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**2-ways / 3-ways, with spring return, DN 15 - DN 25**



**Highlights**

- Temperature range -20° to +160°
- Free of water hammer
- Compact size
- Needs no maintenance
- Manual operation possible



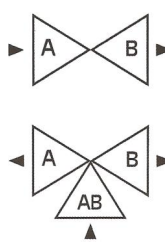
### Application

Motorized zone valves SOLAR are specially designed as on/off valves or diverter valves for use in solar systems. The 3-ways valves are used where water should alternatively feed one of two circuits or heaters/coolers. Applicable for **water with max. 50% glycol and temperatures from -20° to +160° C.**

### Product range SOLAR 2-ways and 3-ways / 230 V

Article-No.	DN	Dim.	Body type
<b>51.1221.SOL</b>	15	½"	2-ways
<b>51.1321.SOL</b>	20	¾"	2-ways
<b>51.1421.SOL</b>	25	1"	2-ways
<b>51.1224.SOL</b>	15	½"	3-ways
<b>51.1324.SOL</b>	20	¾"	3-ways
<b>51.1424.SOL</b>	25	1"	3-ways

### Function



The 2-ways valve is closed under no power condition and opens when power is on. On the 3-ways valve outlet A is closed under no power condition and AB to B is open. When power is on, AB-A opens and AB-B closes. Cutting power activates the spring return. The valves operate free of water hammer (observe max. differential pressure). The valve seat closes absolutely tight. The valve is triggered by a single pole switch (e.g. thermostat). In the event of power failure, the valve closes automatically.

### Technical data / Options

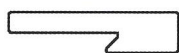
		Ordercode
Temperature range	-20°C to +160°C	
Ambient temperature max.	50°C	
Operating pressure max.	10 bar	
Differential pressure max. (2-ways / 3-ways)	DN15 (½"): 1,4 bar / 1,4 bar DN20 (¾"): 0,6 bar / 0,7 bar DN25 (1"): 0,4 bar / 0,6 bar	
Switching time	opening ≤ 12 sec. closing ≤ 5 sec.	
Power supply	230V AC 24V AC	51.1x2x.SOL 51.2x2x.SOL
Power consumption	6 VA	
Protection class	IP 20	
Cable length	60 cm	
Connections	female thread	

According to EU regulations 89/336/EEC and 73/23/EEC

Materials	
Valve	Brass EN12165
Actuator housing	Plastic
Valve piston	Ethylen-Propylen
Seals	EPDM triple O-ring

### Function of hand lever

**AUTO**



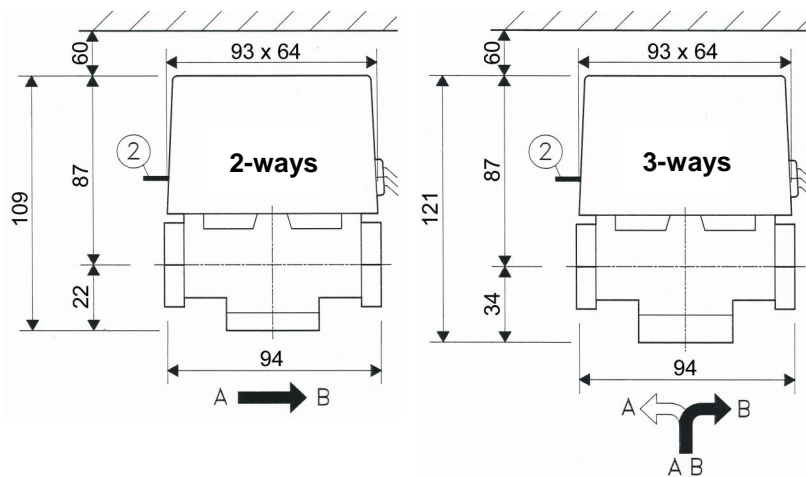
**MAN**

For the purpose of filling or draining the system, the hand lever has to be moved into "MAN" position (2-way valves open / 3-way valves open / 3-way valves AB to A and AB to B open).

After filling, return the lever to „AUTO“ position. When power is on, the hand lever is automatically released from position „MAN“ and moved to position „AUTO“.

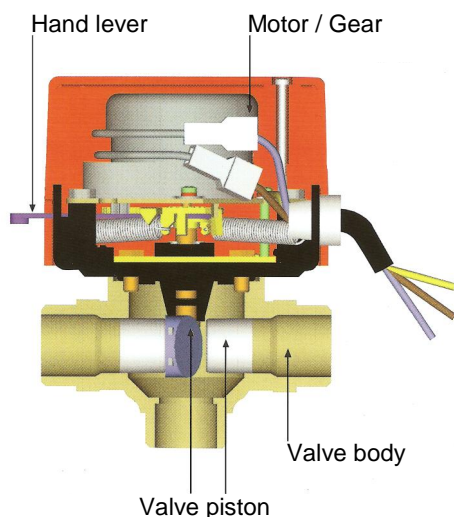
### Dimensions

② Hand lever

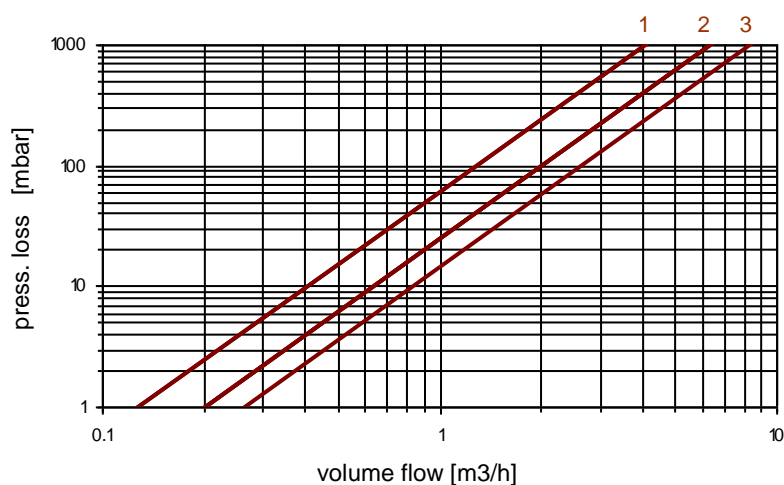


Shaft with triple O-rings

### Assembly



### Pressure loss diagram



Line	Valve	Kvs-val.
1	2-ways 1/2" + 3-ways 1/2"	4,1
2	2-ways 3/4" + 3-ways 3/4" + 2-ways 1"	6,4
3	3-ways 1"	8,4

### Installation

- Before fitting, make sure the pipes are free of dirt particles in order to allow trouble-free operation.
- Observe correct flow direction.
- Installation possible in any position except with actuator in hanging downward position.