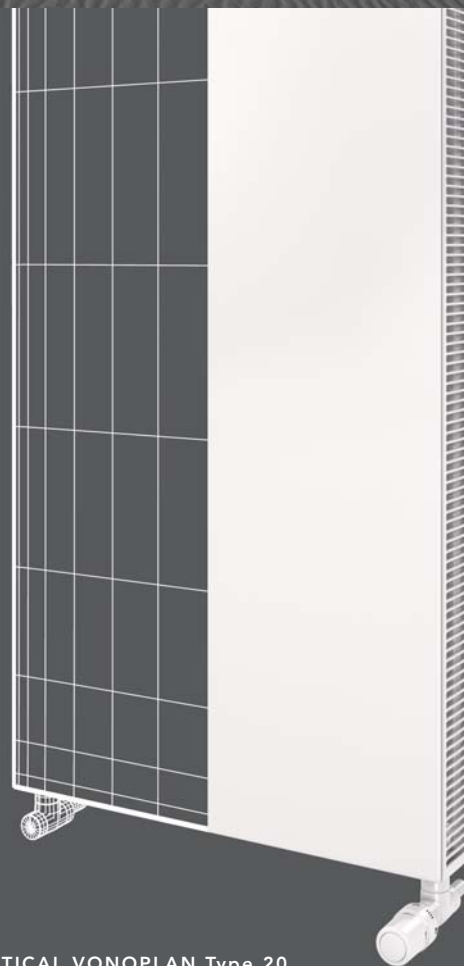


VERTICAL VONOVA Type 20.

VERTICAL VONOVA & VERTICAL VONOPLAN.



VERTICAL VONOPLAN Type 20.

General Specifications

Approval and Certification

VOGEL&NOOT offers strong products that meet the highest quality standards during manufacture and operation. All information on the quality and performance of VOGEL&NOOT panel radiators is verified and confirmed by recognised European institutions on an ongoing basis, thereby guaranteeing the highest level of heating performance and optimum product quality.



When used in systems designed and installed in accordance with the good practice recommendations given in the 'Application' section, the VOGEL&NOOT VERTICAL VONOVA & VONOPLAN radiators carry a ten year guarantee from date of purchase against defects caused by faulty materials or manufacture. However, failure to pay attention to these recommendations (in new or existing systems) may invalidate the manufacturer's warranty.

Material and Paint Finish

Every VERTICAL VONOVA & VONOPLAN radiator is subjected to a thorough painting process involving degreasing, phosphating and primer coating (stoved) prior to the final finishing coat of white semi-gloss epoxy paint, which is cured at 210°C. Colour options are available, see pages 36 & 37, for a small extra charge and with a 6-8 week delivery lead time. This means that VERTICAL VONOVA & VONOPLAN radiators can be installed without further painting, although if desired (e.g. colour change), overpainting can be carried out using a good quality, oil-based gloss paint. Additionally, white touch-up paint is available.

VERTICAL VONOVA & VONOPLAN radiators are manufactured from cold-rolled sheet steel in line with EN 442-1 and have an elegant, stable profile with 40 mm waterways.

Packaging

All our radiators are individually wrapped in heavy duty polythene shrink-wrapping and are clearly marked externally with type and size. The radiator panels are also wrapped in cardboard and all corners are further protected with preformed caps.

The packaging is designed to enable full fitting and assembly of radiators into the heating system, without removal of the protective packaging - a real plus point for new building installations. Radiators left protected in this way can be filled and run up to 40°C during initial cleaning and commissioning of the heating system.

Fixings

All VERTICAL VONOVA & VONOPLAN radiators are supplied with suspension brackets welded onto the rear side. The Type 20 radiator model is also supplied with two side grilles.

For the correct installation of radiators it is essential that the fixing of the radiator is carried out in such a way that it is suitable for intended use AND predictable misuse. A number of elements

need to be taken into consideration including the fixing method used to secure the radiator to the wall, the type and condition of the wall itself, and any additional potential forces or weights that may happen to be applied to the radiator, prior to finalising installation. **IN ALL CASES IT IS STRONGLY RECOMMENDED THAT A SUITABLY QUALIFIED PROFESSIONAL INSTALLER OR SIMILAR TRADESPERSON CARRIES OUT THE INSTALLATION.**

PLEASE NOTE: The fixing materials provided are only intended for installation on walls made of solid wood, bricks, concrete or on timber-frame stud walls where the fixing is into the timber. All walls being considered should have no more than a maximum of 3mm wall finishing. For walls made of other materials, for example hollow bricks, please consult your installer and/or specialist supplier. **ONCE AGAIN, IF YOU ARE UNSURE, IT IS STRONGLY RECOMMENDED THAT A SUITABLY QUALIFIED PROFESSIONAL INSTALLER OR SIMILAR TRADESPERSON CARRIES OUT THE INSTALLATION.**

Each radiator is supplied complete with wall fixing brackets, blanking plug, air vent plug and vent key.

Connections

All VERTICAL VONOVA & VONOPLAN radiators are fitted with 4 x 1/2" BSP connections.

Operating Pressures

Every VERTICAL VONOVA & VONOPLAN radiator is tested to a pressure of 13 bar (189 psi) and is suitable for a working pressure of up to 10 bar (145 psi). They also have a maximum operating temperature of 110°C.

Application

VERTICAL VONOVA & VONOPLAN radiators are for use in indirect or closed circuit heating systems only, which have been properly designed and installed in accordance with the recommendations of BS EN 12828:2003 or BS EN 12831:2003. In open-vented systems, special attention should be paid to the correct location of the pump in relation to the cold feed and vent pipe connections, to avoid ingress of air or water discharge through the open vent.

All installation work should be carried out in accordance with recognised good practice to ensure long life. In particular, careful attention should be paid to the following:

- Soldered joints should be made with a minimum amount of solder and flux. Choose a flux which is readily soluble in water.
- Copper pipes should be cut and cleaned in such a way as to avoid small copper particles being left in the system (this can lead to electrolytic action and eventual corrosion in the radiator).
- Corrosion inhibitors should be used strictly in accordance with the manufacturer's instructions.

Individual installation instructions are supplied in each radiator package.

Safety Precautions

Radiators are hot when in use, and as such, present a risk of burns to users on prolonged contact. The temperature of a radiator is dependent on the temperature of the system water, as set by the system installer or user. Installers and users should ensure that those who may come into close proximity to hot radiators are aware of the risk of burns. Installers and users should take all necessary steps to minimise the risks of burns. If the risk is significant, consideration should be given to installing low surface temperature radiators, or to placing guards in front of the radiators.

General Specifications (continued...)

Heat Output

The **VERTICAL VONOVA & VONOPLAN** radiators have an advanced design giving high efficiency characteristics. The high outputs per unit surface area for the convector models have been achieved by ensuring excellent contact between the convector plates and both the water channels and dividing metal of the radiator panels. The convector surface is spot-welded to the metal channels and fits neatly into grooves on the water channels, thus ensuring high heat transfer rates.

The radiator outputs quoted in this brochure are based on a mean water temperature in the radiator of 70°C (158°F) and a room temperature of 20° (68°F) - Delta T50.

For other operating conditions - i.e. differences between mean water temperature and room temperature other than 50°C - the correction factors below should be applied (see example right).

Centigrade	Factor	Fahrenheit
15°C	0.21	27°F
20°C	0.30	36°F
25°C	0.41	45°F
30°C	0.51	54°F
35°C	0.63	63°F
40°C	0.75	72°F
45°C	0.87	81°F
50°C	1.00	90°F
55°C	1.13	99°F
60°C	1.27	108°F
65°C	1.41	117°F
70°C	1.55	126°F

An example of radiator selection at a non-standard temperature difference is given below:

Example:

Heat emission required:	2000 Watts
Room air temperature required:	20°C
Mean water temperature in radiator:	65°C

1. Temperature difference = 65-20 = 45°C
2. From Factor Table 45°C gives a factor of: 0.87
3. Divide required heat emission by factor = $\frac{2000}{0.87}$ = 2298 Watts
4. From selection tables choose any radiator rated at 2298 Watts or more.

Distinguished by the ECO seal of quality



The panel radiators from **VOGEL&NOOT** bear the ECO seal of quality, which stands for all-round compatibility with all (renewable) energy sources. It guarantees that the radiators can be operated in an economical and ecologically-sound manner, with significant savings on heating costs (an average of 15%*) and an enormous reduction in CO₂ emissions.

*On average, in comparison with old sectional radiators, test results based on data from Pinkafeld University of Applied Sciences.

Model Overview

VERTICAL VONOVA

	Type 10*		Type 20	
Height (mm)	1800		1800	
Width (mm)	500	600	500	600
Wall Mount Type	WA 11			

VERTICAL VONOPLAN

	Type 10*		Type 20	
Height (mm)	1800		1800	
Width (mm)	500	600	500	600
Wall Mount Type	WA 11			

*No grilles supplied with Type 10.

*No grilles supplied with Type 10.

VERTICAL VONOVA -
 Weight and Water Content (per radiator)

Type	Width (mm)			
	500		600	
	Water Content (l)	Weight (kg)	Water Content (l)	Weight (kg)
10	5.94	18.60	6.66	21.69
20	10.98	36.31	12.78	42.77

VERTICAL VONOPLAN -
 Weight and Water Content (per radiator)

Type	Width (mm)			
	500		600	
	Water Content (l)	Weight (kg)	Water Content (l)	Weight (kg)
10	5.94	19.43	6.66	23.06
20	10.98	37.76	12.78	44.81

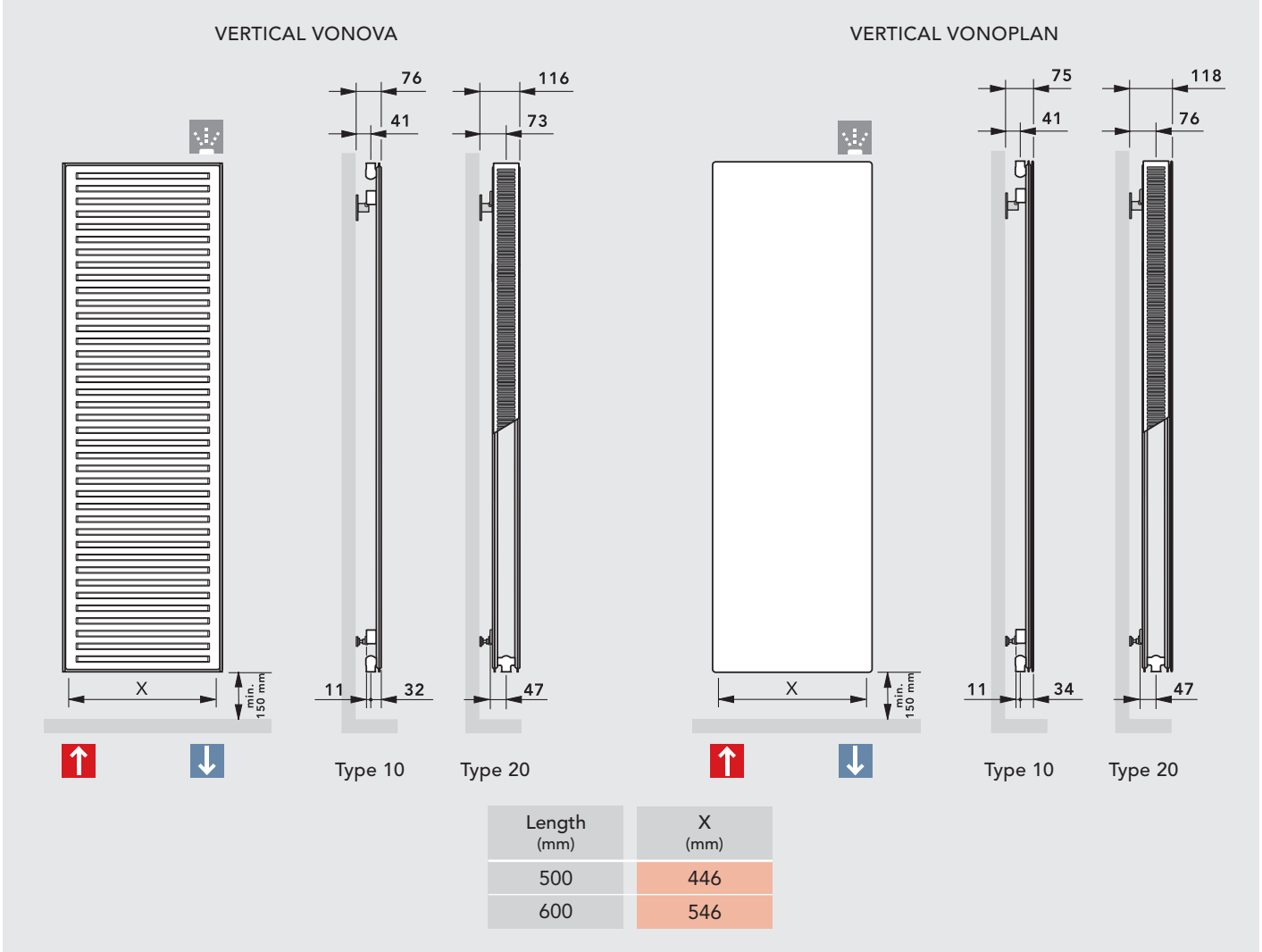
Bracket Positions and Dimensions

VERTICAL VONOVA &
 VERTICAL VONOPLAN
 Type 10 & Type 20

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Technical Information & Heat Outputs

Mounting Positions and Dimensions



VERTICAL VONOVA Heat Outputs

Type 10



Type 20



Nominal Height
1800 mm - 70.9 in

Width (mm - inches)	Output (watts)	Output (Btu/h)	Order Code	Output (watts)	Output (Btu/h)	Order Code
500 - 20	751	2562	M10 180 050	1255	4282	M20 180 050
600 - 24	901	3074	M10 180 060	1506	5139	M20 180 060

N.B. The tabulated heat outputs are quoted at a mean water to air temperature difference of 50°C.

PLEASE NOTE: Brackets need to be ordered separately - Order Code: VB2

VERTICAL VONOPLAN Heat Outputs

Type 10



Type 20



Nominal Height
1800 mm - 70.9 in

Width (mm - inches)	Output (watts)	Output (Btu/h)	Order Code	Output (watts)	Output (Btu/h)	Order Code
500 - 20	696	2375	N10 180 050	1174	4006	N20 180 050
600 - 24	835	2849	N10 180 060	1408	4804	N20 180 060

N.B. The tabulated heat outputs are quoted at a mean water to air temperature difference of 50°C.

PLEASE NOTE: Brackets need to be ordered separately - Order Code: VB2