

Safety Valves Bunging Valves Tank Dome Fittings

Tanks



KIESELMANN
FLUID PROCESS GROUP

Reliable Reaction at the right Moment

Safety devices are part of our everyday life. Just like anti-skid systems in cars, safety valves help to ensure that no unwanted hazardous situations can occur in production systems.

Overpressure in processing systems can be caused by faulty valve controls and control elements but also by the production process itself. For this reason safety components are imperative, especially in sensitive fields such as pressure tanks and pipelines, to avoid material damages and injuries.

KIESELMANN safety valves reliably prevent over-pressure and ensure that the system operates in a secure and trouble-free manner. The wide range of valves available means that there is always the right solution available for all kinds of media, whether liquid or gas. We supply spring-loaded and weight-loaded safety valves which comply with PED 97/23/EG. The valves, which are exactly adjusted and sealed in the approved test centre, are supplied with a test certificate.

But safety does not necessarily have to be expensive. Due to their high flowrate (α -value), KIESELMANN safety valves achieve the defined performance even in small bore sizes and therefore play an important role in saving investment costs.



Safety valve at KIESELMANN test centre



Panel with bunging valves in a brewery

The KIESELMANN Safety Programme for Tanks and Pipes

KIESELMANN safety fittings

- ▶ For liquids and gases
- ▶ Authorisation according to DGRL 97/23/EG
- ▶ Optimum blow-off performance with marginal
flow resistance, i.e. high α -value
- ▶ Hygiene design
- ▶ CIP-/SIP cleanable
- ▶ Designed according to EC machine guideline
- ▶ suitable for the installation in machines and plants
which require CE marks





Water and Air ...

... can cause, if under high uncontrolled pressure, a serious amount of damage. Therefore the KIESELMANN safety programme contains safety valves that are specifically designed for use with water and similar liquids as well as gases and vapours. Thanks to the spring-loaded and weight-loaded designs and the combination of materials used, they are ideally suited for the food and beverage industry.

In addition to the standard version, KIESELMANN safety valves can also be fitted with extra functions. In addition to the possibility of lifting the valve seats which are in product contact to facilitate cleaning, the safety valves for gases can also be fitted with a protection cover. This ensures that the media is discharged downwards thereby minimizing the risk of injury.

For outdoor use, the valves can be fitted with heating cartridges that reliably prevent the moving parts from freezing in sub zero temperatures. Also available are models with proximity switches that guarantee the recording of the operational status.

KIESELMANN safety valves are designed to be low-maintenance. Normal maintenance such as seal renewal can be carried out by your own engineers without the need to disturb the seal-protected actuator.



Safety valves for liquids
(spring and weight-loaded)

Safety valve DN 25
for liquids and gases
(spring-loaded)



KIESELMANN Safety Valves for Liquids and Gases

Protected against overpressure

These valves open when the pressure, which is defined by the customer and set in our workshop, is exceeded. The valve closes by means of weight or spring force. Field of application: liquids (spring/weight loaded) and gases (spring-loaded). Spring-loaded models can be used in horizontal or vertical position, weight-loaded models can only be used vertically due to their design.

TECHNICAL DATA	
Nominal widths:	DN 25 - DN 100 (liquids) DN 20 (gases)
Material:	1.4301 or 1.4404 for all product contacted parts
Seal materials:	EPDM (liquids) Viton, EPDM (gases)
Set pressure:	0.2 - 12 bar depending on nominal width (liquids) 0,1 - 10 bar (gases)
Operating temperature:	max. 80°C (liquids) CIP-/SIP-capable up to 140°C max. 130°C (gases)
Standard connection variants:	liner nut DIN 11851 (liquids) G 1" liner nut DIN 11851 (gases) other connections available on request (e.g. flange, clamp)
Options:	pneumatic seat lifting heating elements (liquids) proximity switches (liquids) protection cover (gases)



Heatable safety valve



Safety valves for gases (spring-loaded)

Pressure Compensation ...

... may be required for certain pressure conditions. For example, if a constant level of pressure is a prerequisite for a production process for achieving a certain level of quality. For these applications KIESELMANN has developed the Bunging valve. Their characteristics and design are exactly tuned to the requirements of the food industry. The spring-loaded bunging valves can be infinitely adjusted to the required opening pressure. The valves open and close in reaction to the slightest changes of pressure and therefore allow a constant pressure to be maintained.

Bunging valves are available in two versions: the open model with free discharge and the closed version with pipe connection for contained discharge. The closed version facilitates the collection of excess CO₂ and to for storage or being re-fed into the production process. In addition to the standard version, the KIESELMANN bunging valves for gases can also be fitted with a clear water bath that enables the escaping gas to be seen easily.

KIESELMANN Bunging Valves for Pressure Regulation in fermenting processes

Constant Pressure Levels

These valves open at a defined pressure infinitely adjustable across the defined range by the user with a small tolerance range. Field of application: gases. Bunging valves are usually used in a vertical position.

TECHNICAL DATA	
Nominal widths:	G 1", DN 25/32 and 50
Material:	1.4301 or 1.4404 for all product contacted parts
Seal materials:	Viton, EPDM
Set pressure:	0.2 - 4 bar (Type 6267) 0.1 - 10 bar (Type 6246)
Standard connection variants:	liner nut DIN 11851, G 1" other connections available on request (e.g. flange, clamp)



Bunging valve on a KZE for beer



Bunging valve type 6267
(spring-loaded)



Bunging fitting type 6246
(spring-loaded with water bath)

A Perfect Connection

Tank domes are usually fitted with safety and cleaning components. KIESELMANN tank dome fittings type TDAM provide the perfect basis for a combination of the required components in one unit.

The inexpensive assembly of only one tank connection makes expensive tank top plates with diverse connections redundant! In addition to the standardized connection, this model also allows the tank cleaning process to be greatly simplified and made more safe. The fittings are equipped with anti-vacuum valve, safety valve and SIP/CO₂ unit for the gas line as well as with spray ball or rotary jet cleaner. They can also be fitted with bunging valves, manometers and other operational fittings on the downward pipe.

Vacuum Safety

Vacuum in tanks, e.g. caused by rapid emptying or the sudden vacuum generated by cooling gases, can cause catastrophic damage to the tank and injury to persons. Play it safe with KIESELMANN anti-vacuum valves. When fitted, these valves, pre-set in our workshop, avoid a dangerous vacuum by opening at the right moment.

Also available:

spring-loaded and suspended anti-vacuum valves.



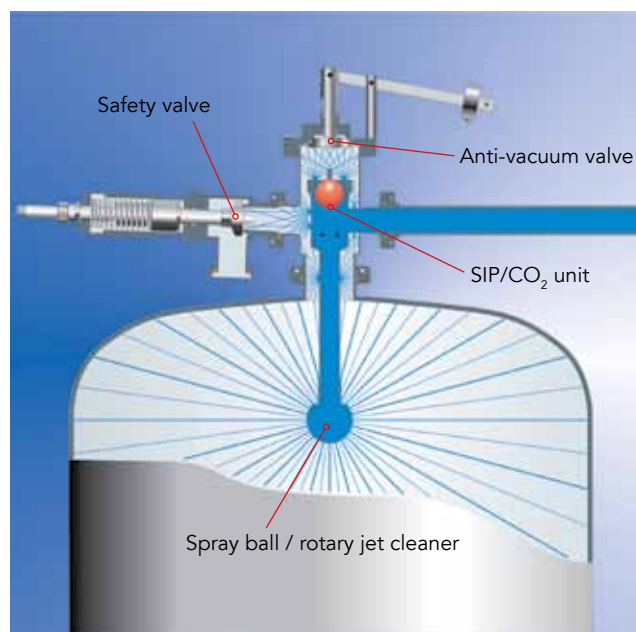
KIESELMANN Tank Dome Fitting with Standard Connection to the Tank Dome

Prevention of Overpressure and Vacuum, for CO₂-recovery and Tank Cleaning

Combination module for the tank dome with connection as tank connection. The integrated SIP/CO₂ unit ensures optimum cleaning of the interior of the fitting.

TECHNICAL DATA

Nominal widths:	DN 50 - 250
Material:	1.4301 or 1.4404 for all product contacted parts
Spray ball / rotary jet cleaner connection:	DN 20 - 50
Hygiene:	Cleaning certificate TU Munich Weihenstephan
Cleaning:	Self-cleaning due to SIP/CO ₂ unit and spray nozzles in the fitting



Tank dome fitting TDAM during cleaning



Standard version tank dome fitting TDAM with
anti-vacuum valve, safety valve, SIP/CO₂ and
spray ball

Our Product Programme



- ▶ **Sanitary pipes**
- ▶ **Fittings and tube accessories**
- ▶ **Valves and process components**
 - Butterfly valves
 - Leakage butterfly valves
 - Ball valves
 - Single seat valves
 - Double seat valves
 - Safety valves
 - Tank top units
 - Sample valves
 - Aseptic valves
- ▶ **Cleaning units**
 - Sprayballs
 - Rotating cleaning heads
- ▶ **Planning and construction of plants**
 - CIP plants
 - Pigging technology
 - Thermal systems
 - Turnkey projects

We hope that this small glimpse at our capabilities has been interesting.

If you would like any further information then please do not hesitate to get in touch with us and we will be pleased to answer any questions you may have.

Just call us or send us an e-mail.