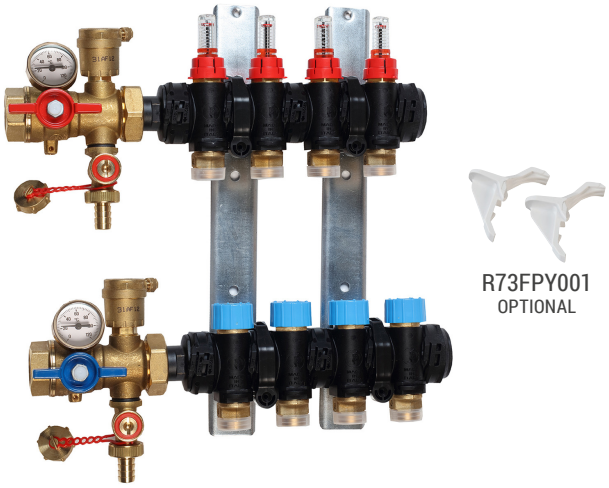
R553FP

Radiant Systems

Modular manifold in technopolymer, with flow meters

Datasheet
1019EN 05/2022



R73FPY001
OPTIONAL

Pre-assembled modular manifold for HVAC systems, made of technopolymer, composed of:

- 1 delivery manifold with flow meters (double scale: 0÷5 l/min and 0÷1,5 GPM) with fluid adjustment/shut-off function;
- 1 return manifold with shut-off valves with manual handwheel (connection M30 x 1,5 mm), pre-arranged for thermo-electric command via R473/R473M actuators that can be installed after fitting the relative ring nut R453FY002 (included with the kit) on the module;
- 2 multi-function valves R269T (delivery and return);
- brackets R588FP.

Versions and product codes

PRODUCT CODE	CONNECTIONS: MANIFOLD x OUTLETS	No. OUTLETS	CABINET R500-2 L x H x D
R553FP302	G 1" x 3/4"E	2	R500Y221 400x650x85÷130 mm
R553FP303		3	
R553FP304		4	R500Y222 600x650x85÷130 mm
R553FP305		5	
R553FP306		6	
R553FP307		7	
R553FP308		8	R500Y223 800x650x85÷130 mm
R553FP309		9	
R553FP310		10	
R553FP311		11	
R553FP312		12	R500Y224 1000x650x85÷130 mm

Optionals

- **R500-1, R500-2, R500-2E:**: metal cabinets with adjustable depth
- **R473, R473M**: normally closed thermo-electric actuator
- **R73FPY001**: pair of spanners for removing the manifold modules
- **R178E, R179E**: 3/4"E adaptors

Spare parts

- **R588FPY001**: bracket with supports
- **R453FY002**: plastic ring nut M30 x 1,5 mm for installing the thermo-electric actuators
- **P553FPY011**: delivery module with flow meter and 3/4"E outlet
- **P553FPY012**: return module with valve and 3/4"E outlet
- **P553FPY005**: cap module
- **P553FPY006**: inlet module (without nut)
- **P553FPY030**: kit composed of delivery module + return module with 3/4"E outlets
- **P583Y004**: nut and gasket for inlet module

GIACOMINI
WATER E-MOTION

Giacomini S.p.A.
Via per Alzo 39, 28017 San Maurizio d'Opaglio (NO) Italia
consulenza.prodotti@giacomini.com
+39 0322 923372 - giacomini.com

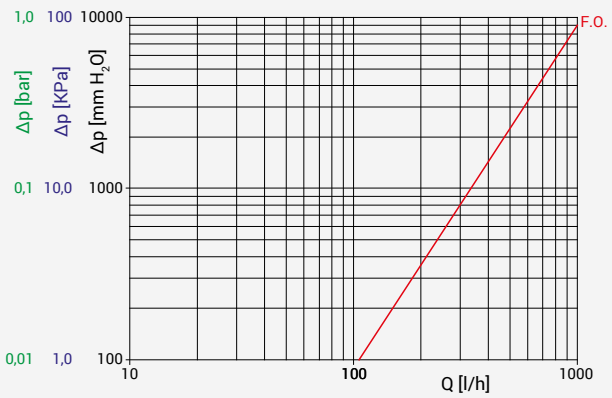
Technical data

- Fluids: water, glycol solutions (max. 30 %)
- Temperature range: 5÷60°C
- Max. operating pressure: 6 bar (10 bar for system testing)
- Center distance between the outlets: 50 mm
- Flow meters with double scale (0÷5 l/min and 0÷1,5 GPM)

Materials

- Manifolds: internal and external structure in technopolymer
- Multifunction valves R269T: brass UNI EN 12165 CW617N
- Gaskets: EPDM

Losses of pressure



No. of turns flow meter ring nut	F.O.
Kv	1,05

Main characteristics

Delivery manifold with flow meters

The delivery manifold is fitted with double-scale flow meters (0÷5 l/min and 0÷1,5 GPM), that also have a fluid adjustment/shut-off function.
To adjust the opening of the circuits, remove the protective red cap then rotate the black ring nut manually.

Return manifold with shut-off valves with manual handwheel

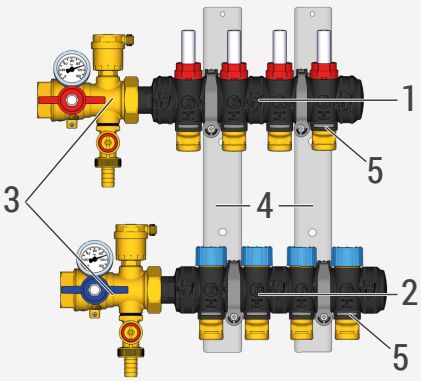
The return manifold is fitted with shut-off valves with a manual handwheel, pre-arranged for thermo-electric command via the R473/R473M (normally closed) actuators that can be installed after fitting the relative ring nut R453FY002 on the module (refer to the "Installation" paragraph).

Multi-function valves R269T

The R269T multi-function valves are designed for installation upstream of the manifold distribution bars.
They perform the following functions:

- shut-off ball valve;
- automatic air vent valve fitted with a shut-off valve;
- system filler/drain cock;
- contact thermometer;
- inlet for immersion temperature probe Ø 6 mm.

Components



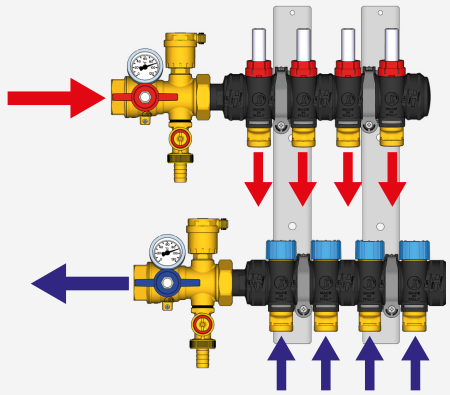
1	Delivery manifold with outlets equipped with flow meters
2	Return manifold with outlets with a shut-off valve
3	Multifunction valves equipped with drain cock, automatic air vent valve, thermometer and shut-off ball valve
4	Brackets R588FP
5	Clip for fixing the eccentric fitting

Giacomini S.p.A.
Via per Alzo 39, 28017 San Maurizio d'Opaglio (NO) Italia
consulenza.prodotti@giacomini.com
+39 0322 923372 - giacomini.com

Installation

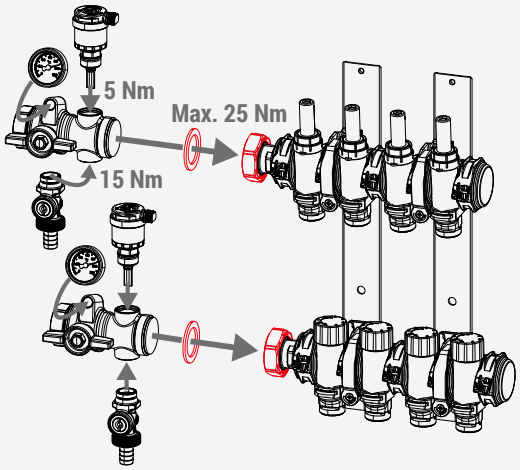
⚠ **WARNING** The installation must be carried out by qualified personnel, following the instructions provided in the package.

Pipe inlet from the left



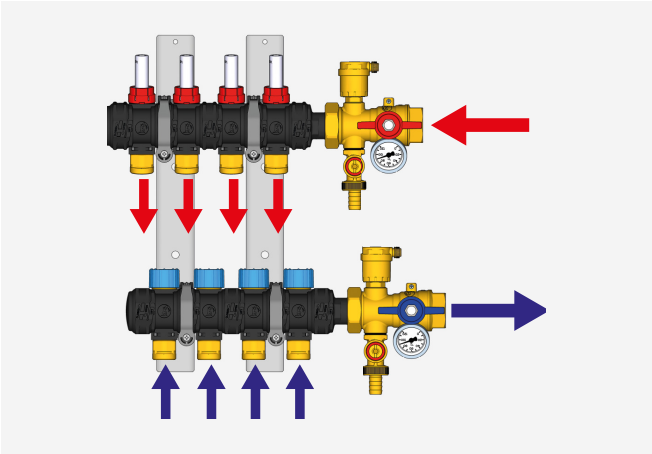
The manifold is supplied pre-assembled on the R588FP brackets, and pre-arranged for connecting R269T multi-function valves with left connection (recommended configuration).
The R269T multi-function valves are supplied in boxes, with the components disassembled.
To assemble them, first of all assemble the air vent valve, the thermometer and the drain cock on the main body, then connect the unit to the distribution manifold using the nut and gasket.

⚠ **WARNING** The manifold can only be installed on the R588FP brackets, so these must never be replaced with other models.



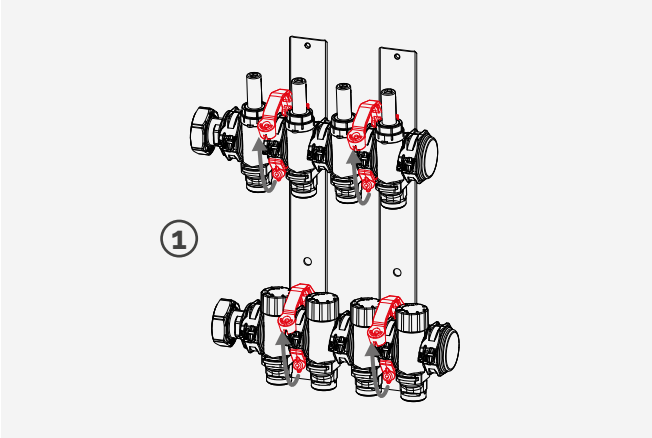
Giacomini S.p.A.
Via per Alzo 39, 28017 San Maurizio d'Opaglio (NO) Italia
consulenza.prodotti@giacomini.com
+39 0322 923372 - giacomini.com

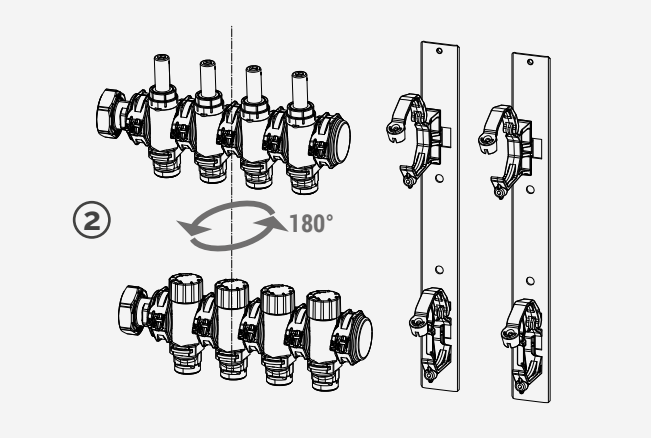
Pipe inlet from the right

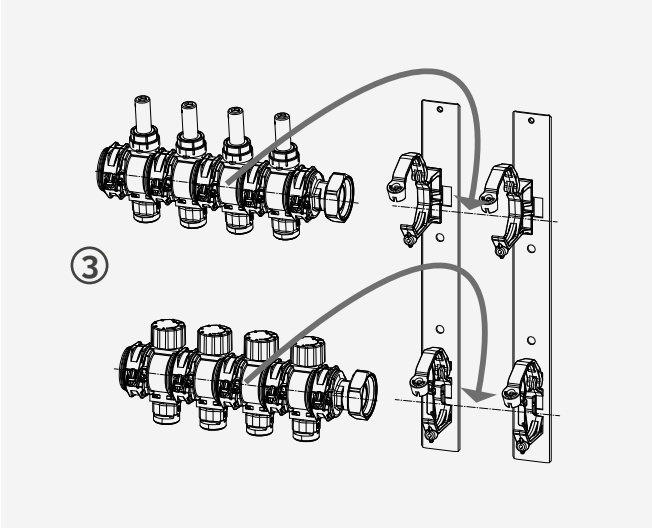


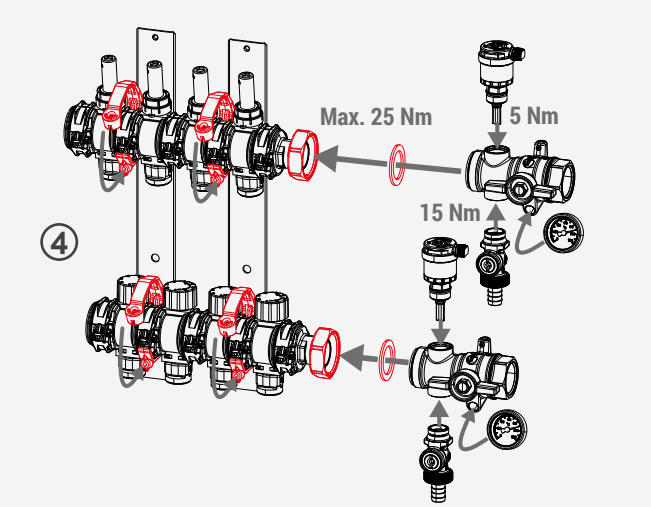
Depending on system requirements, the R269T multi-function valves can also be installed to the right of the manifold.
In this case, proceed as follows:

1) open the supports with clip connection and remove the manifolds from the brackets;
2) rotate the manifolds by 180°;
3) replace the manifolds on the brackets and close the supports with clip connection;
4) the R269T multi-function valves are supplied in boxes, with the components disassembled. To assemble them, first of all assemble the air vent valve, the thermometer and the drain cock on the main body, then connect the unit to the distribution manifold using the nut and gasket.









NOTE. Thanks to the eccentric fittings, even in the installation with piping inlet from the right, the connection of the pipe's system circuits will be easy and practical.

NOTE. In the package of the multifunction valves there are also screws, to be used if necessary to more securely close the supports with clip hooks.

WARNING In the case of installation with pipe inlet from the right, the thermometer of the R269T multi-function valves is assembled in the lower part of the main body, as shown in the figure.

WARNING In the case of installation with pipe inlet from the right, the adaptor clips (components - ref.5) will not be accessible because they will be facing towards the inside of the cabinet.

WARNING The manifold can only be installed on the R588FP brackets, so these must never be replaced with other models.

Giacomini S.p.A.
Via per Alzo 39, 28017 San Maurizio d'Opaglio (NO) Italia
consulenza.prodotti@giacomini.com
+39 0322 923372 - giacomini.com

Assembling/disassembling the modules

WARNING The module assembly/disassembly operations must take place in a free, accessible place with the manifold NOT connected to the system pipes and NOT supported on the relative brackets.

WARNING. The module assembly/disassembly operations must be carried out only in case of real necessity in order not to risk compromising the hydraulic seal.

The manifold is supplied pre-assembled, but new modules can be added or existing ones removed.

To **disassemble** a module, proceed as follows:

1) open the supports with clip connection and remove the manifolds from the brackets;

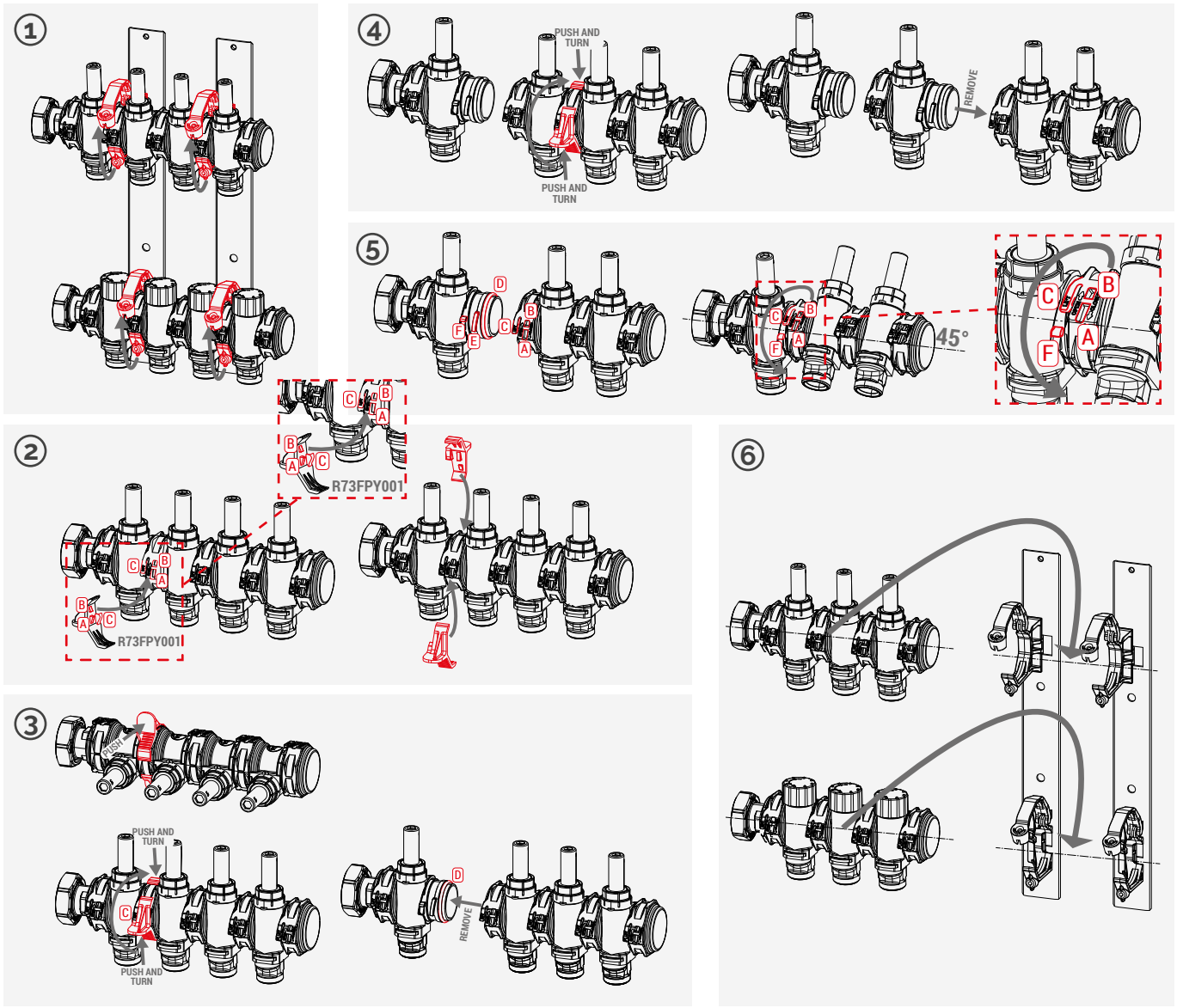
2) position one of the two R73FPY001 spanners in the front part of the module and the other in the rear part, so that the protrusions "A", "B" and "C" of the spanners slide into the slots "A", "B" and "C" on the module;

3) press one spanner at a time against the module to raise the fins "C" and rotate the module, so that it can be disassebled from the first side; when doing this, be careful not to lose or damage the O-Ring "D";

4) repeat steps 2 and 3 to disasseble the second side of the module that needs to be removed;

5) after removing the module, reassemble the manifold:
- make sure the O-Ring "D" is correctly inserted on the male fitting of the module (pushed down as far as it will go), lubricating it with a suitable lubricant for the material (EPDM) and for the intended use of the system (eg. silicone lubricants). During this operation pay attention to lubricate the O-Ring only and not the adjacent plastic parts;
- insert the module with the male fitting in the corresponding female fitting of the adjacent module (rotated by about 45°);
- rotate both modules to align them, ensuring that protrusion "E" slides into slots "A" and "B" and protrusion "F" slides into slot "C" until a click is heard;

6) replace the manifolds on the brackets and close the supports with clip connection.



Giacomini S.p.A.
Via per Alzo 39, 28017 San Maurizio d'Opaglio (NO) Italia
consulenza.prodotti@giacomini.com
+39 0322 923372 - giacomini.com

To **assemble** a new module, proceed as follows:

1) open the supports with clip connection and remove the manifolds from the brackets;

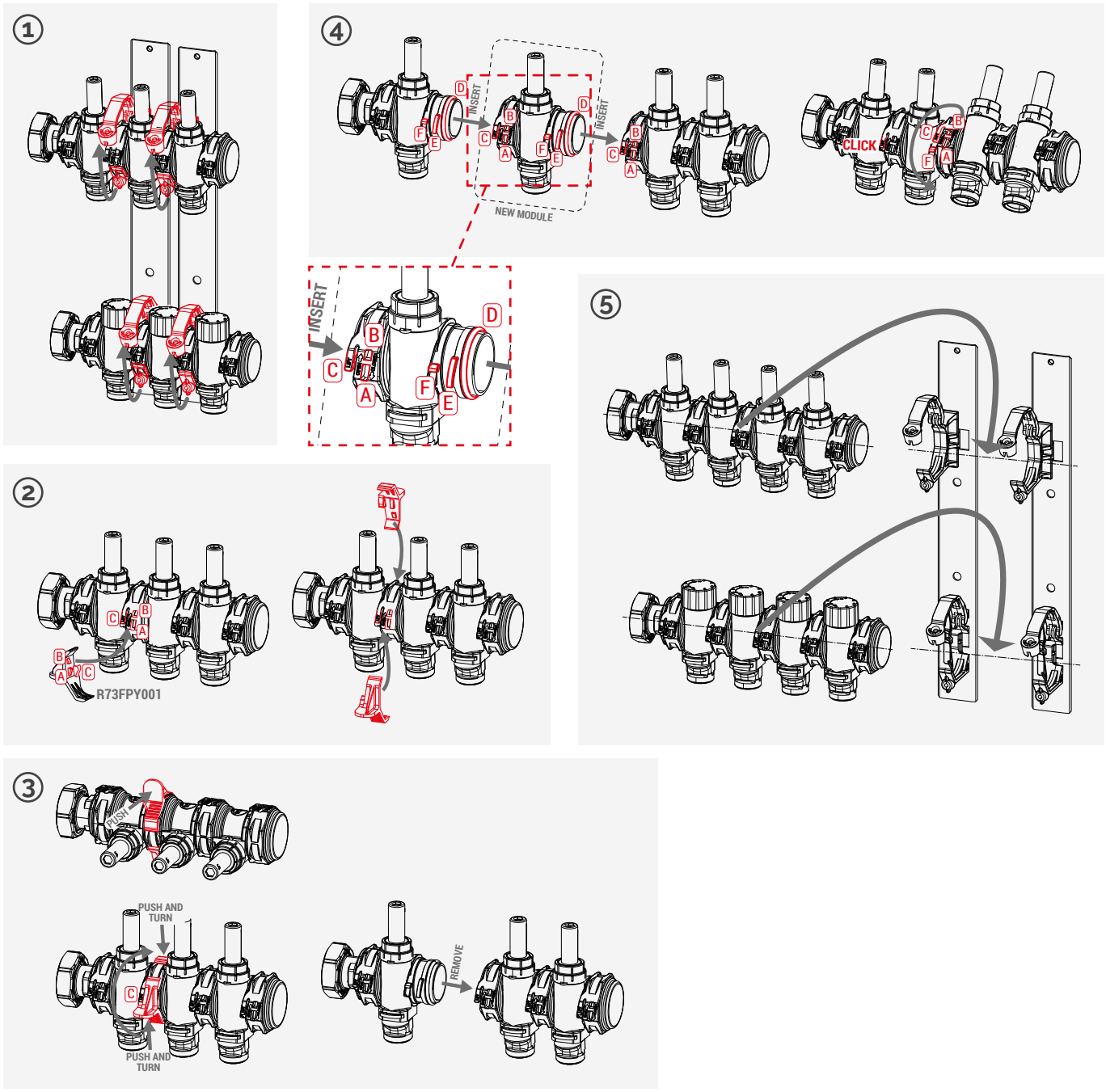
2) position one of the two R73FPY001 spanners in the front part of the module and the other in the rear part, so that the protrusions "A", "B" and "C" of the spanners slide into the slots "A", "B" and "C" on the module;

3) press one spanner at a time against the module to raise the fins "C" and rotate the module, so that it can be disassembled from the first side; when doing this, be careful not to lose or damage the O-Ring "D";

4) insert the new module, then reassemble the manifold:

- make sure the O-Ring "D" is correctly inserted on the male fitting of the module (pushed down as far as it will go), lubricating it with a suitable lubricant for the material (EPDM) and for the intended use of the system (eg. silicone lubricants). During this operation pay attention to lubricate the O-Ring only and not the adjacent plastic parts;
- insert the module with the male fitting in the corresponding female fitting of the adjacent module (rotated by about 45°);
- rotate both modules to align them, ensuring that protrusion "E" slides into slots "A" and "B" and protrusion "F" slides into slot "C" until a click is heard;

5) replace the manifolds on the brackets and close the supports with clip connection.



Giacomini S.p.A.
Via per Alzo 39, 28017 San Maurizio d'Opaglio (NO) Italia
consulenza.prodotti@giacomini.com
+39 0322 923372 - giacomini.com

Regulating the system circuits

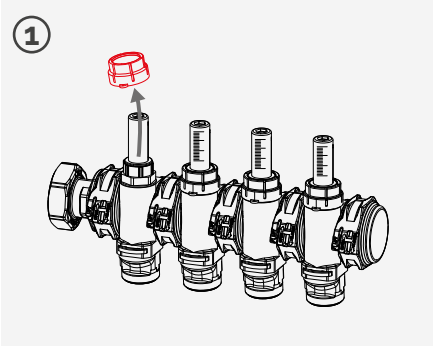
Regulating the delivery manifold

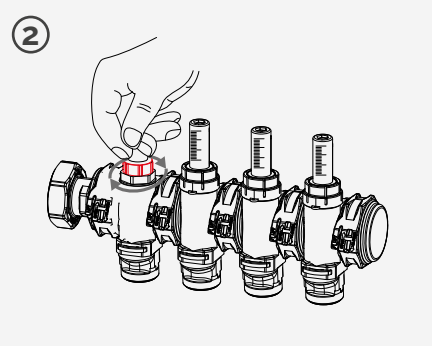
The individual system circuits are regulated via the flow meters on the delivery modules (that also act as adjustment lockshield). To make the adjustment proceed as follows:

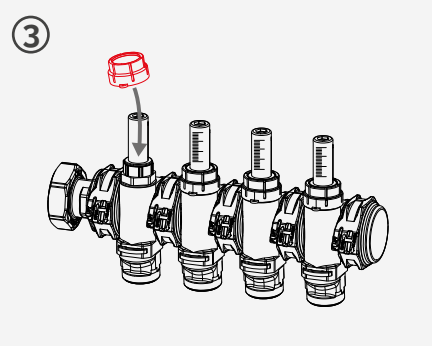
1) remove the protective red cap;

2) manually rotate the black ring nut at the base of the flow meter to open or close the circuit; the desired flow rate value can be read by the graduated scale of the flow meter;

3) when the adjustment is complete, refit the red protective cap.







Regulating the return manifold

The individual circuits are regulated on the return outlets, either manually - by turning the blue handwheel - or by installing normally closed R473/R473M thermo-electric actuators.

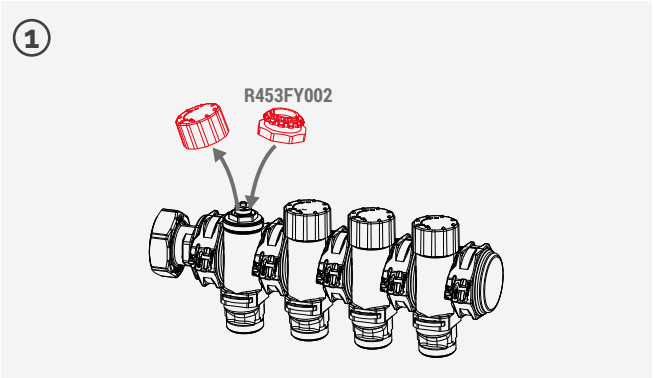
To install the thermo-electric actuators proceed as follows:

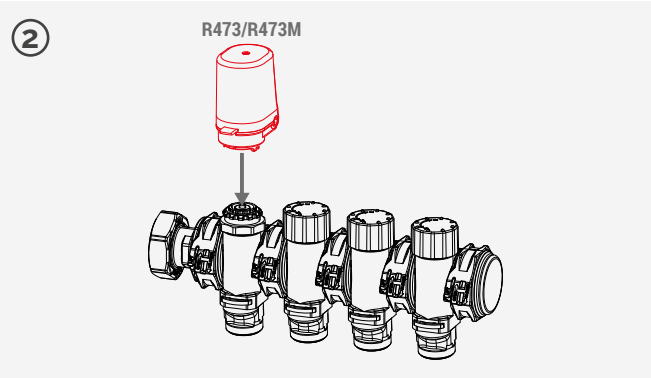
1) remove the blue handwheel and tighten the R453FY002 ring nut with M30 x 1,5 mm connection (included in the kit);

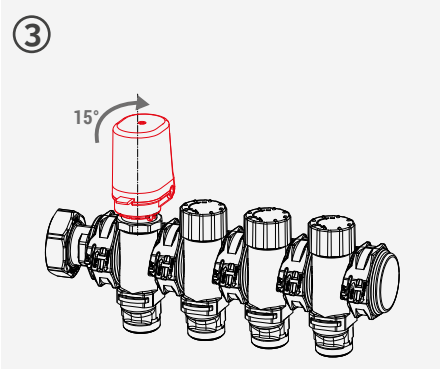
2) assemble the thermo-electric actuator on the ring nut, pressing just enough to lock them together;

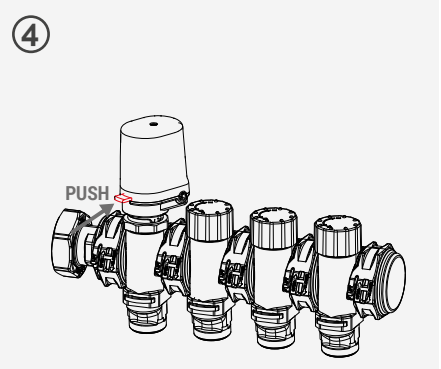
3) turn the actuator about 15° clockwise until a click is heard (max. torque 5 Nm). To release the actuator, turn it 15° counterclockwise);

4) press the red lockout button and make the electrical connection of the actuator, following the wired diagram supplied with the actuator instructions.

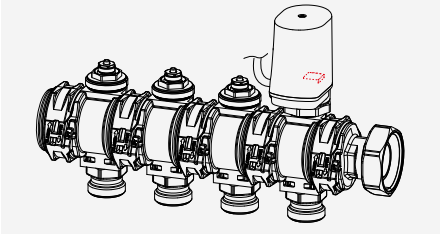






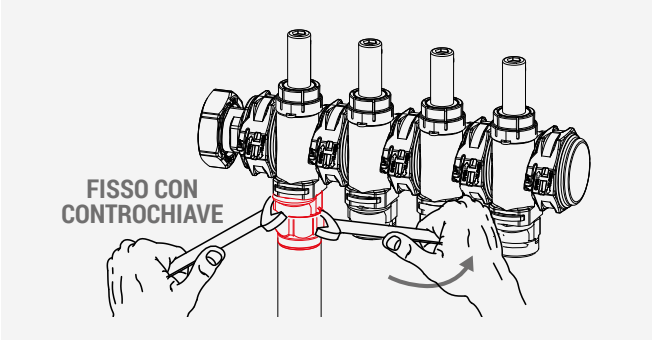


⚠ **WARNING.** To allow the installation in case of pipe inlet from the right, the thermo-electric actuators must be mounted with the red button facing the inside of the cabinet.



Giacomini S.p.A.
Via per Alzo 39, 28017 San Maurizio d'Opaglio (NO) Italia
consulenza.prodotti@giacomini.com
+39 0322 923372 - giacomini.com

Connecting the system circuits

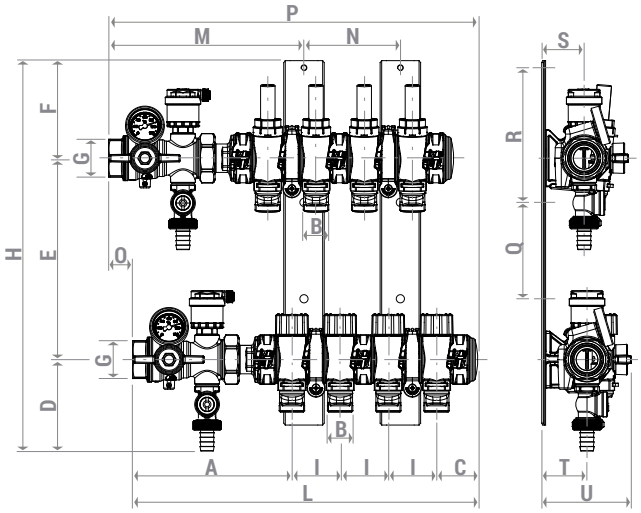


⚠ **WARNING.** When tightening the adaptor it is necessary to use a backup spanner to hold the manifold fitting in stationary.

To connect the system circuit pipes use suitable adaptors for copper, plastic or multilayer pipes from the R178E and R179E (Eurocone) series.

ⓘ **NOTE.** Thanks to the eccentric fittings, even in the installation with piping inlet from the right, the connection of the pipe's system circuits will be easy and practical.

Dimensions



R500Y221 (400x650x85÷130 mm)
R500Y222 (600x650x85÷130 mm)
R500Y223 (800x650x85÷130 mm)
R500Y224 (1000x650x85÷130 mm)

PRODUCT CODE	N° STACCHI	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	L [mm]	M [mm]	N [mm]	O [mm]	P [mm]	Q [mm]	R [mm]	S [mm]	T [mm]	U [mm]	CABINET R500-2
R553FP302	2										258		-		283						R500Y221
R553FP303	3										308		50		333						
R553FP304	4										358		100		383						
R553FP305	5										408		150		433						
R553FP306	6										458		200		483						R500Y222
R553FP307	7	165	3/4"E	43	95	209	101	G1"	405	50	508	202	250	25	533	100	140	44	47	93	
R553FP308	8										558		300		583						
R553FP309	9										608		350		633						
R553FP310	10										658		400		683						R500Y223
R553FP311	11										708		450		733						
R553FP312	12										758		500		783						R500Y224

GIACOMINI WATER E-MOTION

Giacomini S.p.A.
Via per Alzo 39, 28017 San Maurizio d'Opaglio (NO) Italia
consulenza.prodotti@giacomini.com
+39 0322 923372 - giacomini.com

Product specifications

R553FP with 3/4"E outlets

Pre-assembled modular manifold in technopolymer, with flow meters. Connections: 1" (R269T) x DN32 (manifold) x 3/4"E (outlets). Center distance between the outlets: 50 mm. Temperature range: 5÷60°C. Max. operating pressure: 6 bar (10 bar for system testing). Composed of: 1 delivery manifold in technopolymer, with flow meters (double scale: 0÷5 l/min and 0÷1,5 GPM) with fluid adjustment/shut-off function; 1 return manifold in technopolymer, with shut-off valves with a manual handwheel, pre-arranged for thermo-electric command; EPDM gaskets; 2 brackets; 2 multi-function valves in brass CW617N (delivery and return).

Giacomini S.p.A.
Via per Alzo 39, 28017 San Maurizio d'Opaglio (NO) Italia
consulenza.prodotti@giacomini.com
+39 0322 923372 - giacomini.com