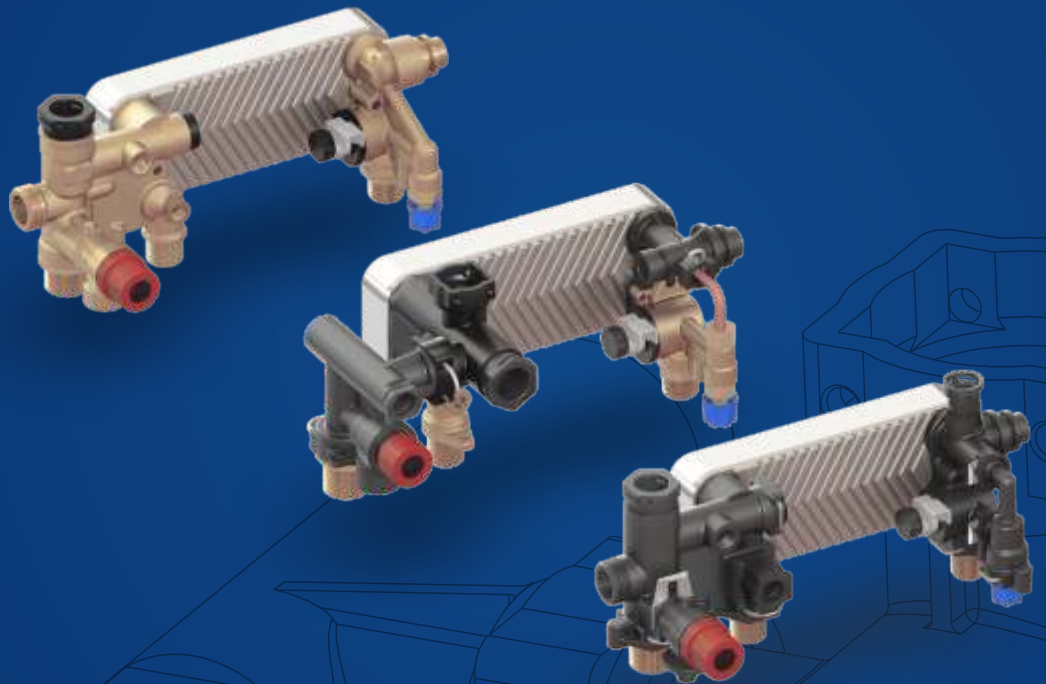


HYDRAULIC GROUPS



PAKKENS[®]

PAKKENS Inc. is constantly seeking ways to improve the specifications, designs and production of its products and alterations take place continually.

PAKKENS Inc. reserves the rights to change the specifications without prior notice.



*Büyük işler, mühim teşebbüsler
ancak müsterek mesai ile mümkündür.*

H. Atatürk

Huge works, important cooperations,
only possible with shared shifts.

For over 45 years, PAKKENS has been a leading company in the design and manufacturing of all kinds of pressure and temperature measurement instruments, HVAC and sanitary products, hydraulic groups and customer specific precision machined parts.

With 450 highly qualified employees at two fully integrated manufacturing facilities, PAKKENS has been serving major OEMs and end users in gas

distribution, petro-chemicals, pharmaceuticals, medical, food processing, heating, machine building, hydraulics, agriculture, construction, automotive, defence and aerospace industries.

In addition to continuously strengthening its presence in the existing business lines, Pakkens continues to invest in the design and manufacturing of high value added and innovative products within the framework of its strategic growth and sustainability plans.

PAKKENS VALVES

PAKKENS designs and manufactures hydraulic groups and a complete portfolio of hydraulic accessories for well known boiler manufacturers and other customers.

As of today, PAKKENS Valves offers a wide range of plastic and brass hydraulic groups, that would fit in virtually all boiler platforms whether it is combi, CH only or storage type.

Pakkens Valves had dedicated most of its resources to become a global solution partner



for the design and manufacture of hydraulic groups and related accessories, and became a fully integrated company able to realize all processes from conceptual design to series production in-house.

PAKKENS Valves is a customer oriented company that can offer tailor made solutions even for annual quantities as low as 1.000 sets per year, and performs all design, production and tooling studies to get a product that fulfills your requirements, completely free of charge.



PAKKENS INSTRUMENTS

PAKKENS is also a well known manufacturer of pressure and temperature instruments for over 45 years.

Our instrumentation product portfolio covers all kinds of gauges and related accessories such as General Purpose and Accurate Pressure Gauges, Pressure Transmitters, Diaphragm Seals, Diaphragm Seal Systems, Differential Pressure Gauges, Contact Type Pressure Gauges, Pressure Gauges with Output Signal, Bi-Metal and Gas Actuated Temperature Gauges, Combined Gauges, Valves and Manifolds,

Where Pressure Matters...[™]

Thermowells, Instrumentation Accessories, Calibration Services, etc.

PAKKENS Instruments offers more than 15.000 standard and custom products, and is the market leader -almost a monopoly- in Turkey.

As of today, the company has the first and most advanced certified instrumentation calibration laboratory in Turkey, and has very well structured design & development, quality, manufacturing, planning and logistics processes and systems to guarantee world class products with optimal prices.



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6	PRODUCT SELECTION MATRIX
7	COMBI MONOTHERMIC
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35	STORAGE TYPE
39	HEATING ONLY



MAIN FEATURES

OF HYDRAULIC GROUPS

- Brass or composite hydraulic groups that fit in virtually all boiler platforms
- PAKKENS 3 way valve cartridge for on-off type or step motor applications
- Turbine type flow meter with hall effect sensor
- Filter on DW circuit
- Brass or plastic safety valve (3 bar, ½")
- Manual or automatic filling tap
- Internal or external by-pass function
- Flow regulator

Customer connections for:

- Pressure sensor or switch
 - NTC sensor
 - Circulation pump
 - Plate heat exchanger
 - Pressure gauge
 - Pressure vessel
-
- Hydraulic groups are compatible with all circulation pump brands
 - All hydraulic groups are compatible with on-off type or step motor applications
 - Hydraulic groups are tested 100% for leakage and functionality prior to shipment
 - All components are WRAS certified

Selection Matrix

Model Nr.	CMT																		CBT		S		HO					
	HB-101	HB-102	HB-103	HB-104	HB-105	HB-106	HB-107	HB-108	HB-109	HB-110	HB-111	HB-112	HB-113	HB-114	HB-115	HB-116	HB-117	HB-118	HB-119	HB-120	HB-121	HB-122	HB-201	HB-202	HB-301	HB-302	HB-401	
Brass body	✓	✓	-	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Composite body	-	-	✓	-	-	-	-	-	-	✓	✓	-	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-
Pressure relief valve (Brass or plastic)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Filling tap	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	-	✓	✓
DHW filter	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-
Flow regulator	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-
Flow sensor	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-
Pressure sensor or switch connection	✓	-	✓	-	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	-
NTC sensor connection	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
3 Way valve (Compatible with on-off or step motors)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	✓	✓	-
Pressure gauge connection	✓	✓	✓	✓	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	✓	-	-	-	✓	-	-	✓	-	-	-
Back flow preventer (EN1717 Type EA)	-	-	-	-	-	✓	-	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Temperature sensor connection	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	-	-	✓	✓	-	-	-	-	-	-	-

CMT Combi Monothermic

CBT Combi Bithermic

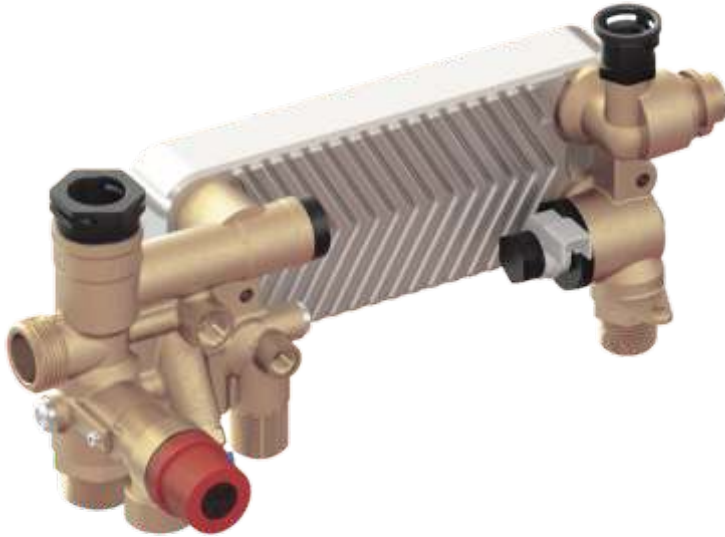
S Storage Type

HO Heating Only



COMBI MONOTHERMIC

Combi Monothermic / Brass / Side Pump Connection



Technical Features

Material :
CuZn40Pb2 (CW617N)

Flow Regulator :
6 to 22 (lt./min.)

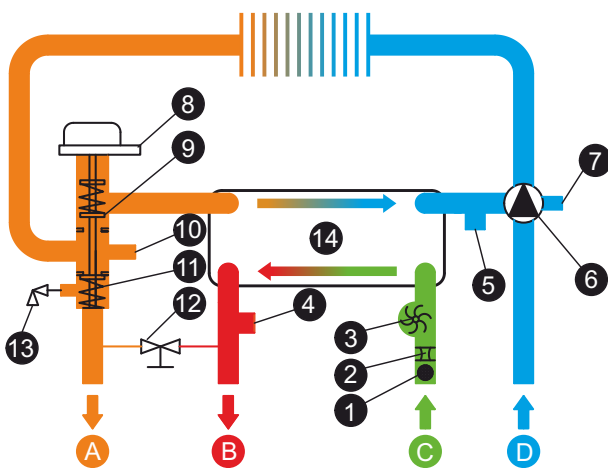
Flow Detection :
Turbine Type Flowmeter with Hall Effect Sensor

By-Pass :
Through PHE

Pressure Relief Valve :
3 bar

Pump Connection :
Side

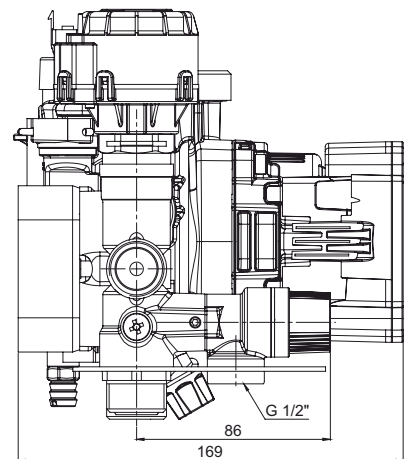
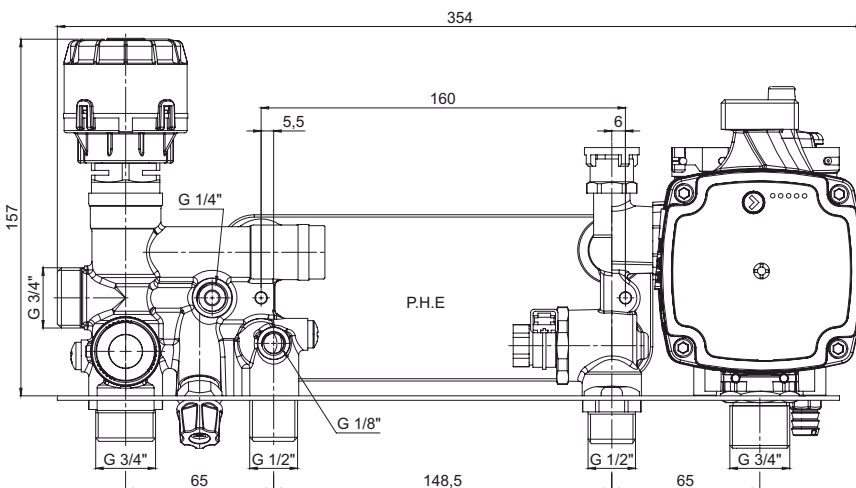
Hydraulic Circuit



- | | |
|-------------------------------|-------------------------|
| 1 DHW Filter | 8 3 Way Valve Motor |
| 2 Flow Regulator | 9 Automatic Bypass |
| 3 Flow Sensor | 10 Pressure Gauge Conn. |
| 4 NTC Sensor Connection | 11 3 Way Valve |
| 5 Pressure Switch/Sensor Con. | 12 Filling Tap |
| 6 Circulation Pump | 13 Safety Valve |
| 7 Expansion Vessel Connection | 14 Plate Heat Exchanger |

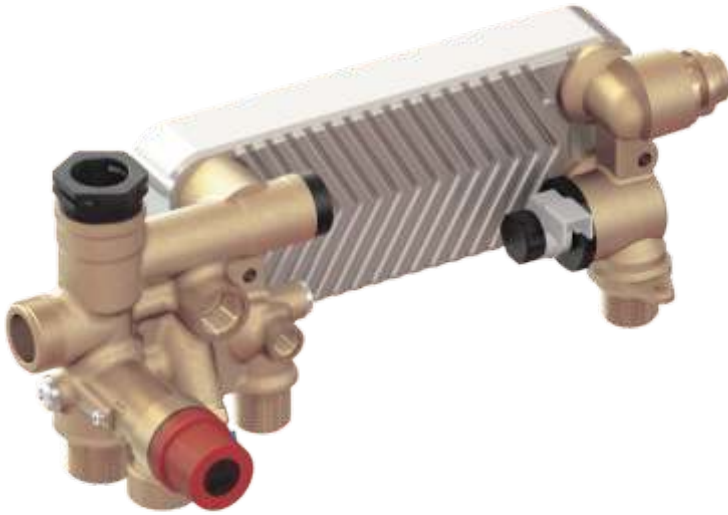
- | | |
|----------------------------|---------------------------|
| A Heating Delivery CH | C Sanitary Water Inlet DW |
| B Sanitary Water Outlet DW | D Heating Return CH |

Dimensions (mm)



Hydroblock HB-102

Combi Monothermic / Brass / Side Pump Connection



Technical Features

Material :

CuZn40Pb2 (CW617N)

Flow Regulator :

6 to 22 (lt./min.)

Flow Detection :

Turbine Type Flowmeter with Hall Effect Sensor

By-Pass :

Through PHE

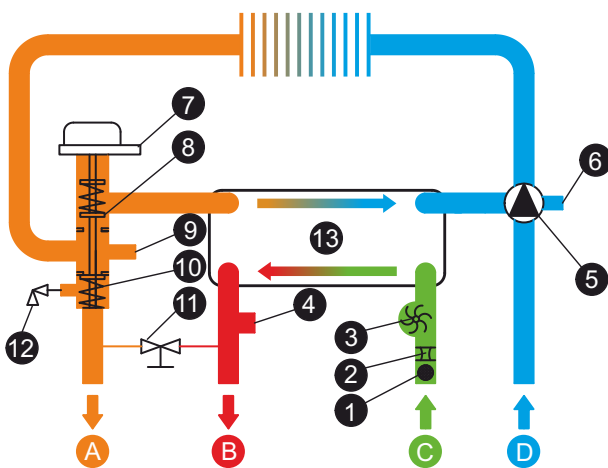
Pressure Relief Valve :

3 bar

Pump Connection :

Side

Hydraulic Circuit



- 1 DHW Filter
- 2 Flow Regulator
- 3 Flow Sensor
- 4 NTC Sensor Connection
- 5 Circulation Pump
- 6 Expansion Vessel Connection
- 7 3 Way Valve Motor
- 8 Automatic Bypass
- 9 Pressure Gauge Conn.
- 10 3 Way Valve
- 11 Filling Tap
- 12 Safety Valve
- 13 Plate Heat Exchanger

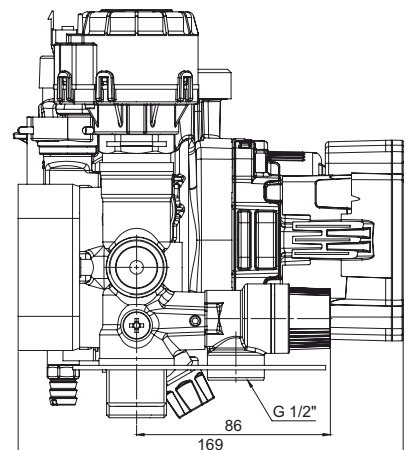
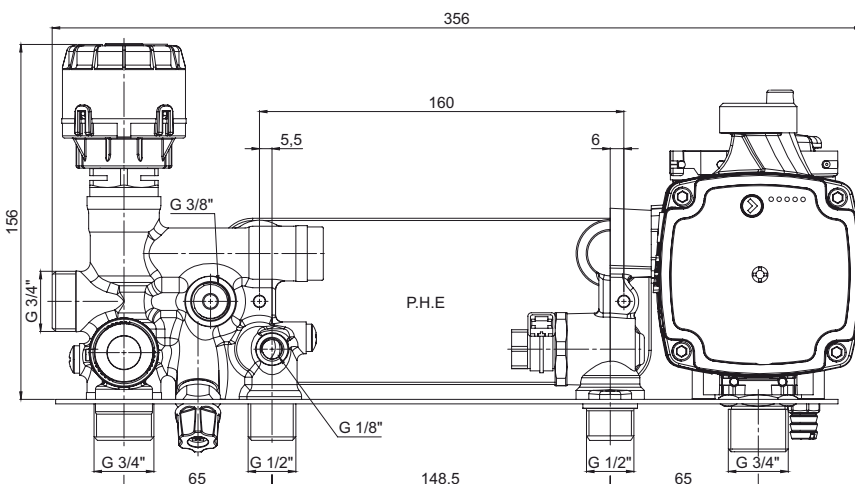
A Heating Delivery CH

B Sanitary Water Outlet DW

C Sanitary Water Inlet DW

D Heating Return CH

Dimensions (mm)



Combi Monothermic / Composite / Side Pump Connection



Technical Features

Material :

Plastic (PA66 GF30) + Brass (CuZn40Pb2)

Flow Regulator :

6 to 22 (lt./min.)

Flow Detection :

Turbine Type Flowmeter with Hall Effect Sensor

By-Pass :

Through PHE

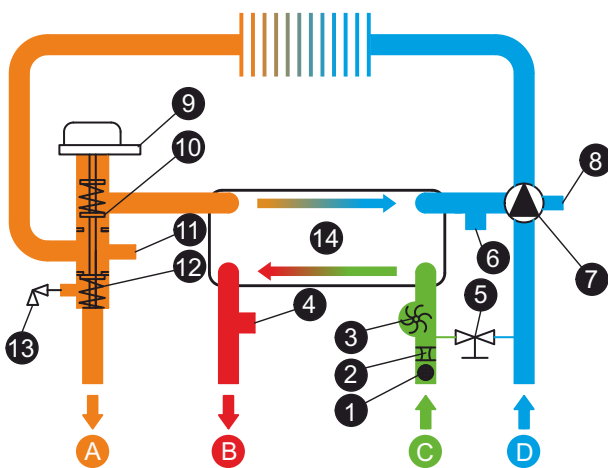
Pressure Relief Valve :

3 bar

Pump Connection :

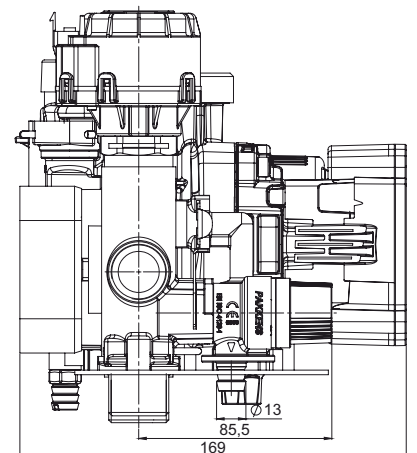
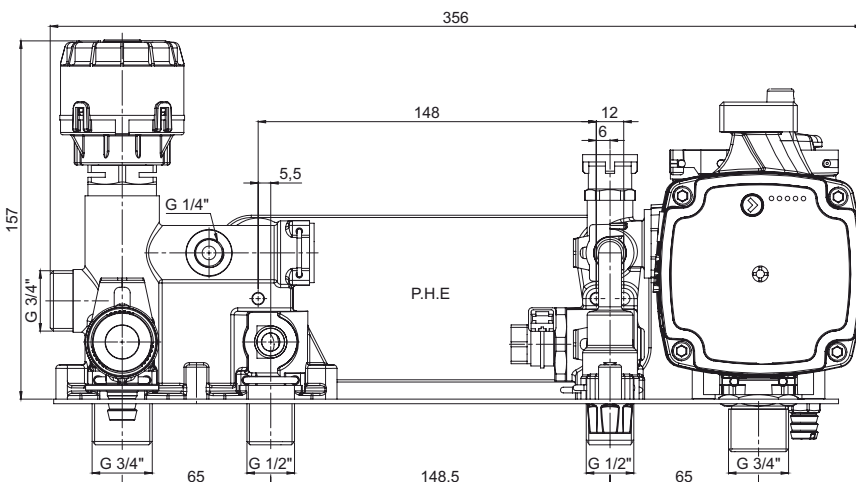
Side

Hydraulic Circuit



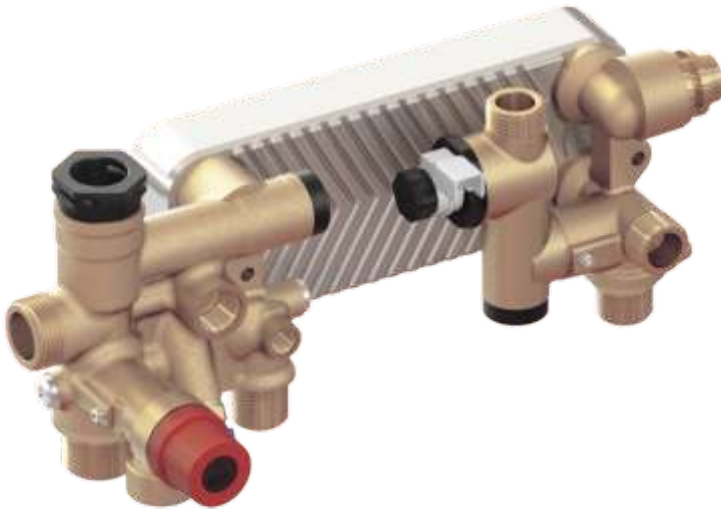
- | | |
|--------------------------------|--------------------------|
| 1 DHW Filter | 8 Expansion Vessel Conn. |
| 2 Flow Regulator | 9 3 Way Valve Motor |
| 3 Flow Sensor | 10 Automatic Bypass |
| 4 NTC Sensor Connection | 11 Pressure Gauge Conn. |
| 5 Filling Tap | 12 3 Way Valve |
| 6 Pressure Switch/Sensor Conn. | 13 Safety Valve |
| 7 Circulation Pump | 14 Plate Heat Exchanger |
-
- | | |
|----------------------------|---------------------------|
| A Heating Delivery CH | C Sanitary Water Inlet DW |
| B Sanitary Water Outlet DW | D Heating Return CH |

Dimensions (mm)



Hydroblock HB-104

Combi Monothermic / Brass / Side Pump Connection



Technical Features

Material :
CuZn40Pb2 (CW617N)

Flow Regulator :
6 to 22 (lt./min.)

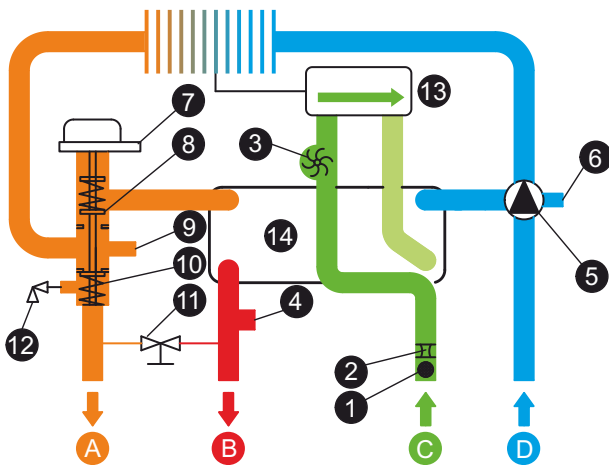
Flow Detection :
Turbine Type Flowmeter with Hall Effect Sensor

By-Pass :
Through PHE

Pressure Relief Valve :
3 bar

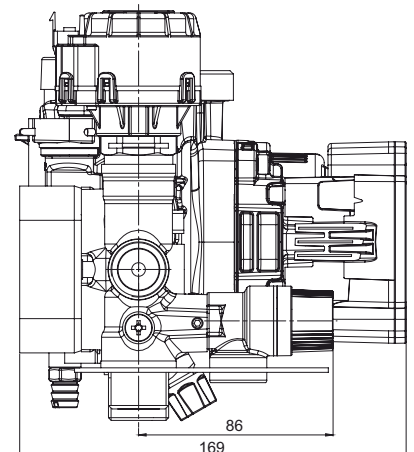
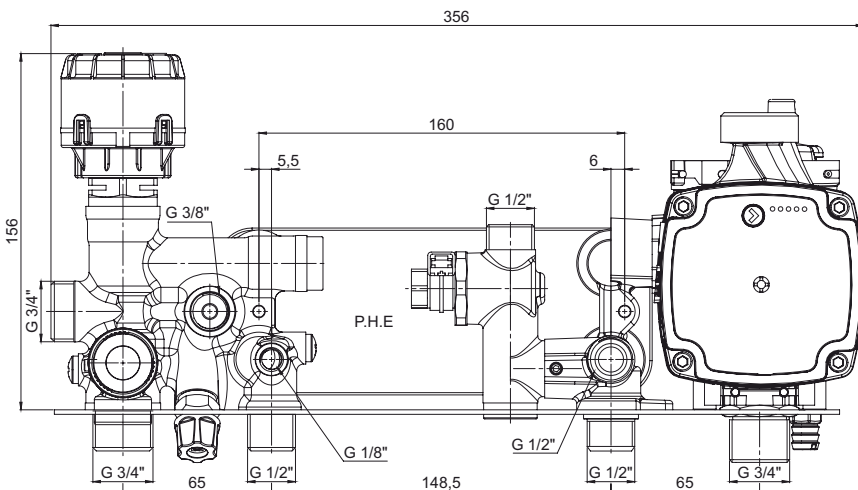
Pump Connection :
Side

Hydraulic Circuit



- | | |
|-------------------------------|-------------------------|
| 1 DHW Filter | 8 Automatic Bypass |
| 2 Flow Regulator | 9 Pressure Gauge Conn. |
| 3 Flow Sensor | 10 3 Way Valve |
| 4 NTC Sensor Connection | 11 Filling Tap |
| 5 Circulation Pump | 12 Safety Valve |
| 6 Expansion Vessel Connection | 13 Condensing Boiler |
| 7 3 Way Valve Motor | 14 Plate Heat Exchanger |
-
- | | |
|----------------------------|---------------------------|
| A Heating Delivery CH | C Sanitary Water Inlet DW |
| B Sanitary Water Outlet DW | D Heating Return CH |

Dimensions (mm)



Combi Monothermic / Brass / Side Pump Connection



Technical Features

Material :
CuZn40Pb2 (CW617N)

Flow Regulator :
6 to 22 (lt./min.)

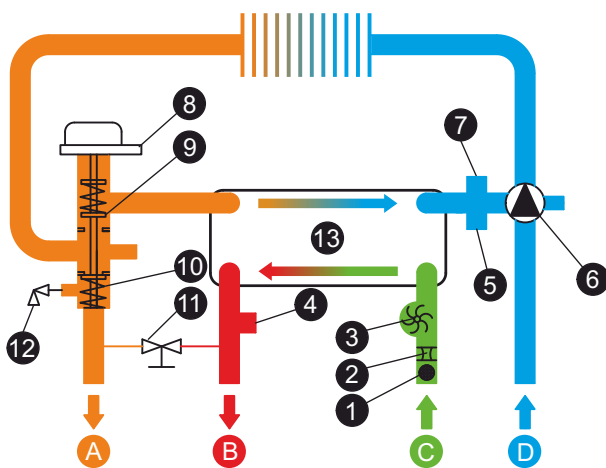
Flow Detection :
Turbine Type Flowmeter with Hall Effect Sensor

By-Pass :
Through PHE

Pressure Relief Valve :
3 bar

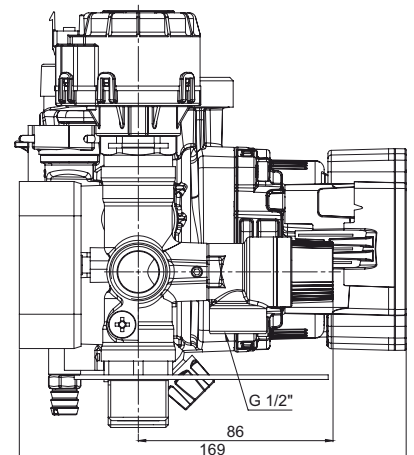
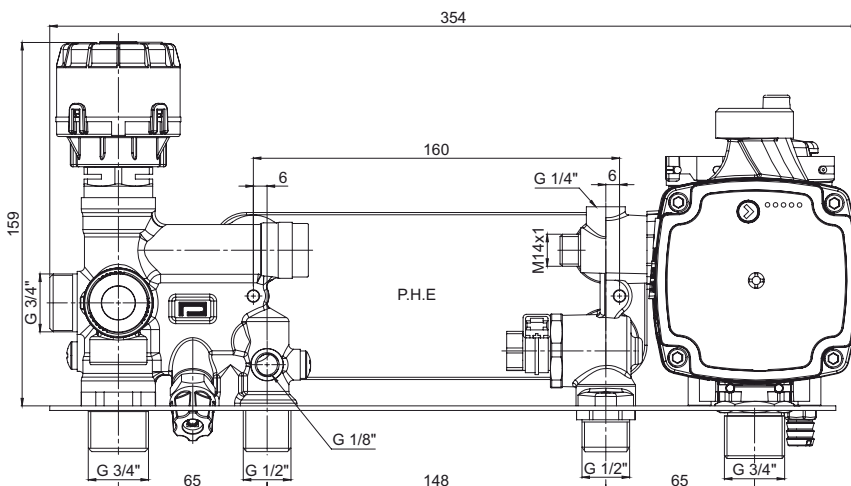
Pump Connection :
Side

Hydraulic Circuit



- 1 DHW Filter
 - 2 Flow Regulator
 - 3 Flow Sensor
 - 4 NTC Sensor Connection
 - 5 Pressure Switch/Sensor Conn.
 - 6 Circulation Pump
 - 7 Expansion Vessel Connection
 - 8 3 Way Valve Motor
 - 9 Automatic Bypass
 - 10 3 Way Valve
 - 11 Filling Tap
 - 12 Safety Valve
 - 13 Plate Heat Exchanger
- A Heating Delivery CH C Sanitary Water Inlet DW
B Sanitary Water Outlet DW D Heating Return CH

Dimensions (mm)



Hydroblock HB-106

Combi Monothermic / Brass / Side Pump Connection



Technical Features

Material :

CuZn40Pb2 (CW617N)

Flow Regulator :

6 to 22 (lt./min.)

Flow Detection :

Turbine Type Flowmeter with Hall Effect Sensor

By-Pass :

Through PHE

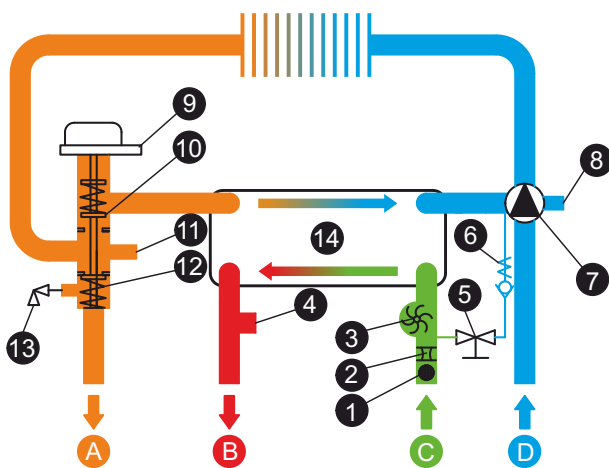
Pressure Relief Valve :

3 bar

Pump Connection :

Side

Hydraulic Circuit



- | | |
|--|--------------------------|
| 1 DHW Filter | 8 Expansion Vessel Conn. |
| 2 Flow Regulator | 9 3 Way Valve Motor |
| 3 Flow Sensor | 10 Automatic Bypass |
| 4 NTC Sensor Connection | 11 Pressure Gauge Conn. |
| 5 Filling Tap | 12 3 Way Valve |
| 6 Back Flow Preventer (EN1717 Type EA) | 13 Safety Valve |
| 7 Circulation Pump | 14 Plate Heat Exchanger |

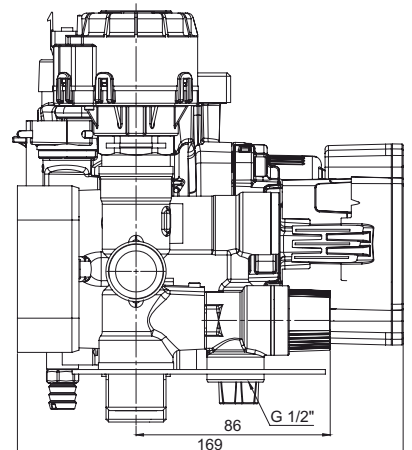
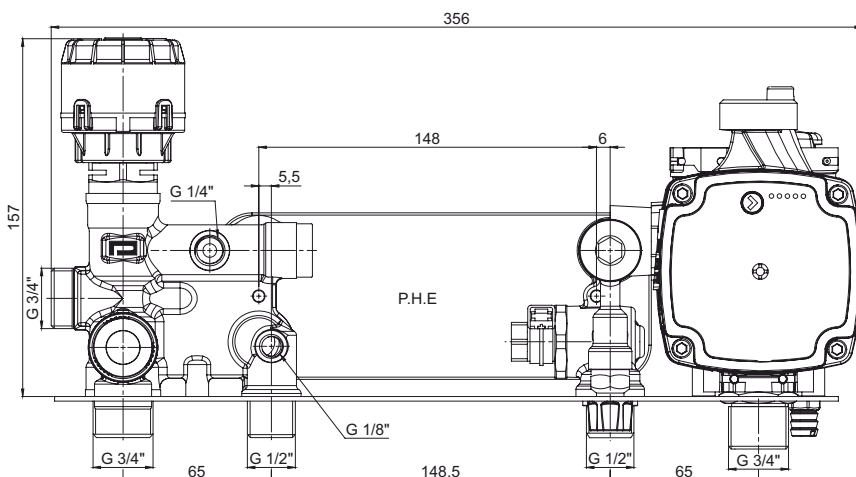
A Heating Delivery CH

B Sanitary Water Outlet DW

C Sanitary Water Inlet DW

D Heating Return CH

Dimensions (mm)



Combi Monothermic / Brass / Side Pump Connection



Technical Features

Material :
CuZn40Pb2 (CW617N)

Flow Regulator :
6 to 22 (lt./min.)

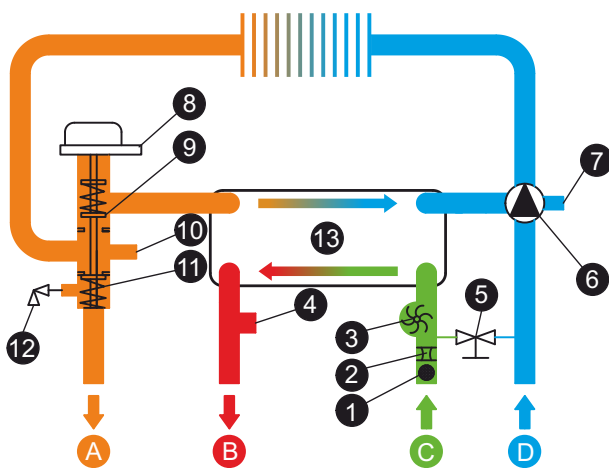
Flow Detection :
Turbine Type Flowmeter with Hall Effect Sensor

By-Pass :
Through PHE

Pressure Relief Valve :
3 bar

Pump Connection :
Side

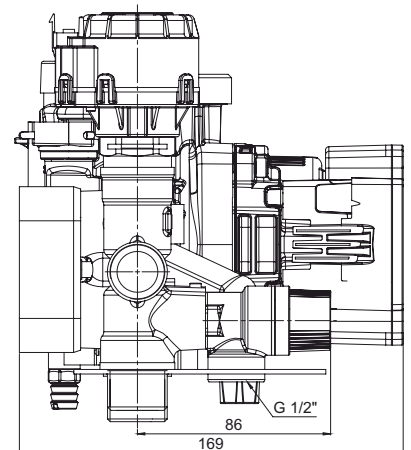
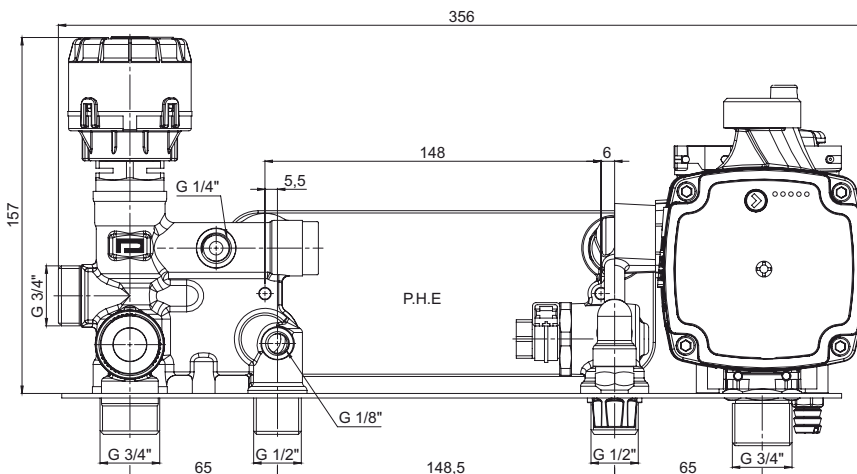
Hydraulic Circuit



- 1 DHW Filter
- 2 Flow Regulator
- 3 Flow Sensor
- 4 NTC Sensor Connection
- 5 Filling Tap
- 6 Circulation Pump
- 7 Expansion Vessel Connection
- 8 3 Way Valve Motor
- 9 Automatic Bypass
- 10 Pressure Gauge Conn.
- 11 3 Way Valve
- 12 Safety Valve
- 13 Plate Heat Exchanger

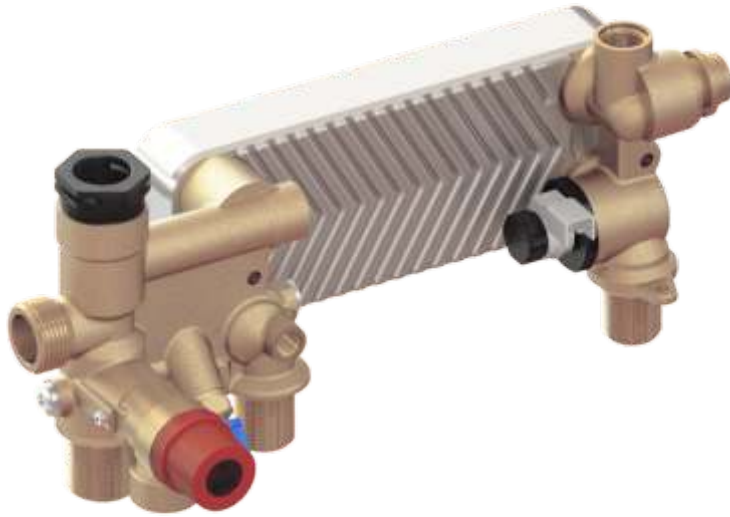
- A Heating Delivery CH
- B Sanitary Water Outlet DW
- C Sanitary Water Inlet DW
- D Heating Return CH

Dimensions (mm)



Hydroblock HB-108

Combi Monothermic / Brass / Side Pump Connection



Technical Features

Material :
CuZn40Pb2 (CW617N)

Flow Regulator :
6 to 22 (lt./min.)

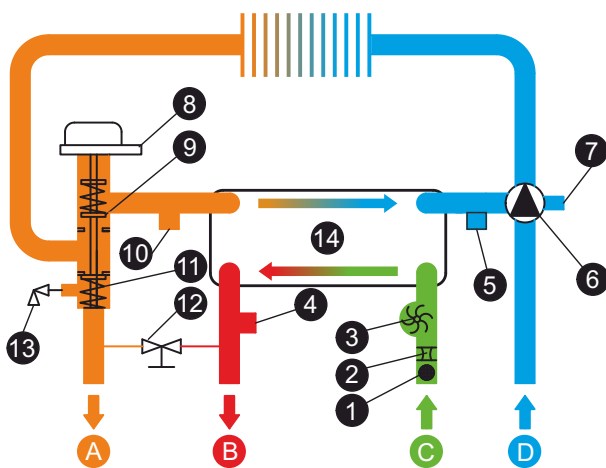
Flow Detection :
Turbine Type Flowmeter with Hall Effect Sensor

By-Pass :
Through PHE

Pressure Relief Valve :
3 bar

Pump Connection :
Side

Hydraulic Circuit



- | | |
|--------------------------------|-------------------------|
| 1 DHW Filter | 8 3 Way Valve Motor |
| 2 Flow Regulator | 9 Automatic Bypass |
| 3 Flow Sensor | 10 Pressure Gauge Conn. |
| 4 NTC Sensor Connection | 11 3 Way Valve |
| 5 Pressure Switch/Sensor Conn. | 12 Filling Tap |
| 6 Circulation Pump | 13 Safety Valve |
| 7 Expansion Vessel Connection | 14 Plate Heat Exchanger |

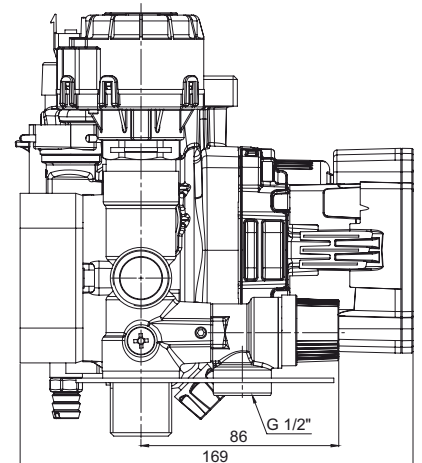
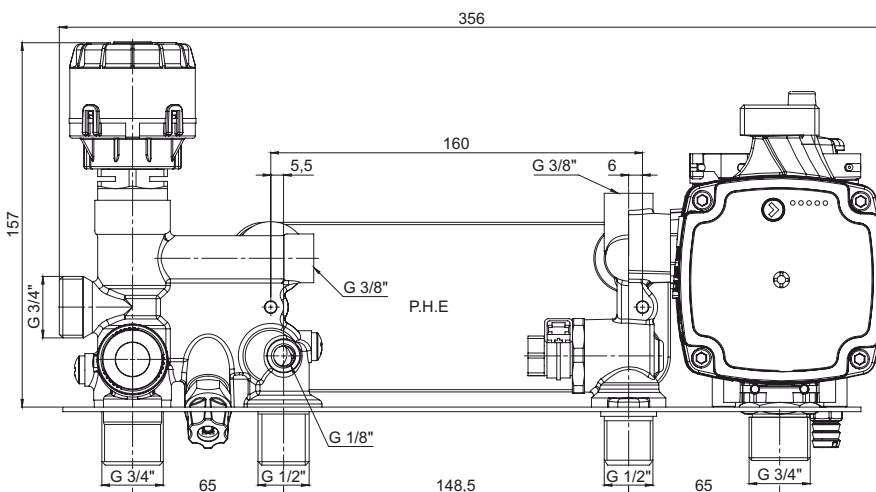
A Heating Delivery CH

B Sanitary Water Outlet DW

C Sanitary Water Inlet DW

D Heating Return CH

Dimensions (mm)



Combi Monothermic / Brass / Side Pump Connection



Technical Features

Material :
CuZn40Pb2 (CW617N)

Flow Regulator :
6 to 22 (lt./min.)

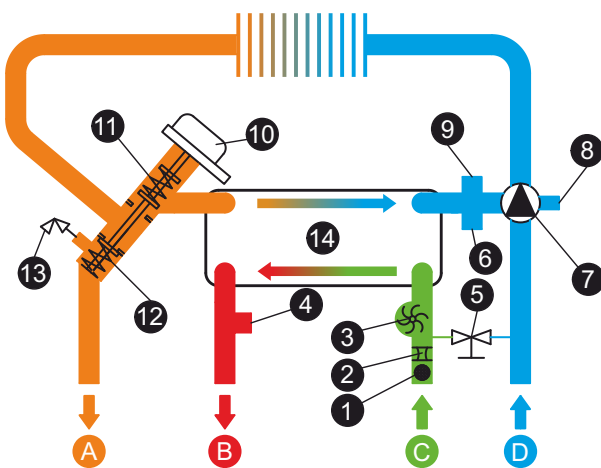
Flow Detection :
Turbine Type Flowmeter with Hall Effect Sensor

By-Pass :
Through PHE

Pressure Relief Valve :
3 bar

Pump Connection :
Side

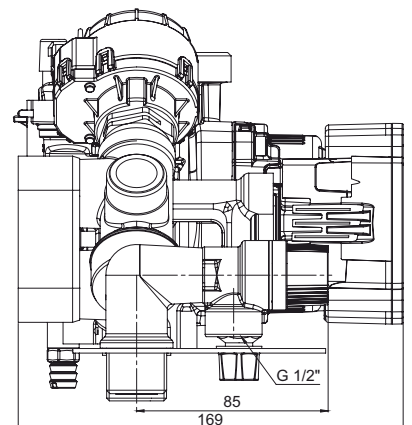
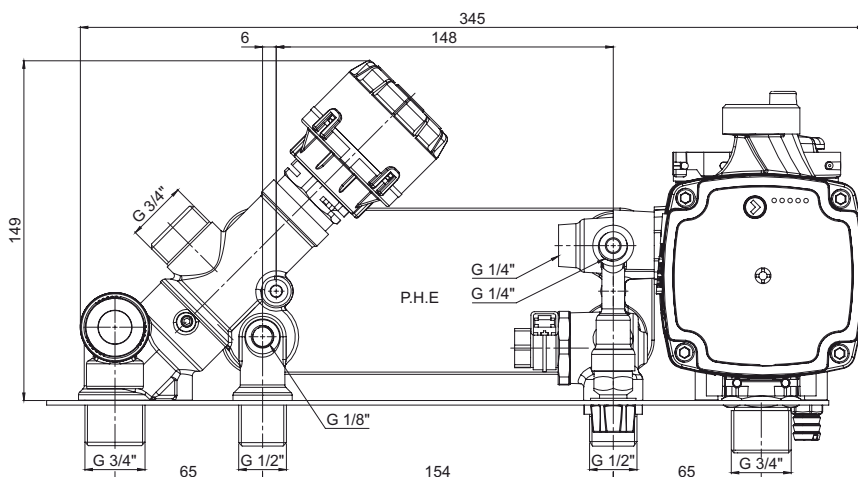
Hydraulic Circuit



- 1 DHW Filter
- 2 Flow Regulator
- 3 Flow Sensor
- 4 NTC Sensor Connection
- 5 Filling Tap
- 6 Pressure Switch/Sensor Conn.
- 7 Circulation Pump
- 8 Expansion Vessel Conn.
- 9 Pressure Gauge Conn.
- 10 3 Way Valve Motor
- 11 Automatic Bypass
- 12 3 Way Valve
- 13 Safety Valve
- 14 Plate Heat Exchanger

- A Heating Delivery CH
- B Sanitary Water Outlet DW
- C Sanitary Water Inlet DW
- D Heating Return CH

Dimensions (mm)



Hydroblock HB-110

Combi Monothermic / Composite / Side Pump Connection



Technical Features

Material :

Plastic (PA66 GF30) + Brass (CuZn40Pb2)

Flow Regulator :

6 to 22 (lt./min.)

Flow Detection :

Turbine Type Flowmeter with Hall Effect Sensor

By-Pass :

Through PHE

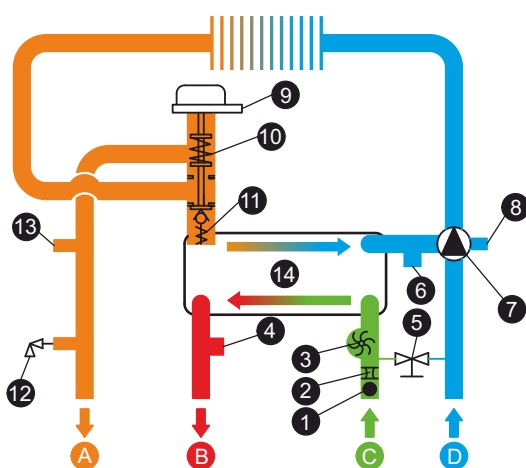
Pressure Relief Valve :

3 bar

Pump Connection :

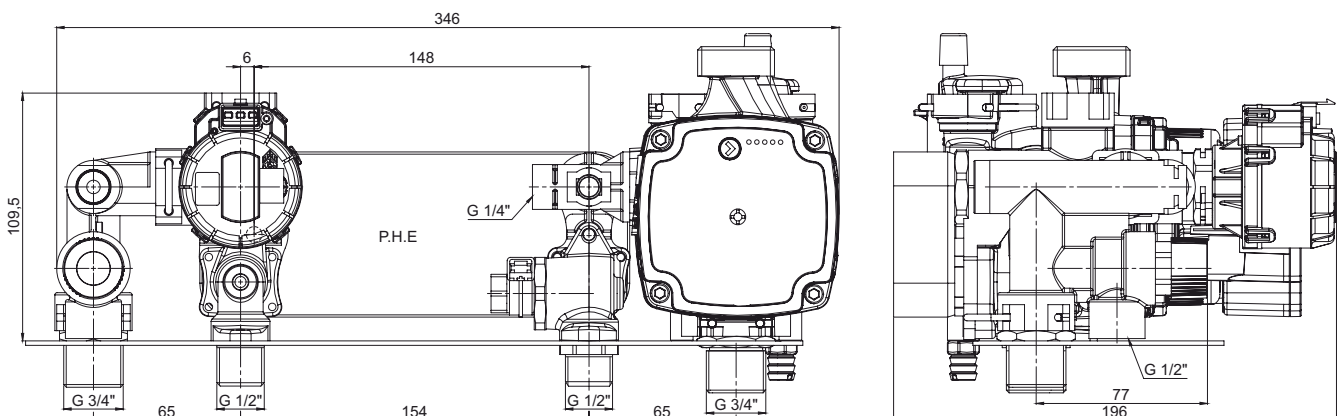
Side

Hydraulic Circuit



- | | |
|-----------------------------|--------------------------------------|
| 1 DHW Filter | 8 Expansion Vessel Conn. |
| 2 Flow Regulator | 9 3 Way Valve Motor |
| 3 Flow Sensor | 10 3 Way Valve |
| 4 NTC Sensor Connection | 11 Automatic Bypass |
| 5 Filling Tap | 12 Safety Valve |
| 6 Pressure Gauge Connection | 13 Pressure Switch Sensor Connection |
| 7 Circulation Pump | 14 Plate Heat Exchanger |
-
- | | |
|----------------------------|---------------------------|
| A Heating Delivery CH | C Sanitary Water Inlet DW |
| B Sanitary Water Outlet DW | D Heating Return CH |

Dimensions (mm)



Combi Monothermic / Composite / Side Pump Connection



Technical Features

Material :

Plastic (PA66 GF30) + Brass (CuZn40Pb2)

Flow Regulator :

6 to 22 (lt./min.)

Flow Detection :

Turbine Type Flowmeter with Hall Effect Sensor

By-Pass :

Through P.H.E

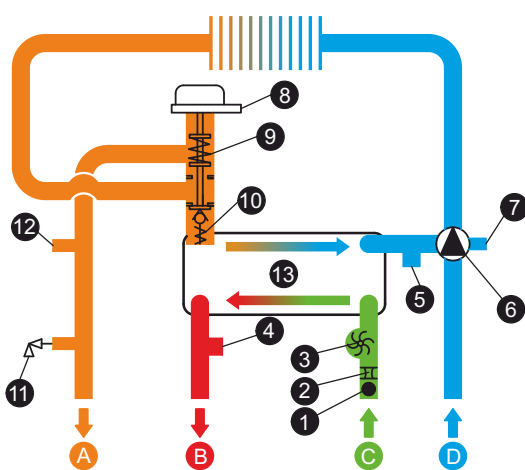
Pressure Relief Valve :

3 bar

Pump Connection :

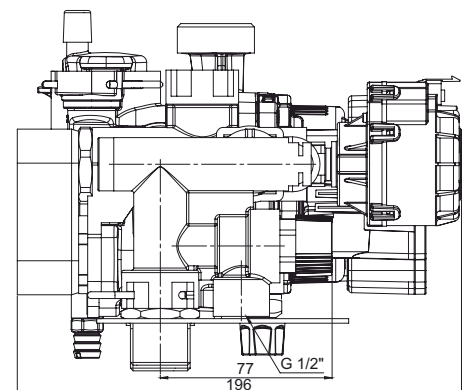
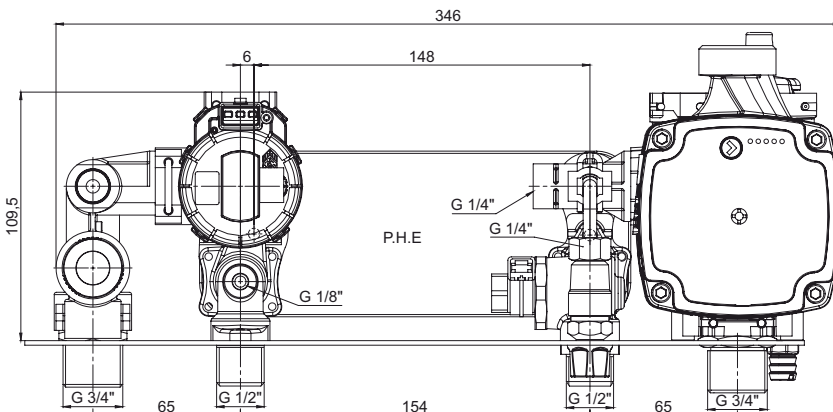
Side

Hydraulic Circuit



- 1 DHW Filter
 - 2 Flow Regulator
 - 3 Flow Sensor
 - 4 NTC Sensor Connection
 - 5 Pressure Gauge Connection
 - 6 Circulation Pump
 - 7 Expansion Vessel Connection
 - 8 3 Way Valve Motor
 - 9 3 Way Valve
 - 10 Automatic Bypass
 - 11 Safety Valve
 - 12 Pressure Switch Sensor Connection
 - 13 Plate Heat Exchanger
- A Heating Delivery CH C Sanitary Water Inlet DW
B Sanitary Water Outlet DW D Heating Return CH

Dimensions (mm)



Hydroblock HB-112

Combi Monothermic / Brass / Side Pump Connection



Technical Features

Material :

CuZn40Pb2 (CW617N)

Flow Regulator :

6 to 22 (lt./min.)

Flow Detection :

Turbine Type Flowmeter with Hall Effect Sensor

By-Pass :

Through PHE

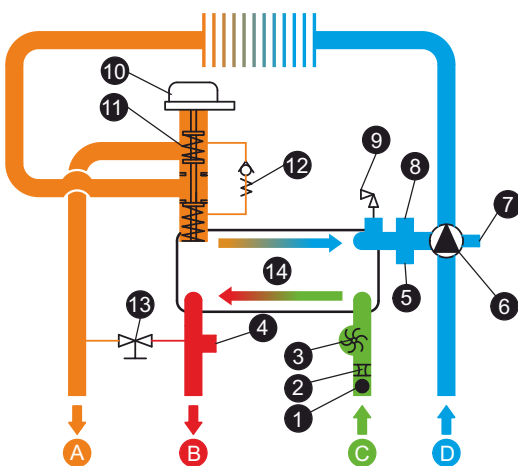
Pressure Relief Valve :

3 bar

Pump Connection :

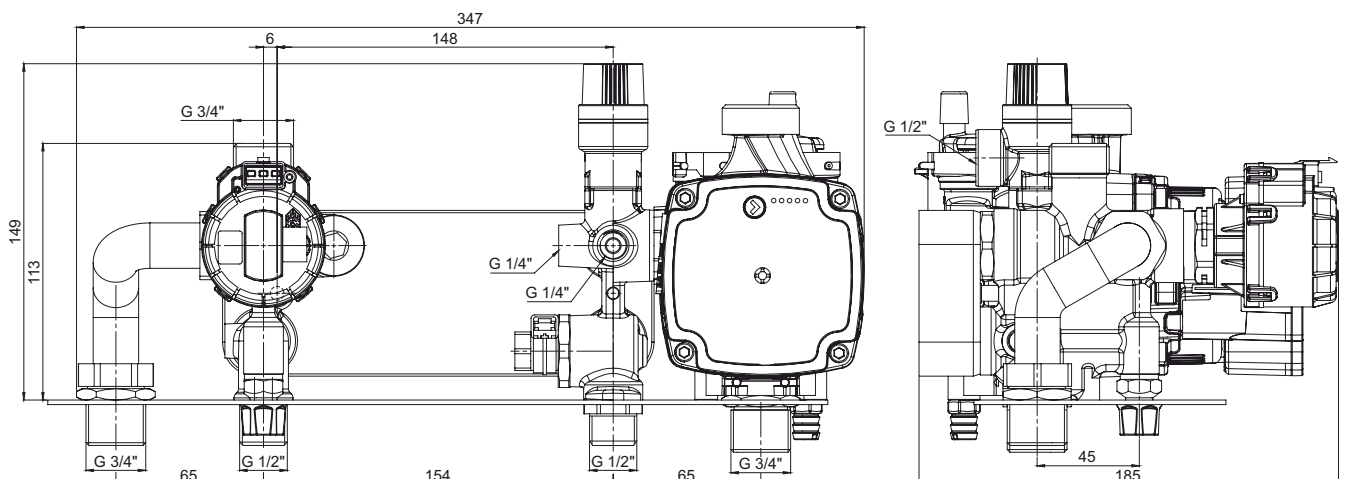
Side

Hydraulic Circuit

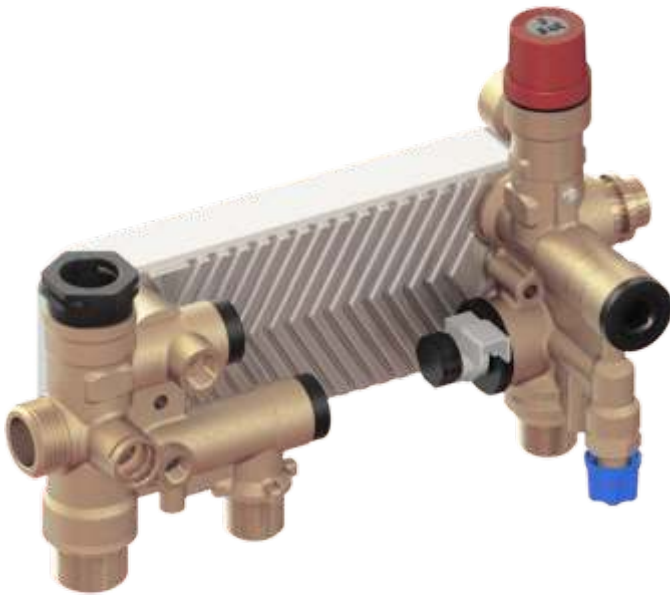


- | | |
|-------------------------------|-------------------------------------|
| 1 DHW Filter | 8 Pressure Switch Sensor Connection |
| 2 Flow Regulator | 9 Safety Valve |
| 3 Flow Sensor | 10 3 Way Valve Motor |
| 4 NTC Sensor Connection | 11 3 Way Valve |
| 5 Pressure Gauge Connection | 12 Automatic Bypass |
| 6 Circulation Pump | 13 Filling Tap |
| 7 Expansion Vessel Connection | 14 Plate Heat Exchanger |
-
- | | |
|----------------------------|---------------------------|
| A Heating Delivery CH | C Sanitary Water Inlet DW |
| B Sanitary Water Outlet DW | D Heating Return CH |

Dimensions (mm)



Combi Monothermic / Brass / Side Pump Connection



Technical Features

Material :
CuZn40Pb2 (CW617N)

Flow Regulator :
6 to 22 (lt./min.)

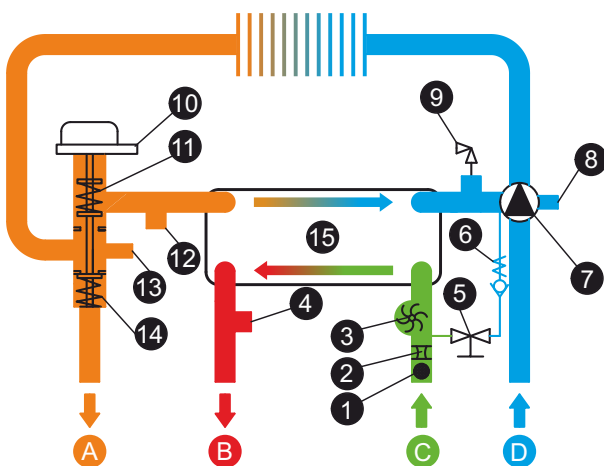
Flow Detection :
Turbine Type Flowmeter with Hall Effect Sensor

By-Pass :
Through PHE

Pressure Relief Valve :
3 bar

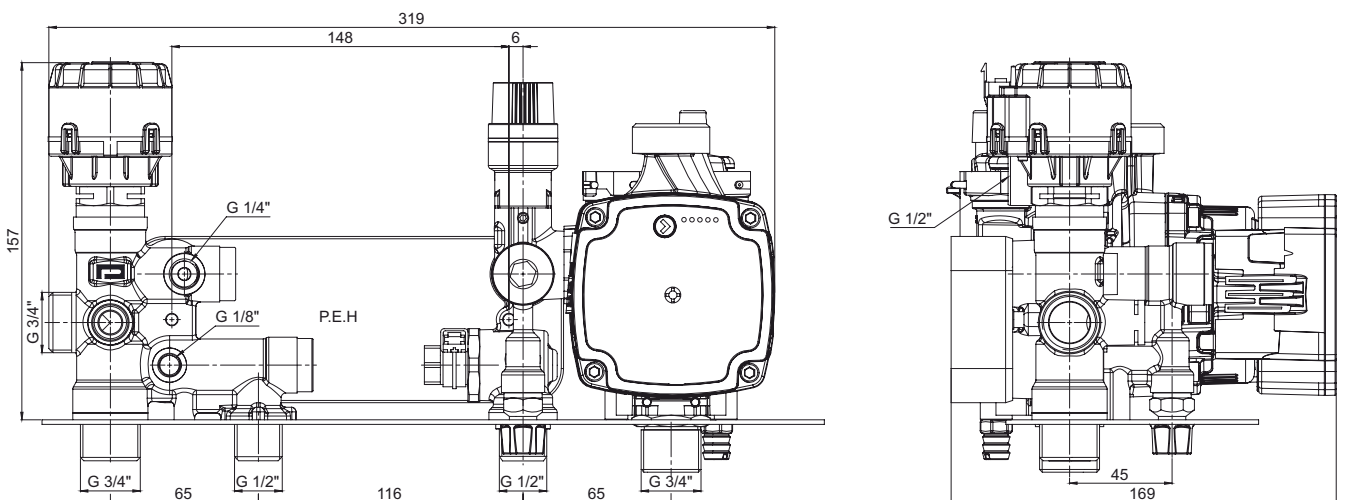
Pump Connection :
Side

Hydraulic Circuit



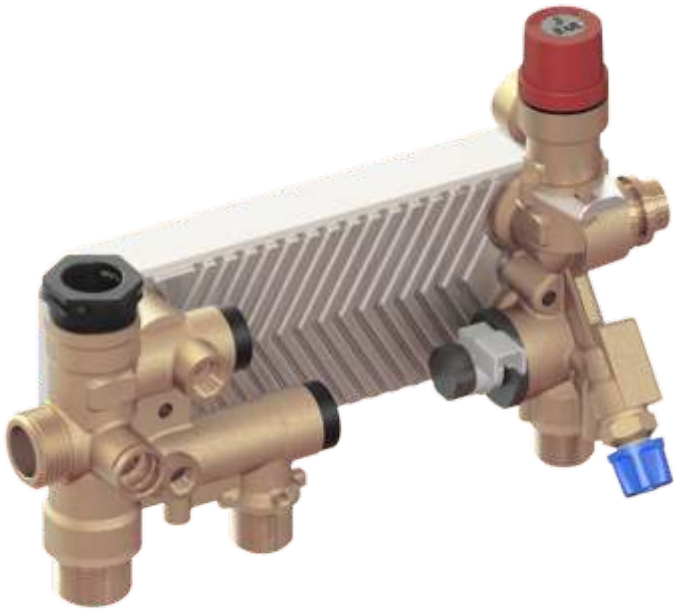
- 1 DHW Filter
 - 2 Flow Regulator
 - 3 Flow Sensor
 - 4 NTC Sensor Connection
 - 5 Filling Tap
 - 6 Back Flow Preventer (EN1717 Type EA)
 - 7 Circulation Pump
 - 8 Expansion Vessel Connection
 - 9 Safety Valve
 - 10 3 Way Valve Motor
 - 11 3 Way Valve
 - 12 Pressure Switch Sensor Connection
 - 13 Pressure Gauge Conn.
 - 14 Automatic Bypass
 - 15 Plate Heat Exchanger
- A Heating Delivery CH C Sanitary Water Inlet DW
 B Sanitary Water Outlet DW D Heating Return CH

Dimensions (mm)



Hydroblock HB-114

Combi Monothermic / Brass / Side Pump Connection



Technical Features

Material :

CuZn40Pb2 (CW617N)

Flow Regulator :

6 to 22 (lt./min.)

Flow Detection :

Turbine Type Flowmeter with Hall Effect Sensor

By-Pass :

Through PHE

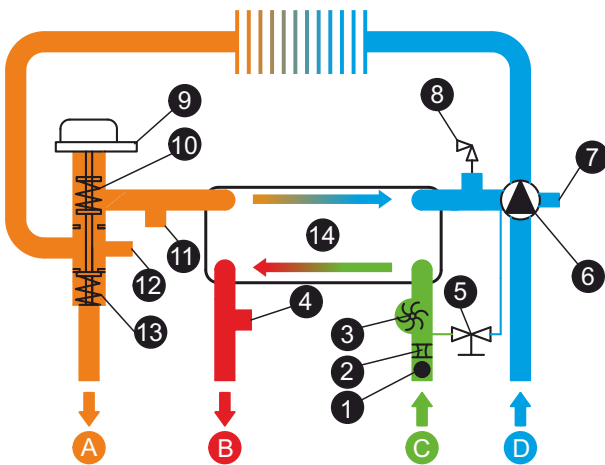
Pressure Relief Valve :

3 bar

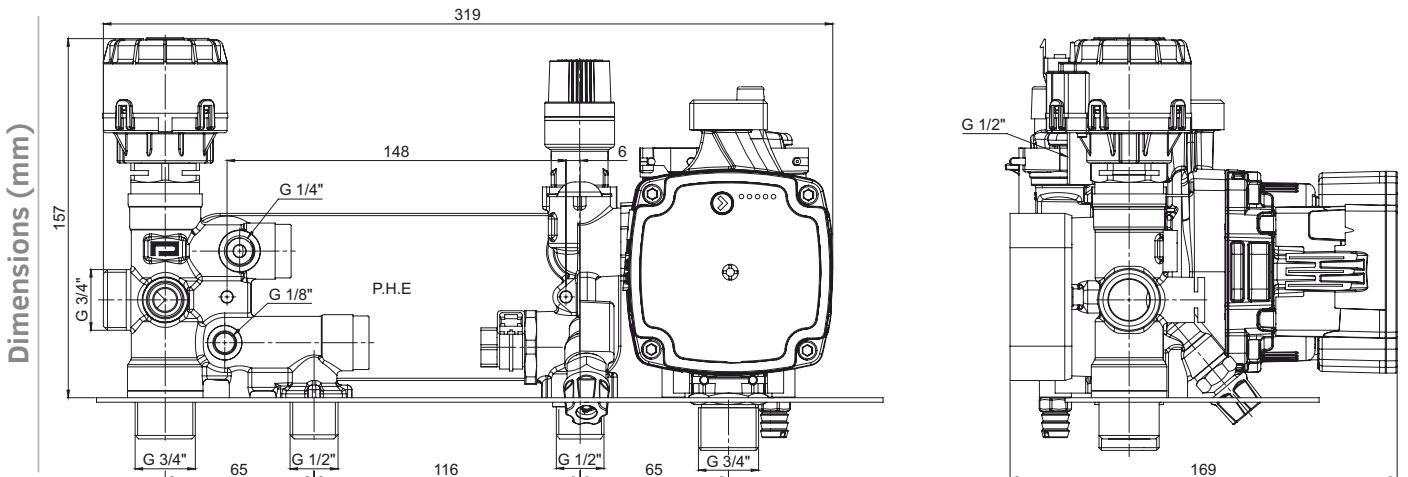
Pump Connection :

Side

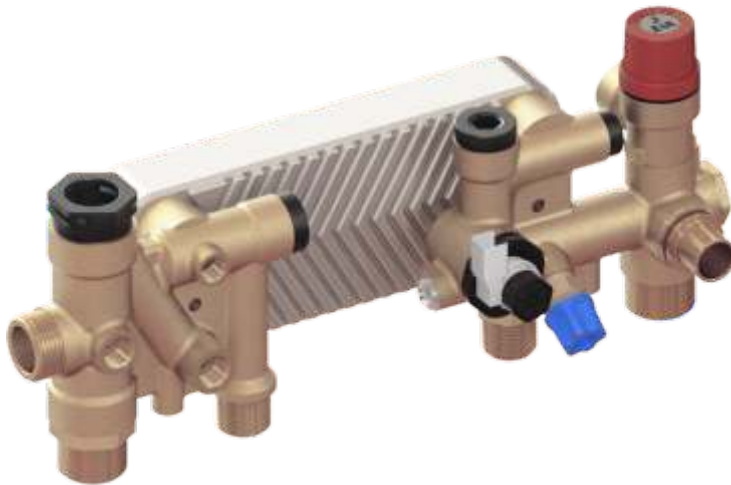
Hydraulic Circuit



- 1 DHW Filter
 - 2 Flow Regulator
 - 3 Flow Sensor
 - 4 NTC Sensor Connection
 - 5 Filling Tap
 - 6 Circulation Pump
 - 7 Expansion Vessel Connection
 - 8 Safety Valve
 - 9 3 Way Valve Motor
 - 10 3 Way Valve
 - 11 Pressure Switch Sensor Connection
 - 12 Pressure Gauge Conn.
 - 13 Automatic Bypass
 - 14 Plate Heat Exchanger
- A Heating Delivery CH C Sanitary Water Inlet DW
 B Sanitary Water Outlet DW D Heating Return CH



Combi Monothermic / Brass / Front Pump Connection



Technical Features

Material :
CuZn40Pb2 (CW617N)

Flow Regulator :
6 to 22 (lt./min.)

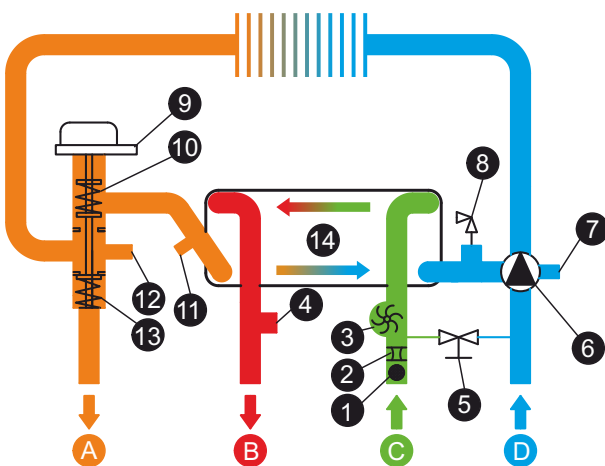
Flow Detection :
Turbine Type Flowmeter with Hall Effect Sensor

By-Pass :
Through PHE

Pressure Relief Valve :
3 bar

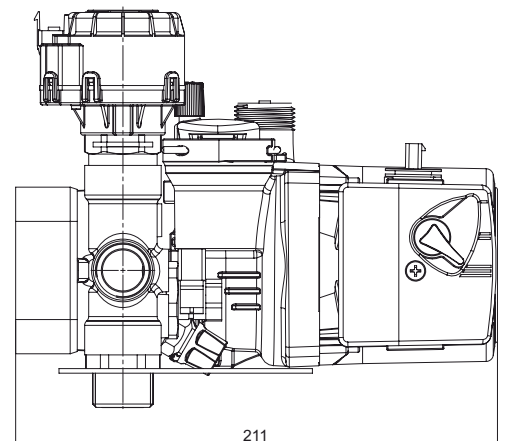
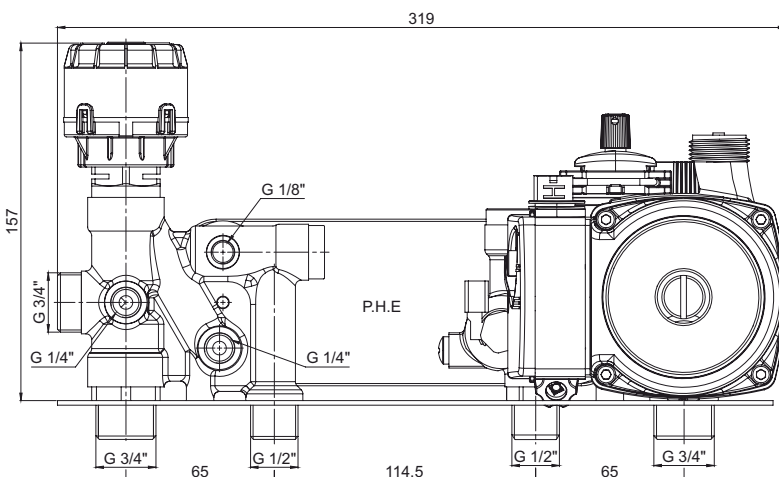
Pump Connection :
Front

Hydraulic Circuit



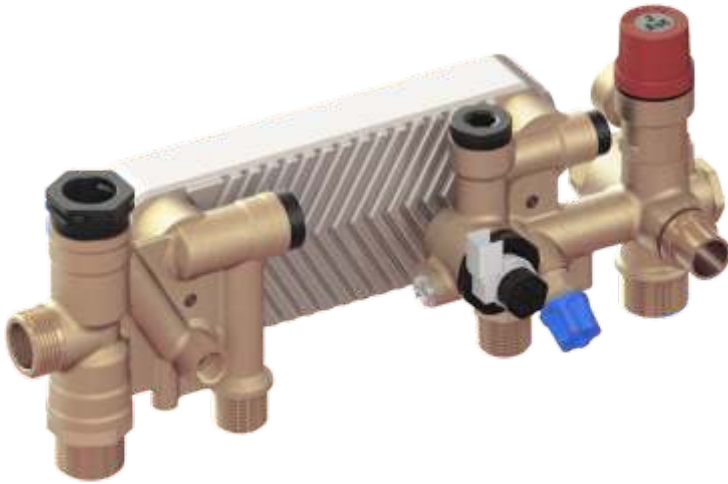
- 1 DHW Filter
 - 2 Flow Regulator
 - 3 Flow Sensor
 - 4 NTC Sensor Connection
 - 5 Filling Tap
 - 6 Circulation Pump
 - 7 Expansion Vessel Connection
 - 8 Safety Valve
 - 9 3 Way Valve Motor
 - 10 Automatic Bypass
 - 11 Pressure Switch Sensor Connection
 - 12 Pressure Gauge Conn.
 - 13 3 Way Valve
 - 14 Plate Heat Exchanger
- A Heating Delivery CH C Sanitary Water Inlet DW
B Sanitary Water Outlet DW D Heating Return CH

Dimensions (mm)



Hydroblock HB-116

Combi Monothermic / Brass / Front Pump Connection



Technical Features

Material :
CuZn40Pb2 (CW617N)

Flow Regulator :
6 to 22 (lt./min.)

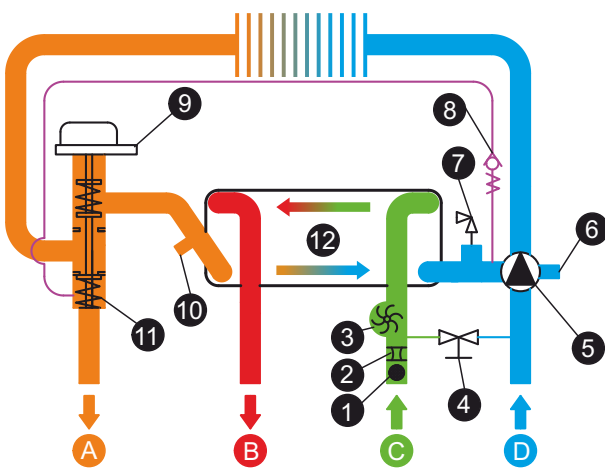
Flow Detection :
Turbine Type Flowmeter with Hall Effect Sensor

By-Pass :
External

Pressure Relief Valve :
3 bar

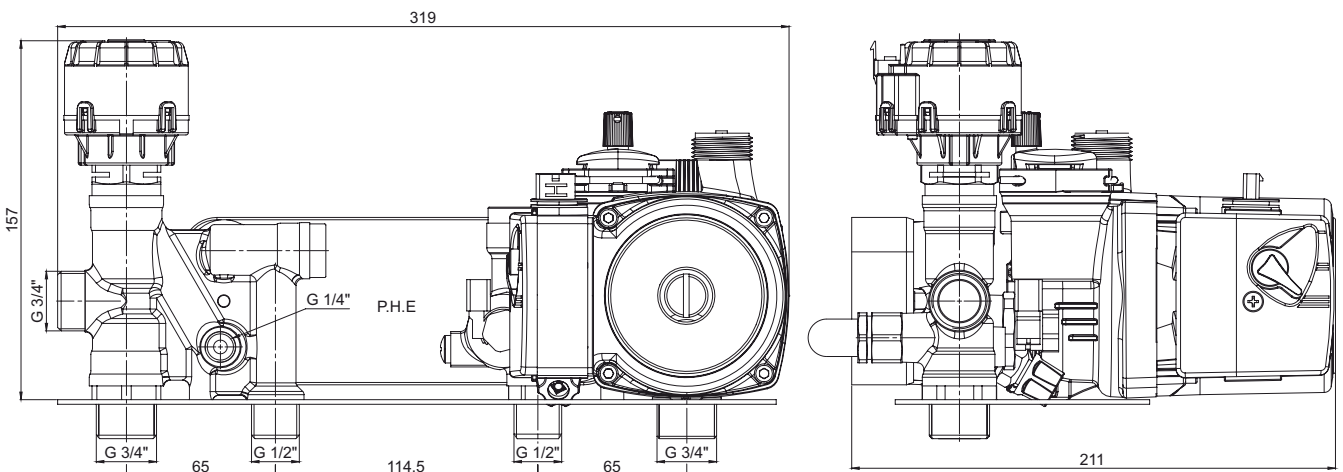
Pump Connection :
Front

Hydraulic Circuit

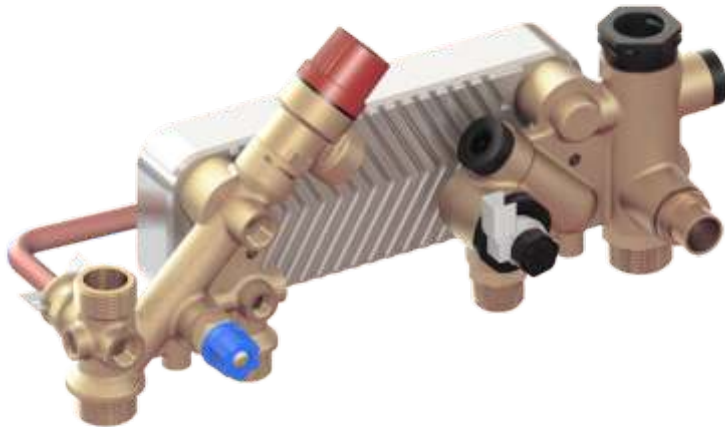


- | | |
|-------------------------------|--------------------------------------|
| 1 DHW Filter | 8 External Bypass |
| 2 Flow Regulator | 9 3 Way Valve Motor |
| 3 Flow Sensor | 10 Pressure Switch Sensor Connection |
| 4 Filling Tap | 11 3 Way Valve |
| 5 Circulation Pump | 12 Plate Heat Exchanger |
| 6 Expansion Vessel Connection | |
| 7 Safety Valve | |
-
- | | |
|----------------------------|---------------------------|
| A Heating Delivery CH | C Sanitary Water Inlet DW |
| B Sanitary Water Outlet DW | D Heating Return CH |

Dimensions (mm)



Combi Monothermic / Brass / Front Pump Connection



Technical Features

Material :
CuZn40Pb2 (CW617N)

Flow Regulator :
6 to 22 (lt./min.)

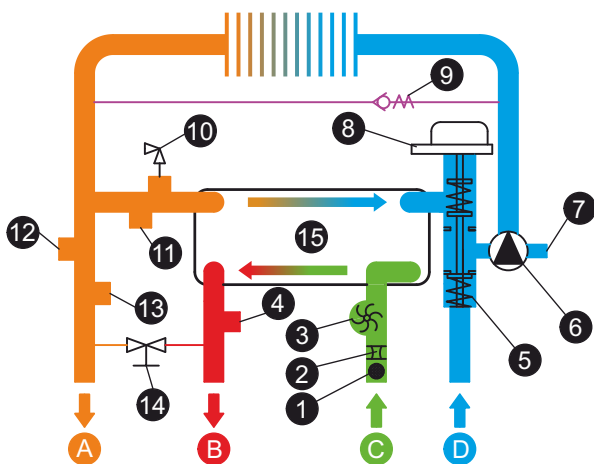
Flow Detection :
Turbine Type Flowmeter with Hall Effect Sensor

By-Pass :
External

Pressure Relief Valve :
3 bar

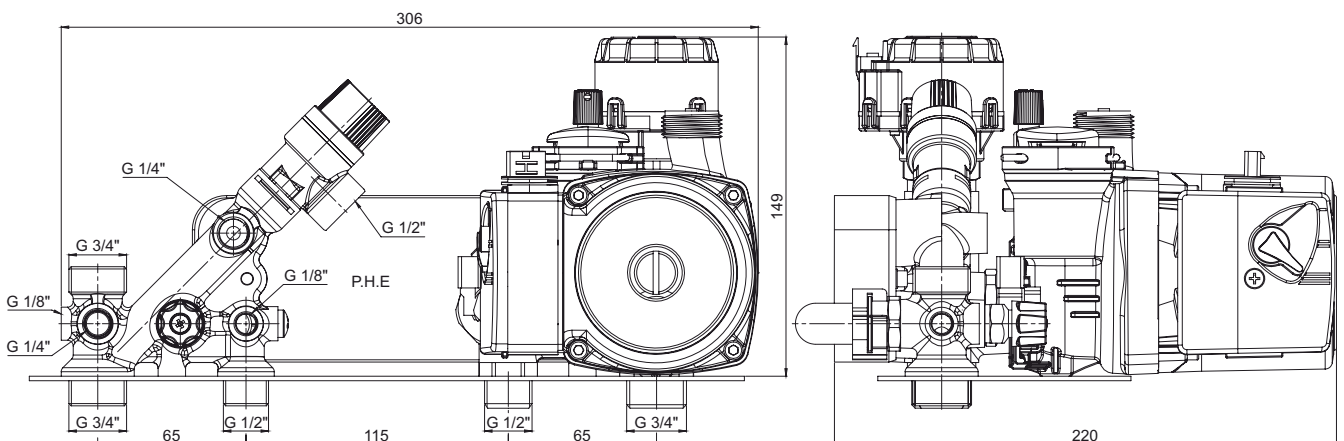
Pump Connection :
Front

Hydraulic Circuit



- | | |
|-------------------------------|--------------------------------------|
| 1 DHW Filter | 9 External Bypass |
| 2 Flow Regulator | 10 Safety Valve |
| 3 Flow Sensor | 11 Pressure Switch Sensor Connection |
| 4 NTC Sensor Connection | 12 Heating Temp. Sensor Con. |
| 5 3 Way Valve | 13 Drain Valve |
| 6 Circulation Pump | 14 Filling Tap |
| 7 Expansion Vessel Connection | 15 Plate Heat Exchanger |
| 8 3 Way Valve Motor | |
-
- | | |
|----------------------------|---------------------------|
| A Heating Delivery CH | C Sanitary Water Inlet DW |
| B Sanitary Water Outlet DW | D Heating Return CH |

Dimensions (mm)



Hydroblock HB-118

Combi Monothermic / Composite / Side Pump Connection



Technical Features

Material :

Plastic (PA66 GF30) + Brass (CuZn40Pb2)

Flow Regulator :

6 to 22 (lt./min.)

Flow Detection :

Turbine Type Flowmeter with Hall Effect Sensor

By-Pass :

Through PHE

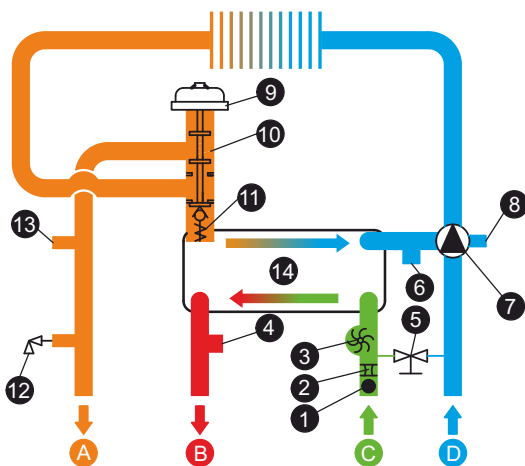
Pressure Relief Valve :

3 bar

Pump Connection :

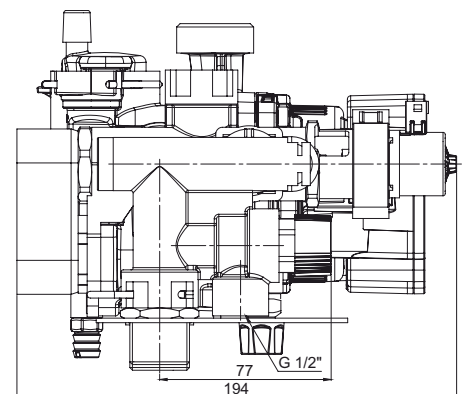
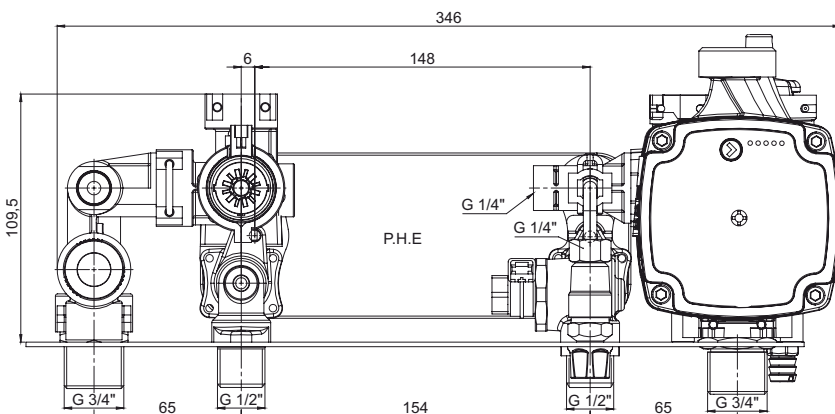
Side

Hydraulic Circuit



- | | |
|-----------------------------|--------------------------------------|
| 1 DHW Filter | 8 Expansion Vessel Conn. |
| 2 Flow Regulator | 9 Stepper Motor |
| 3 Flow Sensor | 10 3 Way Valve |
| 4 NTC Sensor Connection | 11 Automatic Bypass |
| 5 Filling Tap | 12 Safety Valve |
| 6 Pressure Gauge Connection | 13 Pressure Switch Sensor Connection |
| 7 Circulation Pump | 14 Plate Heat Exchanger |
-
- | | |
|----------------------------|---------------------------|
| A Heating Delivery CH | C Sanitary Water Inlet DW |
| B Sanitary Water Outlet DW | D Heating Return CH |

Dimensions (mm)



Combi Monothermic / Brass / Side Pump Connection



Technical Features

Material :
CuZn40Pb2 (CW617N)

Flow Regulator :
6 to 22 (lt./min.)

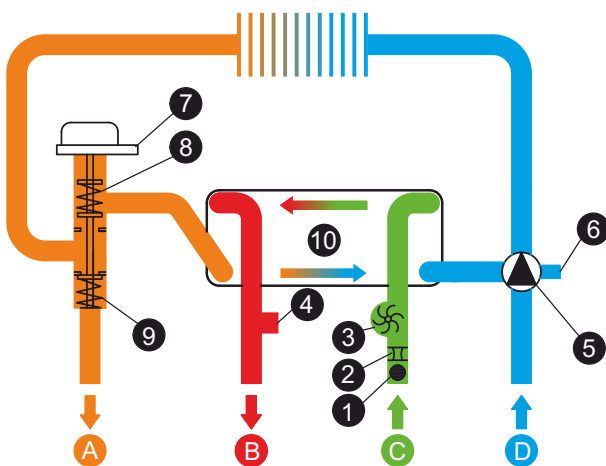
Flow Detection :
Turbine Type Flowmeter with Hall Effect Sensor

By-Pass :
Through PHE

Pressure Relief Valve :
3 bar

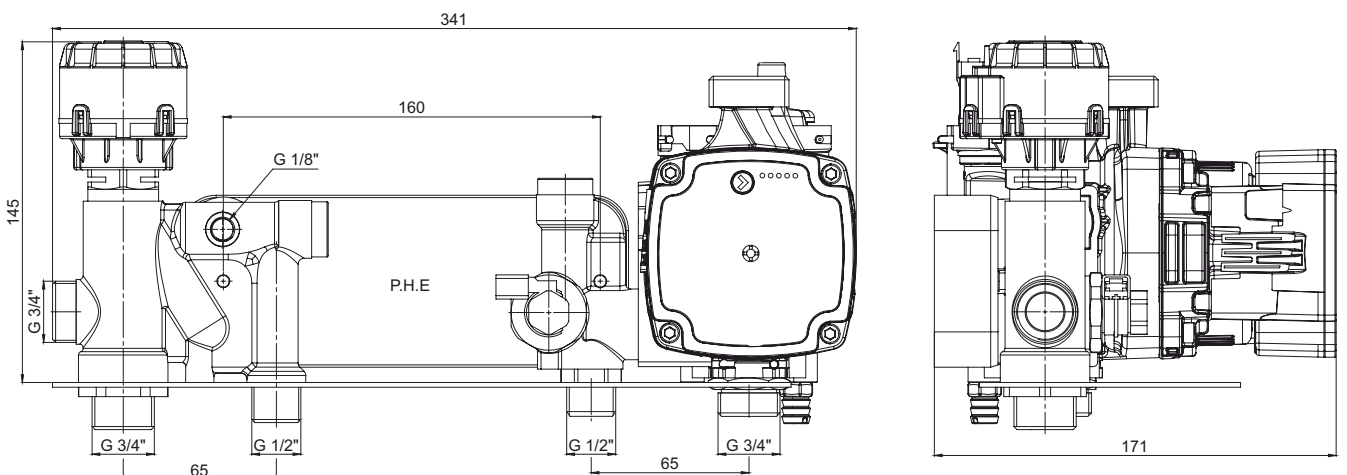
Pump Connection :
Side

Hydraulic Circuit



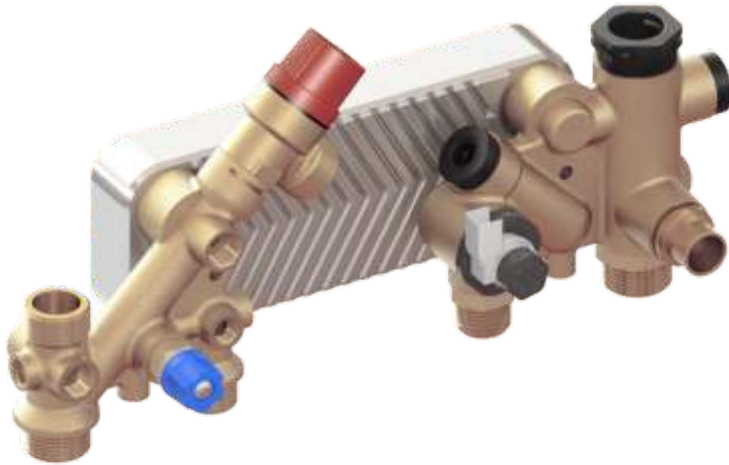
- 1 DHW Filter
 - 2 Flow Regulator
 - 3 Flow Sensor
 - 4 Circulation Pump
 - 5 NTC Sensor Connection
 - 6 Expansion Vessel Connection
 - 7 3 Way Valve Motor
 - 8 Automatic Bypass
 - 9 3 Way Valve
 - 10 Plate Heat Exchanger
- A Heating Delivery CH C Sanitary Water Inlet DW
 B Sanitary Water Outlet DW D Heating Return CH

Dimensions (mm)



Hydroblock HB-120

Combi Monothermic / Brass / Front Pump Connection



Technical Features

Material :

CuZn40Pb2 (CW617N)

Flow Regulator :

6 to 22 (lt./min.)

Flow Detection :

Turbine Type Flowmeter with Hall Effect Sensor

By-Pass :

Through PHE

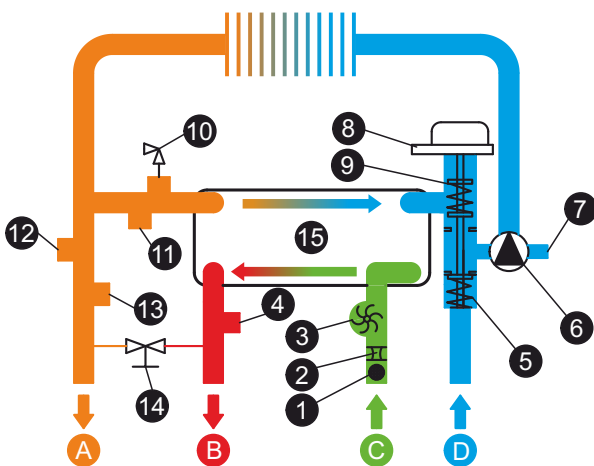
Pressure Relief Valve :

3 bar

Pump Connection :

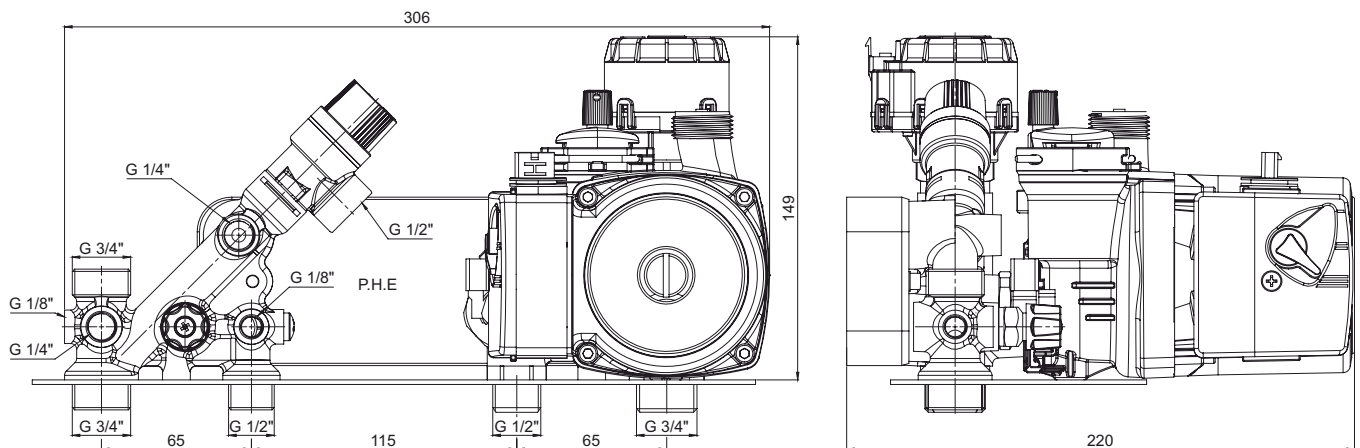
Front

Hydraulic Circuit



- | | |
|-------------------------------|--------------------------------------|
| 1 DHW Filter | 9 Automatic Bypass |
| 2 Flow Regulator | 10 Safety Valve |
| 3 Flow Sensor | 11 Pressure Switch Sensor Connection |
| 4 NTC Sensor Connection | 12 Heating Temp. Sensor Con. |
| 5 3 Way Valve | 13 Drain Valve |
| 6 Circulation Pump | 14 Filling Tap |
| 7 Expansion Vessel Connection | 15 Plate Heat Exchanger |
| 8 3 Way Valve Motor | |
-
- | | |
|----------------------------|---------------------------|
| A Heating Delivery CH | C Sanitary Water Inlet DW |
| B Sanitary Water Outlet DW | D Heating Return CH |

Dimensions (mm)



Combi Monothermic / Brass / Side Pump Connection



Technical Features

Material :
CuZn40Pb2 (CW617N)

Flow Regulator :
6 to 22 (lt./min.)

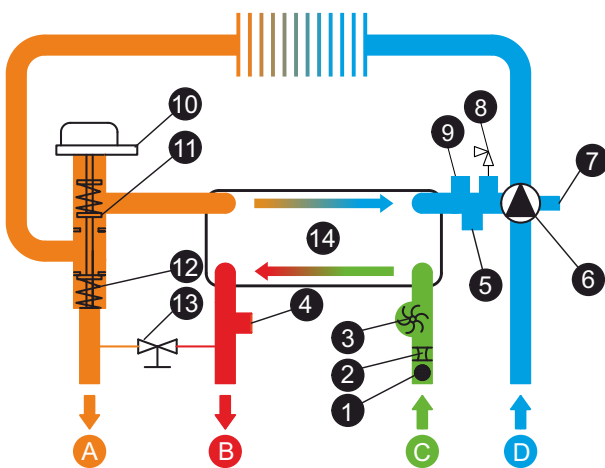
Flow Detection :
Turbine Type Flowmeter with Hall Effect Sensor

By-Pass :
Through P.H.E

Pressure Relief Valve :
3 bar

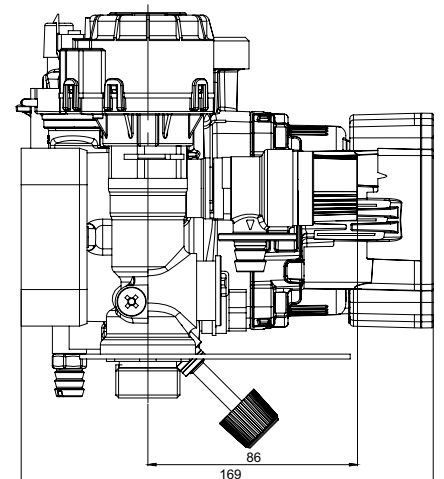
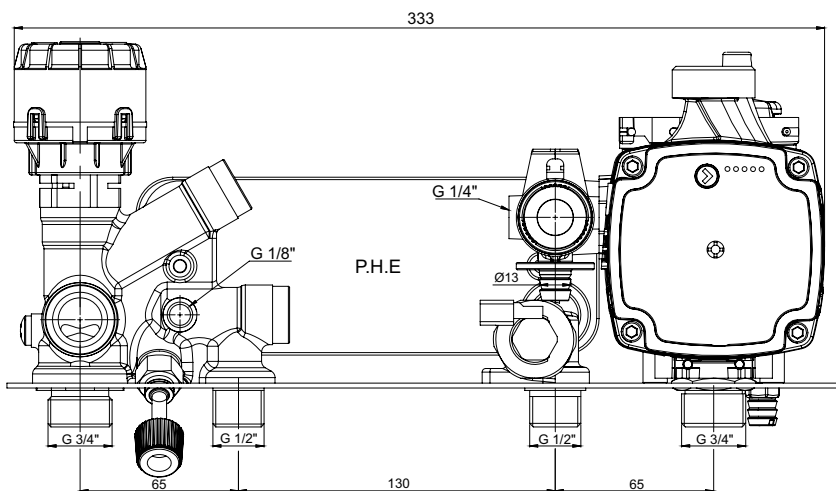
Pump Connection :
Side

Hydraulic Circuit



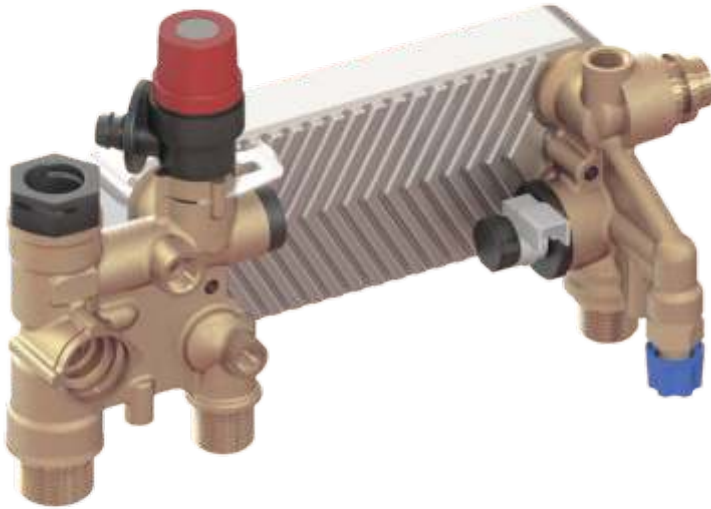
- | | |
|--------------------------------|-------------------------|
| 1 DHW Filter | 8 Safety Valve |
| 2 Flow Regulator | 9 Pressure Gauge Conn. |
| 3 Flow Sensor | 10 3 Way Valve Motor |
| 4 NTC Sensor Connection | 11 Automatic Bypass |
| 5 Pressure Switch/Sensor Conn. | 12 3 Way Valve |
| 6 Circulation Pump | 13 Filling Tap |
| 7 Expansion Vessel Conn. | 14 Plate Heat Exchanger |
-
- | | |
|----------------------------|---------------------------|
| A Heating Delivery CH | C Sanitary Water Inlet DW |
| B Sanitary Water Outlet DW | D Heating Return CH |

Dimensions (mm)



Hydroblock HB-122

Combi Monothermic / Brass / Side Pump Connection



Technical Features

Material :

CuZn40Pb2 (CW617N)

Flow Regulator :

6 to 22 (lt./min.)

Flow Detection :

Turbine Type Flowmeter with Hall Effect Sensor

By-Pass :

Through PHE

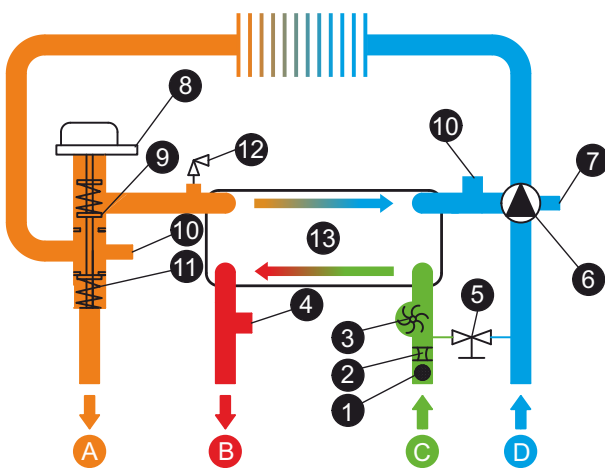
Pressure Relief Valve :

3 bar

Pump Connection :

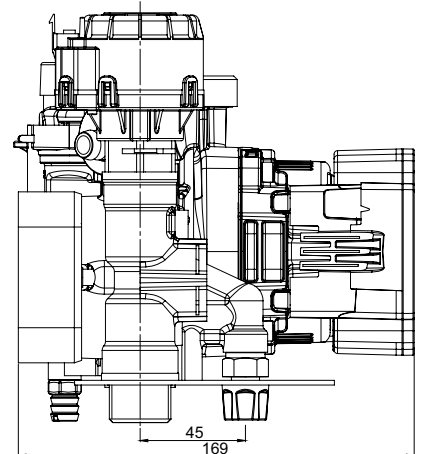
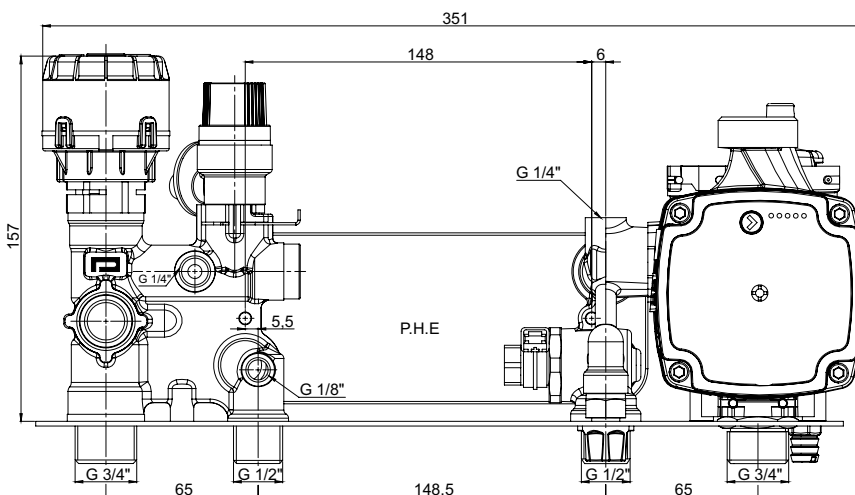
Side

Hydraulic Circuit



- | | |
|-------------------------------|--|
| 1 DHW Filter | 8 3 Way Valve Motor |
| 2 Flow Regulator | 9 Automatic Bypass |
| 3 Flow Sensor | 10 Pressure Switch / Sensor / Gauge Connection |
| 4 NTC Sensor Connection | 11 3 Way Valve |
| 5 Filling Tap | 12 Safety Valve |
| 6 Circulation Pump | 13 Plate Heat Exchanger |
| 7 Expansion Vessel Connection | |
-
- | | |
|----------------------------|---------------------------|
| A Heating Delivery CH | C Sanitary Water Inlet DW |
| B Sanitary Water Outlet DW | D Heating Return CH |

Dimensions (mm)







COMBI BITHERMIC

B

Combi Bithermic / Brass / Side Pump Connection



Technical Features

Material :
CuZn40Pb2 (CW617N)

Flow Regulator :
6 to 22 (lt./min.)

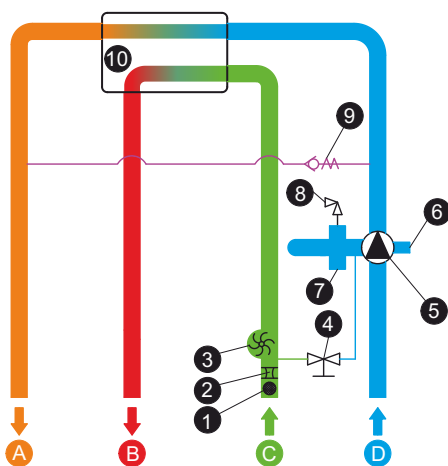
Flow Detection :
Turbine Type Flowmeter with Hall Effect Sensor

By-Pass :
External

Pressure Relief Valve :
3 bar

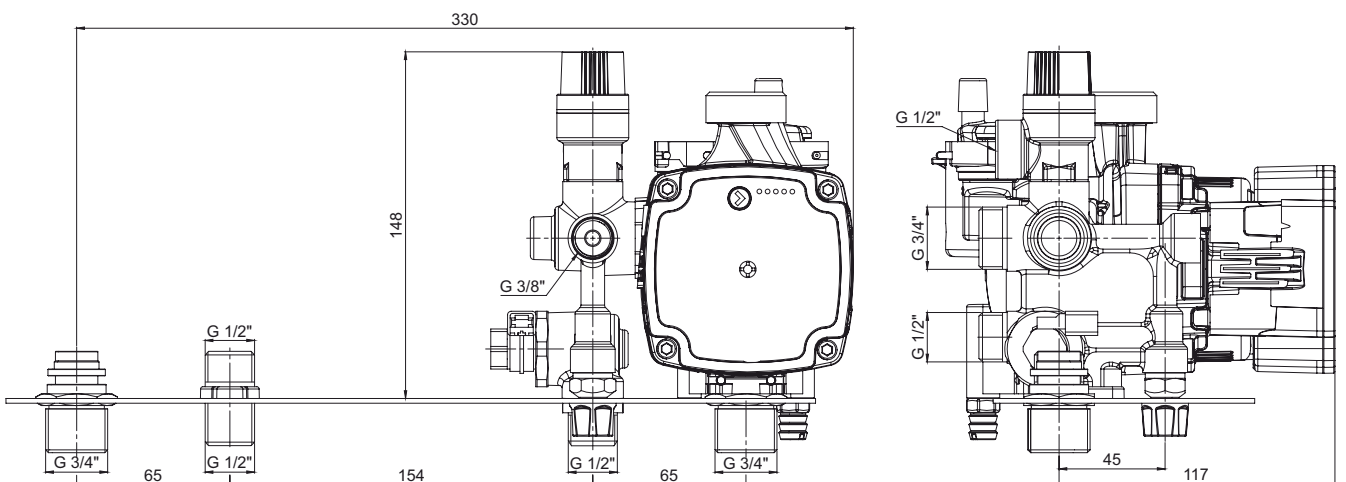
Pump Connection :
Side

Hydraulic Circuit



- 1 DHW Filter
 - 2 Flow Regulator
 - 3 Flow Sensor
 - 4 Filling Tap
 - 5 Circulation Pump
 - 6 Expansion Vessel Connection
 - 7 Pressure Switch / Sensor Conn.
 - 8 Safety Valve
 - 9 Bypass
 - 10 Main Exchanger
- A Heating Delivery CH
 - B Sanitary Water Outlet DW
 - C Sanitary Water Inlet DW
 - D Heating Return CH

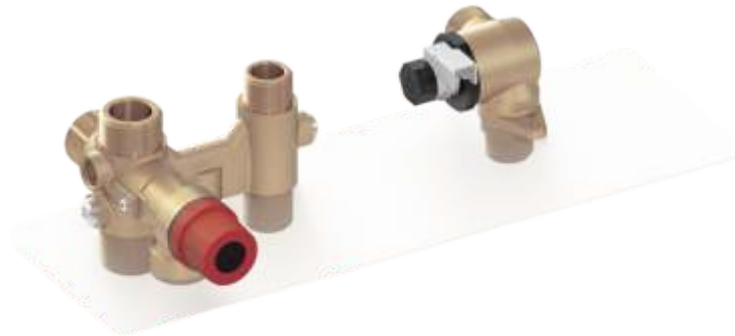
Dimensions (mm)



Hydroblock HB-202

B

Combi Bithermic / Brass / Side Pump Connection



Technical Features

Material :

CuZn40Pb2 (CW617N)

Flow Regulator :

6 to 22 (lt./min.)

Flow Detection :

Turbine Type Flowmeter with Hall Effect Sensor

By-Pass :

External

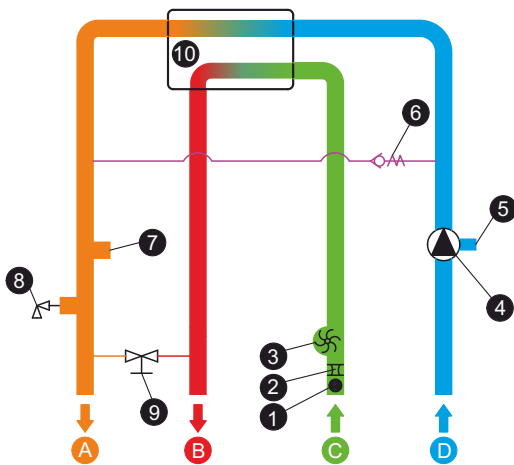
Pressure Relief Valve :

3 bar

Pump Connection :

Side

Hydraulic Circuit



- 1 DHW Filter
- 2 Flow Regulator
- 3 Flow Sensor
- 4 Circulation Pump
- 5 Expansion Vessel Connection
- 6 Bypass
- 7 Pressure Switch / Sensor Conn.
- 8 Safety Valve
- 9 Filling Tap
- 10 Main Exchanger

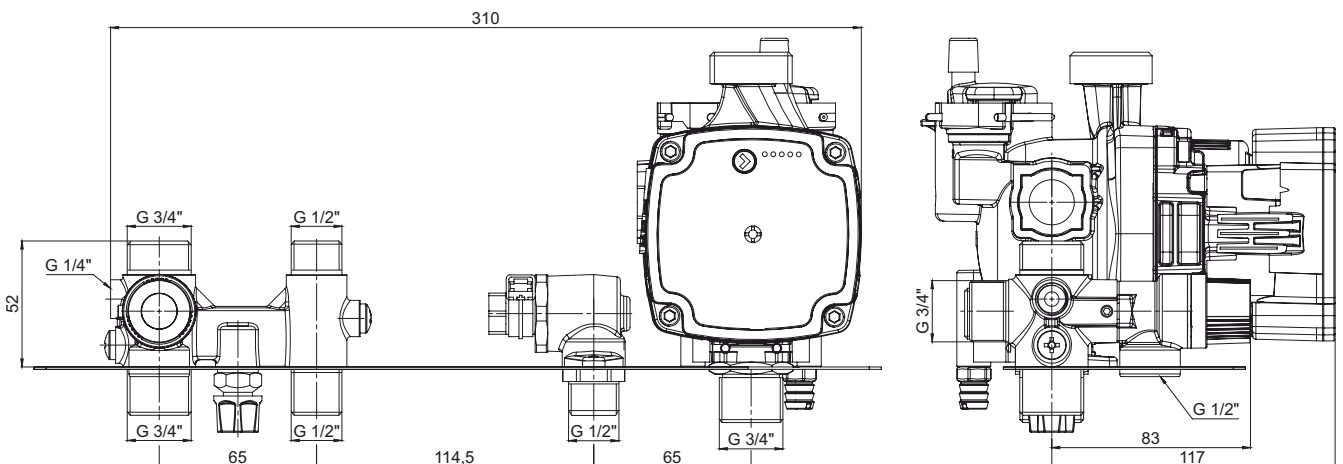
A Heating Delivery CH

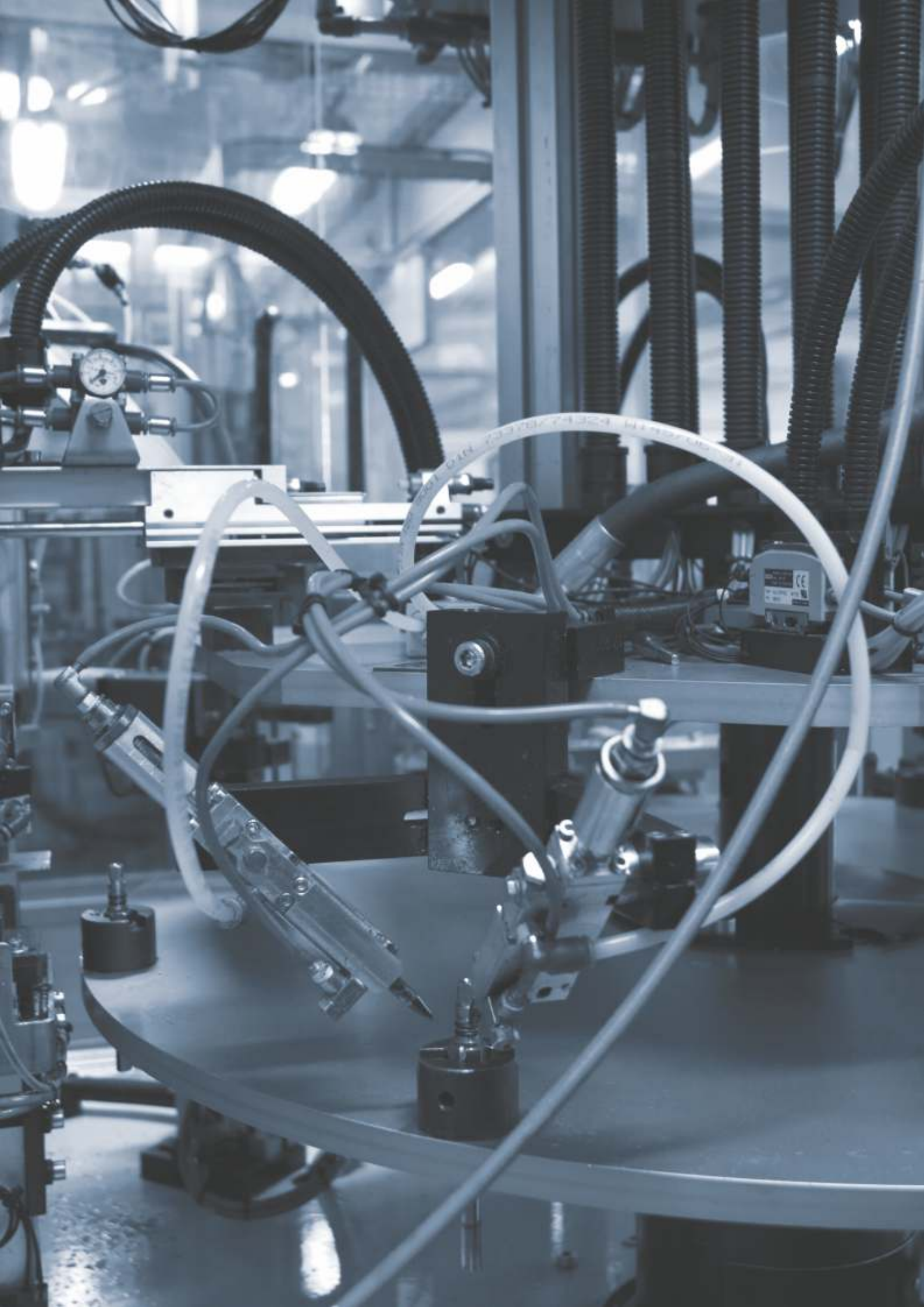
B Sanitary Water Outlet DW

C Sanitary Water Inlet DW

D Heating Return CH

Dimensions (mm)







STORAGE TYPE

S

Storage Type / Brass / Side Pump Connection



Technical Features

Material :
CuZn40Pb2 (CW617N)

Flow Regulator :
-

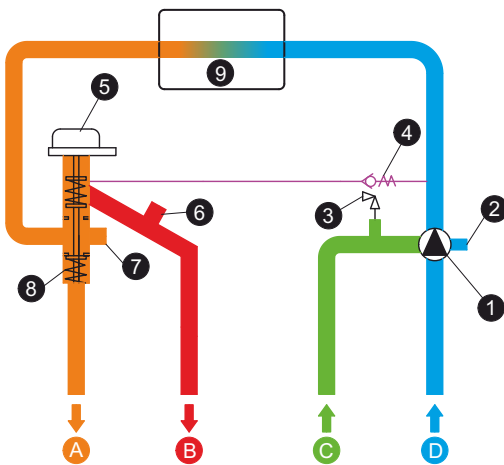
Flow Detection :
-

By-Pass :
External

Pressure Relief Valve :
3 bar

Pump Connection :
Side

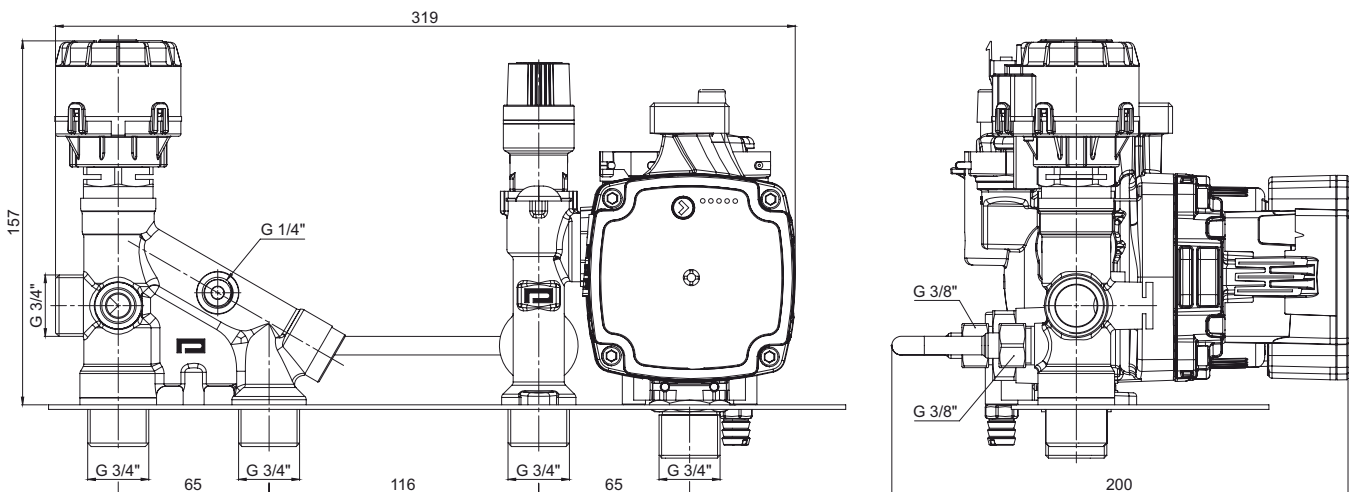
Hydraulic Circuit



- 1 Circulation Pump
- 2 Expansion Vessel Connection
- 3 Safety Valve
- 4 Bypass
- 5 3 Way Valve Motor
- 6 Pressure Switch/Sensor Conn.
- 7 Pressure Gauge Connection
- 8 3 Way Valve
- 9 Main Exchanger

- A Heating Delivery CH
- B Storage Delivery
- C Storage Return
- D Heating Return CH

Dimensions (mm)



Hydroblock HB-302

S

Storage Type / Brass / Side Pump Connection



Technical Features

Material :

CuZn40Pb2 (CW617N)

Flow Regulator :

-

Flow Detection :

-

By-Pass :

-

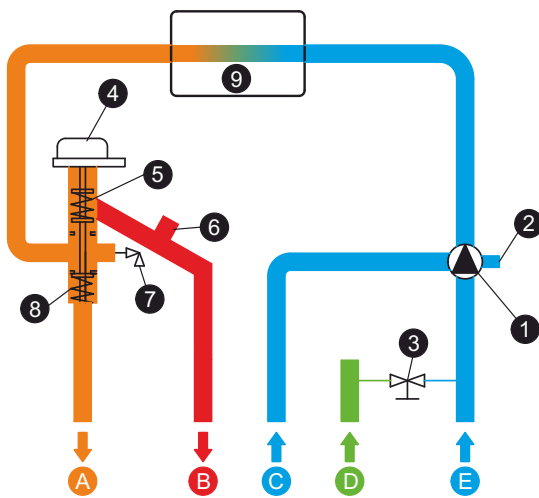
Pressure Relief Valve :

3 bar

Pump Connection :

Side

Hydraulic Circuit



1 Circulation Pump

2 Expansion Vessel Connection

3 Filling Tap

4 3 Way Valve Motor

5 Automatic Bypass

6 Pressure Switch/Sensor Conn.

7 Safety Valve

8 3 Way Valve

9 Main Exchanger

A Heating Delivery CH

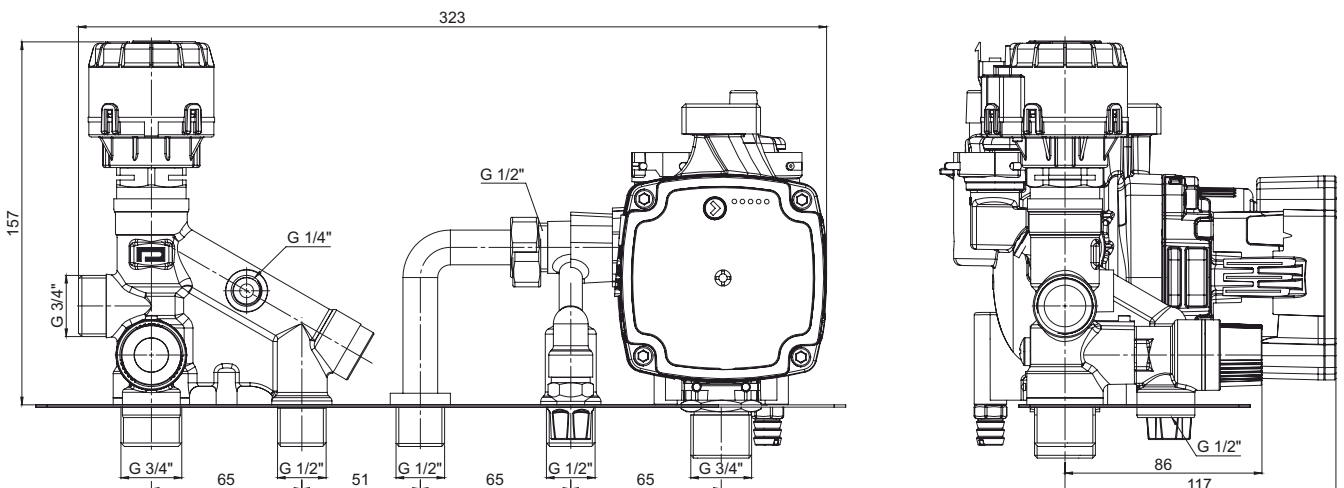
B Storage Delivery

C Storage Return

D Domestic Water Inlet

E Heating Return CH

Dimensions (mm)







HEATING ONLY

Heating Only / Brass / Side Pump Connection



Technical Features

Material :

CuZn40Pb2 (CW617N)

Flow Regulator :

-

Flow Detection :

-

By-Pass :

-

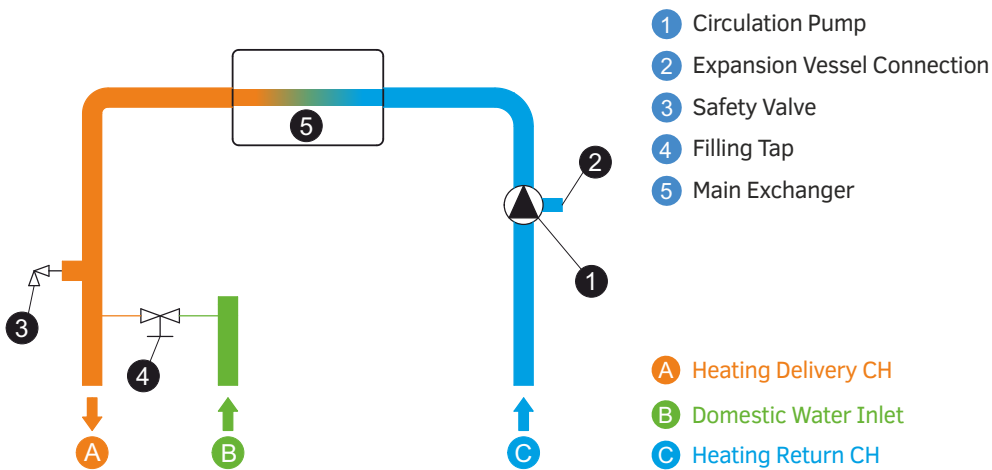
Pressure Relief Valve :

3 bar

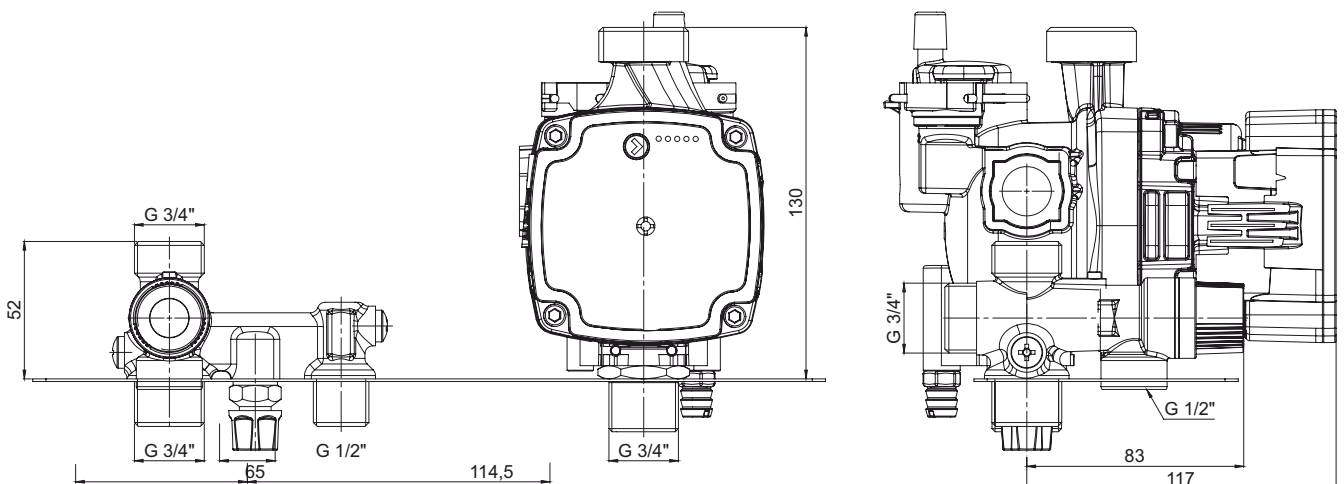
Pump Connection :

Side

Hydraulic Circuit



Dimensions (mm)





HYDRAULIC ACCESSORIES

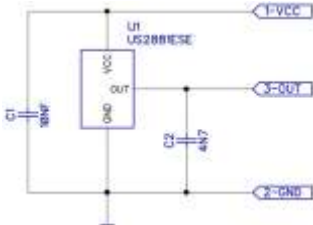
Flow Meter - Radial Turbine Type with Hall Effect Sensor



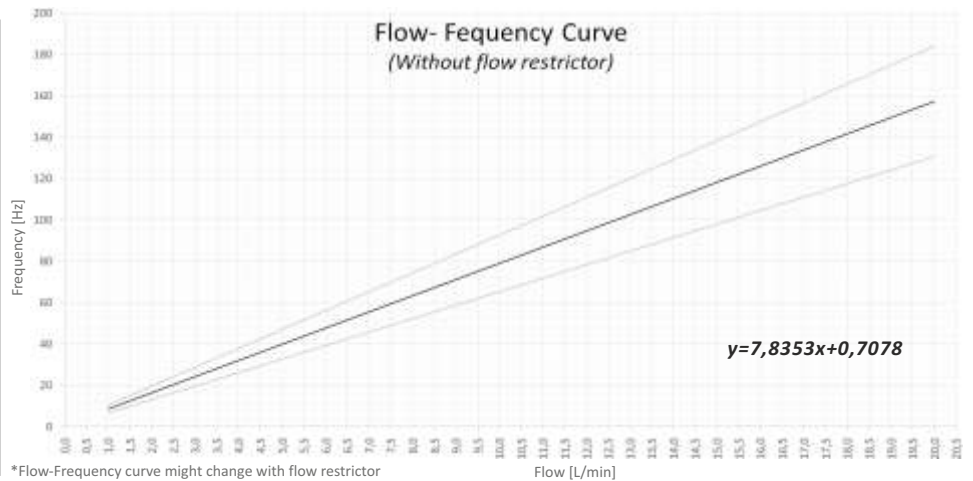
Technical Features

- Ambient Temperature :** From 2°C to 70°C
- Water Temperature :** From 2°C to +70°C, peak 85°C
- Water Pressure :** From 0 bar to 10 bar
- Hydraulic Interfaces :** G 1/2"
- Flow Detection :** Hall Effect Sensor
- Pressure Drop @ 10 L/min :** 184 mbar [Kv Factor ~1.4]
- Working Position :** Vertical / Horizontal
- Power Supply :** 12 VDC, 3÷6mA
- Electric Connections :** Rast 2.5 (3 Way)
- Approval(s) :** Wras Compliant
- Available Features :**
 Flow Restrictor (6 to 22 l/min on request)
 Integrated Plastic Filter (metallic filter on request)

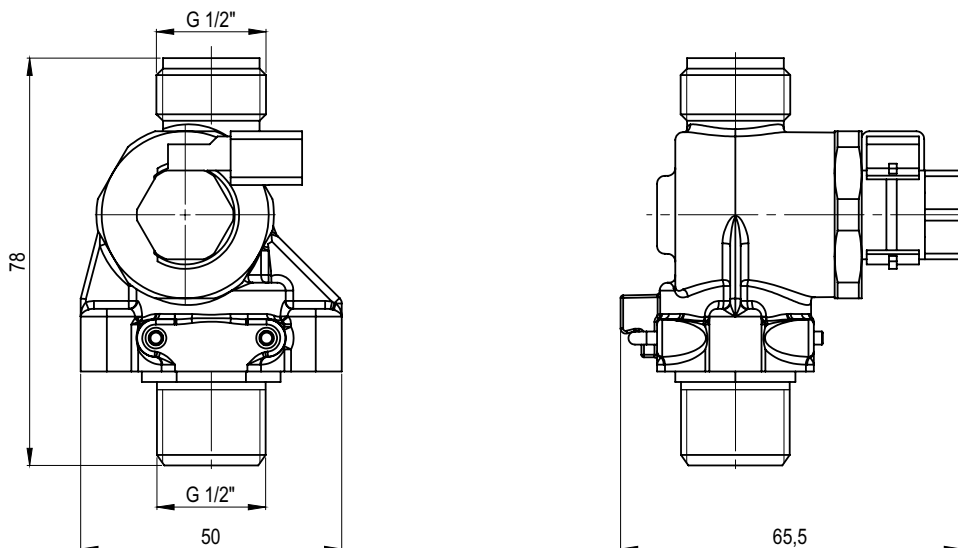
Electric Scheme



Flowmeter Output Curves



Dimensions (mm)





A series of horizontal dashed lines spanning the width of the page, providing a guide for writing or drawing.



A series of horizontal dashed lines spanning the width of the page, providing a guide for handwriting practice.





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