



Thermaflow

Creating Excellence, Building Reputation

Unvented Water Storage From The Experts...



Unvented Cylinder Brochure

Issue 1 - Jan 2013

Made In Stainless...

MEET OUR RANGE OF UNVENTED PRODUCTS



Thermaflow cylinders are manufactured using Duplex Stainless Steel where other companies may use lesser grades of Steel.

Duplex has been chosen due to its substantially higher tensile strength, allowing units to be produced using thinner walls in relation to other materials, this results in a lighter unit.

Traditional methods world wide produce products using mild steel with a vitreous enamel lining, this construction maybe on offer in the UK & Ireland as a cheaper alternative but result in a heavier product with a more stringent servicing regime and a generally shorter lifespan.

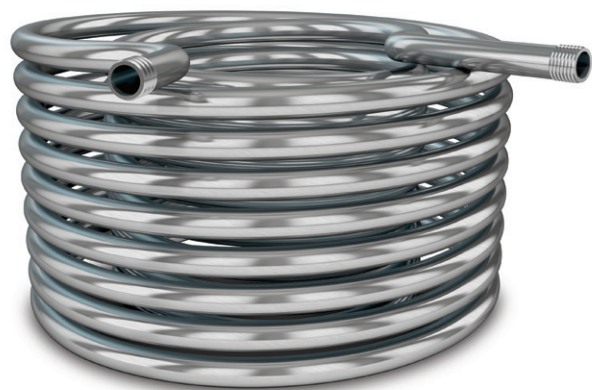
There are many grades of Stainless Steel on offer in the market with varying degrees of corrosion resistance. Thermaflow shells are manufactured using only Duplex 2304 Stainless Steel and 316L for coils & bosses, this is seen as a far superior grade, together with our manufacturing process allows us to offer the long product guarantees the market has come to expect from our Thermaflow range of cylinders.

This mix of Duplex and Austenitic Steels are considered to be the ideal group of metals for hot water tanks, having good fabrication qualities, strength, and excellent resistance to stress and corrosion resistance.

Material is however not the full story. Having the best material is just the start, knowing what do with the material is equally as important, which is why we have a butt joined assembly with no overlapping eliminating crevices.

When welding our cylinders a backing gas is used to ensure deep welding penetration and a clean internal weld. If the weld is not clean or crevices are present then this may encourage corrosion and weaknesses within the product.

Once the welding process has been completed the cylinder is "pickled and passivated", this involves coating all internal surfaces of the cylinder with a solution followed by water. This process restores the passive film to all welded areas providing protection against premature corrosion.



Our coil in coil Stainless Steel heat exchanger is a technical triumph. Manufactured from one single piece of tube this high efficiency heat exchanger allows the cylinder to heat all the way to the bottom of the tank.

Thermaflow - A Quality Brand...

ENSURING QUALITY THROUGHOUT OUR PRODUCTS



The Thermaflow cylinders have carefully been composed using quality components and has been designed with performance in mind. Using our many years of involvement within the hot water industry and our knowledge of bringing unvented cylinders to the market we have created a new standard in unvented water storage.

Thermaflow offers the following advantages:

- Specially made units manufactured to your own design.
- Full range of slim units available, 60L to 210L, featuring a diameter of only 475mm one of the slimmest on the market.
- A range of horizontal cased units.
- Coil in coil heat exchanger, giving high recovery rates.
- External expansion for reliability and flexible siting.
- Full KIWA product approval.
- Vessel constructed from Duplex Stainless Steel.
- Superior insulation values, with an ODP of 0 and GWP of 1.
- Fire retardant Polyurethane foam, U-Value of 0.41w/m²K.
- Comprehensive controls and fixing kit.

Thermaflow offers peace of mind with our guarantees:

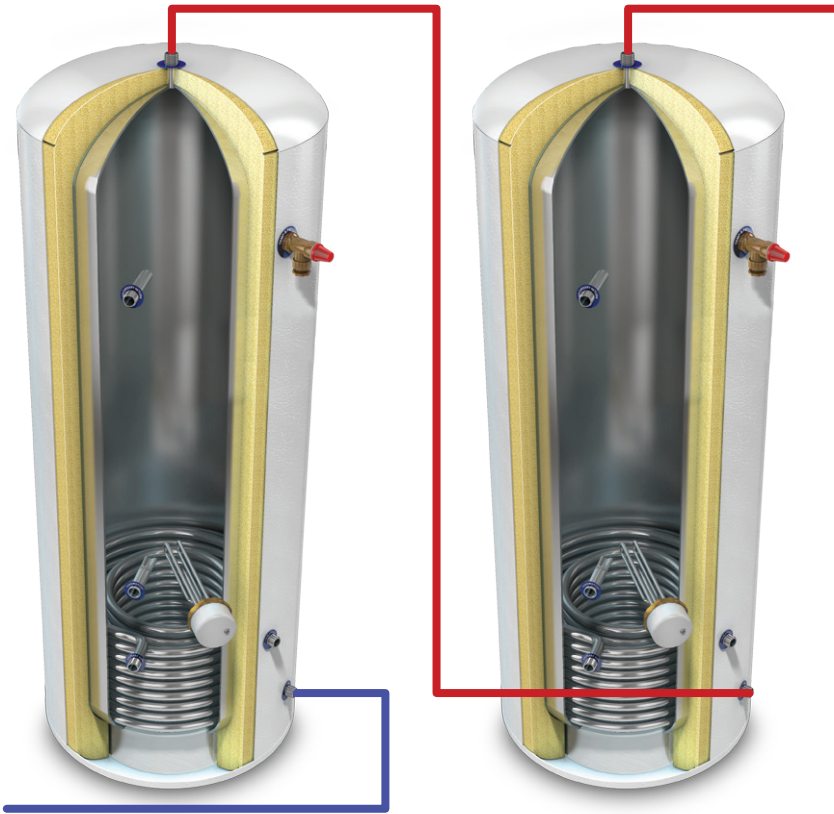
- 25 Year vessel guarantee.
- Stainless Steel stat pocket guaranteed against corrosion.
- All other cylinder components guaranteed for 2 years.
- All units are pickled to ensure longer life.

Thermaflow offers many technical benefits:

- Minimum recommended working pressure 1 bar & maximum 3 bar.
- All cylinder connections are 22mm compression.
- Minimum water supply 1.5 Bar, 20 Litres/Min.
- Primary coil circuit must be fully pumped, gravity coils are available by special order.
- All units available as vented cylinders.
- Control settings:
 1. Pressure reducing valve set at 3 Bar.
 2. Expansion relief valve set at 6 bar.
 3. Temperature and pressure relief valve at 7 bar and 90°C.
 4. High Limit stat set at 85°C.

System Piping Options...

ENSURING QUALITY THROUGHOUT OUR PRODUCTS



PIPING 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.

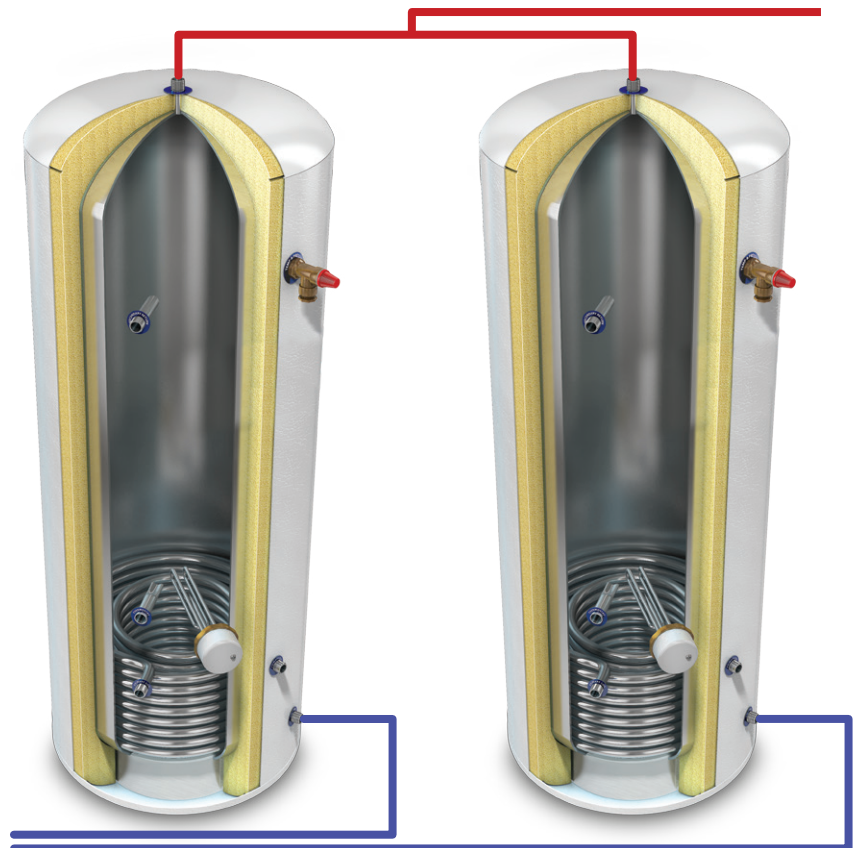
The supplied combination valve will be installed on the mains inlet to the first cylinder and this is also where expansion vessel for both cylinders are connected.

PIPING 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.



Kit Components...

QUALITY DOWN TO THE LAST COMPONENT

DIRECT CYLINDER

Product	90L	120L	150L	180L	210L	250L	300L
Cold Water Inlet Set	1	1	1	1	1	1	1
15x22mm Tundish	1	1	1	1	1	1	1
Temperature & Pressure Relief	1	1	1	1	1	1	1
Expansion Vessel	12L	12L	12L	12L	18L	18L	24L
Expansion Vessel Bracket	1	1	1	1	1	1	1
Immersion Heater	1	2	2	2	2	2	2
2 Port Zone Valve	0	0	0	0	0	0	0
Dual Thermostat	0	0	0	0	0	0	0
Energy Cut Out Thermostat	0	0	0	0	0	0	0
Plastic Grommet	0	0	0	0	0	0	0
Instruction Manual	1	1	1	1	1	1	1

INDIRECT CYLINDER

Product	90L	120L	150L	180L	210L	250L	300L
Cold Water Inlet Set	1	1	1	1	1	1	1
15x22mm Tundish	1	1	1	1	1	1	1
Temperature & Pressure Relief	1	1	1	1	1	1	1
Expansion Vessel	12L	12L	12L	12L	18L	18L	24L
Expansion Vessel Bracket	1	1	1	1	1	1	1
Immersion Heater	1	1	1	1	1	2	2
2 Port Zone Valve	1	1	1	1	1	1	1
Dual Thermostat	1	1	1	1	1	1	1
Energy Cut Out Thermostat	0	0	0	0	0	0	0
Plastic Grommet	0	0	0	0	0	0	0
Instruction Manual	1	1	1	1	1	1	1

TWIN COIL CYLINDER

Product	150L	180L	210L	250L	300L	400L	500L
Cold Water Inlet Set	1	1	1	1	1	1	1
15x22mm Tundish	1	1	1	1	1	1	1
Temperature & Pressure Relief	1	1	1	1	1	1	1
Expansion Vessel	12L	12L	18L	18L	24L	24L	35L
Expansion Vessel Bracket	1	1	1	1	1	1	1
Immersion Heater	1	1	1	1	1	1	1
2 Port Zone Valve	1	1	1	1	1	1	1
Dual Thermostat	1	1	1	1	1	1	1
Energy Cut Out Thermostat	1	1	1	1	1	1	1
Plastic Grommet	1	1	1	1	1	1	1
Instruction Manual	1	1	1	1	1	1	1

What's In The Kit...

A COMPLETE PACKAGE DELIVERED TO OUR CUSTOMERS



COLD WATER INLET SET



TUNDISH



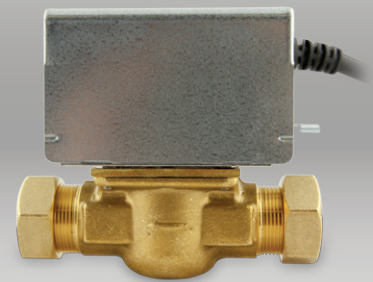
T&P RELIEF VALVE



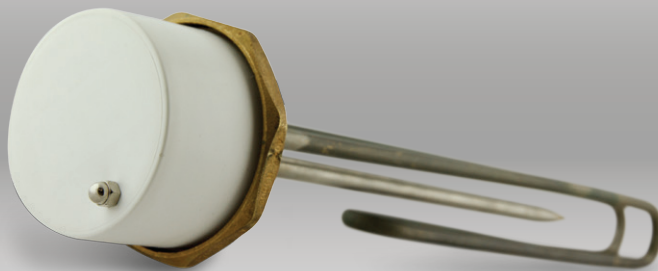
EXPANSION VESSEL



EXPANSION VESSEL BRACKET



TWO PORT ZONE VALVE



3KW IMMERSION HEATER



DUAL THERMOSTAT



ENERGY CUT OUT THERMOSTAT



INSTALLATION MANUAL

Thermaflow reserve the right to change the design and style of the components supplied at any time.

When ordering spare parts to ensure consistency and compatibility please contact our technical department who will be pleased to help you with your enquiry.

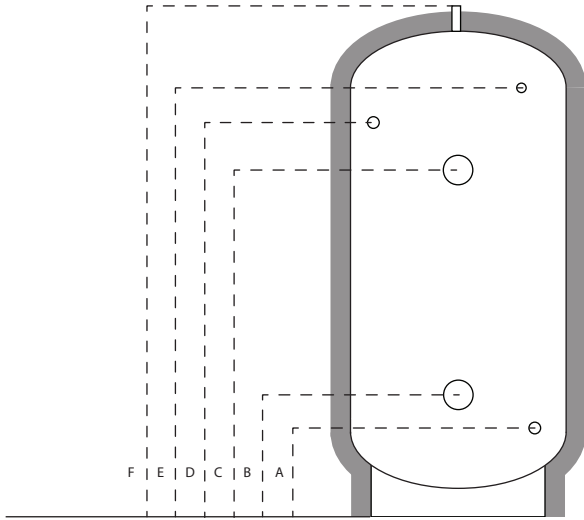
Thermaflow Performance...

OUR PRODUCTS ARE MORE THAN JUST GOOD LOOKS

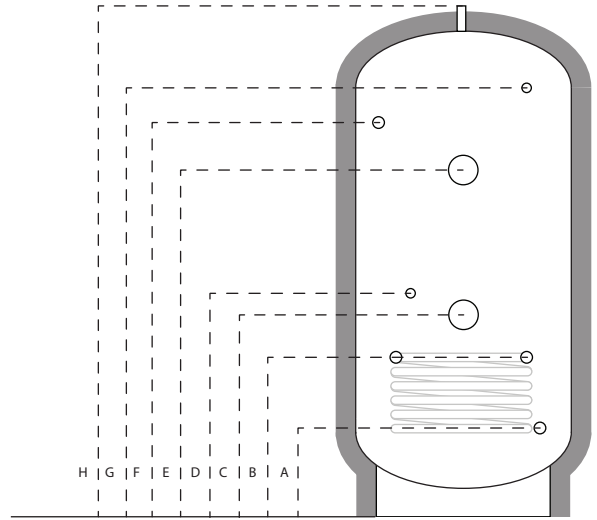


		Weight Empty (KG)	Weight Full (KG)	Full Cold Capacity (L)	Reheat Indirect Minutes	Reheat Total Minutes	Reheat 3kW Immersion Minutes	Heat Exchange kW	Dedicated Solar Volume Litres	Standing Loss Cylinder kWh/day
Thermaflow 90	Direct	17	107	90	-	76	-	-	-	1.07
	Indirect	21	109	88	12	53	16.46	-	-	1.07
Thermaflow 120	Direct	21	141	120	-	103	-	-	-	1.23
	Indirect	25	143	118	16	80	16.46	-	-	1.23
Thermaflow 150	Direct	26	176	150	-	134	-	-	-	1.41
	Indirect	29	177	148	17.2	106	18.55	-	-	1.41
	Direct Solar	29	177	148	17.2	107	16.46	80	-	1.41
	Solar Twin	34	181	147	17.2	57	16.46	77	-	1.41
Thermaflow 180	Direct	28	208	180	-	164	-	-	-	1.53
	Indirect	33	211	178	20.4	136	18.55	-	-	1.53
	Direct Solar	33	211	178	20.4	129	18.55	100	-	1.53
	Solar Twin	36	213	177	20.4	80	18.55	95	-	1.53
Thermaflow 210	Direct	32	242	210	-	203	-	-	-	1.8
	Indirect	37	245	208	22	167	18.55	-	-	1.8
	Direct Solar	37	245	208	22	150	18.55	116	-	1.8
	Solar Twin	40	247	207	22	93	18.55	101	-	1.8
Thermaflow 250	Direct	39	289	250	-	248	-	-	-	2.15
	Indirect	43	291	248	25	213	22	-	-	2.15
	Direct Solar	43	291	248	25	183	22	137	-	2.15
	Solar Twin	46	293	247	25	113	22	107	-	2.15
Thermaflow 300	Direct	45	345	300	-	323	-	-	-	2.28
	Indirect	50	347	297	34	285	22	-	-	2.28
	Direct Solar	50	347	298	34	220	22	160	-	2.28
	Solar Twin	55	353	298	34	139	22	121	-	2.28
Thermaflow 400	Direct	64	464	400	-	345	-	-	-	2.8
	Indirect	72	472	397	45	307	22	-	-	2.8
	Solar Twin	74	474	394	45	142	22	161	-	2.8
Thermaflow 500	Direct	80	580	500	-	446	-	-	-	3.25
	Indirect	84	584	497	56	408	22	-	-	3.25
	Solar Twin	90	590	494	56	220	22	201	-	3.25

Thermaflow Specification...



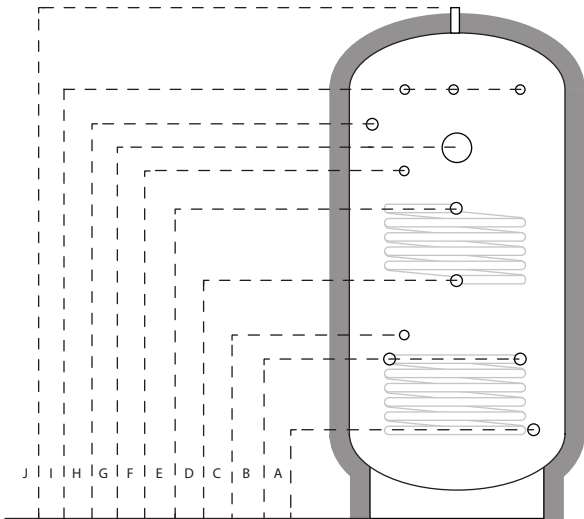
DIRECT CYLINDER



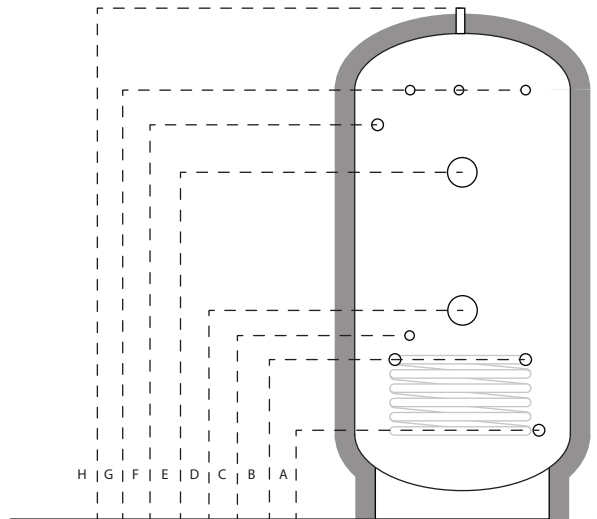
INDIRECT CYLINDER

Code	TF90D	TF120D	TF150D	TF180D	TF210D	TF250D	TF300D
Capacity	90L	120L	150L	180L	210L	250L	300L
Height	727(F)	915(F)	1102(F)	1290(F)	1478(F)	1728(F)	2041(F)
Diameter	545	545	545	545	545	545	545
Cold Inlet	105(A)	105(A)	105(A)	105(A)	105(A)	105(A)	105(A)
Bottom Coil	-	-	-	-	-	-	-
Immersion	242(B)	242(B)	242(B)	242(B)	242(B)	242(B)	242(B)
Stat Pocket	-	-	-	-	-	-	-
Immersion	-	519(C)	619(C)	719(C)	819(C)	959(C)	1109(C)
Sec. Return	-	-	-	-	1009(D)	1259(D)	1509(D)
T&P Valve	515(E)	703(E)	890(E)	1078(E)	1266(E)	1516(E)	1829(E)

Code	TF90I	TF120I	TF150I	TF180I	TF210I	TF250I	TF300I
Capacity	90L	120L	150L	180L	210L	250L	300L
Height	727(H)	915(H)	1102(H)	1290(H)	1478(H)	1728(H)	2041(H)
Diameter	545	545	545	545	545	545	545
Cold Inlet	105(A)	105(A)	105(A)	105(A)	105(A)	105(A)	105(A)
Bottom Coil	299(B)	299(B)	339(B)	374(B)	374(B)	374(B)	374(B)
Immersion	339(C)	339(C)	379(C)	379(C)	414(C)	414(C)	414(C)
Stat Pocket	354(D)	354(D)	394(D)	394(D)	474(D)	569(D)	669(D)
Immersion	-	-	-	-	-	959(E)	1109(E)
Sec. Return	-	-	-	-	1159(F)	1409(F)	1609(F)
T&P Valve	515(G)	703(G)	890(G)	1078(G)	1266(G)	1516(G)	1829(G)



TWIN COIL CYLINDER



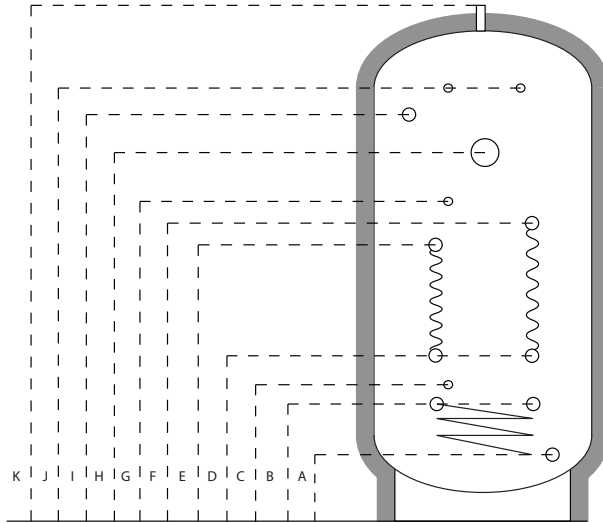
SOLAR DIRECT CYLINDER

Code	TF150S	TF180S	TF210S	TF250S	TF300S	TF400S	TF500S
Capacity	-	-	210L	250L	300L	400L	500L
Height	-	-	1478(J)	1728(J)	2041(J)	1505(J)	1830(J)
Diameter	-	-	545	545	545	690	690
Cold Inlet	-	-	190(A)	190(A)	190(A)	250(A)	250(A)
Bottom Coil	-	-	372(B)	372(B)	372(B)	382(B)	382(B)
Stat Pocket	-	-	402(C)	402(C)	402(C)	410(C)	410(C)
Coil Return	-	-	430(D)	651(D)	651(D)	580(D)	580(D)
Coil Flow	-	-	860(E)	1082(E)	1082(E)	1010(E)	1010(E)
Stat Pocket	-	-	910(F)	1155(F)	1155(F)	1060(F)	1060(F)
Immersion	-	-	1040(G)	1237(G)	1237(G)	1150(G)	1150(G)
Sec. Return	-	-	1157(H)	1355(H)	1465(H)	1230(H)	1550(H)
T&P Valve/Stat	-	-	1264(I)	1514(I)	1800(I)	1250(I)	1570(I)

Code	TF90DS	TF120DS	TF150DS	TF180DS	TF210DS	TF250DS	TF300DS
Capacity	-	-	150L	180L	210L	250L	300L
Height	-	-	1102(H)	1290(H)	1478(H)	1728(H)	2041(H)
Diameter	-	-	545	545	545	545	545
Cold Inlet	-	-	105(A)	105(A)	105(A)	105(A)	105(A)
Bottom Coil	-	-	299(B)	299(B)	374(B)	374(B)	374(B)
Stat Pocket	-	-	354(C)	354(C)	429(C)	429(C)	429(C)
Immersion	-	-	399(D)	454(D)	509(D)	584(D)	679(D)
Top Coil	-	-	-	-	-	-	-
Immersion	-	-	619(E)	719(E)	819(E)	959(E)	1109(E)
Stat Pocket	-	-	-	-	-	-	-
Sec. Return	-	-	-	-	1159(F)	1409(F)	1609(F)
T&P Valve/Stat	-	-	890(G)	1078(G)	1266(G)	1516(G)	1829(G)

Triple Coil Systems...

COMBINING ALL YOUR HEAT SOURCES INTO ONE UNIT



Code	TF210TC	TF250TC	TF300TC	TF400TC	TF500TC
Capacity	210L	250L	300L	400L	500L
Height	1478(K)	1728(K)	2041(K)	1505(K)	1830(K)
Diameter	545	545	545	690	690
Cold Inlet	190(A)	190(A)	190(A)	250(A)	250(A)
Bottom Coil	372(B)	372(B)	372(B)	382(B)	382(B)
Stat Pocket	402(C)	402(C)	402(C)	410(C)	410(C)
Coil Returns	501(D)	651(D)	651(D)	550(D)	550(D)
Coil 2 Flow	905(E)	1055(E)	1055(E)	955(E)	955(E)
Coil 3 Flow	935(F)	1085(F)	1085(F)	985(F)	985(F)
Stat Pocket	955(G)	1163(G)	1163(G)	1005(G)	1005(G)
Immersion	1043(H)	1237(H)	1237(H)	1150(H)	1150(H)
Sec. Return	1157(I)	1365(I)	1525(I)	1230(I)	1230(I)
Stat, T&P Valve	1264(J)	1500(J)	1800(J)	1250(J)	1250(J)

TRIPLE COIL CYLINDER

Product	210L	250L	300L	400L	500L
Cold Water Inlet Set	1	1	1	1	1
15x22mm Tundish	1	1	1	1	1
Temperature & Pressure Relief	1	1	1	1	1
Expansion Vessel	18L	18L	24L	24L	35L
Expansion Vessel Bracket	1	1	1	1	1
Immersion Heater	1	1	1	1	1
2 Port Zone Valve	1	1	1	1	1
Dual Thermostat	1	1	1	1	1
Energy Cut Out Thermostat	1	1	1	1	1
Plastic Grommet	1	1	1	1	1
Instruction Manual	1	1	1	1	1

	Weight Empty (KG)	Weight Full (KG)	Full Cold Capacity (L)	Dedicated Solar Volume (L)	Standing Loss Cylinder kWh/day
Thermaflow 210 Triple Coil	32	242	210	68	1.8
Thermaflow 250 Triple Coil	39	289	250	83	2.15
Thermaflow 300 Triple Coil	45	345	300	99	2.28
Thermaflow 400 Triple Coil	75	475	400	131	3.1
Thermaflow 500 Triple Coil	96	596	500	165	3.77



Thermaflow