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Sealux - Ring Joint Gasket (RTJ)

Ring Joint Gaskets (RTJ) are machined metallic gaskets that require very high precision in terms of both dimensions and surface finish (these requirements also apply to the flange groove sections in contact with the gasket). RTJ gaskets are generally used in the petrochemical industry where pressures are high. These gaskets provide metal-to-metal sealing and therefore require high and accurately controlled tightening loads.

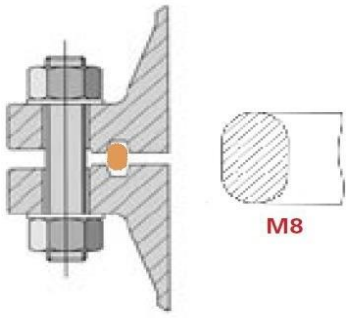
The standards commonly used in this field are:

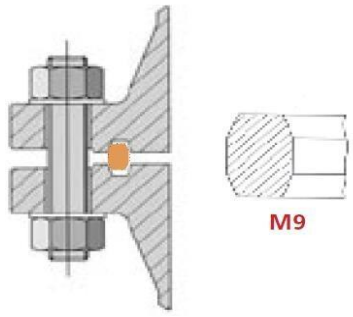
- **To API 6A (oilfield use).**
- **To ASME B16.20 (general use).**
- **To fit ASME, BS and DIN flanges.**

Profiles

The standard profiles are :

Style « R » Oval and Style « R » Octogonal





Designed for standard RTJ flanges, these RTJ gaskets can withstand pressures up to 350 bar. The octagonal R profile provides better sealing performance than the oval profile and is therefore preferred when the flange design allows it.

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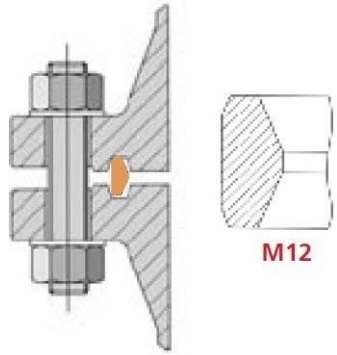
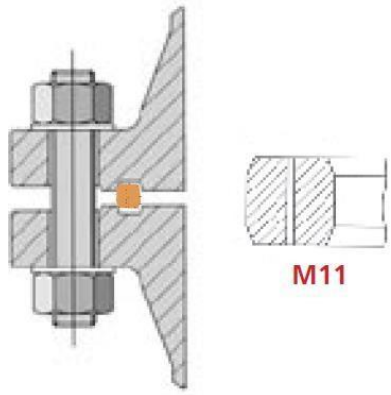
Style RX



Its design allows it to use the fluid pressure to enhance sealing performance. The outer part of the gasket in contact with the flange provides the seal. As internal pressure increases, the contact pressure between the gasket and the flange also increases. This is why this type of gasket is sometimes referred to as a "pressure-activated gasket." This characteristic design makes the RX gasket more resistant to vibrations and pressure shocks, such as those encountered during well drilling operations.

The SRX design is identical to the RX, but includes a pressure-balancing hole to relieve pressure potentially trapped in the grooves (for subsea applications).

Style BX



The BX RTJ is designed for pressures up to 1350 bar. This gasket features a square cross-section with chamfered corners. It also has a slightly larger diameter than the groove, creating compression on the outer diameter to ensure proper seating.

The SBX design is identical to the BX, but includes a pressure-balancing hole to relieve pressure potentially trapped in the grooves (for subsea applications).

Other styles :

Other RTJ types can be manufactured upon request, such as: Transition rings, Weld rings (welded membrane gaskets, welded ring gaskets), Lens rings (for conical flanges).

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Materials

The gasket is generally manufactured from a material that is softer than the flanges. The table below summarizes the standard hardness values of the different materials used in accordance with API 6A.

MATERIAL	UNS NUMBER	MAXIMUM HARDNESS		IDENTIFICATION
		BRINELL*	ROCKWELL B†	
Soft Iron		90	56	D
Low Carbon Steel		120	68	S
4-6% Chrome 1/2% Moly	K42544	130	72	F5
Type 304 Stainless Steel	S30400	160	83	S304
Type 316 Stainless Steel	S31600	160	83	S316
Type 347 Stainless Steel	S34700	160	83	S347
Type 410 Stainless Steel	S41000	170	86	S410
Titanium Grade 2	R50400			
Alloy 600	N06600	200		
Alloy 625	N06625	200		
Alloy 800	N08800	200		
Alloy 825	N08825	160		
Hastelloy	N10001	200		
Alloy C276	N10276	200		
SMO 254	S32154	180		
Zeron 100		200		
Super Duplex	S31803			

The alloys are traceable and, where applicable, can be supplied with various certifications (NACE, etc.).