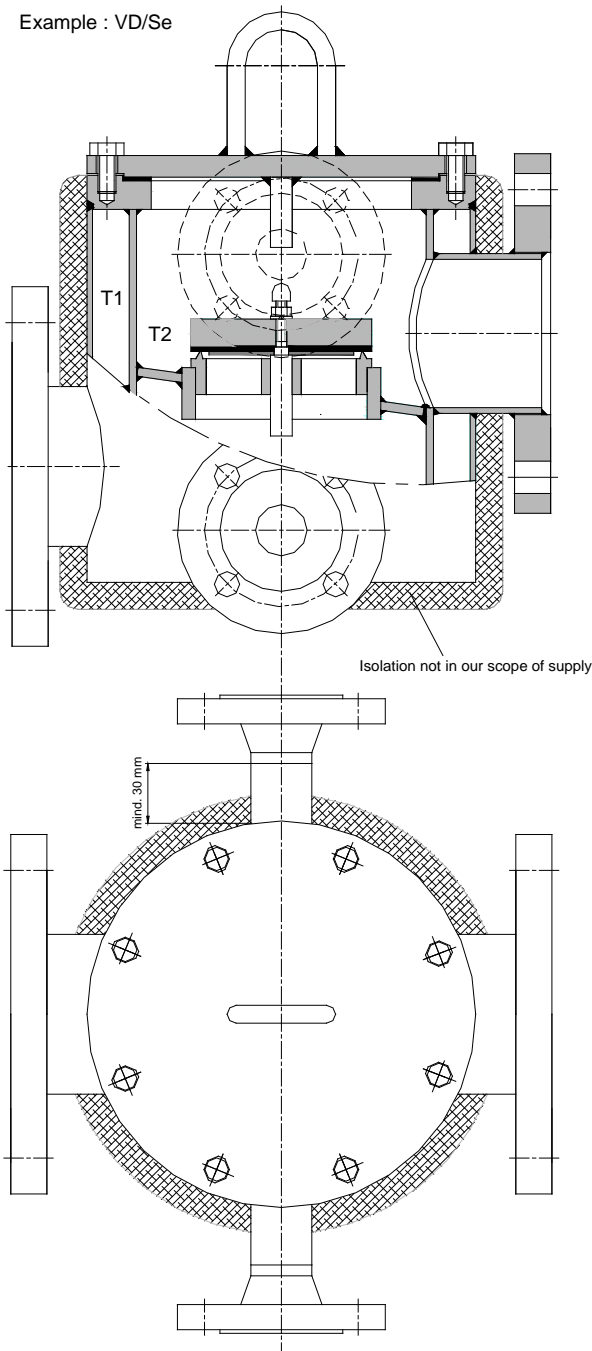


Heating Jackets for KITO®- Relief Valves, In-line Deflagration Flame Arresters and Detonation Flame Arresters

Pipe armatures with and without KITO® flame arrester

Example : VD/Se



Special type sheets for KITO® armatures with heating jackets available on request.

Heat loss on insulated KITO® pipe armatures. Difference in temperature from the heating chamber T1 to the interior of the housing T2 is about 25°C (see PTB-report on VbF-flame arresters).

Note:
Heating jackets are usually subject to the Pressure Equipment Directive (PED) and they need CE-marking.

Design subject to change

Standard design

armature housing	: cast steel 1.0619, steel, stainless cast steel 1.4408, stainless steel mat. no.1.4571
heating jacket	: steel, stainless steel mat. no. 1.4301, 1.4571
flange connection	: DIN EN 1092-1 DN 15 PN40 (DN 25 as an alternative)
test pressure	: 15 bar
max. operating pressure	: 10 bar

Application

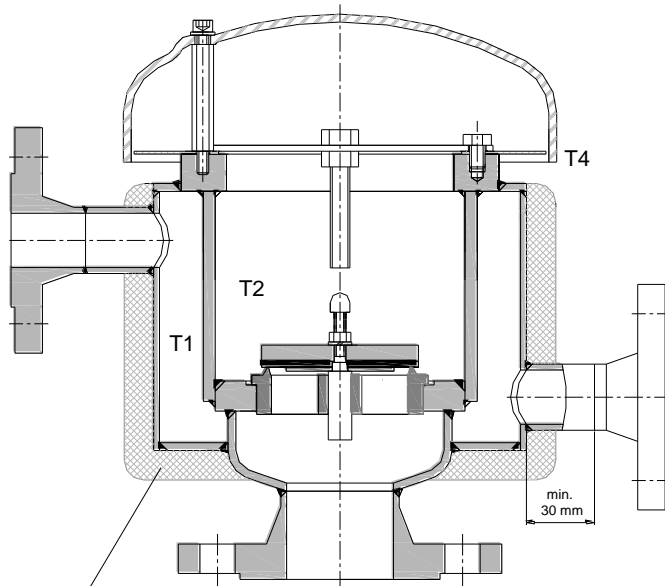
Warm-water/vapor heating, as frost protection or to maintain temperatures in the armature housings.
max. heating temperature:

- Armatures with KITO® flame arrester for flammable products with a flash point of $\leq 55^\circ\text{C} = 85^\circ\text{C}$.
- Armatures with KITO® flame arrester for flammable products (flash point of $> 55^\circ\text{C}$) 110°C .
- Armatures without KITO® flame arrester (e. g. KITO® VD/Se) for flammable products 150°C and for non-combustible products 200°C .

Heating Jackets for KITO® Relief Valves and Ventilation Hoods

End-of-line armatures with and without KITO® flame arrester

Example : KITO® DS/o



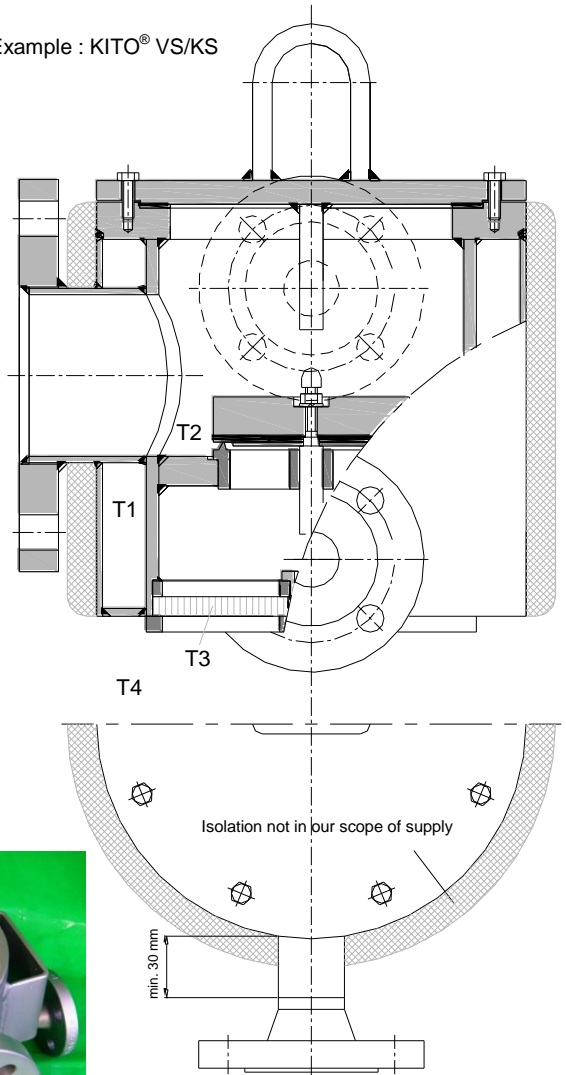
Isolation not in our scope of supply



Special type sheets for KITO® armatures with heating jackets available on request.



Example : KITO® VS/KS



Isolation not in our scope of supply

Heat loss on insulated KITO® valves or ventilation hoods.

- a) difference in temperature from the heating chamber T_1 to the interior of the housing T_2 is about 25°C
 - b) difference in temperature from the housing interior to the atmospheric side of the KITO® flame arrester
- Standard values, also for the end-of-line armatures without KITO® flame arrester, see table

Note:

Heating jackets are usually subject to the Pressure Equipment Directive (PED) and they need CE-marking.

Ambient temperature T_4	+ 60°C	+ 40°C	+ 20°C	0°C	- 10°C	- 20°C	- 30°C
Difference in temperature T_2-T_3	ca. 7K	ca. 11K	ca. 15K	ca. 19K	ca. 21K	ca.23K	ca. 25K

Design subject to change

Standard design

armature housing	: cast steel 1.0619, steel, stainless cast steel 1.4408, stainless steel mat. no.1.4571
heating jacket	: steel, stainless steel mat. no. 1.4301, 1.4571
mounting flanges	: DIN EN 1092-1 PN 40 PN 15 (DN 25 as an alternative)
test pressure	: 15 bar
max. operating pressure	: 10 bar

Application

Warm-water/vapor heating, as frost protection or to maintain temperatures in the armature housings.
Max. heating temperature:
A) For flammable products with a flash point of $\leq 55^\circ\text{C} = 85^\circ\text{C}$.
B) For All liquids (flash point $> 55^\circ\text{C}$) 110°C .
But if the temperature of the housing interior (=temperature of the heating medium minus 25°C) is higher than the flash point minus 5°C, also for All liquids the end-of-line armature has to be flame-proof.

An electrical heating for armatures with or without flame arrester element is possible

The dimensions of the valves can differ from the original dimensions.



Example : KITO® FL/EO-...-IIB3

Frost protection for heating outdoor temperatures down to -20 °C. Current consumption per meter heater band depending on type of heater band 16-30 W at -20°C resp. 70-80°C heater band temperature on the side of the housing.

Max. heater band temperature is about 110 °C.

Operating voltage 230 V.

Special type sheets for KITO® armatures with electrical heating available on request.



Example : KITO® VD/KL



Example : KITO® VD/KS-IIA-...-K



Example : KITO® DS/M-IIA-...-A

Design subject to change

Standard design

Self-limiting heating cables with a few turns wrapped around the valve housing. Fixing the heating cable with temperature-resistant tape with a 30 mm thick mineral wool insulation and a protective sheath of stainless steel, with a connection box IP 65 Heating cables and connection box ATEX-approved and CE marked for use in Zone 1

Supply of a thermocouple or Pt100 temperature control is possible.

Type of cable and length chosen according to the surface of the casing, the required temperature and the safety-related data of the product specifically.

Application

Frost protection or heating for constant temperature in the valve casings for ambient temperatures down to -20 °C.

Heater cables of temperature classes T4 and T6 are used depending on the product to be heated.

A constant heating is only permitted up to ambient temperatures ≤ 20 °C.

An electrical fuse of at least 10 amps is required as a safety measurement.

The use of a residual current circuit breaker (30 mA) is recommended.