

R276, R277, R278, R279



Energy
Management

2- or 3-way ball zone valves

Datasheet
0360EN 07/2021



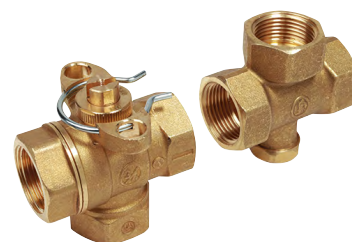
R276



R277



R278



R279

The zone valves are devices for intercepting the heating fluid which, driven by an actuator controlled by a thermostat, allow for the subdivision of climate control systems in sectors which are similar from the point of view of room temperature control. Zone valves may be of the 3-way type, with an adjustable by-pass, which must produce a loss of pressure comparable to that of the system in order to avoid hydraulic failure in the distribution when the flow is deviated on the return to the boiler room - or the 2-way type, which generally requires the installation of a pressure differential valve on the primary circuit, for the protection of the boiler circulator.

The R276, R277, R278 and R279 zone valves integrated a ball which is specially shaped for the purpose, along with K270 or K272 actuators for the control.

➤ Versions and product codes

SERIES	PRODUCT CODE	CONNECTIONS	TYPE
R276	R276Y004	G 3/4"F	2-way zone ball valve
	R276Y005	G 1"F	
R277	R277Y004	G 3/4"M	
	R277Y025	G 1"M	
R278	R278Y004	G 3/4"M	3-way zone ball valve
	R278Y005	G 1"M	
R279	R279Y004	G 3/4"F	
	R279Y005	G 1"F	

Accessories

- **K270**: 24 V or 230 V actuator, with stroke-end microswitch
- **K272**: 24 V or 230 V actuator, with stroke-end microswitch and handwheel for manual operation
- **R193K**: eccentric pipe kit for the installation of R278 3-way zone valve in combination with distribution manifold

Technical data

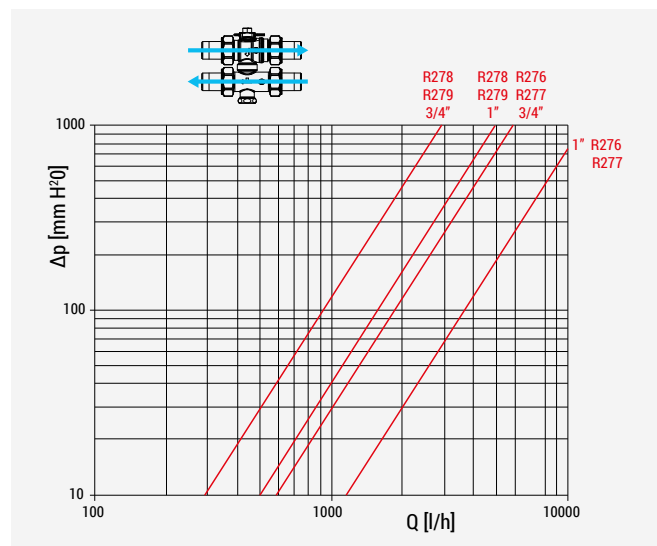
Performance

- Fluid: water for HVAC systems
- Max. working temperature: 110 °C
- Max. working pressure:
 - R276, R277 valves: 20 bar
 - R278, R279 valves: 10 bar

Materials

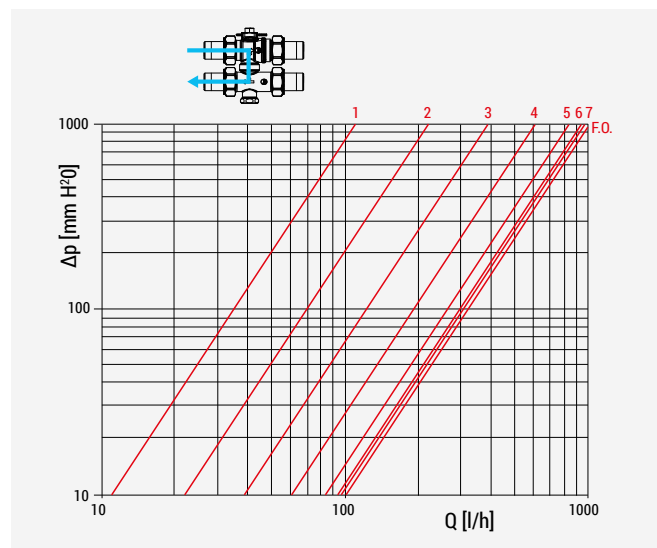
- Body and main components: CW617N brass
- Gaskets: PTFE

Direct way loss of pressure



PRODUCT CODE	CONNECTIONS	Kv
R276Y004	G 3/4\"F	18,5
R276Y005	G 1\"F	36,3
R277Y004	G 3/4\"M	18,5
R277Y025	G 1\"M	36,3
R278Y004	G 3/4\"M	9,3
R278Y005	G 1\"M	16
R279Y004	G 3/4\"F	9,3
R279Y005	G 1\"F	16

By-pass loss of pressure (only for R278, R279 3-way zone valves)

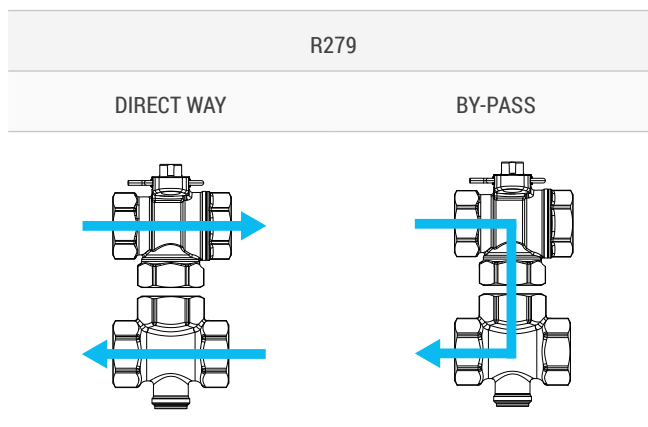
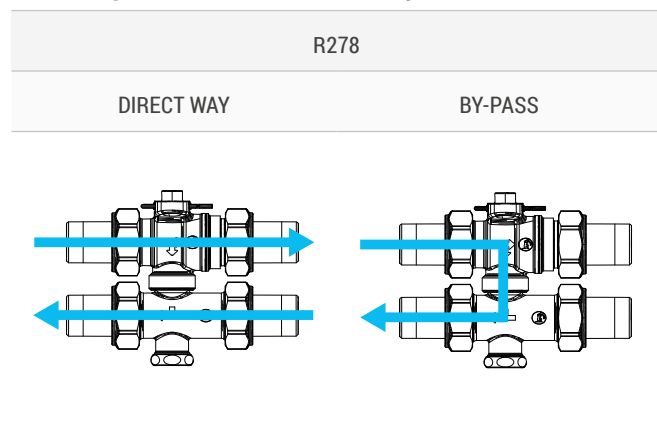


LOCKSHIELD OPENING TURNS	Kv
1	0,35
2	0,70
3	1,23
4	1,95
5	2,60
6	3,00
7	3,07
F.O.	3,20

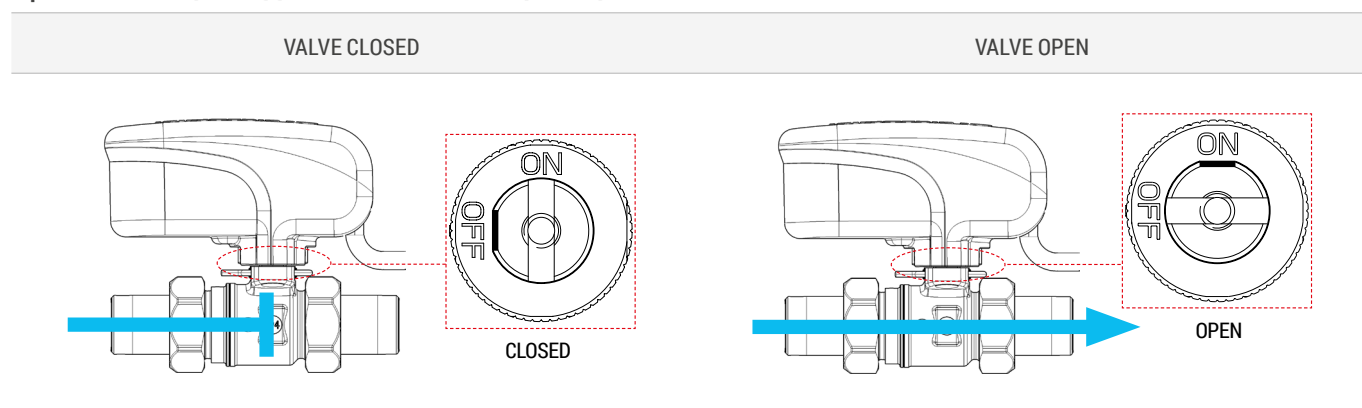
NOTE. The lockshield on the by-pass conduit must be adjusted using an 8 mm allen key, to reproduce a loss of pressure comparable to that of the system and to avoid hydraulic failure in the distribution when the flow is deviated on the return to the boiler room.

Operation

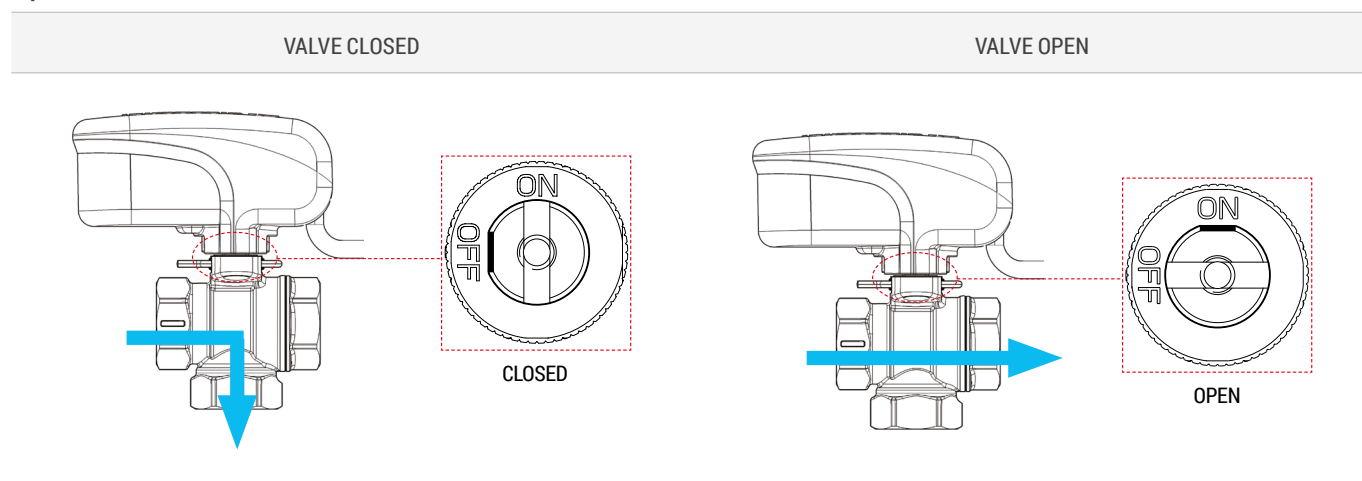
Flow diagram for R278, R279 3-way zone valves



Operation of R276, R277 zone valves with K270/K272 actuators



Operation of R278, R279 zone valves with K270/K272 actuators



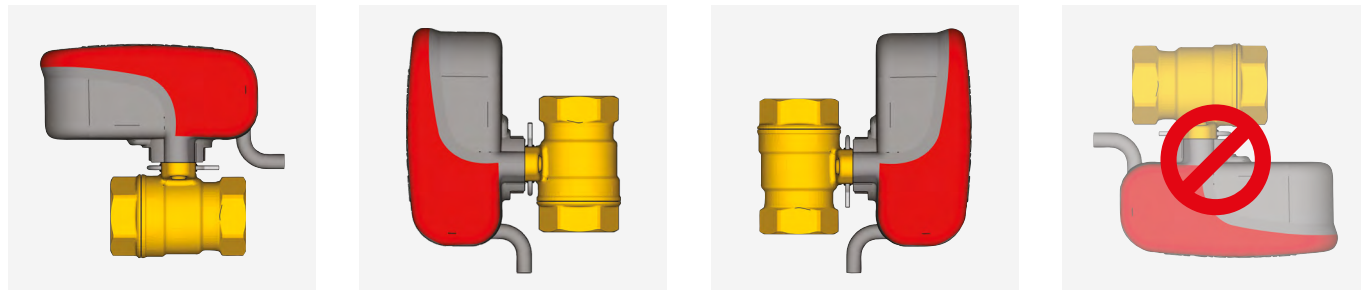
Installation

⚠ WARNING. The connection to the system must be carried out by qualified personnel, respecting the flow direction indicated by the arrows imprinted on the valve bodies.

⚠ WARNING. The valve may be installed in any position but the actuator should not be positioned upside down or with the power cable entering from the top (to prevent problems deriving from condensation).

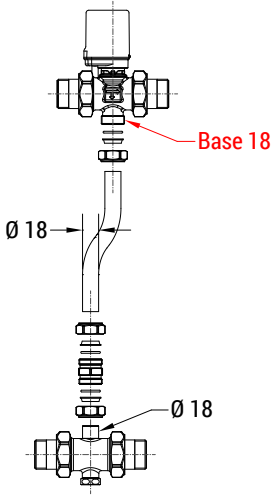
The valve must be installed in dry, protected and easily accessible places for any subsequent maintenance interventions.

Do not cover with insulating materials.



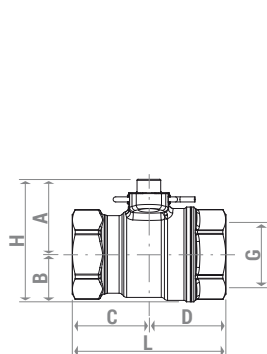
Installation of R193K connection kit with R278 3-way zone valve

In the R278 three-way valves, the delivery and return bodies can be assembled directly (if mounted on coplanar manifold), or through a by-pass conduit, using the Base 18 and the Ø 18 copper pipe connections.

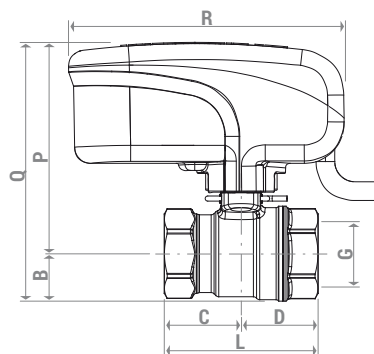
SERIES	PRODUCT CODE	USE	INSTALLATION
 R193K	R193Y011	Use in combination with: R278 zone valve + R553D/R553F manifold + R588 metal brackets + R500 cabinet	
	R193Y021	Use in combination with: R278 zone valve + R553D/R553F manifold + R588Z metal brackets + R500-2 cabinet	

➤ Dimensions

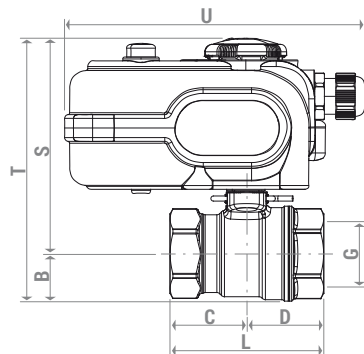
R276



R276 + K270Y101 / K270Y102

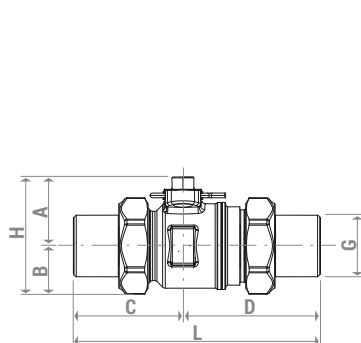


R276 + K272Y101 / K272Y102

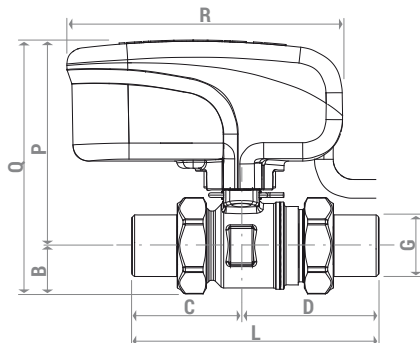


PRODUCT CODE	CONNECTION G	C [mm]	D [mm]	L [mm]	B [mm]	A [mm]	H [mm]	P [mm]	Q [mm]	R [mm]	S [mm]	T [mm]	U [mm]
R276Y004	G 3/4"F	31	32	63	18	33	51	92	110	118	108	126	157
R276Y005	G 1"F	38	38	76	23	37	60	96	119	118	112	135	157

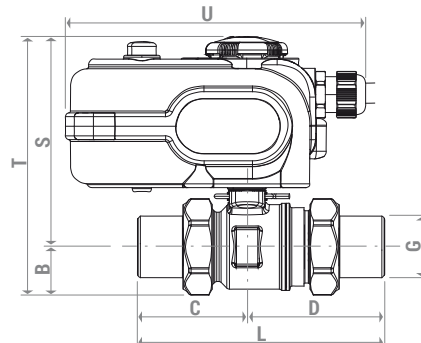
R277



R277 + K270Y101 / K270Y102

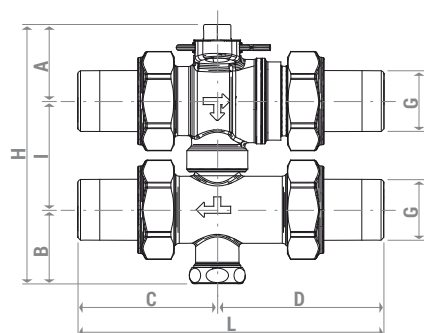


R277 + K272Y101 / K272Y102

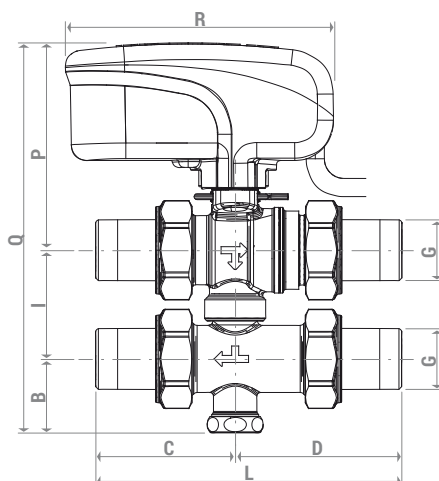


PRODUCT CODE	CONNECTION G	C [mm]	D [mm]	L [mm]	B [mm]	A [mm]	H [mm]	P [mm]	Q [mm]	R [mm]	S [mm]	T [mm]	U [mm]
R277Y004	G 3/4"M	56	71	127	21	33	54	92	113	118	108	129	157
R277Y025	G 1"M	59	73	132	26	37	63	96	122	118	112	138	157

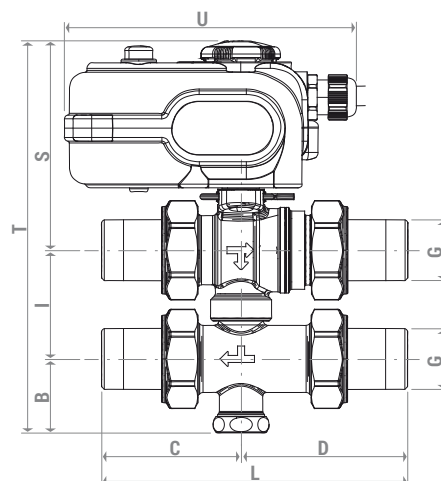
R278



R278 + K270Y101 / K270Y102

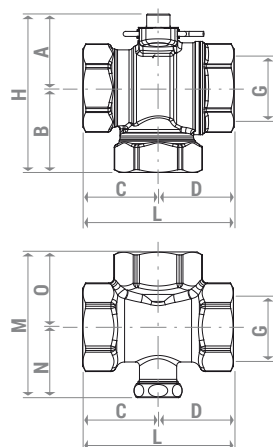


R278 + K272Y101 / K272Y102

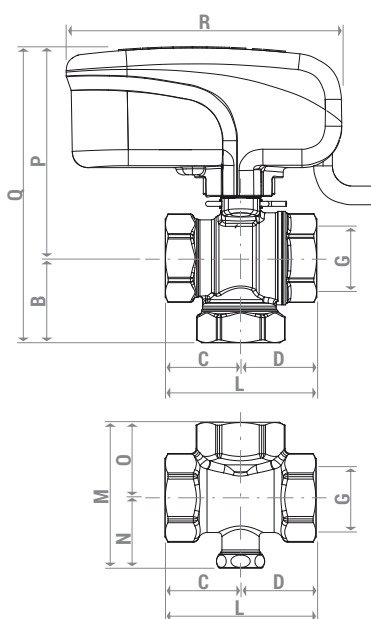


PRODUCT CODE	CONNECTION G	C [mm]	D [mm]	L [mm]	B [mm]	A [mm]	I [mm]	H [mm]	P [mm]	Q [mm]	R [mm]	S [mm]	T [mm]	U [mm]
R278Y004	G 3/4"M	56	71	127	32	33	46	111	92	166	118	108	186	157
R278Y005	G 1"M	59	73	132	34	37	54	125	96	180	118	112	200	157

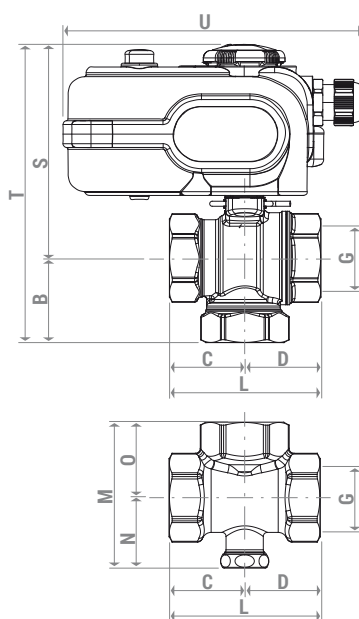
R279



R279 + K270Y101 / K270Y102



R279 + K272Y101 / K272Y102



PRODUCT CODE	CONNECTION G	C [mm]	D [mm]	L [mm]	B [mm]	A [mm]	H [mm]	N [mm]	O [mm]	M [mm]	P [mm]	Q [mm]	R [mm]	S [mm]	T [mm]	U [mm]
R279Y004	G 3/4"F	31	32	63	33	33	66	30	31	61	92	125	118	108	141	157
R279Y005	G 1"F	38	38	76	42	37	79	35	38	73	96	138	118	112	154	157

Product specifications

R276

2-way zone ball valve. 3/4" or 1" female-female connections. Body and main components made of CW617N brass. PTFE gaskets. Max. working temperature 110 °C. Max. working pressure 20 bar. Can be controlled installing K270 or K272 actuators.

R277

2-way zone ball valve. 3/4" or 1" male-male tail piece connections. Body and main components made of CW617N brass. PTFE gaskets. Max. working temperature 110 °C. Max. working pressure 20 bar. Can be controlled installing K270 or K272 actuators.

R278

3-way zone ball valve with adjustable by-pass. 3/4" or 1" male-male tail piece connections. Body and main components made of CW617N brass. PTFE gaskets. Max. working temperature 110 °C. Max. working pressure 10 bar. Can be controlled installing K270 or K272 actuators.

R279

3-way zone ball valve with adjustable by-pass. 3/4" or 1" female-female connections. Body and main components made of CW617N brass. PTFE gaskets. Max. working temperature 110 °C. Max. working pressure 10 bar. Can be controlled installing K270 or K272 actuators.

 **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.

 **Package Disposal.** Carton boxes: paper recycling. Plastic bags and bubble wrap: plastic recycling.

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