Technical Data Sheet

Preassembled cabinet GM

09/11/2022

Function

A fixed point heating system based on the GM 1192 combines a number of components in a single device able to maintain a pre-set temperature in the radiant panels circuit of a mixed heating system.
A thermostatic head placed onto the thermostatic valve keeps the temperature 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 features 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 Δt of 10 °C and a temperature of ≥ 70°C on the primary circuit.

Technical data

Max. working pressure:	6 bar
Max. temp. on primary circuit:	80 °C
Max. temp. on secondary circuit:	70 °C
Max. differential pressure:	1 bar
Max. thermal power:	20 kW
Thermometer range:	0 ÷ 80 °C
Flow-meter display range:	0 ÷ 5 l/min
Precision of flow-meter:	± 10%
Connection to secondary manifold:	G 1” male
Adjustment range of thermost. head.:	20 ÷ 65 °C
Length of capillary:	2 m
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

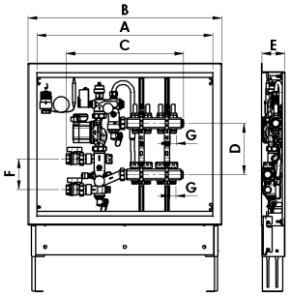
Surface treatment

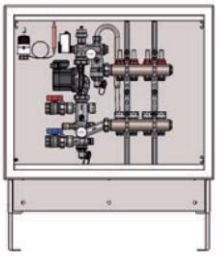
Nickel-plating

Dimensional Drawings

CCBP 4026

Low temperature fixed point distribution system.
Connection type W24x19





Code	Size	A	B	C	D	E
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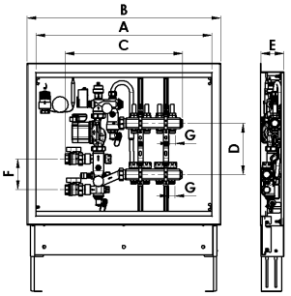
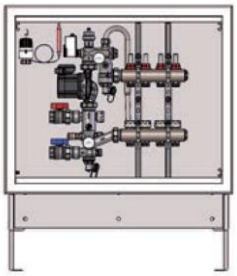
17402603N	G1"xW24x19	700	760	410	200	90
17402604N	G1"xW24x19	700	760	460	200	90
17402605N	G1"xW24x19	700	760	510	200	90
17402606N	G1"xW24x19	700	760	560	200	90
17402607N	G1"xW24x19	850	910	610	200	90
17402608N	G1"xW24x19	850	910	660	200	90
17402609N	G1"xW24x19	850	910	710	200	90
17402610N	G1"xW24x19	1000	1060	760	200	90
17402611N	G1"xW24x19	1000	1060	810	200	90
17402612N	G1"xW24x19	1000	1060	860	200	90
17402613N	G1"xW24x19	1200	1260	910	200	90

Code	Size	F	G	H	L	M
17402602N	G1"xW24x19	120	W24x19	-	-	-
17402603N	G1"xW24x19	120	W24x19	-	-	-
17402604N	G1"xW24x19	120	W24x19	-	-	-
17402605N	G1"xW24x19	120	W24x19	-	-	-
17402606N	G1"xW24x19	120	W24x19	-	-	-
17402607N	G1"xW24x19	120	W24x19	-	-	-
17402608N	G1"xW24x19	120	W24x19	-	-	-
17402609N	G1"xW24x19	120	W24x19	-	-	-
17402610N	G1"xW24x19	120	W24x19	-	-	-
17402611N	G1"xW24x19	120	W24x19	-	-	-
17402612N	G1"xW24x19	120	W24x19	-	-	-
17402613N	G1"xW24x19	120	W24x19	-	-	-

CCBP 4036

Low temperature fixed point distribution system.
Connection type Eurokonus





Code	Size	A	B	C	D	E
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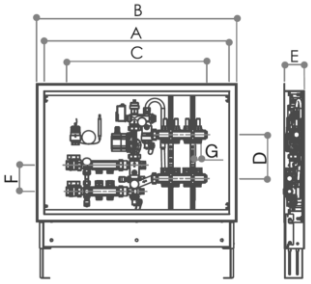
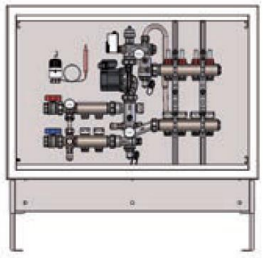
17403603N	G1"xG3/4Ek	700	760	410	200	90
17403604N	G1"xG3/4Ek	700	760	460	200	90
17403605N	G1"xG3/4Ek	700	760	510	200	90
17403606N	G1"xG3/4Ek	700	760	560	200	90
17403607N	G1"xG3/4Ek	850	910	610	200	90
17403608N	G1"xG3/4Ek	850	910	660	200	90
17403609N	G1"xG3/4Ek	850	910	710	200	90
17403610N	G1"xG3/4Ek	1000	1060	760	200	90
17403611N	G1"xG3/4Ek	1000	1060	810	200	90
17403612N	G1"xG3/4Ek	1000	1060	860	200	90
17403613N	G1"xG3/4Ek	1200	1260	910	200	90

Code	Size	F	G	H	L	M
17403602N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403603N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403604N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403605N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403606N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403607N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403608N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403609N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403610N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403611N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403612N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403613N	G1"xG3/4Ek	120	G3/4Ek	-	-	-

CCBAP 4025

Low temperature distribution system + 2 connections for high temperature
Connection type W24x19



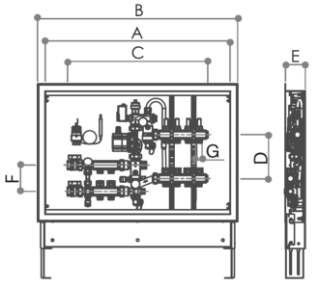


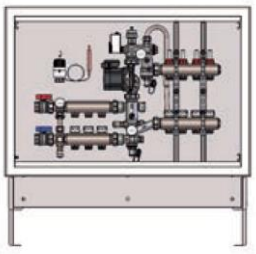
Code	Size	A	B	C	D	E
17402502N	G1"xW24x19	700	760	540	200	90
17402503N	G1"xW24x19	700	760	590	200	90
17402504N	G1"xW24x19	850	910	640	200	90
17402505N	G1"xW24x19	850	910	690	200	90
17402506N	G1"xW24x19	850	910	740	200	90
17402507N	G1"xW24x19	1000	1060	790	200	90
17402508N	G1"xW24x19	1000	1060	840	200	90
17402509N	G1"xW24x19	1000	1060	890	200	90
17402510N	G1"xW24x19	1200	1260	940	200	90
17402511N	G1"xW24x19	1200	1260	990	200	90
17402512N	G1"xW24x19	1200	1260	1040	200	90
17402513N	G1"xW24x19	1200	1260	1090	200	90

Code	Size	F	G	H	L	M
17402502N	G1"xW24x19	120	W24x19	-	-	-
17402503N	G1"xW24x19	120	W24x19	-	-	-
17402504N	G1"xW24x19	120	W24x19	-	-	-
17402505N	G1"xW24x19	120	W24x19	-	-	-
17402506N	G1"xW24x19	120	W24x19	-	-	-
17402507N	G1"xW24x19	120	W24x19	-	-	-
17402508N	G1"xW24x19	120	W24x19	-	-	-
17402509N	G1"xW24x19	120	W24x19	-	-	-
17402510N	G1"xW24x19	120	W24x19	-	-	-
17402511N	G1"xW24x19	120	W24x19	-	-	-
17402512N	G1"xW24x19	120	W24x19	-	-	-
17402513N	G1"xW24x19	120	W24x19	-	-	-

CCBAP 4027

Low temperature distribution system + 3 connections for high temperature
Connection type W24x19



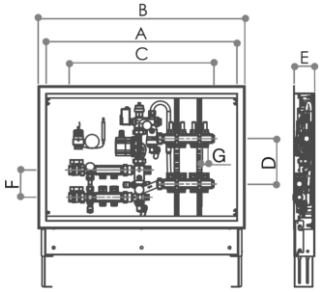


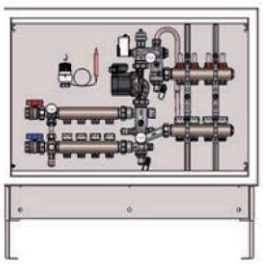
Code	Size	A	B	C	D	E
17402702N	G1"xW24x19	700	760	590	200	90
17402703N	G1"xW24x19	850	910	640	200	90
17402704N	G1"xW24x19	850	910	690	200	90
17402705N	G1"xW24x19	850	910	740	200	90
17402706N	G1"xW24x19	1000	1060	790	200	90
17402707N	G1"xW24x19	1000	1060	840	200	90
17402708N	G1"xW24x19	1000	1060	890	200	90
17402709N	G1"xW24x19	1200	1260	940	200	90
17402710N	G1"xW24x19	1200	1260	990	200	90
17402711N	G1"xW24x19	1200	1260	1040	200	90
17402712N	G1"xW24x19	1200	1260	1090	200	90
17402713N	G1"xW24x19	1300	1360	1140	200	90

Code	Size	F	G	H	L	M
17402702N	G1"xW24x19	120	W24x19	-	-	-
17402703N	G1"xW24x19	120	W24x19	-	-	-
17402704N	G1"xW24x19	120	W24x19	-	-	-
17402705N	G1"xW24x19	120	W24x19	-	-	-
17402706N	G1"xW24x19	120	W24x19	-	-	-
17402707N	G1"xW24x19	120	W24x19	-	-	-
17402708N	G1"xW24x19	120	W24x19	-	-	-
17402709N	G1"xW24x19	120	W24x19	-	-	-
17402710N	G1"xW24x19	120	W24x19	-	-	-
17402711N	G1"xW24x19	120	W24x19	-	-	-
17402712N	G1"xW24x19	120	W24x19	-	-	-
17402713N	G1"xW24x19	120	W24x19	-	-	-

CCBAP 4079

Low temperature distribution system + 4 connections for high temperature.
Connection type W24x19





Code	Size	A	B	C	D	E
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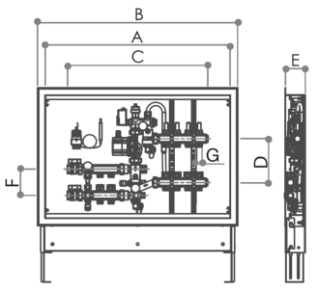
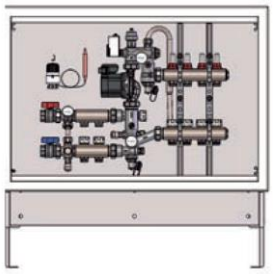
17407903N	G1"xW24x19	850	910	690	200	90
17407904N	G1"xW24x19	850	910	740	200	90
17407905N	G1"xW24x19	1000	1060	790	200	90
17407906N	G1"xW24x19	1000	1060	840	200	90
17407907N	G1"xW24x19	1000	1060	890	200	90
17407908N	G1"xW24x19	1200	1260	940	200	90
17407909N	G1"xW24x19	1200	1260	990	200	90
17407910N	G1"xW24x19	1200	1260	1040	200	90
17407911N	G1"xW24x19	1200	1260	1090	200	90
17407912N	G1"xW24x19	1300	1360	1140	200	90
17407913N	G1"xW24x19	1300	1360	1190	200	90

Code	Size	F	G	H	L	M
17407902N	G1"xW24x19	120	W24x19	-	-	-
17407903N	G1"xW24x19	120	W24x19	-	-	-
17407904N	G1"xW24x19	120	W24x19	-	-	-
17407905N	G1"xW24x19	120	W24x19	-	-	-
17407906N	G1"xW24x19	120	W24x19	-	-	-
17407907N	G1"xW24x19	120	W24x19	-	-	-
17407908N	G1"xW24x19	120	W24x19	-	-	-
17407909N	G1"xW24x19	120	W24x19	-	-	-
17407910N	G1"xW24x19	120	W24x19	-	-	-
17407911N	G1"xW24x19	120	W24x19	-	-	-
17407912N	G1"xW24x19	120	W24x19	-	-	-
17407913N	G1"xW24x19	120	W24x19	-	-	-

CCBAP 4035

Low temperature distribution system + 2 connections for high temperature.
Connection type Eurokonus





Code	Size	A	B	C	D	E
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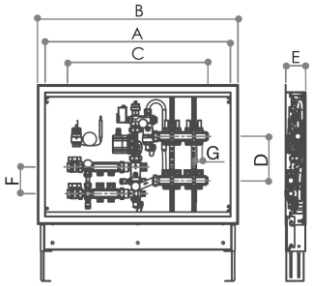
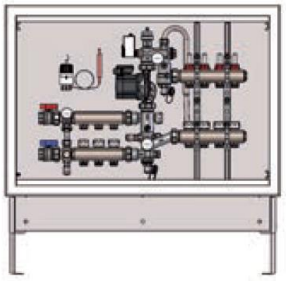
17403503N	G1"xG3/4Ek	700	760	590	200	90
17403504N	G1"xG3/4Ek	850	910	640	200	90
17403505N	G1"xG3/4Ek	850	910	690	200	90
17403506N	G1"xG3/4Ek	850	910	740	200	90
17403507N	G1"xG3/4Ek	1000	1060	790	200	90
17403508N	G1"xG3/4Ek	1000	1060	840	200	90
17403509N	G1"xG3/4Ek	1000	1060	890	200	90
17403510N	G1"xG3/4Ek	1200	1260	940	200	90
17403511N	G1"xG3/4Ek	1200	1260	990	200	90
17403512N	G1"xG3/4Ek	1200	1260	1040	200	90
17403513N	G1"xG3/4Ek	1200	1260	1090	200	90

Code	Size	F	G	H	L	M
17403502N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403503N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403504N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403505N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403506N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403507N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403508N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403509N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403510N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403511N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403512N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403513N	G1"xG3/4Ek	120	G3/4Ek	-	-	-

CCBAP 4037

Low temperature distribution system + 3 connections for high temperature.
Connection type Eurokonus



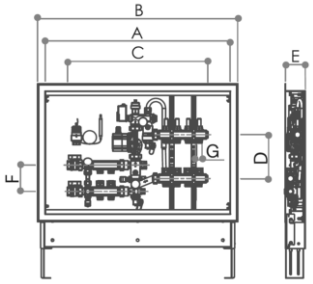


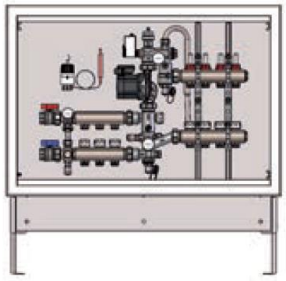
Code	Size	A	B	C	D	E
17403702N	G1"xG3/4Ek	700	760	590	200	90
17403703N	G1"xG3/4Ek	850	910	640	200	90
17403704N	G1"xG3/4Ek	850	910	690	200	90
17403705N	G1"xG3/4Ek	850	910	740	200	90
17403706N	G1"xG3/4Ek	1000	1060	790	200	90
17403707N	G1"xG3/4Ek	1000	1060	840	200	90
17403708N	G1"xG3/4Ek	1000	1060	890	200	90
17403709N	G1"xG3/4Ek	1200	1260	940	200	90
17403710N	G1"xG3/4Ek	1200	1260	990	200	90
17403711N	G1"xG3/4Ek	1200	1260	1040	200	90
17403712N	G1"xG3/4Ek	1200	1260	1090	200	90
17403713N	G1"xG3/4Ek	1300	1360	1140	200	90

Code	Size	F	G	H	L	M
17403702N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403703N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403704N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403705N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403706N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403707N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403708N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403709N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403710N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403711N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403712N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17403713N	G1"xG3/4Ek	120	G3/4Ek	-	-	-

CCBAP 4080

Low temperature distribution system + 4 connections for high temperature.
Connection type Eurokonus

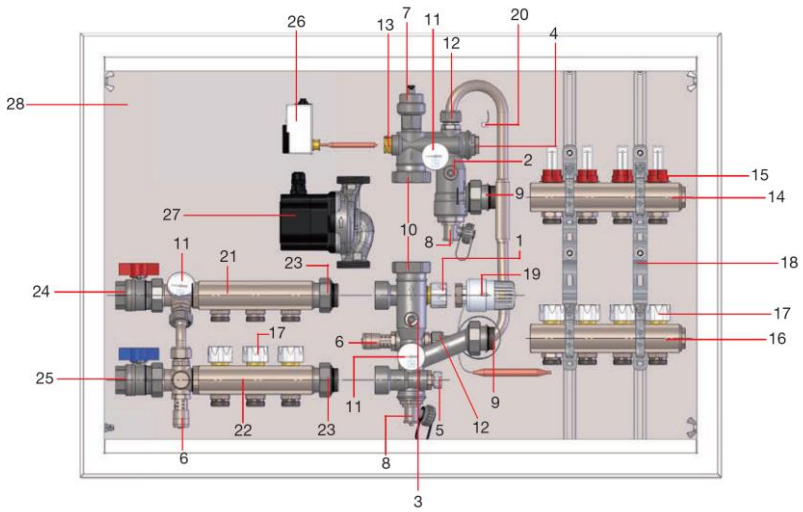




Code	Size	A	B	C	D	E
17408002N	G1"xG3/4Ek	850	910	640	200	90
17408003N	G1"xG3/4Ek	850	910	690	200	90
17408004N	G1"xG3/4Ek	850	910	740	200	90
17408005N	G1"xG3/4Ek	1000	1060	790	200	90
17408006N	G1"xG3/4Ek	1000	1060	840	200	90
17408007N	G1"xG3/4Ek	1000	1060	890	200	90
17408008N	G1"xG3/4Ek	1200	1260	940	200	90
17408009N	G1"xG3/4Ek	1200	1260	990	200	90
17408010N	G1"xG3/4Ek	1200	1260	1040	200	90
17408011N	G1"xG3/4Ek	1200	1260	1090	200	90
17408012N	G1"xG3/4Ek	1300	1360	1140	200	90
17408013N	G1"xG3/4Ek	1300	1360	1190	200	90

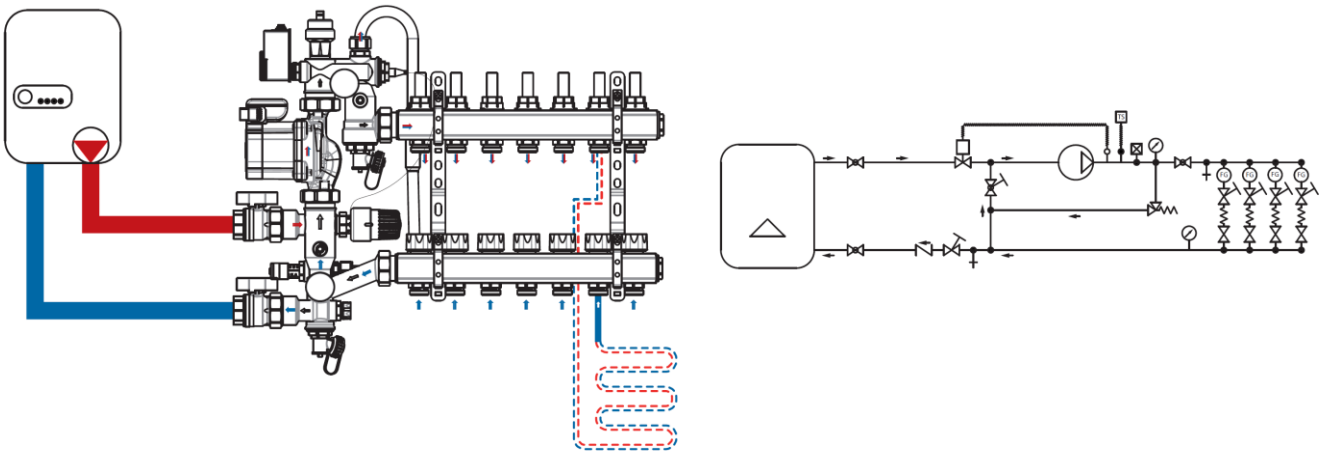
Code	Size	F	G	H	L	M
17408002N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17408003N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17408004N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17408005N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17408006N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17408007N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17408008N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17408009N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17408010N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17408011N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17408012N	G1"xG3/4Ek	120	G3/4Ek	-	-	-
17408013N	G1"xG3/4Ek	120	G3/4Ek	-	-	-

Construction



1.	Regulating valve
2.	Pump shut-offball valve
3.	Ball valve for pump interception and balancing of the secondary circuit
4.	Probe seat
5.	Low temperature circuit shut-off valve
6.	Differential bypass valve
7.	Automatic air vent valve
8.	Fill / drain taps with adjustable 3/4 connection and safety cap
9.	Three-piece G 1” union fittings with soft sealing art. CR 498
10.	G 1” 1/2 fittings to connect the circulation pump
11.	Thermometers
12.	Union fittings for bypass pipe
13.	Safety thermostat seat
14.	Delivery manifold (radiant panels)
15.	Regulators and flow meters
16.	Return manifold (radiant panels)
17.	Valves for electrothermal regulation, with protection caps
18.	Brackets
19.	Thermostatic head with remote sensor
20.	Spring to fix the probe
21.	Delivery manifold (primary circuit)
22.	Return manifold (primary circuit)
23.	Three-piece union fittings
24.	Delivery ball valve (boiler)
25.	Return ball valve (boiler)
26.	Immersion safety thermostat
27.	Circulation pump with 25/60 synchronous motor
28.	Cabinet with adjustable ends

Hydraulic Functioning Scheme



Hydraulic Scheme Legend

	valvola intercettazione *check valve*
	valvola sfera *ball valve*
	valvola non ritorno, la freccia indica il senso di flusso *non-return valve, the arrow indicates the direction of flow*
	valvola di sicurezza (valvola di bypass) *safety valve (bypass valve)*
	valvola intercettazione, regolazione e bilanciamento *check valve, regulation and balancing*
	valvola a sfera d'intercettazione, regolazione e bilanciamento *ball check valve regulation and balancing*
	valvola di iniezione con sensore a distanza *injection valve with remote sensor*

	rubinetto di carico o scarico acqua *water load/drain tap*
	termometro *thermometer*
	dispositivo di sfogo aria manuale *maunal air vent device*
	dispositivo di sfogo aria automatico *automatic air vent device*
FG	misuratore di portata *flow meter*
	termostato di sicurezza ad immersione *immersion safety thermostat*
	termostato di sicurezza a contatto *contact safety thermostat*

	pompa circolazione *circulation pump*
	utilizzatore: pannelli radianti, termoarredi ecc. *user: radiant panels, radiators etc.*
	filtro *filter*
	valvola a 3 vie *3-way valve*

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.

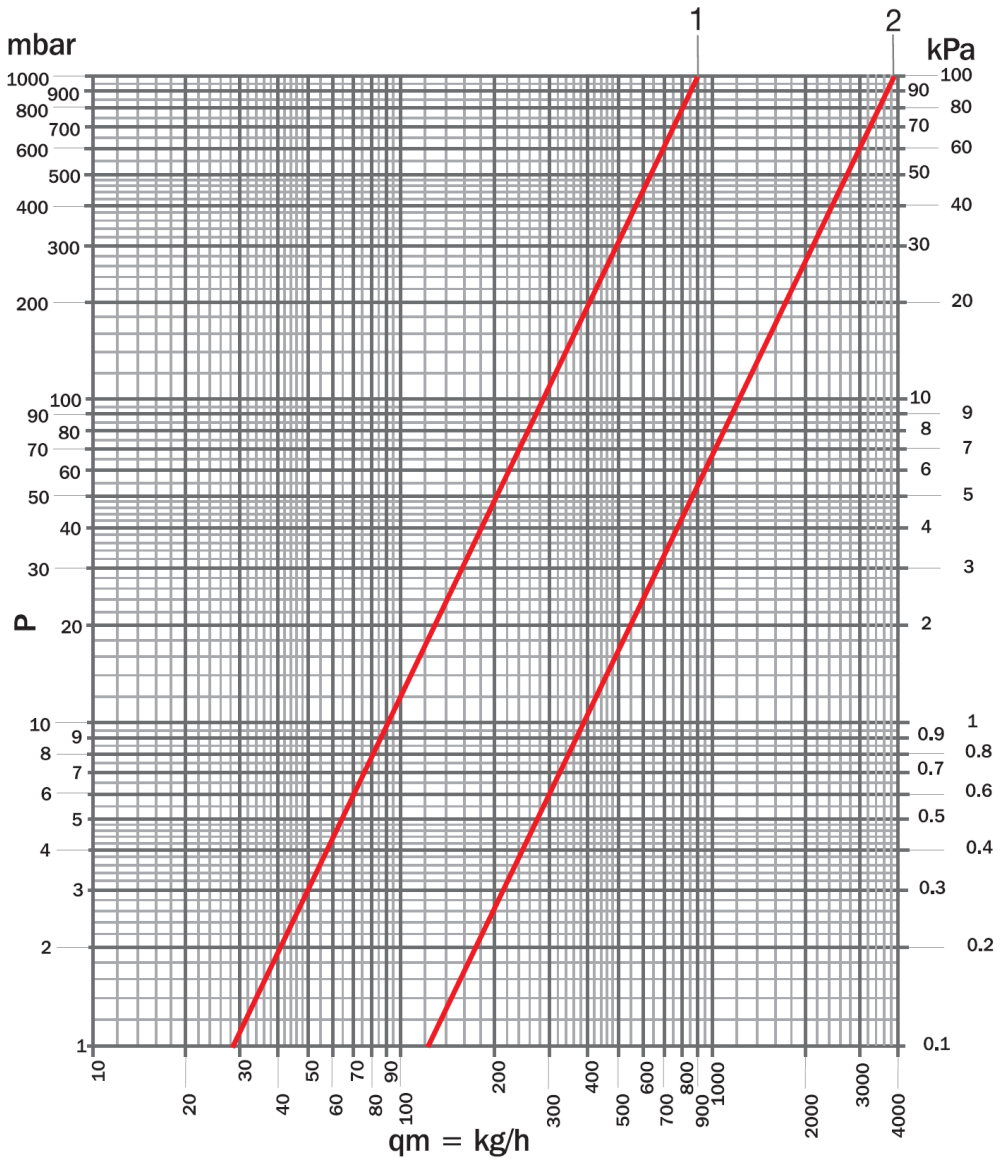
The intervention of the thermostat must block the functioning of the pump.

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 Δt of 10°C and a temperature of ≥ 70°C on the primary circuit.

Flow Rate Diagram

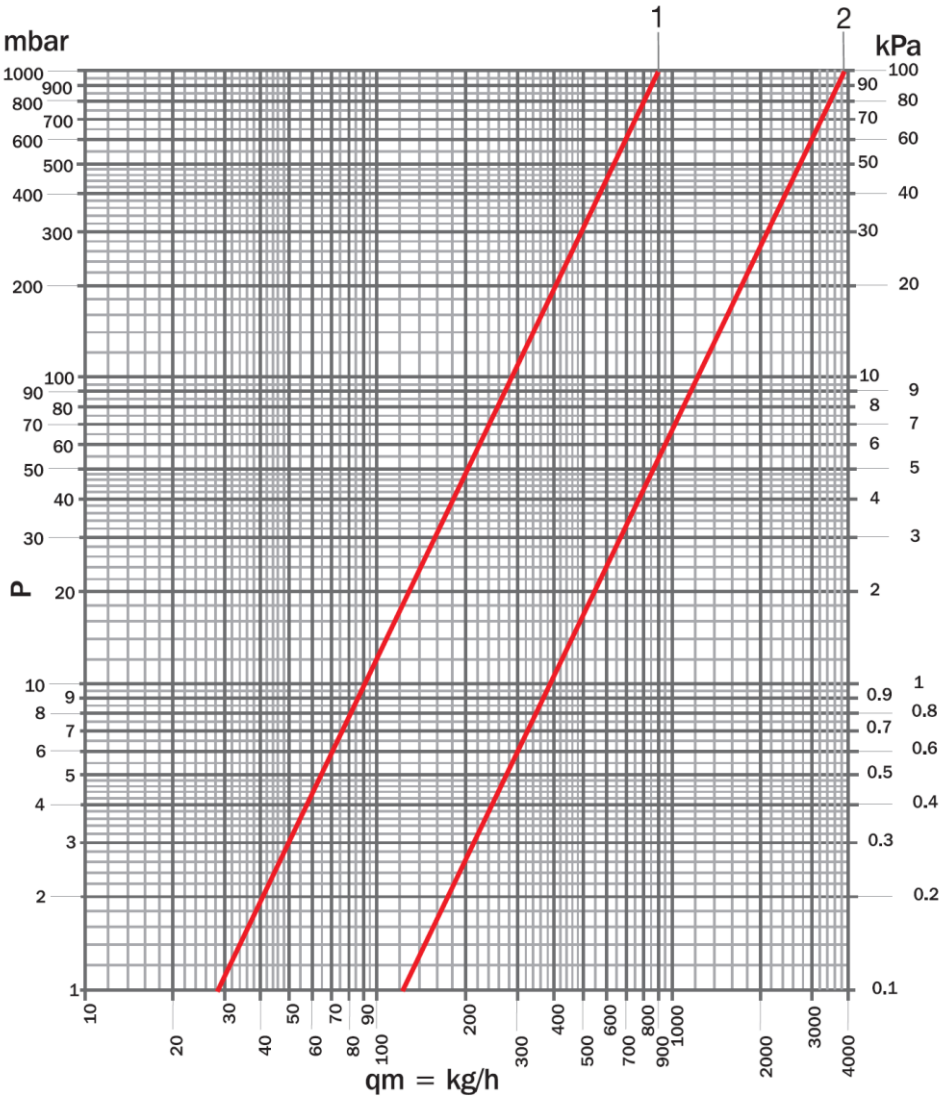
Regulating valve with thermostatic head



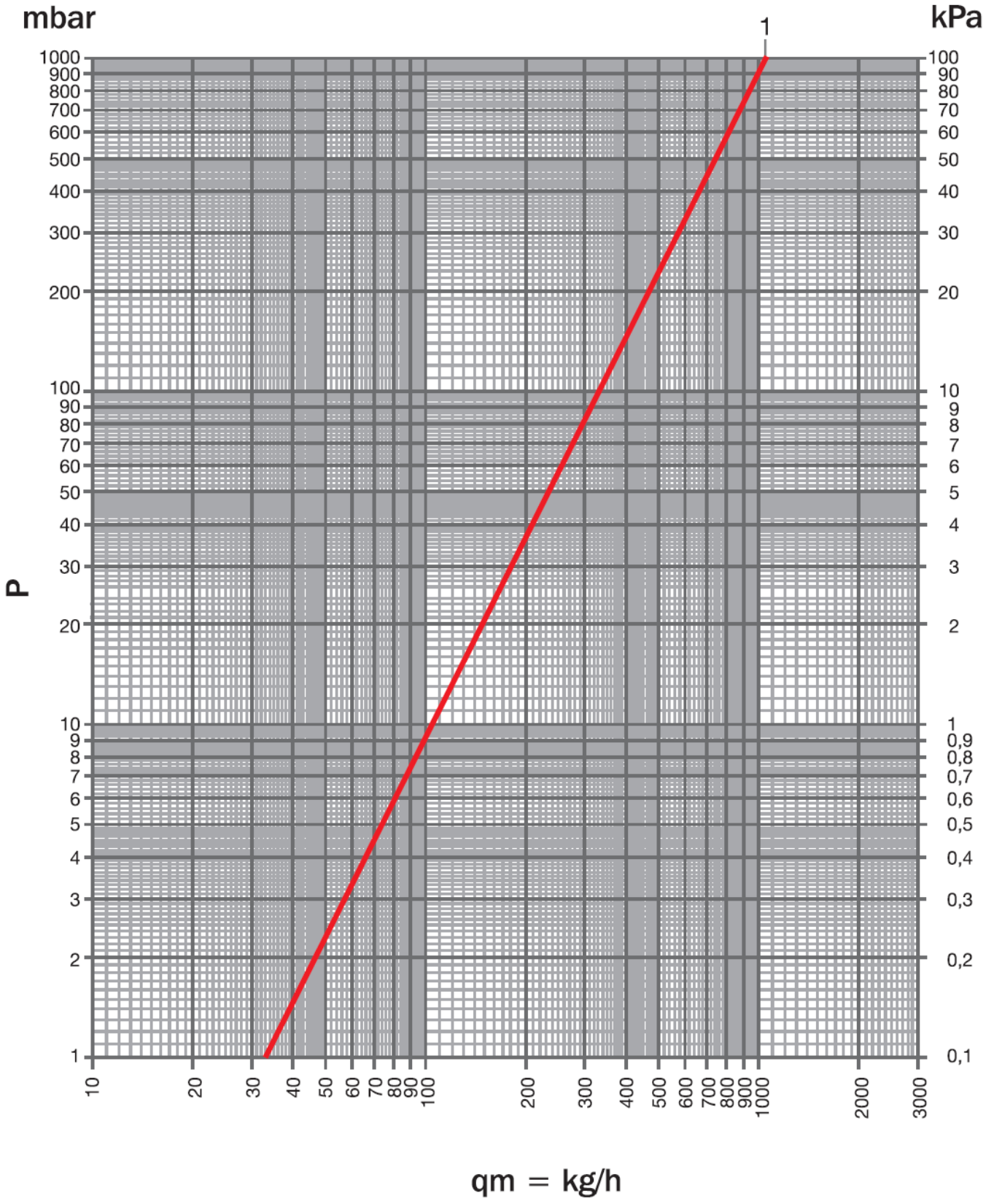
Curve	Adjustment	Kv
1	ΔT=2 K	**0.9**
2	QM MAX	**3.88**

Flow Rate Diagram

Shut-off valve

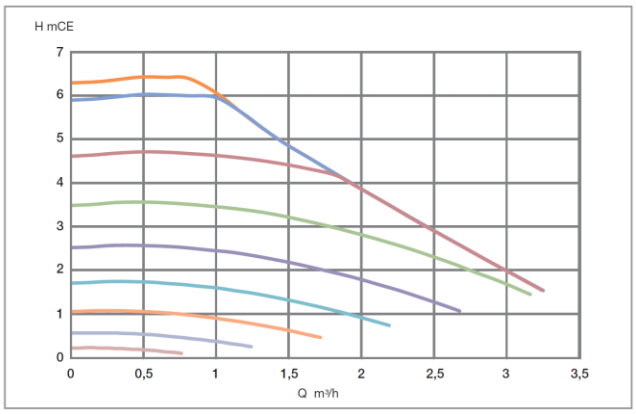


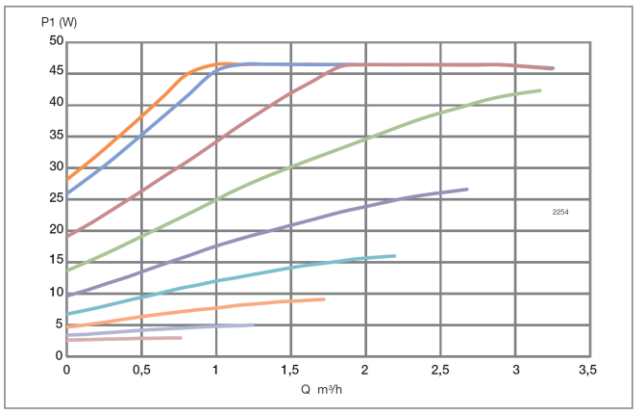
Curve	Adjustment	Kv
1	1/2	**0.09**
2	1	**0.27**
3	1+1/2	**0.76**
4	2	**0.98**
5	2+1/2	**1.20**
6	3	**1.46**
7	3+1/2	**1.70**
8	4	**1.93**
9	4+1/2	**2.19**
10	5	**2.47**
11	5+1/2	**2.75**
12	All open	**3.01**



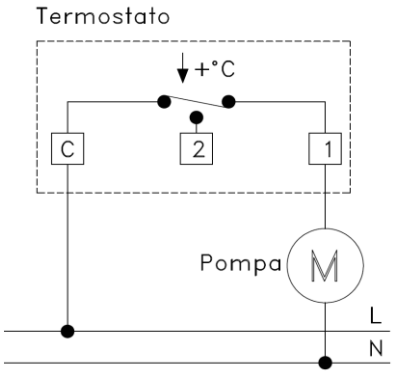
Curve	Kv	Items
1	**0.99**	CD 478M; CD 473M (for each outlet)
Max. recommended flow rate:		1600 l/h (on the manifold)

Pump Flow Rate Diagram





Electrical Connections



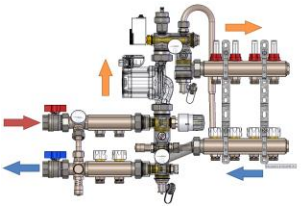
Safety Thermostat

Connect the thermostat as in the scheme considering the following:

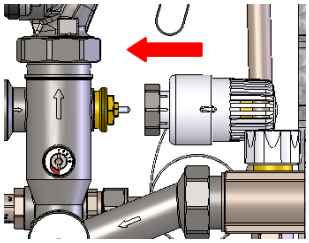
- Terminal C: phase;
- Terminal 1: opens the circuit when the temperature increases;
- Terminal 2: closes the circuit when the temperature increases.

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

Working Instructions

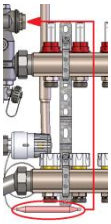


The circulation of water through the secondary circuit radiant panels is activated by the pump featured in the GM 1192, while the thermostatic head mounted on the adjustment valve keeps the temperature of the water to be sent to the radiant panels constant by acting on the quantity of hot water which is integrated into the secondary circuit.
The water returning to the primary circuit flows through the lockshield valve upon which it is possible to act in order to balance pressure drops. 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.

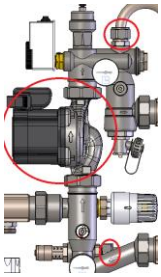


How to install the fixed point thermostatic head:

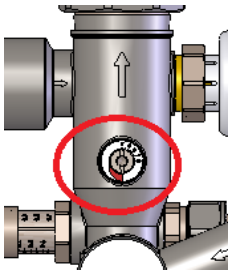
- The GM 1192 system is supplied with a plastic cap protecting the control stem of the adjustment valve. Remove the protection cap.
- To ease the installation, set the thermostatic head to the maximum value and screw it onto the valve.
- Set the head to the desired temperature.



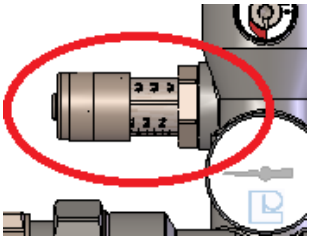
- Place the bulb of the head into the fastening device.



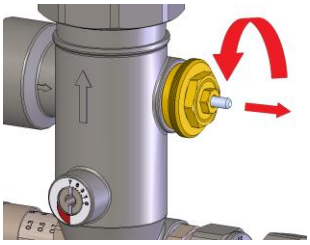
- Loosen the union fittings marked with “12” in the picture to ease the installation of the pump.
- Assemble the pump taking care to place it in the correct direction, which is upwards.
- After the installation, tighten back the fittings “12”



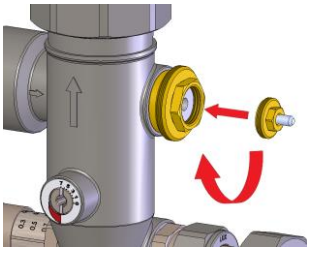
- The balancing ball valve “3” is adjusted by aligning the reference mark on the control stem with the scale by means of a 4 mm hex wrench.



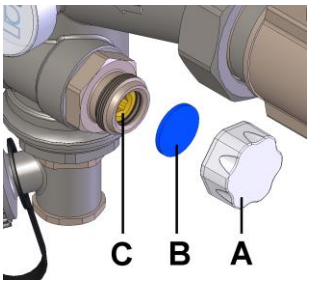
- The bypass valve “6” is simply adjusted by turning the knob until the desired value.



- To substitute the whole tightening device of the thermostatic screw while the group is operating, proceed as follows:
  - Remove the protection cap, manual knob, thermostatic head or thermoelectric head;
  - Hold the screw body with a 19 mm wrench and unscrew the tightening device by means of a 9 mm wrench;

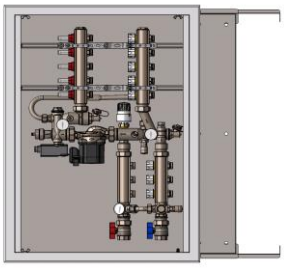


  - Replace the tightening device with the spare accessory and screw it by means of a 9 mm wrench;
  - Screw the protection cap, manual knob, thermostatic head or thermoelectric head back.

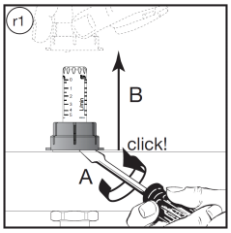


- To adjust the flow rate:
  - Unscrew the ABS plug “A” where the gasket “B” is placed;
  - Without forcing, use a 5 mm Allen key to close the obturator “C”;
  - Open the obturator for a number of turns as indicated on the flow rate diagram;
  - Screw back the ABS plug “A”.

- **WARNING**: Once the system has been leak tested, please relieve the pressure. A differential pressure over 1 bar between the inlet and the outlet of the valve may cause the sealing O-ring to be expelled.

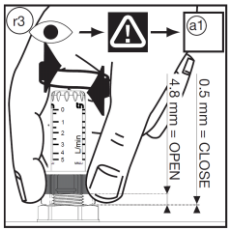


- Before starting the system it is important to check that:
  - All union fittings marked with “12” are perfectly tightened;
  - The check valve marked with “5” is completely open. To adjust the valve, unscrew the brass plug and act on the obturator by means of a 5 mm hex wrench.
- The value shown by the thermostatic head is indicative, the temperature of the water entering the radiant panels circuit can be read on the thermometer of the upper group.
- To avoid excessive noise in the system, do not use the thermostatic valve with ΔP values higher than 0,5 bar.
- Coupled with the pump PCE 755 art. 69011560, the GM 1192 system can be installed in a cabinet with a 90 mm internal usable depth.



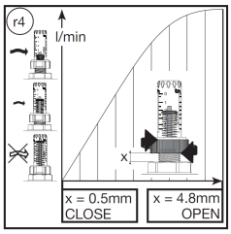
The theoretic flow rate of a hydraulic circuit, assigned by a technician, is given by the adjustment carried out through the regulator/flow meters assembled on the delivery manifold. The adjustment must be carried out with the valve on the return circuit fully open. Since the flow rates of each heating 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.
How to adjust the flow rate:

- Remove the red blocking collar.

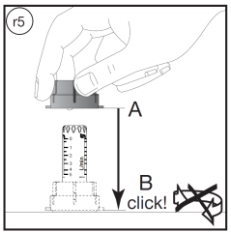


- Close the flow-meter.

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



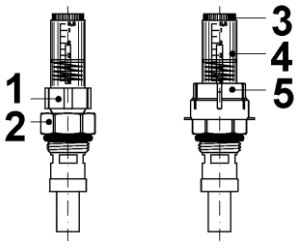
- Open the flow-meter until it shows the desired flow rate.



- Place the blocking collar back.

How to secure the hydraulic balance against tampering:

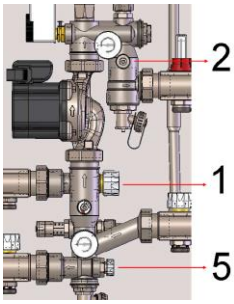
- The regulators/flow-meters adjustment can be secured through a block cap. If needed, the caps can be sealed with iron wire and lead.



The glass and the measuring spring can be disassembled for cleaning:

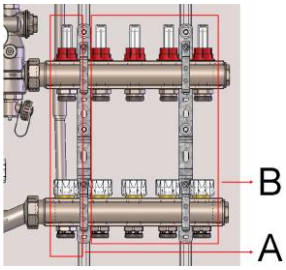
- Close the flow-meter and the corresponding valve placed on the ring return.
- Unscrew the glass applying strength on the collar and remove it.
- A negligible water leakage will appear during this operation.
- The glass can now be easily cleaned.
- To reassemble, follow the above instructions in reverse order.

1. Adjustment collar 2. Blocking collar 3. Glass collar
4. Glass 5. Block cap

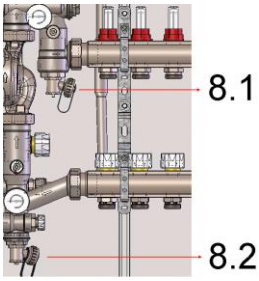


The high temperature circuit must be filled directly from the boiler.
To fill the low temperature system, do as follows:

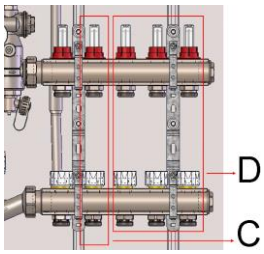
- Close the ball valve (2) with a 4 mm Allen key and the thermostatic screw (1) with thermostatic head or protection cap and the lockshield by means of a 5 mm Allen key.
- Make sure that the air vent valve is open.



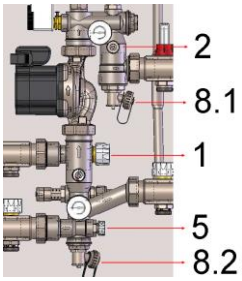
- Open the first way of the system (A) both on the delivery and the return.
- All the remaining ways (B) must be closed both on the delivery and the return.



- Connect the water supply to the top valve (8.1).
- Open both fill/drain valves (8.1) and (8.2) and start filling.
- The way is only full when a constant water flow with no air bubbles comes out of the drain valve (8.2).



- Once the first way (A) is full, close it both on the delivery and the return.
- Repeat the procedure with the second way (C).
- The procedure must be carried out singularly for all ways, taking care to close the circuits which are not being filled (D).



Once the filling is complete:

- Close the fill/drain valves (8.1) and (8.2)
- Open the ball valve (2)
- Open the thermostatic valve (1) and the lockshield valve (5)

Item Specifications

CCBP 4026

Preassembled group for fixed point thermal adjustment with brass mixing group. Connection to primary circuit through 1" full-flow ball valves. Differential bypass valve with 0.2bar÷0.7bar adjustment for the secondary circuit. W24x19 connections, 50 mm interaxis. Working fluids: water and glycol solutions; max. glycol percentage 30%. Max working pressure 6 bar. Temperature range 0÷60°C. Composed by:

- Fixed point mixing 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.
- Immersion safety thermostat, range of adjustment 0°C±90°C. Degree of protection IP 20.
- Thermometer to verify the delivery temperature towards the radiant panel.
- Thermometer to verify the return temperature from the radiant panel.
- Automatic 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.

CCBP 4036

Preassembled group for fixed point thermal adjustment with brass mixing group. Connection to primary circuit through 1" full-flow ball valves. Differential bypass valve with 0.2bar÷0.7bar adjustment for the secondary circuit. G3/4 connections, 50 mm interaxis. Working fluids: water and glycol solutions; max. glycol percentage 30%. Max working pressure 6 bar. Temperature range 0÷60°C. Composed by:

- Fixed point mixing 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.
- Immersion safety thermostat, range of adjustment 0°C±90°C. Degree of protection IP 20.
- Thermometer to verify the delivery temperature towards the radiant panel.
- Thermometer to verify the return temperature from the radiant panel.
- Automatic 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.

CCBAP 4025

Preassembled group for fixed point thermal adjustment with 2 connections for high temperature primary circuit and brass mixing group. Connection to primary circuit through 1" full-flow ball valves. Differential bypass valve with 0.2bar÷0.7bar adjustment for primary and secondary circuit. W24x19 connections, 50 mm interaxis. Working fluids: water and glycol solutions; max. glycol percentage 30%. Max working pressure 6 bar. Temperature range 0÷60°C. Composed by:

- Fixed point mixing 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 3 primary circuit connections.
- Brass return manifold with 3 primary circuit connections and shut-off valves for electrothermal control. With protection cap and possibility to close the 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.
- Immersion safety thermostat, range of adjustment 0°C±90°C. Degree of protection IP 20.
- Thermometer to verify the delivery temperature towards the radiant panel.
- Thermometer to verify the return temperature from the radiant panel.
- Automatic 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.

CCBAP 4027

Preassembled group for fixed point thermal adjustment with 3 connections for high temperature primary circuit and brass mixing group. Connection to primary circuit through 1" full-flow ball valves. Differential bypass valve with 0.2bar÷0.7bar adjustment for primary and secondary circuit. W24x19 connections, 50 mm interaxis. Working fluids: water and glycol solutions; max. glycol percentage 30%. Max working pressure 6 bar. Temperature range 0÷60°C. Composed by:

- Fixed point mixing 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 3 primary circuit connections.
- Brass return manifold with 3 primary circuit connections and shut-off valves for electrothermal control. With protection cap and possibility to close the 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.
- Immersion safety thermostat, range of adjustment 0°C±90°C. Degree of protection IP 20.
- Thermometer to verify the delivery temperature towards the radiant panel.
- Thermometer to verify the return temperature from the radiant panel.
- Automatic 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.

CCBAP 4079

Preassembled group for fixed point thermal adjustment with 4 connections for high temperature primary circuit and brass mixing group. Connection to primary circuit through 1" full-flow ball valves. Differential bypass valve with 0.2bar÷0.7bar adjustment for primary and secondary circuit. W24x19 connections, 50 mm interaxis. Working fluids: water and glycol solutions; max. glycol percentage 30%. Max working pressure 6 bar. Temperature range 0÷60°C. Composed by:

- Fixed point mixing 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 4 primary circuit connections.
- Brass return manifold with 4 primary circuit connections and shut-off valves for electrothermal control. With protection cap and possibility to close the 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.
- Immersion safety thermostat, range of adjustment 0°C±90°C. Degree of protection IP 20.
- Thermometer to verify the delivery temperature towards the radiant panel.
- Thermometer to verify the return temperature from the radiant panel.
- Automatic 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.

CCBAP 4035

Preassembled group for fixed point thermal adjustment with 2 connections for high temperature primary circuit and brass mixing group. Connection to primary circuit through 1" full-flow ball valves. Differential bypass valve with 0.2bar÷0.7bar adjustment for primary and secondary circuit. Male G3/4 EK connections, 50 mm interaxis. Working fluids: water and glycol solutions; max. glycol percentage 30%. Max working pressure 6 bar. Temperature range 0÷60°C. Composed by:

- Fixed point mixing 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 3 primary circuit connections.
- Brass return manifold with 3 primary circuit connections and shut-off valves for electrothermal control. With protection cap and possibility to close the 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.
- Immersion safety thermostat, range of adjustment 0°C±90°C. Degree of protection IP 20.
- Thermometer to verify the delivery temperature towards the radiant panel.
- Thermometer to verify the return temperature from the radiant panel.
- Automatic 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.

CCBAP 4037

Preassembled group for fixed point thermal adjustment with 3 connections for high temperature primary circuit and brass mixing group. Connection to primary circuit through 1" full-flow ball valves. Differential bypass valve with 0.2bar÷0.7bar adjustment for primary and secondary circuit. Male G3/4 EK connections, 50 mm interaxis. Working fluids: water and glycol solutions; max. glycol percentage 30%. Max working pressure 6 bar. Temperature range 0÷60°C. Composed by:

- Fixed point mixing 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 3 primary circuit connections.
- Brass return manifold with 3 primary circuit connections and shut-off valves for electrothermal control. With protection cap and possibility to close the 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.
- Immersion safety thermostat, range of adjustment 0°C±90°C. Degree of protection IP 20.
- Thermometer to verify the delivery temperature towards the radiant panel.
- Thermometer to verify the return temperature from the radiant panel.

- Automatic 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.

CCBAP 4080

Preassembled group for fixed point thermal adjustment with 4 connections for high temperature primary circuit and brass mixing group. Connection to primary circuit through 1" full-flow ball valves. Differential bypass valve with 0.2bar÷0.7bar adjustment for primary and secondary circuit. Male G3/4 EK connections, 50 mm interaxis. Working fluids: water and glycol solutions; max. glycol percentage 30%. Max working pressure 6 bar. Temperature range 0÷60°C. Composed by:

- Fixed point mixing 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 4 primary circuit connections.
- Brass return manifold with 4 primary circuit connections and shut-off valves for electrothermal control. With protection cap and possibility to close the 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.
- Immersion safety thermostat, range of adjustment 0°C±90°C. Degree of protection IP 20.
- Thermometer to verify the delivery temperature towards the radiant panel.
- Thermometer to verify the return temperature from the radiant panel.
- Automatic 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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