

Polywarm PWC2 Calorifiers



- Cost effective
- Extremely low standby heat losses
- 2 Large coil surface area

- Large connections
- Large inspection hatch
- Up to 1500 litres storage capacity

- Continuous delivery at 50°C rise from both coils up to 2113 l/h

Polywarm PWC2 Calorifiers – Twin coil, economical

Large connections

Large connections on the cylinder coil which reduces the pressure drop within the unit.

Extremely low standby heat losses

Increasing system efficiency due to the extremely low standby heat loss as low as 2.5 kWh/24hr.

Unique coil design

Unique coil design to reduce cold spots and to assist with maintenance.

Large coil surface area

The two specially designed coils have a large surface area providing better and faster heat transfer.

Immersion heater option

Availability of an optional immersion element

Economic

One of the most cost effective products on the market.

Unvented kits

Matched optional/additional unvented kits are available to assist with installation.



Unique design

The Polywarm PWC2 calorifiers are manufactured from carbon steel with a patented WRAS approved internal liner. The units are in compliance with ErP-Eco Design Requirements for Energy Related Products

Compliance

Certified to KIWA UK Regulation 4

A range of sizes

Four models providing storage capacities ranging from 500 to 1500 litres and heat transfer of between 18 and 122kW with primary flow temperature at 80°C.

Insulation

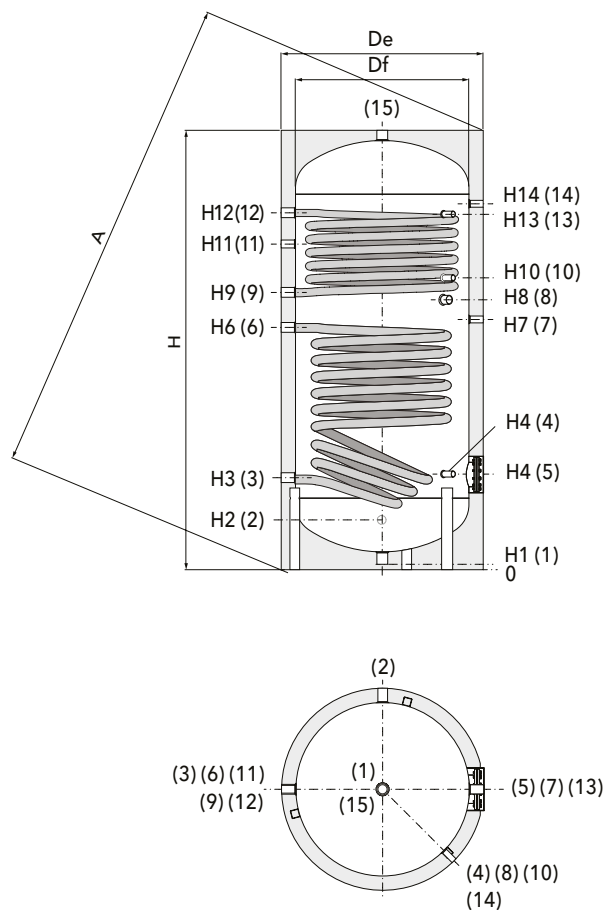
All models are supplied with insulation and a removable jacket.

External control

The stored DHW temperature can be monitored and controlled externally.

Future-proof

Suitable to be used with renewable heat sources including solar and heat pumps.



Item No.	Description
1	Drain
2	Domestic cold water inlet
3	Primary circuit return
4	1/2" BSP tapping for instrumentation
5	Blind inspection flange
6	Primary circuit flow
7	1/2" BSP tapping for instrumentation
8	Connection for immersion heater
9	Upper coil return
10	1/2" BSP tapping for instrumentation
11	Re-circulation
12	Upper coil flow
13	T&P valve
14	1/2" BSP tapping for instrumentation
15	Domestic hot water outlet

Technical data – Polywarm PWC2 Calorifiers

Polywarm PWC2		500	800	1000	1500	
Water	Cylinder capacity (Total)	litres	503	759	902	1398
	Upper coil heated volume	litres	162	290	374	502
	Performance data Upper Coil when Primary flow 80°C and return 60°C					
	Upper Coil Output at primary temp 80/60°C	kW	18	26	34	33
	Upper Coil nominal primary flow rate at primary temp 80/60°C	litres/sec	0.22	0.32	0.42	0.40
	Pressure loss via Upper coil at the nominal primary flow rate	Kpa	0.67	0.36	0.73	0.67
	Peak 10 minute DHW delivery at ΔT 50°C with primary temp 80/60°C	litres	213	364	472	597
	Continuous DHW delivery ΔT 50°C with primary temp 80/60°C	litres/hour	306	444	585	567
	Cylinder capacity recovery time DHW ΔT 50°C, with primary temp 80°C and nominal flow rate	minutes	40	49	48	67
	Performance data Lower Coil when Primary flow 80°C and return 60°C					
	Lower Coil Output at primary temp 80/60°C	kW	34	51	67	73
	Lower Coil nominal primary flow rate at primary temp 80/60°C	litres/sec	0.4	0.6	0.8	0.9
	Pressure loss via lower coil at the nominal primary flow rate	Kpa	3.7	2.1	4.3	5.4
	Peak 10 minute DHW delivery at ΔT 50°C with primary temp 80/60°C	litres	601	904	1095	1609
	Continuous DHW delivery ΔT 50°C with primary temp 80/60°C	litres/hour	591	870	1156	1264
	Cylinder capacity recovery time DHW ΔT 50°C, with primary temp 80°C and nominal flow rate	minutes	62	68	67	86
	Performance data Both Coils connected in series when Primary flow 80°C and return 60°C					
	Both Coils Output at primary temp 80/60°C	kW	55	82	107	112
	Both Coils nominal primary flow rate at primary temp 80/60°C	litres/sec	0.7	1.0	1.3	1.4
	Pressure loss via both coils at the nominal primary flow rate**	Kpa	12.9	7.3	14.7	16.8
	Peak 10 minute DHW delivery at ΔT 50°C with primary temp 80/60°C	litres	661	994	1209	1720
	Continuous DHW delivery ΔT 50°C with primary temp 80/60°C	litres/hour	950	1407	1839	1930
	Cylinder capacity recovery time DHW ΔT 50°C, with primary temp 80°C and nominal flow rate	minutes	38	42	42	56
	Performance data Both Coils connected in series when Primary flow 80°C and return 70°C					
	Both Coils Output at primary temp 80/70°C	kW	61	90	117	123
	Both Coils nominal primary flow rate at primary temp 80/70°C	litres/sec	1.5	2.2	2.9	3.0
	Pressure loss via both coils at the nominal primary flow rate**	Kpa	51.8	29.5	59.2	67.7
Peak 10 minute DHW delivery at ΔT 50°C with primary temp 80/70°C	litres	677	1018	1238	1750	
Continuous DHW delivery ΔT 50°C with primary temp 80/70°C	litres/hour	1043	1555	2017	2113	
Cylinder capacity recovery time DHW ΔT 50°C, with primary temp 80°C and nominal flow rate	minutes	33	35	36	47	
Primary/secondary operating pressure (maximum)	bar	12/6				
Primary/secondary operating temperature (maximum)	°C	110/95				
Energy	Standby heat losses (DHW temperature 65°C)	kW/24hr	2.4	2.5	3.0	3.8
	Energy class		C	C	C	C
Electrical	Optional electric elements	kW/phase	3/1	3/1	12/3	12/3
Miscellaneous	Upper Coil connections sizes	inches	1 1/4"			
	Upper Coil surface area	m ²	1	1.5	1.9	1.9
	Lower Coil connections sizes	inches	1 1/4"			
	Lower Coil surface area	m ²	1.8	2.7	3.5	3.8
	Weight empty/full	kg	130/ 619	216/ 1005	255/ 1293	344/ 1787
	Width of cylinder (DE)	mm	750	1010	1020	1220
	Height of cylinder (H)	mm	1786	2163	2217	2415

** Both coils connected in series by contractor

Technical data - Polywarm PWC2 Calorifiers

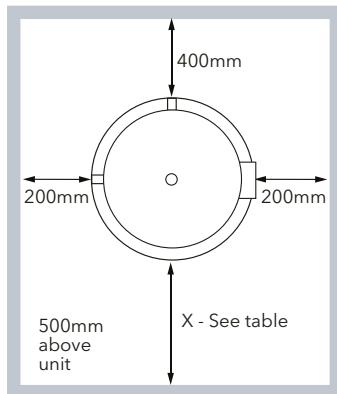
Dimensions

Polywarm PWC2	Df	De	H	A	H1	H2	H3	H4	H6	H7	H8	H9	H10	H11	H12	H13
	(mm)															
500	650	750	1786	1937	71	271	346	411	1036	1076	1144	1186	1296	1331	1476	1476
800	790	1010	2163	2221	101	493	428	483	1181	1243	1308	1362	1573	1598	1770	1788
1000	800	1020	2217	2275	89	524	439	499	1279	1309	1364	1399	1609	1584	1819	1819
1500	1000	1220	2415	2491	109	450	425	575	1352	1450	1515	1550	1735	1825	2045	2065

Connections

Polywarm PWC2	1	2	3, 6, 9, 12	4, 7, 10	5	8	11	13	14	15
	Gas F									
500	1 1/4"	1"	1 1/4"	1/2"	Øi 180mm	1 1/2"	1"	3/4"	1 1/4"	1 1/4"
800	3/4"	1"	1 1/4"	1/2"	Øi 240mm	2"	1"	3/4"	1 1/4"	1 1/4"
1000	3/4"	1 1/4"	1 1/4"	1/2"	Øi 240mm	2"	1"	3/4"	1 1/4"	1 1/2"
1500	1"	2"	1 1/4"	1/2"	Øi 380mm	2"	1 1/2"	3/4"	1 1/4"	2"

Clearances

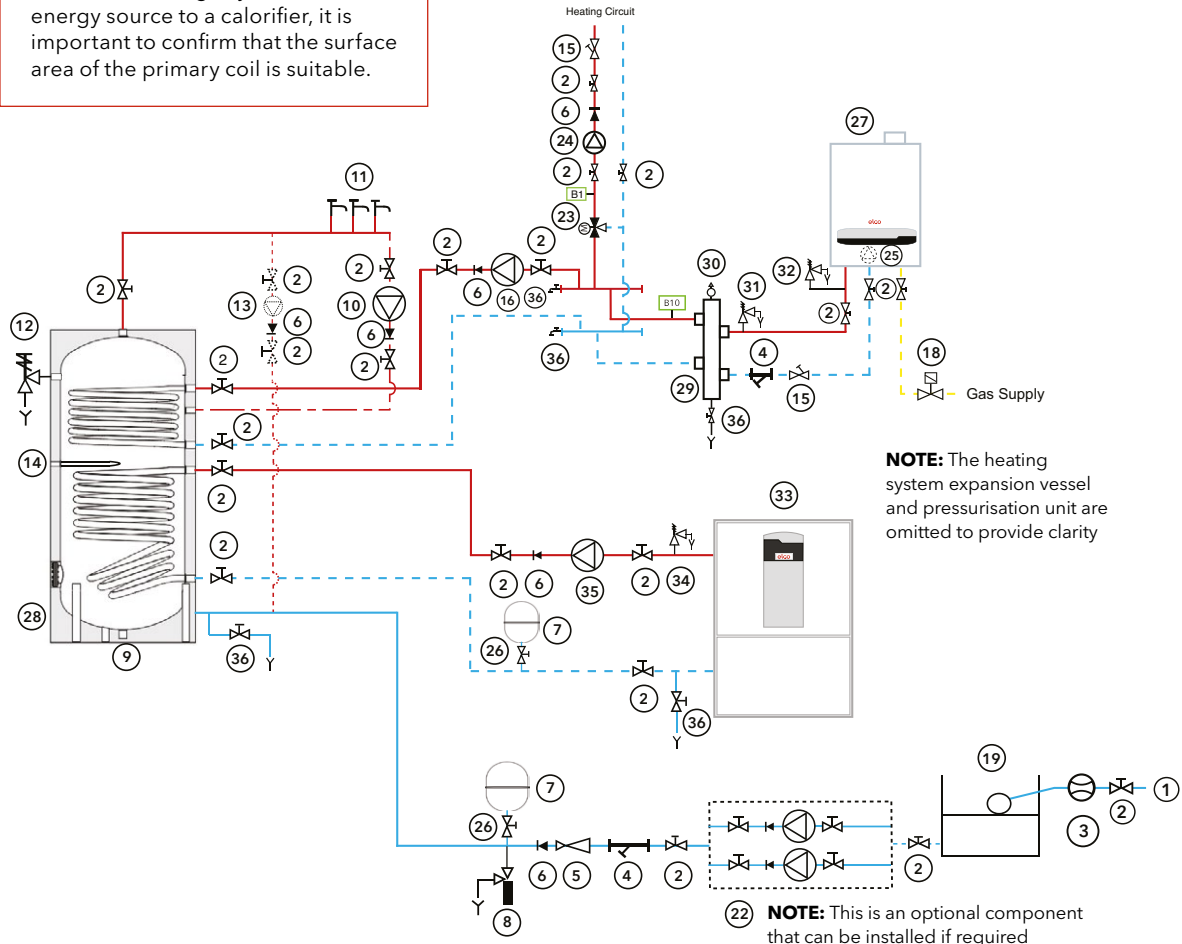


Polywarm PWC2	500	800	1000	1500
X (mm)	750	950	1050	1150

Example of Hydraulic Scheme – Twin Coil Calorifiers : Inox-Maxi SSC2 or Polywarm PWC2

Typical DHW schematic with a twin coil calorifier SSC2 or PWC2, 2 heating sources - THISION L ECO gas fired boiler and a Aerotop heat pump and 1 heating circuit with 3 way mixing valve

When connecting any renewable energy source to a calorifier, it is important to confirm that the surface area of the primary coil is suitable.



- | | | |
|---|---------------------------------------|--|
| 1. Cold water supply | 16. Primary DHW circulation pump | 31. System safety valve |
| 2. Isolation valve | 18. Gas shut-off valve | 32. Boiler safety valve |
| 3. Water meter | 19. Cold water storage tank | 33. AEROTOP T heat pump |
| 4. Strainer | 22. Cold water booster pump set | 34. Heat pump safety valve |
| 5. Pressure limiting valve | 23. 3 way motorised valve | 35. Primary DHW circulation pump from the second heat source |
| 6. Non-return valve | 24. Heating circuit pump | 36. Drain Valve |
| 7. Expansion vessel | 25. Boiler circulating pump | |
| 8. Expansion relief valve | 26. Lockshield valve | |
| 9. Drain | 27. THISION® L ECO boiler | |
| 10. DHW secondary re-circulation pump | 28. SSC2 or PWC2 twin coil calorifier | |
| 11. Hot water outlets | 29. Low loss header | |
| 12. Temperature and pressure relief valve | 30. Automatic air vent | |
| 13. De-stratification pump | | |
| 14. Immersion heater | | |

For more schematics please refer to the Installation and Operation manual or contact ELCO Heating Solutions

These illustrations are designed to provide general guidance on the hydraulic scheme and should not be considered as an installation drawing.