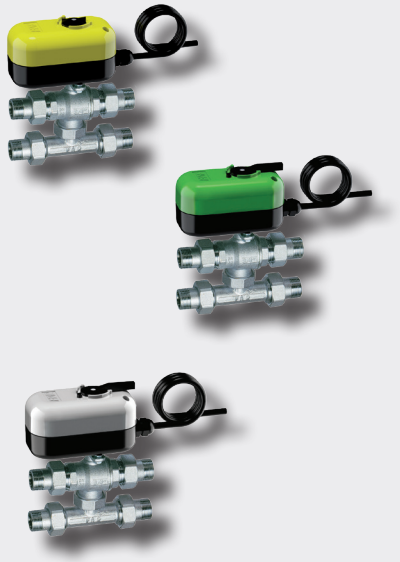
ZONE VALVES

2-WAY ZONE VALVES

3-WAY ZONE VALVES

DIVERTER

BYPASS VALVES

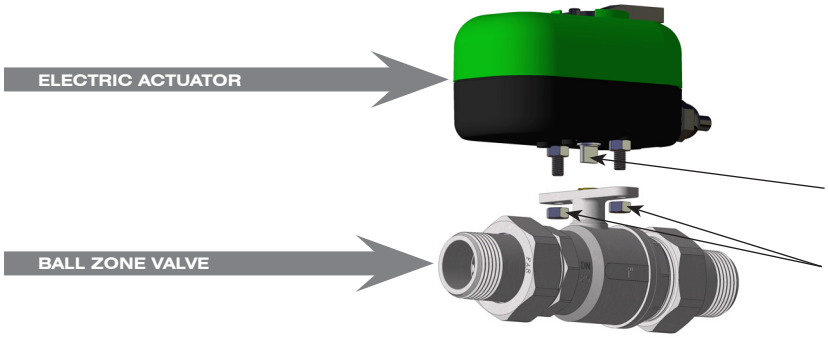


The zone valves are available in the following sizes: ½" – ¾" – 1" – 1"1/4
Connections: male-male, male-female and female-female

1 DESCRIPTION

The FAR zone valve, which is controlled by an actuator connected to an ON-OFF room thermostat, permits to shut-off or divert the flow within the heating, cooling or sanitary systems.

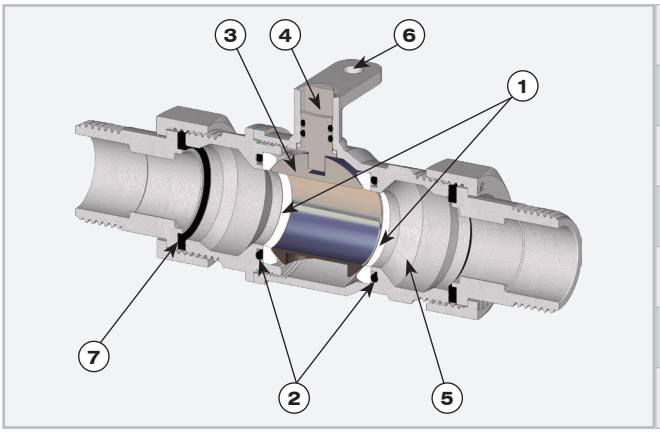
The zone valve features a special internal anti-blockage system, which makes sure the correct rotation of the ball, even in case of hard water. The system comprises two PTFE seats located on two O-rings, which operate as "shock absorbers" so that ball rotation is guaranteed - even if it has not been used for a long period.



REGULATING PIN
It permits automatic rotation of the ball, thus switching the valve position.

ACTUATOR FIXING NUTS
They permit to fix the actuator to the valve body

Construction features



1. Seats in P.T.F.E.
2. Sealing O-rings in EPDM
3. Ball in CW617N brass
4. Control stem in CW617N brass with O-rings in EPDM
5. Valve body in CW617N brass
6. Holes for screws for actuator
7. Gasket in Gold Gasket®

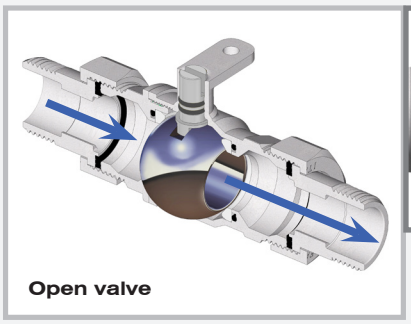
Functioning

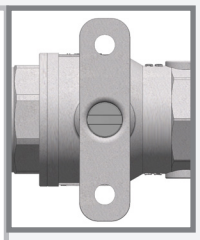
2-WAY ZONE VALVE

The 2-way full bore zone valve permits to shut-off or divert the flow within the heating or sanitary systems.

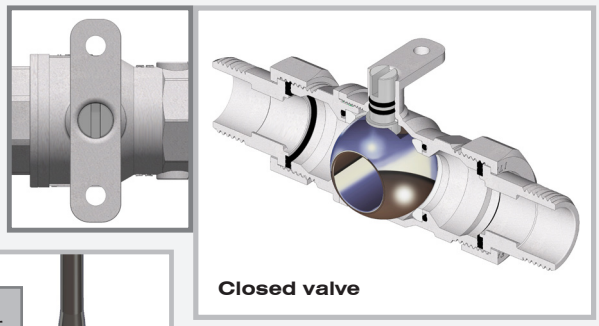
The actuator opens or closes off the flow of fluid in response to signals received from the thermostat.

STARTING POSITION

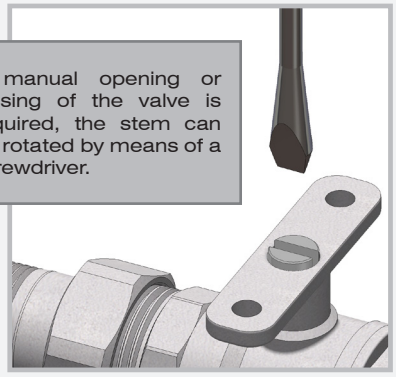




NEXT POSITION



If manual opening or closing of the valve is required, the stem can be rotated by means of a screwdriver.



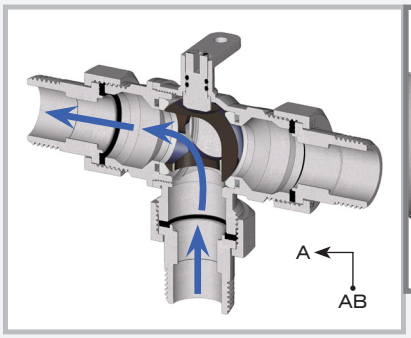
3-WAY DIVERTER ZONE VALVE

This kind of valve is designed to divert the flow from a circuit to another, i.e: to divert the water back when using a thermostat, or for switching in summer and winter to use circuit to heat or cool the room.

This valve can also be used in systems with both boiler and real fire fireplace. It is available with male-male, male-female and female-female side connections.

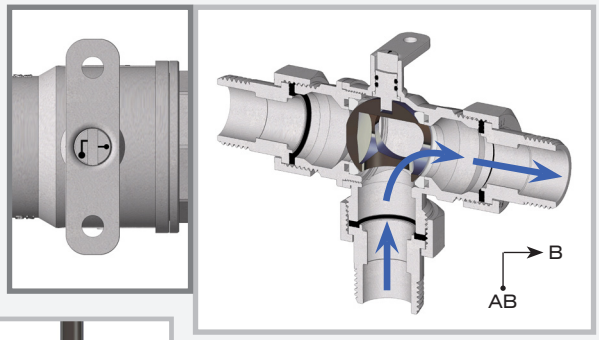
STARTING POSITION

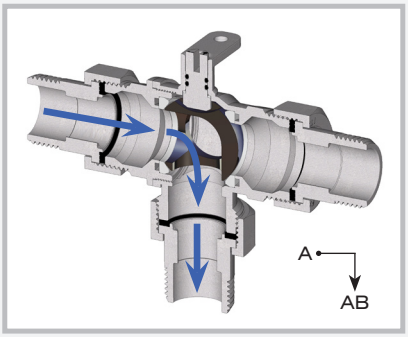
The illustration shows a 3-Way diverter zone valve: in this case the position of the ball permits the inlet of fluid from below (**AB**) and then diverts it to the left (**A**).



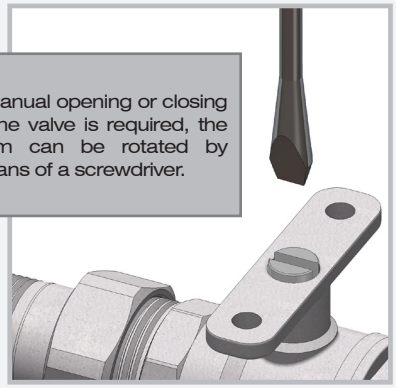
NEXT POSITION

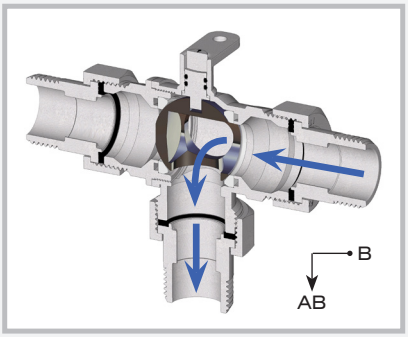
The illustration shows a 3-Way diverter zone valve: in this case the position of the ball permits the inlet of fluid from below (**AB**) and then diverts it to the right (**B**).





If manual opening or closing of the valve is required, the stem can be rotated by means of a screwdriver.

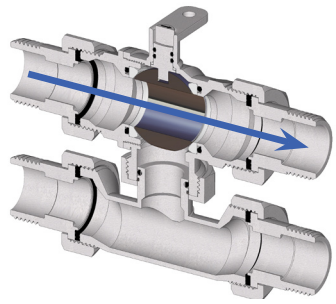




BYPASS VALVE

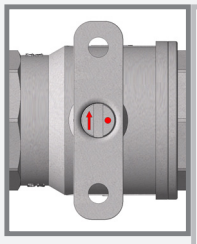
The FAR 3-way valve with bypass is suitable for use in association with coplanar manifolds with no need for differential pressure valves to maintain system design heads. The centre line of the bypass Tee connection increases from 52mm to 63mm compared with the valve body for easy compatibility with most manifolds on the market – ensuring good flow and return connections.
This valve is available with male-male, male-female and female-female connections.

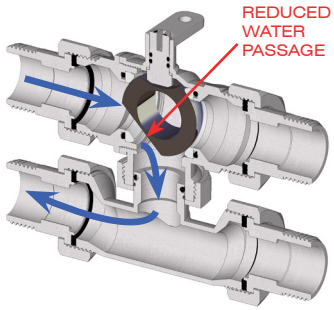
STARTING POSITION



The figure shows the flow of fluid towards the supply manifold, when the valve is fully open.

NEXT POSITION





The figure shows the flow sent back to the boiler, thus maintaining the design system head.
In this way the pump is not overstressed by high pressure surges.

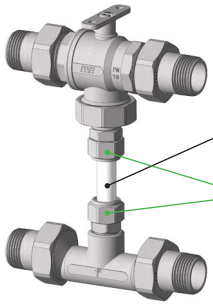
If manual opening or closing of the valve is required, the stem can be rotated by means of a screwdriver.

ART.3025

ART.3030

ART.3031

ART.3032



The by-pass valve Art. 3030 permits to modify the interaxis between delivery and return.

Pipe cut at the desired size

FAR 24x19 adapter for copper, plastic or multilayer pipes

2 SMALL ACTUATORS

The actuators incorporate two servomotors, one for opening and the other for closing.
In this way wear on gears and servomotors can be reduced, ensuring a long life of the component.

Each actuator is equipped with an auxiliary micro-switch, which makes it possible to achieve parallel connections of zone valves and links to control pumps and boilers.

All actuators are AC, available with 24V or 230V voltage

Art.3001 (230V) - Art.3002 (24V):

Electric actuator complete with relay and auxiliary micro-switch.

Art.3005 (230V) - Art.3006 (24V):

Electric actuator with manual release, complete with relay and auxiliary micro-switch.

Art.3007 (230V) - Art.3008 (24V):

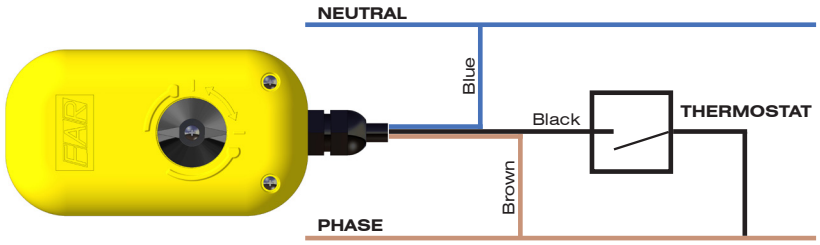
Electric actuator with manual release, complete with relay and auxiliary micro-switch.

The Actuators **Art.3005-3006** and **Art.3007-3008** are equipped with a manual release, which allows manual opening or closing of the zone valve in the event of power failure.

In order to carry out the opening or closing, push the release button for a few seconds and then turn the lever, as shown in the illustration.

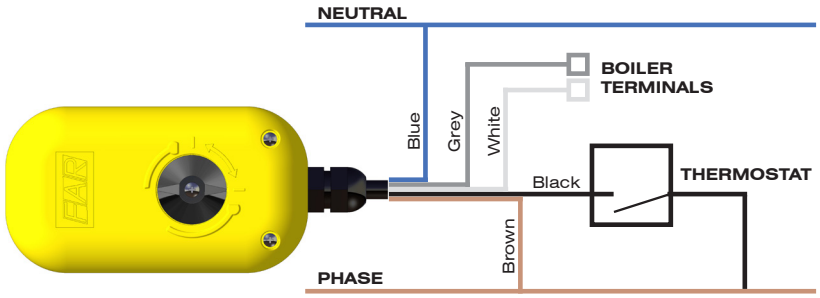
Electrical connections

3-WIRING CONNECTION – room thermostat



The brown wire must be connected directly to phase, the blue to neutral and the black to the thermostat.

5-WIRING CONNECTION – Room thermostat and boiler pump ON/OFF



An inner auxiliary microswitch connected to the grey and white wires (clean contact), independent from the actuator circuit, permits connection in parallel of more than one actuator to control a single device, such as a pump or boiler. To control the starting of the pump, connect the grey and white wires to the 2 terminals provided in the boiler for connection to the thermostat.

For proper operation it is essential that the brown cable is always live

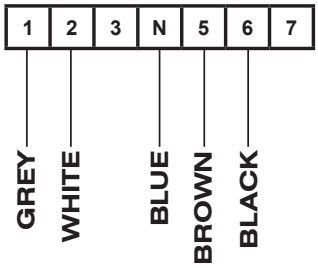
PRESENCE OF PHASE ON BLACK WIRE

- **2-way zone valve:** the flow is shut off
- **Diverter zone valve:** the flow is switched from one side to another
- **Bypass valve:** the flow is linear

ABSENCE OF PHASE ON BLACK WIRE

- **2-way zone valve:** the flow is open
- **Diverter zone valve:** the flow is switched from one side to another
- **Bypass valve:** the flow is diverted in bypass

INTERNAL TERMINAL BOARD



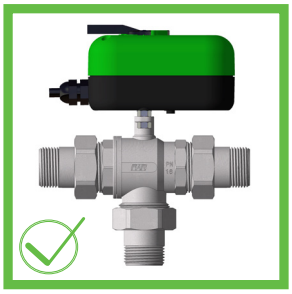
N°	COLOUR	CONNECTION	DESCRIPTION
1	Grey	Microswitch common contact	Connected to the common contact of the microswitch
2	White	N.O. of the microswitch	Connected to the normally open contact of the micro.
3	-	Signal indicator	With open valve presence of phase on terminal
N	Blue	Neutral	Connection to the neutral of system
5	Brown	Phase	Connection to the phase of system
6	Black	Open	With phase on the black the valve is open
		Closed	In absence of phase on the black, the valve is closed
7	-	Signal indicator	With close valve presence of phase on terminal

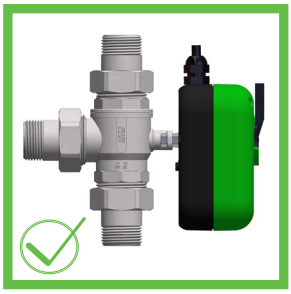
TECHNICAL FEATURES

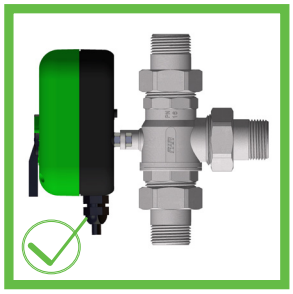
- Connection cable length: 1 m
- Rotation Angle: 90°
- Feed voltage: 50Hz
- Protection level: IP54
- Working temperature range: from -10°C to + 50°C

3 INSTALLATION

Don't install the actuator upside-down, as any dripping due to condensation could cause damages to the electrical part



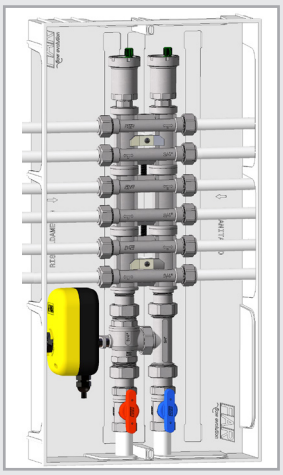




INSTALLATION OVERVIEW

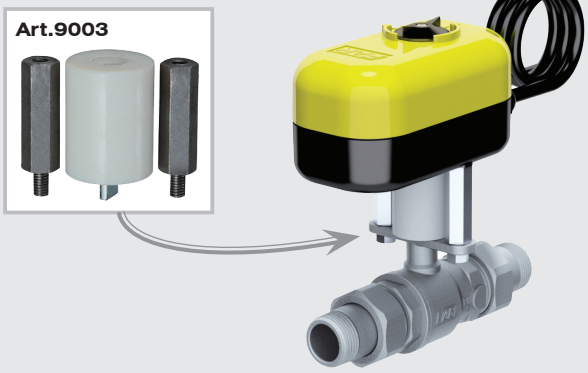
The illustration shows a coplanar manifold with the bypass zone valve **Art.300125**, installed in a heating system.

The motorized valve opens the flow of fluid in response to the signal received from the thermostat.
In case of no need for heating, the valve will re-direct the flow to the return pipeline.



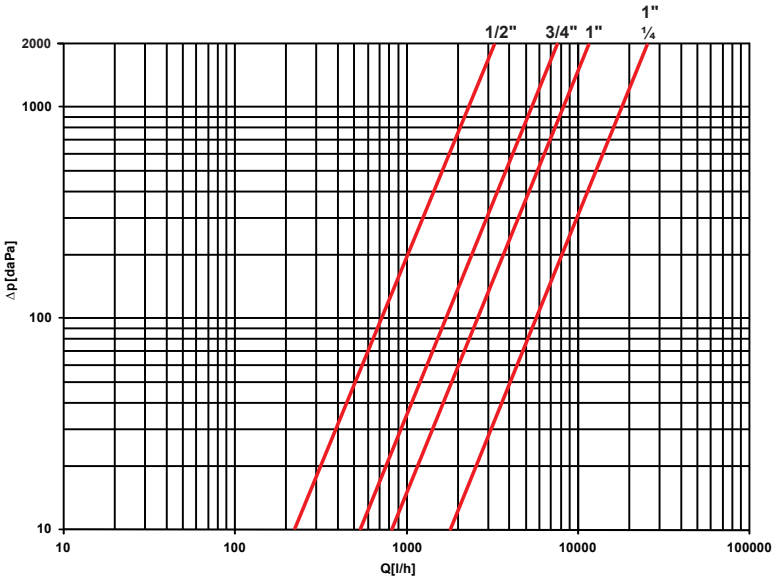
In systems subjected to condensation, it is recommended to install an anti-condensation insulation Art.9003, so as to avoid that any drops could damage the electrical parts.

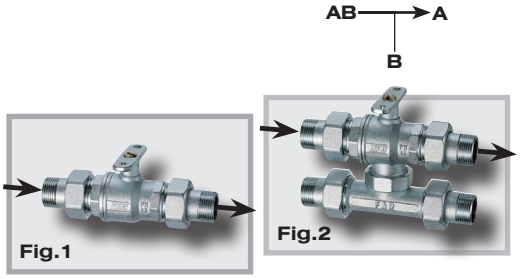
Art.9003



4 FLUID-DYNAMICS FEATURES

2-WAY ZONE VALVES



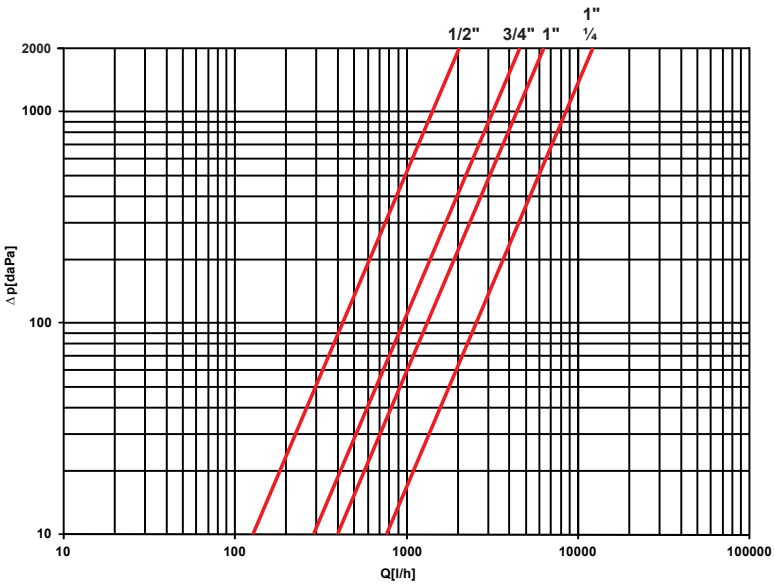


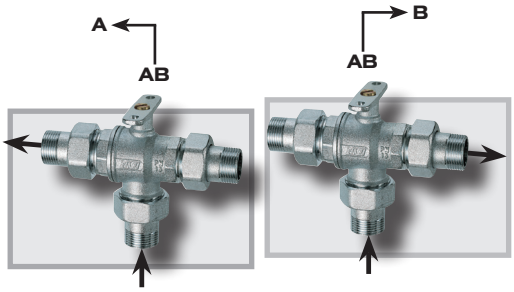
The diagram on the left shows the pressure drops of the 2-way zone valves **Art.3015 - 3016 - 3017: 1/2", 3/4", 1", 1"1/4** (**Fig.1**)

The diagram is valid also for the full bore zone valves **Art.3025 - 3030 - 3031 - 3032: 1/2", 3/4", 1" e 1"1/4** (**Fig.2**).

SIZE	1/2"	3/4"	1"	1" 1/4
Kv [m³/h]	7,1	16,8	25,6	55,2

3-WAY DIVERTER ZONE VALVES

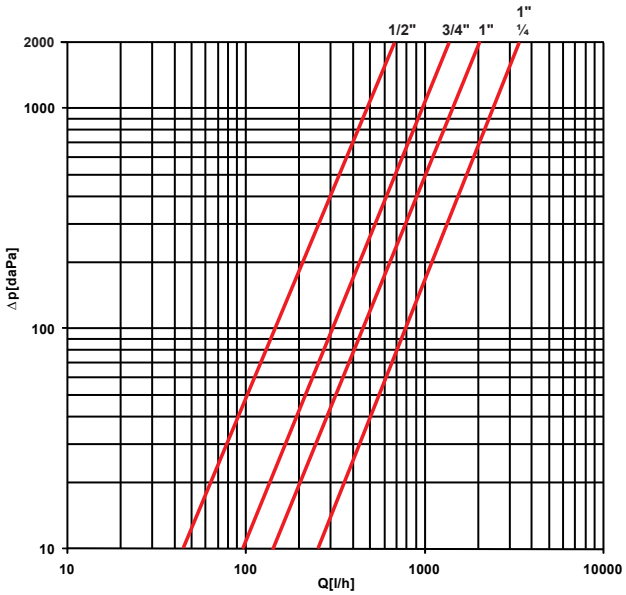


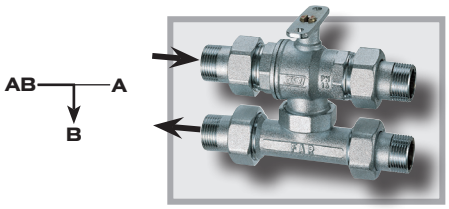


The diagram on the left shows the pressure drops of the 3-way diverter zone valves, with L passage, **Art. 3020 - 3021 - 3022**

SIZE	1/2"	3/4"	1"	1" 1/4
Kv [m³/h]	4,5	9,9	13,7	25,5

BYPASS VALVES





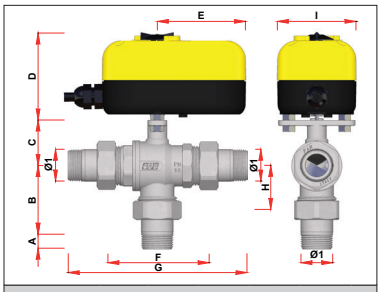
The diagram on the left shows the pressure drops of the bypass zone valves, **Art. 3025 - 3030 - 3031- 3032**

SIZE	1/2"	3/4"	1"	1" 1/4
Kv [m³/h]	1,54	3,23	4,83	7,87

5 TECHNICAL FEATURES

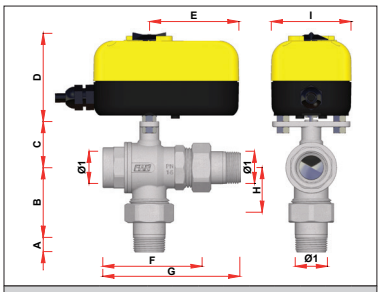
Valve body and ball:	UNI EN 12165:98 CW617N Brass
Sealing gaskets:	Anti-blockage system with OR in EPDM and seats in PTFE
Control stem:	UNI EN 12164:98 CW614N Brass
Nominal working pressure:	16 bar
Differential maximum pressure:	5 bar
Circulating fluid temperature:	-10 °C (with antifreeze) +100 °C
Usable fluids:	water, water with glycol

6 DIMENSIONAL FEATURES



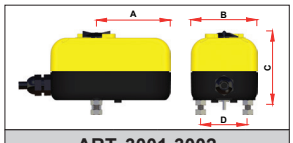
ART. 300120

CODE	Ø1	A	B	C	D	E	F	G	H	I
300120 1240	G1/2	11	48	33	73	74	75	136	28	66
300120 3440	G3/4	13	56	38	73	74	84	150	36	66
300120 140	G1	16	63	42	73	74	94	172	41	66
300120 11440	G1 1/4	18	71	47	73	74	107	190	48	66



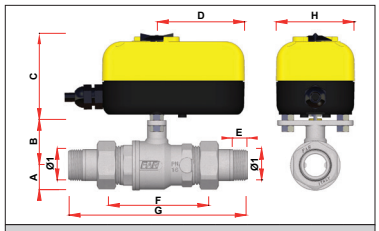
ART. 300122

CODE	Ø1	A	B	C	D	E	F	G	H	I
300122 1240	G1/2	11	48	33	73	74	70	100	28	66
300122 3440	G3/4	13	56	38	73	74	80	114	36	66
300122 140	G1	16	63	42	73	74	92	132	41	66
300122 11440	G1 1/4	18	71	47	73	74	106	148	48	66



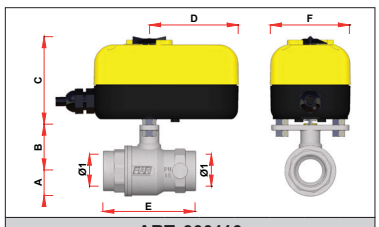
ART. 3001-3002

CODE	A	B	C	D
3001-3002	74	66	73	47



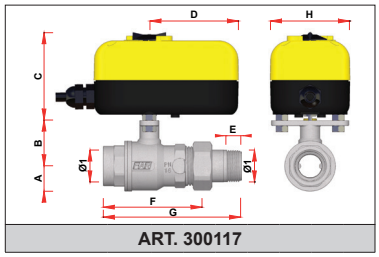
ART. 300115

CODE	Ø1	A	B	C	D	E	F	G
300115 1240	G1/2	16	33	73	74	75	136	66
300115 3440	G3/4	21	38	73	74	84	150	66
300115 140	G1	26	42	73	74	94	171	66
300115 11440	G1 1/4	31	47	73	74	107	190	66



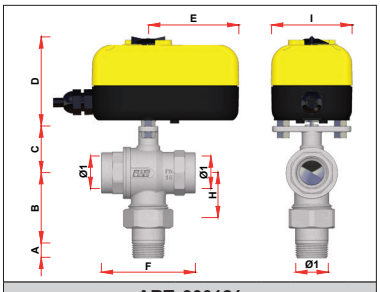
ART. 300116

CODE	Ø1	A	B	C	D	E	F
300116 1240	G1/2	16	33	73	74	64	66
300116 3440	G3/4	21	38	73	74	77	66
300116 140	G1	26	42	73	74	90	66



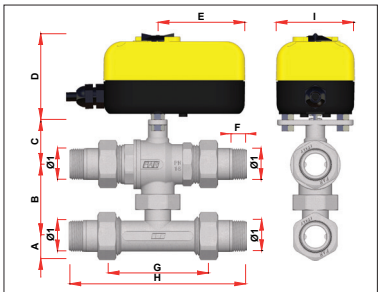
ART. 300117

CODE	Ø1	A	B	C	D	E	F	G
300117 1240	G1/2	16	33	73	74	70	100	66
300117 3440	G3/4	21	38	73	74	81	115	66
300117 140	G1	26	42	73	74	92	131	66
300117 11440	G1 1/4	31	47	73	74	106	148	66



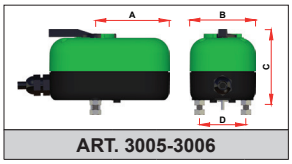
ART. 300121

CODE	Ø1	A	B	C	D	E	F	G	H
300121 1240	G1/2	11	48	33	73	74	64	28	66
300121 3440	G3/4	13	56	38	73	74	77	36	66
300121 140	G1	16	63	42	73	74	90	41	66



ART. 300125

CODE	Ø1	A	B	C	D	E	F	G	H
300125 3440	G3/4	21	52-63	38	73	74	84	150	66
300125 140	G1	26	52-63	42	73	74	94	172	66



ART. 3005-3006

CODE	A	B	C	D
3005-3006	74	66	75	47

For all dimensional specifications, see our the website www.far.eu or the price list in the dimensional sheets chapter.