



R53SM

R53ST

Description

The modular manifolds with bayonet connection R53SM and R53ST, equipped with a balancing lockshield valve with mechanical memory, are designed for systems distributing hot water for heating and cold water for air-conditioning, with the aim of simplifying and speeding up installation. The result is a highly flexible product that's practical, attractive and ergonomic. They are widely used in all types of distribution as they provide the possibility to intercept the flow and channel just the right amount into the individual circuits. The innovative solution of the module with bayonet connection allows the extremely quick creation (without the need for tools or interposed sealing elements) of manifolds with a high water flow rate and multiple connections on the basis of the worksite requirements. The use of modular manifolds also means that warehouse stock can be limited to just two components: R53SM intermediate module and R53ST pair of end modules.

Versions and product codes

Product code	Series	Dimensions
R53SMY006	R53SM	DN32x18
R53STY006	R53ST	1"x18xDN32
R53STY007	R53ST	1 1/4"x18xDN32

Characteristics

The R53SM e R53ST modules with bayonet 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. The flow rate is regulated by means of a micrometric lockshield valve equipped with a mechanical memory that can intercept the flow for maintenance purposes and then easily restore the initial operating conditions. The R53SM and R53ST modules can be used to create both delivery manifolds and return manifolds. Thanks to the special bayonet profile, the modules are manually assembled and the hydraulic seal is guaranteed by the pre-assembled O-rings. The R53SM modules are connected to the necessary components (valves, taps, pipes, etc.) by interposing the two R53ST terminal modules with female thread in the two available measurements 1" and 1 1/4". The external structure of the R53ST terminal modules ensures the easy assembly of the components using just a spanner, without applying any strain on the already-assembled modules.

The R53SM and R53ST modules are fitted with base 18 adapter connections for connecting the distribution pipes.

Technical data

- Temperature range: 5-110 °C
- Max. working pressure: 10 bar
- Body in hot-moulded brass CW617N - EN 12165
- Seal rings in propylene ethylene
- Transit section DN32
- Calibration lockshield valve with mechanical memory and protection cap
- Threaded end pieces available in the measurements 1" and 1 1/4"
- Centre distance of assembled module connections: 50 mm
- Connection for base 18 adapters R178, R179, R179AM

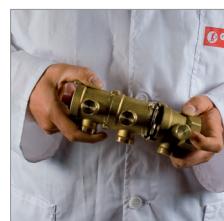
Installation

The R53SM modules with bayonet connection are manually assembled to produce manifolds with the necessary number of connections. The operation is extremely simple and doesn't require any tools, but it's important to check that the machined end parts are clean and free of impurities, and to lightly lubricate the O-ring with silicone grease if necessary. To prevent any material from entering and damaging the O-rings, it is a good idea to wait until the moment of assembly before taking the modules out of their packaging.



To enable the bayonet 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 bayonet connection are in line with each other.

To put together a distribution manifold you will need a pair of R53ST terminals and the right number of R53SM modules for the number of connections you want to make. 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. To produce a 5-connection modular manifold for example, you will need a pair of R53ST terminals plus three R53SM modules. For a manifold with just two connections, the pair of R53ST terminals is sufficient. The modules with bayonet connection are coupled with the accessory components thanks to the R53ST terminals with thread, available in the measurements 1" and 1 1/4".



The grip with spanners (needed to tighten the male threads to the terminals) should be made using the special flat seats on the modules. Under no circumstances should you apply a torsion or crushing strain on the modules, to avoid creating deformations that could make them unsuitable for assembly or jeopardise the hydraulic seal.

After assembling the DN32 manifolds with the required number of connections, they have to be fitted in a suitably sized box using the R588D shaped brackets, for wall-mounting, or in a niche using the R588F clamps. Once the manifolds have been fixed and the supply lines have been hooked up, you must connect the circuits using base 18 adapters of a type compatible with the pipe material. The final stage is to identify the various connections by using the adhesive labels R522.



Regulation



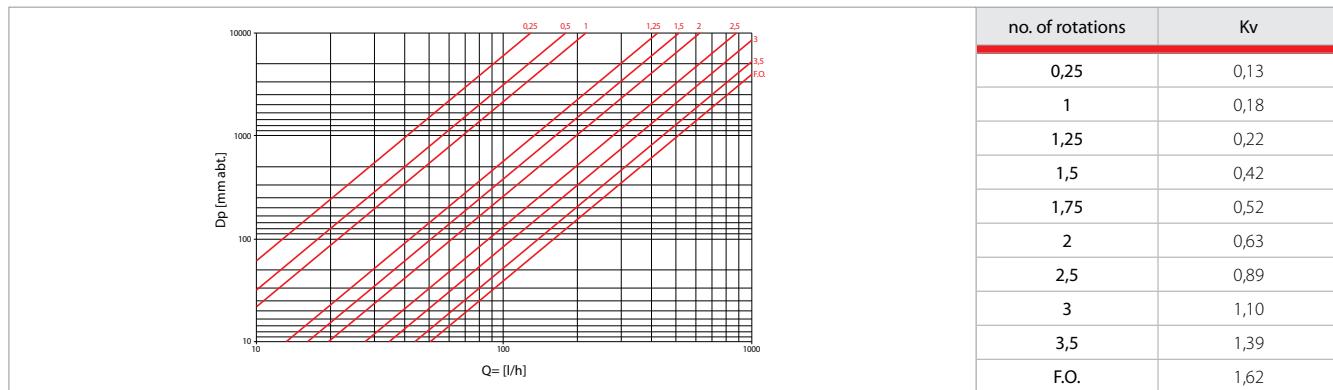
Note the flow rate that must pass through the individual circuits connected to the manifold. With the circulation pump operating and any interceptions on the return manifold kept open, remove the protection cap on the front of the modules and then use the R558 spanner to completely loosen the mechanical memories and lockshield valves. Tighten the lockshield valves of the individual modules until you obtain the required flow rate in the various circuits (read the flow rates directly on the graduated scales of the measurers). After an initial calibration, adjust the flow rates obtained by fine-tuning the lockshield valves. Once the calibration is complete, tighten the mechanical memories as far as they will go, then reassemble the protection caps. If you are unable to obtain the project flow rates for all the circuits, make sure the circulator size is correct and that the manifold receives the necessary flow rate and pressure.

Dimensions

	R53ST+R53SM		1"xDN32		1 1/4"xDN32						
Outlets	2	3	4	5	6	7	8	9	10	11	12
R53ST	1	1	1	1	1	1	1	1	1	1	1
R53SM	0	1	2	3	4	5	6	7	8	9	10
L 3/4"xDN32	98	148	198	248	298	348	398	448	498	548	598
L 1 1/4"xDN32	104	154	204	254	304	354	404	454	504	554	604

Losses of pressure

The R53SM and R53ST modules with bayonet connection can be used for delivery or return manifolds; they have no preferential water inlet direction. The pressure drops indicated in the diagram refer to the single connection when the number of lockshield valve opening rotations is varied. 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.



Product specifications

R53SM

Modular manifold with bayonet connection - made of brass. Balancing lockshield valve equipped with mechanical memory. Coupling centre distance 50 mm. Temperature range 5÷110 °C. Max. working pressure 10 bar. Available with connection for base 18 adapters R178, R179, R179AM.

R53ST

Pair of terminals for modular manifolds with bayonet connection - made of brass. Balancing lockshield valve equipped with mechanical memory. Coupling centre distance 50 mm. Temperature range 5÷110 °C. Max. working pressure 10 bar. Available with connection for base 18 adapters R178, R179, R179AM.

Additional information

For further information, visit the website www.giacomini.com or contact the technical service: ☎ +39 0322 923372 ☎ +39 0322 923255 ☐ consulenza.prodotti@giacomini.com
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