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Поворотные обратные клапаны с крышкой на болтах 290, 390, 390-J, 490, 490-H, 590

APPLICATIONS

The swing check valves are used to prevent flow reversal in piping systems. The swing check is the most efficient non-re-turn valve due to the minimum pressure drop because his "full open" design. Typical applications are:

- § water
- § chemicals
- § petrochemicals
- § steam
- § gases
- § liquid gases (cryogenic service)

CONSTRUCTION DETAILS

Body

The body geometry is designed as the result of stress calculations to achieve the most regular distribution of the internal forces due to pressure action.

The body material is high quality cast steel. The seat surface is covered by a wear resistance stainless steel deposited by welding overlay with a hardness difference of +50 HB in comparison with the disk seats. On request the seat surface can be covered also with stellite or other special material overlays.



Swing Check Valves



Lever and counterweight on

request the swing check valve can be provided with lever with counterweight to balance the weight of the disk and make the closing more soft.

This optional device is suggested for diameters over 200 mm where the weight of the disk is relevant. Also in vertical installation the counterweight can reduce the adverse influence of gravity on the functioning of the swing check valve.

On request the counterweight can be adjustable to be easily adapted to the specific operating conditions.

Hydraulic brake

Where the flow reversal is very quick the swing check valve shall be provided with a hydraulic brake connected to the lever. The brake, lengthening the time of closing to the selected value, avoids the risk that the swing check valve, due to the quick closing of the disk, can cause a water hammer in the pipeline. Different types of brake are available depending on customer requirements.

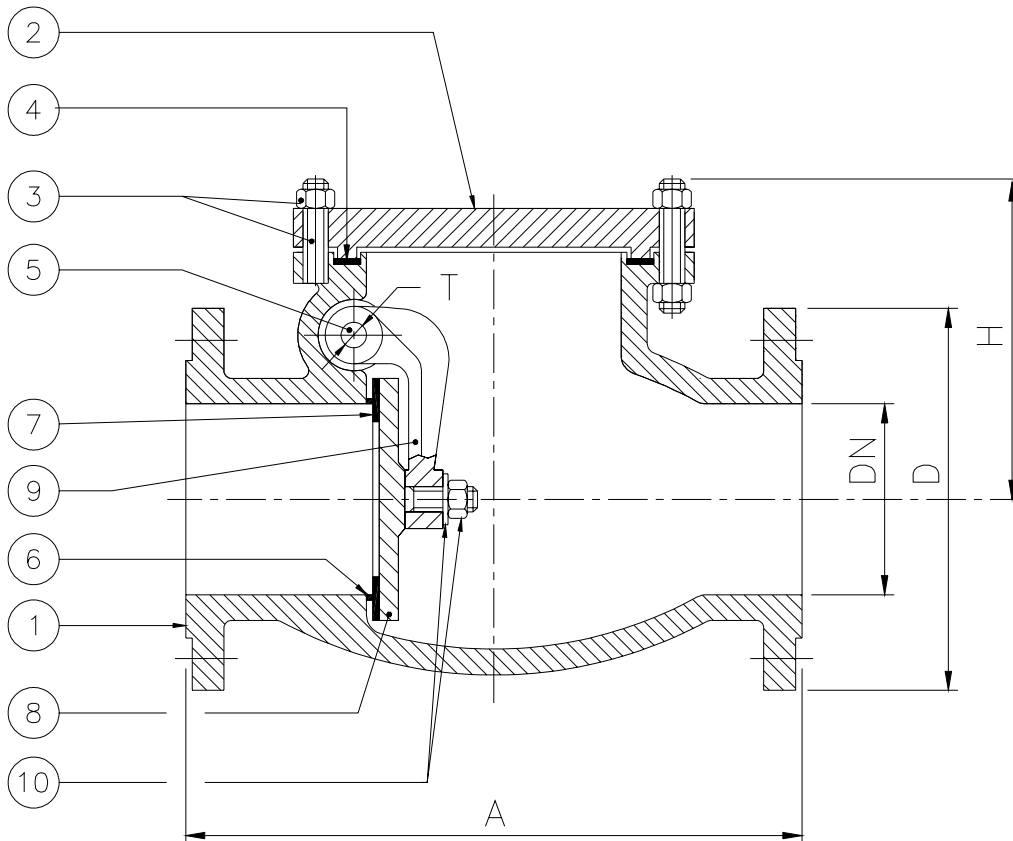
All the brakes are provided by a pin valve to set-up the closing time to the required value.

Swing Check Valve

PN 100 DN 50 - DN 400

Flanges PN 100 or PN 63

Fig. 290-590



0948

Rel. 5.0

Standard features:

- | | |
|---|-----------------|
| ☒ Design | EN 12516 |
| ☒ Face to face | EN 558 series 2 |
| | DIN 3202 F2 |
| ☒ Flanges | EN 1092-1/21/B2 |
| ☒ Materials | EN 10213 |
| | EN 10269 |
| | EN 10088 |
| ☒ Bolts and nuts | EN 1515-1 |
| ☒ Welding overlay | AD-M HP 0 |
| ☒ Testing | EN 12266 |
| ☒ Marking | EN 19 |
| ☒ Certificates | EN 10204 |

Optional versions:

- | |
|---|
| ☐ AD 2000 – A4 |
| ☐ TRD 110 |
| ☐ DIN 3230 Part 4 |
| ☐ DIN 3230 Part 5 |
| ☐ DIN 3230 Part 6 |
| ☐ TRbF 131 |
| ☐ TRbF 301 or 302 |
| ☐ ATEX |
| ☐ TA-Luft |
| ☐ With flanges PN 40 or PN25 |
| ☐ With flanges form A, B1, C, D, E, F, G, H |
| ☐ With butt welding ends (EN 12627 / EN 12982) |
| ☐ With special devices (see page 52) |

	DESCRIPTION	FIG. 290	FIG. 390	FIG. 390-J	FIG. 490	FIG. 490-H	FIG. 590
1	Body	1.0619	1.4581	1.4308	1.7357	1.7379	1.1138
2	Cover	1.0425 ⁽⁵⁾	1.4571	1.4301	1.7335	1.7380	1.0508
3	Bolts	1.7225 ⁽⁴⁾	1.4301 ⁽⁴⁾	1.4301 ⁽⁴⁾	1.7711 ⁽⁴⁾	1.7711 ⁽⁴⁾	1.7225 ⁽⁴⁾
3	Nuts	1.1191 ⁽⁴⁾	1.4301 ⁽⁴⁾	1.4301 ⁽⁴⁾	1.7225 ⁽⁴⁾	1.7225 ⁽⁴⁾	1.7225 ⁽⁴⁾
4	O Gasket	Graphite + SS ⁽³⁾	Graphite + SS ⁽³⁾	PTFE ⁽³⁾	Graphite + SS ⁽³⁾	Graphite + SS ⁽³⁾	Graphite + SS ⁽³⁾
5	x Hinge pin	1.4021 ⁽¹⁾	1.4571 ⁽¹⁾	1.4301 ⁽¹⁾	1.4021 ⁽¹⁾	1.4021 ⁽¹⁾	1.4021 ⁽¹⁾
6	Body seats	1.4502 ⁽²⁾	1.4430 ⁽²⁾	1.4316 ⁽²⁾	1.4502 ⁽²⁾	Stellite ⁽²⁾	1.4502 ⁽²⁾
7	Disk seats	1.4502 ⁽²⁾	1.4571 ⁽²⁾	1.4301 ⁽²⁾	1.4502 ⁽²⁾	Stellite ⁽²⁾	1.4502 ⁽²⁾
8	x Disk	1.0425 ⁽⁵⁾	1.4571	1.4301	1.7335	1.7380	1.0508
9	Hinge	1.0619	1.4581	1.4308	1.7357	1.7379	1.1138
10	Stud	1.7225 ⁽⁴⁾	1.4401 ⁽⁴⁾	1.4301 ⁽⁴⁾	1.7711 ⁽⁴⁾	1.7711 ⁽⁴⁾	1.7225 ⁽⁴⁾
10	Nut	1.1191 ⁽⁴⁾	1.4401 ⁽⁴⁾	1.4301 ⁽⁴⁾	1.7225 ⁽⁴⁾	1.7225 ⁽⁴⁾	1.7225 ⁽⁴⁾

⁽¹⁾ Also available on request 1.4571, 1.4301, 1.3964, Hastelloy, or other materials.

⁽²⁾ Also available on request stellite, 1.4462 (duplex), 1.4430, 1.4316, Hastelloy, or other materials.

⁽³⁾ Also available on request PTFE, Gore-tex, graphite, or other materials and different desing (e.g. cam-profile).

⁽⁴⁾ Also available on request 1.7225 / 1.1191, 1.7711 / 1.7225, 1.4401, 1.4301, A4-70 or other materials.

⁽⁵⁾ 1.0044 for swing check valves with DN over 125 mm.

O recommended spare parts for 2 years standard service; x recommended spare parts for 5 years standard service.

Dimensions

	DN	A	D	H	T	Kg
PN 100	50	300	195	175	10	25
	80	380	230	200	15	40
	100	430	265	245	15	60
	125	500	315	260	18	100
	150	550	355	275	18	130
	200	650	400	315	24	200
	250	775	515	360	24	260
	300	900	585	415	24	420
	350	1025	655	620	28	910
	400	1150	715	700	28	1200

Pressure Temperature Ratings (°C / bar)

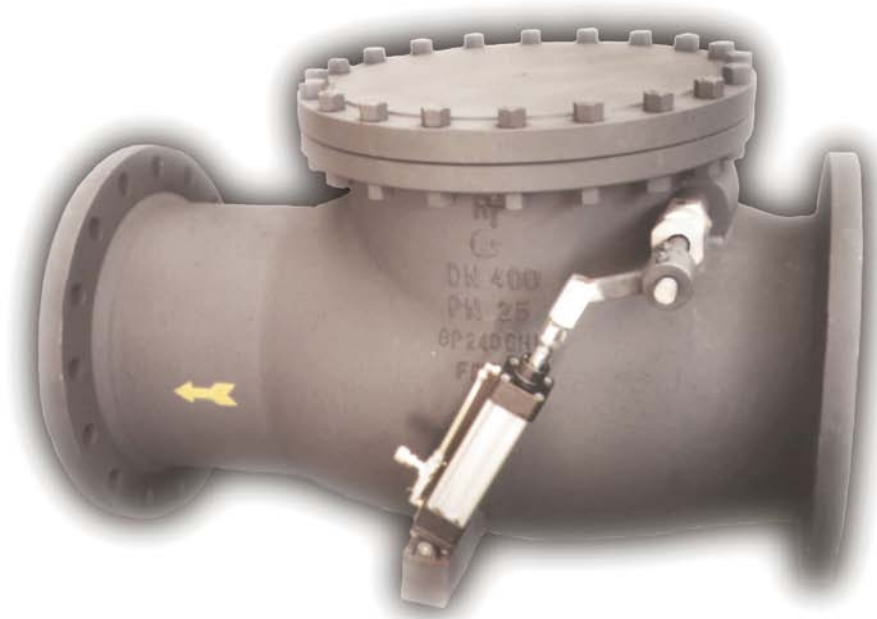
	PN	-195	-150	-100	-50	-10	0	20	100	150	200	250	300	350	400	425	450	475	500	525	550	575	600
Fig. 290 ⁽⁵⁾	100							98,7	93,3	85,6	77,8	71,1	64,4	60,0	57,8	47,3	36,9						
Fig. 390 ⁽⁶⁾	100			100	100	100	100	96,4	82,2	76,7	71,1	67,8	64,4	61,1	57,8	56,7	55,6	54,4	53,3	52,2	51,1		
Fig. 390-J	100	100	100	100	100	100	100	94,2	71,1	63,3	55,6	52,2	48,9										
Fig. 490 ⁽⁶⁾ (?)	100					100	100	100	100	100	100	100	100	95,6	88,9	86,7	84,4	68,2	52,0	38,2	24,4		
Fig. 490-H (?)	100					100	100	100	100	100	100	100	100	100	100	98,4	96,9	78,7	60,4	44,9	29,3	20,9	12,4
Fig. 590	100				100	100	100	97,8	88,9	84,4	80,0	77,8	75,6										

Please, in the inquiry and in the order, specify always the maximum service temperature when it's over 100 °C.

If the valves are provided with flanged connection PN 63 the maximum allowable pressure should be proportionally reduced.

⁽⁵⁾ Supplied suitable for service temperature up to 300°C and for higher temperatures only on request.

⁽⁶⁾ Suitable over 450 °C only if provided with stellite seats. (?) Suitable over 530 °C only if provided with 1.3964 pin.



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