

Aquatherm AY Series



Gas and Oil Fired
Hot Water Boilers

Aquatherm AY Series Boiler

The AQUATHERM/YGNIS range of boilers employ a well tried and proved design concept based on the reverse flame combustion technology pioneered in hot water boilers by YGNIS AG Switzerland. This reverse flame combustion method provides an economical and highly efficient three pass gas flow system. The design incorporates a large pressurised combustion chamber allowing the first two passes of gas to be made in the combustion chamber itself. The scrubbing action of the reversing flame causes the gases to enter and re-enter the high temperature flange zone many times before making the third and final pass through the smoke tubes. Dimples in the smoke tubes further slow the passage of the combustion gases providing additional efficient heat transfer.

A major criteria in this design is the careful balance between radiant heating surfaces and secondary convection heating surfaces to ensure optimum efficiency when firing either gas or oil.

Because of the use of a pressurised combustion system the boiler operation is completely independent of chimney draught. Chimney sizes are therefore reduced with consequent installation savings.

An extremely easy to clean design as all heating surfaces can be reached easily by opening the burner door. This boiler can be cleaned while hot and still in service completely eliminating the need to shut down the system. An important feature of continued efficient operation, as each millimetre of soot or fouling reduces efficiency by 7%.

Wet back construction with insulated firing door for maximum heat retention to reduce the possibility of condensation in the combustion chamber.

A completely demountable casing system which is easily mounted on the framework forming a permanent part of the boiler.

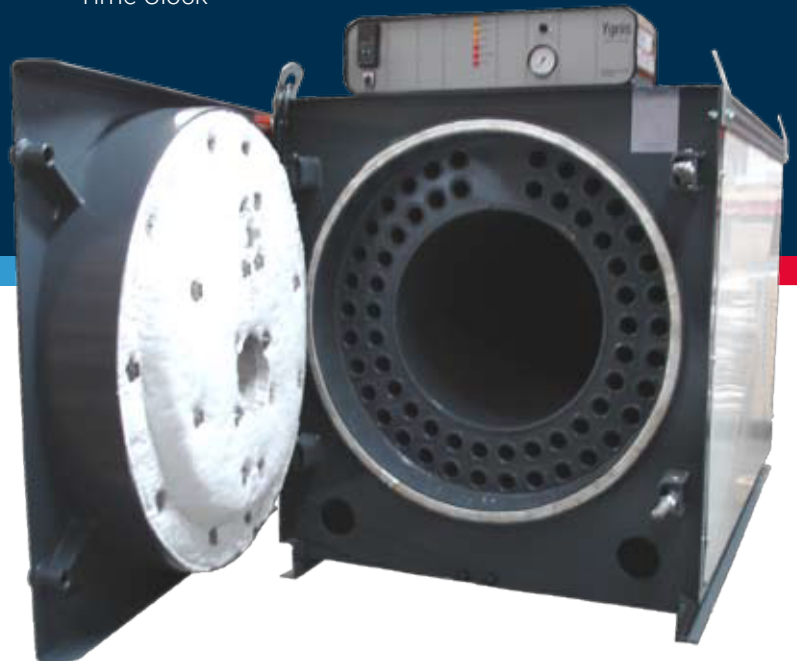
The boiler top casing is strengthened and braced. The top section is constructed of heavy chequer plate and can serve as walkway overcoming the most common on site damage problem.

Control Panel Standard Features

- ON/OFF Switch
- Digital Flow Temperature Indication
- Control and High Limit Thermostats
- High/Low Thermostat
- Low Water Cut Out
- Indication lights
 - Power On
 - High Limit
 - Lock Out
 - High Fire
 - Low Fire

Control Panel Optional Features

- Digital Return Temperature Indication
- Flue Gas Temperature Indication
- Modulating Control
- High or Low Gas
- Pressure Indication
- Time Clock



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Output Range

100kW to 3000kW - higher outputs on request

Working Pressure

500kPa

Test Pressure

750kPa

Casing

1mm steel panels in Titania Colour
3mm chequer plate top

Door Hinging

Door hinged both sides - handing therefore optional

Electrical Wiring

400 volt 3 phase 50 cycle standard
Except models AY100 - AY600: 32 volt 1 phase 50 cycle

Valves

Drain valve fitted as standard
Safety valve sized to suit application (3 bar standard)

Control Panel

Standard modular control panel mounted on front of top plate

Insulation

Boiler Shell: 50mm fibreglass insulation with aluminium foil totally encasing boiler shell
Boiler Door: Ceramic fibre

Firing Equipment

Matching over-fire forced draft pressure jet burner system to suit nominated fuel system
Natural Gas/LPG/Oil/Dual Fuel

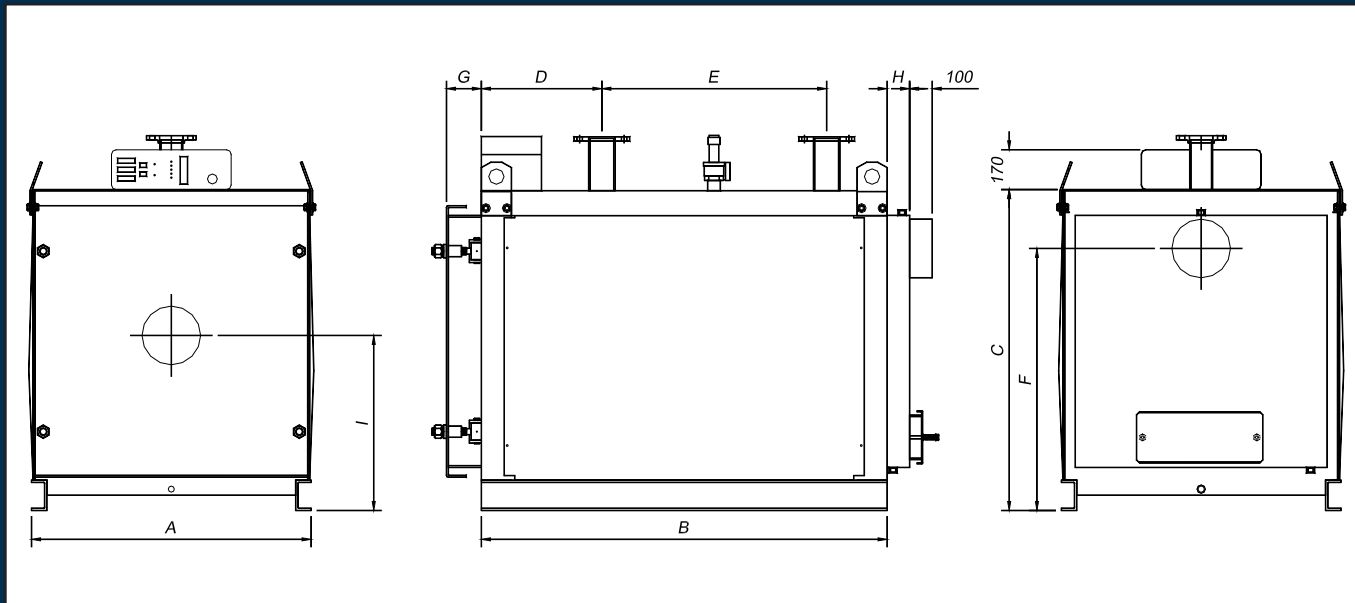
Options

Packaged combination unit incorporating domestic hot water heat exchanger or calorifier all fitted up with interconnecting primary pipework, circulating pump and pressurising and expansion system.

Vertical flue gas outlet.



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MODEL	Output	Dimensions mm									Connections			Dry Weight	Water Content	Fuel Consumption	
		A	B	C	D	E	F	G	H	I	Flow & Return	Safety Vent	Flue OD			kg	litres
AY100	100	770	1280	905	400	680	715	130	110	475	65	20	150	445	330	430	12
AY125	125	770	1280	905	400	680	715	130	110	475	65	20	150	465	322	537	14
AY150	150	770	1280	905	400	680	715	130	110	475	65	20	150	485	316	645	18
AY175	175	770	1280	905	400	680	715	130	110	475	65	20	150	504	312	753	20
AY200	200	930	1350	1065	400	750	865	130	120	555	65	25	200	650	450	860	25
AY250	250	930	1350	1065	400	750	865	130	120	555	65	25	200	680	440	1075	28
AY300	300	930	1350	1065	400	750	865	130	120	555	80	32	200	765	420	1290	35
AY350	350	930	1350	1065	400	750	865	130	120	555	80	32	200	780	410	1505	41
AY400	400	930	1350	1065	400	750	865	130	120	555	80	32	200	790	400	1670	46
AY500	500	1040	1582	1175	400	982	950	150	130	610	100	40	250	1000	500	2150	58
AY600	600	1040	1582	1175	400	982	950	150	130	610	100	40	250	1260	630	2580	70
AY750	750	1200	1672	1350	500	922	1100	150	140	705	125	50	300	1500	725	3225	87
AY950	950	1240	1886	1390	500	1136	1115	150	140	725	125	50	350	1796	912	4085	113
AY1200	1200	1350	1886	1500	500	1136	1195	180	160	780	125	2x40	400	2054	1170	5160	143
AY1500	1500	1485	1990	1640	500	1240	1315	180	160	855	150	2x40	450	2952	1570	6450	179
AY1800	1800	1620	2040	1780	500	1290	1455	180	180	925	150	2x50	450	3400	1890	7740	215
AY2100	2100	1810	2694	1970	500	1944	1620	180	180	1020	150	2x50	500	4200	2200	9030	250
AY2500	2500	1810	3050	1970	500	2294	1620	180	180	1020	200	2x65	600	4450	2630	10750	299
AY3000	3000	2110	3500	2300	500	2750	1900	180	180	1200	200	2x65	600	5780	3150	12900	350

Note: Control Panel on models AY2100, AY2500, AY3000 mounted on side of boiler.
 Temperzone reserve the right to alter specification without prior notice.
 Certified drawing are available on request.

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