

### Function

A fixed point heating system based on the GP 1190 has the advantage of being particularly compact, as it uses one of the ways of the manifold as an inlet into the system.

A thermostatic head placed on one of the manifold's ways keeps the temperature of the water entering the radiant panels at a pre-set constant value by mixing hot water coming from the boiler with the low temperature one circulating in the panels.

The system can be complemented with a bypass valve which protects the components of the system by relieving pressure in case of an excessive differential pressure.

This type of system can supply a max thermal power of 20 kW with a  $\Delta t$  of 10 °C and a temperature of  $\geq 70^\circ\text{C}$  on the primary circuit.

### Technical data

Max. working pressure:	6 bar
Max. working temperature:	70 °C
Temperature range on secondary circuit:	20°C ÷ 65°C
Max. differential pressure:	1 bar
Max. thermal power:	20 kW
Max. percentage of glycol:	30 %
Thermometer range:	0 ÷ 80 °C
Flow-meter display range:	0 ÷ 5 l/min
Precision of flow-meter:	± 10%
Pump max. working pressure:	6 bar
Fluid temperature:	+0 °C ÷ +95 °C
Motor:	Permanent magnet synchronous
Power supply:	230 V (+10%;-15%), 50/60 Hz
Insulation class:	F
Degree of protection:	IP X4D
Working fluids:	water in compliance with UNI 8065:2019

### Materials

#### Manifolds

Manifold	CW 617 N – DW UNI-EN 12165:2016
Screw:	CW 614 N – DW UNI-EN 12164:2016
Gaskets:	Peroxide cured EPDM

**Flow-meters**

Flow-meter	Thermoresistant plastic material
Body:	CW 614 N – DW UNI-EN 12164:2016
Spring:	Stainless steel
Gaskets:	Peroxide cured EPDM

**Pump group**

Group:	CW 617 N – DW UNI-EN 12165:2016
Components:	CW 614 N – DW UNI-EN 12164:2016
Gaskets:	Peroxide cured EPDM

**Thermometer**

Case and stem:	Galvanised steel
Cover:	Transparent plastic material
Thermometric element:	Bimetallic spiral spring

**Manual air vent valves**

Valve body:	CW 614 N – DW UNI-EN 12164:2016
Valve body:	Thermoresistant plastic material
Gaskets:	Peroxide cured EPDM

**Fill/Drain taps**

Terminal body:	CW 617 N – DW UNI-EN 12165:2016
Valve body:	CW 617 N – DW UNI-EN 12165:2016
Gaskets:	Peroxide cured EPDM

**Pump**

Pump body:	GJL200 EN 1561
Gaskets:	EPDM
Rotor assembly:	Ceramic, composite material
Bearing:	Carbon

**Thermostatic head**

Head:	RAL9016 white ABS
Range of adjustment:	20 ÷ 65 °C
Sensor:	Liquid
Sensor stroke:	0.105 mm/K
Length of capillary:	2 m

**Brackets**

Brackets:	Galvanised steel
U-bolts:	Galvanised steel
Gaskets:	NBR

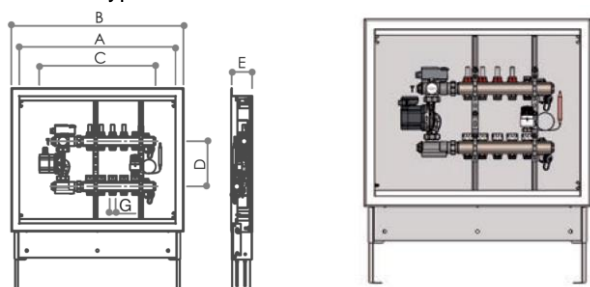
**Surface treatment**

Nickel-plating
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## Dimensional Drawings

### CCBP 4022

Low temperature fixed point distribution system.  
Connection type W24x19



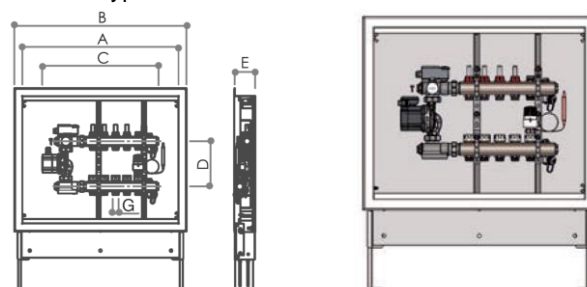
Code	Size	A	B	C	D	E
17402202N	G1"xW24x19	500	560	420	200	90
17402203N	G1"xW24x19	700	760	470	200	90
17402204N	G1"xW24x19	700	760	520	200	90
17402205N	G1"xW24x19	700	760	570	200	90
17402206N	G1"xW24x19	700	760	620	200	90
17402207N	G1"xW24x19	850	910	670	200	90
17402208N	G1"xW24x19	850	910	620	200	90
17402209N	G1"xW24x19	850	910	770	200	90
17402210N	G1"xW24x19	1000	1060	820	200	90
17402211N	G1"xW24x19	1000	1060	870	200	90

Code	Size	F	G	H	L	M
17402202N	G1"xW24x19	-	W24x19	-	-	-
17402203N	G1"xW24x19	-	W24x19	-	-	-
17402204N	G1"xW24x19	-	W24x19	-	-	-
17402205N	G1"xW24x19	-	W24x19	-	-	-
17402206N	G1"xW24x19	-	W24x19	-	-	-
17402207N	G1"xW24x19	-	W24x19	-	-	-
17402208N	G1"xW24x19	-	W24x19	-	-	-
17402209N	G1"xW24x19	-	W24x19	-	-	-
17402210N	G1"xW24x19	-	W24x19	-	-	-
17402211N	G1"xW24x19	-	W24x19	-	-	-

### CCBP 4032

Low temperature fixed point distribution system.  
Connection type Eurokonus

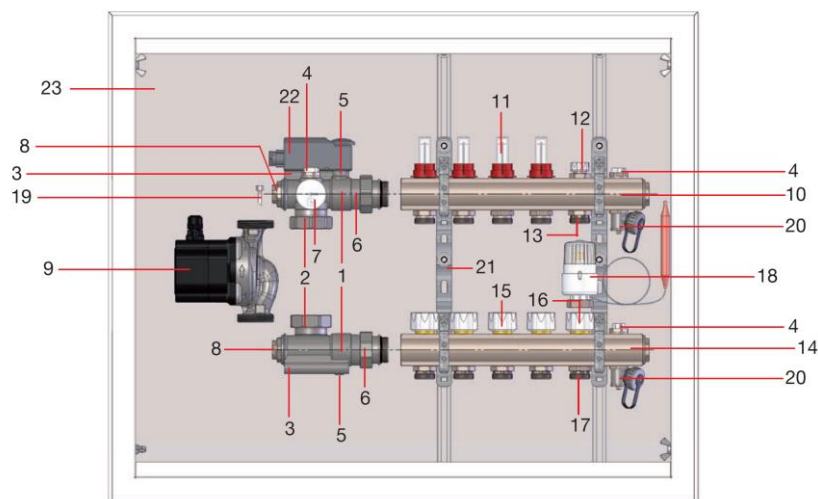


Code	Size	A	B	C	D	E
17403202N	G1"xG3/4Ek	500	560	420	200	90
17403203N	G1"xG3/4Ek	700	760	470	200	90
17403204N	G1"xG3/4Ek	700	760	520	200	90
17403205N	G1"xG3/4Ek	700	760	570	200	90
17403206N	G1"xG3/4Ek	700	760	620	200	90
17403207N	G1"xG3/4Ek	850	910	670	200	90
17403208N	G1"xG3/4Ek	850	910	620	200	90
17403209N	G1"xG3/4Ek	850	910	770	200	90
17403210N	G1"xG3/4Ek	1000	1060	820	200	90
17403211N	G1"xG3/4Ek	1000	1060	870	200	90

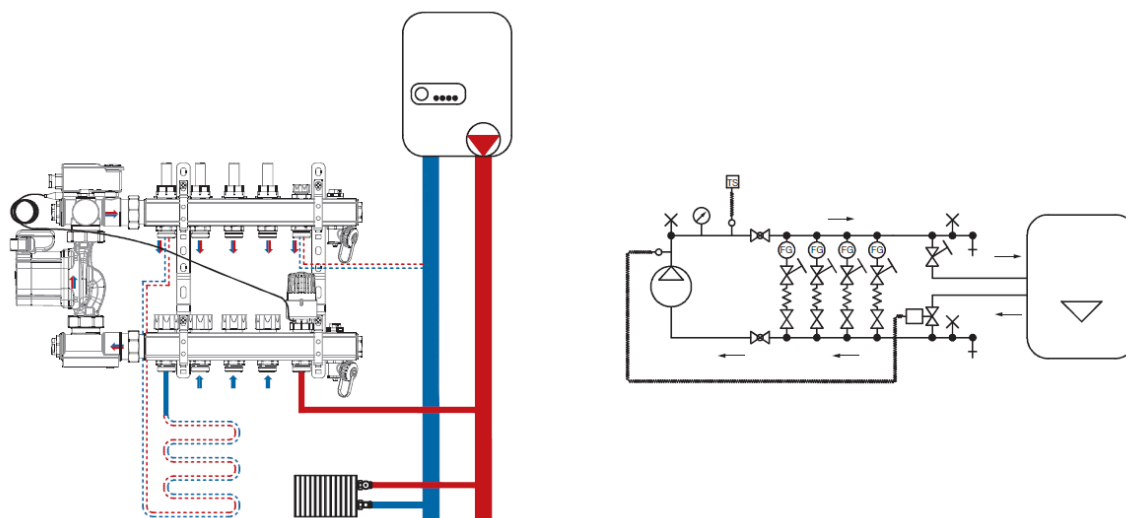
Code	Size	F	G	H	L	M
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17403203N	G1"xG3/4Ek	-	G3/4Ek	-	-	-
17403204N	G1"xG3/4Ek	-	G3/4Ek	-	-	-
17403205N	G1"xG3/4Ek	-	G3/4Ek	-	-	-
17403206N	G1"xG3/4Ek	-	G3/4Ek	-	-	-
17403207N	G1"xG3/4Ek	-	G3/4Ek	-	-	-
17403208N	G1"xG3/4Ek	-	G3/4Ek	-	-	-
17403209N	G1"xG3/4Ek	-	G3/4Ek	-	-	-
17403210N	G1"xG3/4Ek	-	G3/4Ek	-	-	-
17403211N	G1"xG3/4Ek	-	G3/4Ek	-	-	-

## Construction



1. Pump group
2. Circulation pump connection with G1"1/2 revolving nut
3. Seats for adjustment probe of the head
4. Manual air vent valve
5. Pump shut-off ball valve
6. G1" fittings with O-ring
7. Thermometer
8. G1/2 female connections
9. Circulation pump with 26/60 synchronous motor and 130 mm interaxis
10. Delivery manifold (radiant panels)
11. Regulators and flow meters
12. Circuit shut-off valve
13. Connection for return to boiler
14. Return manifold (radiant panels)
15. Valves for electrothermal regulation, with protection caps
16. Thermostatic regulating valve
17. Connection for delivery from boiler
18. Thermostatic head with remote sensor
19. Spring to fix the probe
20. Fill/Drain tap
21. Brackets
22. Contact safety thermostat
23. Cabinet with adjustable ends

## Hydraulic Functioning Scheme



## Hydraulic Scheme Legend

	valvola intercettazione check valve		rubinetto di carico o scarico acqua water load/drain tap		pompa circolazione circulation pump
	valvola sfera ball valve		termometro thermometer		utilizzatore: pannelli radianti, termoarredi ecc. user: radiant panels, radiators etc.
	valvola non ritorno, la freccia indica il senso di flusso non-return valve, the arrow indicates the direction of flow		dispositivo di sfogo aria manuale maunal air vent device		filtro filter
	valvola di sicurezza (valvola di bypass) safety valve (bypass valve)		dispositivo di sfogo aria automatico automatic air vent device		valvola a 3 vie 3-way valve
	valvola intercettazione, regolazione e bilanciamento check valve, regulation and balancing		misuratore di portata flow meter		
	valvola a sfera d'intercettazione, regolazione e bilanciamento ball check valve regulation and balancing		termostato di sicurezza ad immersione immersion safety thermostat		
	valvola di iniezione con sensore a distanza injection valve with remote sensor		termostato di sicurezza a contatto contact safety thermostat		

## Function

Fixed point heating systems keep the water in the radiant panels at a constant pre-set temperature by mixing hot water coming from the boiler with the one circulating in the panels.

A thermostatic valve with remote sensor measures the temperature and adds hot water to the circuit accordingly, so as to compensate the heat output of the radiant panels.

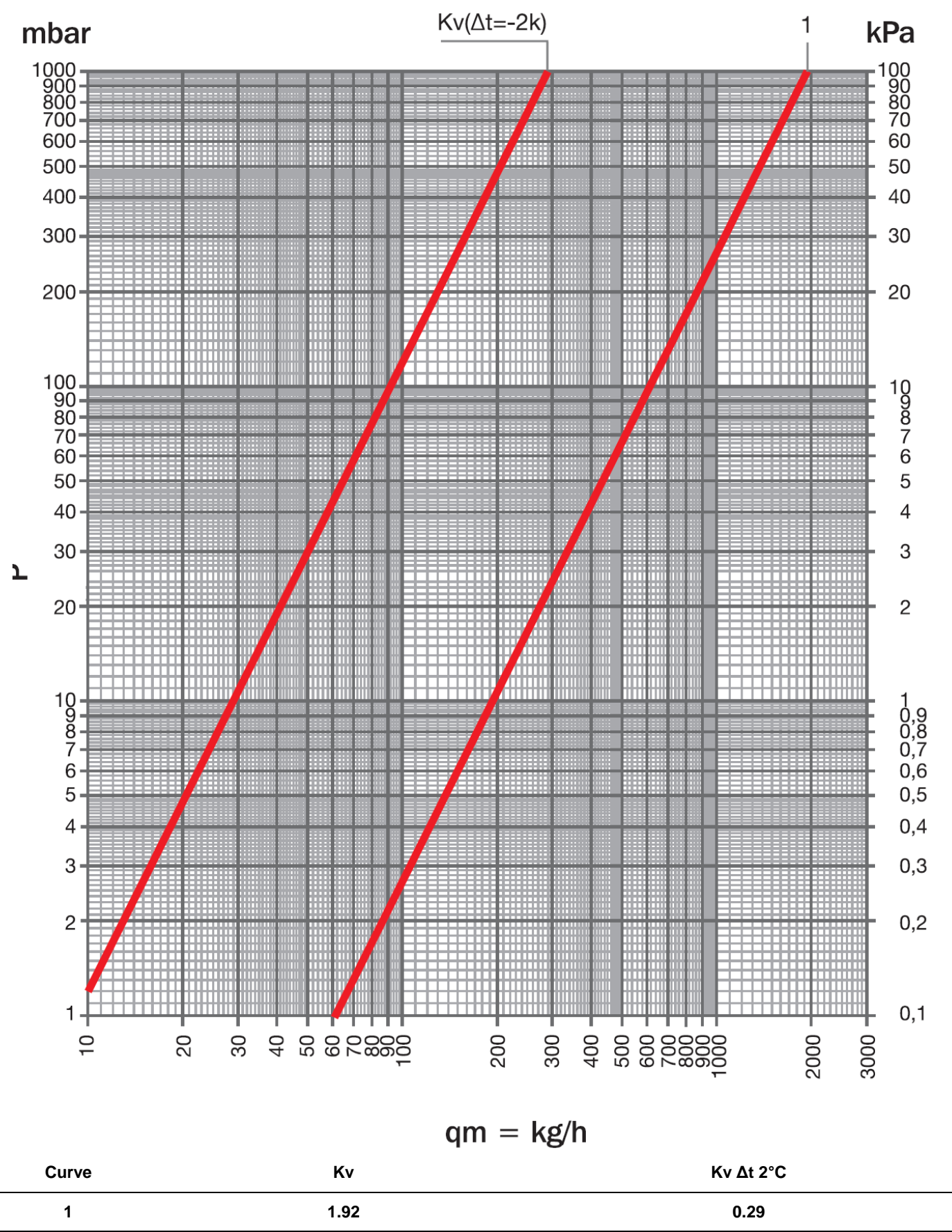
It is advisable to install a security thermostat on the pump inlet valve in order to avoid damages caused by a sudden temperature rise.

The intervention of the thermostat must block the functioning of the pump.

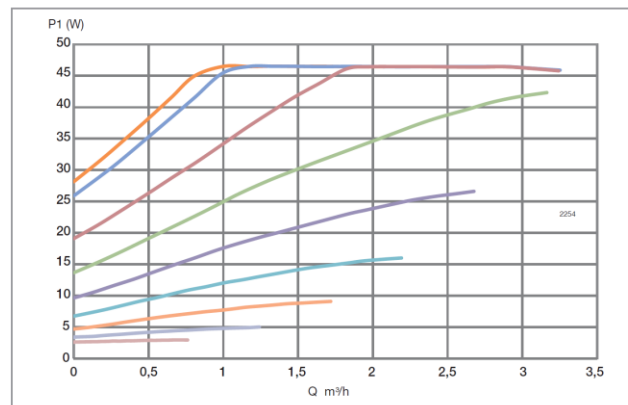
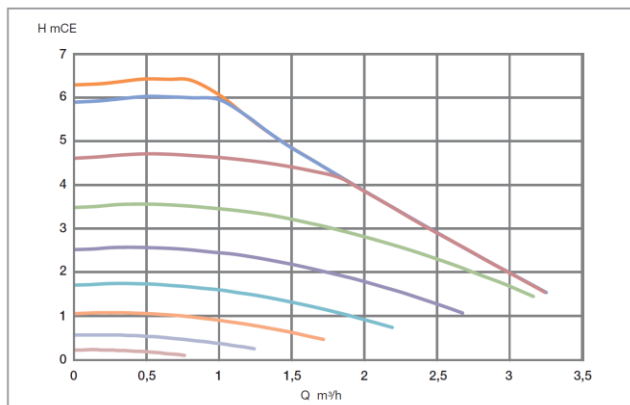
The system can be complemented with a bypass valve. In case of excessive differential pressure, the bypass valve releases the exceeding pressure, thus protecting the components and, if thermoelectric heads are employed to intercept the circuits, avoiding noise and wear on the circulation pump.

This type of system can supply a max thermal power of 20 kW with a  $\Delta t$  of 10°C and a temperature of  $\geq 70^\circ\text{C}$  on the primary circuit.

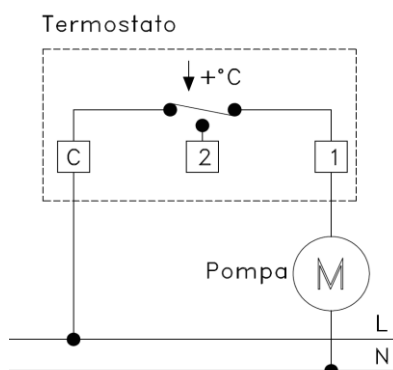
Flow Rate Diagram



## Pump Flow Rate Diagram



## Electrical Connections



## Safety Thermostat

Connect the thermostat as in the scheme considering the following:

- Terminal C: phase;
- Terminal 1: opens the circuit when the temperature increases;
- Terminal 2: closes the circuit when the temperature increases.

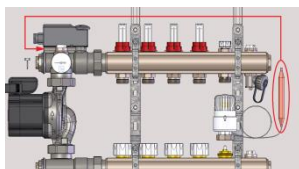
Generally, in heating systems the electric appliance is connected to terminals C and 1 of the thermostat.

## Working Instructions

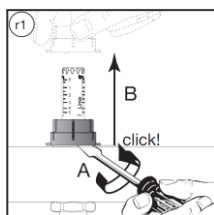


How to install the fixed point thermostatic head:

- Remove the protection cap from the thermostatic head.
- To ease the installation, set the thermostatic head to the maximum value and screw it onto the valve.
- Once the installation is completed, the head must be set to the desired temperature.



- Place the bulb of the head into the fastening device.

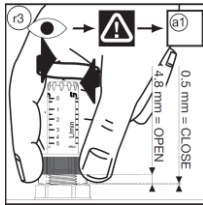


The theoretic flow rate of a hydraulic circuit, assigned by a technician, is given by the adjustment carried out through the regulator/flow meters assembled on the delivery manifold.

The adjustment must be carried out with the valve on the return circuit fully open. Since the flow rates of each heating ring affect each other, each single heating ring has to be adjusted until the values in litres/minute laid down in the project are satisfactorily reached.

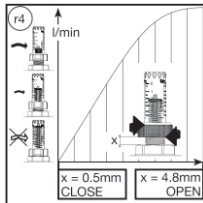
To adjust the flow rate:

- Remove the red blocking collar.

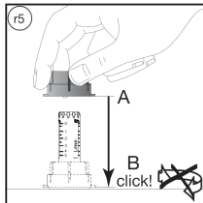


- Close the flow-meter.

(a1) = Do not use tools, act manually on the flow-meter.



- Open the flow-meter until it shows the desired flow rate.



- Place the blocking collar back.

How to secure the hydraulic balance against tampering:

- The regulators/flow-meters adjustment can be secured through a block cap. If needed, the caps can be sealed with iron wire and lead.



## Item Specifications

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### CCBP 4022

Preassembled fixed point thermal adjustment group with brass pump group. Connection to primary circuit through one specific way of the distribution manifold. W24x19 secondary connections, 50 mm interaxis. Working fluids: water and glycol solutions; max. percentage of glycol 30%. Max. working pressure 6 bar. Max. fluid temperature 60°C Composed by:

- Pump group to connect the circulation pump to the manifold, complete with full-flow ball valves for the interception and replacement of the pump and balancing valve between primary and secondary circuit.
  - Brass delivery manifold with flow rate adjustment valves and flow-meter with 0÷5l/min scale. Precision ±10%. Possibility to clean and replace the glass while the system is operating.
  - Brass return manifold with shut-off valves for electrothermal control. With protection cap and possibility to close the circuit.
  - 25-60 permanent magnet circulation pump, energy class A.
  - Contact safety thermostat, range of adjustment 0°C±90°C. Degree of protection IP 20.
  - Thermometer to verify the delivery temperature towards the radiant panel.
  - Manual air vent valve and water fill/drain taps.
  - Couple of fastening brackets with shaped bearings.
  - Galvanised steel cabinet with varnished RAL 9016 white frame and case and cover. 90 mm depth.
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### CCBP 4032

Preassembled fixed point thermal adjustment group with brass pump group. Connection to primary circuit through one specific way of the distribution manifold. G3/4 EK male secondary connections, 50 mm interaxis. Working fluids: water and glycol solutions; max. percentage of glycol 30%. Max. working pressure 6 bar. Max. fluid temperature 60°C Composed by:

- Pump group to connect the circulation pump to the manifold, complete with full-flow ball valves for the interception and replacement of the pump and balancing valve between primary and secondary circuit.
  - Brass delivery manifold with flow rate adjustment valves and flow-meter with 0÷5l/min scale. Precision ±10%. Possibility to clean and replace the glass while the system is operating.
  - Brass return manifold with shut-off valves for electrothermal control. With protection cap and possibility to close the circuit.
  - 25-60 permanent magnet circulation pump, energy class A.
  - Contact safety thermostat, range of adjustment 0°C±90°C. Degree of protection IP 20.
  - Thermometer to verify the delivery temperature towards the radiant panel.
  - Manual air vent valve and water fill/drain taps.
  - Couple of fastening brackets with shaped bearings.
  - Galvanised steel cabinet with varnished RAL 9016 white frame and case and cover. 90 mm depth.
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