

# Three way thermostatable valve with double obturator - 301-321-324

## / Function

Art. 301 is a three way thermostatable valve equipped with a double obturator. The valve has been designed to be employed as a diverting valve, manual or automatic if coupled with the appropriate electrothermic actuator 982. However, if coupled with the 997 thermostatic head and if the flow inlets are adjusted, it can be used as a three way mixing valve in a high temperature range



## / Technical characteristics

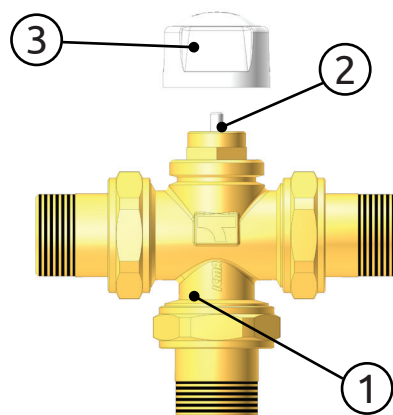
### TECHNICAL DATA

Working fluid:	Water and glycol solutions
Max. percentage of glycol:	30%
Operating temperature	0°C ÷ 50°C
Temperature range primary inlet:	0÷95°C
Max. working pressure:	10 bar
Max. differential pressure:	1,2 bar

### MATERIALS

Body:	Brass CW617N
Internal mechanical components:	Brass CW617N
Control stem:	Stainless steel
Hydraulic seals:	Perox EPDM

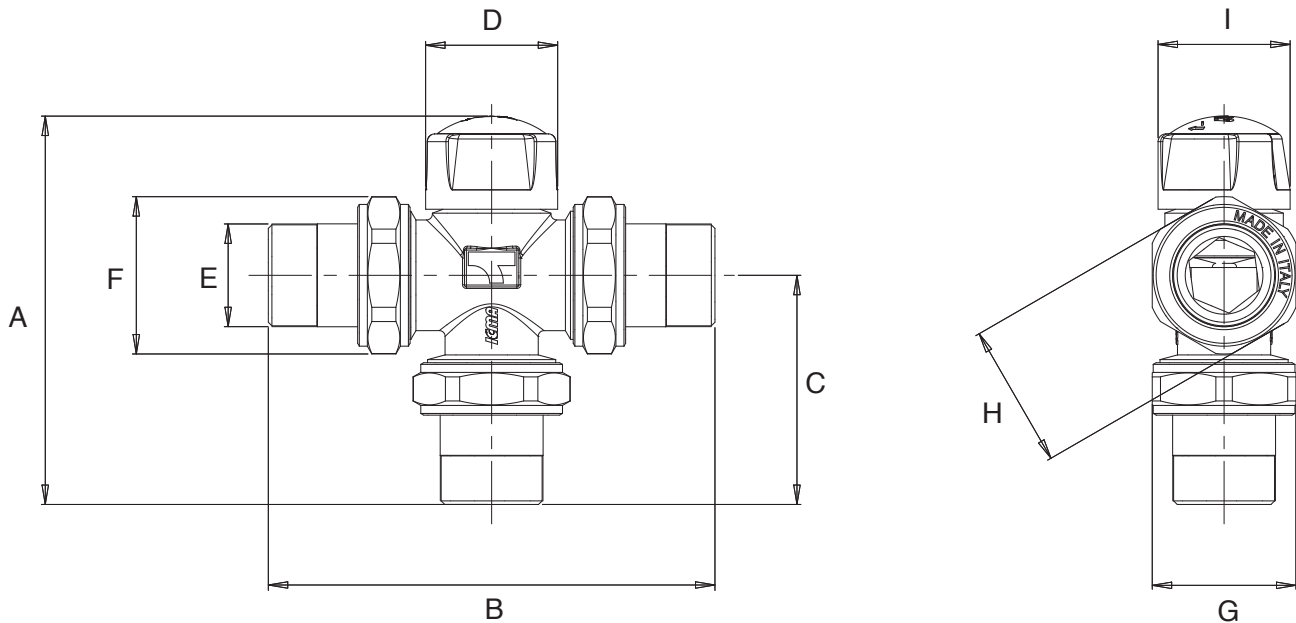
## / Components



1. Valve body
2. Control stem
3. Protection cap

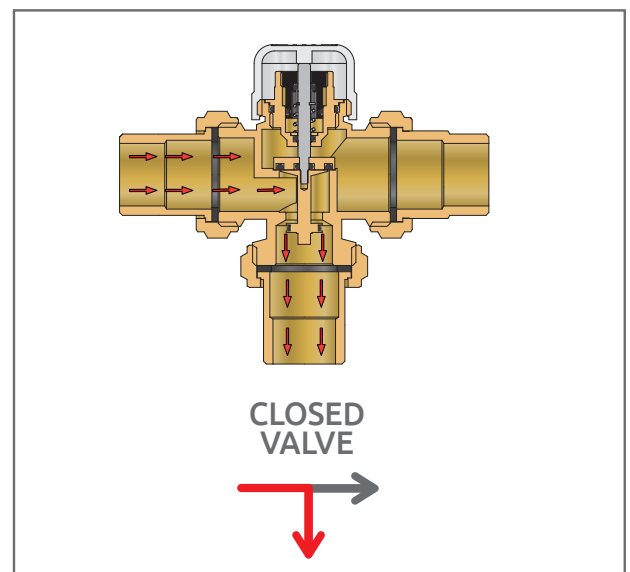
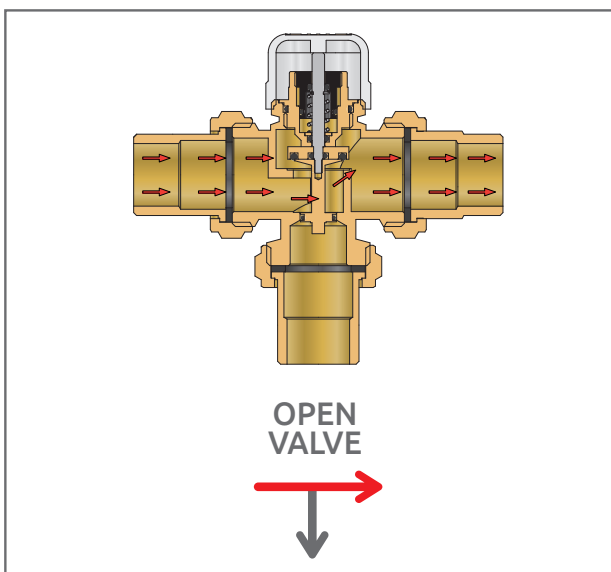
# Three way thermostatable valve with double obturator - 301-321-324

## Dimensions art. 301



	A [mm]	B [mm]	C [mm]	D [mm]	E	F [mm]	G [mm]	H	I [mm]
82301AD05	101,0	118,0	60,5	34,0	G 1/2"	40,5	37,0	CH. 37	34,0
82301AE05	100,0	115,0	59,0	34,0	G 3/4"	40,5	37,0	CH. 37	34,0
82301AF05	107,5	130,0	66,5	34,0	G 1"	40,5	37,0	CH. 37	34,0

## Diverting valve operation



# Three way thermostatable valve with double obturator - 301-321-324

## / Pre-adjustment

The thermostatable valve can be pre-adjusted in order to limit the maximum flow rate in the main way. Consequently the flow rate on the by-pass way will increase. To pre-adjust the zone valve do as follows:

- Rotate clock-wise the plastic stuffing box with a simple screwdriver, until it reaches its limit position.
- Rotate counter clock-wise the stuffing box to set it to the desired flow rate.

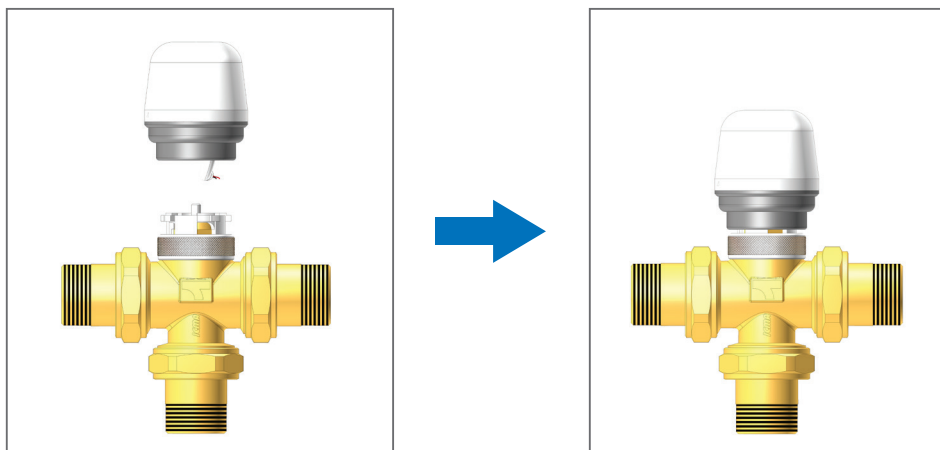
The set flow rate will be the zone valve maximum Q value on the straight way. When the adjustment of the maximum flow rate has been carried out, the valve in opening operating mode will always return to the boiler.



## / Coupling with electrothermal actuator (Art. 321)

As mentioned before, the Art. 301 valve can be coupled with the appropriate art. 979 electrothermic actuator. The use of the electrothermic actuator allows the valve to open and close automatically.

The two products together are coded as Art. 321.

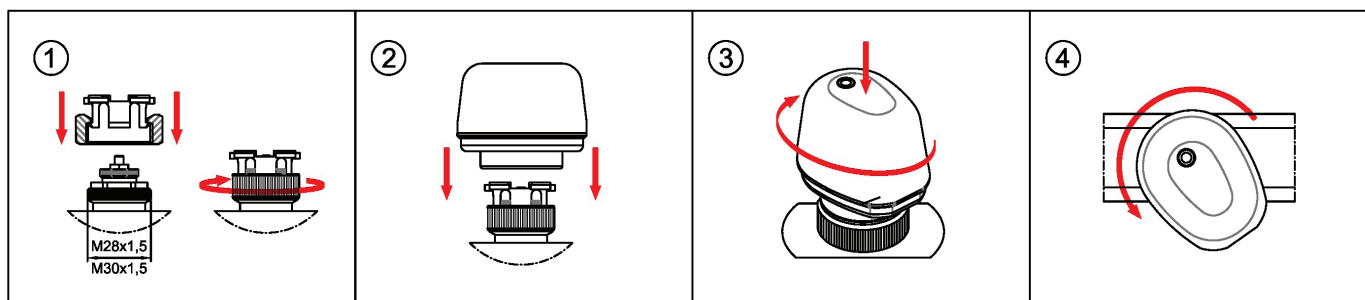


## / Installation

NC electrothermic actuators can be installed on all the thermostatable ICMA product range, such as distribution manifolds, zone valves and fan coil valves. The particular threaded loop allows to attach the quick lock base to the valve. The valve will not need to be removed again later, even when maintenance and substitution operations are carried out. To install/remove the thermostatic actuator from the quick lock it is necessary to simply press/rotate it (please see the operations illustrated below).

Furthermore, this type of coupling allows the actuator to be placed in the desired position, in order to achieve a correct and tidy arrangement of the supply cables.

# Three way thermostatable valve with double obturator - 301-321-324



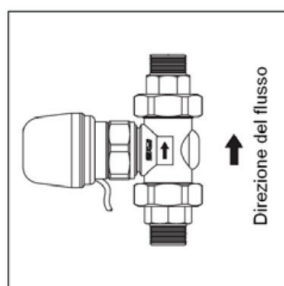
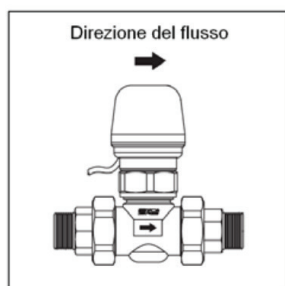
① Remove the white shell placed on the manifold valve or headwork. Insert the quick lock on the headwork and screw the loop until it reaches its limit position.

② Insert the actuator on the quick lock making sure that the four plugs of the quick lock are placed inside the actuator slots. Press down to the manifold.

③ While pressing the actuator down to the quick lock, please rotate it clock-wise until its limit position in order to block it.

④ To remove the electrothermic actuator from the quick lock, simply rotate it counter clock-wise.

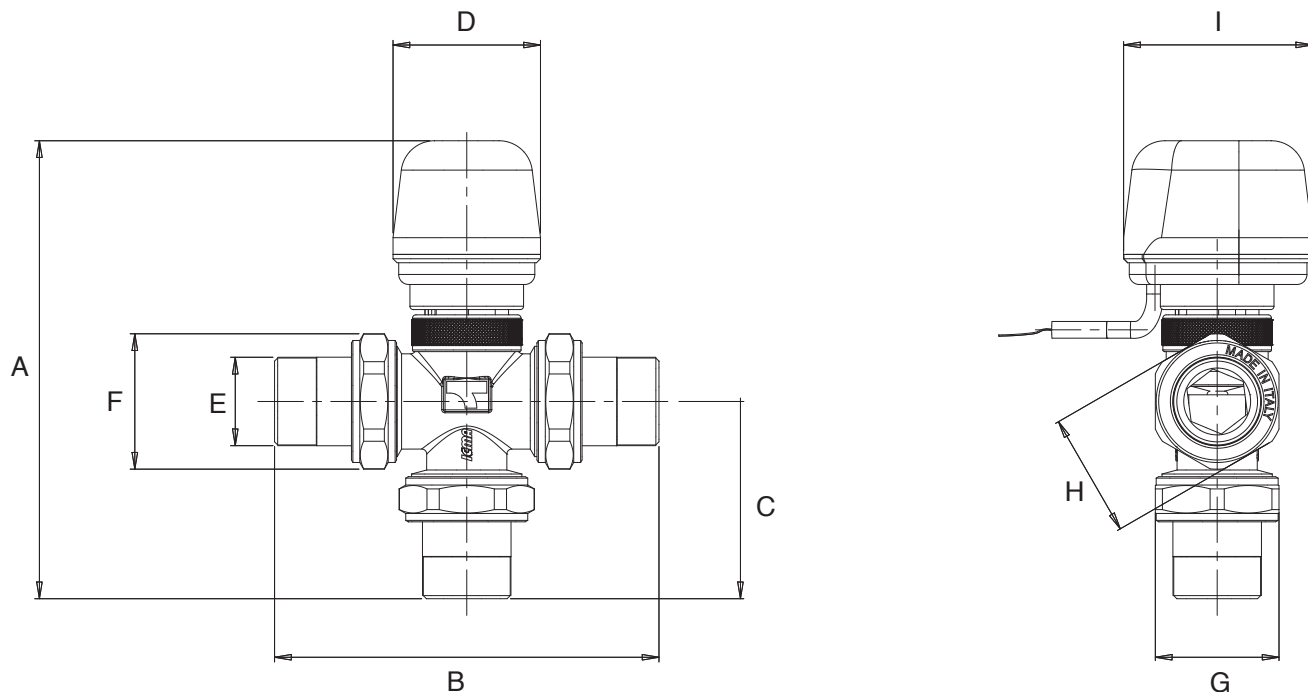
Always install the zone valves following the fluid direction indicated by the arrows.



*Position to avoid for correct operation of the actuator.*

# Three way thermostatable valve with double obturator - 301-321-324

## / Dimensions art. 321



	A [mm]	B [mm]	C [mm]	D [mm]	E	F [mm]	G [mm]	H	I [mm]
82321ADNC53	138,5	118,0	60,5	44,1	G 1/2"	40,5	37,0	CH. 37	56,6
82321AENC53	137,0	115,0	59,0	44,1	G 3/4"	40,5	37,0	CH. 37	56,6
82321AFNC53	144,5	130,0	66,5	44,1	G 1"	40,5	37,0	CH. 37	56,6

# Three way thermostatable valve with double obturator - 301-321-324

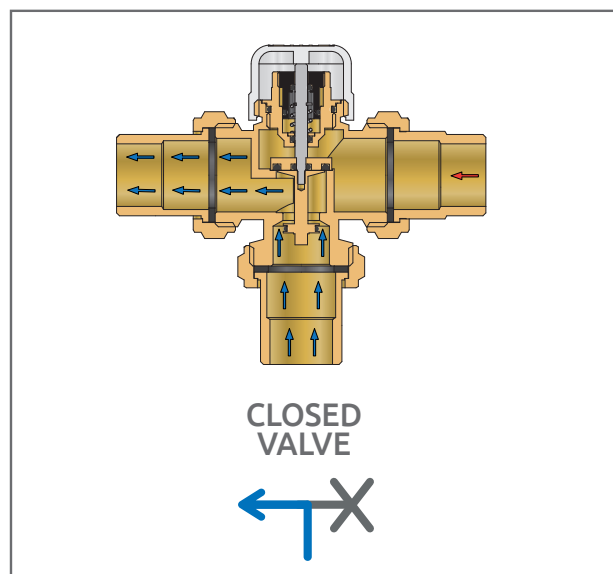
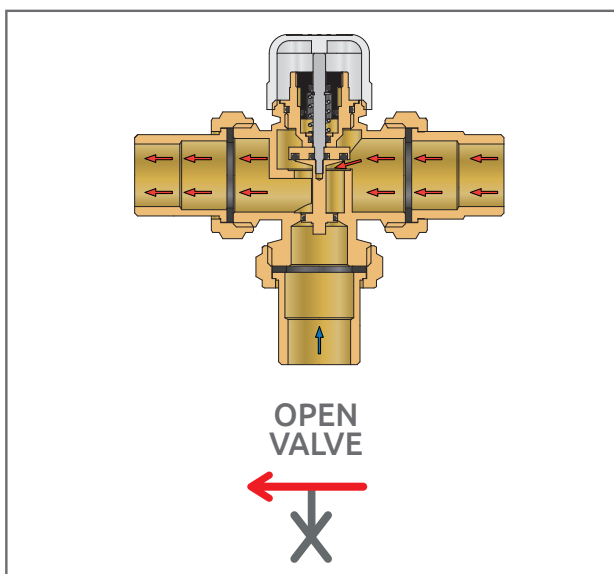
## / Coupling with thermostatic head (Art. 324)

Art. 301 valve coupled with the Art. 997 thermostatic valve is used as a mixing valve with high temperature mixing range.

The two products together are coded as Art. 324.

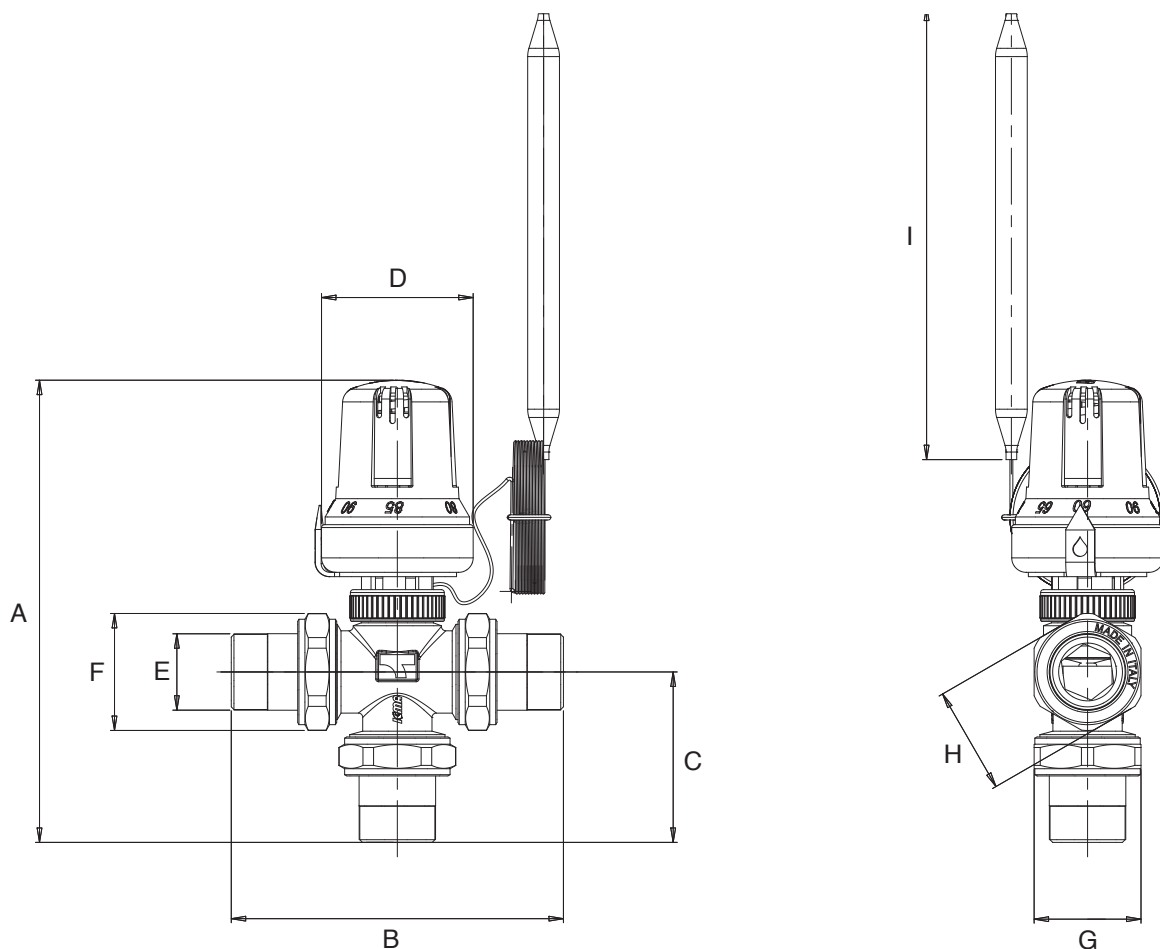


## / Mixing valve operation



# Three way thermostatable valve with double obturator - 301-321-324

## / Dimensions art. 324

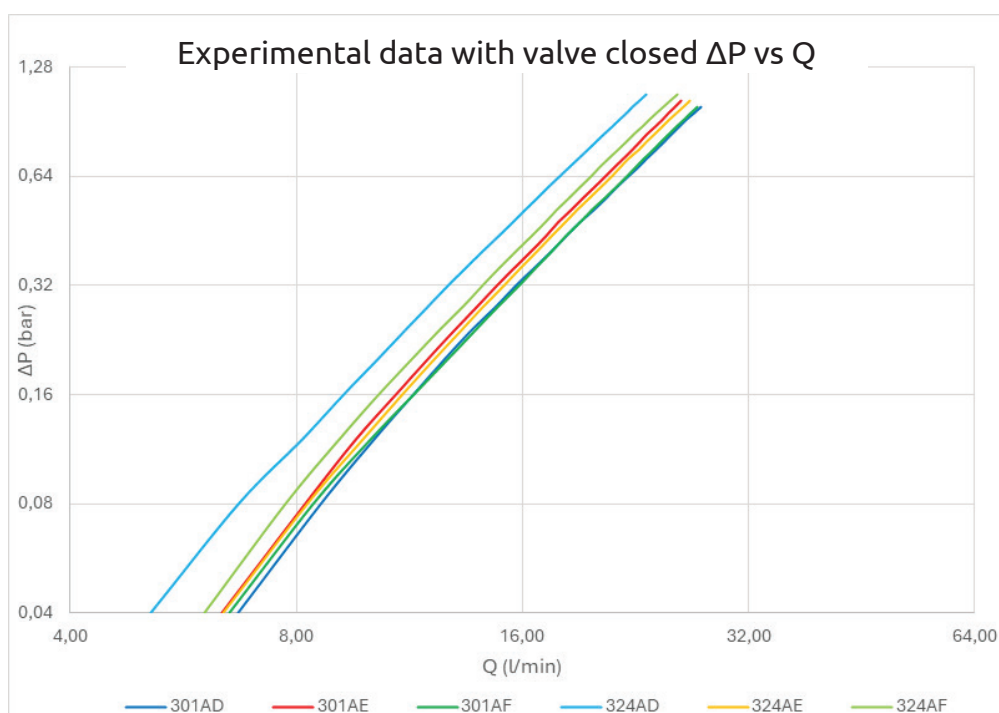
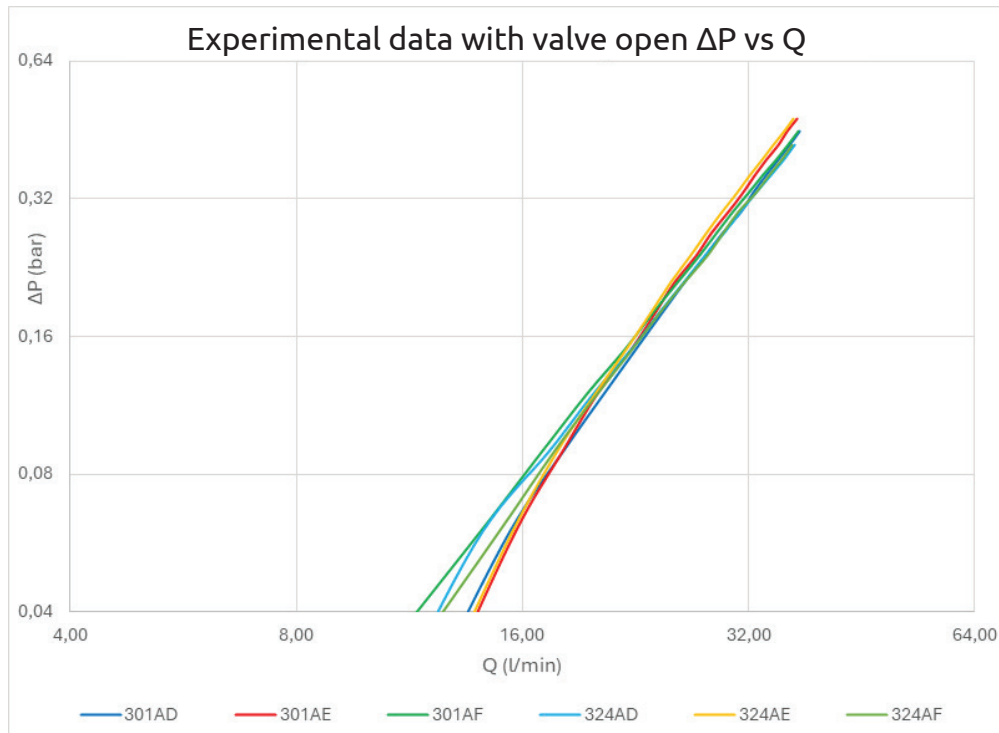


	A [mm]	B [mm]	C [mm]	D [mm]	E	F [mm]	H	I [mm]
82324AD05	162	130	60,5	52,5	G 1/2"	40,5	CH. 37	157,0
82324AE05	160	115	59	52,5	G 3/4"	40,5	CH. 37	157,0
82324AF05	167,5	130	66,5	52,5	G 1"	40,5	CH. 37	157,0

# Three way thermostatable valve with double obturator - 301-321-324

## Hydraulic characteristics art. 324

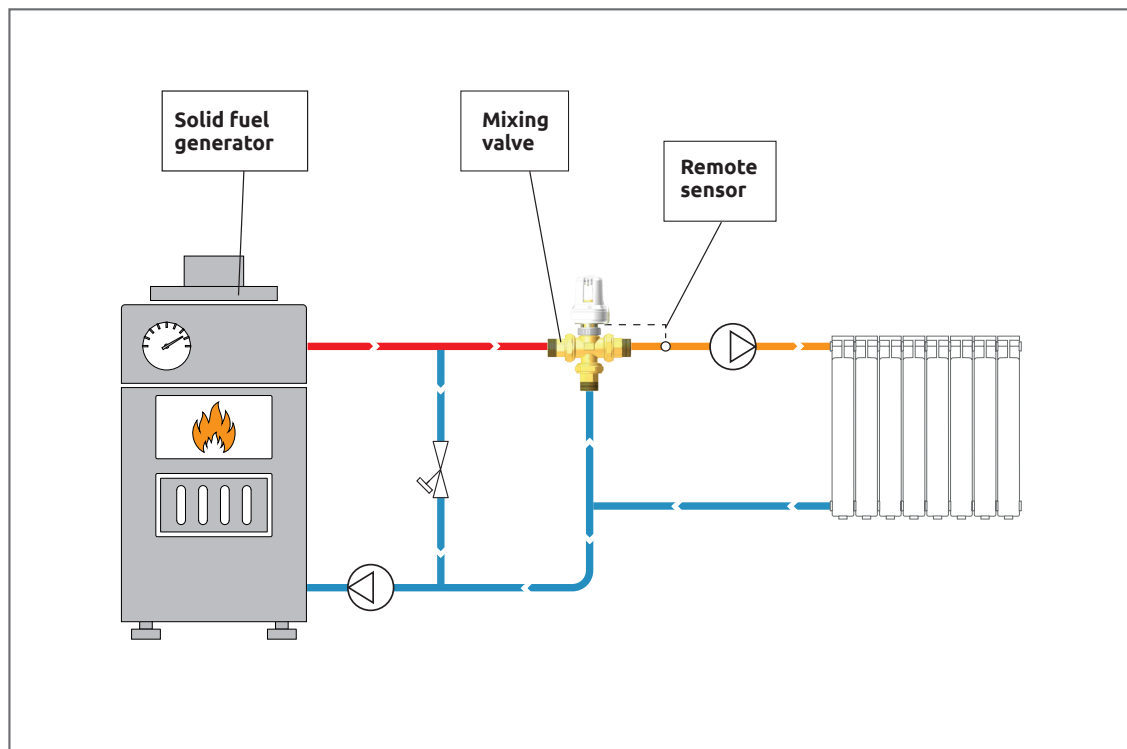
	301AD	301AE	301AF	324AD	324AE	324AF
<b>Kv open</b>	3,39	3,28	3,34	3,43	3,22	3,41
<b>Kv closed</b>	1,66	1,54	1,65	1,35	1,58	1,48



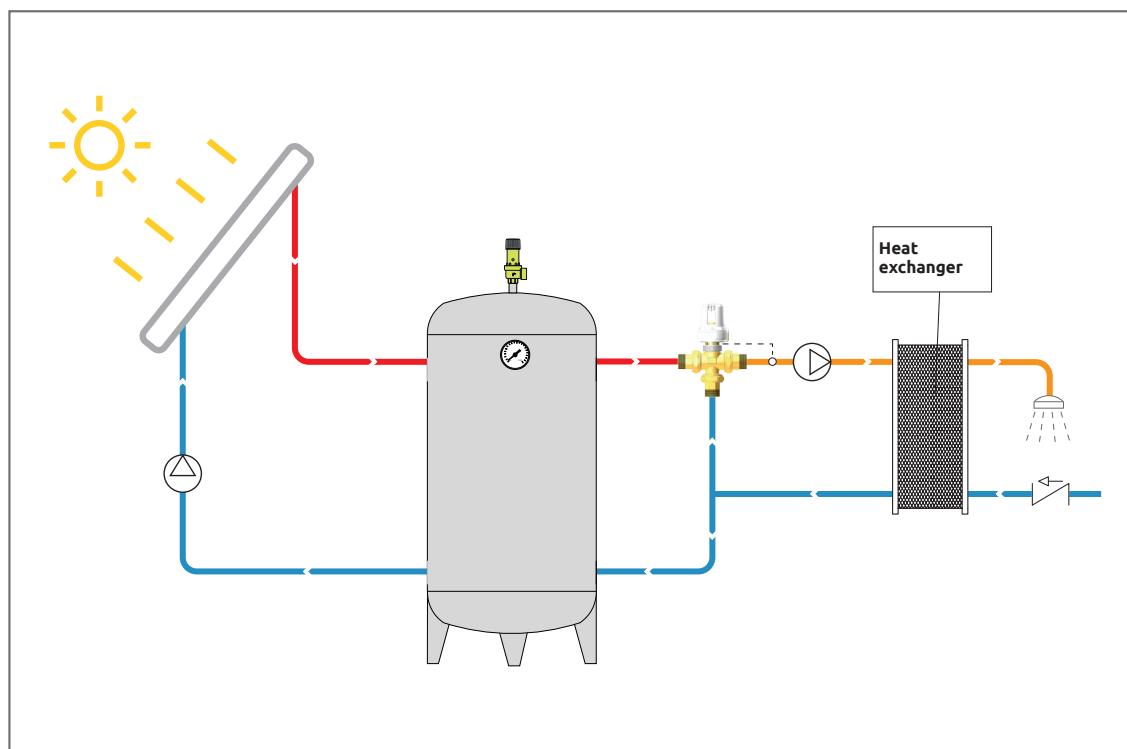
# Three way thermostatable valve with double obturator - 301-321-324

## / Fields of application

### Solid fuel boiler downstream installation



### Installation on primary circuit ACS production



## / Safety



Please read carefully the installing and operating instructions before activating the device, thus avoiding accidents or damage to the plant. We remind you that the right to warranty lapses when the product is altered or sabotaged without authorisation during the installing phase

### Operating conditions

The indicated limit values cannot be in any way exceeded. The operating safety is assured by respecting the general conditions and the limit operating values described in this sheet.

### Installing and examining safety norms

The installing and examining operations must be carried out by qualified and authorised staff, that have acknowledged the instructions here described. Before any operation on the equipment, it is mandatory to control that the system is off.

### Electric connections

The electric connections must be carried out by qualified staff. Before supplying the delivery unit, please check that all the data about the voltage type and values supplied by the electric web indicated on the plate is respected. All the connections must be carried out as ordered by the law.

## / Maintenance

The maintenance operations must be carried out by qualified and authorised staff, that have acknowledged the instructions here described. Before any operations on the equipment, it is mandatory to control that the system is off.