

JUNIO 240 Ring-Joint Gaskets

The Junio 240 metallic Ring-Joint Gaskets are manufactured for application at elevated temperatures and pressures. The small sealing area with high contact pressure results in great reliability. The contact surfaces of the gaskets and flange should be carefully processed. Some types of ring-joints are pressure activated, that is, the greater the pressure the better the sealability.

The metal ring-joint gaskets have been designed to withstand exceptionally high assembly loads over a small area, thus producing high seating stresses.

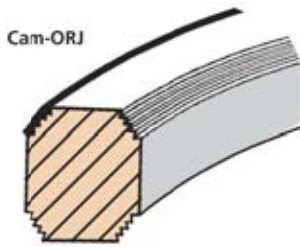
All Junio Ring-Joint Gaskets are manufactured from fully traceable materials. Each ring-joint gasket is identified by low stress stamping with batch, style, ring number, material reference, Product Specification Level (PSL) and a unique material identification number. Such full and comprehensive traceability, from material source with mill certification to final supply, is an essential ingredient in the company's strict quality assurance procedures and exceeds those demanded by the highest API 6A PSL 4.



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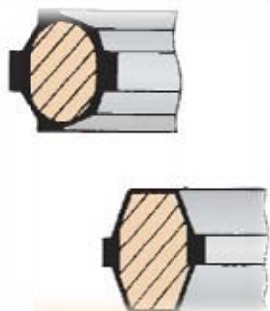
Junio Sealing supplies a range of specialized Ring Type Joints for critical and non standard applications to suit the requirements of the petrochemical industry.



Cam-ORJ

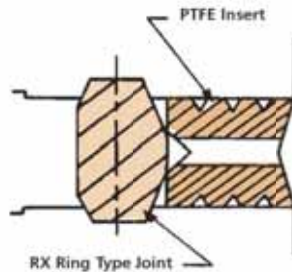
The Cam-ORJ is a standard API 6A octagonal ring joint but with the four angled seating surfaces concentrically serrated and faced with oxidation inhibited graphite. The gasket offers the high sealing efficiency associated with the octagonal design but with the added benefit of being capable of sealing flanges with minor damage. Under compression the graphite flows into minor imperfections creating a tight seal.

The Cam-ORJ is available in a range of Alloy materials and in sizing to suit ASME B16.5 or API 6A flanges.



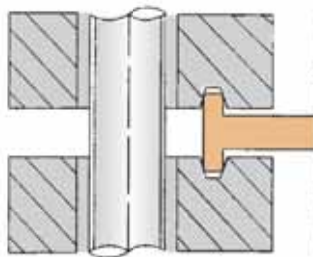
Rubber Coated Ring Type Joints

This is an octagonal/oval section ring type joint generally soft iron or low carbon steel totally enclosed in a nitrile rubber coating. Widely used in pressure testing procedures, minimising any damage to the flange.



Ring Type Joints with PTFE Inserts

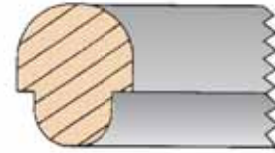
Junio-240RX Ring Type Joints can be supplied with PTFE inserts. Designed to reduce turbulent flow and eliminate ring joint and flange corrosion. The insert is specially designed with radially drilled holes ensuring the self-energising performance is not affected. The insert is located between the inside diameter of the ring joint and the bore of the flange. On assembly, the insert is captured between the flanges, filling the void between ring joint and flange bore.



Blind Ring Type Joints

These specialised Ring Type Joints are designed and manufactured for the customer who has a requirement to blank off flanges and pipe work. The Joints are standard rings but with a machined metallic centre.

Blind Ring Type Joints can be supplied in a variety of materials.



Combination Ring Type Joints

This Ring Type Joint consists of 2 different sizes having the same pitch diameter, used for sealing and flange joint where the mating flanges have different ring groove dimensions or profiles.

These Ring Type Joints can be produced with either octagonal or oval facings, however they are not manufactured in accordance with API specification.



Lens Rings

This is a contact seal for use in high pressure piping systems and in pressure vessel heads. Lens rings have a spherical surface that requires special matching of the flanges. Effective sealing is obtained at a relatively low bolt loads. These ring type joints are manufactured in accordance with DIN 2696. For enquiries complete drawings must be supplied.



Delta Rings

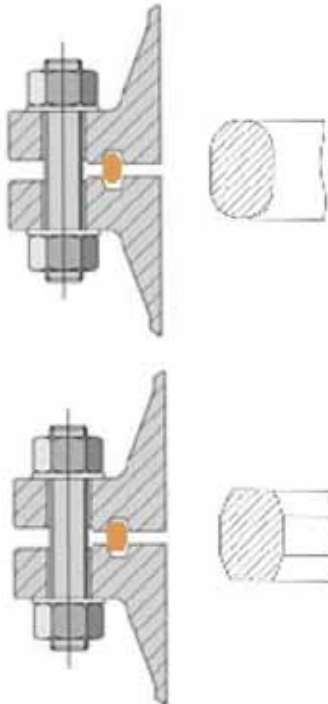
This is a pressure actuated ring used primarily on pressure vessels and valve bonnets at pressures in excess of 5000 psi. Internal pressure forces the delta ring material to expand.

As with the Lens rings for enquiries and orders should be sent with complete drawings.

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Type R Ring Type Joints

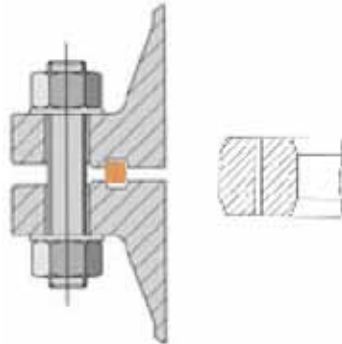


Junio-240ROV & 240ROCT

Junio-240R Oval section and Junio-240R Octagonal section ring type joints are designed for flanges with standard ring type grooves. These standard shapes are used to seal pressures up to 5,000 psi in accordance with API 6A.

The Octagonal cross section has a higher sealing efficiency than the oval cross section and is therefore preferred. The oval section ring joints were originally designed for the now obsolete round bottom groove. Both the oval and the octagonal cross section are interchangeable on the flat bottom groove design.

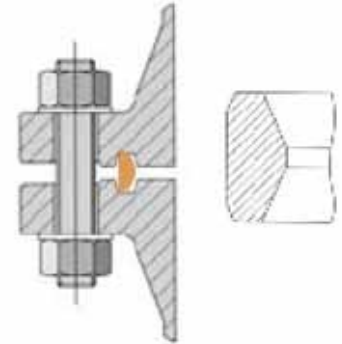
Type BX Ring Type Joints



Junio-240BX

Junio-240BX Ring Type Joints are designed for pressures up to 20,000 psi, suitable only for use with API type BX flanges and grooves. The gasket has a square cross section with bevelled corners. The average diameter of the ring joint is slightly greater than that of the flange groove. This way, when the ring joint is seated, it stays pre-compressed by the outside diameter, creating high seating stress. Junio-240SBX Ring Type Joint is the same design as the BX Ring, however the suffix 'S' indicates that additional pressure equalisation holes have been drilled in accordance with API 17D for use on sub sea wellhead and christmas tree equipment.

Type RX Ring Type Joints



Junio-240RX

Junio-240RX Ring Type Joints are designed for pressures up to 5,000 psi.

A pressure activated ring joint, its shape is designed to use the fluid pressure to increase sealability. The outside sealing surface of the ring joint makes the initial contact with the flange. As the internal pressure rises the contact pressure between ring joint and flange also increases. This is sometimes referred to as a pressure activated ring joint. due to the shape of the gasket. High seating pressures are created increasing the sealability. This design characteristic makes the RX ring joint more resistant to vibrations, pressure surges and shocks that occur during oil well drilling. Junio-240SRX Ring Type Joint is the same in design to the RX Ring, however, the suffix 'S' indicates that additional pressure equalization holes have been drilled in accordance with API 17D for use on sub sea wellhead and christmas tree equipment.



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MATERIALS

The gasket material should be selected to suit the service conditions. It is always recommended that the gasket material be softer than the mating flanges. The more popular Ring-Joint Gasket materials, with the recommended maximum hardness and identification as specified in API 6A, are shown in the table below.

For more highly specialized applications, Ring-Joint Gaskets can be machined from DUPLEX steels and other exotic materials such as Monel, Inconel, Incoloy, and Hastelloy. The Technical Department is available to advise on other materials.

Material (Trade Name)	Identifi- cation	DIN Specification	DIN Material No.	B.S.	AISI-ASTM UNS	Maximum Hardness		Temperature		Density
						Brinell HB	Rockwell B HRB	Min.	Max.	
Soft Iron	D	-	-	-	-	90	56	-40	500	7.85
Low Carbon Steel	S	R st 37.2	-	-	-	120	68	-40	500	7.85
F5	F5	5 Cr 0.5 mo	1.7362	-	A182FS	130	72	-40	650	7.83
SS 304	S304	X5Cr Ni 18	1.4301	304S15/ 16/13	304	160	83	-250	550	7.90
SS 304L	S304L	X2 Cr Ni 18.9	1.4306	304S11	304L	160	83	-250	550	7.90
SS 309	S309	X15CrNiSi20.12	1.4828	304S24	309	160	83	-100	1000	7.90
SS 316	S316	X5 Cr Ni Mo 18.10	1.4401	316S16	316	160	83	-100	550	7.90
SS 316L	S316L	X2 Cr Ni Mo 18.10	1.4404	316S11/13	316L	160	83	-100	550	7.90
SS 316Ti	S316Ti	X10CrNi MoTi18.10	1.4571	320S31	316Ti	160	83	-100	550	7.80
SS 321	S321	X10 Cr Ni Ti 18.9	1.4541	321S12/ 49/87	321	160	83	-250	550	7.90
SS 347	S347	X10 Cr Ni Nb 18.9	1.4550	347S31	347	160	83	-250	500	7.90
SS 410	S410	X6 Cr 13	1.4000	410S21	410	170	86	-20	850	7.80
254SMO	6Mo	X1Cr NiMoCuN20.18.7	1.4547	-	S31254	180	89	-100	500	8.00
Duplex	2205	X2CrNiMoN22.5.3	14462	31853	S31803/ 32205	230 approx	99	-40	300	7.80
Super Duplex	2507	X2 Cr NiMoN25.6.3	14410	-	S32750	230 approx	99	-40	300	7.80
Aluminium	AL 1050	A1 99.5	3.0255	1B	A91050	30	-	-250	300	2.71
Silver	Ag	-	-	-	-	28 (HV)	-	-250	750	10.50
Copper	Cu	SF-Cu	2.0090	C106	C12200	80 approx	-	-250	400	8.90
Brass	CuZn37	Cu Za 37 (M563)	20321	CZ108	C27200	60 approx	-	-100	350	8.50
Nickel 200	Ni 200	Ni 99.2	2.4066	3072-76 NA11	NO2200	110	62	-250	600	8.90
Monel 400	400	Ni Cu 30 Fe	2.4360	3072-76 NA13	NO4400	150	80	-125	600	8.80
Inconel 600	600	Ni Cu 15 Fe	2.4816	3072-76 NA14	NO6600	150	80	-100	950	8.40
Inconel 625	625	Ni Cr 22 Mo 9 Mb	2.4856	3072-76 NA 21	NO6625	150	80	-50	450	8.44
Incoloy 800	800	X10NiCrA1Ti3220	1.4876	3072-76 NA15	NO8800	150	80	-100	850	8.00
Incoloy 825	825	Ni Cr 21 Mo	2.4858	3072-76 NA16	NO8825	195	92	-100	450	8.14
Hastelloy B2	B2	Ni Mo 28	2.4617	-	NI0665	230	99	-200	450	9.20
Hastelloy C276	C276	Ni Mo16Cr15W	2.4819	-	NI0276	210	95	-200	450	8.90
Titanium	Ti2	Ti 99.8	3.7025	TA2	R50400	215 approx	96	-250	350	4.50

* Brinell hardness measured with 3000kg, And 10mm diameter hardened steel ball.

Softer materials i.e. copper & brass are measured with 500kgs and 10mm diameter hardened steel ball.

* Rockwell B hardness is measured with 100kg and 1.60mm diameter steel ball.

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Seating Stress

To achieve a reliable seal, the Ring Type Joint should be assembled within the following seating stress parameters:

Material	Identification	Seating Stress (200C)		
		Minimum (N/mm ²)	Optimum (N/mm ²)	Maximum (N/mm ²)
Soft Iron	D	235	350	525
Low Carbon Steel	S	265	400	600
A182FS	FS	400	600	900
SS304	S304	335	500	750
SS316	S316	335	500	750
SS321	S321	335	500	750
SS347	S347	335	500	750

For other materials please contact our technical department

Flange Surface Finish

The Ring Type Joint and the sealing face of the groove must be free of indentations, score marks, tool and chatter marks.

The maximum flange surface finish for R, RX is 1.6µm RA (63RMS). The maximum flange surface finish for BX is 0.8µm RA (32RMS)



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