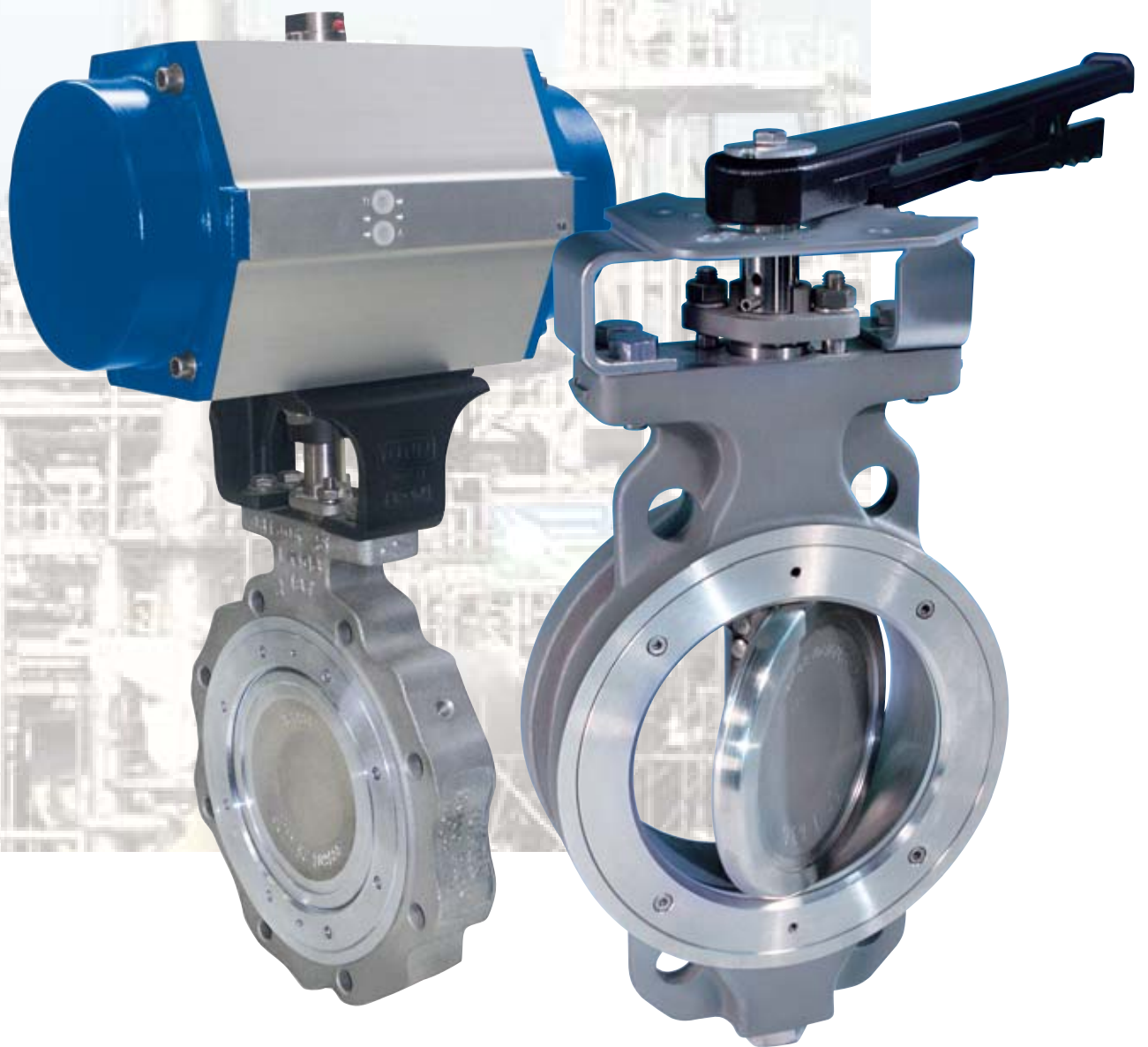


# FLOWSEAL

## Butterfly Valves Series HP/DIN C8



# FLOWSEAL Butterfly Valves

## Series HP/DIN, Model C8

An axially pliant seat represents the new design feature of the Crane High Performance Butterfly Valves, Model C8.

### Applications

Our team of technicians and engineers throughout the world have developed a butterfly valve design meeting all requirements of today's highly specialized industries.

The Crane High Performance Butterfly Valve, C8 provides the same well established and internationally acknowledged Crane quality standard proven by extensive testing in our own R&D centers and practical experience in power plants.

### Advantages:

- Long life
- Extreme tightness under high pressure and vacuum conditions
- Double-eccentric design
- Bidirectional tightness, Leakage A acc. to EN12266

### Technical data:

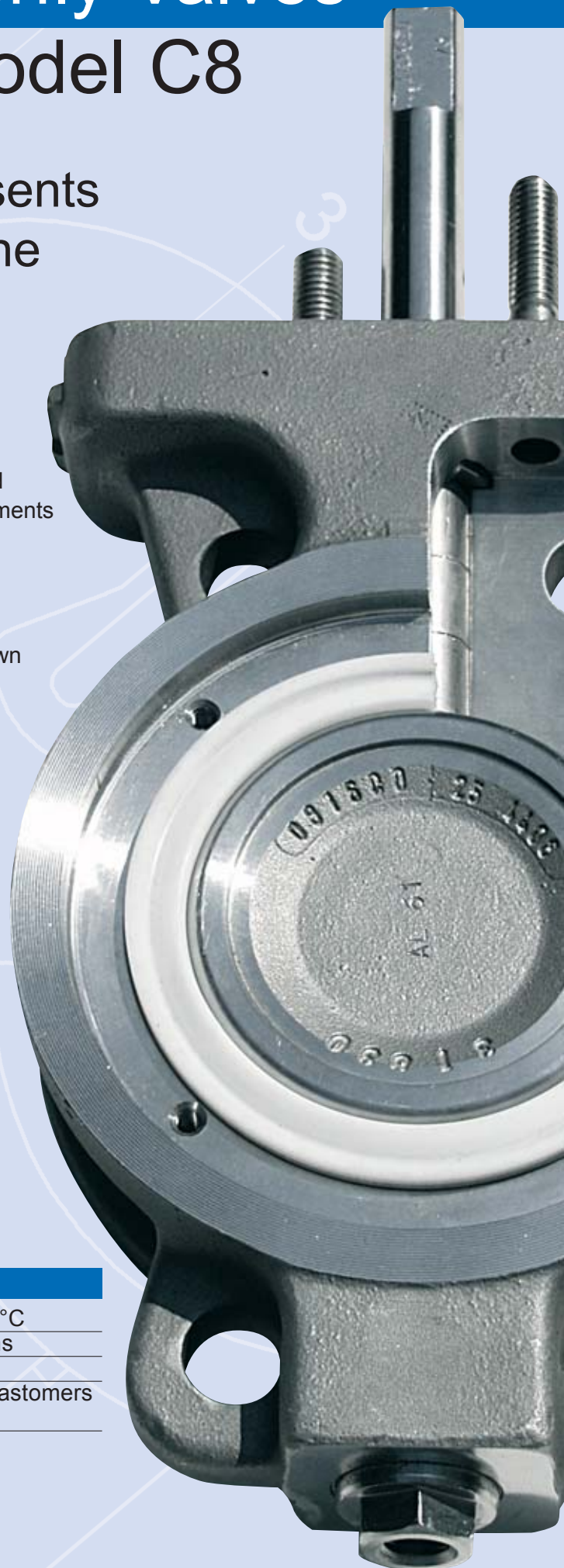
- DN 50 - 1200
- PN 10, 16, 25, 40
- -70°C up to +232°C
- Shutoff pressure up to 40 bar
- Face-to-face dimension in accordance to EN 558-1, Series 25
- Wafer and lug bodies

### Main areas of applications:

- Paper industry
- Sugar industry
- Power generation
- Chemical and petrochemical industry
- Steel industry
- Automobile industry
- Energie supply

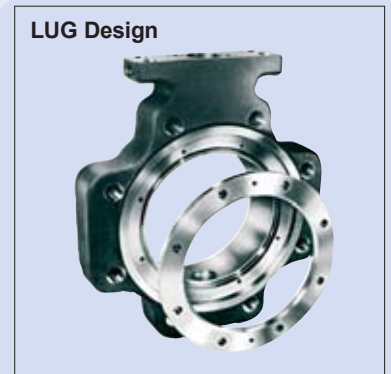
### Applications:

- Hot water up to 232°C
- Air and Gas Systems
- Steam
- Processes where elastomers are insufficient



# Design Features

## Body



All bodies are compact one-piece designs.

Available:

- a) for FITTING BETWEEN FLANGES (WAFER TYPE) with four bore holes corresponding to the flange holes for easy mounting
- b) with SINGLE FLANGE (LUG TYPE)

The extra large rugged mounting pad provides a solid base for mounting actuators and accessories to all bodies. On request also available with connection flange as per DIN/ISO 5211.

Bodies are available with following face-to-face dimensions:

### WAFER / LUG

EN 558-1: Basic Series 25 / ISO 5752: medium (K2)

Special face to Face dimensions to EN 558-1: Basic Series 20 / ISO 5752: short (K1) on request

### Retainer, Flange Seal

The retainer fixes the seat in its position and protects the seat from direct flow. Mounted into the body, both act together as a sealing surface. The connection of retainer and body is covered by the flange seal. Use gaskets only according to EN 1514-1 or ANSI B16.21 for flanges with RF according to ASME B16.5.



# Design Features

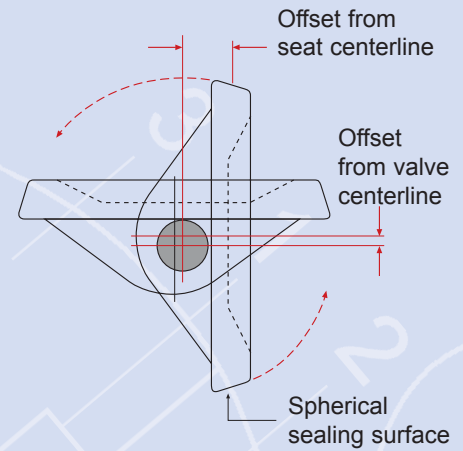
## Disc

The disc is contoured to provide high flow capacity. Sealing surface is spherical. Disc arrangement is double eccentric, that means

- 1x offset from seat centerline
- 1x offset from valve centerline

This design feature provides three important advantages:

- 360° sealing seat area
- long life of seat due to early disengagement of the disc from seat
- reduced torque figures compared



## Shaft

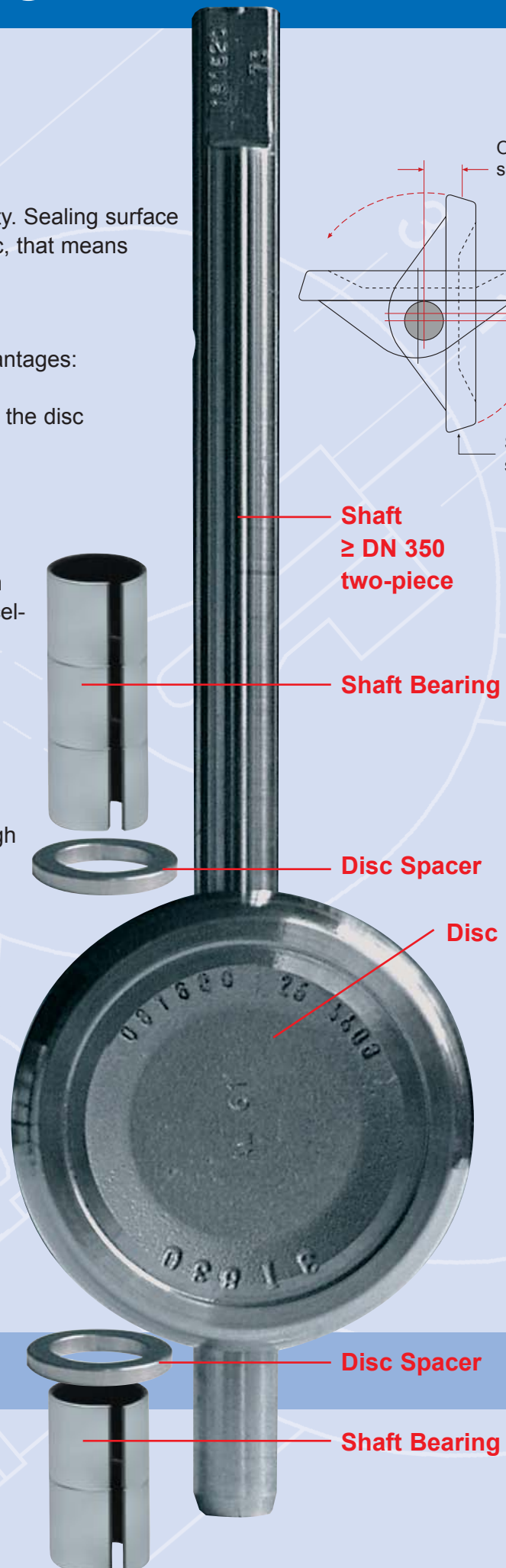
The large diameter shaft provides direct distortion free power transmission to disc and therefore excellent control characteristics (low hysteresis).

## Shaft Bearing

The bearings are constructed of PTFE and fibreglass with stainless steel backing. (For FIRESAFE applications internally graphite coated). They contact the total shaft length through the body preventing downstream movement and deflection of the disc.

## Disc Spacer

The disc spacers are made of hardened stainless steel and prevent vertical movement of the disc.

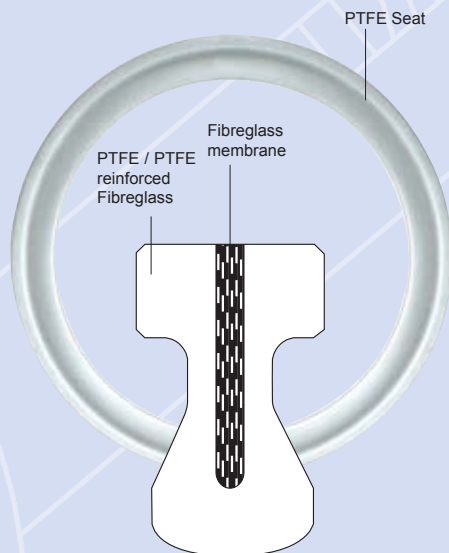


## Design Features PTFE-Seat

### Seat made of durable PTFE

- No springs to break
- No rings to corrode

The symmetrical axially pliant seat (1) is locked by a groove into both the body (2) and retainer (3). Due to this design, the seat cannot be incorrectly mounted. The bolting arrangement simplifies eventual replacement of seat retainer and limits maintenance costs to a minimum.

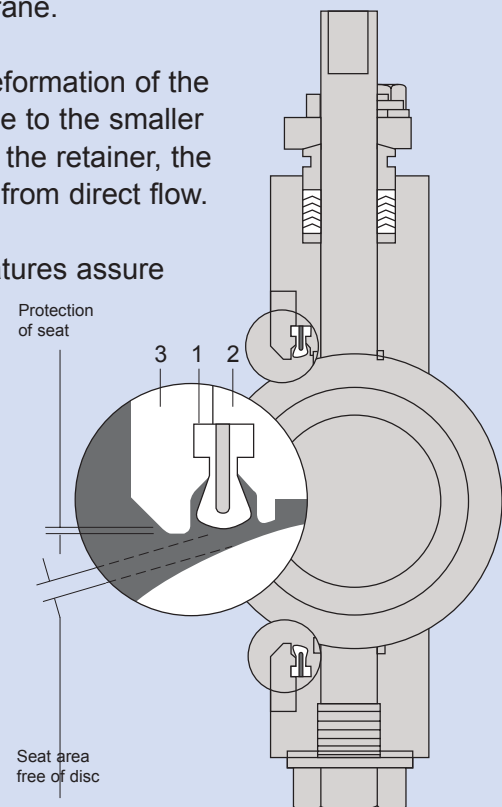


## Design Details

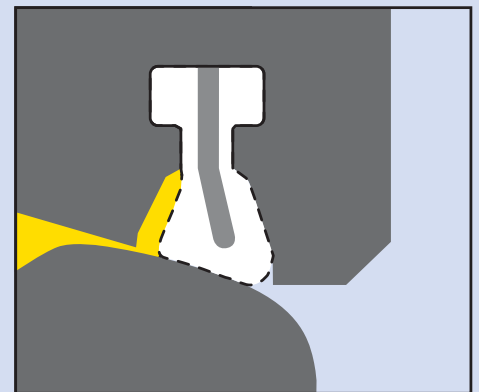
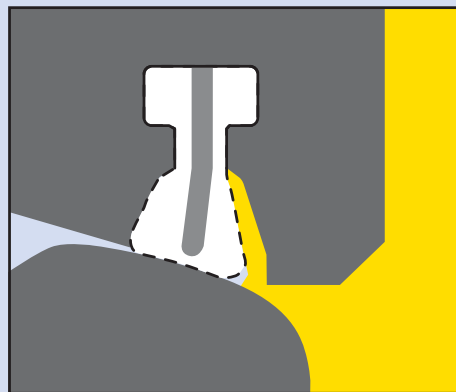
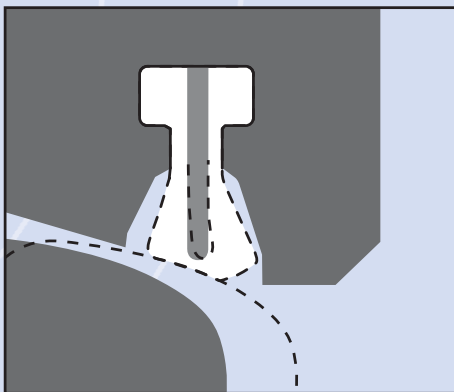
The PTFE seat with its integral pliant fibreglass membrane is also resistant to high corrosive flow media. While opening and closing the valve, the seat is axially displaced. In the open position, the seat is not in contact with the disc and will return to its original shape due to the stabilizing effect of the fibreglass membrane.

No permanent deformation of the PTFE occurs. Due to the smaller inner diameter of the retainer, the seat is protected from direct flow.

These design features assure long life, even under extremely severe service conditions. Tightness acc. to EN 12266 - Leakage rate A.



## Sealing Principle - PTFE seat



**Fig. 1**  
Normal position of the fatigue-proof seat shortly before disc closing. ---disc closed, pressing against axially pliant seat (without additional help by fluid pressure) After every valve opening, the seat returns to its original shape due to the stabilizing effect of the fibreglass membrane.

**Fig. 2**  
Disc closed (normal flow) The closing disc flexes the seat axially to the spherical sealing surface. Fluid pressure additionally tightens the seal.

**Fig. 3**  
Disc closed (reverse flow) The closing disc flexes the seat axially to the spherical sealing surface. Fluid pressure additionally tightens the seal.

## Design Features FIRESAFE-Seat

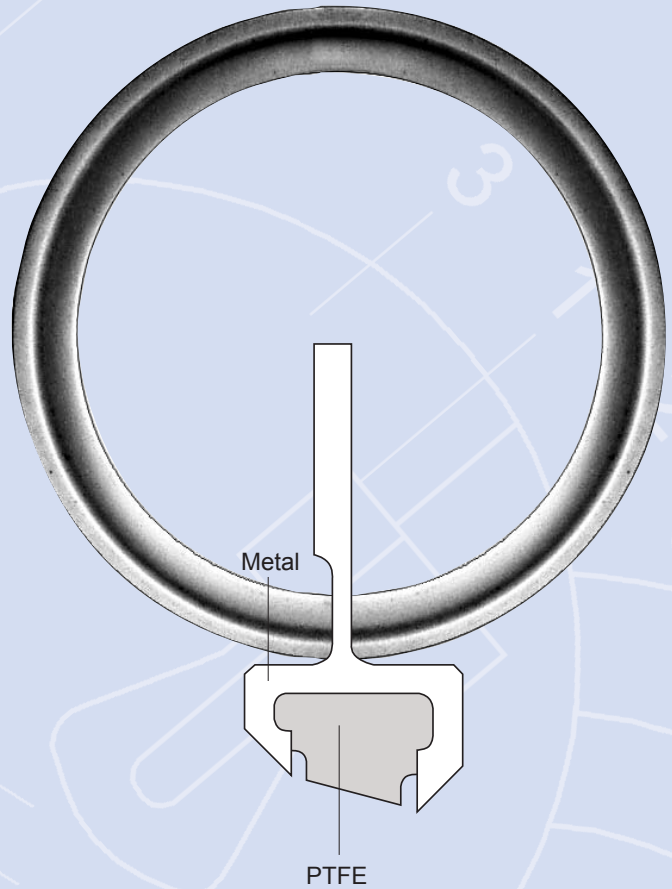
### Seat Metal / PTFE

For applications which require a tight shutoff for inflammable flow media, we can supply a FIRESAFE seat.

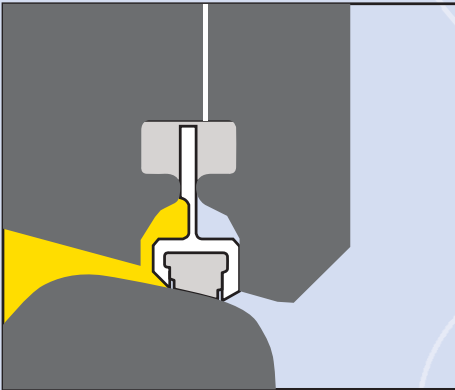
FIRESAFE Seat (specific features):

- Combination Metal/PTFE
- PTFE encapsulated
- Triple seal (Metal/PTFE/Metal) Tightness according to EN 12266 - Leakage rate A.

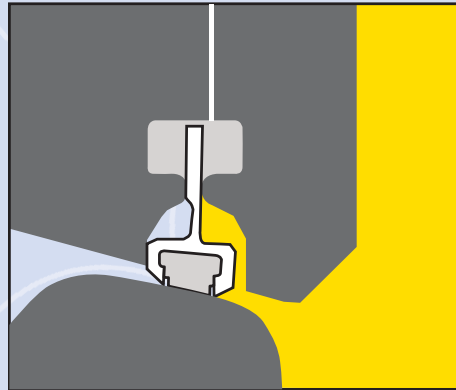
After the encapsulated PTFE ring has been destroyed by fire, the metal double-lip seal remains in function.



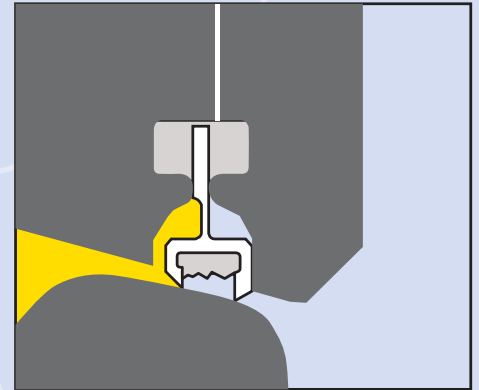
## Sealing Principle - Firesafe seat



**Fig. 1 and 2** show the sealing principle of the FIRESAFE seat (Metal/PTFE/Metal) during pressure loading alternately from upstream and

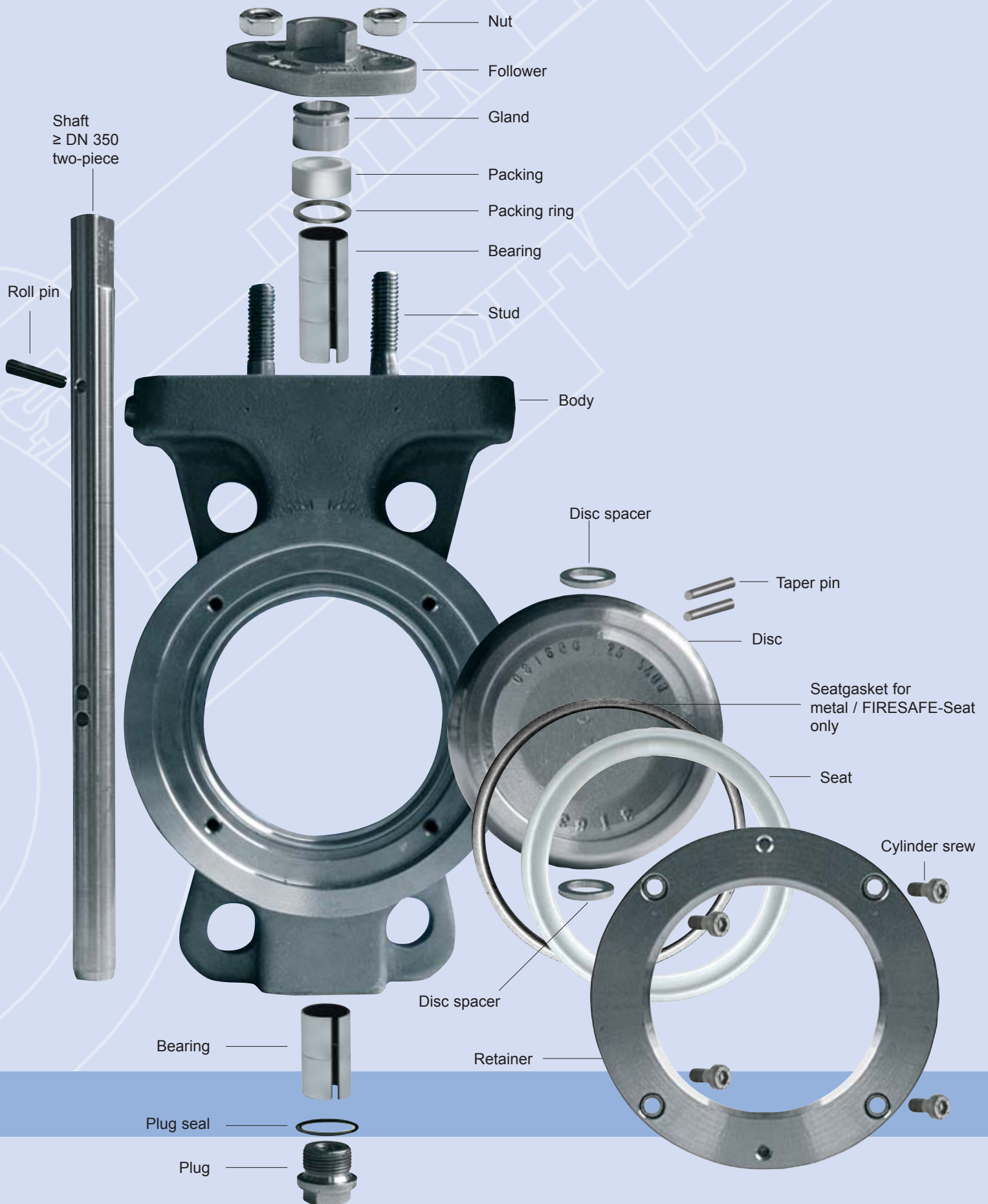


downstream side. Fluid pressure additionally tightens the seal.



**Fig. 3** shows FIRESAFE seat with damaged PTFE ring after being destroyed by fire. The double lip seal (metal / metal) remains in function.

# Part List





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