

# Technical Data

## Melbury HE Boilers - 530kW to 895kW Performance and General Data

	Boiler Model	MHE530	MHE580	MHE630	MHE700	MHE800	MHE895
Energy	Building Regulations seasonal efficiency (%) gross	84.99	85.34	85.16	85.63	85.33	85.82
	Boiler output at 80/60°C kW Btu/h x 1000	530 1808	580 1979	630 2150	700 2388	800 2730	895 3054
	Boiler input (gross) - Maximum kW Btu/h x 1000	645 2201	697 2379	762 2599	838 2859	966 3296	1068 3644
	Boiler input (nett) - Maximum kW Btu/h x 1000	581 1983	628 2144	686 2341	755 2576	870 2970	962 3283
	Boiler output at 80/60°C for natural gas - Minimum kW Btu/h x 1000	95 324	121 413	121 413	175 597	175 597	269 918
	Boiler output at 80/60°C for oil - Minimum kW Btu/h x 1000	211 720	272 928	272 928	355 1211	355 1211	494 1685
Water	Water content litres	530	650	650	790	790	960
	System design flow rate at 20°C ΔT rise l/s	6.34	6.94	7.54	8.37	9.57	10.71
	Waterside pressure loss at 20°C ΔT rise mbar	11	13	15	18	24	30
	System design flow rate at 10°C ΔT rise l/s	12.68	13.88	15.07	16.74	19.14	21.41
	Waterside pressure loss at 10°C ΔT rise mbar	42	50	59	73	96	120
	Water flow rate - Minimum l/s	No minimum flow rate					
	Water pressure - Maximum barg	6					
	Water pressure - Minimum barg	0.55	0.55	0.65	0.50	0.70	0.75
	Water flow temperature - Maximum °C	90					
	Water flow temperature - Minimum °C	70°C Nat Gas / 60°C Oil					
	Water return temperature - Minimum °C	60°C Nat Gas / 50°C Oil					
Fuel	Flow rate for natural gas - Maximum m <sup>3</sup> /h	61.5	66.5	72.6	79.9	92.1	101.8
	Inlet pressure for natural gas - Nominal* mbar	20					
	Inlet pressure for natural gas - Maximum mbar	50					
	Input rate for oil (35 Sec) l/h	61.0	66.0	72.0	79.3	91.4	101.0
Flue	Flue gas volume at 15°C, 9%CO <sub>2</sub> , N.T.P - Approx m <sup>3</sup> /h	737.9	799.3	891.6	983.8	1137.5	1229.8
	Flue gas temperature at 80/60°C °C	209	187	197	179	196	172
	Combustion chamber resistance mbar	5.97	4.22	5.06	5.03	6.74	5.33
Connections	Water flow connection PN6	DN100					
	Water return connection PN6	DN100					
	Gas inlet connection	Rc2"					
	Drain connection	R1¼"					
	Flue diameter (O/D) - Nominal mm	200	250				300
	Flue hood drain connection	R¾"					
	Electrical supply for boiler	230V 1Ph 50Hz					
	Electrical supply for burner	400V 3Ph 50Hz					
	Shipping weight (excluding burner) - Approx kg	1130	1490	1490	1810	1810	2000

### Notes:

1. Data applies to gas and oil fired boilers, unless otherwise stated.
2. \*The nominal gas inlet pressure shown is for Riello burners. Alternative burners and dual fuel burner requirements may change. Nominal gas inlet pressure must be maintained under full gas flow operating conditions.
3. The performance specification for boilers with low NOx burners may be reduced.  
*For further details please contact our technical department. Tel: 01202 662500.*



# Technical Data

## Melbury HE Boilers - 1150kW to 3000kW Performance and General Data

Boiler Model		MHE1150	MHE1300	MHE1650	MHE1900	MHE2500	MHE3000
Energy	Building Regulations seasonal efficiency (%) gross	85.53	85.42	85.26	85.49	85.76	85.33
	Boiler output at 80/60°C kW Btu/h x 1000	1150 3924	1300 4436	1650 5630	1900 6483	2500 8530	3000 102360
	Boiler input (gross) - Maximum kW Btu/h x 1000	1377 4697	1570 5357	2004 6836	2294 7829	3009 10267	3643 12429
	Boiler input (nett) - Maximum kW Btu/h x 1000	1240 4232	1414 4826	1805 6159	2067 7054	2711 9251	3282 11199
	Boiler output at 80/60°C for natural gas - Minimum kW Btu/h x 1000	311 1061	314 1071	367 1252	459 1566	713 2433	714 2436
	Boiler output at 80/60°C for oil - Minimum kW Btu/h x 1000	582 1986	582 1986	680 2320	847 2890	1217 4152	1272 4340
Water	Water content litres	1360	1360	1760	2060	2610	3070
	System design flow rate at 20°C ΔT rise l/s	13.76	15.55	19.74	22.73	29.90	35.89
	Waterside pressure loss at 20°C ΔT rise mbar	20	26	42	27	46	21
	System design flow rate at 10°C ΔT rise l/s	27.51	31.10	39.47	45.45	59.81	71.77
	Waterside pressure loss at 10°C ΔT rise mbar	81	103	167	106	184	84
	Water flow rate - Minimum l/s	No minimum flow rate					
	Water pressure - Maximum barg	6					
	Water pressure - Minimum barg	0.85	1.10	1.25	1.30	1.60	1.70
	Water flow temperature - Maximum °C	90					
	Water flow temperature - Minimum °C	70°C Nat Gas / 60°C Oil					
Fuel	Water return temperature - Minimum °C	60°C Nat Gas / 50°C Oil					
	Flow rate for natural gas - Maximum m³/h	131.3	149.7	191.0	218.8	286.9	347.3
	Inlet pressure for natural gas - Nominal* mbar	20	30	40	45	60	
	Inlet pressure for natural gas - Maximum mbar	50				75	
Flue	Input rate for oil (35 Sec) l/h	130.2	148.5	189.5	217.0	284.6	344.6
	Flue gas volume at 15°C, 9%CO <sub>2</sub> , N.T.P - Approx m³/h	1598.7	1813.9	2336.5	2674.7	3504.8	4242.7
	Flue gas temperature at 80/60°C °C	179	194	205	195	188	205
	Combustion chamber resistance mbar	6.41	8.39	9.67	9.43	10.35	9.50
Connections	Water flow connection PN6	DN125			DN150		DN200
	Water return connection PN6	DN125			DN150		DN200
	Gas inlet connection	Rc3"	Rc2"		Rc2½"		Rc3"
	Drain connection	R1¼"					
	Flue diameter (O/D) - Nominal mm	350			400	450	500
	Flue hood drain connection	R1¼"					
Electrical	Electrical supply for boiler	230V 1Ph 50Hz					
	Electrical supply for burner	400V 3Ph 50Hz					
	Shipping weight (excluding burner) - Approx kg	2460	2460	2948	3393	4248	4822

### Notes:

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# Technical Data

## Melbury HE Boilers - 3800kW to 6300kW Performance and General Data

	Boiler Model	MHE3800	MHE4500	MHE5400	MHE6300	
Energy	Building Regulations seasonal efficiency (%) gross	85.42	85.55	85.67	85.63	
	Boiler output at 80/60°C	kW 3800	kW 4500	kW 5400	kW 6300	
		Btu/h x 1000 12966	Btu/h x 1000 15354	Btu/h x 1000 18425	Btu/h x 1000 21496	
	Boiler input (gross) - Maximum	kW 4594	kW 5440	kW 6507	kW 7575	
		Btu/h x 1000 15675	Btu/h x 1000 18562	Btu/h x 1000 22202	Btu/h x 1000 25846	
	Boiler input (nett) - Maximum	kW 4139	kW 4902	kW 5863	kW 6825	
	Btu/h x 1000 14123	Btu/h x 1000 16724	Btu/h x 1000 20004	Btu/h x 1000 23287		
Water	Boiler output at 80/60°C for natural gas - Minimum	kW 880	kW 1160	kW 1473	kW 1582	
		Btu/h x 1000 3003	Btu/h x 1000 3958	Btu/h x 1000 5026	Btu/h x 1000 5398	
	Boiler output at 80/60°C for oil - Minimum	kW 2012	kW 2518	kW 2930	kW 3442	
		Btu/h x 1000 6865	Btu/h x 1000 8591	Btu/h x 1000 9997	Btu/h x 1000 11744	
	Water content	litres 3805	litres 5385	litres 6060	litres 9300	
	System design flow rate at 20°C ΔT rise	l/s 45.45	l/s 53.83	l/s 64.59	l/s 75.36	
Waterside pressure loss at 20°C ΔT rise	mbar 44	mbar 62	mbar 89	mbar 47		
System design flow rate at 10°C ΔT rise	l/s 90.91	l/s 107.66	l/s 129.19	l/s 150.72		
Waterside pressure loss at 10°C ΔT rise	mbar 176	mbar 248	mbar 356	mbar 188		
Water flow rate - Minimum	l/s	No minimum flow rate				
Water pressure - Maximum	barg	6				
Water pressure - Minimum	barg	1.8		2.2		
Water flow temperature - Maximum	°C	90				
Water flow temperature - Minimum	°C	70°C Nat Gas / 60°C Oil				
Water return temperature - Minimum	°C	60°C Nat Gas / 50°C Oil				
Fuel	Flow rate for natural gas - Maximum	m³/h 438.0	m³/h 518.7	m³/h 620.4	m³/h 722.2	
	Inlet pressure for natural gas - Nominal*	mbar 60	Data on application			
	Inlet pressure for natural gas - Maximum	mbar 75	100		Data on application	
	Input rate for oil (35 Sec)	l/h 434.6	l/h 514.6	l/h 615.5	l/h 716.5	
Flue	Flue gas volume at 15°C, 9%CO <sub>2</sub> , N.T.P - Approx	m³/h 5503.2	m³/h 6517.7	m³/h 7809.0	m³/h 9069.5	
	Flue gas temperature at 80/60°C	°C 198	°C 196	°C 190	°C 185	
	Combustion chamber resistance	mbar 11.01	mbar 10.18	mbar 10.91	mbar 12.46	
Connections	Water flow connection	PN6	DN200		DN250	
	Water return connection	PN6	DN200		DN250	
	Gas inlet connection	Rc3"	Rc4"		Data on application	
	Safety valve connection	PN16	DN80		DN100	
	Drain connection	PN6	R2"		DN65	
	Flue diameter (O/D) - Nominal	mm	550	600	650	700
	Flue hood drain connection		R1¼"		R2"	
Electrical	Electrical supply for boiler	230V 1Ph 50Hz				
	Electrical supply for burner	400V 3Ph 50Hz				
	Shipping weight (excluding burner) - Approx	kg 7025	kg 8425	kg 10075	kg 13545	

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# Technical Data

## Melbury HE Boilers - 7400kW to 10000kW Performance and General Data

	Boiler Model	MHE7400	MHE8600	MHE10000	
Energy	Building Regulations seasonal efficiency (%) gross	85.65	85.77	85.99	
	Boiler output at 80/60°C	kW 7400	8600	10000	
		Btu/h x 1000 25249	29343	34120	
	Boiler input (gross) - Maximum	kW 8888	10296	11920	
		Btu/h x 1000 30325	35128	40671	
	Boiler input (nett) - Maximum	kW 8008	9276	10740	
	Btu/h x 1000 27323	31651	36644		
Water	Boiler output at 80/60°C for natural gas - Minimum	kW 1935	2332	2907	
		Btu/h x 1000 6602	7957	9919	
	Boiler output at 80/60°C for oil - Minimum	kW 3442	4163	5127	
		Btu/h x 1000 11744	14204	17493	
	Water content	litres	11400	13300	15120
	System design flow rate at 20°C ΔT rise	l/s	88.52	102.87	119.62
	Waterside pressure loss at 20°C ΔT rise	mbar	65	45	61
	System design flow rate at 10°C ΔT rise	l/s	177.03	205.74	239.23
	Waterside pressure loss at 10°C ΔT rise	mbar	260	180	244
	Water flow rate - Minimum	l/s	No minimum flow rate		
	Water pressure - Maximum	barg	6		
	Water pressure - Minimum	barg	2.2		
Water flow temperature - Maximum	°C	90			
Water flow temperature - Minimum	°C	70°C Nat Gas / 60°C Oil			
Water return temperature - Minimum	°C	60°C Nat Gas / 50°C Oil			
Fuel	Flow rate for natural gas - Maximum	m³/h	847.4	981.6	1136.5
	Inlet pressure for natural gas - Nominal*	mbar			
	Inlet pressure for natural gas - Maximum	mbar	Data on application		
	Input rate for oil (35 Sec)	l/h	840.7	973.9	1127.5
Flue	Flue gas volume at 15°C, 9%CO <sub>2</sub> , N.T.P - Approx	m³/h	10668.2	12328.2	14265.2
	Flue gas temperature at 80/60°C	°C	185	178	169
	Combustion chamber resistance	mbar	14.40	16.03	17.48
Connections	Water flow connection	PN6	DN250	DN300	
	Water return connection	PN6	DN250	DN300	
	Gas inlet connection		Data on application		
	Safety valve connection	PN16	DN100	DN125	
	Drain connection	PN6	DN65		DN80
	Flue diameter (O/D) - Nominal	mm	750	850	900
	Flue hood drain connection		R2"		
	Electrical supply for boiler		230V 1Ph 50Hz		
	Electrical supply for burner		400V 3Ph 50Hz		
	Shipping weight (excluding burner) - Approx	kg	16040	18620	21900

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