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<https://rtvalves.nt-rt.ru> || [rea@nt-rt.ru](mailto:rea@nt-rt.ru)

# Поворотные обратные клапаны с крышкой на болтах 270, 370, 370-J, 470, 470-H, 570

## 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 re-sult of stress calculations to achieve the most regular distribution of the internal forces dues to pressure action.

The body material is high quality cast steel.

The seat surface is covered by a wear resistance stainless steel deposited by weld-ing 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.

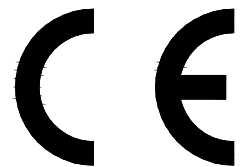
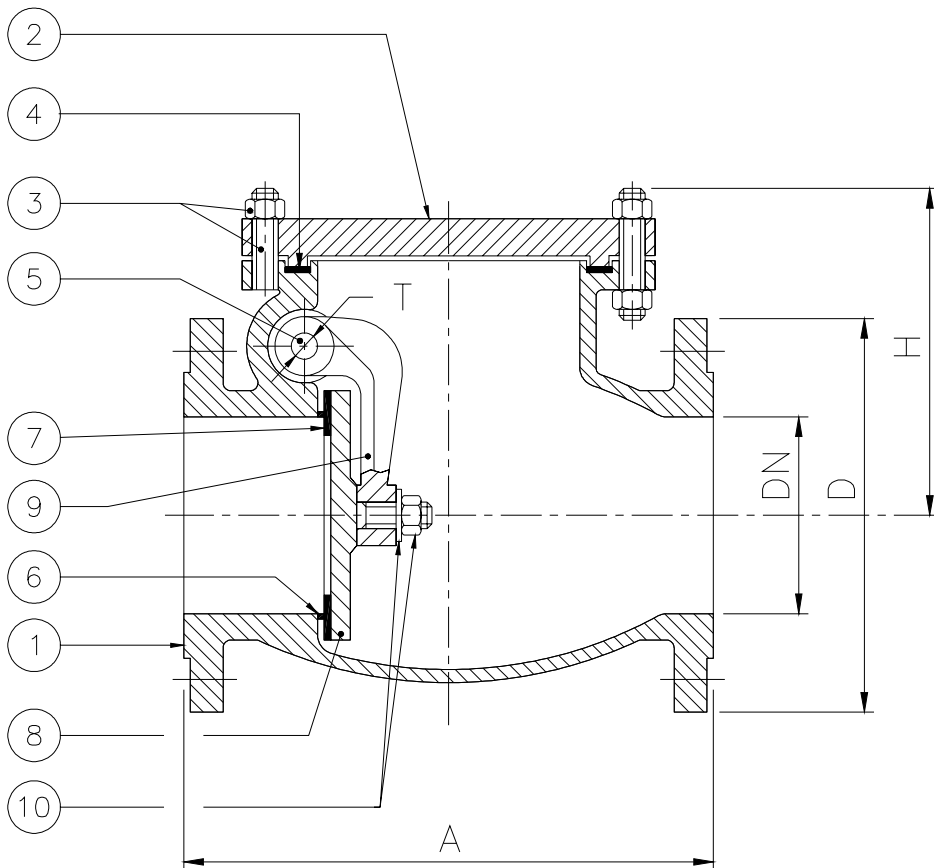
All the brakes are provided by a pin valve to set-up the closing time to the required value.

# Swing Check Valve

PN 25      DN 50 - DN 600

Flanges PN 25 or PN 16

Fig. 270-570



0948

Rel. 5.0

## Standard features:

- |                                                     |                  |
|-----------------------------------------------------|------------------|
| <input checked="" type="checkbox"/> Design          | EN 12516         |
| <input checked="" type="checkbox"/> Face to face    | EN 558 series 48 |
|                                                     | DIN 3202 F6      |
| <input checked="" type="checkbox"/> Flanges         | EN 1092-1/21/B1  |
| <input checked="" type="checkbox"/> Materials       | EN 10213         |
|                                                     | EN 10269         |
|                                                     | EN 10088         |
| <input checked="" type="checkbox"/> Bolts and nuts  | EN 1515-1        |
| <input checked="" type="checkbox"/> Welding overlay | AD-M HP 0        |
| <input checked="" type="checkbox"/> Testing         | EN 12266         |
| <input checked="" type="checkbox"/> Marking         | EN 19            |
| <input checked="" type="checkbox"/> Certificates    | EN 10204         |

## Optional versions:

- |                                                                    |
|--------------------------------------------------------------------|
| <input type="checkbox"/> AD 2000 – A4                              |
| <input type="checkbox"/> TRD 110                                   |
| <input type="checkbox"/> DIN 3230 Part 4                           |
| <input type="checkbox"/> DIN 3230 Part 5                           |
| <input type="checkbox"/> DIN 3230 Part 6                           |
| <input type="checkbox"/> TRbF 131                                  |
| <input type="checkbox"/> TRbF 301 or 302                           |
| <input type="checkbox"/> ATEX                                      |
| <input type="checkbox"/> TA-Luft                                   |
| <input type="checkbox"/> With flanges PN 10 or PN 6                |
| <input type="checkbox"/> With flanges form A, B2, C, D, E, F, G, H |
| <input type="checkbox"/> With butt welding ends (EN 12627)         |
| <input type="checkbox"/> With special devices (see page 52)        |

|    | DESCRIPTION | FIG. 270                     | FIG. 370                     | FIG. 370-J            | FIG. 470                     | FIG. 470-H                   | FIG. 570                     |
|----|-------------|------------------------------|------------------------------|-----------------------|------------------------------|------------------------------|------------------------------|
| 1  | Body        | 1.0619                       | 1.4581                       | 1.4308                | 1.7357                       | 1.7379                       | 1.1138                       |
| 2  | Cover       | 1.0425 <sup>(5)</sup>        | 1.4571                       | 1.4301                | 1.7335                       | 1.7380                       | 1.0508                       |
| 3  | Bolts       | 1.7225 <sup>(4)</sup>        | 1.4301 <sup>(4)</sup>        | 1.4301 <sup>(4)</sup> | 1.7711 <sup>(4)</sup>        | 1.7711 <sup>(4)</sup>        | 1.7225 <sup>(4)</sup>        |
| 3  | Nuts        | 1.1191 <sup>(4)</sup>        | 1.4301 <sup>(4)</sup>        | 1.4301 <sup>(4)</sup> | 1.7225 <sup>(4)</sup>        | 1.7225 <sup>(4)</sup>        | 1.7225 <sup>(4)</sup>        |
| 4  | O Gasket    | Graphite + SS <sup>(3)</sup> | Graphite + SS <sup>(3)</sup> | PTFE <sup>(3)</sup>   | Graphite + SS <sup>(3)</sup> | Graphite + SS <sup>(3)</sup> | Graphite + SS <sup>(3)</sup> |
| 5  | x Hinge pin | 1.4021 <sup>(1)</sup>        | 1.4571 <sup>(1)</sup>        | 1.4301 <sup>(1)</sup> | 1.4021 <sup>(1)</sup>        | 1.4021 <sup>(1)</sup>        | 1.4021 <sup>(1)</sup>        |
| 6  | Body seats  | 1.4502 <sup>(2)</sup>        | 1.4430 <sup>(2)</sup>        | 1.4316 <sup>(2)</sup> | 1.4502 <sup>(2)</sup>        | Stellite                     | 1.4502 <sup>(2)</sup>        |
| 7  | Disk seats  | 1.4502 <sup>(2)</sup>        | 1.4571 <sup>(2)</sup>        | 1.4301 <sup>(2)</sup> | 1.4502 <sup>(2)</sup>        | Stellite                     | 1.4502 <sup>(2)</sup>        |
| 8  | x Disk      | 1.0425 <sup>(5)</sup>        | 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 <sup>(4)</sup>        | 1.4401 <sup>(4)</sup>        | 1.4301 <sup>(4)</sup> | 1.7711 <sup>(4)</sup>        | 1.7711 <sup>(4)</sup>        | 1.7225 <sup>(4)</sup>        |
| 10 | Nut         | 1.1191 <sup>(4)</sup>        | 1.4401 <sup>(4)</sup>        | 1.4301 <sup>(4)</sup> | 1.7225 <sup>(4)</sup>        | 1.7225 <sup>(4)</sup>        | 1.7225 <sup>(4)</sup>        |

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

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

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

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

<sup>(5)</sup> 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<br>25 | 50  | 200  | 165  | 160 | 10 | 15   |
|          | 65  | 240  | 185  | 170 | 15 | 24   |
|          | 80  | 260  | 200  | 175 | 15 | 28   |
|          | 100 | 300  | 235  | 195 | 15 | 38   |
|          | 125 | 350  | 270  | 210 | 18 | 58   |
|          | 150 | 400  | 300  | 240 | 18 | 96   |
|          | 200 | 500  | 360  | 280 | 18 | 131  |
|          | 250 | 600  | 425  | 320 | 24 | 212  |
|          | 300 | 700  | 485  | 365 | 24 | 273  |
|          | 350 | 800  | 555  | 425 | 28 | 440  |
|          | 400 | 900  | 620  | 440 | 28 | 465  |
|          | 450 | 1000 | 670  | 520 | 36 | 750  |
|          | 500 | 1100 | 730  | 620 | 36 | 1100 |
|          | 600 | 1300 | 845  | 710 | 40 | 1500 |
|          | 700 | 1500 | 960  | 750 | 50 | 2100 |
|          | 800 | 1700 | 1085 | 810 | 60 | 2800 |
|          | 900 | 1900 | 1185 | 880 | 70 | 3050 |

## Pressure Temperature Ratings (°C / bar)

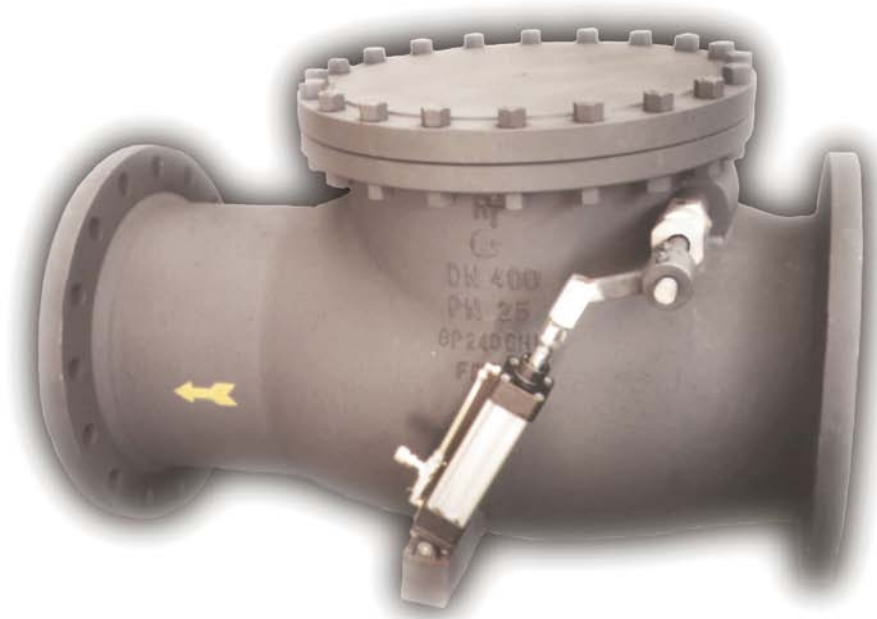
|                                        | PN | -195 | -150 | -100 | -50  | -10  | 0    | 20   | 100  | 150  | 200  | 250  | 300  | 350  | 400  | 425  | 450  | 475  | 500  | 525  | 550  | 575 | 600 |
|----------------------------------------|----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|
| Fig. 270 <sup>(5)</sup>                | 25 |      |      |      |      | 25.0 | 25.0 | 24.7 | 23.3 | 21.4 | 19.4 | 17.8 | 16.1 | 15.0 | 14.4 | 11.8 | 9.2  |      |      |      |      |     |     |
| Fig. 370 <sup>(6)</sup>                | 25 |      |      | 25.0 | 25.0 | 25.0 | 25.0 | 24.1 | 20.6 | 19.2 | 17.8 | 16.9 | 16.1 | 15.3 | 14.4 | 14.2 | 13.9 | 13.6 | 13.3 | 13.1 | 12.8 |     |     |
| Fig. 370-J                             | 25 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 23.6 | 17.8 | 15.8 | 13.9 | 13.1 | 12.2 |      |      |      |      |      |      |      |      |     |     |
| Fig. 470 <sup>(6)</sup> <sup>(7)</sup> | 25 |      |      |      |      | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 23.9 | 22.2 | 15.7 | 9.2  | 11.1 | 13.0 | 9.6  | 6.1  |      |     |     |
| Fig. 470-H <sup>(7)</sup>              | 25 |      |      |      |      | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 24.6 | 24.2 | 19.7 | 15.1 | 11.2 | 7.3  | 5.2  | 3.1 |     |
| Fig. 570                               | 25 |      |      |      | 25.0 | 25.0 | 25.0 | 24.4 | 22.2 | 21.1 | 20.0 | 19.4 | 18.9 |      |      |      |      |      |      |      |      |     |     |

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 10 or PN 6 the maximum allowable pressure should be proportionally reduced.

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

<sup>(6)</sup> Suitable over 450 °C only if provided with stellite seats. <sup>(7)</sup> Suitable over 530 °C only if provided with 1.3964 pin.



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