TERNA S

HIGH OUTPUT DUAL FUEL BOILER

Two boilers in one with automatic change over from solid fuel to oil or gas (burner dependant)

Versions available **S27 S38 S45**

On one side of the appliance is a gas or oil boiler and the other side of the appliance is a multi fuel boiler. The all in one construction with a three position master control switch allows the user to select option functions as follows:-

Oil / Gas Boiler	To operate independently.
Multi Fuel Boiler	To operate independently.
Multi Fuel Boiler	To operate with automatic change over to the Oil / Gas burner, if the multifuel boiler goes out.

As can be seen on the performance chart over there are 3 versions starting at the S27 and going up to the S45.

The output of the boiler is controlled by a fan which turns on when demand occurs and off when demand is satisfied. The blown air system of increasing and decreasing the burn rate of the appliance makes for both rapid response, (when the fan is running) and slow efficient combustion when it is not.

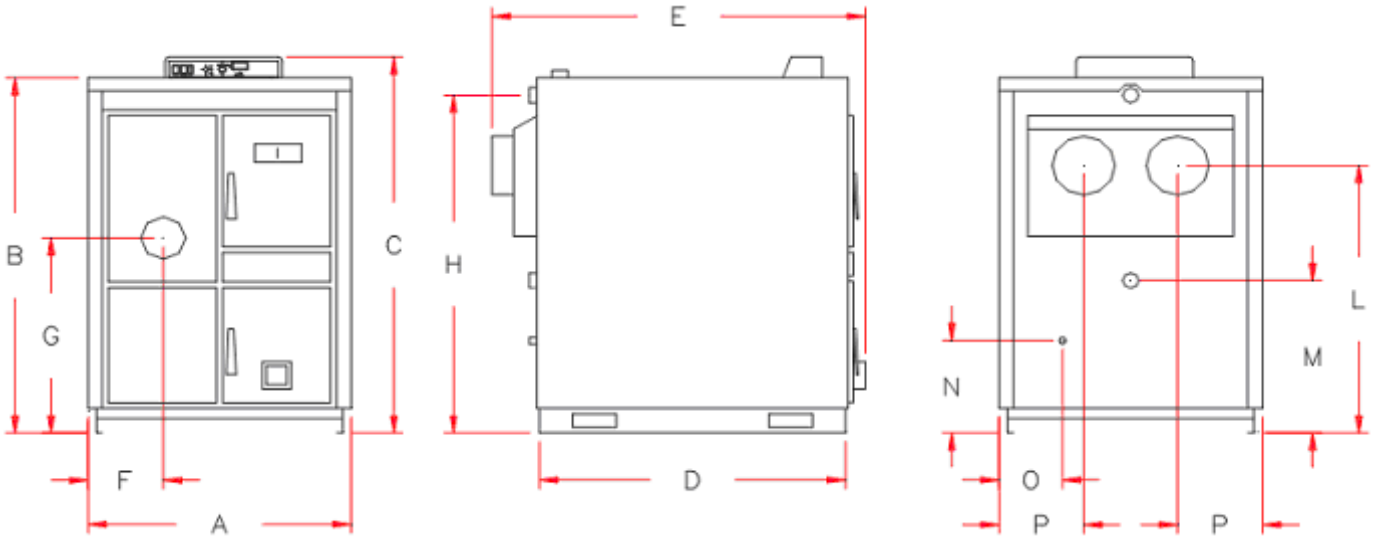
As required, secondary air can be introduced via an air slide on the fuel loading door.

On both the oil and multifuel side, the water jacket is so designed to maximize output and efficiency by utilizing a wrap around heat exchanger which directs the flue gases through horizontal cross tubes before they depart the boiler via the rear flue outlet.

As can be seen from dimensions detailed over, both the combustion chamber and the fuel loading door are large enough to accommodate copious amounts of wood, solid fuel or both.

Protruding through the lower side panel is a substantial and conveniently located external handle which operates a mechanism driving the long lasting and extremely reliable cast iron, locomotive type riddling grates.

The boiler is clad in a powder coated steel casing with fiberglass insulation between it and the water jacket and as illustrated, the control panel is affixed to the upper side of the outer panel.



Dimensions

MODEL	Sizes in mm													Weight kg	Load Door size	Combustion Chamber Length
	A	B	C	D	E	F	G	H	L	M	N	O	P			
TERNA S 27	740	1110	1210	720	920	195	655	1050	865	440	315	200	200	345	260 380	540
TERNA S 38	740	1110	1210	720	1160	195	655	1050	865	440	315	200	200	450	260 380	780
TERNA S 45	790	1110	1210	910	1160	220	655	1050	865	450	315	220	220	480	260 380	790

Performance

MODEL	MAX OUTPUT kW	COAL OUTPUT kW	WOOD OUTPUT kW	GAS / OIL OUTPUT
TERNA S 27	35	29	28	28
TERNA S 38	49	42	39	39
TERNA S 45	58	49	46	46

Technical

MODEL	BOILER WATER CONTENT lts	WORKING PRESSURE bar	FLUE VACUUM Mbar	BOILER CONNECTIONS	WATER TANK CAPACITY	FLUE DIAMETER mm
TERNA S 27	110	3	28	1 1/4"	28	200
TERNA S 38	150	3	39	1 1/4"	39	200
TERNA S 45	115	3	46	1 1/4"	46	200

BOILER WORKING PRESSURE 3 bar BOILER TEST PRESSURE 4.5 bar

Data and sizes quoted in the tables above are not binding. Thermorossi reserve the right to change them without notice

Controls

The boiler has a control panel on which are mounted the following controls:-

1. Appliance On – Off switch with neon illumination. (Turned on to start the appliance)
2. Fan On – Off switch. (Turned on to start the appliance)
3. Circulating pump On – Off switch. (Turned on to start the appliance)
4. Fuel exhausted warning light which Illuminates when the fuel exhausted thermostat is triggered at 45 deg C.
5. Boiler safety stat which trips out if boiler temperature exceeds 100 deg C. (Manually re set.)
6. Boiler temperature thermostat used to control the boiler operating temperature.
8. Water temperature gauge used to monitor the boiler water temperature.
9. Three position master control which is used to select the function required either: - wood only, oil/gas only or automatic switch over from multifuel to oil/gas.

Operating the appliance

Turn the boiler switch on, turn the pump and fan switches to on, set the boiler stat to the required temperature, set the master control switch to the required function, when on automatic or wood only, proceed as follows :-

Light the fire and open the ash pit door slightly to increase the draw.

When the boiler water temperature reaches 45 deg C the fan will start, at this stage close the ash pit door.

Set the boiler stat to the desired running temperature and the fan will run until the temperature is reached.

At target temperature the fan stops and when the boiler temperature drops to 60 deg C the fan starts again and the cycle continues with the fan running up to the target temperature, stopping and starting again at 60 deg C.

If the boiler starts to overheat because the circulating pump has stopped the safety stat automatically starts the circulating pump to dissipate excess heat.

If the boiler temperature exceeds 96 deg C the safety stat operates and needs to be reset manually.