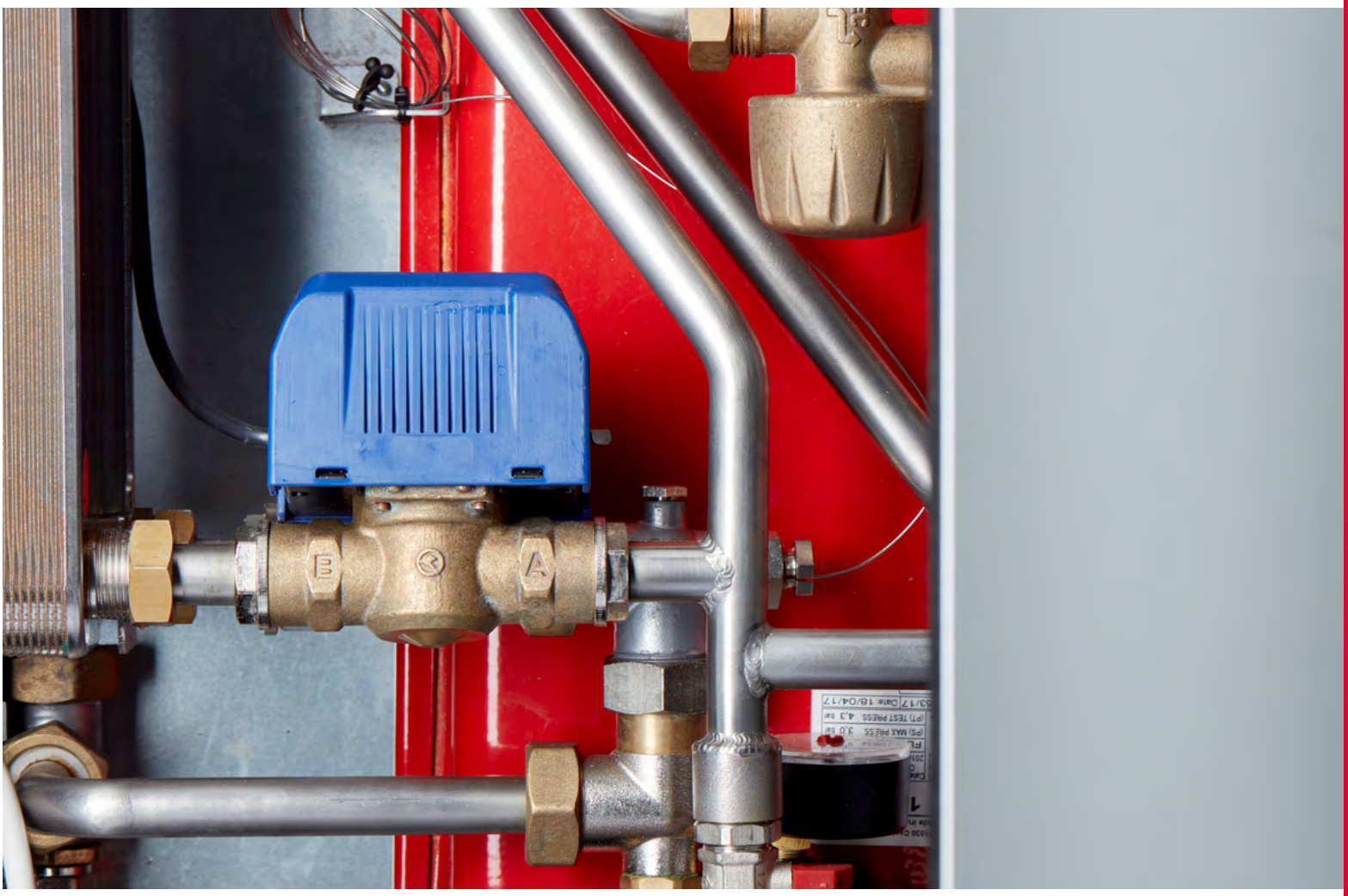
Heating and domestic hot water.



DUTYPOINT SETTING THE BAR


OPEN
CLOSE
LV2015 PN-20

Heating and domestic hot water.

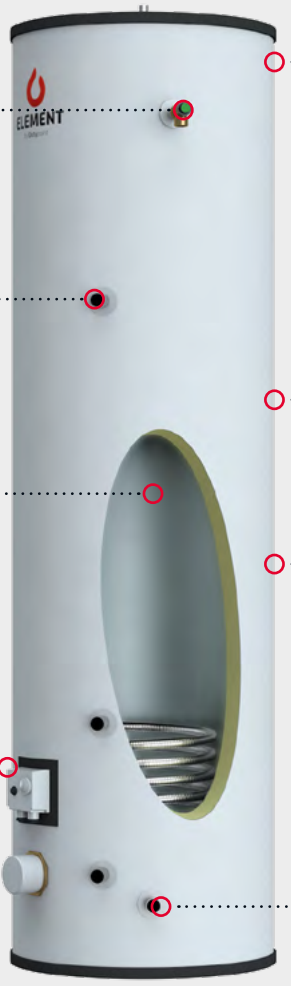
High pressure, high flow and energy efficient hot water solutions.

CONTENTS

HOT WATER CYLINDERS

Key features.

Where many cylinders can handle up to 3.5 bar of pressure, our comprehensive high performance range of indirect, unvented cylinders starts at a standard operating pressure of 4.5 bar, with 6.0 bar as an option where required.



FACTORY FITTED PRESSURE AND TEMPERATURE RELIEF VALVE

½" HOT WATER SECONDARY RETURN

HIGH GRADE DUPLEX STAINLESS STEEL

TWIN THERMOSTAT WITH INDEPENDENT RESET, 30-70°C

WIDE RANGE OF CAPACITIES FROM 80 TO 500 LITRES

4.5 AND 6 BAR OPTIONS FOR HIGH PRESSURE DEMANDS

SUPPLIED WITH EXPANSION VESSEL AND TWO PORT MOTORIZED ZONE VALVE

28MM
INLET AND OUTLET CONNECTIONS ALLOWING HIGH FLOW FOR FAST FILLING BATHS

WRAS APPROVED PRODUCT

01452 300110 | ENQUIRIES@DUTYPOINT.COM

Specification.

Every Dutypoint cylinder has 28mm inlet and outlet connections and is available in a wide variety of capacities to suit the demands of the property.

STANDARD TECHNICAL FEATURES

- 28mm connections for high flow rates
- 4.5 bar and 6.0 bar versions for high pressure installations
- WRAS approved for potable water
- Expansion vessel and two port motorized zone valve included
- 3kW electric immersion heater in addition to the primary coil
- ½" hot water secondary return as standard
- High performance insulation minimises energy loss
- High grade duplex stainless steel construction for excellent durability
- 22mm or 28mm diameter stainless steel heating coil for fast reheating times
- Durable plastisol casing
- Factory-fitted pressure and temperature relief valve

APPROVALS

- CE, WRAS, ISO
- Building Standards: BS 853-1-1996 & BS-12-897
- Building Regulations: Part G & L
- Guarantee: internal cylinder 25 years
- Ancillary components 1 year

OPTIONS

- Additional coil for secondary heat sources, e.g. solar panels or ground source heat pumps
- Uprated primary coil for faster recovery times (available on 175l and larger models)
- 6kW immersion heater (standard on PRO versions)
- Twin immersion heaters
- 1" hot water secondary return
- Non-standard sizes
- Direct cylinders (immersion heater only)

PERFORMANCE

Flow rate	Up to 177 litres/minute
Inlet and Outlet Size	28mm
Immersion Heater kW	3kW or 6kW
Operating Pressure	4.5 bar or 6.0 bar
Relief Valve Pressure	6.0 bar or 8.0 bar

ELEMENT PRO

For installations requiring faster recovery times, the Element Pro range features an up-rated primary coil and 6kW immersion heater. Reheat times for this range are as fast as 7 minutes.

ELEMENT DIRECT

Where no external heat source is available, the Element Direct range features 2 x 3kW immersion heater as standard.

ELEMENT SOLAR

With an additional secondary coil, the Element Solar range is ideal for renewable energy sources including solar panels.

Element.

MODEL NO.	CAPACITY (LITRES)	MAX OPERATING PRESSURE BAR	EXPANSION VESSEL (LITRES)	COIL RATING (KW)*	HEAT LOSS (KWH/24HR @ 65°C)	REHEAT TIME (MINS)**	HEIGHT (MM)	WIDTH (MM)	ERP RATING	WEIGHT (EMPTY)	PRICE
Element Vertical Cylinders											
EUHPC08045V	80	4.5 Bar	18	14	0.87	14	665	576	B	30	**£886**
EUHPC08060V	80	6.0 Bar	18	14	0.87	14	665	576	B	30	**£948**
EUHPC15045V	150	4.5 Bar	24	20	1.29	18	1085	576	B	40	**£985**
EUHPC15060V	150	6.0 Bar	24	20	1.29	18	1085	576	B	40	**£1,082**
EUHPC17545V	175	4.5 Bar	24	20	1.45	21	1242	576	C	45	**£1,030**
EUHPC17560V	175	6.0 Bar	35	20	1.45	21	1242	576	C	45	**£1,175**
EUHPC21545V	215	4.5 Bar	35	20	1.63	26	1484	576	C	50	**£1,092**
EUHPC21560V	215	6.0 Bar	35	20	1.63	26	1484	576	C	50	**£1,257**
EUHPC25045V	250	4.5 Bar	35	20	1.78	30	1752	576	C	55	**£1,175**
EUHPC25060V	250	6.0 Bar	50	20	1.78	30	1752	576	C	55	**£1,288**
EUHPC30045V	300	4.5 Bar	50	20	1.95	36	2028	576	C	60	**£1,273**
EUHPC30060V	300	6.0 Bar	50	20	1.95	36	2028	576	C	60	**£1,370**
EUHPC40045V	400	4.5 Bar	80	30	1.73	32	1690	756	B	78	**£1,646**
EUHPC40060V	400	6.0 Bar	80	30	1.73	32	1690	756	B	78	**£1,988**
EUHPC50045V	500	4.5 Bar	100	30	1.95	40	2020	756	B	90	**£1,793**
EUHPC50060V	500	6.0 Bar	100	30	1.95	40	2020	756	B	90	**£2,058**
Reduced Height											
EUHPC30045V-RH	300	4.5 Bar	50	20	1.55	36	1320	756	B	57	**£1,278**
EUHPC30060V-RH	300	6.0 Bar	50	20	1.55	36	1320	756	B	57	**£1,778**
EUHPC40045V-RH	400	4.5 Bar	80	30	2.47	32	1405	756	C	68	**£1,725**
EUHPC40060V-RH	400	6.0 Bar	80	30	2.47	32	1405	756	C	68	**£2,308**
EUHPC50045V-RH	500	4.5 Bar	100	30	2.78	40	1690	756	C	78	**£1,954**
EUHPC50060V-RH	500	6.0 Bar	100	30	2.78	40	1690	756	C	78	**£2,464**
Element Horizontal Cylinders											
EUHPC15045H	150	4.5 Bar	24	20	1.29	18	725	1085	B	40	**£1,281**
EUHPC15060H	150	6.0 Bar	24	20	1.29	18	725	1085	B	40	**£1,406**
EUHPC17545H	175	4.5 Bar	24	20	1.45	21	725	1242	C	45	**£1,339**
EUHPC17560H	175	6.0 Bar	35	20	1.45	21	725	1242	C	45	**£1,527**
EUHPC21545H	215	4.5 Bar	35	20	1.63	26	725	1484	C	50	**£1,420**
EUHPC21560H	215	6.0 Bar	35	20	1.63	26	725	1484	C	50	**£1,634**
EUHPC25045H	255	4.5 Bar	35	20	1.78	30	725	1752	C	55	**£1,527**
EUHPC25060H	255	6.0 Bar	50	20	1.78	30	725	1752	C	55	**£1,674**
EUHPC30045H	305	4.5 Bar	50	20	1.95	36	725	2028	C	60	**£1,661**
EUHPC30060H	305	6.0 Bar	50	20	1.95	36	725	2028	C	60	**£1,781**
EUHPC40045H	400	4.5 Bar	80	30	1.73	32	905	1690	B	78	**£1,912**
EUHPC40060H	400	6.0 Bar	80	30	1.73	32	905	1690	B	78	**£2,418**
EUHPC50045H	500	4.5 Bar	100	30	1.95	40	905	2020	B	90	**£1,947**
EUHPC50060H	500	6.0 Bar	100	30	1.95	40	905	2020	B	90	**£2,040**

*Based on primary flow/return temp. of 80/60°C **Based on 70% draw-off. ΔT 45°C

Element Pro.

MODEL NO.	CAPACITY (LITRES)	MAX OPERATING PRESSURE BAR	EXPANSION VESSEL (LITRES)	COIL RATING (KW)*	HEAT LOSS (KWH/24HR @ 65°C)	REHEAT TIME (MINS)**	HEIGHT (MM)	WIDTH (MM)	ERP RATING	WEIGHT (EMPTY)	PRICE
Element Pro Fast Recovery Vertical Cylinders											
EUHPC17545V-FR	175	4.5 Bar	24	54	1.45	8	1242	576	C	45	**£1,446**
EUHPC17560V-FR	175	6.0 Bar	35	54	1.45	8	1242	576	C	45	**£1646**
EUHPC21545V-FR	215	4.5 Bar	35	54	1.63	9	1484	576	C	50	**£1,350**
EUHPC21560V-FR	215	6.0 Bar	35	54	1.63	9	1484	576	C	50	**£1,905**
EUHPC25045V-FR	250	4.5 Bar	35	54	1.78	11	1752	576	C	55	**£1,915**
EUHPC25060V-FR	250	6.0 Bar	50	54	1.78	11	1752	576	C	55	**£1,777**
EUHPC30045V-FR	300	4.5 Bar	50	54	1.95	13	2028	576	C	60	**£1,528**
EUHPC30060V-FR	300	6.0 Bar	50	54	1.95	13	2028	576	C	60	**£1,905**
EUHPC40045V-FR	400	4.5 Bar	80	54	1.73	18	1690	756	B	78	**£1,915**
EUHPC40060V-FR	400	6.0 Bar	80	54	1.73	18	1690	756	B	78	**£2,061**
EUHPC50045V-FR	500	4.5 Bar	100	54	1.95	22	2020	756	B	90	**£2,062**
EUHPC50060V-FR	500	6.0 Bar	100	54	1.95	22	2020	756	B	90	**£2,388**
Reduced Height											
EUHPC30045V-FR-RH	300	4.5 Bar	50	54	1.55	13	1320	756	B	57	**£1,528**
EUHPC30060V-FR-RH	300	6.0 Bar	50	54	1.55	13	1320	756	B	57	**£2,218**
EUHPC40045V-FR-RH	400	4.5 Bar	80	54	2.47	18	1405	756	C	68	**£2,218**
EUHPC40060V-FR-RH	400	6.0 Bar	80	54	2.47	18	1405	756	C	68	**£2,214**
EUHPC50045V-FR-RH	500	4.5 Bar	100	54	2.78	22	1690	756	C	78	**£2,360**
EUHPC50060V-FR-RH	500	6.0 Bar	100	54	2.78	22	1690	756	C	78	**£2,871**

*Based on primary flow/return temp. of 80/60°C **Based on 70% draw-off. ΔT 45°C

COIL RESISTANCE INFORMATION

Coil data is based on a maximum primary flow temperature of 80°C and return temperature of 60°C

MAXIMUM COIL OUTPUT (KW)	COIL DIAMETER	APPROXIMATE COIL SURFACE AREA (M2):	APPROXIMATE COIL VOLUME (LITRES):	RECOMMEND-ED FLOW RATES THROUGH COIL. (L/SEC):	COIL PRESSURE DROP - AT RECOMMENDED FLOW (KPA)
14	DN20	0.54	2	0.40	30.0
20	DN20	0.75	3	0.32	30.0
30	DN20	1.1	4	0.28	30.0
54	DN25	2	9.5	0.47	30.0

Element Direct.

MODEL NO.	CAPACITY (LITRES)	MAX OPERATING PRESSURE BAR	EXPANSION VESSEL (LITRES)	IMMERSION HEATER (KW)	HEAT LOSS (KWH/24HR @ 65°C)	REHEAT TIME (MINS)*	HEIGHT (MM)	WIDTH (MM)	ERP RATING	WEIGHT (EMPTY)	PRICE
Element Direct Vertical Cylinders											
EUHPC08045V-DR	80	4.5 Bar	18	1 x 3kW	0.87	63	665	576	B	25	**£721**
EUHPC08060V-DR	80	6.0 Bar	18	1 x 3kW	0.87	63	665	576	B	25	**£773**
EUHPC15045V-DR	150	4.5 Bar	24	2 x 3kW	1.29	60	1085	576	B	35	**£903**
EUHPC15060V-DR	150	6.0 Bar	24	2 x 3kW	1.29	60	1085	576	B	35	**£999**
EUHPC17545V-DR	175	4.5 Bar	24	2 x 3kW	1.45	70	1242	576	C	40	**£927**
EUHPC17560V-DR	175	6.0 Bar	35	2 x 3kW	1.45	70	1242	576	C	40	**£1,072**
EUHPC21545V-DR	215	4.5 Bar	35	2 x 3kW	1.63	85	1484	576	C	45	**£1,025**
EUHPC21560V-DR	215	6.0 Bar	35	2 x 3kW	1.63	85	1484	576	C	45	**£1,145**
EUHPC25045V-DR	250	4.5 Bar	35	2 x 3kW	1.78	99	1752	576	C	50	**£1,072**
EUHPC25060V-DR	250	6.0 Bar	50	2 x 3kW	1.78	99	1752	576	C	50	**£1,295**
EUHPC30045V-DR	300	4.5 Bar	50	2 x 3kW	1.95	119	2028	576	C	55	**£1,350**
EUHPC30060V-DR	300	6.0 Bar	50	2 x 3kW	1.95	119	2028	576	C	55	**£1,360**
EUHPC40045V-DR	400	4.5 Bar	80	2 x 3kW	1.73	159	1690	756	C	78	**£1,885**
EUHPC40060V-DR	400	6.0 Bar	80	2 x 3kW	1.73	159	1690	756	C	78	**£2,435**
EUHPC50045V-DR	500	4.5 Bar	100	2 x 3kW	1.95	199	2020	756	C	90	**£1,690**
EUHPC50060V-DR	500	6.0 Bar	100	2 x 3kW	1.95	199	2020	756	C	90	**£2,522**

*Based on 70% draw-off. ΔT 45°C

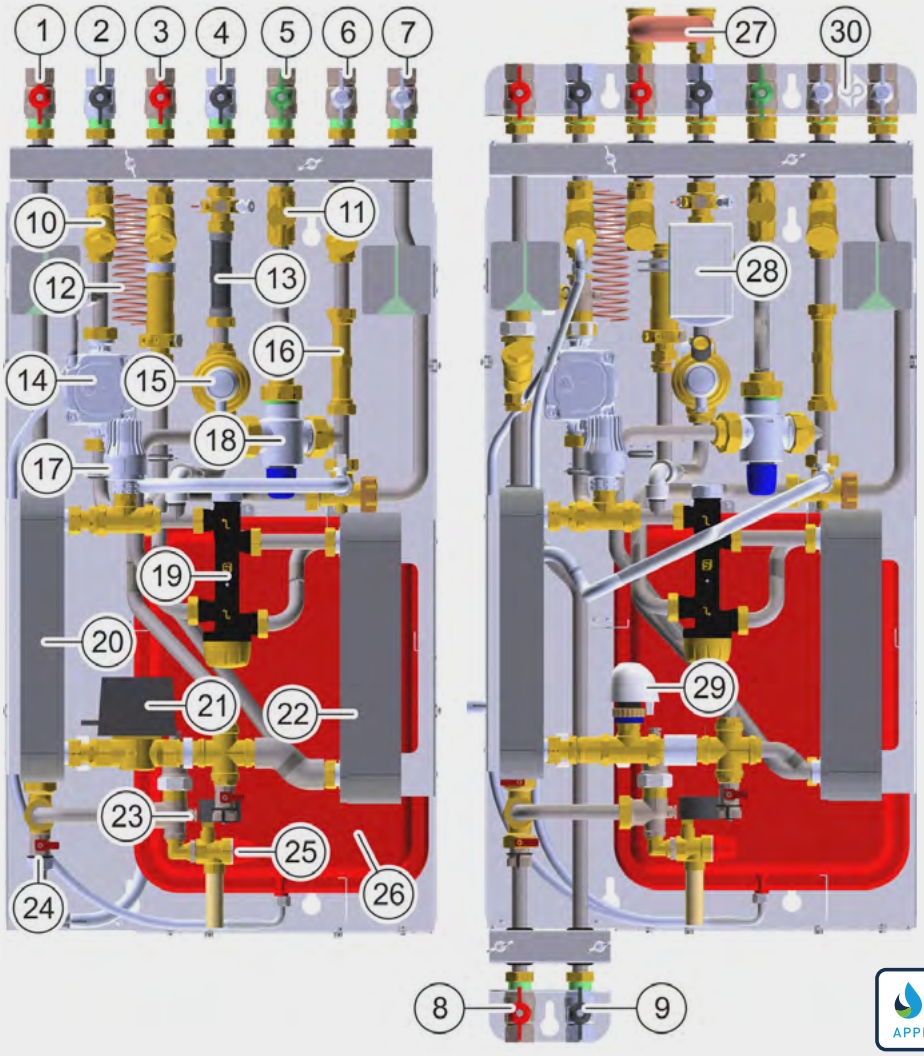
Element Solar.

MODEL NO.	CAPACITY (LITRES)	MAX OPERATING PRESSURE BAR	EXPANSION VESSEL (LITRES)	LOWER COIL - SOLAR (M2)	UPPER COIL - AUX. (KW)*	HEAT LOSS (KWH/24HR @ 65°C)	REHEAT TIME (MINS)**	HEIGHT (MM)	WIDTH (MM)	ERP RATING	WEIGHT (EMPTY)	PRICE
Element Solar Twin Coil Vertical Cylinders												
EUHPC17545V-2C	175	4.5 Bar	24	1.1	20	1.45	21	1242	576	C	46	**£1,186**
EUHPC17560V-2C	175	6.0 Bar	35	1.1	20	1.45	21	1242	576	C	46	**£1,335**
EUHPC21545V-2C	215	4.5 Bar	35	1.1	20	1.63	26	1484	576	C	51	**£1,335**
EUHPC21560V-2C	215	6.0 Bar	35	1.1	20	1.63	26	1484	576	C	51	**£1,380**
EUHPC25045V-2C	250	4.5 Bar	35	1.1	20	1.78	30	1752	576	C	56	**£1,365**
EUHPC25060V-2C	250	6.0 Bar	50	1.1	20	1.78	30	1752	576	C	56	**£1,505**
EUHPC30045V-2C	300	4.5 Bar	50	1.1	20	1.95	36	2028	576	C	61	**£1,470**
EUHPC30060V-2C	300	6.0 Bar	50	1.1	20	1.95	36	2028	576	C	61	**£1,570**
EUHPC40045V-2C	400	4.5 Bar	80	1.1	30	1.73	32	1690	756	C	79	**£1,906**
EUHPC40060V-2C	400	6.0 Bar	80	1.1	30	1.73	32	1690	756	C	79	**£2,246**
EUHPC50045V-2C	500	4.5 Bar	100	1.1	30	1.95	40	2020	756	C	91	**£2,040**
EUHPC50060V-2C	500	6.0 Bar	100	1.1	30	1.95	40	2020	756	C	91	**£2,734**

*Based on primary flow/return temp. of 80/60°C. **Based on 70% draw-off. ΔT 45°C - Upper coil operation

HEAT INTERFACE UNITS

Components diagram.



WRAS APPROVED PRODUCT

1. Secondary heating flow connection
2. Secondary heating return connection
3. Primary flow connection
4. Primary return connection
5. Domestic hot water connection
6. Cold water inlet connection
7. Cold water outlet connection (optional)
8. Secondary heating flow connection (alternative position)
9. Secondary heating return connection (alternative position)
10. Secondary heating strainer
11. Domestic hot water flow switch
12. Capillary tube
13. Heat meter spacer
14. Circulator pump
15. Differential pressure control valve
16. Water meter spacer
17. Actuated valve
18. Thermostatic mixing valve
19. Proportional regulator
20. Heat exchanger: heating
21. Priority shut-off valve
22. Heat exchanger: domestic hot water
23. Air bleed valve
24. Filling loop connection
25. Safety relief valve
26. Expansion vessel
27. Flushing bypass
28. Option: heat meter
29. Option: priority shut-off valve
30. Option: first fix rail

Specification.

Dutypoint Element Heat Interface Units (HIU) are a high-quality solution for projects in which a centralised heating plant services multiple dwellings. A unique modular design allows specifiers to configure a unit which is exactly suited to the installation.

A choice of heat exchangers can be selected for the space heating and domestic hot water capacity individually, and additional options such as first fix rails, zone valves, metering and additional communication protocols can be incorporated without significantly affecting the overall cost. This flexibility, combined with high quality, high efficiency components allows the creation of a system which is efficient by design and ultra reliable.

KEY TECHNICAL FEATURES

- WRAS approved for use with potable water
- Energy-efficient design with low pressure loss and low standby heat loss
- Reduced scaling of plate heat exchanger due to ribbed plates
- Proportional flow controller offers fast response and rapid hot water delivery
- Easy to install, commission and service, with a standard layout and many parts shared across the range
- Flexible options for metering, billing and management
- Flushing bypass to isolate the HIU from the primary system during flushing procedures
- 'Keep warm' function for fast delivery of hot water when required by the user
- Insulated plate heat exchangers to minimise heat losses
- Thermostatic mixing valve regulates the domestic hot water temperature to a maximum value, preventing overheating
- Hot water priority function on larger units temporarily shuts off the heating and diverts all energy to hot water production
- Filling loop included as standard

OPTIONS

- First fix rail for pre-plumbing
- Integrated heat meter
- Integrated water meter
- M-Bus and similar data logging protocols with wireless or wired system for data collection
- Remotely managed shut-off valve

OPERATING LIMITS

Max kW (DHW)	90 kW
Max kW (Heating)	37 kW
Maximum operating temperature	95°C
Maximum operating pressure (primary)	10 bar
Maximum operating pressure (secondary)	3 bar

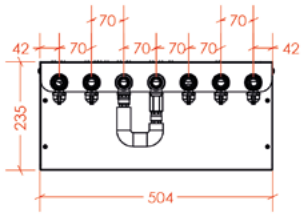
MATERIALS

Plate heat exchangers	AISI 304 stainless steel, copper-brazed
Pipes	Stainless Steel
Seals	AFM 34
Valves	Brass

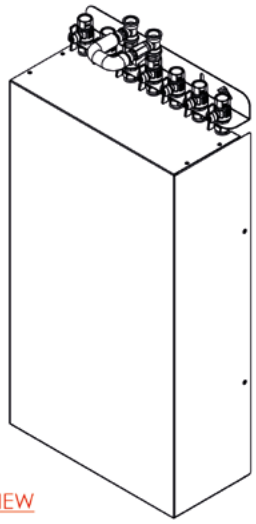
**Pair the HIU with our heating accessories to enhance the performance and efficiency of your heating system.
page: 181
in the Big Red Book**

Radiator version.

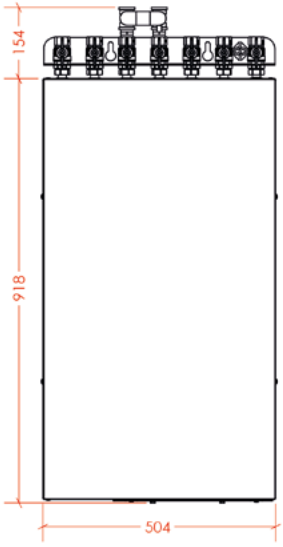
Drawings and dimensions



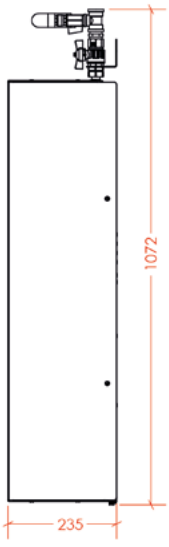
PLAN VIEW



ISOMETRIC VIEW



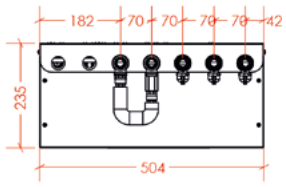
FRONT VIEW



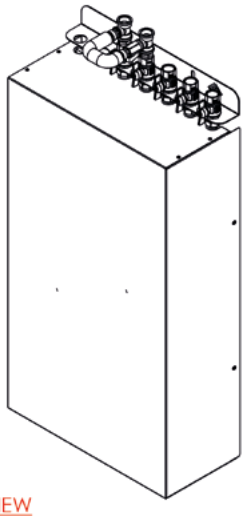
SIDE VIEW

Underfloor heating version.

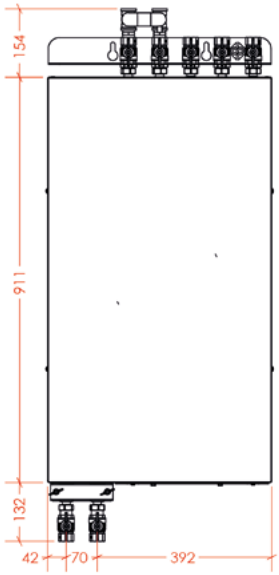
Drawings and dimensions



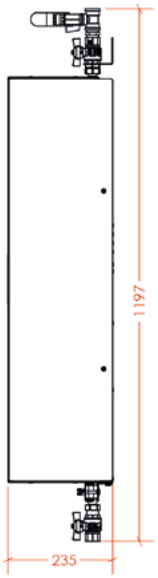
PLAN VIEW



ISOMETRIC VIEW

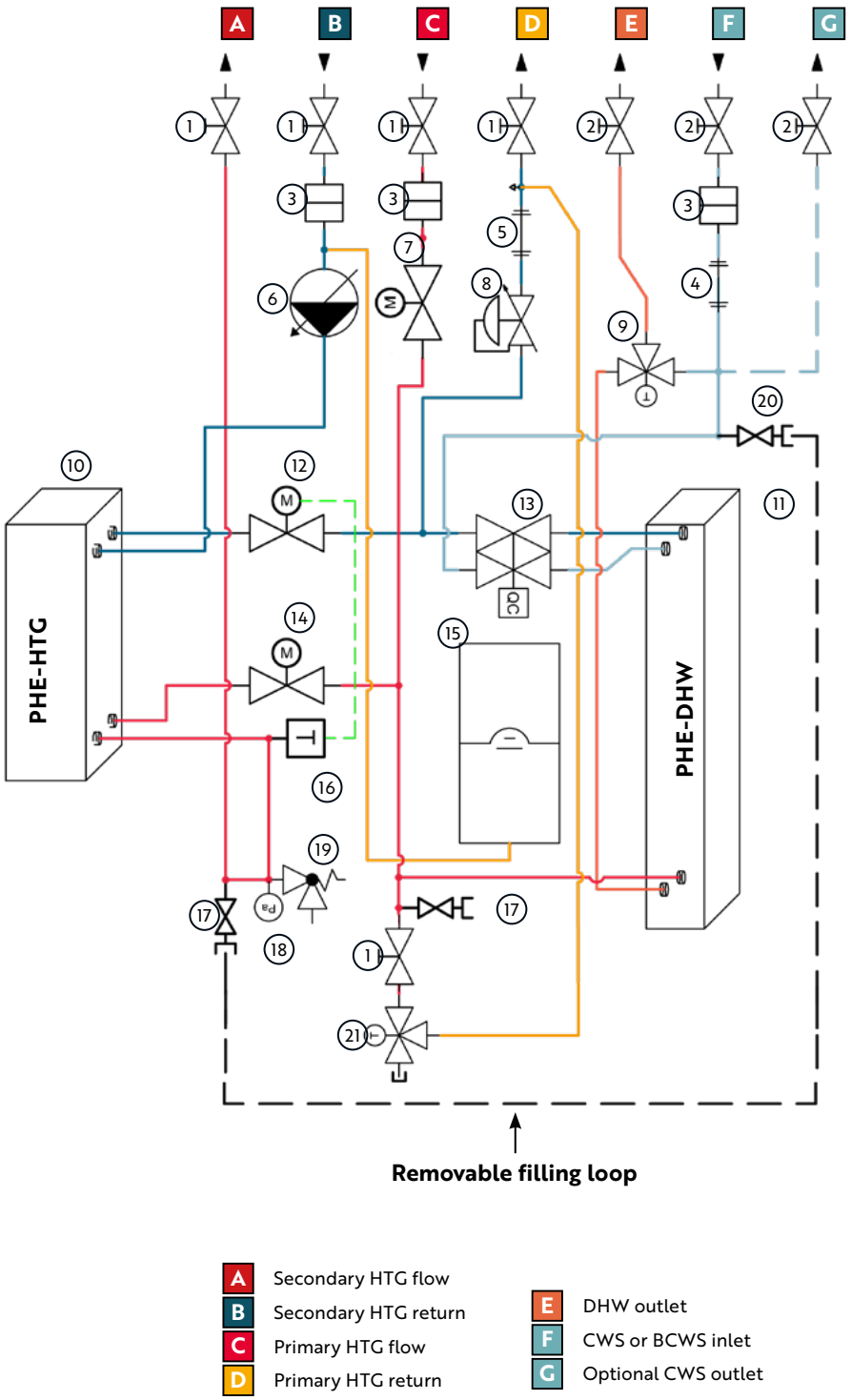


FRONT VIEW



SIDE VIEW

Hydraulic diagram.



A Secondary HTG flow
B Secondary HTG return
C Primary HTG flow
D Primary HTG return
E DHW outlet
F CWS or BCWS inlet
G Optional CWS outlet

Valve legend

1 - Isolation valve (Heating)

2 - Isolation valve (CWS / BCWS / DHWS)

3 - DN20 Y- Strainer

4 - Water Meter Spacer

5 - Heat meter spacer

6 - Circulating Pump

7 - Pre-Payment valve (optional)

8 - Differential pressure control valve

9 - Thermostatic mixing valve

10 - PHE-htg

11 - PHE-dhw

12 - Two-way valve with thermal actuator

13 - Proportional control valve

14 - Two-way zone valve with actuator

15 - Expansion vessel

16 - Temperature sensor

17 - Fill / flush / drain valve

18 - Pressure gauge

19 - Safety relief valve

20 - Double-check valve

21 - Thermostatic mixing valve

Selection charts.

1

Select HIU performance
First select the HIU performance you require by cross-referencing your required space heating kW load with the domestic hot water load.

Parameter 1: Primary: 60/40; Secondary 45/35; DHW 10/50

		DOMESTIC HOT WATER		
HEATING	KW	43	58	70
	6	IN15-50-P	IN15-60-P	IN15-75-P
	10		IN20-60-P	IN20-75-P
	15			IN25-75-P

Parameter 2: Primary 70/45; Secondary 60/40; DHW 10/55

		DOMESTIC HOT WATER		
HEATING	KW	55	75	90
	12	IN15-50-P	IN15-60-P	IN15-75-P
	21		IN20-60-P	IN20-75-P
	37			IN25-75-P

Parameter 3: Primary 70/25; Secondary 60/40; DHW 10/55

		DOMESTIC HOT WATER		
HEATING	KW	54	69	77
	12	IN15-50-P	IN15-60-P	IN15-75-P
	21		IN20-60-P	IN20-75-P
	37			IN25-75-P

For selections based on alternative parameters, please contact our technical sales team.

2

Select optional features
Secondly, select which optional features you require to complete your model code.

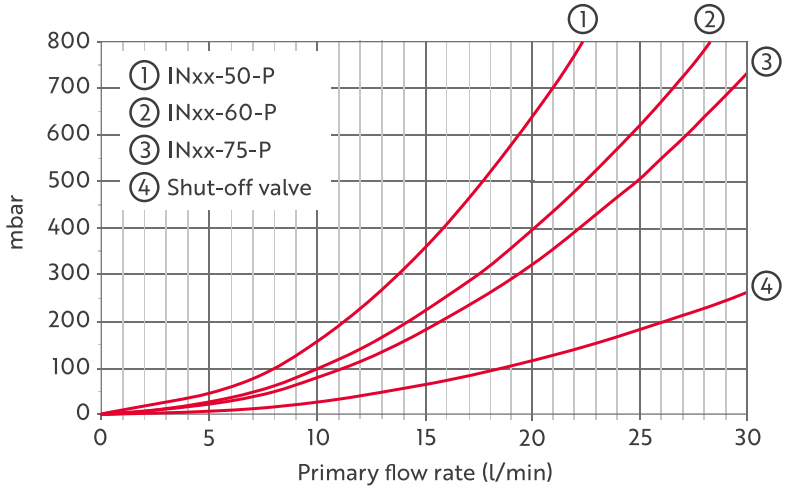
INXX-XX-P-[ ][ ][ ][ ]

- Heat meter only [H] / heat and water meters [D]
- Bottom outlet [U] / Top outlet [null]
- Zone shut-off valve: yes [Z] / no [null]
- 2-Part version w FFR [2] / standard version [null]

Pressure loss graphs.

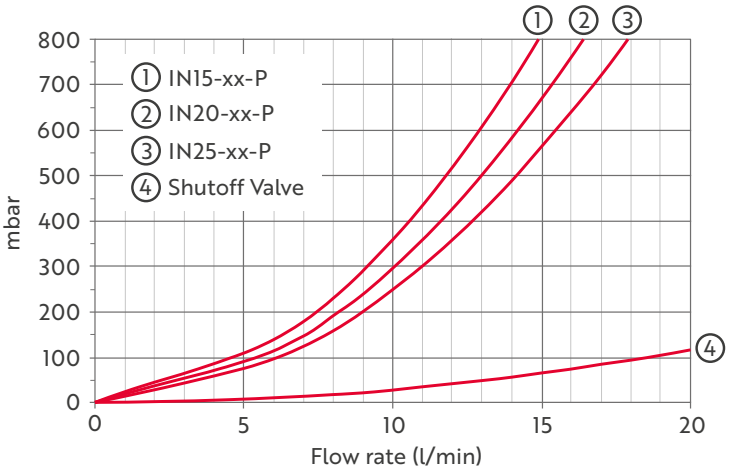
Primary pressure loss (DHW).

This graph shows the pressure loss through the HIU on the primary, domestic hot water side of the system. Cross-reference the primary flow rate to the curve which corresponds to your selected HIU – there are three DHW sizes. If you have selected the priority shut-off function you must also add the pressure loss from the shut-off valve, which is defined by curve 4.



Primary pressure loss (Heating).

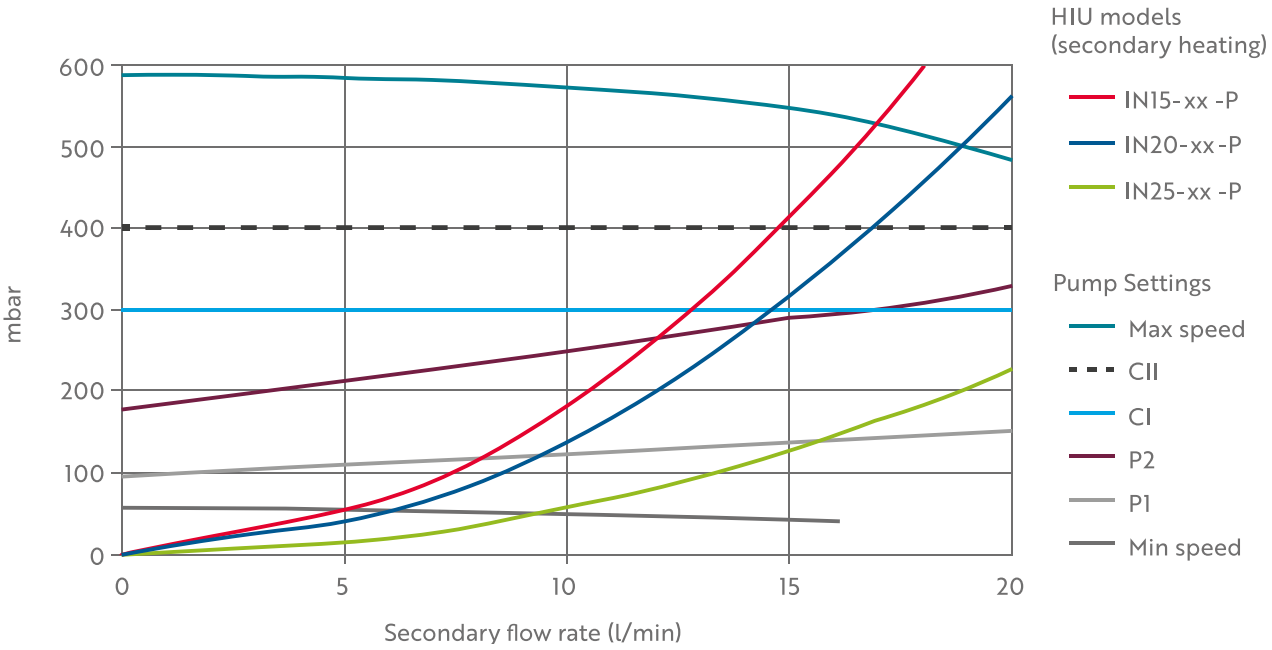
This graph shows the pressure loss through the HIU on the primary heating side of the system. Cross-reference your primary flow rate with the curve which corresponds to your selected HIU – there are three heating sizes. If you have selected the priority shut-off function you must also add the pressure loss from the shut-off valve, which is defined by curve 4.



Pressure loss graphs (cont).

Secondary heating pump performance pressure loss.

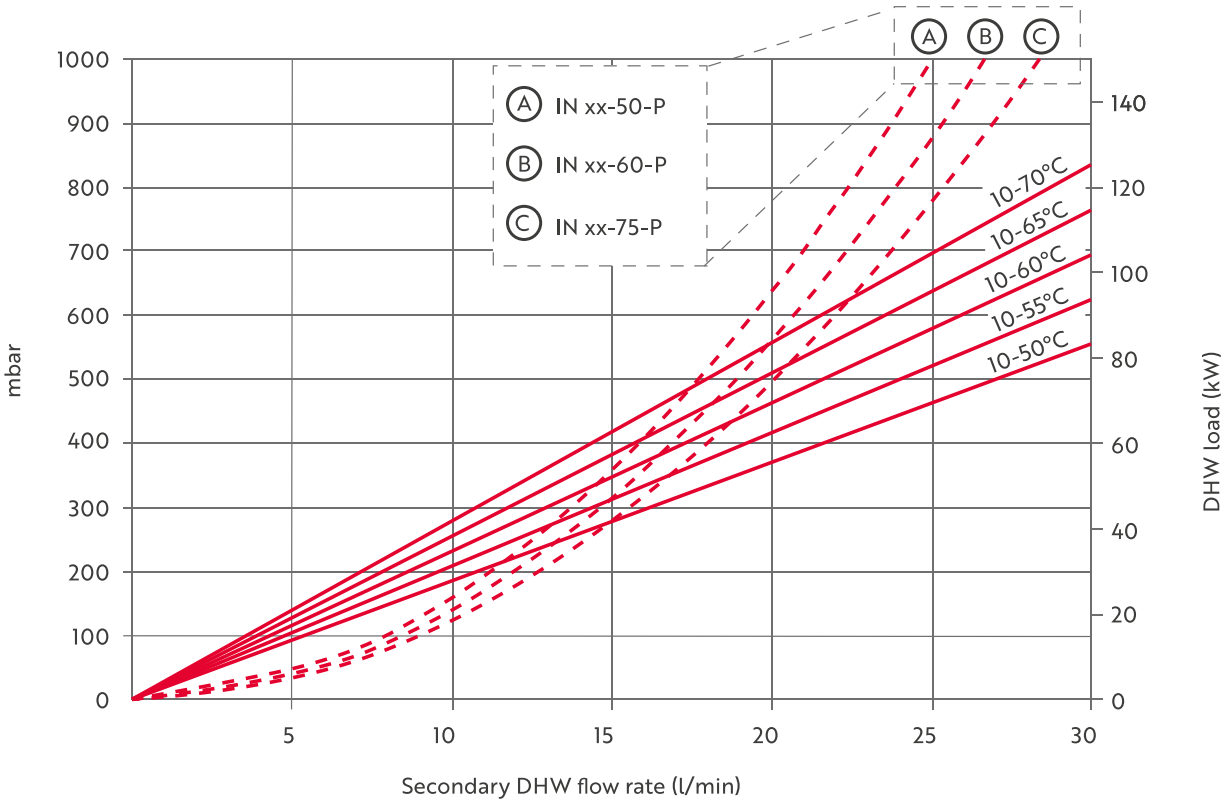
This graph will help you to select the correct heating pump setting. Calculate your secondary heating flow rate with your secondary HIU model selection. For example, when your secondary heating flow rate is 17 litres/minute and your selection is IN20-xx-P, the CII setting should be used.



Pressure loss graphs (cont).

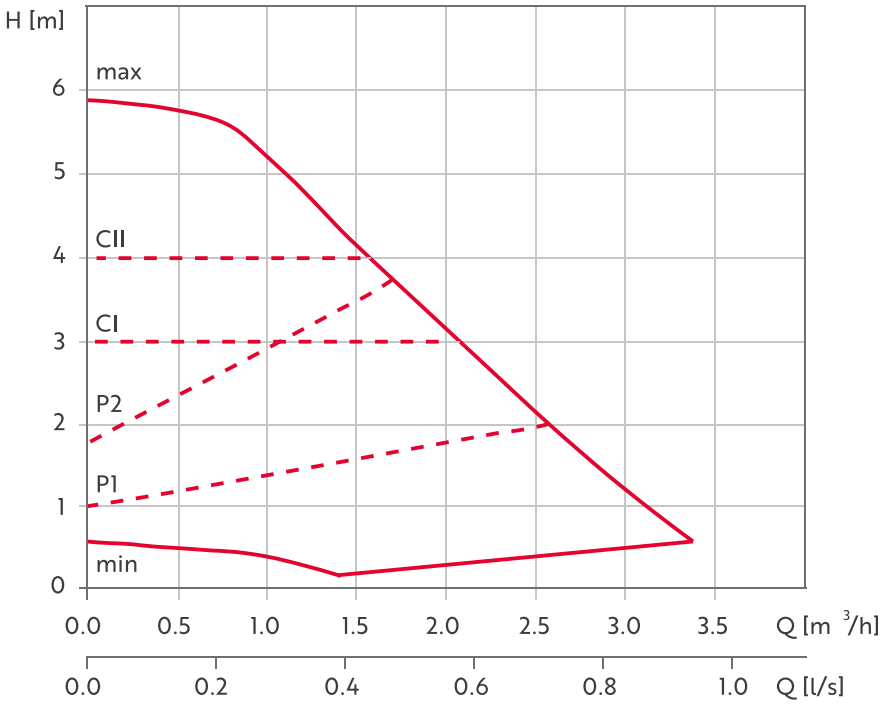
Secondary DHW pressure loss.

This graph allows you to calculate the pressure loss across your secondary DHW system. Once you have calculated your required DHW flow rate, cross reference this with your DHW model HIU selection. For example, if your flow rate is 20 litres/minute and your selection is INxx-50-P then the pressure loss will be 635 mbar. The ΔT curves allow you to calculate your required DKW kW loading by cross referencing these with the DHW flow rate, using the kW scale on the right.



Pump performance curve.

Standard pump as fitted to all heat interface units.



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