

EN	TECHNICAL DATA SHEET				rev. C
<b>ST00002</b>					
<b>005</b>	<b>006</b>	<b>007</b>	<b>008</b>	<b>020</b>	
<b>005K</b>				<b>020K</b>	
<b>005KV</b>	<b>006KV</b>	<b>007KV</b>	<b>008KV</b>	<b>020KV</b>	

## 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**

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<b>005K</b>				<b>020K</b>	
<b>005KV</b>	<b>006KV</b>	<b>007KV</b>	<b>008KV</b>	<b>020KV</b>	

## UNIVERSAL CHECK VALVES

### 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,	from G 3/8 to G 1	<b>35 bar</b>
007KV, 008KV:	from G 1 1/4 to G 2	<b>25 bar</b>
	from G 2 1/2 to G 4	<b>12 bar</b>

- 020KV:	from G 3/8 to G 1	<b>50 bar</b>
	from G 1 1/4 to G 2	<b>35 bar</b>

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 on request ACS approval**

- 005K, 020K: **on request 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**

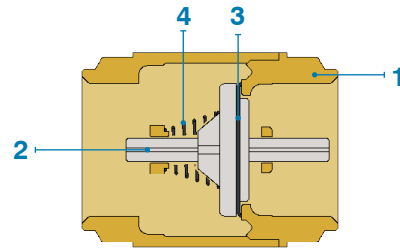
### Materials • 005KV - 006KV - 007KV - 008KV - 020KV

1 - Body: **brass EN 12165 CW617N**

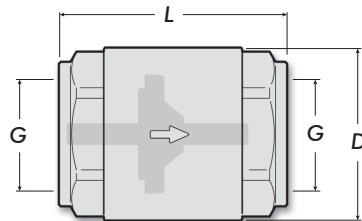
2 - Obturator: **brass EN 12165 CW614N (G 1/4–G 1/2)**  
**brass EN 12165 CW617N(G 3/4–G 4)**

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	Code	P [bar]	G	D	L	Weight [g]	N. P/B	N. P/C	Code	P [bar]	G	D	L	Weight [g]	N. P/B	N. P/C
005008000	16	G 1/4	29	45	105	30	240	005008000K ON	35	G 1/4	29	45	110	30	240	005008000KV	35	G 1/4	29	45	110	30	240
005010000	16	G 3/8	29	45	90	30	240	005010000K	35	G 3/8	29	45	94	30	240	005010000KV	35	G 3/8	29	45	94	30	240
005015000	16	G 1/2	30	48	102	30	240	005015000K	35	G 1/2	30	48	114	30	240	005015000KV	35	G 1/2	30	48	114	30	240
005020000	16	G 3/4	37	53	155	18	144	005020000K	35	G 3/4	37	53	177	18	144	005020000KV	35	G 3/4	37	53	177	18	144
005025000	16	G 1	44	59	225	14	84	005025000K	35	G 1	44	59	266	14	84	005025000KV	35	G 1	44	59	266	14	84
005032000	10	G 1 1/4	56	66	350	12	72	005032000K	25	G 1 1/4	56	66	392	12	72	005032000KV	25	G 1 1/4	56	66	392	12	72
005040000	10	G 1 1/2	63	71	470	10	40	005040000K	25	G 1 1/2	63	71	510	10	40	005040000KV	25	G 1 1/2	63	71	510	10	40
005050000	10	G 2	78	80	710	6	36	005050000K	25	G 2	78	80	834	6	36	005050000KV	25	G 2	78	80	834	6	36
005065000	8	G 2 1/2	104	93	1260	-	15	005065000K	12	G 2 1/2	104	93	1534	-	15	005065000KV ON	12	G 2 1/2	104	93	1534	-	15
005080000	8	G 3	121	104	1810	-	12	005080000K	12	G 3	121	104	2148	-	12	005080000KV ON	12	G 3	121	104	2148	-	12
005100000	8	G 4	156	119	3100	-	5	005100000K	12	G 4	156	119	3756	-	5	005100000KV ON	12	G 4	156	119	3756	-	5

ON on request

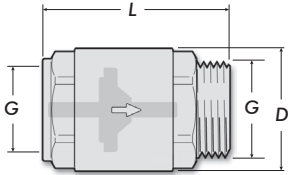
N. P/B: number of pieces in box - N. P/C: number of pieces in carton

**ST00002**





<b>005</b>	<b>006</b>	<b>007</b>	<b>008</b>	<b>020</b>
<b>005K</b>				<b>020K</b>
<b>005KV</b>	<b>006KV</b>	<b>007KV</b>	<b>008KV</b>	<b>020KV</b>

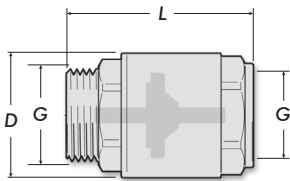
**UNIVERSAL CHECK VALVES**

**Dimensions**







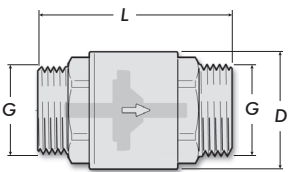
**006  
006KV**

Code	P [bar]	G	D	L	Weight [g]	N. P/B	N. P/C	Code	P [bar]	G	D	L	Weight [g]	N. P/B	N. P/C
006010000	16	G 3/8	29	52	98	30	240	006010000KV	35	G 3/8	29	52	102	30	240
006015000	16	G 1/2	30	53	108	25	200	006015000KV	35	G 1/2	30	53	120	25	200
006020000	16	G 3/4	37	58	166	16	128	006020000KV	35	G 3/4	37	58	188	16	128
006025000	16	G 1	44	65	260	10	80	006025000KV	35	G 1	44	65	301	10	80
006032000	10	G 1 1/4	56	73	448	6	48	006032000KV	25	G 1 1/4	56	73	490	6	48
006040000 	10	G 1 1/2	63	80	520	8	32	006040000KV 	25	G 1 1/2	63	80	560	8	32
006050000 	10	G 2	78	88	805	6	24	006050000KV 	25	G 2	78	88	929	6	24







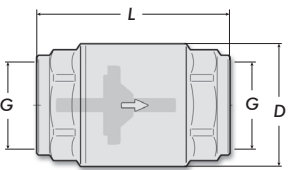
**007  
007KV**

Code	P [bar]	G	D	L	Weight [g]	N. P/B	N. P/C	Code	P [bar]	G	D	L	Weight [g]	N. P/B	N. P/C
007010000	16	G 3/8	29	52	94	30	240	007010000KV	35	G 3/8	29	52	98	30	240
007015000	16	G 1/2	30	54	124	20	160	007015000KV	35	G 1/2	30	54	134	20	160
007020000	16	G 3/4	37	60	190	16	128	007020000KV	35	G 3/4	37	60	212	16	128
007025000	16	G 1	44	67	274	10	80	007025000KV	35	G 1	44	67	315	10	80
007032000	10	G 1 1/4	56	77	448	6	48	007032000KV	25	G 1 1/4	56	77	490	6	48
007040000 	10	G 1 1/2	63	80	508	8	32	007040000KV 	25	G 1 1/2	63	80	548	8	32
007050000 	10	G 2	78	88	810	6	24	007050000KV 	25	G 2	78	88	934	6	24



**008  
008KV**

Code	P [bar]	G	D	L	Weight [g]	N. P/B	N. P/C	Code	P [bar]	G	D	L	Weight [g]	N. P/B	N. P/C
008010000	16	G 3/8	29	58	104	30	240	008010000KV	35	G 3/8	29	58	108	30	240
008015000	16	G 1/2	30	59	122	25	200	008015000KV	35	G 1/2	30	59	134	25	200
008020000	16	G 3/4	37	64	180	16	128	008020000KV	35	G 3/4	37	64	202	16	128
008025000	16	G 1	44	73	290	10	80	008025000KV	35	G 1	44	73	331	10	80
008032000	10	G 1 1/4	56	82	498	8	48	008032000KV	25	G 1 1/4	56	82	540	8	48
008040000 	10	G 1 1/2	63	88	600	4	24	008040000KV 	25	G 1 1/2	63	88	640	4	24
008050000 	10	G 2	78	95	900	3	18	008050000KV 	25	G 2	78	95	1024	3	18



**020  
020K  
020KV**

Code	P [bar]	G	D	L	Weight [g]	N. P/B	N. P/C	Code	P [bar]	G	D	L	Weight [g]	N. P/B	N. P/C
020010000	25	G 3/8	29	52	115	24	192	020010000K	50	G 3/8	29	52	119	24	192
020015000	25	G 1/2	32	58	150	20	160	020015000K	50	G 1/2	32	58	162	20	160
020020000	25	G 3/4	39	65	226	12	96	020020000K	50	G 3/4	39	65	250	12	96
020025000	25	G 1	47	75	330	8	64	020025000K	50	G 1	47	75	362	8	64
020032000	18	G 1 1/4	60	80	545	8	48	020032000K	35	G 1 1/4	60	80	594	8	48
020040000	18	G 1 1/2	67	85	685	6	36	020040000K	35	G 1 1/2	67	85	708	6	36
020050000	18	G 2	83	94	1025	5	20	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

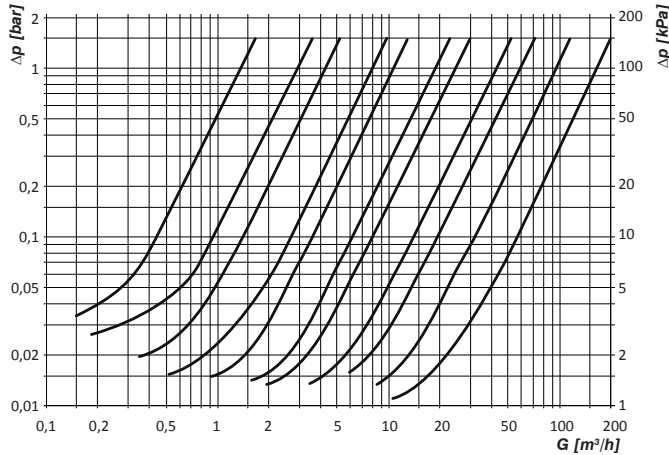
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N. P/B: number of pieces in box - N. P/C: number of pieces in carton

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<b>ST00002</b>					
<b>005</b>	<b>006</b>	<b>007</b>	<b>008</b>	<b>020</b>	
<b>005K</b>				<b>020K</b>	
<b>005KV</b>	<b>006KV</b>	<b>007KV</b>	<b>008KV</b>	<b>020KV</b>	

## UNIVERSAL CHECK VALVES

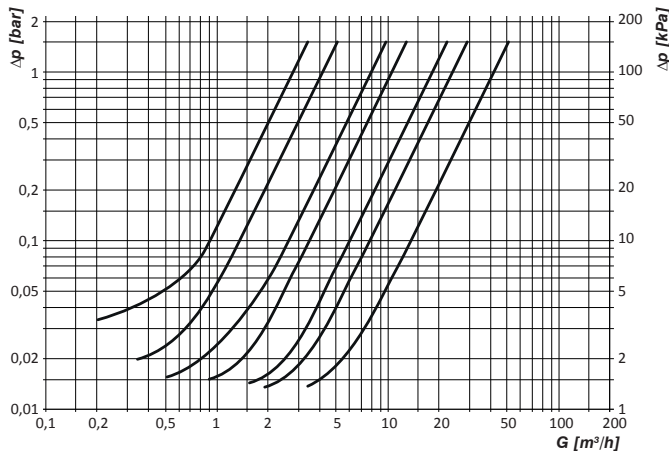
### Diagrams

**005**  
**005K**  
**005KV**



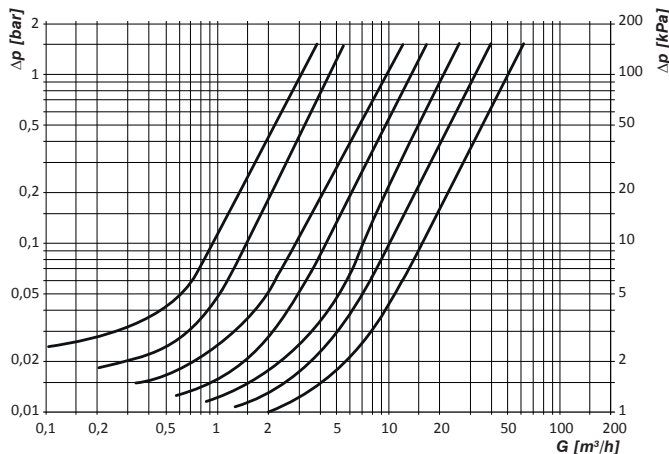
Size	G [m³/h] with Δp=1 bar	G [m³/h] with Δp=1,5 bar
G 1/4	1,3	1,65
G 3/8	2,7	3,6
G 1/2	4	5,2
G 3/4	8	9,6
G 1	10,3	12
G 1 1/4	18	22,5
G 1 1/2	24	30
G 2	40	52
G 2 1/2	60	71
G 3	90	120
G 4	170	200

**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
G 1 1/2	24	30
G 2	40	52

**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

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005	006	007	008	020	
005K				020K	
005KV	006KV	007KV	008KV	020KV	

## UNIVERSAL CHECK VALVES

### 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.

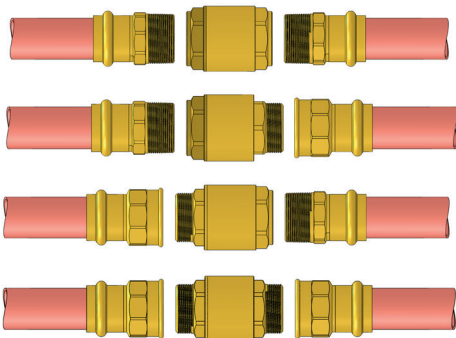
### Maintenance

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

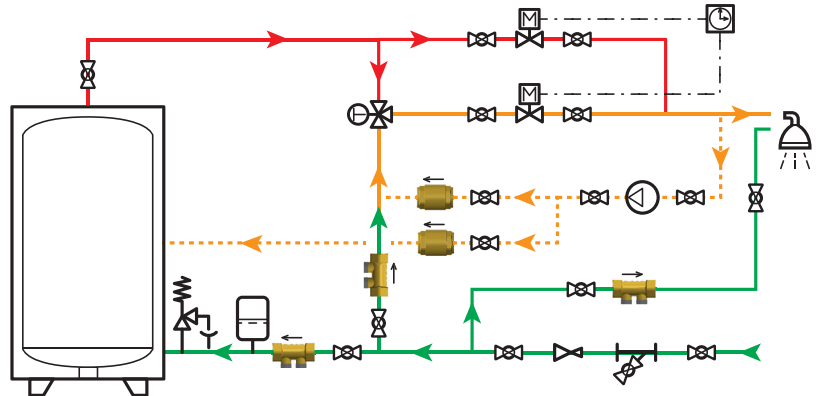
- 1) every pressure decrease in the upstream supply network or flow interruption should cause the valve closure, to avoid water from backflowing upstream;
- 2) if leakages are found where the gasket is housed, these could be caused by debris. It is therefore necessary to disassemble the valve and clean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

### System diagrams

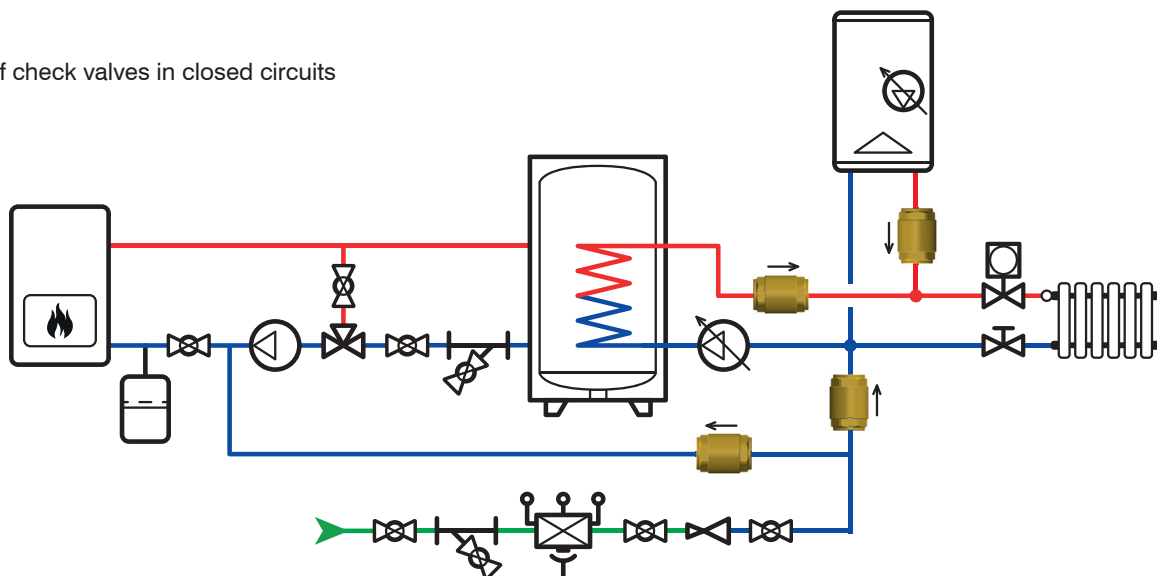
Example of check valve installation:  
005/020, 006, 007, 008



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



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ST00002					
005	006	007	008	020	
005K				020K	
005KV	006KV	007KV	008KV	020KV	

## UNIVERSAL CHECK VALVES

### 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 2. 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 (from G 1 1/4 to G 2); for series 006KV: 35 bar (from G 3/8 to G 1), 25 bar (from G 1 1/4 to G 2). 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 2. 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 (from G 1 1/4 to G 2); for series 007KV: 35 bar (from G 3/8 to G 1), 25 bar (from G 1 1/4 to G 2). 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 2. 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 (from G 1 1/4 to G 2); for series 008KV: 35 bar (from G 3/8 to G 1), 25 bar (from G 1 1/4 to G 2). 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 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).