



30 YEARS IN BUSINESS



HOT WATER SOLUTIONS



Telford Copper & Stainless Cylinders is a family run business which began trading in 1989 from the premises it still occupies today in the heart of England. The factory has been extended and improved on numerous occasions to facilitate increased demand for our products and we now offer a full range of the latest hot water solutions.

From the beginning, Telford set out to manufacture a broad range of copper cylinders. Our copper division has developed from manufacturing traditional vented cylinders to now include commercial calorifiers and the advanced Tristor thermal store units, which are available as Manual-fill, "Washing Machine" and the multi purpose multi fuel thermal stores.

In 2002, we began production of a full range of unvented, stainless steel cylinders. Our flagship Tempest and Tornado range of cylinders are manufactured to the highest standards, using Duplex 2304 Stainless Steel and we are so confident in our quality that we offer a lifetime guarantee on our cylinders.\* Whilst other manufacturers offer cylinders with a lighter type of steel, we have refused to follow this trend as our focus has been to never compromise the quality and reputation of the Telford brand.

The traditional vented cylinder has recently undergone a major change. The building regulations (Part L in England and Wales, Part J in Scotland) have been altered to ensure that domestic hot water system design is more energy efficient than in the past. This was linked to a revision to the British standards covering indirect and direct copper cylinders. The standards now call for thicker material to resist corrosion better and larger coils to take advantage of higher efficiency condensing boilers now available.

The renewable energy market is continuing to grow and at Telford we have a range of complete solutions available. Our Air Source heat pump and solar packages are increasingly in demand, and we have a team of experts waiting to specify and assist with projects to find the perfect solution for all types of user.

Backed by an experienced service team and nationwide engineers, Telford Copper & Stainless Cylinders Ltd are the perfect partner for your hot water needs.

(\* Full guarantee details available on request)

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# Selecting your Cylinder

Selecting the correct size of cylinder requires consideration of a number of variables, including the volume of water needed, the energy source and the space available. Calculating the volume needed can be achieved by adding together the individual volumes of each appliance that uses hot water and how frequently it is used. The energy source is the next variable to consider, as it will have direct impact on the cylinder size. All indirect cylinders have coils which are designed to allow the contents to be heated up in less than 25 minutes. Given an adequate boiler size. High performance products such as TyphoonCR reduce this time dramatically and can be used to reduce the cylinder size where space is at a premium. Care should be taken when selecting a cylinder size for electrically heated cylinder, as these are slower to recover and often utilise low tariff supplies during the night. The use of a boost immersion heater during the day is expensive and should be avoided where possible. Telford Copper & Stainless Cylinders Ltd, as a member of the Hot Water Association, has been working to establish a simple to use hot water volume calculator. In our research we determined that there were four principle types of user, and town levels of consumer expectation. The table below suggests recommended storage volumes for these options. Telford Copper & Stainless Cylinders Ltd can provide a design service for all types of development. Please contact our Technical Helpline for assistance or to request your copy of the Hot Water Calculator.

STANDARD BATH	70 LITRES
LARGE OR CORNER BATH	130 LITRES
SHOWER (BASE ON 5 MINUTE DREW OFF)	45 LITRES
POWER SHOWER OR SHOWER WITH LARGE HEAD (BASED ON 5 MINUTES)	75 LITRES
WASH BASIN	7 LITRES
KITCHEN SINK	12 LITRES

1. The volumes in the table below are hot water requirements at 60°C, and assume a cold water blend for shower to each a usable temperature of 48°C.
2. Dishwashers and washing machines are generally cold feed and can be ignored from this calculation.

	Shower Only	Shower or Bath	Shower and Bath	Two Baths
GOOD PRACTISE	80	140	180	210
BAD PRACTISE	120	160	210	250

Hot Water Demand	Bedrooms	Gas Oil Indirect	Electric Direct
1 STANDARD BATH OR SHOWER	Bedsit / 1 bed	60/90/100	150
	2-3 bed	125	170
	3-4 bed	150	200
1 STANDARD BATH	2-3 bed	125	200
	3-4 bed	125	200
1 BATH & EN SUITE	2-3 bed	150	200
	3-4 bed	150	200
	4-5 bed	170	200
2 STANDARD BATHS	2-3 bed	170	200
	3-4 bed	170	200
	4-5 bed	200	250
3 BATHROOMS	3-4 bed	250	300
	4-5 bed	250	300
	5-6 bed	300	300

These recommendations are based on guidelines in BS 67900  
Guidance should be sought for unusual applications e.g high flow rate showers.

1. The user types depend upon the bathroom designs in the house. For example a house with a single bath and over shower fits into the category of "Shower or Bath" as it is not practical for two baths to be run together or in quick succession.
2. The recommended volumes assume that the bath is standard size. The cylinder size would need increasing if larger baths are used.
3. Good Practice is the minimum suggested level to give consumer satisfaction. If high performance products are being used, or power showers, we would recommend that Best Practice is adopted.

# Open Vented Domestic Cylinders



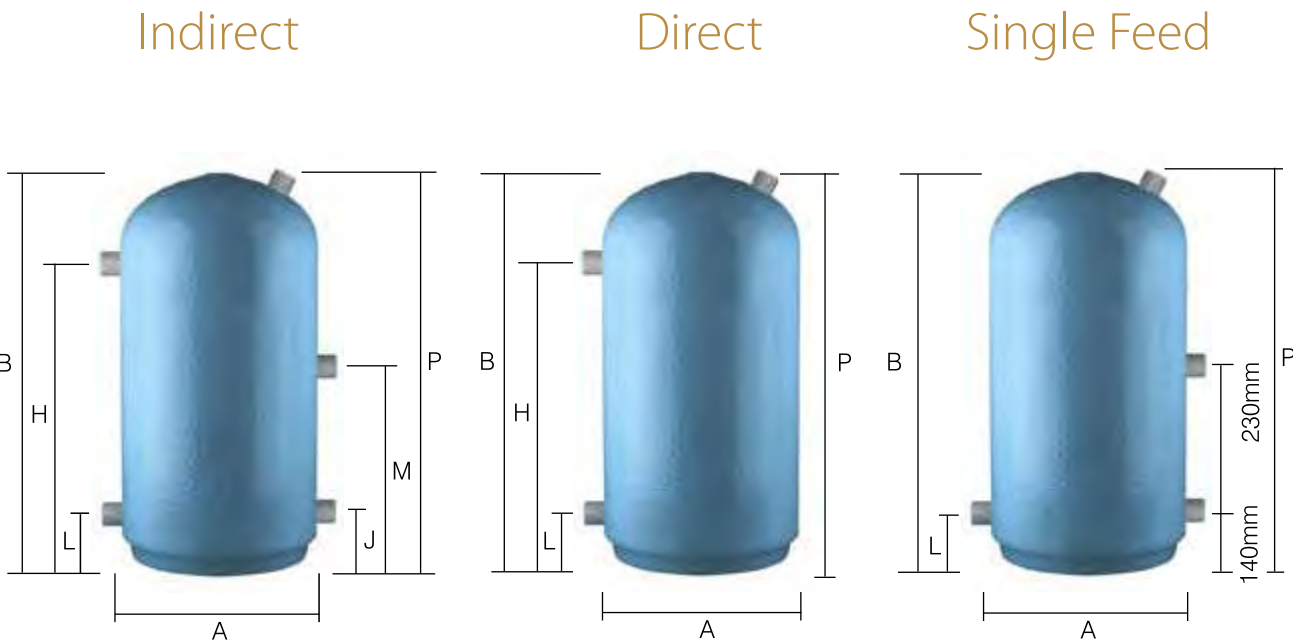
## Standard Vented Cylinders

**Indirect**  
Designed to be linked to a remote heat source, such as a gas/oil boiler. The water within the central heating system is heated by the remote heat source and is passed through the coil in the cylinder. As the primary heat source normally operates at around 80°C, the heat is exchanged into the cylinder and warms the domestic water. Manufactured to BS1566 and PartL1B specifications. Options for Gravity and quick recovery coils are available.

**Direct**  
When the only energy source is electricity, a direct pattern cylinder is the ideal product. The domestic water is 'directly' heated by the immersion heaters which sit inside the cylinder, however, the heat-up and recovery times take longer than an indirect cylinder. Manufactured to BS1566 and PartL1B specifications.

**Single Feed**  
A single feed cylinder incorporates a multi-purpose heat exchanger. As well as heating the domestic water it also acts to top up the heating circuit, i.e. radiators. As only one cold-water cistern is used to feed the cylinder (including the heating circuit) we refer to it as a single feed Indirect cylinder.

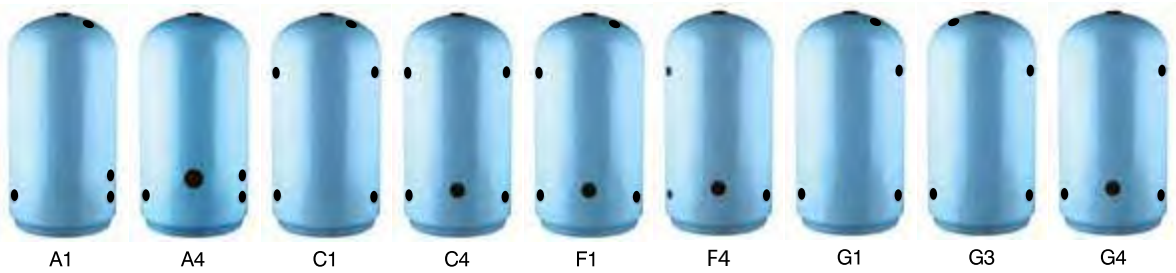
Standard Vented Specifications



Type Reference	External Diameter	Minimum Height	Nominal Storage Capacity	Minimum Heating Area for Type G Cylinders	Minimum Nominal Thickness of Copper						Size of Primary Heater	Size of Primary Heater					Preferred Size of Secondary Connections	Preferred Size of Primary Connections
					Grade 1		Grade 2		Grade 3			Secondary Return H	Primary Return J	Cold Feed L	Primary Flow M	Immersion Heater Boss P		
					Test Pressure 3.65 bar		Test Pressure 2.20 bar		Test Pressure 1.45 bar									
					Max Working Head 25m		Max Working Head 15m		Max Working Head 10m									
					Concave Bottom	Rest of Shell	Concave Bottom	Rest of Shell	Concave Bottom	Rest of Shell								
	mm	mm	L	m²	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm			
0	300	1600	96	0.42	1.6	1.2	1.6	0.9	1.6	0.7	22	1250	100	100	540	1600	G1	G1B
1	350	900	72	0.32	1.6	1.2	1.6	0.9	1.6	0.7	22	700	100	100	400	900	G1	G1B
2	400	900	96	0.42	1.8	1.2	1.6	0.9	1.6	0.7	28	700	100	100	400	900	G1	G1B
3	400	1050	114	0.50	1.8	1.2	1.6	0.9	1.6	0.7	28	800	100	100	470	1050	G1	G1B
4	450	675	84	0.37	2.0	1.6	1.6	1.0	1.6	0.7	28	450	100	100	300	675	G1	G1B
5	450	750	95	0.48	2.0	1.6	1.6	1.0	1.6	0.7	28	550	100	100	340	750	G1	G1B
6	450	825	106	0.53	2.0	1.6	1.6	1.0	1.6	0.7	28	625	100	100	370	825	G1	G1B
7	450	900	117	0.61	2.0	1.6	1.6	1.0	1.6	0.7	28	700	100	100	400	900	G1	G1B
8	450	1050	140	0.70	2.0	1.6	1.6	1.0	1.6	0.7	28	800	100	100	470	1050	G1	G1B
9	450	1200	162	0.88	2.0	1.6	1.6	1.0	1.6	0.7	28	950	100	100	540	1200	G1	G1B
9E	450	1500	206	0.90	2.0	1.6	1.6	1.0	1.6	0.7	28	1200	100	100	620	1500	G1	G1B
10	500	1200	190	1.05	2.5	1.8	1.8	1.2	1.6	0.9	28	950	150	150	540	1200	G1	G1B
11	500	1500	245	0.87	2.5	1.8	1.8	1.2	1.6	0.9	28	1200	150	150	670	1500	G1	G1B
12	600	1200	280	1.32	2.8	2.0	2.5	1.4	2.0	1.2	28	950	230	230	540	1200	G1	G1B
13	600	1500	360	1.68	2.8	2.0	2.5	1.4	2.0	1.2	28	1200	230	230	670	1500	G1	G1B
14	600	1800	440	2.04	2.8	2.0	2.5	1.4	2.0	1.2	28	1350	230	230	800	1800	G1	G1B

Tapping Charts

Direct



Indirect

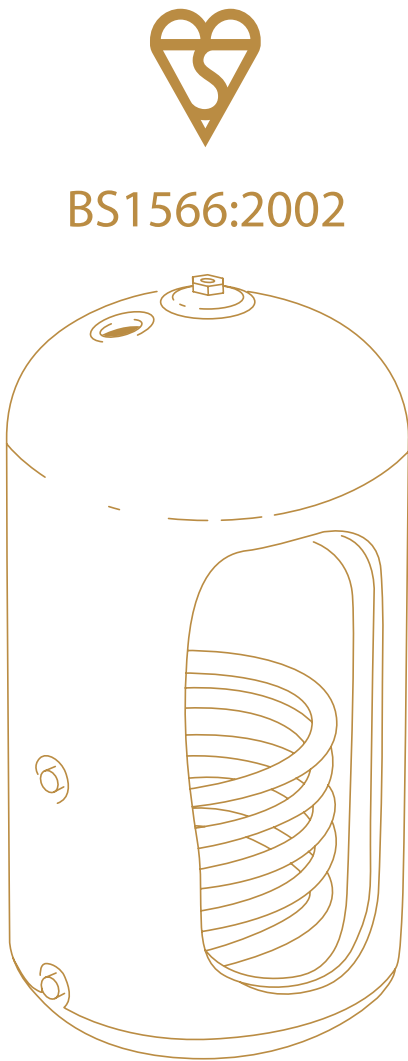


Dimensions and Details

Notes: BS1566:2002 has within its scope both Indirect and Direct cylinders. Cylinders are designated as type D for Direct, G for Indirect cylinders suitable for both gravity and pumped primaries and type P for cylinders which are only suitable for pumped primary systems. Type P cylinders are new to the standard and are often high performance products offering improved performance over the G type. Within the Telford Copper Cylinder range, ref 2-11 are type G cylinders and suitable for both gravity and pumped primaries. Ref 0-1 and 12-14 are for pumped primaries only. Special cylinders are available should you require these sizes for gravity circulation primaries. Single feed, self-priming units must not be used on pumped primary systems.

- 1. The working head is the vertical distance from the bottom of the cylinder to the line of the cistern supplying it (1m water = 0.1 bar approximately).
- 2. Secondary return fitted only when ordered by the purchaser.
- 3. Class B external threads may be applied when ordered.
- 4. Storage capacity is shown for Indirect models only and does not include the water content of the primary heater. Direct models contain a small amount of extra water.
- 5. P = preferred location for off-peak/ electric water heating immersion heater.

The company reserves the right to change specifications without prior notice as part of its policy of continuous improvement.





## Typhoon CR

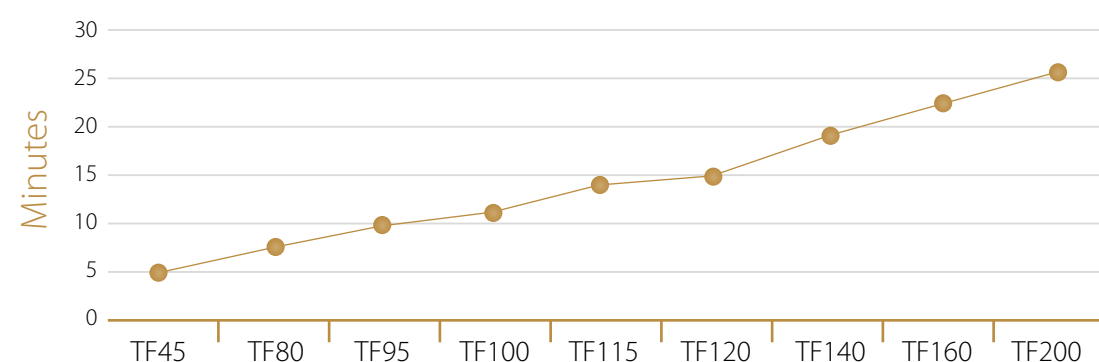


	TF45	TF80	TF95	TF100	TF115	TF120	TF140	TF160	TF200
Diameter	350	400	450	400	400	450	450	450	450
Height	600	750	750	900	1050	900	1050	1200	1500
Capacity	45	80	95	96	114	117	140	162	206

The Telford Typhoon is a rapid recovery cylinder with robust corrosive resistant properties. Using a large, high efficiency coil, the Typhoon can recover quicker than your conventional indirect cylinder. This makes it a great product for installations where the capacity required cannot normally be achieved due to size restrictions, the cylinder can almost reheat at the rate hot water is being drawn off.

In addition the Typhoon is made from a higher grade of copper to give added lifespan to the product and as with all our copper cylinders it comes with a 10 year manufacturers guarantee.

## Heat Up Time



Predicted heat up times for cylinder based on test procedures defined in BS1566:2002 for type P cylinders.

## Combination Tank

Combination units have been designed to combine the cold water feed and the hot water cylinder into one unit. There are many benefits to installing a combination style cylinder, including reducing labour time when installing the product and freeing up valuable roof space. The incoming supply is connected directly to the top section, this in turn feeds the bottom (hot) section when water is drawn from the hot tap. Our combination cylinders are manufactured to BS3198 and can be ordered as Direct or Indirect variants.

The insulation of the division between hot and cold water sections ensure that heat transfer is minimal and easily meets the requirements of BS 3198:1981 Standard. All cylinders are factory insulated.



## Dimensions and details of Copper Direct and Indirect Combinations Tanks

Comb ref. BS 3198 type	External Diameter	External Height	Nominal Capacity hot section	Nominal Capacity cold section	Heating Surface
mm	mm	mm	litres	litres	mm
DIRECT	450	900	90	20	-
INDIRECT	450	900	85	20	0.53
DIRECT	450	1050	120	20	-
INDIRECT	450	1050	115	20	0.61
DIRECT	450	1200	120	40	-
INDIRECT	450	1200	115	40	0.61
DIRECT	450	1400	144	40	-
INDIRECT	450	1400	140	40	0.79
DIRECT	450	1850	210	45	-
INDIRECT	450	1850	206	45	1.05

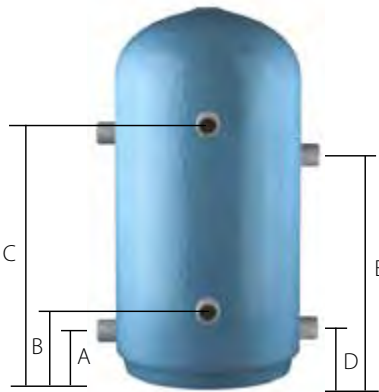
# Maxistore Cylinders

Maxistore was developed for use on an open-vented system in electric only applications. The cylinders carry full Economy 7 accreditation and are manufactured to BS1566:2002 (Part L). To ensure maximum efficiency the cylinder is foamed twice, which reduces the heat-loss values. Two side entry immersion heater connections are fitted as standard to maximise the use of Economy tariff electricity.

Later versions of the Maxistore range incorporated a combination style variant, to remove the need for a feed tank in the roof space and ease installation. Telford Copper & Stainless Cylinders Ltd can also supply, as a cost option, suitable immersion heaters and economy tariff timeclocks. These can be supplied either factory fitted or supplied separate for on-site installation.



## Direct and Indirect Maxistore Cylinders



### Indirect

- A 1" Cold feed
- B 2 1/4" Immersion heater boss
- C 2 1/4" Immersion heater boss
- D 1" Coil return
- E 1" Coil flow

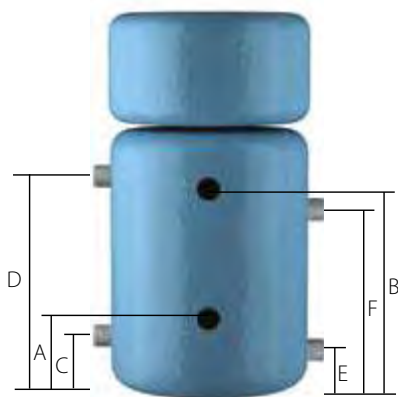
### Direct

- A 1" Cold feed
- B 2 1/4" Immersion heater boss
- C 2 1/4" Immersion heater
- D 1" Cold feed optional
- E N/A on direct

Dia	Height	Cap	A	B	C	D	E
450	900	117	100	100	600	100	475
450	1050	144	100	150	650	100	545
450	1700	210	100	150	110	100	695

Dimensions are for use as guideline only. Other sizes are available on request.

## Direct and Indirect Maxistore Combination Tanks



### Indirect

- A 2 1/4" Immersion heater boss
- B 2 1/4" Immersion heater boss
- C 1/2" Drain
- D 1" Hot draw off
- E 1" Coil return
- F 1" Coil flow

### Direct

- A 2 1/4" Immersion heater boss
- B 2 1/4" Immersion heater boss
- C 1/2" Drain
- D 1" Hot draw off
- E N/A on direct
- F N/A on direct

Dia	Height	Cap C/H	A	B	C	D	E	F
450	1200	115/40	150	500	100	705	100	475
450	1400	144/50	150	650	100	850	100	545
450	1850	210/45	150	1100	100	1305	100	695

Dimensions are for use as guideline only. Other sizes are available on request.

# Trident

Conventional plumbing systems require a separate cold water storage tank in addition to feed and expansion tanks. These tanks normally take up valuable roof space. The Trident cylinder removes the need for this by incorporating them within the cylinder. The appearance is similar to a combination unit, but also includes the feed tank to supply the central heating system. The time required to fit a Trident system is approximately three hours compared to around eight to install a conventional system. The number of fittings and materials needed for the installation are reduced dramatically and the only component required is the cylinder itself.

- As with all combination cylinders the rate of flow from a hot water tap is dependent on the height of the tank above the tap. The water level should be 1 metre above the highest hot water tap.
- A minimum clear space of 205mm should be left above the unit to allow access to the ball-valve for servicing and adjustment.
- 22mm (G 3/4) overflow fittings are supplied fitted.
- A 15mm (G 1/2) threaded boss for a drain cock is fitted. Drain cock not supplied.
- The unit should be installed in such a way that the immersion heater can be withdrawn for servicing.



Capacity - litres	Nominal dimensions (mm)
115 HOT/40 COLD	1280 x 450
115 HOT/45 COLD	1400 x 450
115 HOT/115 COLD	1470 x 500



# Telford Stainless Vented Cylinders

## Suitable replacement for copper vented

Telford Copper & Stainless Cylinders Ltd offer a stainless steel version of the conventional open-vented cylinder, traditionally made from copper. Made in the same production line and from the same material as our Unvented range, we can offer a cost effective alternative to copper vented cylinders that are manufactured to the same high standards as our unvented range.



Capacity (litres)	Product Code	Height (mm)	Diameter (mm)
96	VSI09040VF/22	900	400
114	VSI10540VF/22	1050	400
117	VSI09045VF/22	900	450
140	VSI10545VF/22	1050	450
162	VSI12045VF/22	1200	450
206	VSI15045VF/22	1500	450

### Features

- Same capacity as copper equivalent
- Connection heights same as copper
- IDF2 pattern code, includes secondary return as standard
- 2 1/4" immersion heater boss (fitted immersion optional)
- 22mm compression all over
- 22mm coil, pumped only (gravity on request)
- Suitable for grade 3 and grade 2 specifications
- Same high grade and thickness of duplex 2304 as used on our unvented range
- Raw materials more sustainable than copper
- 10 year guarantee

# Vented Copper and Stainless Solar Cylinders



Copper Vented Solar Cylinders		
Capacity	Height	Diameter
170	1200	450
200	1500	450
250	1800	450

Dimensions are for use as guideline only.

NB. The minimum dimensions of a copper solar cylinder is 1200mm x 400mm.



Stainless Vented Solar Cylinders		
Capacity	Height	Diameter
170	1200	450
200	1500	450
250	1200	500
300	1800	500

Dimensions are for use as guideline only.

Stainless Vented Solar Cylinders Cased		
Capacity	Height	Diameter
170	1200	510
200	1120	554
250	1330	554
300	1650	554
400	1590	660
500	1835	660

Dimensions are for use as guideline only.

The minimum volume of a stainless steel vented solar cylinders is 170 litre.

The development of solar and alternative energy sources means that we can now offer many of the vented copper and stainless cylinders from our comprehensive range for use in a solar or alternative energy system. Now users have the opportunity to access an efficient solar or alternative energy source solution where a mains pressure cylinder or thermal store is not appropriate.

Manufactured to BS1566:2002 and compliant with Part L of the Building Regulations; direct and indirect versions are available.

- Straightforward installation
- No servicing requirement
- Fully insulated
- Complies with current regulations
- Wide range of sizes
- Bespoke cylinder service<sup>2</sup>
- Stainless steel cylinders cased or foam lagged
- Lifetime guarantee<sup>3</sup>

<sup>1</sup> Minimum size 1200 x 450 copper or 170 litre stainless

<sup>2</sup> Subject to size and performance conditions.

<sup>3</sup> On Stainless steel bodies only.

# An Introduction to Thermal Stores

The water in the cylinder 'the store' is heated to and maintained at 76°C by the heat source which can be a boiler, immersion heater or solar (optional).

Cold water at mains pressure is fed through a heat exchanger in 'the store' (a high efficiency coil). The heated water is blended with cold mains water and supplied to the taps at a thermostatically controlled 51°C.

This system is highly efficient; heat loss is kept to minimum due to the high density CFC free foam installation.

Running costs are low because you only heat the water you use.

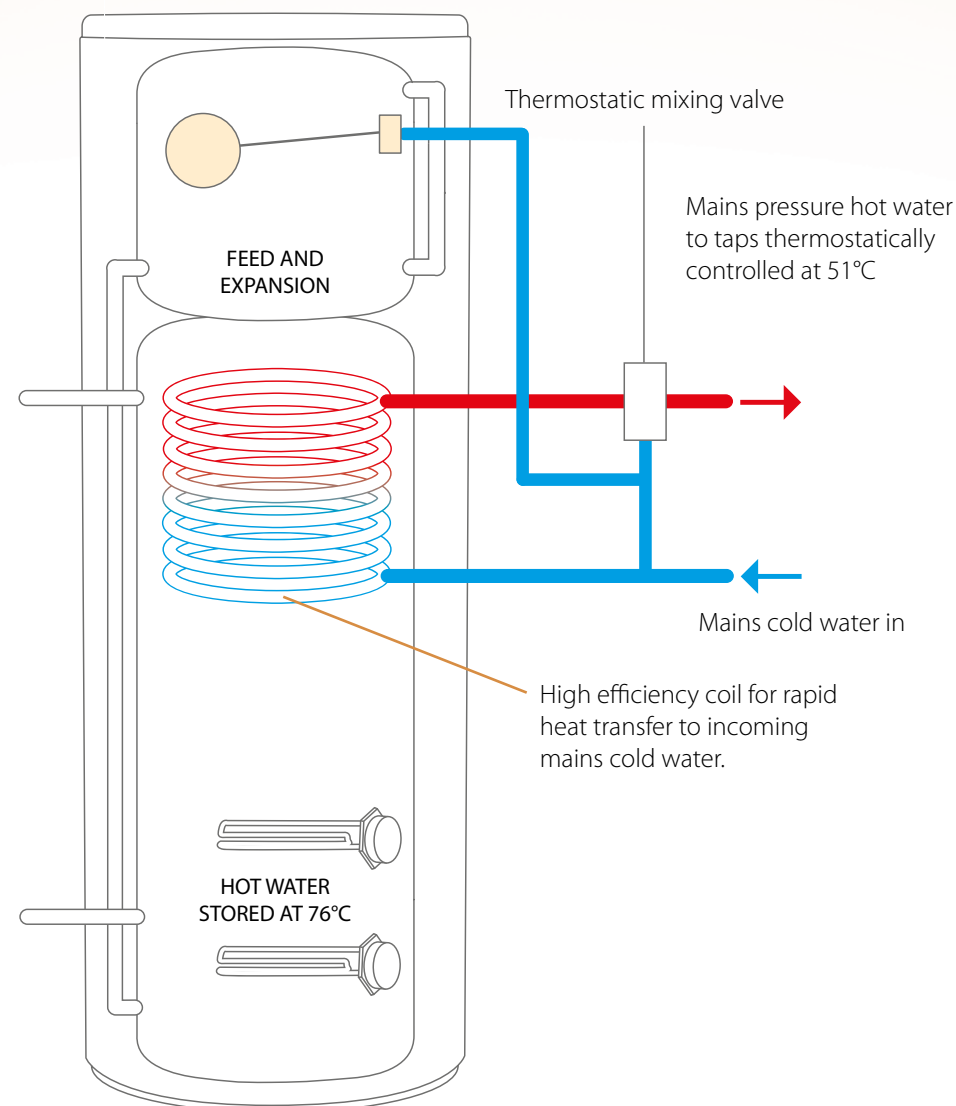
The key to using a thermal store in the most cost effective and efficient manner is to maintain 'the store' temperature at a constant 76°C by means of the chosen heat source.

This will ensure that 'instant' hot water, at mains pressure, is available whenever required; no waiting for the cylinder to heat up.

Minimal heat loss when the thermal store is at rest keeps 'the store' temperature maintenance costs low.

Thermal stores do not require G3 Building Control Notification and unlike other stored mains pressure systems no special qualifications are required to install the unit.

Thermal Stores are available in copper or stainless steel.



# Thermal Stores and Heat Stores

For at least twelve years we have been manufacturing and supplying our range of "thermal stores" under the brand names of Tristar™ and Tristor™, we started with three different models; Combination, Open Vented, & Sealed System for both boiler application and fully electric. We now have over 100 models and can offer "Bespoke Design & Size" on all units. All of our thermal stores can be manufactured to accept any heat source that is currently available including Solar and range cookers.

Tristar and Tristor can be manufactured to suit both "Active" and "Non-active" heating applications from fully pumped systems to zone control and underfloor systems.

Over the years research and development in partnership with others has led to the development of many variants to meet specialist requirements; including OEM models for use in the underfloor heating and solar gain markets. These can, on request, be branded with the customer's name. Recently we have developed, in conjunction with a major house builder, a thermal store unit that has provision for a washing machine under the unit and is supplied with plumbed washing machine leak detection and failsafe water protection. This has proved popular with insurance companies and developers of multi-storey properties alike. Another very popular system we have developed requires no overflow or discharge pipe work on installations, ideal where access to a suitable discharge point is difficult or impossible.

The added advantage of thermal store mains pressure installations is that the installer does not require special qualifications, plus Telford Copper & Stainless Cylinders Ltd will provide first class technical backup and customer support.



## TRISTOR™

Our most recent unit is a market leading Thermal Store which delivers hot water to meet modern living styles. Extensive research went into designing and producing this model, it has a modern white case and is without doubt the best performing thermal store in its class.



## TRISTAR™

This unit is the workhorse of the Telford Thermal Store cylinder range. The original design is over twelve years old and has proven itself in many applications. It remains a specifiers favourite due to its size, replacing old systems in small airing cupboards.

## Bespoke and Special units

### MULTI-INPUT THERMAL STORES FOR UNDERFLOOR HEATING

In conjunction with a major designer and installer of specialist thermal stores we have developed a high performance range which satisfies the requirement to integrate condensing boiler technology with energy from renewable sources.

It solves the major problem of very low heat demands in modern well insulated buildings. This causes even the most advanced gas boiler to cycle on and off, greatly reducing efficiency by running the boiler out of condensing mode. This problem is even more serious with oil boilers as their output cannot be regulated.

Designed as a Thermal Store it has an extremely high recovery rate enabling it to produce an almost unlimited supply of domestic hot water. Because it stores cooler water in the lower part it supplies water for underfloor heating directly without mixing sets thus increasing the efficiency of the whole system.

Special versions are available for heatpumps with or without the addition of a boiler. By incorporating sealed system coils input from solar panels, wood burners, kitchen ranges and wind turbines can be accommodated.

The ability to control a number of heat sources provides the unique ability to optimise energy use and greatly reduces the running costs of the whole system.

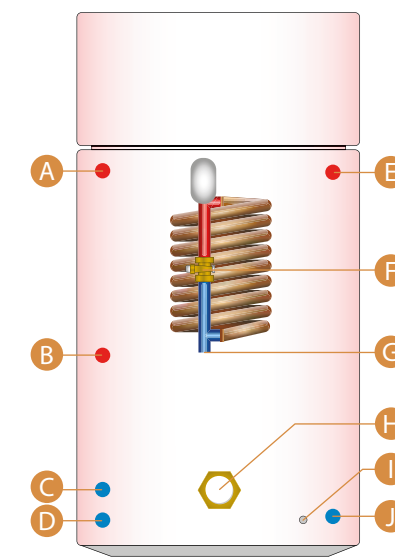


# Thermal Store Range

## Combination Type Store TSC

The Telford Combination open-vented is designed for installations with vented heat sources and vented heating systems only, all stores come with a blend valve/shock arrestor factory fitted and a 3kw immersion as backup.

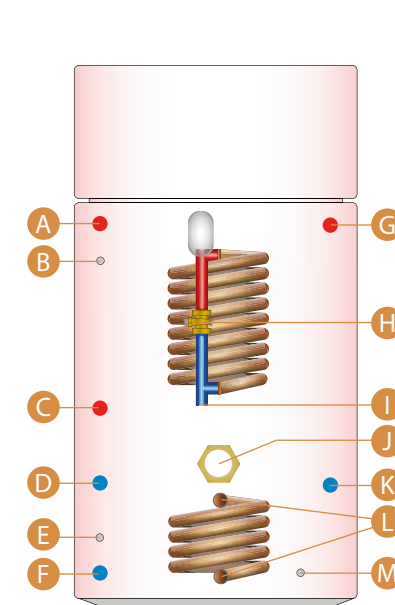
### Combination Open-Vented Thermal Store Range



A 28mm O/V Boiler Flow	E 28mm Stove Flow	I 1/2" Drain
B 28mm O/V Heating Flow	F 22mm Hot Draw Off	J 28mm O/V Boiler Return
C 28mm O/V Heating Return	G 22mm Cold Feed	
D 28mm O/V Stove Return	H 3kw Immersion Heater	

Capacity	Dimensions	Blue Foam Code
115litre	1050x450	TSC115/1010
135litre	1200x450	TSC135/1011
144litre	1400x450	TSC144/1012
160litre	1550x450	TSC160/1013
200litre	1850x450	TSC200/1014
250litre	1800x500	TSC250/1015
300litre	2000x500	TSC300/1016

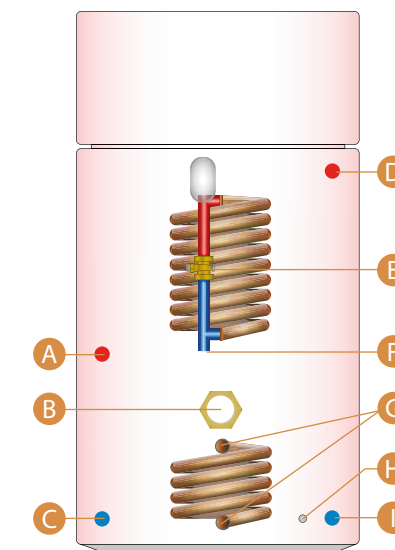
### Combination Open-Vented Thermal Store Range with Solar Thermal Coil



A 28mm O/V Boiler Flow	F 28mm O/V Heating Return	K 28mm O/V Boiler Return
B 15mm Solar Stat Pocket	G 28mm Stove Flow	L 22mm Solar Coil
C 28mm O/V Heating Flow	H 22mm Hot Draw Off	M 1/2" Drain
D 28mm O/V Stove Return	I 22mm Cold Feed	
E 15mm Solar Stat Pocket	J 3kw Immersion Heater	

Capacity	Dimensions	Blue Foam Code
115litre	1050x450	N/A
135litre	1200x450	N/A
144litre	1400x450	TSC144/2012
160litre	1550x450	TSC160/2013
200litre	1850x450	TSC200/2014
250litre	1800x500	TSC250/2015
300litre	2000x500	TSC300/2016

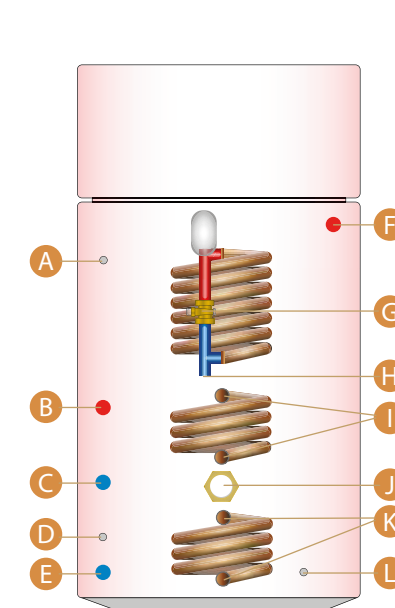
## Combination Open-Vented Thermal Store Range with Sealed Boiler



A 28mm O/V Heating Flow	E 22mm Hot Draw Off	I 1/2" Drain
B 3kw Immersion Heater	F 22mm Cold Feed	
C 28mm O/V Stove Return	G 22mm Boiler Coil	
D 28mm Stove Flow	H 28mm O/V Heating Return	

Capacity	Dimensions	Blue Foam Code
115litre	1050x450	N/A
135litre	1200x450	N/A
144litre	1400x450	TSC144/4012
160litre	1550x450	TSC160/4013
200litre	1850x450	TSC200/4014
250litre	1800x500	TSC250/4015
300litre	2000x500	TSC300/4016

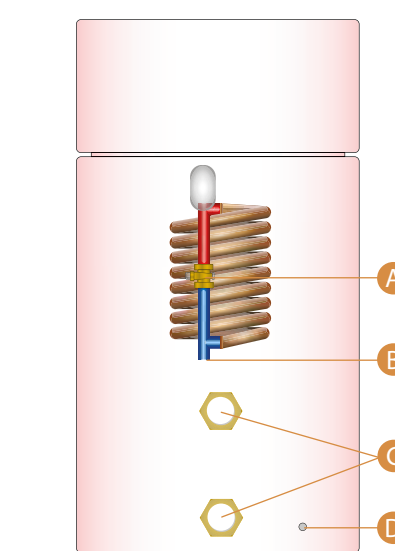
## Combination Open-Vented Thermal Store Range with Solar Thermal Coil and Sealed Boiler



A 15mm Solar Stat Pocket	F 28mm Stove Flow	K 22mm Solar Coil
B 28mm O/V Heating Flow	G 22mm Hot Draw Off	L 1/2" Drain
C 28mm O/V Stove Return	H 22mm Cold Feed	
D 15mm Solar Stat Pocket	I 22mm Boiler Coil	
E 28mm O/V Heating Return	J 3kw Immersion Heater	

Capacity	Dimensions	Blue Foam Code
115litre	1050x450	N/A
135litre	1200x450	N/A
144litre	1400x450	N/A
160litre	1550x450	N/A
200litre	1850x450	TSC200/3014
250litre	1800x500	TSC250/3015
300litre	2000x500	TSC300/3016

## Combination Open-Vented Direct Thermal Store Range



A 22mm Hot Draw Off
B 22mm Cold Feed
C 3kw Immersion Heater
D 1/2" Drain

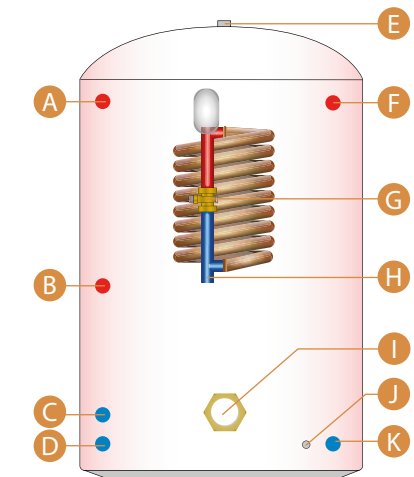
Capacity	Dimensions	Blue Foam Code
115litre	1050x450	TSC115/5010
135litre	1200x450	TSC135/5011
144litre	1400x450	TSC144/5012
160litre	1550x450	TSC160/5013
200litre	1850x450	TSC200/5014
250litre	1800x500	TSC250/5015
300litre	2000x500	TSC300/5016

# Thermal Store Range

## Cylinder Type Store TSV

The Telford Cylinder Type, Open-Vented is designed for installations with vented heat sources and vented heating systems only. All stores come with a blend valve/shock arrestor factory fitted and a 3kw immersion as backup.

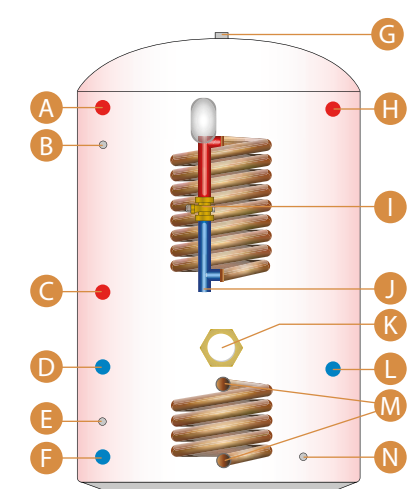
### Cylinder Type, Open-Vented, Thermal Store Range



A 28mm O/V Boiler Flow	E 28mm Vent	I 3kw Immersion Heater
B 28mm O/V Heating Flow	F 28mm Stove Flow	J 1/2" Drain
C 28mm O/V Heating Return	G 22mm Hot Draw Off	K 28mm O/V Boiler Return
D 28mm O/V Stove Return	H 22mm Cold Feed	

Capacity	Dimensions	Blue Foam Code	White Cased Code
115litre	900x450	TSV115/1110	TSV115/1110C
135litre	1000x450	TSV135/1211	TSV135/1211C
144litre	1050x450	TSV144/1312	TSV144/1312C
160litre	1200x450	TSV160/1413	TSV160/1413C
200litre	1500x450	TSV200/1514	TSV200/1514C
250litre	1800x450	TSV250/1615	TSV250/1615C
300litre	1800x500	TSV300/1716	TSV300/1716C

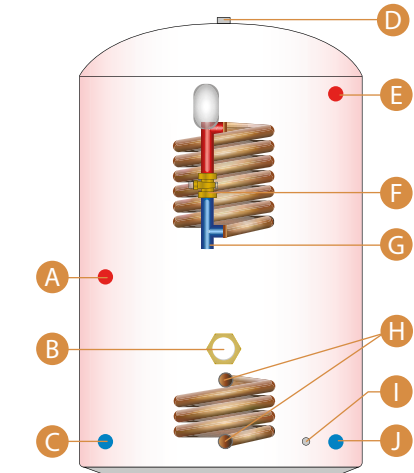
### Cylinder Type, Open-Vented, Thermal Store Range with Solar Thermal Coil



A 28mm O/V Boiler Flow	F 28mm O/V Heating Return	K 3kw Immersion Heater
B 15mm Solar Stat Pocket	G 28mm Vent	L 28mm O/V Boiler Return
C 28mm O/V Heating Flow	H 28mm Stove Flow	M 22mm Solar Coil
D 28mm O/V Stove Return	I 22mm Hot Draw Off	N 1/2" Drain
E 15mm Solar Stat Pocket	J 22mm Cold Feed	

Capacity	Dimensions	Blue Foam Code	White Cased Code
115litre	900x450	N/A	N/A
135litre	1000x450	N/A	N/A
144litre	1050x450	TSV144/2312	TSV144/2312C
160litre	1200x450	TSV160/2413	TSV160/2413C
200litre	1500x450	TSV200/2514	TSV200/2514C
250litre	1800x450	TSV250/2615	TSV250/2615C
300litre	1800x500	TSV300/2716	TSV300/2716C

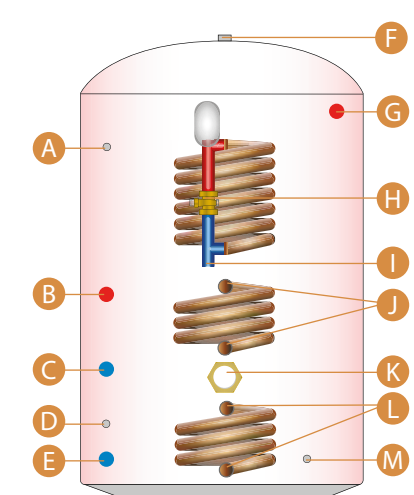
### Cylinder Type, Open-Vented, Thermal Store Range with Sealed Boiler



A 28mm O/V Heating Flow	E 28mm Stove Flow	I 28mm O/V Heating Return
B 3kw Immersion Heater	F 22mm Hot Draw Off	J 1/2" Drain
C 28mm O/V Stove Return	G 22mm Cold Feed	
D 28mm Vent	H 22mm Boiler Coil	

Capacity	Dimensions	Blue Foam Code	White Cased Code
115litre	900x450	N/A	N/A
135litre	1000x450	N/A	N/A
144litre	1050x450	TSV144/4112	TSV144/4112C
160litre	1200x450	TSV160/4213	TSV160/4213C
200litre	1500x450	TSV200/4314	TSV200/4314C
250litre	1800x450	TSV250/4415	TSV250/4415C
300litre	1800x500	TSV300/4516	TSV300/4516C

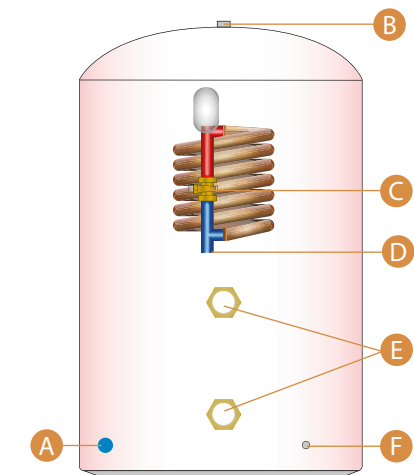
### Cylinder Type, Open-Vented, Thermal Store Range with Solar Thermal Coil and Sealed Boiler



A 15mm Solar Stat Pocket	F 28mm Vent	K 3kw Immersion Heater
B 28mm O/V Heating Flow	G 28mm Stove Flow	L 22mm Solar Coil
C 28mm O/V Stove Return	H 22mm Hot Draw Off	M 1/2" Drain
D 15mm Solar Stat Pocket	I 22mm Cold Feed	
E 28mm O/V Heating Return	J 22mm Boiler Coil	

Capacity	Dimensions	Blue Foam Code	White Cased Code
115litre	900x450	N/A	N/A
135litre	1000x450	N/A	N/A
144litre	1050x450	N/A	N/A
160litre	1200x450	N/A	N/A
200litre	1500x450	TSV200/3114	TSV200/3114C
250litre	1800x450	TSV250/3215	TSV250/3215C
300litre	1800x500	TSV300/3316	TSV300/3316C

### Cylinder Type, Open-Vented, Direct, Thermal Store Range



A 28mm Feed	E 3kw Immersion Heater
B 28mm Vent	F 1/2" Drain
C 22mm Hot Draw Off	
D 22mm Cold Feed	

Capacity	Dimensions	Blue Foam Code	White Cased Code
115litre	900x450	TSV115/5110	TSV115/5110C
135litre	1000x450	TSV135/5211	TSV135/5211C
144litre	1050x450	TSV144/5312	TSV144/5312C
160litre	1200x450	TSV160/5413	TSV160/5413C
200litre	1500x450	TSV200/5514	TSV200/5514C
250litre	1800x450	TSV250/5615	TSV250/5615C
300litre	1800x500	TSV300/5716	TSV300/5716C

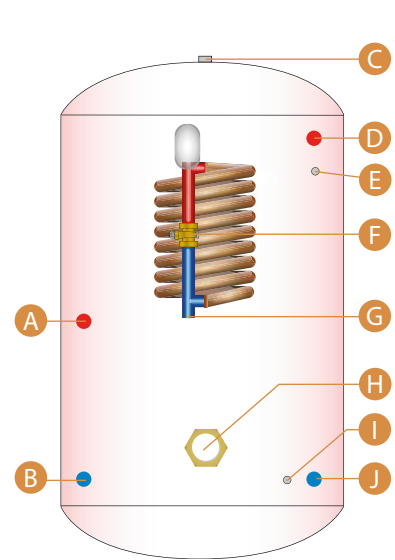


# Thermal Store Range

## Sealed System Store TSS

The Telford Sealed System is designed for installations where there are no open-vented heat sources. All stores come with a blend valve/shock arrestor factory fitted and a 3kw immersion as backup.

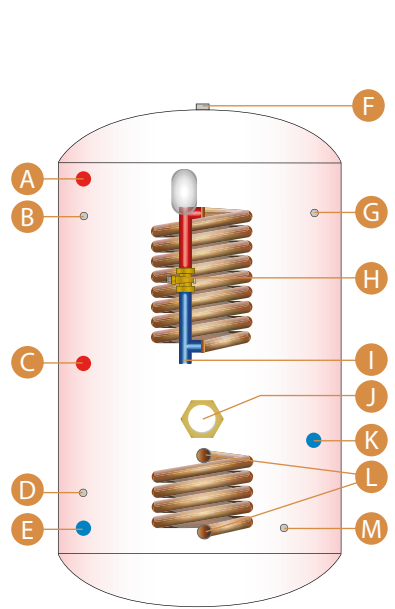
### Sealed System, Thermal Store Range



- A 28mm Sealed Heating Flow
- B 28mm Sealed Boiler Return
- C 22mm Thumb Vent
- D 28mm Sealed Boiler Flow
- E 4.5 Bar T&P Relief Valve
- F 22mm Hot Draw Off
- G 22mm Cold Feed
- H 3kw Immersion Heater
- I 1/2" Drain
- J 28mm Sealed Heating Return

Capacity	Dimensions	Blue Foam Code	White Cased Code
115litre	900x450	TSS115/1120	TSS115/1120C
135litre	1000x450	TSS135/1231	TSS135/1231C
144litre	1050x450	TSS144/1342	TSS144/1342C
160litre	1200x450	TSS160/1453	TSS160/1453C
200litre	1500x450	TSS250/1675	TSS250/1675C
250litre	1800x450	TSS250/1675	TSS250/1675C
300litre	1800x500	TSS300/1786	TSS300/1786C

### Sealed System Solar, Thermal Store Range



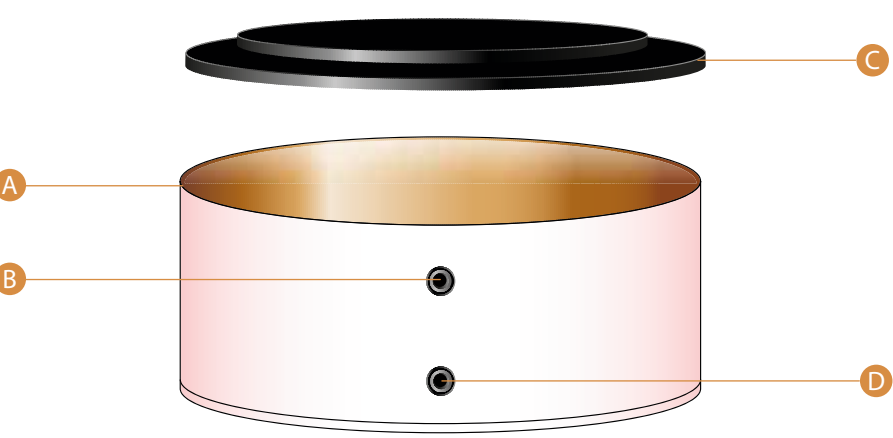
- A 28mm Sealed Boiler Flow
- B 15mm Solar Stat Pocket
- C 28mm Sealed Heating Flow
- D 15mm Solar Stat Pocket
- E 28mm Sealed Heating Return
- F 28mm Vent
- G 4.5 Bar T&P Relief Valve
- H 22mm Hot Draw Off
- I 22mm Cold Feed
- J 3kw Immersion Heater
- K 28mm Sealed Boiler Return
- L 22mm Solar Coil
- M 1/2" Drain

Capacity	Dimensions	Blue Foam Code	White Cased Code
115litre	900x450	N/A	N/A
135litre	1000x450	N/A	N/A
144litre	1050x450	TSS144/2322	TSS144/2322C
160litre	1200x450	TSS160/2433	TSS160/2433C
200litre	1500x450	TSS200/2544	TSS200/2544C
250litre	1800x450	TSS250/2655	TSS250/2655C
300litre	1800x500	TSS300/2766	TSS300/2766C

# Copper Header Tanks

When using high temperature heat sources such as solid fuel applications, a high temperature header tank is required to prevent the tank melting.

## Copper Header Tanks



- A 75mm
- B 22mm Over Flow
- C Lid supplied
- D 22mm Feed Flow

Capacity	Dimensions Height x Diameter	To suit store size:	Product Code
16litre	300x450	115-160litre	CF+E300X450
35litre	310x500	200-300litre	CF+E310X500
55litre	390x500	301-500litre	CF+E390X500
70litre	550x600	501-800litre	CF+E550X600
100litre	670x600	801-1000litre	CF+E670X600

# Tristor Manual Fill

Manufactured with Stainless Or Copper

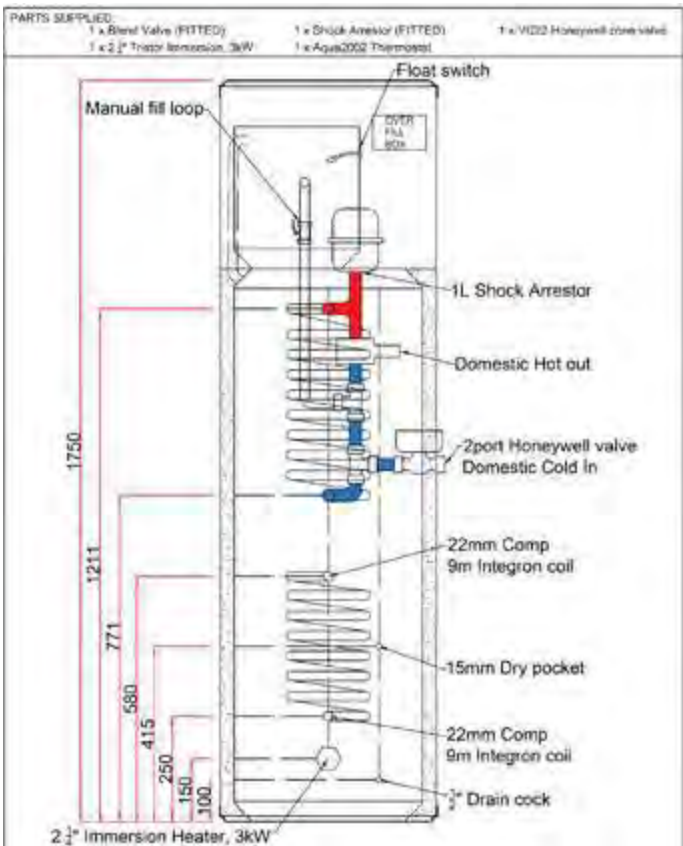
Our most recent unit is a market leading ther-mal store which delivers hot water to meet modern living styles. Extensive research went into designing and producing this model, it has an attractive white case and is without doubt the best performing thermal store in its class.

Tristor Pricing Code			
Volume	Direct (Electric only)	Indirect (Boiler)	Twin Coil (Boiler & Solar)
150litre	TSC150MF/OF2/DIR	TSC150MF/OF2/IND	TSC150MF/OF2/IND/S
200litre	TSC200MF/OF2/DIR	TSC200MF/OF2/IND	TSC200MF/OF2/IND/S
280litre	TSC1280MF/OF2/DIR	TSC280MF/OF2/IND	TSC280MF/OF2/IND/S

Tristor Sizes		
Volume	Height	Diameter
150litre	1400	510
200litre	1750	510
280litre	2000	554

Dimensions are for use as guideline only.

## 200ltr Indirect example



- 2 Years Warranty
- Only top up stored water once a year
- No need for over flow pipes
- Integral parts located under top lid
- Stylish white steel case finish
- 2 x 3Kw immersion heaters (Direct Only)
- Fully pre-plumbed ready to install
- 21 LPM domestic flow rate
- High impact polyurethane insulation
- No pump required (Like with Heat Exchangers)
- Domestic hot blended set to 47c
- No scaling unlike plate Heat exchangers
- 22mm domestic ribbed heat exchanger coil
- Over fill sensor
- Domestic safety shut off valve
- No external F&E tank needed
- No G3 qualification needed

# Stainless Steel Unvented Cylinders



Telford Copper & Stainless Cylinders Ltd produce a comprehensive range of stainless steel unvented cylinders to the highest material specification on the market and with modern production techniques and standards.

Our cylinder shells are produced from Duplex 2304, coils and bosses from 316L. We are proud that all processes of our production are based here in the UK at our factory in Telford, Shropshire.

The range of stainless steel cylinders has expanded over the years to accommodate renewable heat sources and to offer easier solutions to difficult installs such as solar cylinders, heat pump, horizontal, pre-plumbed and more. We are also proud of our bespoke service, if our standard product range doesn't meet your requirements then we have a friendly and qualified team who can discuss with you your requirements and offer a competitive bespoke design.

Our stainless unvented tanks carry a lifetime guarantee (please contact our offices for full guarantee details) all of our cylinders are fully ERP compliant.



# Stainless Steel Unvented Cylinders



# Technical Specification

## Tempest Indirect

G - 22mm Hot water draw off

H - 1/2 " F TPR valve

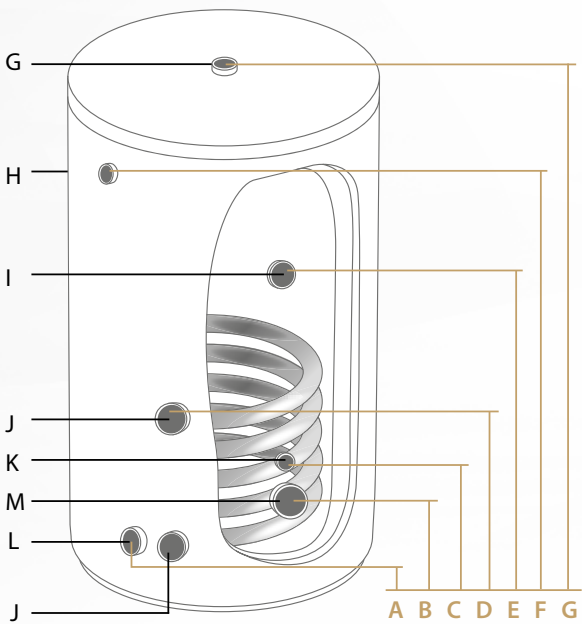
I - Secondary return

J - Boiler Flow & Return

K - Stat Pocket

L - 22mm Cold feed

M -Immersion



Capacity (LTR)	Height mm	Diameter mm	A	B	C	D	E	F	G
90	750	510	170	200	400	495	-	550	750
125	935	510	170	200	400	495	-	750	935
150	1060	510	170	200	400	495	-	880	1060
170	1200	510	170	200	450	600	-	1030	1200
200	1120	580	195	225	475	625	815	930	1120
250	1330	580	195	225	555	845	975	1140	1330
300	1650	580	195	225	555	845	1255	1435	1650
400	1590	710	240	270	640	870	1240	1340	1590
500	1835	710	240	270	640	890	1390	1590	1835

Dimensions are for use as guideline only.

## History

- Over 15 years of producing stainless steel products.
- British made, every process of production is completed here at Telford, Shropshire.
- Family run company whereby product and service take priority.
- Transport, we have built our own fleet of varying sized vehicles to ensure your product arrives safely and quickly.

## Standard Technical Specifications

- Unvented and vented tanks supplied with 22mm compression fittings (up to 300L) for ease of installation.
- 3bar max operating pressure.
- 22mm primary coils, increased surface area for quick recovery, as standard.
- Recommended minimum flow rate of 20 L/min and pressure of 1.5bar.
- WRAS approval on all products
- Fully ERP compliant products, insulated with high density polyurethane insulation.

## Guarantee

- Lifetime guarantee on all unvented products.
- 10 year guarantee on all openvented products.
- 2 year guarantee on all component parts.
- Duplex 2304 stainless steel used on all products, contains superior corrosion resistant properties to other grades.
- All cylinders are pickled after welding to guarantee corrosive properties are restored after welding.

## Other & Optional Extras

- Made to measure cylinders, bespoke heights and diameters.
- Bespoke connection configurations (if it can be made, we will make it for you).
- Horizontal versions.
- Slim line versions starting at 470mm diameter.
- Pre plumbed options on all variants, including horizontals.
- Any other? We're eager to help and if you can't find what you're looking for please call or email us your requirements

## Tempest Direct

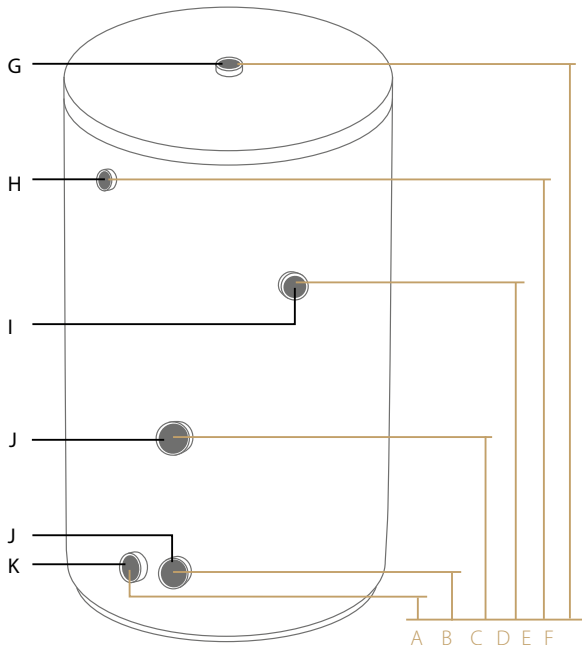
G - 22mm Hot water draw off

H - 1/2 " F TPR valve

I - Secondary return

J - 1 3/4" Immersion heater boss

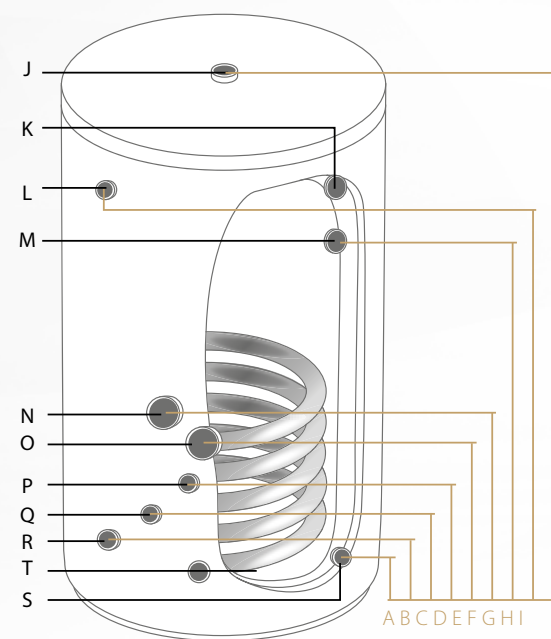
K - 22mm Cold feed



Capacity (LTR)	Height mm	Diameter mm	A	B	C	D	E	F	G
90	750	510	170	200	400	495	-	550	750
125	935	510	170	200	400	495	-	750	935
150	1060	510	170	200	400	495	-	880	1060
170	1200	510	170	200	450	600	-	1030	1200
200	1120	580	195	225	475	625	815	930	1120
250	1330	580	195	225	555	845	975	1140	1330
300	1650	580	195	225	555	845	1255	1435	1650
400	1590	710	240	270	640	870	1240	1340	1590
500	1835	710	240	270	640	890	1390	1590	1835

Dimensions are for use as guideline only.

Tempest Direct Solar



- J - Hot Water draw off

K - T&P Relief valve solar stat

L - Solars stat

M - Secondary return\*

N - Immersion heater 1 3/4

O - Immersion heater 1 3/4
- P - Solar flow

Q - Aquastat pocket

R - Solar sensor

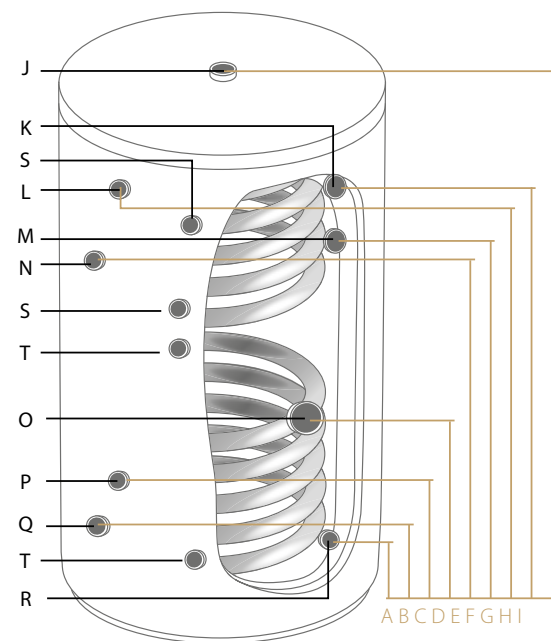
S - Cold water

T - Solar return

Capacity (LTR)	Height mm	Diameter mm	A	B	C	D	E	F	G	H	I
170	1780	510	175	165	395	505	535	395	865	1915	1780
200	1600	580	200	245	395	510	615	395	785	900	1600
250	1920	580	195	245	395	505	575	395	890	1025	1920
300	2080	580	200	250	400	510	575	650	895	1030	2080
400	1590	710	235	285	435	620	715	1085	1240	1340	1590
500	1835	710	235	285	435	620	715	1085	1390	1590	1835

Dimensions are for use as guideline only.  
\* - 200L and above.

Tempest Twin Coil



- J - Hot water draw off

K - T&P relief valve

L - Solars stat

M - Secondary return\*

N - Boiler stat

O - Immersion heater 1 3/4
- P - Aux stat

Q - Solar stat

R - Mains inlet

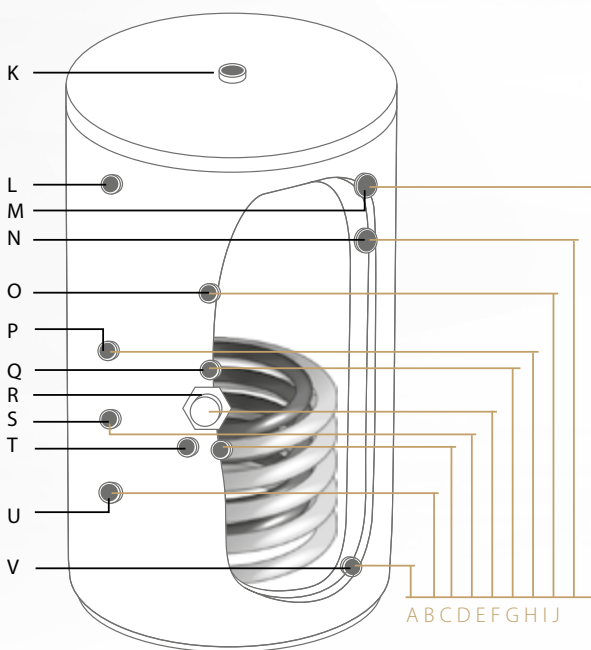
S - Boiler flow & return

T - Solar flow & return

Capacity (LTR)	Height mm	Diameter mm	A	B	C	D	E	F	G	H	I
170	1200	510	175	175	395	500	535	585	865	1015	n/a
200	1120	580	190	245	390	500	545	585	780	890	1600
250	1330	580	190	245	390	500	575	640	890	1025	1025
300	1650	580	190	245	390	500	570	640	885	1020	1250
400	1590	710	235	285	435	620	715	820	1120	1240	1240
500	1835	710	235	285	435	620	715	820	1120	1240	1590

Dimensions are for use as guideline only.

Tempest Heat Pump Solar



- K - 22mm Hot water draw off

L - 22mm Stat pocket

M - 1/2 " F TPR valve

N - Secondary return

O - Solar flow

P - 22mm stat pocket

Q - Solar return

R - 1 3/4" Immersion heater boss
- S - 22mm stat pocket

T - Heat pump flow & return

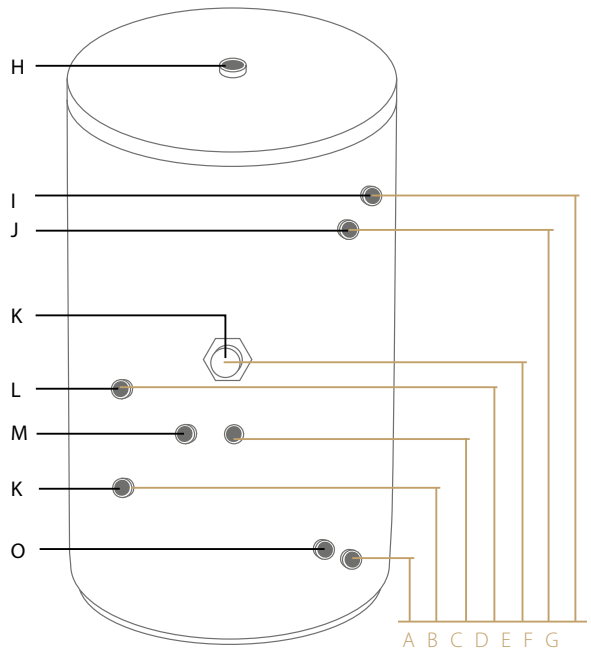
U - 22mm stat pocket

V - Cold feed

Capacity (LTR)	Height mm	Diameter mm	A	B	C	D	E	F	G	H	I	J
200	1500	510	178	578	778	828	878	978	1078	1188	1120	1320
250	1800	510	178	578	778	828	878	978	1078	1188	1420	1620
300	1650	580	193	593	793	843	893	993	1093	1203	1261	1443
400	1590	710	238	593	738	843	893	993	1093	1273	1248	1348
500	1835	710	238	593	738	843	893	993	1093	1293	1398	1598

Dimensions are for use as guideline only.

Tempest Heat Pump Indirect



- H - 22mm Hot water draw off

I - 1/2 " F TPR valve

J - Secondary return

K - 1 3/4" Immersion heater boss

L - Stat pocket

M - Flow & return, 1"
- N - Stat pocket

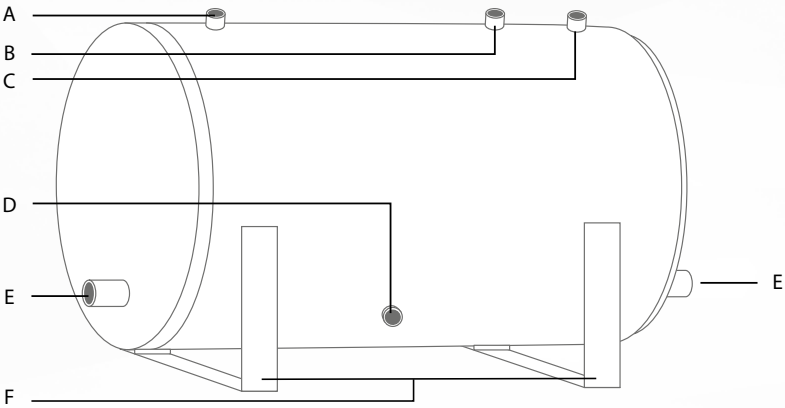
O - 22mm cold feed

Capacity (LTR)	Height mm	Diameter mm	A	B	C	D	E	F	G
200	1500	510	178	578	778	828	878	1120	1320
250	1800	510	178	578	778	828	878	1420	1620
300	1650	580	193	593	793	843	893	1261	1443
400	1590	710	238	593	738	843	893	1248	1348
500	1835	710	238	593	738	843	893	1398	1598

Dimensions are for use as guideline only.



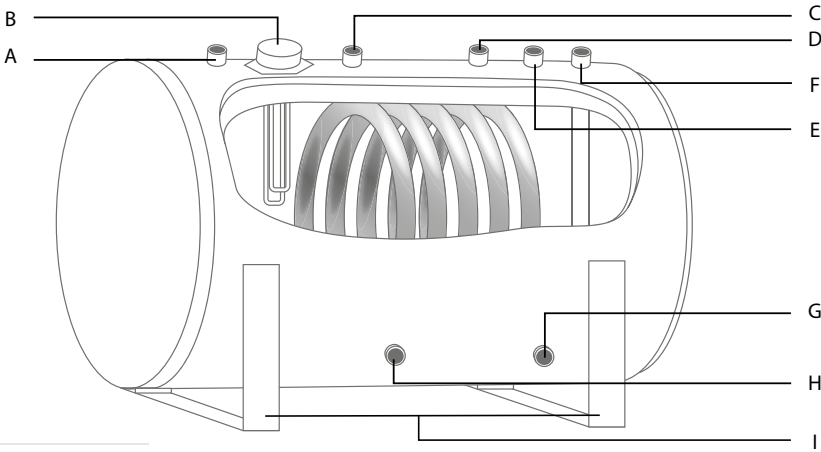
Tempest Horizontal Unvented Direct



- A - Hot Outlet 22mm
- B - 1/2 T&P
- C - Cold inlet 22mm
- D - 1/2" F Drain Off
- E - 1 3/4" F Immersion Heater Boss
- F - Cradles

Water Capacity (LTR)	Length mm	Diameter mm	Height mm	Height With Cradles mm
90	750	510	510	610
125	935	510	510	610
150	1060	510	510	610
170	1200	510	510	610
200	1120	580	580	655
250	1330	580	580	655
300	1650	580	580	655
400	1590	710	660	760
500	1835	710	660	760

Tempest Horizontal Unvented Indirect

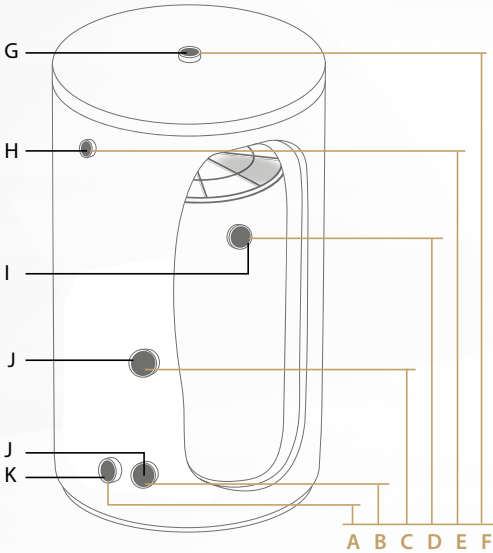


- A - Hot Outlet 22mm
- B - 1 3/4" F Immersion Heater Boss
- C - Boiler Flow 22mm
- D - Boiler Return 22mm
- E - 1/2 T&P
- F - Cold Inlet 22mm
- G - 22mm Blind Stat Pocket
- H - 1/2" F Drain Off
- I - Cradles

Water Capacity (LTR)	Length mm	Diameter mm	Height mm	Height With Cradles mm
90	750	510	510	610
125	935	510	510	610
150	1060	510	510	610
170	1200	510	510	610
200	1120	580	580	655
250	1330	580	580	655
300	1650	580	580	655
400	1590	710	660	760
500	1835	710	660	760

Tornado 3.0. Direct

With internal expansion air gap

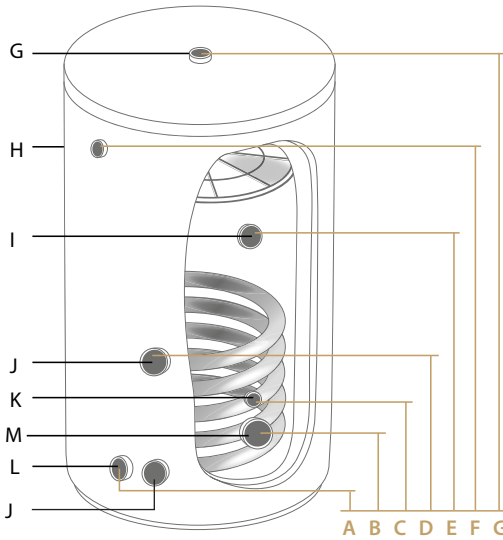


- G - 22mm Hot water draw off
- H - 1/2" F TPR valve
- I - 22mm Hot water draw off
- J - 1 3/4" Immersion heater boss
- K - 22mm Cold feed

Capacity (LTR)	Height mm	Diameter mm	A	B	C	D	E	F
125	1025	580	178	200	495	665	800	1025
150	1260	580	178	200	495	900	950	1260
170	1325	580	178	200	495	965	1065	1325
200	1550	580	178	200	495	1050	1150	1550
250	1800	580	178	200	495	1250	1350	1800
300	2050	580	178	200	495	1400	1500	2050

Tornado 3.0. Indirect

With internal expansion air gap



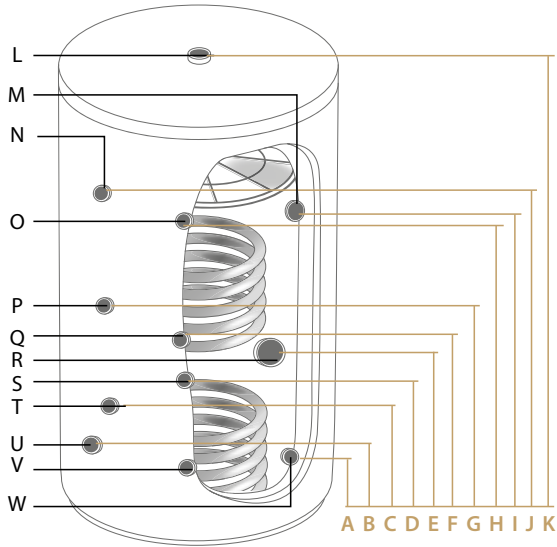
- G - 22mm Hot water draw off
- H - 1/2" F TPR valve
- I - 22mm Hot water draw off
- J - Boiler flow & return
- K - Stat Pocket
- L - 22mm Cold feed
- M - Immersion

Capacity (LTR)	Height mm	Diameter mm	A	B	C	D	E	F	G
125	1025	580	178	248	495	505	665	800	1025
150	1260	580	178	248	495	505	900	950	1260
170	1325	580	178	248	495	605	965	1065	1325
200	1550	580	178	248	495	605	1050	1150	1550
250	1800	580	178	248	495	825	1250	1350	1800
300	2050	580	178	248	495	825	1400	1500	2050

# Technical Specification

## Tornado 3.0. Twin Coil

With internal expansion air gap



- L - 22mm Hot water draw off
- M - 22mm Hot water draw off
- N - T&P Relief Valve
- O - Boiler Flow
- P - Boiler Stat
- Q - Boiler Return

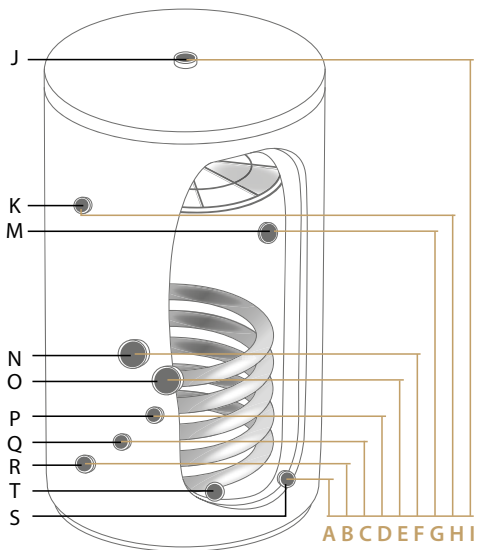
- R - Immersion Heater
- S - Solar Flow
- T - Solar Stat
- U - Solar Stat
- V - Solar Return
- W - Cold Feed

Capacity (LTR)	Height mm	Diameter mm	A	B	C	D	E	F	G	H	I	J	K
170	1325	580	178	248	350	450	675	745	825	900	950	1065	1325
200	1550	580	178	248	350	450	675	745	825	1050	1050	1150	1550
250	1800	580	178	248	350	450	675	745	825	1125	1255	1350	1800
300	2050	580	178	248	350	450	675	745	825	1125	1355	1500	2050

Dimensions are for use as guideline only.

## Tornado Direct Solar

With internal expansion air gap



- J - Hot Water draw off
- K - T&P Relief valve solar stat
- L - Solars stat
- M - Hot water draw off
- N - Immersion heater 1 3/4
- O - Immersion heater 1 3/4

- P - Solar flow
- Q - Aquastat pocket
- R - Solar sensor
- S - Cold water
- T - Solar return

Capacity (LTR)	Height mm	Diameter mm	A	B	C	D	E	F	G	H	I
170	1325	580	178	248	350	450	550	750	950	1065	1325
200	1550	580	178	248	350	450	550	750	1050	1150	1550
250	1800	580	178	248	350	450	550	750	1255	1350	1800
300	2050	580	178	248	350	450	550	750	1355	1500	2050

Dimensions are for use as guideline only.

# Technical Specification

## Tempest Plus Cylinder

With the introduction of the European Energy rated Products Directive for all hot water cylinders, Telford are now happy to introduce to the market a premium model of our Tempest cylinder, the Tempest Plus. We are pleased to announce that the Tempest Plus will achieve an A Rating from 90-200litre capacity and a B on 250-300litres. This unit will also come with a Titanium immersion heater as standard and carry our usual lifetime guarantee.



## Pre Plumbed

The Tempest unvented is also available as a pre-plumbed that save valuable time on site for both the plumbing and electrical contractor. They also offer a uniform and consistent installation for new builds.

Our standard indirect version comes as an S Plan with 1 heating zone, if you require additional zones or a bespoke pre-plumbed design our friendly technical team will be happy to design your required system with you to meet your needs.



## High Gain

High gain cylinders, commonly known as quick recovery, are available on request where quicker than usual recovery times are required. We offer an off the shelf standard high gain, with approximately half the reheat time of its standard equivalent however if you require a certain KW rating/reheat time then providing the coil can fit in the cylinder, we will make it.



## Slim Line

Our Unvented range is available in a slim line variant, perfect for tight installations. They carry the same lifetime guarantee as our standard Tempest range and are available in Indirect, Direct, Direct Solar and Twin Coil Solar versions, horizontal specials are also available on request.

Size (litres)	Height (mm)	Width (mm)
90	900	470
125	1050	470
150	1200	470
170	1500	470
200 opt 1	1800	470
200 opt 2	1500	510
250	1800	510

## Wellington

If you're water supply is a bore/well hole supply then the Telford Wellington is an available option. The standard range of unvented/vented cylinders carry no guarantee on these water supplies, however the Wellington carries a 10 year guarantee. The tank is produced with a thicker grade of stainless steel and an inline inhibitor, with built in anode, is included to fit on your cold water supply.



# Commercial

Telford Copper & Stainless Cylinders have been a market leader in Hot Water Storage Solutions for over 25 years. We still manufacture every product in our UK facility, using the finest materials and highest standards of workmanship. Blending experience with vision, future-proof packages are available meaning Telford have a solution that works for everyone.

**THE PAST** Starting with a small workforce producing domestic copper cylinders, Telford grew quickly to be the leading supplier to the UK's Biggest merchants and distributors. Based on firm and unswerving dedication to quality, the Telford brand became synonymous with quality and reliability, trusted across the UK.



**THE PRESENT** Telford are now an established leading supplier to the UK market for both Copper and Stainless cylinders. Our flagship Tempest range of Unvented Stainless cylinders is a popular and respected brand. Customers point to ease of fitting, reliability and a class-leading warranty and it set us apart from the rest. Our express delivery system allows distributors and merchants to supply installers quickly and efficiently. A range of delivery options are available to satisfy all parts of the supply chain.

**THE FUTURE** Renewable energies are very much the focus of our growing team. Building on a solid brand, Telford are able to offer a range of solutions that fit any project of size and budget. Partnering with leading manufacturers including Samsung, we bring to market affordable, world-class renewable products seamlessly integrated with our British Standard cylinders.



## OEM

Telford Copper & Stainless Cylinders Ltd are proud to be the approved manufacturer of hot water storage solutions for many OEMs. Our British Standard certified manufacturing facilities are used to produce fully customizable and bespoke ranges for customers with very stringent expectations around quality, service and delivery.

Our OEM cylinders are built to the same high standards you would expect from a manufacturer with over 20 years experience. We work in close partnership with all clients, with a dedicated technical design team, to ensure the final product is attractively priced one you can be proud to put your name to. Also available in bespoke sizes and colours.

## Specification

Telford Copper & Stainless Cylinders Ltd offer a free and fully qualified design and specification team for projects of any size. Working with main contractors, M&E companies, architects and designers, we are on hand to ensure every project has the correct Hot Water Solution, meeting both compliance and budget requirements.

We can design a Hot Water Solution around an existing specification, or work with you to build a bespoke system. Our British Standard products have been built to the highest standards for over 20 years, and blended with our experience of the renewables market we can bring the right solution to any project.

## Contract Cylinders

For larger contracts we are able to supply our Hurricane range of unvented cylinders. Based on our flagship Tempest unit, the Hurricane is available for clients who require high quantities able to meet tight contract budgets.

Built to the same standards as all our unvented units, the Hurricane is perfect for large scale deployments and fitted with reliable, warrantied components at project pricing. Speak to our sales team for full details.

## Bespoke Cylinders

Manufacturing to order we pride ourselves on flexibility and our ability to provide our customers with cylinders exactly to their requirements, from dimensions, fittings, coil sizes and tapping layouts our bespoke cylinders can be on all of our variants

Copper /stainless vented  
Stainless unvented  
Thermal stores  
Buffer stores

If you require extra help with your specification, please do not hesitate to call our technical or sales team who will be happy to discuss your requirements.

## Commercial Premises

When specifying one of our cylinders for use in commercial premises, i.e. hairdressers, restaurants, nursing homes, we recommend requesting a Titanium or 6Kw Immersion heater to be used within the product. For more information or technical requirements regarding these types of applications please Call our friendly technical department 01952 257961





## Telford Buffer Stores

Buffer cylinders (also known as Buffer stores) are used to combine heat sources together in a single unit. The stored hot water, which would otherwise go unused, can be used to supply underfloor heating and radiators.

Air source heat pumps work efficiently with buffer stores as the return temperature of the water is lower than the regular flow which is an important feature because water below 5 degrees celcius will cause the pump to cut out.

Buffer Stores are also useful with solar as a heat source. A standard solar cylinder can only use energy created by the panels to heat domestic hot water, used with a buffer store that heat can also be used with radiators or underfloor heating.

At Telford, our bespoke service means we can manufacture buffer stores for any heat requirement, in sizes from 90 litre up to 4,000 litres. (Cylinders up to 500L will have a white case finish, cylinders above this size will have a foam lagged finish).

The heat sources below can be connected to Buffer stores either individually or collectively, depending on your needs:

- Heat pumps
- Boilers
- Solar and boiler
- Heat pump and Solar
- Solid fuel with sealed system coils or just solid fuel
- Biomass
- Communal heating systems



## Calorifiers

Telford Copper & Stainless Cylinders Ltd also produce a wide range of bespoke or standard Calorifiers for commercial and industrial applications.

Our stainless steel version is available in 90 - 4000 litre capacities and our copper from 30 - 1000 litres.

We offer a range of bespoke options including:

- Custom dimensions (height and width)
- Connection sizes (standard compression fittings, BSP threaded bosses up to 2" or PN16 flanges up to DN250mm),
- Increased coil ratings/surface areas.
- Inspection hatches on stainless steel models.
- Connections in specific positions to your requirements for ease of installation
- Horizontal versions are also available
- Pressure rating from 3-6bar
- Single or Three phase immersions rated from 3/6/9/12kw.

## Renewable Energy Systems



### Renewable Solutions

Telford Copper & Stainless Cylinders Ltd are now delighted to offer a full range of renewable options, including Samsung air source heat pumps & solar. Be it a new build property or renovation, Telford now have a solution that fits your needs.

Whatever your project scope, our specialist team can help you design a renewable system tailored to your specification & budget. Our products are designed to maximise efficiency through the highest quality manufacturing, saving both money and the environment. We are on hand to work with you to ensure your renewable package is the perfect fit.

### Air Source Heat Pump & Solar

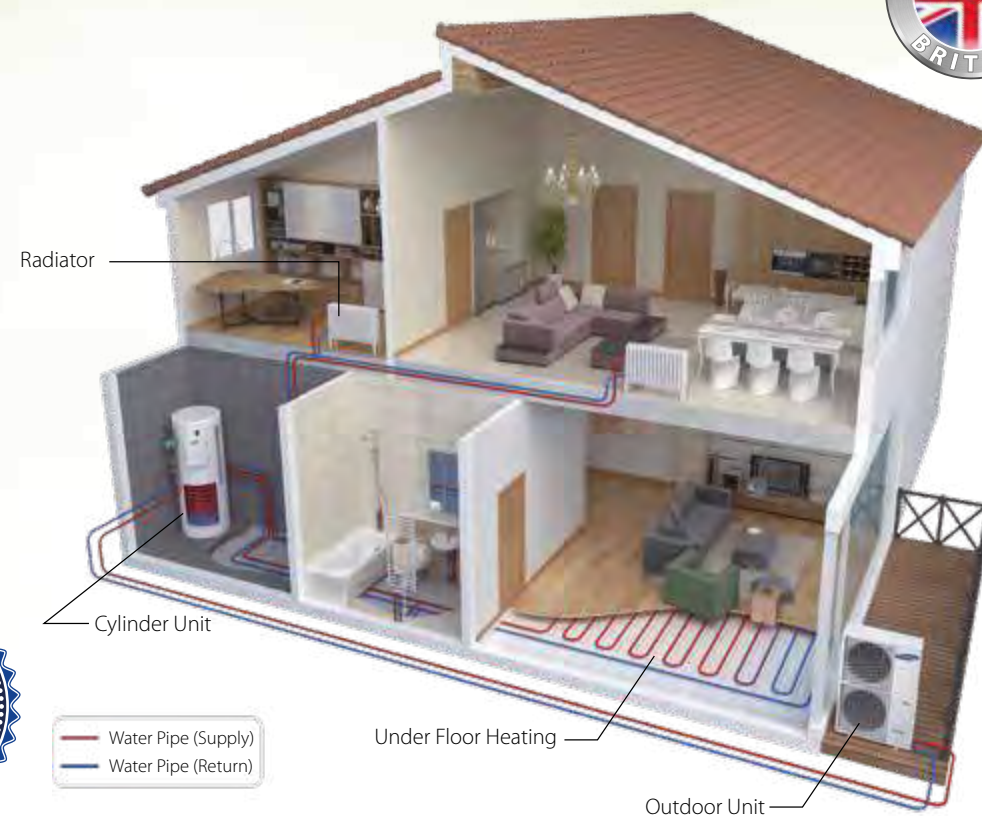
- ✓ Generate free natural energy & lower fuel bills
- ✓ Heat your home & provide hot water





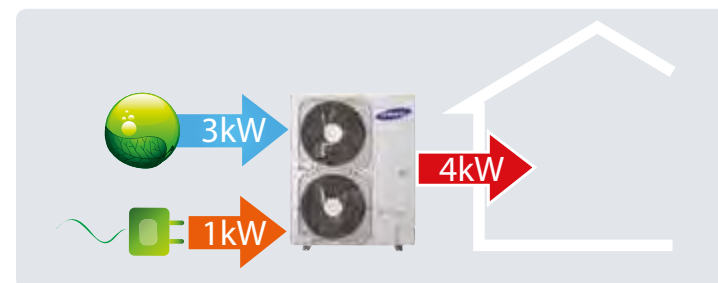
# Eco Heating Systems

Monobloc Air Source 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.



**Heat your home using free energy from the outside air**  
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.

**Efficient heating**  
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.

# Why Choose Our Samsung Pre Plumbed Package?

## Heat Pump Pre-Plumb

Cap (LTR)	Height mm	Diameter mm	Cold mm	Stat mm	Flow & Return mm	Stat mm	Immersion mm	Sec Ret mm	T&P mm
200	1500	510	178	578	778	828	878	1120	1320
250	1800	510	178	578	778	828	878	1420	1620
300	1650	554	193	593	793	843	893	1261	1443
400	1590	660	238	593	738	843	893	1248	1348
500	1835	660	238	593	738	843	893	1398	1598



- A self-contained compact system
- 5, 9, 12 & 16kW models
- Up to 4 x more efficient than gas boilers
- Hybrid capability (integrate with solar and/or boilers)
- Our Samsung pre plumbed cylinder benefits from having the following components already assembled. Plate heat exchanger, 2 two port vales, 5m head pumps, 2 1" lever ball filter valves, Samsung wiring box, Pre commissioned Samsung control panel, Flow switch Flow meter, Tank sensor and Unvented kit. Easy to follow instructions. Also includes a 3.3m2 coil
- RHI eligible (subject to conditions)
- Life time warranty on the cylinder
- 7-year warranty on the Samsung heat pump
- Plate heat exchanger allowing reduced glycol levels and responsive recovery times. (No need for a buffer)
- Pre programed controller. Pre-wired, no need to set up. Plug and play
- Quick and easy installations
- All warranty under one roof

Model Name				AE050JXYDEH	AE090JXYDEH	AE120JXYDEH	AE160JXYDEH
Power Supply				Ø, #, V, Hz	1, 2, 220-240, 50	1, 2, 220-240, 50	1, 2, 220-240, 50
Performance (A2W #1)	Nominal Capacity <sup>*1)</sup>	Heating	W	5,000	9,000	12,000	16,000
	Nominal Current Input <sup>*1)</sup>	Heating	A	5.1	9.2	12	17.1
	SCOP <sup>*1)</sup>		-	4.510	4.409	4.454	4.481
Electric Specification	Max current		A	16	22.0	28.0	32.0
Water side	Piping Connections	In/Out	Ø, inch	1"(BSPP)	1"(BSPP)	1"(BSPP)	1"(BSPP)
Refrigerant Side	Refrigerant	Type	-	R410A(GWP>150)			
Sound	Sound Pressure <sup>*3)</sup>	Heating	dB(A)	45	48	50	52
	Sound Power		dB(A)	61	63	64	66
External Dimension	Weight	Net	kg	59	76	108	108
	Dimensions (WxHxD)	Net	mm	880x798x310	940x998x330	940x1,420x330	940x1,420x330
Operating Range	Leaving Water	Heating	°C	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.

# Package Details

Telford Renewable Solutions are available in a range of packages to suit any project. Choose from our range of bundles or build your own solution – our technical team are on hand to assist with all aspects of specification and design

## Complete Telford Heat Pump Packages

- Samsung 5kw Heat Pump + Telford 200Litre Pre-plumbed unvented cylinder
- Samsung 9kw Heat Pump + Telford 250Litre Pre-plumbed unvented cylinder
- Samsung 16kw Heat Pump + Telford 300Litre Pre-plumbed unvented cylinder

Pack also includes, pair of 1" pre insulated flexi hoses, 25L concentrate antifreeze and a pair of rubber feet

## Pre-plumbed, Unvented Cylinders with Samsung Controller Fitted

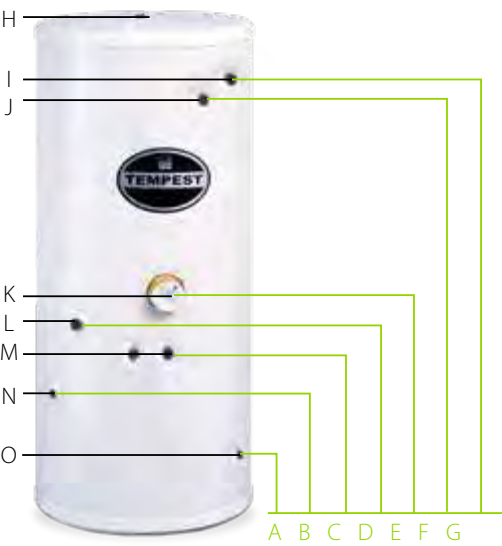
- Tempest 300Litre Pre-plumbed - TSMI300/HP/PREP
- Tempest 250Litre Pre-plumbed - TSMI250/HP/PREP
- Tempest 200Litre Pre-plumbed - TSMI200/HP/PREP

## Parts List

- Flow meter
- Samsung control Panel
- 600mm Feet & Fixing kit
- Flexible Hose (Pair) 750 x 28mm - 1" Female
- Antifreeze
- 20mm Heat exchanger 30 plate
- Samsung 5kw Mono Heat Pump
- Samsung 9kw Mono Heat Pump
- Samsung 16kw Mono Heat Pump
- Samsung Controller

# Tempest Heat Pump Cylinder

Please note: The Telford range of heat pump cylinders will work with all manufacturers. Pre-plumbed versions available on request.



- H - 22mm Hot water draw off

I - 1/2" F TPR valve

J - Secondary return

K - 1 3/4" Immersion heater boss
- L - Stat pocket

M - Flow & return 1"

N - Stat pocket

O - 22mm cold feed
- \*400 & 500Ltr c/w 1" Female BSP connections

Capacity (LTR)	Height mm	Diameter mm	A	B	C	D	E	F	G
200	1500	510	178	578	778	828	878	1120	1320
250	1800	510	178	578	778	828	878	1420	1620
300	1650	554	193	578	793	843	893	1261	1443
400	1590	660	238	578	738	843	893	1248	1348
500	1835	660	238	578	738	843	893	1398	1598

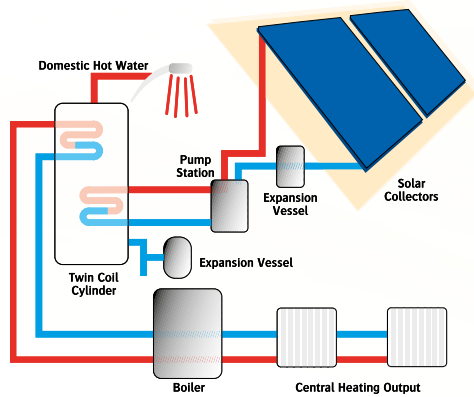
# Solar Packages

## Pressurised Solar Heating for Any Home

When you need a bespoke solution for the ultimate flexibility Telford Tempest pressurised solar heating system can be tailored to meet all your hot water needs. The Solar installation is fitted with a solar fluid that remains within the solar panel and pressurised sealed system.

Each system component is specified and supplied for individual siting and installation, providing flexibility as a fundamental benefit of the system. The panels can be arranged individually or connected together with simple joined mounting supports and 'push-fit' fittings.

Telford solar collectors are available in a range of sizes and can be grouped and connected together to provide the maximum required absorber area. Panels are normally mounted on the roof and there are fixing arrangements suitable for both sloping and flat roofs and tile or slate options. This makes the Telford system suitable for both new build and retrofit applications.



## Features and Benefits

- An option of flat plate or evacuated tubes for both slate or concrete roof
- On roof or in roof option on flat plate panels
- Five different sized twin coil cylinders for exact specification to the property needs
- Solar panels can be mounted to either sloping or flat roofs
- Excellence of technology for the absorber of pure copper (12 tubes) with titanium oxide coating
- Concentrate solar fluid
- Solar Keymark certification
- High SAP rating
- Warranty to 5 year on the solar thermal and 25 years on the cylinders

## Solar Panel Guidelines

### Solar Energy Sizing Guide

Cylinder Sizing Chart		
	170 litres twin coil	x 1 2.0 Panel
	200 litres twin coil	x 2 2.0 Panels
	250 litres twin coil	x 2 2.0 Panels
	300 litres twin coil	x 3 2.0 Panels
	500 litres twin coil	x 5 2.0 Panels

Charts shown as guide only. A full heat loss calculation, solar radiation level and site conditions should be assessed. Your installer will advise.

### Why a boiler is recommended

The boiler will provide all your household central heating and supplementary hot water heating throughout the winter months. During these times the solar collector may not deliver the desired temperature to the cylinder, in this case the boiler will automatically fire to increase the water temperature and also provide protection from legionella.





7Bar/90Deg Temperature and Pressure Relief Valve  
CODE – ALT1/2TP7BAR



12Litre potable expansion vessel, with bracket  
CODE – 12EXP



22mm 2port valve, Honeywell  
CODE – HON22ZONEVALV



22mm Inlet Group, 3bar reducing with 6bar relief, 22mm  
CODE – ALTINLET223BAR



14" 3kw 1 3/4" Incoloy Immersion  
(Suitable for Tempest & Tornado)  
CODE – SHELINK14SSUNV



19Litre potable expansion vessel, with bracket  
CODE – 19EXP



22mm 2port valve, Sunvic  
CODE – SUN22ZONEVALV



28mm Inlet Group, 3bar reducing valve with 6bar relief, 28mm  
CODE – ALTINLET283BAR



14" 3kw 1 3/4" Titanium Immersion (Suitable for Tempest &  
Tornado and recommended for hard water areas)  
CODE – SHELINK14TITANIUM3KW



24Litre potable expansion vessel, with bracket  
CODE – 24EXP



Dual probe aquastat  
CODE – ALTTGSTAT



6bar Pressure relief valve, o ring type  
CODE – ALT6PRVORINGWIDE



14" 6kw 1 3/4" Incoloy Immersion, single phase  
(Suitable for Tempest & Tornado)  
CODE – SHELINK14SS6KW



15mm-22mm Tundish  
CODE – 15TUND



Single probe stat  
CODE – AQUA2002



6bar Pressure relief valve, compression type  
CODE – ALT6PRVCOMPTYPE



14" 3kw 2 1/4" Incoloy Immersion, high temperature  
(Suitable for Tristar & Tristor)  
CODE – SHELINK14TRI

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