**Connecting dimensions:** central distance between supply and return 50 mm.

**Casing:** consists of a perforated metal top-cover and two closed removable side panels.

**Coating:** 1. Primer coating conforming to DIN 55900 part 1, stoved at 190° C;  
2. Especially robust electrostatic powder coating conforming to DIN 55900 part 2, in RAL 9016, stoved at 210° C.

**Standard design:** powder coating in RAL 9016 (Traffic White).

**Packaging:** 1. Cardboard packaging; 2. Edge protection; 3. Shrink wrapped. The device can be installed in packaging.

**Connection modes:** all models are factory-fitted with mounting brackets and can optionally be connected as valve radiators with central connection or as compact radiators. With single-pipe systems, a one-pipe manifold is absolutely essential. The side panels and top-cover are allowed for in the performance specifications.

**Noise levels:** comfort operation: between 20 and 25 dB; boost operation: 34 dB. These values apply at a distance of 2m, in conformity with VDI 2081. (Overall dimensions: 600 x 1000 mm).

**Scope of delivery:** thermostat valve with factory-adjusted  $k_v$  configurations including mounting cap; drain plug, dummy plug and special vent plug, all factory sealed; as well as completely pre-installed fan sets with microprocessor and

thermistor control unit; an integrated low-voltage transformer with ready to plug in mains cable; and a visually attractive operating panel (in the top cover), all included in the purchase price.

**Not designed for use with free-standing console-feet!**

# 18 ULOW-E2 LOW-TEMPERATURE RADIATOR

Heat outputs

Heat outputs - ULOW-E2, model 22 PTM										
Mode of operation		Static operation			Comfort operation			Boost operation		
↕ Overall height (mm)		500	600	900	500	600	900	500	600	900
	Radiator exponent n (for 45/35/20, 40/35/20 und 35/30/20)		1,305	1,317	1,339	1,139	1,129	1,164	1,112	1,112
↔ Overall length (mm)										
400	45/35/20	163	184	233	252	272	324	294	317	375
	40/35/20	140	157	198	220	238	282	257	277	328
	35/30/20	89	100	126	149	162	189	176	189	225
600	45/35/20	245	276	349	379	409	486	440	475	562
	40/35/20	210	236	298	331	357	423	385	416	492
	35/30/20	134	150	188	224	242	284	263	284	337
800	45/35/20	327	368	466	505	545	648	587	634	750
	40/35/20	280	314	397	441	476	564	514	554	656
	35/30/20	179	200	251	298	323	378	351	378	450
1000	45/35/20	409	460	582	631	681	810	734	792	937
	40/35/20	349	393	496	551	595	705	642	693	820
	35/30/20	224	250	314	373	404	473	439	473	562
1200	45/35/20	490	552	698	757	817	972	881	950	1124
	40/35/20	419	472	595	661	714	846	770	832	984
	35/30/20	268	300	377	448	485	568	527	568	674
1400	45/35/20	572	644	815	883	953	1134	1028	1109	1312
	40/35/20	489	550	694	771	833	987	899	970	1148
	35/30/20	313	350	440	522	566	662	615	662	787
1600	45/35/20	654	736	931	1010	1090	1296	1174	1267	1499
	40/35/20	559	629	794	882	952	1128	1027	1109	1312
	35/30/20	358	400	502	597	646	757	702	757	899
1800	45/35/20	735	828	1048	1136	1226	1458	1321	1426	1687
	40/35/20	629	707	893	992	1071	1269	1156	1247	1476
	35/30/20	402	450	565	671	727	851	790	851	1012
2000	45/35/20	817	920	1164	1262	1362	1620	1468	1584	1874
	40/35/20	699	786	992	1102	1190	1410	1284	1386	1640
	35/30/20	447	500	628	746	808	946	878	946	1124

ULOW-E2 weight				
Overall height (mm)		500	600	900
Overall length (mm)	Model	22 PTM	22 PTM	22 PTM
400	kg	15,70	17,59	25,19
600	kg	22,43	25,20	36,57
800	kg	29,18	32,82	47,95
1000	kg	36,11	40,62	59,51
1200	kg	42,85	48,24	70,90
1400	kg	49,69	55,94	82,37
1600	kg	56,53	63,65	93,84
1800	kg	63,46	71,45	105,41
2000	kg	70,20	79,07	116,79

## T6-CENTRALLY CONNECTED RADIATOR.



### Connections

4 x internal thread G 1/2 and  
2 x external thread G 3/4  
bottom centre



### Test positive pressure

13 bar



### Max. positive operating pressure

10 bar



### Max. operating temperature

110 °C



### Heat emission

The specification was verified in accordance with DIN EN 442 at The Technical University, Stuttgart (Registration at WSP-Cert Product Certification Centre, Stuttgart), under the numbers:

Type 11 VM	0445
Type 21 VM-S	0447
Type 22 VM	0448
Type 33VM	0449

and in accordance with OENORM (Austrian standard) EN 442 at the Technological Commercial Museum, Vienna.

### Material

T6-CENTRALLY CONNECTED RADIATORS are made of cold-rolled sheet

steel, and in accordance with EN 442-1, with a stylish and robust fluting with ribs at 40 mm intervals.

### Equipment

Each T6-CENTRAL CONNECTION RADIATOR is equipped with an integrated T-valve set, and suitable for double-pipe and single-pipe systems with a single-pipe manifold; it comes with a fitted valve top with a pre-set  $k_v$ -value, a protective cap and welded suspension brackets on the back. The drain plug and the pivoting special vent plug, as well as the dummy plug are fitted with seals. All types of radiator are equipped with a detachable top cover and two closed side panels.

### Paint coating



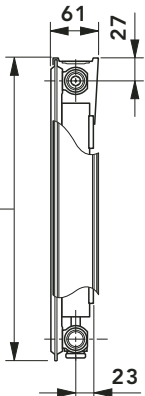
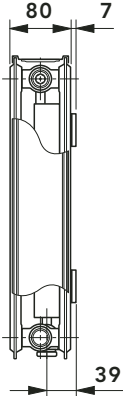
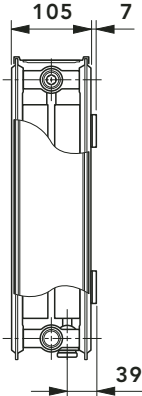
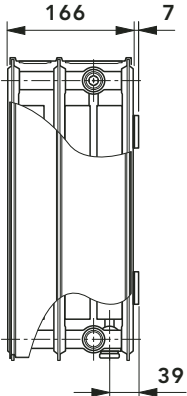
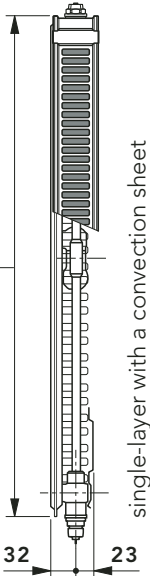
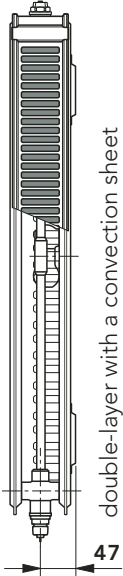
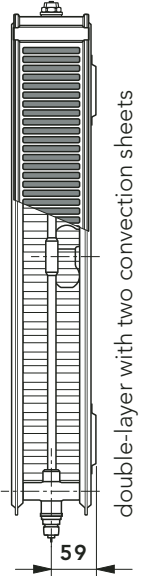
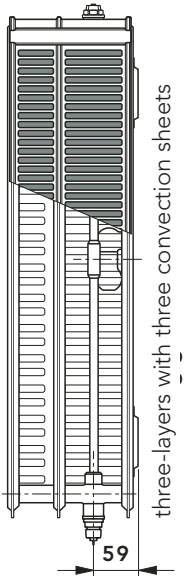


1. Undercoating in accordance with DIN 55900 part 1, stoved at 190° C.
2. Finish in accordance with DIN 55900 part 2, in standard colour 9016 (on request available in many standard colours and sanitary-ware colours at an extra charge), applied electrostatically in a modern powder coating facility. This especially resistant coating is stoved at an object temperature of 210° C.

### Packaging

1. Cardboard packaging
2. Edge protection
3. Shrink foil

# 20 T6-CENTRALLY CONNECTED RADIATOR

Overview of models

Overview of models																				
Type	11 VM					21 VM-S					22 VM					33 VM				
  																				
	 <p>single-layer with a convection sheet</p>					 <p>double-layer with a convection sheet</p>					 <p>double-layer with two convection sheets</p>					 <p>three-layers with three convection sheets</p>				
Type	11 VM					21 VM-S					22 VM					33 VM				
Height  [mm]	300	400	500	600	900	300	400	500	600	900	300	400	500	600	900	300	400	500	600	900
Length  [mm]	up to 2400		up to 2600		up to 2000	up to 2400		up to 3000		up to 2000	up to 3000			up to 2000	up to 3000	up to 2200			up to 1800	
Steps	all overall length starting with 400 mm available in steps of 200 mm, additionally 520, 720, 920, 1120 and 1320 mm																			



Guarantee statements are available to download at [www.vogelundnoot.com/download](http://www.vogelundnoot.com/download)

## Description and delivery equipment

The T6-CENTRALLY CONNECTED RADIATOR, with its welded-in set of T-shaped valves, sets new standards in the field of centre-connection technology. Besides its elegant appearance, the T6-CENTRALLY CONNECTED RADIATOR grabs the attention because of its unique patented features. It is suitable for all purposes and easy for the heating engineer to install. It also has many other striking advantages, as listed below:

### T6-CENTRALLY CONNECTED COMPLETE RADIATORS -

wall bracket fastenings make this a flexible solution

### VARIABLE CONNECTIONS -

the built-in valve and its thermostat head can be switched from the right to the left-hand side – with no need to turn the radiator and without crossing over the supply and return.

### VARIABLE TYPES -

with all multi-layered radiators the distance between the connection and the wall is standardised (this also applies to all single-layered radiators, if a special angle fish-plate is used).

### VARIABLE SIZES -

you are free to choose the overall radiator length and height at any time, and even subsequently change your mind.

### PERFECT PRE-ASSEMBLY -

fitting pre-installation piping and system testing are possible even without having the radiators there.

Consequently T6-CENTRALLY CONNECTED RADIATOR truly serves to solve your problems. To round off all the advantages mentioned before, the versatility of the T6-CENTRALLY CONNECTED RADIATOR regarding style and colouring offers a wide scope for design. By using the removable, unique and colourful decor-clips you can give individuality, also subsequently.

The T6-CENTRALLY CONNECTED RADIATOR is - with its welded in set of T-shaped valves - suitable for double-pipe installations as well as single-pipe installations, using a single-pipe manifold.

Additionally to the central connection from the bottom, the sophisticated design makes possible other connections used at compact radiators, such as the single-sided and two-sided connection. **Radiators are delivered ready for double-pipe installation and with a factory-adjusted  $k_v$ -setting, appropriate to the radiator output.**

For district heating installations with a big difference between water supply and return temperature, a valve unit that allows a precise and stepless adjustment is available on request.

By using universal supply and return connections, commercially available pipes (external thread 3/4") made of copper, steel, plastic or alloy, can be connected; the corresponding accessories and the commercially obtainable shut-off valve have to be used.

The following thermostat heads can be directly fitted at the radiator: „RA 2000“ and „RAW“ by Danfoss, „VK“ by Heimeier, „D“ by Herz, „thera DA“ by MNG, as well as „UNI XD“ by Oventrop. The radiator will be delivered with a protective cap.

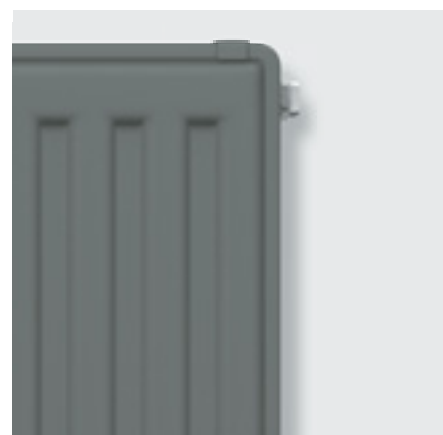
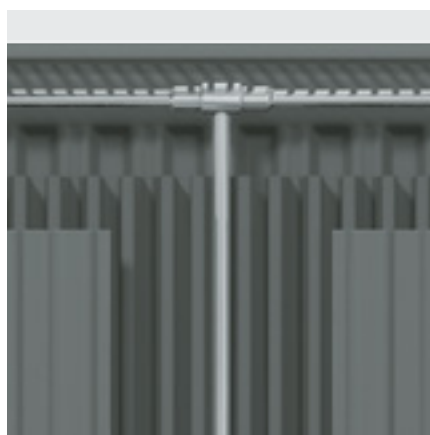
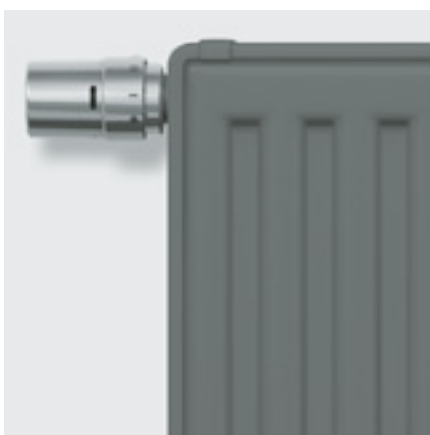
The operation parameters are specified with a positive operating pressure of 10 bar and an operating temperature of 110° C. With single-pipe installations, a cycle's maximum radiator power of about 10 kW at  $\Delta T=T_1-T_2=20$  K (at  $T_1 = 90^\circ$  C) has to be taken into account.

Thus the T6-CENTRALLY CONNECTED RADIATOR has to be regarded as revolutionary for the new generation of centrally-connected radiators. With this type of radiator - with its ideal functioning of the whole radiator-valve unit, its superb heating output, compared with the motivation to install thermostat heads, saving heating energy becomes evident.

Our valve radiators' connections (external thread G 3/4") comply in construction and tolerance with the specifications, in accordance with DIN V 3838. If conically sealed drain cocks are used (single-pipe and double-pipe operation), where an adjustment of tolerance of distance to the centre is not possible, we must repudiate liability for any damage connected to this.

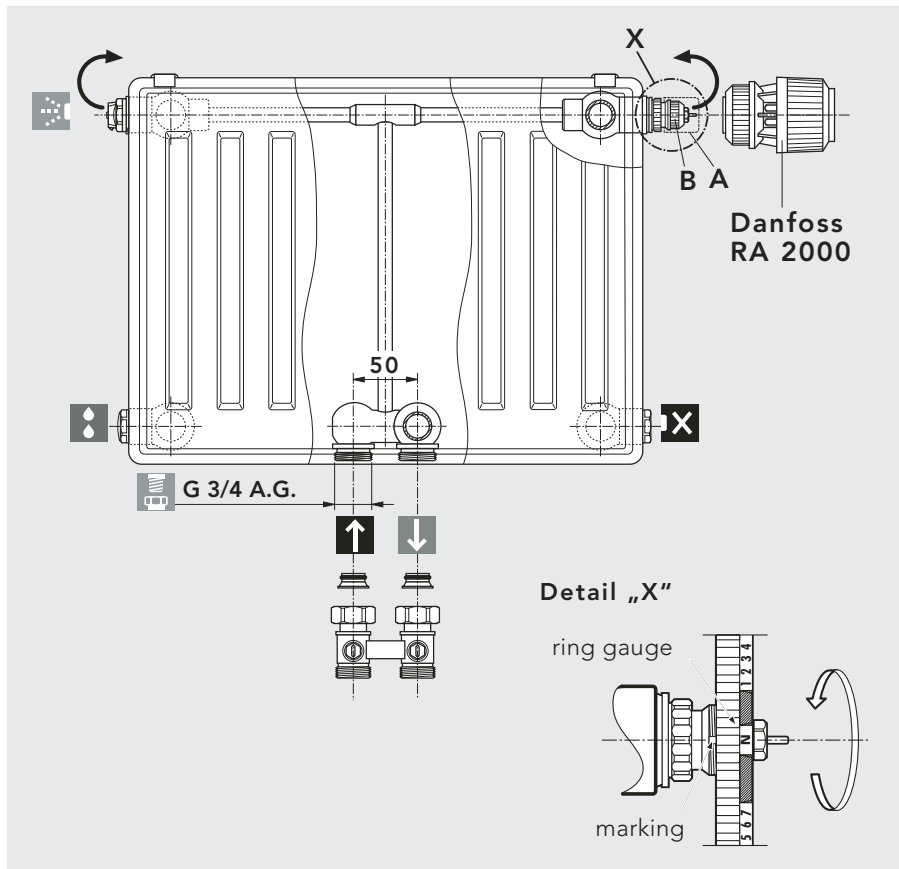
**Therefore we recommend to use only flat sealed drain cocks, or drain cocks where an adjustment of tolerance of the distance to the centre is possible.**

T6-CENTRALLY  
CONNECTED  
RADIATOR



## 22 T6 AND T6-HYGIENE CENTRALLY CONNECTED RADIATOR

Double-pipe operation - Adjustment tips for built-in valve



### Setting instructions:

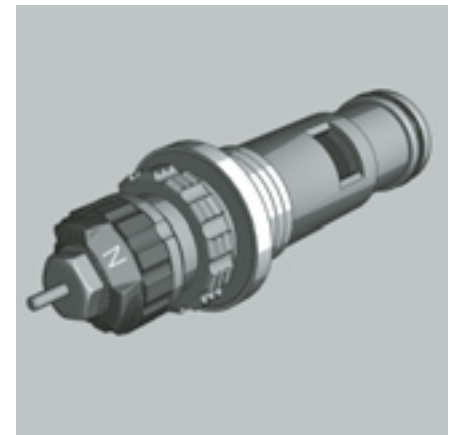
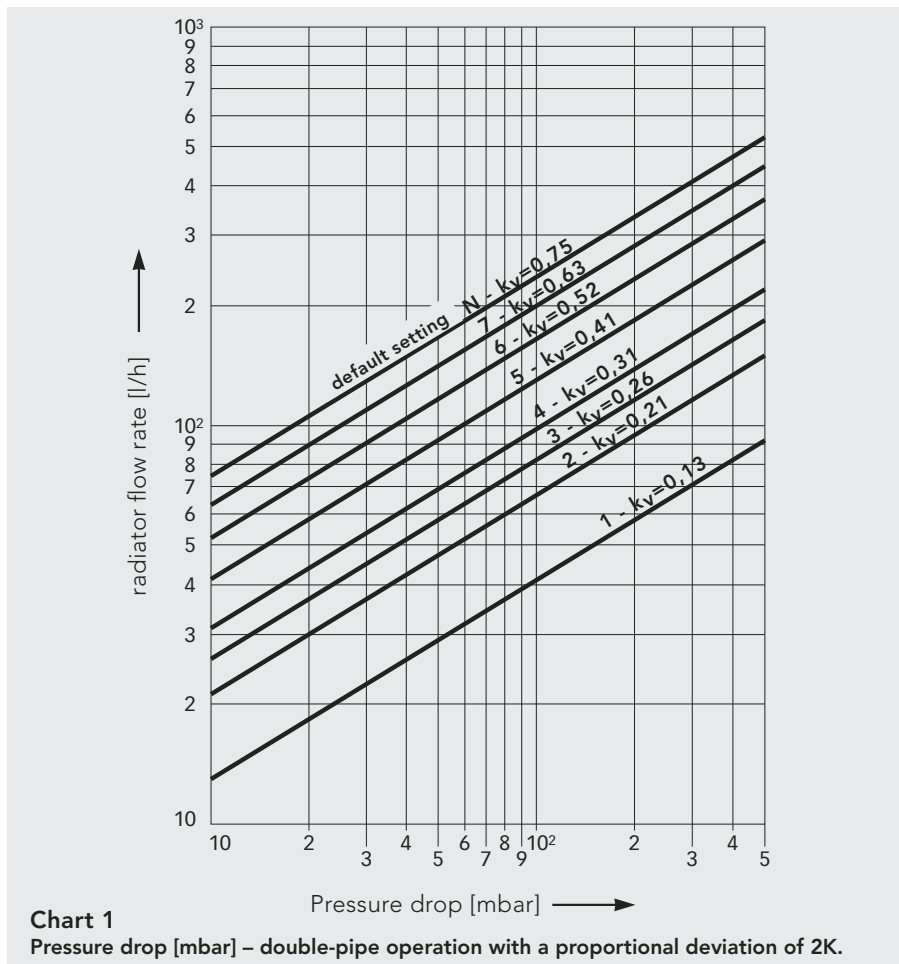
VOGEL&NOOT valve radiators are factory-fitted for double-pipe installations. Each individual radiator is fitted with a pre-adjusted valve insert, appropriate to the radiator output. The pre-set  $k_v$ -value is also marked in colour on the front surface.

### Please note:

Should customised adjustments be required, the pre-set  $k_v$ -values can be altered as needed.

Swapping the right-hand side built-in valve to the left-hand side is no problem at all at any time.

Radiator are delivered with protective caps. After removing the protective cap (pos. A) the following thermostat heads can be fitted directly to the built-in valve (pos. B): "RA 2000", "RAW" by Danfoss, "VK" by Heimeier, "D" by Herz, "thera DA" by MNG and "UNI XD" by Oventrop.



$k_v$ -value chart					
Pre-setting	1,1	3,9	5,2	6,5	N
$k_v$ -value up to	0,13	0,30	0,42	0,56	0,72
Colour of the adjustment ring	white	black	green	blue	red

Of course it is also possible to change the pre-adjusted valve setting when the equipment is operating at pressure.



Valve pre-adjustment

## Hydraulic calibration

The hydraulic calibration of the heat emission system has two essential effects: saving on energy costs and CO<sub>2</sub> reduction. It ensures that all radiators receive the required flow rate of heating water. This is the only way that optimal heat output performance be achieved, guaranteeing thermal comfort, with economical and ecologically responsible operation.

Any radiator requires a specific flow rate of heating water, according to its position in the distribution system. The circulation pump serves to distri-

bute heat in all rooms equally and in accordance with the required ambient temperature. Yet, in most systems the warm heating water flows back along the line of least resistance, which is usually through the radiator located next to the circulation pump.

This means that the radiators furthest from the circulation pump are inadequately supplied with heating water, whereas the nearest are oversupplied! Very often the reason why rooms are inadequately heated or overheated is attributed to either an under-size pump

or heating sources that are too weak. However, larger pumps, high supply temperatures and heating controls make the negative effects worse: lack of comfort and high energy costs, as well as higher CO<sub>2</sub> emissions and more noise.

The only effective remedy for this is hydraulic calibration, with the appropriate  $k_v$ -value, pre-adjusted by the factory. This makes the resistance of all the radiators in the distribution system similar, and they get an optimal rate of heating water flow.

T6-CENTRALLY  
CONNECTED  
RADIATOR



## Factory pre-adjustment

VOGEL&NOOT valve radiators are already factory-fitted with pre-set and adjustable valve inserts, appropriate to the heat output. The valve inserts fitted as standard allow for 8 main  $k_v$ -value settings and 7 intermediate settings. The factory-adjusted  $k_v$ -value settings include 5 of 15 possible settings, and are calculated for standard heating systems with a pressure difference of 100 mbar.

## Advantages of the valve inserts in VOGEL&NOOT valve radiators

### Continuously opening and infinitely variable control apron

- Finer adjustment
- Reliable operation
- More easily cleaned valve inserts

### Colour-coded valves

- Set  $k_v$ -value immediately visible

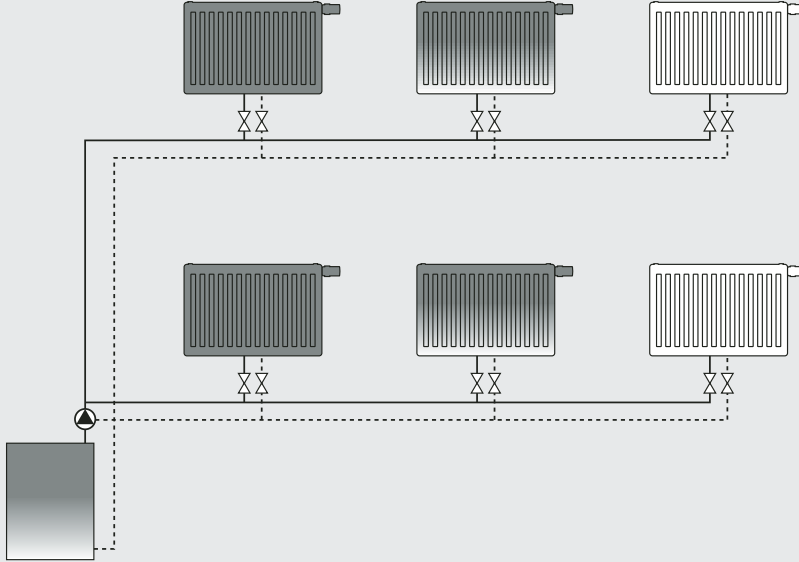
### The advantages of factory-adjusted valve settings

- Optimal hydraulic calibration for buildings with operational areas up to 1,000m<sup>2</sup>
- Better energy evaluation of buildings (DIN EN 18599)
- Credits for the Energy Passport
- Saves time and costs for heating planners, installers and plumbers
- Up to 6% energy saving, after hydraulic calibration
- Up to 20% less energy needed for circulation pump

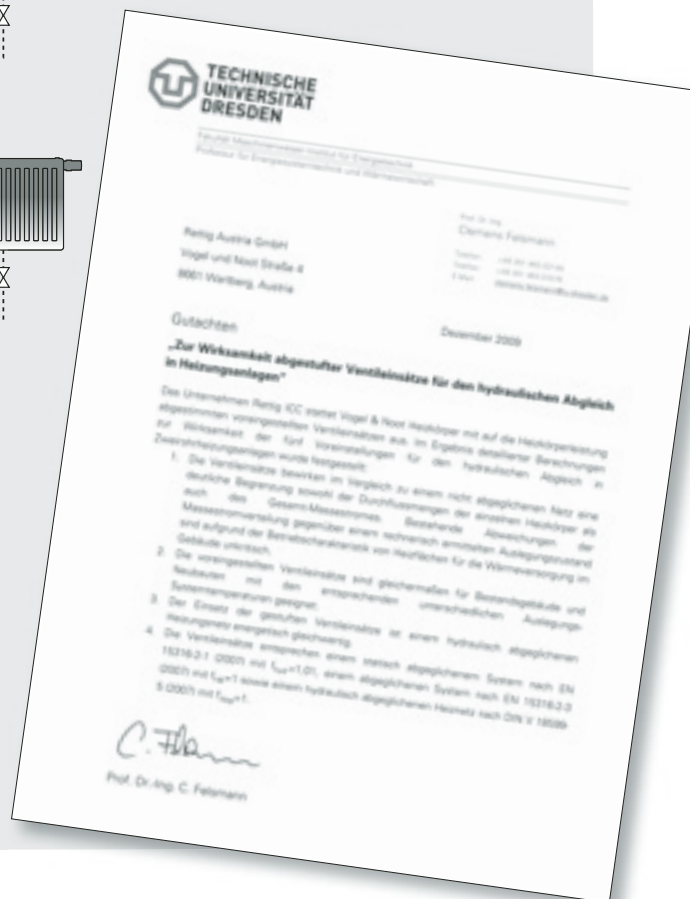
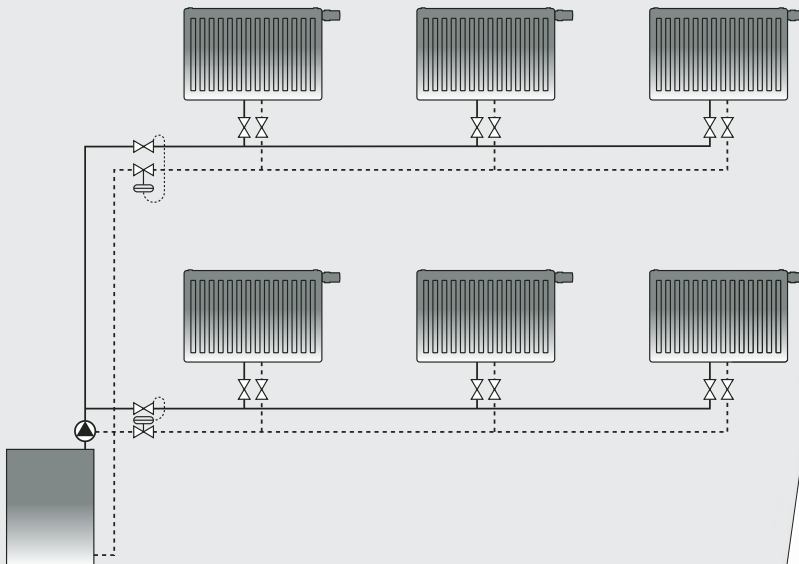
The advantages of hydraulic calibration

- Up to 6% energy saving
- CO<sub>2</sub> reduction
- Increased comfort
- Complies with Energy-Efficiency regulations

A system without hydraulic calibration

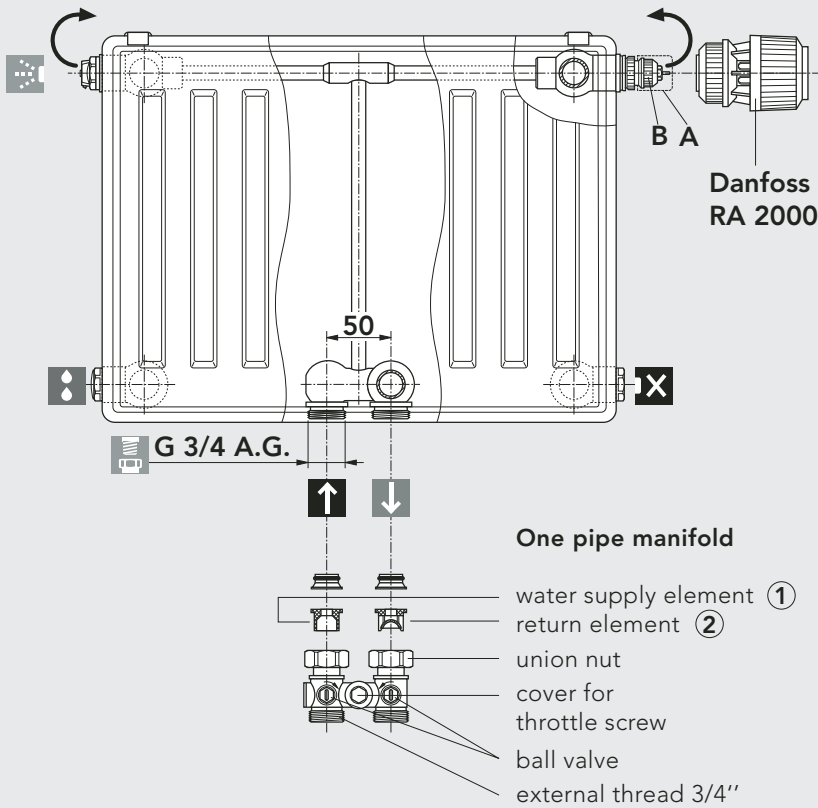


A system with hydraulic calibration



Single-pipe operation - Factory-adjusted built-in valve

## Single-pipe operation - Factory-adjusted built-in valve



In single-pipe operation, setting the built-in valve on N.

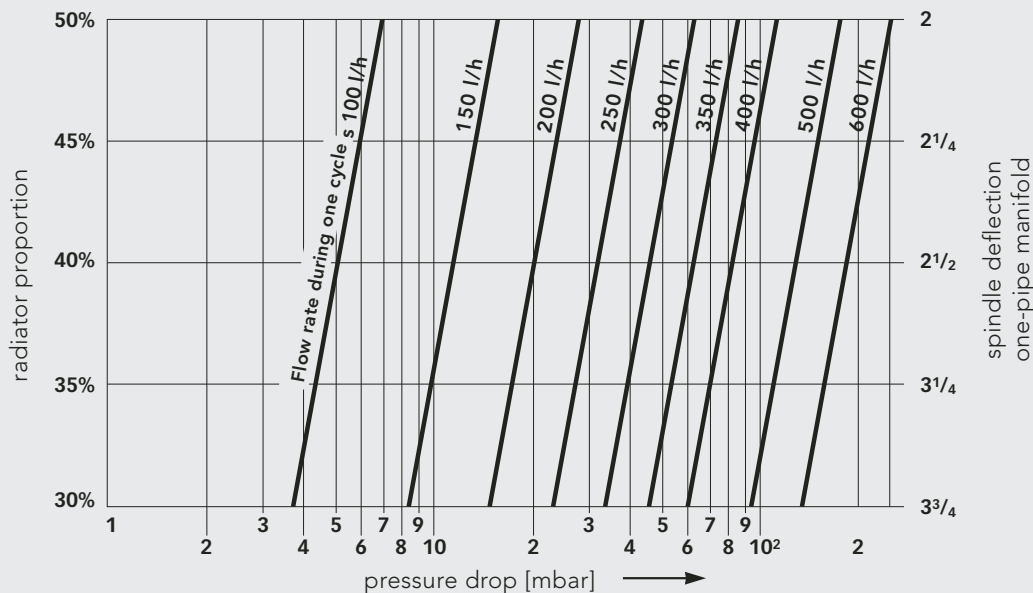
The radiator will be delivered with a protective cap. After removing the protective cap (item A) the following thermostat heads can be installed directly onto the built-in valve (item B): „RA 2000“ and „RAW“ by Danfoss, „VK“ by Heimeier, „theraDA“ by MNG, as well as „UNI XD“ by Oventrop.

Panel radiators

**Caution:**

During the installation take care that the return element ② has been installed at the water return, and the supply element ① at the water supply.

Changing the built-in valve from the right- to the left-hand side can easily be done at any time.



**Chart 2**  
pressure drop [mbar] - single-pipe operation with a proportional deviation of 2K.

**Default setting:**

- radiator proportion 30%: 3,75 revolutions \*
- radiator proportion 35%: 3,25 revolutions \*
- radiator proportion 40%: 2,50 revolutions \*
- radiator proportion 45%: 2,25 revolutions \*
- radiator proportion 50%: 2,00 revolutions \*

\*...when starting, turn the bypass spindle of the one-pipe manifold **to the right** as far as it will go.

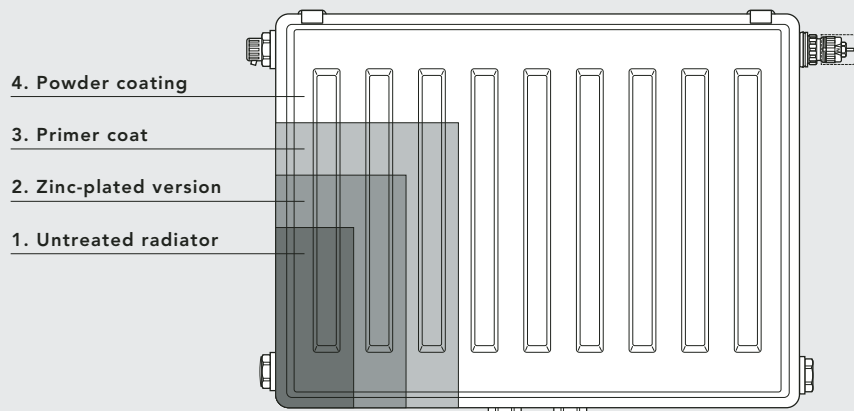
Of course it is also possible to change the pre-adjusted valve setting when the equipment is operating at pressure.

Please take into account the maximum power per cycle (regarding single-pipe installations) of about 10 kW  
 $\Delta T = T_1 - T_2 = 20 \text{ K}$  (at  $T_1 = 90 \text{ }^\circ\text{C}$ ).

## 26 T6-CENTRALLY CONNECTED RADIATOR

Zinc-plated version / Connection modes - double-pipe system

### Zinc-plated version - COMPACT RADIATORS and T6 CENTRAL CONNECTION RADIATORS



In areas of use that require higher corrosion protection, in rooms with aggressive surroundings and/or humid atmosphere (such as in indoor-swimming pools, saunas, public toilets, &c) we recommend using a zinc-plated version of our COMPACT RADIATORS and T6 CENTRAL CONNECTION RADIATORS. These radiators are galvanised, before

the primer coat and powder coating is applied.

Prior to ordering radiators for these areas of use you should get information about the planned location for installing the radiator and in accordance to this, define its limits of use.

**With zinc-plated radiators attention should be paid to special ordering and delivery instructions:**

- All models of the series COMPACT RADIATORS and T6 CENTRAL CONNECTION RADIATORS are available
- Production is available only by special request.
- Radiators that have already been manufactured and delivered cannot be returned.
- The delivery period for this radiator is 4 - 6 weeks.
- The production is carried out for an additional charge to the currently recommended retail price.
- Our general warranty conditions apply.

### Connection modes - double-pipe system

#### A: Single-sided connection



#### B: Connection both sides



#### C: Connection on top **Warning: Lower performance**

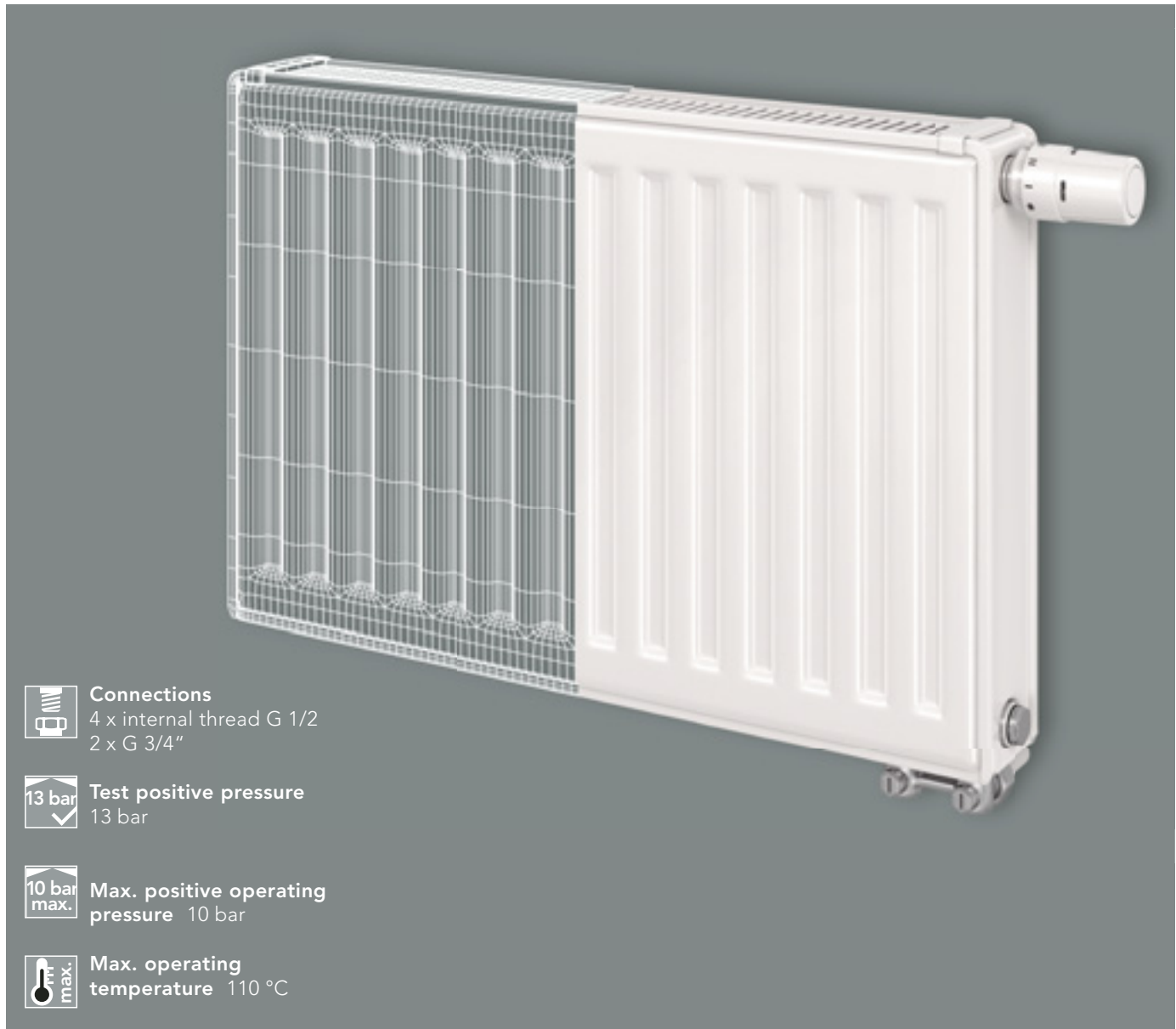


#### Caution:

When using the T6-CENTRALLY CONNECTED RADIATOR as a **compact radiator**, the 3/4" screwing caps made of plastic have to be replaced by nickel-plated brass caps (accessory). Available under the item number: AZ0PL000C0002000. Additionally the plastic part of the special vent plug has to be removed.

# MULTI-FUNCTIONAL VALVE RADIATOR.

Panel radiators



**Connections**  
4 x internal thread G 1/2  
2 x G 3/4"



**Test positive pressure**  
13 bar



**Max. positive operating pressure** 10 bar



**Max. operating temperature** 110 °C

## Heat emission

The specification was verified in accordance with DIN EN 442 at The Technical University, Stuttgart (Registration at WSP-Cert Product Certification Centre, Stuttgart), under the numbers:

Type 11 KV	0445
Type 21 KV-S	0447
Type 22 KV	0448
Type 33 KV	0449

and in accordance with OENORM (Austrian standard) EN 442 at the Technological Commercial Museum, Vienna.

## Material

MULTI-FUNCTIONAL VALVE RADIATORS are made of cold-rolled sheet

steel, in accordance with EN 442-1, with a stylish and robust fluting, with ribs at 40 mm intervals.

## Equipment

Each MULTI-FUNCTIONAL VALVE RADIATOR is equipped with an integrated valve set, and suitable for double-pipe and single-pipe systems with a single-pipe manifold; it comes with a fitted valve top with a pre-set  $k_v$ -value, a protective cap and welded suspension brackets on the back, (brackets only when defined as such); type 11 only available with brackets. The drain plug and the pivotable vent plug, as well as the dummy plug are fitted with seals. All radiators are equipped with a detachable top cover and two closed side panels.

## Paint coating



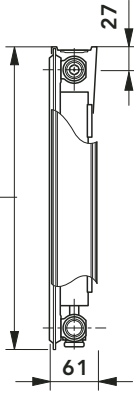
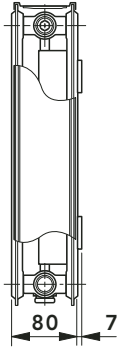
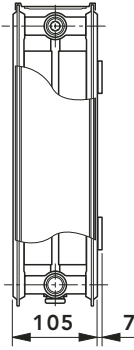
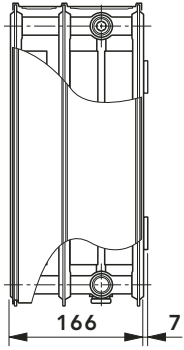
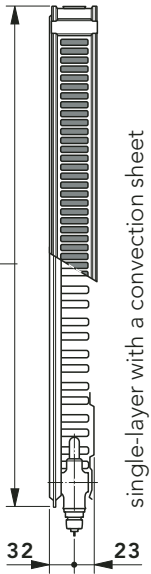
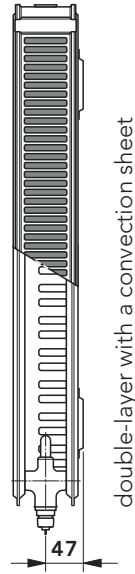
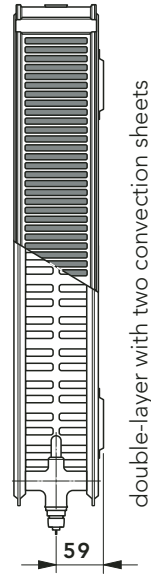
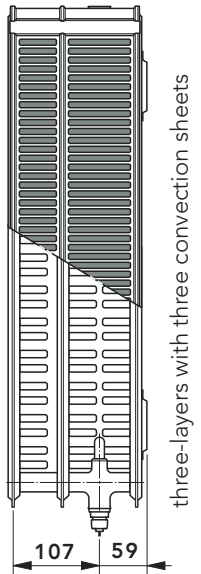


1. Undercoating in accordance with DIN 55900 part 1, stoved at 190° C.
2. Finish in accordance with DIN 55900 part 2, in standard colour 9016 (on request available in many standard colours and sanitary-ware colours at an extra charge), applied electrostatically in a modern powder coating facility. This especially resistant coating is stoved at an object temperature of 210° C.

## Packaging

1. Cardboard packaging
2. Edge protection
3. Shrink foil

# 28 MULTI-FUNCTIONAL VALVE RADIATOR

Overview of models

Overview of models																					
Type	11 KV					21 KV-S					22 KV					33 KV					
 																					
																					
Type	11 KV					21 KV-S					22 KV					33 KV					
Height  [mm]	300	400	500	600	900	300	400	500	600	900	300	400	500	600	900	300	400	500	600	900	
Length  [mm]	up to 2400		up to 2600		up to 2000	up to 2400		up to 3000		up to 2000	up to 3000			up to 2000		up to 3000	up to 2200			up to 2000	
Steps	any overall length starting with 400 mm available in steps of 200 mm, additionally 520, 720, 920, 1120 and 1320 mm																				

## Description and delivery equipment

The MULTIFUNCTIONAL VALVE RADIATOR with its welded valve unit has been designed in a most trend-setting way: it can meet all requirements regarding connections.

This radiator will convince you not only because of its simple and fast installation but also because of its versatility and elegant appearance, as the valve unit is covered up by the heating panel.

What's more, through the optimal function of the whole radiator-valve unit, through the maximum heat output and, last but not least, through the motivation to install thermostat heads, saving heating energy becomes evident.

The MULTIFUNCTIONAL VALVE RADIATOR with its welded valve unit is suitable for double-pipe as well as for single-pipe installations, using a one-pipe manifold. Additionally to the connection possibility at the bottom, the sophisticated design also offers connection possibilities, known from compact radiators, such as single-sided or two-sided connections. **The radiator is delivered ready for double-pipe installation, with a factory-adjusted  $k_v$ -setting, appropriate to the radiator output.**

For district heating installations with a big difference between water supply and return temperature, a steplessly adjustable valve element is available on request.

By using universal supply and return connections with external thread 3/4", commercially available pipes made of copper, precision steel or plastic, can

be connected, using the corresponding accessories and the commercially obtainable shut-off valve.

The decor-clips (standard make in standard colour 9016) offer many possibilities for design. They are available in many standard and sanitary-ware colours, as well as with metallic surfaces, i.e. gilded.

The following thermostat heads can be installed directly onto the radiator: „RA 2000“ and „RAW“ by Danfoss, „VK“ by

Heimeier, „theraDA“ by MNG, as well as „UNI XD“ by Oventrop. At delivery the radiator is equipped with a protective cap.

The operation parameters are specified as follows: positive operating pressure 10 bar, operating temperature 110° C. With single-pipe installations a maximum heat output of about 10 kW at  $\Delta T = T_1 - T_2 = 20$  K (at  $T_1 = 90$  °C) per ring has to be taken into account.

MULTI-FUNCTIONAL VALVE RADIATOR



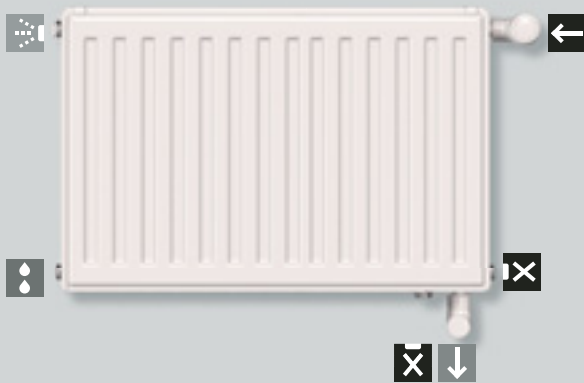
# 30 MULTI-FUNCTIONAL VALVE RADIATOR

Connection modes - double-pipe system

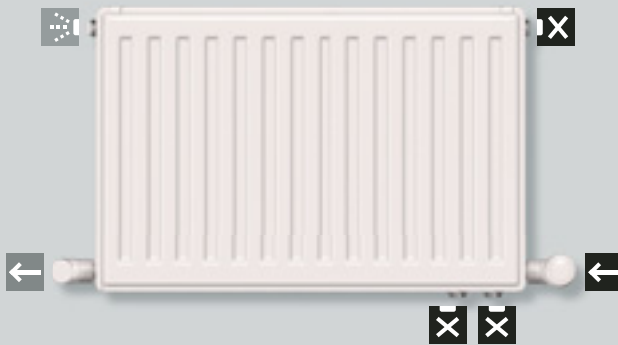
## Connection modes - double-pipe system



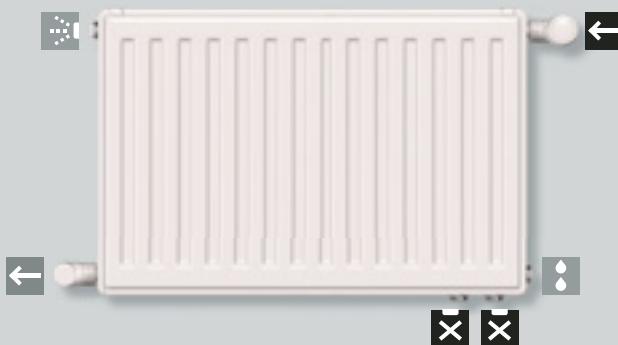
**A:**  
Single-sided  
connection



**B:**  
Connection  
both sides



**C:**  
Connection  
on top  
  
(Warning: Lower  
performance)



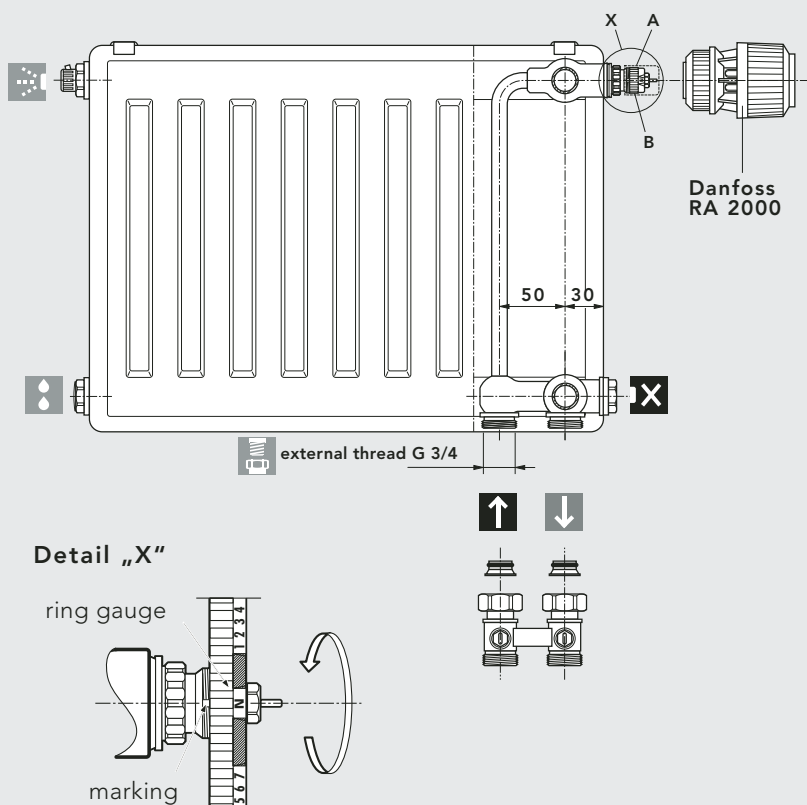
**D:**  
Single-sided  
connection

**Attention:**  
If the multifunctional valve radiator is used as compact radiator, the crew caps made of plastic have to be replaced by nickel-plated brass caps (accessory).  
Order number: AZ0PL000C0002000



Adjustment tips for built-in valve

## Adjustment tips for built-in valve



### Setting instructions:

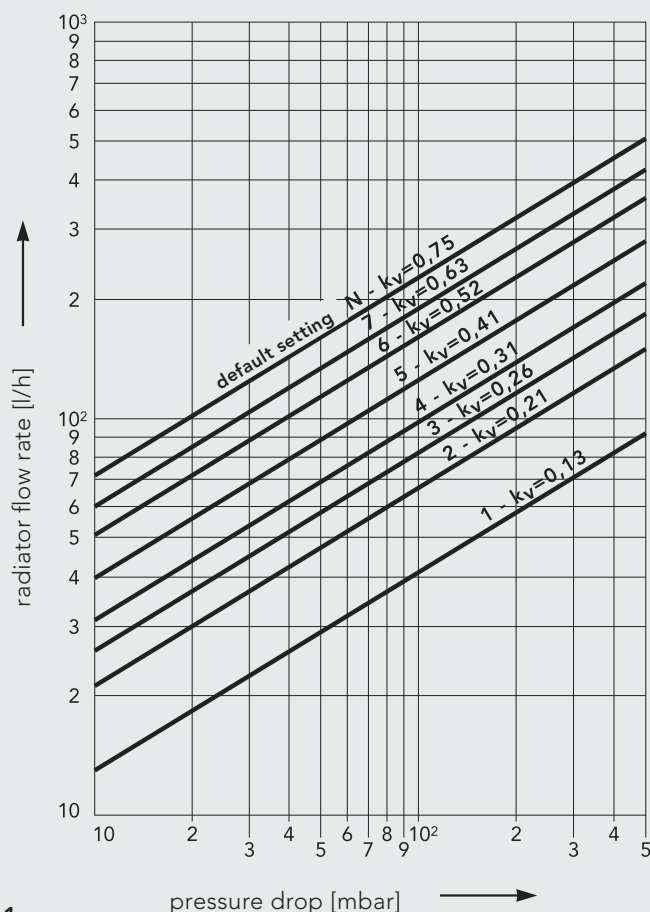
VOGEL&NOOT valve radiators are factory-fitted for double-pipe installations. Each individual radiator is fitted with a pre-adjusted valve insert, appropriate to the radiator output. The pre-set  $k_v$ -value is also marked in colour on the front surface.

### Please note:

Should customised adjustments be required, the pre-set  $k_v$ -values can be altered as needed.

Radiator are delivered with protective caps. After removing the protective cap (pos. A) the following thermostat heads can be fitted directly to the built-in valve (pos. B): "RA 2000", "RAW" by Danfoss, "VK" by Heimeier, "D" by Herz, "thera DA" by MNG and "UNI XD" by Oventrop.

MULTI-FUNCTIONAL VALVE RADIATOR



**Chart 1**  
Pressure drop [mbar] – double-pipe operation with a proportional deviation of 2K.



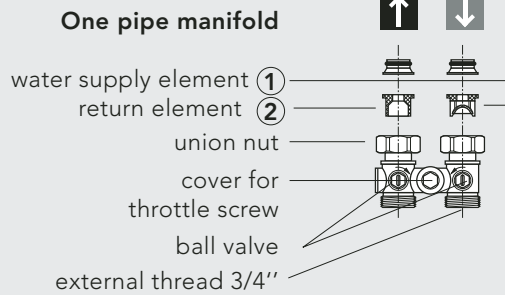
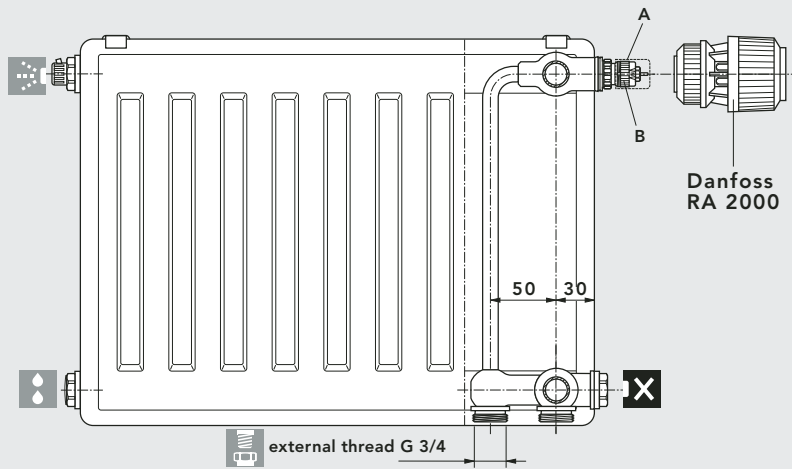
k <sub>v</sub> -value chart					
Pre-setting	1,1	3,9	5,2	6,5	N
k <sub>v</sub> -value up to	0,13	0,30	0,42	0,56	0,72
Colour of the adjustment ring	white	black	green	blue	red

Of course it is also possible to change the pre-adjusted valve setting when the equipment is operating at pressure.

# 32 MULTI-FUNCTIONAL VALVE RADIATOR

Single-pipe operation - factory-adjusted built-in valve

## Single-pipe operation - factory-adjusted built-in valve



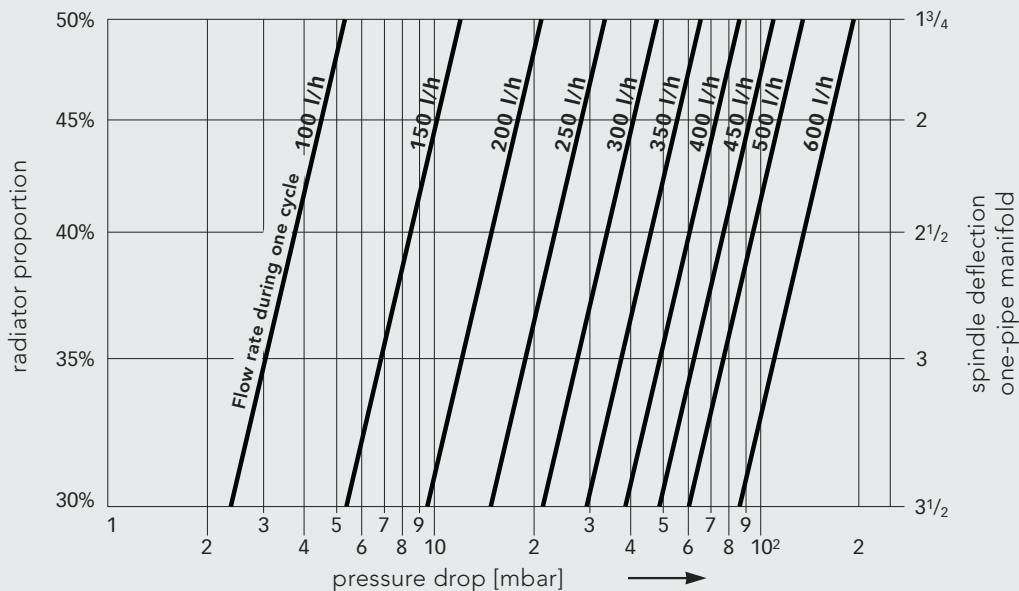
**In single-pipe operation, setting the built-in valve on N.**

The radiator will be delivered with a protective cap. After removing the protective cap (item A) the following thermostat heads can be installed directly onto the built-in valve (item B): „RA 2000“ and „RAW“ by Danfoss, „VK“ by Heimeier, „theraDA“ by MNG, as well as „UNI XD“ by Oventrop.

**Caution:**

During the installation take care that the return element ② has been installed at the water return, and the supply element ① at the water supply.

Changing the built-in valve from the right- to the left-hand side can easily be done at any time.



**Chart 2**  
pressure drop [mbar] - single-pipe operation with a proportional deviation of 2K.

**Default setting:**

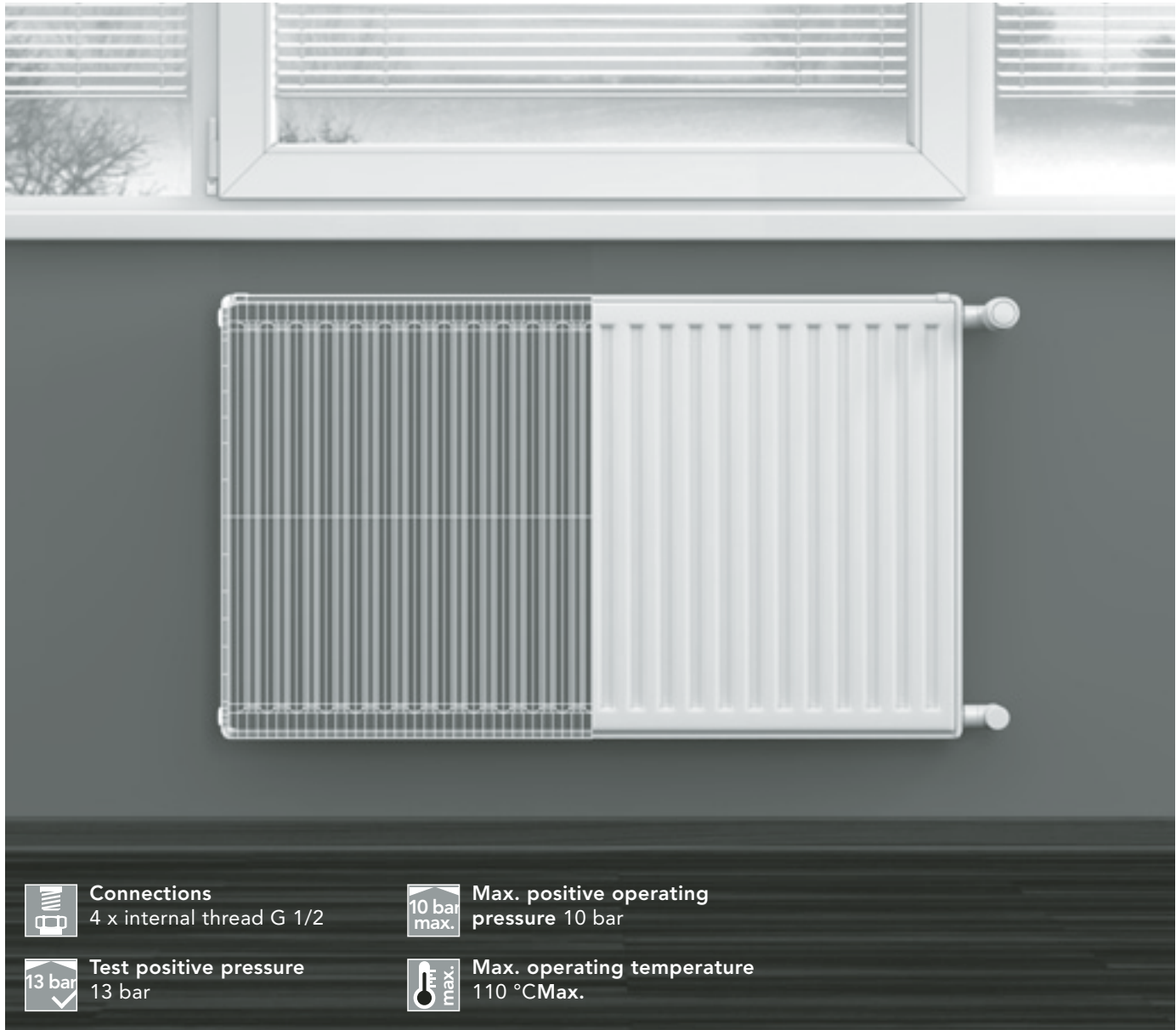
- radiator proportion 30%: 3,50 revolutions \*
- radiator proportion 35%: 3,00 revolutions \*
- radiator proportion 40%: 2,50 revolutions \*
- radiator proportion 45%: 2,00 revolutions \*
- radiator proportion 50%: 1,75 revolutions \*

\*...when starting, turn the bypass spindle of the one-pipe manifold **to the right** as far as it will go..

Of course it is also possible to change the pre-adjusted valve setting when the equipment is operating at pressure.

Please take into account the maximum power per cycle (regarding single-pipe installations) of about 10 kW  
 $\Delta T = T_1 - T_2 = 20 \text{ K}$  (at  $T_1 = 90 \text{ }^\circ\text{C}$ ).

# COMPACT RADIATOR



Panel radiators



**Connections**  
4 x internal thread G 1/2



**Max. positive operating pressure** 10 bar



**Test positive pressure**  
13 bar



**Max. operating temperature**  
110 °CMax.

## Heat emission

The specification was verified in accordance with DIN EN 442 at The Technical University, Stuttgart (Registration at WSP-Cert Product Certification Centre, Stuttgart), under the numbers:

Type 10	0443
Type 11 K	0445
Type 21 K-S	0447
Type 22 K	0448
Type 33 K	0449

and in accordance with OENORM (Austrian standard) EN 442 at the Technological Commercial Museum, Vienna.

## Material

COMPACT RADIATORS are made of

cold-rolled sheet steel, and in accordance with EN 442-1, with a stylish and robust fluting, with ribs at 40 mm intervals.

## Equipment

Each COMPACT RADIATOR is equipped with wall brackets that are welded onto the back. The radiator types 11 K, 21 K-S, 22 K and 33 K are equipped with a detachable top cover and two closed side panels.




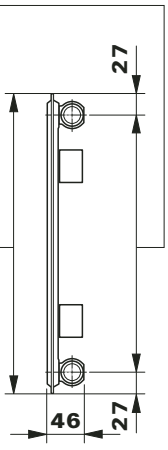
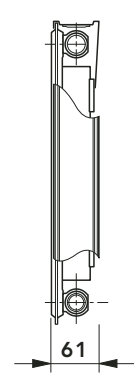
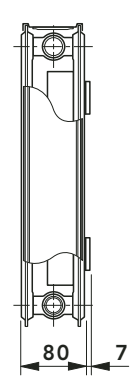
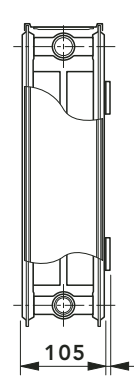
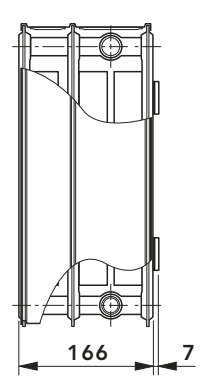
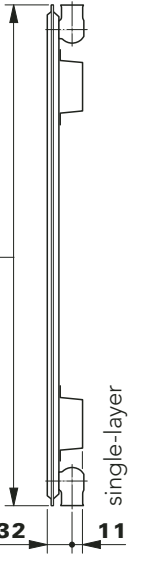
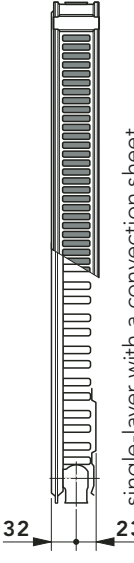
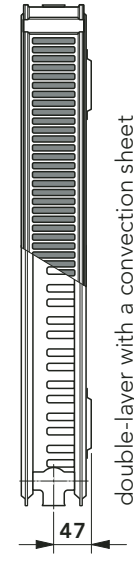
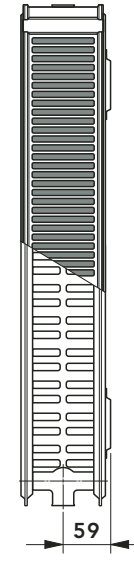
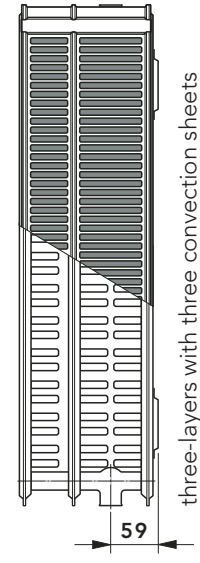
## Paint coating

1. Undercoating in accordance with DIN 55900 part 1, stoved at 190° C.
2. Finish in accordance with DIN 55900 part 2, in standard colour 9016

(on request available in many standard colours and sanitary-ware colours at an extra charge), applied electro-statically in a modern powder coating facility. This especially resistant coating is stoved at an object temperature of 210° C.

## Packaging

1. Cardboard packaging
2. Edge protection
3. Shrink foil

OVERVIEW OF MODELS																									
Type	10					11 K					21 K-S					22 K					33 K				
  																									
	 single-layer 32 11					 single-layer with a convection sheet 32 23					 double-layer with a convection sheet 47					 double-layer with two convection sheets 59					 three-layers with three convection sheets 59				
Type	10					11 K					21 K-S					22 K					33 K				
Height [mm]	300	400	500	600	900	300	400	500	600	900	300	400	500	600	900	300	400	500	600	900	300	400	500	600	900
Length [mm]	up to 1200		up to 2400	up to 2600	up to 1400	up to 2400		up to 2600	up to 2000		up to 2400		up to 3000	up to 2000		up to 3000		up to 2000	up to 3000	up to 2200		up to 2000			
Steps	all overall length starting with 400 mm available in steps of 200 mm, additionally 520, 720, 920, 1120 and 1320 mm																								



Guarantee statements are available to download at [www.vogelundnoot.com/download](http://www.vogelundnoot.com/download)

Connection modes - double-pipe and single-pipe system

## Connection modes - double-pipe system

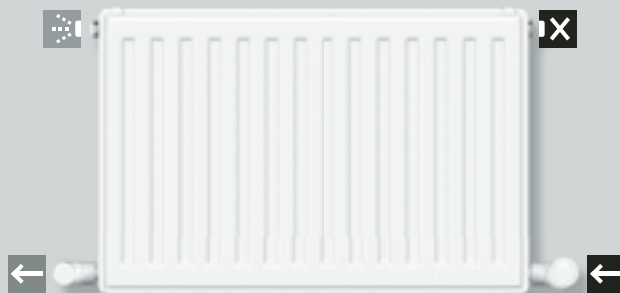


**A: Single-sided connection**

COMPACT RADIATOR

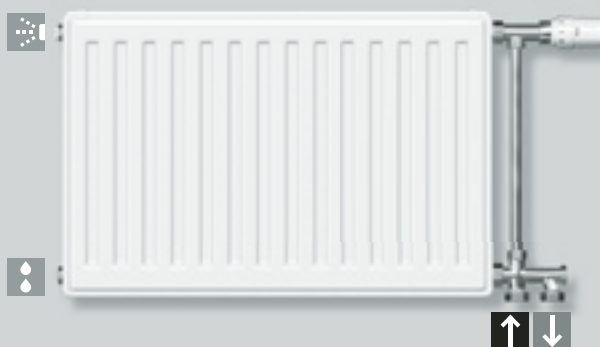


**B: Connection both sides**



**C: Connection on top**  
**Warning:** Lower performance

## Connection modes - single-pipe system



COMPACT RADIATORS can easily be converted for a single-pipe connection, provided that four-way valves with a by-pass pipe are used.

Outputs - temperature group 90/70/20° C



90/70/20° C		Side panels and top cover of COMPACT-, T6- and MULTI-FUNCTIONAL VALVE RADIATORS are taken into consideration in the heat outputs																									
		Radiator power data in watts, in accordance with DIN EN 442 supply temperature 90 - return temperature 70 - room temperature 20° C																									
↕ Height [mm]	Type	300					400					500					600					900					
		10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM	10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM	10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM	10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM	10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM	
↔ Length [mm]	Power																										
400	Watt	176	288	427	558	796	224	362	534	695	992	271	430	625	787	1140	317	478	689	875	1251	446	659	949	1173	1649	
520	Watt	228	374	555	725	1035	292	470	694	903	1289	353	559	812	1023	1482	412	621	896	1138	1626	579	856	1233	1524	2144	
600	Watt	263	432	640	837	1194	337	543	801	1042	1488	407	645	937	1181	1710	475	717	1034	1313	1877	668	988	1423	1759	2474	
720	Watt	316	518	769	1005	1433	404	651	961	1250	1785	488	774	1124	1417	2052	570	860	1241	1576	2252	802	1186	1707	2111	2969	
800	Watt	351	576	854	1116	1592	449	723	1068	1389	1984	543	859	1249	1574	2280	634	955	1379	1751	2502	891	1318	1897	2345	3299	
920	Watt	404	662	982	1284	1830	516	832	1229	1598	2281	624	988	1437	1810	2622	729	1099	1585	2013	2878	1025	1515	2182	2697	3793	
1000	Watt	439	720	1067	1395	1990	561	904	1335	1737	2479	678	1074	1562	1968	2850	792	1194	1723	2188	3128	1114	1647	2371	2931	4123	
1120	Watt	492	806	1195	1563	2228	628	1013	1496	1945	2777	760	1203	1749	2204	3192	887	1338	1930	2451	3503	1247	1845	2656	3283	4618	
1200	Watt	527	864	1281	1674	2388	673	1085	1602	2084	2975	814	1289	1874	2361	3420	951	1433	2068	2626	3753	1337	1977	2846	3518	4948	
1320	Watt		950	1409	1842	2626		1194	1763	2292	3273	895	1418	2061	2598	3762	1046	1577	2275	2889	4129	1470	2174	3130	3869	5443	
1400	Watt		1008	1494	1953	2786		1266	1870	2431	3471	950	1504	2186	2755	3990	1109	1672	2412	3064	4379	1559	2306	3320	4104	5772	
1600	Watt		1152	1708	2232	3183		1447	2137	2778	3967	1085	1719	2499	3149	4560	1268	1911	2757	3501	5004		2635	3794	4690	6597	
1800	Watt		1296	1921	2511	3581		1628	2404	3126	4463	1221	1934	2811	3542	5130	1426	2150	3102	3939	5630		2965	4269	5276	7422	
2000	Watt		1440	2135	2790	3979		1809	2671	3473	4959	1357	2149	3123	3936	5700	1585	2389	3446	4377	6255		3294	4743	5863	8246	
2200	Watt		1584	2348	3069	4377		1989	2938	3820	5455	1492	2363	3435	4329	6271	1743	2628	3791	4814	6881						
2400	Watt		1728	2562	3348	4775		2170	3205	4168		1628	2578	3748	4723		1901	2866	4136	5252							
2600	Watt				3627	5173				4515			2793	4060	5116		2060	3105	4480	5690							
2800	Watt				3907	5571				4862				4372	5510				4825	6127							
3000	Watt				4186	5969				5210				4685	5904				5169	6565							
Radiatorexponent n		1,274	1,330	1,327	1,329	1,331	1,283	1,342	1,334	1,353	1,357	1,292	1,330	1,323	1,334	1,351	1,301	1,319	1,310	1,343	1,333	1,305	1,332	1,321	1,340	1,354	
Type programme		COMPACT Radiator										T6-Centrally connected radiator and MULTI-FUNCTIONAL VALVE Radiator															

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

# T6-RADIATOR / MULTI-FUNCTIONAL RADIATOR / COMPACT RADIATOR

Outputs - temperature group 75/65/20° C and 70/55/20° C

75/65/20° C		Side panels and top cover of COMPACT, T6- and MULTI-FUNCTIONAL VALVE RADIATORS are taken into consideration in the heat outputs																								
		Radiator power data in watts, in accordance with DIN EN 442 supply temperature 75 - return temperature 65 - room temperature 20° C																								
Height [mm]	Type	300					400					500					600					900				
		10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM	10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM	10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM	10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM	10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM
400	Watt	139	226	335	438	624	178	283	419	543	774	214	337	491	617	891	250	376	543	685	981	351	517	746	918	1288
520	Watt	181	294	436	569	812	231	368	544	706	1007	279	438	638	802	1159	325	488	706	891	1276	457	672	969	1194	1675
600	Watt	209	339	503	657	937	266	425	628	814	1162	322	506	736	926	1337	375	563	814	1028	1472	527	775	1118	1378	1933
720	Watt	251	407	603	788	1124	320	510	754	977	1394	386	607	883	1111	1604	450	676	977	1233	1766	632	930	1342	1653	2319
800	Watt	278	452	670	876	1249	355	566	838	1086	1549	429	674	982	1234	1782	500	751	1086	1370	1962	702	1034	1491	1837	2577
920	Watt	320	520	771	1007	1436	408	651	963	1248	1781	493	776	1129	1420	2050	575	864	1248	1576	2257	808	1189	1715	2112	2963
1000	Watt	348	565	838	1095	1561	444	708	1047	1357	1936	536	843	1227	1543	2228	625	939	1357	1713	2453	878	1292	1864	2296	3221
1120	Watt	390	633	939	1226	1748	497	793	1173	1520	2168	600	944	1374	1728	2495	700	1052	1520	1919	2747	983	1447	2088	2572	3608
1200	Watt	418	678	1006	1314	1873	533	850	1256	1628	2323	643	1012	1472	1852	2674	750	1127	1628	2056	2944	1054	1550	2237	2755	3865
1320	Watt		746	1106	1445	2061		935	1382	1791	2556	708	1113	1620	2037	2941	825	1239	1791	2261	3238	1159	1705	2460	3031	4252
1400	Watt		791	1173	1533	2185		991	1466	1900	2710	750	1180	1718	2160	3119	875	1315	1900	2398	3434	1229	1809	2610	3214	4509
1600	Watt		904	1341	1752	2498		1133	1675	2171	3098	858	1349	1963	2469	3565	1000	1502	2171	2741	3925		2067	2982	3674	5154
1800	Watt		1017	1508	1971	2810		1274	1885	2443	3485	965	1517	2209	2777	4010	1125	1690	2443	3083	4415		2326	3355	4133	5798
2000	Watt		1130	1676	2190	3122		1416	2094	2714	3872	1072	1686	2454	3086	4456	1250	1878	2714	3426	4906		2584	3728	4592	6442
2200	Watt		1243	1844	2409	3434		1558	2303	2985	4259	1179	1855	2699	3395	4902	1375	2066	2985	3769	5397					
2400	Watt		1356	2011	2628	3746		1699	2513	3257		1286	2023	2945	3703		1500	2254	3257	4111						
2600	Watt				2847	4059				3528			2192	3190	4012		1625	2441	3528	4454						
2800	Watt				3066	4371				3800				3436	4320				3800	4796						
3000	Watt				3285	4683				4071				3681	4629				4071	5139						
Radiatorexponent n		1,274	1,330	1,327	1,329	1,331	1,283	1,342	1,334	1,353	1,357	1,292	1,330	1,323	1,334	1,351	1,301	1,319	1,310	1,343	1,333	1,305	1,332	1,321	1,340	1,354
Type programme		COMPACT Radiator										T6-Centrally connected radiator and MULTI-FUNCTIONAL VALVE Radiator														

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

Panel radiators

70/55/20° C		Side panels and top cover of COMPACT, T6- and MULTI-FUNCTIONAL VALVE RADIATORS are taken into consideration in the heat outputs																								
		Radiator power data in watts, in accordance with DIN EN 442 supply temperature 70 - return temperature 55 - room temperature 20° C																								
Height [mm]	Type	300					400					500					600					900				
		10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM	10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM	10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM	10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM	10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM
400	Watt	113	182	270	353	503	144	228	337	436	621	174	272	396	497	716	202	303	439	551	790	284	416	602	739	1034
520	Watt	147	237	351	459	654	187	296	438	566	807	226	353	515	646	930	263	394	570	716	1027	369	541	782	960	1344
600	Watt	170	273	405	529	754	216	342	506	654	932	261	407	594	745	1073	304	455	658	826	1185	426	624	902	1108	1551
720	Watt	204	328	486	635	905	260	410	607	784	1118	313	489	713	894	1288	364	546	790	991	1422	511	749	1083	1330	1861
800	Watt	226	364	540	706	1006	288	455	674	871	1242	348	543	792	994	1431	405	606	877	1102	1580	568	832	1203	1477	2068
920	Watt	260	419	621	812	1157	332	524	775	1002	1429	400	625	911	1143	1646	465	697	1009	1267	1817	653	957	1384	1699	2378
1000	Watt	283	455	675	882	1257	360	569	843	1089	1553	434	679	990	1242	1789	506	758	1097	1377	1975	710	1041	1504	1847	2585
1120	Watt	317	510	756	988	1408	404	638	944	1220	1739	487	761	1108	1391	2003	567	849	1228	1542	2212	795	1165	1684	2068	2895
1200	Watt	340	546	811	1059	1509	433	683	1011	1307	1863	521	815	1188	1491	2147	607	909	1316	1652	2370	852	1249	1805	2216	3102
1320	Watt		601	892	1165	1660		751	1113	1438	2050	574	896	1306	1640	2361	668	1000	1448	1818	2607	938	1374	1985	2438	3412
1400	Watt		637	946	1235	1760		797	1180	1525	2174	608	951	1386	1739	2504	708	1061	1535	1928	2765	994	1457	2106	2585	3618
1600	Watt		728	1081	1412	2012		911	1349	1743	2485	695	1087	1584	1988	2862	809	1212	1755	2203	3160		1665	2406	2955	4135
1800	Watt		819	1216	1588	2263		1025	1517	1961	2795	782	1222	1781	2236	3220	911	1364	1974	2479	3555		1873	2707	3324	4652
2000	Watt		910	1351	1765	2515		1139	1686	2178	3106	869	1358	1979	2485	3578	1012	1516	2193	2754	3951		2081	3008	3693	5169
2200	Watt		1001	1486	1941	2766		1252	1854	2396	3416	956	1494	2177	2733	3935	1113	1667	2413	3030	4346					
2400	Watt		1092	1621	2118	3018		1366	2023	2614		1043	1630	2375	2981		1214	1819	2632	3305						
2600	Watt				2294	3269				2832			1766	2573	3230		1315	1970	2852	3580						
2800	Watt				2470	3521				3050				2771	3478				3071	3856						
3000	Watt				2647	3772				3268					3727				3290	4131						
Radiatorexponent n		1,274	1,330	1,327	1,329	1,331	1,283	1,342	1,334	1,353	1,357	1,292	1,330	1,323	1,334	1,351	1,301	1,319	1,310	1,343	1,333	1,305	1,332	1,321	1,340	1,354
Type programme		COMPACT Radiator										T6-Centrally connected radiator and MULTI-FUNCTIONAL VALVE Radiator														

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

# 38 T6-RADIATOR / MULTI-FUNCTIONAL RADIATOR / COMPACT RADIATOR

Outputs - temperature group 55/45/20° C and 45/40/20° C

55/45/20° C		Side panels and top cover of COMPACT-, T6- and MULTI-FUNCTIONAL VALVE RADIATORS are taken into consideration in the heat outputs																									
		Radiator power data in watts, in accordance with DIN EN 442 supply temperature 55 - return temperature 45 - room temperature 20° C																									
Height [mm]	Type	300					400					500					600					900					
		10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM	10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM	10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM	10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM	10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM	
Length [mm]	Power																										
400	Watt	73	115	170	222	316	92	143	212	272	387	111	171	250	312	447	129	191	278	345	497	180	262	380	463	645	
520	Watt	95	149	221	289	411	120	185	275	354	503	144	222	325	406	581	167	249	361	449	646	234	340	494	602	839	
600	Watt	109	172	255	333	475	138	214	318	408	581	166	256	375	468	670	193	287	417	518	745	271	393	570	695	968	
720	Watt	131	206	306	400	570	166	257	381	490	697	199	308	450	562	805	232	345	500	621	894	325	471	684	834	1161	
800	Watt	146	229	340	444	633	184	285	424	544	774	222	342	500	624	894	257	383	556	690	993	361	523	760	926	1290	
920	Watt	167	264	391	511	728	212	328	487	626	890	255	393	574	718	1028	296	440	639	794	1142	415	602	873	1065	1484	
1000	Watt	182	286	425	555	791	231	357	530	680	968	277	427	624	781	1117	322	479	695	863	1242	451	654	949	1158	1613	
1120	Watt	204	321	477	622	886	258	400	593	762	1084	310	479	699	874	1252	360	536	778	966	1391	505	733	1063	1297	1806	
1200	Watt	218	344	511	667	949	277	428	635	816	1161	332	513	749	937	1341	386	574	834	1035	1490	541	785	1139	1390	1935	
1320	Watt		378	562	733	1044		471	699	898	1278	366	564	824	1030	1475	425	632	917	1139	1639	595	864	1253	1529	2129	
1400	Watt		401	596	778	1107		499	741	952	1355	388	598	874	1093	1564	450	670	973	1208	1738	631	916	1329	1621	2258	
1600	Watt		458	681	889	1266		571	847	1088	1549	443	684	999	1249	1788	515	766	1112	1380	1987		1047	1519	1853	2580	
1800	Watt		516	766	1000	1424		642	953	1224	1742	499	769	1124	1405	2011	579	861	1251	1553	2235		1178	1709	2085	2903	
2000	Watt		573	851	1111	1582		713	1059	1360	1936	554	855	1249	1561	2235	643	957	1390	1725	2483		1309	1899	2316	3225	
2200	Watt		630	936	1222	1740		785	1165	1496	2129	610	940	1374	1717	2458	708	1053	1529	1898	2732						
2400	Watt		687	1021	1333	1898		856	1271	1632		665	1026	1499	1873		772	1149	1668	2070							
2600	Watt				1444	2057				1768			1111	1623	2030		836	1244	1807	2243							
2800	Watt				1555	2215				1904				1748	2186				1946	2415							
3000	Watt				1666	2373				2040					1873	2342				2085	2588						
Radiatorexponent n		1,274	1,330	1,327	1,329	1,331	1,283	1,342	1,334	1,353	1,357	1,292	1,330	1,323	1,334	1,351	1,301	1,319	1,310	1,343	1,333	1,305	1,332	1,321	1,340	1,354	
Type programme			COMPACT Radiator											T6-Centrally connected radiator and MULTI-FUNCTIONAL VALVE Radiator													

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

45/40/20° C		Side panels and top cover of COMPACT-, T6- and MULTI-FUNCTIONAL VALVE RADIATORS are taken into consideration in the heat outputs																									
		Radiator power data in watts, in accordance with DIN EN 442 supply temperature 45 - return temperature 40 - room temperature 20° C																									
Height [mm]	Type	300					400					500					600					900					
		10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM	10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM	10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM	10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM	10	11 K 11 KV 11 VM	21 K-S 21 KV-S 21 VM-S	22 K 22 KV 22 VM	33 K 33 KV 33 VM	
Length [mm]	Power																										
400	Watt	50	78	116	152	216	64	97	144	184	262	76	117	171	213	303	88	131	191	234	339	124	178	260	315	437	
520	Watt	66	102	151	197	280	83	126	188	240	341	99	152	222	277	394	115	170	248	305	440	161	232	338	410	568	
600	Watt	76	117	174	227	324	96	145	216	276	393	115	175	256	319	455	133	196	286	352	508	186	268	390	473	655	
720	Watt	91	141	209	273	388	115	175	260	332	472	138	210	307	383	545	159	236	343	422	609	223	321	467	567	786	
800	Watt	101	156	232	303	432	128	194	289	369	524	153	233	341	425	606	177	262	381	469	677	248	357	519	630	874	
920	Watt	116	180	267	349	496	147	223	332	424	603	176	268	393	489	697	204	301	439	539	779	285	410	597	725	1005	
1000	Watt	126	195	290	379	539	159	242	361	461	655	191	291	427	532	758	221	327	477	586	846	310	446	649	788	1092	
1120	Watt	141	219	325	424	604	179	272	404	516	734	214	326	478	596	849	248	367	534	656	948	347	500	727	882	1223	
1200	Watt	151	234	349	455	647	191	291	433	553	786	229	350	512	638	909	265	393	572	703	1016	372	535	779	945	1311	
1320	Watt		258	383	500	712		320	476	608	865	252	385	563	702	1000	292	432	629	774	1117	409	589	857	1040	1442	
1400	Watt		274	407	531	755		339	505	645	917	267	408	598	745	1061	310	458	667	821	1185	434	625	909	1103	1529	
1600	Watt		313	465	606	863		388	577	737	1048	306	466	683	851	1212	354	524	763	938	1354		714	1039	1260	1748	
1800	Watt		352	523	682	971		436	649	829	1179	344	525	768	957	1364	398	589	858	1055	1523		803	1169	1418	1966	
2000	Watt		391	581	758	1079		485	722	922	1310	382	583	854	1064	1515	442	655	953	1172	1693		892	1299	1575	2184	
2200	Watt		430	639	834	1187		533	794	1014	1441	420	641	939	1170	1667	487	720	1049	1289	1862						
2400	Watt		469	697	910	1295		582	866	1106		459	700	1024	1276		531	786	1144	1407							
2600	Watt				985	1402				1198			758	1110	1383		575	851	1239	1524							
2800	Watt				1061	1510				1290				1195	1489				1335	1641							
3000	Watt				1137	1618				1382				1280	1595				1430	1758							
Radiatorexponent n		1,274	1,330	1,327	1,329	1,331	1,283	1,342	1,334	1,353	1,357	1,292	1,330	1,323	1,334	1,351	1,301	1,319	1,310	1,343	1,333	1,305	1,332	1,321	1,340	1,354	
Type programme			COMPACT Radiator											T6-Centrally connected radiator and MULTI-FUNCTIONAL VALVE Radiator													

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.



Weights

T6 / MULTI-FUNCTIONAL			Weight in kg of T6-CENTRALLY connected and MULTI-FUNCTIONAL VALVE RADIATORS																			
↕ Height [mm]	↔ Type weight	300				400				500				600				900				
		11 KV 11 VM	21KV-5 21VM-S	22 KV 22 VM	33 KV 33 VM	11 KV 11 VM	21KV-5 21VM-S	22 KV 22 VM	33 KV 33 VM	11 KV 11 VM	21KV-5 21VM-S	22 KV 22 VM	33 KV 33 VM	11 KV 11 VM	21KV-5 21VM-S	22 KV 22 VM	33 KV 33 VM	11 KV 11 VM	21KV-5 21VM-S	22 KV 22 VM	33 KV 33 VM	
400	kg	5,67	7,75	8,94	12,93	7,08	9,78	11,50	16,74	7,91	11,34	13,10	19,10	8,69	12,83	14,63	21,35	12,03	18,48	21,13	31,01	
520	kg	6,80	9,53	11,08	16,13	8,62	12,18	14,44	21,14	9,66	14,18	16,48	24,16	10,64	16,08	18,42	27,03	14,96	23,37	26,85	39,58	
600	kg	7,56	10,72	12,51	18,27	9,64	13,78	16,41	24,08	10,83	16,07	18,73	27,53	11,95	18,25	20,95	30,81	16,92	26,63	30,67	45,29	
720	kg	8,69	12,50	14,65	21,48	11,17	16,18	19,35	28,48	12,58	18,90	22,11	32,59	13,90	21,49	24,74	36,49	19,85	31,52	36,39	53,86	
800	kg	9,45	13,69	16,08	23,61	12,20	17,78	21,31	31,42	13,75	20,79	24,37	35,96	15,21	23,66	27,27	40,27	21,80	34,78	40,20	59,57	
920	kg	10,58	15,54	18,31	26,95	13,73	20,24	24,34	35,96	15,50	23,70	27,83	41,16	17,16	26,98	31,15	46,08	24,73	39,74	46,01	68,27	
1000	kg	11,34	16,72	19,74	29,09	14,75	21,84	26,30	38,90	16,66	25,59	30,09	44,53	18,47	29,14	33,68	49,87	26,68	43,00	49,83	73,98	
1120	kg	12,48	18,51	21,88	32,30	16,28	24,24	29,24	43,30	18,42	28,42	33,47	49,59	20,43	32,39	37,47	55,54	29,61	47,89	55,55	82,55	
1200	kg	13,23	19,69	23,31	34,44	17,31	25,84	31,21	46,24	19,58	30,32	35,72	52,96	21,73	34,56	40,00	59,33	31,56	51,15	59,37	88,26	
1320	kg	14,62	21,48	25,45	37,64	19,14	28,24	34,15	50,64	21,64	33,15	39,10	58,02	23,99	37,81	43,80	65,01	34,80	56,03	65,09	96,82	
1400	kg	15,37	22,73	26,97	39,91	20,17	29,90	36,20	53,72	22,81	35,11	41,44	61,53	25,30	40,04	46,41	68,93	36,75	59,36	68,99	102,67	
1600	kg	17,26	25,70	30,54	45,26	22,72	33,90	41,10	61,06	25,72	39,83	47,07	69,96	28,56	45,46	52,74	78,39	41,63	67,51	78,53	116,94	
1800	kg	19,16	28,84	34,30	50,84	25,28	38,07	46,20	68,64	28,64	44,73	52,90	78,63	31,82	51,04	59,25	88,09	46,51	75,83	88,26	131,46	
2000	kg	21,05	31,81	37,87	56,18	27,84	42,07	51,10	75,98	31,56	49,46	58,53	87,06	35,08	56,46	65,57	97,55	51,40	83,98	97,80		
2200	kg	22,94	34,78	41,44	61,52	30,39	46,07	56,01	83,32	34,48	54,19	64,17	95,49	38,34	61,87	71,89	107,01					
2400	kg	25,33	37,75	45,02	66,87	33,56	50,06	60,91		38,01	58,91	69,80		42,21	67,29	78,22						
2600	kg			48,59	72,21			65,82		40,93	63,64	75,43		45,47	72,70	84,54						
2800	kg			52,16	77,55			70,72			68,37	81,07			78,12	90,86						
3000	kg			55,73	82,89			75,63			73,09	86,70			83,54	97,18						
Type programme		T6-CENTRALLY CONNECTED RADIATOR and MULTI-FUNCTIONAL VALVE RADIATOR																				

Panel radiators

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

COMPACT			Weight in kg of COMPACT RADIATORS																							
↕ Height [mm]	↔ Type weight	300					400					500					600					900				
		10	11 K	21 K-S	22 K	33 K	10	11 K	21 K-S	22 K	33 K	10	11 K	21 K-S	22 K	33 K	10	11 K	21 K-S	22 K	33 K	10	11 K	21 K-S	22 K	33 K
400	kg	3,29	4,91	6,99	8,18	12,17	4,01	6,31	9,01	10,73	15,97	4,73	7,12	10,55	12,31	18,31	5,42	7,86	12,01	13,80	20,53	7,71	11,14	17,59	20,23	30,12
520	kg	4,00	6,05	8,78	10,33	15,38	4,93	7,84	11,41	13,67	20,37	5,88	8,87	13,38	15,69	23,37	6,77	9,82	15,26	17,60	26,20	9,74	14,07	22,48	25,96	38,69
600	kg	4,47	6,81	9,96	11,76	17,52	5,55	8,87	13,01	15,63	23,31	6,64	10,03	15,28	17,94	26,74	7,67	11,12	17,42	20,13	29,99	11,09	16,02	25,74	29,77	44,40
720	kg	5,18	7,94	11,75	13,90	20,72	6,47	10,40	15,40	18,58	27,71	7,78	11,79	18,11	21,32	31,80	9,02	13,08	20,67	23,92	35,66	13,12	18,95	30,63	35,50	52,96
800	kg	5,66	8,70	12,93	15,33	22,86	7,09	11,42	17,00	20,54	30,65	8,54	12,95	20,00	23,57	35,17	9,91	14,39	22,84	26,45	39,45	14,48	20,91	33,89	39,31	58,67
920	kg	6,37	9,83	14,78	17,56	26,20	8,02	12,96	19,47	23,57	35,19	9,68	14,70	22,90	27,04	40,36	11,26	16,34	26,15	30,33	45,26	16,51	23,83	38,84	45,12	67,37
1000	kg	6,84	10,59	15,97	18,99	28,34	8,63	13,98	21,07	25,53	38,13	10,45	15,87	24,79	29,29	43,74	12,16	17,65	28,32	32,86	49,05	17,86	25,79	42,10	48,94	73,09
1120	kg	7,55	11,72	17,75	21,13	31,54	9,56	15,51	23,47	28,47	42,53	11,59	17,62	27,63	32,67	48,79	13,51	19,60	31,57	36,65	54,72	19,89	28,72	46,99	54,66	81,65
1200	kg	8,02	12,48	18,94	22,56	33,68	10,18	16,53	25,07	30,43	45,47	12,35	18,79	29,52	34,93	52,17	14,41	20,91	33,74	39,18	58,51	21,25	30,67	50,25	58,48	87,36
1320	kg		13,86	20,72	24,70	36,89		18,37	27,47	33,38	49,87	13,67	20,85	32,36	38,31	57,22	15,94	23,17	36,98	42,97	64,18	23,46	33,90	55,14	64,20	95,93
1400	kg		14,62	21,98	26,21	39,16		19,39	29,13	35,42	52,94	14,43	22,01	34,31	40,65	60,73	16,83	24,47	39,22	45,59	68,11	24,81	35,86	58,47	68,10	101,77
1600	kg		16,51	24,95	29,79	44,50		21,95	33,13	40,33	60,29	16,60	24,93	39,04	46,28	69,16	19,35	27,73	44,63	51,91	77,57		40,74	66,62	77,64	116,05
1800	kg		18,40	28,09	33,55	50,08		24,51	37,30	45,43	67,87	18,60	27,85	43,94	52,11	77,84	21,69	30,99	50,22	58,43	87,27		45,62	74,94	87,37	130,57
2000	kg		20,30	31,06	37,12	55,43		27,06	41,30	50,33	75,21	20,51	30,77	48,67	57,74	86,27	23,93	34,26	55,63	64,75	96,73		50,50	83,09	96,91	144,84
2200	kg		22,19	34,03	40,69	60,77		29,62	45,29	55,24	82,55	22,41	33,68	53,39	63,37	94,70	26,18	37,52	61,05	71,07	106,19					
2400	kg		24,58	37,00	44,26	66,11		32,78	49,29	60,14		24,31	37,21	58,12	69,01		28,43	41,39	66,47	77,39						
2600	kg			47,83	71,45					65,05			40,13	62,85	74,64		30,68	44,65	71,88	83,71						
2800	kg			51,41	76,80					69,95				67,57	80,28				77,30	90,04						
3000	kg			54,98	82,14					74,86				72,30	85,91				82,71	96,36						
Type programme		COMPACT RADIATOR																								

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

# HYGIENE RADIATOR



**HYGIENE COMPACT RADIATOR**  
Connections:  
4 x G 1/2" I. G.



**T6-HYGIENE CENTRALLY CONNECTED RADIATOR**  
Connections:  
4 x G 1/2" I. G. and  
2 x G 3/4" A. G.  
lower edge, in the centre

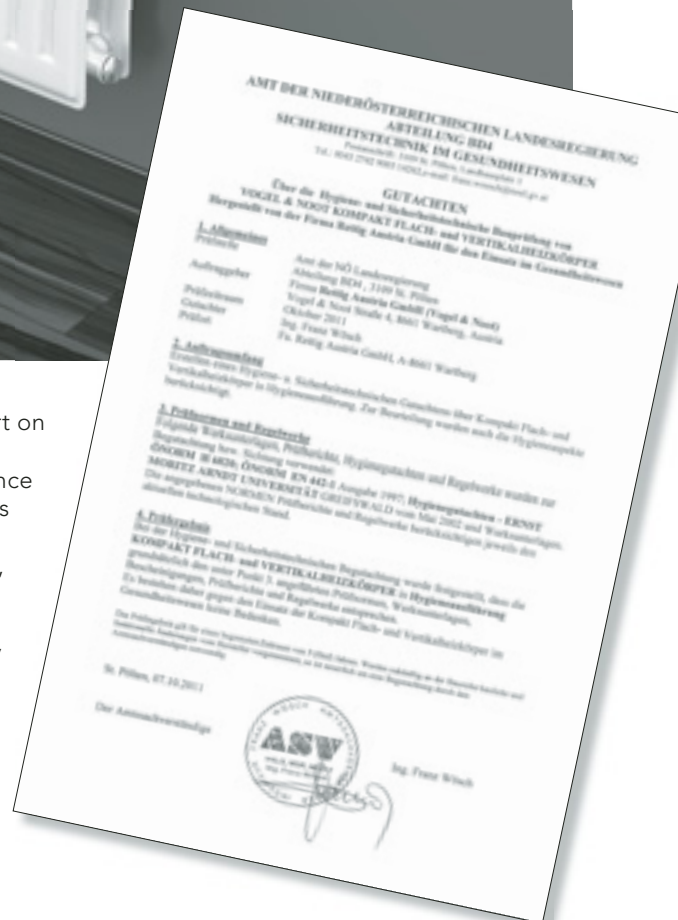
The proof of suitability for the installation of **HYGIENE COMPACT RADIATORS** and **T6 HYGIENE CENTRALLY CONNECTED RADIATORS** in rooms with particular hygienic requirements is highlighted by the hygiene certificate issued by Ernst Moritz Arndt University of Greifswald.

The HYGIENE RADIATORS have been specially designed for use in hospitals and for installation in rooms subject to particular hygiene requirements.

**Advantages:**

- No collection of dust and dirt on covers or sides
- Large inner separation distance without small-scale structures
- Easy to clean
- Rounded corners and edges, finished to a high level

In order to offer the necessary alternatives for installation as well as complying with the hygiene requirements and guidelines, the hygiene radiators are available in T6 and compact designs.



Overview of models

Overview of models																		
Type	10			10 VM			20			20 VM			30			30 VM		
	46			46			80			80			166			166		
	27			11			7			7			7			7		
	46			11			80			39			166			39		
	32			32			47			47			59			59		
	single-layer						double-layer						triple-layer					
Type	10 / 10 VM						20 / 20 VM						30 / 30 VM					
Height  [mm]	300	400	500	600	900	300	400	500	600	900	300	400	500	600	900			
Length  [mm]	up to 1200		up to 2400		up to 2600	up to 1400		up to 2400		up to 3000		up to 2000		up to 3000	up to 2200		up to 1800	
Gradation	All overall lengths from 400 mm in gradations of 200 mm; also 520, 720, 920, 1120 and 1320 mm																	

Panel radiators

Twin-pipe operation, single-pipe operation, types of connection

N.B.: Please refer to the appropriate sections concerning the **T6 CENTRALLY CONNECTED RADIATOR** on pages 22 - 26 for technical information on the connection settings.

HEIZKÖRPER  
RAL GÜTEZEICHEN  
AUS STAHL

SEITENORM  
DIN EN 442

EN ISO 9001

CE

EN 442  
GEPRÜFT

55 45  
DIE NEUE WÄRME

Guarantee statements are available to download at [www.vogelundnoot.com/download](http://www.vogelundnoot.com/download)

Outputs - temperature group 90/70/20° C



360 ° views  
available at

[www.vogelundnoot.com](http://www.vogelundnoot.com)

90/70/20° C		Output data in watts in accordance with DIN EN 442 and/or ÖNORM EN 442 Feed temperature 90 - return temperature 70 - room temperature 20 °C														
↕ Height [mm]	↔ Type Output	300			400			500			600			900		
		10 10 VM	20 20 VM	30 30 VM	10 10 VM	20 20 VM	30 30 VM	10 10 VM	20 20 VM	30 30 VM	10 10 VM	20 20 VM	30 30 VM	10 10 VM	20 20 VM	30 30 VM
400	Watt	176	298	432	224	376	541	271	452	645	317	524	747	446	729	1047
520	Watt	228	387	561	292	489	703	353	587	839	412	681	971	579	948	1361
600	Watt	263	447	647	337	565	811	407	677	968	475	786	1121	668	1094	1570
720	Watt	316	536	777	404	678	973	488	813	1162	570	943	1345	802	1313	1884
800	Watt	351	596	863	449	753	1082	543	903	1291	634	1048	1494	891	1459	2093
920	Watt	404	685	993	516	866	1244	624	1039	1485	729	1205	1718	1025	1677	2407
1000	Watt	439	745	1079	561	941	1352	678	1129	1614	792	1310	1868	1114	1823	2617
1120	Watt	492	834	1208	628	1054	1514	760	1265	1807	887	1467	2092	1247	2042	2931
1200	Watt	527	894	1295	673	1129	1622	814	1355	1936	951	1572	2241	1337	2188	3140
1320	Watt		983	1424		1242	1785	895	1490	2130	1046	1729	2466	1470	2407	3454
1400	Watt		1043	1510		1318	1893	950	1581	2259	1109	1834	2615	1559	2553	3663
1600	Watt		1192	1726		1506	2163	1085	1807	2582	1268	2096	2989		2917	4187
1800	Watt		1341	1942		1694	2434	1221	2032	2905	1426	2358	3362		3282	4710
2000	Watt		1489	2158		1882	2704	1357	2258	3227	1585	2620	3736		3647	5233
2200	Watt		1638	2373		2071	2974	1492	2484	3550	1743	2881	4109			
2400	Watt		1787	2589		2259		1628	2710		1901	3143				
2600	Watt			2805					2936		2060	3405				
2800	Watt			3021					3162			3667				
3000	Watt			3237					3387			3929				
Radiator exponent n		1,274	1,278	1,288	1,283	1,282	1,288	1,292	1,287	1,288	1,301	1,291	1,288	1,305	1,294	1,317
Model range		HYGIENE COMPACT RADIATORS and T6-HYGIENE CENTRE-CONNECTION RADIATORS														

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

Outputs - temperature group 75/65/20° C and 70/55/20° C

75/65/20° C		Output data in watts in accordance with DIN EN 442 and/or ÖNORM EN 442 Feed temperature 75 - return temperature 65 - room temperature 20 °C														
Height [mm]	Type	300			400			500			600			900		
		10 VM	20 VM	30 VM	10 VM	20 VM	30 VM	10 VM	20 VM	30 VM	10 VM	20 VM	30 VM	10 VM	20 VM	30 VM
400	Watt	139	236	341	178	298	428	214	357	510	250	414	591	351	576	823
520	Watt	181	307	444	231	387	556	279	464	664	325	538	768	457	749	1070
600	Watt	209	354	512	266	447	641	322	536	766	375	621	886	527	864	1235
720	Watt	251	425	614	320	536	770	386	643	919	450	745	1063	632	1037	1482
800	Watt	278	472	682	355	596	855	429	714	1021	500	828	1182	702	1152	1646
920	Watt	320	543	785	408	685	983	493	822	1174	575	952	1359	808	1325	1893
1000	Watt	348	590	853	444	745	1069	536	893	1276	625	1035	1477	878	1440	2058
1120	Watt	390	661	955	497	834	1197	600	1000	1429	700	1159	1654	983	1613	2305
1200	Watt	418	708	1024	533	894	1283	643	1072	1531	750	1242	1772	1054	1728	2470
1320	Watt		779	1126		983	1411	708	1179	1684	825	1366	1950	1159	1901	2717
1400	Watt		826	1194		1043	1497	750	1250	1786	875	1449	2068	1229	2016	2881
1600	Watt		944	1365		1192	1710	858	1429	2042	1000	1656	2363		2304	3293
1800	Watt		1062	1535		1341	1924	965	1607	2297	1125	1863	2659		2592	3704
2000	Watt		1180	1706		1490	2138	1072	1786	2552	1250	2070	2954		2880	4116
2200	Watt		1298	1877		1639	2352	1179	1965	2807	1375	2277	3249			
2400	Watt		1416	2047		1788		1286	2143		1500	2484				
2600	Watt			2218					2322		1625	2691				
2800	Watt			2388					2500			2898				
3000	Watt			2559					2679			3105				
Radiator exponent n		1,274	1,278	1,288	1,283	1,282	1,288	1,292	1,287	1,288	1,301	1,291	1,288	1,305	1,294	1,317
Model range		HYGIENE COMPACT RADIATORS and T6-HYGIENE CENTRE-CONNECTION RADIATORS														



Panel radiators

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.



70/55/20° C		Output data in watts in accordance with DIN EN 442 and/or ÖNORM EN 442 Feed temperature 70 - return temperature 55 - room temperature 20 °C														
Height [mm]	Type	300			400			500			600			900		
		10 VM	20 VM	30 VM	10 VM	20 VM	30 VM	10 VM	20 VM	30 VM	10 VM	20 VM	30 VM	10 VM	20 VM	30 VM
400	Watt	113	192	277	144	242	347	174	290	414	202	336	479	284	467	665
520	Watt	147	249	360	187	315	451	226	377	538	263	436	623	369	607	864
600	Watt	170	288	415	216	363	520	261	435	621	304	503	719	426	700	997
720	Watt	204	345	498	260	436	624	313	522	745	364	604	863	511	840	1196
800	Watt	226	384	553	288	484	694	348	580	828	405	671	958	568	933	1329
920	Watt	260	441	637	332	556	798	400	667	952	465	772	1102	653	1073	1529
1000	Watt	283	479	692	360	605	867	434	724	1035	506	839	1198	710	1167	1661
1120	Watt	317	537	775	404	677	971	487	811	1159	567	940	1342	795	1307	1861
1200	Watt	339	575	830	433	726	1041	521	869	1242	607	1007	1438	852	1400	1994
1320	Watt		633	913		798	1145	574	956	1366	668	1108	1581	938	1540	2193
1400	Watt		671	969		847	1214	608	1014	1449	708	1175	1677	994	1634	2326
1600	Watt		767	1107		968	1387	695	1159	1656	809	1342	1917		1867	2658
1800	Watt		863	1245		1089	1561	782	1304	1863	911	1510	2157		2100	2991
2000	Watt		959	1384		1210	1734	869	1449	2070	1012	1678	2396		2334	3323
2200	Watt		1055	1522		1331	1908	956	1594	2277	1113	1846	2636			
2400	Watt		1151	1660		1452		1043	1739		1214	2014				
2600	Watt			1799					1884		1315	2182				
2800	Watt			1937					2029			2349				
3000	Watt			2076					2173			2517				
Radiator exponent n		1,274	1,278	1,288	1,283	1,282	1,288	1,292	1,287	1,288	1,301	1,291	1,288	1,305	1,294	1,317
Model range		HYGIENE COMPACT RADIATORS and T6-HYGIENE CENTRE-CONNECTION RADIATORS														

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

Outputs - temperature group 55/45/20° C and 45/40/20° C

<b>55/45/20° C</b>		Output data in watts in accordance with <b>DIN EN 442</b> and/or <b>ÖNORM EN 442</b> Feed temperature <b>55</b> - return temperature <b>45</b> - room temperature <b>20</b> °C														
 Height [mm]	 Length [mm]	300			400			500			600			900		
		Type	10 10 VM	20 20 VM	30 30 VM	10 10 VM	20 20 VM	30 30 VM	10 10 VM	20 20 VM	30 30 VM	10 10 VM	20 20 VM	30 30 VM	10 10 VM	20 20 VM
Output																
400	Watt	73	123	177	92	155	221	111	185	264	129	214	306	180	297	420
520	Watt	94	160	230	120	201	288	144	241	344	167	278	398	234	387	546
600	Watt	109	184	265	138	232	332	166	278	397	193	321	459	271	446	630
720	Watt	131	221	318	166	279	399	199	333	476	232	385	551	325	535	756
800	Watt	145	246	353	184	310	443	222	370	529	257	428	612	361	595	840
920	Watt	167	283	406	212	356	509	255	426	608	296	492	704	415	684	966
1000	Watt	182	307	442	231	387	554	277	463	661	322	535	765	451	743	1050
1120	Watt	203	344	495	258	433	620	310	518	740	360	599	857	505	833	1176
1200	Watt	218	369	530	277	464	664	332	555	793	386	642	918	541	892	1260
1320	Watt		406	583		511	731	366	611	872	425	706	1010	595	981	1386
1400	Watt		430	618		542	775	388	648	925	450	749	1071	631	1041	1470
1600	Watt		492	707		619	886	443	740	1057	515	856	1224		1189	1680
1800	Watt		553	795		697	997	499	833	1190	579	963	1377		1338	1890
2000	Watt		614	883		774	1107	554	926	1322	643	1070	1530		1487	2100
2200	Watt		676	972		851	1218	610	1018	1454	708	1177	1683			
2400	Watt		737	1060		929		665	1111		772	1284				
2600	Watt			1148					1203		836	1391				
2800	Watt			1237					1296			1498				
3000	Watt			1325					1388			1605				
Radiator exponent n		1,274	1,278	1,288	1,283	1,282	1,288	1,292	1,287	1,288	1,301	1,291	1,288	1,305	1,294	1,317
Model range		HYGIENE COMPACT RADIATORS and T6-HYGIENE CENTRE-CONNECTION RADIATORS														

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

<b>45/40/20° C</b>		Output data in watts in accordance with <b>DIN EN 442</b> and/or <b>ÖNORM EN 442</b> Feed temperature <b>45</b> - return temperature <b>40</b> - room temperature <b>20</b> °C														
 Height [mm]	 Length [mm]	300			400			500			600			900		
		Type	10 10 VM	20 20 VM	30 30 VM	10 10 VM	20 20 VM	30 30 VM	10 10 VM	20 20 VM	30 30 VM	10 10 VM	20 20 VM	30 30 VM	10 10 VM	20 20 VM
Output																
400	Watt	50	85	122	64	107	153	76	128	183	88	148	211	124	205	288
520	Watt	65	111	159	83	139	199	99	166	237	115	192	275	161	266	374
600	Watt	75	128	183	96	161	229	115	192	274	133	221	317	186	307	431
720	Watt	91	153	220	115	193	275	138	230	329	159	266	380	223	369	518
800	Watt	101	170	244	128	214	306	153	256	365	177	295	423	248	410	575
920	Watt	116	196	281	147	246	352	176	294	420	204	340	486	285	471	661
1000	Watt	126	213	305	159	268	382	191	320	456	221	369	528	310	512	719
1120	Watt	141	238	342	179	300	428	214	358	511	248	413	592	347	574	805
1200	Watt	151	255	366	191	321	459	229	384	548	265	443	634	372	615	863
1320	Watt		281	402		353	504	252	422	602	292	487	697	409	676	949
1400	Watt		298	427		375	535	267	447	639	310	517	740	434	717	1007
1600	Watt		340	488		428	612	306	511	730	354	590	845		820	1150
1800	Watt		383	549		482	688	344	575	821	398	664	951		922	1294
2000	Watt		425	610		535	764	382	639	913	442	738	1056		1025	1438
2200	Watt		468	671		589	841	420	703	1004	487	812	1162			
2400	Watt		511	732		642		459	767		531	886				
2600	Watt			793					831		575	960				
2800	Watt			854					895			1033				
3000	Watt			915					959			1107				
Radiator exponent n		1,274	1,278	1,288	1,283	1,282	1,288	1,292	1,287	1,288	1,301	1,291	1,288	1,305	1,294	1,317
Model range		HYGIENE COMPACT RADIATORS and T6-HYGIENE CENTRE-CONNECTION RADIATORS														

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

Weights

T6-HYGIENE		Weight in kg for T6-HYGIENE centre-connection radiators														
↑ ↓ Height [mm]	← → Type	300			400			500			600			900		
		10 VM	20 VM	30 VM	10 VM	20 VM	30 VM	10 VM	20 VM	30 VM	10 VM	20 VM	30 VM	10 VM	20 VM	30 VM
↔ Length [mm]	Weight															
400	kg	4,05	6,30	9,16	4,78	7,76	11,35	5,53	9,24	13,54	6,25	10,66	15,64	8,60	15,24	22,45
520	kg	4,76	7,69	11,23	5,71	9,59	14,07	6,67	11,51	16,93	7,59	13,33	19,64	10,63	19,26	28,46
600	kg	5,23	8,62	12,62	6,33	10,80	15,88	7,43	13,02	19,17	8,49	15,12	22,30	11,99	21,95	32,48
720	kg	5,94	10,01	14,69	7,25	12,63	18,61	8,57	15,27	22,56	9,84	17,79	26,29	14,01	25,97	38,49
800	kg	6,41	10,94	16,07	7,87	13,85	20,43	9,33	16,79	24,80	10,74	19,57	28,95	15,38	28,65	42,50
920	kg	7,12	12,39	18,29	8,79	15,73	23,29	10,47	19,11	28,32	12,08	22,31	33,09	17,40	32,75	48,65
1000	kg	7,59	13,32	19,67	9,41	16,96	25,10	11,23	20,62	30,58	12,99	24,10	35,75	18,75	35,43	52,67
1120	kg	8,30	14,72	21,75	10,33	18,78	27,83	12,39	22,88	33,95	14,34	26,77	39,75	20,79	39,46	58,68
1200	kg	8,78	15,64	23,12	10,95	19,99	29,65	13,15	24,39	36,20	15,23	28,55	42,41	22,14	42,13	62,69
1320	kg		17,03	25,20		21,82	32,36	14,46	26,66	39,58	16,76	31,23	46,41	24,35	46,16	68,71
1400	kg		18,02	26,72		23,10	34,32	15,23	28,22	41,97	17,66	33,08	49,21	25,70	48,92	72,86
1600	kg		20,34	30,18		26,14	38,85	17,40	32,00	47,60	20,18	37,54	55,87		55,63	82,88
1800	kg		22,83	33,88		29,36	43,64	19,39	35,93	53,47	22,51	42,16	62,77		62,50	93,15
2000	kg		25,15	37,33		32,40	48,17	21,30	39,71	59,09	24,76	46,62	69,42		69,21	103,17
2200	kg		27,47	40,79		35,43	52,72	23,20	43,48	64,72	27,00	51,08	76,09			
2400	kg		29,79	44,25		38,48		25,11	47,24		29,25	55,55				
2600	kg			47,70					51,02		31,50	60,00				
2800	kg			51,16					54,78			64,46				
3000	kg			54,62					58,56			68,92				
Typenprogramm		T6-HYGIENE centre-connection radiators														

Panel radiators

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

HYGIENE COMPACT		Weights in kg for HYGIENE compact radiators														
↑ ↓ Height [mm]	← → Type	300			400			500			600			900		
		10	20	30	10	20	30	10	20	30	10	20	30	10	20	30
↔ Length [mm]	Weight															
400	kg	3,29	5,55	8,41	4,01	6,99	10,57	4,73	8,45	12,75	5,42	9,83	14,82	7,70	14,34	21,56
520	kg	4,00	6,94	10,48	4,94	8,82	13,30	5,87	10,71	16,14	6,77	12,51	18,81	9,74	18,36	27,57
600	kg	4,48	7,87	11,87	5,55	10,03	15,11	6,64	12,23	18,38	7,67	14,29	21,48	11,09	21,05	31,58
720	kg	5,19	9,26	13,94	6,48	11,86	17,84	7,78	14,48	21,77	9,01	16,96	25,47	13,12	25,07	37,60
800	kg	5,66	10,18	15,32	7,09	13,07	19,66	8,54	15,99	24,01	9,91	18,75	28,13	14,48	27,76	41,61
920	kg	6,37	11,64	17,53	8,02	14,96	22,52	9,68	18,32	27,53	11,26	21,49	32,26	16,51	31,86	47,76
1000	kg	6,84	12,56	18,91	8,64	16,18	24,33	10,44	19,82	29,78	12,17	23,27	34,93	17,86	34,53	51,77
1120	kg	7,55	13,96	20,99	9,56	18,00	27,05	11,59	22,09	33,16	13,51	25,95	38,93	19,90	38,56	57,79
1200	kg	8,02	14,89	22,37	10,18	19,22	28,87	12,35	23,60	35,41	14,41	27,73	41,59	21,25	41,24	61,80
1320	kg		16,28	24,45		21,05	31,59	13,67	25,86	38,79	15,94	30,40	45,59	23,46	45,27	67,81
1400	kg		17,27	25,97		22,33	33,55	14,44	27,43	41,18	16,84	32,26	48,39	24,81	48,03	71,96
1600	kg		19,59	29,43		25,37	38,08	16,60	31,21	46,81	19,35	36,71	55,05		54,73	81,99
1800	kg		22,08	33,12		28,58	42,87	18,60	35,14	52,67	21,69	41,34	61,95		61,61	92,25
2000	kg		24,40	36,58		31,63	47,40	20,50	38,92	58,30	23,93	45,80	68,60		68,32	102,28
2200	kg		26,71	40,04		34,66	51,95	22,41	42,68	63,93	26,18	50,25	75,26			
2400	kg		29,04	43,50		37,70		24,32	46,45		28,43	54,72				
2600	kg			46,95					50,22		30,67	59,18				
2800	kg			50,41					53,99			63,64				
3000	kg			53,87					57,77			68,10				
Model range		HYGIENE COMPACT RADIATORS														

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

## REPLACEMENT PANEL RADIATOR.



**Connections**  
4 x internal  
thread G 1/2



**Max. positive operating pressure** 10 bar



**Test positive pressure**  
13 bar



**Max. operating temperature** 110 °C

### Heat emission

The specification was verified in accordance with DIN EN 442 at The Technical University, Stuttgart (Registration at WSP-Cert Product Certification Centre, Stuttgart), under the numbers:

Type 21 K-S	0447
Type 22 K	0448
Type 33 K	0449

and in accordance with OENORM (Austrian standard) EN 442 at the Technological Commercial Museum, Vienna.

### Material

REPLACEMENT PANEL RADIATORS are made of cold-rolled sheet steel, in accordance with EN 442-1, with a stylish and robust fluting with ribs at 40 mm intervals.

### Equipment

Each REPLACEMENT PANEL RADIATOR is equipped with wall brackets that are welded onto the back. The radiator types 21 K-S, 22 K and 33 K are equipped with a detachable top cover and two closed side panels. With every REPLACEMENT PANEL RADIATOR you get a fit-up aid, made of cardboard.

### Paint coating

1. Undercoating in accordance with DIN 55900 part 1, stoved at 190° C.
2. Finish in accordance with DIN 55900 part 2, in standard colour 9016 (on request available in many standard colours and sanitary-ware colours at an extra charge), applied electrostatically in a modern powder coating facility. This especially resistant coating is stoved at an object temperature of 210° C.

### Packaging

1. Cardboard packaging
2. Edge protection
3. Shrink foil

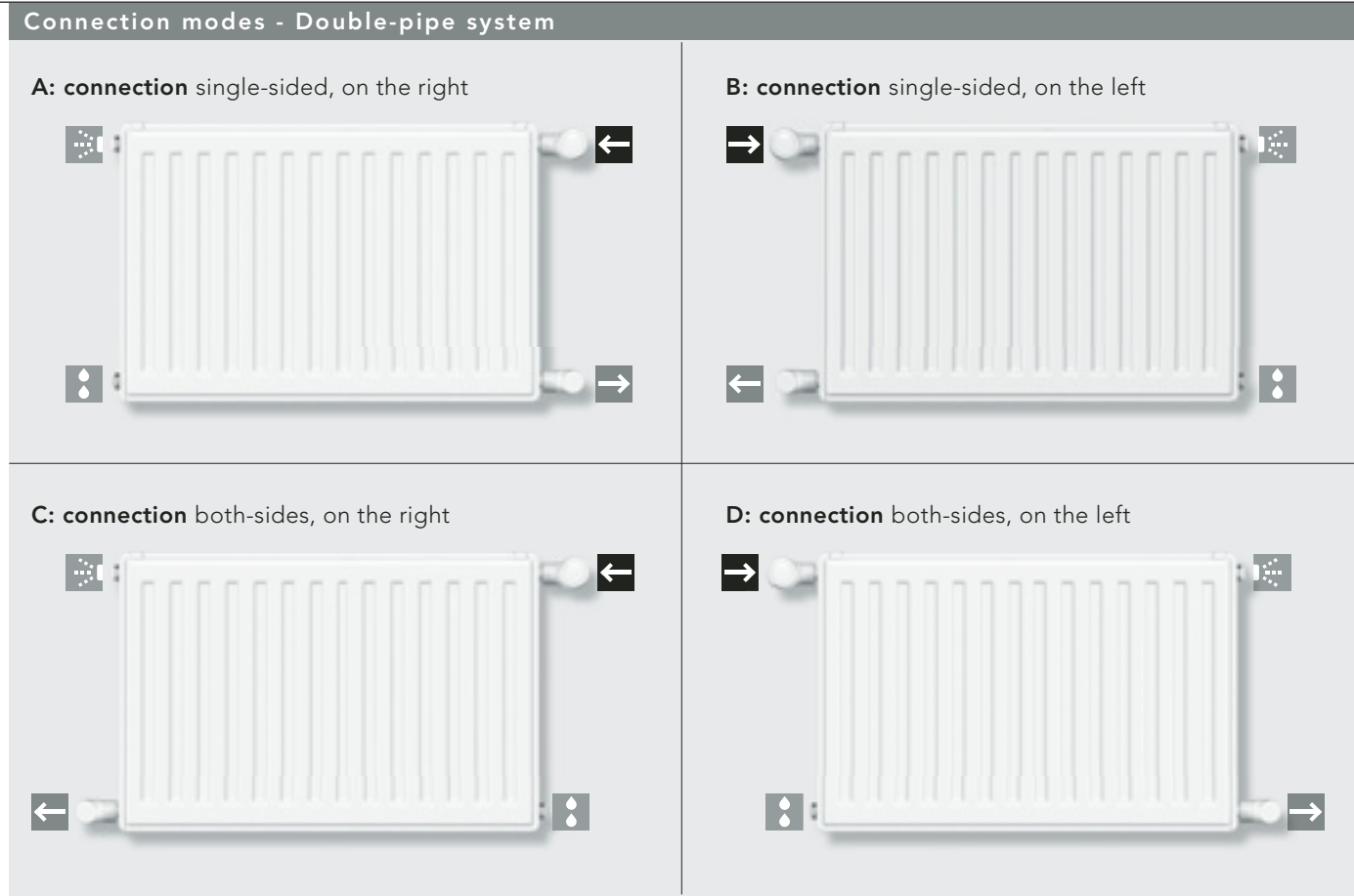


Overview of models						
Type	21 K-S		22 K		33 K	
	<b>Type</b>	21 K-S		22 K		33 K
<b>Height [mm]</b>	554	954	554	954	554	954
<b>Length [mm]</b>	400 bis 3000		400 bis 3000		400 bis 3000	
<b>Bosspacing [mm]</b>	500	900	500	900	500	900
<b>Steps</b>	any overall length starting with 400 and 600 mm available in steps of 200 mm					

REPLACEMENT  
PANEL  
RADIATOR



Guarantee statements are available to download at [www.vogelundnoot.com/download](http://www.vogelundnoot.com/download)



**Replacement adapter - Examples of using Replacement adapters**

**Replacement adapter**  
to replace radiators with a boss spacing of 200, 300, 500, 600 or 900 mm.

Measure X:  
From 45 mm up to 58 mm continuously adjustable.

**Artikel Nr.: AZ0MM090A0001000**

**Replacement adapter**  
to replace radiators with a boss spacing of 1000 mm.

Measure Y:  
from 145 up to 158 mm continuously adjustable.

**Artikel Nr.: AZ0MM100A0001000**

By trimming the pipe by a maximum of 85 mm, the measure Y can be reduced (from 60 up to 73 mm).

**Non-standard distances are not at all a problem!**  
The Replacement adapter has been developed for non-standard boss spacing. Any distance problems are solved very easily by the use of this adapter.

**Note:**  
The Replacement adapter comes with a fit-up aid, made of cardboard.

**Boss spacing 200, 300, 500, 600 and 900**

**Boss spacing 1000**

# REPLACEMENT PANEL RADIATOR

Outputs - temperature groups and weights



Weight in kg

Height [mm]	Type	554			954		
		21 K-S	22 K	33 K	21 K-S	22 K	33 K
400	kg	11,38	13,16	19,57	18,27	20,91	31,17
520	kg	14,46	16,78	24,98	23,36	26,83	40,02
600	kg	16,51	19,19	28,59	26,75	30,78	45,92
720	kg	19,58	22,81	34,01	31,84	36,70	54,78
800	kg	21,63	25,22	37,61	35,23	40,65	60,68
920	kg	24,77	28,92	43,16	40,38	46,65	69,67
1000	kg	26,82	31,34	46,77	43,77	50,60	75,57
1120	kg	29,89	34,95	52,18	48,86	56,52	84,43
1200	kg	31,94	37,36	55,79	52,25	60,47	90,33
1320	kg	35,01	40,98	61,21	57,33	66,39	99,18
1400	kg	37,13	43,48	64,95	60,79	70,42	105,22
1600	kg	42,25	49,51	73,98	69,27	80,29	119,98
1800	kg	47,54	55,73	83,24	77,91	90,34	134,98
2000	kg	52,67	61,76	92,26	86,39	100,21	149,73
2200	kg	57,79	67,79	101,28	94,87	110,08	164,49
2400	kg	62,91	73,82	110,30	103,35	119,94	179,25
2600	kg	68,04	79,85	119,33	111,82	129,81	194,01
2800	kg	73,16	85,88	128,35	120,30	139,68	208,76
3000	kg	78,28	91,91	137,37	128,78	149,55	223,52
Type programme		REPLACEMENT RADIATOR					

REPLACEMENT PANEL RADIATOR

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

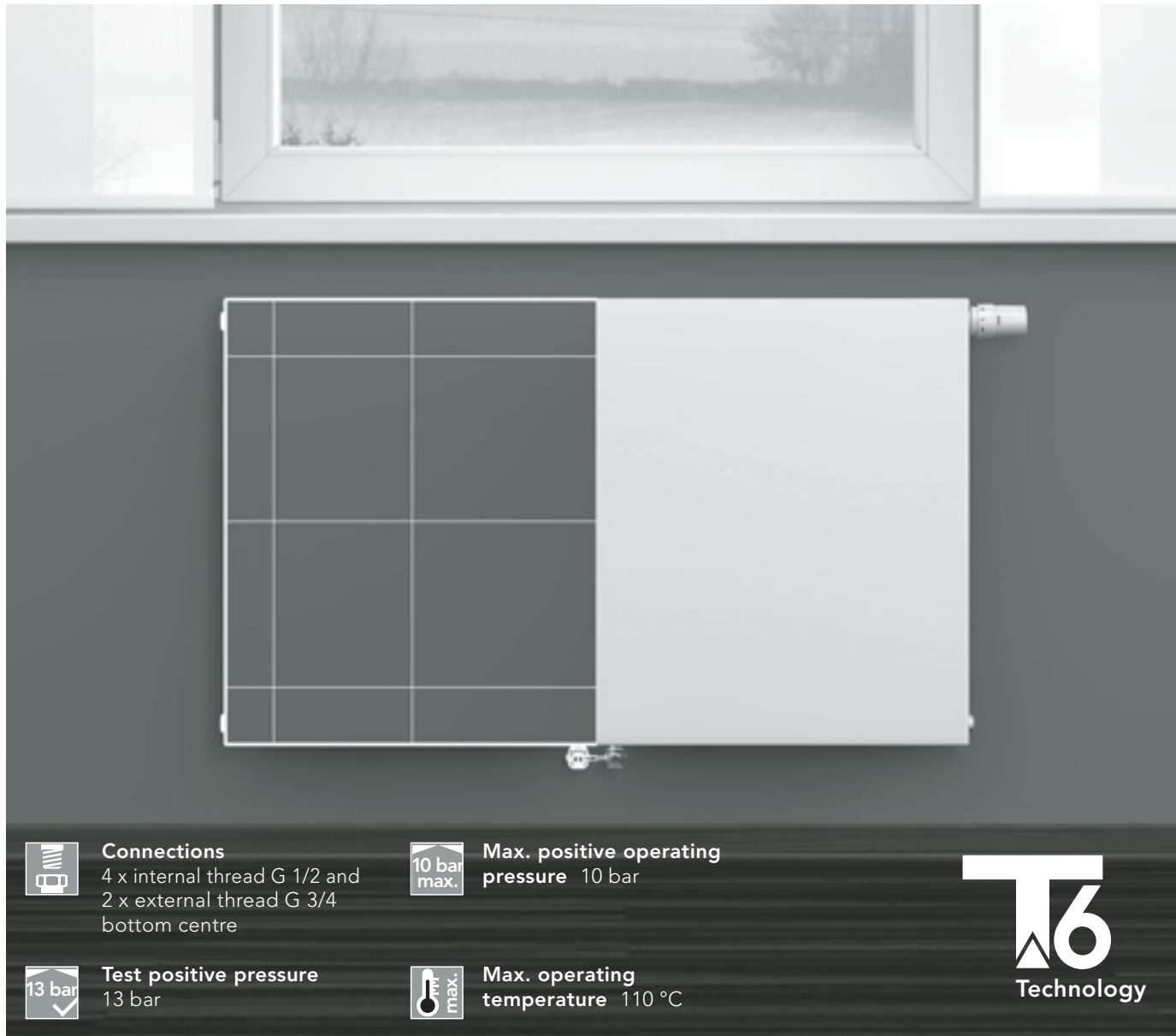
Side panels and top cover of REPLACEMENT PANEL RADIATORS are taken into consideration in the heat outputs

Radiator power data in watts, in accordance with DIN EN 442

Temperature pairings		90/70/20° C*						75/65/20° C*						70/55/20° C*						55/45/20° C*						45/40/20° C*					
Height [mm]	Type	554			954			554			954			554			954			554			954			554			954		
		21 K-S	22 K	33 K	21 K-S	22 K	33 K	21 K-S	22 K	33 K	21 K-S	22 K	33 K	21 K-S	22 K	33 K	21 K-S	22 K	33 K	21 K-S	22 K	33 K	21 K-S	22 K	33 K	21 K-S	22 K	33 K			
400	Watt	659	830	1161	996	1207	1683	518	650	911	781	945	1321	418	523	734	628	759	1064	264	329	461	395	475	670	181	224	315	269	323	457
520	Watt	856	1079	1509	1295	1570	2188	673	846	1184	1015	1228	1717	544	680	954	817	987	1383	343	427	600	513	618	870	235	291	409	349	420	594
600	Watt	988	1245	1741	1494	1811	2525	777	976	1366	1171	1417	1981	627	785	1100	943	1139	1596	396	493	692	592	713	1004	271	336	472	403	484	685
720	Watt	1186	1494	2090	1793	2173	3030	932	1171	1639	1405	1701	2377	753	942	1321	1131	1367	1915	476	592	831	711	856	1205	325	403	566	484	581	822
800	Watt	1317	1660	2322	1992	2415	3366	1036	1301	1822	1562	1890	2642	836	1047	1467	1257	1519	2128	528	657	923	789	951	1339	362	448	629	538	646	913
920	Watt	1515	1909	2670	2291	2777	3871	1191	1496	2095	1796	2173	3038	962	1204	1687	1446	1746	2447	608	756	1061	908	1093	1540	416	515	724	618	742	1050
1000	Watt	1647	2075	2902	2490	3018	4208	1295	1626	2277	1952	2362	3302	1045	1309	1834	1571	1898	2660	660	822	1154	987	1188	1674	452	559	787	672	807	1142
1120	Watt	1844	2324	3251	2789	3381	4713	1450	1821	2550	2186	2645	3698	1171	1466	2054	1760	2126	2979	740	920	1292	1105	1331	1875	506	627	881	753	904	1279
1200	Watt	1976	2489	3483	2988	3622	5050	1554	1951	2732	2342	2834	3962	1254	1570	2201	1885	2278	3129	793	986	1384	1184	1426	2009	542	671	944	806	968	1370
1320	Watt	2174	2738	3831	3287	3984	5555	1709	2146	3006	2577	3118	4359	1380	1727	2421	2074	2506	3511	872	1085	1523	1303	1568	2209	597	738	1038	887	1065	1507
1400	Watt	2306	2904	4063	3486	4226	5891	1813	2276	3188	2733	3307	4623	1463	1832	2568	2200	2658	3724	925	1150	1615	1382	1663	2343	633	783	1101	941	1130	1598
1600	Watt	2635	3319	4644	3984	4829	6733	2072	2602	3643	3123	3779	5283	1672	2094	2935	2514	3037	4256	1057	1315	1846	1579	1901	2678	723	895	1259	1075	1291	1827
1800	Watt	2964	3734	5224	4482	5433	7575	2331	2927	4099	3514	4252	5944	1881	2355	3301	2828	3417	4788	1189	1479	2077	1776	2139	3013	814	1007	1416	1210	1453	2055
2000	Watt	3294	4149	5805	4980	6037	8416	2590	3252	4554	3904	4724	6604	2091	2617	3668	3142	3796	5320	1321	1643	2307	1974	2376	3348	904	1119	1573	1344	1614	2283
2200	Watt	3623	4564	6385	5478	6641	9258	2849	3577	5009	4294	5196	7264	2300	2879	4035	3457	4176	5852	1453	1808	2538	2171	2614	3682	994	1231	1731	1479	1775	2512
2400	Watt	3952	4979	6966	5976	7244	10099	3108	3902	5465	4685	5669	7925	2509	3141	4402	3771	4556	6384	1585	1972	2769	2368	2852	4017	1085	1343	1888	1613	1937	2740
2600	Watt	4282	5394	7546	6474	7848	10941	3367	4228	5920	5075	6141	8585	2718	3402	4769	4085	4935	6916	1717	2136	3000	2566	3089	4352	1175	1454	2045	1747	2098	2968
2800	Watt	4611	5809	8127	6972	8452	11783	3626	4553	6376	5466	6614	9246	2927	3664	5135	4399	5315	7448	1849	2300	3230	2763	3327	4687	1266	1566	2203	1882	2259	3197
3000	Watt	4940	6224	8707	7470	9055	12624	3885	4878	6831	5856	7086	9906	3136	3926	5502	4714	5695	7980	1981	2465	3461	2961	3565	5022	1356	1678	2360	2016	2421	3425
Radiator-exponent n		1,318	1,336	1,331	1,335	1,345	1,330	1,318	1,336	1,331	1,335	1,345	1,330	1,318	1,336	1,331	1,335	1,345	1,330	1,318	1,336	1,331	1,335	1,345	1,330	1,318	1,336	1,331	1,335	1,345	1,330
Type programme		REPLACEMENT RADIATORS												* SUPPLY TEMPERATURE/RETURN TEMPERATURE/ROOM TEMPERATURE																	

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

## T6-PLAN CENTRALLY CONNECTED RADIATOR.



### Connections

4 x internal thread G 1/2 and  
2 x external thread G 3/4  
bottom centre



Max. positive operating  
pressure 10 bar



Test positive pressure  
13 bar



Max. operating  
temperature 110 °C



### Heat emission

The specification was verified in accordance with DIN EN 442 at The Technical University, Stuttgart (Registration at WSP-Cert Product Certification Centre, Stuttgart), under the numbers:

Type 11 PM	0680
Type 21 PM-S	0682
Type 22 PM	0683
Type 33 PM	0684

and in accordance with OENORM (Austrian standard) EN 442 at the Technological Commercial Museum, Vienna.

### Material

T6-PLAN CENTRALLY CONNECTED RADIATORS are made of cold-rolled

sheetsteel, in accordance with EN 442-1, and a galvanised front panel (1mm thick).

### Equipment

Each T6-PLAN CENTRAL CONNECTION RADIATOR is equipped with an integrated T-valve set, and suitable for double-pipe and single-pipe systems with a single-pipe manifold; it comes with a fitted valve top with a pre-set  $k_v$ -value, a protective cap and welded suspension brackets on the back. The drain plug and the pivoting special vent plug, as well as the dummy plug are fitted with seals. All types of radiator are equipped with a detachable top cover and two closed side panels.

### Paint coating



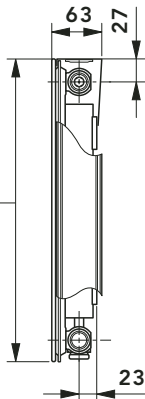
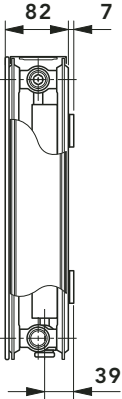
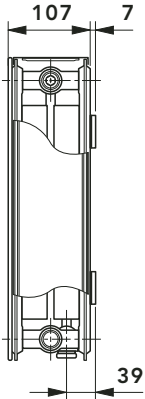
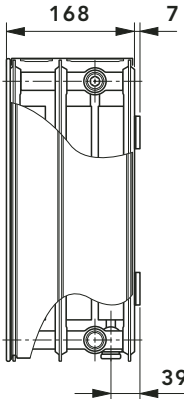
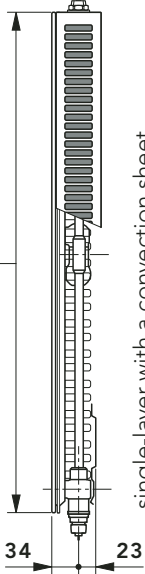
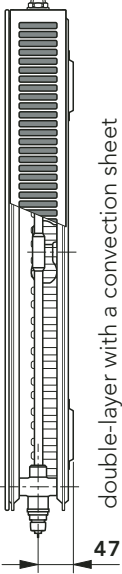
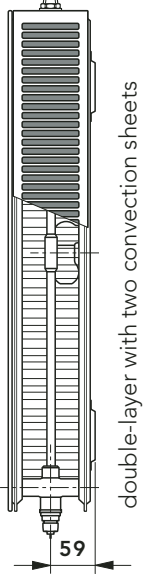
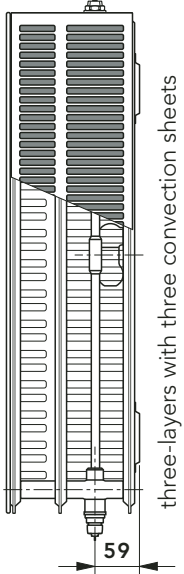


1. Undercoating in accordance with DIN 55900 part 1, stoved at 190° C.
2. Finish in accordance with DIN 55900 part 2, in standard colour 9016 (on request available in many standard colours and sanitary-ware colours at an extra charge), applied electrostatically in a modern powder coating facility. This especially resistant coating is stoved at an object temperature of 210° C.

### Packaging

1. Cardboard packaging
2. Edge protection
3. Shrink foil

# T6-PLAN CENTRALLY CONNECTED RADIATOR

Overview of models

Overview of models																				
Type	11 PM					21 PM-S					22 PM					33 PM				
 																				
	 <p>single-layer with a convection sheet</p>					 <p>double-layer with a convection sheet</p>					 <p>double-layer with two convection sheets</p>					 <p>three-layers with three convection sheets</p>				
Type	11 PM					21 PM-S					22 PM					33 PM				
Height  [mm]	300	400	500	600	900	300	400	500	600	900	300	400	500	600	900	300	400	500	600	900
Length  [mm]	bis 2400		bis 2600		bis 2000	bis 2400		bis 3000		bis 2000	bis 3000			bis 2000		bis 3000	bis 2200			bis 1800
Steps	all overall length starting with 400 mm available in steps of 200 mm, additionally 520, 720, 920, 1120 and 1320 mm																			

1 

ULOW-E2

Profile panel radiators

Plan panel radiators



Guarantee statements are available to download at [www.vogelundnoot.com/download](http://www.vogelundnoot.com/download)

## Description and delivery equipment

The T6-PLAN Centrally connected radiator, with its welded-in set of T-shaped valves, sets new standards in the field of centre-connection technology. Beside its elegant appearance, the T6-PLAN Centrally connected radiator attracts attention because of its unique patented features, its all-purpose suitability and easy installation for the heating-installer, leaving aside a multitude of other striking advantages. Consequently the T6-PLAN Centrally connected radiator truly serves to solve your problems.

To round off all the advantages mentioned above, the versatility of the T6-PLAN Centrally connected radiator regarding style and colouring offers a wide scope for design.

The T6-PLAN Centrally connected radiator radiator is - with its welded in set of T-shaped valves - suitable for double-pipe installations as well as single-pipe installations, using a one-pipe manifold.

Additionally to the central connection from the bottom, the sophisticated design makes possible other connections known from compact radiators, such as the single-sided and two-sided connection. **The radiator is delivered ready for double-pipe installation, with a factory-adjusted  $k_v$ -setting, appropriate to the radiator output.**

For district heating installations with a big difference between water supply and return temperature, a valve unit with a stepless - and therefore precise

- adjustment is available on request.

By using universal supply and return connections, commercially available pipes (external thread 3/4") made of copper, steel, plastic or alloy, can be connected; the corresponding accessories and the commercially obtainable shut-off valve have to be used.

The following thermostat heads can be directly fitted at the radiator: „RA 2000“ and „RAW“ by Danfoss, „VK“ by Heimeier, „D“ by Herz, „thera DA“ by MNG, as well as „UNI XD“ by Oventrop. The radiator will be delivered with a protective cap.

The operation parameters are specified with a positive operating pressure of 10 bar and an operating temperature of 110° C. With single-pipe installations, a cycle's maximum radiator power of about 10 kW at  $DT=T_1-T_2=20$  K (at  $T_1 = 90$  °C) has to be taken into account.

Consequently the T6-PLAN Centrally connected radiator is revolutionary in the field of the new generation of centrally-connected radiator technology.

Thus the T6-PLAN Centrally connected radiator has to be regarded as groundbreaking for the new generation of centrally-connected radiators. With this type of radiator - with its ideal functioning of the whole radiator-valve unit, its superb heating output, combined with the motivation to install thermostat heads, saving heating energy becomes evident.

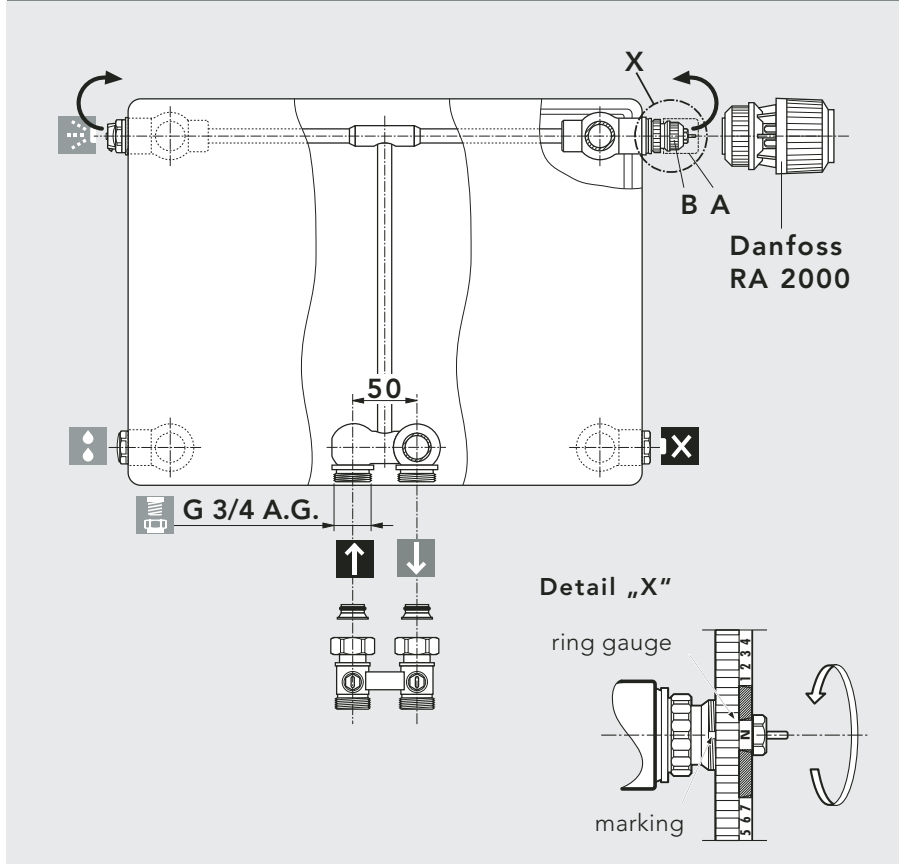
Our valve radiators' connections (external thread G 3/4) comply in construction and tolerance with the specifications, in accordance with DIN V 3838. If conically sealed drain cocks are used (single-pipe and double-pipe operation), where an adjustment of tolerance of distance to the centre is not possible, we must repudiate liability for any damage connected to this.

**Therefore we recommend to use only flat sealed drain cocks, or drain cocks where an adjustment of tolerance of the distance to the centre is possible.**



Double-pipe operation - Adjustment tips for built-in valve

Double-pipe operation - Adjustment tips for built-in valve



**Setting instructions:**

VOGEL&NOOT valve radiators are factory-fitted for double-pipe installations. Each individual radiator is fitted with a pre-adjusted valve insert, appropriate to the radiator output. The pre-set  $k_v$ -value is also marked in colour on the front surface.

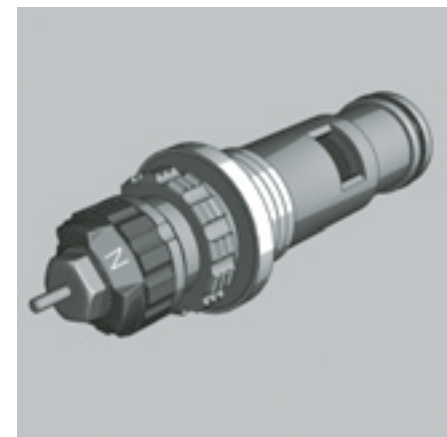
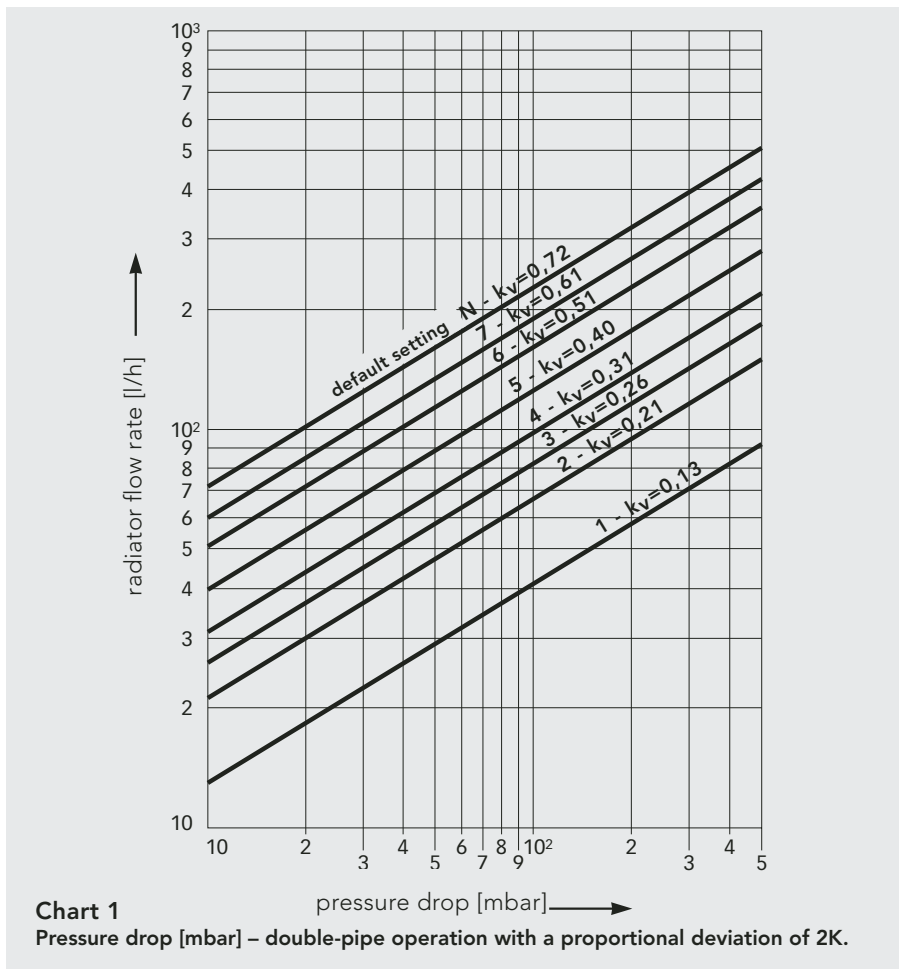
T6 PLAN

**Please note:**

Should customised adjustments be required, the pre-set  $k_v$ -values can be altered as needed.

Swapping the right-hand side built-in valve to the left-hand side is no problem at all at any time.

Radiator are delivered with protective caps. After removing the protective cap (pos. A) the following thermostat heads can be fitted directly to the built-in valve (pos. B): "RA 2000", "RAW" by Danfoss, "VK" by Heimeier, "D" by Herz, "thera DA" by MNG and "UNI XD" by Oventrop.

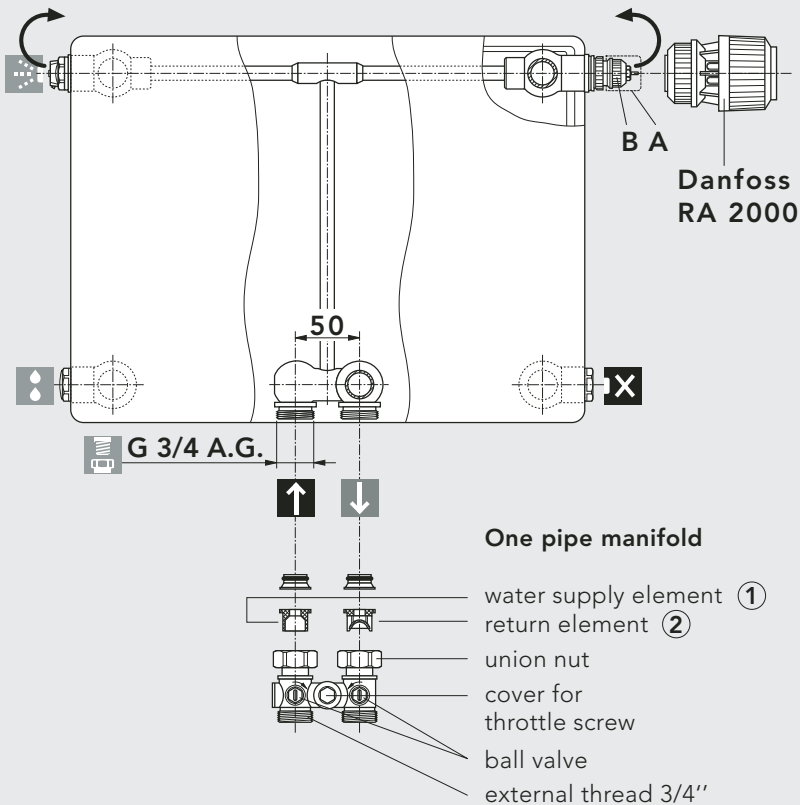


k <sub>v</sub> -value chart					
Pre-setting	1,1	3,9	5,2	6,5	N
k <sub>v</sub> -value up to	0,13	0,30	0,42	0,56	0,72
Colour of the adjustment ring	weiß	schwarz	grün	blau	rot

Of course it is also possible to change the pre-adjusted valve setting when the equipment is operating at pressure.

Single-pipe operation - Factory-adjusted built-in valve

## Single-pipe operation - Factory-adjusted built-in valve



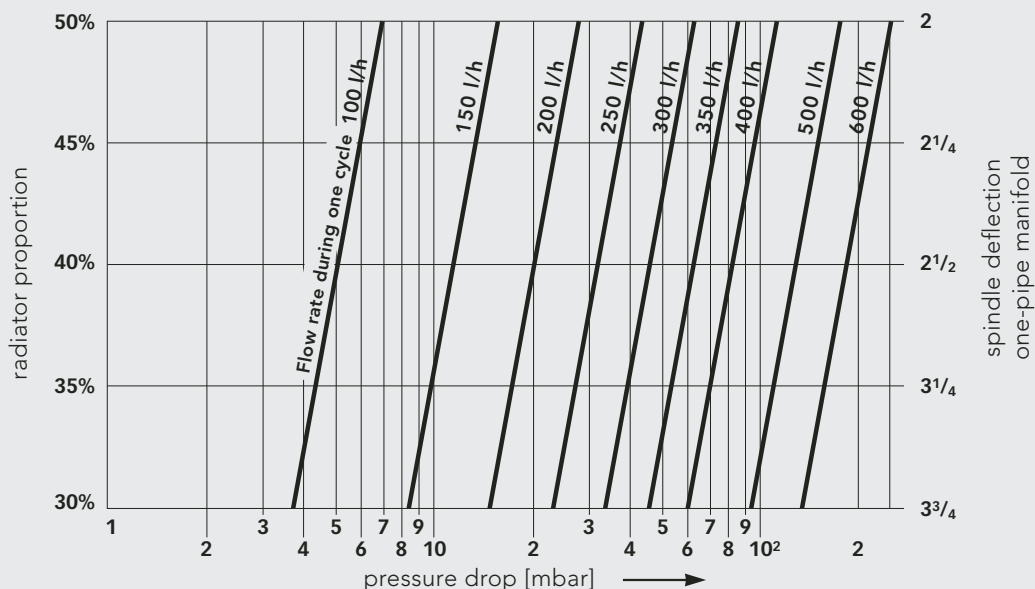
In single-pipe operation, setting the built-in valve on N.

The radiator will be delivered with a protective cap. After removing the protective cap (item A) the following thermostat heads can be installed directly onto the built-in valve (item B): „RA 2000“ and „RAW“ by Danfoss, „VK“ by Heimeier, „theraDA“ by MNG, as well as „UNI XD“ by Oventrop.

**Caution:**

During the installation take care that the return element ② has been installed at the water return, and the supply element ① at the water supply.

Changing the built-in valve from the right- to the left-hand side can easily be done at any time.



**Chart 2**  
pressure drop [mbar] - single-pipe operation with a proportional deviation of 2K.

**Default setting:**

- radiator proportion 30%: 3,75 revolutions \*
- radiator proportion 35%: 3,25 revolutions \*
- radiator proportion 40%: 2,50 revolutions \*
- radiator proportion 45%: 2,25 revolutions \*
- radiator proportion 50%: 2,00 revolutions \*

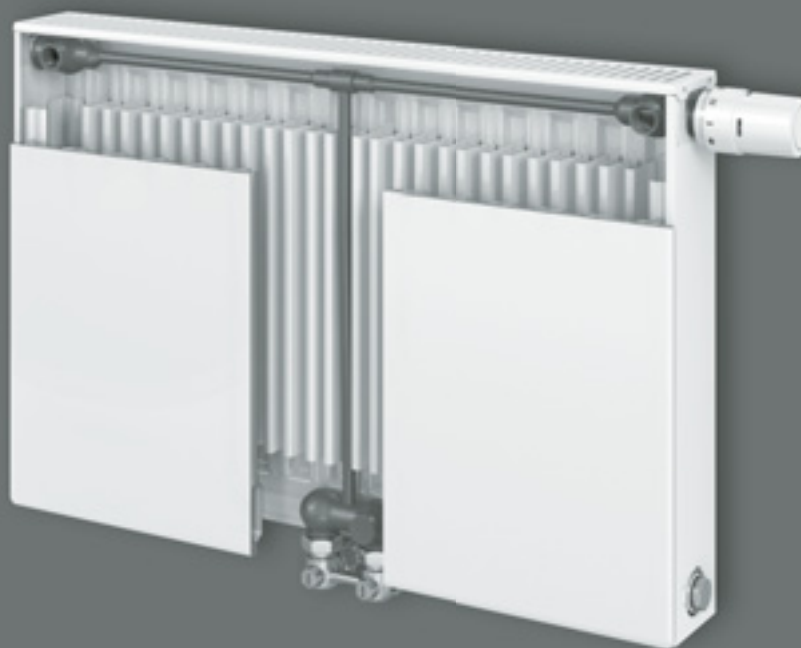
\*...when starting, turn the bypass spindle of the one-pipe manifold **to the right** as far as it will go.

Of course it is also possible to change the pre-adjusted valve setting when the equipment is operating at pressure.

Please take into account the maximum power per cycle (regarding single-pipe installations) of about 10 kW  
 $\Delta T = T_1 - T_2 = 20 \text{ K}$  (at  $T_1 = 90 \text{ }^\circ\text{C}$ ).



Outputs - temperature group 90/70/20° C



T6 PLAN

360 ° views  
available at  
[www.vogelundnoot.com](http://www.vogelundnoot.com)

90/70/20° C		Side panels and top cover of T6-PLAN Centrally connected radiators are taken into consideration in the heat outputs																			
		Radiator power data in watts, in accordance with DIN EN 442 supply temperature 90 - return temperature 70 - room temperature 20° C																			
↕ Height [mm]	↔ Length [mm]	300				400				500				600				900			
		Type	11 PM	21PM-S	22 PM	33 PM	11 PM	21PM-S	22 PM	33 PM	11 PM	21PM-S	22 PM	33 PM	11 PM	21PM-S	22 PM	33 PM	11 PM	21PM-S	22 PM
	Power																				
400	Watt	270	399	544	796	336	503	681	994	398	595	774	1091	428	660	852	1233	611	901	1150	1612
520	Watt	352	518	707	1035	437	654	885	1293	518	773	1006	1419	556	858	1108	1603	794	1172	1495	2096
600	Watt	406	598	815	1194	504	755	1021	1492	598	892	1160	1637	642	990	1278	1850	916	1352	1725	2418
720	Watt	487	718	978	1433	605	906	1225	1790	717	1071	1392	1964	770	1188	1534	2220	1099	1622	2070	2902
800	Watt	541	798	1087	1592	672	1006	1362	1989	797	1190	1547	2182	856	1320	1704	2466	1222	1802	2300	3224
920	Watt	622	917	1250	1831	773	1157	1566	2287	916	1368	1779	2510	984	1518	1960	2836	1405	2073	2645	3708
1000	Watt	676	997	1359	1990	840	1258	1702	2486	996	1487	1934	2728	1070	1650	2130	3083	1527	2253	2875	4030
1120	Watt	757	1117	1522	2229	941	1409	1906	2784	1116	1665	2166	3055	1198	1848	2386	3453	1710	2523	3220	4514
1200	Watt	811	1196	1631	2388	1008	1510	2042	2983	1195	1784	2321	3274	1284	1980	2556	3700	1832	2704	3450	4836
1320	Watt	892	1316	1794	2627	1109	1661	2247	3282	1315	1963	2553	3601	1412	2178	2812	4070	2016	2974	3795	5320
1400	Watt	946	1396	1903	2786	1176	1761	2383	3480	1394	2082	2708	3819	1498	2310	2982	4316	2138	3154	4025	5642
1600	Watt	1082	1595	2174	3184	1344	2013	2723	3978	1594	2379	3094	4365	1712	2640	3408	4933	2443	3605	4600	6448
1800	Watt	1217	1795	2446	3582	1512	2264	3064	4475	1793	2677	3481	4910	1926	2970	3834	5549	2749	4055	5175	7254
2000	Watt	1352	1994	2718	3980	1680	2516	3404	4972	1992	2974	3868	5456	2140	3300	4260	6166	3054	4506	5750	
2200	Watt	1487	2193	2990	4378	1848	2768	3744	5469	2191	3271	4255	6002	2354	3630	4686	6783				
2400	Watt	1622	2393	3262	4776	2016	3019	4085		2390	3569	4642		2568	3960	5112					
2600	Watt			3533	5174			4425		2590	3866	5028		2782	4290	5538					
2800	Watt			3805	5572			4766			4164	5415			4620	5964					
3000	Watt			4077	5970			5106			4461	5802			4950	6390					
Radiatorexponent n		1,311	1,328	1,308	1,314	1,321	1,327	1,328	1,342	1,313	1,299	1,322	1,327	1,303	1,302	1,337	1,333	1,328	1,326	1,349	1,336
Type programme		T6-PLAN CENTRALLY CONNECTED RADIATOR																			

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

# T6-PLAN CENTRALLY CONNECTED RADIATOR

Outputs - temperature groups 75/65/20° C and 70/55/20° C

75/65/20° C		Side panels and top cover of T6-PLAN Centrally connected radiators are taken into consideration in the heat outputs																				
		Radiator power data in watts, in accordance with DIN EN 442 supply temperature 75 - return temperature 65 - room temperature 20° C																				
↑ ↓ Height [mm]	↔ ↔ Length [mm]	300				400				500				600				900				
		Type	11 PM	21PM-S	22 PM	33 PM	11 PM	21PM-S	22 PM	33 PM	11 PM	21PM-S	22 PM	33 PM	11 PM	21PM-S	22 PM	33 PM	11 PM	21PM-S	22 PM	33 PM
		Power																				
400	Watt	213	313	428	626	264	395	534	778	314	469	608	857	338	520	668	967	480	708	899	1264	
520	Watt	277	407	557	814	343	514	695	1012	408	610	790	1114	439	677	868	1257	623	920	1169	1643	
600	Watt	319	470	643	940	396	593	802	1168	470	704	912	1285	506	781	1001	1451	719	1061	1349	1895	
720	Watt	383	564	771	1128	475	711	962	1401	564	845	1094	1542	608	937	1202	1741	863	1274	1619	2274	
800	Watt	426	626	857	1253	528	790	1069	1557	627	938	1216	1714	675	1041	1335	1934	959	1415	1798	2527	
920	Watt	489	720	985	1441	607	909	1229	1790	721	1079	1398	1971	776	1197	1535	2225	1103	1627	2068	2906	
1000	Watt	532	783	1071	1566	660	988	1336	1946	784	1173	1520	2142	844	1301	1669	2418	1199	1769	2248	3159	
1120	Watt	596	877	1200	1754	739	1107	1496	2180	878	1314	1702	2399	945	1457	1869	2708	1343	1981	2518	3538	
1200	Watt	638	940	1285	1879	792	1186	1603	2335	941	1408	1824	2570	1013	1561	2003	2902	1439	2123	2698	3791	
1320	Watt	702	1034	1414	2067	871	1304	1764	2569	1035	1548	2006	2827	1114	1717	2203	3192	1583	2335	2967	4170	
1400	Watt	745	1096	1499	2192	924	1383	1870	2724	1098	1642	2128	2999	1182	1821	2337	3385	1679	2477	3147	4423	
1600	Watt	851	1253	1714	2506	1056	1581	2138	3114	1254	1877	2432	3427	1350	2082	2670	3869	1918	2830	3597	5054	
1800	Watt	958	1409	1928	2819	1188	1778	2405	3503	1411	2111	2736	3856	1519	2342	3004	4352	2158	3184	4046	5686	
2000	Watt	1064	1566	2142	3132	1320	1976	2672	3892	1568	2346	3040	4284	1688	2602	3338	4836	2398	3538	4496		
2200	Watt	1170	1723	2356	3445	1452	2174	2939	4281	1725	2581	3344	4712	1857	2862	3672	5320					
2400	Watt	1277	1879	2570	3758	1584	2371	3206		1882	2815	3648		2026	3122	4006						
2600	Watt			2785	4072			3474		2038	3050	3952		2194	3383	4339						
2800	Watt			2999	4385			3741			3284	4256			3643	4673						
3000	Watt			3213	4698			4008			3519	4560			3903	5007						
Radiatorexponent n		1,311	1,328	1,308	1,314	1,321	1,327	1,328	1,342	1,313	1,299	1,322	1,327	1,303	1,302	1,337	1,333	1,328	1,326	1,349	1,336	
Type programme		T6-PLAN CENTRALLY CONNECTED RADIATOR																				

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

70/55/20° C		Side panels and top cover of T6-PLAN Centrally connected radiators are taken into consideration in the heat outputs																				
		Radiator power data in watts, in accordance with DIN EN 442 supply temperature 70 - return temperature 55 - room temperature 20° C																				
↑ ↓ Height [mm]	↔ ↔ Length [mm]	300				400				500				600				900				
		Type	11 PM	21PM-S	22 PM	33 PM	11 PM	21PM-S	22 PM	33 PM	11 PM	21PM-S	22 PM	33 PM	11 PM	21PM-S	22 PM	33 PM	11 PM	21PM-S	22 PM	33 PM
		Power																				
400	Watt	172	252	346	506	213	318	431	626	253	380	490	690	273	421	537	779	386	570	722	1017	
520	Watt	224	328	450	658	277	414	560	814	329	494	638	898	355	548	698	1012	502	742	939	1322	
600	Watt	258	379	520	759	319	478	646	939	380	570	736	1036	410	632	806	1168	580	856	1084	1525	
720	Watt	310	454	624	911	383	573	775	1127	456	684	883	1243	492	758	967	1402	696	1027	1300	1830	
800	Watt	344	505	693	1012	426	637	862	1252	506	760	981	1381	546	842	1074	1558	773	1141	1445	2034	
920	Watt	396	581	797	1164	489	732	991	1440	582	874	1128	1588	628	969	1236	1791	889	1312	1662	2339	
1000	Watt	430	631	866	1265	532	796	1077	1565	633	950	1226	1726	683	1053	1343	1947	966	1426	1806	2542	
1120	Watt	482	707	970	1417	596	892	1206	1753	709	1064	1373	1933	765	1179	1504	2181	1082	1597	2023	2847	
1200	Watt	516	757	1039	1518	638	955	1292	1878	760	1140	1471	2071	820	1264	1612	2336	1159	1711	2167	3050	
1320	Watt	568	833	1143	1670	702	1051	1422	2066	836	1254	1618	2278	902	1390	1773	2570	1275	1882	2384	3355	
1400	Watt	602	883	1212	1771	745	1114	1508	2191	886	1330	1716	2416	956	1474	1880	2726	1352	1996	2528	3559	
1600	Watt	688	1010	1386	2024	851	1274	1723	2504	1013	1520	1962	2762	1093	1685	2149	3115	1546	2282	2890	4067	
1800	Watt	774	1136	1559	2277	958	1433	1939	2817	1139	1710	2207	3107	1229	1895	2417	3505	1739	2567	3251	4576	
2000	Watt	860	1262	1732	2530	1064	1592	2154	3130	1266	1900	2452	3452	1366	2106	2686	3894	1932	2852	3612		
2200	Watt	946	1388	1905	2783	1170	1751	2369	3443	1393	2090	2697	3797	1503	2317	2955	4283					
2400	Watt	1032	1514	2078	3036	1277	1910	2585		1519	2280	2942		1639	2527	3223						
2600	Watt			2252	3289			2800		1646	2470	3188		1776	2738	3492						
2800	Watt			2425	3542			3016			2660	3433			2948	3760						
3000	Watt			2598	3795			3231			2850	3678			3159	4029						
Radiatorexponent n		1,311	1,328	1,308	1,314	1,321	1,327	1,328	1,342	1,313	1,299	1,322	1,327	1,303	1,302	1,337	1,333	1,328	1,326	1,349	1,336	
Type programme		T6-PLAN CENTRALLY CONNECTED RADIATOR																				

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

# T6-PLAN CENTRALLY CONNECTED RADIATOR

Outputs - temperature groups 55/45/20° C and 45/40/20° C

55/45/20° C		Side panels and top cover of T6-PLAN Centrally connected radiators are taken into consideration in the heat outputs																			
		Radiator power data in watts, in accordance with DIN EN 442 supply temperature 55 - return temperature 45 - room temperature 20° C																			
Height [mm]	Type	300				400				500				600				900			
		11 PM	21PM-S	22 PM	33 PM	11 PM	21PM-S	22 PM	33 PM	11 PM	21PM-S	22 PM	33 PM	11 PM	21PM-S	22 PM	33 PM	11 PM	21PM-S	22 PM	33 PM
Length [mm]	Power																				
400	Watt	109	159	220	320	134	201	271	392	160	242	310	435	174	268	337	490	244	359	452	638
520	Watt	141	206	285	417	175	261	353	510	209	314	402	565	226	348	438	636	317	467	587	830
600	Watt	163	238	329	481	202	301	407	588	241	362	464	652	260	401	506	734	365	539	677	958
720	Watt	196	286	395	577	242	361	488	706	289	435	557	783	312	482	607	881	438	647	813	1149
800	Watt	218	318	439	641	269	402	542	784	321	483	619	870	347	535	674	979	487	718	903	1277
920	Watt	250	365	505	737	309	462	624	902	369	556	712	1000	399	615	776	1126	560	826	1039	1468
1000	Watt	272	397	549	801	336	502	678	980	401	604	774	1087	434	669	843	1224	609	898	1129	1596
1120	Watt	305	445	615	897	376	562	759	1098	449	676	867	1217	486	749	944	1371	682	1006	1264	1788
1200	Watt	326	476	659	961	403	602	814	1176	481	725	929	1304	521	803	1012	1469	731	1078	1355	1915
1320	Watt	359	524	725	1057	444	663	895	1294	529	797	1022	1435	573	883	1113	1616	804	1185	1490	2107
1400	Watt	381	556	769	1121	470	703	949	1372	561	846	1084	1522	608	937	1180	1714	853	1257	1581	2234
1600	Watt	435	635	878	1282	538	803	1085	1568	642	966	1238	1739	694	1070	1349	1958	974	1437	1806	2554
1800	Watt	490	715	988	1442	605	904	1220	1764	722	1087	1393	1957	781	1204	1517	2203	1096	1616	2032	2873
2000	Watt	544	794	1098	1602	672	1004	1356	1960	802	1208	1548	2174	868	1338	1686	2448	1218	1796	2258	
2200	Watt	598	873	1208	1762	739	1104	1492	2156	882	1329	1703	2391	955	1472	1855	2693				
2400	Watt	653	953	1318	1922	806	1205	1627		962	1450	1858		1042	1606	2023					
2600	Watt			1427	2083			1763		1043	1570	2012		1128	1739	2192					
2800	Watt			1537	2243			1898			1691	2167			1873	2360					
3000	Watt			1647	2403			2034			1812	2322			2007	2529					
Radiatorexponent n		1,311	1,328	1,308	1,314	1,321	1,327	1,328	1,342	1,313	1,299	1,322	1,327	1,303	1,302	1,337	1,333	1,328	1,326	1,349	1,336
Type programme		T6-PLAN CENTRALLY CONNECTED RADIATOR																			

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

T6 PLAN

45/40/20° C		Side panels and top cover of T6-PLAN Centrally connected radiators are taken into consideration in the heat outputs																			
		Radiator power data in watts, in accordance with DIN EN 442 supply temperature 45 - return temperature 40 - room temperature 20° C																			
Height [mm]	Type	300				400				500				600				900			
		11 PM	21PM-S	22 PM	33 PM	11 PM	21PM-S	22 PM	33 PM	11 PM	21PM-S	22 PM	33 PM	11 PM	21PM-S	22 PM	33 PM	11 PM	21PM-S	22 PM	33 PM
Length [mm]	Power																				
400	Watt	75	108	151	220	92	137	185	266	110	166	212	297	119	184	230	334	166	246	306	435
520	Watt	97	141	196	285	120	178	241	346	143	216	275	386	155	239	298	434	216	319	398	565
600	Watt	112	163	226	329	138	206	278	400	165	250	317	445	179	276	344	500	249	368	460	652
720	Watt	135	195	271	395	166	247	333	480	198	300	381	534	215	331	413	600	299	442	552	783
800	Watt	150	217	302	439	184	274	370	533	220	333	423	594	238	368	459	667	332	491	613	870
920	Watt	172	249	347	505	212	316	426	613	253	383	487	683	274	423	528	767	382	565	705	1000
1000	Watt	187	271	377	549	230	343	463	666	275	416	529	742	298	460	574	834	415	614	766	1087
1120	Watt	209	304	422	615	258	384	519	746	308	466	592	831	334	515	643	934	465	688	858	1217
1200	Watt	224	325	452	659	276	412	556	799	330	499	635	890	358	552	689	1001	498	737	919	1304
1320	Watt	247	358	498	725	304	453	611	879	363	549	698	979	393	607	758	1101	548	810	1011	1435
1400	Watt	262	379	528	769	322	480	648	932	385	582	741	1039	417	644	804	1168	581	860	1072	1522
1600	Watt	299	434	603	878	368	549	741	1066	440	666	846	1187	477	736	918	1334	664	982	1226	1739
1800	Watt	337	488	679	988	414	617	833	1199	495	749	952	1336	536	828	1033	1501	747	1105	1379	1957
2000	Watt	374	542	754	1098	460	686	926	1332	550	832	1058	1484	596	920	1148	1668	830	1228	1532	
2200	Watt	411	596	829	1208	506	755	1019	1465	605	915	1164	1632	656	1012	1263	1835				
2400	Watt	449	650	905	1318	552	823	1111		660	998	1270		715	1104	1378					
2600	Watt			980	1427			1204		715	1082	1375		775	1196	1492					
2800	Watt			1056	1537			1296			1165	1481			1288	1607					
3000	Watt			1131	1647			1389			1248	1587			1380	1722					
Radiatorexponent n		1,311	1,328	1,308	1,314	1,321	1,327	1,328	1,342	1,313	1,299	1,322	1,327	1,303	1,302	1,337	1,333	1,328	1,326	1,349	1,336
Type programme		T6-PLAN CENTRALLY CONNECTED RADIATOR																			

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

# T6-PLAN CENTRALLY CONNECTED RADIATOR

Weights / Connection modes - Double-pipe system

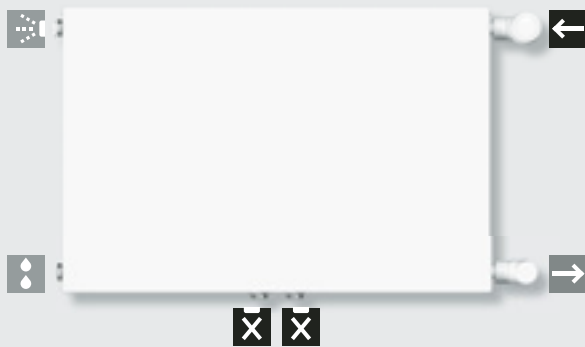
T6-PLAN		Weight in kg of T6-PLAN CENTRALLY CONNECTED RADIATORS																			
↑ ↓ Height [mm]	← → Length [mm]	300				400				500				600				900			
		11 PM	21PM-S	22 PM	33 PM	11 PM	21PM-S	22 PM	33 PM	11 PM	21PM-S	22 PM	33 PM	11 PM	21PM-S	22 PM	33 PM	11 PM	21PM-S	22 PM	33 PM
Type		Weight																			
400	kg	6,81	8,89	10,08	14,07	8,59	11,29	13,01	18,25	9,79	13,22	14,98	20,98	10,93	15,07	16,87	23,59	15,38	21,83	24,47	34,36
520	kg	8,28	11,01	12,56	17,62	10,58	14,14	16,40	23,10	12,10	16,61	18,92	26,60	13,56	18,99	21,33	29,94	19,31	27,72	31,20	43,93
600	kg	9,27	12,43	14,22	19,98	11,90	16,04	18,67	26,34	13,64	18,88	21,54	30,34	15,31	21,61	24,31	34,17	21,93	31,64	35,68	50,30
720	kg	10,75	14,55	16,71	23,53	13,88	18,89	22,06	31,20	15,95	22,28	25,49	35,96	17,93	25,53	28,77	40,52	25,86	37,53	42,40	59,87
800	kg	11,73	15,97	18,36	25,89	15,21	20,79	24,32	34,43	17,49	24,54	28,11	39,71	19,69	28,14	31,75	44,75	28,48	41,46	46,88	66,24
920	kg	13,20	18,16	20,93	29,57	17,19	23,70	27,80	39,42	19,80	28,00	32,14	45,46	22,31	32,12	36,30	51,23	32,40	47,41	53,69	75,94
1000	kg	14,19	19,57	22,59	31,94	18,51	25,60	30,06	42,66	21,34	30,27	34,77	49,21	24,06	34,74	39,28	55,47	35,03	51,34	58,17	82,32
1120	kg	15,66	21,69	25,07	35,49	20,50	28,45	33,46	47,52	23,66	33,66	38,71	54,83	26,69	38,66	43,74	61,81	38,95	57,23	64,90	91,89
1200	kg	16,65	23,11	26,73	37,85	21,82	30,35	35,72	50,75	25,20	35,93	41,33	58,57	28,44	41,27	46,72	66,04	41,57	61,16	69,38	98,27
1320	kg	18,37	25,23	29,21	41,40	24,11	33,20	39,11	55,61	27,81	39,32	45,27	64,19	31,37	45,19	51,18	72,39	45,81	67,04	76,10	107,83
1400	kg	19,36	26,71	30,95	43,90	25,43	35,17	41,46	58,98	29,35	41,65	47,99	68,07	33,12	47,87	54,24	76,76	48,43	71,04	80,67	114,34
1600	kg	21,82	30,25	35,09	49,81	28,74	39,92	47,12	67,08	33,20	47,32	54,56	77,44	37,50	54,40	61,68	87,34	54,97	80,85	91,87	130,29
1800	kg	24,28	33,96	39,42	55,96	32,05	44,84	52,97	75,41	37,06	53,15	61,32	87,04	41,88	61,10	69,31	98,15	61,52	90,84	103,27	146,47
2000	kg	26,74	37,50	43,56	61,87	35,35	49,59	58,62	83,50	40,91	58,81	67,88	96,41	46,26	67,64	76,75	108,73	68,07	100,65	114,47	
2200	kg	29,20	41,04	47,70	67,78	38,66	54,34	64,28	91,59	44,76	64,47	74,45	105,77	50,64	74,17	84,19	119,31				
2400	kg	32,16	44,58	51,84	73,69	42,58	59,09	69,93		49,22	70,13	81,02		55,62	80,70	91,63					
2600	kg			55,98	79,60			75,59		53,08	75,79	87,59		60,00	87,24	99,07					
2800	kg			60,12	85,51			81,25			81,45	94,16			93,77	106,51					
3000	kg			64,26	91,42			86,90			87,11	100,72			100,30	113,95					

Type programme T6-PLAN CENTRALLY CONNECTED RADIATOR

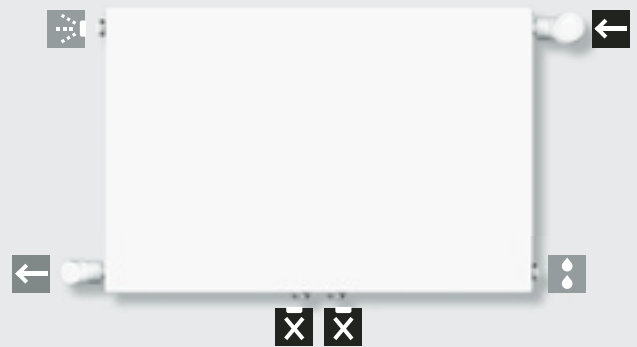
The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

## Connection modes - Double-pipe system

A: Single-sided connection

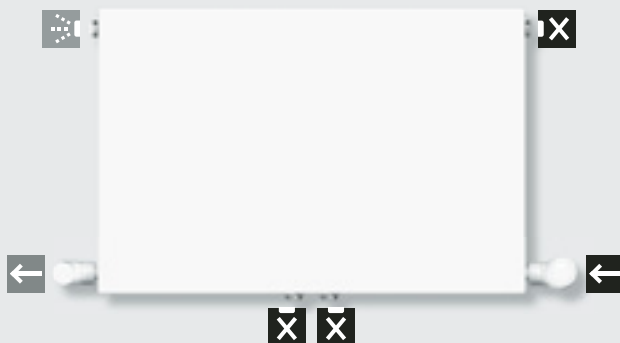


B: Connection both sides



C: Connection on top

**Warning:** Lower performance



**Caution:** When using the T6-PLAN CENTRALLY CONNECTED RADIATOR as a **compact radiator**, the 3/4" screwing caps made of plastic have to be replaced by nickel-plated brass caps (accessory). Available under the item number: AZ0PL000C0002000. Additionally the plastic part of the special vent plug has to be removed.

# T6-PLAN HYGIENE CENTRALLY CONNECTED RADIATOR.

T6 PLAN  
HYGIENE**Connections**

4 x internal thread G 1/2 and  
2 x external thread G 3/4  
bottom centre

**Test positive pressure**

13 bar

**Max. positive operating pressure**

10 bar

**Max. operating temperature**

110 °C

**T6**  
Technology

**Materials**

T6 PLANE HYGIENE CENTRAL CONNECTION RADIATORS are made of cold-rolled sheet steel, in acc. with EN 442-1 and equipped with a zinc-plated front panel 1mm thick.

**Equipment**



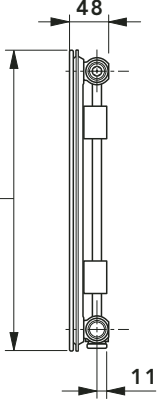
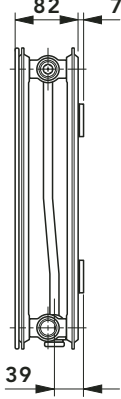
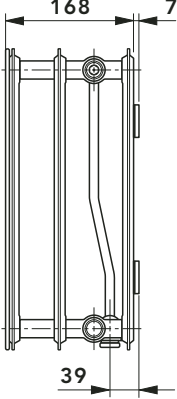
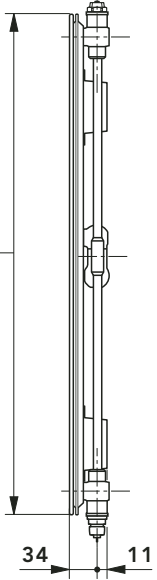
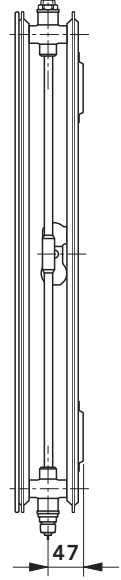
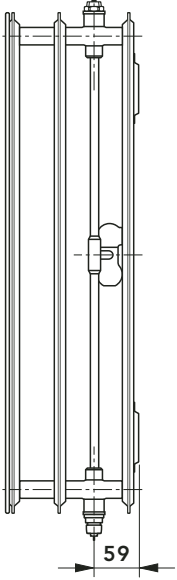


Each T6 PLANE HYGIENE CENTRAL CONNECTION RADIATOR is equipped with a built-in T-shaped valve set suitable for two-pipe systems and single-pipe systems using a one-pipe manifold; equipped with a fitted valve bonnet with kv pre-setting including protection cap, and suspension brackets welded onto the back, including drain plug and pivotable special vent plug as well as a dummy plug, all of them sealed.

**Painting**

1. Primer coat, in acc. with DIN 55900, part 1, stoved at 190°C.
2. Electrostatic finish, in acc. with DIN 55900, part 2, in RAL 9016 (on request and against a surcharge available in many RAL and Sanitary Ware colours) in a state-of-the-art powder coating plant. The especially robust coating is stoved at an object temperature of 210 °C.

**Packaging**

1. Cardboard
2. Edge protection
3. Shrink foil

Overview of models																
Type	10 PM					20 PM					30 PM					
  																
																
	single-layer					double-layer					triple-layer					
Type	10 PM					20 PM					30 PM					
Height  [mm]	300	400	500	600	900	300	400	500	600	900	300	400	500	600	900	
Length  [mm]	bis 1200		bis 2400		bis 2600		bis 1400		bis 2400		bis 3000		bis 2000		bis 3000	
Steps	any overall length starting with 400 mm available in steps of 200 mm; additional 520, 720, 920, 1120 and 1320 mm															

**Two-pipe system, One-pipe system, connection types**

**Attention:** for technical information about the connection settings, please see the relevant chapters in PLANE T6 CENTRAL CONNECTION RADIATOR (pages 53 – 54).



Guarantee statements are available to download at [www.vogelundnoot.com/download](http://www.vogelundnoot.com/download)

# T6-PLAN HYGIENE CENTRALLY CONNECTED RADIATOR

Outputs - temperature group 90/70/20° C



T6 PLAN  
HYGIENE



360 ° views  
available at  
[www.vogelundnoot.com](http://www.vogelundnoot.com)

90/70/20° C		Output data in watts Feed temperature 90 - return temperature 70 - room temperature 20 °C														
↕ Height [mm]	↔ Type Power	300			400			500			600			900		
		10 PM	20 PM	30 PM	10 PM	20 PM	30 PM	10 PM	20 PM	30 PM	10 PM	20 PM	30 PM	10 PM	20 PM	30 PM
400	Watt	156	282	420	199	352	519	239	419	612	276	483	703	375	664	967
520	Watt	203	367	546	259	458	674	311	545	796	358	627	914	488	863	1257
600	Watt	234	423	630	299	528	778	359	629	918	413	724	1055	563	996	1451
720	Watt	281	507	756	359	634	933	430	754	1102	496	869	1266	676	1195	1741
800	Watt	313	564	840	398	704	1037	478	838	1225	551	965	1406	751	1328	1934
920	Watt	359	648	966	458	810	1193	550	964	1408	634	1110	1617	864	1527	2225
1000	Watt	391	705	1050	498	880	1296	598	1048	1531	689	1206	1758	939	1659	2418
1120	Watt	438	789	1176	558	986	1452	669	1173	1714	772	1351	1969	1051	1859	2708
1200	Watt	469	846	1260	598	1056	1556	717	1257	1837	827	1448	2109	1126	1991	2902
1320	Watt	516	930	1386	657	1162	1711	789	1383	2021	910	1592	2320	1239	2190	3192
1400	Watt	547	987	1470	697	1232	1815	837	1467	2143	965	1689	2461	1314	2323	3385
1600	Watt	625	1128	1680	797	1408	2074	956	1676	2449	1103	1930	2813	1502	2655	3869
1800	Watt	703	1269	1890	897	1584	2334	1076	1886	2755	1240	2171	3164	1690	2987	4352
2000	Watt	781	1410	2100	996	1760	2593	1195	2095	3062	1378	2413	3516	1877	3319	4836
2200	Watt	859	1551	2310	1096	1936	2852	1315	2305	3368	1516	2654	3867	2065	3651	5320
2400	Watt	938	1692	2520	1195	2112	3111	1434	2514	3674	1654	2895	4219	2253	3983	5803
2600	Watt	1016	1833	2730	1295	2288	3371	1554	2724	3980	1792	3136	4570	2441	4314	6287
2800	Watt	1094	1974	2940	1395	2464	3630	1673	2933	4286	1929	3378	4922	2628	4646	6770
3000	Watt	1172	2115	3150	1494	2640	3889	1793	3143	4592	2067	3619	5274	2816	4978	7254
Radiator exponent n		1,2685	1,2715	1,2628	1,2579	1,2709	1,2672	1,2473	1,2702	1,2716	1,2367	1,2696	1,2760	1,2603	1,2759	1,2964
Type programme		T6-PLAN HYGIENE CENTRALLY CONNECTED RADIATOR														



The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

# T6-PLAN HYGIENE CENTRALLY CONNECTED RADIATOR

Outputs - temperature groups 75/65/20° C and 70/55/20° C

75/65/20° C		Output data in watts Feed temperature 75 - return temperature 65 - room temperature 20 °C														
 Height [mm]	 Length [mm]	300			400			500			600			900		
		Type	10 PM	20 PM	30 PM	10 PM	20 PM	30 PM	10 PM	20 PM	30 PM	10 PM	20 PM	30 PM	10 PM	20 PM
Power																
400	Watt	124	224	334	158	279	412	190	332	486	220	383	557	298	526	764
520	Watt	161	291	434	206	363	535	248	432	631	286	498	724	388	684	993
600	Watt	186	335	500	238	419	617	286	499	728	330	574	836	448	789	1145
720	Watt	223	402	600	285	503	741	343	598	874	396	689	1003	537	947	1374
800	Watt	248	447	667	317	558	823	381	665	971	440	766	1114	597	1052	1527
920	Watt	285	514	767	364	642	947	438	765	1117	506	880	1282	686	1210	1756
1000	Watt	310	559	834	396	698	1029	476	831	1214	550	957	1393	746	1315	1909
1120	Watt	347	626	934	444	782	1152	533	931	1360	616	1072	1560	836	1473	2138
1200	Watt	372	671	1001	475	838	1235	571	997	1457	660	1148	1672	895	1578	2291
1320	Watt	409	738	1101	523	921	1358	628	1097	1602	726	1263	1839	985	1736	2520
1400	Watt	434	783	1168	554	977	1441	666	1163	1700	770	1340	1950	1044	1841	2673
1600	Watt	496	894	1334	634	1117	1646	762	1330	1942	880	1531	2229	1194	2104	3054
1800	Watt	558	1006	1501	713	1256	1852	857	1496	2185	990	1723	2507	1343	2367	3436
2000	Watt	620	1118	1668	792	1396	2058	952	1662	2428	1100	1914	2786	1492	2630	3818
2200	Watt	682	1230	1835	871	1536	2264	1047	1828	2671	1210	2105	3065	1641	2893	4200
2400	Watt	744	1342	2002	950	1675	2470	1142	1994	2914	1320	2297	3343	1790	3156	4582
2600	Watt	806	1453	2168	1030	1815	2675	1238	2161	3156	1430	2488	3622	1940	3419	4963
2800	Watt	868	1565	2335	1109	1954	2881	1333	2327	3399	1540	2680	3900	2089	3682	5345
3000	Watt	930	1677	2502	1188	2094	3087	1428	2493	3642	1650	2871	4179	2238	3945	5727
Radiator exponent n		1,2685	1,2715	1,2628	1,2579	1,2709	1,2672	1,2473	1,2702	1,2716	1,2367	1,2696	1,2760	1,2603	1,2759	1,2964
Type programme		T6-PLAN HYGIENE CENTRALLY CONNECTED RADIATOR														

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

70/55/20° C		Output data in watts Feed temperature 70 - return temperature 55 - room temperature 20 °C														
 Height [mm]	 Length [mm]	300			400			500			600			900		
		Type	10 PM	20 PM	30 PM	10 PM	20 PM	30 PM	10 PM	20 PM	30 PM	10 PM	20 PM	30 PM	10 PM	20 PM
Power																
400	Watt	101	182	272	129	227	335	155	270	395	180	311	453	243	427	619
520	Watt	131	236	353	168	295	435	202	352	513	234	405	589	316	556	804
600	Watt	151	273	408	194	341	502	233	406	592	270	467	679	365	641	928
720	Watt	182	327	489	232	409	603	280	487	711	324	561	815	438	769	1113
800	Watt	202	364	543	258	454	670	311	541	790	360	623	906	486	855	1237
920	Watt	232	418	625	297	522	770	358	622	908	414	716	1042	559	983	1423
1000	Watt	252	455	679	323	568	837	389	676	987	450	779	1132	608	1069	1546
1120	Watt	283	509	761	362	636	938	435	757	1106	504	872	1268	681	1197	1732
1200	Watt	303	546	815	387	681	1005	466	811	1185	540	934	1359	729	1282	1856
1320	Watt	333	600	897	426	749	1105	513	892	1303	594	1028	1494	802	1411	2041
1400	Watt	353	636	951	452	795	1172	544	946	1382	630	1090	1585	851	1496	2165
1600	Watt	404	727	1087	516	908	1340	622	1082	1580	720	1246	1811	973	1710	2474
1800	Watt	454	818	1223	581	1022	1507	700	1217	1777	810	1401	2038	1094	1924	2783
2000	Watt	504	909	1359	646	1135	1675	777	1352	1975	900	1557	2264	1216	2137	3093
2200	Watt	555	1000	1494	710	1249	1842	855	1487	2172	990	1713	2491	1337	2351	3402
2400	Watt	605	1091	1630	775	1363	2010	933	1622	2370	1080	1869	2717	1459	2565	3711
2600	Watt	656	1182	1766	839	1476	2177	1011	1758	2567	1170	2024	2943	1580	2779	4020
2800	Watt	706	1273	1902	904	1590	2345	1088	1893	2765	1260	2180	3170	1702	2992	4330
3000	Watt	757	1364	2038	968	1703	2512	1166	2028	2962	1350	2336	3396	1824	3206	4639
Radiator exponent n		1,2685	1,2715	1,2628	1,2579	1,2709	1,2672	1,2473	1,2702	1,2716	1,2367	1,2696	1,2760	1,2603	1,2759	1,2964
Type programme		T6-PLAN HYGIENE CENTRALLY CONNECTED RADIATOR														

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.



# T6-PLAN HYGIENE CENTRALLY CONNECTED RADIATOR

Outputs - temperature groups 55/45/20° C and 45/40/20° C

55/45/20° C		Output data in watts Feed temperature 55 - return temperature 45 - room temperature 20 °C														
Height [mm]	Type	300			400			500			600			900		
		10 PM	20 PM	30 PM	10 PM	20 PM	30 PM	10 PM	20 PM	30 PM	10 PM	20 PM	30 PM	10 PM	20 PM	30 PM
Length [mm]	Power															
400	Watt	65	117	175	83	146	215	101	174	254	117	200	290	157	274	394
520	Watt	84	152	228	108	190	280	131	226	330	152	260	377	204	356	512
600	Watt	97	175	263	125	219	323	151	261	380	175	300	436	235	411	591
720	Watt	117	210	315	150	263	388	181	313	457	211	360	523	282	493	709
800	Watt	130	234	350	167	292	431	201	347	507	234	400	581	313	548	788
920	Watt	149	269	403	192	336	496	232	400	583	269	460	668	361	630	906
1000	Watt	162	292	438	208	365	539	252	434	634	292	500	726	392	685	984
1120	Watt	182	327	490	233	408	603	282	486	710	328	560	813	439	768	1103
1200	Watt	195	350	525	250	438	646	302	521	761	351	600	871	470	822	1181
1320	Watt	214	385	578	275	481	711	332	573	837	386	660	958	517	905	1299
1400	Watt	227	409	613	292	511	754	352	608	888	409	700	1016	549	959	1378
1600	Watt	259	467	700	333	583	862	403	695	1014	468	801	1161	627	1096	1575
1800	Watt	292	526	788	375	656	970	453	782	1141	526	901	1307	705	1234	1772
2000	Watt	324	584	875	417	729	1077	503	869	1268	585	1001	1452	784	1371	1969
2200	Watt	357	642	963	458	802	1185	554	956	1395	643	1101	1597	862	1508	2166
2400	Watt	389	701	1050	500	875	1293	604	1042	1522	702	1201	1742	940	1645	2363
2600	Watt	422	759	1138	542	948	1400	654	1129	1649	760	1301	1887	1019	1782	2560
2800	Watt	454	818	1225	583	1021	1508	705	1216	1775	819	1401	2032	1097	1919	2757
3000	Watt	486	876	1313	625	1094	1616	755	1303	1902	877	1501	2178	1176	2056	2953
Radiator exponent n		1,2685	1,2715	1,2628	1,2579	1,2709	1,2672	1,2473	1,2702	1,2716	1,2367	1,2696	1,2760	1,2603	1,2759	1,2964
Type programme	T6-PLAN HYGIENE CENTRALLY CONNECTED RADIATOR															

T6 PLAN HYGIENE

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

45/40/20° C		Output data in watts Feed temperature 45 - return temperature 40 - room temperature 20 °C														
Height [mm]	Type	300			400			500			600			900		
		10 PM	20 PM	30 PM	10 PM	20 PM	30 PM	10 PM	20 PM	30 PM	10 PM	20 PM	30 PM	10 PM	20 PM	30 PM
Length [mm]	Power															
400	Watt	45	81	122	58	101	150	70	121	176	82	139	201	109	190	271
520	Watt	59	105	158	75	132	195	91	157	229	107	181	261	142	247	353
600	Watt	68	122	183	87	152	224	105	181	264	123	208	302	164	285	407
720	Watt	81	146	219	104	182	269	127	217	317	148	250	362	196	342	488
800	Watt	90	162	243	116	202	299	141	241	352	164	278	402	218	380	542
920	Watt	104	186	280	133	233	344	162	277	405	188	319	463	251	437	624
1000	Watt	113	203	304	145	253	374	176	301	440	205	347	503	273	475	678
1120	Watt	126	227	341	162	283	419	197	338	493	229	389	563	305	532	759
1200	Watt	135	243	365	174	304	449	211	362	528	246	417	603	327	570	814
1320	Watt	149	267	402	191	334	494	232	398	581	270	458	664	360	627	895
1400	Watt	158	284	426	203	354	524	246	422	616	287	486	704	382	665	949
1600	Watt	180	324	487	232	405	599	281	482	704	328	556	805	436	760	1085
1800	Watt	203	365	548	261	455	673	316	542	792	369	625	905	491	855	1220
2000	Watt	225	405	609	290	506	748	352	603	880	410	694	1006	545	949	1356
2200	Watt	248	446	669	319	557	823	387	663	968	451	764	1106	600	1044	1492
2400	Watt	270	486	730	348	607	898	422	723	1055	492	833	1207	654	1139	1627
2600	Watt	293	527	791	377	658	973	457	784	1143	533	903	1307	709	1234	1763
2800	Watt	315	567	852	406	708	1047	492	844	1231	574	972	1408	764	1329	1898
3000	Watt	338	608	913	435	759	1122	527	904	1319	615	1042	1509	818	1424	2034
Radiator exponent n		1,2685	1,2715	1,2628	1,2579	1,2709	1,2672	1,2473	1,2702	1,2716	1,2367	1,2696	1,2760	1,2603	1,2759	1,2964
Type programme	T6-PLAN HYGIENE CENTRALLY CONNECTED RADIATOR															

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

## Weights

## T6-PLAN HYGIENE

## Weights in kg for T6-PLAN HYGIENE centrally connected radiator

↑ ↓ Height [mm]	Type	300			400			500			600			900		
		10 PM	20 PM	30 PM	10 PM	20 PM	30 PM	10 PM	20 PM	30 PM	10 PM	20 PM	30 PM	10 PM	20 PM	30 PM
← → Length [mm]	Weight															
400	kg	5,19	7,44	10,30	6,28	9,27	12,85	7,41	11,12	15,42	8,49	12,90	17,88	11,95	18,59	25,80
520	kg	6,24	9,17	12,71	7,67	11,55	16,03	9,10	13,94	19,36	10,50	16,24	22,55	14,97	23,60	32,80
600	kg	6,93	10,32	14,32	8,59	13,07	18,15	10,24	15,83	21,98	11,85	18,47	25,65	17,00	26,96	37,49
720	kg	7,99	12,06	16,75	9,96	15,33	21,32	11,95	18,65	25,93	13,87	21,82	30,32	20,02	31,98	44,50
800	kg	8,69	13,22	18,36	10,88	16,86	23,44	13,08	20,53	28,55	15,22	24,05	33,43	22,05	35,33	49,17
920	kg	9,74	15,01	20,91	12,25	19,20	26,75	14,78	23,41	32,62	17,23	27,46	38,24	25,08	40,43	56,33
1000	kg	10,43	16,17	22,52	13,17	20,72	28,86	15,92	25,30	35,26	18,58	29,69	41,35	27,10	43,78	61,01
1120	kg	11,48	17,90	24,93	14,54	23,00	32,04	17,63	28,12	39,19	20,60	33,03	46,01	30,13	48,80	68,02
1200	kg	12,19	19,05	26,54	15,46	24,51	34,16	18,76	30,00	41,81	21,94	35,26	49,13	32,15	52,14	72,70
1320	kg		20,79	28,96		26,78	37,32	20,64	32,83	45,75	24,14	38,62	53,79	35,36	57,17	79,72
1400	kg		22,01	30,71		28,37	39,58	21,78	34,77	48,52	25,49	40,91	57,04	37,38	60,59	84,53
1600	kg		24,90	34,73		32,15	44,87	24,88	39,48	55,08	29,13	46,49	64,82		68,96	96,21
1800	kg		27,95	39,00		36,13	50,41	27,80	44,34	61,88	32,57	52,23	72,83		77,51	108,16
2000	kg		30,83	43,01		39,91	55,69	30,66	49,06	68,44	35,94	57,80	80,60		85,89	119,85
2200	kg		33,73	47,05		43,70	60,98	33,49	53,76	75,00	39,30	63,38	88,39			
2400	kg		36,61	51,07		47,50		36,33	58,47		42,66	68,96				
2600	kg			55,10					63,17		46,03	74,53				
2800	kg			59,13					67,87			80,10				
3000	kg			63,15					72,58			85,69				
Type programme		T6-PLAN HYGIENE CENTRALLY CONNECTED RADIATOR														

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

## VERTICAL CENTRALLY CONNECTED RADIATOR.

### Heat emission

The specification was verified in accordance with DIN EN 442 at The Technical University, Stuttgart (Registration at WSP-Cert Product Certification Centre, Stuttgart), under the numbers:

Type 10	0358
Type 20	0359
Type 21	0324
Type 22	0325

### Material

VERTICAL RADIATORS are manufactured from cold-rolled sheet steel in line with EN 442-1 and have an elegant, stable profile with 40 mm beading.

### Configuration

Each VERTICAL RADIATOR is equipped with suspension brackets welded onto the rear side. The 20 K radiator model is also supplied with two side grills.

### Coating

1. Primer in accordance with DIN 55900 part 1, fired at 190° C.
2. The top coat, in accordance with DIN 55900 part 2, in RAL 9016 (available in many RAL and sanitary colours on request, for a supplement), is applied electrostatically in a modern powder coating plant. The resistant coating, which is particularly important, is fired with the radiator at a temperature of 210° C.

### Packaging

1. Cardboard containers
2. Edge protection
3. Shrink wrap



**Connections**  
4 x G 1/2 I.G



**Test positive pressure**  
13 bar



**Max. positive operating pressure** 10 bar



**Max. operating temperature** 110 °C



ULOW-E2


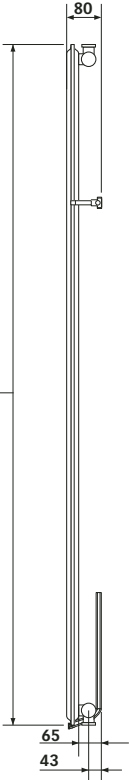
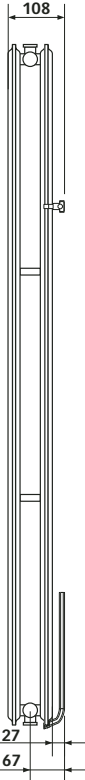

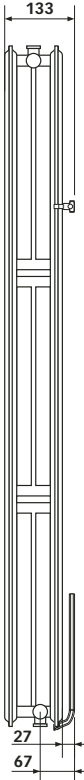
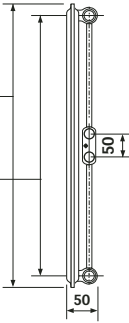
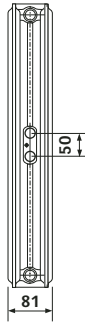
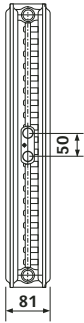
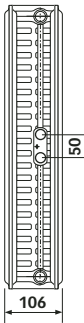
Profile panel radiators

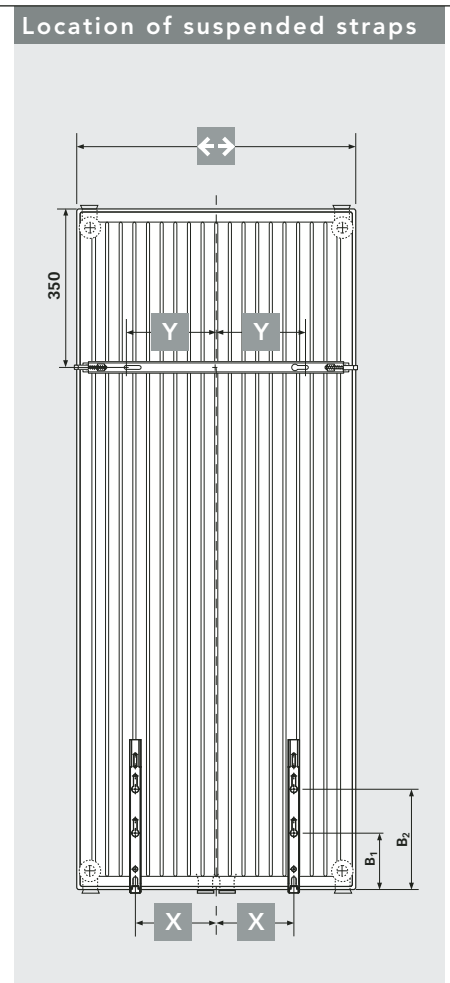
Plan panel radiators

Vertical radiators


# VERTICAL CENTRALLY CONNECTED RADIATOR

Overview of models / illustration showing location for welding of suspended straps

Overview of models														
Type	10			20			21			22				
														
														
Type	10			20			21			22				
Height [mm]	1500	1800	1950	2100	1800	1950	2100	1800	1950	2100	1800	1950	2100	2300
Length [mm]	-	-	-	-	300			300			300	300	-	
	450	450	600	750	450	600	750	450	600	750	450	600	750	-
Hub spacing [mm]	Length - 56 mm													



Type	10	20, 21, 22
B <sub>1</sub>	170	150
B <sub>2</sub>	270	250

	[mm]			
	300	450	600	750
X	75	100	175	250
Y	25	95	170	245

HEIZKÖRPER  
RAU GÜTEZEICHEN  
AUS STAHL

CE

DIN EN 442

EN ISO 9001

55+45  
DIE neue WÄRME

Guarantee statements are available to download at [www.vogelundnoot.com/download](http://www.vogelundnoot.com/download)

Outputs / weights / water volume



Weight in kg and water content in litre, for the CENTRAL-CONNECTION VERTICAL RADIATOR

↑ ↓ Height [mm]	Type	1800					1950				2100				2300
		10	10	20	21	22	10	20	21	22	10	20	21	22	22
300	kg	-	-	21,4	24,92	28,16	-	23,12	27,4	30,7	-	24,52	29,08	33,24	-
450	kg	14,1	16,86	32,1	37,38	42,24	17,4	34,68	41,1	46,05	18,06	36,78	43,62	49,86	-
600	kg	18,8	22,48	42,8	49,84	56,32	23,2	46,24	54,8	61,4	24,08	49,04	58,16	66,48	-
750	kg	-	28,1	53,5	62,3	-	29	57,8	68,5	76,75	30,1	61,3	72,7	83,1	88,7
← → Length [mm]	Type	10	10	20	21	22	10	20	21	22	10	20	21	22	22
	Water volume														
300	l	-	-	6,48	6,48	6,48	-	6,94	6,94	6,94	-	7,40	7,40	7,40	-
450	l	4,42	4,56	9,72	9,72	9,72	4,98	10,41	10,41	10,41	5,4	11,10	11,10	11,10	-
600	l	5,90	6,08	12,96	12,96	12,96	6,64	13,88	13,88	13,88	7,2	14,80	14,80	14,80	-
750	l	-	7,60	16,20	16,20	-	8,30	17,35	17,35	17,35	9,00	18,50	18,50	18,50	20,00
Type programme		VERTICAL CENTRALLY CONNECTED RADIATOR													

VERTICAL CENTRALLY CONNECTED RADIATOR

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

Radiator power data in watts, in accordance with DIN EN 442

Temperature pairings	75/65/20° C*															55/45/20° C*														
	↑ ↓ Height [mm]	1800					1950					2100					2300	1500	1800				1950				2100			
← → Length [mm]	Type	10	10	20	21	22	10	20	21	22	10	20	21	22	22	10	10	20	21	22	10	20	21	22	10	20	21	22	22	
300	Watt	-	-	819	963	1132	-	877	1020	1192	-	935	1081	1252	-	-	-	420	486	566	-	448	514	594	-	477	546	623	-	
450	Watt	650	765	1229	1445	1698	819	1315	1530	1788	876	1403	1621	1877	-	335	389	629	729	849	413	672	771	892	439	716	819	934	-	
600	Watt	867	1020	1638	1926	2264	1092	1753	2040	2384	1168	1870	2162	2503	-	447	518	839	972	1132	551	896	1028	1189	585	954	1092	1245	-	
750	Watt	-	1275	2048	2408	-	1365	2192	2550	2980	1460	2338	2702	3129	3329	-	648	1049	1215	-	689	1120	1285	1486	732	1193	1365	1556	1656	
Radiator exponent n		1,2976	1,3246	1,3094	1,3384	1,3566	1,3381	1,3135	1,3422	1,3619	1,3516	1,3176	1,3371	1,3672	1,3671	1,2976	1,3246	1,3094	1,3384	1,3566	1,3381	1,3135	1,3422	1,3619	1,3516	1,3176	1,3371	1,3672	1,3671	
Type programme		VERTICAL CENTRALLY CONNECTED RADIATOR														* Feed temperature / return temperature / room temperature														

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

## PLAN VERTICAL CENTRALLY CONNECTED RADIATOR.

### Heat emission

The specification was verified in accordance with DIN EN 442 at The Technical University, Stuttgart (Registration at WSP-Cert Product Certification Centre, Stuttgart), under the numbers:

Type 21	0323
Type 22	0900

### Material

PLAN VERTICAL RADIATORS are manufactured from cold-rolled sheet steel in line with EN 442-1 and have an elegant, stable profile with 40 mm beading.

### Configuration

Each PLAN VERTICAL RADIATOR is equipped with suspension brackets welded onto the rear side. The 20 K radiator model is also supplied with two side grills.

### Coating

1. Primer in accordance with DIN 55900 part 1, fired at 190° C.
2. The top coat, in accordance with DIN 55900 part 2, in RAL 9016 (available in many RAL and sanitary colours on request, for a supplement), is applied electrostatically in a modern powder coating plant. The resistant coating, which is particularly important, is fired with the radiator at a temperature of 210° C.

### Packaging

1. Cardboard containers
2. Edge protection
3. Shrink wrap



**Connections:** 2 x G 1/2 internal thread, at the bottom centre, centric distance: 50 mm and 4 x G 1/2 internal thread, at the side, downward and upward.



**Test positive pressure:** 8 bar



**Max. positive operating pressure:**  
6 bar




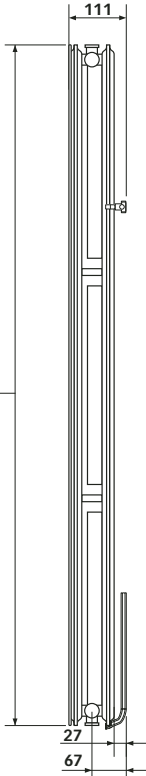
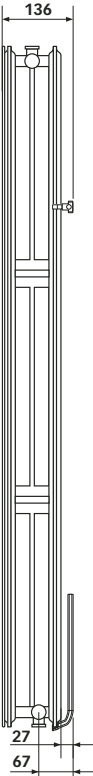
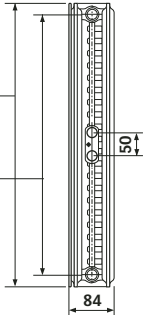
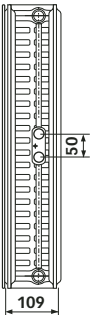


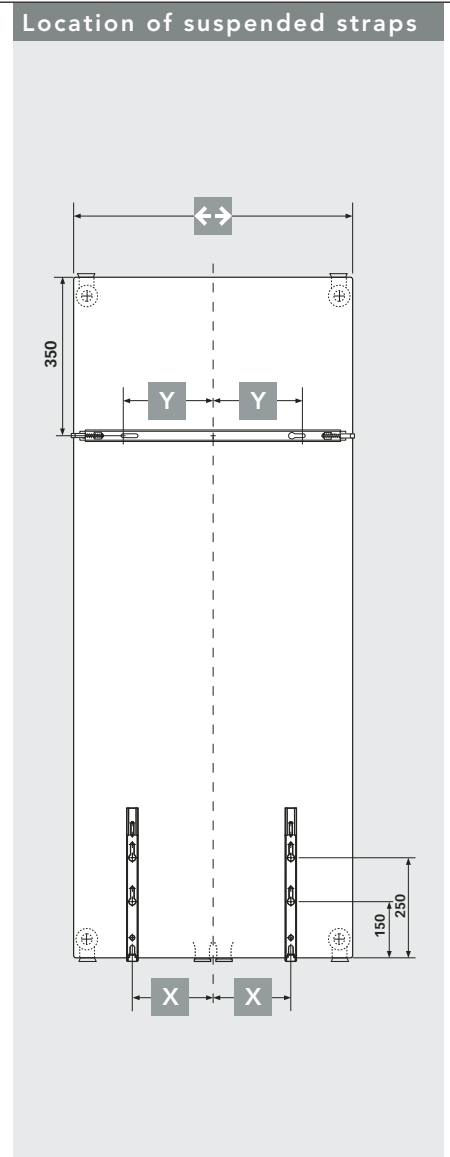
**Max. operating temperature:**  
110 °C



# PLAN VERTICAL CENTRALLY CONNECTED RADIATOR

Overview of models / illustration showing location for welding of suspended straps

Overview of models						
Type	21			22		
   						
						
Type	21			22		
Height [mm]	1800	1950	2100	1800	1950	2100
Length [mm]	300 450 600 750			300 450 600 -	300 450 600 750	
Hub spacing [mm]	Length - 56 mm					



PLAN VERTICAL  
CENTRALLY  
CONNECTED  
RADIATOR

	[mm]			
	300	450	600	750
	75	100	175	250
	25	95	170	245



Guarantee statements are available to download at [www.vogelundnoot.com/download](http://www.vogelundnoot.com/download)

Outputs / weights / water volume

Weight in kg and water content in litre, for the  
PLAN VERTICAL CENTRALLY CONNECTED RADIATOR

↑ ↓ Height [mm]	1800		1950		2100			
	Type	Weight	Type	Water volume	Type	Water volume		
← → Length [mm]	21	22	21	22	21	22		
	300	kg	30,08	33,48	32,8	37,12	35,12	39,28
← → Length [mm]	450	kg	45,12	50,22	49,2	55,68	52,68	58,92
	600	kg	60,16	66,96	65,6	74,24	70,24	78,56
← → Length [mm]	750	kg	75,2	-	82	92,8	87,8	98,2
	300	l	6,48	6,48	6,94	6,94	7,4	7,4
← → Length [mm]	450	l	9,72	9,72	10,41	10,41	11,1	11,1
	600	l	12,96	12,96	13,88	13,88	14,8	14,8
← → Length [mm]	750	l	16,2	-	17,35	17,35	18,5	18,5
	Type programme		PLAN VERTICAL CENTRALLY CONNECTED RADIATOR					

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.

Radiator power data in watts, in accordance with DIN EN 442

Temperature pairings	75/65/20° C*						55/45/20° C*							
	↑ ↓ Height [mm]	1800		1950		2100		1800		1950		2100		
← → Length [mm]		Type	21	22	21	22	21	22	21	22	21	22	21	22
	Power	Watt	886	1046	936	1103	978	1161	452	528	476	532	495	587
← → Length [mm]	450	Watt	1329	1569	1404	1654	1467	1742	678	792	714	798	743	881
	600	Watt	1772	2092	1873	2205	1957	2323	903	1056	953	1065	990	1175
← → Length [mm]	750	Watt	2216	-	2341	2756	2446	2903	1129	-	1191	1331	1238	1468
	Radiator exponent n		1,3192	1,3387	1,3231	1,4255	1,3327	1,3343	1,3192	1,3387	1,3231	1,4255	1,3327	1,3343
Type programme		PLAN VERTICAL CENTRALLY CONNECTED RADIATOR						* Feed temperature / return temperature / room temperature						

The availability of any type of radiator, as well as range of sizes, is in accordance with the production programme, as stated in the price list.



## GENERAL TECHNICAL INFORMATION

### Flat radiators are triple-packed

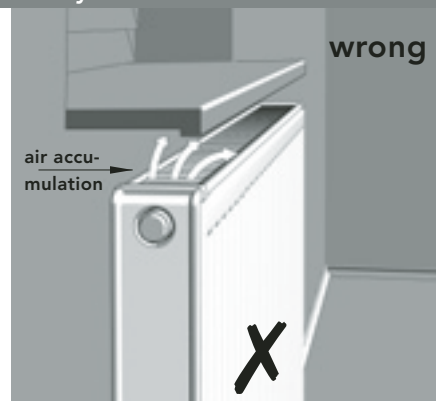
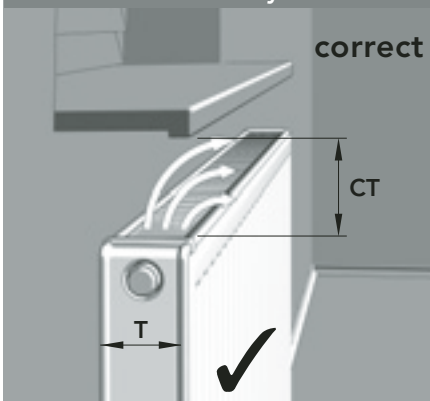
The packaging is done such that it does not need to be removed during the installation and the connection. The packaging will not be removed until the flat's occupation. That will keep the product pristine, right through to the hand over.

**Installation of wrapped radiators, and run of a test heating up to t<sub>1</sub> 40°C possible.**

1. Cardboard packaging
2. Edge protection
3. Shrink foil

Panel radiators

### Installation under your window and in your alcove



Optimum performance can only be guaranteed, if the air circulation is not restricted. This means that above and below the radiator there must be enough clearance. The clearance above the radiator is usually calculated according to the formula: **radiator width + 10 %**.

**Clearance top CT = W x 1,1**

In case this value cannot be maintained, because of constructional constraints, performance will be lower.

### Water volume in litre/m of flat radiator

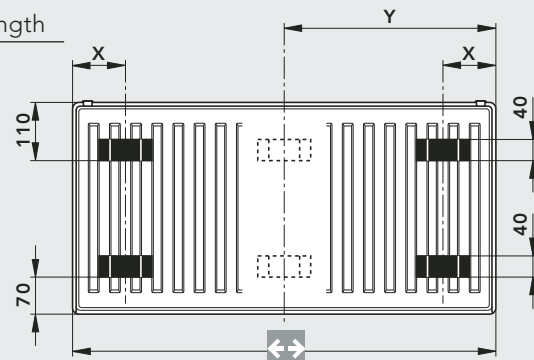
Overall height [mm]	300	400	500	554	600	900	954
Radiator type							
10, 10 VM, 10 PM, 11 K, 11 VM, 11 PM	2,0	2,6	3,3	-	3,7	5,1	-
20, 20 K, 20 VM, 20 PM	3,9	5,0	6,1	-	7,1	10,2	-
21 K-S, 21 VM-S, 21 PM-S	3,9	5,0	6,1	6,7	7,1	10,2	11,3
22 K, 22 VM, 22 PM	3,9	5,0	6,1	6,7	7,1	10,2	11,3
30, 30 PM	6,0	7,6	9,4	-	10,8	15,6	-
33 K, 33 VM, 33 PM	6,0	7,6	9,4	10,2	10,8	15,6	16,5

### Image of how the brackets are welded on flat radiator\*

Radiator type	Measure X [mm]
10, 10 VM, 10 PM	100
11 K, 11 VM, 11 PM	93
20, 20 VM, 20 PM	100
21 K-S, 21 VM-S, 21 PM-S	100
22 K, 22 VM, 22 PM	100
30, 30 VM, 30 PM, 33 K, 33 VM, 33 PM	100

$$\text{Measure Y} = \frac{\text{Overall length}}{2}$$

for all radiators from an overall length of 1800 mm onwards.



\* VERTICAL RADIATORS excluded

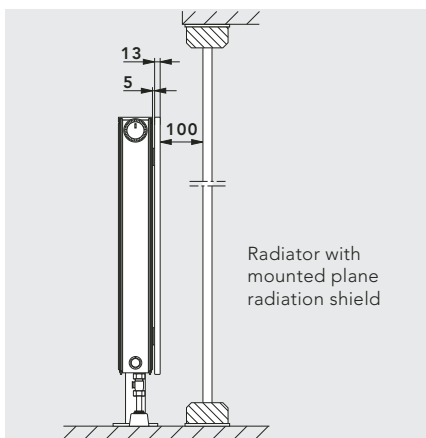
## PLAN RADIATED HEAT-REFLECTOR

Installing the radiator (with brackets) in front of windows increases heat loss, due to the radiation across the glass surface. Thanks to the plane radiation shield it is possible to minimise heat loss.

### The new plane radiation shield

- represents a successful solution also in terms of appearance because of the radiation shield's consistent cover and short distance to the radiator;

- it is also a perfect match with the plane heating surfaces;
- due to convection between radiator and plane radiation shield it feeds back into the room the majority of thermal heat, which would otherwise be lost;
- installation is dead easy, without the need of any additional special tools.



**Depth of plane radiation shield:** 13 mm

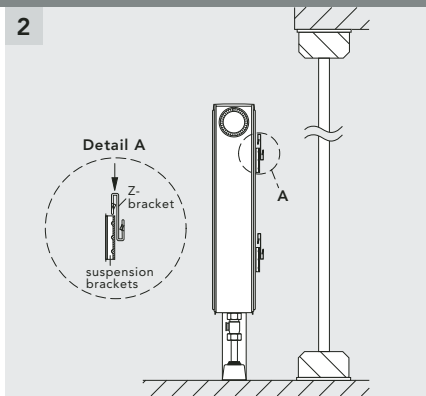
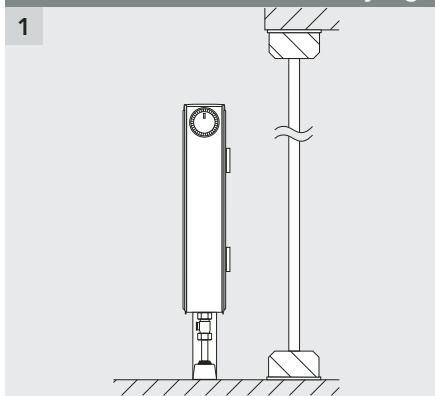
**clear width:** 5 mm

between cover grid and plane radiation shield.

Minimum clearance of 100 mm between window surface and plane radiation shield.

The minimum clearance between window surface and plane radiation shield (100mm) complies with the recommendations of leading window surface manufacturers.

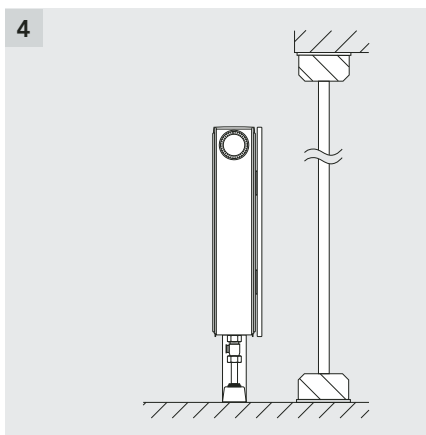
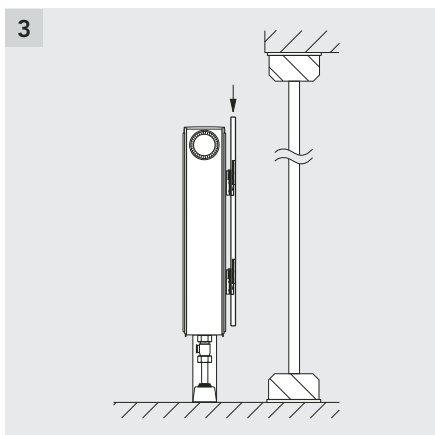
### Installation details for inlying consoles, for flat radiators with brackets



**Image 1:** Radiator with inlying stand consoles, in front of a transparent outside surface.

**Image 2:** Install the Z-bracket (included in the delivery equipment) on the **four suspension brackets**.

**Note:** If the length of the radiator is 2000, 2400 or 2800 mm, the Z-brackets must be installed as much as possible in the middle.



**Image 3:** Align PLAN RADIATED HEAT-REFLECTOR according to the radiator length; put it into position right over the Z-brackets and push it down.

**Image 4:** Radiator with installed PLAN RADIATED HEAT-REFLECTOR.

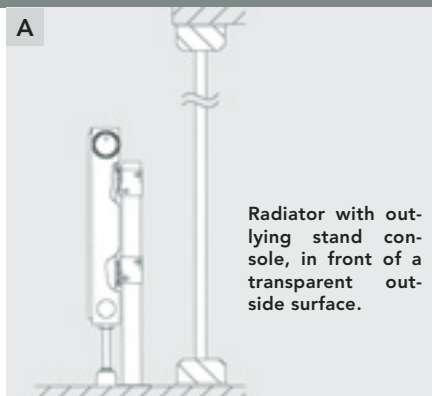
### Note:

Due to production reasons there are drill holes at the flat that must face the ground during the installation.

Installation details for outlying stand consoles, for radiators with brackets

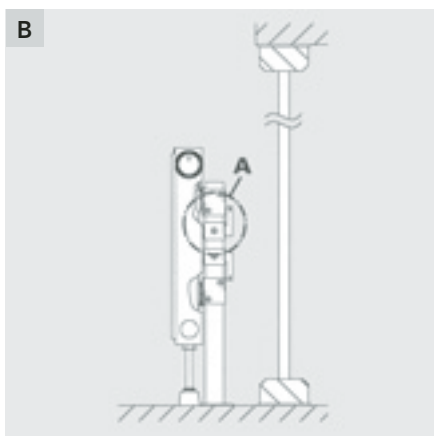
For installing the outlying stand consoles only use - independently from the type of heating surface - mounting brackets with the order number **AZOMS000F0001000** for fixation, including the necessary accessories for installing the PLAN RADIATED-HEAT REFLECTOR (image B, detail A).

Symbol representations on radiators on 400 mm and more in length



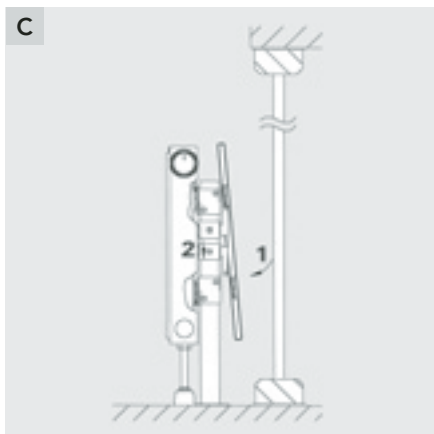
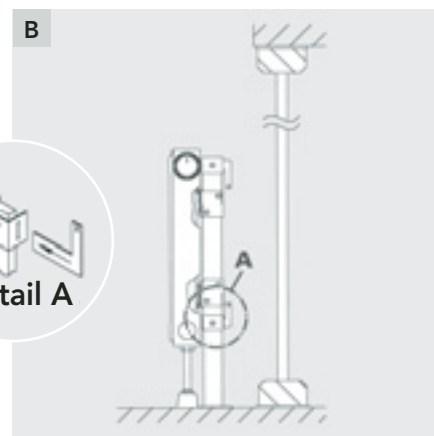
Symbol representations on all radiator heights

Panel radiators

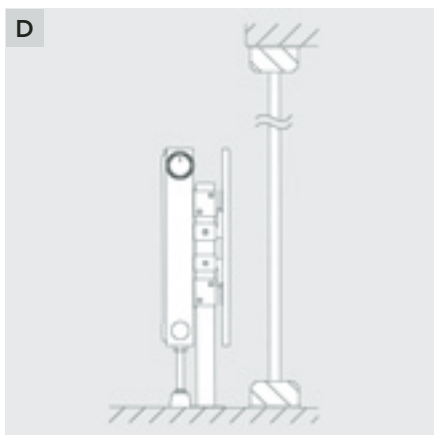
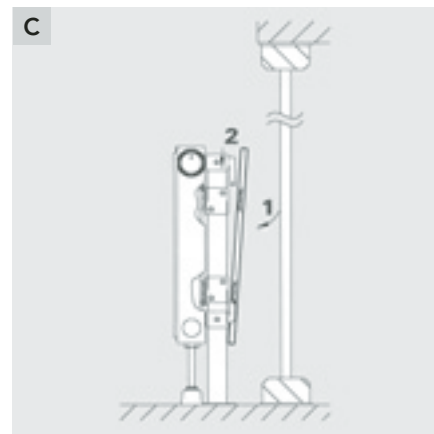


**Image B:** Install U-shaped clamp (available as accessory) on the stand console, using the brackets.

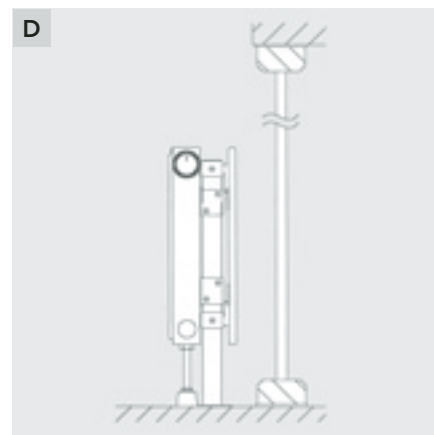
**Note:** From a radiator length of 1800 mm onwards, also the fixing devices on top have to be installed centrally on the stand console brackets.



**Image C:** Put the PLAN RADIATED HEAT-REFLECTOR into the fixing devices on top, aligning it up according to the radiator length. (Attention: The drill holes at the flat must face the ground). Make sure that the PLAN RADIATED HEAT-REFLECTOR is aligned in the height according to the top edge of the radiator. Then install the PLAN RADIATED HEAT-REFLECTOR above the suspension brackets using the fixing devices at the bottom.



**Image D:** Radiator with installed PLAN RADIATED HEAT REFLECTOR.



... the flexible Monclac console

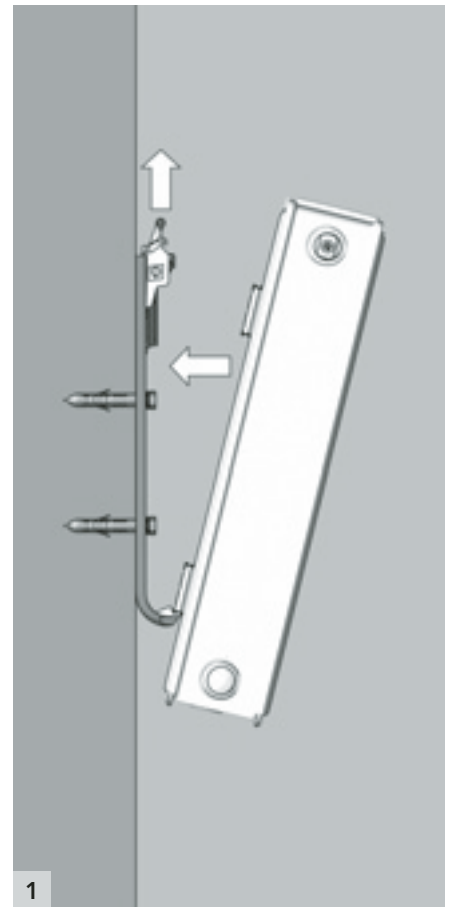
The MONCLAC CONSOLE (suitable for all heating surfaces with welded-on brackets, except Replacement and vertical radiators) allows an easy, rapid and robust installation of the radiator still in the packaging. It can generally be used for radiator models with the respective overall height.

The fact that the Monclac console is equipped with an integrated lifting and shift protection represents a cutting-edge advantage in terms of safety.

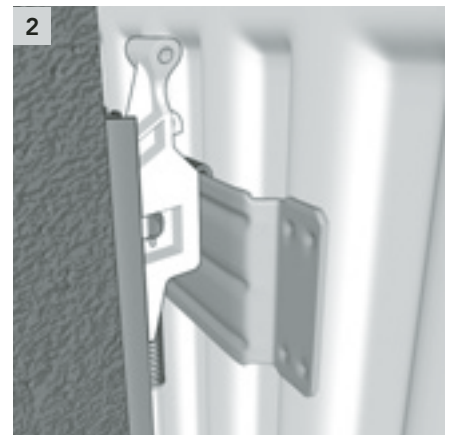
The Monclac console consists of: 2 Monclac consoles (zinc-plated), with sound insulation inserts and integrated lifting and shift protection, screws and dowels, installation instructions in PE shrink foil. Wall clearance: between finished wall surface and radiator bracket: 27mm.

Drilling dimensions for panel radiators				
Height [mm]	Value V [mm]	Value W [mm]	Value X [mm]	wall rail for BH 300 - 900
300	-	135	165	
400	139	235		
500		335		
600		435		
900		735		

The Monclac bracket is consistent with TÜV-Rheinland's requirements (in terms of force loads).



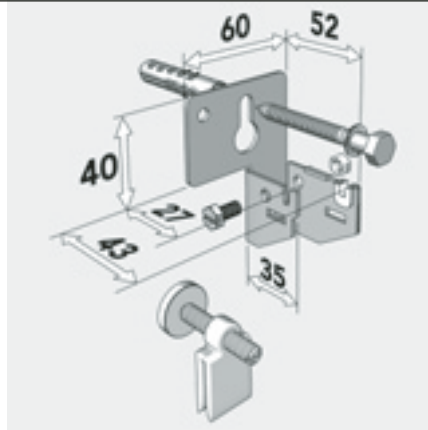
Connection to wall clearances				
Radiator models	Height [mm]	Value Y [mm]	Value Z [mm] *	
10, 10 VM, 10 PM	300 - 900	38	-	
11 K, 11 VM, 11 PM	300 - 900	50	50 **	
20, 20 K, 20 VM, 20 PM	300 - 900	74	66	
21 K-S, 21 VM-S, 21 PM-S	300 - 900	74	66	
22 K, 22 VM, 22 PM	300 - 900	86	66	
30, 30 VM, 33 K, 33 VM, 33 PM, 30PM	300 - 900	86	66	



\* This only applies to the T6 CENTRAL CONNECTION RADIATOR  
 \*\* when using a special angle bracket, a consistent clearance of 66mm between connection and wall is also possible for the 11VM model.

### FASTENING SET SPECIAL ANGLE-FISHPLATE

For surface mounting, consisting of:  
 2 angle-fishplates with sound-absorbing filter  
 2 spacers  
 2 hexagon head wood screws and 2 dowels.



Specially designed for pinpoint pre-assembly, in conjunction with profiles (item no: AZOFT200ROH01000, AZOFT060R1V01000, AZOFT090R1V01000).

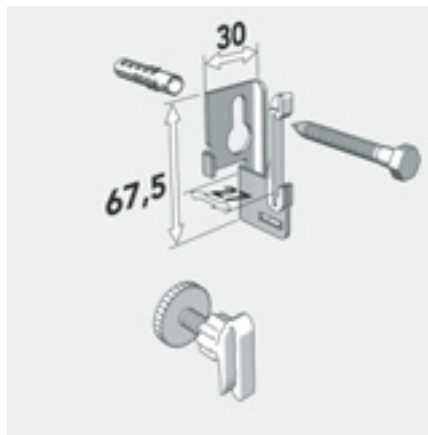
With 11 VM and 11 PM models, wall clearance can be adjusted for multi-layered T6 radiators, in cases where pre-assembly on the assembly bracket was multi-layered at the position.

*Wall clearance:*  
 Between finished wall and T6 radiator mounting link = 27 mm to 43 mm

Panel radiators

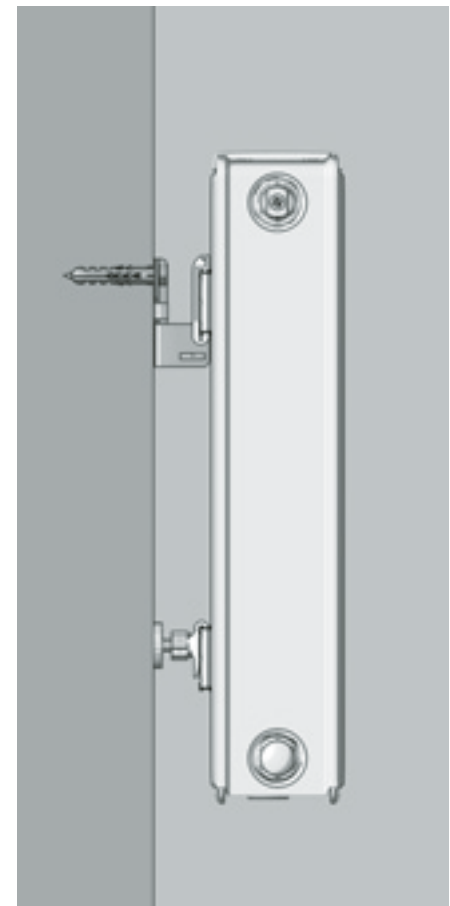
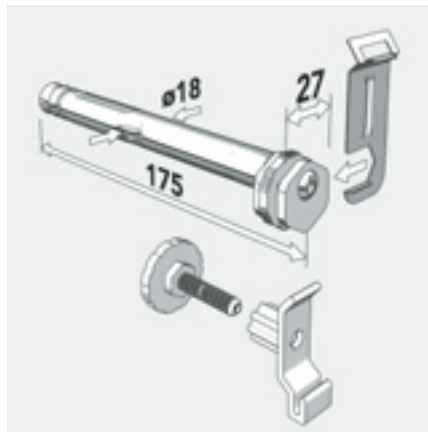
### ANGLE BRACKET WITH SHIFT PROTECTION FASTENING SET

Suitable for surface mounting, each consisting of:  
 two angle brackets, noise insulation inserts with integrated lifting protection, hexagonal wood screws and dowels.  
 Wall clearance: between the finished wall surface and radiator's bracket: 27mm



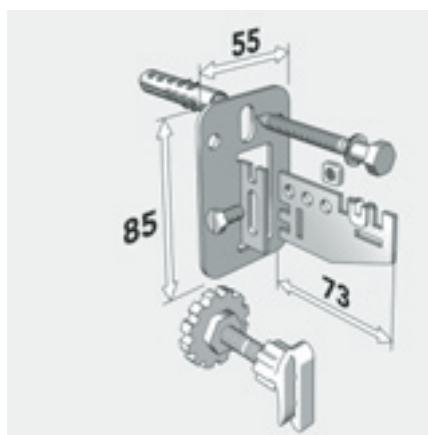
### DRILLED CONSOLE SET WITH LIFTING PROTECTION FASTENING SET FOR ALL-PURPOSE ANGLE-FISHPLATE

Length: 160mm, consisting of:  
 2 drilled consoles,  
 2 distance holders and  
 2 lifting protections



### FASTENING SET FOR ALL-PURPOSE ANGLE-FISHPLATE

For finished as well as unfinished wall surfaces, consisting of:  
 2 adjustable angle-fishplates with sound-absorbing filter  
 2 hexagon head wood screws with dowels and  
 2 spacers.



*Wall clearance:*  
 Between finished wall and radiator mounting link = 11, 20, 30, 46, 56 and 66 mm

## T6 MOUNTING ON FINISHED WALL SURFACES

### T6 MOUNTING ON FINISHED WALL SURFACES

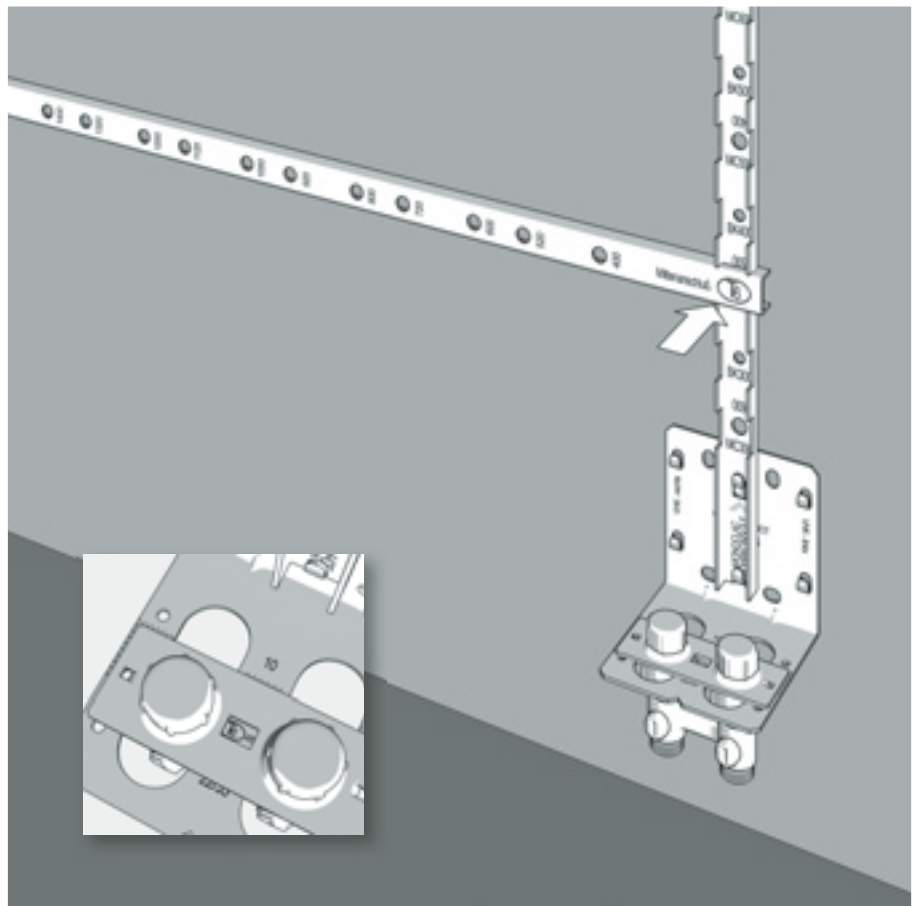
By using the 3/4" external thread mounting template it is possible to install all the heating pipes without the radiator, and the whole pipe system can be pressure-tested as well. The radiators will be delivered only after completion of the building work.

Fitting of the horizontal mounting rail for positioning the first Monclac consoles / drilled consoles / special angle brackets fastening. Side-inverted fitting of the horizontal mounting rail for positioning the second Monclac consoles / drilled consoles / special angle brackets fastening

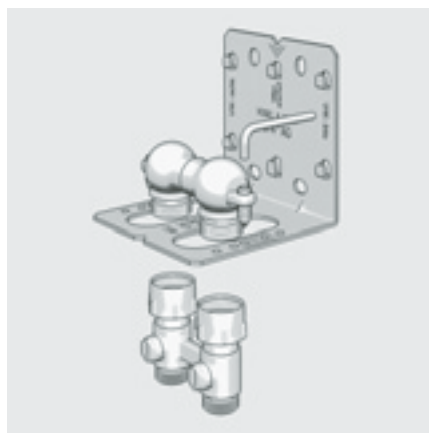
It makes possible very precise pre-mounting of the Monclac console / drilled console / special angle bracket when using a moulding set.

The 3/4" external thread mounting template consists of a mounting bracket set and a moulding set. The 3/4" external thread mounting template consists of:

- 1 mounting bracket incl. connection bracket
- 2 dowels
- 2 screws
- 2 washers
- 2 caps - 1/2" internal thread
- 2 1/2" - 3/4" adapters



When using the flush elbow together with the 3/4" external thread mounting template the system can be flushed and tested without the radiators.



Attaching the vertical mounting rail. With radiators, with an overall length of 1800 mm and more, central mounting drill hole is marked. With the special angle bracket AZ0BU00012002000 the vertical mounting rails AZ0FT060R1V01000 are to be used for overall heights of 300 - 600mm, as well as AZ0FT090R1V01000 for overall height of 900mm. The window in the connection bracket serves to check if the correct overall depth has been selected.

## T6 INSTALLATION ON AN UNFINISHED WALL SURFACES

Apart from the advantages of a complete installation. Of the heating pipes without the radiators, and the possibility to pressure-test the piping system, the 3/4" external thread mounting template has been designed for mounting on unfinished wall surfaces, especially for unplastered brick walls. The compact design and unique fastening system using a special drilled console ensure that also the wall behind the mounting bracket can be plastered.

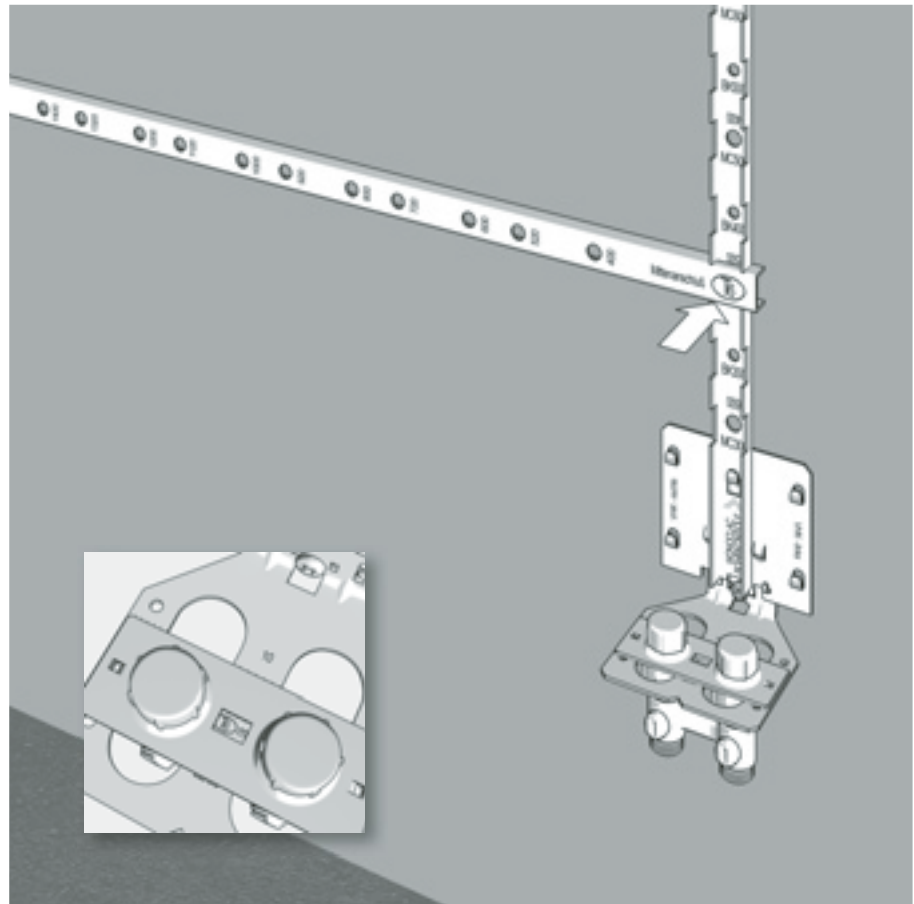
After the plastering attach the horizontal mounting rail for positioning the first Monclac consoles / drilled consoles / special angle brackets fastening. Side-inverted fitting of the horizontal mounting rail for positioning the second Monclac consoles / drilled consoles / special angle brackets.

Panel radiators

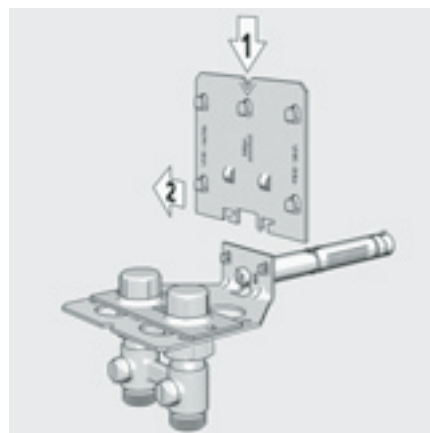
It makes possible very precise pre-mounting of the Monclac console / drilled console / special angle bracket when using a moulding set.

The 3/4" external thread mounting template for mounting on unfinished wall surfaces consists of a mounting bracket for mounting on unfinished wall surfaces and a moulding set. The 3/4" external thread mounting template for mounting on unfinished wall surfaces consists of:

- 1 mounting bracket  
Incl. connection bracket
- 1 special drilled console
- 2 caps - G 1/2" DIN ISO 228
- 2 1/2" - 3/4" adapters  
DIN ISO 228
- 2 1/2" - 3/4" Adapter



By using the adapter plate you can also enjoy all advantages of the moulding set. Attaching the adapter plate to the mounting bracket for the mounting on unfinished wall surfaces only requires a few simple hand movements. For flushing and testing the system without radiators, you can of course use the flush elbow in connection with the 3/4" external thread mounting template for the mounting on unfinished wall surfaces.



Attaching the vertical mounting rail. With radiators, with an overall length of 1800 mm and more, the central mounting drill hole is marked. With the special angle bracket AZ0BU00012002000 the vertical mounting rails AZ0FT060R1V01000 are to be used for overall heights of 300 - 600mm, as well as AZ0FT090R1V01000 for overall height of 900mm. The window in the connection bracket serves to check if the correct overall depth has been selected.

Transfer Table - Simplified procedure for the domain of standard and low-temperature (ST/LT)

The conversion factors in the table state to which extent the heat emission has to be altered under other operating conditions, compared to the following standard-design data:

supply temperature  $t_1$  75 °C  
 return temperature  $t_2$  65 °C  
 room temperature  $t_r$  20 °C

Because an average exponent of 1.3 has been used for both the calculation of the heat outputs and the specification of the conversion factor, a slight performance variation from the calculated value is possible.

The standard heat emission  $\Phi_s$  of a radiator covering the required heat  $\Phi_{HL,i}$  at the chosen operating conditions, is calculated according to the formula:

$$\Phi_s = \Phi_{HL,i} \times f$$

- $\Phi_s$  = standard heat emission, in accordance with EN 442
- $\Phi_{HL,i}$  = required heat, in accordance with EN 12831
- $f$  = conversion factor from the table

**Example:**

The required heat of a room is 1000 W, in accordance with EN 12831.

Design data:  $t_1$  50 °C  
 $t_2$  40 °C  
 $t_r$  20 °C

Factor  $f$  according to the table = **2,50**

supply temperature °C	return temperature °C	room temperature °C						
		12	15	18	20	22	24	26
90	80	0,61	0,64	0,68	0,71	0,74	0,77	0,81
	70	0,67	0,72	0,76	0,80	0,83	0,87	0,91
80	70	0,74	0,79	0,84	0,88	0,93	0,97	1,03
	60	0,83	0,89	0,96	1,01	1,07	1,13	1,20
	50	0,96	1,04	1,13	1,20	1,28	1,37	1,47
75	65	0,82	0,88	0,95	1,00	1,05	1,12	1,18
	60	0,88	0,94	1,02	1,08	1,14	1,21	1,29
	55	0,94	1,01	1,10	1,17	1,24	1,32	1,42
70	65	0,87	0,94	1,01	1,07	1,13	1,19	1,27
	60	0,93	1,00	1,08	1,15	1,22	1,30	1,39
	55	0,99	1,08	1,17	1,25	1,33	1,42	1,53
	50	1,07	1,17	1,28	1,37	1,47	1,58	1,71
65	60	0,98	1,07	1,16	1,23	1,31	1,40	1,50
	55	1,05	1,15	1,26	1,34	1,43	1,54	1,66
	50	1,14	1,25	1,37	1,47	1,59	1,71	1,86
	45	1,24	1,37	1,52	1,64	1,78	1,94	2,13
	40	1,33	1,47	1,65	1,78	1,94	2,13	2,36
60	55	1,13	1,23	1,36	1,45	1,56	1,68	1,82
	50	1,22	1,34	1,48	1,60	1,73	1,87	2,05
	45	1,33	1,47	1,65	1,78	1,94	2,13	2,36
	40	1,47	1,64	1,86	2,03	2,24	2,50	2,80
55	50	1,31	1,45	1,62	1,75	1,90	2,07	2,28
	45	1,43	1,60	1,80	1,96	2,15	2,37	2,64
	40	1,59	1,78	2,03	2,24	2,48	2,78	3,15
	35	1,78	2,03	2,36	2,64	2,99	3,43	4,02
50	45	1,56	1,75	1,98	2,17	2,40	2,67	3,00
	40	1,73	1,96	2,25	2,50	2,79	3,15	3,61
	35	1,94	2,24	2,63	2,96	3,38	3,92	4,64
	30	2,24	2,64	3,20	3,70	4,39	5,39	6,99
45	40	1,90	2,17	2,53	2,83	3,19	3,66	4,25
	35	2,15	2,50	2,96	3,37	3,89	4,58	5,52

$$\Phi_s = \Phi_{HL,i} \times f = 1000 \text{ Watt} \times 2,50 = 2500 \text{ Watt}$$

**A radiator has to be installed that emits 2500 W under the standard- design (75/65/20).**

Exact method for the performance calculation

Using the formula  $\Phi = \Phi_s \left[ \frac{\Delta T}{\Delta T_s} \right]^n$

any performance differing from the standard can be calculated.

- $\Phi$  = Radiator power [W]
- $\Phi_s$  = Standard radiator power in accordance with EN 442 [W]
- $\Delta T$  = Arithmetic radiator excess temperature [K]
- $\Delta T_s$  = Arithmetic radiator excess temperature 50 K, at a standard state of 75 °C / 65 °C / 20 °C
- $n$  = Radiator exponent

Please note: if the condition

$$c = \frac{t_2 - t_r}{t_1 - t_r} < 0,7$$

is met, the excess temperatures will be specified logarithmically.

$$\Delta T_{\text{arithmetic}} = \frac{t_1 + t_2}{2} - t_r$$

$$\Delta T_{\text{logarithmic}} = \frac{t_1 - t_2}{\ln \frac{t_1 - t_r}{t_2 - t_r}}$$

Use our radiator power calculator on [www.vogelundnoot.com](http://www.vogelundnoot.com)