



Matrix

A versatile range of stylish modern radiators



Features and Benefits

- Designed for commercial and domestic applications
- Manufactured from 70mm x 1.5mm steel tubes
- 1/2", 3/4" and 1" connections on most models
- Standard RAL 9016 finish. Other RAL colours also available
- Radiators can be connected in series
- Complemented by a full range of valves

Models: Horizontal, Vertical and Convector

Outputs: 98 - 3,146 Watts (per metre)

Maximum working pressure: 5.4 bar (10 bar on request to be specified)

Maximum test pressure: Standard 7 bar (13 bar on request to be specified)

Heights: 70 - 3,600mm

Depths: 32 - 335mm

Types: Wall-mounted and floor standing options available on some models depending on application



Matrix

Matrix Radiators are a modern range of flat fronted heat emitters designed for commercial and domestic applications.

The Matrix portfolio consists of vertical and horizontal models together with a low line, high output convector designed for use as a perimeter heater in heavily glazed applications such as conservatories and reception areas.

Manufactured from 70mm x 1.5mm steel tubes with 1/2", 3/4" and 1" connections available on most models. The Matrix has a standard working pressure of 5.4 bar, (10 bar by special request), is guaranteed for five years against manufacturing defects and comes as standard finished RAL 9016 Traffic White. Other RAL colours are available on request (chargeable). Each radiator has the option of wall or floor mounting brackets, depending on application.



Horizontal

The Matrix horizontal is available in single panel, double panel, single panel - single convector fin, double panel - single convector fin, double panel - double convector fin configurations in depths from 32 - 133mm. 12 standard heights are available from 70 to 840mm in 70mm increments. Lengths available range from 500 to 6000mm in 100mm increments.

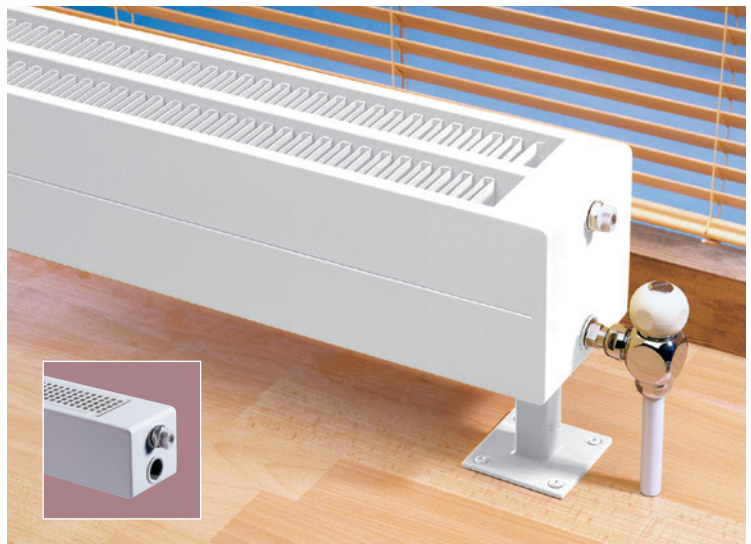


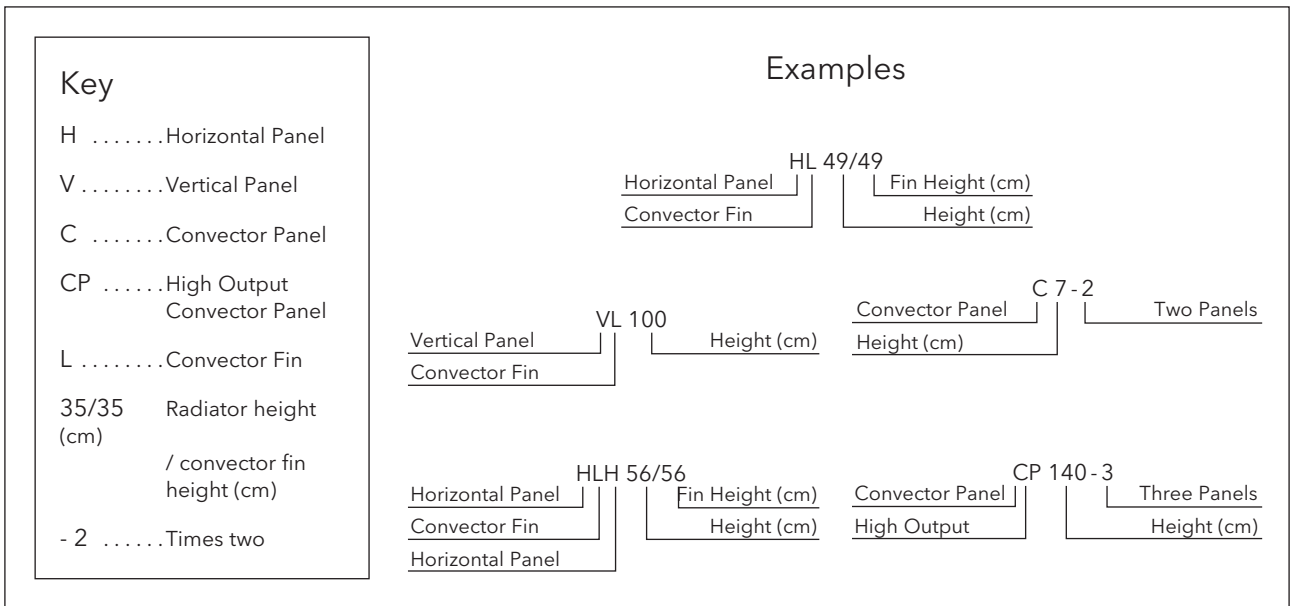
Vertical

The striking vertical Matrix is available in four models. A single panel, a double panel and single panel -single fin and double panel - single fin. Depths of 32 - 103 mm, fourteen heights from 1000 to 3600mm and lengths from 70 - 1400 in 70mm increments are available.

Convector

The Matrix standard convector is available in four basic models, two, three, four and five panels in depths of 73 - 296mm and heights from 70 - 280mm in 70mm increments and lengths from 500 to 6000mm in 100mm increments. The high output version is available in the same number and size of models with the only difference being depth which ranges from 92 to 335mm.





Matrix Horizontal (Available from 500mm to 6000mm in 100mm Increments)

Model Type H (Single Panel)

| Description | Height | Depth | Watts (Per Metre) | Weight Kg (Per Metre) | Water Content Litre (Per Metre) |
|-------------|--------|-------|----------------------|--------------------------|------------------------------------|
| Matrix H7 | 70 | 32 | 98 | 2.06 | 0.56 |
| Matrix H14 | 140 | 32 | 166 | 4.06 | 1.10 |
| Matrix H21 | 210 | 32 | 225 | 6.18 | 1.80 |
| Matrix H28 | 280 | 32 | 288 | 8.19 | 2.35 |
| Matrix H35 | 350 | 32 | 355 | 10.38 | 3.05 |
| Matrix H42 | 420 | 32 | 434 | 12.55 | 3.78 |
| Matrix H49 | 490 | 32 | 492 | 14.58 | 4.30 |
| Matrix H56 | 560 | 32 | 551 | 16.68 | 4.92 |
| Matrix H63 | 630 | 32 | 610 | 18.79 | 5.55 |
| Matrix H70 | 700 | 32 | 651 | 20.89 | 6.18 |
| Matrix H77 | 770 | 32 | 729 | 22.99 | 6.80 |
| Matrix H84 | 840 | 32 | 787 | 25.00 | 7.47 |

Model Type HL (Single Panel Single Convector)

| Description | Height | Depth | Watts (Per Metre) | Weight Kg (Per Metre) | Water Content Litre (Per Metre) |
|----------------|--------|-------|----------------------|--------------------------|------------------------------------|
| Matrix HL7-7 | 70 | 62 | 207 | 3.54 | 0.56 |
| Matrix HL14-14 | 140 | 62 | 368 | 7.35 | 1.10 |
| Matrix HL21-21 | 210 | 62 | 505 | 10.98 | 1.80 |
| Matrix HL28-28 | 280 | 62 | 628 | 14.52 | 2.35 |
| Matrix HL35-35 | 350 | 62 | 733 | 18.44 | 3.05 |
| Matrix HL42-42 | 420 | 62 | 834 | 22.18 | 3.78 |
| Matrix HL49-49 | 490 | 62 | 931 | 25.91 | 4.30 |
| Matrix HL56-56 | 560 | 62 | 1022 | 29.72 | 4.92 |
| Matrix HL63-63 | 630 | 62 | 1113 | 33.37 | 5.55 |
| Matrix HL70-70 | 700 | 62 | 1196 | 37.09 | 6.18 |
| Matrix HL77-70 | 770 | 62 | 1248 | 38.84 | 6.80 |
| Matrix HL84-70 | 840 | 62 | 1303 | 40.60 | 7.47 |

Model Type H-2 (Double Panel)

| Description | Height | Depth | Watts (Per Metre) | Weight Kg (Per Metre) | Water Content Litre (Per Metre) |
|--------------|--------|-------|----------------------|--------------------------|------------------------------------|
| Matrix H7-2 | 70 | 103 | 180 | 4.24 | 1.14 |
| Matrix H14-2 | 140 | 103 | 283 | 8.45 | 2.25 |
| Matrix H21-2 | 210 | 103 | 393 | 12.61 | 3.61 |
| Matrix H28-2 | 280 | 103 | 511 | 16.37 | 4.92 |
| Matrix H35-2 | 350 | 103 | 616 | 20.85 | 6.25 |
| Matrix H42-2 | 420 | 103 | 723 | 24.68 | 7.91 |
| Matrix H49-2 | 490 | 103 | 830 | 29.09 | 8.89 |
| Matrix H56-2 | 560 | 103 | 938 | 33.20 | 10.21 |
| Matrix H63-2 | 630 | 103 | 1044 | 37.32 | 11.53 |
| Matrix H70-2 | 700 | 103 | 1148 | 41.44 | 12.85 |
| Matrix H77-2 | 770 | 103 | 1252 | 45.56 | 14.17 |
| Matrix H84-2 | 840 | 103 | 1355 | 49.70 | 15.24 |

Model Type HLH (Double Panel Single Convector)

| Description | Height | Depth | Watts (Per Metre) | Weight Kg (Per Metre) | Water Content Litre (Per Metre) |
|-----------------|--------|-------|----------------------|--------------------------|------------------------------------|
| Matrix HLH35-35 | 350 | 103 | 1002 | 28.58 | 6.25 |
| Matrix HLH42-42 | 420 | 103 | 1139 | 34.21 | 7.91 |
| Matrix HLH49-49 | 490 | 103 | 1271 | 39.83 | 8.89 |
| Matrix HLH56-56 | 560 | 103 | 1394 | 45.37 | 10.21 |
| Matrix HLH63-63 | 630 | 103 | 1513 | 51.08 | 11.53 |
| Matrix HLH70-70 | 700 | 103 | 1623 | 56.77 | 12.85 |
| Matrix HLH77-70 | 770 | 103 | 1730 | 61.02 | 14.17 |
| Matrix HLH84-70 | 840 | 103 | 1839 | 65.27 | 15.24 |

Model Type HL-2 (Double Panel Double Convector)

| Description | Height | Depth | Watts (Per Metre) | Weight Kg (Per Metre) | Water Content Litre (Per Metre) |
|------------------|--------|-------|-------------------|-----------------------|---------------------------------|
| Matrix HL35-35-2 | 350 | 133 | 1362 | 36.43 | 6.25 |
| Matrix HL42-42-2 | 420 | 133 | 1535 | 43.53 | 7.91 |
| Matrix HL49-49-2 | 490 | 133 | 1698 | 50.65 | 8.89 |
| Matrix HL56-56-2 | 560 | 133 | 1848 | 57.66 | 10.21 |
| Matrix HL63-63-2 | 630 | 133 | 1989 | 64.87 | 11.53 |
| Matrix HL70-70-2 | 700 | 133 | 2112 | 72.04 | 12.85 |
| Matrix HL77-70-2 | 770 | 133 | 2208 | 76.53 | 14.17 |
| Matrix HL84-70-2 | 840 | 133 | 2307 | 81.14 | 15.24 |

Matrix Convectors (Available from 500mm to 6000mm in 100mm Increments)

| Description | Height | Depth | Watts (Per Metre) | Weight Kg (Per Metre) | Water Content Litre (Per Metre) |
|------------------------|--------|-------|-------------------|-----------------------|---------------------------------|
| Matrix Convector C7-2 | 70 | 73 | 344 | 5.67 | 1.15 |
| Matrix Convector C7-3 | 70 | 134 | 599 | 9.34 | 1.82 |
| Matrix Convector C7-4 | 70 | 196 | 821 | 13.03 | 2.42 |
| Matrix Convector C7-5 | 70 | 256 | 986 | 16.63 | 3.02 |
| Matrix Convector C14-2 | 140 | 73 | 503 | 11.28 | 2.40 |
| Matrix Convector C14-3 | 140 | 134 | 925 | 19.10 | 4.05 |
| Matrix Convector C14-4 | 140 | 196 | 1277 | 27.03 | 5.01 |
| Matrix Convector C14-5 | 140 | 256 | 1519 | 34.55 | 6.09 |
| Matrix Convector C21-2 | 210 | 83 | 717 | 17.72 | 3.75 |
| Matrix Convector C21-3 | 210 | 154 | 1188 | 29.68 | 5.78 |
| Matrix Convector C21-4 | 210 | 226 | 1643 | 41.49 | 8.05 |
| Matrix Convector C21-5 | 210 | 296 | 2060 | 53.51 | 10.29 |
| Matrix Convector C28-2 | 280 | 83 | 877 | 23.63 | 5.02 |
| Matrix Convector C28-3 | 280 | 154 | 1447 | 39.39 | 7.72 |
| Matrix Convector C28-4 | 280 | 226 | 2002 | 55.28 | 10.83 |
| Matrix Convector C28-5 | 280 | 296 | 2509 | 71.36 | 13.89 |

High Output Matrix Convectors (Available from 500mm to 6000mm in 100mm Increments)

| Description | Height | Depth | Watts (Per Metre) | Weight Kg (Per Metre) | Water Content Litre (Per Metre) |
|-------------------------|--------|-------|-------------------|-----------------------|---------------------------------|
| Matrix Convector CP7-2 | 70 | 92 | 382 | 6.17 | 1.15 |
| Matrix Convector CP7-3 | 70 | 173 | 639 | 10.23 | 1.82 |
| Matrix Convector CP7-4 | 70 | 254 | 860 | 14.90 | 2.42 |
| Matrix Convector CP7-5 | 70 | 335 | 1120 | 19.15 | 3.02 |
| Matrix Convector CP14-2 | 140 | 92 | 632 | 12.85 | 2.40 |
| Matrix Convector CP14-3 | 140 | 173 | 1073 | 21.95 | 4.05 |
| Matrix Convector CP14-4 | 140 | 254 | 1504 | 31.45 | 5.01 |
| Matrix Convector CP14-5 | 140 | 335 | 1920 | 41.17 | 6.09 |
| Matrix Convector CP21-2 | 210 | 92 | 851 | 19.76 | 3.75 |
| Matrix Convector CP21-3 | 210 | 173 | 1447 | 33.85 | 5.78 |
| Matrix Convector CP21-4 | 210 | 254 | 2046 | 48.26 | 8.05 |
| Matrix Convector CP21-5 | 210 | 335 | 2605 | 62.50 | 10.29 |
| Matrix Convector CP28-2 | 280 | 92 | 1030 | 26.67 | 5.02 |
| Matrix Convector CP28-3 | 280 | 173 | 1747 | 45.75 | 7.72 |
| Matrix Convector CP28-4 | 280 | 254 | 2473 | 65.08 | 10.83 |
| Matrix Convector CP28-5 | 280 | 335 | 3146 | 83.83 | 13.89 |

Matrix Vertical (Available from 70mm to 1400mm in 70mm Increments)

Model Type V (Single Panel)

| Description | Height | Depth | Watts (Per 70mm) | Weight Kg (Per 70mm) | Water Content Litre (Per 70mm) |
|----------------------|--------|-------|------------------|----------------------|--------------------------------|
| Matrix Vertical V100 | 1000 | 32 | 68 | 2.11 | 0.59 |
| Matrix Vertical V120 | 1200 | 32 | 81 | 2.43 | 0.69 |
| Matrix Vertical V140 | 1400 | 32 | 93 | 2.87 | 0.80 |
| Matrix Vertical V160 | 1600 | 32 | 105 | 3.25 | 0.90 |
| Matrix Vertical V180 | 1800 | 32 | 117 | 3.63 | 1.00 |
| Matrix Vertical V200 | 2000 | 32 | 128 | 4.01 | 1.11 |
| Matrix Vertical V220 | 2200 | 32 | 139 | 4.39 | 1.21 |
| Matrix Vertical V240 | 2400 | 32 | 150 | 4.77 | 1.31 |
| Matrix Vertical V260 | 2600 | 32 | 161 | 5.15 | 1.45 |
| Matrix Vertical V280 | 2800 | 32 | 172 | 5.53 | 1.56 |
| Matrix Vertical V300 | 3000 | 32 | 182 | 5.90 | 1.67 |
| Matrix Vertical V320 | 3200 | 32 | 193 | 6.28 | 1.78 |
| Matrix Vertical V340 | 3400 | 32 | 204 | 6.66 | 1.88 |
| Matrix Vertical V360 | 3600 | 32 | 214 | 7.04 | 1.99 |

Model Type VL (Single Panel Single Convactor)

| Description | Height | Depth | Watts (Per 70mm) | Weight Kg (Per 70mm) | Water Content Litre (Per 70mm) |
|-----------------------|--------|-------|------------------|----------------------|--------------------------------|
| Matrix Vertical VL100 | 1000 | 62 | 107 | 3.35 | 0.59 |
| Matrix Vertical VL120 | 1200 | 62 | 123 | 3.95 | 0.69 |
| Matrix Vertical VL140 | 1400 | 62 | 141 | 4.87 | 0.80 |
| Matrix Vertical VL160 | 1600 | 62 | 157 | 5.64 | 0.90 |
| Matrix Vertical VL180 | 1800 | 62 | 172 | 6.40 | 1.00 |
| Matrix Vertical VL200 | 2000 | 62 | 186 | 7.24 | 1.11 |
| Matrix Vertical VL220 | 2200 | 62 | 201 | 8.00 | 1.21 |

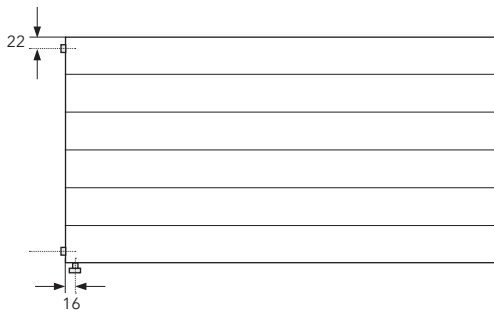
Model Type V-2 (Double Panel)

| Description | Height | Depth | Watts (Per 70mm) | Weight Kg (Per 70mm) | Water Content Litre (Per 70mm) |
|------------------------|--------|-------|------------------|----------------------|--------------------------------|
| Matrix Vertical V100-2 | 1000 | 103 | 108 | 4.25 | 1.20 |
| Matrix Vertical V120-2 | 1200 | 103 | 127 | 5.04 | 1.41 |
| Matrix Vertical V140-2 | 1400 | 103 | 145 | 5.81 | 1.60 |
| Matrix Vertical V160-2 | 1600 | 103 | 163 | 6.59 | 1.80 |
| Matrix Vertical V180-2 | 1800 | 103 | 180 | 7.37 | 2.00 |
| Matrix Vertical V200-2 | 2000 | 103 | 197 | 8.14 | 2.20 |
| Matrix Vertical V220-2 | 2200 | 103 | 213 | 8.92 | 2.40 |
| Matrix Vertical V240-2 | 2400 | 103 | 228 | 9.70 | 2.60 |
| Matrix Vertical V260-2 | 2600 | 103 | 243 | 10.29 | 2.91 |
| Matrix Vertical V280-2 | 2800 | 103 | 258 | 11.05 | 3.12 |
| Matrix Vertical V300-2 | 3000 | 103 | 273 | 11.81 | 3.34 |
| Matrix Vertical V320-2 | 3200 | 103 | 288 | 12.57 | 3.55 |
| Matrix Vertical V340-2 | 3400 | 103 | 303 | 13.33 | 3.77 |
| Matrix Vertical V360-2 | 3600 | 103 | 318 | 14.08 | 3.98 |

Model Type VLV (Double Panel Single Convactor)

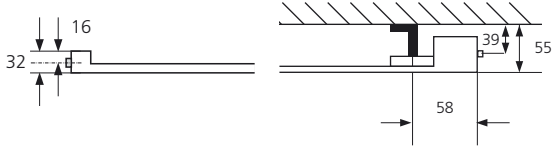
| Description | Height | Depth | Watts (Per 70mm) | Weight Kg (Per 70mm) | Water Content Litre (Per 70mm) |
|------------------------|--------|-------|------------------|----------------------|--------------------------------|
| Matrix Vertical VLV100 | 1000 | 103 | 149 | 5.47 | 1.20 |
| Matrix Vertical VLV120 | 1200 | 103 | 176 | 6.39 | 1.41 |
| Matrix Vertical VLV140 | 1400 | 103 | 200 | 7.75 | 1.60 |
| Matrix Vertical VLV160 | 1600 | 103 | 215 | 8.89 | 1.80 |
| Matrix Vertical VLV180 | 1800 | 103 | 237 | 10.03 | 2.00 |
| Matrix Vertical VLV200 | 2000 | 103 | 257 | 11.25 | 2.20 |
| Matrix Vertical VLV220 | 2200 | 103 | 277 | 12.47 | 2.40 |

Horizontal Models

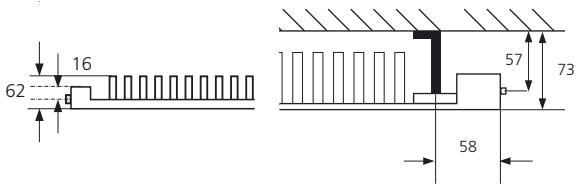


Bracket Positions - Horizontal Models

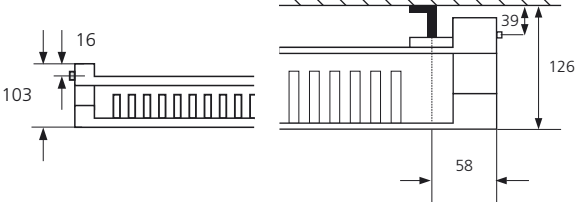
H



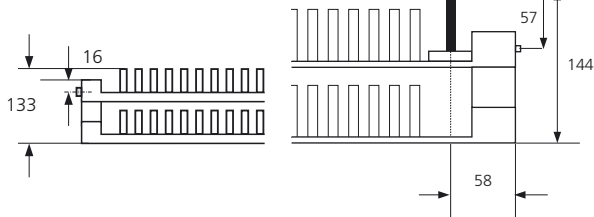
HL



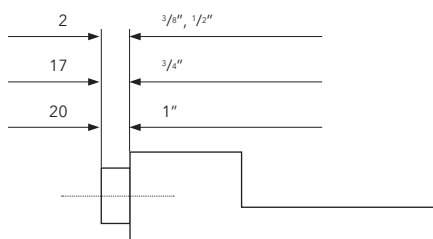
HLH, H - 2



HL - 2

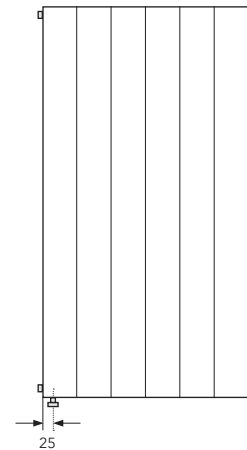


Connection Detail



Dimensions in millimetres

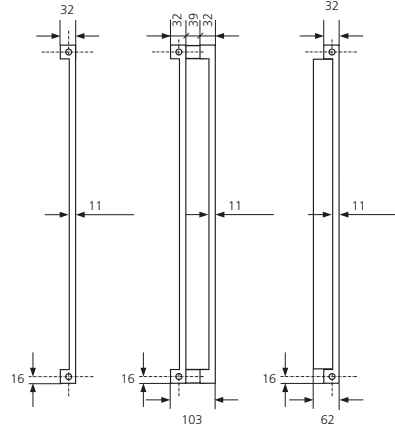
Vertical Models



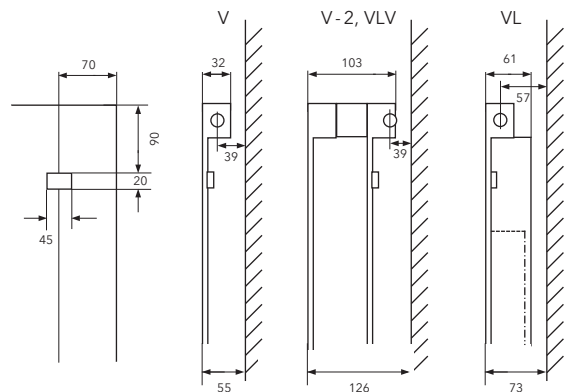
V

V - 2, VLV

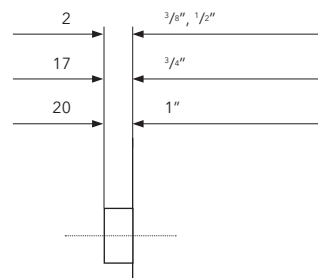
VL



Bracket Positions - Vertical Models



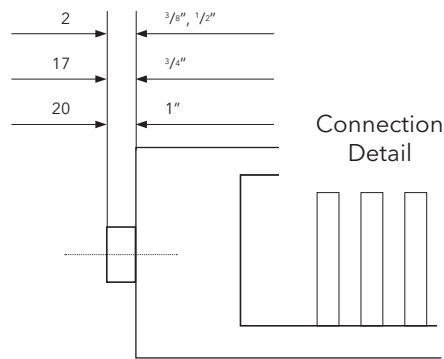
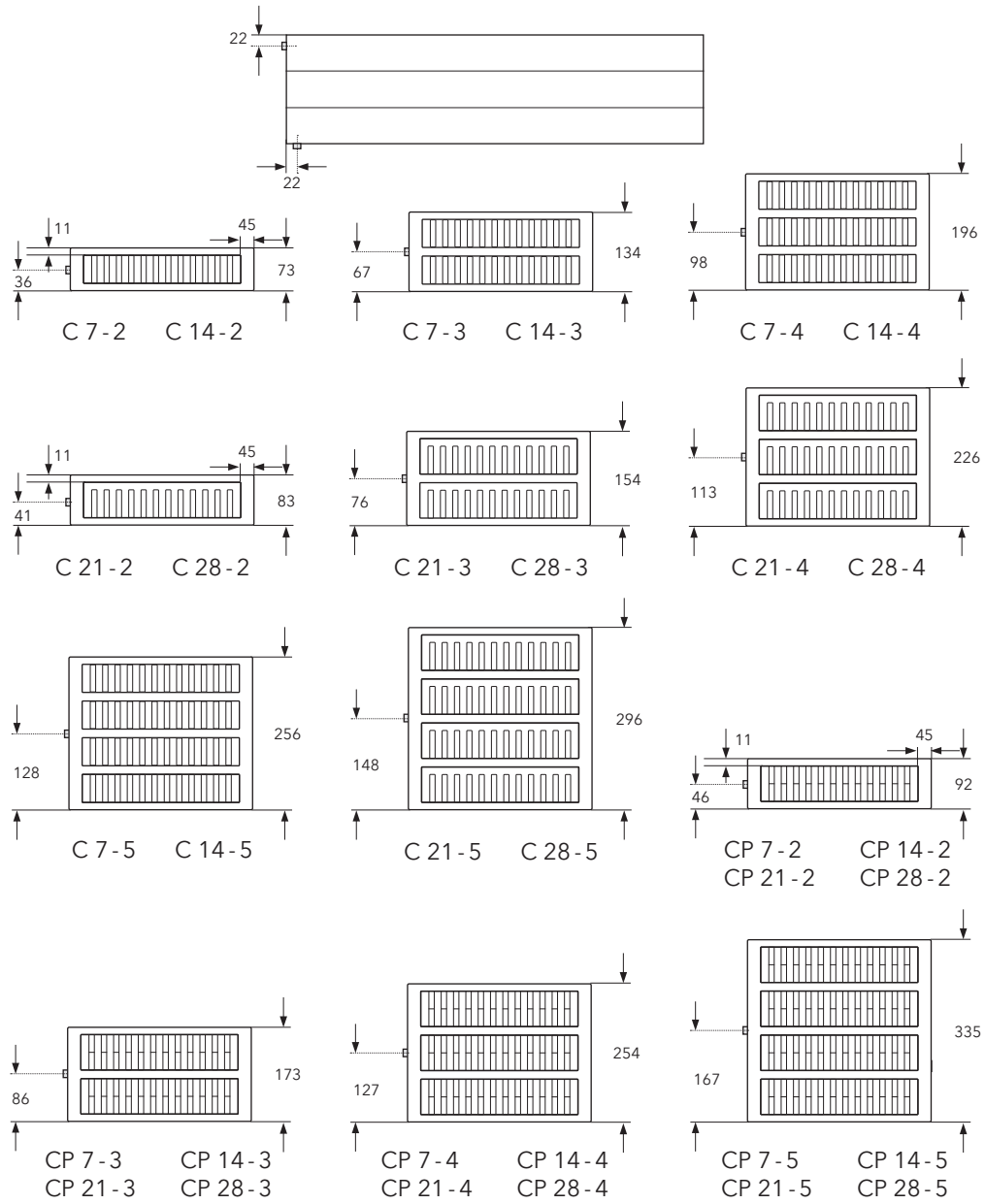
Connection Detail



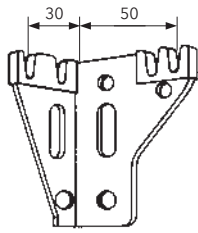
Dimensions in millimetres

D I M E N S I O N A L D A T A

Convactor Models



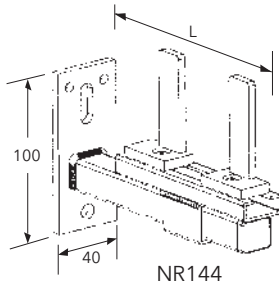
Dimensions in millimetres



Wall Bracket - Horizontal & Vertical Models

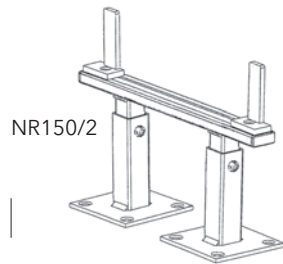
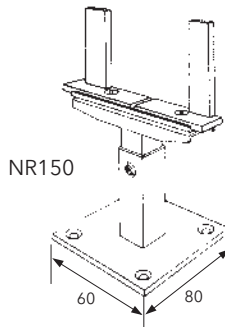
Fixed position at 30mm and 50mm

117/L = Left hand bracket
117/R = Right hand bracket



Wall Bracket - Convector Models

| | L | Wall to back of radiator minimum |
|-------|-------|----------------------------------|
| C - 2 | 100mm | 30mm |
| C - 3 | 150mm | 30mm |
| C - 4 | 200mm | 30mm |
| C - 5 | 250mm | 30mm |



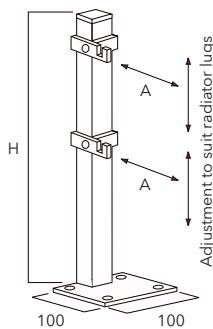
Floor Bracket - Convector Models

When ordering please specify the height required.
NR 150/___

Heavy Duty Floor Bracket - Convector Models

Recommended for 4 & 5 panel models. When ordering please specify the height required. NR150/2/___

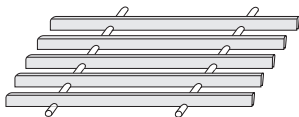
| Heights | 1* | 3* | 4* | 5* | 6* |
|---------|----|-----|-----|-----|-----|
| Min | 65 | 90 | 120 | 180 | 270 |
| Max | 90 | 120 | 180 | 270 | 370 |



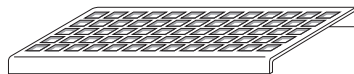
Floor Bracket - Horizontal

| Code Nr. | 2011/1-W | 2012/1-W | 2013/1-W |
|----------|-----------|-----------|-----------|
| A = | 13 - 30mm | 13 - 30mm | 13 - 30mm |
| H = | 650mm | 850mm | 1100mm |

Optional grilles for Matrix convectors (factory fitted).



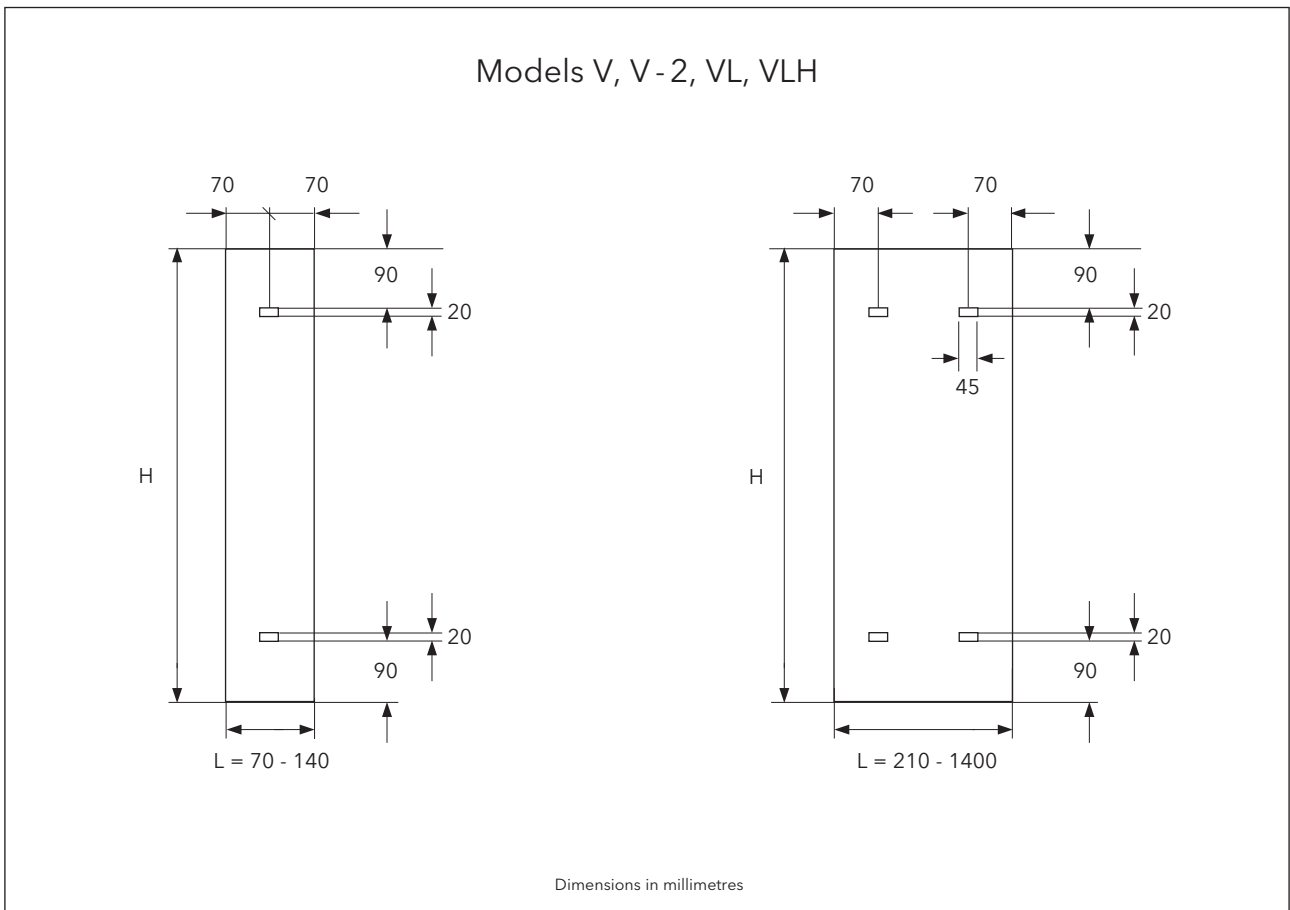
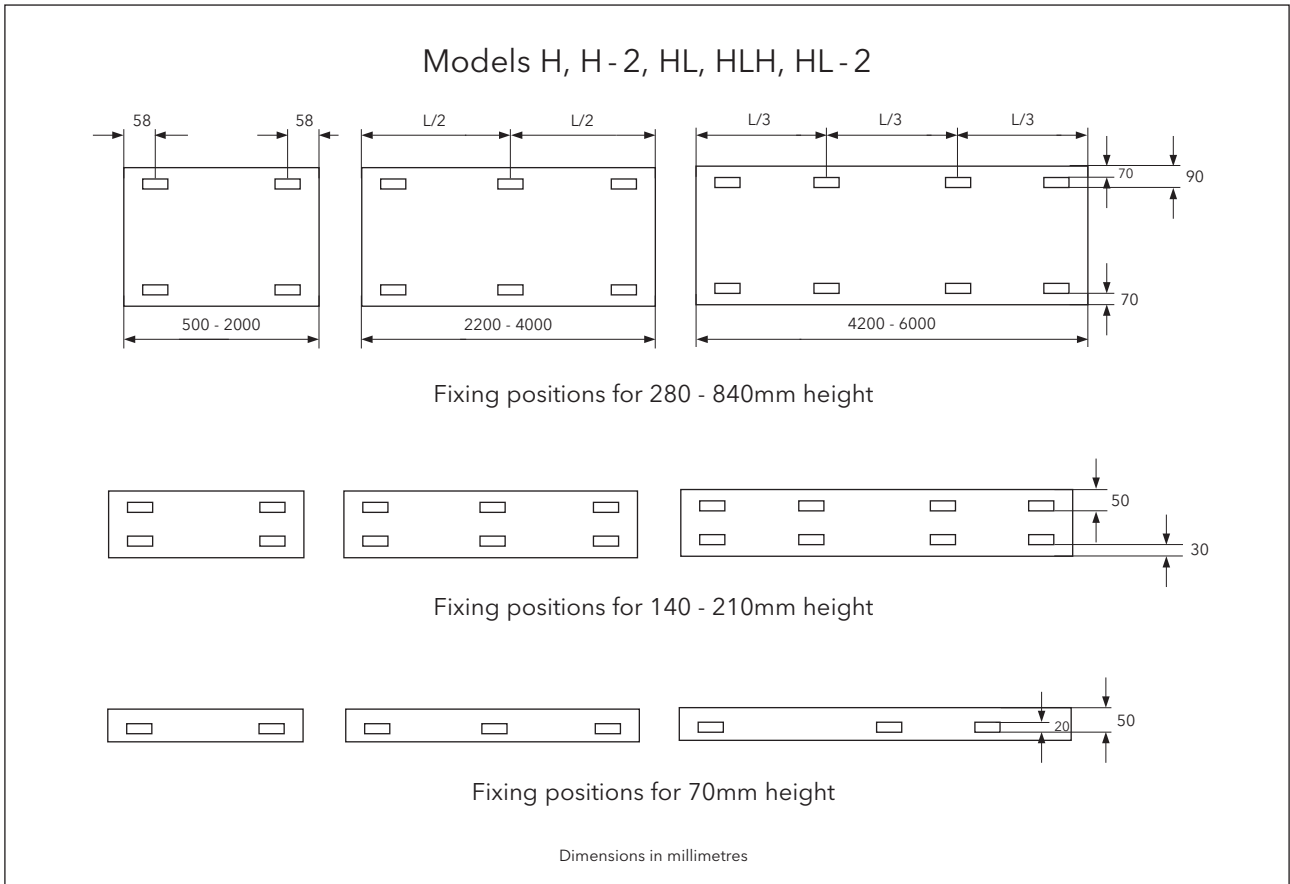
NR19100
Type C only

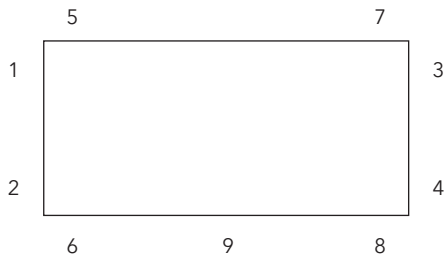


NR19500
Type C & Type CP

NR19500 - A 10% reduction in heat output can be expected from this grille type.

FIXING POSITIONS

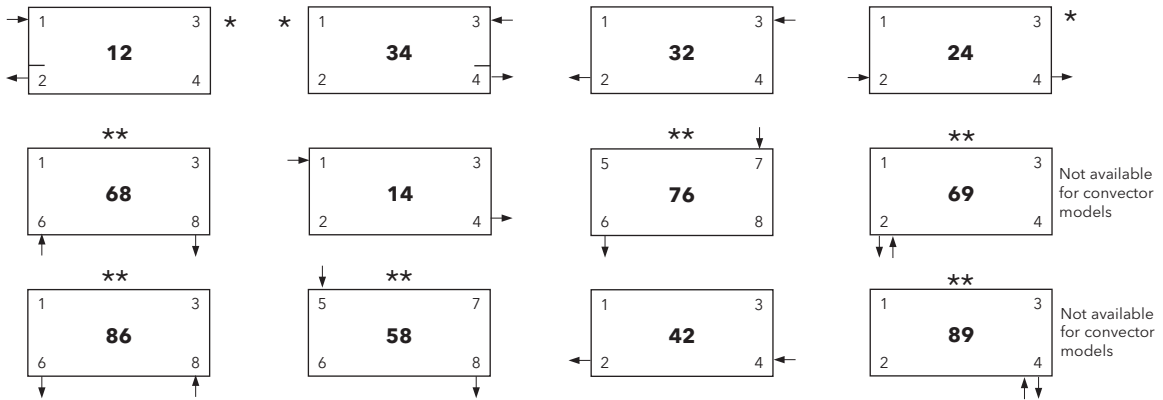




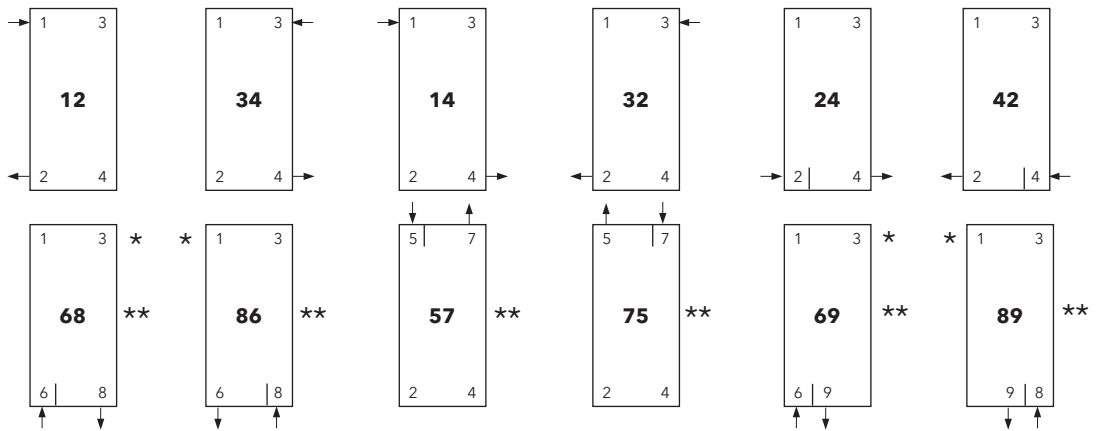
Connection sizes are available in 1/2", 3/4" and 1" on most models.
When ordering the connection size must be given together with the relevant connection number.

Standard connection = **24, 1/2" BSP** (unless specified otherwise)

Horizontal & Convector Models

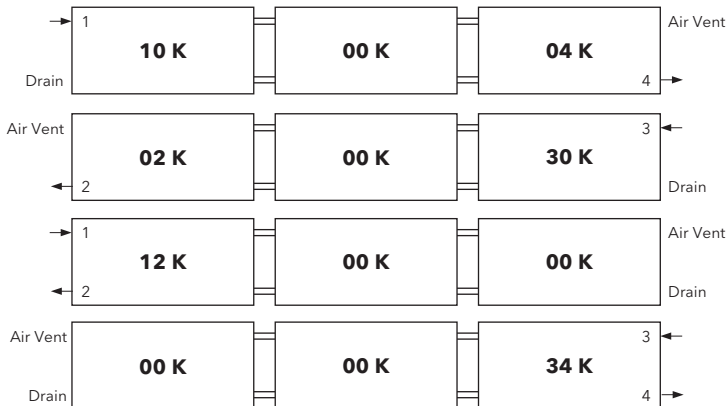


Vertical Models



*Air Vent **Extra cost

Connection Detail for Series Connected Radiators (extra cost)



Series Radiators

For series connected radiators there is a code for each radiator in the series which must be specified when ordering. Note connection size 1/2" only. Maximum number of radiators in series = 3 with a total combined length of 9000mm.

Valves

The fine detail of any installation makes all the difference, and a stylish radiator deserves an equally attractive finishing touch. It used to be that a radiator valve was just a radiator valve. But not any more. Valves come in all shapes and sizes - and they don't have to be plain or boring. To complement its extensive range of radiators, MHS has an unrivalled selection of designer valves for both period and contemporary settings, including straight and angled options.

With the current emphasis on energy efficiency, heating controls are at the forefront of fuel savings and to help meet these measures, most MHS radiator valves are available with TRV options too.

To complete the look, you can disguise plumbing with a carefully designed pipe sleeve and bezel.



Chrome manual angled valves



Chrome angled valves with MHS chrome TRV head



Chrome manual straight valves



Chrome straight valves with MHS chrome TRV head



Satin manual angled valves



Satin angled valves with MHS satin TRV head



Satin manual straight valves



Satin straight valves with MHS satin TRV head

| Δt | CF |
|------------|-------|
| 60 | 1.267 |
| 59 | 1.24 |
| 58 | 1.213 |
| 57 | 1.186 |
| 56 | 1.159 |
| 55.5 | 1.145 |
| 55 | 1.132 |
| 54 | 1.105 |
| 53 | 1.079 |
| 52 | 1.052 |
| 51 | 1.026 |
| 50 | 1.000 |
| 45 | 0.872 |
| 40 | 0.748 |
| 35 | 0.629 |

Correction Factor Table

The outputs shown within this brochure are based on BS EN442, 75-65-20°C operating conditions, giving a Δt of 50°C, for Δt 's other than this, a correction factor must be applied.

This correction factor table assumes an averaged exponent of 1.30.

If a more accurate exponent / correction factor is required, please contact MHS Radiators.

Example: Output required @ 82-71-21°C Δt 55.5 the CF = 1.145, therefore multiply the listed output by the correction factor to give actual radiator output under these operating conditions.

Water Treatment: These products are for use on closed heating systems only; they are not suitable for installation on secondary HWS circuits. On completion of the installation the entire system MUST be thoroughly cleaned and flushed to remove debris/flux residues etc. If a chemical cleanser is used, it must be thoroughly flushed from the system. Following this, the system MUST be dosed with a good eminence water treatment to prevent corrosion. System design, flushing and dosing must be in accordance with BS 5449: 1990, BS EN 12828 & 12831: 2003 and BS 7593: 2006

IMPORTANT: Failure to observe these requirements will render the guarantee on the product void. Corrosion inhibitor must be used in accordance with the manufacturer's instructions and recommendations and should take into account the particular metals within the system.



URS CERTIFICATE NO.75710



URS CERTIFICATE NO.07571



URS CERTIFICATE NO.07571



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