

TECHNICAL CATALOGUE

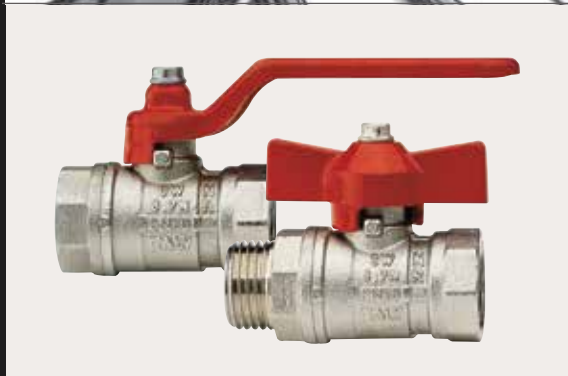
---

BALL VALVES:  
ORIENT®



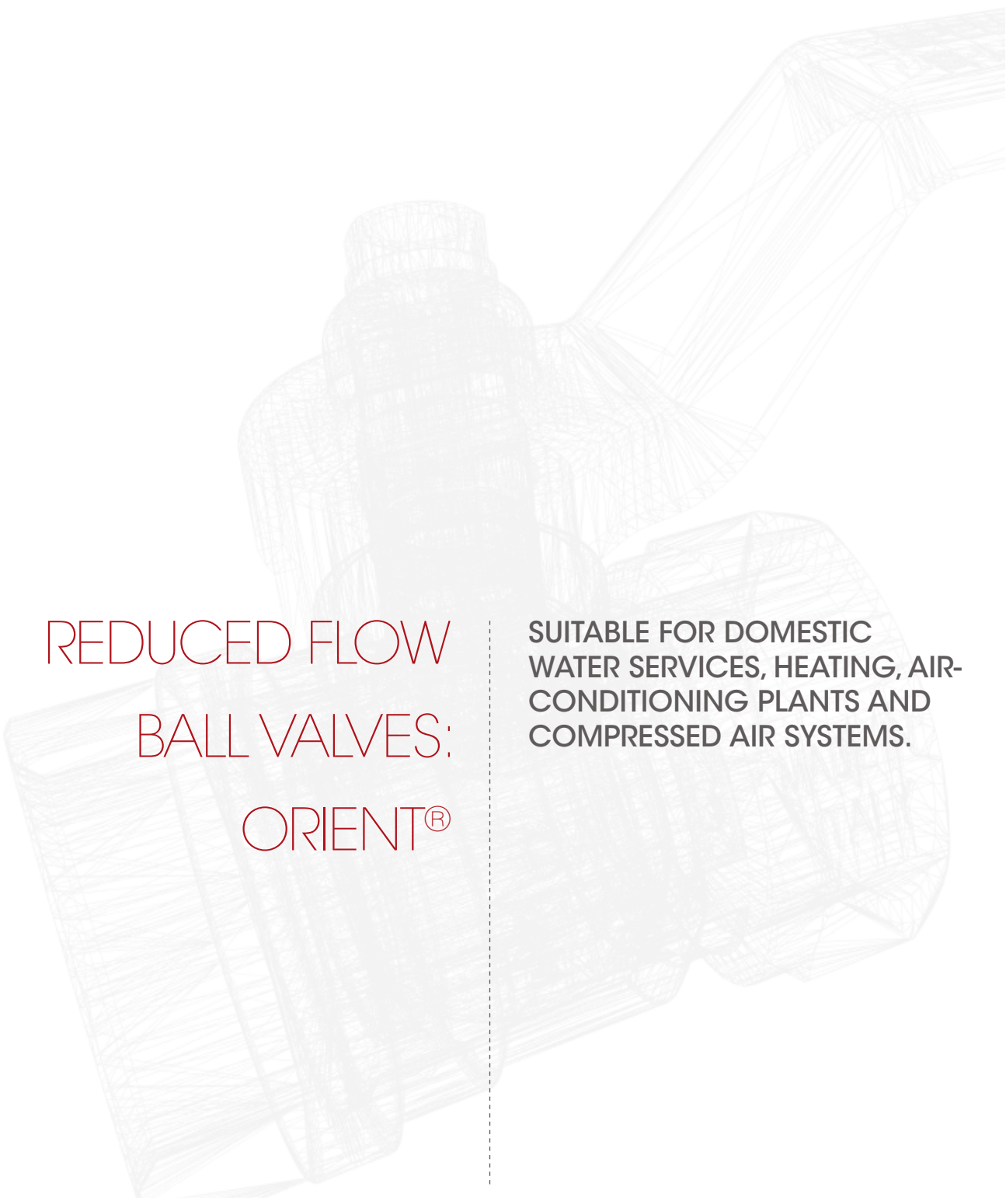


ITAP SpA, founded in Lumezzane (Brescia) in 1972, is currently one of the leading production companies in Italy of valves, fittings and distribution manifolds for plumbing and heating systems. Thanks to fully automated production processes, with 72 tooling machines and 51 assembly lines, we are able to produce 200,000 pieces per day. Our innate pursuit for innovation and observance of technical regulations is supported by the company certification ISO 9001: 2008. The company has always considered its focus on quality as the main tool to obtain significant business results: today ITAP SpA is proud to offer products bearing the approval of numerous international certifying bodies.



REDUCED FLOW BALL VALVES: ORIENT®





REDUCED FLOW  
BALL VALVES:  
ORIENT®

SUITABLE FOR DOMESTIC  
WATER SERVICES, HEATING, AIR-  
CONDITIONING PLANTS AND  
COMPRESSED AIR SYSTEMS.

# 111

## ORIENT® BALL VALVE, REDUCED FLOW



SIZE	PRESSURE	CODE	PACKING
1/4" (DN 8)	50bar/725psi	0900014/N	12/192
3/8" (DN 10)	50bar/725psi	0900038/N	12/192
1/2" (DN 15)	50bar/725psi	1110012	12/132
3/4" (DN 20)	40bar/435psi	1110034	10/100
1" (DN 25)	40bar/435psi	1110100	8/64
1 1/4" (DN 32)	30bar/435psi	1110114	4/52
1 1/2" (DN 40)	30bar/435psi	1110112	4/32
2" (DN 50)	25bar/362,5psi	1110200	2/24
2 1/2" (DN 40)	18bar/261psi	1110212	1/9
3" (DN 50)	14bar/203psi	1110300	1/5
4" (DN 50)	12bar/174psi	1110400	1/4

## TECHNICAL SPECIFICATIONS

Female/female threads.

Lever handle in steel (Alluminium in the size 2 1/2", 3" and 4").

Body in nickel-plated brass.

Minimum and maximum working temperatures:

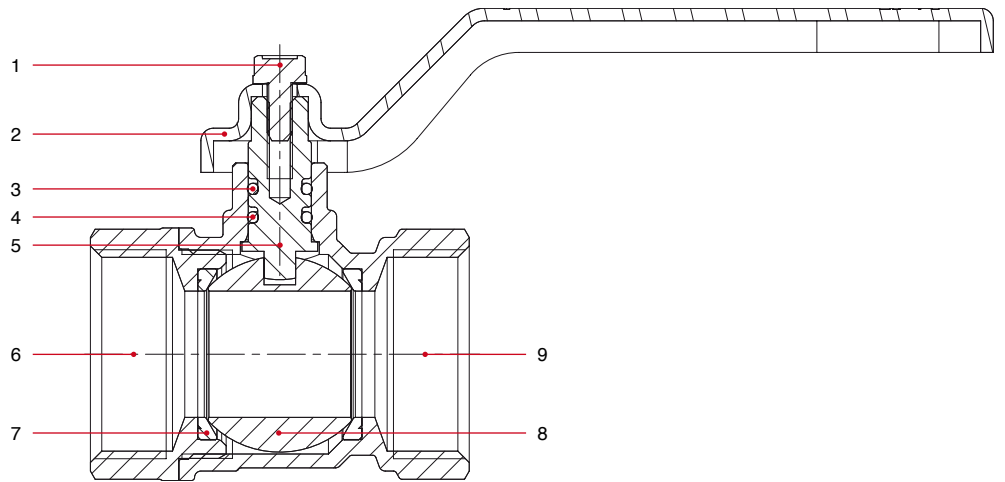
-20°C, 150°C in absence of steam.

Threads ISO228

(equivalent to DIN EN ISO 228 and BS EN ISO 228).

Available also with NPT thread in the sizes 2 1/2", 3" and 4".

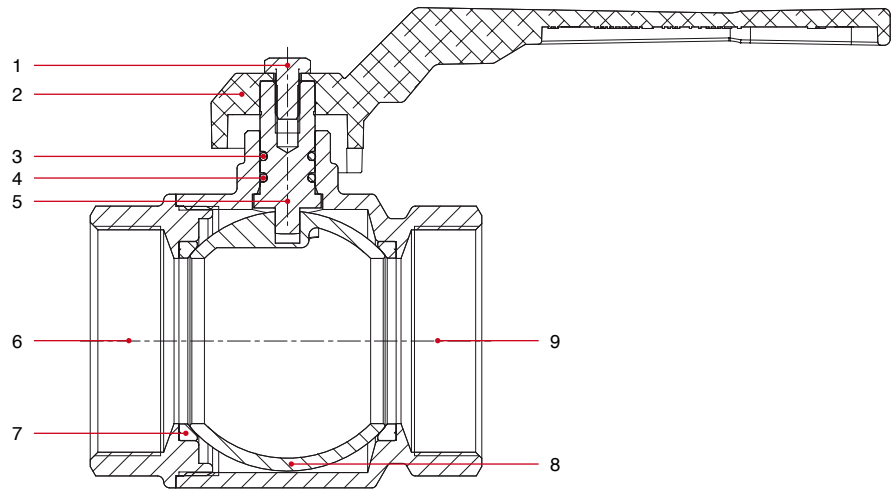
## MATERIALS



POS.	DESCRIPTION	N.	MATERIAL
1	Screw	1	Zinc-plated steel Fe CB4
2	Lever handle	1	Zinc-plated and varnished steel Fe.P04
3	O-Ring	1	VITON®
4	O-Ring	1	NBR
5	Stem	1	Brass CW614N
6	End adapter	1	Nickel-plated brass CW617N
7	Seat	2	P.T.F.E.
8	Ball	1	Chrome-plated brass CW617N
9	Body	1	Nickel-plated brass CW617N

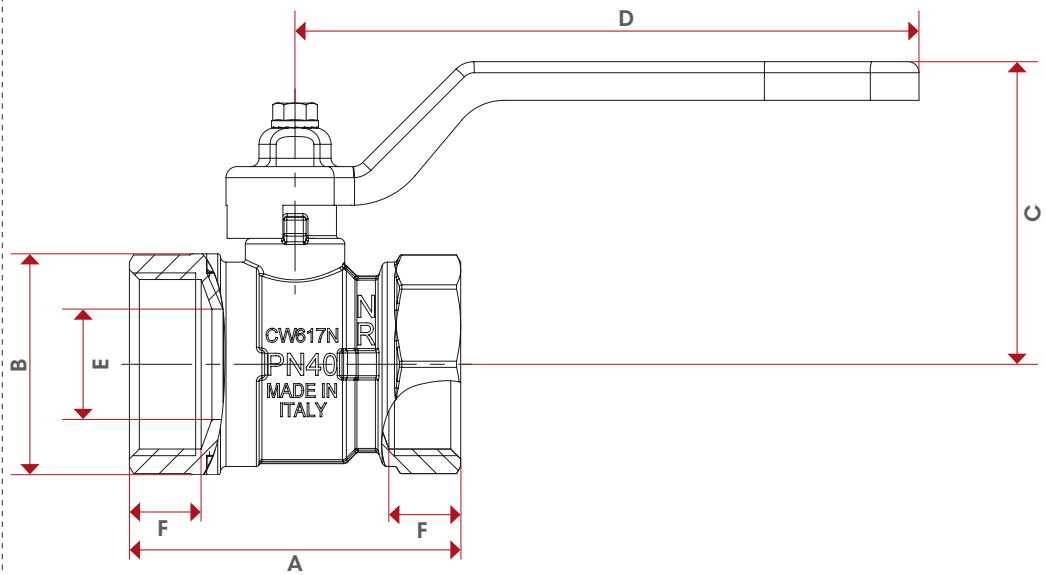


MATERIALS  
2"1/2, 3", 4"



POS.	DESCRIPTION	N.	MATERIAL
1	Screw	1	Zinc-plated steel Fe CB4
2	Lever handle	1	Varnished aluminium
3	O-Ring	1	VITON®
4	O-Ring	1	NBR
5	Stem	1	Brass CW614N
6	End adapter	1	Nickel-plated brass CW617N
7	Seat	2	P.T.F.E.
8	Ball	1	Chrome-plated brass CW617N
9	Body	1	Nickel-plated brass CW617N

OVERALL  
DIMENSIONS



	1/4"	3/8"	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2	3"	4"
DN	8	10	15	20	25	32	40	50	65	80	100
A	44,4	44,4	48	53,5	60	72	80	97	128	148	169
B	23,5	24	27	34	40	50	59	72	96	119	138
C	37,3	37,3	39,3	48,8	54,8	58,8	74,8	80,8	108,7	126,7	135,7
D	80	80	80	88,5	113	113	138	138	197	250	250
E	10	10	12	15	20	25	32	40	54	65	80
F	10	10	11	12	13	14,5	15	18	23	24	25
Kg/cm² bar	50	50	50	40	40	30	30	25	18	14	12
LBS - psi	725	725	725	580	580	435	435	362,5	261	203	174

CERTIFICATIONS



# 112

ORIENT®  
BALL VALVE,  
REDUCED FLOW

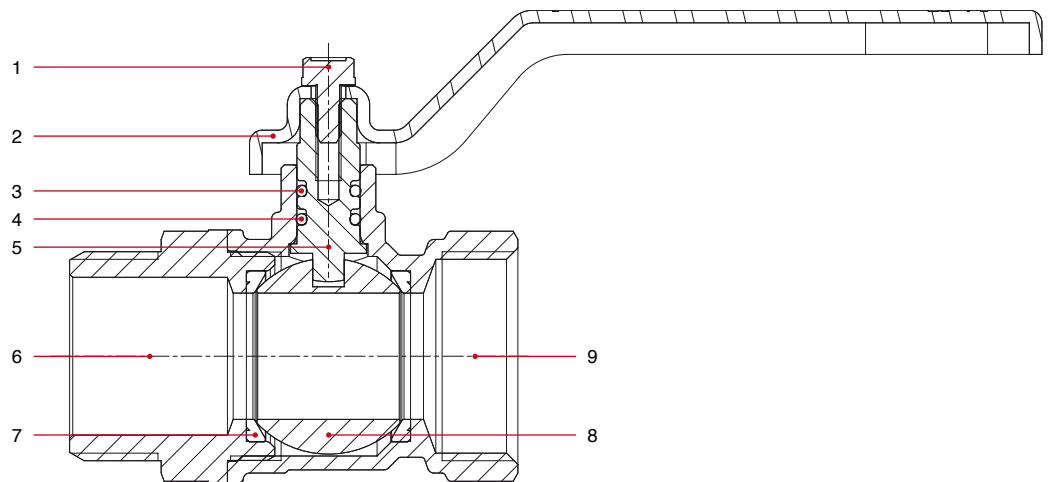


SIZE	PRESSURE	CODE	PACKING
1/4" (DN 8)	50bar/725psi	0910014/N	12/192
3/8" (DN 10)	50bar/725psi	0910038/N	12/192
1/2" (DN 15)	50bar/725psi	1120012	10/160
3/4" (DN 20)	40bar/435psi	1120034	8/104
1" (DN 25)	40bar/435psi	1120100	4/64

## VOCI DI CAPITOLATO

Male/female threads.  
Lever handle in steel.  
Body in nickel-plated brass.  
Minimum and maximum working temperatures:  
-20°C, 150°C in absence of steam.  
Threads ISO228  
(equivalent to DIN EN ISO 228 and BS EN ISO 228).

## MATERIALS



POS.	DESCRIPTION	N.	MATERIAL
1	Screw	1	Zinc-plated steel Fe CB4
2	Lever handle	1	Zinc-plated and varnished steel Fe.P04
3	O-Ring	1	VITON®
4	O-Ring	1	NBR
5	Stem	1	Brass CW614N
6	End adapter	1	Nickel-plated brass CW617N
7	Seat	2	P.T.F.E.
8	Ball	1	Chrome-plated brass CW617N
9	Body	1	Nickel-plated brass CW617N







# 113

ORIENT®  
BALL VALVE,  
REDUCED FLOW

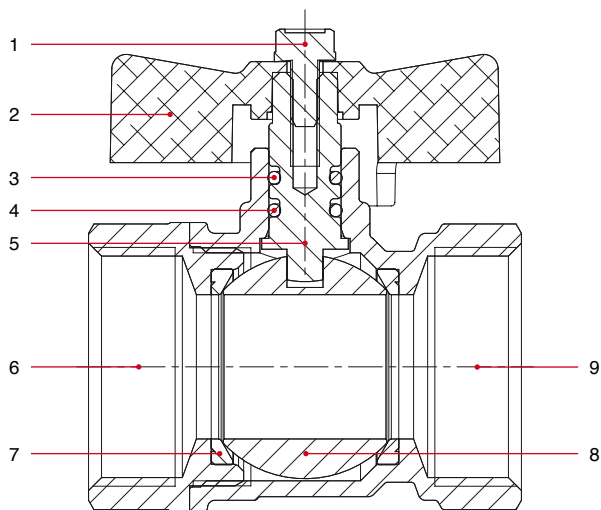


SIZE	PRESSURE	CODE	PACKING
1/4" (DN 8)	50bar/725psi	0920014/N	15/240
3/8" (DN 10)	50bar/725psi	0920038/N	15/240
1/2" (DN 15)	50bar/725psi	1130012	12/192
3/4" (DN 20)	40bar/435psi	1130034	8/128
1" (DN 25)	40bar/435psi	1130100	6/96

VOCI DI  
CAPITOLATO

Female/female threads.  
T handle in aluminium.  
Body in nickel-plated brass.  
Minimum and maximum working temperatures:  
-20°C, 150°C in absence of steam.  
Threads ISO228  
(equivalent to DIN EN ISO 228 and BS EN ISO 228).

MATERIALS



POS.	DESCRIPTION	N.	MATERIAL
1	Screw	1	Zinc-plated steel Fe CB4
2	T handle	1	Varnished aluminium
3	O-Ring	1	VITON®
4	O-Ring	1	NBR
5	Stem	1	Brass CW614N
6	End adapter	1	Nickel-plated brass CW617N
7	Seat	2	P.T.F.E.
8	Ball	1	Chrome-plated brass CW617N
9	Body	1	Nickel-plated brass CW617N





# 114

ORIENT®  
BALL VALVE,  
REDUCED FLOW

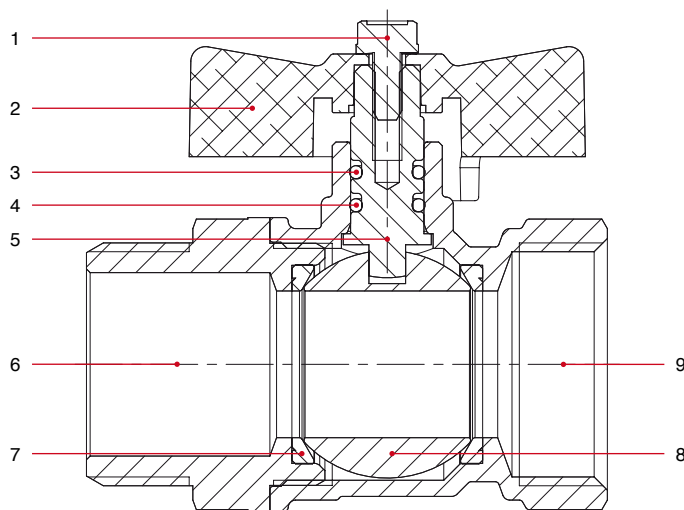


SIZE	PRESSURE	CODE	PACKING
1/4" (DN 8)	50bar/725psi	0930014/N	15/165
3/8" (DN 10)	50bar/725psi	0930038/N	15/165
1/2" (DN 15)	50bar/725psi	1140012	12/132
3/4" (DN 20)	40bar/435psi	1140034	8/88
1" (DN 25)	40bar/435psi	1140100	5/80

## VOCI DI CAPITOLATO

Male/female threads.  
T handle in aluminium.  
Body in nickel-plated brass.  
Minimum and maximum working temperatures:  
-20°C, 150°C in absence of steam.  
Threads ISO228  
(equivalent to DIN EN ISO 228 and BS EN ISO 228).

## MATERIALS



POS.	DESCRIPTION	N.	MATERIAL
1	Screw	1	Zinc-plated steel Fe CB4
2	T handle	1	Varnished aluminium
3	O-Ring	1	VITON®
4	O-Ring	1	NBR
5	Stem	1	Brass CW614N
6	End adapter	1	Nickel-plated brass CW617N
7	Seat	2	P.T.F.E.
8	Ball	1	Chrome-plated brass CW617N
9	Body	1	Nickel-plated brass CW617N





# 211

ORIENT®  
BALL VALVE,  
REDUCED FLOW

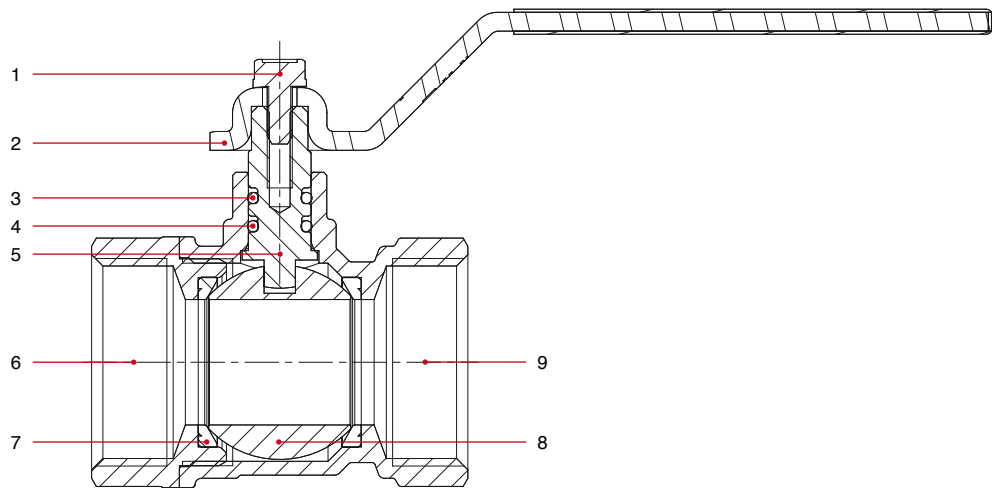


SIZE	PRESSURE	CODE	PACKING
1/2" (DN 15)	50bar/725psi	2110012	12/156
3/4" (DN 20)	40bar/435psi	2110034	10/100
1" (DN 25)	40bar/435psi	2110100	8/64
1"1/4 (DN 32)	30bar/435psi	2110114	4/52
1"1/2 (DN 40)	30bar/435psi	2110112	4/32
2" (DN 50)	25bar/362,5psi	2110200	2/24

## VOCI DI CAPITOLATO

Female/female threads.  
Flat lever handle in lined steel.  
Body in nickel-plated brass.  
Minimum and maximum working temperatures:  
-20°C, 150°C in absence of steam.  
Threads ISO228  
(equivalent to DIN EN ISO 228 and BS EN ISO 228).

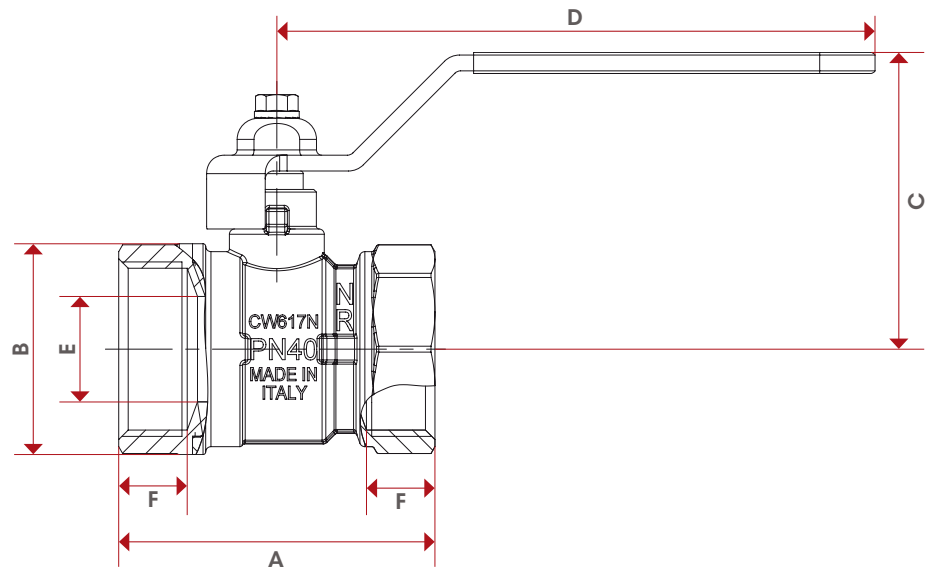
## MATERIALS



POS.	DESCRIPTION	N.	MATERIAL
1	Screw	1	Zinc-plated steel Fe CB4
2	Flat lever handle	1	Zinc-plated and plastic coated steel Fe.P04
3	O-Ring	1	VITON®
4	O-Ring	1	NBR
5	Stem	1	Brass CW614N
6	End adapter	1	Nickel-plated brass CW617N
7	Seat	2	P.T.F.E.
8	Ball	1	Chrome-plated brass CW617N
9	Body	1	Nickel-plated brass CW617N



## OVERALL DIMENSIONS



	1/2"	3/4"	1"	1"1/4	1"1/2	2"
DN	15	20	25	32	40	50
A	48	53,5	60	72	80	97
B	27	34	40	50	59	72
C	43,8	50,3	56,3	60,3	75,8	81,8
D	85,5	92,5	113,5	113,5	138	138
E	12	15	20	25	32	40
F	11	12	13	14,5	15	18
Kg/cm <sup>2</sup> bar	50	40	40	30	30	25
LBS - psi	725	580	580	435	435	362,5

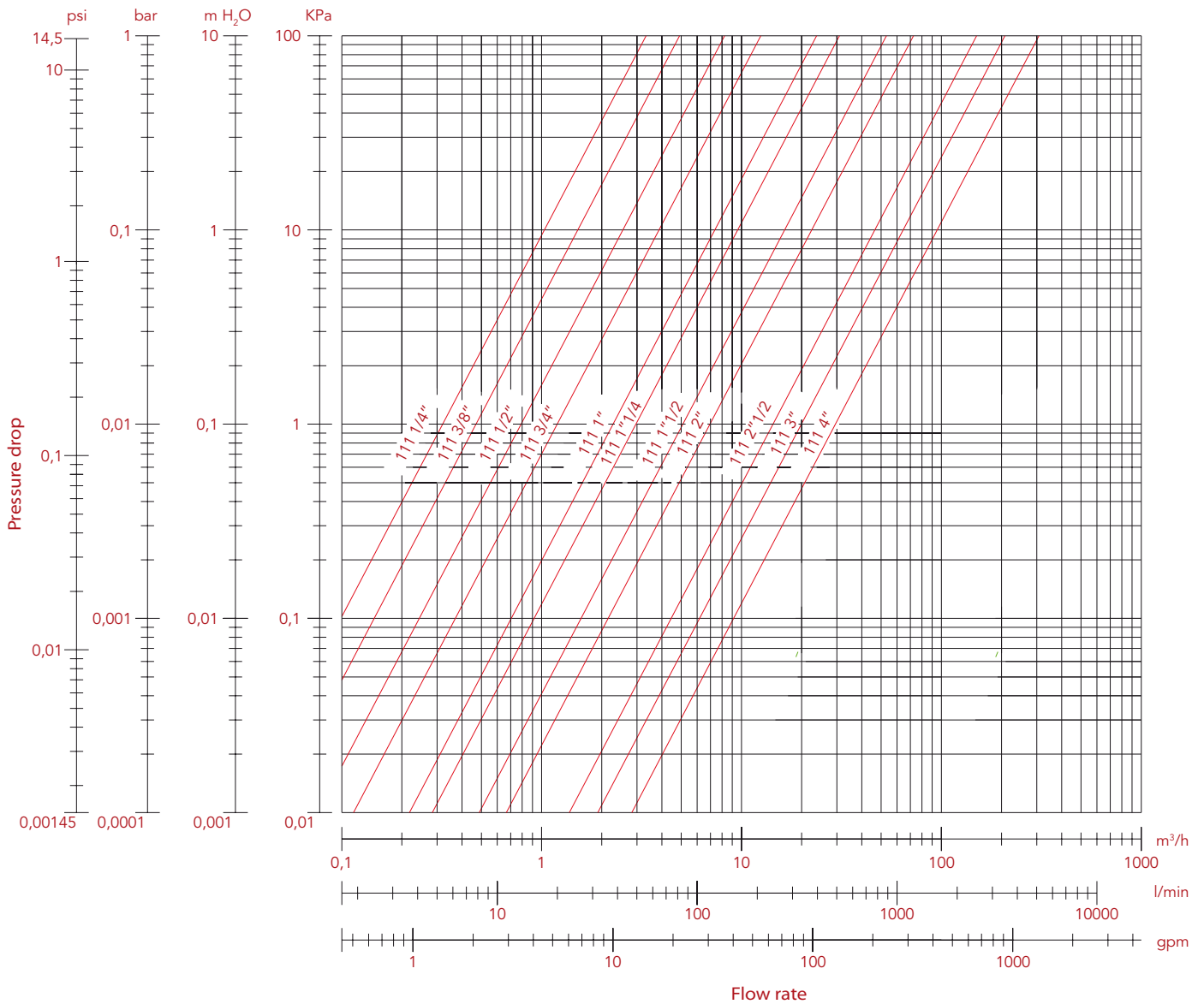
## CERTIFICATIONS



# FLOW RATE AND PRESSURE DROP CHART

## WITH WATER

Art: 111 - 112 - 113 - 114 - 211



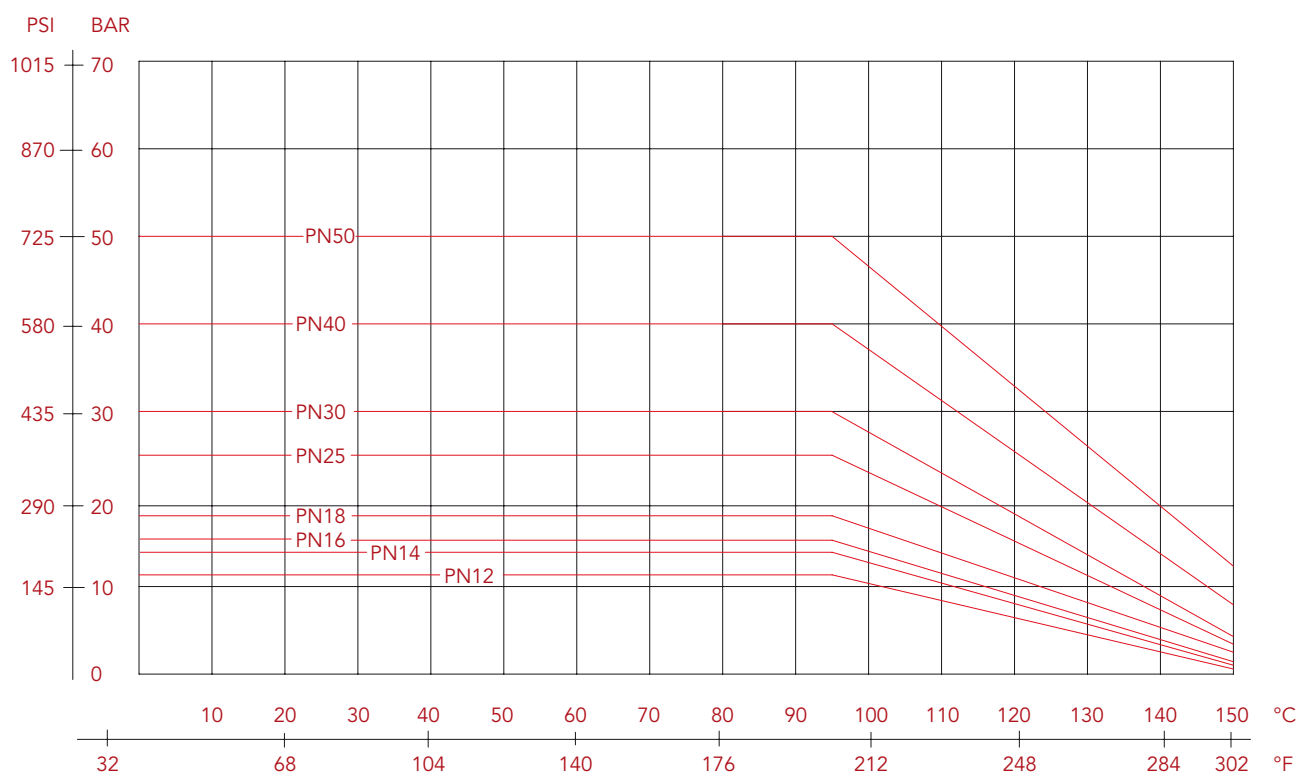
SIZE	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
Ø	10	10	12	15	20	25	32	40	54	65	80
Kv	3,33	4,92	8,14	12,26	23,45	30,34	52	72	150	208	308





# PRESSURE-TEMPERATURE DIAGRAM

## BALL VALVES



The values shown by the dropping lines state the maximum limit of employment of the valves.  
The shown valves are approximate.

## MANUFACTURER INSTRUCTIONS

### Installation

The itap S.p.A's valves are bi-directional, that means they manage the flow in both the directions. The valves are composed by a ball, two seal in PTFE material, one stem, two sailing rings (O-Rings), one handle and a couple of parts made of brass (body and end adopter) that contain them and that are assembled by means of threat and a sealed material to obtain their aim. To avoid that the sealing material gets brake and than the valve gets lose the connection between body and the end adopter, it's necessary to avoid to submit the two parts under the influence of a torque.

For their installation ones have to use the normal hydraulic practices, and in particular:

- Ones have to be sure that the two pipes are correctly aligned,
- during the assembling ones have to apply the assembling tool at the end that is nearest to the pipe,
- the application of the sealing materials by the fitter (PTFE or hempen cloth) must be limited at the threat zone. An excess should interferes in the ball-gasket's closure zone, compromising the tightness.
- In the case that the fluid transported presents some impurities (dust, water too hard, etc.) ones have to remove these impurities by the means of a filter. Otherwise they could damage the seals.

### Disassembly the installed valve

To remove the valve from the pipe line or anyhow before to unscrew the junctions linked to it:

- wear the clothing protective normally required to work with the fluid transported within the line.
- Depressurize the line and operate in this way:
  - positioning the valve in opened position and than empty the line
  - handle the valve to put down the residue pressure contained inside the space between the ball and the body before of remove it from the line,
  - during the disassembly apply the screw tool at the end of the valve nearest the pipe

### Maintenance

Verify the valves periodically, in function oh their application's field and in function of their work conditions, to be sure that the valves work correctly.





# NOTES

Area with horizontal dashed lines for taking notes.



ITAP S.p.A.  
Via Ruca 19  
25065 Lumezzane  
Brescia (ITALIA)  
Tel 030 89270  
Fax 030 8921990  
[www.itap.it](http://www.itap.it) - [info@itap.it](mailto:info@itap.it)