



**Stelrad** RADIATORS  
Europe's leading radiators

# LSTstandard & LSTplus



## THE COMPLETE CHOICE

Stelrad the UK's leading radiator manufacturer has created a range of low surface temperature radiators, which simplify product selection and are easy to install, providing the perfect solution to all your specification requirements for safety critical environments.

With a choice of Standard or Plus variations, the Stelrad LST range offers you greater flexibility to suit your application, sizing and purchasing requirements.

The LST Standard leaves you free to specify your preferred controls, whilst the LST Plus offers an integral remote sensing thermostat valve, the highly specified Danfoss RA2000, which can be pre-set to allow adjustment of room air temperature. In addition, an arthritic adaptor is supplied as standard for special need environments as well as a lockshield valve which can only be adjusted with a 6mm Allen key, hidden with a neat metal dust cover to discourage unauthorised tampering.



Stelrad LST standard



Stelrad LST plus

## THE COMPLETE PERFORMANCE

Every Stelrad LST radiator is supplied with an attractive, flat panel outer casing, which is totally reversible to allow piping flexibility. Simple and quick to install, the casing is held by security fittings with a unique seam fixing bracket system, to prevent unauthorised access to the emitter accommodated inside. And for added protection the smooth surface is coated in anti-bacterial paint.

The emitter itself provides high outputs through convection, for outstanding heating performance. Strictly controlled independent laboratory testing ensures that each emitter is guaranteed to perform to a maximum working pressure of 116 psi (8 bar) and conform to BS EN 442 - the European Standard for radiators.



Whether the LST Standard or LST Plus is better suited to your requirements, you will find all the specified components required supplied in one robust package, and as you would expect from the Stelrad brand, every LST radiator is guaranteed to deliver outstanding performance and dependability.

For easy calculations and greater accuracy of sizing the Stelrad STARS Heat Loss and Design Programs are available. Call 0800 318 680 for further information.



Robust packaging protects the emitter and casing during storage and transit to ensure the product arrives in pristine condition.



# MULTIPLE CHOICE FEATURES AND OPTIONS

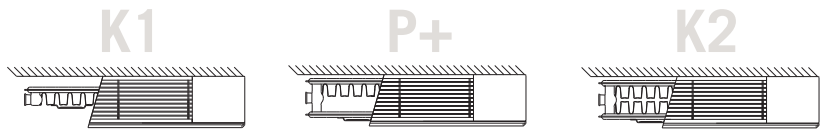
Standard Plus

|   |   |   |
|---|---|---|
| Fully compliant with all safety standards   | ✓ | ✓ |
| Meets the strict requirements of the NHS Guidance Note for 'Safe hot water and surface temperature'                             | ✓ | ✓ |
| Can be installed in domestic, commercial and public buildings running heating systems with total public safety assured.         | ✓ | ✓ |
| Can significantly reduce costs  | ✓ | ✓ |
| Easy to install   | ✓ | ✓ |
| Anti-bacterial paint as standard  | ✓ | ✓ |
| Robust packaging protects the emitter and casing during storage and transit to ensure the product arrives in pristine condition | ✓ | ✓ |
| All specified components are complete within the packaging  | ✓ | ✓ |
| <b>Outer casing</b>   |   |   |
| Attractive flat panel   | ✓ | ✓ |
| Security fittings to prevent unauthorised access to the emitter   | ✓ | ✓ |
| Unique seam fixing bracket system   | ✓ | ✓ |
| <b>Emitter</b>  |   |   |
| Provides high outputs through convection  | ✓ | ✓ |
| Outstanding heating performance   | ✓ | ✓ |
| Guaranteed to perform to a maximum working pressure of 116 psi (8 bar) and conform to BS EN 442                                 | ✓ | ✓ |
| <b>Safety grilles</b>   |   |   |
| Supplied as standard  | ✓ | ✓ |
| Can be assembled to run full width  | ✓ | ✓ |
| Can be assembled to cover pipes on one side only (650 and 750 high models)  |   | ✓ |
| Supplied with integral remote sensing thermostat valve to allow adjustment of room air temperature                              |   | ✓ |
| Supplied with arthritic adaptor as standard   |   | ✓ |
| Supplied with lockshield valve as standard to discourage unauthorised tampering   |   | ✓ |
| Optional cover cap included to discourage unauthorised tampering  |   | ✓ |

# Stelrad LST standard

## TECHNICAL DATA & DIMENSIONS

### OUTPUTS AT OPERATING TEMPERATURE 75/65/20°C



| OVERALL HEIGHT | EMITTER HEIGHT | OVERALL LENGTH (APPROX) | K1    |        | P+    |        | K2    |        |
|----------------|----------------|-------------------------|-------|--------|-------|--------|-------|--------|
|                | mm             | mm                      | WATTS | Btu/hr | WATTS | Btu/hr | WATTS | Btu/hr |
| 500            | 300            | 560                     | 196   | 668    | 284   | 969    | 348   | 1188   |
|                | 300            | 760                     | 293   | 1001   | 426   | 1454   | 522   | 1781   |
|                | 300            | 960                     | 391   | 1335   | 568   | 1938   | 696   | 2375   |
|                | 300            | 1160                    | 489   | 1669   | 710   | 2423   | 870   | 2969   |
|                | 300            | 1360                    | 587   | 2003   | 852   | 2908   | 1044  | 3563   |
|                | 300            | 1560                    | 685   | 2336   | 994   | 3392   | 1218  | 4157   |
|                | 300            | 1760                    | 782   | 2670   | 1136  | 3877   | 1392  | 4751   |
|                | 300            | 1960                    | 880   | 3004   | 1278  | 4362   | 1566  | 5344   |
|                | 450            | 560                     | 290   | 990    | 386   | 1319   | 478   | 1631   |
| 650            | 450            | 760                     | 435   | 1485   | 580   | 1978   | 717   | 2447   |
|                | 450            | 960                     | 580   | 1979   | 773   | 2637   | 956   | 3263   |
|                | 450            | 1160                    | 725   | 2474   | 966   | 3297   | 1195  | 4078   |
|                | 450            | 1360                    | 870   | 2969   | 1159  | 3956   | 1434  | 4894   |
|                | 450            | 1560                    | 1015  | 3464   | 1352  | 4615   | 1673  | 5710   |
|                | 450            | 1760                    | 1160  | 3959   | 1546  | 5275   | 1912  | 6525   |
|                | 450            | 1960                    | 1305  | 4454   | 1739  | 5934   | 2151  | 7341   |
| 800            | 600            | 560                     | 365   | 1246   | 501   | 1709   | 615   | 2098   |
|                | 600            | 760                     | 548   | 1870   | 751   | 2564   | 922   | 3147   |
|                | 600            | 960                     | 730   | 2493   | 1002  | 3418   | 1230  | 4196   |
|                | 600            | 1160                    | 913   | 3116   | 1252  | 4273   | 1537  | 5245   |
|                | 600            | 1360                    | 1096  | 3739   | 1502  | 5127   | 1844  | 6295   |
|                | 600            | 1560                    | 1278  | 4362   | 1753  | 5982   | 2152  | 7344   |
|                | 600            | 1760                    | 1461  | 4985   | 2003  | 6837   | 2459  | 8393   |
|                | 600            | 1960                    | 1643  | 5609   | 2254  | 7691   | 2767  | 9442   |

### EN 442 CERTIFICATION DATA – BSI TESTED IN ACCORDANCE WITH BS EN 442

| TYPE                                  | K1   |      |      | P+   |       |      | K2   |      |      |
|---------------------------------------|------|------|------|------|-------|------|------|------|------|
| Overall Height                        | 500  | 650  | 800  | 500  | 650   | 800  | 500  | 650  | 800  |
| Emitter Height                        | 300  | 450  | 600  | 300  | 450   | 600  | 300  | 450  | 600  |
| W/m at 75/65/20                       | 490  | 725  | 913  | 710  | 966   | 1252 | 870  | 1195 | 1537 |
| Heated Surface Area (m <sup>2</sup> ) | 2.09 | 3.37 | 4.66 | 2.44 | 3.84  | 5.24 | 3.51 | 5.62 | 7.74 |
| Weight (kg/m)                         | 17.8 | 23.5 | 29.4 | 22.7 | 30.72 | 38.4 | 24.4 | 33.3 | 42.5 |
| Water Contents (l/m)                  | 1.89 | 2.57 | 3.25 | 3.78 | 5.14  | 6.50 | 3.78 | 5.14 | 6.50 |

### TECHNICAL PRODUCT DETAIL

| OVERALL HEIGHT | EMITTER HEIGHT | SURFACE (m <sup>2</sup> )<br>(average per section) |         |         | VOLUME (litres)<br>(average per section) |      |      | DRY WEIGHT (kg)<br>(average per section) |      |      |
|----------------|----------------|--|---------|---------|--|------|------|--|------|------|
|                |                | K1   | P+      | K2      | K1                                       | P+   | K2   | K1                                       | P+   | K2   |
| 500            | 300            | 0.06196  | 0.08646 | 0.12392 | 0.056                                    | 0.11 | 0.11 | 0.28                                     | 0.5  | 0.56 |
| 650            | 450            | 0.09839  | 0.13444 | 0.19678 | 0.084                                    | 0.17 | 0.17 | 0.43                                     | 0.76 | 0.86 |
| 800            | 600            | 0.13485  | 0.18246 | 0.2697  | 0.097                                    | 0.19 | 0.19 | 0.58                                     | 1.02 | 1.16 |



The Stelrad LST STANDARD emitter, showing high level valve option.

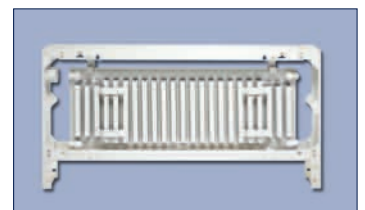
### CONNECTIONS

Each Stelrad LST standard radiator has 4 x 1/2" connections as standard, offering adaptable piping options; TBOE, TBSE, BOE.

### INSTALLATION

The pack includes heat emitter, radiator panel, casing panels, kick grille and all required hardware fixings.

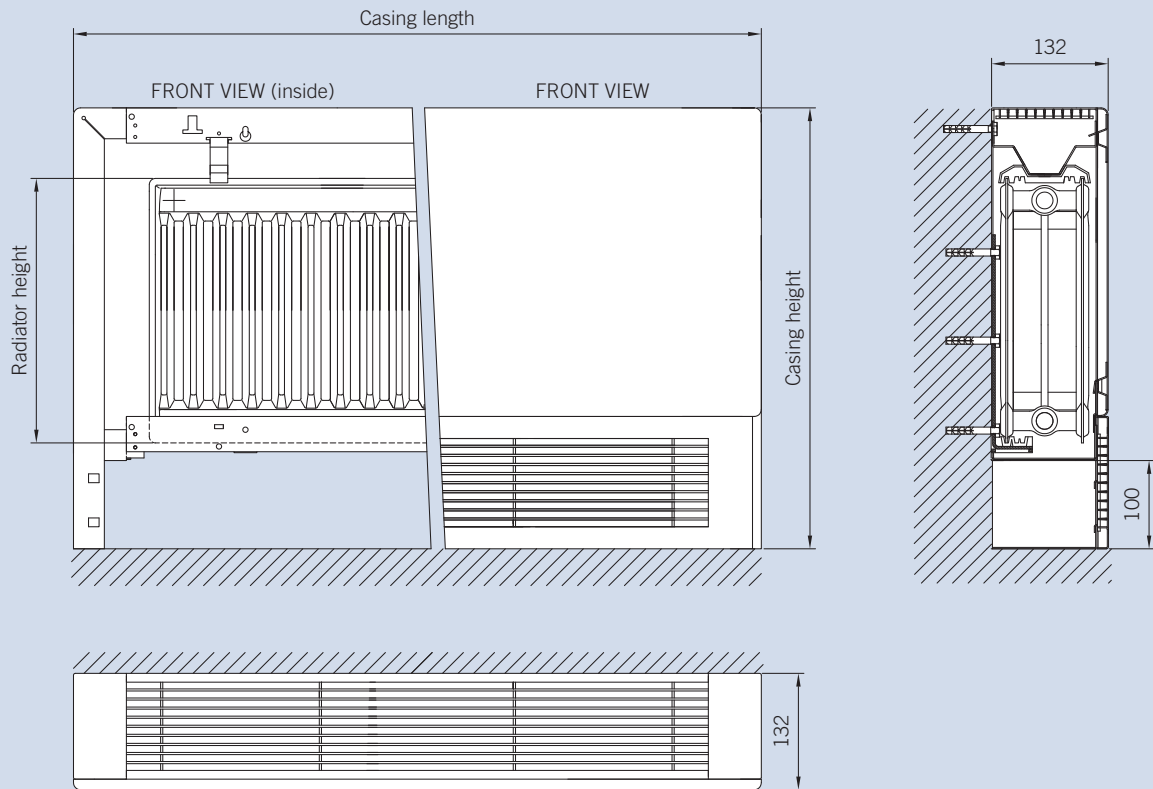
The emitter brackets are of a strong design with open top and deep slots for easy and secure installation. Plastic inserts seat the radiator precisely on the bracket, minimising expansion and contraction noise. The neat nickel-plated plug and vent provide a watertight joint.



Accommodation within the casing, the Stelrad LST STANDARD emitter.

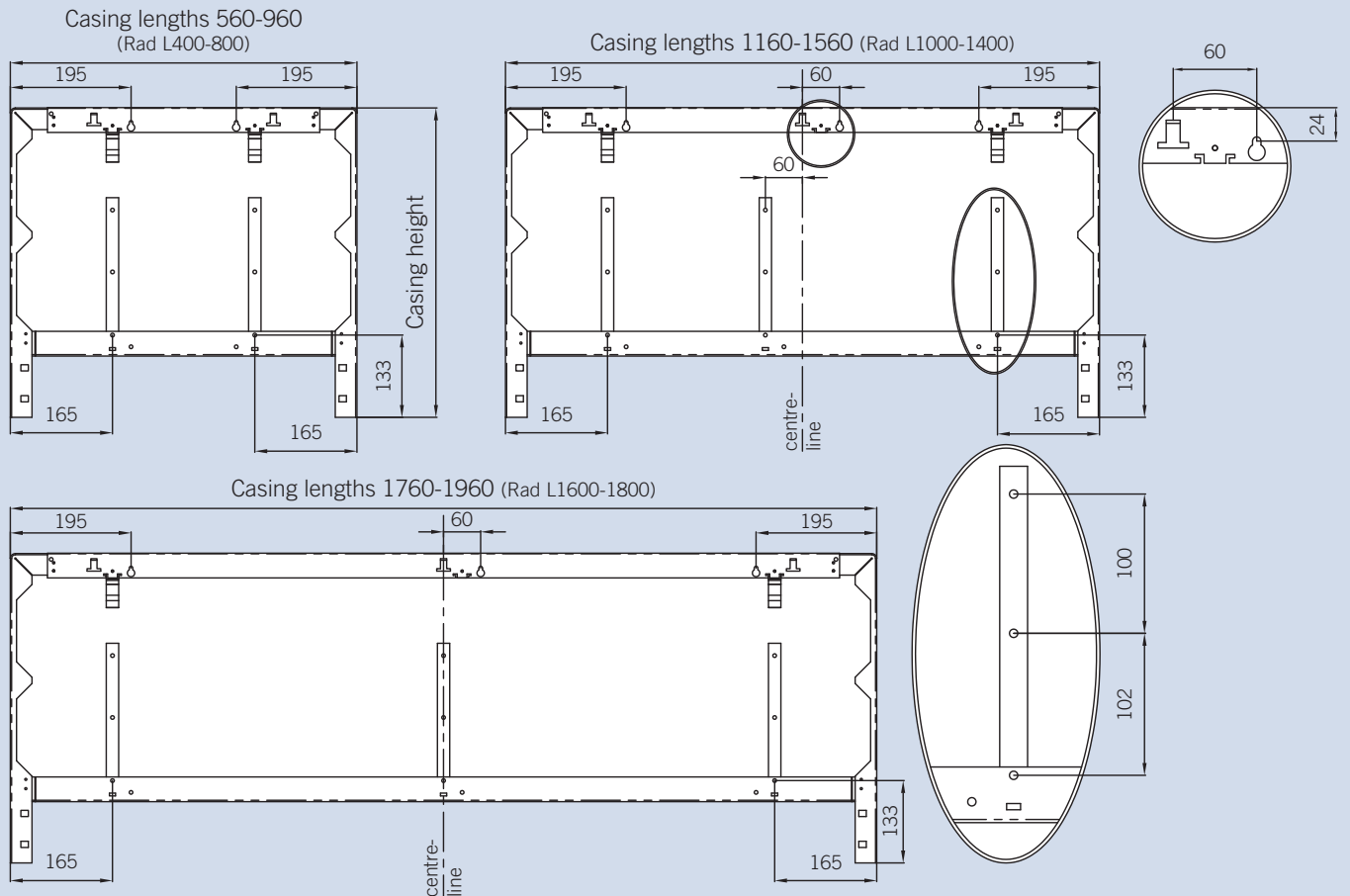
## WALL MOUNTED WITH INTEGRAL KICK GRILLE

All dimensions in mm



## WALL FIXINGS AND BRACKET POSITIONS

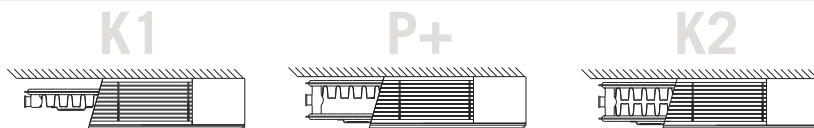
All dimensions in mm



# Stelrad LST plus

## TECHNICAL DATA & DIMENSIONS

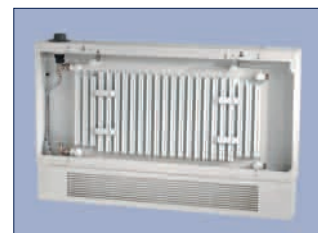
### OUTPUTS AT OPERATING TEMPERATURE 75/65/20°C



| OVERALL HEIGHT | EMITTER HEIGHT | OVERALL LENGTH (APPROX) | K1    |        | P+    |        | K2    |        |      |
|----------------|----------------|-------------------------|-------|--------|-------|--------|-------|--------|------|
|                | mm             | mm                      | WATTS | Btu/hr | WATTS | Btu/hr | WATTS | Btu/hr |      |
| 500            | 300            | 650                     | 203   | 692    | 290   | 989    | 362   | 1234   |      |
|                | 300            | 850                     | 304   | 1038   | 435   | 1484   | 542   | 1851   |      |
|                | 300            | 1050                    | 406   | 1384   | 580   | 1979   | 723   | 2468   |      |
|                | 300            | 1250                    | 507   | 1730   | 725   | 2474   | 904   | 3084   |      |
|                | 300            | 1450                    | 608   | 2074   | 870   | 2968   | 1085  | 3701   |      |
|                | 300            | 1650                    | 710   | 2422   | 1015  | 3463   | 1266  | 4318   |      |
|                | 300            | 1850                    | 811   | 2768   | 1160  | 3958   | 1446  | 4935   |      |
|                | 300            | 2050                    | 913   | 3114   | 1305  | 4453   | 1627  | 5552   |      |
|                | 650            | 400                     | 650   | 264    | 902   | 388    | 1332  | 456    | 1557 |
|                |                | 400                     | 850   | 397    | 1353  | 581    | 1984  | 685    | 2336 |
| 400            |                | 1050                    | 529   | 1844   | 775   | 2645   | 913   | 3114   |      |
| 400            |                | 1250                    | 661   | 2255   | 969   | 3306   | 1141  | 3893   |      |
| 400            |                | 1450                    | 793   | 2706   | 1163  | 3967   | 1369  | 4671   |      |
| 400            |                | 1650                    | 925   | 3157   | 1357  | 4629   | 1597  | 5450   |      |
| 400            |                | 1850                    | 1058  | 3609   | 1550  | 5290   | 1825  | 6228   |      |
| 400            |                | 2050                    | 1190  | 4060   | 1744  | 5951   | 2054  | 7007   |      |
| 750            | 500            | 650                     | 336   | 1145   | 461   | 1574   | 558   | 1904   |      |
|                | 500            | 850                     | 503   | 1718   | 692   | 2360   | 837   | 2855   |      |
|                | 500            | 1050                    | 671   | 2290   | 922   | 3147   | 1116  | 3807   |      |
|                | 500            | 1250                    | 839   | 2863   | 1153  | 3635   | 1395  | 4759   |      |
|                | 500            | 1450                    | 1007  | 3439   | 1384  | 4721   | 1674  | 5711   |      |
|                | 500            | 1650                    | 1175  | 4008   | 1614  | 5508   | 1953  | 6663   |      |
|                | 500            | 1850                    | 1342  | 4580   | 1845  | 6294   | 2332  | 7614   |      |
|                | 500            | 2050                    | 1510  | 5153   | 2075  | 7081   | 2511  | 8566   |      |

### EN 442 CERTIFICATION DATA – BSI TESTED IN ACCORDANCE WITH BS EN 442

| TYPE                     | K1   |       |       |       | P+    |       | K2    |       |       |
|--------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| Overall Height           | 500  | 650   | 800   | 500   | 650   | 800   | 500   | 650   | 800   |
| Emitter Height           | 300  | 400   | 500   | 300   | 400   | 500   | 300   | 400   | 500   |
| W/m at 75/65/20          | 507  | 661   | 839   | 727   | 969   | 1153  | 904   | 1141  | 1395  |
| n-coefficients           | 1.26 | 1.35  | 1.32  | 1.32  | 1.32  | 1.34  | 1.31  | 1.34  | 1.36  |
| Heated Surface Area (m²) | 2.09 | 2.95  | 3.80  | 2.44  | 3.37  | 4.31  | 3.51  | 4.92  | 6.33  |
| Weight (kg/m)            | 9.31 | 12.78 | 16.24 | 14.29 | 19.46 | 24.63 | 16.18 | 22.87 | 28.93 |
| Water Contents (Vm)      | 1.89 | 2.34  | 2.80  | 3.70  | 4.67  | 5.63  | 3.70  | 4.67  | 5.63  |



Accommodated within the casing, the stelrad LST PLUS Emitter, with tbe valve arrangement and 2 x 1/2 BSP connections as standard.

### INSTALLATION

Everything required for the installation of the Stelrad LST Plus can be found in the one robust pack. This includes the emitter and radiator casing panel, together with the required brackets. These are of a strong design, with open top and deep slots, which facilitate easy and secure installation. Plastic inserts seat the radiator precisely on the bracket minimising expansion and contraction noise. The neat nickel-plated plug and vent provide a watertight joint. The radiator valves and pipework, together with kick grille/pipe cover grille and all required hardware fixings can also be found in this pack.

### REMOTE SENSING THERMOSTATIC VALVE

The Danfoss RA2000 is designed specifically for commercial heating systems and can be pre-set to allow adjustment of room temperature between 5°C and 26°C. Special tools are not required, as the valve is gland seal removable. Suitable for both 1/2" steel and 15mm copper piping, with left or right hand, same end connections for flow and return, giving flexibility of installation.

### LOCKSHIELD VALVE

Able to withstand 10 bar static pressure, the valve has a drain tap adaptor available, which can also be used as a filling point. Mandatory fittings should be used in order to comply with current water regulations.

### CONNECTIONS

Each Stelrad LST Plus radiator has 2 x 1/2" connections as standard, complete with Danfoss remote sensing thermostatic radiator valve, pre-piped with 2 x 1/2" BSP connections at 50mm centres positioned at either left or right of the casing.



The remote sensing thermostatic valve gives accuracy of operation and the limiting device is completely hidden to stop the maximum temperature being exceeded.



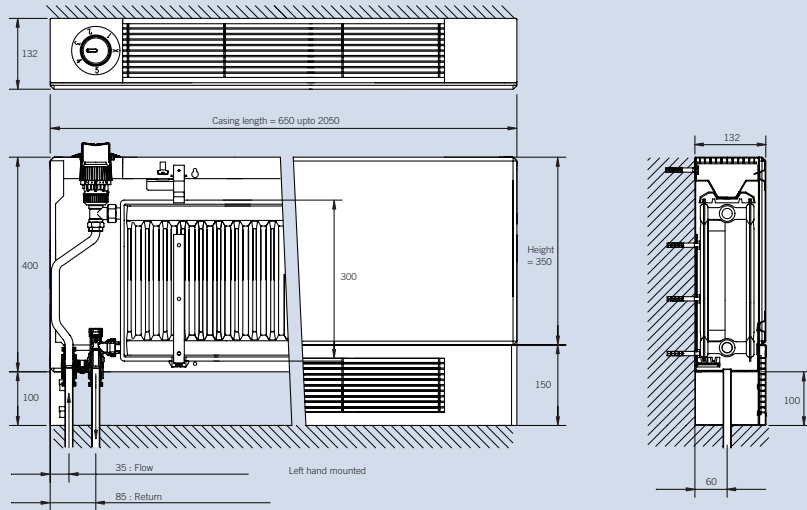
Optional cover cap to discourage unauthorised tampering.



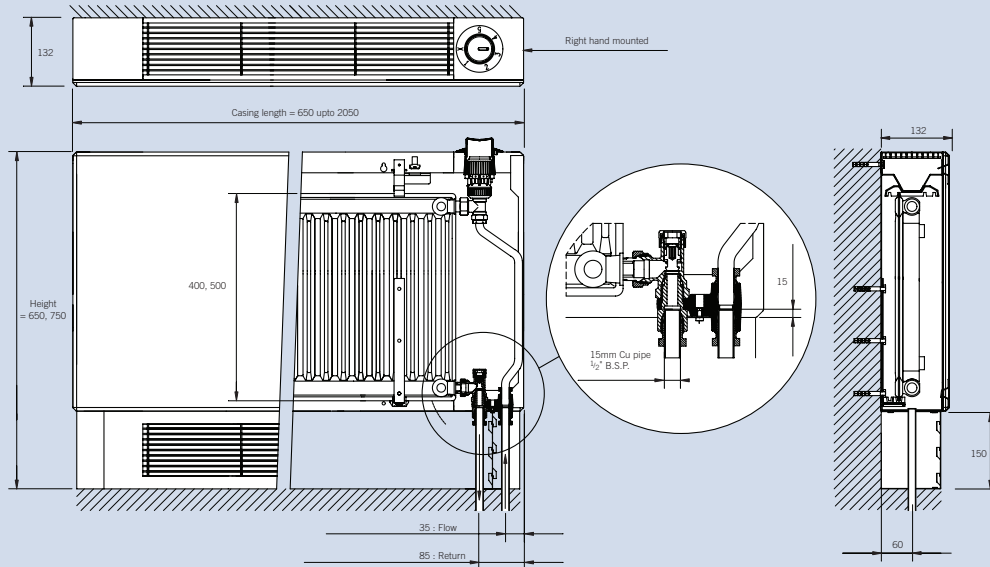
An arthritic adaptor is supplied as standard for special need environments.

## 500mm WALL MOUNTED WITH INTEGRAL KICK GRILLE

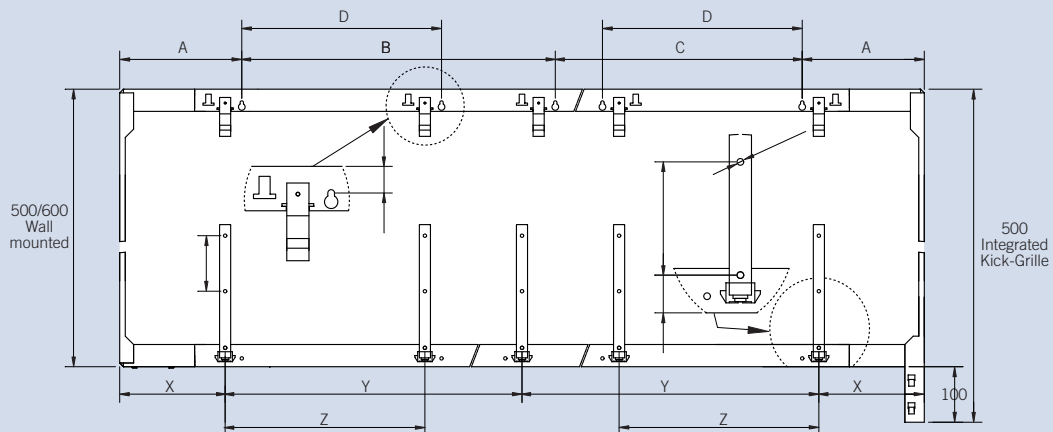
All dimensions in mm



## 650mm & 750mm WALL MOUNTED



## WALL FIXINGS AND BRACKET POSITIONS



| CASING LENGTH  | NO. OF BRACKETS | POSITION TOP |     |     |     | BOTTOM |     |     |
|----------------|-----------------|--------------|-----|-----|-----|--------|-----|-----|
|                |                 | A            | B   | C   | D   | X      | Y   | Z   |
| 650/850/10     | 2               | 270          | -   | -   | -   | 240    | -   | -   |
| 1250           | 3               | 270          | 415 | 295 | -   | 240    | 385 | -   |
| 1450           | 3               | 270          | 515 | 395 | -   | 240    | 485 | -   |
| 1650/1850/2050 | 4               | 270          | -   | -   | 410 | 240    | -   | 410 |

## General TECHNICAL DATA

### TEMPERATURE TABLE

To apply the factors shown in the table below to our quoted outputs, multiply the quoted output by the chosen operating factor to give the new output.

To apply the factor to the required output, divide the required output by the factor to give the correct radiator from the LST range.

### Testing and operating pressures

All models are high pressure tested to withstand 152.3 psi (10.5 bar), to perform at a maximum working pressure of 116 psi (8 bar) at a maximum temperature of 75°C.

### CAUTION

When designing for domestic systems we recommend that the Stelrad LST range be used only in heating systems complying with the British Standard Code of Practice for Central Heating for Domestic Premises BS 5449 Part 1.

Single feed, indirect cylinders are not recommended as should interchange of water occur, fresh aerated water would enter the heating system, resulting in corrosion.

### WATER TREATMENT

On completion of the installation the system should be flushed and filled in accordance with the British Standard Code of Practice for the Treatment of Water in Domestic Hot Water Central Heating Systems BS 7593.

This will remove flux residues and installation debris, which might promote corrosion and damage within the system.

If it is decided to apply a corrosion inhibitor to maximise the working life of the system, it should be applied in accordance with the manufacturer's instructions and should be suitable for the particular metals within the system.

| TEMPERATURES  |       |      |       |
|---|-------|------|-------|
| Factors for differences between mean water temperature and room temperature in °C and °F other than 50°C (90°F) |       |      |       |
| °C  |       | °F   |       |
| 5°C   | 0.050 | 10°F | 0.057 |
| 10°C  | 0.123 | 20°F | 0.142 |
| 15°C  | 0.209 | 30°F | 0.240 |
| 20°C  | 0.304 | 40°F | 0.348 |
| 25°C  | 0.406 | 50°F | 0.466 |
| 30°C  | 0.515 | 60°F | 0.590 |
| 35°C  | 0.629 | 70°F | 0.721 |
| 40°C  | 0.748 | 80°F | 0.858 |
| 45°C  | 0.872 | 90°F | 1.000 |
| 50°C  | 1.000 |      |       |

Further details of readily available inhibitors can be obtained from:

Sentinel Division, BetzDearborn Limited  
Foundry Lane, Widnes WA8 8UD  
Tel: 0151 420 9595

Alpha Fry Technologies, Tandem House  
Marlowe Way, Beddington Farm Road  
Croydon CRO 4XS  
Tel: 01799 550811

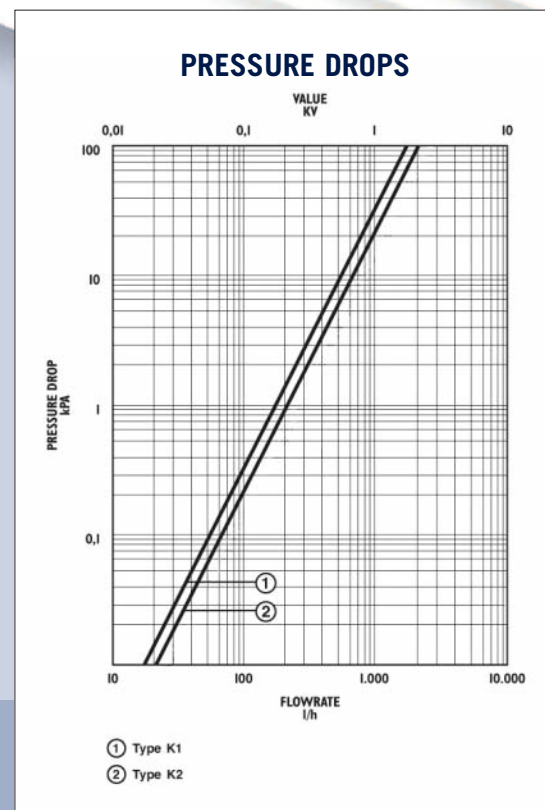
### ANTI-BACTERIAL PAINT

Every Stelrad LST emitter is subjected to a multi-stage cleaning process before the paint is applied. This involves

several rinsing stages, including an iron phosphate and demineralisation phase.

The first coat of paint is applied by electrophoresis and the radiator is then stoved and cooled. Followed by a second powder coat in warm white and the emitter goes through a final curing stage. It is then allowed to cool prior to packaging.

All exposed painted surfaces are finished in a long lasting anti-bacterial coating.



**BOILERS** *Stelrad* **RADIATORS**  
Together we are heating

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