



Pipeline & Heating Solutions



BOSS TWE TAP WATER SYSTEMS



www.bssindustrial.co.uk

OVER
100 YEARS
OF QUALITY



Pipeline & Heating Solutions

BOSS™ Tap Water Heaters

Introduction

BSS is a market leader in the supply of pipeline and heating product and mechanical services equipment to all sectors of industry. We are pleased to announce the introduction of the new range of BOSS™ Tap Water Heaters to our comprehensive range of equipment.

To ensure continuing growth, it is our aim to achieve maximum customer satisfaction through a policy of providing sound technical advice, quality products at realistic prices and prompt delivery. This equipment complements our existing range of water heating products, which include an extensive range of boilers, heat exchangers, flue & chimney equipment and a comprehensive package of heating and ventilation controls, available ex-stock from our central warehouse and readily available through our nationwide network of branches.

As a national company, BSS has a network of well stocked branches to meet the demands of the heating engineer and industrial user. Strategically situated in the major industrial areas, these branches offer an over-the-counter or delivery service on all stocked items including valves, fittings and tubes. The latter being available in most materials as well as plastics, steam traps, pumps for all duties, heat exchange equipment, boiler mountings, gauges and thermometers, strainers and filters.

Each branch has trained sales and technical staff, both internal and external, who will be pleased to advise on the equipment most suitable for your specific requirements.

This catalogue features the range of packaged Tap Water Heaters with primary pumps and controls and details the additional services we offer to complement our range of heat exchangers.

Details of the full range of equipment supplied by BSS are available from your local BSS branch.

Design Features

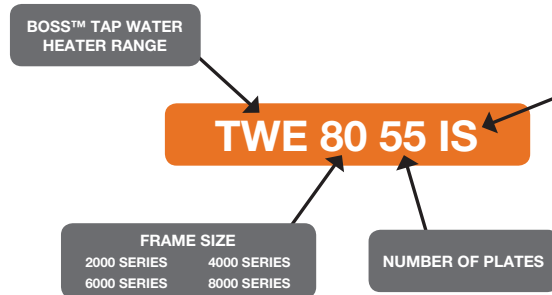
The BOSS™ range of Tap Water Heaters are ideally suited to provide instantaneous domestic hot water (DHW) at a constant flow temperature at any flow rate up to the design capacity.

The BOSS™ range of Tap Water Heaters makes use of a primary heat source of LTHW at a nominal temperature of 82°C to heat secondary domestic hot water to 60°C with temperature control provided by a three port control valve.

The lightweight and compact design of the units make installation a simple process, with only water and electrical connections required to bring the system on-line.



Product Identification



PUMP ARRANGEMENT

IS = Instantaneous system, single head primary pump
ID = Instantaneous system, double head primary pump
SS = Semi-Instantaneous system, single head primary pump, 1 x single head secondary pump
DS = Semi-Instantaneous system, double head primary pump, 1 x single head secondary pump
DD = Semi-Instantaneous system, double head primary pump, 2 x single head secondary pump

Connection Details

PUMP ARRANGEMENT			IS/ID	SS/DS	DD
Frame Size	Inlet/Outlet	Primary	Secondary	Secondary	Secondary
2000	Inlet	1¼" BSP	1¼" BSP	1¼" BSP	1¼" BSP
	Outlet	1¼" BSP	1¼" BSP	1¼" BSP	1¼" BSP
4000	Inlet	1¼" BSP	1¼" BSP	1¼" BSP	1¼" BSP
	Outlet	1¼" BSP	1¼" BSP	1¼" BSP	1¼" BSP
6000	Inlet	1½" BSP	2" BSP	1¼" BSP	1¼" BSP
	Outlet	1½" BSP	2" BSP	2" BSP	1¼" BSP
8000	Inlet	1½" BSP	2" BSP	2" BSP	1¼" BSP
	Outlet	1½" BSP	2" BSP	2" BSP	1¼" BSP

Insulation

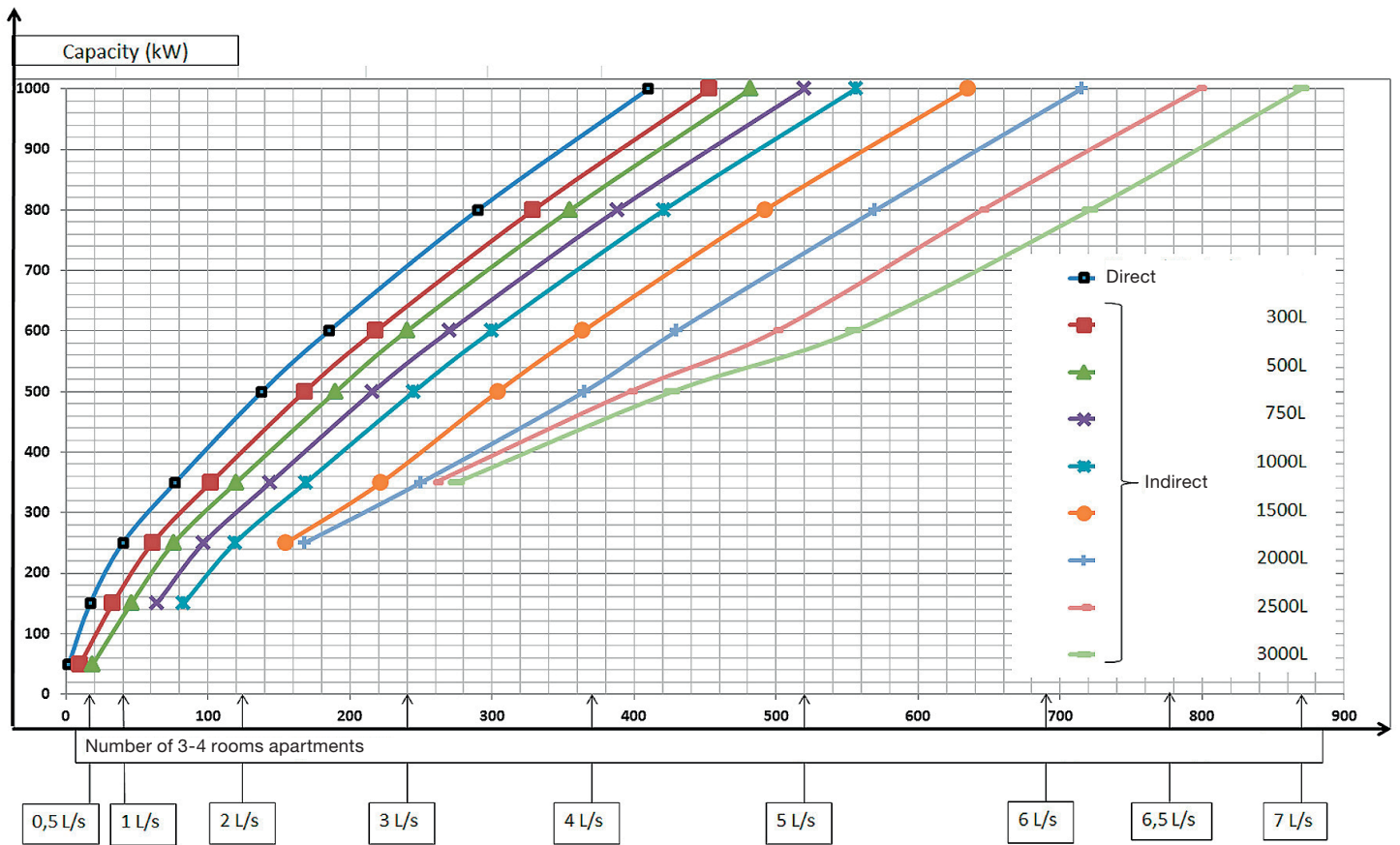
Each BOSS™ Tap Water Heater is supplied with an EPP insulation jacket for the heat exchanger as standard. This can be upgraded to foil backed mineral wool encased in 1mm thick alustucco as an optional extra.

Operating Limits	Primary	Secondary
Maximum operating pressure bar	10	10
Maximum operating temperature °C	110	100

Description Table

Part number	Primary side			Heat exchanger		Secondary side		Electrical consumption		Dimensions	Weight		
	Pump(s)	Product Code	Insulation	Number	Type	Pump(s)	Safety valve Barg	Pmax (W)	Imax (A)	L x W x H mm	Kg		
TWE2007IS	MAGNA1 32-40	55625000	55625439	7	M3H	-	10	85	1.2	460x400x1040	70		
TWE2017IS		55625011	55625439	17							71		
TWE4027IS		MAGNA1 32-80	55625022	55625439				27	160		1.8	72	
TWE4045IS			55625033	55625439				45				73	
TWE2007ID	MAGNA1D 32-40	55625088	55625439	7	M3H	-	10	85/ 160*	1.2 / 1.8*	460x400x1040	75		
TWE2017ID		55625099	55625439	17							76		
TWE4027ID		MAGNA1D 32-80	55625107	55625439				27	160 / 310*		1.8 / 3*	77	
TWE4045ID			55625118	55625439				45				78	
TWE6011IS	MAGNA1 40-100	55625044	55625450	11	M6M ML/MH	-	10	380	2.2	1000x500x1400	153		
TWE6017IS		55625055	55625450	17							158		
TWE8031IS		55625066	55625450	31							169		
TWE8055IS		55625077	55625450	55							192		
TWE6011ID	MAGNA1 40-100	55625129	55625450	11	M6M ML/MH	-	10	380 / 750*	2.2 / 3.8*	1000x500x1400	171		
TWE6017ID		55625140	55625450	17							176		
TWE8031ID		55625151	55625450	31							187		
TWE8055ID		55625162	55625450	55							210		
TWE2007SS	MAGNA1 32-40	55625173	55625439	7	M3H	UPS32-80N	10	305	2.2	460x400x1040	75		
TWE2017SS		55625184	55625439	17							76		
TWE4027SS	MAGNA1 32-80	55625195	55625439	27				381	2.72		77		
TWE4045SS		55625203	55625439	45							78		
TWE2007DS	MAGNA1D 32-40	55625258	55625439	7	M3H	UPS32-80N	10	305 / 380*	2.2 / 2.8*	460x400x1040	80		
TWE2017DS		55625269	55625439	17							81		
TWE4027DS	MAGNA1D 32-80	55625280	55625439	27				381 / 530*	2.72 / 4.5*		82		
TWE4045DS		55625291	55625439	45							83		
TWE2007DD	MAGNA1 32-40	55625354	55625439	7	M3H	2x UPS32-80N	10	305 / 380* / 500**	2.2 / 2.8* / 3.8**	460x400x1040	85		
TWE2017DD		55625365	55625439	17							86		
TWE4027DD	MAGNA1 32-80	55625376	55625439	27				381 / 530* / 750**	2.72 / 4.5* / 5.72**		87		
TWE4045DD		55625387	55625439	45							88		
TWE6011SS	MAGNA1 40-100	55625214	55625450	11	M6M ML/MH	UPS32-80N	10	600	3.15	1150x500x1400	161		
TWE6017SS		55625225	55625450	17		UPS32-100N					166		
TWE8031SS		55625236	55625450	31		UPS32-100N		725	3.67		177		
TWE8055SS		55625247	55625450	55							200		
TWE6011DS	MAGNA1 40-100	55625310	55625450	11	M6M ML/MH	UPS32-80N	10	600 / 751*	3.15 / 4.15*	1150x500x1400	179		
TWE6017DS		55625321	55625450	17		UPS32-100N					184		
TWE8031DS		55625332	55625450	31		UPS32-100N		725 / 1095*	3.67 / 5.32*		195		
TWE8055DS		55625343	55625450	55							218		
TWE6011DD	MAGNA1 40-100	55625398	55625450	11	M6M ML/MH	2x UPS32-80N	10	600 / 751* / 971**	3.15 / 4.15* / 5.15**	1150x500x1400	187		
TWE6017DD		55625406	55625450	17		2x UPS32-100N					192		
TWE8031DD		55625417	55625450	31		2x UPS32-100N		725 / 1095* / 1440**	3.67 / 5.32* / 6.84**		203		
TWE8055DD		55625428	55625450	55							226		

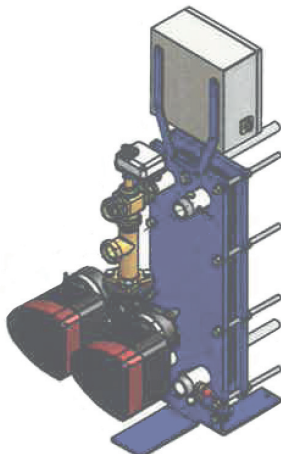
* with booster function activated ** with safety function activated



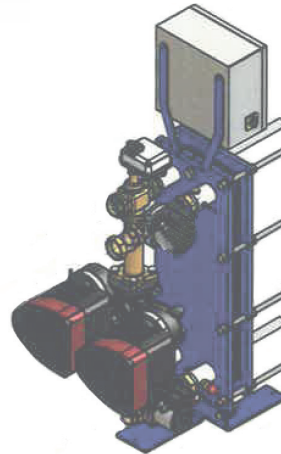
2000 & 4000
Series Instantaneous



2000 & 4000
Series Semi-Instantaneous

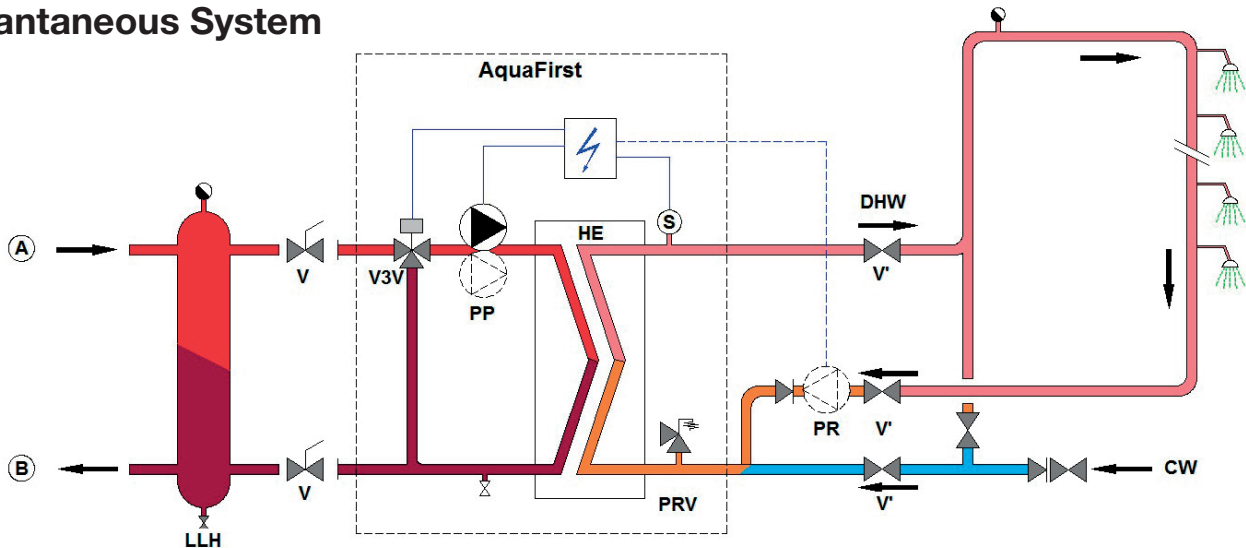


6000 & 8000
Series Instantaneous



6000 & 8000
Series Semi-Instantaneous

Instantaneous System



- A Primary inlet
- B Primary outlet
- CW Cold water inlet
- DC Draining valve
- DHW Domestic Hot Water
- HE Heat exchanger (PHE)
- PC Charging pump (one or two)
- PP Primary pump (single or double)

- PR Recycling pump (on installation)
- PRV Pressure relief valve
- S DHW temperature sensor
- ST Storage tank (Buffer vessel)
- V Manual gate valve
- VR Balancing valve
- V3V Mixing 3-port control valve with actuator

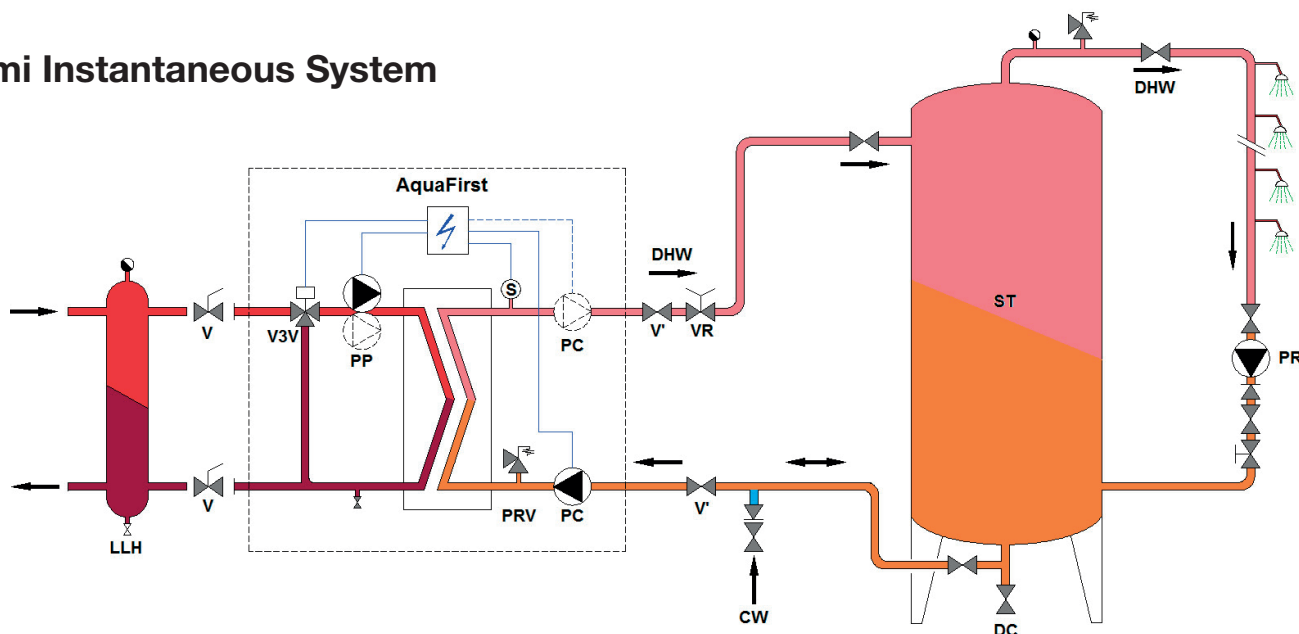
Standard features

Heat exchanger	- Plates & Gasket heat exchanger; corrosion resistant stainless steel 316 plates & EPDMFF clip-on gaskets - Insulation as an option
Control system	3-port mixing electronic control valve 24V 0-10V, 15 second speed actuator - ModBus RTU RS 485 Controller - Multi functional IP54 control box - NTC20K temperature sensors on secondary outlet with stainless steel sleeve
Pumps	Primary class A flooded rotor pump: single or double head
Valves	- Drain valve (primary) - Pressure relief valve (secondary)

Secondary: 10°C - 60°C / free pressure available on primary: 5 Kpa

Primary	Prim. 90°C cap. kW	Secondary		Prim. 82°C cap. kW	Secondary		Prim. 80°C cap. kW	Secondary		Prim. 70°C cap. kW	Secondary		Prim. 65°C cap. kW	Secondary		Partnumber	
flow rate m3/h		flow rate L/sec	pres. drop kPa		flow rate L/sec	pres. drop kPa		flow rate L/sec	pres. drop kPa		flow rate L/sec	pres. drop kPa		flow rate L/sec	pres. drop kPa	single pump	double pump
1,1	40	0,2	15	30	0,2	9	30	0,2	9	18	0,1	4	12	0,1	2	TWE2007IS	TWE2007ID
2,9	125	0,6	21	100	0,5	14	95	0,5	13	60	0,3	5	42	0,2	3	TWE2017IS	TWE2017ID
5,2	235	1,1	29	190	0,9	19	175	0,8	16	115	0,6	8	80	0,4	4	TWE4027IS	TWE4027ID
6,3	340	1,6	23	280	1,4	16	260	1,3	14	175	0,8	7	125	0,6	4	TWE4045IS	TWE4045ID
9,8	400	1,9	29	320	1,5	19	295	1,4	16	185	0,9	7	120	0,6	3	TWE6011IS	TWE6011ID
12,2	565	2,7	23	460	2,2	16	430	2,1	14	260	1,2	5	180	0,9	3	TWE6017IS	TWE6017ID
14,3	770	3,7	13	640	3,1	9	600	2,9	8	400	1,9	4	280	1,3	2	TWE8031IS	TWE8031ID
15,4	950	4,6	7	790	3,8	6	750	3,6	5	520	2,5	3	380	1,8	2	TWE8055IS	TWE8055ID

Semi Instantaneous System



A Primary inlet
B Primary outlet
CW Cold water inlet
DC Draining valve
DHW Domestic Hot Water
HE Heat exchanger (PHE)
PC Charging pump (one or two)
PP Primary pump (single or double)

PR Recycling pump (on installation)
PRV Pressure relief valve
S DHW temperature sensor
ST Storage tank (Buffer vessel)
V Manual gate valve
VR Balancing valve
V3V Mixing 3-port control valve with actuator

Buffer Vessels, charging circuits and unvented kits are available from BSS. Please contact the BOSS™ Technical Team for further details.

Standard features

Heat exchanger	- Plates & Gasket heat exchanger; corrosion resistant stainless steel 316 plates & EPDMFF clip-on gaskets - Insulation as an option
Control system	- 3-port mixing electronic control valve - 24V 0-10V, 15 second speed actuator - ModBus RTU RS 485 Controller - Multi functional IP54 control box - NTC20K temperature sensors on secondary outlet with stainless steel sleeve
Pumps	- Primary class A flooded rotor pump: single or double head - Stainless steel charging flooded rotor pump: 1 x single or 2 x single head
Valves	- Drain valve (primary) - Pressure relief valve (secondary)

Secondary: 10°C - 60°C / free pressure available on primary: 5 Kpa

Prim.	Prim. 90°C cap. kW	Secondary		Prim. 82°C cap. kW	Secondary		Prim. 80°C cap. kW	Secondary		Prim. 70°C cap. kW	Secondary		Prim. 65°C cap. kW	Secondary		Partnumber *		
flow rate m3/h		flow rate L/sec	free pres. kPa		flow rate L/sec	free pres. kPa		flow rate L/sec	free pres. kPa		flow rate L/sec	free pres. kPa		flow rate L/sec	free pres. kPa	single/single pumps	double/single pumps	double/double pumps
1,1	40	0,2	59	30	0,2	65	30	0,2	65	18	0,1	71	12	0,1	74	TWE2007SS	TWE2007DS	TWE2007DD
2,9	125	0,6	47	100	0,5	55	95	0,5	57	60	0,3	68	42	0,2	71	TWE2017SS	TWE2017DS	TWE2017DD
5,2	235	1,1	28	190	0,9	43	175	0,8	47	115	0,6	60	80	0,4	67	TWE4027SS	TWE4027DS	TWE4027DD
6,3	340	1,6	23	280	1,4	37	260	1,3	41	175	0,8	56	125	0,6	64	TWE4045SS	TWE4045DS	TWE4045DD
9,8	400	1,9	11	320	1,5	30	295	1,4	36	185	0,9	56	120	0,6	65	TWE6011SS	TWE6011DS	TWE6011DD
12,2	520	2,5	5	460	2,2	16	430	2,1	22	260	1,2	51	180	0,9	60	TWE6017SS	TWE6017DS	TWE6017DD
14,3	770	3,7	5	640	3,1	30	600	2,9	37	400	1,9	66	280	1,3	80	TWE8031SS	TWE8031DS	TWE8031DD
15,4	820	3,9	5	790	3,8	8	750	3,6	16	520	2,5	53	380	1,8	70	TWE8055SS	TWE8055DS	TWE8055DD

* Charging pump(s) limited use: PH 6-9 and TH < 25°TH or 14°dH. Beyond these values please consult BSS.

BSS Industrial can now design and supply a comprehensive range of BOSS™ heat exchangers for HVAC applications from the following ranges:

BOSS™ Blue Gasketed Plate Heat Exchangers

Maximum working pressure 10 Barg*
Maximum working temperature 120°C*

BOSS™ i-Series Gasketed Plate Heat Exchangers

Maximum working pressure 10 Barg*
Working temperature 0°C - 100°C*

BOSS™ Brazed Plate Heat Exchangers

Working pressure up to 32 Barg*
Working temperature up to 225°C*

The BOSS™ heat exchanger has been developed in conjunction with the market leaders in plate heat exchanger technology and design, allowing us to offer the highest quality components and manufacture.

The BOSS™ heat exchangers are suitable for a wide range of primary and secondary media such as MTHW, LTHW, chilled water, water/glycol solutions, thermal oils and domestic hot water services (DHW). BSS can design the BOSS™ heat exchanger to suit your requirements based on flow rate, physical properties of the fluids, pressure drop and temperature program.

Contact your local BSS branch for full details.

*Note: Actual maximum conditions will be determined by the duty profile which may limit operating pressure and/or temperature.



BOSS™ Blue



BOSS™ Brazed



BOSS™ i-Series



Pipeline & Heating Solutions

This phone number will direct you to your nearest branch, wherever you are in the country

0330 123 3521



BRANCH NAME	TELEPHONE
Aberdeen	01224 292929
Barking	020 8477 8888
Belfast	028 9078 4000
Birmingham Minworth	0121 313 0835
Birmingham Smethwick	0121 552 6000
Borehamwood	020 8327 4100
Bournemouth	01202 711300
Brentford	020 8232 2727
Bristol	0117 972 7900
Cambridge	01223 404040
Cardiff	029 2043 2400
Carlisle	01228 517600
Chessington	020 8974 3800
Colchester	01206 754720
Coventry	024 7669 4744
Crawley	01293 610170
Croydon	020 8662 2300
Dartford	01322 289039
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Dublin	+353 14 165100
Dundee	01382 823700
Edinburgh	0131 440 5900
Exeter	01392 457500
Glasgow	0141 418 4444
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Hull	01482 625800
Inverness	01463 701810
King's Cross	020 7619 7600
Leeds	0113 203 2203
Leicester	0116 242 7800

BRANCH NAME	TELEPHONE
Lewes	01273 485000
Lincoln	01522 565700
Liverpool	0151 482 2500
London Docklands	020 7531 3900
Luton	01582 875600
Maidstone	01622 713600
Manchester	0161 888 6464
Newcastle	0191 256 5100
Northampton	01604 251400
Norwich	01603 253200
Nottingham	0115 943 5900
Oldham	0161 624 4621
Oxford	01865 398870
Peterborough	01733 336000
Plymouth	01752 675300
Portsmouth	023 9265 8740
Preston	01772 557800
Reading	0118 923 8900
Romford	01708 771800
Sheffield	0114 289 3900
Slough	01753 537999
Southampton	023 8068 3700
Stockton	01642 665500
Stoke	01782 382382
Swansea	01792 762300
Swindon	01793 601500
Wandsworth	020 8877 9191
Wigan	01942 405540
Winger Drainage	020 8960 5711
Wirral	0151 348 5400