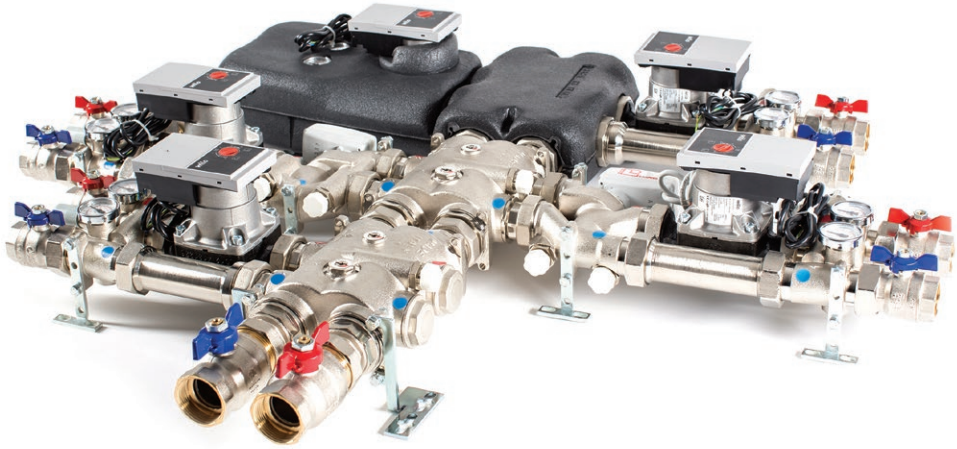
LUXOR®

6 / MODULAR HYDRONIC SYSTEM

MODULAR HYDRONIC SYSTEM



The modular hydronic system consists of:
- a modular distribution manifold;
- pumping groups;
- fixed-points mixing and pumping groups;
- mixing and pumping groups with sliding temperature.

The modular hydronic system SIM 1208 is used in the distribution and operation of zone systems. It was developed to create several solutions aimed at simplifying and solving various installation issues. All components in contact with water are in brass or stainless steel and the gaskets in peroxide cured EPDM. The use of these metals prevents the bimetallic corrosion occurring with metals of different nobility.

The manifold can be connected to the boiler from any direction. In this way, it is possible to connect one or more energy sources at the same time, such as a boiler and a refrigeration group. The whole system can easily be assembled on site. The manifold is modular, so it can be composed with a number of elements according to the system requirements. Each module of the manifold can be assembled so as to have the connections to the groups both on the left or the right, thus being adaptable to the existing system.

Thermomanometers, air vent valves, water inlet/outlet valves, expansion vessels and safety groups can be installed on the free connections of the manifold.

Each pumping group can be installed either with left or right connections. Each mixing and pumping group is provided with thermometers to read the inlet and outlet temperature, a differential bypass valve for the pump installed on the groups and seats for regulation and reading probes. The mixing groups can be connected directly to the boiler (without manifold) and act as a pumping and mixing unit.

Mixing groups feature a 3-way piston mixing valve for fixed-point or sliding adjustment. The mixing valve is also equipped with two bypasses, one before and one after the mixing. Mixing groups are provided with a safety thermostat with immersion probe and housing.

The SIM 1208 can be installed in a metal cabinet and, if needed, hung to the wall through its brackets. All versions of the SIM 1208 are extremely compact.

It allows to install up to 5 G 1”1/4 groups in 700 mm of width, and up to 6 if the boiler is connected on one side. With the pumps placed horizontally, the depth of the system is only 100 mm.

TECHNICAL DATA

Maximum working pressure 6 bar

Maximum working temperature 80 °C

Mixing Kvs value 5,5 (recirculation) – 6.9 (primary exchange)

CONSTRUCTIVE FEATURES

Manifold

Brass manifold, material:
CB 753 S UNI EN 1982-2000 for faucets

Connection kit for modules, material:
CW614N UNI EN 12164:2016

Gasket, material:
Peroxide cured EPDM

Mixing unit

Flow meter, material:
Brass CB 753 S UNI EN 1982- 2000 for faucets

Gasket, material:
Peroxide cured EPDM

Brass parts of the screw, material:
CW614N UNI EN 12164:2016

Steel parts of the screw, material:
Stainless steel

Probe holder group

Brass manifold, material:
CB 753 S UNI EN 1982-2000 for faucets

Components material:
CW614N UNI EN 12164:2016

Max recommended flow to mixing valve 2.750 l/h
(Δp 0.25bar)

Thermometer range 0÷ 80 ° C

Thermometers

Thermometer case and stem in galvanized steel

Covering in transparent plastic material

Thermometric element bimetallic spring

Pumps

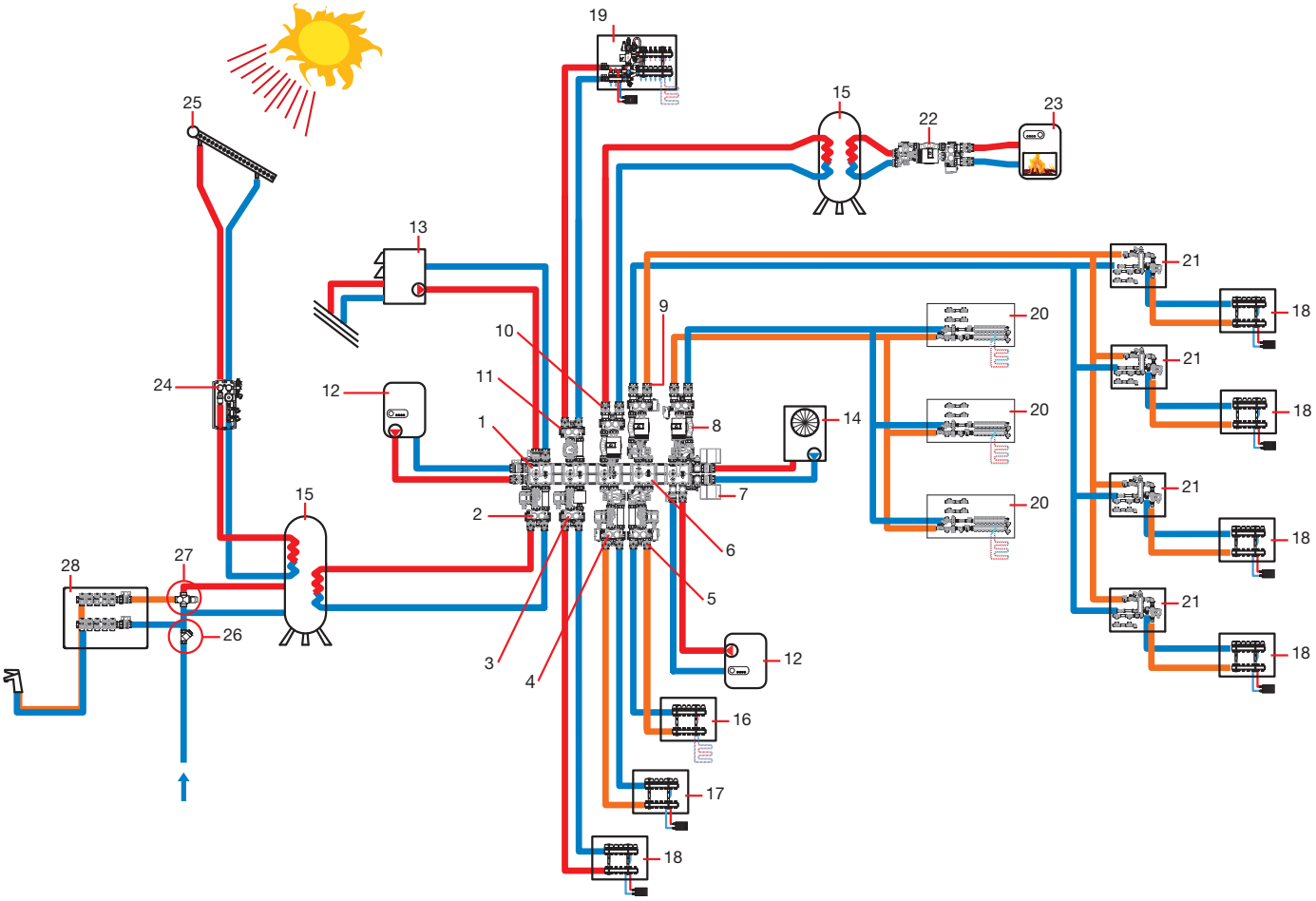
Wilo Yonos Para RS 25/6-130-FSM-RKA-12

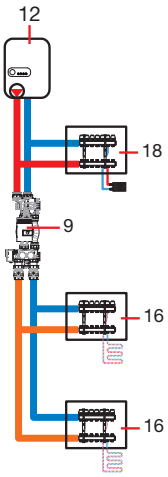
Wilo Stratos Para 25/1-7-130 T3

Wilo Stratos Para 25/1-8-130 T3

GALVANIC TREATMENTS

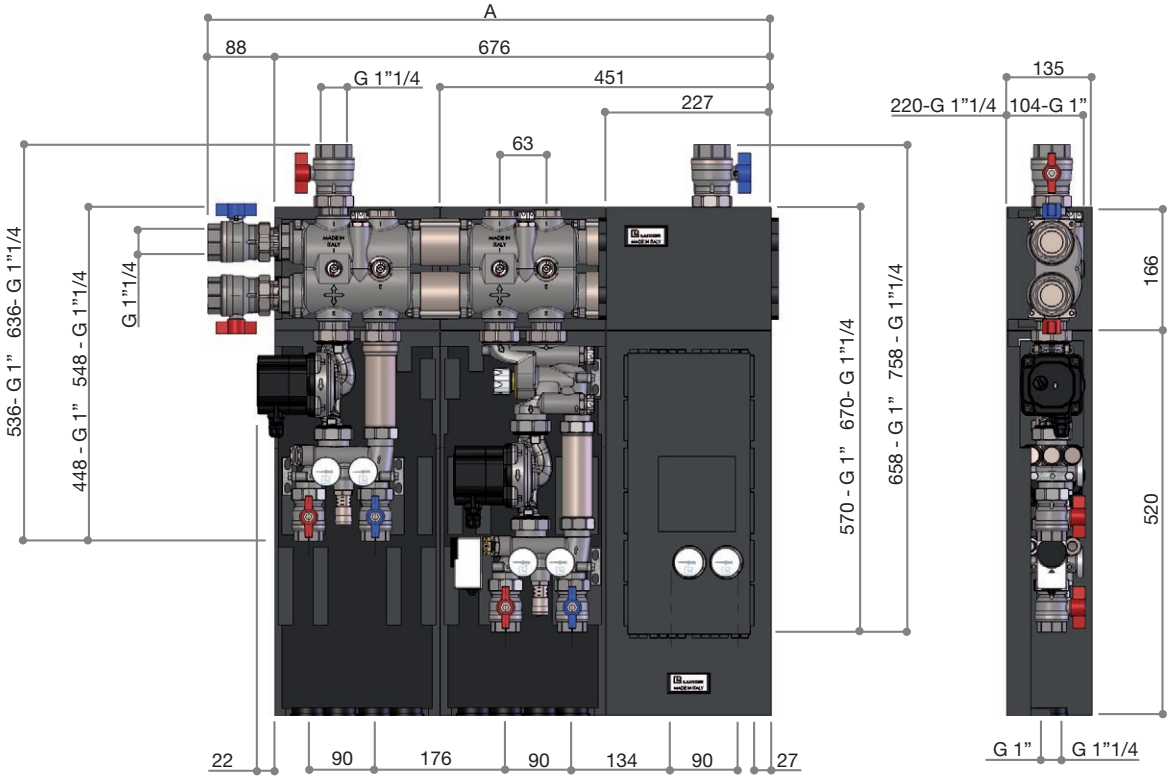
Nickel plating

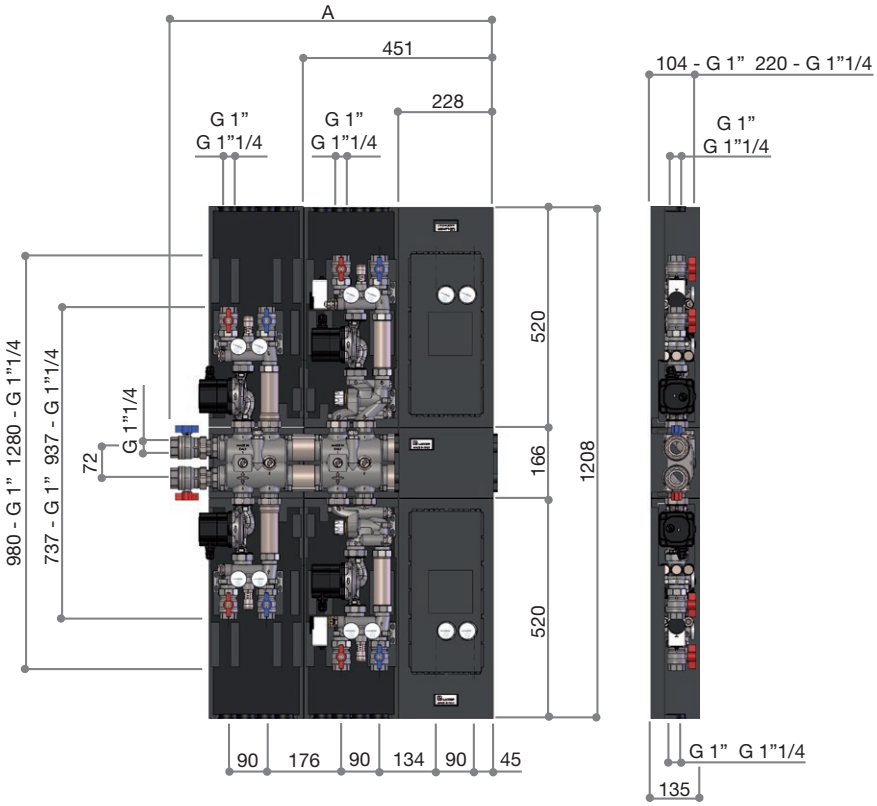




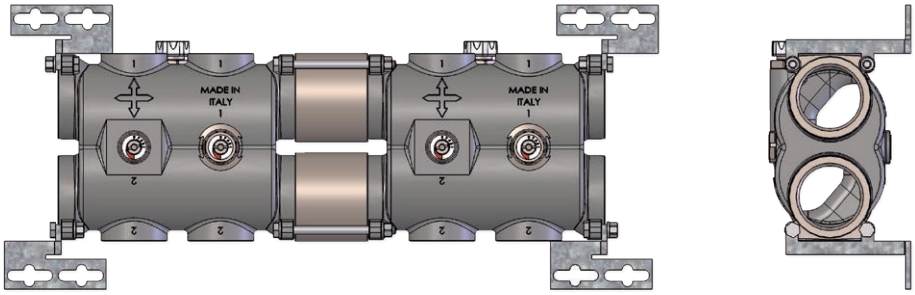
1 Manifold CD 1210
2 Pumping unit G 1" GR 112-GR 1230
3 Pumping unit G 1" GR 1220 – GR1230 with heat meter G 3/4 interaxis 110 mm
4 Mixing group G1" with left inlet GM 1260 – GM1270
5 Mixing group G1" with right inlet GM 1260 – GM1270
6 Manifold CD 1210 assembled backhand to invert the connection of the pumping/mixing unit (right inlet)
7 Zone Valve VZ 700
8 Mixing group G 1" 1/4 installed with right inlet GM 1260 – GM 1270
9 Mixing group G 1" 1/4 installed with left inlet GM 1260 – GM 1270
10 Pumping unit G 1"1/4 GR 1220 – GR 1230
11 Pumping unit G 1" GR 1220 – GR 1230
12 Boiler
13 Heat pump
14 Refrigeration group
15 Heater
16 Manifold CD 2468 for distribution in radiant panels system
17 Manifold CD 2468 for distribution in Fan coil system
18 Manifold CD 2468 for distribution in Fan coil system
19 Complete pre-assembled distribution group for high temperature, fixed-point mixing and pumping
20 Pre-assembled group MC 5001 designed for heat and sanitary water metering, deviation valve and distribuition manifolds.
21 Pre-assembled group MC 5003 designed for heat and sanitary water metering, hydraulic separator and pump
22 Mixing group G 1" 1/4 with fixed point for recirculation in solid fuel boilers
23 Solid fuel boiler
24 Circulation group for solar panels GSP 1180
25 Solar panel
26 Filter RF 5008
27 Sanitary mixing valve VM 660
28 Sanitary manifolds

DIMENSIONAL DRAWING





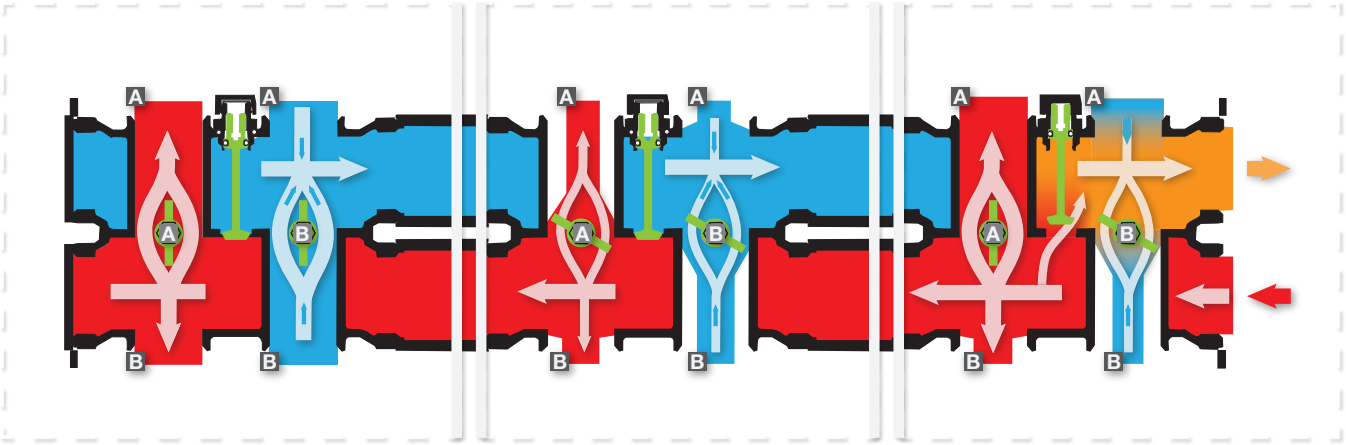
MANIFOLDS



Modular manifold G 1"1/2, with connection for groups G 1"1/4 and balancing and by-pass valves
It can also act as a hydraulic separator by opening the by-pass installed on all modules.

Free inner passage ø 45mm.
Connection to primary circuit G 1"1/2.
Connection to pumping and mixing groups G 1"1/4.

FLOW SCHEME

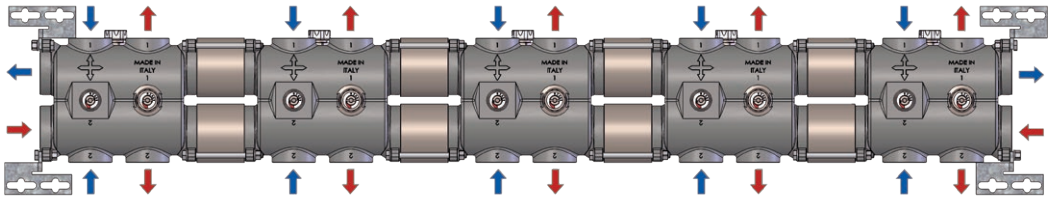


Manifold module with:
A. Balancing valve all open
B. Balancing valve all open

Manifold module with:
A. Balancing valve partially open
B. Balancing valve partially open

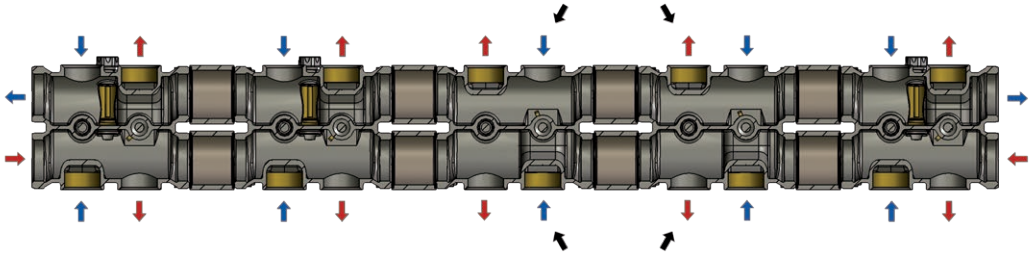
Manifold module with:
A. Balancing valve all open
B. Balancing valve partially open

HYDRAULIC CHARACTERISTICS OF MANIFOLD CD 1210

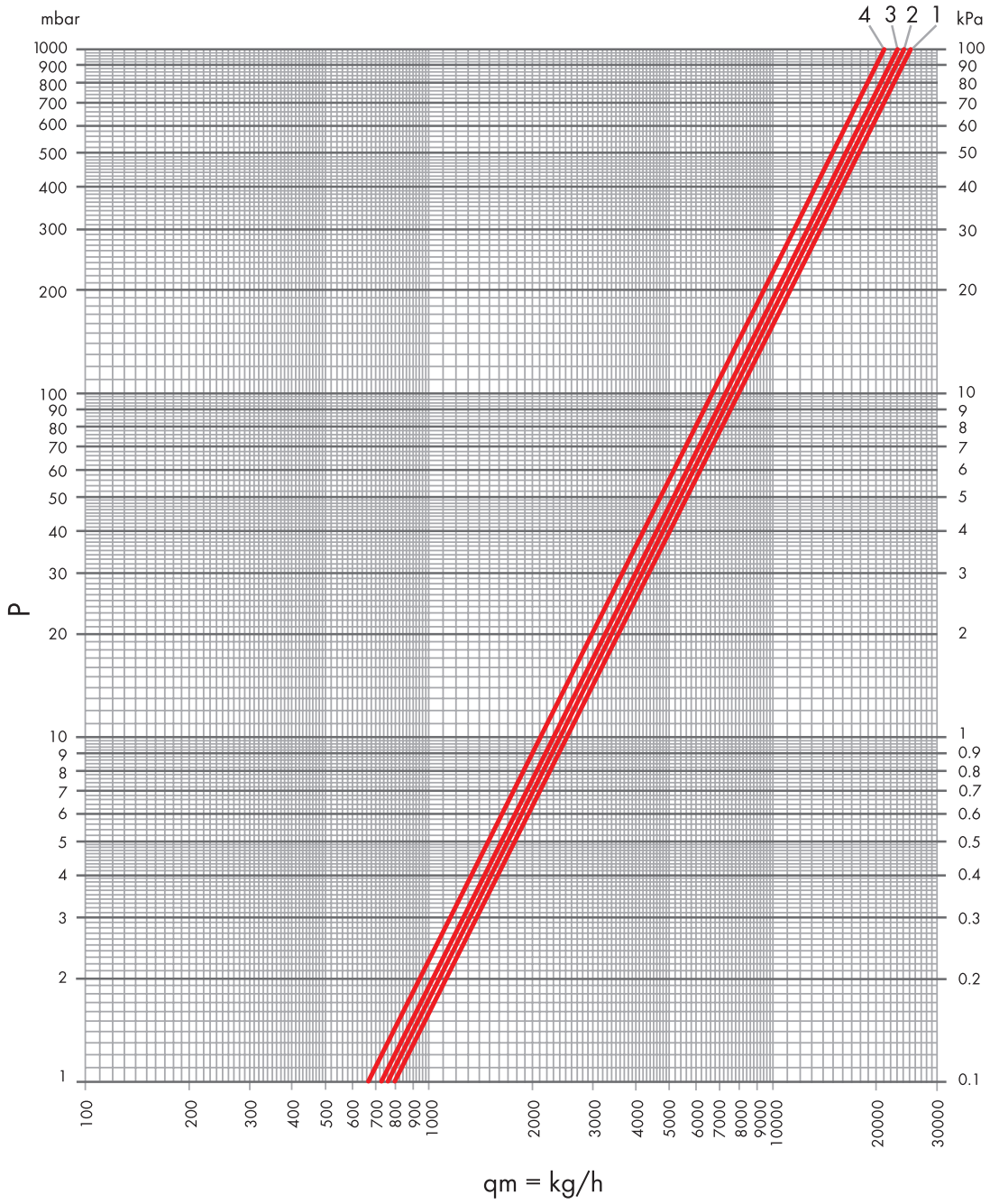


When the manifold CD 1210 is assembled in one direction only with the connections alternating on both sides of the manifold and main connection G 1"1/2, it works like a coplanar manifold.
If necessary, it can be assembled so as to reverse the outlets. In the following picture the third and fourth module are inverted.

The outlets can be reversed by rotating the module of the manifold of 180°.
The head inlets on the manifold and all the modules will remain unchanged.
This is very convenient when it is necessary to adjust the manifold connections to the existing installations.



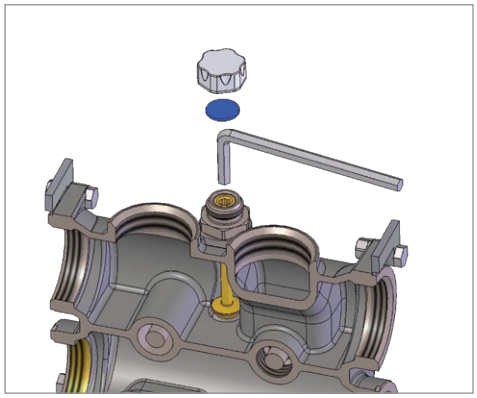
MANIFOLDS FLOW RATE CHART



Kvs	OUTLETS N°	POS
25	2	1
24	3	2
23	4	3
21	5	4

BALANCING VALVE AND BYPASS KV CHART

BYPASS



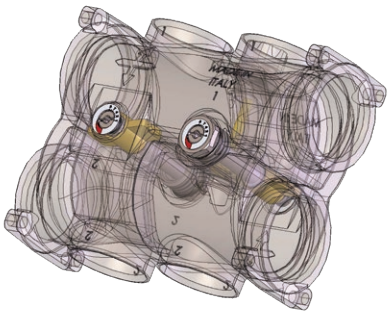
CLOSURE TURNS	Kv
1/4	0,17
1/2	0,51
1	1,27
1"1/2	1,87
2	2,55
2"1/2	3,05

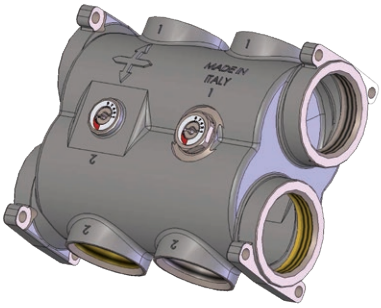
CLOSURE TURNS	Kv
3	3,56
3"1/2	3,82
4	3,99
4"1/2	4,16
All open	4,33

The manifold can function as a hydraulic separator opening the bypass of each module.

It is a useful solution when there is more than one heat generator and/or primary circuit.

BALANCING VALVE



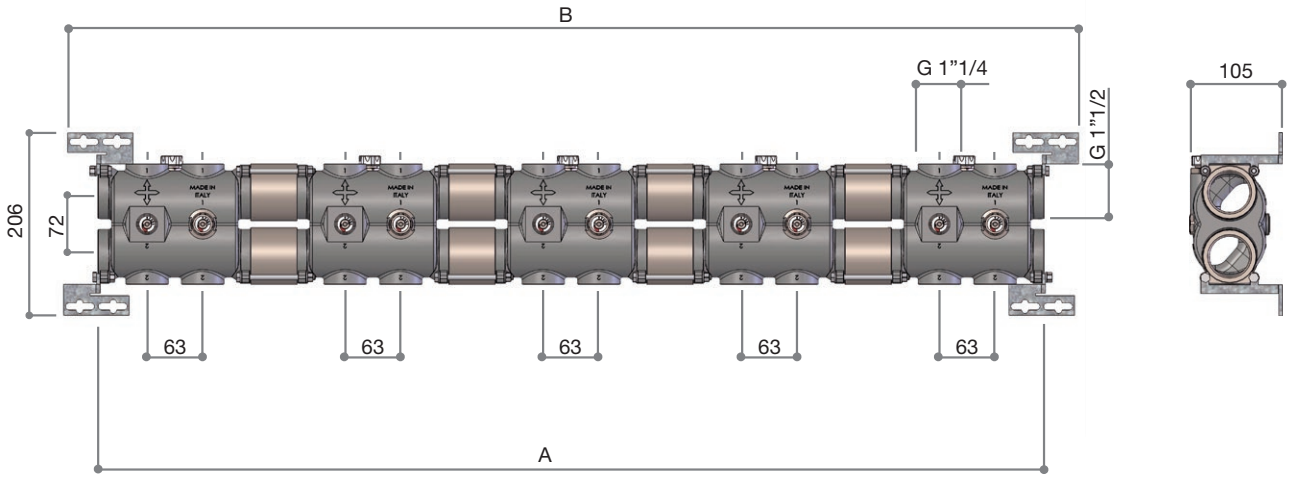


STEM INDEX POSITION	Kv
0	5,43
1	6,79
3	8,13
5	8,51
7	8,72

The regulation of the balancing valve is very handy (and in some cases essential) when a manifold supplies several groups.
The groups are all connected in parallel, when a group is disadvantaged, the balancing valves can correct the situation by balancing the circuits so as to assure the correct functioning of the system.

PLEASE NOTE
Each manifold module has tow balancing valves.
The regulation of the valves can be made on both sides of the manifold.
Each valve regulates the Kv of a couple of connection G 1"1/4.
The corresponding valves and connection are identified by the numbers "1" and "2".

MODULAR MANIFOLD DIMENSIONAL DRAWING



CD 1210

CODE	CONNECTIONS	A	B	C	D	E	F	G	H	L	M	N	P	R
68744251	1+1	174	267	-	-	-	-	-	-	-	-	-	-	-
68744252	2+2	398	471	-	-	-	-	-	-	-	-	-	-	-
68744253	3+3	622	695	-	-	-	-	-	-	-	-	-	-	-
68744254	4+4	846	919	-	-	-	-	-	-	-	-	-	-	-
68744255	5+5	1070	1143	-	-	-	-	-	-	-	-	-	-	-

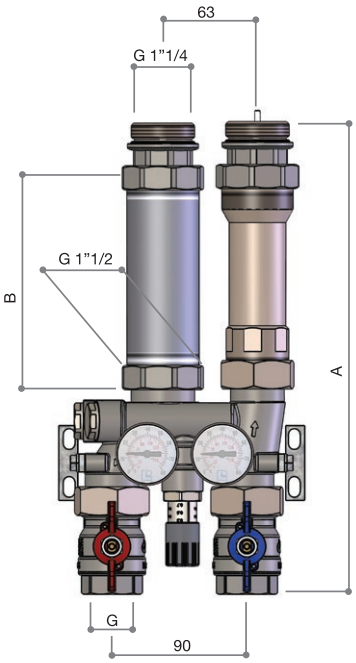
CD 1210

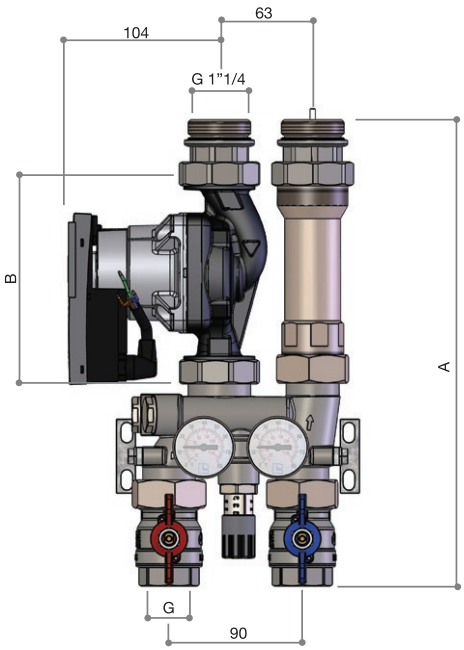
Modular distribution manifold G 1"1/2 with connection for groups G 1"1/4 and bypass, balancing valves. The bypass valves installed on all the modules can be opened and function as a hydraulic separator. Internal free passage ø 45mm.
(the CB version is insulated).

CODE	CONNECTIONS	SIZE	Kg		
68744251	1+1	G 1"1/2 x G 1"1/4	3,884	1	-
68744251CB	1+1		3,964	1	-
68744252	2+2		8,226	1	-
68744252CB	2+2		8,386	1	-
68744253	3+3		12,568	1	-
68744253CB	3+3		12,808	1	-
68744254	4+4		16,910	1	-
68744254CB	4+4		17,230	1	-
68744255	5+5		21,252	1	-
68744255CB	5+5		21,652	1	-

PUMPING GROUPS

DIMENSIONAL DRAWING





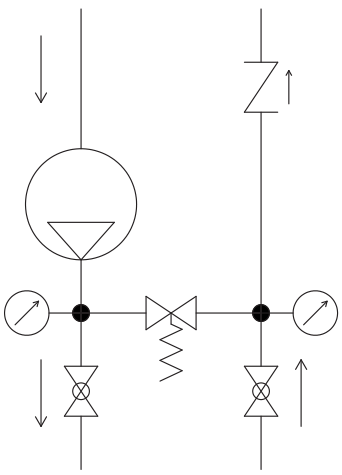
GR 1220

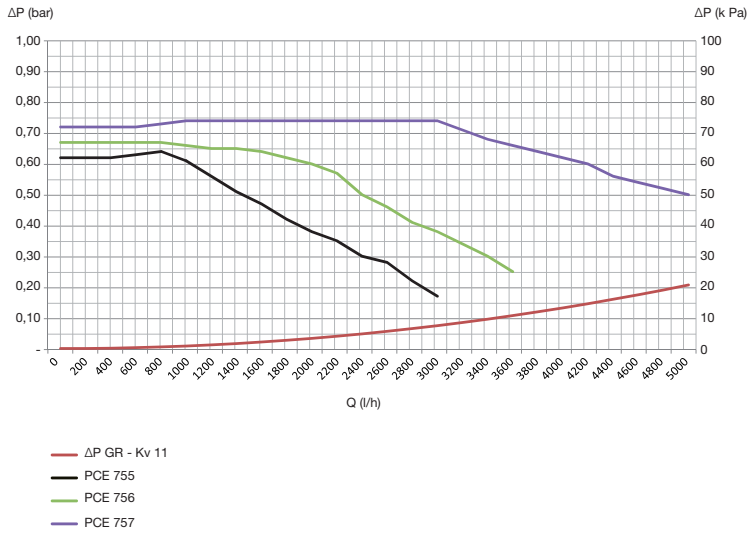
CODE	SIZE	A	B	C	D	E	F	G
68763400	G 1"	315	130	-	-	-	-	G 1"
68764200	G 1"1/4	415	180	-	-	-	-	G 1"1/4

GR 1230

CODE	SIZE	A	B	C	D	E	F	G
68763410	G 1"	315	130	-	-	-	-	G 1"
68764210	G 1"1/4	415	180	-	-	-	-	G 1"1/4

HYDRAULIC SCHEME





To avoid excessive noise in the system, do not use with ΔP value higher than 0,2-0,25 bar.

PUMPING GROUPS

GR 1220

Pumping group without pump.
Maximum recommended flow rate 3.000 l/h.
Each group is equipped with:

- thermometers to display the delivery and return temperature;
- differential bypass valve;
- check valve;
- shut-off valves for circuits.

(the CB version is insulated).

CODE	SIZE	INTERAXIS	Kg		
68763400	G 1"	130 mm	4,474	1	-
68763400CB	G 1"	130 mm	4,754	1	-
68764201	G 1"	180 mm	4,922	1	-
68764200	G 1"1/4	180 mm	5,474	1	-
68764200CB	G 1"1/4	180 mm	5,754	1	-

GR 1230

Pumping group with pump.
Maximum recommended flow rate 3.000 l/h.
Each group is equipped with:

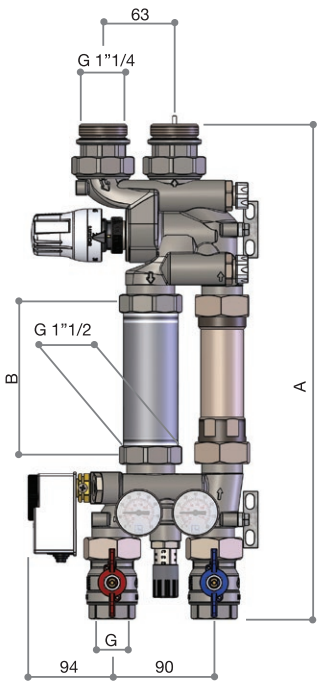
- thermometers to display the delivery and return temperature;
- differential bypass valve;
- check valve;
- shut-off valves for circuits.

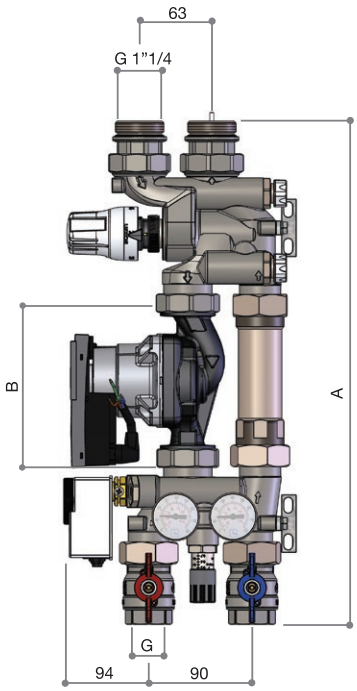
(the CB version is insulated).

CODE	SIZE	INTERAXIS	Kg		
68763410	G 1"	130 mm	5,582	1	-
68763410CB	G 1"	130 mm	5,862	1	-
68764210	G 1"1/4	180 mm	8,092	1	-
68764210CB	G 1"1/4	180 mm	8,372	1	-

FIXED POINT GROUP

DIMENSIONAL DRAWING





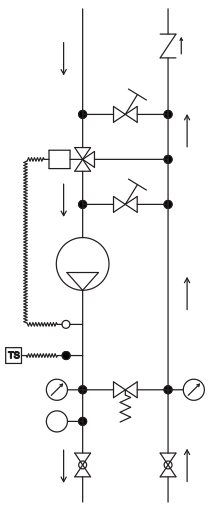
GM 1240

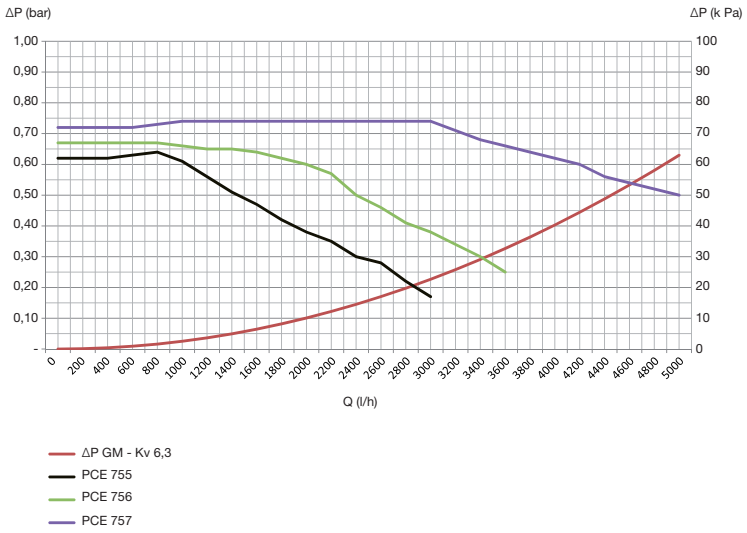
CODE	SIZE	A	B	C	D	E	F	G
68763420	G 1"	437	130	-	-	-	-	G 1"
68764220	G 1"1/4	537	180	-	-	-	-	G 1"1/4

GM 1250

CODE	SIZE	A	B	C	D	E	F	G
68763430	G 1"	437	130	-	-	-	-	G 1"
68764230	G 1"1/4	537	180	-	-	-	-	G 1"1/4

HYDRAULIC SCHEME





To avoid excessive noise in the system, do not use with ΔP value higher than 0,2-0,25 bar.

FIXED POINT GROUP

GM 1240

Fixed-point group without pump.
Maximum recommended flow rate 2.750 l/h.
Each group is equipped with:

- 3-way piston mixing valve;
- thermostatic head with regulation for fixed point;
- bypass valves for manual adjustment for the circuits before and after the mixing valve;
- thermometers to display the delivery and return temperature;
- bypass differential valve;
- check valve;
- shut-off valves for circuits.

(the CB version is insulated).

CODE	SIZE	INTERAXIS	Kg		
68763420	G 1"	130 mm	4,946	1	-
68763420CB	G 1"	130 mm	5,226	1	-
68764220	G 1"1/4	180 mm	5,827	1	-
68764220CB	G 1"1/4	180 mm	6,107	1	-

GM 1250

Fixed-point group with pump.
Maximum recommended flow rate 2.750 l/h.
Each group is equipped with:

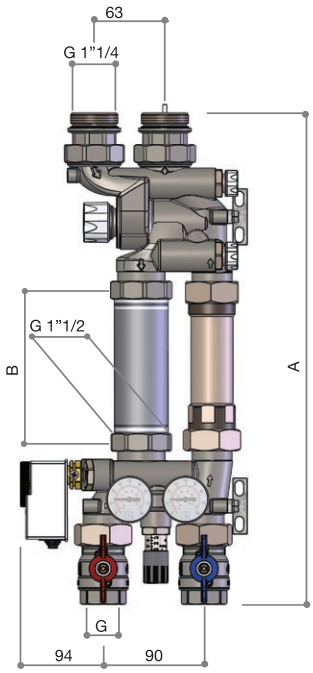
- 3-way piston mixing valve;
- thermostatic head with regulation for fixed point;
- bypass valves for manual adjustment for the circuits before and after the mixing valve;
- thermometers to display the delivery and return temperature;
- bypass differential valve;
- check valve;
- shut-off valves for circuits.

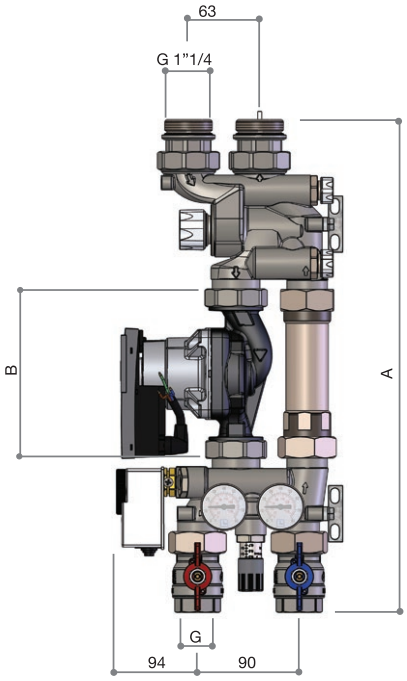
(the CB version is insulated).

CODE	SIZE	INTERAXIS	Kg		
68763430	G 1"	130 mm	6,054	1	-
68763430CB	G 1"	130 mm	6,334	1	-
68764230	G 1"1/4	180 mm	8,445	1	-
68764230CB	G 1"1/4	180 mm	8,725	1	-

SLIDING POINT GROUP

DIMENSIONAL DRAWING





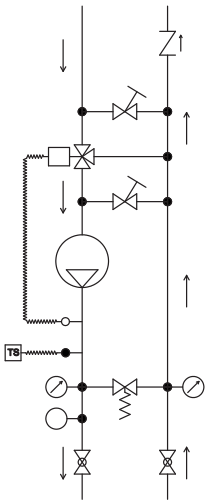
GM 1260

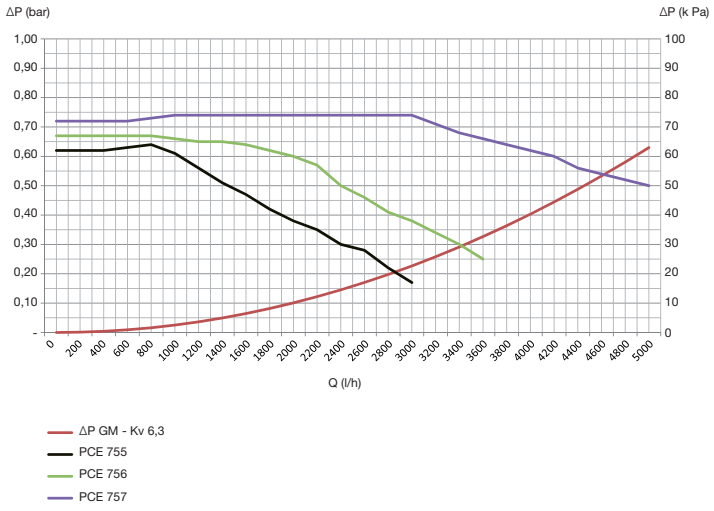
CODE	SIZE	A	B	C	D	E	F	G
68763440	G 1"	437	130	-	-	-	-	G 1"
68764240	G 1"1/4	537	180	-	-	-	-	G 1"1/4

GM 1270

CODE	SIZE	A	B	C	D	E	F	G
68763450	G 1"	437	130	-	-	-	-	G 1"
68764250	G 1"1/4	537	180	-	-	-	-	G 1"1/4

HYDRAULIC SCHEME





To avoid excessive noise in the system, do not use with ΔP value higher than 0,2-0,25 bar.

SLIDING POINT GROUP

GM 1260

Sliding-point group without pump.
Maximum recommended flow rate 2.750 l/h.
Each group is equipped with:

- 3-way piston mixing valve;
- possibility to install a 3-point or 0-10 V motor on a screw with standard connection M30x1,5 mm;
- bypass valves for manual adjustment for the circuits before and after the mixing valve;
- thermometers to display the delivery and return temperature;
- bypass differential valve;
- check valve;
- shut-off for circuits.

(the CB version is insulated)

CODE	SIZE	INTERAXIS	KG		
68763440	G 1"	130 mm	4,800	1	-
68763440CB	G 1"	130 mm	5,080	1	-
68764241	G 1"	180 mm	5,129	1	-
68764240	G 1"1/4	180 mm	5,681	1	-
68764240CB	G 1"1/4	180 mm	5,961	1	-

GM 1270

Sliding-point group with pump.
Maximum recommended flow rate 2.750 l/h.

- Each group is equipped with:
- 3-way piston mixing valve;
- possibility to install a 3-point or 0-10 V motor on a screw with standard connection M30x1,5 mm;
- bypass valves for manual adjustment for the circuits before and after the mixing valve;
- thermometers to display the delivery and return temperature;
- bypass differential valve;
- check valve;
- shut-off for circuits.

(the CB version is insulated)

CODE	SIZE	INTERAXIS	KG		
68763450	G 1"	130 mm	5,908	1	-
68763450CB	G 1"	130 mm	6,188	1	-
68764250	G 1"1/4	180 mm	8,299	1	-
68764250CB	G 1"1/4	180 mm	8,579	1	-

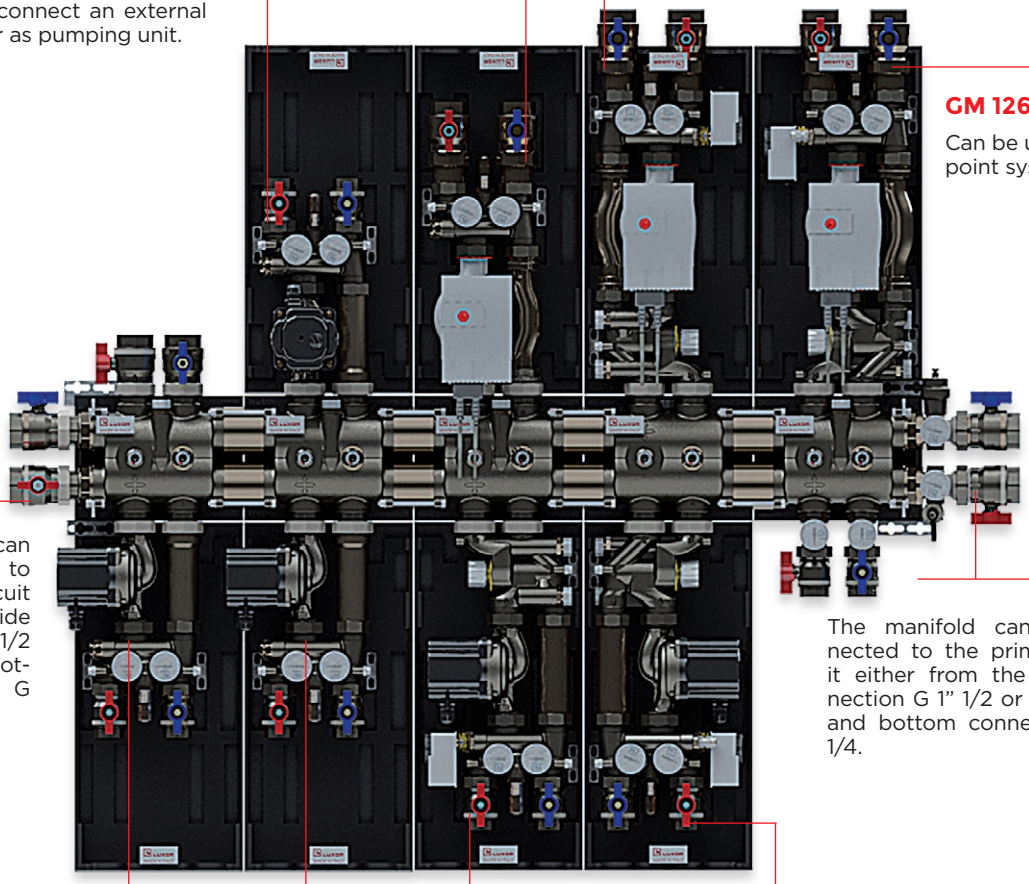
APPLICATIONS AND ASSEMBLY OPTIONS

GM 1260 - GM 1270

Can be used for sliding point systems.

GR 1220 - GR 1230

Can be used to connect an external heating source or as pumping unit.



GM 1260 - GM 1270

Can be used for sliding point systems.

The manifold can be connected to the primary circuit either from the side connection G 1" 1/2 or the top and bottom connection G 1" 1/4.

The manifold can be connected to the primary circuit either from the side connection G 1" 1/2 or by the top and bottom connection G 1" 1/4.

GR 1220 - GR 1230

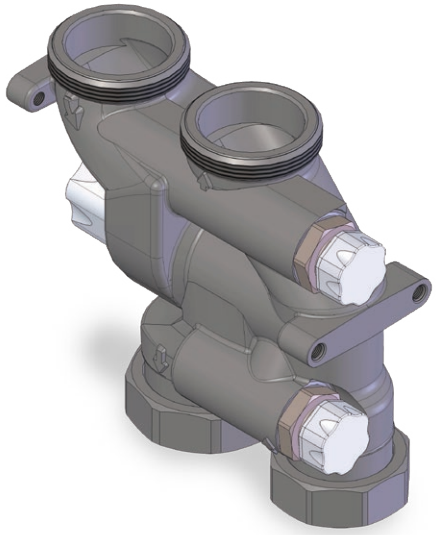
Can be used to connect an external heating source or as pumping unit.

GM 1260 - GM 1270

Can be used for sliding point systems.

It is possible to reverse the position of the pumping unit or the mixing unit by appropriately connecting the manifolds modules.

MIXING VALVE VM 1200



Mixing valve DN 25. This valve can be combined with the thermostatic head TT 3051 for fixed point systems, or to an actuator with a M30x1,5 thread, closing point 11,5mm and stroke ≥ 3mm.

Two bypasses are installed on the mixing valve:

- Primary bypass. Enables to generate a recirculation for the pump of the primary circuit (ex. boiler pump).
- Secondary bypass. Allows to generate a recirculation for the pump installed on the group, thus balancing the temperature in the panels and developing thermal inertia for the temperature adjustement system.

Connection to the primary circuit G 1"1/2 male.

Connection to the pump with swivel nut G 1"1/2 and connection to the recirculation socket with swivel nut G 1"1/4.

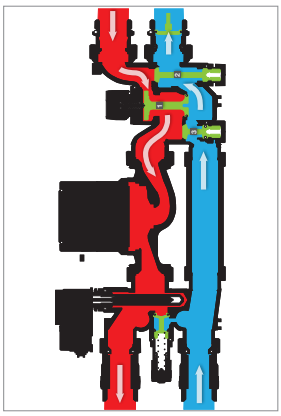
TECHNICAL DATA

Mixing valve Kvs 5,5 (recirculation) 6,9 (primary exchange)

Maximum recommended flow rate to mixing valve 2.750 l/h (Δp 0,25bar)

Maximum recommended differential pressure on mixing valve 0,25 bar

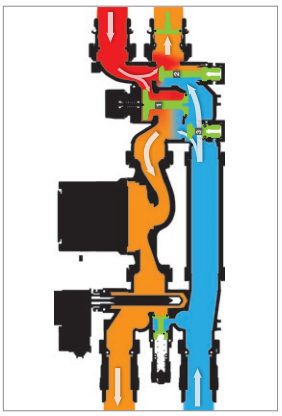
HYDRAULIC DATA



1 Mixing valve open

2 Primary bypass closed

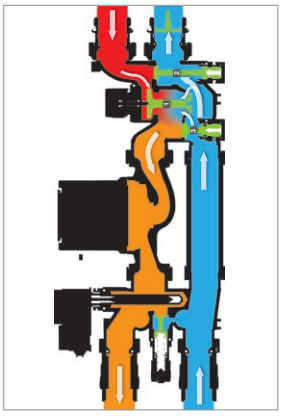
3 Secondary bypass closed



1 Mixing valve open

2 Primary bypass open

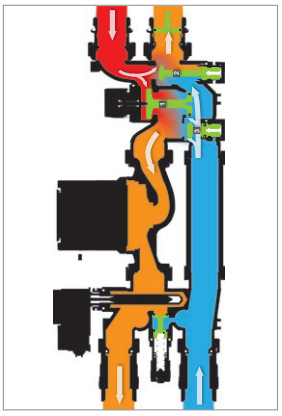
3 Secondary bypass open



1 Mixing valve partially open

2 Primary bypass closed

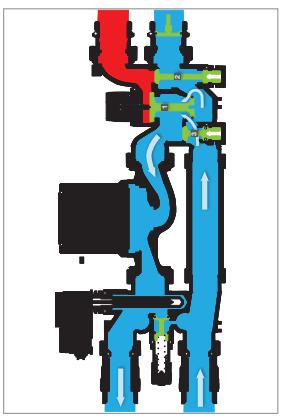
3 Secondary bypass closed



1 Mixing valve partially open

2 Primary bypass open

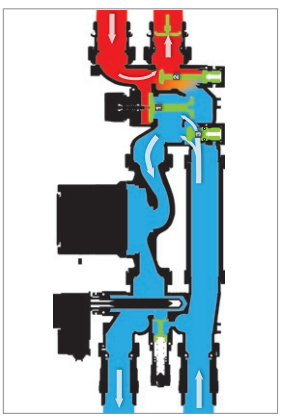
3 Secondary bypass open



1 Mixing valve closed

2 Primary bypass closed

3 Secondary bypass closed



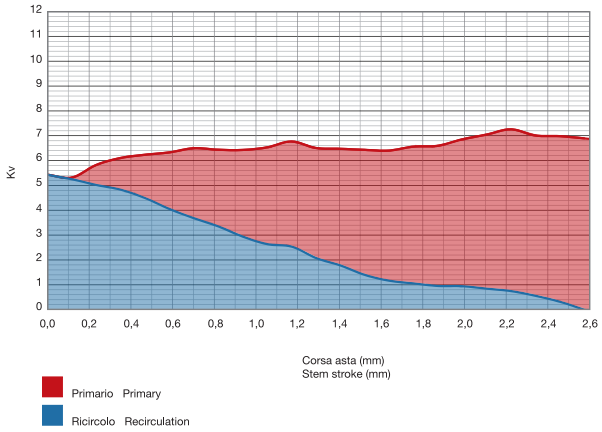
1 Mixing valve closed

2 Primary bypass open

3 Secondary bypass open

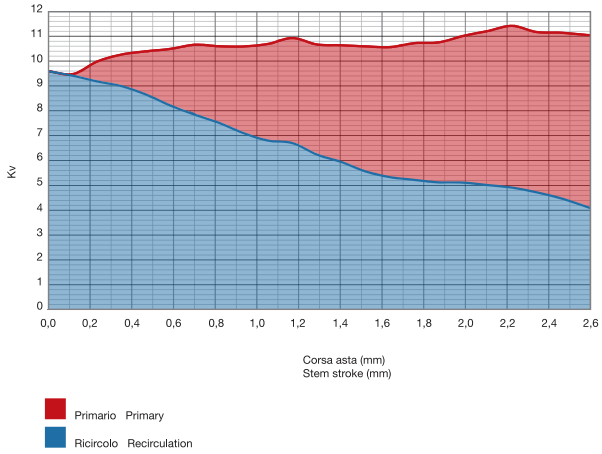
CHARACTERISTIC DIAGRAM ACCORDING TO THE STROKE OF THE SCREW

PRIMARY DIAGRAM/RECIRCULATION WITH BYPASS CLOSED



Kv PRIMARY	Kv RECIRCULATION	STEM STROKE	% PRIMARY	% RECIRCULATION
0,00	5,43	closed	0%	100%
0,07	5,25	0,1	1%	99%
0,80	5,02	0,2	14%	86%
1,27	4,83	0,4	21%	79%
1,74	4,49	0,5	28%	72%
2,28	4,05	0,6	36%	64%
2,82	3,68	0,7	43%	57%
3,09	3,35	0,8	48%	52%
3,49	2,94	0,9	54%	46%
3,89	2,64	1,1	60%	40%
4,23	2,54	1,2	62%	38%
4,43	2,08	1,3	68%	32%
4,70	1,78	1,4	73%	27%
5,03	1,40	1,5	78%	22%
5,23	1,17	1,6	82%	18%
5,50	1,06	1,8	84%	16%
5,63	0,96	1,9	85%	15%
5,90	0,95	2,0	86%	14%
6,20	0,85	2,1	88%	12%
6,51	0,75	2,2	90%	10%
6,45	0,56	2,3	92%	8%
6,66	0,32	2,5	95%	5%
6,90	0,00	all open	100%	0%

PRIMARY DIAGRAM/RECIRCULATION WITH BYPASS OPEN

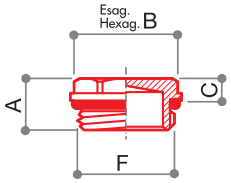


Kv PRIMARY	Kv RECIRCULATION	STEM STROKE	% PRIMARY	% RECIRCULATION
0,00	9,59	closed	0%	100%
0,07	9,41	0,1	1%	99%
0,80	9,18	0,2	8%	92%
1,27	8,99	0,4	12%	88%
1,74	8,65	0,5	17%	83%
2,28	8,21	0,6	22%	78%
2,82	7,84	0,7	26%	74%
3,09	7,51	0,8	29%	71%
3,49	7,10	0,9	33%	67%
3,89	6,80	1,1	36%	64%
4,23	6,70	1,2	39%	61%
4,43	6,24	1,3	42%	58%
4,70	5,94	1,4	44%	56%
5,03	5,56	1,5	48%	52%
5,23	5,33	1,6	50%	50%
5,50	5,22	1,8	51%	49%
5,63	5,12	1,9	52%	48%
5,90	5,11	2,0	54%	46%
6,20	5,01	2,1	55%	45%
6,51	4,91	2,2	57%	43%
6,45	4,72	2,3	58%	42%
6,66	4,48	2,5	60%	40%
6,90	4,16	all open	62%	38%

BYPASS AND MIXING KV VALUE ACCORDING TO THE OBTURATOR TURNS

PRIMARY BYPASS		SECONDARY BYPASS	
CLOSURE TURNS	Kv	CLOSURE TURNS	Kv
1/4	0,30	1/4	0,25
1/2	0,64	1/2	0,59
1	1,32	1	1,27
1 1/2	2,04	1 1/2	1,87
2	2,72	2	2,38
2 1/2	3,48	2 1/2	2,97
3	4,07	3	3,22
3 1/2	4,33	3 1/2	3,56
4	4,58	4	3,73
4 1/2	4,67	4 1/2	3,82
all open	4,67	all open	4,16

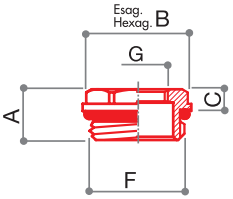
ACCESSORIES FOR DISTRIBUTION MANIFOLDS



TC 460

End cap with o-ring.

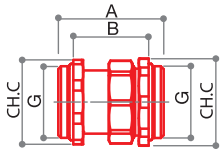
CODE	SIZE	FINISHING	A	B	C	D	E	F	G	H	L	g		
68559942N	G 1" 1/4	NICKEL-PLATED	25	38	12	-	-	G 1" 1/4	-	-	-	94	30	240
68559948N	G 1" 1/2	NICKEL-PLATED	26	48	16	-	-	G 1" 1/2	-	-	-	160	16	128



TC 462

Cap with adapter and o-ring.

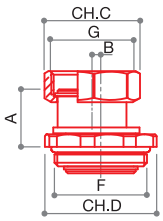
CODE	SIZE	FINISHING	A	B	C	D	E	F	G	H	L	g		
68559916N	G 1"1/2 x G 1"	NICKEL-PLATED	26	48	16	-	-	G 1"1/2	G 1"	-	-	200	16	128
68559915N	G 1"1/2 x G 1"1/4	NICKEL-PLATED	26	48	16	-	-	G 1"1/2	G 1"1/4	-	-	124	16	128



RD 455

Three pieces M-M union fitting with o-ring.

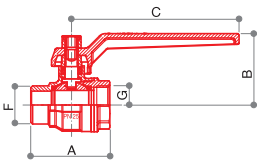
CODE	SIZE	A	B	C	D	E	F	G	H	L	g		
68994801N	G 1"1/2	70	50	65	-	-	-	G 1"1/2	-	-	460	5	40



RE 447

Eccentric fitting to assemble groups on manifold CD1210, on the boiler connections side.
To be used in pairs.

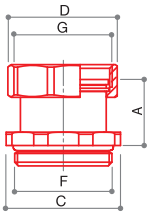
CODE	SIZE	A	B	C	D	E	F	G	H	L	g		
68994810N	G 1"1/2 M x G 1"1/4F	30	4,5	46	56	-	G 1"1/2	G 1"1/4	-	-	340	5	40



VC 476

Nickel-plated full flow ball valve, without pipe union, with blue or red lever.

CODE	SIZE	A	B	C	D	E	F	G	H	L	g		
68559829B	G 1"1/2	91	75	150	-	-	G 1"1/2	G 1"1/2	-	-	1400	2	16
68559829R	G 1"1/2	91	75	150	-	-	G 1"1/2	G 1"1/2	-	-	1400	2	16

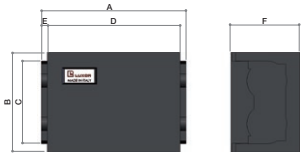


CR 496

Nickel plated nut and fitting with gasketfor ball valve VC476 connection.

CODE	SIZE	A	B	C	D	E	F	G	H	L	g		
67934800	G 1"1/2	32	-	56	52	-	G 1"1/2	G 1"1/2	-	-	280	6	48

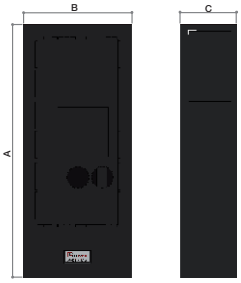
INSULATION



CB 1220

Insulation for manifold module CD 1210.

CODE	SIZE	A	B	C	D	E	F	G	H	L	g		
72000080	G 1"1/4 x G 1"	243	166	138	223	10	135	-	-	-	80	-	1



CB 1222

Insulation for pumping and mixing groups.

CODE	SIZE	A	B	C	D	E	F	G	H	L	g		
Pumping groups													
72000082	G 1" - 130 mm	520	223	135	-	-	-	-	-	-	280	-	1
72000084	G 1"1/4 - 180 mm	520	223	135	-	-	-	-	-	-	280	-	1
Mixing groups													
72000086	G 1" - 130 mm	520	223	135	-	-	-	-	-	-	280	-	1
72000088	G 1"1/4 - 180 mm	520	223	135	-	-	-	-	-	-	280	-	1