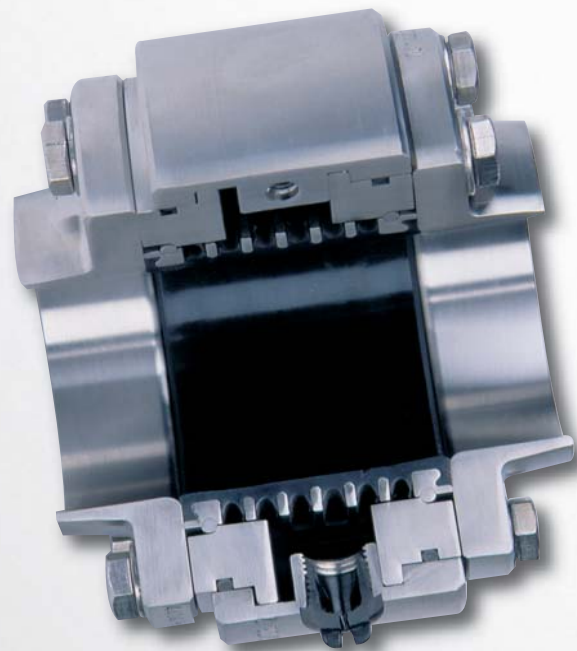


*Liquids to Value*



## VARICOMP Expansion Compensator

For hygienic and aseptic applications

Made by GEA Tuchenhagen



## VARICOMP Expansion compensators . . .

. . . a new dimension of compensators – modular design, process fail-safe, pocket-free and compact.

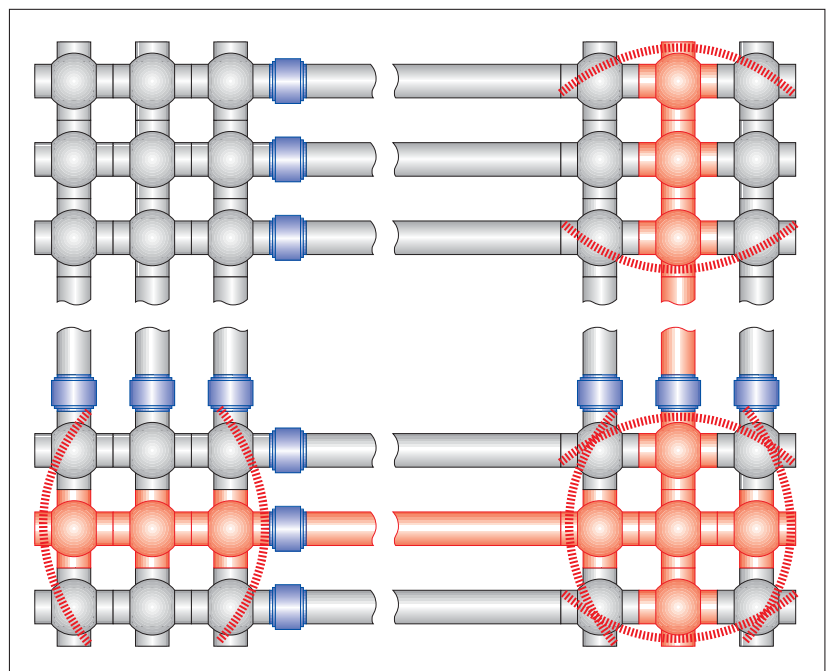
They are ideally suited to hygienic and aseptic process operations. Applications include the dairy, beverage and food industries as well as the the pharmaceutical, fine chemical, biotechnological and cosmetic sectors.



### The advantages at a glance

- Suitable for hygienic and aseptic applications
- Pocket-free design
- CIP / SIP-able
- Short, compact design
- Intermediate flange design with proven VARIVENT® flange connection
- Compensation distance (tension / compression) limited by metallic stop
- Compensation element with integral vulcanized support rings for high pressure loads

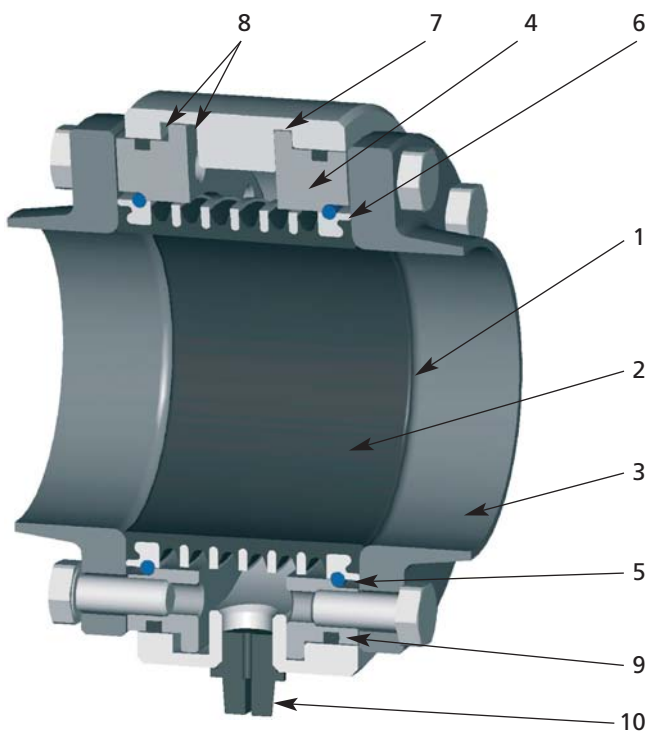
In bigger, rigid-piped valve matrices, heat expansion from different temperatures may cause - if not compensated - deformations on valve housings and thus impair the valve`s function. The outcome of this is unstable process sequences with unforeseeable risks. The innovative VARICOMP Expansion Compensator compensates thermal stress. Due to its exceptional construction principle, the VARICOMP Expansion Compensator is most suitable for aseptic process applications. The decisive advantage of the new VARICOMP Expansion Compensator is the pocket-free design with drain characteristics, an indispensable feature for optimal cleaning in the CIP/SIP method.



Schematic diagram of a valve matrix with VARICOMP® Expansion Compensators

## Application

VARICOMP Expansion Compensators are used to compensate for thermal stress in pipe systems resulting from thermal expansion. They are especially suitable for valve matrices and fixed process pipe systems.

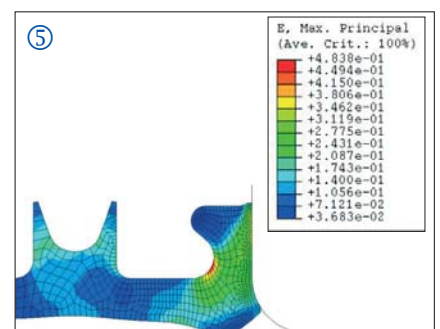
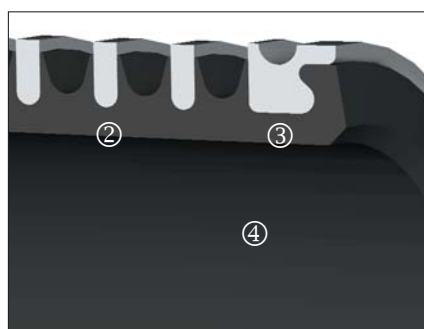
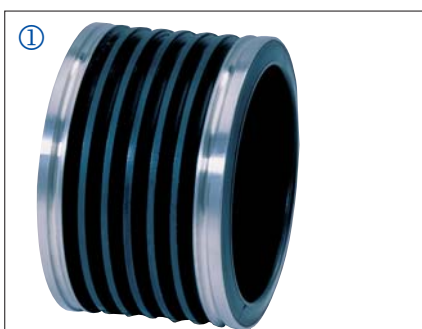


## Technical Features

- 1 Gap-free sealing
- 2 Pipe-flush, even passage
- 3 VARIVENT® flange connection (plain flange)
- 4 Flange used to fix the compensation element
- 5 Round wire for the transmission of pre-stressing force (sealing)
- 6 Metallic stop (defined sealing pressure, no excessive strain on the compensation element)
- 7 Fixing of the compensation element at the outer ring
- 8 Defined compensation distance due to metallic stop (tensile / compressive stress) at the outer ring, no excessive strain on the compensation element
- 9 Additional sealing to the atmosphere provided by O-rings
- 10 Leakage indication / drain

## The compensation element

- ① Compression moulded compensation element made of elastomer (FDA conform elastomer quality)
- ② Integral vulcanized support rings made of stainless steel, used against pressure loads (overpressure and underpressure / vacuum)
- ③ Integral vulcanized support rings made of stainless steel used for fixing the compensation element
- ④ Smooth inside surfaces
- ⑤ Design / calculation using FEM (finite element method)



# VARICOMP Expansion compensators

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## Technical Data

### Nominal widths

DN 65, 80, 100 and 125 - pipe class DIN 11850  
2 1/2", 3" and 4" Inch OD, pipe class ISO 2037  
(BS 4825/Part 1)  
3", 4" and 6" Inch IPS Sch. 5 (only for EPDM)  
Other dimensions / sizes on request

### Materials

Compensation element made of EPDM (FDA conform),  
alternatively FPM (FDA conform)  
VARIVENT® plain flange made of 1.4404 (AISI 316L)  
Non-product-contact parts made of 1.4301 (AISI 304)  
Screws grade A2-70

### Surface finish

$R_a \leq 0,8 \mu\text{m}$

### Operating pressure

Overpressure 16 bar for DN 65 and 2" OD  
10 bar for DN 80 / 100 / 125 and 3" / 4" OD  
10 bar for 3" / 4" and 6" IPS  
Vacuum (underpressure) up to - 0,95 bar

### Temperature

Working temperature max. 120 °C, briefly up to 140 °C

### Compensation distance

Max. 4 mm / the compensation distance can be increased by arranging several VARICOMP expansion compensators in series.



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