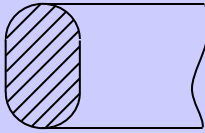
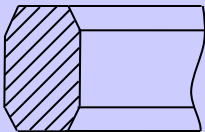
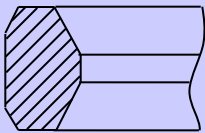
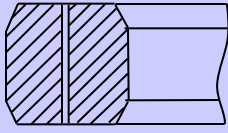


## RING TYPE JOINT GASKETS



Ring Type Joints are primarily used by the oil, gas, petrochemical and offshore industries. They are also commonly used on valve and pipes assemblies and high integrity vessel joints. Ring Type Joints are used to seal flanged connections subject to high pressures and temperatures. These precision made solid metal gaskets form a metal- to-metal seal with the flanges. The gasket cross - sections are designed to concentrate the bolt load over a small area to produce a high seating stress. The gasket metal should always be softer than that of the mating flanges. The high seating stress causes 'plastic –flow of the gasket into the flange faces to create the seal. The 'RX' and 'BX' gaskets are designed to be pressure activated by the sealed media which improves the efficiency of the seal as the internal pressure of the system increases.

### TYPES OF RING JOINTS

CROSS-SECTION	RING TYPE	STANDARD
	"R" OVAL	ASME B16.20 API STD 6A MSS-SP-44
	"R" OCTAGONAL	B.B. 1560
	"RX"	API STD 6A
	"BX"	API STD 6A



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## RING TYPE JOINT GASKETS

### "R" OVAL AND OCTAGONAL RING TYPE JOINTS APPLICATION CROSS REFERENCE

RING NO.	PRESSURE CLASS RATINGS						
	ANSI, BS & MSS				API ( psi)		
	150	300/600	900	1500	2500	2000/3000	5000
NOMINAL PIPE SIZE (Inches)							
R11	-	1/2	-	-	-	-	-
R12	-	-	1/2	1/2	-	-	-
R13	-	3/4	-	-	1/2	-	-
R14	-	-	3/4	3/4	-	-	-
R15	1	-	-	-	-	-	-
R16	-	1	1	1	3/4	-	-
R17	1 1/4	-	-	-	-	-	-
R18	-	1 1/4	1 1/4	1 1/4	1	-	-
R19	1 1/2	-	-	-	-	-	-
R20*	-	1 1/2	1 1/2	1 1/2	-	-	-
R21	-	-	-	-	1 1/4	-	-
R22	2	-	-	-	-	-	-
R23*	-	2	-	-	1 1/2	2 1/16**	-
R24	-	-	2	2	-	2 1/16	2
R25	2 1/2	-	-	-	-	-	-
R26*	-	2 1/2	-	-	2	2 9/16	-
R27*	-	-	2 1/2	2 1/2	-	2 9/16^	2 9/16
R28	-	-	-	-	2 1/2	-	-
R29	3	-	-	-	-	-	-
R30^^	-	3	-	-	-	-	-
R31*	-	3	3	-	-	3 1/8	-
R32	-	-	-	-	3	-	-
R33	3 1/2	-	-	-	-	-	-
R34	-	3 1/2	-	-	-	-	-
R35*	-	-	-	3	-	-	3 1/8
R36	4	-	-	-	-	-	-
R37*	-	4	4	-	-	4 1/16	-
R38	-	-	-	-	4	-	-
R39*	-	-	-	4	-	-	4 1/16
R40	5	-	-	-	-	-	-
R41*	-	5	5	-	-	-	-
R42	-	-	-	-	5	-	-
R43	6	-	-	-	-	-	-
R44*	-	-	-	5	-	-	-
R45*	-	6	6	-	-	7 1/16	-
R46*	-	-	-	6	-	-	7 1/16
R47*	-	-	-	-	6	-	-
R48	8	-	-	-	-	-	-
R49*	-	8	8	-	-	9	-
R50*	-	-	-	8	-	-	9
R51	-	-	-	-	8	-	-
R52	10	-	-	-	-	-	-
R53*	-	10	10	-	-	11	-
R54*	-	-	-	10	-	-	11
R55	-	-	-	-	10	-	-
R56	12	-	-	-	-	-	-
R57*	-	12	12	-	-	13 5/8	-

RING NO.	PRESSURE CLASS RATINGS						
	ANSI, BS & MSS				API ( psi)		
	150	300/600	900	1500	2500	2000/3000	5000
NOMINAL PIPE SIZE (Inches)							
R58	-	-	-	12	-	-	-
R59	14	-	-	-	-	-	-
R60	-	-	-	-	12	-	-
R61	-	14	-	-	-	-	-
R62	-	-	14	-	-	-	-
R63*	-	-	-	14	-	-	-
R64	16	-	-	-	-	-	-
R65*	-	16	-	-	-	16 3/4**	-
R66*	-	-	16	-	-	16^	-
R67	-	-	-	16	-	-	-
R68	18	-	-	-	-	-	-
R69*	-	18	-	-	-	-	-
R70*	-	-	18	-	-	18^	-
R71	-	-	-	18	-	-	-
R72	20	-	-	-	-	-	-
R73*	-	20	-	-	-	21 1/4**	-
R74*	-	-	20	-	-	20 3/4^	-
R75	-	-	-	20	-	-	-
R76	24	-	-	-	-	-	-
R77	-	24	-	-	-	-	-
R78	-	-	24	-	-	-	-
R79	-	-	-	24	-	-	-
R80	22	-	-	-	-	-	-
R81	-	22	-	-	-	-	-
R82*	-	-	-	-	-	-	-
R84*	-	-	-	-	-	-	-
R85*	-	-	-	-	-	-	-
R86*	-	-	-	-	-	-	-
R87*	-	-	-	-	-	-	-
R88*	-	-	-	-	-	-	-
R89*	-	-	-	-	-	-	-
R90*	-	-	-	-	-	-	-
R91*	-	-	-	-	-	-	-
R92	-	-	-	-	-	-	-
R93	-	26	-	-	-	-	-
R94	-	28	-	-	-	-	-
R95	-	30	-	-	-	-	-
R96	-	32	-	-	-	-	-
R97	-	34	-	-	-	-	-
R98	-	36	-	-	-	-	-
R99*	-	-	-	-	-	-	-
R100	-	-	26	-	-	-	-
R101	-	-	28	-	-	-	-
R102	-	-	30	-	-	-	-
R103	-	-	32	-	-	-	-
R104	-	-	34	-	-	-	-
R105	-	-	36	-	-	-	-

\*Ring number specified in API Specification 6A.

\*\* Apply to class rating 2000 only .

^ Apply to class rating 3000 only .

^^Ring no. R30 is suitable for lapped flanges only .



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## RING TYPE JOINT GASKETS

### “RX” RING TYPE JOINTS - APPLICATION CROSS REFERENCE

RING NO.	PRESSURE CLASS RATING			RING NO.	PRESSURE CLASS RATING		
	API (psi)				API (psi)		
	2000	3000	5000		2000	3000	5000
	NOMINAL PIPE SIZE (inches)				NOMINAL PIPE SIZE (inches)		
RX20	-	-	-	RX63	-	-	-
RX20 <sup>^</sup>	-	-	2 1/16	RX65	16 3/4	-	-
RX23	2 1/16	-	-	RX66	-	16 3/4	-
RX24	-	2 1/16	2 1/16	RX69	-	-	-
RX25 <sup>^</sup>	-	-	3 1/8	RX70	-	-	-
RX26	2 9/16	-	-	RX73	21 1/4	-	-
RX27	-	2 9/16	2 9/16	RX74	-	20 3/4	-
RX31	3 1/8	3 1/8	-	RX82	-	-	-
RX35	-	-	3 1/8	RX84	-	-	-
RX37	4 1/16	4 1/16	-	RX85	-	-	-
RX39	-	-	4 1/16	RX86	-	-	-
RX41	5 1/8	5 1/8	-	RX87	-	-	-
RX44	-	-	5 1/8	RX88	-	-	-
RX45	7 1/16	7 1/16	-	RX89	-	-	-
RX46	-	-	7 1/16	RX90	-	-	-
RX47	-	-	-	RX91	-	-	-
RX49	9	9	-	RX99	-	-	-
RX50	-	-	9	RX201 <sup>^</sup>	-	-	1 3/8
RX53	11	11	-	RX205 <sup>^</sup>	-	-	1 13/16
RX54	-	-	11	RX210 <sup>^</sup>	-	-	2 9/16
RX57	13 5/8	13 5/8	-	RX215	-	-	4 1/16
				RX215 <sup>^</sup>	-	-	4 1/16 x 4 1/4

<sup>^</sup> Denotes API Ring Type Joints for segmented flanges for dual completions to API Standard 6A.

### “BX” RING TYPE JOINTS - APPLICATION CROSS REFERENCE

RING NO.	PRESSURE CLASS RATING			
	API (psi)			
	5000	10000	15000	20000
	NOMINAL PIPE SIZE (inches)			
BX150	-	1 11/16	1 11/16	-
BX151	-	1 13/16	1 13/16	1 13/16
BX152	-	2 1/16	2 1/16	2 1/16
BX153	-	2 9/16	2 9/16	2 9/16
BX154	-	3 1/16	3 1/16	3 1/16
BX155	-	4 1/16	4 1/16	4 1/16
BX156	-	7 1/16	7 1/16	7 1/16
BX157	-	9	9	9
BX158	-	11	11	11
BX159	-	13 5/8	13 5/8	13 5/8
BX160	13 5/8	-	-	-
BX161	-	-	-	-
BX162	16 3/4	16 3/4	-	-
BX163	18 3/4	-	-	-
BX164	-	18 3/4	18 3/4	-
BX165	21 1/4	-	-	-
BX166	-	21 1/4	-	-
BX167*	-	-	-	-
BX168 <sup>^</sup>	-	-	-	-
BX169**	-	-	-	-
BX170	-	-	-	-
BX171	-	-	-	-
BX172	-	-	-	-
BX303 <sup>^^</sup>	-	-	-	-

"BX" Gaskets can only be used in API 6BX flanges.

All BX Gaskets incorporate a pressure balance hole to equalize any pressure trapped in the flange grooves.

\* BX167 is suitable for 26% Nominal Pipe Size, 2000 psi rating

<sup>^</sup> BX168 is suitable for 26% Nominal Pipe Size, 3000 psi rating

\*\* BX169 is suitable for 5% Nominal Pipe Size, 10000 psi rating

<sup>^^</sup> BX303 is suitable for 30 Nominal Pipe Size, 2000 & 3000 psi ratings



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## RING TYPE JOINT GASKETS

### Maximum Temperature Limitation

The Maximum temperature limitations are set by the metals used to construct the gasket, flanges, pipelines and system apparatus. The presence of contaminating fluids and cyclic conditions reduce the maximum temperatures.

SUGGESTED MAXIMUM SERVICE TEMPERATURE IN AIR	
MATERIAL	TEMPERATURE(°C)
Carbon Steel	536
304 SS	550
309 SS	1095
310 SS	1150
316 SS	550
321 SS	925
347 SS	925
410 SS	705
430 SS	815
501 SS	649
Alloy 20	815
Aluminium	427
Brass	260
Copper	260
Hastelloy B and C	1095
Inconel 600	1095
Incoloy 800	871
Monel	815
Nickel	760
Phosphor Bronze	260
Tantalum	1649
Titanium	1095

### STANDARD METAL SPECIFICATIONS FOR RING JOINTS IN ACCORDANCE WITH API 6A AND ANSI B16.20 STANDARDS

Material	Maximum	Hardness	Identification
	Brinell*	Rockwell B †	
Soft Iron	90	56	D
Low Carbon Steel (LCS)	120	68	S
Type 304 SS (18Cr 8Ni)	160	83	S304
Type 316 SS (18Cr 12Ni)	160	83	S316
Type 347 SS (18Cr 10Ni)	160	83	S347
Type 410 SS (11-13Cr)	170	86	S410
Type 502 SS (4-6Cr 1/2Mo)	130	72	F5
Monel	125	70	M
Nickel	120	68	N
Copper	-	-	Cu

\*Measured with 3000kg load except soft iron which is measured with 3000kg load  
†Measured with 100kg load and 1/16 inch diameter ball