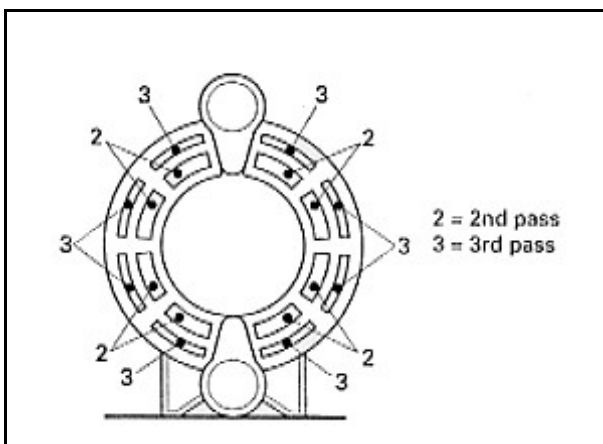


Type and no. of sections	Output and fuel consumption		
	max. kW	oil kg/h	Nat. gas m <sup>3</sup> /h
RU 3s			
10	1050	96	122
11	1160	106	135
12	1280	117	149
13	1395	128	162
14	1400	128	165



**Flue-gas temperatures**

The flue gas temperature of a boiler depends on boiler water temperature and boiler capacity. If boiler water temperature is reduced the flue gas temperature is also reduced. If boiler capacity is reduced by means of a different burner setting or by the first stage of a two-stage burner, the flue gas temperature is also reduced. The flue gas temperature rises by some 20°C – 40°C in the case of dirty flue-way surfaces, depending on the degree of fouling.

**Influence of water temperature**

A change of 10°C in the water temperature produces a change in flue gas temperature of approx. 5°C–8°C.

**Boiler water and return temperatures**

The boiler is operated with low flue-gas temperatures in order to achieve maximum efficiency. If the boiler water or return temperatures are too low, there is a danger that heating surfaces will become fouled and encrusted this results in higher flue gas temperatures, making boiler cleaning difficult, and in extreme cases cause damage.

The following conditions must be maintained:

Oil fired:	boiler water temperature	min: 60°C
	Return water temperature	min: 50°C
Gas fired:	boiler water temperature	min: 70°C
	Return water temperature	min: 60°C

**Fault finding**

Boiler is off.

- Is boiler up to temperature? Check correct settings of heating circuit controls.
- If automatic control does not operate, i.e. is faulty, switch off "Control" switch and regulate via "Manual" control. Consult specialist.
- If boiler temperature has dropped and burner indicates malfunction, refer to the burner suppliers instructions (Press reset button).

**Water Calorifier is cold**

- Is boiler up to temperature? Check whether circulating pump is operating.
- If this in order, vent the water calorifier.

General check on whether;

- Fuse is intact.
- Main switch is turned on and other controls are calling for heat.
- Plug for general power supply is plugged in.
- Burner plug is correctly plugged in.
- Heating pump and circulating pump are operating.
- Burner indicates malfunction, press reset button.
- Control is switched on and time switch shows correct time.
- All valves are open.
- Fuel is available.
- All switches and knobs on the controls are set according to instructions.
- Boiler has switched off due to excess temperature press limit thermostat reset button.

**Maintenance**

Clean boiler regularly, proceeding as follows:

- turn off main switch and control.
- open burner door and remove baffles.
- clean flue ways and combustion chamber.
- install baffles.
- close burner door firmly, readjust hinges if door does not fit tightly.

- Never tap water from the boiler for domestic use.
- If the system is to be out of operation for an extended period, clean the boiler thoroughly, spray it out with a mixture of oil and graphite and close door firmly.
- If there is a frost hazard when the system is out of operation, drain the boiler. Leave the drain cock open (unless it contains anti-freeze).
- The calorifier must only be cleaned with organic acid. Mechanical descaling is not permitted.
- Perform maintenance of heating circuit control and burner according to manufacturers instructions.

**Hazards**

- Operate the boiler at a maximum temperature of 90°C. If the boiler overheats as a result of incorrect operation, switch the burner off immediately. Do not refill with water until the boiler has cooled off.
- Never fill the hot boiler with cold water
- Flue gas temperatures of less than 160°C can cause sooting in masonry chimneys. If the flue-gas temperature is too low, baffles can be removed.
- Never set the water calorifier to a temperature of more than 60°C.
- Consult the heating installer service dept, If heating gas flue ways become severely fouled or condensation occurs.
- Use only extra light heating oil. Fill the tank only when the system is switched off. Start up no earlier than the next day, so that the dirt that has been disturbed in the tank can settle again.
- Inspect the door seal gasket between front section and the door. If the gasket is damaged, a specialist should fit replacement. Close the cleaning door ensuring it is firmly sealed. Check all door bolts are fully tightened.

**Warranty**

Permissible flow temperature	95°C
Operating pressure boiler	4.0 bar
Test pressure boiler	6.2 bar
Operating pressure hot water calorifier	10.0bar
Test pressure hot water calorifier	13.0bar

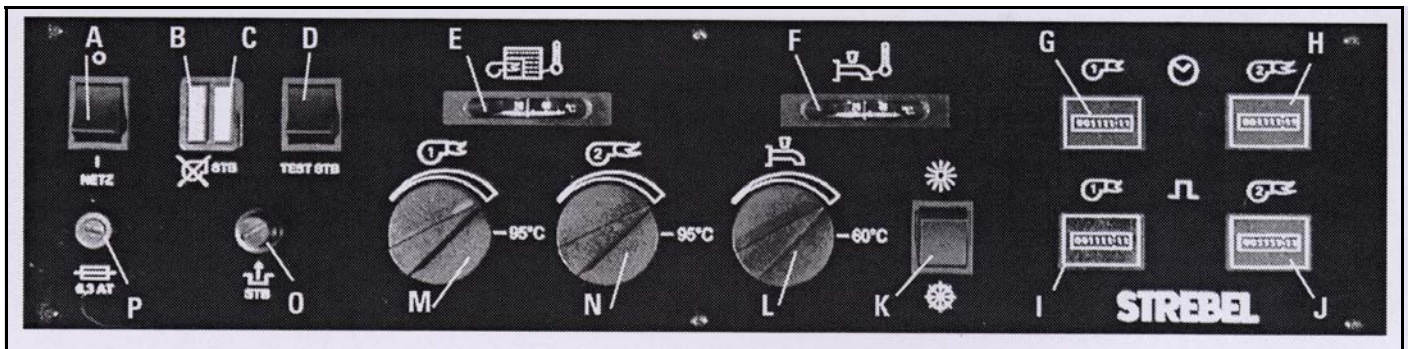
**Burner**

- Oil fired pressure jet burner.
- Gas fried pressure jet burner.

Refer to the burner's operating instructions for putting the burner into operation.

**Fuel**

- Extra light heating oil.
- Town gas, natural gas, piped and liquefied gas.

**Instrument Control Panel Description****Key:**

- A. Power On / Off switch.
- B. Burner lock-out indicator. (RED) - The red lamp will illuminate if the burner has gone to lock-out.
- C. High limit indicator. (ORANGE) - Illuminates if the high limit thermostat is activated. Has to be manually reset by removing cap from STB reset, and press button.
- D. High Limit Test Switch. (STB) - Overrides the control thermostat to enable limit thermostat test.
- E. Boiler Thermometer– Shows the actual boiler water temperature and has no influence on boiler temperature control.
- F. HWS Thermometer - Shows temperature of the HWS calorifier. (B2B version only)
- G. Hours Run Meter (blanked as standard) Burner Stage 1 - Shows running time of the stage 1 burner operation.
- H. Hours Run Meter (blanked as standard) Burner Stage 2 - Shows running time of the stage 2 burner operation.
- I. Frequency of Switching Meter for Stage 1. (blanked as standard).
- J. Frequency of Switching Meter for Stage 2. (blanked as standard).
- K. Summer / Winter Switch - For switching boiler between modes to supply HWS only in the summer period.
- L. Calorifier Control Thermostat - Set for the required hot water temperature (60°C Max.)
- M. Control Thermostat - Stage 1.
- N. Control Thermostat - Stage 2.
- O. Boiler Safety Limit Thermostat (STB) - Manual reset. Used when the boiler water temperature overheats. The water in the boiler must cool to around 80°C, to enable reset. (refer to point “C” above).
- P. Fuse (6.3A) - Protection for all the controls and any ancillary equipment connected back to the control panel. A defective fuse **MUST** be replaced with an identical one.

**ATTENTION: Before a fuse is replaced, the instrument control panel must be isolated.**