

EN	DATASHEET				rev. F
ST00002					
005	006	007	008	020	
005K				020K	
005KV	006KV	007KV	008KV	020KV	

UNIVERSAL CHECK VALVES



Description

Barberi® check valves are monodirectional devices, allowing the backflow prevention of fluid under pressure. They are normally used in domestic water installations, booster pump systems, heating systems, central heating systems, heat generators (wall-mounted boilers, solid fuel generators, heat pumps), thermal solar systems, generic industrial and agricultural water systems. Sealing is permitted through forces exerted by a spring and by the fluid pressure against a gasket which guarantees the seal even at very low back pressures. Moreover, the force of the spring allows the valve to have a universal characteristics concerning the installation position. For special applications where high pressure resistance is requested, the same category of valves with metal obturator can be considered (005K, 020K). For applications where high temperatures are requested, the same valves with metal obturator and Viton gasket can be considered (005KV, 006KV, 007KV, 008KV, 020KV).

Range of products

- Series 005** Universal check valve FF with acetal copolymer (POM) obturator
- Series 006** Universal check valve FM with acetal copolymer (POM) obturator
- Series 007** Universal check valve MF with acetal copolymer (POM) obturator
- Series 008** Universal check valve MM with acetal copolymer (POM) obturator
- Series 020** Universal check valve FF with acetal copolymer (POM) obturator for high pressure
- Series 005K** Universal check valve FF with brass obturator

- Series 020K** Universal check valve FF with brass obturator for high pressure
- Series 005KV** Universal check valve FF with brass obturator and Viton gasket
- Series 006KV** Universal check valve FM with brass obturator and Viton gasket
- Series 007KV** Universal check valve MF with brass obturator and Viton gasket
- Series 008KV** Universal check valve MM with brass obturator and Viton gasket
- Series 020KV** Universal check valve FF with brass obturator and Viton gasket for high pressure

Features 005 - 006 - 007 - 008 - 020

Working temperature range (peaks):
-20 (see suitable fluids)–110 °C

Working temperature range: **0 (no frost)–95 °C**

Opening pressure: **0,02 bar**

Max working pressure:

- 005, 006, 007, 008: from G 1/4 to G 1 **16 bar**
 from G 1 1/4 to G 2 **10 bar**
 from G 2 1/2 to G 4 **8 bar**
- 020: from G 3/8 to G 1 **25 bar**
 from G 1 1/4 a G 2 **18 bar**

Suitable fluids: **water for thermal systems, glycol solutions (max 30%), domestic water**

Connections: **threaded connections ISO 228-1**

Tests: **EN 12266-1 §A.3**

On request: versions with galvanic treatment

Features 005K - 020K

Working temperature range (peaks):
-20 (see suitable fluids)–110 °C

Working temperature range: **0 °C (no frost)–95 °C**

Opening pressure: **0,02 bar**

Max working pressure:

- 005K: from G 1/4 to G 1 **35 bar**
 from G 1 1/4 to G 2 **25 bar**
 from G 2 1/2 to G 4 **12 bar**
- 020K: from G 3/8 to G 1 **50 bar**
 from G 1 1/4 to G 2 **35 bar**

Suitable fluids: **water for thermal systems, glycol solutions (max 30%), domestic water**

Connections: **threaded connections ISO 228-1**

Tests: **EN 12266-1 §A.3**

On request: versions with galvanic treatment

Features • 005KV - 006KV - 007KV - 008KV - 020KV

Working temperature range (peaks):
 -20 (see suitable fluids)–175 °C

Working temperature range: 0 (no frost)–150 °C

Opening pressure: **0,02 bar**

Max working pressure:

- 005KV, 006KV, 007KV, 008KV:
 - from G 3/8 to G 1 **35 bar**
 - from G 1 1/4 to G 2 **25 bar**
 - from G 2 1/2 to G 4 **12 bar**
- 020KV:
 - from G 3/8 to G 1 **50 bar**
 - from G 1 1/4 to G 2 **35 bar**

Suitable fluids: **water for thermal systems, glycol solutions (max 50%)**

Connections: **threaded connections ISO 228-1**

Tests: **EN 12266-1 §A.3**

On request: versions with galvanic treatment

Approvals

- 005, 006, 007, 008, 020: **in accordance to D.M. 174 ACS approval**

- 005K, 020K: **ACS approval**



Materials • 005 - 006 - 007 - 008 - 020

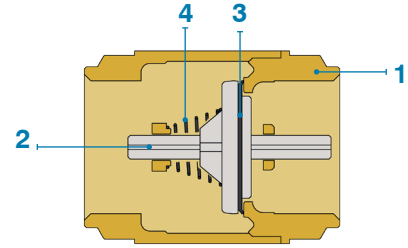
- 1 - Body: **brass EN 12165 CW617N**
- 2 - Obturator: **POM**
- 3 - Gasket: **NBR**
- 4 - Spring: **stainless steel AISI 302**

Materials • 005K - 020K

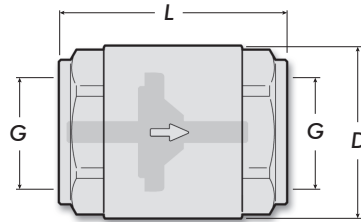
- 1 - Body: **brass EN 12165 CW617N**
- 2 - Obturator: **brass EN 12165 CW614N (G 1/4–G 1/2) brass EN 12165 CW617N(G 3/4–G 4)**
- 3 - Gasket: **NBR**
- 4 - Spring: **stainless steel AISI 302**

Materials • 005KV - 006KV - 007KV - 008KV - 020KV

- 1 - Body: **brass EN 12165 CW617N**
- 2 - Obturator: **brass EN 12165 CW614N (G 1/4–G 1/2) brass EN 12165 CW617N(G 3/–G 4)**
- 3 - Gasket: **Viton**
- 4 - Spring: **stainless steel AISI 302**



Dimensions



**005
005K
005KV**

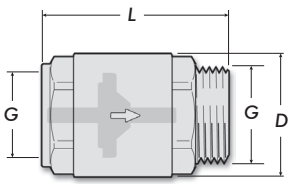
Code	P [bar]	G	D	L	Weight [g]	N. P/B	N. P/C
005008000	16	G 1/4	29	45	105	30	240
005010000	16	G 3/8	29	45	90	30	240
005015000	16	G 1/2	30	48	102	30	240
005020000	16	G 3/4	37	53	155	18	144
005025000	16	G 1	44	59	225	14	84
005032000	10	G 1 1/4	56	66	350	12	72
005040000	10	G 1 1/2	63	71	470	10	40
005050000	10	G 2	78	80	710	6	36
005065000	8	G 2 1/2	104	93	1260	-	15
005080000	8	G 3	121	104	1810	-	12
005100000	8	G 4	156	119	3100	-	5

Code	P [bar]	G	D	L	Weight [g]	N. P/B	N. P/C
005008000K	35	G 1/4	29	45	110	30	240
005010000K	35	G 3/8	29	45	94	30	240
005015000K	35	G 1/2	30	48	114	30	240
005020000K	35	G 3/4	37	53	177	18	144
005025000K	35	G 1	44	59	266	14	84
005032000K	25	G 1 1/4	56	66	392	12	72
005040000K	25	G 1 1/2	63	71	510	10	40
005050000K	25	G 2	78	80	834	6	36
005065000K	12	G 2 1/2	104	93	1534	-	15
005080000K	12	G 3	121	104	2148	-	12
005100000K	12	G 4	156	119	3756	-	5

Code	P [bar]	G	D	L	Weight [g]	N. P/B	N. P/C
005008000KV	35	G 1/4	29	45	110	30	240
005010000KV	35	G 3/8	29	45	94	30	240
005015000KV	35	G 1/2	30	48	114	30	240
005020000KV	35	G 3/4	37	53	177	18	144
005025000KV	35	G 1	44	59	266	14	84
005032000KV	25	G 1 1/4	56	66	392	12	72
005040000KV	25	G 1 1/2	63	71	510	10	40
005050000KV	25	G 2	78	80	834	6	36
005065000KV	12	G 2 1/2	104	93	1534	-	15
005080000KV	12	G 3	121	104	2148	-	12
005100000KV	12	G 4	156	119	3756	-	5

N. P/B: number of pieces in box - N. P/C: number of pieces in carton

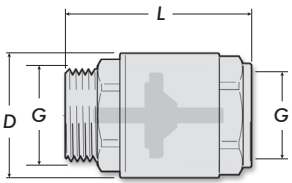
Dimensions



006
006KV

Code	P [bar]	G	D	L	Weight [g]	N. P/B	N. P/C
006010000	16	G 3/8	29	52	98	30	240
006015000	16	G 1/2	30	53	108	25	200
006020000	16	G 3/4	37	58	166	16	128
006025000	16	G 1	44	65	260	10	80
006032000	10	G 1 1/4	56	73	448	6	48

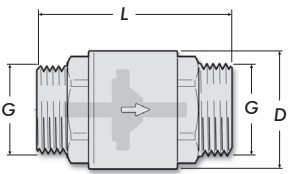
Code	P [bar]	G	D	L	Weight [g]	N. P/B	N. P/C
006010000 KV	35	G 3/8	29	52	102	30	240
006015000 KV	35	G 1/2	30	53	120	25	200
006020000 KV	35	G 3/4	37	58	188	16	128
006025000 KV	35	G 1	44	65	301	10	80
006032000 KV	25	G 1 1/4	56	73	490	6	48



007
007KV

Code	P [bar]	G	D	L	Weight [g]	N. P/B	N. P/C
007010000	16	G 3/8	29	52	94	30	240
007015000	16	G 1/2	30	54	124	20	160
007020000	16	G 3/4	37	60	190	16	128
007025000	16	G 1	44	67	274	10	80
007032000	10	G 1 1/4	56	77	448	6	48

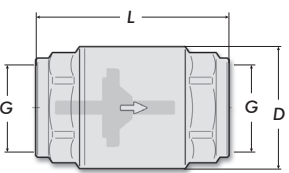
Code	P [bar]	G	D	L	Weight [g]	N. P/B	N. P/C
007010000 KV	35	G 3/8	29	52	98	30	240
007015000 KV	35	G 1/2	30	54	134	20	160
007020000 KV	35	G 3/4	37	60	212	16	128
007025000 KV	35	G 1	44	67	315	10	80
007032000 KV	25	G 1 1/4	56	77	490	6	48



008
008KV

Code	P [bar]	G	D	L	Weight [g]	N. P/B	N. P/C
008010000	16	G 3/8	29	58	104	30	240
008015000	16	G 1/2	30	59	122	25	200
008020000	16	G 3/4	37	64	180	16	128
008025000	16	G 1	44	73	290	10	80
008032000	10	G 1 1/4	56	82	498	8	48

Code	P [bar]	G	D	L	Weight [g]	N. P/B	N. P/C
008015000 KV	35	G 1/2	30	59	134	25	200
008020000 KV	35	G 3/4	37	64	202	16	128
008025000 KV	35	G 1	44	73	331	10	80
008032000 KV	25	G 1 1/4	56	82	540	8	48



020
020K
020KV

Code	P [bar]	G	D	L	Weight [g]	N. P/B	N. P/C
020010000	25	G 3/8	29	52	115	24	192
020015000	25	G 1/2	32	58	150	20	160
020020000	25	G 3/4	39	65	226	12	96
020025000	25	G 1	47	75	330	8	64
020032000	18	G 1 1/4	60	80	545	8	48
020040000	18	G 1 1/2	67	85	685	6	36
020050000	18	G 2	83	94	1025	5	20

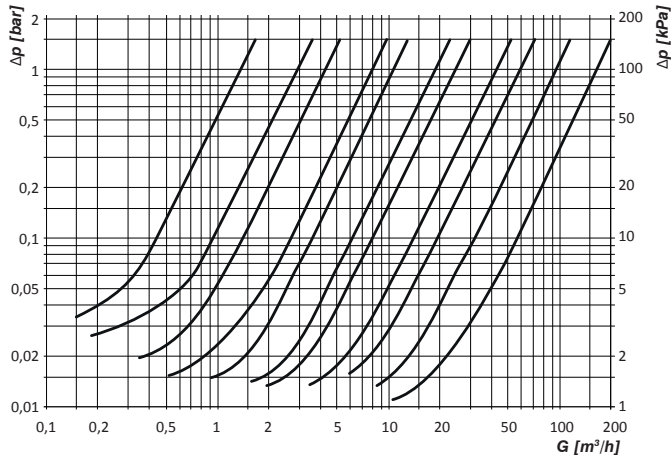
Code	P [bar]	G	D	L	Weight [g]	N. P/B	N. P/C
020010000K	50	G 3/8	29	52	119	24	192
020015000K	50	G 1/2	32	58	162	20	160
020020000K	50	G 3/4	39	65	250	12	96
020025000K	50	G 1	47	75	362	8	64
020032000K	35	G 1 1/4	60	80	594	8	48
020040000K	35	G 1 1/2	67	85	708	6	36
020050000K	35	G 2	83	94	1149	5	20

Code	P [bar]	G	D	L	Weight [g]	N. P/B	N. P/C
020010000KV	50	G 3/8	29	52	119	24	192
020015000KV	50	G 1/2	32	58	162	20	160
020020000KV	50	G 3/4	39	65	250	12	96
020025000KV	50	G 1	47	75	362	8	64
020032000KV	35	G 1 1/4	60	80	594	8	48
020040000KV	35	G 1 1/2	67	85	708	6	36
020050000KV	35	G 2	83	94	1149	5	20

N. P/B: number of pieces in box - N. P/C: number of pieces in carton

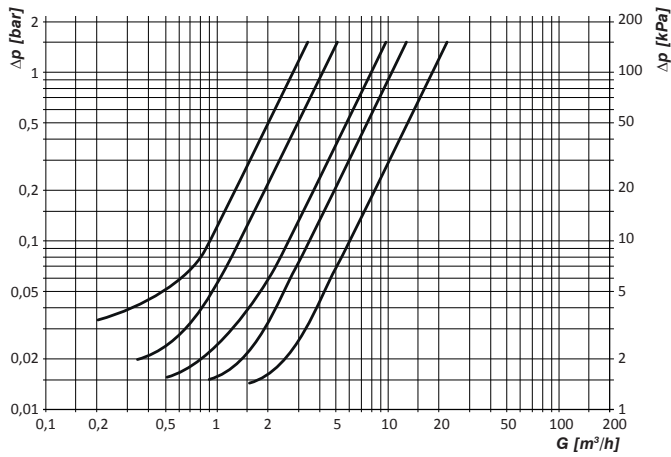
Diagrams

005
005K
005KV



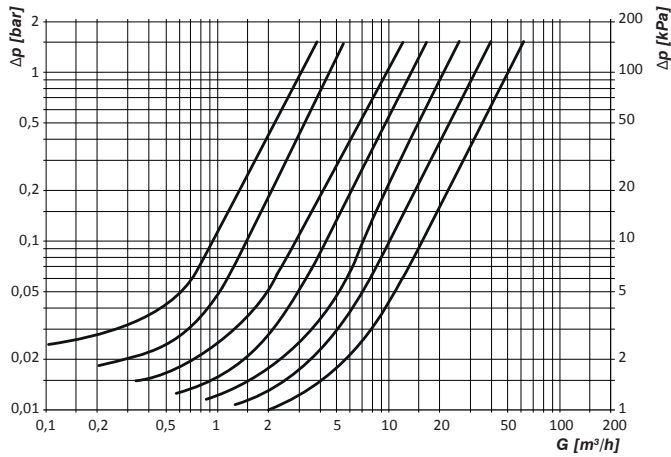
Size	G [m³/h] with Δp=1 bar	G [m³/h] with Δp=1,5 bar
G 1/4	1,3	1,65
G 3/8	2,7	3,6
G 1/2	4	5,2
G 3/4	8	9,6
G 1	10,3	12
G 1 1/4	18	22,5
G 1 1/2	24	30
G 2	40	52
G 2 1/2	60	71
G 3	90	120
G 4	170	200

006
006KV
007
007KV
008
008KV



Size	G [m³/h] with Δp=1 bar	G [m³/h] with Δp=1,5 bar
G 3/8	2,7	3,6
G 1/2	4	5,2
G 3/4	8	9,6
G 1	10,3	12
G 1 1/4	18	22,5

020
020K
020KV



Size	G [m³/h] with Δp=1 bar	G [m³/h] with Δp=1,5 bar
G 3/8	3	3,8
G 1/2	4,4	5,5
G 3/4	9,8	14
G 1	13	17
G 1 1/4	21	26
G 1 1/2	31,5	40
G 2	50	62

Installation

Universal check valves can be installed in any position respecting the flow direction as indicated by the arrow on the valve body. Connection to pipes is made through threads using standard plumbing skills. It is suggested to install the check valve by coupling it to a shut-off valve upstream, easily accessible. Before installing the valve, a good flushing of the pipe is recommended to remove any installation debris thus avoiding any function impair.

Maintenance

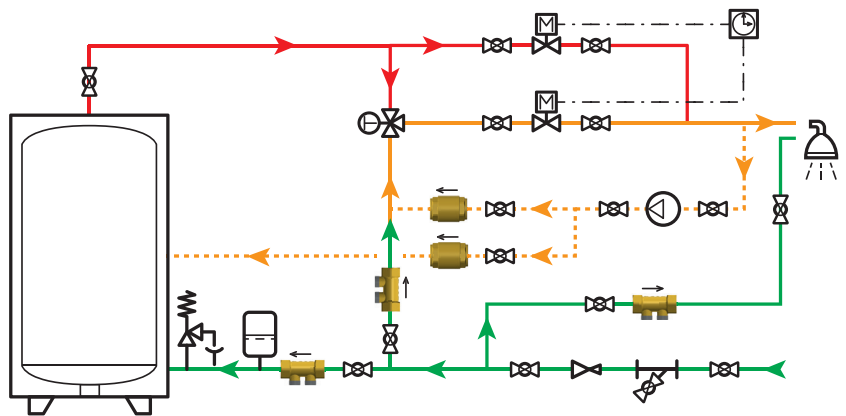
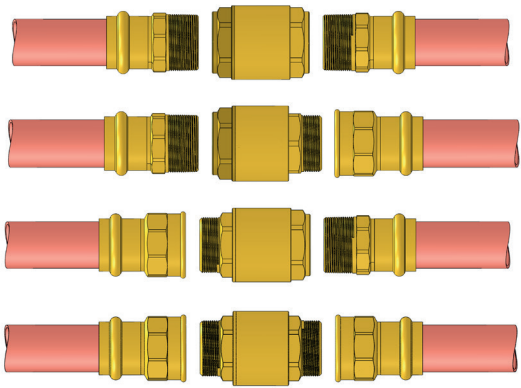
Inspect the valve regularly according to the operating conditions and frequency of use:

- 1) every pressure decrease in the upstream supply network or flow interruption should cause the valve closure, to avoid water from backflowing upstream;
- 2) if leakages are found where the gasket is housed, these could be caused by debris. It is therefore necessary to disassemble the valve and clean accurately the gasket using compressed air or mechanical action to remove all impurities. If necessary, replace the valve.

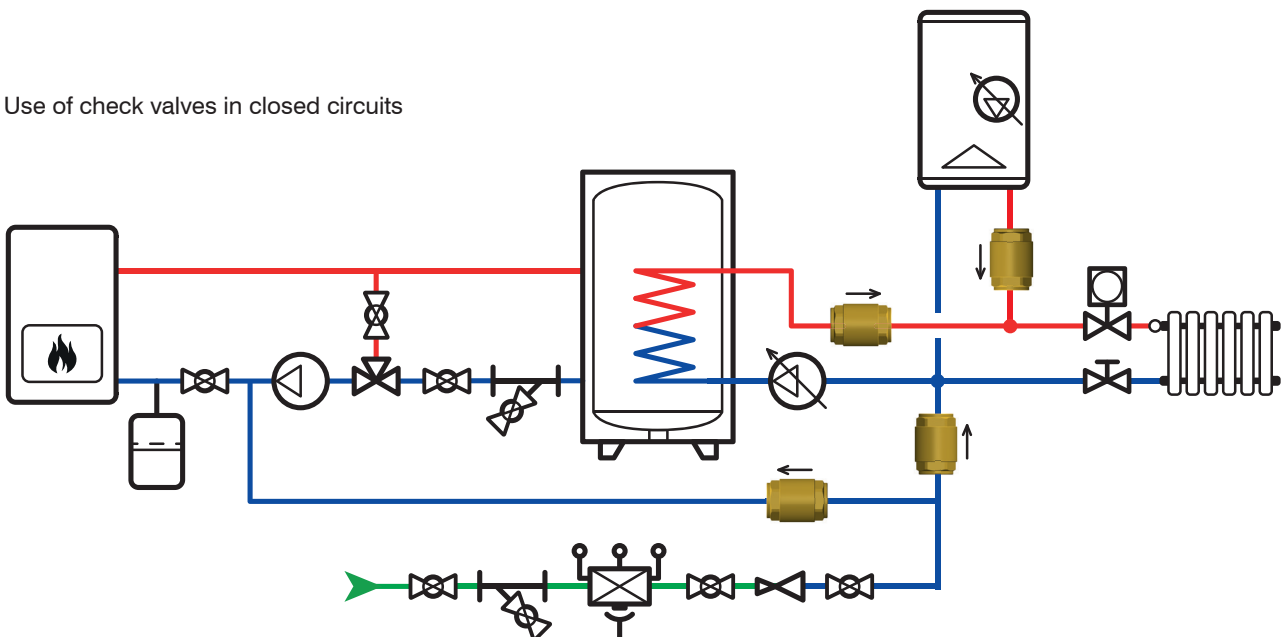
System diagrams

Example of check valve installation:
005/020, 006, 007, 008

Difference of use and application point: 055 or 195 at the potable water system inlet, 005 on the recirculation circuit



Use of check valves in closed circuits



Specifications

Series 005, 005K, 005KV

Universal check valve FF. Threaded connections from G 1/4 to G 4. Brass body. Obturator in acetal copolymer (POM) (005) and brass (005K and 005KV). Gasket in NBR (005 and 005K) and Viton (005KV). Stainless steel spring. Working temperature range 0–95 °C (005, 005K) and 0–150 °C (005KV). Opening pressure 0,02 bar. Maximum working pressure for series 005: 16 bar (from G 1/4 to G 1), 10 bar (from G 1 1/4 to G 2), 8 bar (from G 2 1/2 to G 4); for series 005K: 35 bar (from G 1/4 to G 1), 25 bar (from G 1 1/4 to G 2), 12 bar (from G 2 1/2 to G 4); for series 005KV: 35 bar (from G 3/8 to G 1), 25 bar (from G 1 1/4 to G 2), 12 bar (from G 2 1/2 to G 4). Suitable fluids water for thermal systems, glycol solutions (005, 005K: max 30%; 005KV: max 50%), domestic water (005, 005K).

Series 006, 006KV

Universal check valve FM. Threaded connections from G 3/8 to G 1 1/4. Brass body. Obturator in acetal copolymer (POM) (006) and brass (006KV). Gasket in NBR (006) and Viton (006KV). Stainless steel spring. Working temperature range 0–95 °C (006) and 0–150 °C (006KV). Opening pressure 0,02 bar. Maximum working pressure for series 006: 16 bar (from G 1/4 to G 1), 10 bar (G 1 1/4); for series 006KV: 35 bar (from G 3/8 to G 1), 25 bar (G 1 1/4). Suitable fluids water for thermal systems, glycol solutions (006: max 30%; 006KV: max 50%), domestic water (006).

Series 007, 007KV

Universal check valve MF. Threaded connections from G 3/8 to G 1 1/4. Brass body. Obturator in acetal copolymer (POM) (007) and brass (007KV). Gasket in NBR (007) and Viton (007KV). Stainless steel spring. Working temperature range 0–95 °C (007) and 0–150 °C (007KV). Opening pressure 0,02 bar. Maximum working pressure for series 007: 16 bar (from G 1/4 to G 1), 10 bar (G 1 1/4); for series 007KV: 35 bar (from G 3/8 to G 1), 25 bar (G 1 1/4). Suitable fluids water for thermal systems, glycol solutions (007: max 30%; 007KV: max 50%), domestic water (007).

Series 008, 008KV

Universal check valve MM. Threaded connections from G 3/8 to G 1 1/4. Brass body. Obturator in acetal copolymer (POM) (008) and brass (008KV). Gasket in NBR (008) and Viton (008KV). Stainless steel spring. Working temperature range 0–95 °C (008) and 0–150 °C (008KV). Opening pressure 0,02 bar. Maximum working pressure for series 008: 16 bar (from G 1/4 to G 1), 10 bar (G 1 1/4); for series 008KV: 35 bar (from G 3/8 to G 1), 25 bar (G 1 1/4). Suitable fluids water for thermal systems, glycol solutions (008: max 30%; 008KV: max 50%), domestic water (008).

Series 020, 020K, 020KV

Universal check valve FF for high pressure. Threaded connections from G 3/8 to G 2. Brass body. Obturator in acetal copolymer (POM) (020) and brass (020K and 020KV). Gasket in NBR (020 and 020K) and Viton (020KV). Stainless steel spring. Working temperature range 0–95 °C (020, 020K) and 0–150 °C (020KV). Opening pressure 0,02 bar. Maximum working pressure for series for series 020: 25 bar (from G 3/8 to G 1), 18 bar (from G 1 1/4 to G 2); for series 020K: 50 bar (from G 3/8 to G 1), 35 bar (from G 1 1/4 to G 2); for series 020KV: 50 bar (from G 3/8 to G 1), 35 bar (from G 1 1/4 to G 2). Suitable fluids water for thermal systems, glycol solutions (020, 020K: max 30%; 020KV: max 50%), domestic water (020, 020K).