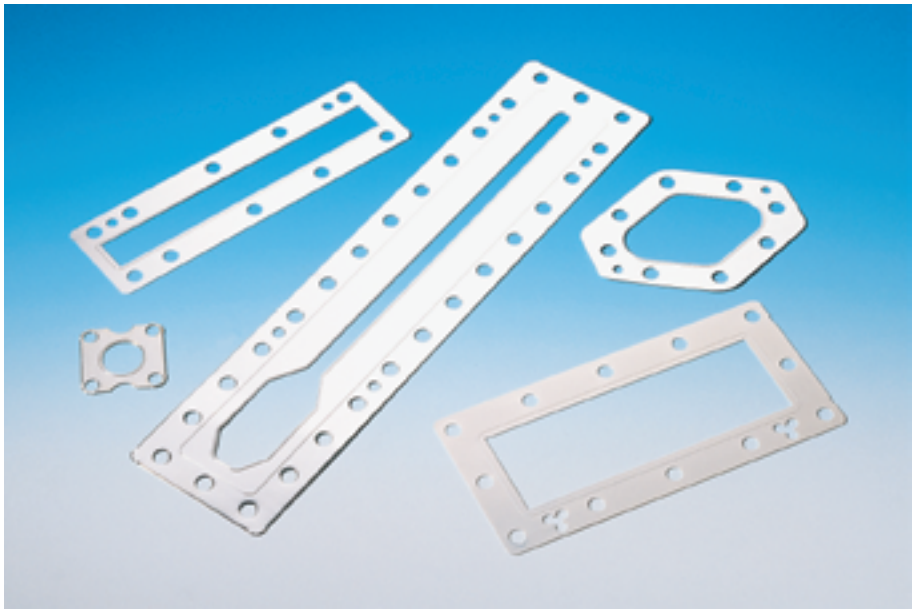
The metal seal for vacuum, cryogenics and high temperature applications



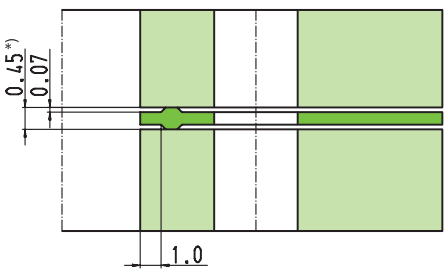
Material

silver-plated copper

Metal seals are used instead of elastomer seals if

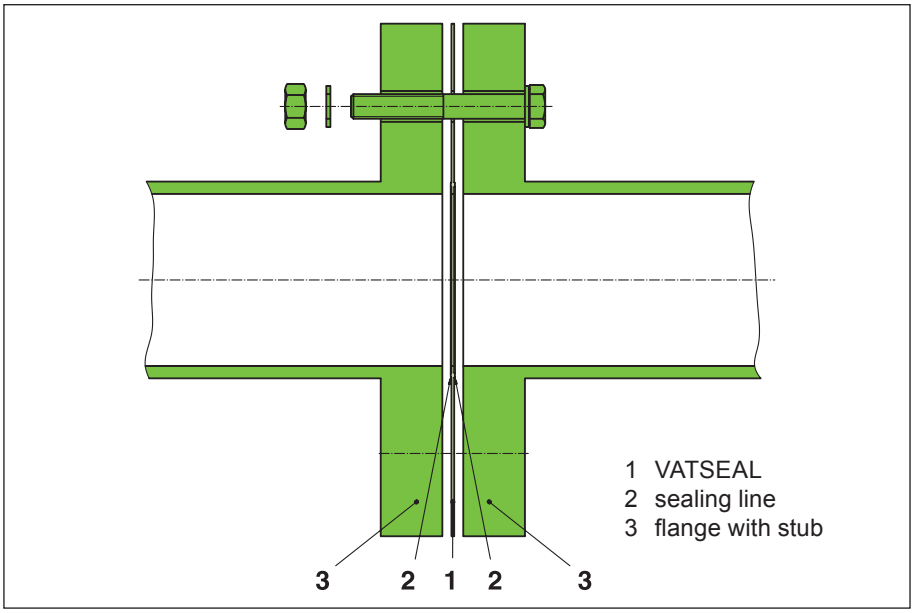
- permeation through an elastomer seal is not acceptable
- outgassing must be very low
- the temperature exceeds 150°C
- process gases are not compatible with elastomer seals
- high radiation resistance is required

Installation



VATSEAL metal seals make a leak-tight seal and at the same time a reliable, low resistance RF contact

*) 0.6 uncompressed



Features

Sealing line any shape

Flanges require only flat sealing surfaces

Simple and reliable

Technical data

VATSEAL

Seals: - Material	silver-plated copper
- Hardness	70 - 90 HV Options: copper, gold-plated copper, silver-plated stainless steel
Sealing force required	min. 2000 N per cm sealing line
Leak rate	$< 1 \cdot 10^{-10}$ mbar ls^{-1}
Pressure range	10^{-13} mbar to 10 bar (flanges permitting)
Temperature [1]	-271°C (2K) to +300°C
Heating and cooling rate	≤ 50°C h^{-1}
Sealing line	
- Shape	any
- Distance to edge of flange	> 1 mm
Thickness of VATSEAL	
- before mounting	0.60 mm
- compressed	0.45 mm
VATSEAL sizes possible	10 mm Ø to 500 x 600 mm

[1] Maximum values: depending on operating conditions

Flanges for VATSEAL

Material	stainless steel e. g. AISI 304 (1.4301), AISI 304L (1.4306), AISI 316L (1.4435)
Sealing surface requirements	
- Flatness over length	max. 0.2 mm
- Flatness over 50 mm	max. 0.02 mm
- Surface finish	N4 (Ra = 0.2 µm)
Thickness	10 - 22 mm, depending on size
Distance between holes	max. 50 mm

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