



# Carat

Flat fronted six connection heavy gauge steel radiator



## Features and Benefits

- 6 tapings
- Quality Tested to EN442
- Fully Compliant with Criterion 16 of the Lifetime Homes Standard

### Horizontal Model

Types: 11, 20, 22 and 33  
Heights: 250, 400, 550 and 950mm  
Widths: 405 - 3005mm  
Sizes: 117  
Outputs: 367 - 4691

### Vertical Model

Types: 10, 11, 20 and 21  
Heights: 1605, 1805 and 2005mm  
Widths: 400 and 500mm  
Sizes: 24  
Outputs: 653 - 1758

Material: 1.75mm Flat steel with 1.25mm profiled rear waterway  
Finish: RAL9016 Traffic White  
Pressure: 6 bar (8 bar test)



# Carat

This is just about the most discreet wall mounted radiator you can buy. For the true minimalist, Carat is the ultimate in clean lined elegance. Its flat panel simplicity will suit any contemporary setting from the modern apartment to the art gallery or high tech office. This tough, hard wearing heat emitter has a strong geometric form which complements efficient and uncluttered environments, and provides an impressive heat output.

There are no less than 117 models in the Carat horizontal range, giving the interior designer the maximum scope for positioning the radiator in keeping with the room's overall décor. Type 11, 20, 22 and 33 versions are available, in four heights; 250, 400, 550 and 950mm. Lengths start at 405mm, and go up to 3005mm long, with vertical models also available, all achieving a versatility not normally associated with minimalist radiators in this price bracket.



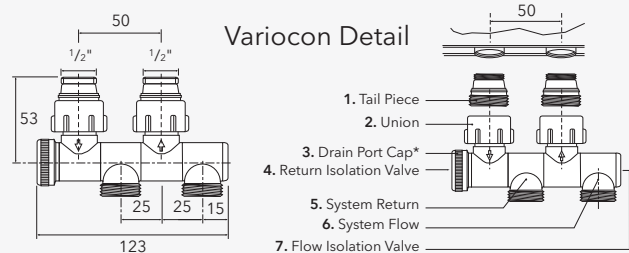
The MHS Carat radiator is manufactured using 1.75mm flat steel with a profiled rear waterway of 1.25mm steel. Finished in powder coat RAL 9016 Traffic White side panels on all models with a top grille on the horizontal versions only (excluding the Type 11 horizontal). All radiators are supplied complete with wall brackets, plugs, air vent and top grille clamps. The Carat has a maximum working pressure of 6 bar (max test 8.0 bar). The Carat has 6 x 1/2" bsp-f connections and is complete with integral flow tube. This integrated flow tube links the right hand central connection to the top right hand connection (on the horizontal models) where the TRV head can be mounted via a unique TRV insert piece (additional cost). The Carat radiator carries a 10 year guarantee against manufacturing defects.

## Carat Accessories

Each Carat radiator can be supplied with the Variocon Valve Set, Integrated Thermostatic Valve Body & Thermostatic Head.

### Variocon

| Part NR      |                                             |
|--------------|---------------------------------------------|
| VLVVAR-KIT A | Variocon Valve with 15mm Copper Connections |
| VLVVAR-KIT B | Variocon Valve with 1/2" BSP Connections    |



The Variocon connections are positioned centrally on each radiator. For the pipework centres when using the Variocon, set 25mm off centre to the right. The flow connection is always on the right when using the Variocon valve (when viewed from the front).

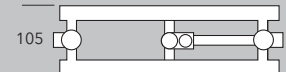
# Carat Horizontal

## Type 11



| Height (mm)                          | 400           |              | 550           |              | 950           |              |
|--------------------------------------|---------------|--------------|---------------|--------------|---------------|--------------|
| Width (mm)                           | Product Code  | Output Watts | Product Code  | Output Watts | Product Code  | Output Watts |
| 405                                  | -             | -            | CH110550-B-04 | 367          | CH110950-B-04 | 581          |
| 505                                  | -             | -            | CH110550-B-05 | 458          | CH110950-B-05 | 725          |
| 605                                  | -             | -            | CH110550-B-06 | 548          | CH110950-B-06 | 868          |
| 705                                  | -             | -            | CH110550-B-07 | 639          | -             | -            |
| 805                                  | CH110400-B-08 | 576          | CH110550-B-08 | 729          | CH110950-B-08 | 1155         |
| 905                                  | -             | -            | CH110550-B-09 | 820          | -             | -            |
| 1005                                 | CH110400-B-10 | 720          | CH110550-B-10 | 911          | -             | -            |
| 1205                                 | CH110400-B-12 | 863          | CH110550-B-12 | 1092         | -             | -            |
| 1405                                 | CH110400-B-14 | 1006         | CH110550-B-14 | 1273         | -             | -            |
| 1605                                 | CH110400-B-16 | 1149         | CH110550-B-16 | 1454         | -             | -            |
| 1805                                 | CH110400-B-18 | 1292         | CH110550-B-18 | 1635         | -             | -            |
| 2005                                 | CH110400-B-20 | 1436         | CH110550-B-20 | 1817         | -             | -            |
| Weight kg/metre                      | 15.20         |              | 21.30         |              | 36.60         |              |
| Water cont. litres/metre             | 0.90          |              | 1.30          |              | 1.70          |              |
| Output Watts @ $\Delta t$ 50°C/metre | 716           |              | 906           |              | 1435          |              |

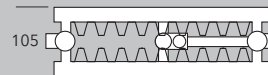
## Type 20



| Height (mm)                          | 400           |              | 550           |              | 950           |              |
|--------------------------------------|---------------|--------------|---------------|--------------|---------------|--------------|
| Width (mm)                           | Product Code  | Output Watts | Product Code  | Output Watts | Product Code  | Output Watts |
| 405                                  | -             | -            | CH200550-B-04 | 393          | CH200950-B-04 | 656          |
| 505                                  | -             | -            | CH200550-B-05 | 490          | -             | -            |
| 605                                  | -             | -            | CH200550-B-06 | 587          | CH200950-B-06 | 980          |
| 705                                  | -             | -            | CH200550-B-07 | 685          | -             | -            |
| 805                                  | CH200400-B-08 | 613          | CH200550-B-08 | 782          | CH200950-B-08 | 1304         |
| 905                                  | -             | -            | CH200550-B-09 | 879          | -             | -            |
| 1005                                 | CH200400-B-10 | 766          | CH200550-B-10 | 976          | CH200950-B-10 | 1628         |
| 1205                                 | CH200400-B-12 | 918          | CH200550-B-12 | 1170         | -             | -            |
| 1405                                 | CH200400-B-14 | 1071         | CH200550-B-14 | 1364         | -             | -            |
| 1605                                 | CH200400-B-16 | 1223         | CH200550-B-16 | 1558         | -             | -            |
| 1805                                 | CH200400-B-18 | 1375         | CH200550-B-18 | 1753         | -             | -            |
| 2005                                 | CH200400-B-20 | 1528         | CH200550-B-20 | 1947         | -             | -            |
| Weight kg/metre                      | 24.10         |              | 31.00         |              | 51.20         |              |
| Water cont. litres/metre             | 1.50          |              | 2.10          |              | 3.40          |              |
| Output Watts @ $\Delta t$ 50°C/metre | 762           |              | 971           |              | 1620          |              |

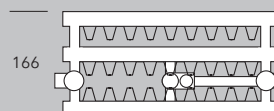
# Carat Horizontal

## Type 22



| Height (mm)                          | 250           |              | 400           |              | 550           |              | 950           |              |
|--------------------------------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| Width (mm)                           | Product Code  | Output Watts | Product Code  | Output Watts | Product Code  | Output Watts | Product Code  | Output Watts |
| 405                                  | -             | -            | -             | -            | CH220550-B-04 | 632          | CH220950-B-04 | 972          |
| 505                                  | -             | -            | -             | -            | CH220550-B-05 | 788          | CH220950-B-05 | 1211         |
| 605                                  | -             | -            | CH220400-B-06 | 744          | CH220550-B-06 | 944          | CH220950-B-06 | 1451         |
| 705                                  | -             | -            | -             | -            | CH220550-B-07 | 1101         | CH220950-B-07 | 1691         |
| 805                                  | CH220250-B-08 | 593          | CH220400-B-08 | 990          | CH220550-B-08 | 1257         | CH220950-B-08 | 1931         |
| 905                                  | -             | -            | -             | -            | CH220550-B-09 | 1413         | CH220950-B-09 | 2171         |
| 1005                                 | CH220250-B-10 | 741          | CH220400-B-10 | 1236         | CH220550-B-10 | 1569         | CH220950-B-10 | 2411         |
| 1205                                 | CH220250-B-12 | 888          | CH220400-B-12 | 1482         | CH220550-B-12 | 1881         | CH220950-B-12 | 2891         |
| 1405                                 | CH220250-B-14 | 1035         | CH220400-B-14 | 1728         | CH220550-B-14 | 2193         | -             | -            |
| 1605                                 | CH220250-B-16 | 1183         | CH220400-B-16 | 1974         | CH220550-B-16 | 2505         | -             | -            |
| 1805                                 | CH220250-B-18 | 1330         | CH220400-B-18 | 2220         | CH220550-B-18 | 2818         | -             | -            |
| 2005                                 | CH220250-B-20 | 1478         | CH220400-B-20 | 2466         | CH220550-B-20 | 3130         | -             | -            |
| 2205                                 | CH220250-B-22 | 1625         | CH220400-B-22 | 2712         | CH220550-B-22 | 3442         | -             | -            |
| 2605                                 | CH220250-B-26 | 1920         | CH220400-B-26 | 3204         | CH220550-B-26 | 4066         | -             | -            |
| 3005                                 | CH220250-B-30 | 2215         | CH220400-B-30 | 3696         | CH220550-B-30 | 4691         | -             | -            |
| Weight kg/metre                      | 19.60         |              | 32.00         |              | 44.20         |              | 74.80         |              |
| Water cont. litres/metre             | 1.20          |              | 1.50          |              | 2.60          |              | 3.60          |              |
| Output Watts @ $\Delta t$ 50°C/metre | 737           |              | 1230          |              | 1561          |              | 2399          |              |

## Type 33



| Height (mm)                          | 250           |              | 400           |              | 550           |              |
|--------------------------------------|---------------|--------------|---------------|--------------|---------------|--------------|
| Width (mm)                           | Product Code  | Output Watts | Product Code  | Output Watts | Product Code  | Output Watts |
| 605                                  | -             | -            | -             | -            | CH330550-B-06 | 1338         |
| 705                                  | -             | -            | -             | -            | CH330550-B-07 | 1559         |
| 805                                  | CH330250-B-08 | 927          | CH330400-B-08 | 1431         | CH330550-B-08 | 1781         |
| 905                                  | -             | -            | -             | -            | CH330550-B-09 | 2002         |
| 1005                                 | CH330250-B-10 | 1157         | CH330400-B-10 | 1787         | CH330550-B-10 | 2223         |
| 1205                                 | CH330250-B-12 | 1387         | CH330400-B-12 | 2142         | CH330550-B-12 | 2665         |
| 1405                                 | CH330250-B-14 | 1617         | CH330400-B-14 | 2498         | CH330550-B-14 | 3108         |
| 1605                                 | CH330250-B-16 | 1847         | CH330400-B-16 | 2854         | CH330550-B-16 | 3550         |
| 1805                                 | CH330250-B-18 | 2078         | CH330400-B-18 | 3209         | CH330550-B-18 | 3993         |
| 2005                                 | CH330250-B-20 | 2308         | CH330400-B-20 | 3565         | CH330550-B-20 | 4435         |
| 2205                                 | CH330250-B-22 | 2538         | -             | -            | -             | -            |
| 2605                                 | CH330250-B-26 | 2998         | -             | -            | -             | -            |
| 3005                                 | CH330250-B-30 | 3459         | -             | -            | -             | -            |
| Weight kg/metre                      | 28.70         |              | 44.80         |              | 59.70         |              |
| Water cont. litres/metre             | 2.20          |              | 3.10          |              | 4.10          |              |
| Output Watts @ $\Delta t$ 50°C/metre | 1151          |              | 1778          |              | 2212          |              |

# Carat Vertical

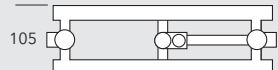
## Type 10

| Width (mm) | Height (mm)        | 1605           | 1805           | 2005           |  |
|------------|--------------------|----------------|----------------|----------------|-------------------------------------------------------------------------------------|
| 400        | Product Code       | CV101605-B-400 | CV101805-B-400 | CV102005-B-400 |                                                                                     |
|            | Output Watts       | 653            | 704            | 755            |                                                                                     |
|            | Weight kg          | 17.80          | 18.80          | 19.80          |                                                                                     |
|            | Water cont. litres | 1.40           | 1.60           | 1.80           |                                                                                     |
| 550        | Product Code       | CV101605-B-550 | CV101805-B-550 | CV102005-B-550 |                                                                                     |
|            | Output Watts       | 837            | 903            | 969            |                                                                                     |
|            | Weight kg          | 20.30          | 25.70          | 27.70          |                                                                                     |
|            | Water cont. litres | 1.90           | 2.20           | 2.50           |                                                                                     |

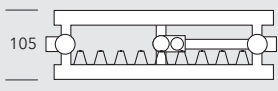
## Type 11

| Width (mm) | Height (mm)        | 1605           | 1805           | 2005           |  |
|------------|--------------------|----------------|----------------|----------------|---------------------------------------------------------------------------------------|
| 400        | Product Code       | CV111605-B-400 | CV111805-B-400 | CV112005-B-400 |                                                                                       |
|            | Output Watts       | 751            | 845            | 906            |                                                                                       |
|            | Weight kg          | 21.05          | 23.85          | 27.50          |                                                                                       |
|            | Water cont. litres | 1.40           | 1.60           | 1.80           |                                                                                       |
| 550        | Product Code       | CV111605-B-550 | CV111805-B-550 | CV112005-B-550 |                                                                                       |
|            | Output Watts       | 941            | 1058           | 1135           |                                                                                       |
|            | Weight kg          | 23.70          | 34.70          | 37.25          |                                                                                       |
|            | Water cont. litres | 1.90           | 2.20           | 2.50           |                                                                                       |

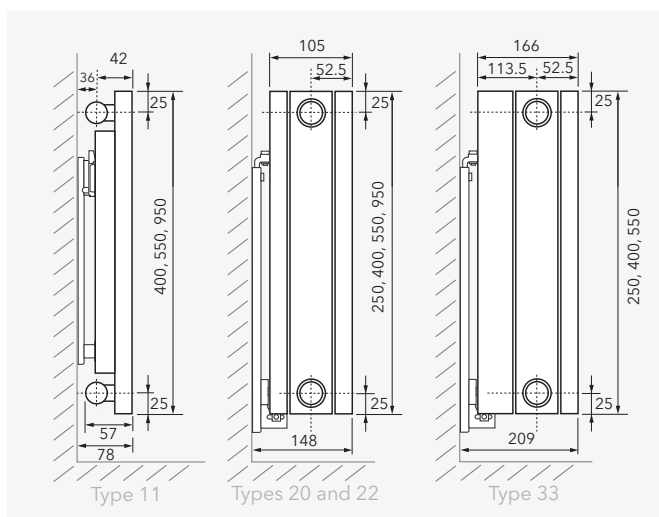
## Type 20

| Width (mm) | Height (mm)        | 1605           | 1805           | 2005           |  |
|------------|--------------------|----------------|----------------|----------------|---------------------------------------------------------------------------------------|
| 400        | Product Code       | CV201605-B-400 | CV201805-B-400 | CV202005-B-400 |                                                                                       |
|            | Output Watts       | 1062           | 1165           | 1267           |                                                                                       |
|            | Weight kg          | 37.80          | 42.70          | 47.20          |                                                                                       |
|            | Water cont. litres | 2.60           | 3.00           | 3.40           |                                                                                       |
| 550        | Product Code       | CV201605-B-550 | CV201805-B-550 | CV202005-B-550 |                                                                                       |
|            | Output Watts       | 1292           | 1418           | 1542           |                                                                                       |
|            | Weight kg          | 49.80          | 55.80          | 61.80          |                                                                                       |
|            | Water cont. litres | 3.60           | 4.20           | 4.70           |                                                                                       |

## Type 21

| Width (mm) | Height (mm)        | 1605           | 1805           | 2005           |  |
|------------|--------------------|----------------|----------------|----------------|---------------------------------------------------------------------------------------|
| 400        | Product Code       | CV211605-B-400 | CV211805-B-400 | CV212005-B-400 |                                                                                       |
|            | Output Watts       | 1149           | 1262           | 1371           |                                                                                       |
|            | Weight kg          | 38.20          | 45.49          | 51.50          |                                                                                       |
|            | Water cont. litres | 2.60           | 3.00           | 3.40           |                                                                                       |
| 550        | Product Code       | CV211605-B-550 | CV211805-B-550 | CV212005-B-550 |                                                                                       |
|            | Output Watts       | 1474           | 1618           | 1758           |                                                                                       |
|            | Weight kg          | 55.30          | 63.00          | 68.20          |                                                                                       |
|            | Water cont. litres | 3.60           | 4.20           | 4.70           |                                                                                       |

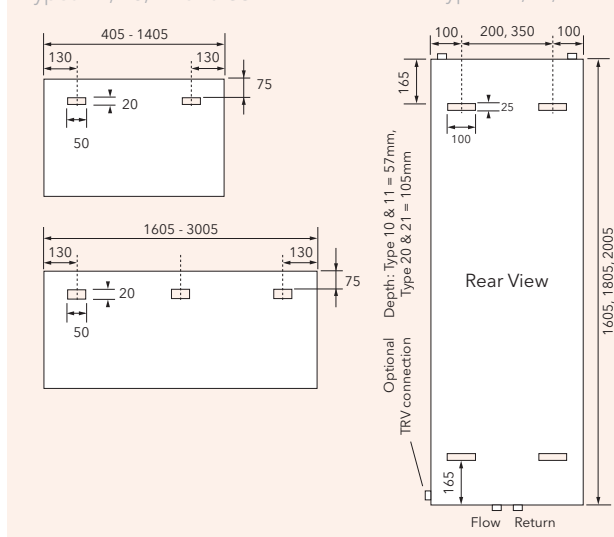
## Connections



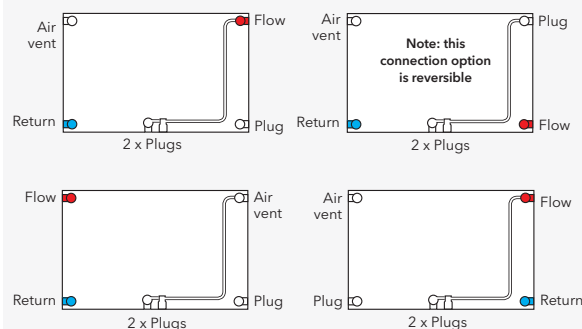
## Lug Positions / Bracket Requirements

Types 11, 20, 22 and 33

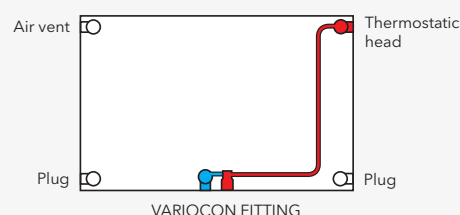
Vertical Types 11, 10, 20 &amp; 21



## TBOE, BBOE or TBSE Connection Details

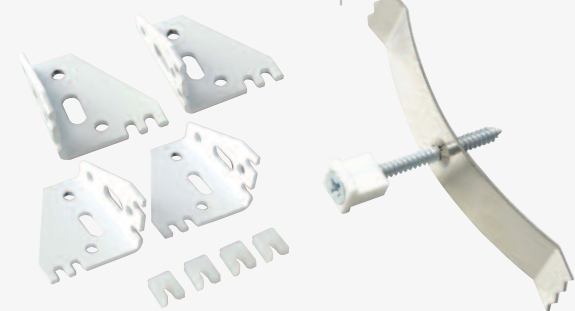


## Connection Detail Utilising Variocon Valve & Thermostatic Head.



Vertical wall brackets

Top grille clamp



| $\Delta t$ | 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 |

| $\Delta t$ | CF    |
|------------|-------|
| 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  $\Delta t$  of 50°C, for  $\Delta t$ '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  $\Delta t$  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.

This publication is issued subject to alteration or withdrawal without notice.

The illustrations and specifications are not binding in detail.



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