GEA D-TEC® DOUBLE-CHAMBER VALVE D/DV

Reliable media separation based on stem diaphragm technology

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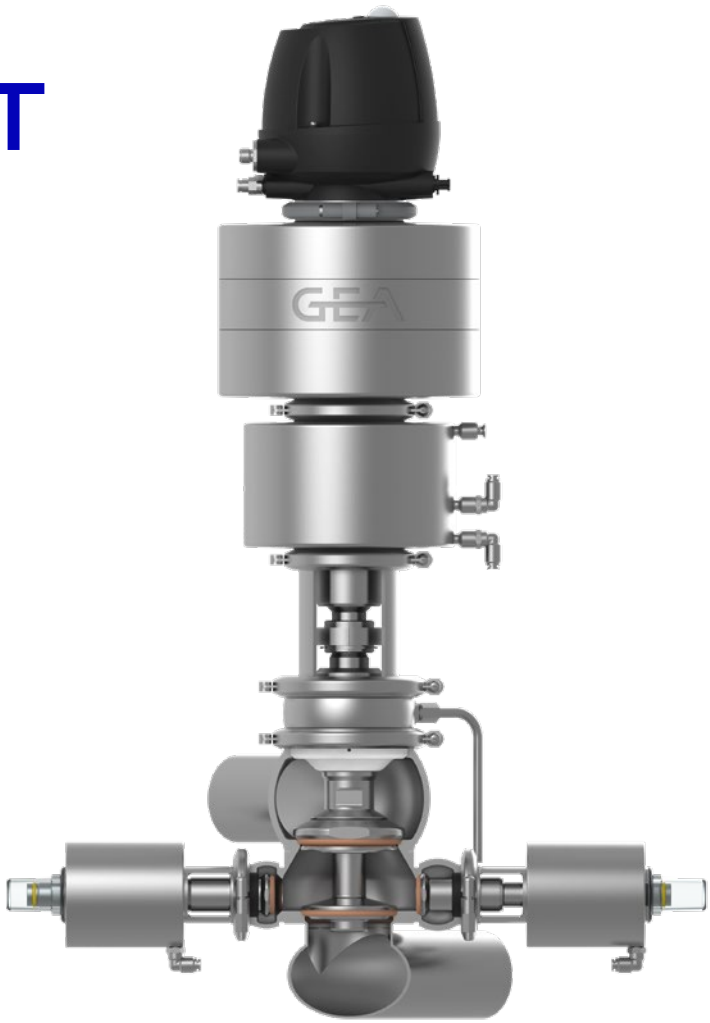
OPTIMIZED PROCESS AND PRODUCT SAFETY



D-tec® Double-chamber valves are used for the mixproof shut-off of incompatible products at pipe junctions.

The double-chamber valve represents a special version of the double-seat valve, in which the leakage chamber is designed as a sterile chamber and hermetically separated from the environment by means of two side valves. With the addition of the D-tec® D/DV to the GEA valve portfolio it is possible to equip process systems even more consistently with the renowned D-tec® stem diaphragm technology.

Reliable media separation
Due to the hermetically sealing diaphragm, D-tec® stem valves achieve a higher standard of hygiene, which, particularly in the food, beverage and dairy industry, contributes to an increased product quality and the longer minimum product shelf life demanded by the market.

Available designs
D-tec® Double-chamber valves D/DV are available with different configurations of the side valves, e.g. different fail-safe positions and an integrated temperature sensor. In addition, the valve seat seals are available as both hard- and soft-sealing – the former with a TEFASEP® gold seals.

TEFASEP® gold valve seat seals are designed to meet all requirements for hard-sealing concepts, from traditional applications with simple hot cleaning to high-end applications with demanding sterilization-in-place processes.

For seamless process integration, the valve can be operated with one, two or three T.VIS® Control tops in various versions configurations.

Benefits at a glance

- Double-seat valve for demanding process conditions in ESL/UltraClean and Aseptic applications
- High operational safety due to reliable leakage detection in the event of a ruptured diaphragm
- Modular principle allows simple conversion, e.g. from hard- to soft-sealing
- Reduced air wiring effort due to internal air supply for the full stroke
- Suitable for product pressures up to 6 bar
- For a permanent operating temperature up to 150 °C
- Areas in contact with product entirely self-draining
- Standard nominal widths DN 40 – 100 and OD 1½”– 4”

Application examples

Brewery industry
Beer and mixed beer beverages (e.g. pure yeast cultivation and connection of sterile tanks and filling machines after sterilization)

Beverage industry
Water-based mixed beverages (e.g. soft drinks, fruit juice and fruit-based beverages, concentrates, beverages with pulp)

Dairy industry
Milk-based and lactic acid-fermented products (e.g. ESL milk, dessert products, crystallizing products such as lactose)

Food industry
Sauces and delicacies (e.g. manufacture of basic fruit ingredients, incl. particulates such as nuts)

D-tec® Product portfolio

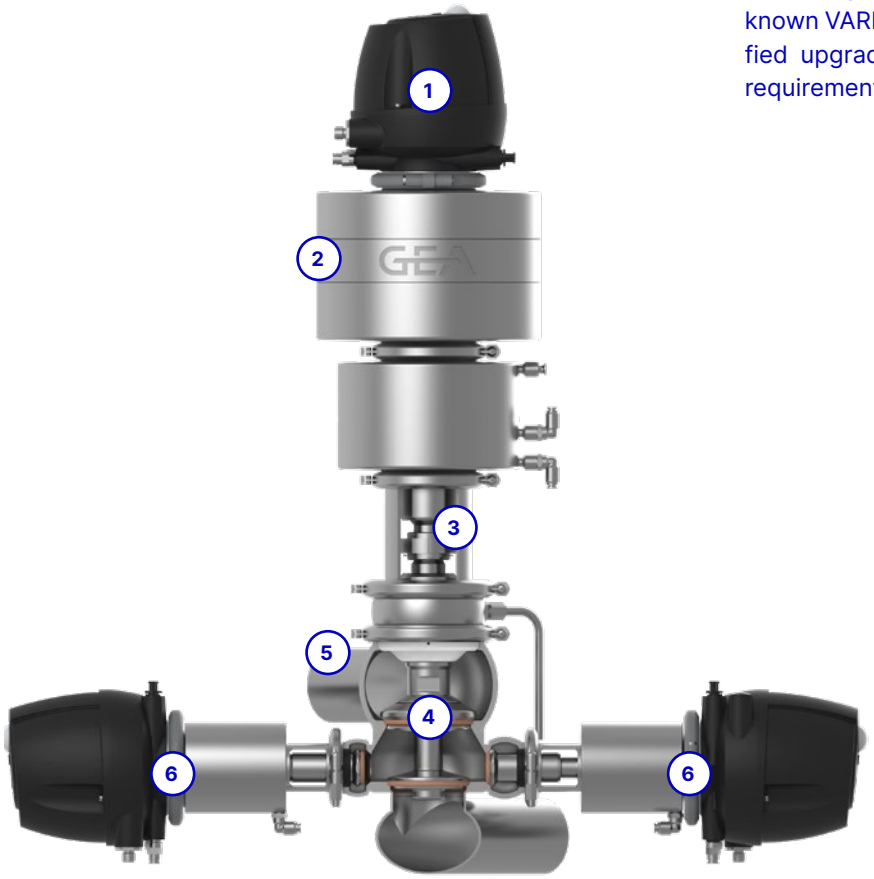
D-tec® Shut-off valve type N/DV
D-tec® Shut-off valves are used for the controlled opening and closing of pipelines. The valves are an ideal fit for UltraClean applications but can also be operated aseptically.

D-tec® Tank bottom valve type N/DV
D-tec® Tank bottom valves are used for the monitored control of fluids at tank applications. The valves are an ideal fit for UltraClean applications but can also be operated aseptically.

D-tec® Divert valve type W/DV
D-tec® Divert valves are used for divert functions in processing plants. The valves are an ideal fit for UltraClean applications but can also be operated aseptically.

D-tec® Control valve type P/DV
D-tec® Control valves are used for the exact setting and control of parameters such as flow, pressure, temperature, or filling level in processing plants.

D-tec® Modular valve system



The D-tec® valve line offers everthing required to entirely equip a process line with state-of-the-art stem diaphragm technology. Furthermore, thanks to its closeness to the known VARIVENT® hygienic valve line, D-tec® enables a simplified upgrade of existing hygienic installations to meet the requirements of ESL/UltraClean processes.

See all the D-tec® valves on our homepage

1 Feedback systems
D-tec® double chamber valves can be either equipped with open feedback units or T.VIS® control tops by default. The degree of automation at the valve can be adapted to customer needs by means of using one, two or three independent control tops.

2 Actuator
The main valve is equipped with two actuators by default. The main actuator is used to move the valve from its normally closed fail-safe position to the fully open position by applying pressurized air to the internal air supply. The lifting actuator on the other hand is used to lift the two valve seats of the main valve independently during CIP or SIP.

3 Lantern
The lantern connects the lift actuator with the product-wetted parts and simultaneously prevents the system from heat transfer between these two valve sections. The lantern has an important supporting and clamping function for the upper D-tec® stem diaphragm and is furthermore designed for a safe and easy visual detection of leakages.

4 Internal assembly
The hermetically sealing D-tec® stem diaphragm is the key element of every D-tec® valve. It is characterized by a very long service life, high dimensional stability with temperature resilience and cleanability. The internal assembly of a D-tec® double chamber valve includes two valve seat seals by default which can be equipped with soft-sealing (i.e. EPDM) or hard-sealing (TEFASEP® gold) materials. The lower valve seat corresponds with the nominal width of the valve.

5 Housing
Housings for D-tec® double chamber valves are available with three or four connection ports. The valves are produced with standard butt-weld connections suitable for orbital welding by default. Mixed connection port sizes as well as various pipe connections are available upon request

6 Side valves
The sterile chamber includes an inlet and an outlet valve by default. The fail-safe position (NC or NO) of both side valves can be chosen independently from each other. The outlet can be equipped with integrated temperature probe which enables temperature measuring in the sterile chamber. In addition, the outlet can be configured with a divert valve to directly apply a sterile media also to the drain side of the valve.

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