

# Xpressflo



Gas Fired Condensing Hot Water Generators  
with storage capacities of 300 and 500 litres

**MHS**  
BOILERS

# Efficiency and Performance

The Xpressflo range of hot water generators deliver not only high volumes of hot water but consistently high efficiency is achieved through the novel principles that are employed in the basis of its operation. A gas fired low emission condensing unit is utilised in conjunction with stainless steel storage vessels of 300 or 500 litres.

To maximize the potential to operate in condensing mode, the cold feed connection into the storage vessel of the Xpressflo is positioned optimally to inject the cold refilling water towards the intake of the tubing system which delivers the water into the condensing heating unit.

This working principle ensures that at all times the lowest possible water temperature at any given time is passed over the condensing heat exchanger thus cooling the exhaust gases to below dewpoint under almost all operating conditions. Additionally, the Xpressflo is quick to respond, using a reverse of the cold feed principle, hot water is injected toward the outflow connection on the storage vessel allowing the unit to deliver hot water in an almost instantaneous way.

All units have a powerful heat input of 60kW which allows up to 650 litres of water raised through 50°C to be drawn from the model 500 in just 10 minutes.

And although the prime function of the Xpressflo units are to deliver efficiently generated voluminous hot water, they can also, if required deliver a central heating service of up to 40kW whenever there is no hot water load.

Low NOx premix burner system coupled with a room sealed flue capability using either 80/125mm concentric flue or 2 x 80mm parallel tubes are additional standard features as is the provision of a secondary return circulation pump which is factory fitted and pre-wired.



# Put your mind at rest

**It's easy to ignore your water heater - until it goes wrong or breaks down. A system failure, especially one caused by lack of maintenance, can be inconvenient and costly.**

It isn't hard to imagine the difficulties that problems with your heating system can cause. And in some situations lack of heating and hot water can be critical. Similar to your car, a regularly maintained heating system will run more efficiently and any potential problems can be resolved before they develop into major system failure.

Financially, planned maintenance makes sense too. It avoids major capital outlay and the associated costs of system down time - plus it can keep your fuel costs down as well as ensuring you are minimising your emissions.

At MHS Boilers we provide a lifetime maintenance and service solution for your heating system - enabling you to rest safe in the knowledge that we'll take care of it.

Go to **[www.mhsboilers.com](http://www.mhsboilers.com)** and download or request a copy of our **Maintenance and Service Solutions** brochure.



*Our highly skilled and trained service and technical support engineers are only a phone call away*

# Standard features

## Stainless Steel

storage vessel and heating unit condensing heat exchanger accords a long and reliable service life virtually free from the effects of corrosion.

## Extremely high efficiencies

are returned through the utilisation of the novel working principle in conjunction with state of the art burner and condensing heat exchanger technologies.

## Factory Preassembled

for speed of installation, the Xpressflo units are free standing on a robust skid-type base plate with all connections easily accessible.

## Room Sealed

flue options using either 80/125 concentric flue components with horizontal or vertical terminal sets, or a parallel 2 x 80mm flue / air supply tubes arrangement. Alternatively, air may be drawn from the plant room where it is adequately ventilated and the flue gas evacuated via a single 80mm PPS plastic flue tube.

## Unvented

or vented hot water systems application. Matched unvented kits available.

## Fully modulating premix burner

with 5.4:1 turndown for optimum load matching and fuel economy.

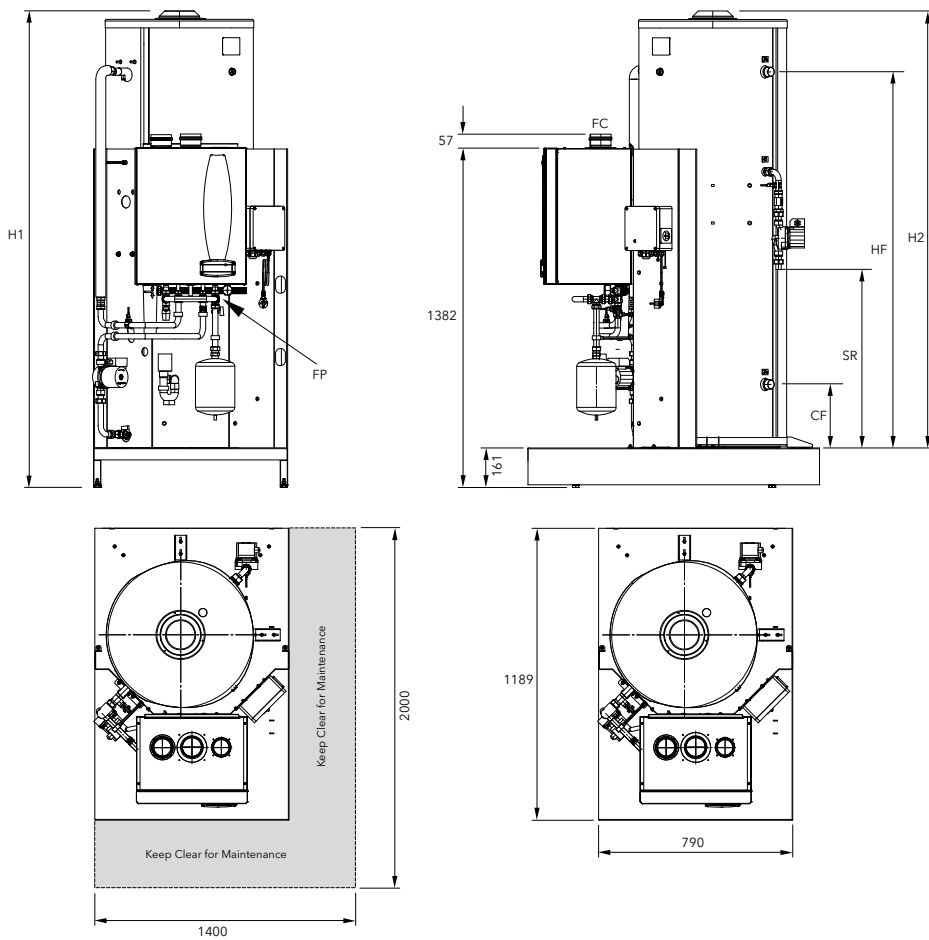
## Low emissions

are inherent with the burner system and the operational conditions. The Xpressflo hot water generator emits less than 15mg/kWh NO<sub>x</sub> @ 0% O<sub>2</sub> (Class 5) further adding to the appliance's green credentials and meeting the criteria for the best possible BREEAM rating.



# Dimensions & clearances

Model		Xpressflo 300	Xpressflo 500
Height H1	mm	1905	1975
Height H2	mm	1744	1814
Height to Cold Feed (CF)	mm	265	305
Height to Secondary Return (SR)	mm	730	745
Height to Hot Draw Off (HF)	mm	1535	1555
Cold Feed Connection (CF)	BSP M	1 1/2"	1 1/2"
Hot Draw Off Connection (HF)	BSP M	1 1/2"	1 1/2"
Secondary Return Connection (SR)	mm	22	22
Flue Connection (FC)	mm	80/125	80/125
Primary Circuit (temporary) Fill Point (FP)		1/2" hose union tail	
Gas Connection	mm	15	15
Condense Waste (Flexible Hose)	mm	25	25



# Installation requirements

Xpressflo hot water generators must be installed in accordance with the manufacturers installation instructions and observing the relevant requirements of the current editions of the Building Regulations, The Gas Safety (installation and use) Regulations, Water Regulations, IEE regulations, BS 5440 Parts 1 & 2, IGE/UP/2, IGE/UP/10, BS 7206, BS 6798, BS 5546, BS 5449, BS 6798, BS 6891 and BS 6644 (relevant for multiple appliance installations in the same plant room). Also, where the combined input from multiple appliances in the same plant room exceeds 150kW gross, the Clean Air Act 3rd Edition Memorandum on Chimney Heights may be relevant.

## Flue Systems Options

### Concentric Room Sealed Flue

The Xpressflo units have an excess pressure at the flue connection of the heat generator of 150Pa. Up to 12 metres of equivalent length of 80/125 concentric flue components may be connected.

Component		Equivalent Length metres
1.0 metre length concentric tube	80/125 Ø	1.0
93° concentric bend	80/125 Ø	1.1
45° concentric bend	80/125 Ø	0.7
Horizontal wall terminal	80/125 Ø	3.5
Vertical roof terminal	80/125 Ø	3.5

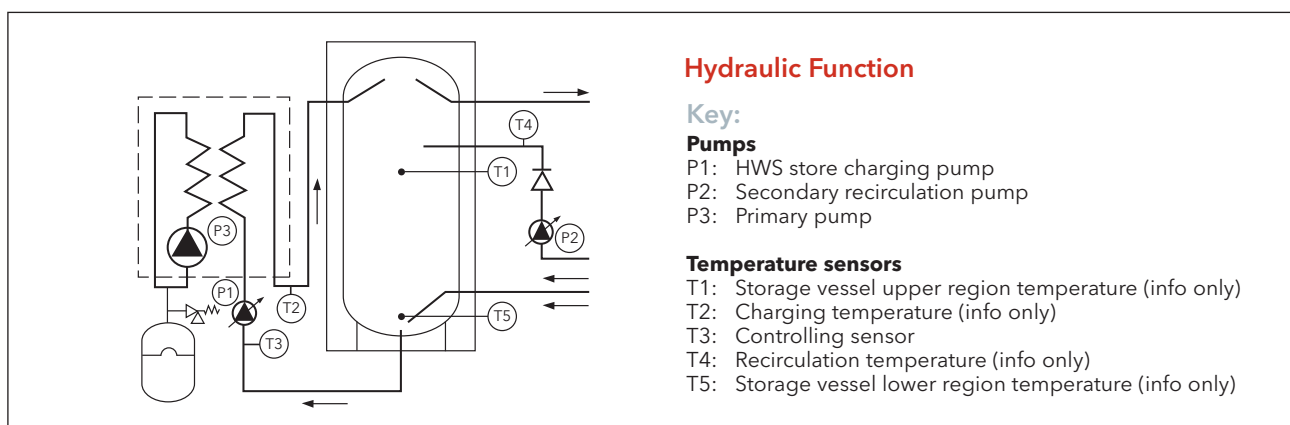
As an alternative, the Xpressflo may be flued using either a single 80mm diameter flue gas tube (open flued) or a parallel tubes room sealed installation using 2 x 80 mm tubes. Up to a maximum total equivalent length of 30 metres of 80mm tube may be connected.

Component		Equivalent Length metres
1.0 metre length concentric tube	80 Ø	1.0
93° pps bend	80 Ø	1.1
45° pps bend	80 Ø	0.7
Flue gas discharge with birdmesh	80 Ø	3.5

### Water Quality

Chloride content of primary and secondary water must not exceed 200mg/l, Maximum hardness 14°dH

If softened water is used, this should be within the range 6 - 8°dH



### Hydraulic Function

#### Key:

#### Pumps

- P1: HWS store charging pump
- P2: Secondary recirculation pump
- P3: Primary pump

#### Temperature sensors

- T1: Storage vessel upper region temperature (info only)
- T2: Charging temperature (info only)
- T3: Controlling sensor
- T4: Recirculation temperature (info only)
- T5: Storage vessel lower region temperature (info only)

# Technical data

Model		Xpressflo 300	Xpressflo 500
Hot water capacity	litres	300	500
Category		I12L3P	
Classification		B23,C13,C33,C43,C53,C63,C83	
Nominal heat input (Nat Gas G20) Gross	kW	11.0 - 60.0	
Nominal heat input (Nat Gas G20) Net	kW	9.9 - 54.0	
Nominal heat output - hot water generation	kW	52.49	
Nominal heat output - central heating 80/60°C	kW	9.9 - 38.7	
Nominal heat output - central heating 50/30°C	kW	11.0 - 43.0	
Gas consumption (Nat Gas G20)	m <sup>3</sup> /h	5.6	
Inlet working gas pressure (G20)	mbar	20.0	
Maximum flue gas volume	m <sup>3</sup> /h	75.6	
Nominal max flue gas temperature	°C	75.0	
Positive pressure at outlet of flue connection	Pa	150.0	
NOx emission @ 0% O <sub>2</sub>	mg/kWh	<15.0	
Maximum working water pressure	bar	10.0	
Power supply	v/ph	230/1	
Power consumption (max)	W	378.0	
IP rating	IP	IP44	
Weight empty/full	kg	130/430	148/648
Peak 10 minute hot water delivery @ 50°C rise	litres	450	650
First hour hot water delivery @ 50°C rise	l/h	1200	1400
Continuous hot water delivery @ 50°C rise	l/h	900	900
Reheat time 10 to 60°C	minutes	20	34
Maximum hot water delivery temperature	°C	65.0	
Residual head of secondary return circulation pump	kPa	20.0	
Cold feed connection		R1 1/4"	R1 1/2"
Hot draw off connection		R1 1/4"	R1 1/2"
Secondary return connection	mm	22	22
Gas connection	mm	15	15
Flue (concentric)	mm	80/125	
Flue / Air (parallel)	mm	2 x 80	
Central heating flow & return (normally linked)	mm	22	
Condense waste outlet flexible tube Ø	mm	25	

CE Nr: CE 0063 BQ 3034  
WRAS Approval Nr: 020411



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