

# Technical submittal



Products: **Dorchester DR-FC Evo 120**

Project:

Customer:

Date:

- ⊗ Full automatic condensing direct fired water heater
- ⊗ Down firing, modulating burner
- ⊗ Multiple temperature settings to enhance condensing performance
- ⊗ Whisper quiet at <45dB(A) @2m from flue terminal
- ⊗ Inspection and clean out door for easy maintenance
- ⊗ Suitable for LPG or natural gas
- ⊗ Glass lined
- ⊗ Electronic anode protection
- ⊗ 37mg/KWh NOx emission, dry air free, European Class 5. Maximum (at part load)
- ⊗ 95% Building Regulations thermal efficiency gross
- ⊗ 3XL ErP load profile
- ⊗ 504 litres storage capacity
- ⊗ 2100l/h continuous output ( $\Delta T = 50^{\circ}\text{C}$ )
- ⊗ 15 minute heat up time ( $\Delta T = 50^{\circ}\text{C}$ )



|            | Dorchester DR-FC Evo model                                                                        | Units                 | DR-FC Evo 120  |
|------------|---------------------------------------------------------------------------------------------------|-----------------------|----------------|
| Energy     | Building Regulations thermal efficiency gross                                                     | %                     | 95             |
|            | ErP efficiency rating (modules $\leq 70\text{ kW}$ only)                                          | -                     | N/A            |
|            | Heating-up time, $\Delta T = 44^{\circ}\text{C}$                                                  | min.                  | 13             |
|            | Heating-up time, $\Delta T = 50^{\circ}\text{C}$                                                  | min.                  | 15             |
|            | Heating-up time, $\Delta T = 55^{\circ}\text{C}$                                                  | min.                  | 16             |
|            | Standby losses                                                                                    | kW/24h                | 6.7            |
| Water      | Continuous output with $44^{\circ}\text{C } \Delta T$                                             | l/h                   | 2400           |
|            | 1st hour output with $44^{\circ}\text{C } \Delta T$                                               | l                     | 2600           |
|            | Continuous output with $50^{\circ}\text{C } \Delta T$                                             | l/h                   | 2100           |
|            | 1st hour output with $50^{\circ}\text{C } \Delta T$                                               | l                     | 2300           |
|            | Continuous output with $55^{\circ}\text{C } \Delta T$                                             | l/h                   | 1900           |
|            | 1st hour output with $55^{\circ}\text{C } \Delta T$                                               | l                     | 2000           |
|            | Storage capacity                                                                                  | litres                | 504            |
|            | Maximum operating water pressure (open vented)                                                    | bar                   | 8              |
|            | Maximum operating water pressure (unvented)                                                       | bar                   | 5.3            |
|            | Expansion relief valve setting (unvented kit)                                                     | bar                   | 6              |
|            | ErP load profile                                                                                  | -                     | 3XL            |
| Nat Gas    | Input, gross – maximum                                                                            | kW                    | 126.3          |
|            | Output – maximum                                                                                  | kW                    | 119.4          |
|            | Gas inlet pressure – nominal                                                                      | mbar                  | 20             |
|            | Gas flow rate – maximum @1013.25 mbar and $15^{\circ}\text{C}$                                    | $\text{m}^3/\text{h}$ | 12.3           |
| LPG        | Input, gross – maximum                                                                            | kW                    | 123.6          |
|            | Output – maximum                                                                                  | kW                    | 119.4          |
|            | Gas inlet pressure – nominal                                                                      | mbar                  | 37             |
|            | Gas flow rate – maximum@1013.25 mbar and $15^{\circ}\text{C}$                                     | kg/h                  | 9              |
| Flue       | Approximate flue gas volume @ $15^{\circ}\text{C}$ , 9.8% $\text{CO}_2$ , N.T.P. (Nat. Gas - G20) | kg/h                  | 213.3          |
|            | Flue gas temperature – maximum                                                                    | $^{\circ}\text{C}$    | 60             |
|            | NOx emission, dry air free, European Class 5. Maximum (at part load)                              | mg/kWh                | 37             |
|            | Pressure at the flue outlet only (B23) with zero pressure at air inlet                            | Pa                    | 180            |
| Electrical | Start current–maximum (maximum power)                                                             | A (W)                 | 0.61 (140)     |
|            | Run current–maximum (maximum power)                                                               | A (W)                 | 1.05 (240)     |
|            | Electrical supply                                                                                 | Vac                   | 230V 1 PH 50Hz |
|            | Voltage tolerance                                                                                 | % of Vac              | -15% +10%      |
| Misc.      | Noise level @2m from flue terminal                                                                | dB(A)                 | <45            |
|            | Number of (power) anodes                                                                          | -                     | 2              |
|            | Weight when empty                                                                                 | kg                    | 405            |
|            | Approximate shipping weight                                                                       | kg                    | 426            |
|            | Maximum floor load/ weight filled with water                                                      | kg                    | 909            |

Every effort has been taken to ensure the details are accurate. Hamworthy Heating does not, however, guarantee the accuracy or completeness of any information nor does it accept liability for any errors or omissions in the information. Hamworthy Heating reserves the right to make changes and improvements which may necessitate alteration to product specification without prior notice.

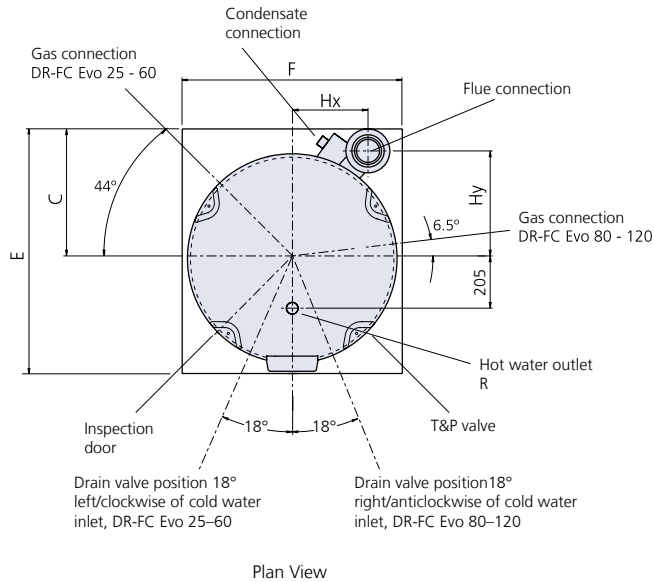
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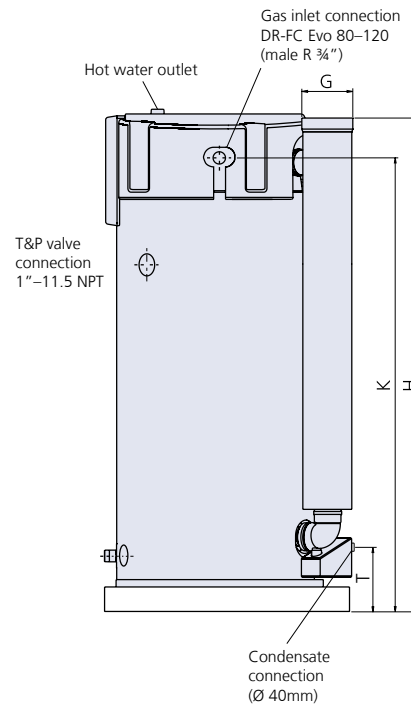
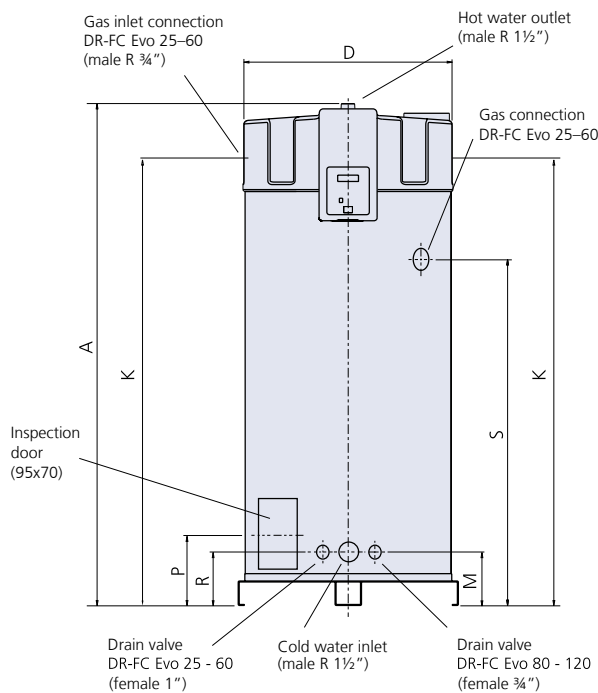
## Clearances

100cm above top of water heater,  
100cm around controls and inspection doors.  
50cm around all other sides of water heater.

Note: Flue gas sampling point access must be restricted if the water heater is to be fitted in the corner of the room. If so, a loose sampling point adapter is available as an option, which can be fitting during installation at a more accessible position in the flue, as required.

## Ring Base Option

Models DR-FC Evo 25 to DR-FC Evo 60 inclusive are also available (as a special order) supplied fitted with a narrow galvanised steel ring base instead of a pallet base. In this configuration all height dimensions will be reduced by 95 mm for each applicable model.



|           | A            | C                | D                     | E     | F     | G                               | H                                    | Hx                         | Hy                         | K                        | M                          | N                          | P                          | R                                | S                              | T                            |
|-----------|--------------|------------------|-----------------------|-------|-------|---------------------------------|--------------------------------------|----------------------------|----------------------------|--------------------------|----------------------------|----------------------------|----------------------------|----------------------------------|--------------------------------|------------------------------|
|           | Total height | Position on base | Water heater diameter | Depth | Width | Diameter for flue gas discharge | Height of flue gas outlet/air supply | x position flue gas outlet | y position flue gas outlet | Height of gas connection | Height of cold water inlet | Height of hot water outlet | Height of cleaning opening | Height of drain valve connection | Height of T&P valve connection | Height of condensation drain |
| DR-FC 120 | 2060         | 530              | 850                   | 1000  | 900   | 130/200                         | 1995                                 | 310                        | 440                        | 1855                     | 225                        | 2060                       | 290                        | 225                              | 1425                           | 240                          |

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