

R53VM, R53VT



Radiant
Systems



Energy
Management

Return modular manifolds with shut-off valves

Datasheet
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Return modular manifolds R53VM and R53VT with quick connection, equipped with shut-off valve with manual handwheel, pre-arranged for thermo-electric control, suitable for HVAC systems.

The quick connection allows the extremely fast creation of manifolds (without the need for tools or interposed sealing elements) with a high flow rate and multiple outlets on the basis of the worksite requirements.

The use of modular manifolds also means that warehouse stock can be limited to just two components: R53VM intermediate module and R53VT pair of end modules.

Versions and product codes

| SERIES | PRODUCT CODE | CONNECTIONS |
|------------------------------|--------------|-------------------------|
| R53VM Intermediate module | R53VMY006 | DN32 x B.18 |
| | R53VMY106 | DN32 x 3/4"E |
| R53VT Pair of end modules | R53VTY006 | G 1" x DN32 x B.18 |
| | R53VTY106 | G 1" x DN32 x 3/4"E |
| | R53VTY007 | G 1-1/4" x DN32 x B.18 |
| | R53VTY107 | G 1-1/4" x DN32 x 3/4"E |

Optionals

- R178, R179, R179AM: B.18 adaptors for copper, plastic or multilayer pipes
- R178E, R179E: 3/4"E adaptors for copper, plastic or multilayer pipes
- R473, R473M: normally closed thermo-electric actuators
- R478, R478M: normally open thermo-electric actuators

➤ Main features

The R53VM e R53VT modules with quick connection are made via the hot moulding method that produces smaller dimensions and thicknesses with notable transit sections for the fluids and hence limited pressure loss and flow noise.

They are equipped with a bonnet with a stem that eliminate obstacles to the passage of the fluid, reducing turbulence, and pre-arranged for the installation of thermo-electric actuators.

The modules are manually assembled and the hydraulic seal is guaranteed by the pre-assembled O-Rings.

The R53VM modules are connected to the other components (valves, cocks, pipes, etc.) by interposing the two R53VT end modules with female thread.

➤ Technical data

Performance

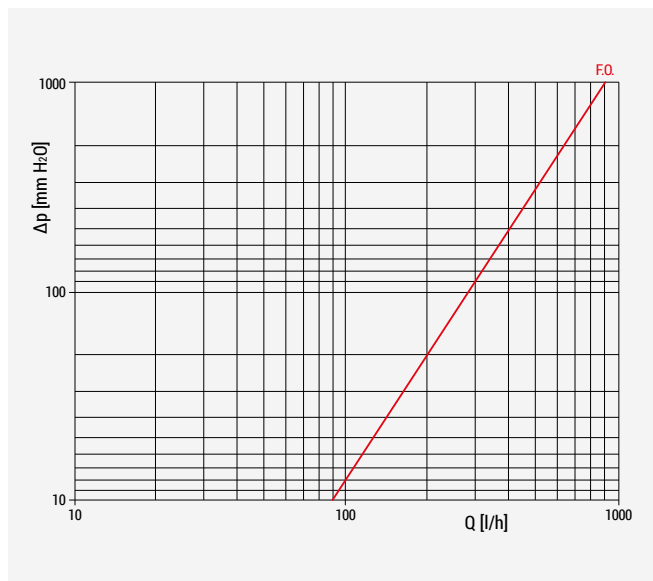
- Fluids: water, glycol solutions (max. 30 %)
- Temperature range: 5-110 °C
- Max. working pressure: 10 bar
- Center distance between the outlets of the assembled modules: 50 mm

Materials

- Body: brass UNI EN 12165 CW617N
- Gaskets: EPDM
- Bonnet stem: stainless steel
- Manual handwheel: ABS

Loss of pressure

The R53VM and R53VT modules with quick connection have no preferential water inlet direction. The loss of pressure indicated in the diagram refer to the single connection with shut-off valve or thermo-electric actuator open.



| SHUT-OFF VALVE / THERMO-ELECTRIC ACTUATORS | Kv |
|---|------|
| F.O. | 2,82 |

NOTE. The variation in water temperature and hence in its density implies pressure drop swings of about $\pm 1\%$ (for the same water flow rate); this figure is not significant for calculation purposes.

➤ Installation



The R53VM modules with quick connection are manually assembled to create manifolds with the necessary number of outlets.

The operation is extremely simple and doesn't require any tools, but it's important to check that the end parts are clean and free of impurities, and to lightly lubricate the O-Ring with silicone grease if necessary.

To enable the quick connection of the individual modules, position them side by side with their vertical axes rotated by 90° in relation to each other. Push lightly in the axial direction until they reach their end stop, then rotate the two modules by 90° so that the male and female parts of the quick connection are in line with each other.

To assemble a distribution manifold is necessary a pair of R53VT end modules and the right number of R53VM intermediate modules for the number of outlets required. The modules assembled can be of different types (it is even possible to connect different manifold models), but they must necessarily have a nominal diameter of DN32.

NOTA. For example, to create a 5-outlets modular manifold, you will need a pair of R53VT end modules plus three R53VM intermediate modules.

For a manifold with just two outlets, the pair of R53VT end modules is enough.

The modules with quick connection are assembled with the other components thanks to the R53VT end modules with threads, available in the size 1" and 1-1/4".

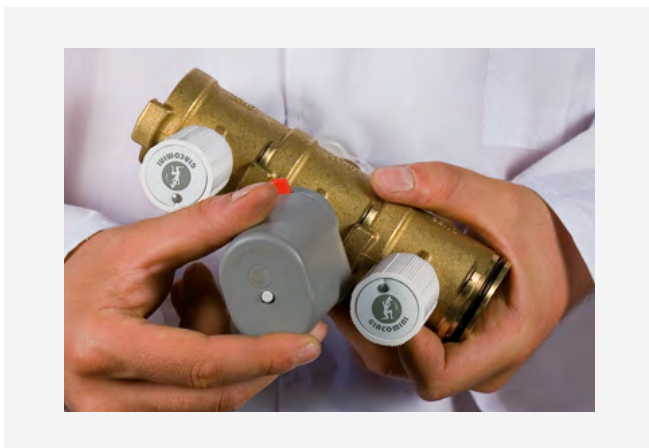
The grip with spanners (needed to tighten the male threads to the end modules) should be made using the special flat seats on the modules.

Do not apply a torsion or crushing strain on the modules, to avoid creating deformations that could make them unsuitable for assembly or prejudice the hydraulic seal.

After assembling the DN32 manifolds with the required number of outlets, they can be installed into the cabinets or on the wall.

Once the manifolds have been installed and the primary supply lines have been hooked up, it is possible to connect the circuits using suitable adaptors.

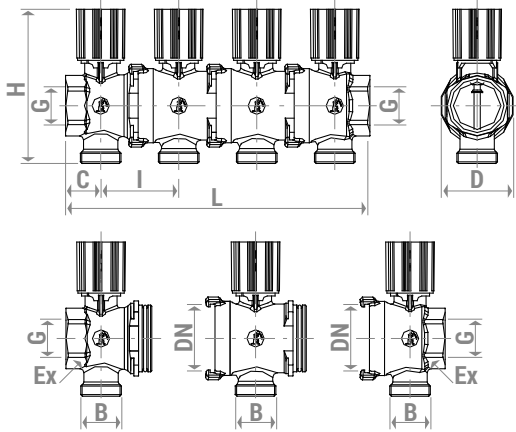
➤ Regulation



Remove the manual handwheel with a screwdriver and place the thermo-electric actuator on the valve, turning it about 15° until a click click of engagement is heard.

Then proceed with the electrical connections of the thermo-electric actuator following the connection diagram shown on its instruction.

➤ Dimensions



| R53VT+R53VM | G [INCH.] | B [mm] | EX [mm] | I [mm] | C [mm] | D [mm] | DN [mm] | H [mm] | P [mm] |
|---------------|-----------|---------------|---------|--------|--------|--------|---------|--------|--------|
| 1" x DN32 | 1" | B.18 3/4"E | 39 | 50 | 24 | 48 | 32 | 100 | 66 |
| 1-1/4" x DN32 | 1-1/4" | B.18 3/4"E | 48 | 50 | 27 | 48 | 32 | 100 | 66 |

| | OUTLETS NUMBER OF ASSEMBLED MANIFOLD | | | | | | | | | | |
|----------------------|--------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| N° DI R53VT | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| N° DI R53VM | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| L [mm] 1" x DN32 | 98 | 148 | 198 | 248 | 298 | 348 | 398 | 448 | 498 | 548 | 598 |
| L [mm] 1-1/4" x DN32 | 104 | 154 | 204 | 254 | 304 | 354 | 404 | 454 | 504 | 554 | 604 |

➤ Product specifications

R53VM

Return modular manifold with quick connection, made of brass, with shut-off valve with manual handwheel, pre-arranged for thermo-electric control, suitable for HVAC systems. Coupling centre distance 50 mm. Temperature range 5÷110 °C. Max. working pressure 10 bar. Available with connection for Base 18 or 3/4"E adaptors.

R53VT

Pair of return modular manifolds with quick connection, made of brass, with shut-off valve with manual handwheels, pre-arranged for thermo-electric control, suitable for HVAC systems. Coupling centre distance 50 mm. Temperature range 5÷110 °C. Max. working pressure 10 bar. Available with connection for Base 18 or 3/4"E adaptors.

⚠ Safety Warning. Installation, commissioning and periodical maintenance of the product must be carried out by qualified operators in compliance with national regulations and/or local standards. A qualified installer must take all required measures, including use of Individual Protection Devices, for his and others' safety. An improper installation may damage people, animals or objects towards which Giacomini S.p.A. may not be held liable.

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