

# SCP

Steel High Temperature Hot Water  
Boiler

Suitable for Pressure Jet burners.  
Oil, gas, LPG or dual fuel firing

Outputs 300 - 3000 kW

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ORMANDY

**Hartley & Sugden**

STEAM & HOT WATER BOILERS

## SCP - Steel High Temperature Hot Water Boiler

The SCP is a range of conventional three pass wet back steel shell and tube hot water boilers. They are available in sizes ranging from 300 - 3000 kW, suitable for firing on natural gas, oil and LPG, with a choice of burner manufacturers. The boilers are available in twenty one outputs across the range.

### Design features

- High density insulated casing
- Left or right hand hinged front door
- Three pass boiler with two passes of tubes
- All second pass tubes are welded and are of stay quality and thickness

### Performance features

- High efficiency up to 91% (net CV)
- Standard outputs from 300 - 3000 kW
- Standard working pressures up to 4.5 bar
- Maximum flow water temperature 132°C
- Minimum return water temperature 60°C



SCP boiler

### Design & Construction

The SCP is a conventional three pass wet back shell and tube design which incorporates a combustion chamber and two passes of fire tubes. The second pass fire tubes are welded to the front and rear tube plates and are of stay thickness and quality.

SCP boilers are manufactured using high quality steel and are supplied with a factory fitted high density insulated casing.

They also have a hinged front door, supplied with an internal ceramic lining, which is available for left or right hand opening. However this needs to be specified at the time of order.

To ensure the highest quality standards, every SCP boiler is hydraulically pressure tested in the factory.

### General Description

SCP boilers are designed to provide high efficiency up to 91% (net CV), focusing on fuel savings, low flue gas temperatures and low emissions.

The boilers have a maximum working pressure of up to 4.5 bar with a pressurised system and up to 6.9 bar with a vented system.

The maximum water flow temperature is 132°C and the minimum return water temperature is 60°C, with a maximum temperature drop across the boiler of 25k.

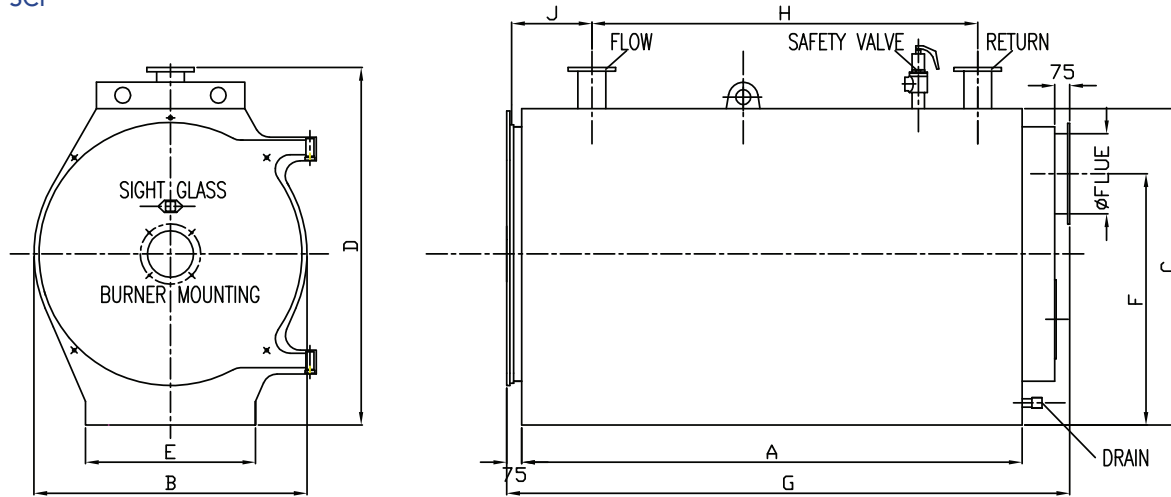
The SCP boiler is supplied with control and safety limit thermostats and these are pre-wired and connected to the burner.

Where appropriate, SCP boilers should be installed in accordance with BS 6644 and other relevant standards, codes of practice and current building regulations. Water treatment is recommended for all steel shell and tube boilers and a water treatment specialist should be consulted for advice on this matter.

All SCP boilers are supplied with a set of cleaning tools.

# Technical Data and Dimensions

## SCP



SCP Model	100	125	150	175	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
Output (kW)	300	375	450	500	600	750	900	1000	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000
<b>Dimensions &amp; weight</b>																					
A	1651	1800	1800	1879	1930	2110	2530	2530	2530	2454	2535	2820	2895	2895	2960	2960	3040	3040	3124	3200	3270
B	1045	1045	1139	1139	1139	1139	1430	1430	1430	1560	1560	1658	1658	1890	1890	1890	1890	1984	1984	1984	1984
C	1219	1219	1352	1352	1352	1352	1626	1626	1626	1755	1755	1855	1855	2085	2085	2085	2085	2265	2265	2265	2265
D	1436	1436	1549	1549	1551	1549	1808	1808	1808	1938	1938	2038	2038	2269	2269	2269	2269	2444	2444	2444	2444
E	600	600	680	680	680	680	860	860	860	940	940	1000	1000	1160	1160	1160	1160	1220	1220	1220	1220
F	975	975	1035	1035	1035	1035	1270	1270	1270	1335	1335	1460	1460	1630	1630	1630	1630	1810	1810	1810	1810
G	1775	1925	1925	2005	2085	2235	2695	2695	2695	2768	3048	3124	3124	3190	3190	3270	3270	3345	3370	3440	3440
H	1130	1280	1280	1360	1410	1590	1950	1950	1935	2015	2200	2260	2265	2323	2323	2410	2416	2495	2570	2640	2640
J	355	355	355	355	355	355	355	355	355	355	355	430	430	420	420	420	420	420	420	420	420
Approx. dry weight (kg)	1250	1380	1765	1850	1880	1990	3100	3220	3365	3560	3706	4170	4423	5600	6100	6620	6960	7270	7580	7880	8140
<b>Efficiency based on net CV</b>																					
Efficiency (%) @ 100% load	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91
<b>Combustion and flue data</b>																					
Gas flow rate (m <sup>3</sup> /h)	33	42	50	58	67	84	101	117	134	151	168	185	201	218	235	252	269	286	302	320	336
Oil flow rate (l/h)	34	42	51	59	68	85	102	119	136	153	171	187	204	221	238	255	272	289	306	323	340
Flue Gas Volume (m <sup>3</sup> /min)	13.6	17.7	20.4	23.8	27.2	34.0	40.8	47.6	54.4	61.2	68.0	74.8	81.6	88.4	95.2	102.0	108.8	116.0	122.4	129.2	136.0
Comb. Chamber Resistance (mbar)	2.0	3.8	5.8	7.6	6.6	8.9	6.4	7.6	6.4	7.6	6.4	6.4	6.4	6.4	10.2	7.6	7.6	7.6	7.6	7.6	7.6
<b>Water system</b>																					
Hydraulic Resistance (11k.) (mbar)	38	38	45	45	50	50	50	55	55	60	65	65	70	75	75	75	84	90	90	90	90
Hydraulic Resistance (20k.) (mbar)	11.5	11.5	13.6	13.6	15.1	15.1	15.1	16.6	16.6	18.2	19.7	19.7	21.2	22.7	22.7	22.7	25.4	27.2	27.2	27.2	27.2
Minimum flow rate (11k) (l/s)	1.3	1.6	1.9	2.2	2.5	3.2	3.8	4.4	5.0	5.7	6.3	6.9	7.6	8.2	8.8	9.5	10.1	10.7	11.3	12.0	12.6
Minimum flow rate (20k) (l/s)	0.7	0.9	1.0	1.2	1.4	1.8	2.1	2.4	2.9	3.2	3.6	3.9	4.3	4.6	5.0	5.4	5.7	6.1	6.4	6.8	7.1
Water content (l)	650	750	800	850	900	1000	1850	1800	1750	2500	2650	2900	3200	4000	4300	4250	4400	4600	4750	4800	4900
<b>Connections</b>																					
Flue connection size (mm)	254	254	305	305	305	356	356	406	406	457	457	457	457	508	508	508	508	559	559	559	559
Flow & Return connection (mm)	100	100	100	100	100	125	125	125	125	125	125	150	150	178	178	178	178	200	200	200	200
Drain connection size	1.1/4"	1.1/4"	1.1/4"	1.1/4"	1.1/4"	1.1/4"	1.1/4"	1.1/4"	1.1/4"	1.1/4"	1.1/4"	1.1/4"	1.1/4"	1.1/4"	1.1/4"	1.1/4"	1.1/4"	1.1/4"	1.1/4"	1.1/4"	1.1/4"

All dimensions in (mm) unless stated otherwise

## Controls

SCP boilers are fitted with a temperature and pressure gauge. A control thermostat and safety thermostat with manual reset is also mounted on each boiler. The standard control thermostats have an operating range from 25 - 95°C, and the standard safety

limit thermostat is set at 110°C (control and limit thermostats up to 140°C are available on request). Additional controls can be added to suit modulating burners. All thermostats and controls are fully wired and connected to the burner.

Additional control options are available, including volt free kits, cascade control etc. details available on request.

A 230v single phase or 400v three phase connection is required from a suitable fused supply, depending upon the

type of burner selected. The connection to the burner should incorporate a flexible connection for boiler door opening.

## Installation

### Clearances

SCP boilers should be installed and positioned so that there is adequate access to the flue and pipework connections. The boilers should also be installed so that there is enough room at the front for cleaning and maintenance of the boiler/ burner unit. Consideration should also be given to the position and projection of the burner with the boiler door in the open position. All boilers should also

be installed so that there is enough room at the front for cleaning of the tubes and combustion chamber.

### Burners

A burner is normally supplied and matched to the boiler to give either high/low or fully modulating operation, which ensures optimum operating efficiency to suit specific requirements. The burner is bolted to the boiler front door and pre-wired to the control panel.

### Ancillary items

A safety valve and drain valve are supplied loose for connection to the boiler on site by the purchaser. Alternatively the purchaser may connect the safety valve directly to the system flow pipework between the boiler and the isolation valve.

### Boiler base

SCP boilers should be located on a surface capable of supporting the fully flooded

weight of the boiler and burner and it should be smooth, level and constructed from a non flammable material.

### Delivery

Delivery to site can be arranged.

### Commissioning

Commissioning of the boiler/burner can be arranged.

## Ormandy Group Associated Products

The Ormandy group has an extensive range of boilerhouse products, which compliment the Ormandy Hartley & Sugden boiler range. All Ormandy products can be skid mounted to specific requirements. Detailed information on all Ormandy products is available on request.

### Additional products include:

- Pressurisation units
- Storage and Non Storage Calorifiers
- Plate heat exchangers
- Package plant rooms which can be designed to incorporate any of the above equipment



Please visit [www.ormandy ltd.com](http://www.ormandy ltd.com) to access comprehensive information on Ormandy Hartley & Sugden products and services.

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