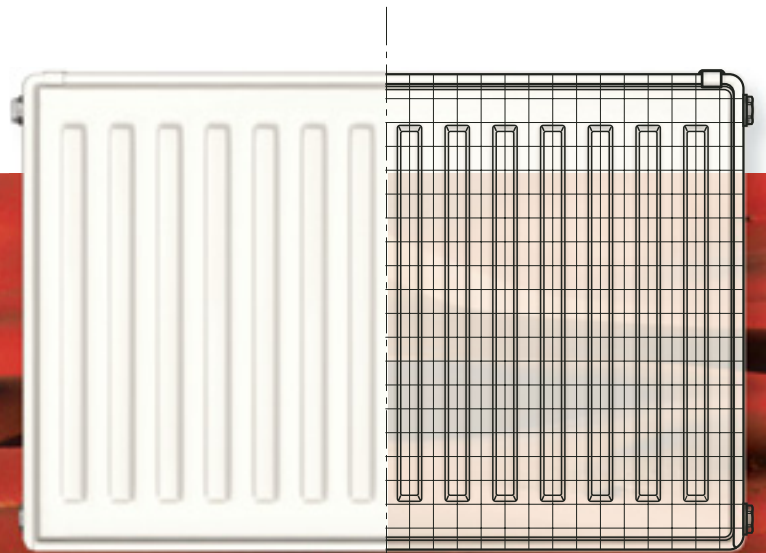


Technical Data 10/2007 UK

Vienna line

Compact radiator



heatingthrough**innovation.**

Compact Range General

The Vienna Line radiator series is of an advanced high efficiency design and comprises of 3 radiator-types K1SPG, P+ and K2 each in 5 heights except P+ - 300, 400, 500, 600 and 750 mm. Radiator lengths from 400 up to 3000 mm are available.

The types are as follows:

- Type K1SPG – single panel & convector surface plus side panels & top grill
- Type P+ – double panel & one convector surface plus side panels & top grill
- Type K2 – double panel & two convector surfaces plus side panels & top grill

The heat output figures for the 300 mm, 400 mm, 500 mm, 600 mm and 750 mm high radiators have been derived from calculations which conform with the requirements of BSEN 442: 1997.

BS Kitemark

The Vogel & Noot Vienna Line range is manufactured and tested in accordance with BSEN 442: 1997 via a factory Quality System certified as meeting the requirements of BSEN ISO 9002: 1994. All radiators therefore carry the BSI KITEMARK which certifies the heat output figures contained in this leaflet and verifies the technical excellence of the product as well as the maintenance of high production quality standards.

Appearance

On types K1SPG, P+ and K2 the top grill and side panels are included in the price.

Every Vienna Line 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.

This means that Vienna Line radiators can be installed without further painting, although if desired (e.g. colour change), over-painting can be carried out using a good quality, oil-based gloss paint. Additionally, white touch-up paint is available.

Tappings and Fittings

Each VN radiator has 4 x 1/2" BSP tappings as standard, allowing maximum flexibility of connection. Each radiator is supplied complete with wall fixing brackets, blanking plug, air vent plug and vent key.

Pressures

Every VN radiator is tested to a pressure of 13 bar (189 psi). Working pressures up to 10 bar (145 psi) are therefore acceptable.

Packaging

Each VN radiator is individually wrapped in heavy duty polythene shrink-wrapping, being clearly marked externally with type and size. Corners are additionally well protected with preformed caps, the radiator panel itself also being wrapped in cardboard.

The packaging is so designed as to enable full fitting and assembly of radiators into the heating system, without removing the protective packaging - a real plus point for new building installations. Additionally, radiators left protected in this way can be filled and run up to 40 deg C during initial cleaning and commissioning of the heating system. The wall fixing brackets, blanking plug, air vent plug and vent key are supplied packed with each radiator.

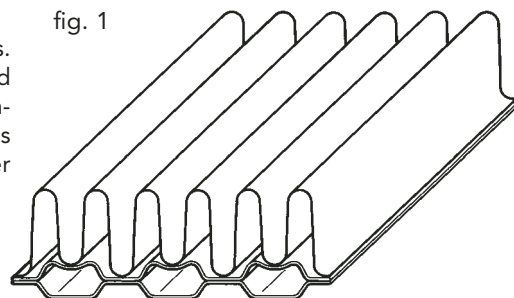
Application

For use on indirect or closed circuit heating systems only, which have been properly designed and installed in accordance with the recommendations of BS 5449. 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.

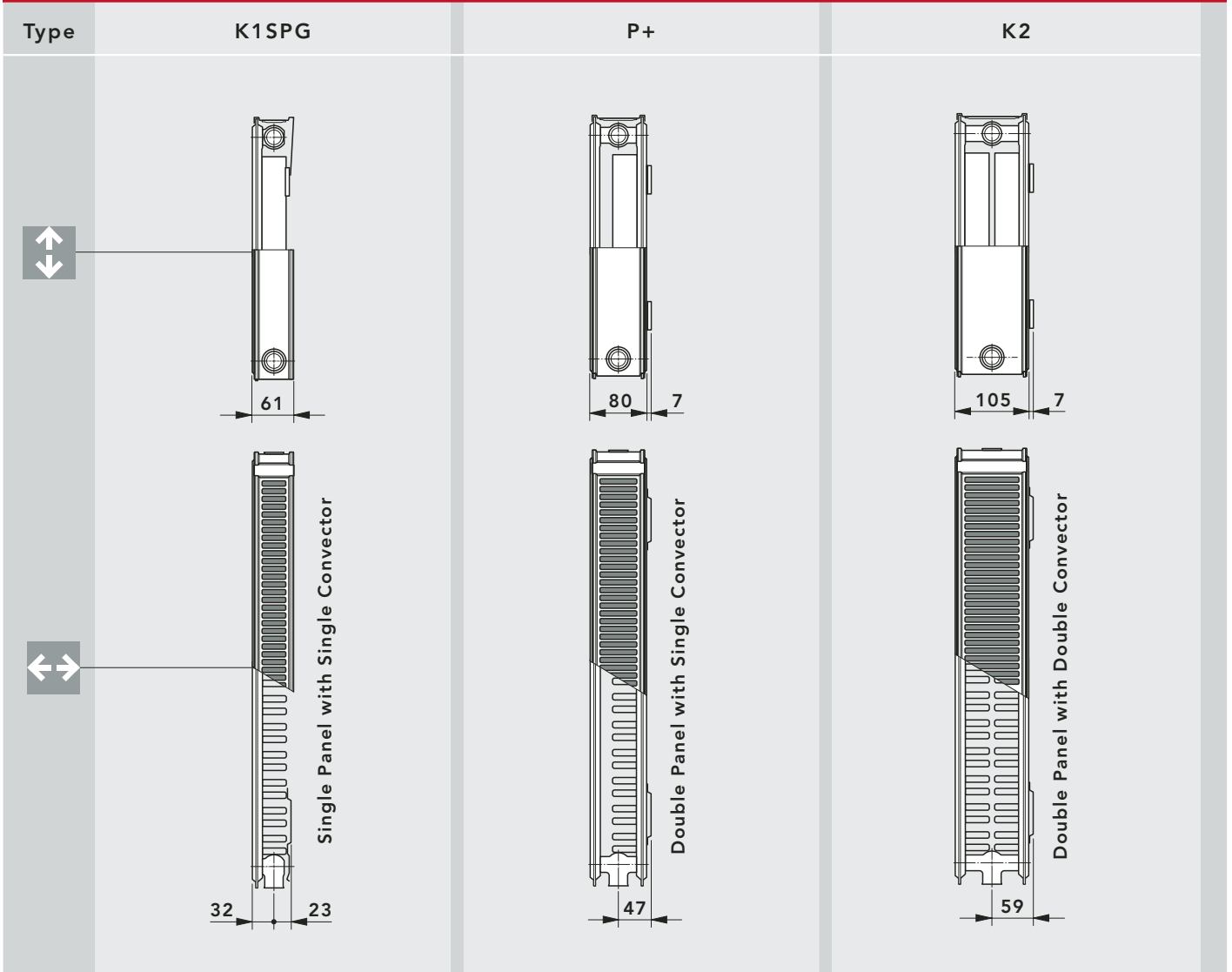
Heat Emission Data

The Vienna Line range is of 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 - see fig. 1. The convector surface is spot-welded to the metal channels, but also firmly locates into grooves on the water channels, thus ensuring high heat transfer rates.

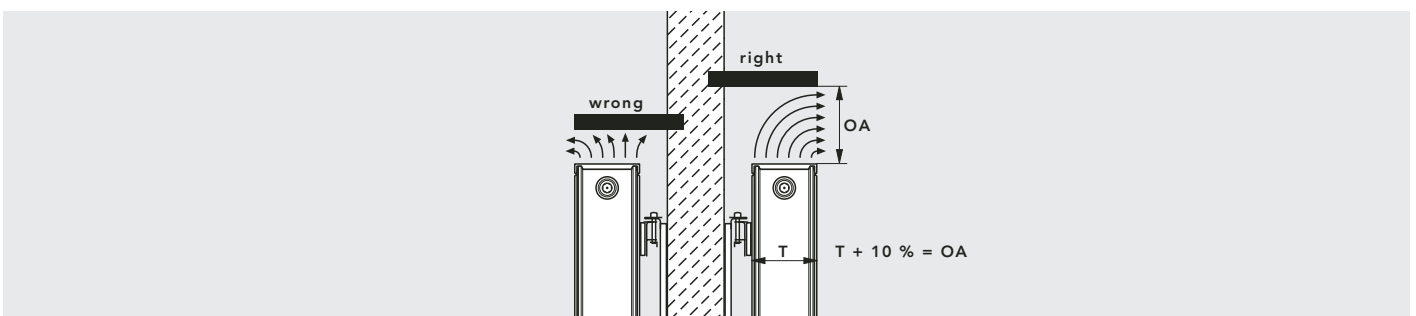
fig. 1



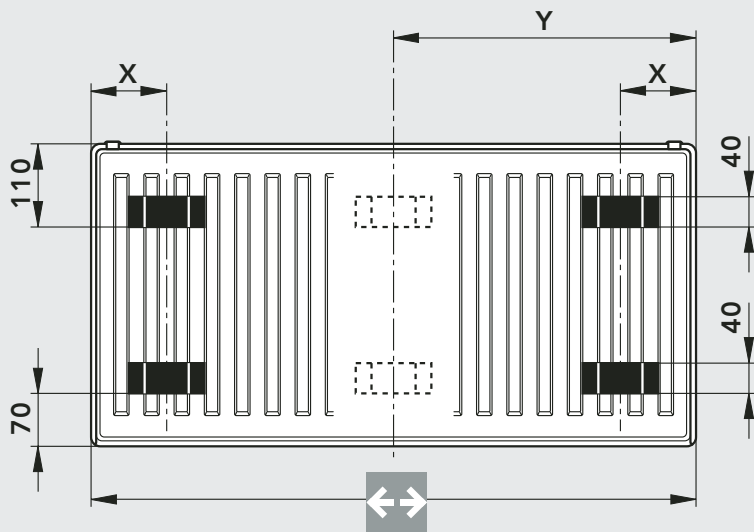
Types available



Type	K1SPG					P+					K2				
Heights	300	400	500	600	750	300	500	600	750	300	400	500	600	750	
[mm]															
Lengths	up tp 2000		up tp 2600		up tp 2000	up tp 2000	up tp 2000	up tp 2200	up tp 2000	up tp 2000	up tp 2600		up tp 2000		
[mm]															
Tapping Centres	246	346	446	546	696	246	446	546	696	246	346	446	546	696	
Mounting Lug Centres	120	220	320	420	570	120	320	420	570	120	220	320	420	570	
Steps	all dimensions start at 400 mm graded up to 200 mm; plus 520, 720, 920, 1120 and 1320 mm														

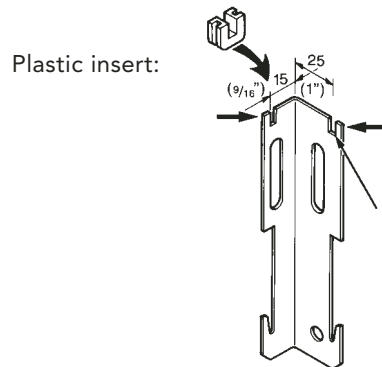


Mounting Lug Positions - All Radiator Types



The brackets supplied are suitable for mounting all types of radiators of the same height.

The diagrams below are based on the wide flange being fixed to the wall.



Radiator	Measurement X
K1SPG	93
P+	100
K2	100

Measurement Y = $\frac{\text{Overall length}}{2}$
 for all radiators with an overall length of 1800 mm and above.

Radiator Bracket System

Type	K2	P+	K1SPG

Height nominal	Dimensions A		Dimensions B	
	mm	in	mm	in
12	300	11 13/16	145	5 11/16
16	400	15 3/4	254	10
20	500	19 11/16	345	13 9/16
24	600	23 5/8	445	17 1/2
30	750	29 1/2	595	23 7/16

Water Content in Litre/m length

Height [mm]	300	400	500	600	750
Type					
K1SPG	2,0	2,6	3,3	3,7	4,4
P+	3,9	5,0	6,1	7,1	8,6
K2	3,9	5,0	6,1	7,1	8,6

Warranty

When used in systems designed and installed in accordance with the good practice recommendations given in the previous „Application“ and „Installation“ sections, each VN radiator is guaranteed for 5 years from date of installation.

However, failure to pay proper attention to these recommendations (in new or existing systems) will invalidate the manufacturer's warranty.

Installation

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

Installation instructions for the radiators themselves are supplied in each radiator package.

DELTA T 60 - Heat outputs to BSEN 442 CERTIFICATION																		
Heat outputs based on a mean radiator water temperature of 80 °C and room temperature of 20 °C Delta T 60.																		
↑ ↓ Heigh (mm)	300			400			500			600			750			out- put		
	Model			K1 SPG	P+	K2	K1 SPG	P+	K2	K1 SPG	P+	K2	K1 SPG	P+	K2		K1 SPG	P+
↔ Length (nominal)	mm	in	secs															
				400	15,7	10	288 983	427 1457	558 1904	362 1234		695 2370	431 1471	634 2165	823 2807	498 1700	729 2487	943 3217
520	20,4	13							560 1912	825 2814	1069 3649	648 2210	948 3233	1226 4182				Watt BTU
600	23,6	15	432 1474	640 2185	837 2856	543 1851		1042 3555	647 2207	952 3247	1234 4210	747 2550	1093 3731	1414 4826	889 3033	1294 4415	1662 5670	Watt BTU
720	28,3	18							776 2648	1142 3897	1481 5052	897 3060	1312 4477	1697 5791	1067 3639	1553 5298	1994 6804	Watt BTU
800	31,5	20	576 1965	854 2914	1116 3808	723 2468		1389 4740	862 2942	1269 4330	1645 5613	997 3400	1458 4974	1886 6434	1185 4044	1725 5887	2216 7560	Watt BTU
920	36,2	23							992 3383	1459 4979	1892 6455	1146 3910	1676 5720	2169 7399	1363 4650	1984 6770	2548 8694	Watt BTU
1000	39,4	25	720 2457	1067 3642	1395 4761	904 3085		1737 5925	1078 3678	1586 5412	2056 7017	1246 4250	1822 6218	2357 8043	1481 5055	2156 7358	2769 9450	Watt BTU
1120	44,1	28							1207 4119	1776 6062	2303 7859	1395 4761	2041 6964	2640 9008	1659 5661	2415 8241	3102 10584	Watt BTU
1200	47,2	30	864 2948	1281 4370	1674 5713	1085 3703		2084 7110	1293 4413	1903 6495	2468 8420	1495 5101	2187 7461	2829 9651	1778 6066	2588 8830	3323 11340	Watt BTU
1320	52,0	33							1423 4854	2094 7144	2714 9262	1644 5611	2405 8208	3111 10617	1955 6672	2847 9713	3656 12474	Watt BTU
1400	55,1	35	1008 3440	1494 5099	1953 6665	1266 4320		2431 8296	1509 5149	2221 7577	2879 9824	1744 5951	2551 8705	3300 11260	2074 7077	3019 10302	3877 13230	Watt BTU
1600	63,0	40	1152 3931	1708 5827	2232 7617	1447 4937		2778 9481	1724 5884	2538 8659	3290 11227	1993 6801	2916 9949	3771 12869	2370 8088	3450 11773	4431 15120	Watt BTU
1800	70,9	45	1296 4422	1921 6556	2511 8569	1628 5554		3126 10666	1940 6620	2855 9742	3702 12630	2242 7651	3280 11192	4243 14477	2667 9099	3882 13245	4985 17010	Watt BTU
2000	78,7	50	1440 4914	2135 7284	2790 9521	1809 6171		3473 11851	2156 7355	3172 10824	4113 14034	2491 8501	3645 12436	4714 16086	2963 10110	4313 14716	5539 18900	Watt BTU
2200	86,6	55			3069 10473				2371 8091	3490 11907	4524 15437	2741 9351	4009 13679	5186 17694				Watt BTU
2400	94,5	60			3348 11425				2587 8826		4935 16840	2990 10201		5657 19303				Watt BTU
2600	102,4	65			3627 12377				2802 9562		5347 18244	3239 11051		6129 20912				Watt BTU
2800	110,2	70			3907 13330													Watt BTU
3000	118,1	75			4186 14282													Watt BTU
Radiator exponent n			1,330	1,327	1,329	1,342	1,334	1,353	1,354	1,342	1,377	1,366	1,349	1,400	1,375	1,360	1,412	

Outputs are calculated using Delta T 60 (90/70/20).

DELTA T 50 - Heat outputs to BSEN 442 CERTIFICATION

Heat outputs based on a mean radiator water temperature of 70 °C and room temperature of 20 °C Delta T 50.

↕ Height (mm)	300			400			500			600			750			out-put		
	Model			K1 SPG	P+	K2	K1 SPG	P+	K2	K1 SPG	P+	K2	K1 SPG	P+	K2			
	↔ Length (nominal)																	
	mm	in	secs															
400	15,7	10	226 771	335 1144	438 1495	283 966		543 1852	337 1149	497 1695	640 2184	388 1325	570 1945	730 2492	461 1574	673 2297	856 2922	Watt BTU
520	20,4	13							438 1494	646 2204	832 2839	505 1723	741 2528	950 3240				Watt BTU
600	23,6	15	339 1157	503 1716	657 2242	425 1449		814 2778	505 1724	745 2543	960 3276	583 1988	855 2917	1096 3738	692 2361	1010 3446	1285 4383	Watt BTU
720	28,3	18							606 2069	894 3051	1152 3931	699 2385	1026 3501	1315 4486	830 2833	1212 4135	1542 5260	Watt BTU
800	31,5	20	452 1542	670 2287	876 2989	566 1933		1086 3704	674 2298	994 3390	1280 4368	777 2651	1140 3890	1461 4984	922 3147	1346 4594	1713 5844	Watt BTU
920	36,2	23							775 2643	1143 3899	1472 5023	893 3048	1311 4473	1680 5732	1061 3619	1548 5283	1970 6721	Watt BTU
1000	39,4	25	565 1928	838 2859	1095 3736	708 2416		1357 4630	842 2873	1242 4238	1600 5459	971 3313	1425 4862	1826 6231	1153 3934	1683 5743	2141 7305	Watt BTU
1120	44,1	28							943 3218	1391 4746	1792 6115	1088 3711	1596 5446	2045 6978	1291 4406	1885 6432	2398 8182	Watt BTU
1200	47,2	30	678 2313	1006 3431	1314 4484	850 2899		1628 5556	1010 3448	1490 5085	1920 6551	1165 3976	1710 5835	2191 7477	1384 4721	2020 6891	2569 8766	Watt BTU
1320	52,0	33	2545	3774	4932	3189			1111 3792	1639 5594	2112 7206	1282 4373	1881 6418	2410 8224	1522 5193	2222 7580	2826 9643	Watt BTU
1400	55,1	35	791 2699	1173 4003	1533 5231	991 3382		1900 6482	1179 4022	1739 5933	2240 7643	1359 4638	1995 6807	2556 8723	1614 5508	2356 8040	2997 10228	Watt BTU
1600	63,0	40	904 3085	1341 4575	1752 5978	1133 3865		2171 7408	1347 4597	1987 6781	2560 8735	1554 5301	2280 7780	2922 9969	1845 6295	2693 9188	3426 11689	Watt BTU
1800	70,9	45	1017 3470	1508 5147	1971 6725	1274 4348		2443 8334	1516 5171	2236 7628	2880 9827	1748 5964	2565 8752	3287 11215	2075 7082	3029 10337	3854 13150	Watt BTU
2000	78,7	50	1130 3856	1676 5719	2190 7473	1416 4832		2714 9261	1684 5746	2484 8476	3200 10919	1942 6626	2850 9725	3652 12461	2306 7868	3366 11485	4282 14611	Watt BTU
2200	86,6	55			2409 8220				1852 6321	2732 9323	3520 12011	2136 7289	3135 10697	4017 13707				Watt BTU
2400	94,5	60			2628 8967				2021 6895		3840 13103	2330 7952		4382 14953				Watt BTU
2600	102,4	65			2847 9714				2189 7470		4160 14195	2525 8614		4748 16199				Watt BTU
2800	110,2	70			3066 10462													Watt BTU
3000	118,1	75			3285 11209													Watt BTU
Radiator exponent n			1,330	1,327	1,329	1,342	1,334	1,353	1,354	1,342	1,377	1,366	1,349	1,400	1,375	1,360	1,412	

Outputs are calculated using Delta T 50 (75/65/20).

Outputs

The radiator outputs quoted in this publication are based on a mean water temperature in the radiator of:

- 1.) 70 °C (158 °F) and a room temperature of 20° (68°F) – **Delta T50.**
- 2.) 80 °C (176 °F) and a room temperature of 20° (68°F) – **Delta T60.**

For other operating conditions – i.e. difference between mean water temperature and room temperature other than 50 °C or 60 °C – the correction factors below should be applied (see example below).

1.) Factors for differences between mean water temperature and room temperature in °C and °F other than 50 °C (122°F)							
°C				°F			
5°C	0.050	45°C	0.872	10°F	0.039	80°F	0.578
10°C	0.123	50°C	1.000	20°F	0.095	90°F	0.673
15°C	0.209	55°C	1.132	30°F	0.161	100°F	0.772
20°C	0.304	60°C	1.267	40°F	0.235	110°F	0.874
25°C	0.406	65°C	1.406	50°F	0.314	120°F	0.979
30°C	0.515	70°C	1.549	60°F	0.397	130°F	1.086
35°C	0.629	75°C	1.694	70°F	0.486	140°F	1.196
40°C	0.748						

2.) Factors for differences between mean water temperature and room temperature in °C and °F other than 60 °C (140°F)							
°C				°F			
5°C	0.040	45°C	0.688	10°F	0.032	80°F	0.483
10°C	0.097	50°C	0.789	20°F	0.080	90°F	0.563
15°C	0.165	55°C	0.893	30°F	0.135	100°F	0.646
20°C	0.240	60°C	1.000	40°F	0.196	110°F	0.731
25°C	0.406	65°C	1.110	50°F	0.262	120°F	0.818
30°C	0.320	70°C	1.222	60°F	0.332	130°F	0.908
35°C	0.496	75°C	1.337	70°F	0.406	140°F	1.000
40°C	0.590						

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

Example:	
Heat emission required	2000 Watts
Room air temperature required	15°C
Mean water temperature in radiator	65°C
1. Temperature difference = 65-15	= 50°C
2. From Factor Table 60°C gives a factor of	0.789
3. Divide required heat emission by factor = $\frac{2000}{0.789}$	= 2535 Watts
4. From selection tables choose any radiator rated at 2535 Watts or more.	

Again, in accordance with BSEN 442: 1997, the heat output figures in this leaflet have been derived from tests made with top and bottom same side connection (T.B.S.E.). When bottom opposite end connections are used (B.O.E.), there will be a small reduction in heat output.

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 performance data and the specification of the conversion factor, a slight performance variation from the calculated value is possible.

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

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

- Φ_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
50	35	1,78	2,03	2,36	2,64	2,99	3,43	4,02
	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
45	30	2,24	2,64	3,20	3,70	4,39	5,39	6,99
	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.

- Φ = Radiator power [W]
- Φ_s = Standard radiator power in accordance with EN 442 [W]
- ΔT = Arithmetic radiator excess temperature [K]
- ΔT_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.

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

Use our radiator power calculator on www.vogelundnoot.com

Technical information subject to change.

Conditions of sale (U.K. sales)

Unless varied by us by endorsement on our Acknowledgement of Order all goods are sold only upon the following conditions (except those which are inconsistent with any terms overleaf) and will override any terms in the Buyer order:

1. **Quotations:** Are valid for acceptance for 28 days from the date shown unless withdrawn by us before that date and are subject to our written acceptance of the Buyer's order.
2. **Prices and Discounts:** Are subject to alteration without notice and are given as a guide only as all goods are sold at prices ruling on date of despatch. Prices are exclusive of Value Added Tax which will be added to the Buyer's invoice where applicable.
3. **Delay and Cancellation:** Any delivery date indicated shall be regarded as an estimate only, although we shall make every effort to ensure prompt delivery. Whilst every effort will be made to carry out the contract, its due performance is subject to cancellation by us without compensation or to such variation as we may find necessary as a result of scarcity of labour, materials or supplies, or because of any Act of God, war, strike, lockout or other labour dispute fire elements legislation, or (without prejudice to the generality of the foregoing) any other cause beyond our control.
4. **Delivery and Risk:** Delivery shall be when the goods have been delivered to the Buyer's premises or to such other place as the Buyer may require. The risk shall pass to the Buyer when the goods have been delivered.
5. **Transport:** Will be effected or arranged by us and goods will be delivered to destinations in the United Kingdom carriage paid unless:
 - (i) value of order is less than £ 300, or
 - (ii) we are informed by the Buyer that goods are to be transported by Passenger train, air or other special delivery the extra carriage charges involved will be added to the Buyer's invoice.
6. **Damage in Transit:** No claim for goods lost or damaged in transit will be entertained by us unless notification of the nature and extent of such a claim is received by us and the Carrier within 48 hours of receipt of damaged goods or within 28 days of despatch in the event of loss. Our liability shall in no circumstances exceed in the invoiced value of the goods lost or damaged. Goods subject to claim shall be stored free of charge for inspection. They shall not be returned to nor accepted by us without our prior written consent.
7. **Warranties:**
 - (i) **Radiators:** All Radiators are tested by us to a hydrostatic test pressure of 189 psi. Subject to the provisions of paragraph (ii), we will only accept responsibility for the replacement of any radiator which is or has become faulty by reason of defective materials or negligent workmanship. No liability is accepted for installation charges that may be incurred.
 - (ii) **General:**
 - a) All components not of our own manufacture which are or have become faulty by reason of defective materials or negligent workmanship are guaranteed to the extent only of our supplier's guarantee (if any) and without further responsibility on our part.
 - b) Goods subject to claim shall not be returned to nor will be accepted by us without our written consent.
 - c) The above warranties shall not be available to the Buyer
 - if the part has been rendered faulty by alteration treatment or processing by either the Buyer or installer or ultimate consumer other than in the ordinary course of installation or in the ordinary use and/or
 - if we do not receive notification of the fault within 14 days of its occurrence.
8. **Dimensions and Illustrations:** Given in our pricelists and publicity brochures have been prepared with every care but their accuracy is not guaranteed and we reserve the right to vary such information without notice. Exact dimensions will be provided on application.
9. **Payment:** All invoices shall be due for payment on or before the last day of the month following the date of invoice. Default in payment of any invoice shall entitle us to treat any outstanding contracts between us and the Buyer as repudiated by the Buyer.
10. **Ownership:** Until full payment has been made of all sums (including debts arising before the date of this Contract) outstanding from the Buyer to us (time of such payment being of the essence)
 - a) the property of the goods shall remain with us.
 - b) the Buyer shall keep and store the goods in such a manner that they can be identified as being our property.
 - c) the Buyer shall be at liberty to sell the goods in the ordinary course of business for our account.
 - d) the benefit of any contract of sale and the proceeds of any sale shall be our property and held in trust for us absolutely and the Buyer shall transfer to us any claim it may have against a third party resulting from a sale of the goods by the Buyer.
 - e) we may by written notice terminate the Buyer's power of sale at any time if the Buyer goes or threatens to go into receivership or liquidation and
 - f) at any time after the termination of the power of sale, we may repossess the goods and the Buyer hereby grants us an irrevocable licence to enter upon any premises of the Buyer for the purpose of so doing.
11. **Liability:** The rights conferred by these conditions shall so far as legally possible replace and exclude all common law, statutory or other warranties or conditions whether express or implied. Save as specifically mentioned above we do not accept liability, whether in tort or contract or otherwise, for any direct or indirect loss or damage, howsoever arising.
12. **Waiver:** Our rights shall not be affected or restricted by any indulgence or forbearance to the Buyer. No waiver by us of any breach shall operate as a waiver of any later breach.
13. **Variation of Conditions:** No variation of these conditions or the particulars in our acceptance shall be valid unless agreed by us in writing.
14. **Law:** English law applies. Any dispute shall be referred to arbitration in accordance with the Arbitration Act 1950.



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