

# SINGLE-CHEK<sup>®</sup>

brands you trust.



SINGLE-CHEK Check Valves Series CV



Crane ChemPharma & Energy

[www.cranecpe.com](http://www.cranecpe.com)

## SINGLE-CHEK Check Valves Series CV

### The reliable check valves for common use

#### Applications

Due to their compact construction, small dimensions and outstanding design with self centring disc SINGLE-CHEK Check Valves Series CV are used for a wide range of applications.

Especially they have proven as reliable valves behind pumps, compressors and blowers.

#### Product Features

- low pressure drop
- silent operation
- single part self centring disc
- resilient seat for gas-tight closure (leakage-rate A acc. to DIN EN12266-1)
- short face to face dimensions,
- low weight
- soft or metal seat
- springs to DIN 2088 for long lifetime
- corrosion resistant seat



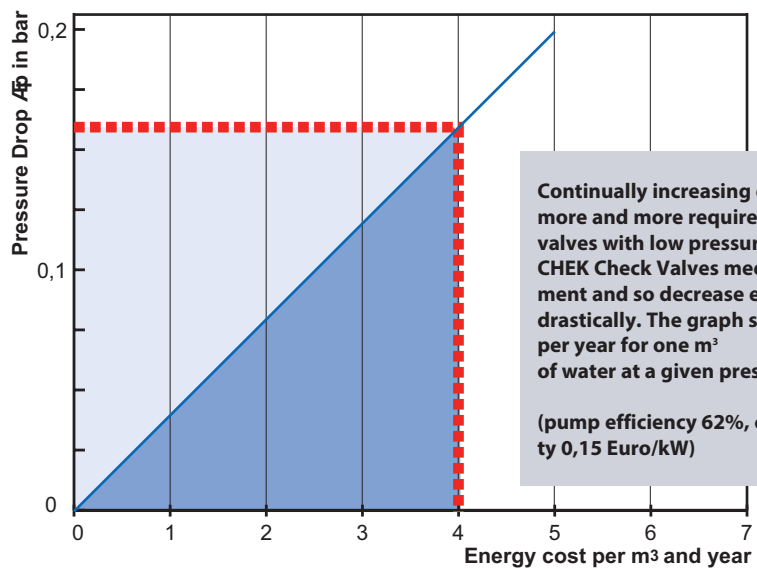
Main Areas of Applications:	
power plants	●
water treatment plants	●
chemical and petrochemical industry	●
steel mills	●
coal mines	●
pumping stations	●
natural gas production/distribution	●
oil exploration/transportation	●
refrigeration systems	●

Applications:	
heating and cooling water	●
cooling liquids	●
compressed air	●
air conditioning	●
portable water	●

### Technical Data:

- DN 50 - 500
- PN 10, 16, 25, 40 / ASME Class 150
- wafer body in grey iron, carbon or stainless steel
- -100 °C to +300 °C
- working pressure up to 40 bar
- tightness acc. to EN12266-1, leakage rate A
- face to face dimension to EN 558-1, series 16 (DN 50-300)
- opening at  $\Delta p = 30$  mbar (standard)

### Determination of Energy Cost Savings



## Design Features

Low pressure loss and gas tight shutoff are the outstanding characteristics of the SINGLE-CHEK Check Valves Series CV. The use of spring loaded, self centering discs in combination with soft seats result in gas-tight closure and silent operation (no chattering/vibrating). For high temperature applications valves can be supplied with metal seats.

The low weight design with space saving dimensions allows easy installation even of large size valves. In most cases special mounting supports are not required.

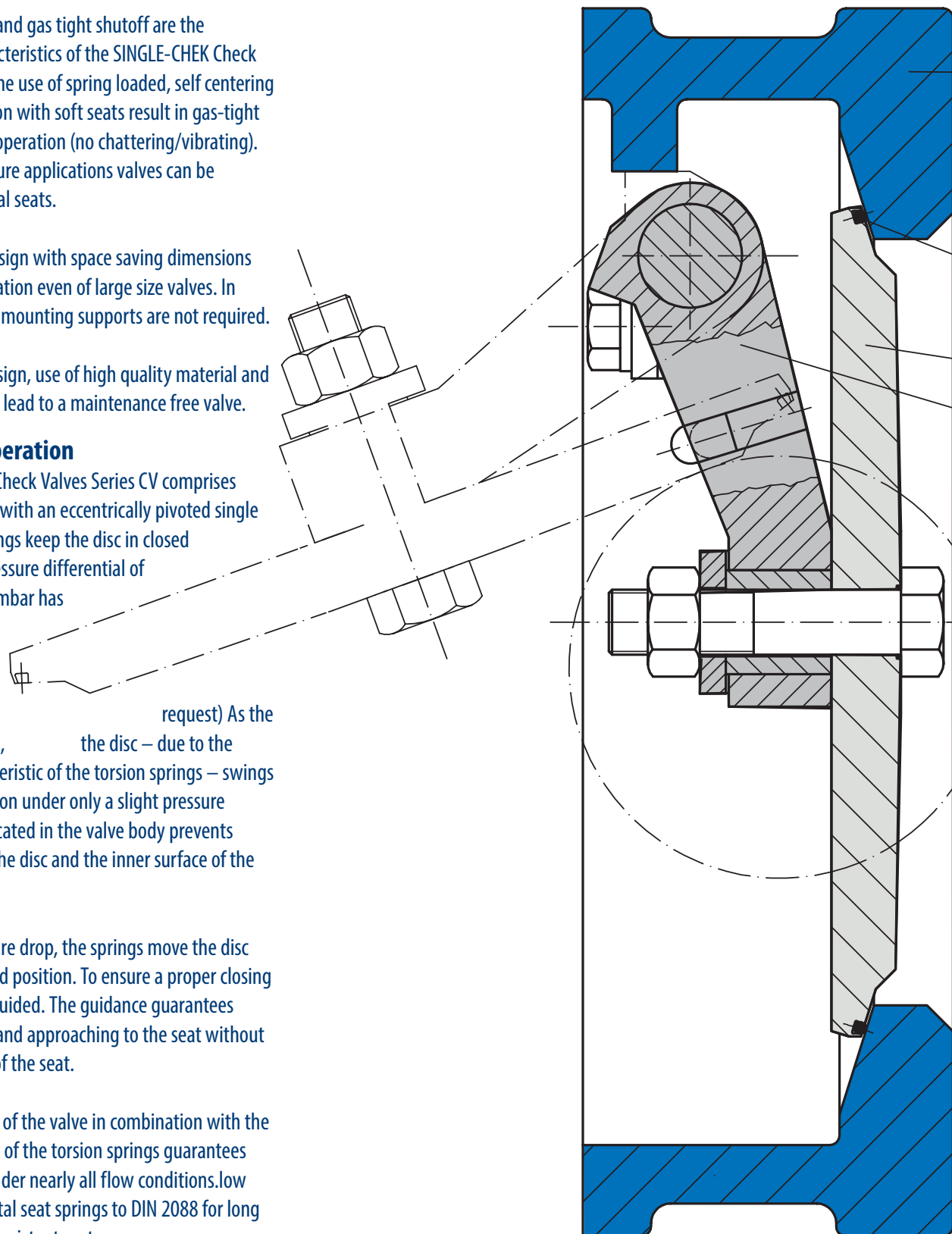
Safe to operate design, use of high quality material and precise production lead to a maintenance free valve.

### Design and Operation

The SINGLE-CHEK Check Valves Series CV comprises a wafer type body with an eccentrically pivoted single part disc. Two springs keep the disc in closed position until a pressure differential of approximately 30 mbar has built up. (Valves with springs for 15 mbar are available on request) As the flow rate increases, the disc – due to the favourable characteristic of the torsion springs – swings into its open position under only a slight pressure increase. A stop located in the valve body prevents contact between the disc and the inner surface of the pipe.

As flow and pressure drop, the springs move the disc back into the closed position. To ensure a proper closing the disc is totally guided. The guidance guarantees parallel lifting off and approaching to the seat without friction and wear of the seat.

This special design of the valve in combination with the ideal characteristic of the torsion springs guarantees silent operation under nearly all flow conditions. low weight soft or metal seat springs to DIN 2088 for long lifetime corrosion resistant seat



## Body Seat on Cast Iron and Carbon Steel Bodies

1

Here the body surface is totally electroless nickel plated. This nickel plating protects against corrosion, and the hard and resistive surface provides a clean mating surface for the O-ring and guarantees a permanent good seal.

## Body Seat on Stainless Steel Bodies

4

As the bodies are manufactured in a corrosion resistant material, nickel plating is not required.

2

3

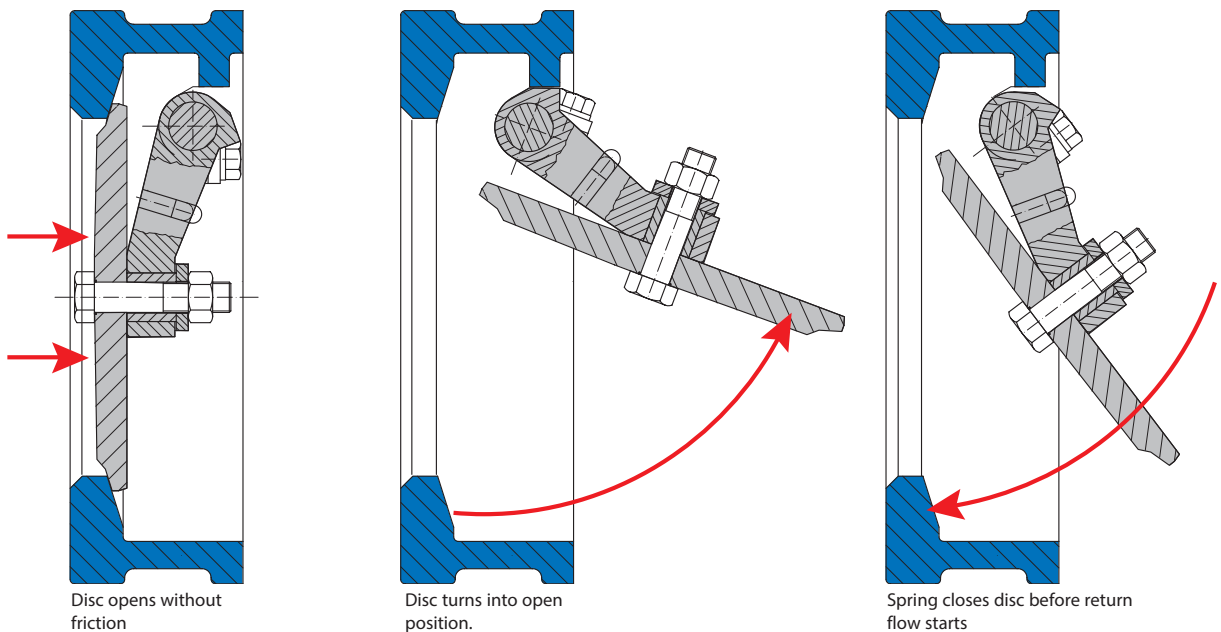
## Disc with O-Ring Seat

Standard O-ring material is NBR but seats of EPDM, FPM or PTFE can be supplied as well. (Leakage-rate acc. to EN12266-1)

## Disc with Metal Seat

For use on temperatures where O-ring materials are not resistant SINGLE-CHEK Check Valves Series CV can be supplied with metal to metal sealing.

### Mode of Operation



1 = body  
2 = disc  
3 = link  
4 = seat

## Installation

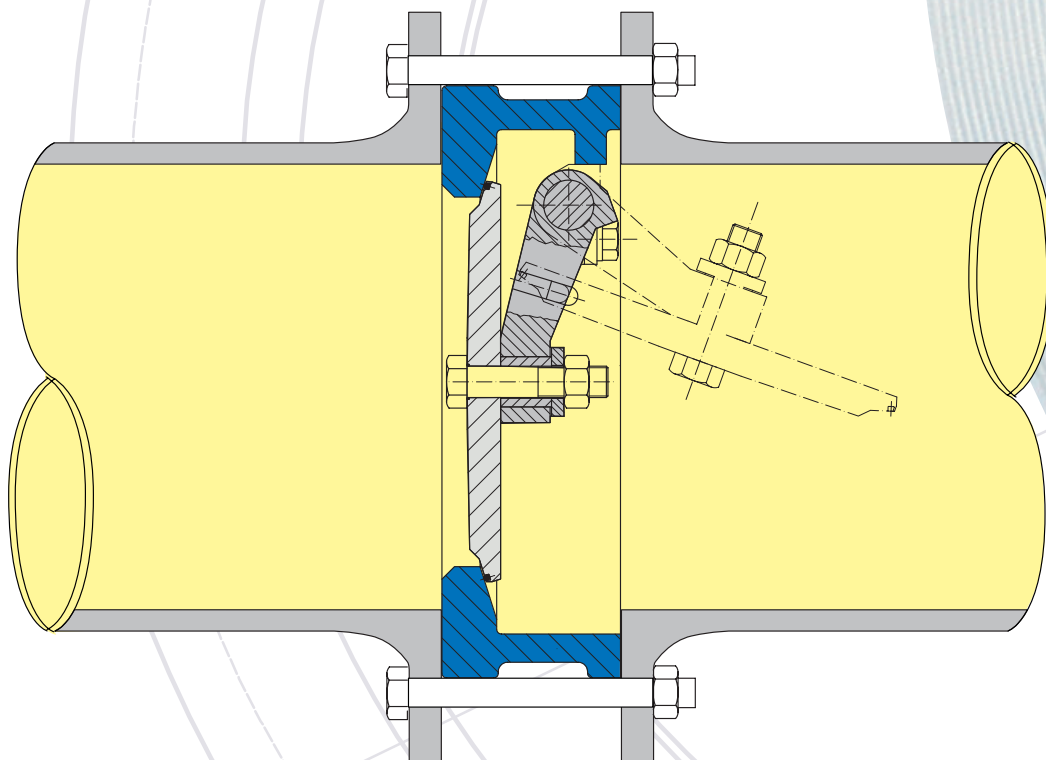
Outside diameters of SINGLE-CHEK Check Valves Series CV have been selected to fit between DIN or ASME flanges.

Lowest pressure drop is obtained when the valve is mounted in a straight horizontal pipe with the link axis in vertical position.

In this case the weight of the disc has no influence on flow and does not cause any additional pressure drop.

Check valves of series CV operate satisfactorily also when installed in a straight vertical pipe with flow in upward direction. In such installations additional pressure drop will occur.

### Installation



Simply place the wafer type body of the SINGLE-CHEK Check Valve Series CV between the two pipe flanges and centre and tighten it by the flange bolts.





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