Cyclone

Hot Water Cylinders

joule
Manufacturing Excellence

Cyclone Air

www.jouleuk.co.uk

benchmark

hot water association
CHARTER MEMBER

JL-CYC-UK-008-01-2018

The name Joule is synonymous with innovation, quality and performance. These values lie at the heart of a culture that has been developed by listening to the needs and expectations of our customers.

Unvented water heating is the fastest growing sector of the UK market, Joule have been leading this growth as the UK's fastest growing cylinder brand. Unvented systems are fed directly from the cold water mains supply and offer a number of benefits compared to conventional systems. Higher pressure and flow rates at all hot taps, balanced hot and cold water supplies, no special taps required. Manufactured from the highest quality materials.

Joule are at the forefront of developing the UK unvented cylinder market with a complete range of ERP rated cylinders available, We have B-D rated cylinders held as standard stock and the option of A rated cylinders made to your order requirements. The new Smartplumb by Joule is a complete retake on the systemfit market bringing this cutting edge cylinder to every installers hands.

With a deep understanding of the renewable technologies no other UK manufacturer is better positioned to offer the cylinder that is best suited to your renewable project. Why not use the complete package from Joule, from the air source heat pump to the underfloor heating and aluminium radiators no other manufacturer can offer you the complete package under one roof. Designed, manufactured, pre assembled and commissioned from one company with one guarantee.

Joule have developed a wide ranging portfolio of solutions for heating and hot water systems, these are all available to see on our website along with technical information and helpful product videos and animations. So whether it's a heat pump, underfloor heating or our industry leading smart-plumb range of pre plumbed cylinders, we will have a solution for you.

Visit www.jouleuk.co.uk to experience a one stop solution.

Cylinder Range

Cylinder available, no energy rating

500L	600L	750L	1000L	1250L	1500L	2000L	2500L	3000L	ErP	Cylinder Type
	▭	▭	▭	▭	▭	▭	▭	▭	A B C	Indirect
▭										
	▭	▭	▭	▭	▭	▭	▭	▭	A B C	Twin Solar
▭										
	▭	▭	▭	▭	▭	▭	▭	▭	A B C	Direct
									A B C	Direct Solar
▭									A B C	Thermal Store 1.0
▭									A B C	Thermal Store 2.0
▭									A B C	Horizontal Indirect
									A B C	Horizontal Direct
	▭	▭	▭	▭	▭	▭	▭	▭	A B C	High Gain Indirect
▭										
	▭	▭	▭	▭	▭	▭	▭	▭	A B C	High Gain Solar
▭										
									A B C	Smart Plumb Heat Pump
▭										
									A B C	Smart Plumb Pre-plumbed Indirect
▭										

ErP as Easy as 1-2-3

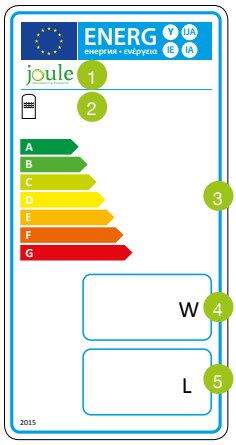
ErP stands for energy related product and as of September 26th all cylinders sold by manufacturers to merchants must include an energy rating label and a technical product fiche.

This does not mean all cylinders sold by merchants to installers must have labels on them, merchants have time to flush out their stocks.

A product fiche is an additional piece of paper that must accompany the cylinder with certain information that is not included on the label. You will find this fiche in the manual for the cylinder.

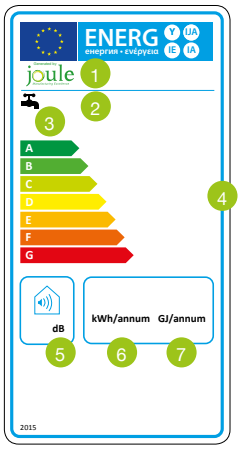
Product labels

Indirect Cylinder label



1. Model name
2. Cylinder logo donates Water Storage Label
3. Energy Efficiency
4. Heat Loss
5. Actual Volume

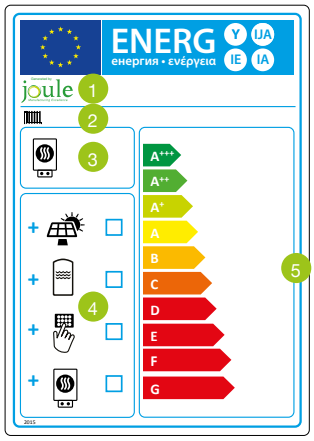
Direct Cylinder label



1. Model name
2. Tap logo donates Water Heater Label
3. Load Profile
4. Energy Efficiency
5. Rated Sound Level
6. Annual Energy Consumption
7. Annual Energy Consumption

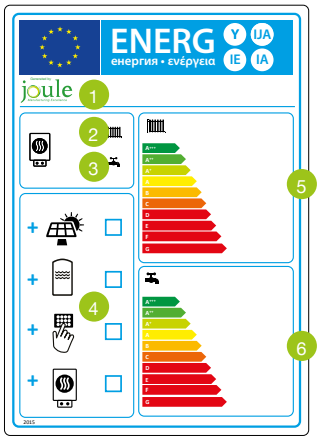
Package labels

System Boiler package



1. Model name
2. Radiator Logo donates Heating System Package Label
3. Efficiency details of selected boiler
4. Components used in the system
5. Energy Efficiency

Combi Boiler package

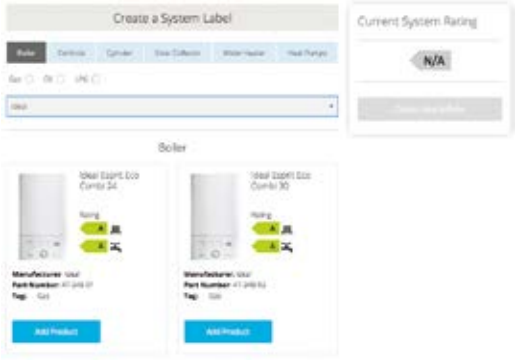


1. Model name
2. Efficiency details of selected boiler on the heating side
3. Efficiency details of selected boiler on the fresh water side
4. Components used in the system
5. Energy Efficiency of the system on the heating side
6. Energy Efficiency of the system on the hot water side

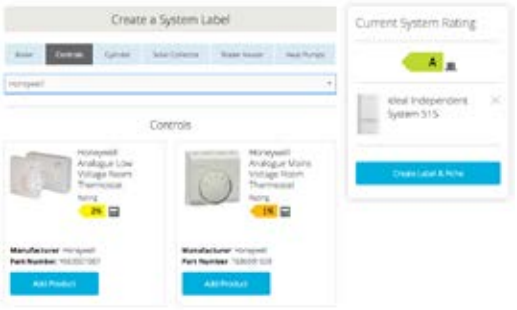
Generating Package Label at www.erp.jouleuk.co.uk

System Boiler Package Label

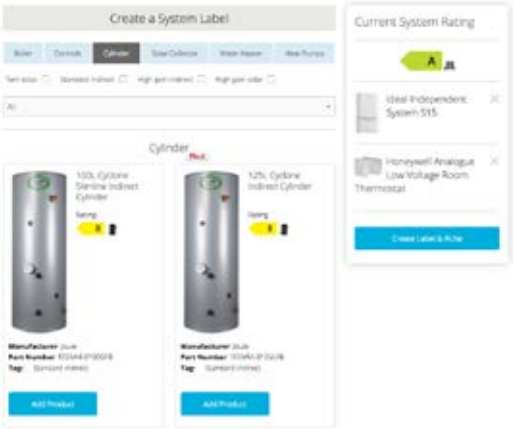
1 Select your system boiler from the boiler tab. System boiler identified by radiator symbol only.



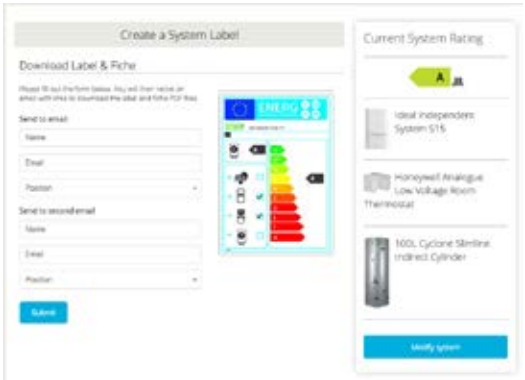
2 Select your heating controller from the controller tab.



3 Select your cylinder from the cylinder tab and then press “Create label & Fiche” on the right hand side.

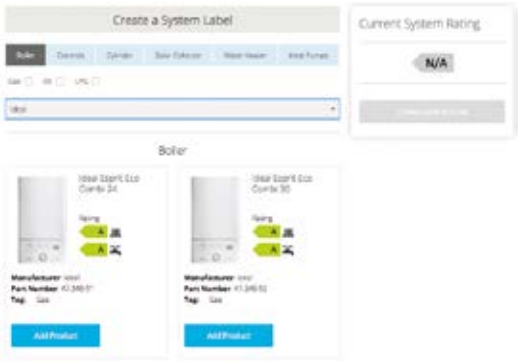


4 Generate your label.

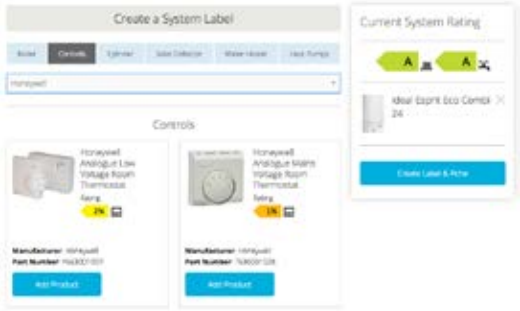


Combi Boiler Package Label

1 Select your combi boiler from the boiler tab. Combi Boiler identified by radiator and tap symbols.



2 Select your heating controller from the controller tab and then press “Create label & Fiche” on the right hand side.



3 Generate your label.

Manufacturing Excellence

To produce a superior cylinder takes a mixture of knowledge, experience, technology, precision and skill. Joule and its owners have been involved in manufacturing cylinders for more than 30 years and over this time we have seen many developments in the manufacturing processes. We are confident today we operate one of the most advanced production facilities supplying cylinders to the European market including the UK and Ireland.

All Joule cylinders start their life as a roll of stainless steel sheet. For a roll of stainless steel to reach the factory floor it must pass stringent quality control checks at the goods inwards department. No component is taken into stock until it has been fully inspected and tested. Unchecked product sits in a holding area to ensure there is no cross contamination. A sheet used to make the body of the inner and outer shells are de-coiled and punched using a **laser guided punching machine**. The punched sheets are then fed down a conveyer system to the rolling machine where they are rolled to a cylindrical shape with **0.001mm tolerance**.

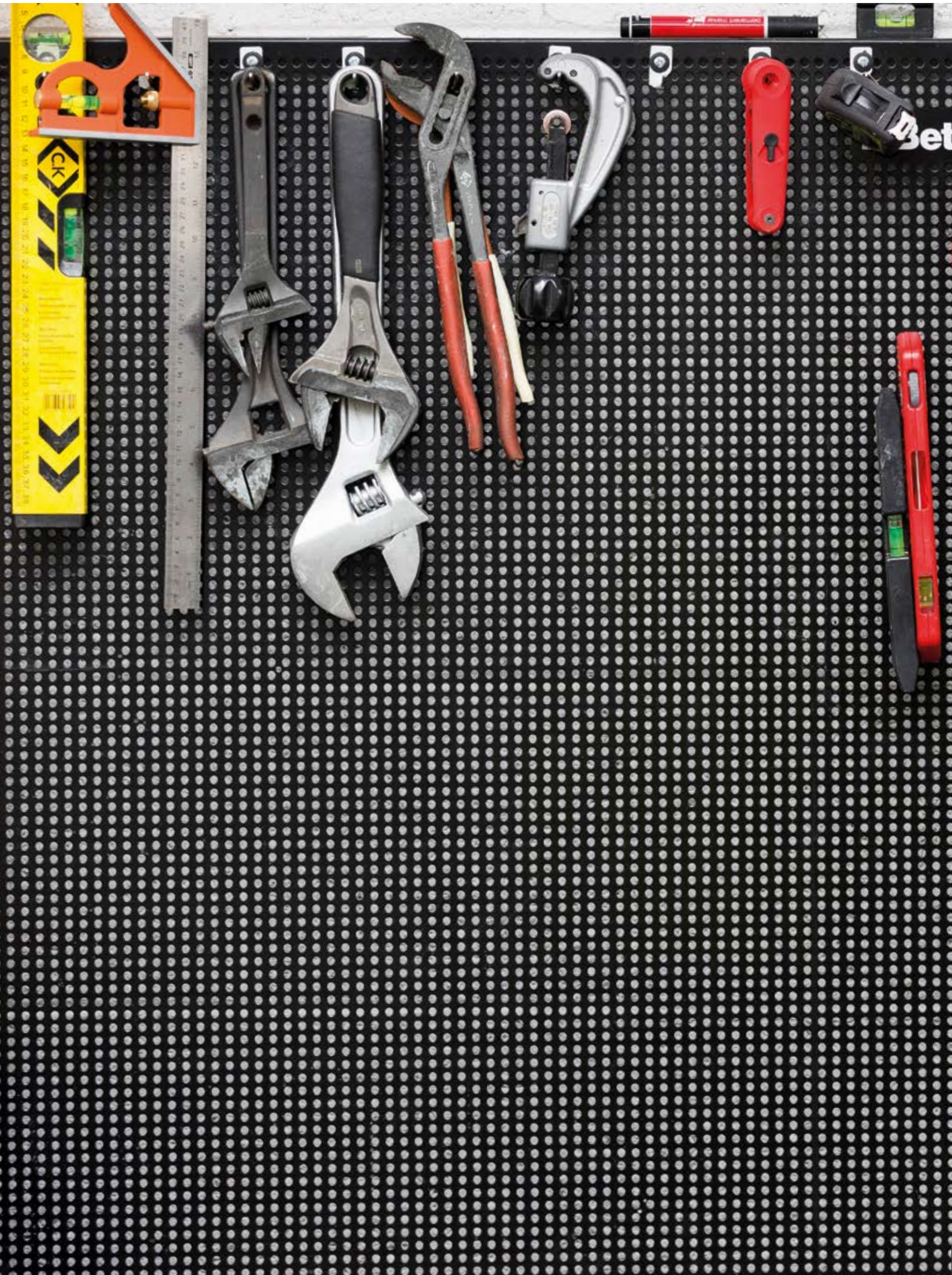
The punched and rolled sheet is then robotically welded along the seam. This creates the cylindrical shape. After the body has been welded the smooth tube 316L stainless coil is fitted into the punched holes on the body. The coil started it's life as a large roll of tubing that is de-coiled and re-coiled into what is required for the specific cylinder. Following this the domes for both the top and bottom are fitted. This is one of the most important processes as the edge of the dome must sit exactly inline with the edge of the body. This ensures that there is no overlap between the two pieces of metal removing any possibility of crevice corrosion. Once the domes have been tacked into place the item is reloaded onto the robotic welder and a circumferential weld is carried out between the domes and the body.

Another differentiating factor with the Joule cylinder is the fact that all connections not just the seam and the dome are robotically welded. This ensures consistency in the weld and reduces the defects. We operate a total quality management system to reduce defects and improve quality so after each process is carried out the work is quality checked at the point. By checking for defects at each stage of the production we can remedy any issue that may occur with the process at an early stage which moves us closer to zero defects.

Unlike most manufacturers we test our cylinders using sensors rather than humans. This ensures that nothing passes through our final testing procedure. The cylinders are then transferred into the after weld treatment baths which pickle and passivate the welds to ensure that they are strong and resistant to corrosion.

Once the cylinders have been treated and cleansed they are now ready for casing. At this stage the cylinder is turned from being horizontal to vertical. The cylinder moved through the entire production process up to this point horizontally. The cylinders are matched up with their unique outer casing and lids.


FANUC
ARC Mate 120iB
10L
AXE 8
GR 2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Manufacturing Excellence

At Joule we believe our cylinders are of superior quality to most other cylinders on the market today. The confidence in our quality is not achieved easily. We have worked tirelessly over the last 8 years developing our product range specification, manufacturing processes and machinery.

Our superior quality starts with our raw materials. By operating a total quality management system we ensure that only raw materials of the highest quality are used in our cylinders.

It sounds simple but a zero dirt policy on the production floor ensure that no foreign debris enters the metal at any stage. We do not use machines for multiple types of metal. Copper cylinders are handled using totally separate machines than stainless ensuring that there is no cross contamination.

Butt welding the entire cylinder separates us from the crowd. We don't just butt weld the seam and the domes we also butt weld the fittings and the coils. Most other manufacturers skip this as it slows down the process. Some don't bother butt welding any part of the cylinder and some do the seam and the domes but few do all the fittings and coils also.

Our coils are what makes us different. Although some other manufacturers would have you believe that the corrugated 0.4mm thick coil is a better coil this is clearly not the case. At Joule we still use 1mm smooth tube coil with longer lengths providing the same surface area as the corrugated coils. This thicker coil ensures a longer life span on your product and because the coil is smooth it emits heat better as it is facing away from itself at all times unlike corrugated coil.

We pickle and passivate all our cylinders. This process treats the metal post welding to ensure that it has it's durable long life coat. This process is not done by all manufacturers and even the ones that do this process do not all take the correct amount of time in submersing the item in the chemical. If the cylinder is only rinsed with the chemical or dipped in and out of a bath of the chemical then it will not have the time needed to work on retreating the metal. At Joule all cylinders are robotically placed in the treatment tank and held there for a programmed time period before being transferred to the next bath.

Indirect

Cyclone Air

B C

- New design = outstanding aesthetics
- High performance coil = faster recovery
- Cold feed diffuser = more hot water
- Internal bubble = no more exp. vessel
- Pre-blanked drain = easy service
- Pre-plumbed = faster installations

System Components

Inlet Control Group

T&P Valve

Tundish

Zone Valve

Cylinder Stat

Dimensions

Technical Information

Capacity Item Code	100L TCEMVA -0100LFB	125L TCEMVA -0125LFB	150L TCEMVA -0150LFB	170L TCEMVA -0170LFB	200L TCIEMVA -0200LFC	250L TCEMVA -0250LFC	300L TCEMVA -0300LFC
Height (A)	**950**	**1005**	**1196**	**1285**	**1530**	**1785**	**2060**
Diameter (B)	**540**	**540**	**540**	**540**	**540**	**540**	**540**
Weight (empty)	32	35	39	43	46	56	65
Weight (full)	131	158	187	210	243	302	361
Cold Water Capacity	95	112	139	159	188	236	279
Energy Efficiency Class	**B**	**B**	**B**	**B**	**C**	**C**	**C**
Bottom Coil Rating (kW)	20	20	20	20	21	23	23
Heat up Time - coil (mins)	17	22	26	30	34	39	46
Reheat Time	10	13	16	18	21	25	32
Standing Loss (W)	44	52	55	58	81	89	103

Direct

Cyclone Air B C

- New design = outstanding aesthetics
- More insulation = greater economy
- Pre-blanked drain = easy service
- Internal bubble = no more exp. vessel
- Cold feed diffuser = more hot water
- Pre-plumbed = faster installations

System Components

Inlet Control Group

T&P Valve

Tundish

Dimensions

Technical Information

Capacity Item Code	100L TCEMVB -0100LFB	125L TCEMVB -0125LFC	150L TCEMVB -0150LFC	170L TCEMVB -0170LFC	200L TCEMVB -0200LFC	250L TCEMVB -0250LFC	300L TCEMVB -0300LFC
Height (A)	**950**	**1005**	**1196**	**1285**	**1530**	**1785**	**2060**
Diameter (B)	**540**	**540**	**540**	**540**	**540**	**540**	**540**
Weight (empty)	36	30	34	37	41	49	55
Weight (full)	135	155	184	207	241	299	355
Cold Water Capacity	95	112	139	159	188	236	279
Energy Efficiency Class	**B**	**C**	**C**	**C**	**C**	**C**	**C**
Heat up Time - coil (mins)	59	74	89	101	109	149	179
Reheat Time	35	46	57	57	81	104	129
Standing Loss (W)	44	52	55	58	81	89	103
Immersion Heaters (3kW)	2	2	2	2	2	2	2
Load Profile	L	L	L	L	L	L	XL
Efficiency (%)	36	36	38	37	36	36	38

SmarTherm

Specifications

Commercial Range

Water Heaters

Type: Horizontal & Vertical Wall Hung

Horizontal Models	80L	100L	120L
Capacity (L)	80	100	120
Length (mm)	930	1090	1250
Diameter (mm)	495	495	495
Element Rating (@230V)	3kW	3kW	3kW
Weight Empty (kg)	28	32	36
Weight Full (kg)	107	133	154
Rated Pressure (bar)	6	6	6
Connection Size	3/4"	3/4"	3/4"
Pressure Tested (bar)	12	12	12
Heat Up Time (mins)*	86	107	130
Recovery Time (mins)**	60	75	91
Factory Fitted Temp. Guage	Yes	Yes	Yes
Factory Fitted T&P relief Valve	Yes	Yes	Yes
ErP Rating	C	C	D
Product Code	OJ-000HV 0803KW	OJ-000HV 1003KW	OJ-000HV 1203KW

* Heat up times are based on heating from 20°C through 45°C
** Recovery times are based on heating 70% of capacity through 45°C

Vertical Models	80L	100L	120L	30L	50L
				Copper versions	
Capacity (L)	80	100	120	30	50
Height (mm)	860	1020	1180	580	830
Diameter (mm)	495	495	495	380	380
Element Rating (@230V)	3kW	3kW	3kW	2kW	2kW
Weight Empty (kg)	28	32	36	16	22
Weight Full (kg)	107	133	154	46	72
Rated Pressure (bar)	6	6	6	6	6
Connection Size	3/4"	3/4"	3/4"	3/4”	3/4”
Pressure Tested (bar)	12	12	12	12	12
Heat Up Time (mins)*	86	107	130	48	80
Recovery Time (mins)**	60	75	91	34	56
Factory Fitted Temp. Guage	Yes	Yes	Yes	Yes	Yes
Factory Fitted T&P relief Valve	Yes	Yes	Yes	Yes	Yes
ErP Rating	C	C	D	C	C
Product Code	OJ-000MV 0803KW	OJ-000MV 1003KW	OJ-000MV 1203KW		

* Heat up times are based on heating from 20°C through 45°C
** Recovery times are based on heating 70% of capacity through 45°C

SmarTherm

Specifications

Commercial Range

Water Heaters

Type

Under Sink & Over Sink

Why Is It Good?

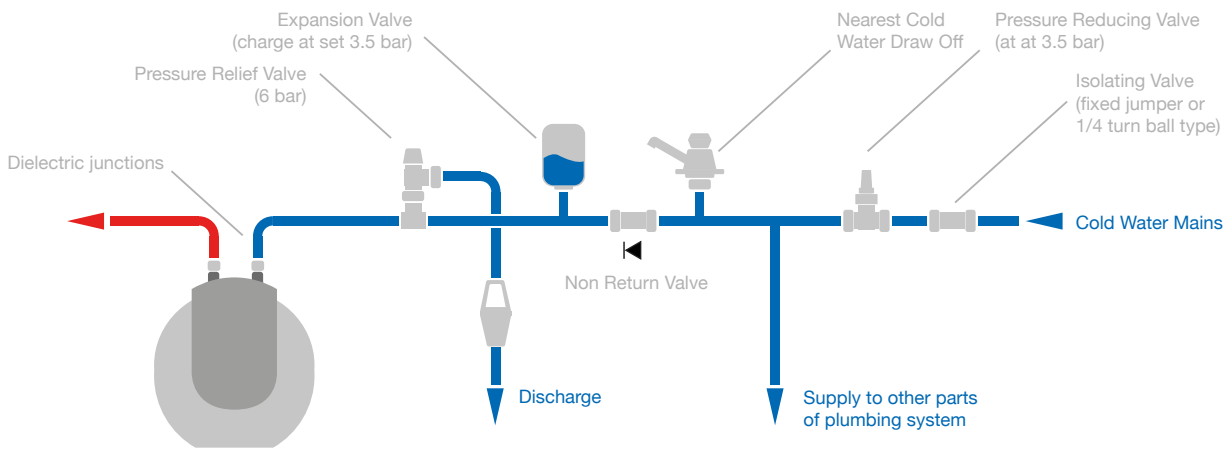
The SmarTherm Water Heaters provide stored hot water from a mains pressurised water supply. The SmarTherm unvented water storage heater comes complete with a pressure relief device for inline installation.

- Hot water to up to four basins
- Balanced supply of hot and cold water
- Heat loss minimisation and energy savings from short pipe runs and superior insulation
- Water outlet via existing tap or mixer
- Adjustable thermostat to 70°C with eco and frost protection settings
- Compact shape for undersink mounting
- Remote siting possible
- 2 kW loading
- 10 and 15 litre capacity models
- 6bar expansion relief valve
- Push button power on/off and neon 'heating' indicator

Water heaters with electrical-mechanical pop-up operation

Model	10l Under	15L Under	10L Over	15L Over
Product Code	OJ-00000U102KW	OJ-00000U152KW	OJ-00000O102KW	OJ-00000O152KW
DI-Electric Fittings	2	2	2	2
3-Pin Plug	1	1	1	1
Temperature Lock	1	1		
1/2" Pressure Relief	1	1	1	1
Energy Efficiency (%)	29	28	29	28

Using A Set Of Expansion Controls



SmarTherm

Specifications

Commercial Range

10 YEARS WARRANTY

300L Indirect

Capacity	Type	Model	Installation
300L	Unvented	Indirect Coil	Floor Standing

Descriptive Specification

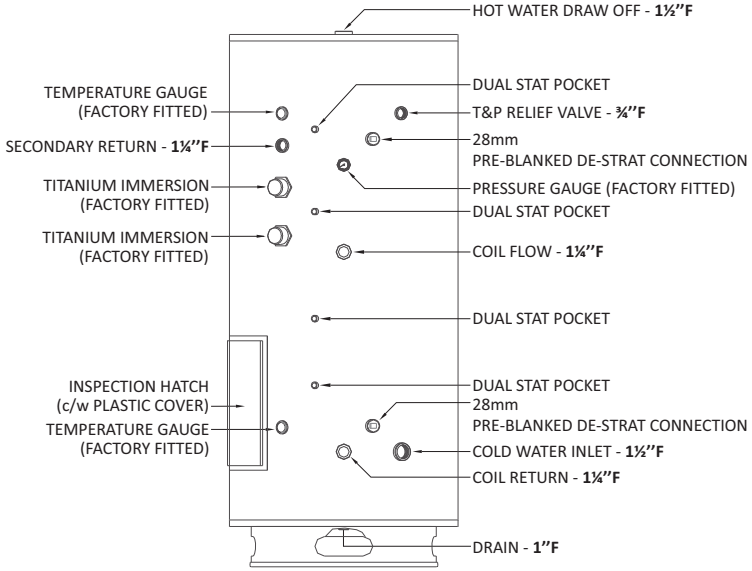
- The unit is to be a floor standing SmarTherm pre insulated pressurized Hot Water Calorifier.
- The calorifier is to be manufactured from Duplex LDX 2101, 1mm sheet thickness and factory fitted with 2no. temperature guages & 1no. pressure gauge.
- The calorifier must be tested to 12 bar with a max operating pressure of 6 bar and fitted with 2no. 3kW titanium immersions.
- The calorifier is to have a coil surface area of 1.54m², coil connections of 1¼" and an inspection hatch internal Ø117mm.
- The calorifier should have a standing loss of no more than 94W as tested to EN12897

Constructive Specifications

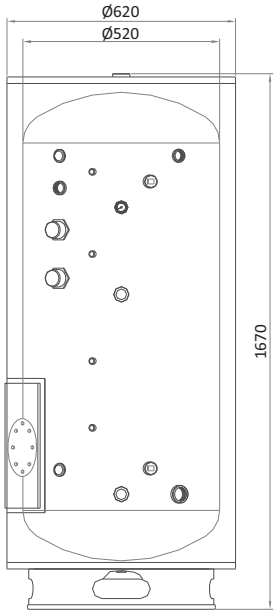
Capacity	**300L**
Tank Material	Stainless Steel **DUPLEX LDX 2101** with **1mm thickness**
Thermal Insulation	**50mm polyurethane foam** CFC-Free and HCFC-Free
Casing	Painted galvanized **carbon steel DX51D**
Coil Material	Stainless Steel Tube **AISI 316L**
Coil Surface Area	**1.54m²** (with 1 1/4" connections)
Coil kW Rating (82-71°C)	**36.3kW**
Peak Flow 1st Hr at 45°C	**1292 L/60'**
Continuous Flow at 45°C	**892 L/h**
Max. Operating Pressure	**6bar**
Test Pressure	**12bar**
Max. Working Temperature	**90°C**
Heating Elements	**2no. 3kW** Titanium Immersion
Extra Connections	**2x** Temperature Gauge (fitted), **1x** Pressure Gauge (fitted), **2x** De-strat Connections
Inspection Hatch	Internal Diameter of **117mm**, External Diameter of **180mm**
Unvented Kit Components	**c/w**: Expansion Vessel, Pressure Reducing Valve, Pressure Relief Valve, T/P Relief Valve, Tundish, Zone Valve
Heat Losses	**94W (EN 12897)**
ErP Class	**C**
Manufacture Art. Code No.	**80.300.IN.99C**
Purchasing Art. Code No.	

Schematics

Connections



Dimensions



SmarTherm

Specifications

Commercial Range

10 YEARS WARRANTY

400L Indirect

Capacity	Type	Model	Installation
400L	Unvented	Indirect Coil	Floor Standing

Descriptive Specification

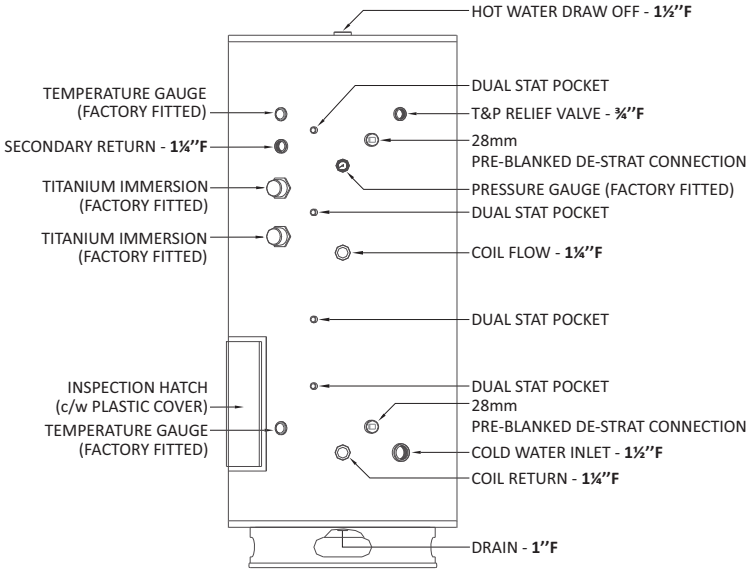
- The unit is to be a floor standing SmarTherm pre insulated pressurized Hot Water Calorifier.
- The calorifier is to be manufactured from Duplex LDX 2101, 1.2mm sheet thickness and factory fitted with 2no. temperature guages & 1no. pressure gauge.
- The calorifier must be tested to 12 bar with a max operating pressure of 6 bar and fitted with 2no. 3kW titanium immersions.
- The calorifier is to have a coil surface area of 1.87m², coil connections of 1¼" and an inspection hatch internal Ø117mm.
- The calorifier should have a standing loss of no more than 102W as tested to EN12897.

Constructive Specifications

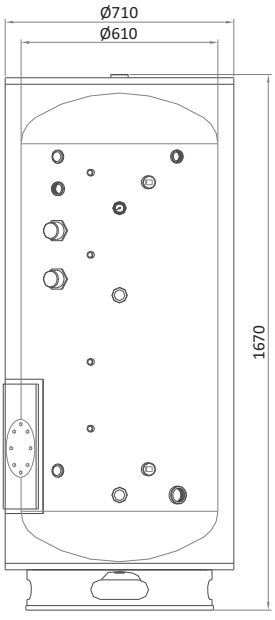
Capacity	**400L**
Tank Material	Stainless Steel **DUPLEX LDX 2101** with **1.2mm thickness**
Thermal Insulation	**50mm polyurethane foam** CFC-Free and HCFC-Free
Casing	Painted galvanized **carbon steel DX51D**
Coil Material	Stainless Steel Tube **AISI 316L**
Coil Surface Area	**1.87m²** (with 1 1/4" connections)
Coil kW Rating (82-71°C)	**43.1kW**
Peak Flow 1st Hr at 45°C	**1559 L/60'**
Continuous Flow at 45°C	**1059 L/h**
Max. Operating Pressure	**6bar**
Test Pressure	**12bar**
Max. Working Temperature	**90°C**
Heating Elements	**2no. 3kW** Titanium Immersion
Extra Connections	**2x** Temperature Gauge (fitted), **1x** Pressure Gauge (fitted), **2x** De-strat Connections
Inspection Hatch	Internal Diameter of **117mm**, External Diameter of **180mm**
Unvented Kit Components	**c/w:** Expansion Vessel, Pressure Reducing Valve, Pressure Relief Valve, T/P Relief Valve, Tundish, Zone Valve
Heat Losses	**102W (EN 12897)**
ErP Class	**C**
Manufacture Art. Code No.	**80.400.IN.70C**
Purchasing Art. Code No.	

Schematics

Connections



Dimensions



SmarTherm

Specifications

Commercial Range

10 YEARS WARRANTY

500L Indirect

Capacity	Type	Model	Installation
500L	Unvented	Indirect Coil	Floor Standing

Descriptive Specification

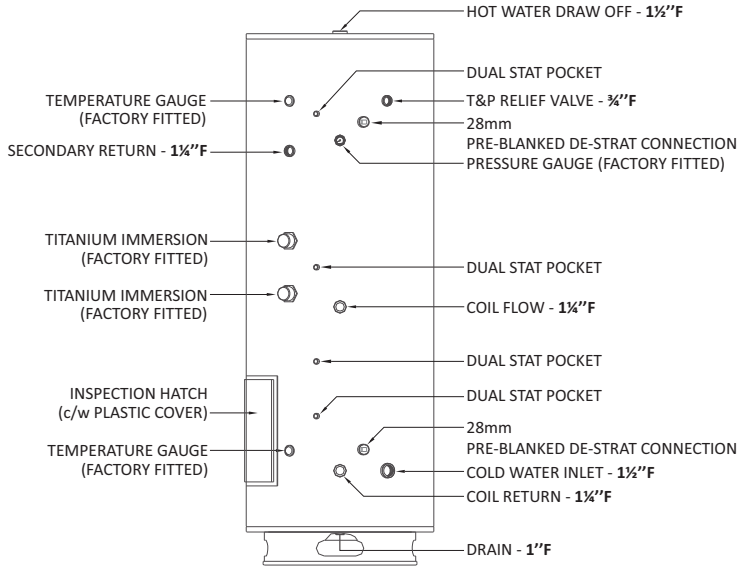
- The unit is to be a floor standing SmarTherm pre insulated pressurized Hot Water Calorifier.
- The calorifier is to be manufactured from Duplex LDX 2101 1.2mm sheet thickness and factory fitted with 2no. temperature guages & 1no. pressure gauge.
- The calorifier must be tested to 12 bar with a max operating pressure of 6 bar and fitted with 2no. 3kW titanium immersions.
- The calorifier is to have a coil surface area of 1.87m², coil connections of 1¼" and an inspection hatch internal Ø117mm.
- The calorifier should have a standing loss of no more than 115W as tested to EN12897.

Constructive Specifications

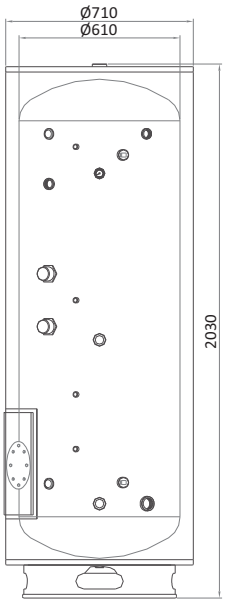
Capacity	**500L**
Tank Material	Stainless Steel **DUPLEX LDX 2101** with **1.2mm thickness**
Thermal Insulation	**50mm polyurethane foam** CFC-Free and HCFC-Free
Casing	Painted galvanized **carbon steel DX51D**
Coil Material	Stainless Steel Tube **AISI 316L**
Coil Surface Area	**1.87m²** (with 1 1/4" connections)
Coil kW Rating (82-71°C)	**40.7kW**
Peak Flow 1st Hr at 45°C	**1642 L/60'**
Continuous Flow at 45°C	**1000 L/h**
Max. Operating Pressure	**6bar**
Test Pressure	**12bar**
Max. Working Temperature	**90°C**
Heating Elements	**2no. 3kW** Titanium Immersion
Extra Connections	**2x** Temperature Gauge (fitted), **1x** Pressure Gauge (fitted), **2x** De-strat Connections
Inspection Hatch	Internal Diameter of **117mm**, External Diameter of **180mm**
Unvented Kit Components	**c/w:** Expansion Vessel, Pressure Reducing Valve, Pressure Relief Valve, T/P Relief Valve, Tundish, Zone Valve
Heat Losses	**115W (EN 12897)**
ErP Class	**C**
Manufacture Art. Code No.	**80.500.IN.93C**
Purchasing Art. Code No.	

Schematics

Connections



Dimensions



SmarTherm

Specifications

Commercial Range

10 YEARS WARRANTY

800L Indirect

Capacity	Type	Model	Installation
800L	Unvented	Indirect Coil	Floor Standing

Descriptive Specification

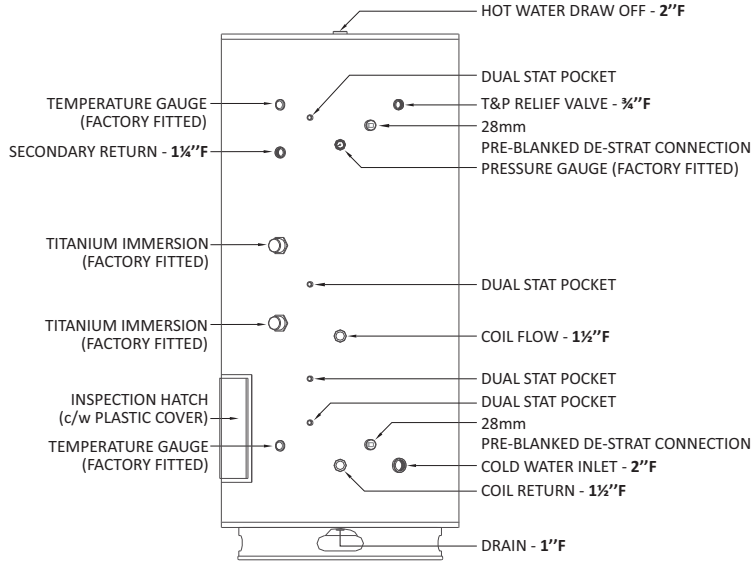
- The unit is to be a floor standing SmarTherm pre insulated pressurized Hot Water Calorifier.
- The calorifier is to be manufactured from Duplex LDX 2101 3mm sheet thickness and factory fitted with 2no. temperature guages & 1no. pressure guage.
- The calorifier must be tested to 12 bar with a max operating pressure of 6 bar and fitted with 2no. 3kW titanium immersions.
- The calorifier is to have a coil surface area of 2.86m², coil connections of 1½" and an inspection hatch internal Ø117mm.
- The calorifier should have a standing loss of no more than 133W as tested to EN12897.

Constructive Specifications

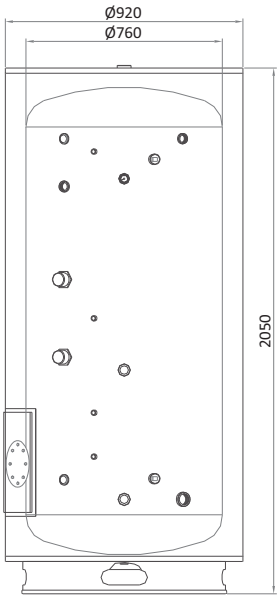
Capacity	**800L**
Tank Material	Stainless Steel **DUPLEX LDX 2101** with **3mm thickness**
Thermal Insulation	**80mm polyurethane foam** CFC-Free and HCFC-Free
Casing	Painted galvanized **carbon steel DX51D**
Coil Material	Stainless Steel Tube **AISI 316L**
Coil Surface Area	**2.86m²** (with 1 1/2" connections)
Coil kW Rating (82-71°C)	**53kW**
Peak Flow 1st Hr at 45°C	**2344 L/60'**
Continuous Flow at 45°C	**1302 L/h**
Max. Operating Pressure	**6bar**
Test Pressure	**12bar**
Max. Working Temperature	**90°C**
Heating Elements	**2no. 3kW** Titanium Immersion
Extra Connections	**2x** Temperature Gauge (fitted), **1x** Pressure Gauge (fitted), **2x** De-strat Connections
Inspection Hatch	Internal Diameter of **117mm**, External Diameter of **180mm**
Unvented Kit Components	**c/w:** Expansion Vessel, Pressure Reducing Valve, Pressure Relief Valve, T/P Relief Valve, Tundish, Zone Valve
Heat Losses	**133W (EN 12897)**
Manufacture Art. Code No.	**80.800.IN.03C**
Purchasing Art. Code No.	

Schematics

Connections



Dimensions



SmarTherm

Specifications

Commercial Range

10 YEARS WARRANTY

1,000L Indirect

Capacity	Type	Model	Installation
1,000L	Unvented	Indirect Coil	Floor Standing

Descriptive Specification

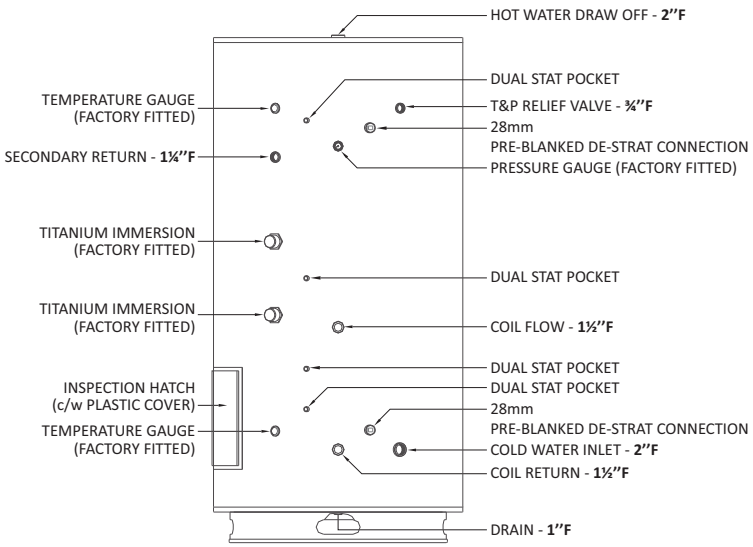
- The unit is to be a floor standing SmarTherm pre insulated pressurized Hot Water Calorifier.
- The calorifier is to be manufactured from AISI 316L with 3mm sheet thickness and factory fitted with 2no. temperature guages & 1no. pressure gauge.
- The calorifier must be tested to 12 bar with a max operating pressure of 6 bar and fitted with 2no. 3kW titanium immersions.
- The calorifier is to have a coil surface area of 2.86m², coil connections of 1½" and an inspection hatch internal Ø117mm.
- The calorifier should have a standing loss of no more than 231W as tested to EN12897.

Constructive Specifications

Capacity	**1,000L**
Tank Material	Stainless Steel **AISI 316L** with **3mm thickness**
Thermal Insulation	**80mm polyurethane foam, CFC-Free and HFCF-Free**
Casing	**Painted galvanized carbon steel DX51D**
Coil Material	Stainless steel tube **AISI 316L**
Coil Surface Area	**2.86m²** (with 1 1/2" connections)
Coil kW Rating (82-71°C)	**50.7kW**
Peak Flow 1st Hr at 45°C	**2566 L/60'**
Continuous Flow at 45°C	**1246 L/h**
Max. Operating Pressure	**6bar**
Test Pressure	**12bar**
Max. Working Temperature	**90°C**
Heating Elements	**2no. 3kW** Titanium Immersion
Extra Connections	**2x** Temperature Gauge (fitted), **1x** Pressure Gauge (fitted), **2x** De-strat Connections
Inspection Hatch	Internal Diameter of **117mm**, External Diameter of **180mm**
Unvented Kit Components	**c/w:** Expansion Vessel, Pressure Reducing Valve, Pressure Relief Valve, T/P Relief Valve, Tundish, Zone Valve
Heat Losses	**231W (EN 12897)**
Manufacture Art. Code No.	**80.1000.IN.04C**
Purchasing Art. Code No.	

Schematics

Connections



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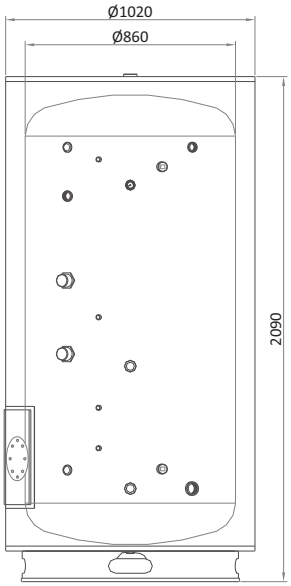


SmarTherm

Specifications

Commercial Range

10 YEARS WARRANTY

1,250L Indirect

Capacity	Type	Model	Installation
1,250L	Unvented	Indirect Coil	Floor Standing

Descriptive Specification

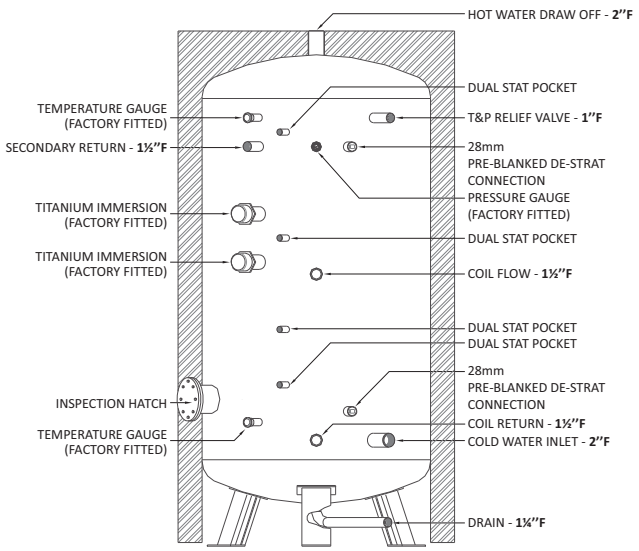
- The unit is to be a floor standing SmarTherm pre insulated pressurized Hot Water Calorifier.
- The calorifier is to be manufactured from AISI 316L with 4mm sheet thickness and factory fitted with 2no. temperature guages & 1no. pressure guage.
- The calorifier must be tested to 12 bar with a max operating pressure of 6 bar and fitted with 2no. 3kW titanium immersions.
- The calorifier is to have a coil surface area of 4.73m², coil connections of 1½" and an inspection hatch internal Ø117mm.
- The calorifier should have a standing loss of no more than 242W as tested to EN12897.

Constructive Specifications

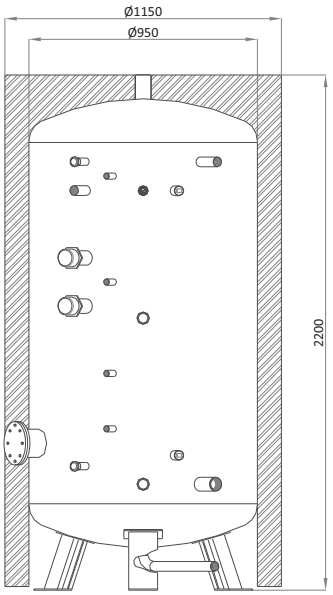
Capacity	**1,250L**
Tank Material	Stainless Steel **AISI 316L** with **4mm thickness**
Thermal Insulation	100mm flexible polyurethane thermal insulation
Casing	'**Skay' (PVC)** outer casing with zip closing
Coil Material	Stainless steel tube **AISI 316L**
Coil Surface Area	**2.73m²** (with 1 1/2" connections)
Coil kW Rating (82-71°C)	**64.9kW**
Peak Flow 1st Hr at 45°C	**3243 L/60'**
Continuous Flow at 45°C	**1595 L/h**
Max. Operating Pressure	**6bar**
Test Pressure	**12bar**
Max. Working Temperature	**90°C**
Heating Elements	**2no. 3kW** Titanium Immersion
Extra Connections	**2x** Temperature Gauge (fitted), **1x** Pressure Gauge (fitted), **2x** De-strat Connections
Inspection Hatch	Internal Diameter of **117mm**, External Diameter of **180mm**
Unvented Kit Components	**c/w:** Expansion Vessel, Pressure Reducing Valve, Pressure Relief Valve, T/P Relief Valve, Tundish, Zone Valve
Heat Losses	**242W (EN 12897)**
Manufacture Art. Code No.	**81.1250.IN.44C**
Purchasing Art. Code No.	

Schematics

Connections



Dimensions



SmarTherm

Specifications

Commercial Range

10 YEARS WARRANTY

1,500L Indirect

Capacity	Type	Model	Installation
1,500L	Unvented	Indirect Coil	Floor Standing

Descriptive Specification

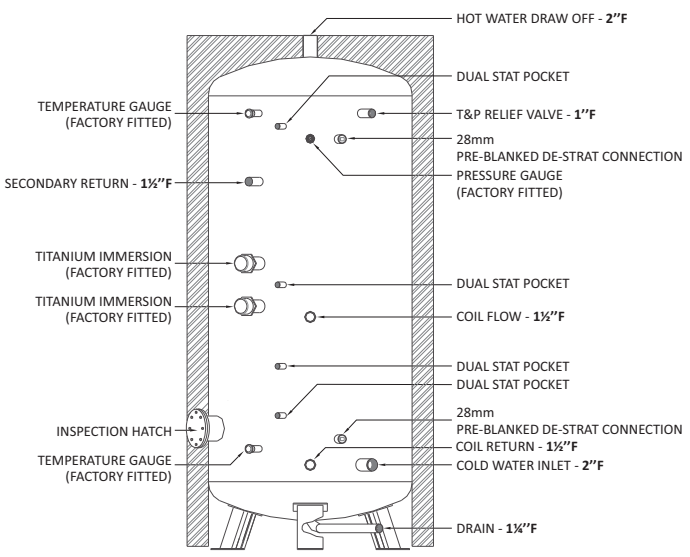
- The unit is to be a floor standing SmarTherm pre insulated pressurized Hot Water Calorifier.
- The calorifier is to be manufactured from AISI 316L with 4mm sheet thickness and factory fitted with 2no. temperature guages & 1no. pressure gauge.
- The calorifier must be tested to 12 bar with a max operating pressure of 6 bar and fitted with 2no. 3kW titanium immersions.
- The calorifier is to have a coil surface area of 4.73m², coil connections of 1½" and an inspection hatch internal Ø117mm.
- The calorifier should have a standing loss of no more than 242W as tested to EN12897.

Constructive Specifications

Capacity	**1,500L**
Tank Material	Stainless Steel **AISI 316L** with **4mm thickness**
Thermal Insulation	**100mm flexible polyurethane** thermal insulation
Casing	**'Skay' (PVC)** outer casing with zip closing
Coil Material	Stainless steel tube **AISI 316L**
Coil Surface Area	**4.73m²** (with 1 1/2" connections)
Coil kW Rating (82-71°C)	**62.9kW**
Peak Flow 1st Hr at 45°C	**3543 L/60'**
Continuous Flow at 45°C	**1546 L/h**
Max. Operating Pressure	**6bar**
Test Pressure	**12bar**
Max. Working Temperature	**90°C**
Heating Elements	**2no. 3kW** Titanium Immersion
Extra Connections	**2x** Temperature Gauge (fitted), **1x** Pressure Gauge (fitted), **2x** De-strat Connections
Inspection Hatch	Internal Diameter of **117mm**, External Diameter of **180mm**
Unvented Kit Components	**c/w:** Expansion Vessel, Pressure Reducing Valve, Pressure Relief Valve, T/P Relief Valve, Tundish, Zone Valve
Heat Losses	**242W (EN 12897)**
Manufacture Art. Code No.	**81.1500.IN.44C**
Purchasing Art. Code No.	

Schematics

Connections



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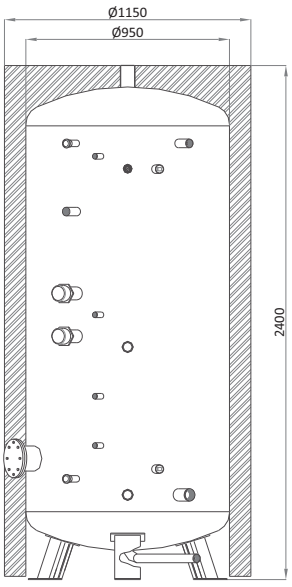


SmarTherm

Specifications

Commercial Range

10 YEARS WARRANTY

2,000L Indirect

Capacity	Type	Model	Installation
2,000L	Unvented	Indirect Coil	Floor Standing

Descriptive Specification

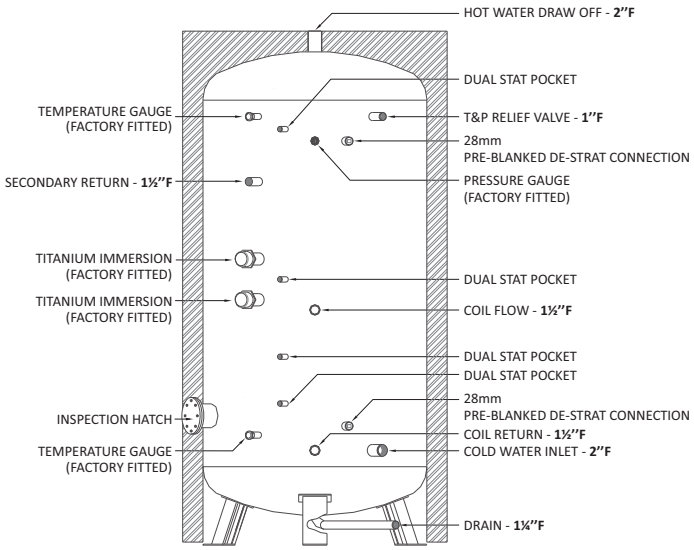
- The unit is to be a floor standing SmarTherm pre insulated pressurized Hot Water Calorifier.
- The calorifier is to be manufactured from AISI 316L with 4mm sheet thickness and factory fitted with 2no. temperature guages & 1no. pressure gauge.
- The calorifier must be tested to 12 bar with a max operating pressure of 6 bar and fitted with 2no. 3kW titanium immersions.
- The calorifier is to have a coil surface area of 7.04m², coil connections of 1½" and an inspection hatch internal Ø117mm.
- The calorifier should have a standing loss of no more than 255W as tested to EN12897.

Constructive Specifications

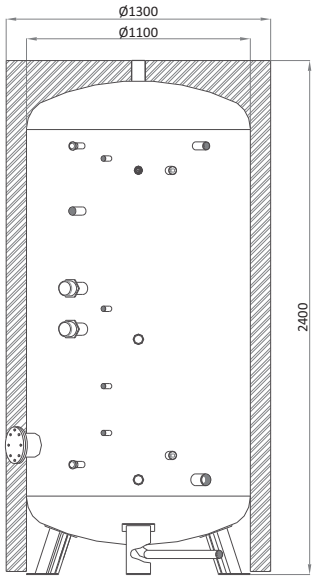
Capacity	**2,000L**
Tank Material	Stainless Steel **AISI 316L** with **4mm thickness**
Thermal Insulation	**100mm flexible polyurethane** thermal insulation
Casing	**'Skay' (PVC)** outer casing with zip closing
Coil Material	Stainless steel tube **AISI 316L**
Coil Surface Area	**7.04m²** (with 1 1/2" connections)
Coil kW Rating (82-71°C)	**92.4kW**
Peak Flow 1st Hr at 45°C	**4923 L/60'**
Continuous Flow at 45°C	**2270 L/h**
Max. Operating Pressure	**6bar**
Test Pressure	**12bar**
Max. Working Temperature	**90°C**
Heating Elements	**2no. 3kW** Titanium Immersion
Extra Connections	**2x** Temperature Gauge (fitted), **1x** Pressure Gauge (fitted), **2x** De-strat Connections
Inspection Hatch	Internal Diameter of **117mm**, External Diameter of **180mm**
Unvented Kit Components	**c/w:** Expansion Vessel, Pressure Reducing Valve, Pressure Relief Valve, T/P Relief Valve, Tundish, Zone Valve
Heat Losses	**255W (EN 12897)**
Manufacture Art. Code No.	**81.2000.IN.44C**
Purchasing Art. Code No.	

Schematics

Connections



Dimensions



Smart Plumb Pre-plumbed Indirect Cyclone

Smart Plumb by Joule is the next generation in pre plumbed hot water solutions. With its sleek design the space required for a complete system installation has been reduced dramatically. With much shorter installation times required to fit the product compared with that of a standard hot water cylinder. Only using brand leading components such as Honeywell and Reliance you can be assured of the quality of the complete package.

For System Boiler

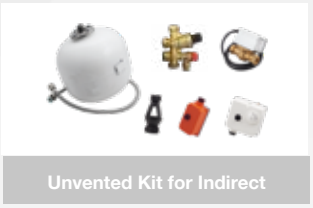
- Pre-plumbed for system boiler
- Does not include pump, heating vessel and robo kit
- Includes time clock and dial thermostats
- Includes standard un-vented kit
- Includes heating zone valves (1 or 2)
- Includes by-pass valve
- Includes filling loop
- Includes wiring center

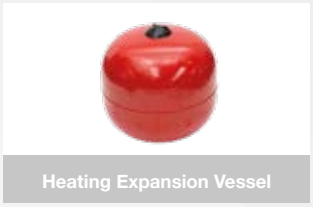
For Heat Only Boiler

- Pre plumbed for heat only boiler
- Includes pump, heating vessel and robo kit
- Includes time clock and dial thermostats
- Includes standard un-vented kit
- Includes heating zone valves (1 or 2)
- Includes by-pass valve
- Includes filling loop
- Includes wiring center

joule

System Components


Unvented Kit for Indirect


Heating Expansion Vessel


Filling Loop Hose


Wiring Junction Box

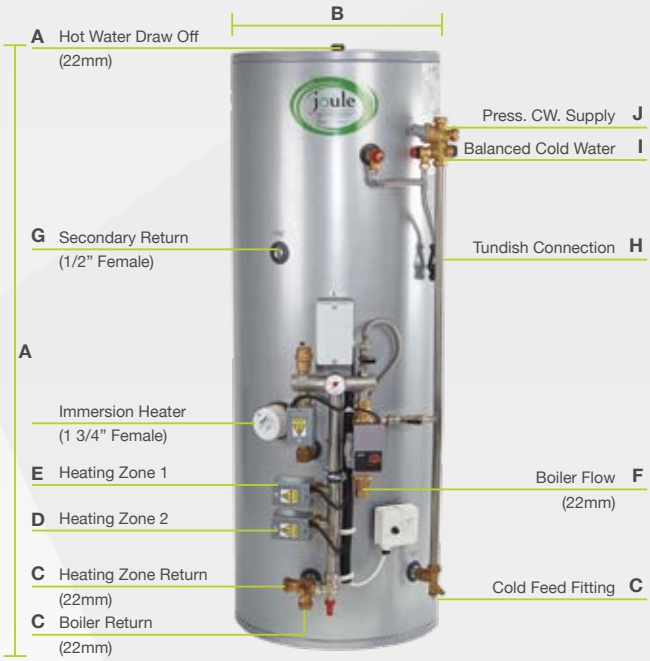

Joule Dial Type Thermostat


Automatic Air Vent

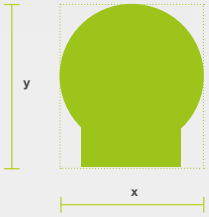

Timeclock


A Rated Circulation Pump

Dimensions



Footprint Diagram



Smart Plumb Pre-plumbed

Capacity	100L	125L	150L	170L	200L	200L	250L	250L	300L	300L	400L	500L
Height (A)	-	-	**1190**	**1310**	-	**1490**	-	**1815**	-	**2040**	-	-
Diameter (B)	-	-	**540**	**540**	-	**540**	-	**540**	-	**540**	-	-
Weight (empty)	-	-	51	55	-	59	-	69	-	77	-	-
Weight (full)	-	-	199	222	-	256	-	315	-	373	-	-
Hot water volume	-	-	148	168	-	196	-	247	-	289	-	-
C	-	-	196	196	-	196	-	196	-	196	-	-
D	-	-	286	286	-	316	-	386	-	386	-	-
E	-	-	386	386	-	416	-	486	-	486	-	-
F	-	-	380	380	-	410	-	480	-	480	-	-
G	-	-	786	881	-	981	-	1271	-	1551	-	-
H	-	-	691	810	-	991	-	1311	-	1591	-	-
I	-	-	1100	1220	-	1400	-	1725	-	1950	-	-
J	-	-	1140	1260	-	1440	-	1765	-	1990	-	-
x	-	-	570	570	-	570	-	570	-	570	-	-
y	-	-	680	680	-	680	-	680	-	680	-	-
Energy Efficiency Class	-	-	**B**	**B**	-	**C**	-	**C**	-	**C**	-	-
Standing Loss (W)	-	-	55	58	-	81	-	89	-	103	-	-

Indirect

Cyclone

B C D

The Joule range of un-vented cylinders are the UK's fastest growing cylinder brand. Built on quality and performance, with one of the widest ranges of models available you can be sure there is a model to suit. With the introduction of the Energy Related Product certificate scheme under an EU directive, Joule are leading the way by offering a complete range of A, B & C rated cylinders. The same quality you have been accustomed too is now available across all rated cylinders. The Cyclone brand is noted for its attractive grey finish. Noticeably there is no cheap plastic used on the outer casing. Inside only the best materials are used, duplex stainless steel body, 316L grade stainless fittings and coils. Our quality is nowhere better noticed then in the construction of our coils. Unlike most cheaper brands on the market Cyclone range of cylinders use high recovery smooth tube coils for optimal performance. No other coil type on the market today offers the same transfer rate as smooth stainless tube.

- Single high recovery coil
- Smooth tube coil construction for durability and performance
- Compression connections fitted as standard
- Bevelled stat pocket for better fitting
- Metallic grey wipe clean rigid case for premium appearance
- Pre plugged secondary tapping for ease of installation
- All Connections clearly labelled
- Butt Welded process used throughout
- Robotically welded
- Branded quality components

joule

System Components

Inlet Control Group

Expansion Vessel

Tundish

Zone Valve

Cylinder Stat

T&P Valve

Dimensions

Indirect

Capacity	100L	125L	150L	170L	200L	200L	250L	250L	300L	300L	400L	500L
Height (A)	**950**	**1030**	**1190**	**1310**	**1150**	**1490**	**1400**	**1815**	**1600**	**2040**	**1570**	**1900**
Diameter (B)	**500**	**540**	**540**	**540**	**600**	**540**	**600**	**540**	**600**	**540**	**710**	**710**
Weight (empty)	39	35	39	43	46	47	56	57	64	65	71	87
Weight (full)	135	158	187	210	243	244	302	303	360	361	471	589
Hot water volume	96	124	148	168	194	196	247	247	290	289	390	494
C	188	196	196	196	218	196	218	196	218	196	225	225
D	333	211	341	341	423	336	383	361	383	361	405	455
E	478	511	486	486	538	516	608	586	608	586	675	745
F	543	651	551	551	603	581	673	651	673	651	740	810
G	628	751	786	881	768	981	968	1271	1153	1551	1180	1440
H	743	80	911	1031	883	1211	1133	1531	1333	1811	1280	1640
Energy Efficiency Class	**B**	**B**	**B**	**B**	**C**	**C**	**C**	**C**	**C**	**D**	**C**	**C**
Heat up Time - coil (Mins)	14	23	26	27	31	31	37	37	42	42	52	54
Standing Loss (W)	44	52	55	58	78	81	87	89	92	103	102	115

Twin Solar

The Cyclone solar range of cylinders are designed to work with any solar system on the market. Manufactured with 9mm sensor pockets for the solar controller ensures that your solar system performs its best.

- Boiler and Solar high recovery coil
- Smooth tube coil construction for durability and performance
- Compression connections fitted as standard
- Bevelled stat pocket for better fitting
- 9mm Solar stat pockets for PT1000 solar probes
- Metallic grey wipe clean rigid case for premium appearance
- Pre plugged secondary tapping for ease of installation
- All Connections clearly labelled
- Butt Welded process used throughout
- Robotically welded
- Branded quality components

System Components

Inlet Control Group

Expansion Vessel

Tundish

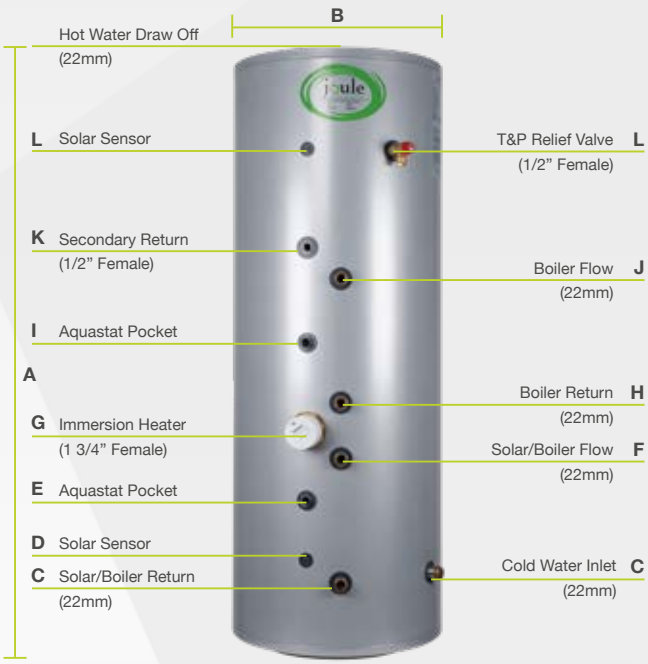
Zone Valve

Cylinder Stat

Hi Limit Single Thermostat

T&P Valve

Dimensions



Twin Solar

Capacity	100L	125L	150L	170L	200L	200L	250L	250L	300L	300L	400L	500L
Height (A)	-	-	-	**1310**	**1150**	**1490**	**1400**	**1815**	**1600**	-	**1570**	**1900**
Diameter (B)	-	-	-	**540**	**600**	**540**	**600**	**540**	**600**	-	**710**	**710**
Weight (empty)	-	-	-	49	50	50	59	60	67	-	74	87
Weight (full)	-	-	-	219	246	247	307	308	364	-	476	589
Hot water volume	-	-	-	170	196	197	248	248	297	-	402	502
C	-	-	-	196	218	196	218	196	218	-	225	225
D	-	-	-	246	268	246	268	246	268	-	275	275
E	-	-	-	346	368	386	438	416	438	-	430	430
F	-	-	-	446	468	486	538	516	538	-	615	615
G	-	-	-	511	533	551	603	581	603	-	680	680
H	-	-	-	576	598	616	668	646	668	-	745	745
I	-	-	-	681	688	756	798	786	810	-	888	888
J	-	-	-	826	768	906	1053	1031	1053	-	1130	1130
K	-	-	-	882	848	981	968	1271	1153	-	1180	1440
L	-	-	-	1031	883	1211	1133	1531	1333	-	1280	1640
Energy Efficiency Class	-	-	-	**B**	**C**	**C**	**C**	**C**	**C**	-	**C**	**C**
Boiler Coil Surface (m^2)	-	-	-	0.58	0.58	0.58	0.67	0.67	0.67	-	0.77	0.77
kW Rating	-	-	-	16	16	16	18	18	18	-	22	22
Solar Coil Surface (m^2)	-	-	-	0.58	0.67	0.67	0.77	0.77	0.77	-	1.15	1.28
kW Rating	-	-	-	16	18	18	22	22	22	-	30	16
Heat up Time - coil (Mins)	-	-	-	15	21	21	27	27	32	-	42	49
Standing Loss (W)	-	-	-	58	80	83	89	91	96	-	102	115

Direct

Cyclone

C D

The Joule range of un-vented cylinders are the UK's fastest growing cylinder brand. Built on quality and performance, with one of the widest ranges of models available you can be sure there is a model to suit. With the introduction of the Energy Related Product certificate scheme under an EU directive, Joule are leading the way by offering a complete range of A, B & C rated cylinders. The same quality you have been accustomed too is now available across all rated cylinders. The Cyclone is noted for its attractive grey finish. Noticeably there is no cheap plastic used on the outer casing. Inside only the best materials are used, duplex stainless steel body, 316L grade stainless fittings and incoloy immersions.

- 3kW Incoloy immersions fitted as standard
- Titanium and 6kW immersion options available on request
- Compression connections fitted as standard
- Bevelled stat pocket for better fitting
- Metallic grey wipe clean rigid case for premium appearance
- Pre plugged secondary tapping for ease of installation
- All Connections clearly labelled
- Butt Welded process used throughout
- Robotically welded
- Branded quality components

joule

System Components

Inlet Control Group

Expansion Vessel

Tundish

T&P Valve

Dimensions

Direct

Capacity	100L	125L	150L	170L	200L	200L	250L	250L	300L	300L	400L	500L
Height (A)	**950**	**1030**	**1190**	**1310**	**1150**	**1490**	**1400**	**1815**	**1600**	**2040**	**1570**	**1900**
Diameter (B)	**500**	**540**	**540**	**540**	**600**	**540**	**600**	**540**	**600**	**540**	**710**	**710**
Load profile	L	L	L	L	L	L	L	L	XL	XL	XXL	XXL
Weight (empty)	36	30	34	37	40	41	49	49	56	55	62	89
Weight (full)	135	155	184	207	240	241	299	299	356	355	462	587
Hot water volume	99	125	150	170	200	200	250	250	300	300	400	498
C	188	196	196	196	218	196	218	196	218	196	225	225
D	203	211	211	211	233	211	233	211	233	211	240	240
E	468	511	561	631	553	701	653	861	733	1001	740	840
F	628	651	786	881	768	981	968	1271	1153	1551	1180	1440
G	743	751	911	1031	883	1211	1133	1531	1333	1811	1280	1640
Energy Efficiency Class	**C**	**C**	**C**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**
Heat up Time - coil (Mins)	52	62	76	96	119	119	140	140	166	166	225	260
Energy Efficiency (%)	37	37	37	36	36	35	35	35	37	36	37	36
Annual El. Consumption (kWh)	2740	2773	2785	2830	2875	2892	2908	2928	4565	4610	5805	5999
Sound Power Level (dB)	16	16	16	16	16	16	16	16	16	16	16	16
Thermostat Temp. Setting (C)	60	60	60	60	60	60	60	60	60	60	60	60

Direct Solar

Cyclone

- Water heater powered by solar thermal and electrical elements.
- Available in capacities from 100 to 3,000 litres
- Available with different immersion sizes, material construction and power outputs
- Can be manufactured to customer specifications
- Secondary return connection comes pre-blanked saving on installation time
- Available with a range of insulation thicknesses reducing standing heat losses
- Manufactured from superior grade stainless steel
- Finished with elegant metallic steel outer casing adding to its premium appearance and durability

joule

System Components

Inlet Control Group

Expansion Vessel

Tundish

Zone Valve

T&P Valve

Hi Limit Single Thermostat

Dimensions

Direct Solar

Capacity	100L	125L	150L	170L	200L	200L	250L	250L	300L	300L	400L	500L
Height (A)	-	-	1190	1310	1150	1490	1400	1815	1600	-	1570	1900
Diameter (B)	-	-	540	540	600	540	600	540	600	-	710	710
Weight (empty)	-	-	39	43	46	47	56	57	64	-	71	87
Weight (full)	-	-	187	210	243	244	302	303	360	-	471	589
Hot water volume	-	-	148	167	197	197	246	246	296	-	400	502
C	-	-	196	196	218	196	218	196	218	-	225	225
D	-	-	246	246	268	246	268	246	268	-	275	275
E	-	-	346	346	368	386	438	416	438	-	430	430
F	-	-	446	446	468	486	538	516	538	-	615	615
G	-	-	511	511	533	551	603	581	603	-	680	680
H	-	-	636	731	668	821	833	931	968	-	915	1150
I	-	-	762	882	768	981	968	1271	1153	-	1190	1440
J	-	-	911	1031	883	1211	1133	1531	1333	-	1290	1640
Energy Efficiency Class	-	-	C	C	C	C	C	C	C	-	C	C
Heat up Time - coil (Mins)	-	-	23	24	28	28	34	34	39	-	48	54
Solar Coil Surface (m²)	-	-	0.58	0.58	0.67	0.67	0.77	0.77	0.77	-	1.15	1.28
kW Rating	-	-	16	16	18	18	22	22	22	-	30	35
Standing Loss (W)	-	-	55	66	78	81	89	89	92	-	102	115

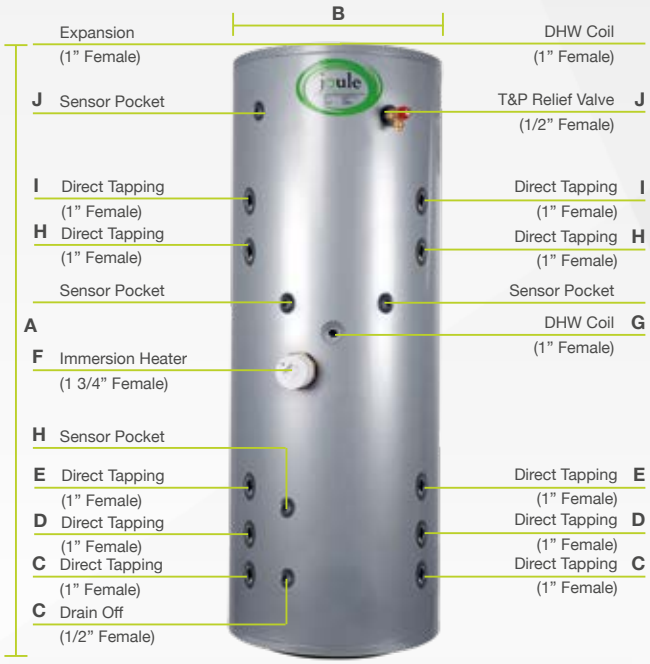
Thermal Store 1.0

The Joule Cyclone Thermal Store 1.0 is the ideal solution for multi energy applications. The hot water is produced through an internal coil. The internal coil is a simple and straight forward solution. It will not achieve the higher flow rates which the 2.0 can achieve. The internal coil cannot be serviced or maintained unlike the 2.0.

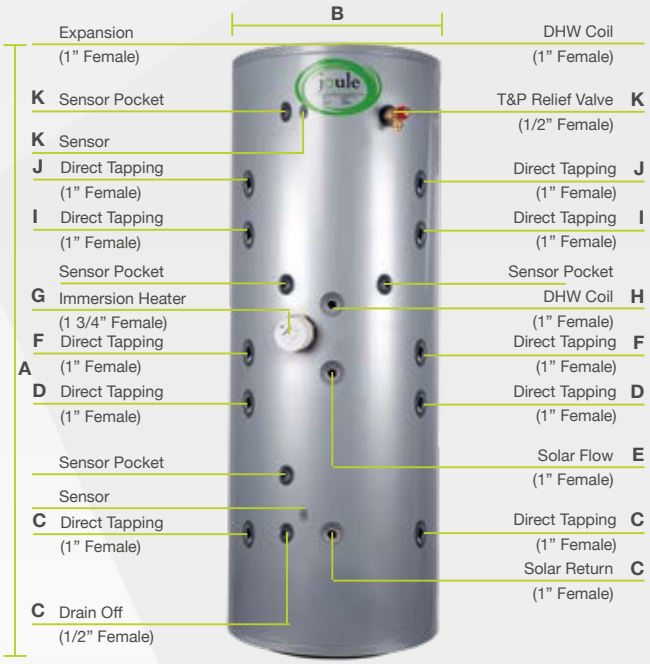
- 3kW Incoloy immersions fitted as standard
- Solar coil option available
- Female connections throughout
- Bevelled stat pocket for better fitting
- Metallic grey wipe clean rigid case for premium appearance
- Ideal multi energy tank solution
- 1” direct connections
- Butt Welded process used throughout
- Robotically welded
- Branded quality components

Dimensions

Thermal Store 1.0 Standard



Thermal Store 1.0 Solar



Thermal Store 1.0

	Standard						Solar					
Capacity	**200L**	**250L**	**250L**	**300L**	**400L**	**500L**	**200L**	**250L**	**250L**	**300L**	**400L**	**500L**
Height (A)	**1490**	**1815**	**1400**	**1600**	**1570**	**1900**	**1490**	**1815**	**1400**	**1600**	**1570**	**1900**
Diameter (B)	**540**	**540**	**600**	**600**	**710**	**710**	**540**	**540**	**600**	**600**	**710**	**710**
Weight (empty)	46	56	43	64	71	87	46	56	43	64	71	87
Weight (full)	243	302	210	360	471	589	243	302	210	360	471	589
Hot water volume	196	247	247	290	390	494	193	244	244	287	387	492
C	196	196	218	218	225	225	196	196	218	213	225	225
D	296	296	318	318	325	325	486	584	468	518	530	630
E	396	396	418	418	425	425	586	685	568	618	630	730
F	576	656	588	648	655	765	576	656	588	648	655	765
G	636	721	633	708	730	815	526	606	548	563	575	675
H	821	1038	789	913	920	1154	821	1038	789	913	920	1154
I	921	1138	889	1013	1020	1254	921	1138	889	1013	1020	1254
J	1206	1526	1128	1328	1285	1635	1206	1526	1128	1328	1285	1635
K	-	-	-	-	-	-	636	721	633	703	730	815
Energy Efficiency Class	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**
Standing Loss (W)	81	87	89	92	102	115	83	89	91	96	102	115

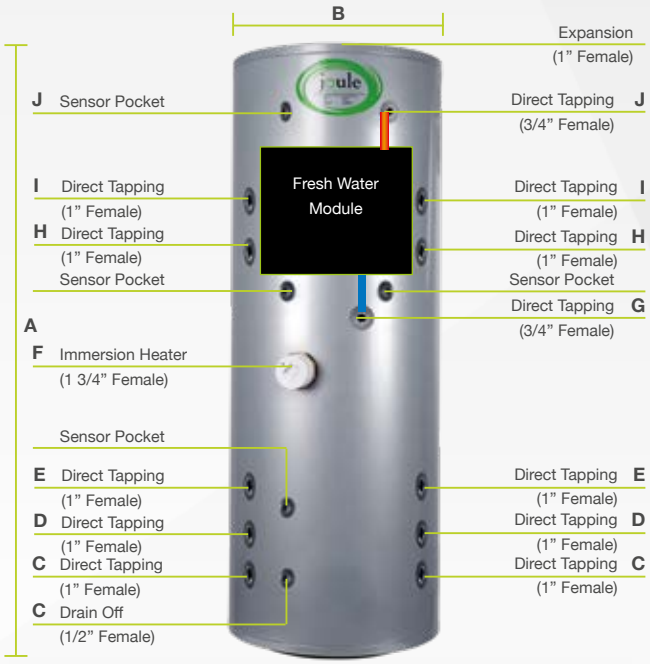
Thermal Store 2.0

The Joule Cyclone Thermal Store 2.0 is the ideal solution for multi energy applications. The hot water is produced through the fresh water module mounted on the front of the tank. This provides far superior flow rates compared with the older internal coil version. The tank has many direct connections to allow for multiple heat sources and heat zones. The tank is manufactured from stainless steel and has the usual quality outer casing that you expect from a Joule Cyclone cylinder.

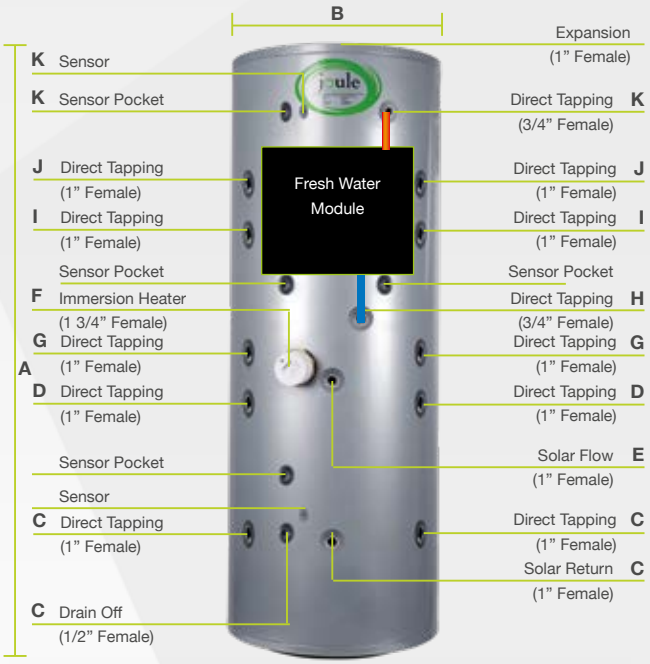
- 3kW Incoloy immersions fitted as standard
- Solar coil option available
- Female connections throughout
- Bevelled stat pocket for better fitting
- Metallic grey wipe clean rigid case for premium appearance
- Ideal multi energy tank solution
- 1” direct connections
- Butt Welded process used throughout
- Robotically welded
- Branded quality components
- Multiple system schematics available in installation manual

Dimensions

Thermal Store 2.0 Standard



Thermal Store 2.0 Solar



Thermal Store 2.0

Capacity	Standard					Solar				
	200L	250L	300L	400L	500L	200L	250L	300L	400L	500L
Height (A)	**1490**	**1400**	**1600**	**1570**	**1900**	**1490**	**1400**	**1600**	**1570**	**1900**
Diameter (B)	**540**	**600**	**600**	**710**	**710**	**540**	**600**	**600**	**710**	**710**
Weight (empty)	46	56	64	71	87	46	56	64	71	87
Weight (full)	243	302	360	471	589	243	302	360	471	589
Hot water volume	196	247	290	390	494	193	244	287	387	492
C	196	218	213	225	225	196	218	213	225	225
D	296	318	313	325	325	486	468	518	530	630
E	396	418	413	425	425	526	468	563	575	675
F	576	508	643	655	765	586	568	618	630	730
G	606	653	653	655	815	576	508	643	655	765
H	821	789	908	920	1154	606	558	653	655	815
I	921	889	1008	1020	1254	821	789	908	920	1154
J	1206	1128	1323	1275	1635	921	889	1008	1020	1254
K	-	-	-	-	-	1206	1128	1323	1275	1635
Energy Efficiency Class	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**
Standing Loss (W)	81	87	92	102	115	83	89	96	102	115

Horizontal

Our Horizontal range of cylinders are come with cradles not only included but pre fitted. They can be easily removed if you need to squeeze the cylinder through a tight access hatch.

- Comes complete with cradles fitted
- Solar coil option available
- Female connections throughout
- Smooth tube rigid coil means no air locking
- Bevelled stat pocket for better fitting
- Metallic grey wipe clean rigid case for premium appearance
- Butt Welded process used throughout
- Robotically welded
- Branded quality components
- Multiple system schematics available in installation manual

System Components

Inlet Control Group

Expansion Vessel

Tundish

Zone Valve

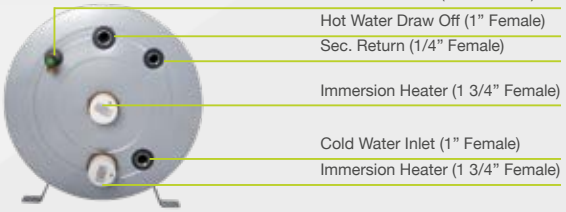
Cylinder Stat

Hi Limit Single Thermostat

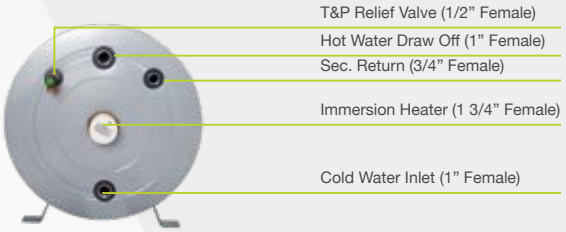
T&P Valve

Dimensions

Direct



Indirect



Horizontal Indirect

Capacity	Direct							Indirect						
	150L	170L	200L	250L	300L	400L	500L	150L	170L	200L	250L	300L	400L	500L
Length (A)	**1085**	**1205**	**1085**	**1335**	**1535**	**1535**	**1880**	**1140**	**1205**	**1085**	**1335**	**1535**	**1535**	**1880**
Diameter (B)	**540**	**540**	**600**	**600**	**600**	**710**	**710**	**540**	**540**	**600**	**600**	**600**	**710**	**710**
Weight (empty)	34	37	40	49	56	62	89	39	43	46	56	64	71	87
Weight (full)	184	207	240	299	356	462	587	187	210	243	302	360	471	589
Hot water volume	150	170	200	250	300	400	498	148	168	194	247	97	400	502
Load profile	L	L	L	L	XL	XXL	XXL							
Energy Efficiency Class	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**C**	**C**	**D**	**D**	**D**	**D**	**D**
Energy Efficiency %	36	35	35	35	36	36	36							
Annual El. Consumption (kWh)	2818	2901	2933	2949	4614	5983	6052							
Sound Power Level (dB)	16	16	16	16	16	16	16							
Thermostat Temp. Setting (°C)	60	60	60	60	60	60	60							
Heat up Time - coil (Mins)								26	27	31	37	42		
Standing Loss (W)	63	69	89	97	104	112	125	63	69	89	97	104	112	125

High Gain Indirect

Cyclone

For Heat Pump ready cylinders our coil quality sets us apart. Unlike most cheaper brands on the market Cyclone High Gain range of cylinders use high recovery smooth tube coils for optimal performance. No other coil type on the market today offers the same transfer rate as smooth stainless tube.

- Single high recovery coil in coil
- Smooth tube coil construction for durability and performance
- 1” female coil connections fitted as standard
- Bevelled stat pocket for better fitting
- Metallic grey wipe clean rigid case for premium appearance
- All Connections clearly labelled
- Butt Welded process used throughout
- Robotically welded
- Branded quality components

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System Components

Inlet Control Group

Expansion Vessel

Tundish

Zone Valve

T&P Valve

Hi Limit Single Thermostat

Dimensions

High Gain Indirect

Capacity	100L	125L	150L	170L	200L	200L	250L	250L	300L	300L	400L	500L
Height (A)	-	-	1190	1310	1150	1490	1400	1815	1600	2040	1570	1900
Diameter (B)	-	-	540	540	600	540	600	540	600	540	710	710
Weight (empty)	-	-	46	54	57	58	66	67	74	75	81	107
Weight (full)	-	-	196	223	255	256	315	316	372	373	478	605
Hot water volume	-	-	140	160	187	189	237	236	282	282	378	494
C	-	-	196	196	218	196	218	196	218	196	225	225
D	-	-	211	211	233	211	233	211	233	211	240	240
E	-	-	261	261	283	261	283	261	283	261	290	290
F	-	-	376	406	433	451	483	561	508	586	540	540
G	-	-	571	611	603	701	698	861	773	1022	805	910
H	-	-	861	861	793	911	893	1011	983	1112	1190	1190
I	-	-	786	881	763	981	968	1271	1153	1552	1190	1440
J	-	-	911	1031	883	1211	1133	1531	1333	1812	1290	1640
Energy Efficiency Class	-	-	C	C	C	C	C	C	C	D	C	C
Standing Loss (W)	-	-	55	66	78	81	87	89	92	103	102	115
Heat Up Time (mins)	-	-	10	10	11	11	14	14	17	17	19	22
Coil Surface Size (m^2)	-	-	2.2	2.2	2.8	2.8	2.8	2.8	3.2	3.2	4.0	4.0

Heat up times are based on using gas or oil boiler and would not be achieved by using lower temperature Heat Pump.

High Gain Solar

Cyclone

For Heat Pump ready cylinders our coil quality sets us apart. Unlike most cheaper brands on the market Cyclone High Gain range of cylinders use high recovery smooth tube coils for optimal performance. No other coil type on the market today offers the same transfer rate as smooth stainless tube.

- Twin high recovery coil in coil
- Smooth tube coil construction for durability and performance
- 1" female coil connections fitted as standard
- Bevelled stat pocket for better fitting
- Metallic grey wipe clean rigid case for premium appearance
- All Connections clearly labelled
- Butt Welded process used throughout
- Robotically welded
- Branded quality components

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System Components

Inlet Control Group

Expansion Vessel

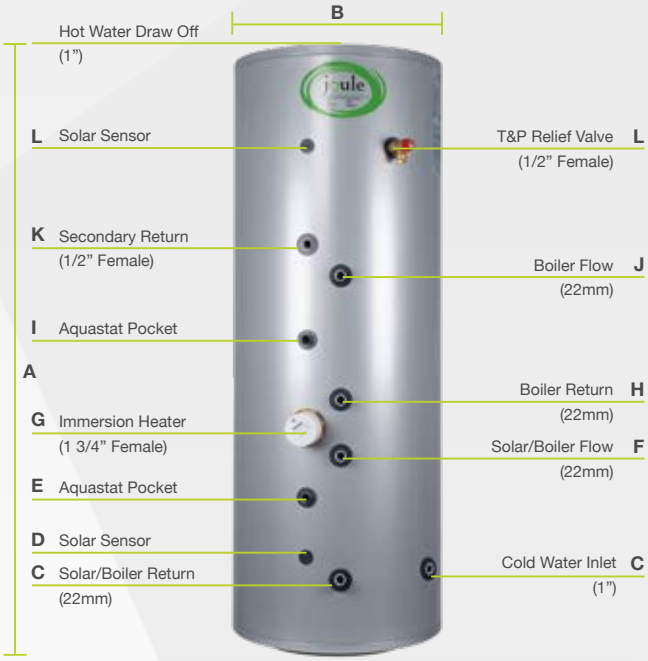
Tundish

Zone Valve

T&P Valve

Hi Limit Single Thermostat

Dimensions



High Gain Solar

Capacity	100L	125L	150L	170L	200L	200L	250L	250L	300L	300L	400L	500L
Height (A)	-	-	-	-	-	**1490**	**1400**	**1815**	**1600**	-	**1570**	**1900**
Diameter (B)	-	-	-	-	-	**540**	**600**	**540**	**600**	-	**710**	**710**
Weight (empty)	-	-	-	-	-	61	69	70	77	-	84	107
Weight (full)	-	-	-	-	-	258	317	318	374	-	486	609
Hot water volume	-	-	-	-	-	186	240	240	277	-	381	479
C	-	-	-	-	-	196	218	196	218	-	225	225
D	-	-	-	-	-	246	268	246	268	-	275	275
E	-	-	-	-	-	386	388	406	438	-	375	430
F	-	-	-	-	-	486	468	516	538	-	415	615
G	-	-	-	-	-	536	518	606	578	-	465	675
H	-	-	-	-	-	586	568	576	628	-	515	735
I	-	-	-	-	-	791	808	921	813	-	950	950
J	-	-	-	-	-	981	968	1271	1153	-	1190	1440
K	-	-	-	-	-	1136	1118	1376	1328	-	1285	1635
L	-	-	-	-	-	1211	1133	1531	1333	-	1290	1640
Energy Efficiency Class	-	-	-	-	-	**C**	**C**	**C**	**C**	-	**C**	**C**
Heat up Time - coil (Mins)	-	-	-	-	-	21	27	27	32	-	42	49
Hi Gain Coil Surface (m^2)	-	-	-	-	-	2.8	2.8	2.8	3.2	-	4.0	4.0
Solar Coil Surface (m^2)	-	-	-	-	-	0.67	0.77	0.77	0.77	-	1.15	1.28
kW Rating	-	-	-	-	-	18	22	22	22	-	30	35

Samsung Heat Pump

Heat your home using free energy from the outside air
The Samsung Eco Heating System utilises Heat Pump technology to use the heat energy from the ambient air, which is a free and renewable energy source, for low cost heating and hot water production.

Efficient heating
An efficient Heat Pump system provides efficient heating and domestic hot water throughout the year, even in ambient temperatures of -25°C.

Compact installation
The EHS Mono system utilises an outdoor unit, which combines the refrigerant and water circuits, removing the need for internal installation space. The compact size and low noise level of the outdoor unit provides an unobtrusive solution for domestic applications.

Hybrid capability
Available in a range of 5 outputs to suit most applications, the EHS Mono system includes flexible control options and Hybrid capability, whereby the system can be used in conjunction with Solar and/or Boiler installations.

Simple operation
The simple to operate, sophisticated EHS controller is designed to maximise the use of renewable energy for even greater running cost savings, especially when compared to inefficient oil, gas or electric heating systems.

joule

Heat Pump Outdoor Units

				HHSM-G500005-1	HHSM-G500009-1	HHSM-G500012-1	HHSM-G500014-1	HHSM-G500016-1
Power Supply			Ø, #, V, Hz	1, 2, 220-240, 50	1, 2, 220-240, 50	1, 2, 220-240, 50	1, 2, 220-240, 50	1, 2, 220-240, 50
Performance (A2W #1)	Nominal Capacity*1)	Heating	W	5,000	9,000	12,000	14,000	16,000
	Nominal Current Input*1)	Heating	A	5.1	9.2	12	14.3	17.1
	SCOP *1)		-	4.510	4.409	4.454	4.489	4.481
Electric Specification	Max Current		A	16	22	28	30	32
Water Side	Piping Connections	In / Out	Ø, inch	1" (BSPP)	1" (BSPP)	1" (BSPP)	1" (BSPP)	1" (BSPP)
Refrigerant Side	Refrigerant	Type	-	R410A(GWP>150)				
Sound	Sound Pressure*3)	Heating	dB (A)	45	48	50	51	52
	Sound Power		dB (A)	61	63	64	65	66
External Dimension	Weight	Net	kg	59	76	108	108	108
	Dimensions (WxHxD)	Net	mm	880 x 798 x 310	940 x 998 x 330	940 x 1,420 x 330	940 x 1,420 x 330	940 x 1,420 x 330
Operating Range	Leaving Water	Heating	°C	25 ~ 55	25 ~ 55	25 ~ 55	25 ~ 55	25 ~ 55

*1~2) A2W rating conditions in accordance with Eurovent Rating Standard for Liquid Chilling Packages RS-6/C/001-2011.
*1) A2W Condition #1 : (Heating) Water In/Out 30°C/35°C, Outdoor Air 7°CDB/6°CWB.
*3) Sound Pressure was acquired in an anechoic room. Thus actual noise level may be different depending on the installation conditions.

Control Kit

				HHSMC-G5000005	HHSMC-G5000000
Use with				5kW Mono	9,12,14&16kW mono
Power Supply			Ø, V, Hz	5,000	9,000
External Dimension	Weight	Net	kg	59	76
	Dimensions (WxHxD)	Net	mm	880 x 798 x 310	940 x 998 x 330

*External Control Options - 230V: (Max A)
Booster Heater (20A), hybrid (0.5A), water pump (2A), 2/3way valve (0.5A),
Thermostat (10mA), solar pump (10mA), Inverter pump (2A), 3way mixing valve (0.5A)
Wi-Fi Kit (MIM-H03N) optional accessory.
Control App available to download. (Phone not included.)

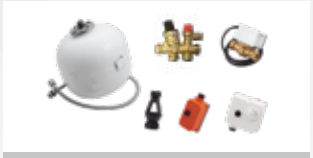
Smart Plumb Heat Pump

Cyclone

The Smart Plumb by Joule is the most innovative pre-plumbed solution for heat pump systems. The cylinder/buffer combo is pre-plumbed, wired and commissioned before it leaves the factory. The buffer / low loss header acts as an intermediary vessel for the heating system which helps system flow rate and defrost cycling. With the cylinder sitting over the buffer tank the foot print has been greatly reduced. The control wires are all hidden behind the cable cover. The pipework is manufactured from 316L stainless tube.

joule

System Components



Unvented Kit for InD HP

Samsung Wiring Center & Controller

Pressure Gauge

Zone Valve

Heating Expansion Vessel

Fill, Flush & Flow Meter

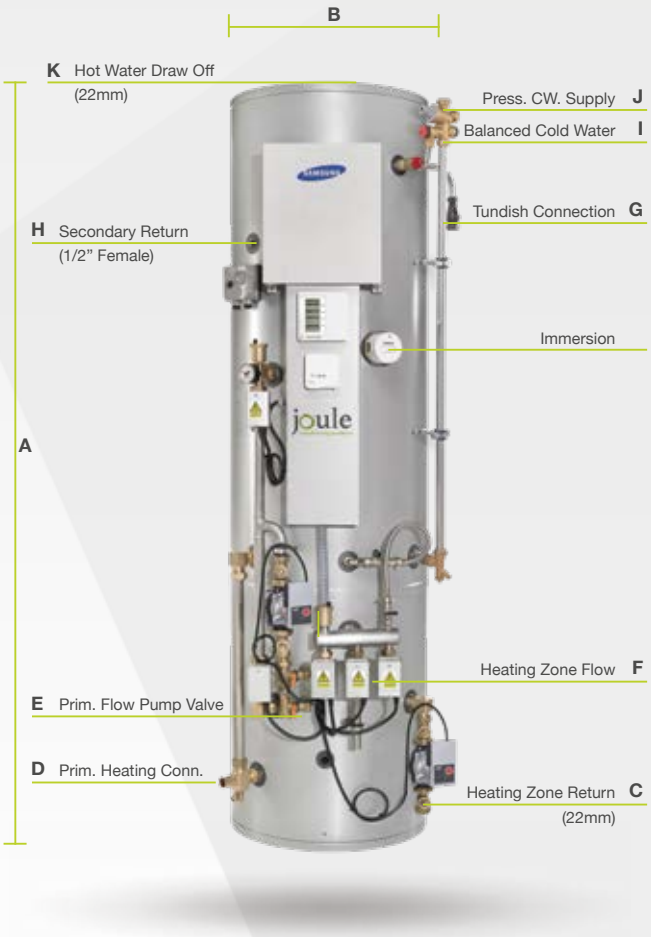
T&P Valve

A Rated Circulation Pump

Filling Loop Hose

Automatic Air Vent

Dimensions



Smart Plumb Heat Pump

Capacity (cyl+buffer)	180+60L	200+60L	200+90L	250+90L	300+90L	300+130L	400+130L
Height	**1870**	**1980**	**1670**	**1950**	**2150**	**1850**	**2160**
Diameter	**540**	**540**	**600**	**600**	**600**	**710**	**710**
Weight (empty)							
Weight (full)							
Hot water volume							
C	200	200	200	200	200	200	200
D	220	220	220	220	220	220	220
E	500	500	500	500	500	500	500
F	550	550	550	550	550	550	550
G	1470	1550	1250	1520	1700	1450	1760
H	1520	1600	1300	1570	1750	1500	1810
I	1790	1900	1590	1870	2070	1770	2080
J	1820	1930	1620	1900	2100	1800	2110
K	1870	1980	1670	1950	2150	1850	2160
Energy Efficiency Class	**B / B**	**C / B**	**C / B**	**C / B**	**C / B**	**C / B**	**C / B**
Heat up Time - coil (Mins)	55	66	78	87	92	102	
Standing Loss (W)	10	10	11	14	17	19	

Aero Direct

Cyclone

The Joule Hybrid Solar Dynamic hot water cylinder is a new innovative solution for your hot water needs.

Suitable for both domestic and commercial applications, this outstanding product from a design and running cost perspective has never been witnessed before.

Our in-house R&D engineers have spent 3 years designing and testing this new technology.

The concept is very simple, extracting the latent heat from the air and transferring this energy to the water in the tank using the refrigeration process.

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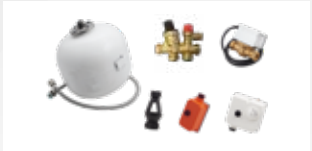
System Components



Unvented Kit for InD HP

160mm Joiner Piece

Roof Vent (slate/tile)

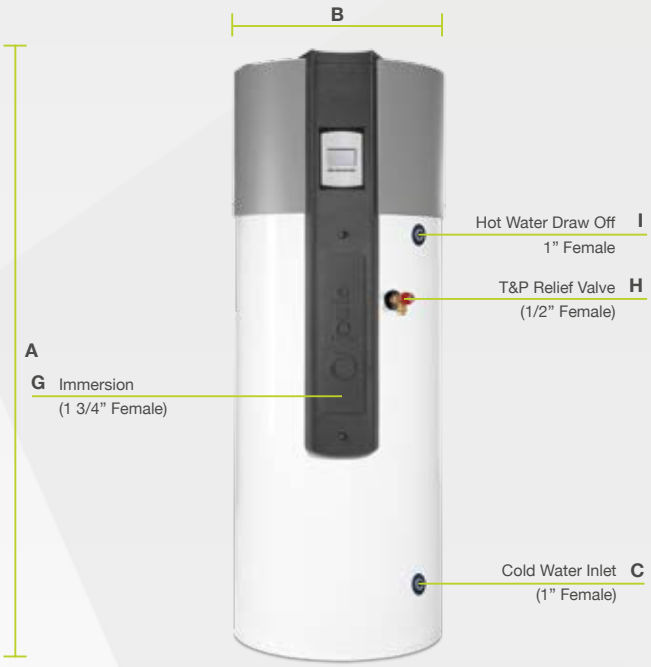
160mm Wall Vent

160mm 45° Bend

160mm 90° Bend

160mm Duct In (2m)

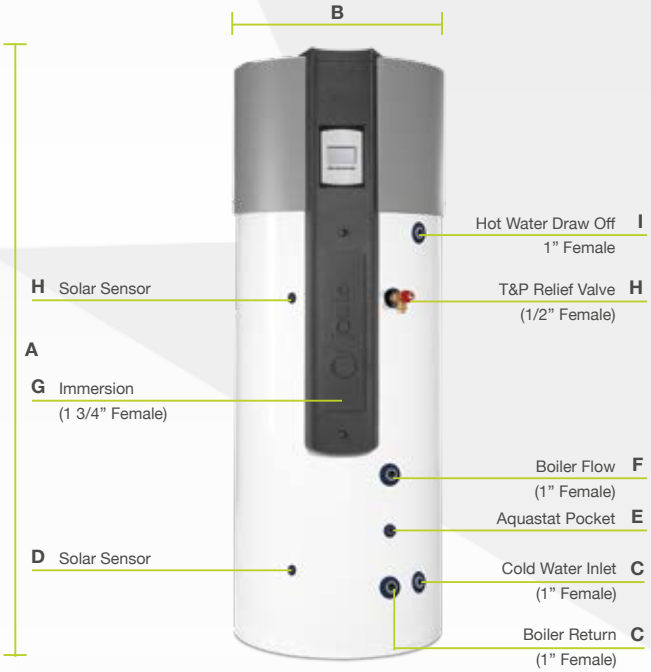
Dimensions - Standard



Aero

Capacity	Standard			Solar		
	210	260L	300L	210L	260L	300L
Length (A)	1625	1875	2075	1625	1875	2075
Diameter (B)	685	685	685	685	685	685
Weight (empty)						
Weight (full)						
Hot water volume						
C	222	222	222	222	222	222
D	-	-	-	272	272	272
E	-	-	-	347	367	392
F	-	-	-	522	572	622
G	611	861	1061	611	861	1061
H	882	1132	1332	882	1132	1332
I	1101	1351	1551	1101	1351	1551
Energy Efficiency Class						
Energy Efficiency %						
Annual El. Consumption (kWh)						
Sound Power Level (dB)						
Thermostat Temp. Setting (°C)						
Heat up Time - coil (Mins)						
Standing Loss (W)						

Dimensions - Solar



Slimline Indirect

Cyclone

The Joule range of un-vented cylinders are the UK's fastest growing cylinder brand. Built on quality and performance, with one of the widest ranges of models available you can be sure there is a model to suit. With the introduction of the Energy Related Product certificate scheme under an EU directive, Joule are leading the way by offering a complete range of A, B & C rated cylinders. The same quality you have been accustomed too is now available across all rated cylinders. The Cyclone brand is noted for its attractive grey finish. Noticeably there is no cheap plastic used on the outer casing. Inside only the best materials are used, duplex stainless steel body, 316L grade stainless fittings and coils. Our quality is nowhere better noticed then in the construction of our coils. Unlike most cheaper brands on the market Cyclone range of cylinders use high recovery smooth tube coils for optimal performance. No other coil type on the market today offers the same transfer rate as smooth stainless tube.

- Single high recovery coil
- Smooth tube coil construction for durability and performance
- Compression connections fitted as standard
- Bevelled stat pocket for better fitting
- Metallic grey wipe clean rigid case for premium appearance
- Pre plugged secondary tapping for ease of installation
- All Connections clearly labelled
- Butt Welded process used throughout
- Robotically welded
- Branded quality components

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System Components

Inlet Control Group

Expansion Vessel

Tundish

Zone Valve

Cylinder Stat

T&P Valve

Dimensions

Slimline Indirect

Capacity	90L	120L	150L	175L	205L
Height (A)	**925**	**1085**	**1335**	**1535**	**1880**
Diameter (B)	**475**	**475**	**475**	**475**	**475**
Weight (empty)	25	30	39	44	46
Weight (full)	109	137	187	212	241
Hot water volume	84	117	148	168	195
C	191	191	191	191	191
D	311	336	336	384	351
E	481	481	481	576	511
F	546	546	546	641	576
G	631	761	1001	1151	1351
H	746	901	1151	1301	1601
Energy Efficiency Class	**C**	**C**	**C**	**C**	**C**
Heat up Time - coil (Mins)	13	23	26	27	31
Standing Loss (W)	56	65	70	79	84

Slimline Direct

Cyclone

The Joule range of un-vented cylinders are the UK's fastest growing cylinder brand. Built on quality and performance, with one of the widest ranges of models available you can be sure there is a model to suit. With the introduction of the Energy Related Product certificate scheme under an EU directive, Joule are leading the way by offering a complete range of A, B & C rated cylinders. The same quality you have been accustomed too is now available across all rated cylinders. The Cyclone is noted for its attractive grey finish. Noticeably there is no cheap plastic used on the outer casing. Inside only the best materials are used, duplex stainless steel body, 316L grade stainless fittings and incoloy immersions.

- 3kW Incoloy immersions fitted as standard
- Titanium and 6kW immersion options available on request
- Compression connections fitted as standard
- Bevelled stat pocket for better fitting
- Metallic grey wipe clean rigid case for premium appearance
- Pre plugged secondary tapping for ease of installation
- All Connections clearly labelled
- Butt Welded process used throughout
- Robotically welded
- Branded quality components

joule

System Components

Inlet Control Group

Expansion Vessel

Tundish

T&P Valve

Dimensions

Slimline Direct

Capacity	90L	120L	150L	175L	205L
Height (A)	**925**	**1085**	**1335**	**1535**	**1880**
Diameter (B)	**475**	**475**	**475**	**475**	**475**
Load profile	M	L	L	L	L
Weight (empty)	32	30	34	38	40
Weight (full)	125	150	184	208	245
Hot Water Volume	93	120	150	170	205
C	191	191	191	191	191
D	206	206	206	206	206
E	471	506	576	771	896
F	631	761	1001	1151	1351
G	746	901	1151	1301	1601
Energy Efficiency Class	**D**	**D**	**D**	**D**	**D**
Heat up Time - coil (Mins)	52	62	76	96	119
Energy Efficiency (%)	34	36	36	36	35
Annual El. Consumption (kWh)	1513	2826	2846	2883	2904
Sound Power Level (dB)	16	16	16	16	16
Thermostat Temp. Setting (C)	60	60	60	60	60

Slimline Twin Solar

The Cyclone solar range of cylinders are designed to work with any solar system on the market. Manufactured with 9mm sensor pockets for the solar controller ensures that your solar system performs its best.

- Boiler and Solar high recovery coil
- Smooth tube coil construction for durability and performance
- Compression connections fitted as standard
- Bevelled stat pocket for better fitting
- 9mm Solar stat pockets for PT1000 solar probes
- Metallic grey wipe clean rigid case for premium appearance
- Pre plugged secondary tapping for ease of installation
- All Connections clearly labelled
- Butt Welded process used throughout
- Robotically welded
- Branded quality components

System Components

Inlet Control Group

Expansion Vessel

Tundish

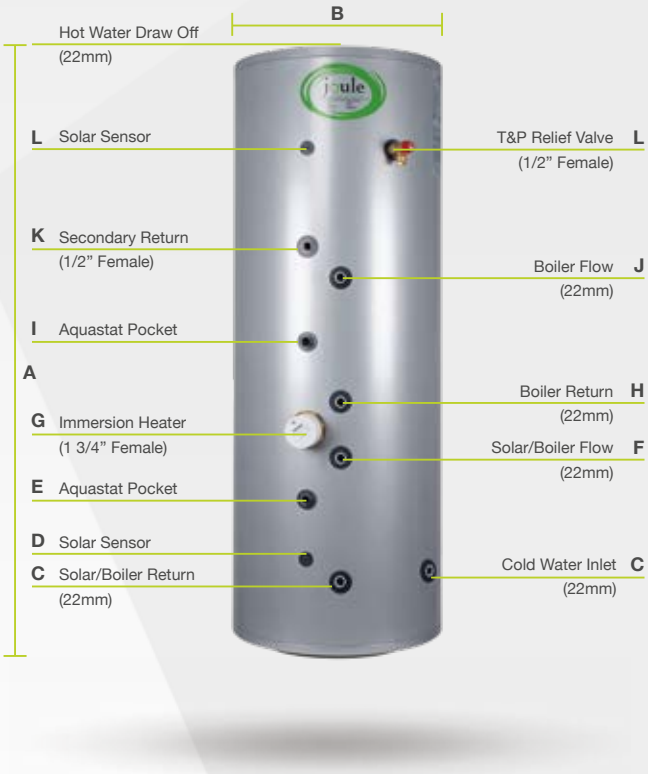
Zone Valve

Cylinder Stat

Hi Limit Single Thermostat

T&P Valve

Dimensions



Slimline Twin Solar

Capacity	120L	150L	175L	205L
Height (A)	**1085**	**1335**	**1535**	**1880**
Diameter (B)	**475**	**475**	**475**	**475**
Weight (empty)	43	46	49	50
Weight (full)	157	191	214	242
Hot water volume	114	145	165	192
C	191	191	191	191
D	241	241	241	241
E	341	381	476	476
F	441	481	576	576
G	506	546	641	641
H	571	611	706	706
I	696	751	826	826
J	821	901	996	996
K	761	1001	1151	1351
L	906	1151	1301	1601
Energy Efficiency Class	**C**	**C**	**C**	**C**
Heat up Time - coil (Mins)	11	13	15	21
Standing Loss (W)	65	70	79	84

Slimline High Gain Indirect

Cyclone

For Heat Pump ready cylinders our coil quality sets us apart. Unlike most cheaper brands on the market Cyclone High Gain range of cylinders use high recovery smooth tube coils for optimal performance. No other coil type on the market today offers the same transfer rate as smooth stainless tube.

- Single high recovery coil in coil
- Smooth tube coil construction for durability and performance
- 1” female coil connections fitted as standard
- Bevelled stat pocket for better fitting
- Metallic grey wipe clean rigid case for premium appearance
- All Connections clearly labelled
- Butt Welded process used throughout
- Robotically welded
- Branded quality components

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System Components

Inlet Control Group

Expansion Vessel

Tundish

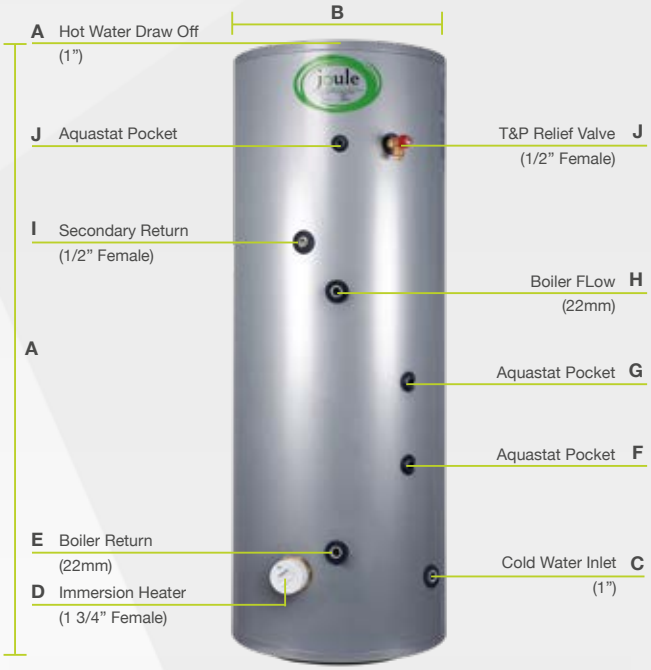
Zone Valve

Cylinder Stat

Hi Limit Single Thermostat

T&P Valve

Dimensions



High Gain Indirect

Capacity	100L	125L	150L	170L	205L	200L	250L	250L	300L	300L	400L	500L
Height (A)	-	-	1335	1535	1880	-	-	-	-	-	-	-
Diameter (B)	-	-	475	475	475	-	-	-	-	-	-	-
Weight (empty)	-	-	35	39	43	-	-	-	-	-	-	-
Weight (full)	-	-	175	199	230	-	-	-	-	-	-	-
Hot water volume	-	-	140	160	187	-	-	-	-	-	-	-
C	-	-	191	191	191	-	-	-	-	-	-	-
D	-	-	206	206	206	-	-	-	-	-	-	-
E	-	-	256	256	256	-	-	-	-	-	-	-
F	-	-	431	466	466	-	-	-	-	-	-	-
G	-	-	706	796	796	-	-	-	-	-	-	-
H	-	-	976	1006	1006	-	-	-	-	-	-	-
I	-	-	1001	1151	1351	-	-	-	-	-	-	-
J	-	-	1151	1301	1601	-	-	-	-	-	-	-
Energy Efficiency Class	-	-	C	C	C	-	-	-	-	-	-	-
Coil Surface Area (m^2)	-	-	2.2	2.5	2.8	-	-	-	-	-	-	-
Standing Loss (W)	-	-	70	79	84	-	-	-	-	-	-	-
Heat Up Time (mins)	-	-	26	27	31	-	-	-	-	-	-	-

Slimline High Gain Solar

Cyclone

C D

For Heat Pump ready cylinders our coil quality sets us apart. Unlike most cheaper brands on the market Cyclone High Gain range of cylinders use high recovery smooth tube coils for optimal performance. No other coil type on the market today offers the same transfer rate as smooth stainless tube.

- Twin high recovery coil in coil
- Smooth tube coil construction for durability and performance
- 1" female coil connections fitted as standard
- Bevelled stat pocket for better fitting
- Metallic grey wipe clean rigid case for premium appearance
- All Connections clearly labelled
- Butt Welded process used throughout
- Robotically welded
- Branded quality components

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System Components

Inlet Control Group

Expansion Vessel

Tundish

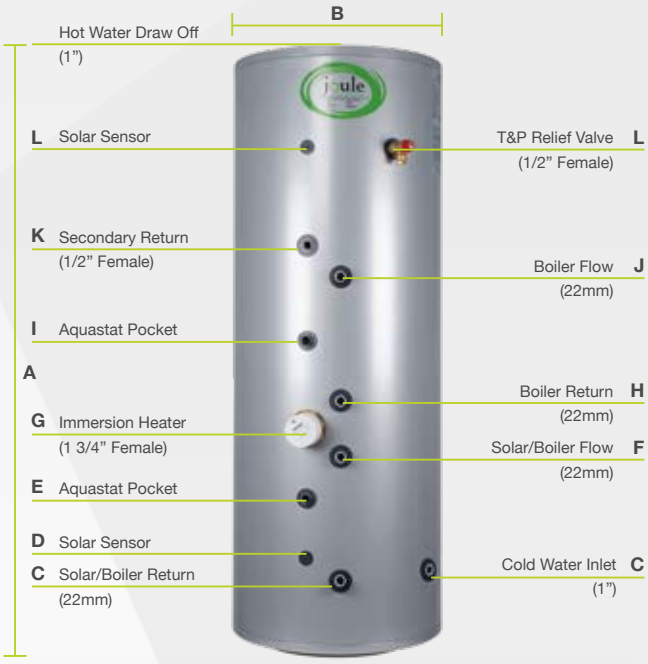
Zone Valve

Cylinder Stat

Hi Limit Single Thermostat

T&P Valve

Dimensions



High Gain Solar

Capacity	100L	125L	150L	175L	205L	200L	250L	250L	300L	300L	400L	500L
Height (A)	-	-	1335	1535	1880	-	-	-	-	-	-	-
Diameter (B)	-	-	475	475	475	-	-	-	-	-	-	-
Weight (empty)	-	-	42	45	46	-	-	-	-	-	-	-
Weight (full)	-	-	179	202	230	-	-	-	-	-	-	-
Hot water volume	-	-	137	157	184	-	-	-	-	-	-	-
C	-	-	191	191	191	-	-	-	-	-	-	-
D	-	-	241	241	241	-	-	-	-	-	-	-
E	-	-	341	381	396	-	-	-	-	-	-	-
F	-	-	441	481	576	-	-	-	-	-	-	-
G	-	-	491	531	626	-	-	-	-	-	-	-
H	-	-	541	581	676	-	-	-	-	-	-	-
I	-	-	781	871	996	-	-	-	-	-	-	-
J	-	-	1001	1151	1351	-	-	-	-	-	-	-
K	-	-	1081	1241	1476	-	-	-	-	-	-	-
L	-	-	1151	1301	1601	-	-	-	-	-	-	-
Energy Efficiency Class	-	-	C	C	D	-	-	-	-	-	-	-
Heat up Time - coil (Mins)	-	-	13	15	21	-	-	-	-	-	-	-
Hi Gain Coil Surface (m^2)			2.2	2.5	2.8							
Solar Coil Surface (m^2)			0.58	0.58	0.58							
Standing Loss (W)	-	-	70	79	84	-	-	-	-	-	-	-

Mild Steel Buffer Tanks

Cyclone

Joule Mild Steel Buffer Tanks are suitable for all hot water central heating systems, regardless of whether they are powered by solid fuel or oil-fired boilers, heat pumps, solar energy systems or continuous flow heaters (gas or electric). Several buffer tanks can also be combined in a row (see technical data and accessories), meaning the tank volume can be adjusted individually depending on the requirements. Furthermore, the buffer tanks can also be used for cold water storage in cooling processes (up to 3 bar operating / system pressure) or heat recovery in industrial facilities.

- Nominal capacity of 300 to 5000 litres
- Made from quality St 37-2 steel
- 100 mm ECO SKIN fleece insulation (up to 5,000 l)
- Large-surface pipe array on PSR/PSRR models
- 240 mm flange on PSF models for installing a finned tube heta exchanger or built-in heater
- Operating pressure = 3 bar, test pressure 4.5 bar in buffer tank
- Operating pressure max. 10 bar, test pressure 15 bar in pipe array on PSR/PSRR models
- 4 regulating sleeve threads. „Female thread on PSF/PSM and PSR/PSRR models
- 2x sensor channels for variable positioning of sensor models
- Operating temperature = 95°C (110°C in pipe array)
- External powder coating up to 2000 litres
- External anti-rust coating (from 3,000 l upwards)

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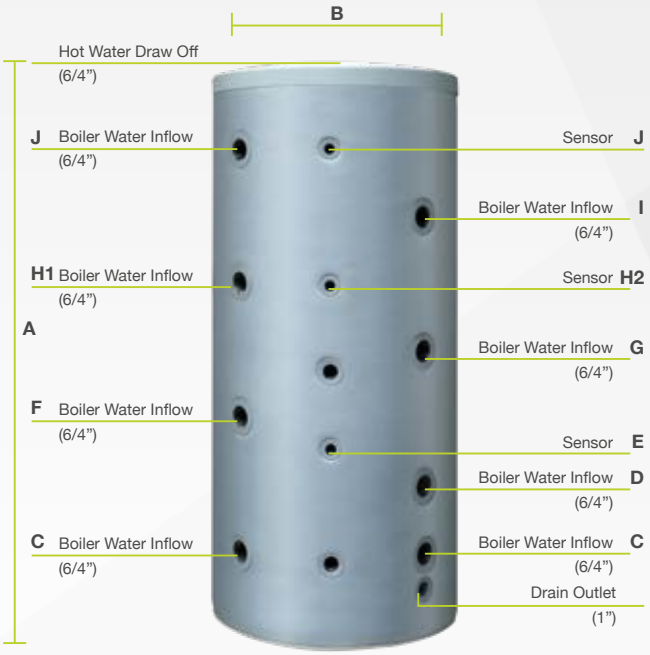
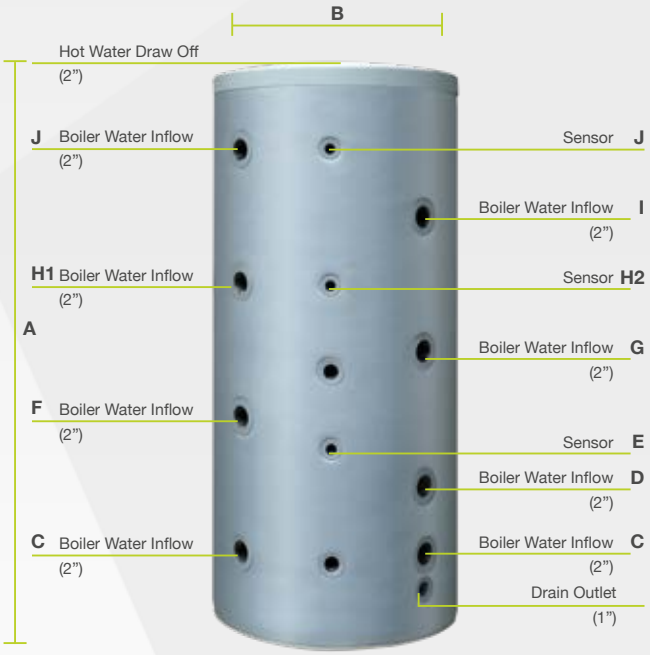
Dimensions (300-2000L)



Dimensions (3000-5000L)



Buffer

Capacity	100L	200L	300L	400L	500L	800L	1000L	1500L	2000L	3000L	4000L	5000L
Height (A)	**1100**	**1105**	**1450**	**1830**	**1900**	**1730**	**2050**	**2000**	**2500**	**2750**	**2355**	**2855**
Diameter (B)	**550**	**750**	**750**	**750**	**550**	**790**	**790**	**1100**	**1100**	**1250**	**1600**	**1600**
Weight (empty)	50	60	75	90	105	125	150	210	235	300	380	440
Weight (full)												
Hot water volume	111	223	305	387	467	728	883	1479	2023	2935	3985	4981
C	220	220	220	220	215	250	250	385	385	410	445	445
D	-	-	390	450	455	435	500	660	660	725	675	760
E	130	315	500	575	610	570	570	485	800	825	790	920
F	-	485	560	680	675	620	740	-	930	1040	910	1075
G	-	555	730	905	915	820	980	1152	1205	1360	1140	1390
H1	-	605	900	1135	1145	1020	1240	960	1480	1680	1365	1705
H2	820	785	900	1135	1145	1020	1240	1122	1480	1680	1365	1705
I	-	785	1070	1365	1375	1215	1485	1535	1755	1995	1605	2020
J	885	885	1235	1580	1605	1410	1730	1435	2025	2310	1840	2335
Energy Efficiency Class	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**
Max Working Pressure	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Max Working Temperature	95	95	95	95	95	95	95	95	95	95	95	95

Stainless Steel Buffer Tanks

Cyclone

Capacity	100L	125L	150L	170L	200L	250L	300L	400L	500L	600L
Height (mm)	950	1030	1190	1310	1490	1815	1600	1570	1900	2200
Diameter (mm)	500	540	540	540	540	540	600	710	710	710
Weight Empty (kg)	22	26	30	32	34	43	47	62	75	90
Weight Full (kg)	122	151	180	202	234	293	347	462	575	690
No. Direct Connections	7	7	7	7	9	9	9	9	9	9
Diameter of Direct Connections	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"
Drain Off	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Standard Standing Loss (kWh/Day)	1.11	1.23	1.41	1.53	1.8	2.15	2.28	2.41	2.54	2.71
Eco80 Standing Loss (kWh/Day)	1.01	1.16	1.36	1.44	1.69	1.91	2.15	2.25	2.38	2.59

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Your Complete Heating Provider

Installation Guidance

Regulations

Joule Cyclone is covered by Section G3 of the Building Regulations (England and Wales), Technical Standard P3 (Scotland) and Building Regulations P5 (Northern Ireland). All Unvented units with a capacity over 15ltr must be installed by a competent installer in accordance with these regulations.

Mains Supply

The Cyclone unvented cylinder needs a minimum of 1.5 bar (max 10 bar) mains pressure and 20 litres a minute flow rate to ensure that the cylinder meets its minimum capabilities. Higher mains pressure and flow rates will result in a higher performance from the cylinder.

Cylinder Siting

With no header tanks to consider, Joule Cyclone units can be sited almost anywhere in the house. Cyclone can supply outlets both above and below its location and must be fitted on a flat surface capable of holding its full weight. (Refer to installation instructions supplied with cylinder).

Boiler Compatibility

Any appliance that is fitted with an integral control thermostat and Its own energy cut-out (these include natural gas, lpg, electric and oil boilers). Solid fuel appliances such as Aga, Rayburn, etc., without full thermostatic control cannot usually be installed with an unvented unit. Please consult the Cyclone installation guide for further information.

Secondary Return Connection

As standard all Cyclone Stainless Unvented come with a secondary return connection.

Wiring

All electrical wiring should be carried out by a competent electrician and be in accordance with the control scheme being used and the latest IEE regulations. The controls provided with the Cyclone will ensure the safe operation of the unit within a central heating system. The Cyclone is compatible with Y, S and S plan plus layouts.
External wiring to the immersion heaters must comply with the relevant IEE wiring regulations and the circuit must be protected by a suitable fuse and a double pole isolating switch.

Connection Sizes

Cold Inlet	22mm Compression
Hot Outlet	22mm Compression
Coil Connections	22mm Compression
Safety Valves	15mm Compression Outlet
Inlet Control Set	22mm Compression Inlet and Outlet
Tundish	15mm Compression Inlet 22mm Compression Outlet

Cyclone Specification Summary

Materials

Internal cylinder - Duplex Stainless Steel.
HE Coil - 22mm Stainless Steel.
Bosses - Stainless Steel.

Totally insulated with 100% CFC-Free (ODP zero) polyurethane to minimise heat loss (50mm thick).

Grey powder coated metallic colour, corrosion resistant, Zintec stainless steel case work.

Control Settings

- Inlet control valve (3 bar).
- Expansion pressure relief (6 bar).
- Temperature (90°C) and pressure relief valve (7 bar).
- Dual thermostat high limit (85°C).
- Immersion heater high limit (85°C).

Immersion Heater

- 13/4" BSP, long life incoloy sheathed low noise element.
- Long life thermostat pocket.
- Element rating 3kW at 240 A/C.

Approvals

- KIWA approved to the water regulations.
- Approved to building regulations G3 & L.
- Components are CE compliant.

Expansion Vessel Sizing Guide

Capacity (ltr)	12	18	24	35	50
60 - 150	◆				
180 - 250		◆			
300 - 400			◆		
450 - 550				◆	
600					◆

Guarantee Terms Overview

The Joule stainless steel inner vessel on the Cyclone range of products carries a fully transferable 25 year guarantee applicable from the date of purchase. The guarantee covers material defect or manufacturing faults in domestic use only, of products up to the capacity of 300 litres. Please refer to installation guide and Joule UK website for guarantee terms for calorifiers and non-domestic installations.

All components supplied with the Cyclone cylinder are guaranteed against material defects or manufacturing defects faults for two years from date of purchase.

Full details of guarantee terms, conditions and exclusions can be found on the Joule UK website and in the installation guide which is provided with the cylinder.

Connecting Units

Using Joule Cyclone units in Parallel

For situations when very high flow rates or larger volumes of hot water storage are needed, units of two or more can be linked in parallel.

When connecting two units in parallel, individual cold feeds are taken to each cylinder and then hot draw offs are connected together. Subject to the size of the incoming cold mains the flow rate available effectively doubles.

The need for this piping situation will arise according to the demand for hot water which will vary considerably between types of buildings and activities taking place there.

Using Joule Cyclone units in Series

A popular option is, instead of having one large cylinder, to have two small cylinders installed, as a possible solution to limited space in a cupboard.

The method of installing cylinders in series is so that the cold mains feeds the first cylinder, and the hot draw off from the first cylinder provides the feed for the second tank. The second tanks hot draw off then provides the hot supply for the property.

The supplied combination valve will be installed on the mains inlet to the first cylinder and this is also where expansion vessel for both cylinders are connected.

Selection Guide

Domestic

Hot Water Demand	Bed-rooms	Indirect	Direct
1 Standard Bath or Shower	Bedsit / 1	60/90	150
	2-3	120	180
	3-4	150	210
1 Standard Bath	2-3	120	180
	3-4	150	210
1 Standard Bath and En-Suite	2-3	150	210
	3-4	150	210
	4-5	180	250
2 Standard Baths	2-3	180	210
	3-4	180	210
	4-5	210	250
3 Bathrooms	3-4	250	300
	4-5	250	300
	5-6	300	300

Commercial

Hot Water Demand	Indirect Domestic	Indirect Calorifier
Large House 6 Bed / 4 Bathrooms	2 x 210	1 x 450
Hotel / Hostel Bed / 4 Bathrooms	2 x 300	1 x 600
Hotel / Hostel 8 Bed / 8 Bathrooms	3 x 210	2 x 350
Sports Club 25 people / 4 showers	2 x 300	1 x 600
Leisure Centre 25 people / 6 showers	3 x 210	2 x 350
Shared Accommodation 25 people / 3 Bathrooms	3 x 300	2 x 450
Shared Accommodation 60 Beds/10 Bathrooms	5 x 300	3 x 500

Pre-Plumbed Cylinder Components

Filling Loop Hose

TZ-G-0-0000UKZ

Joule Dial Type Thermostat

UZS-A-00000000

Timeclock

UZT-0000000001
UZT-0000000002
UZT-0000000003
UZT-0000000004

Heating Expansion Vessel

TV-H0-0000012L
TV-H0-0000024L
TV-H0-0000060L
TV-H0-0000080L

Wiring Junction Box

HZU-0000000000

Automatic Air Vent

PZ-A-O-O0000Z

A Rated Circulation Pump

HZC-0000A25-60

Incoloy 9kW / 3 Phase Immersion

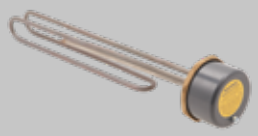
TI-I-L-16-09-3

Control Stat For 9kW / 3P Immersion

TI-S-0-11-09-3

Immersions

Incoloy 3kW / 1 Phase Immersion



TI-I-L-14-03-1

Incoloy 6kW / 1 Phase Immersion

TI-I-L-14-06-1

Incoloy 6kW / 3 Phase Immersion

TI-I-L-14-06-3

Control Stat For Above Immersion

TI-S-0-11-03-1

Control Stat For Above Immersion

TI-S-0-11-06-1

Control Stat For Above Immersion

TI-S-0-11-06-3

Current Unvented Kit Components

RWC Inlet Control Group 22mm

TZG-3.0-RO.75I

Tundish

TZU-000015X22
TZU-000015X22
TZU-000015X22

Dual Cylinder Thermostat

TZC-D-0000000Z

Expansion Vessel

TV-P0-0000012L
TV-P0-0000019L
TV-P0-0000024L
TV-P0-0000035L
TV-P0-0000050L

Zone Valve

TZM-I-000022MM
TZM-I-000028MM

T&P Valve

TZ9-4.0-000.50
TZ9-4.0-000.75
TZ9-7.0-001.00

RWC Inet Control Group P Valve

TZG-P-0-000RC6

Hi Limit Single Thermostat

TZC-S-0000000Z

1" RWC Combination Valve

TZG-6.0-00001I

Redundant Unvented Kit Components

Altecnic Inlet Control Group Valve 22mm New Type

TZG-3.0-00.75I

Altecnic P Valve C-clip Type

TZG-P-0-000AC6

Expansion Vessel Hose 1M

TV-00-0000001M

Altecnic Inlet Control Group Valve 22mm Old Type

TZG.3.0.-CO.75I

Altecnic P Valve Nut Type

TZG-P-0-000AN6

Acapella System

High efficiency evacuated tube solar system

15-50°
Mounting Angle

Flat Roof Frame Opt.

Multiple Mounting

Remote Controlling

The Joule Acapella Solar system's unique tube design ensures a very high zero-loss collector efficiency figure of 85% based on the absorber. The unique method of fixing the tubes into the collector results in a significantly lower heat loss coefficient of 1.529w/m²K. The collectors easy to install frame ensures that the collector is securely fixed and mounted onto the roof every time.

- We are so confident of the quality of our solar collectors that we have tested our collectors to double and sometimes four times the requirements of EN12975:1-2 and they are Solar Keymark.
- The high efficiency collectors are further tested to determine the maximum positive and negative loading force that the collectors can resist.
- The collectors have been tested to determine their impact resistance using a steal and ice ball methods.

20 TUBE	30 TUBE	40 TUBE	50 TUBE	60 TUBE
SX-E-000000020	SX-E-000000030	SX-E-000000040	SX-E-000000050	SX-E-000000060
1690 x 2000 x 189	2610 x 2000 x 189	3380 x 2000 x 189	4300 x 2000 x 189	5220 x 2000 x 189
1-2 / 200L	3-4 / 250L	4-5 / 300L	5-6 / 400L	6-7 / 500L

Specifications

System Components

Solar Pump Station
a combination unit that moves the heat into your hot water cylinder

Solar Controller
manages the efficient transfer of solar heat energy from the collectors to the water storage tank

Expansion Vessel
protects closed water heating systems and domestic hot water systems from excessive pressure

Solar Fluid
heat transfer medium for solar heating applications with high temperature stability

Mounting Options
all you need for tile, slate or flat roof mounting options.

Additional Accessories

Mixing Valve
blends hot water with cold water to ensure constant, safe shower/bath temperatures

DN16 Pipes
pre-insulated pipe for solar hot water systems with pre-installed flow and return pipe

Flashings
specifically designed to be used in roofing applications for flashing of round penetrations

Overvoltage Protection
helps to avoid overvoltage damage to the solar controller, eg. caused by lightning storms

Data Logger
enables the acquisition and storage of large amounts of data with PC, iPhone, iPad integration

Discharge Vessel
drain off vessel for solar thermal systems

Dimensions			
System Size	10 Tube Collector	20 Tube Collector	30 Tube Collector
Gross area (m^2)	1.72	3.38	4.901
Aperture area (m^2)	0.93	1.86	2.791
Absorber area (m^2)	0.80	1.61	2.411
Collector Height (m)	2.01	2.01	2.01
Manifold width (m)	1.2	1.8	2.42
Lenght of tube (m)	1.8	1.8	1.8
Distance between tubes/panels (m)	0.078	0.078	0.078
Weight empty (kg)	52	85	106
Max operating pressure (bar)	6	6	6
Recommended operating pressure (bar)	2-3	2-3	2-3
Recommended flow rate (l/min)	0.47	0.95	1.4
Fluid volume in collector (l)	0.81	1.65	2.3
Rated heat output (kW)	0.60	1.21	1.81

Materials	
Absorber (cyllindrical shape)	Aluminium
Coating	Aluminium Nitrite
Absorbance	> 94%
Emissivity	< 7%
Mounting frame	Aluminium, Stainless Steel
Glass	Borosiliate Glass
Mounting inclination	15°-75°
Inlet outlet dimensions (inch)	3 $^1/_4$ bracket male
Stagnation temperature (°C)	200.3
Insulation material	Mineral wool+Polyurethane
Heat transfer fluid	Glycol mix
Efficiency Constants for G=8000W/m^2 (Aperture Area)	$\eta_0 = 0.734$ $a_1 = 1.529$ $a_2 = 0.0166$ (W/m^2K)

Mounting Options

1a	Sloped roof bolt kit
1b	Sloped roof slate mounting bracket
1c	Sloped roof tile mounting bracket
2	25° increase roof inclined bracket
3	45° flat roof inclined roof bracket

Joule Acapella Dimensions (mm)			
	Length	Width	Height
10 Tube Collector	2010	854	189
20 Tube Collector	2010	1680	189
30 Tube Collector	2010	2420	189

Navitas 2m/2.5m On-roof System

High efficiency on-roof solar system

15-50°
Mounting Angle

Flat Roof Frame Opt.

Multiple Mounting

Remote Controlling

The sleek Joule Navitas On-roof solar system is designed and manufactured to work in Northern European climates. The collector's black finish makes it an attractive addition to any roof. The unique patented ventilation system ensures the collector provides maximum output while reducing heat loss from inside the collector.

- We are so confident of the quality of our solar collectors that we have tested to double and sometimes four times the requirements of EN12975:1-2 and they are Solar Keymark.
- The high efficiency collectors are further tested to determine their maximum impact force resistance levels and the maximum positive and negative loading force that the collectors can resist.
- The Joule Navitas range offers both vertical and horizontal options
- All testings has been carried out by the Building Research Establishment (BRE) in Watford.

1 PANEL	2 PANEL	3 PANEL	4 PANEL	5 PANEL
SX-OR-2.0-0-01 SX-OR-2.5-0-01	SX-OR-2.0-0-02 SX-OR-2.5-0-02	SX-OR-2.0-0-03 SX-OR-2.5-0-03	SX-OR-2.0-0-04 SX-OR-2.5-0-04	SX-OR-2.0-0-05 SX-OR-2.5-0-05
1170 x 1730 x 83	2340 x 1730 x 83	3510 x 1730 x 83	4680 x 1730 x 83	5850 x 1730 x 83
1-2 / 200L	3-4 / 250L	4-5 / 300L	5-6 / 400L	6-7 / 500L

Specifications

System Components

Solar Pump Station
a combination unit that moves the heat into your hot water cylinder

Solar Controller
manages the efficient transfer of solar heat energy from the collectors to the water storage tank

Expansion Vessel
protects closed water heating systems and domestic hot water systems from excessive pressure

Solar Fluid
heat transfer medium for solar heating applications with high temperature stability

Mounting Options
all you need for tile, slate or flat roof mounting options.

Additional Accessories

Mixing Valve
blends hot water with cold water to ensure constant, safe shower/bath temperatures

DN16 Pipes
pre-insulated pipe for solar hot water systems with pre-installed flow and return pipe

Flashings
specifically designed to be used in roofing applications for flashing of round penetrations

Overvoltage Protection
helps to avoid overvoltage damage at collectors, eg. caused by lightning storms

Data Logger
enables the acquisition and storage of large amounts of data with PC, iPhone, iPad integration

Discharge Vessel
drain off vessel for solar thermal systems

Navitas 2m	
Dimensions	
Gross area (m^2)	2.02
Aperture area (m^2)	1.93
Absorber area (m^2)	1.85
Collector height (m)	0.083
Collector width (m)	1.17
Collector lenght (m)	1.73
Weight (kg)	32
Max operating pressure (bar)	10
Recommended operating pressure (bar)	6.
Recommended flow rate ($l/h/m^2$)	15 - 65.
Fluid volume in collector (l)	1.95.
Rated heat output (kW)	
Materials	
Absorber (flat plate)	Aluminium
Coating	Highly selective vacuum coated
Absorbance	95%
Emissivity	5%
Casing / Manifold	Extruded Aluminium
Glass	3.2mm Tempered solar safety glass
Mounting inclination	15° - 75°
Inlet outlet dimensions (inch)	3 $^1/_4$ flat seal threaded connection.
Stagnation temperature (°C)	184 °C under test conditions
Insulation material	40mm Mineral wool
Heat transfer fluid	Propylene glycol / water mixture
Efficiency Constants for G=8000W/m^2 (Aperture Area)	η_0 = 0.794 a_1 = 4.164 a_2 = 0.008 (W/m^2K)

Navitas 2.5m	
Dimensions	
Gross area (m^2)	2.517
Aperture area (m^2)	2.404
Absorber area (m^2)	2.314
Collector height (m)	0.083
Collector width (m)	1.17
Collector lenght (m)	2.15
Weight (kg)	39
Max operating pressure (bar)	10
Recommended operating pressure (bar)	6.
Recommended flow rate ($l/h/m^2$)	15 - 65.
Fluid volume in collector (l)	1.95.
Rated heat output (kW)	
Materials	
Absorber (flat plate)	Aluminium
Coating	Highly selective vacuum coated
Absorbance	95%
Emissivity	5%
Casing / Manifold	Extruded Aluminium
Glass	3.2mm Tempered solar safety glass
Mounting inclination	15° - 75°
Inlet outlet dimensions (inch)	3 $^1/_4$ threaded connection.
Stagnation temperature (°C)	181 °C under test conditions
Insulation material	40mm Mineral wool
Heat transfer fluid	Propylene glycol / water mixture
Efficiency Constants for G=8000W/m^2 (Aperture Area)	η_0 = 0.785 a_1 = 3.594 a_2 = 0.014 (W/m^2K)

Navitas 2m In-roof System

High efficiency in-roof solar system

15-50°
Mounting Angle

Multiple Mounting

Remote Controlling

The sleek Joule Navitas In-roof solar system is designed and manufactured to work in Northern European climates. The collector's black finish makes it an attractive addition to any roof. The unique patented ventilation system ensures the collector provides maximum output while reducing heat loss from inside the collector.

- We are so confident of the quality of our solar collectors that we have tested to double and sometimes four times the requirements of EN12975:1-2 and they are Solar Keymark.
- The high efficiency collectors are further tested to determine their maximum impact force resistance levels and the maximum positive and negative loading force that the collectors can resist.

1 PANEL
SX-IRS-2.0-0-0001
SX-IRT-2.0-0-0001
SX-IRS-2.5-0-0001
SX-IRT-2.5-0-0001
1070 x 2100 x 122
1-2 | 200L

2 PANEL
SX-IRS-2.0-0-0002
SX-IRT-2.0-0-0002
SX-IRS-2.5-0-0002
SX-IRT-2.5-0-0002
2140 x 2100 x 122
3-4 | 250L

3 PANEL
SX-IRS-2.0-0-0003
SX-IRT-2.0-0-0003
SX-IRS-2.5-0-0003
SX-IRT-2.5-0-0003
3210 x 2100 x 122
4-5 | 300L

4 PANEL
SX-IRS-2.0-0-0004
SX-IRT-2.0-0-0004
SX-IRS-2.5-0-0004
SX-IRT-2.5-0-0004
4280 x 2100 x 122
5-6 | 400L

5 PANEL
SX-IRS-2.0-0-0005
SX-IRT-2.0-0-0005
SX-IRS-2.5-0-0005
SX-IRT-2.5-0-0005
5350 x 2100 x 122
6-7 | 500L

Specifications

System Components

Solar Pump Station
a combination unit that moves the heat into your hot water cylinder

Solar Controller
manages the efficient transfer of solar heat energy from the collectors to the water storage tank

Expansion Vessel
protects closed water heating systems and domestic hot water systems from excessive pressure

Solar Fluid
heat transfer medium for solar heating applications with high temperature stability

Additional Accessories

Mixing Valve
blends hot water with cold water to ensure constant, safe shower/bath temperatures

DN16 Pipes
pre-insulated pipe for solar hot water systems with pre-installed flow and return pipe

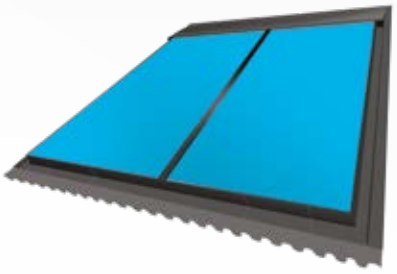
Flashings
specifically designed to be used in roofing applications for flashing of round penetrations

Overvoltage Protection
helps to avoid overvoltage damage at collectors, eg. caused by lightning storms

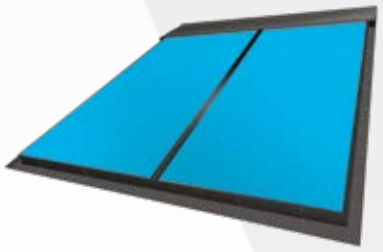
Data Logger
enables the acquisition and storage of large amounts of data with PC, iPhone, iPad integration

Discharge Vessel
drain off vessel for solar thermal systems

Tile Roof Flashing System



Slate Roof Flashing System



Dimensions	
Dimensions	
Gross area (m^2)	2.02
Aperture area (m^2)	1.93
Absorber area (m^2)	1.85
Collector height (m)	0.083
Collector width (m)	1.17
Collector lenght (m)	1.73
Weight (kg)	32
Max operating pressure (bar)	10
Recommended operating pressure (bar)	6.
Recommended flow rate ($l/h/m^2$)	15 - 65.
Fluid volume in collector (l)	1.95.
Rated heat output (kW)	

Materials	
Absorber (flat plate)	Aluminium
Coating	Highly selective vacuum coated
Absorbance	95%
Emissivity	5%
Casing / Manifold	Extruded Aluminium
Glass	3.2mm Tempered solar safety glass
Mounting inclination	15° - 75°
Inlet outlet dimensions (inch)	3 $^1/_4$ flat seal threaded connection.
Stagnation temperature (°C)	184 °C under test conditions
Insulation material	40mm Mineral wool
Heat transfer fluid	Propylene glycol / water mixture
Efficiency Constants for G=8000W/m^2 (Aperture Area)	η_0 = 0.794 a_1 = 4.164 a_2 = 0.008 (W/m^2K)

InvaHeat™

Underfloor Systems

InvaHeat design and supply underfloor heating systems to the residential, commercial and industrial sectors and can offer in-house' and 'on-site' support. We offer a choice of seven fixing systems for use with screeded, floating or joisted floors. We supply pipework, room temperature and water temperature controls. Our materials are complemented by a full planning, design and technical service.

Warmth & comfort

Joule have developed a wide ranging portfolio of solutions for heating and hot water systems. So whether it's a heat pump, undefloor heating or our industry leading SmartPlumb range of pre-plumbed cylinders, Joule have a solution for you.

Well being

Underfloor heating provides a balanced level of radiant heat and air warming. If the heating is provided by high air temperatures this can dry the skin and eyes. Warming the floor reduces the occurrence of dust mites that cause allergies.

Renewables

Renewable heat is easier to produce efficiently at low water temperatures. Underfloor heating uses low temperature water leaving an ideal match with renewable energy heat sources.

Efficiency

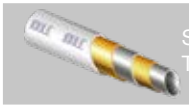
InvaHeat's products are designed specifically to work at low water temperatures, improving the efficiency of the heat pump, reducing running costs and saving you money.

System Types

Lite

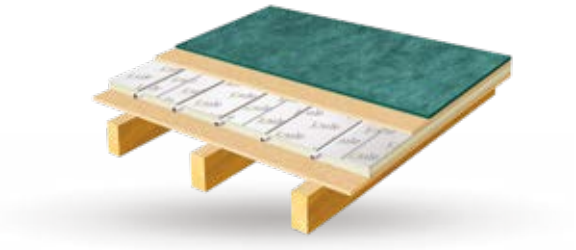
This is an ideal solution where you have the available floor to ceiling height to have a 50mm floor build up. It provides the best thermal insulation to prevent heat transferring downwards.Effectively four products in one, these Insulation Panels comprise a rigid thermal insulation material with grooves positioned in the upper surface.

43/25 mm	65 w/m²	***	**
Floor Build Up Tiles/Timber	Output	Cost	Ease Of Installation



Size: **16mm**
Type: **PERT**

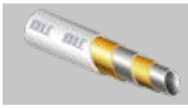
Floating Floor System



Board

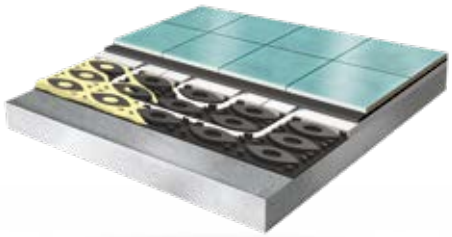
InvaHeats pre-grooved cement boards offer an ideal fast-fit, 18mm floor build up with a high output underfloor heating system. Used in conjunction with our structural plastic floor panel at either end of the room to enable turning and routing of pipe this unique system can be installed directly onto both screed or wood floors.

18/36 mm	65 w/m²	*	**
Floor Build Up Concrete/Joists	Output	Cost	Ease Of Installation



Size: **12mm**
Type: **PERT**

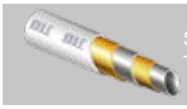
Overlay Floor System



Plate

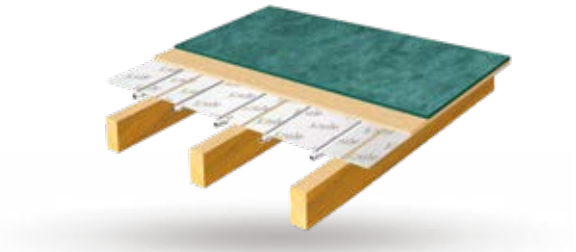
The aluminium spreader plate system is an ideal solution for a suspended timber floor both upstairsor downstairs. The spreader plates fix to the joists and have preformed channels built in to take the pipe and also help radiate the heat from the pipe to the space above it. The finished floor can be laid directly over the spreader plates.

0 mm	55 w/m²	***	*
Floor Build Up	Output	Cost	Ease Of Installation



Size: **16mm**
Type: **PERT**

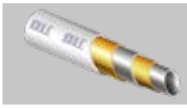
Suspended Floor System



Matt

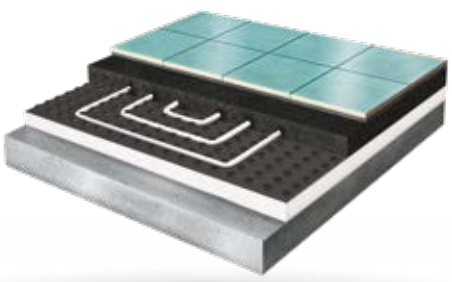
The aluminium spreader plate system is an ideal solution for a suspended timber floor both upstairsor downstairs. The spreader plates fix to the joists and have preformed channels built in to take the pipe and also help radiate the heat from the pipe to the space above it. The finished floor can be laid directly over the spreader plates.

70 mm	90 w/m²	****	****
Floor Build Up	Output	Cost	Ease Of Installation



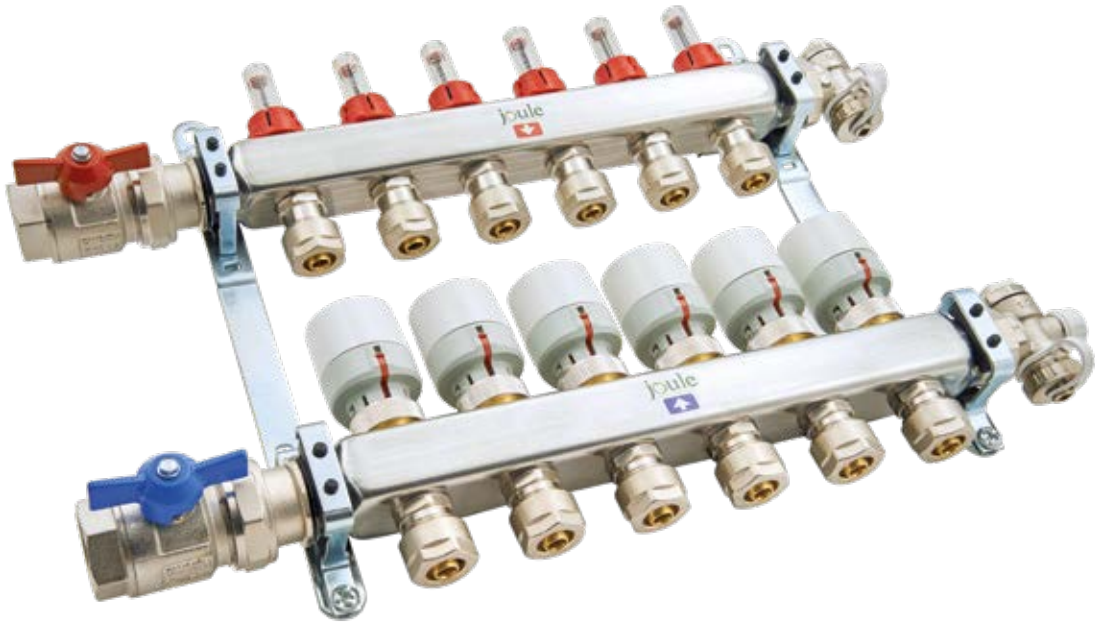
Size: **16mm**
Type: **PERT**

Solid Floor System



InvaHeat™ **Components**

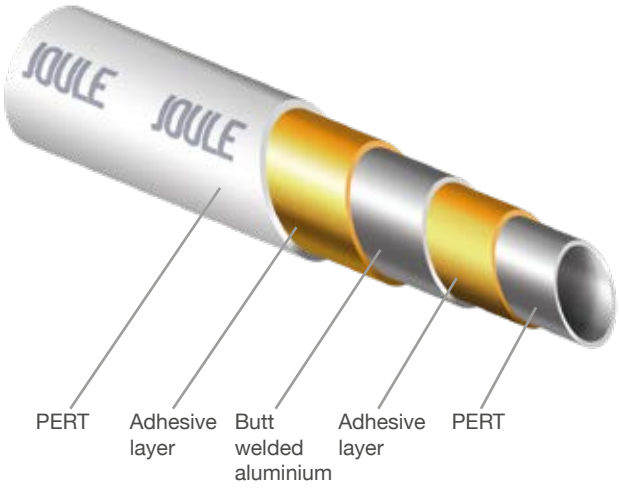
Joule Manifold



Multilayer Aluminium Pert/Al/Pert Pipe

The Joule pert/al/pert multilayer aluminium barriered pipe is manufactured using a 5 layer technology. It has an aluminium middle layer that protects the pipe from accidental damage during installation and prolongs it's use over the life span of the system. The pipe comes in coils ranging from 50 meters to 500 meters.

- To prove the quality of our European manufactured pipe we have Kiwa certification
- MULTI-PEX pipe manufactured according to EN ISO 15875
- EVOH layer oxygen barrier in accordance with DIN 4726
- Operational range -90°C max @ 6 bar, constant temperature 70°C, max peak 100°C
- EVOH oxmygen barrier protected in central core
- Available in 50, 75, 100, 200 and 500m coils
- Sizes available Ø - 12x2, 16x2, 20x3 mm



Underfloor Controls

Overview

Controls are an essential part of any heating system as they create your environment in the most efficient and cost effective way possible. This means ensuring that your system only operates when required and for the minimum period of time.

There are various methods of doing this but all are managed by your control system with various levels of integration between the heating zone, heat source and outside temperature. The control system must be accurate and sophisticated as well as easy to use! Room temperature control for underfloor heating is measured by ambient room temperature controllers that are located in each zone. These are linked to the local manifold wiring centre.

InvaHeat provides a wide variety of controls to fit every scenario, whether it is wired, wireless or networked.

The majority of our room thermostats are designed to be flush mounted, resulting in a slim profile on the wall after installation. We offer a variety of options from wired and wireless to fully networked systems, with the option to control via our central control pad.

Joule Touchscreen Thermostat

The newly launched Joule Touchscreen Thermal Stat is a state-of-the-art solution to use in every underfloor heating system. You can use the top and bottom buttons on the left hand side of the stat to change the room temperature up and down. The top right button is where you program in your time periods and the bottom right button is where you turn it off.

The Joule stat is deisgned to be flush mounted so it must be fitted to a single gang back box which will be installed during first fix.

The stat is a a 240V mains stat and as such requires a 3-core insulated cable to be installed connecting the stat to the wiring center.

Wifi Smart Thermostat

The NEO system is designed to provide reliable communication of the thermostat data whilst at the same time providing an extended communication range.

Each NEO thermostat acts as a repeater on the NEO system network, helping eliminate range issues. The Neo system has been designed to offer complete local and App control of your heating, hot water and plug-in appliances. With Neo you can control your heating from anywhere using your smartphone.

7 YEAR WARRANTY

The innovative Smartplumb by Joule is a cylinder and buffer combined fully pre-plumbed, wired and programmed. The cylinder has the smallest footprint of any product of its type and built of industry leading components only.

Samsung's new generation heat pumps are smartphone compatible and benefit from remote monitoring for better service.

LOW NOISE LEVEL

BEST IN CLASS EFFICIENCY

ECO DESIGN CERTIFIED

COMPATIBLE WITH OTHER HEAT SOURCES

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