

Double Seat Valves Double Seat Blanking Plugs

Hygiene



KIESELMANN
FLUID PROCESS GROUP



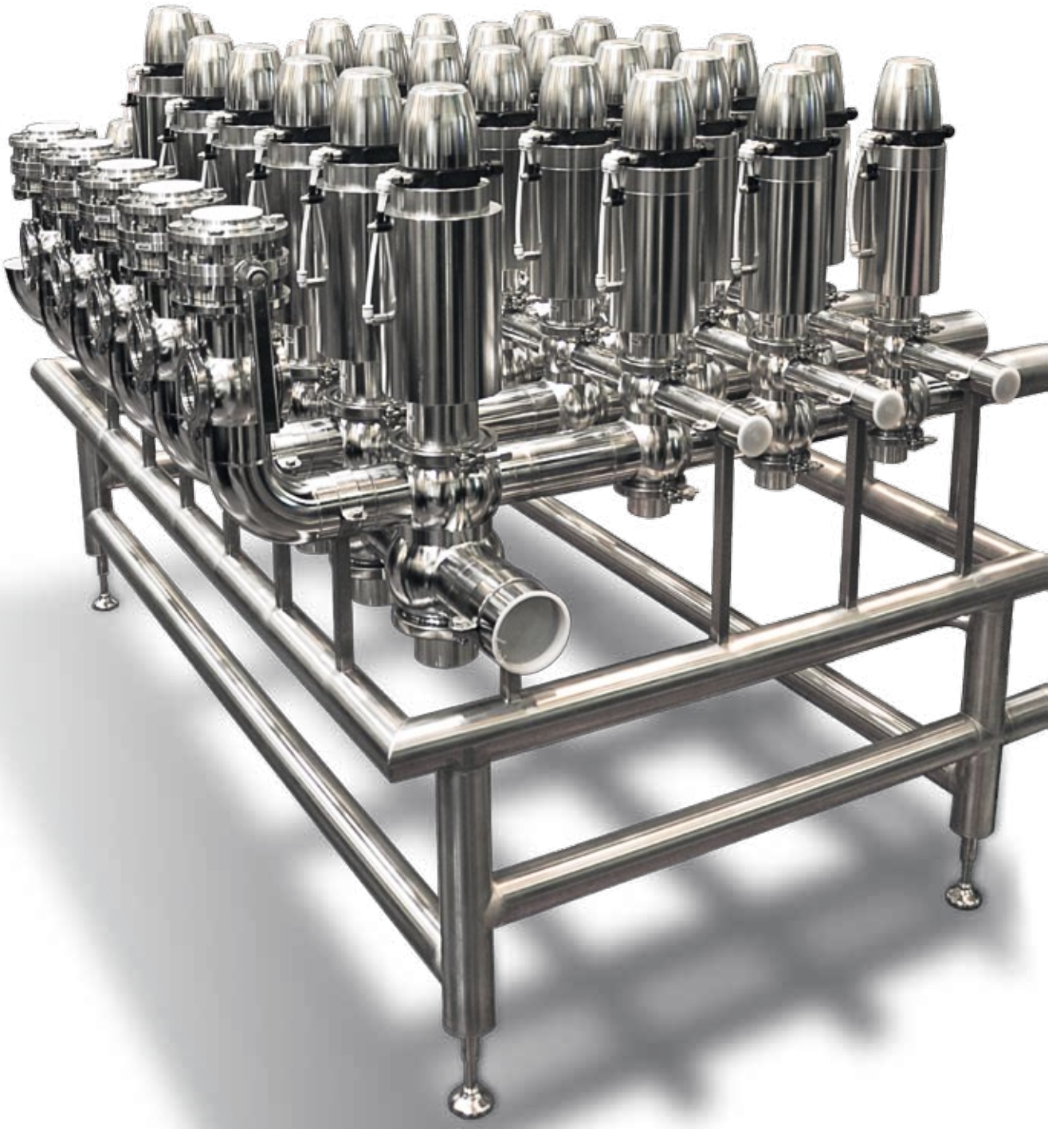
Divided Valve Disks for Maximum Security

KIESELMANN double seat valves are leak-proof valves and serve to separate incompatible products in automatic process plants without contamination. Mixing is reliably prevented by two independent valve disks. In the case of a damaged seal, the medium will drain in a pressure-free way through the leakage gap. Lifting of the upper or lowering of the bottom valve disk enables cleaning of the leakage space.

KIESELMANN double seat valves are characterized by low operating, maintenance and repair costs.

Your Advantages:

- ▶ **The Hygienic Safety**
Product penetration to the rear side of the gasket is absolutely impossible
- ▶ **EHEDG-certified**
High hygienic safety due to excellent cleanability
- ▶ **Minimised product shear**
Optimised flow path
- ▶ **Sealing material *k-flex***
Highly chemically resistant *k-flex* valve disk sealing allows for applications with universal media with a long service life
- ▶ **Reliable leakage detection**
Leak-free opening and closing, only a seal failure will cause leakage
- ▶ **Everything under control**
Comprehensive possibility of automation ranging from sensor monitoring via SPS or ASI-BUS control-head, to emergency-off function and valve position display
- ▶ **Assembly handling**
Easy and quick replacement of seals, faulty assembly is not possible Easy and quick replacement of seals, faulty assembly is not possible
- ▶ **Optional**
Cleaning of inspection lantern is possible



Double seat valve manifold

Double Seat Valves

All Advantages at a Glance

Modular control head

Depending on the version, including:

- ▶ Position indicator and display
- ▶ Valve control
- ▶ Diagnostic system

Actuator

(with 5 year operation warranty)

- ▶ Maintenance-free
- ▶ Removable

Simple assembly

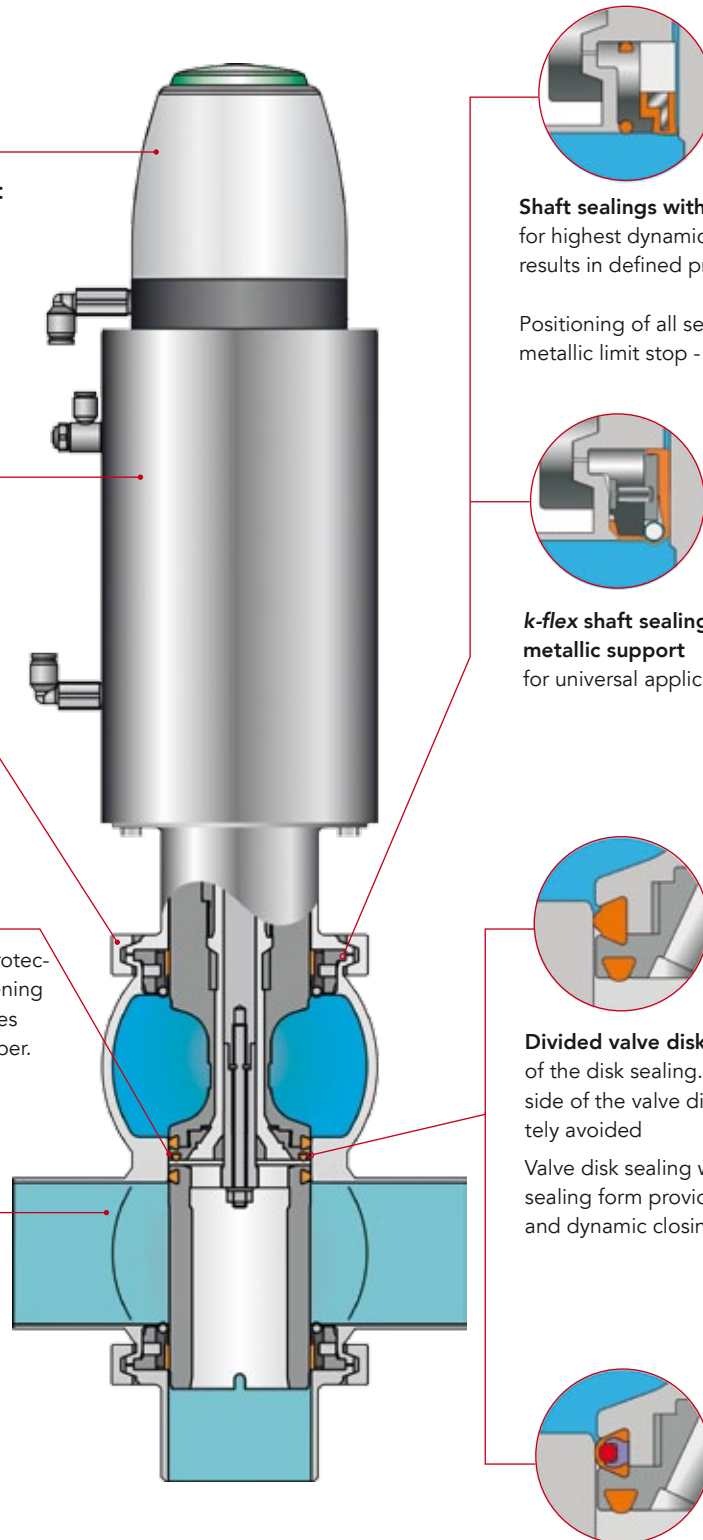
Clamp lock for complete removal of valve insert and actuator.

Uniform valve disk sealing principle

results in continuous locking function and protection from pressure shocks. Leakage free opening and closing of the valve avoids product losses and hygienic problems in the leakage chamber.

Spherical shaped housing

Housing design without cleaning shadows for safe cleaning and product gentle media control.



Shaft sealings with metal core for highest dynamic and static sealing results in defined pre-compression.

Positioning of all sealing elements with metallic limit stop - without cavity.

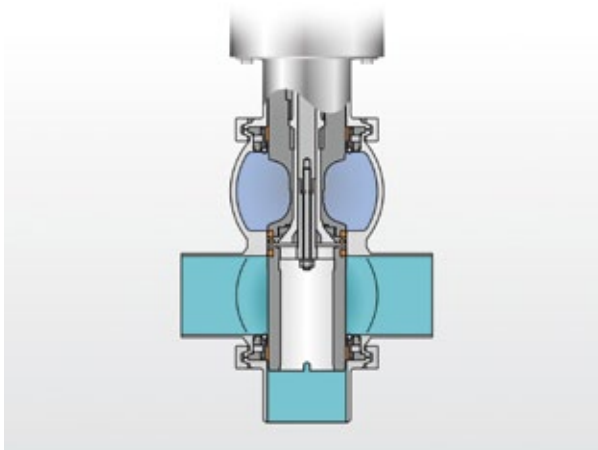
k-flex shaft sealings with metallic support for universal applications.

Divided valve disks for hygienic fixation of the disk sealing. Penetration to the rear side of the valve disk sealing is thus absolutely avoided

Valve disk sealing with FEM optimised sealing form provides for continuously safe and dynamic closing characteristic.

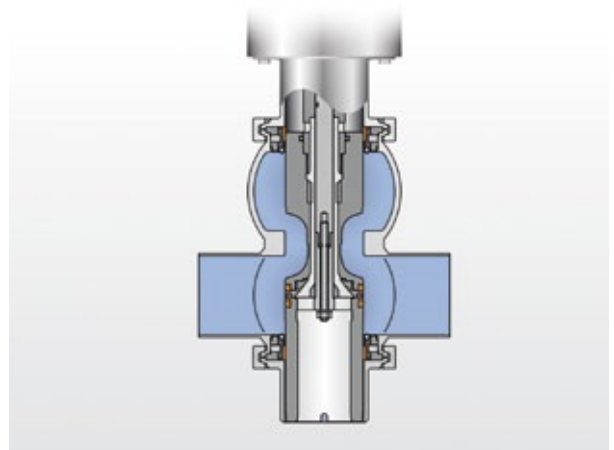
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Detailed functionality of Double Seat Valves



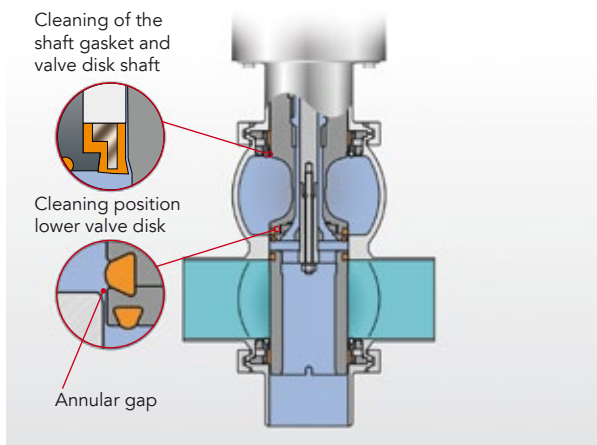
Valve closed

- ▶ Secure separation of product and cleaning media
- ▶ Possible leakages are diverted via the leakage chamber to the exterior without pressure
- ▶ Pressure shock resistant locking position



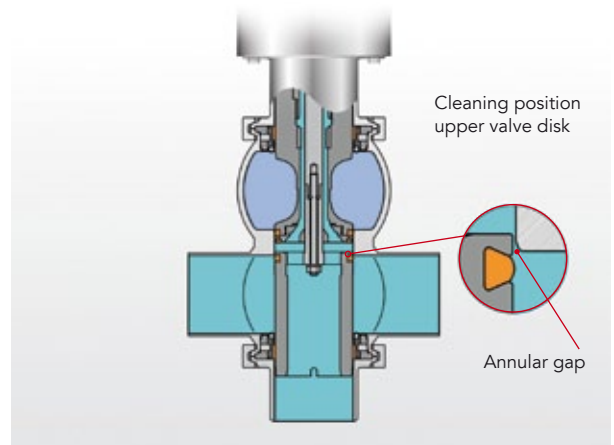
Valve open

- ▶ Loss-free switching of the valve
- ▶ Leakage chamber closed
- ▶ Valve passage designed for large capacity flow



Pulsing of upper valve disk

- ▶ Lifting upper valve disk
- ▶ Cleaning and sterilization of shaft sealing, valve disk shaft, lantern, valve disk and gaskets, valve seat, leakage space with drainage and protective shell
- ▶ Cleaning fluid volume defined by metallic limited annular gap



Pulsing of lower valve disk

- ▶ Lowering of lower valve disk
- ▶ Cleaning and sterilization of valve disk sealing, valve seat, leakage space with drainage and protective shell
- ▶ Cleaning fluid volume defined by metallic limited annular gap

Double Seat Valves

The Double Seat Valve Design Kit



Double seat valve
standard version



Double seat
changeover valve



Double seat valve
piggable



Double seat
tank outlet valve



Double seat
blanking plug

Maintenance-free actuator with 5 year functional Warranty



TECHNICAL DATA

Installation sizes:	DN 25–150, 1"–4"
Materials	
Product contact:	1.4404 / AISI 316L
Non-product contact:	1.4301 / AISI 304 1.4307 / AISI 304L
Sealings:	EPDM (SIP 140° C, 30 min) FDA compliant HNBR (SIP 110° C, 30 min) FDA compliant k-flex (SIP 150° C) FDA conform
Surfaces	
Product wetted:	Ra ≤ 0.8 µm electro polished
Operating pressure:	
DN 25–DN 100	max. 10 bar
DN 125/150	max. 6 bar
DN 1"–4"	max. 10 bar
Pressure shock resistance:	up to 40 bar (closed valve position)
Control air:	5.5–8 bar (lower control air pressures on request)
Operating temperature:	95° C

Double Seat Valve Manifold Examples



Double Seat Valve Blanking Plug for problem-free upgrade

It could be so easy ...

The KIESELMANN blanking plug is used as a valve body placeholder for the future retro-fitting of an active full valve insert. This can be used in both valve manifolds and discrete positions throughout the plant.

The addition of extra valves to existing manifolds involves cutting, spreading and re-welding of established pipework. This activity produces internal contamination to the pipework which can damage both products and equipment. The stresses introduced by welding stable, fixed, pipework can be destructive and time consuming compromising the quality of your product.

Using the KIESELMANN blanking plug; just isolate, release the clamps, remove the plug, drop in the insert, replace the clamps, CIP and start production. It's that simple.

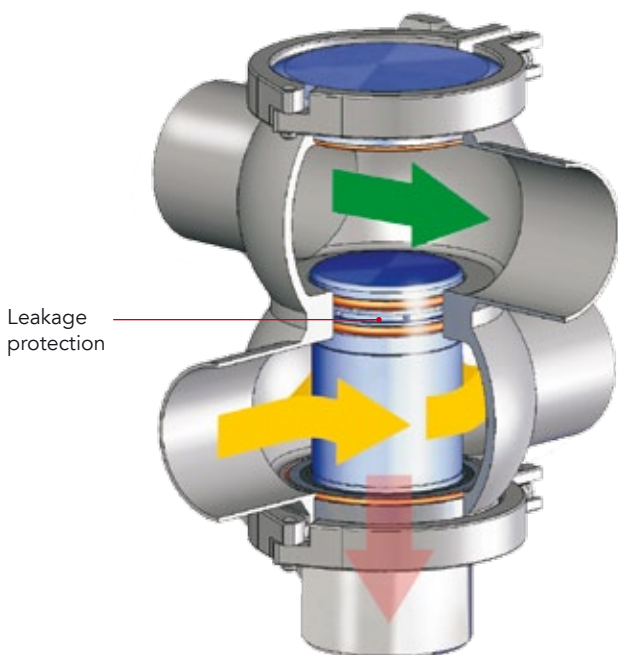


Advantages:

- ▶ Futureproof planning of valve manifolds and routes
- ▶ Simple retrofit of double seat valves in the manifold or piping system
- ▶ No welding of additional housings after expansion and therefore a stress-relieved manifold
- ▶ Elimination of costly production downtimes
- ▶ Hygienic design ensures the plug can remain in place for a long period without risk to product

Features:

- ▶ Pressureless gallery between double seals connected to a leakage tell tale at the base of the plug
- ▶ Metal to metal contact for all mating parts ensures pre-defined seal compression
- ▶ Pressure shock protected up to 40 bar
- ▶ Product turbulence minimised and cleaning maximised by optimum flow path
- ▶ EHEDG design ensures complete cleanability



TECHNICAL DATA	
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Operating pressure:	
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Pressure shock resistance:	up to 40 bar
Product temperature:	max. 95° C

KIESELMANN Control Head System KI-TOP

KI-TOP is a modular design of control head system in modular design for the control and monitoring of process valves. It has many possible applications - and many variants. The boards which are fitted with plug-type connections, are available as a standard and a premium version as well as in SPS and ASI bus design. Both of them can be provided with rotating lights and are retro-fittable. So you can be sure to monitor your processes in production at any time.

KI-TOPs can be fitted with plastic and special steel caps. Due to the enclosure design and sealing of components, the heads are comfortably rated at IP 67. For added protection when the cap is removed the circuit board and its components are coated in a polyolefine resin. This provides a reliable protection of the high-quality electronics and a safe function

Control systems:

- ▶ SPS
 - ▶ ASI-Bus
 - ▶ ASI-Bus 100
- 100% function control
with seat lift indication

Valve control functions:

- ▶ All-round visible status indication
- ▶ Control and information of up to 4 valve positions
- ▶ Safe indication of final positions
- ▶ Exact position determined by auto setup mode
- ▶ Safety owing to emergency stop function
- ▶ Pulse-width modulation electronics for low energy demand

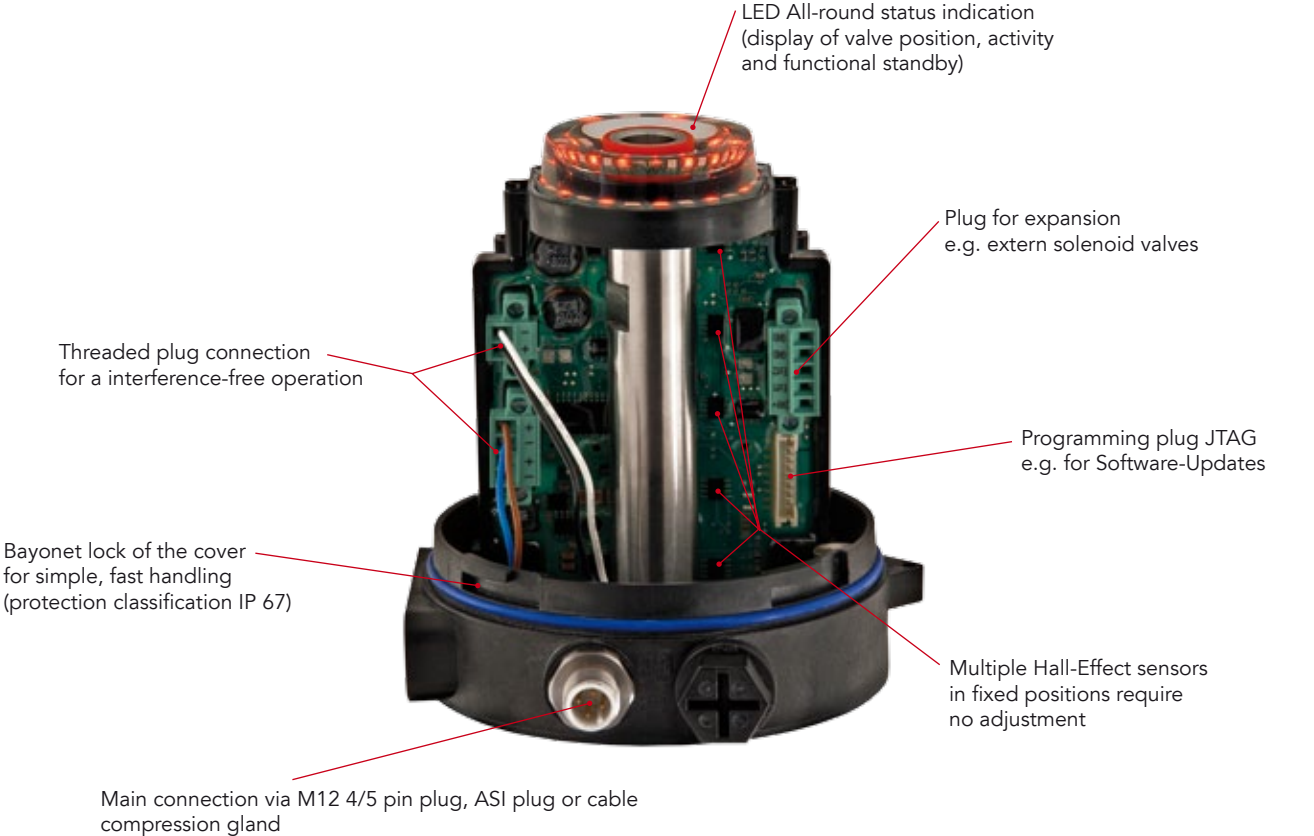
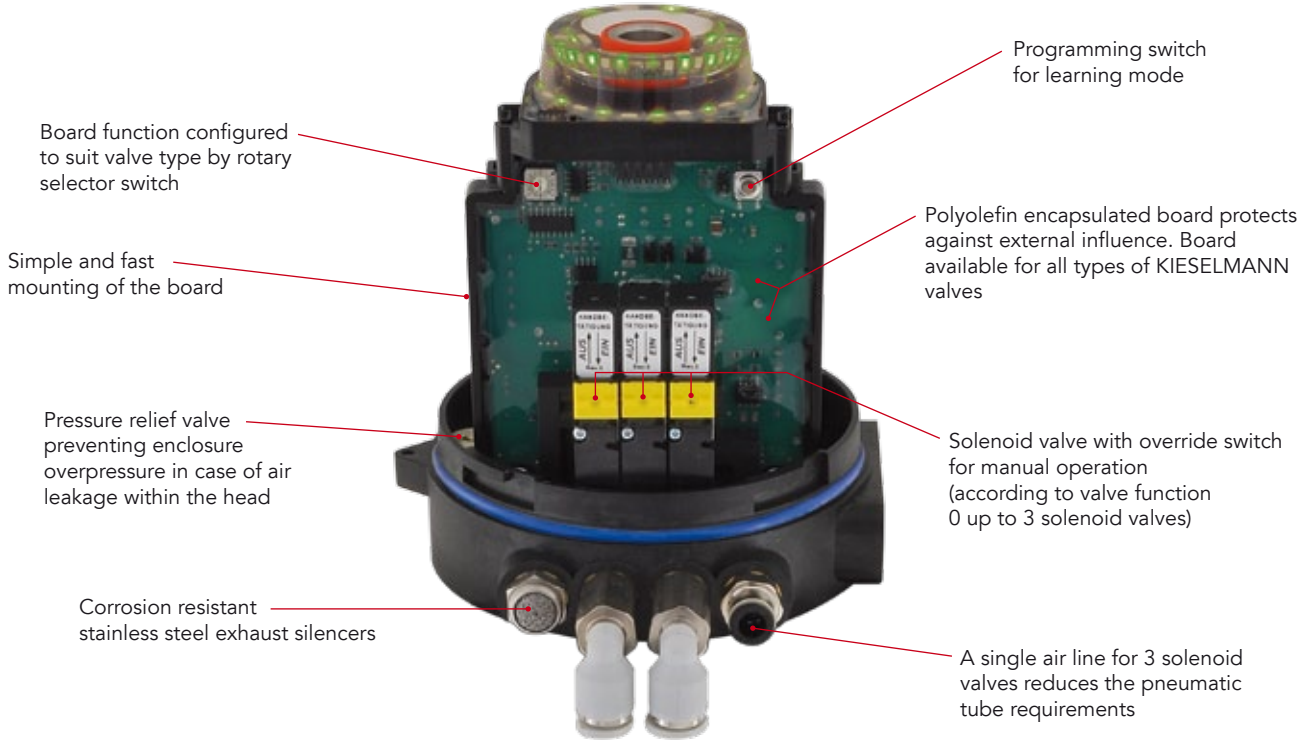


transparent, acid-resistant cover for visual position monitoring



Stainless steel cover for robust operating conditions

Control Head Features



For your Advantage – The FLUID PROCESS GROUP

KIESELMANN bundles by participation in companies the authority in different parts of plant engineering and component production within the FLUID PROCESS GROUP. This network of independent companies allows to offer and produce complex projects as a general contractor via partner companies, without the common practicing surcharges.



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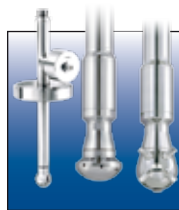
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