

## Art. 300-301-302 - ZONE VALVES

### Art. 320-321-322 - Z.V. WITH ACTUATORS

TECHNICAL DATA SHEET 09/2017 - ENG

#### FUNCTION

The zone valves Art.300-301-302 are used to adjust and balance the flow in heating, cooling and sanitary systems. The range includes a two-way zone valve (Art.300), a three-way zone valve (301) and a four-way zone valve with adjustable interaxe (Art.302) all available with male tail.

The zone valves are combined with electrothermic actuators Art. 979 (electrothermic actuator normally close ON-OFF) or Art. 982 (electrothermic actuator normally close with micro switch).

Our thermostatic heads can be installed with remote sensor 992 e 995.



#### PRODUCTS

Art.		sizes	thread connections
300	Two-way zone valve	G1/2" M - G3/4" M - G1" M	M30x1.5
301	Three-way zone valve	G1/2" M - G3/4" M - G1" M	M30x1.5
302	Four-way zone valve	G1/2" M - G3/4" M - G1" M	M30x1.5

#### TECHNICAL CHARACTERISTICS

##### Zone valves

##### Art.300 -301 -302

Brass body	CW 617 N UNI EN 12165
Internal mechanical details	CW617N UNI EN 12164
O-Ring	EPDM PEROSSIDICO
Guiding rod	Stainless steel
Fluids	Water
Temperature	0-95°
Max operating pressure	10 Bar
Max differential pressure	1.2 Bar

##### Actuators

##### 979-982 with micros witch (NC)

Electric input	220V, 50-60Hz o 24V 50-60Hz
Absorbed power	2VA
Stating current	0.2A (220V), 0.3A (24V)
Working current	0.008A (220V) 0.07A (24V)
Starting time stroking	90 seconds
Actuator stroke	5mm
Valve stroke	3.5mm
Dynamic strenght	100N
Storage max temperature	-25°C / 60° C
Level of protection	IP66
Flameproof electric cable	4x0.35
	4 wires, length: 1m

#### DIMENSIONS

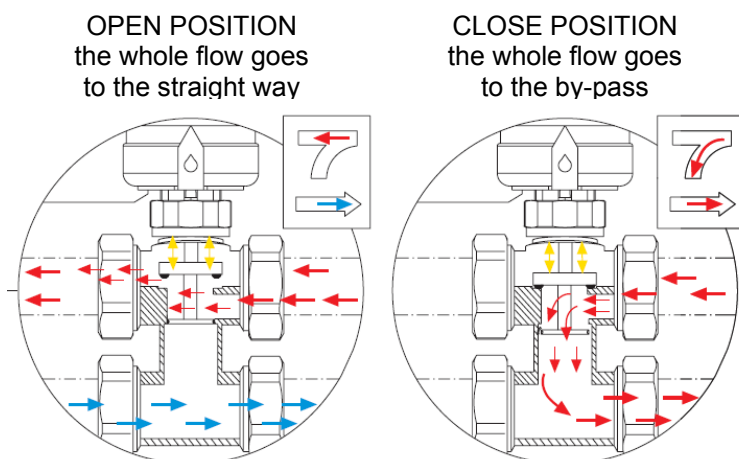
CODE	A	B	C
82320AD05	120	1/2"	80
82320AE05	120	3/4"	80
82320AF05	130	1"	80

CODE	A	B	C	D
82321AD05	120	1/2"	80	73
82321AE05	120	3/4"	80	73
82321AF05	130	1"	80	83

CODE	A	B	C	D
82322AD05	120	1/2"	80	49+63
82322AE05	120	3/4"	80	49+63
82322AF05	130	1"	80	49+63

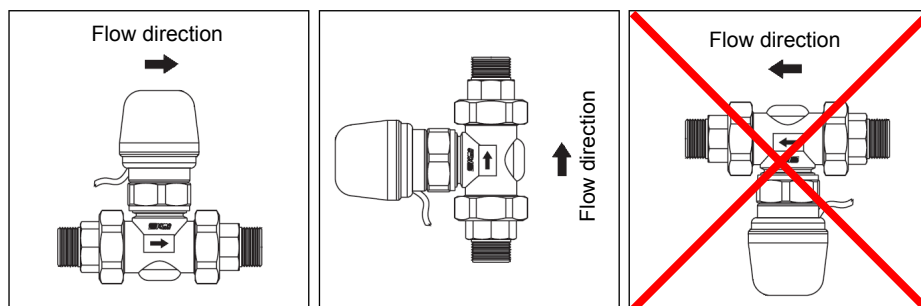
## OPERATING PRINCIPLE

When a room thermostat operates, the thermo-electric actuator causes the opening or closing of the valve obturator controlling the thermal carrier fluid. The manual knob on the valve can be used for any preliminary opening/closing operations. It is removed to fit the thermo-electric or the thermostatic actuator with remote sensor by unscrewing the lower metal ring.



## INSTALLATION

The zone valves must be installed in line with the direction of flow indicated by the arrow on the valve body.



## DOUBLE REGULATING FUNCTION

The zone valves can be pre-regulated to limit the maximum flow in the main way, increasing the flow in the by-pass.

To pre-regulate the zone valve:

- Rotate the plastic part with a screwdriver clockwise till stop.
- The opening on the plastic part will be at the same place as the reference sign on the shutter.
- Rotate the spring-holder anticlockwise till the desired flow is reached.

The set flow will be the maximum Q rate of the zone valve on the straight way, according to the diagram 1. Once the valve is set in fully open position, the open way still enables the water return to the boiler.



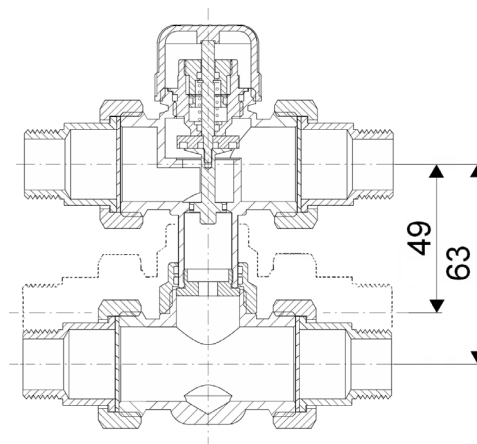
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## Art. 320-321-322 - Z.V. WITH ACTUATORS

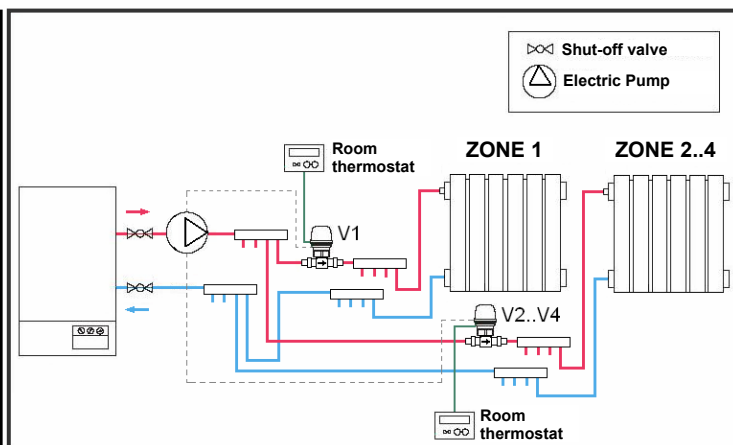
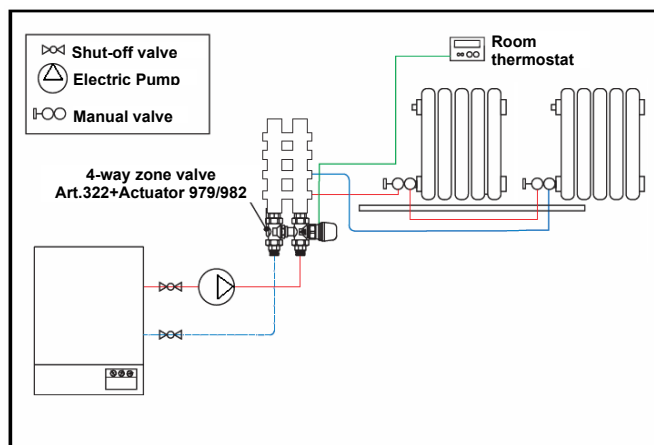
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### SPECIAL CHARACTERISTICS

The four-way zone valve (Art. 302) allows for adjustable centre distance between connections from 49 to 63 mm, permitting direct connection to complanar manifolds.

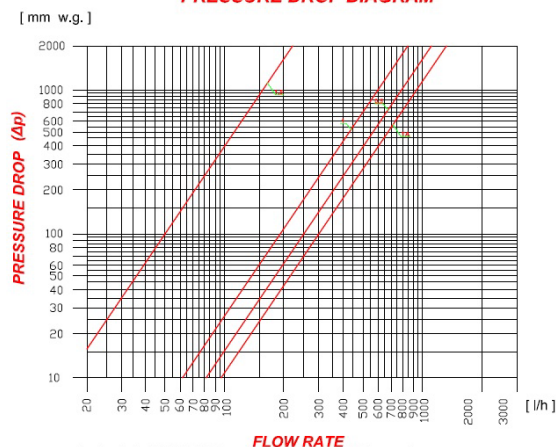


### APPLICATION DIAGRAMS

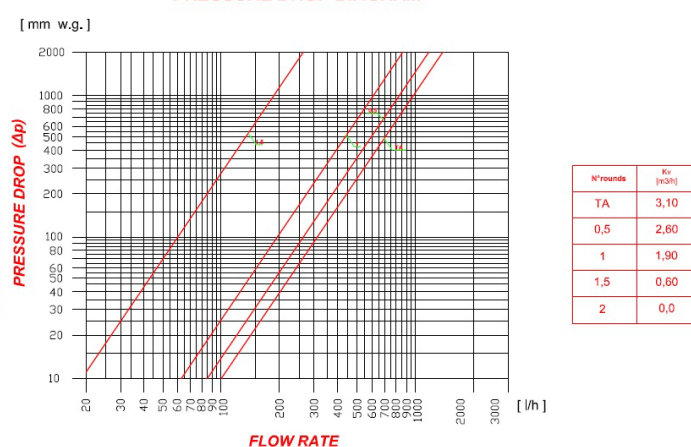


### HYDRAULIC CHARACTERISTICS

Zone valve Art. 300 1/2" 82300AD05  
**PRESSURE DROP DIAGRAM**



Zone valve Art. 300 3/4" 82300AE05  
**PRESSURE DROP DIAGRAM**

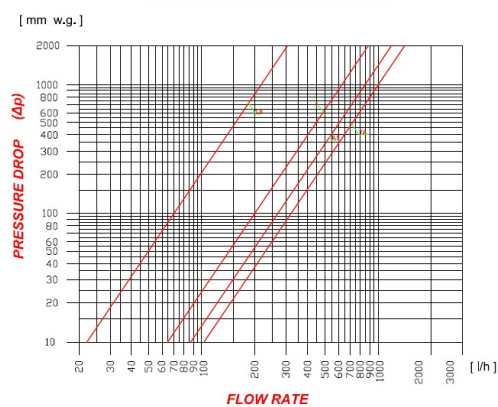


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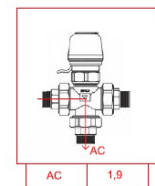
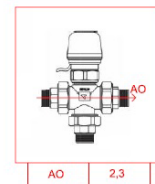
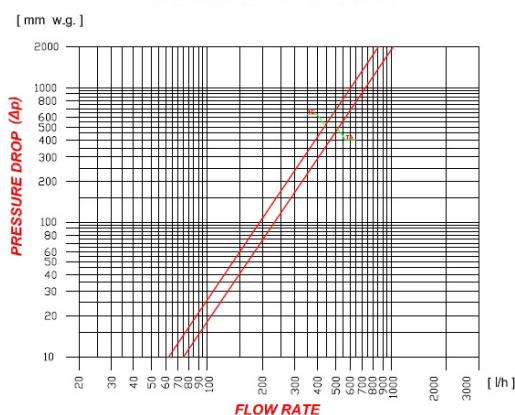
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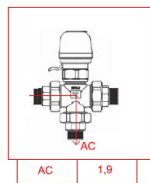
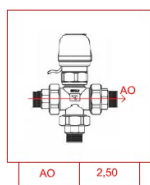
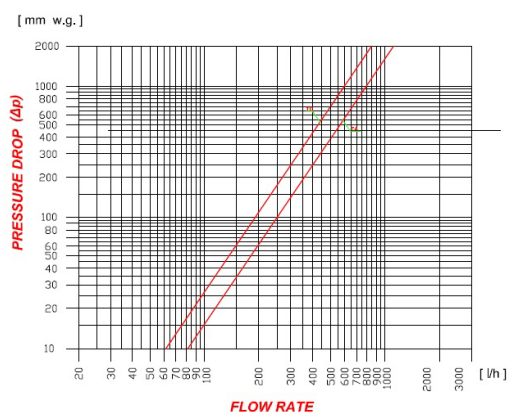
**Zone valve Art.300 1" 82300AD05**  
**PRESSURE DROP DIAGRAM**



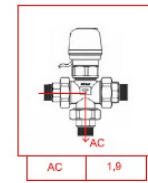
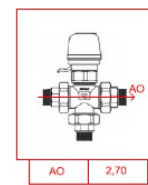
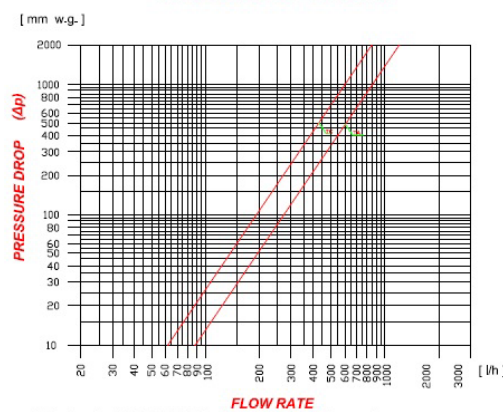
**Zone valve Art.301 1/2" 82301AD05**  
**PRESSURE DROP DIAGRAM**



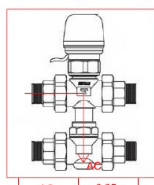
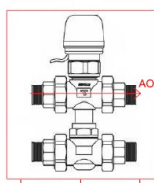
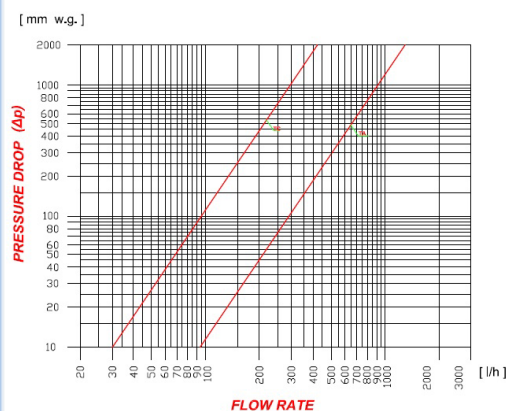
**Zone valve Art.301 3/4" 82301AE05**  
**PRESSURE DROP DIAGRAM**



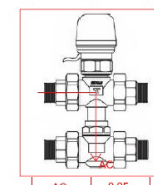
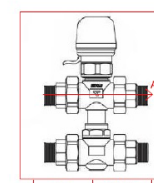
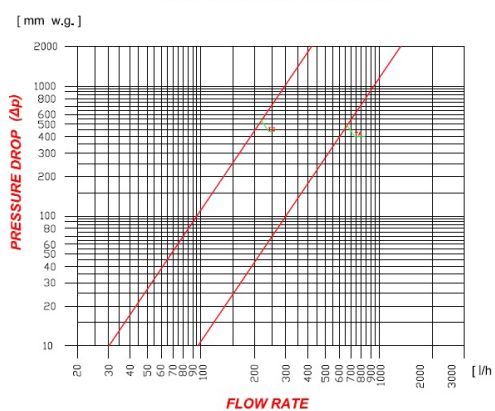
**Zone valve Art.301 1" 82301AF05**  
**PRESSURE DROP DIAGRAM**

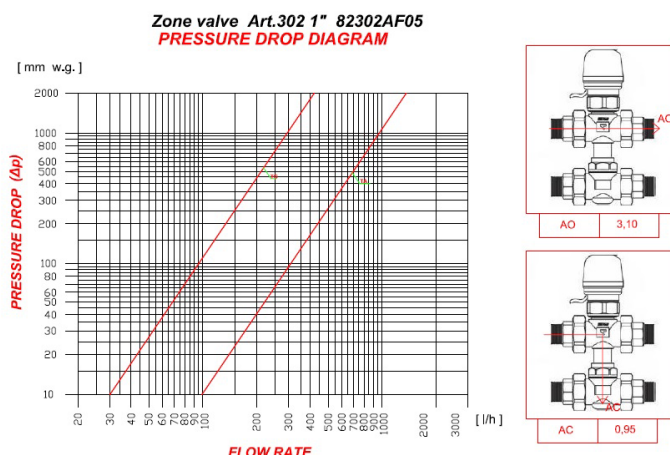


**Zone valve Art.302 1/2" 82302AD05**  
**PRESSURE DROP DIAGRAM**



**Zone valve Art.302 3/4" 82302AE05**  
**PRESSURE DROP DIAGRAM**





## SAFETY



Read the assembly and start-up instructions and comply with them scrupulously before starting the system to prevent accidents and damage to the system caused by improper use. Remember that the guarantee will be forfeited in the event of any unauthorised changes or tampering with the device during assembly and construction.

## OPERATING CONDITIONS

The rates which have been indicated must not be exceeded. The functioning is ensured by respecting the general conditions and the maximum operating rates shown in this sheet.

## SAFETY RULES FOR INSTALLATION AND INSPECTION

Installation and inspection should only be carried out by duly qualified personnel. Before any operation on the equipment, make sure the power is off.

## MAINTENANCE

Maintenance should only be carried out by duly qualified personnel. Before any operation on the equipment, make sure the power is off.