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Поворотные обратные клапаны 291, 391, 391-J, 491, 491-H, 491-K

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

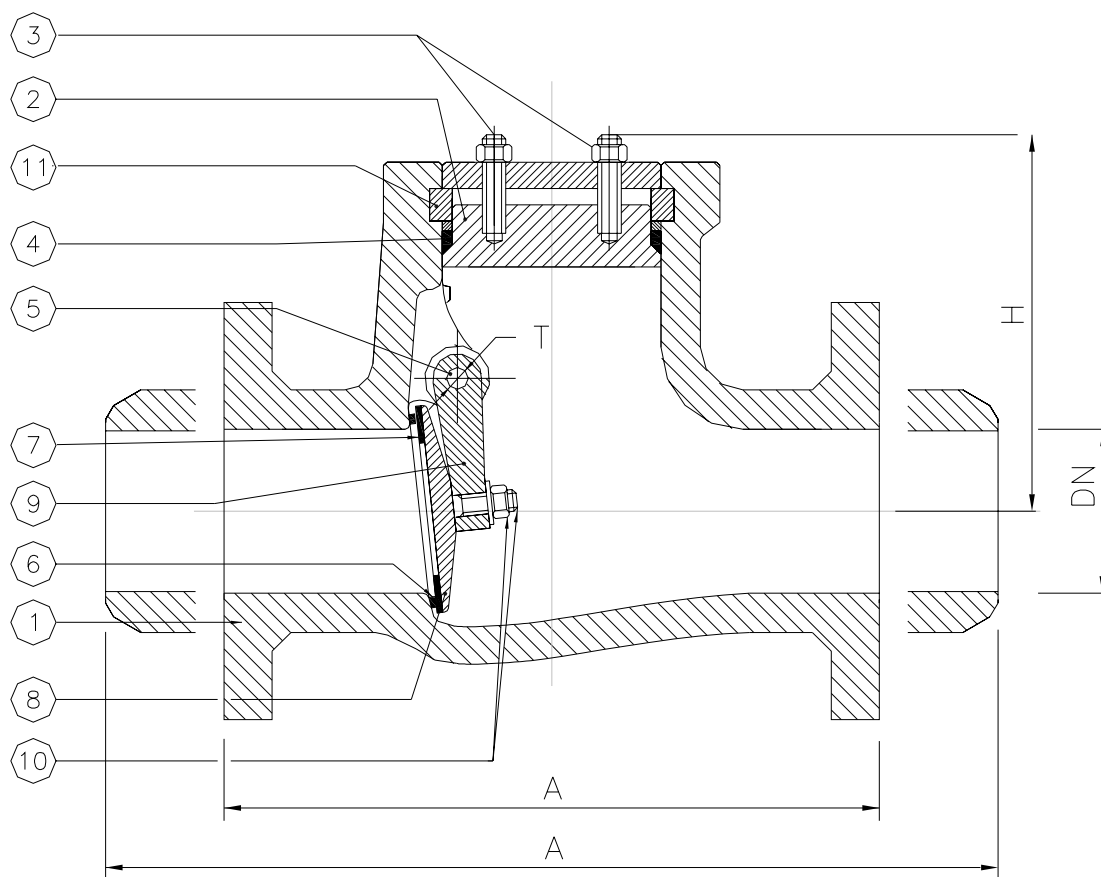
Where the flow reversal is very quick the swing check valve shall be provided with a hydraulic brake connected to the lever. The brake, lengthening the time of closing to the selected value, avoids the risk that the swing check valve, due to the quick closing of the disk, can cause a water hammer in 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 160 DN 50 - DN 300

PD special ratings for BWE version



0948

Rel. 5.0

Standard features:

- | | |
|---|------------------|
| ☒ Design | EN 12516 |
| | EN 14341 |
| ☒ Face to face | EN 558 series 99 |
| | DIN 3202 F8 |
| ☒ With 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 butt welding ends EN 12627 |
| ☐ With flanges form A, B1, B2, C, D, E, F, G, H |
| ☐ With special devices (see page 52) |

	DESCRIPTION	FIG. 291	FIG. 391	FIG. 391-J	FIG. 491	FIG. 491-H	FIG. 491-K
1	Body	1.0619	1.4581	1.4308	1.7357	1.7379	1.4931
2	Cover	1.0425 ⁽⁵⁾	1.4571	1.4301	1.7335	1.7380	1.4931
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⁾	1.4923 ⁽¹⁾
6	Body seats	1.4502 ⁽²⁾	1.4581 ⁽²⁾	1.4308 ⁽²⁾	1.4502 ⁽²⁾	Stellite ⁽²⁾	Stellite ⁽²⁾
7	Disk seats	1.4502 ⁽²⁾	1.4430 ⁽²⁾	1.4301 ⁽²⁾	1.4502 ⁽²⁾	Stellite ⁽²⁾	Stellite ⁽²⁾
8	X Disk	1.0425 ⁽⁵⁾	1.4571	1.4301	1.7335	1.7380	1.4903
9	Hinge	1.0619	1.4581	1.4308	1.7357	1.7379	1.4903
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⁾
11	Segmented ring	1.0425 ⁽⁵⁾	1.4571	1.4301	1.7335	1.7380	1.4903

⁽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.

⁽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 160	50	300	195	175	10	45
	80	390	230	205	15	65
	100	450	265	270	15	90
	125	525	315	305	18	150
	150	600	355	320	18	190
	200	750	430	410	18	360
	250	900	515	490	24	540
	300	1050	585	550	24	780

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. 291 ⁽⁶⁾	160					160	160	157	149	136	124	113	103	96	92	76	59						
Fig. 391 ⁽⁷⁾	160			160	160	160	160	154	131	122	113	108	103	98	92	91	89	87	85	84	82		
Fig. 391-J	160	160	160	160	160	160	160	150	113	101	89	84	78										
Fig. 491 ⁽⁸⁾	160					160	160	160	160	160	160	160	160	152	142	138	135	109	83	61	39		
Fig. 491-H ⁽⁸⁾	160					160	160	160	160	160	160	160	160	160	160	160	155	125	97	72	47	33	20
Fig. 491-K ⁽⁸⁾	160					160	160	160	160	160	160	160	160	160	160	160	160	160	147	115	84	59	35

Special ratings for butt welding ends versions only (desing pressure)

	PD	-195	-150	-100	-50	-10	0	20	100	150	200	250	300	350	400	425	450	475	500	525	550	575	600
Fig. 461-BW ⁽⁸⁾	224					224	224	224	224	201	178	171	164	153	142	139	135	109	83	61	39		
Fig. 461-H-BW ⁽⁸⁾	284					284	284	284	284	268	252	249	245	235	224	190	155	125	97	72	47	33	20
Fig. 461-K-BW ⁽⁸⁾	384					384	384	384	384	352	320	312	305	291	277	248	219	183	147	115	84	59	35

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

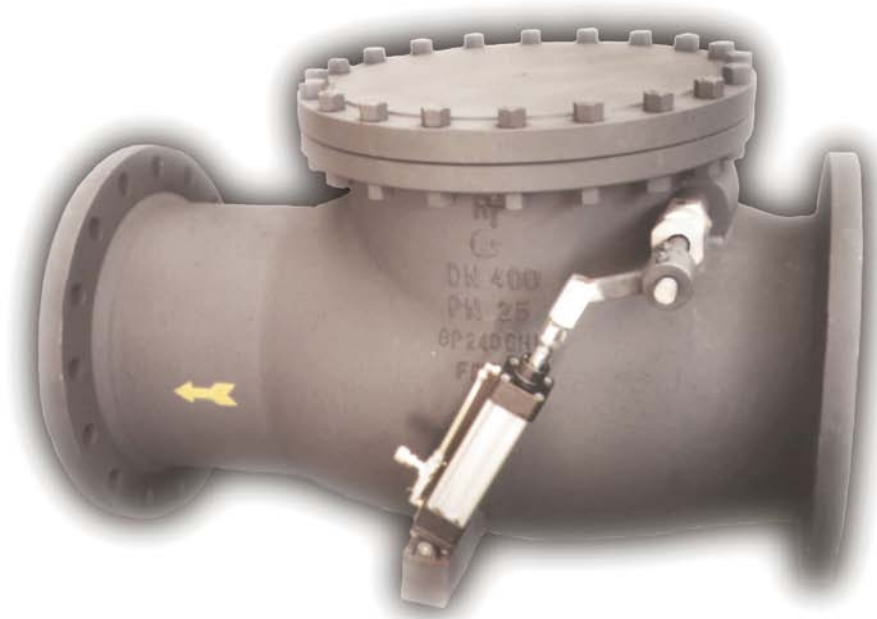
If the valves are provided with flanged connection with lower PN the maximum allowable pressure should be proportionally reduced.

⁽⁶⁾ Supplied suitable for service temperature up to 300°C and for higher temperatures only on request.

⁽⁷⁾ Suitable over 450 °C only if provided with stellite seats. ⁽⁸⁾ Suitable over 530 °C only if provided with 1.3964 pin.

General sale and delivery conditions and product guarantee as specified at pages 56 and 57.

Due to constant improvement all data and details contained in this catalogue are purely indicative and they can be subjected to change without notice.



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