

STEEL FLOW

STAINLESS STEEL UNVENTED
MAINS PRESSURE SYSTEM



McDonald
Water Storage

Hot Water Storage Solutions

McDonald Water Storage is synonymous with superior quality hot water cylinders and our STEELflow range of stainless steel unvented cylinders is no exception.

Manufactured from premium grade duplex stainless steel ensuring superior corrosion resistance, STEELflow provides uncompromising efficiency and high quality standards, with a range of high performance cylinders for those on a budget.

Discover The Benefits of a **STEELflow** Unvented Cylinder

- Premium grade duplex stainless steel providing superior performance
- Direct and Indirect models 60 - 300 litres
- Renewable options including Solar Direct, Solar Indirect and Heat Pump models 150 - 300 litres
- Corrugated coil for maximum heat transfer
- Compression fittings as standard for ease of installation
- Optional titanium immersions available for commercial applications
- External expansion for ease of servicing
- Proven reliability with 25 year guarantee

WHY STEELFLOW

Our STEELflow products are manufactured to the highest specification, with superior quality raw materials and components. They come with a manufacturer's guarantee and fully tested to ensure they are compliant with the latest standards and regulations.

One of the STEELflows key advantages is the efficient heat transfer of the corrugated coil with increased surface area when compared to plain tube, ensuring faster reheat times, improving efficiency and reducing ongoing costs.

We carry significant stock of STEELflow products in our manufacturing facility enabling us to meet customer demand.

CONTENTS

General Information	3
STEELflow Direct	4
STEELflow Direct Slimline	5
STEELflow Indirect	6
STEELflow Indirect Slimline	7
STEELflow Direct Solar	8
STEELflow Indirect Solar	9
STEELflow Heat Pump	10

Ready To Install

The STEELflow is supplied with all the necessary components required to install the unit.

Compression fittings are supplied fitted on all the STEELflow cylinders to provide a quicker installation process.

The table opposite shows what is included (supplied or fitted) with your STEELflow cylinder, dependant on model.

COMPONENT	Direct	Indirect	Solar Direct	Solar Indirect	Heat Pump
Inlet Combination Control Set Pressure incorporating (Supplied) • Pressure Reducing Valve set at 3 Bar • Balanced Cold Feed set at 3 Bar • Expansion Relief Valve set at 6 Bar	●	●	●	●	●
Temperature and Pressure Relief Valve 7 Bar/95°C (Fitted)	●	●	●	●	●
Tundish (Supplied)	●	●	●	●	●
3kW Immersion Heater - Primary Heat Source (Fitted)	●				
3kW Immersion Heater - Back Up Heat Source (Fitted)	●	●	●	●	●
Expansion Vessel (Supplied)	●	●	●	●	●
Dual Control and Overheat Thermostat (Supplied)		●		●	
Single High Limit Thermostat (Supplied)			●	●	●
Two Port Motorised Zone Valve (Supplied)		●		●	●

PROPERTY SIZE	Indirect	Direct
1 bedroom + bath/shower	90/120	120/150
2 bedroom + bath/shower	150	170
3 bedroom + bath/shower	170	200
4 bedroom + bath/shower	200/250	250/300



How To Specify

As a general principal, when sizing the cylinder for a typical domestic property, each occupant of the property will require between 35 and 45 litres of hot water per day.

The table opposite provides a guideline to the cylinder size required. When specifying a solar or heat pump cylinder, take in to consideration the availability of the renewal energy input.

Stainless Steel Quality

The STEELflow is manufactured from high specification Duplex stainless steel to resist all forms of corrosion including crevice and stress. The automated welding procedures with post weld pickling and passivating treatment guarantees the strength of the welds.

Lighter and stronger than plain tubing, we use a corrugated tube heat exchanger, providing high heat transfer and giving 20% faster recovery than plain tube.



STEELFLOW

STEELflow Direct

The STEELflow direct unvented cylinder is manufactured from duplex stainless steel, and specifically designed for use with mains electricity.

The direct model is supplied complete with two immersions. This allows for one to be utilised for on-peak use and where available, one for off-peak use. This provides the flexibility to heat the store of water utilising off-peak electricity, making the unit extremely efficient.

There are 7 model sizes available, ranging from 90 litres to 300 litres.

Key Benefits

- High Grade Duplex Stainless Steel
- 25 Year Guarantee
- Post weld treatment for maximum durability
- Low heat losses
- Drain valve supplied as standard
- High Density Foam Insulation
- Optional Titanium immersions available

All Units to Following Specification:

- Hot Water Draw Off (22mm compression)
- T&P Valve (1/2" Female)
- Immersion Heaters (1 3/4" Female)
- Cold Feed (22mm compression)

- All direct units are supplied with;
- Inlet Combination Control Set
 - Expansion Vessel with Fixing Kit
 - T&P Valve
 - Tundish
 - Installation Manual

Product Stock Code	CS90D	CS120D	CS150D	CS170D	CS200D	CS250D	CS300D
Capacity (Litres)	90	120	150	170	200	250	290
Height (mm)	707	894	1081	1209	1399	1711	1930
Diameter (mm)	545	545	545	545	545	545	545
Approximate Weight (KG)	Empty	19	23	27	31	35	45
	Full	109	143	177	201	235	335
Standing Heat Loss	Watts	46	50	55	68	71	94
	kW/24hr	1.10	1.20	1.32	1.63	1.70	2.26
Load Profile	M	M	M	L	L	XL	XL
ErP Rating	C	C	C	C	C	C	C

STEELflow Direct Slimline

The STEELflow direct slimline unvented cylinder is manufactured from duplex stainless steel, and specifically designed for use with mains electricity. The slimline range has a 475mm diameter, perfect for space restricted installations.

The direct model is supplied complete with two immersions. This allows for one to be utilised for on-peak use and where available, one for off-peak use. This provides the flexibility to heat the store of water utilising off-peak electricity, making the unit extremely efficient.

There are 6 model sizes available, ranging from 60 litres to 200 litres.



All direct units are supplied with;

- Inlet Combination Control Set
- Expansion Vessel with Fixing Kit
- T&P Valve
- Tundish
- Installation Manual

Key Benefits

- 475mm diameter for restricted space availability
- High grade duplex stainless steel
- 25 Year guarantee
- Post weld treatment for maximum durability
- Low heat losses
- Drain valve supplied as standard
- High density foam insulation
- Optional titanium immersions available

All Units to Following Specification:

- Hot Water Draw Off (22mm compression)
- T&P Valve (1/2" Female)
- Immersion Heaters (1 3/4" Female)
- Cold Feed (22mm compression)

Product Stock Code	CS60DSL	CS90DSL	CS120DSL	CS150DSL	CS170DSL	CS200DSL	
Capacity (Litres)	60	90	120	150	170	200	
Height (mm)	685	947	1219	1482	1660	1928	
Diameter (mm)	475	475	475	475	475	475	
Approximate Weight (KG)	Empty	20	21	25	29	33	37
	Full	80	111	145	179	203	237
Standing Heat Loss	Watts	43	48	57	67	71	75
	kW/24hr	1.02	1.14	1.37	1.60	1.70	1.80
Load Profile	M	M	M	M	M	L	
ErP Rating	C	C	C	C	C	C	

STEELflow Indirect

The STEELflow indirect unvented cylinder is manufactured from duplex stainless steel, and specifically designed for use with a conventional gas or oil boiler.

The high efficiency corrugated coil heat exchanger, connected to a boiler, heat the full volume of water held within the cylinder. The coil's corrugated design provides faster recovery times than plain coils due to the increased surface area.

There are 7 model sizes available, ranging from 90 litres to 300 litres.

All models are supplied with an on-peak back-up immersion.



All indirect units are supplied with;

- Inlet Combination Control Set
- Expansion Vessel with Fixing Kit
- 2 Port Valve
- T&P Valve
- Tundish
- Dual Control and Overheat Thermostat
- Installation Manual

Key Benefits

- High grade duplex stainless steel
- 25 Year guarantee
- Corrugated coil for maximum heat transfer
- Post weld treatment for maximum durability
- Low heat losses
- High density foam insulation

All Units to Following Specification:

- Hot Water Draw Off (22mm compression)
- Secondary Return 200-300 litre (22mm compression)
- T&P Valve (1/2" Female)
- Thermostat Pocket
- Immersion Heater (1 3/4" Female)
- Boiler Coil Flow / Return (22mm compression)
- Cold Feed (22mm compression)

Product Stock Code		CS90I	CS120I	CS150I	CS170I	CS200I	CS250I	CS300I
Capacity (Litres)		88	118	147	167	197	247	287
Height (mm)		707	894	1081	1209	1399	1711	1930
Diameter (mm)		545	545	545	545	545	545	545
Approximate Weight (KG)	Empty	20	24	28	32	36	41	46
	Full	108	142	175	199	233	288	333
Standing Heat Loss	Watts	46	50	55	68	71	83	94
	kW/24hr	1.10	1.20	1.32	1.63	1.70	1.99	2.26
ErP Rating		B	B	B	C	C	C	C

STEELflow Indirect Slimline

The STEELflow indirect unvented cylinder is manufactured from duplex stainless steel, and specifically designed for use with a conventional gas or oil boiler. The slimline range has a 475mm diameter, perfect for space restricted installations.

The high efficiency corrugated coil heat exchanger, connected to a boiler, heat the full volume of water held within the cylinder. The coil's corrugated design provides faster recovery times than plain coils due to the increased surface area.

There are 6 model sizes available, ranging from 60 litres to 200 litres.

All models are supplied with an on-peak back-up immersion.



All indirect units are supplied with;

- Inlet Combination Control Set
- Expansion Vessel with Fixing Kit
- 2 Port Valve
- T&P Valve
- Tundish
- Dual Control and Overheat Thermostat
- Installation Manual

Key Benefits

- 475mm diameter for restricted space availability
- High grade duplex stainless steel
- 25 Year guarantee
- Corrugated coil for maximum heat transfer
- Post weld treatment for maximum durability
- Low heat losses
- High density foam insulation

All Units to Following Specification:

- Hot Water Draw Off (22mm compression)
- T&P Valve (1/2" Female)
- Thermostat Pocket
- Immersion Heater (1 3/4" Female)
- Boiler Coil Flow / Return (22mm compression)
- Cold Feed (22mm compression)

Product Stock Code		CS60ISL	CS90ISL	CS120ISL	CS150ISL	CS170ISL	CS200ISL
Capacity (Litres)		58	88	118	147	167	197
Height (mm)		685	947	1219	1482	1660	1928
Diameter (mm)		475	475	475	475	475	475
Approximate Weight (KG)	Empty	21	22	26	30	34	38
	Full	79	110	144	177	201	235
Standing Heat Loss	Watts	43	48	57	67	71	75
	kW/24hr	1.02	1.14	1.37	1.60	1.70	1.80
ErP Rating		C	C	C	C	C	C



STEELflow Direct Solar

The STEELflow direct solar unvented cylinder is manufactured from duplex stainless steel, designed to heat the store with solar thermal input in addition to a 3kW immersion heater.

It has a high efficiency corrugated coil heat exchanger, which is connected to the solar thermal panels providing high heat transfer and with the back up facility of the 3kW immersion heaters. The coil's corrugated design provides faster recovery times than plain coils due to the increased surface area.

There are 5 model sizes available, ranging from 150 litres to 300 litres.

Key Benefits

- High grade duplex stainless steel
- 25 Year guarantee
- Corrugated coil for maximum heat transfer
- Post weld treatment for maximum durability
- Low heat losses
- High density foam insulation

All Units to Following Specification:

- Hot Water Draw Off (22mm compression)
- Secondary Return 200-300 litre (22mm compression)
- T&P Valve (1/2" Female)
- Thermostat Pocket
- Immersion Heater (1 3/4" Female)
- Solar Coil Flow / Return (22mm compression)
- Cold Feed (22mm compression)

All indirect units are supplied with;

- Inlet Combination Control Set
- Expansion Vessel with Fixing Kit
- T&P Valve
- Tundish
- High Limit Thermostat
- Installation Manual

Product Stock Code		CS150DS	CS170DS	CS200DS	CS250DS	CS300DS
Capacity (Litres)		147	167	197	247	287
Height (mm)		1081	1209	1399	1711	1930
Diameter (mm)		545	545	545	545	545
Approximate Weight (KG)	Empty	28	32	36	41	46
	Full	175	199	233	288	333
Standing Heat Loss	Watts	55	68	71	83	94
	kW/24hr	1.32	1.63	1.70	1.99	2.26
Solar Dedicated Volume (Ltr)		50	56	66	83	100
ErP Rating		B	C	C	C	C

STEELflow Indirect Solar

The STEELflow indirect unvented cylinder is manufactured from duplex stainless steel, and specifically designed for use with a conventional gas or oil boiler.

It has a high efficiency corrugated coil heat exchanger, which is connected to a boiler and the solar thermal panels providing high heat transfer and with the back up facility of the 3kW immersion heater. The coil's corrugated design provides faster recovery times than plain coils due to the increased surface area.

There are 5 model sizes available, ranging from 150 litres to 300 litres.



All indirect units are supplied with;

- Inlet Combination Control Set
- Expansion Vessel with Fixing Kit
- 2 Port Valve
- T&P Valve
- Tundish
- High Limit Thermostat
- Dual Control and Overheat Thermostat

Key Benefits

- High Grade Duplex Stainless Steel
- 25 Year Guarantee
- Corrugated coil for maximum heat transfer
- Post weld treatment for maximum durability
- Low heat losses
- High Density Foam Insulation

All Units to Following Specification:

- Hot Water Draw Off (22mm compression)
- Secondary Return 200-300 litre (22mm compression)
- T&P Valve (1/2" Female)
- Thermostat Pocket
- Immersion Heater (1 3/4" Female)
- Boiler Coil Flow / Return (22mm compression)
- Solar Coil Flow / Return (22mm compression)
- Cold Feed (22mm compression)

Product Stock Code		CS150IS	CS170IS	CS200IS	CS250IS	CS300IS
Capacity (Litres)		145	165	195	245	285
Height (mm)		1081	1209	1399	1711	1930
Diameter (mm)		545	545	545	545	545
Approximate Weight (KG)	Empty	29	33	37	42	47
	Full	174	198	232	287	332
Standing Heat Loss	Watts	55	68	71	83	94
	kW/24hr	1.32	1.63	1.70	1.99	2.26
Solar Dedicated Volume (Ltr)		50	56	66	83	100
ErP Rating		B	C	C	C	C



STEELFLOW

STEELflow Heat Pump

The STEELflow heat pump unvented cylinder is manufactured from duplex stainless steel, and specifically designed for use with either air source or ground source heat pumps.

It has a high efficiency corrugated coil heat exchanger, to heat the full volume of water held within the cylinder. The coil's corrugated design provides high heat transfer and flow rates from the heat pump, with faster recovery times than plain coils due to the increased surface area.

There are 5 model sizes available, 150 litres to 300 litres.

All models are supplied with an immersion to boost the temperature and also provide back-up.

Key Benefits

- High grade duplex stainless steel
- 25 Year guarantee
- Corrugated coil for maximum heat transfer
- Post weld treatment for maximum durability
- Low heat losses
- High density foam insulation
- Pressure loss on heat pump coils less than 0.4 bar

All Units to Following Specification:

- Hot Water Draw Off (22mm compression)
- Secondary Return 200-300 litre (22mm compression)
- T&P Valve (1/2" Female)
- Thermostat Pocket
- Immersion Heater (1 3/4" Female)
- Heat Pump Coil Flow / Return (1" Female)
- Cold Feed (22mm compression)

All indirect units are supplied with;

- Inlet Combination Control Set
- Expansion Vessel with Fixing Kit
- 2 Port Valve
- T&P Valve
- Tundish
- High Limit Thermostat
- Installation Manual

Product Stock Code		CS150HP	CS170HP	CS200HP	CS250HP	CS300HP
Capacity (Litres)		142	162	189	239	279
Height (mm)		1081	1209	1399	1711	1930
Diameter (mm)		545	545	545	545	545
Approximate Weight (KG)	Empty	31	35	40	45	50
	Full	173	197	229	284	329
Standing Heat Loss	Watts	55	68	71	83	94
	kW/24hr	1.32	1.63	1.70	1.99	2.26
Surface Area HP Coil (m ²)		2	2	3	3	3
ErP Rating		B	C	C	C	C



McDonald
Water Storage

QUEENSWAY INDUSTRIAL ESTATE | GLENROTHES | FIFE | KY7 5QF
T: 01592 611123 | F: 01592 611166 | E: sales@mcdonaldwaterstorage.com

www.mcdonaldwaterstorage.com

