



Wessex 100 M Series

**High Efficiency
Pre-mix, Gas Fired
Modular Boilers**



BS EN ISO 9001:1994
Certificate No. FM 10082

HAMWORTHY
heating products

Wessex 100 M Series

High Efficiency, Pre-Mix Gas Fired Modular Boilers Natural Gas or LPG

The new Wessex 100 M series of modular boilers from Hamworthy leads the way in high efficiency boiler design.

Our engineers have taken the well proven Hamworthy Wessex design and applied innovative use of materials and technology to develop the next generation of Wessex boiler.

The M series has been developed to provide system designers and specifiers with a wide choice of options when selecting a heating solution, enabling systems and controls to accurately match load requirements.

The Wessex 100 M series uses building blocks of 100kW modules which have high / low firing fully automatic operation as standard, providing even closer control of output, saving further on fuel bills and reducing emissions.

There are three models in the Wessex 100 range, the M100, M200 and M300, all of which are supplied fully assembled for a speedy installation.

The matrix configuration of the modules is a space saving design with a small footprint, which achieves outputs up to 600kW per square metre.

Options

- Volt free contacts (BEMS compatibility)
- Hours run meters
- Integral boiler sequence controller
- Pipework manifold kits
- High temperature version
- LPG - Propane

- Accurate load matching
- Reduced fuel bills
- Ultra low standing losses
- Environmentally friendly
- Space saving design
- Ease of handling on site
- Reduced installation costs

BENEFITS

The design of the Wessex 100 offers a matrix configuration of horizontal and vertical modules to provide best use of available plant room space. Modules can be built up to three high, and each boiler casing is designed for installation adjacent to the next.

Combustion air intake

Operational reliability is improved still further by positioning the combustion air inlet at the top of the boiler to reduce airborne debris, which can affect reliable burner operation.

The air inlet incorporates a spigot which can be used for connecting a ducted air supply to the boiler, further improving the quality of combustion air.

Incoming combustion air is pre-heated by directing the flow through the innovative casing design, enabling nett efficiencies up to 94% to be achieved.

Performance

The boiler has ultra low standing losses, <0.25kW on a 100kW module (0.25%), removing the need for a diverter system.

The environmental credentials of the Wessex 100 M series are reinforced by its European Class 5 performance for NOx emissions.

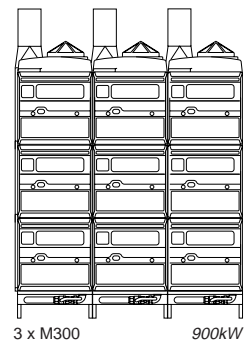
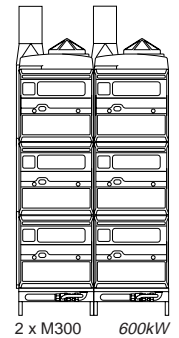
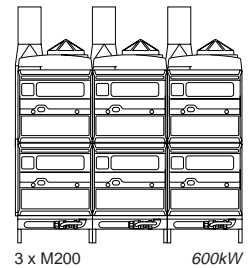
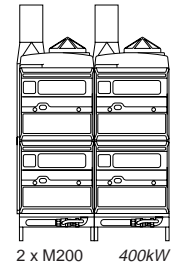
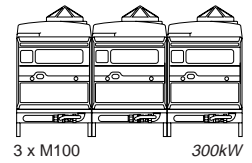
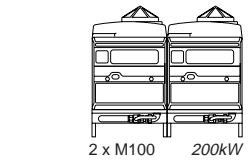
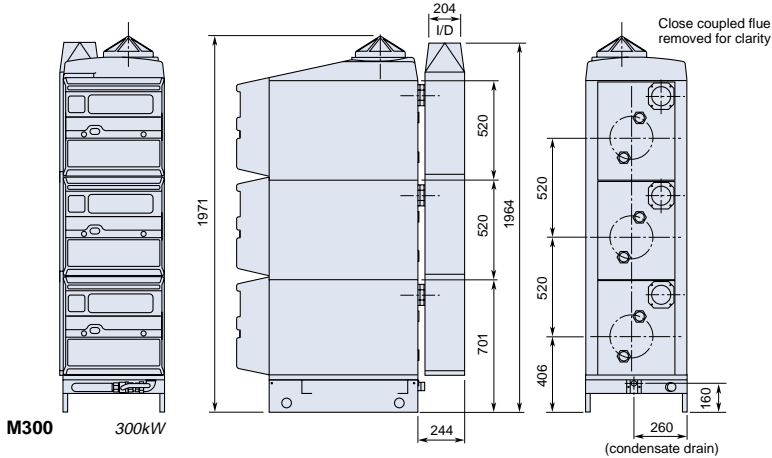
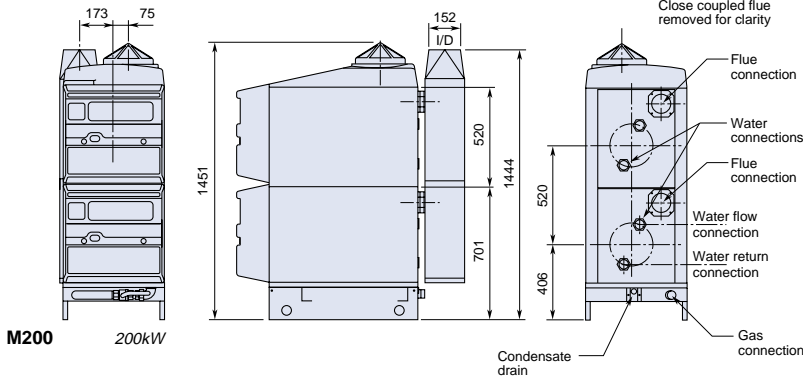
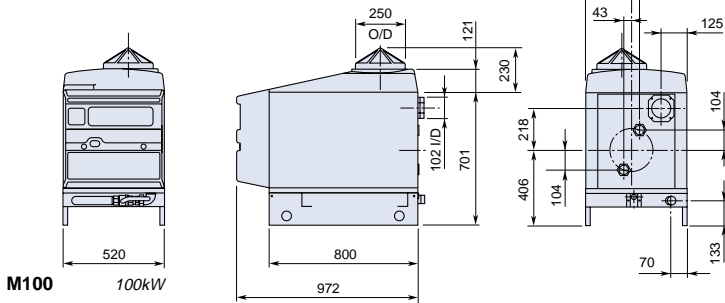
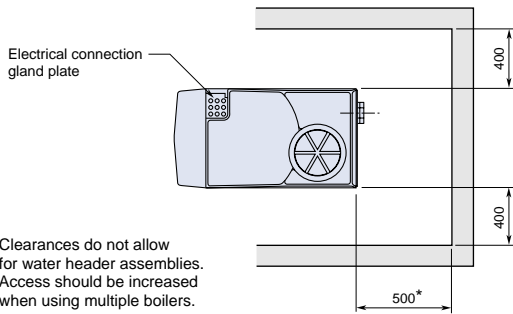
The Wessex is a rapid response boiler with low water content which enables accurate temperature control. Its high rate of heat transfer through the design of copper finned tubes makes it perfectly suited to low inertia buildings, particularly where large areas of glazing are used.



Wessex 100 M300 Boiler

Dimensional Details

Wessex 100 M Series Boiler Dimensions/Clearances



Technical Data

Wessex 100 M Series Performance and General Data Information

Boiler Model		M100	M200	M300	
Number of Modules		1	2	3	
Energy	Boiler output (high fire) - maximum	kW 100	200	300	
		Btu/h x 1000 341	682	1023	
	Boiler input (gross) - maximum	kW 118.3	236.6	354.9	
		Btu/h x 1000 403	807	1211	
	Boiler input (nett) - maximum	kW 106.5	213.0	319.5	
		Btu/h x 1000 363	726	1090	
	Module output (low fire)	kW	50		
		Btu/h x 1000	170		
Water	Water content (not including headers)	litres	5	10	15
	System design flow rate across boiler @ 11°C ΔT rise	l/s	2.2	4.3	6.5
	Minimum flow rate @ 15°C ΔT rise	l/s	1.6	3.2	4.8
	Waterside pressure loss @ 11°C ΔT rise	mbar	480		
	Waterside pressure loss @ 15°C ΔT rise	mbar	265		
	Maximum water pressure	barg	10		
Gas	Gas flow rate natural gas (G20)	m³/hr	11.21	22.42	33.63
	Nominal gas inlet pressure natural gas (G20)	mbar	20		
	Maximum gas inlet pressure natural gas (G20)	mbar	25		
	High fire gas pressure natural gas (G20)	mbar	8.6		
	Low fire gas pressure natural gas (G20)	mbar	1.3		
Flue	Approx. flue gas volume @ 9-9.5% CO ₂ & NTP (dry)	m³/hr	135	270	405
	Approx. flue gas temperature	°C	130		
Connection	Water flow/return connections		G 1½" Male		
	Gas inlet connection pipe thread size		R 1¼"		
	Nominal flue diameter (I/D)	mm	102 (4")	152 (6")	204 (8")
Electrics	Normal supply voltage		230V AC 50Hz 1ph (150W power consumption per module)		
	Module start & run current		<2 Ampere		
	Approx shipping weight	kg	125	225	325



Wessex 100
2 x M200 Boilers



Low weight design

The boiler's lightweight design, compared with traditional cast iron sectional boilers, offers perfect solutions for roof top installations without the need for excessive structural reinforcement.

Around one-third of the weight of conventional boilers, the Wessex 100 M series weighs in at approximately 1.25kg per kW.

Its compact dimensions and base design enable it to be easily manoeuvred, using a standard pallet truck, through a normal sized doorway.

Control system

To complete the package, the Wessex 100 M series is available with an optional built in sequence control system based on Hamworthy's proven Marshall controller.

The optional integral control system is aimed at reducing running costs, saving energy and providing an environment to suit the building occupants.

The control system, with its comprehensive range of features, offers a complete solution which is designed to enable optimum control, taking advantage of the rapid response capability of the Wessex boiler system.

The optional features of the control system include outside temperature compensation which adjusts the water flow temperature, depending on the outside air temperature, with optional 'slope' ratios, to provide close control of the heating system.

An optimiser feature adjusts the heating start time in relation to actual room temperature. This either delays or advances the start time to achieve the desired temperature at the pre-set time.

An optional self-learning function on the optimiser enables the controller to tune itself to the system and building characteristics, achieving further fuel savings.

Night set-back temperature control can reduce the re-heat period the next morning and helps to protect other equipment in the building.

For further details of the Marshall control system refer to publication 500002128.

The integration of the Marshall control system into the boiler control panel enables close control of the 100kW modules, with their high / low mode of operation (50kW / 100kW), accurately matching output to load requirements, eliminating unnecessary boiler firing and short cycling.

The installation costs for the control system are reduced through the

Marshall's ease of installation with plug and socket arrangement, and boiler mounting.

Another new feature of the Wessex 100 M series is the introduction of a hot surface ignition system, which eradicates electrical spikes sometimes associated with conventional spark ignition systems.

Pipework manifold kits

As with all Hamworthy products, they are designed with the complete solution in mind. The Wessex 100 M series is available with optional pipework manifold kits to make the boiler installation quicker and easier.

Contrary to popular practice, the pipework can be installed before the boilers are put in place. This reduces the possibility of damage to the boiler casings during pipework installation and gives the contractor more room to work in the plant room.

The M200 and M300 boilers are supplied complete with a close coupled flue header which incorporates an integral damper to prevent the backflow of combustion products into idle modules.

The Wessex 100 M series exploits all the established benefits of the Wessex 50 and Wessex 200 series and offers much more besides.

Our BS EN ISO 9001 accreditation ensures that our products are designed and manufactured to our consistently high standard.

All Hamworthy boilers have European Certification and bear the CE mark, the customer's assurance of conformity with European standards.



Wessex 100 M100 Boiler



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