ADMP / ADM / ADMR

Atmospheric commercial water heater

ADMP / ADM / ADMR - 40/50/60/80/90/115/135

An extensive range of atmospheric water heaters to suit most larger hot water systems • Efficient, automatic hot surface igniter • Removable control column for convenient servicing • Frost-protection thermostat • Stainless steel burner for natural or LP gas • Two access covers for comprehensive waterside tank maintenance • External control connection • Voltage-free contact for general fault indication • Optional ancillaries: Unvented kits • Destratification pump kit • Powered anode • Flue fan kit • **ADMP** Permanent pilot ignition • Pilot proving kit available • **ADM** Electronic ignition • Control, high limit and energy cut-off thermostats provide triple protection and ensure safe operation • **ADMR** Electronic ignition • Flue damper to minimise standing losses • ThermoControl for easy and flexible control / fault diagnosis • Programmable for legionella purge cycle

Innovation has a name.

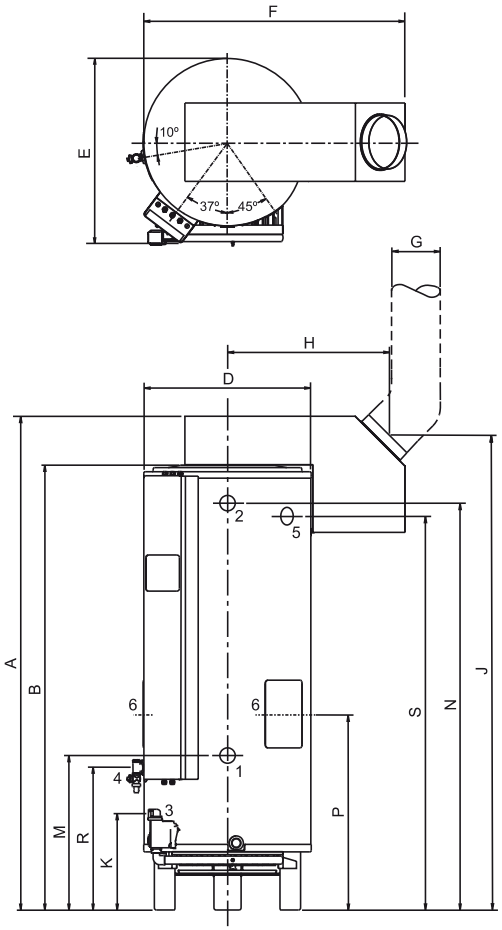
Technical specifications

		ADM 40	ADM 50	ADM 60	ADM 80	ADM 90	ADM 115	ADM 135	ADMR 40	ADMR 50	ADMR 60	ADMR 80	ADMR 90	ADMR 115	ADMR 135
Gas data natural gas 2H (G20)															
Input*	kW	42.2	56.5	66.4	82.5	98.3	126.6	143.4	42.2	56.5	66.4	82.5	98.3	126.6	143.4
Output	kW	32.3	42.8	50.2	62.4	74.3	95.8	109.8	32.3	42.8	50.2	62.4	74.3	95.8	109.8
Inlet pressure	mbar	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Burner pressure	mbar	8.5	8.5	8.5	8.5	8.5	8.5	11.3	8.5	8.5	8.5	8.5	8.5	8.5	11.3
Gas consumption**	m^3/h	4.0	5.4	6.3	7.9	9.4	12.1	13.7	4.0	5.4	6.3	7.9	9.4	12.1	13.7
Diameter main orifice	mm	3.2	3.2	3.1	2.95	3.2	3.2	3.9	3.2	3.2	3.1	2.95	3.2	3.2	3.9
Max. flue gas temperature	°C	180	200	200	180	180	200	185	180	200	200	180	180	200	185
Flue gas discharge	kg/h	121.7	130.2	199.4	190.1	329.0	253.1	302.6	121.7	130.2	199.4	190.1	329.0	253.1	302.6
Gas data butane 3+ (G30)															
Input*	kW	41.6	55.3	68.2	80.7	96.1	123.5	138.4	41.6	55.3	68.2	80.7	96.1	123.5	138.4
Output	kW	32.6	42.8	52.8	62.6	74.5	95.8	108.5	32.6	42.8	52.8	62.6	74.5	95.8	108.5
Inlet pressure	mbar	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Burner pressure	mbar	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gas consumption**	kg/h	3.0	4.0	5.0	5.9	7.0	9.0	10.1	3.0	4.0	5.0	5.9	7.0	9.0	10.1
Diameter main orifice	mm	1.7	1.7	1.7	1.5	1.7	1.7	2.25	1.7	1.7	1.7	1.5	1.7	1.7	2.25
Max. flue gas temperature	°C	180	200	200	180	180	200	185	180	200	200	180	180	200	185
Flue gas discharge	kg/h	125.9	129.4	183.9	205.3	344.9	255.6	319.6	125.9	129.4	183.9	205.3	344.9	255.6	319.6
Gas data propane 3+ (G31)															
Input*	kW	38.4	51.1	63.3	77.7	89.6	113.0	130.1	38.4	51.1	63.3	77.7	89.6	113.0	130.1
Output	kW	30.0	39.5	48.9	60.1	69.2	87.4	101.7	30.0	39.5	48.9	60.1	69.2	87.4	101.7
Inlet pressure	mbar	37	37	37	37	37	37	37	37	37	37	37	37	37	37
Burner pressure	mbar	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gas consumption**	kg/h	2.7	3.7	4.5	5.6	6.4	8.1	9.3	2.7	3.7	4.5	5.6	6.4	8.1	9.3
Diameter main orifice	mm	1.7	1.7	1.7	1.5	1.7	1.7	2.25	1.7	1.7	1.7	1.5	1.7	1.7	2.25
Max. flue gas temperature	°C	180	200	200	180	180	200	185	180	200	200	180	180	200	185
Flue gas discharge	kg/h	115.2	119.9	177.5	187.4	187.4	239.4	297.1	115.2	119.9	177.5	187.4	187.4	239.4	297.1
Draw-off capacity															
Storage capacity	l	309	357	298	335	278	253	252	309	357	298	335	278	253	252
Max. temperature setting	°C	73	73	73	73	73	73	73	80	80	80	80	80	80	80
30 min. ΔT=44°C	l	621	766	767	914	957	1118	1240	621	766	767	914	957	1118	1240
60 min. ΔT=44°C	l	937	1183	1258	1524	1684	2054	2313	937	1183	1258	1524	1684	2054	2313
90 min. ΔT=44°C	l	1253	1601	1749	2134	2410	2990	3385	1253	1601	1749	2134	2410	2990	3385
120 min. ΔT=44°C	l	1568	2019	2240	2744	3137	3926	4458	1568	2019	2240	2744	3137	3926	4458
Continuous ΔT=44°C	l/h	631	836	982	1220	1453	1872	2145	631	836	982	1220	1453	1872	2145
Heating-up time ΔT=44°C	min.	29	26	18	16	11	8	7	29	26	18	16	11	8	7
30 min. ΔT=50°C	l	547	674	675	805	842	984	1092	547	674	675	805	842	984	1092
60 min. ΔT=50°C	l	824	1041	1107	1341	1482	1808	2035	824	1041	1107	1341	1482	1808	2035
90 min. ΔT=50°C	l	1102	1409	1539	1878	2121	2631	2979	1102	1409	1539	1878	2121	2631	2979
120 min. ΔT=50°C	l	1380	1777	1971	2415	2760	3455	3923	1380	1777	1971	2415	2760	3455	3923
Continuous ΔT=50°C	l/h	556	735	864	1073	1279	1647	1888	556	735	864	1073	1279	1647	1888
Heating-up time ΔT=50°C	min.	33	29	21	19	13	9	8	33	29	21	19	13	9	8
30 min. ΔT=55°C	l	497	612	614	732	766	895	992	497	612	614	732	766	895	992
60 min. ΔT=55°C	l	749	947	1006	1219	1347	1643	1850	749	947	1006	1219	1347	1643	1850
90 min. ΔT=55°C	l	1002	1281	1399	1707	1928	2392	2708	1002	1281	1399	1707	1928	2392	2708
120 min. ΔT=55°C	l	1255	1615	1792	2195	2509	3141	3566	1255	1615	1792	2195	2509	3141	3566
Continuous ΔT=55°C	l/h	505	669	785	976	1162	1497	1716	505	669	785	976	1162	1497	1716
Heating-up time ΔT=55°C	min.	37	32	23	21	14	10	9	37	32	23	21	14	10	9
Electrical data															
Power consumption	W	30	30	30	30	30	30	60	50	50	50	50	50	50	80
Power supply	VAC/Hz	230 (-15 / +10%) / 50							230 (-15 / +10%) / 50 (+/- 1 Hz)						
General															
Anodes	-	2	2	2	3	3	4	4	2	2	2	3	3	4	4
Maximum working pressure	bar	8							8						
Maximum weight	kg	504	578	507	573	522	523	581	504	578	507	573	522	523	581
Shipping data															
Weight empty	kg	195	221	209	238	244	270	329	195	221	209	238	244	270	329
Weight incl. packaging	kg	214	242	230	259	265	291	350	214	242	230	259	265	291	350
Width packaging	mm	780	780	780	780	780	780	910	780	780	780	780	780	780	910
Height packaging	mm	1930	2140	1930	2140	1975	2045	2050	1930	2140	1930	2140	1975	2045	2050
Depth packaging	mm	870	870	870	870	870	870	910	870	870	870	870	870	870	910

* Gas data on gross value

** Gas consumption at 15°C and 1013.25 mbar

Dimensions ADM / ADMR



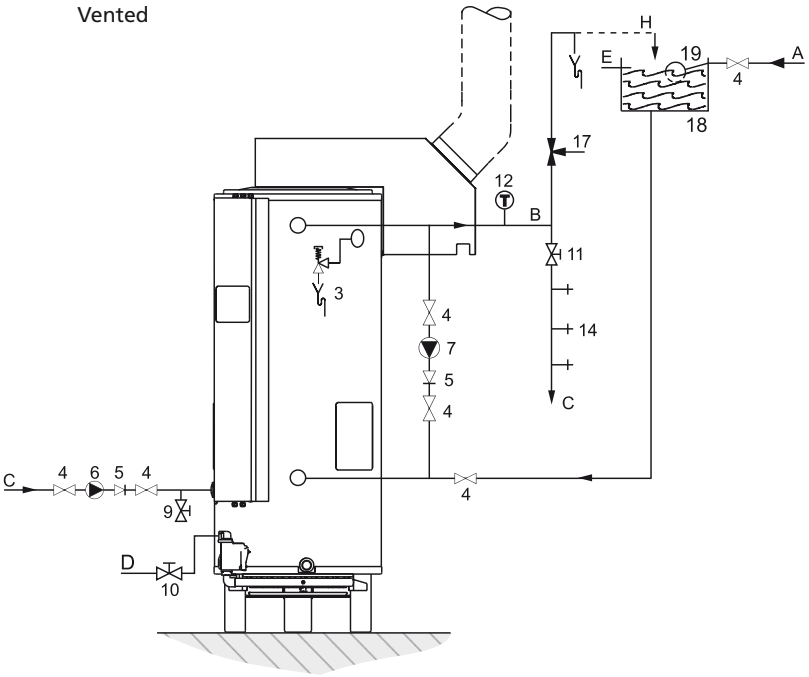
	ADM(R) 40	ADM(R) 50	ADM(R) 60	ADM(R) 80	ADM(R) 90	ADM(R) 115	ADM(R) 135
A	1900	2100	1900	2100	2000	2085	2085
B	1760	1960	1760	1960	1795	1870	1870
D	710	710	710	710	710	710	710
E	800	800	800	800	800	800	800
F	1100	1100	1100	1100	1105	1105	1105
G	150	150	180	180	225	225	225
H	660	660	660	660	675	675	675
J	1840	2040	1840	2040	1935	2010	2010
K	400	400	400	400	400	400	205
M	565	565	565	565	575	650	650
N	1605	1810	1605	1810	1640	1715	1715
P	730	730	730	730	740	825	855
R	500	515	500	515	525	600	595
S	1550	1760	1550	1760	1595	1660	1660

1	Cold water (external)	R1 1/2
2	Hot water (internal)	Rp1 1/2
3	Gas control (internal)	Rp 3/4 (ADM(R) 135 = Rp1)
4	Tank drain valve (internal)	Rp1 1/2
5	T&P valve (internal)	1-11.5 NPT (40-80)
		Rp1 1/2 (90-135)
6	Cleaning and inspection opening	Ø100

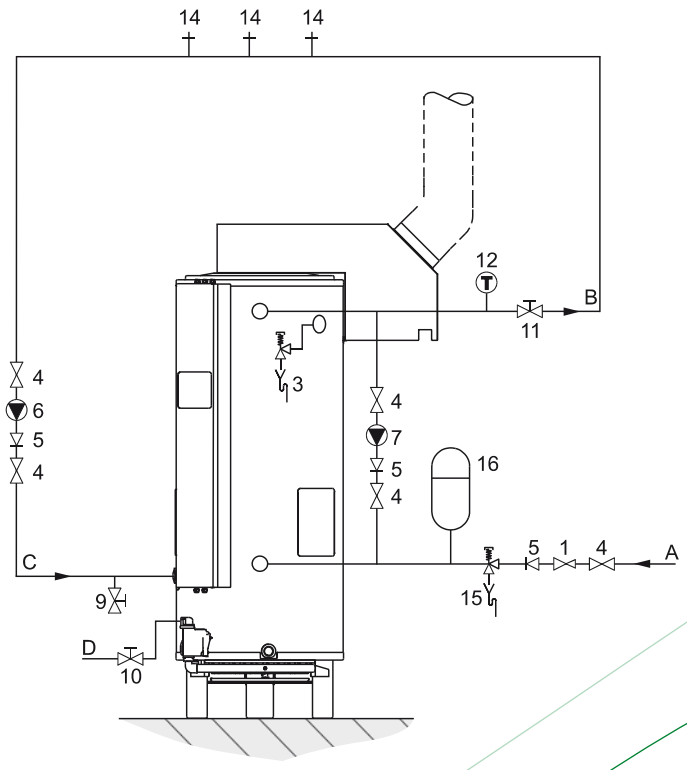
Dimensions in mm. All ADM and ADMR water heaters receive a three years warranty on the tank and one year on parts.

Installation diagrams ADM / ADMR

Vented



Unvented



1 Pressure reducing valve
3 T&P valve
4 Stop valve
5 Non-return valve
6 Circulation pump
7 Destratification pump
9 Drain valve
10 Gas cock
11 Isolating valve
12 Temperature gauge
14 Hot water outlets
15 Expansion relief valve
16 Expansion vessel
17 Three way valve
18 Water tank
19 Float valve

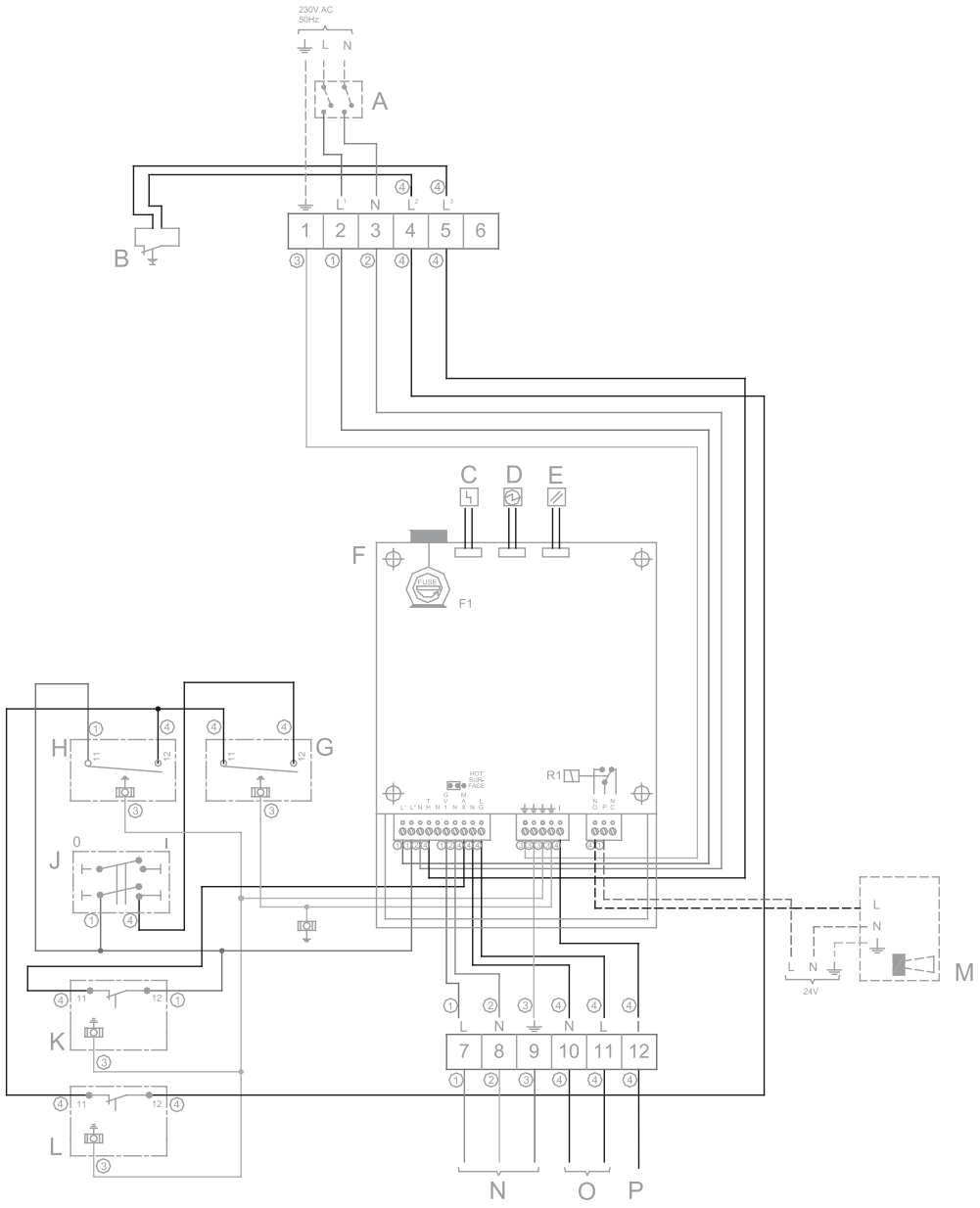
A Cold water
B Hot water
C Return circulation
D Gas supply
E Overflow pipe
H Expansion vent pipe

A.O. Smith unvented system kits utilise combination valves.

An ADM/ADMP or ADMR water heater should be installed in accordance with local standards and ventilation requirements (category B11BS).

Further installation and connection details can be found in the Installation & Commissioning Manual.

Electrical diagram ADM



Colour code cables
① = brown
② = blue
③ = yellow/green
④ = black

TERMINAL STRIP CONNECTIONS

⏚	Earth
N	Neutral
L1	Phase input of controller
L2	Phase input of flue gas thermostat
L3	Phase output of flue gas thermostat

COMPONENTS

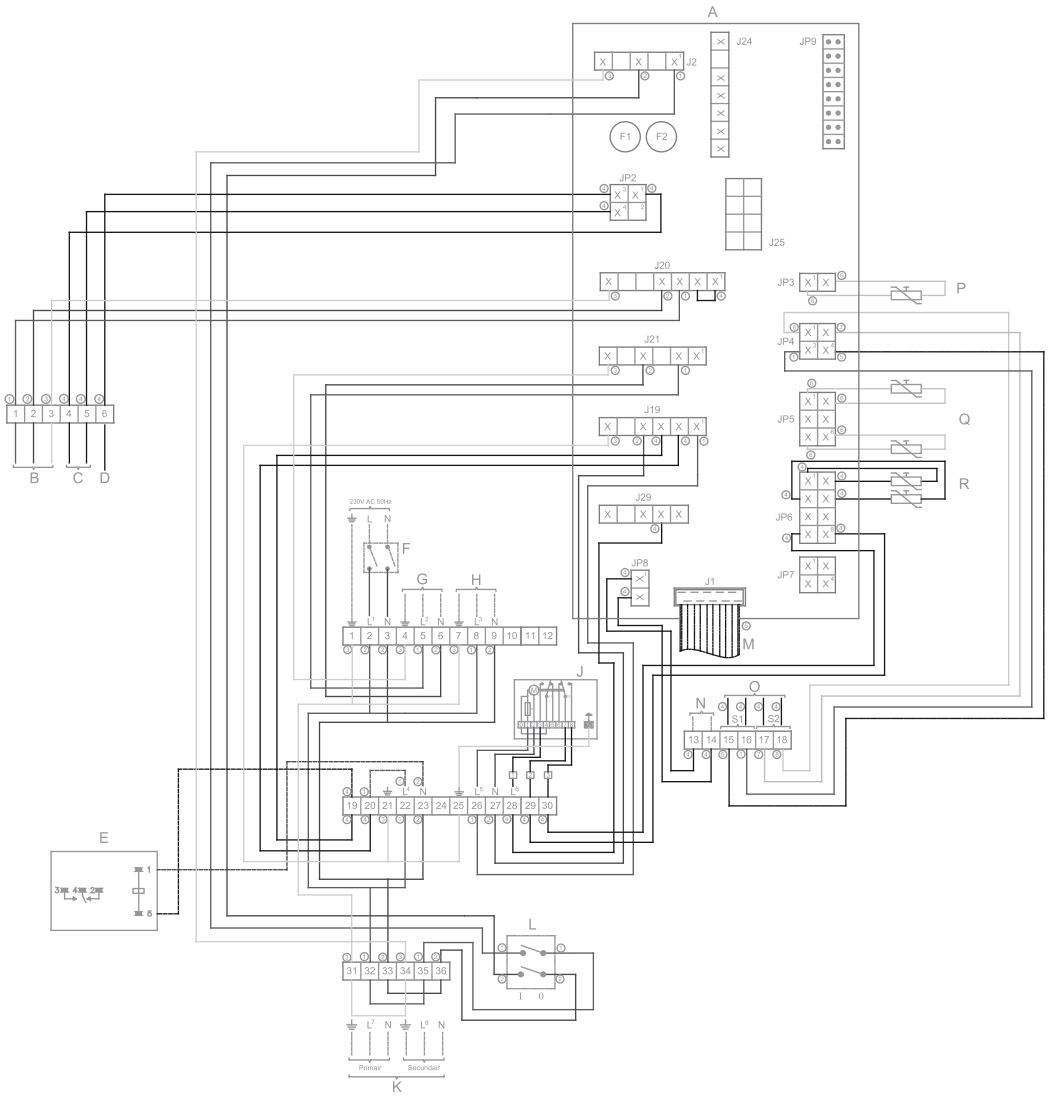
A	Two-terminal main switch
B	Flue gas thermostat
C	Indicator LED “Error”
D	Indicator LED “Running”
E	“RESET” button
F	Burner control
G	Control thermostat
H	Frost thermostat
J	0/1 switch of controller
K	Safety thermostat
L	High-limit thermostat
M	Extra error sensor
N	Gas control
O	Glow igniter
P	Ionisation rod

CONNECTIONS ON BURNER CONTROL

N1	Neutral
⏚	Earth
L’	Phase input of burner control
L”	Phase output to safety circuit and thermostat circuit
TH	Phase input of thermostat circuit
GV1	Phase output to gas control
MAX	Phase input of safety thermostat
LG	Phase output to glow igniter
I	Ionisation signal detection
NO	“Normally open” port of the extra error sensor
P	Phase input of extra error sensor
NC	“Normally closed” port of the extra error sensor

F1 Fuse

Electrical diagram ADMR



Colour code cables
① = brown
② = blue
③ = yellow/green
④ = black
⑤ = white (flat cable)
⑥ = grey/beige
⑦ = green
⑧ = yellow

TERMINAL STRIP CONNECTIONS

⏚	Earth
N	Neutral
L1	Phase input of controller
L2	Phase input of program-controlled pump
L3	Phase input of continuous pump
L4	Phase input of extra error signal
L5	Phase input of flue damper motor
L6	Phase output of flue damper motor (feedback)
L7	Phase input of isolating transformer (primary side)
L8	Phase output of isolating transformer (secondary side)

COMPONENTS

A	Controller
B	Gas control
C	Glow igniter
D	Ionisation rod
E	Extra error signal
F	Double-pole mains switch
G	Program-controlled pump
H	Continuous pump
J	Flue damper
K	Isolating transformer
L	I/0 switch control
M	Display/Flat cable
N	Extra ON mode switch
O	Connector for the flue gas sensor
P	Temperature sensor (T2 - bottom of tank)
Q	Temperature sensor (T1 - top of tank)
R	Selection resistor

CONTROLLER CONNECTIONS

J1	Connector for display to controller
J2	Connector for power supply to controller
J19	Connector for extra error signal and power supply to flue damper
J20	Connector for gas control
J21	Connector for program-controlled pump
J29	Connector for feedback from flue damper
JP2	Connector for ionisation rod and glow igniter
JP3	Connector for temperature sensor T2
JP4	Connector for flue gas sensor
JP5	Connector for temperature sensor T1
JP6	Connector for selection resistor and feedback from micro-switch
JP8	Connector for extra ON mode switch
F1	Fuse
F2	Fuse