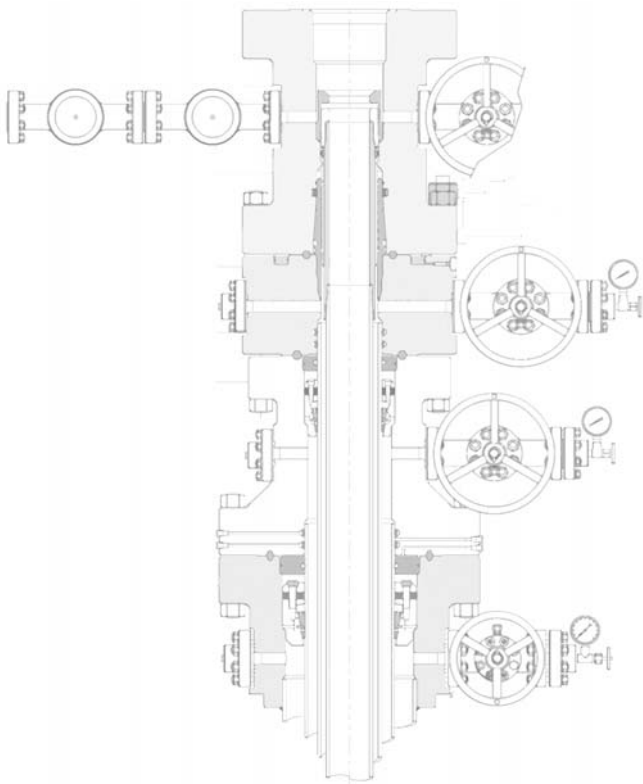
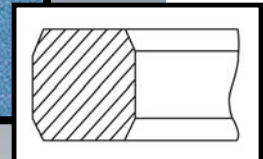
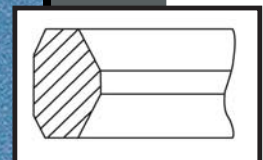
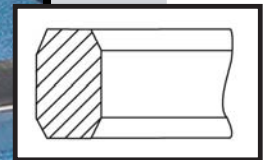
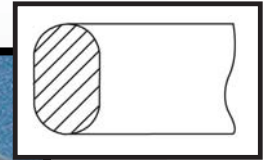
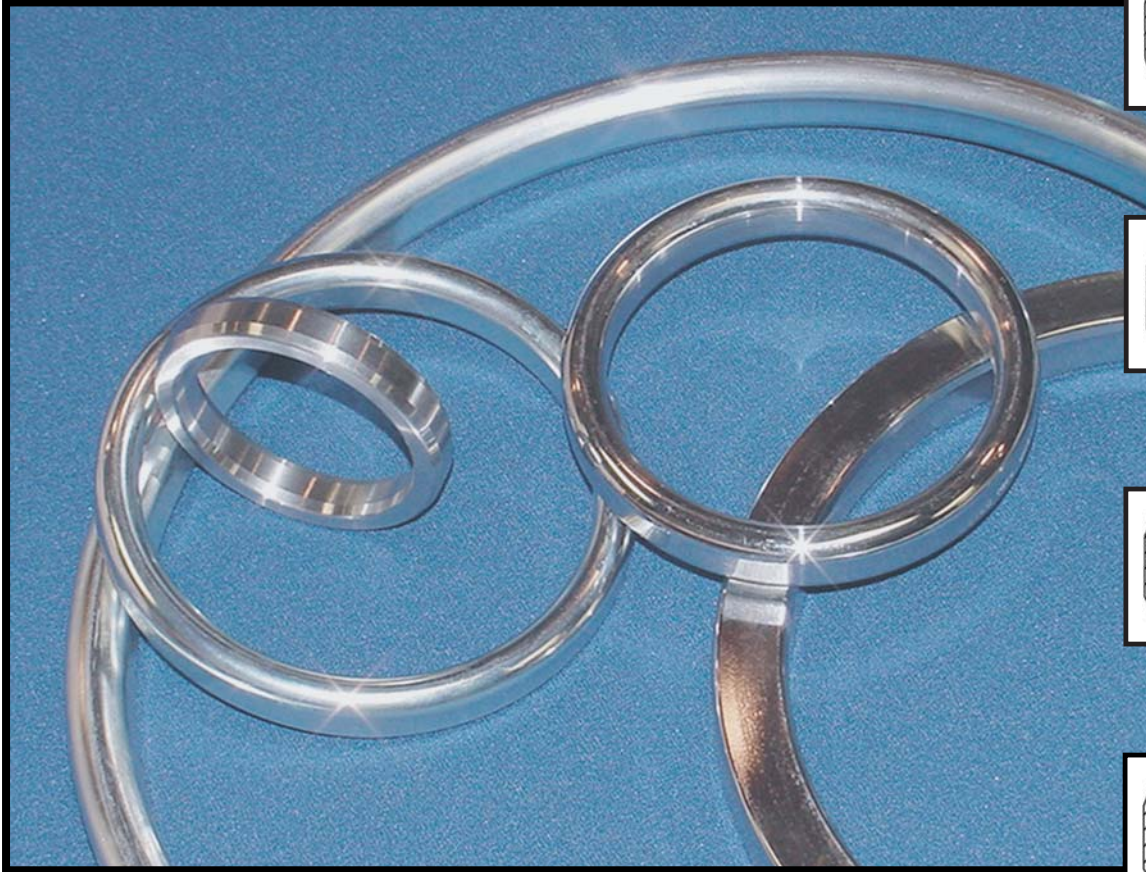


# X:CEL USA<sup>®</sup>

- GLOBAL PRECISION



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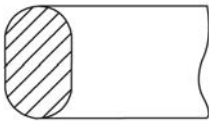
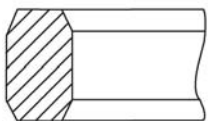
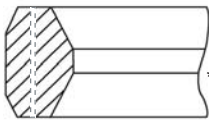
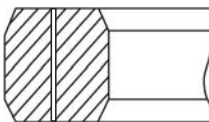


**UTEX INDUSTRIES, INC.**  
*Taking Sealing Technology Beyond Tomorrow*

# X-CEL USA<sup>®</sup>

## - GLOBAL PRECISION

Ring Type Joints are primarily used by the oil, gas, petrochemical and offshore industries. They are also commonly used on valve, pipework assemblies and 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 must always be softer than 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.

CROSS - SECTION	RING TYPE	STANDARD
	"R" Oval	ASME B16.20 API STD. 6A
	"R" Octagonal	MSS-SP-44 B.B. 1560
 <p>(Interchangeable with Octagonal "R" Gaskets) * RX 82-RX 91 incorporate a pressure balance hole</p>	"RX"	API STD. 6A
	"BX"	API STD. 6A

- ° "R" series Ring Type Joints can contain pressure up to 10,000 psi.
- ° "RX" and "BX" series Ring Type Joints can contain pressure up to 20,000 psi.
- ° The gaskets and flanges must be manufactured to precision dimensions, surface finishes and hardness.
- ° All Ring Type Joints supplied by X-CEL USA are fully approved to API specification 6A - product specification level 4 - THE HIGHEST QUALITY RATING, and ASME B16.20.

### STYLE "R"

(Inches)

RING NO.	PRESSURE CLASS RATINGS					
	ANSI, BS & MSS				API (psi)	
	150	300/600	900	1500	2500	2000/3000 5000
NOMINAL PIPE SIZE						
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
R25	2 1/2	-	-	-	-	-
R26*	-	2 1/2	-	-	2	2 9/16
R27*	-	-	2 1/2	2 1/2	-	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

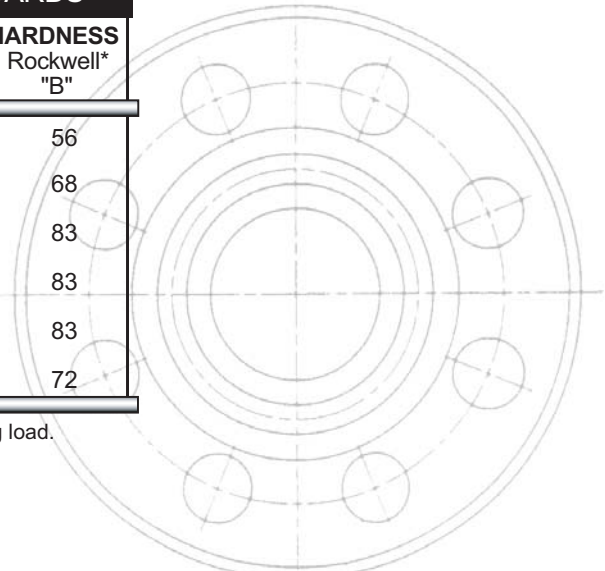
\*Ring number specified in API 6A  
\*\*\*3000 Class rating only

\*\*2000 Class rating only  
+Suitable for lapped flanges only

**STANDARD METAL SPECIFICATIONS FOR RING JOINTS IN ACCORDANCE WITH API 6A & ASME B16.20 STANDARDS**

METAL	IDENTIFICATION	MAXIMUM HARDNESS	
		Brinell <sup>+</sup> 3000 Kg	Rockwell* "B"
Soft Iron *Zinc-Plated Yellow	D	90	56
Low-Carbon Steel *Zinc-Plated Yellow	S	120	68
Type 304 SS (18% Chrome, 8% Nickel)	S304	160	83
Type 316 SS (18% Chrome, 12% Nickel)	S316	160	83
Type 321 SS (18% Chrome, 10% Nickel)	S321	160	83
Type 502 SS (4.6% Chrome, 0.5% Moly)	F5	130	72

<sup>+</sup> Measured with 3000 kg load except Soft Iron, which is measured with a 500 kg load.  
\* Measured with a 100 kg load and xxx diameter Indentor Ball.



**STYLE "R" continued** (Inches)

RING NO.	PRESSURE CLASS RATINGS					
	ANSI, BS & MSS				API (psi)	
	150	300/600	900	1500	2500	2000/3000
NOMINAL PIPE SIZE						
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	-	-	-

**STYLE "RX"** (Inches)

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

\* API allows more liberal tolerances on RX201-215  
° API Ring Joint Gaskets for segmented flanges for dual completions to API Standard 6A.

**STYLE "BX"** (Inches)

RING NO.	PRESSURE CLASS RATING (psi)			
	5000	10000	15000	20000
	NOMINAL PIPE SIZE			
BX150	-	-	-	-
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**	-	-	-	-
BX169***	-	-	-	-
BX170	-	-	-	-
BX171	-	-	-	-
BX172	-	-	-	-
BX303****	-	-	-	-

"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 3/4 Nominal Pipe Size 2,000 psi rating.  
\*\* BX168 is suitable for 26 3/4 Nominal Pipe Size 3,000 psi rating.  
\*\*\* BX169 is suitable for 5 3/4 Nominal Pipe Size 10,000 psi rating.  
\*\*\*\* BX303 is suitable for 30 Nominal Pipe Size 2,000 and 3,000 psi ratings.



\*Ring number specified in API 6A  
\*\*2000 Class rating only      \*\*\*3000 Class rating only



## MAXIMUM TEMPERATURE LIMITATION

### SUGGESTED MAXIMUM SERVICE TEMPERATURE IN AIR

Type	Temp. °C	Temp. °F
Carbon Steel	536	997
304 SS	925	1697
309 SS	1095	2003
310 SS	1150	2102
316 SS	925	1697
321 SS	925	1697
347 SS	925	1697
410 SS	705	1301
430 SS	815	1499
501 SS	649	1200
Alloy 20	815	1499
Aluminum	427	801
Brass	260	500
Copper	260	500
Hastelloy B & C	1095	2003
Inconel 600	1095	2003
Incolloy 800	871	1600
Monel	815	1499
Nickel	760	1400
Phosphor Bronze	260	500
Tantalum	1649	3000
Titanium	1095	2003

### WHEN ORDERING, PLEASE SUBMIT THE FOLLOWING:

- ° Relevant Ring number or Nominal Pipe Size and Pressure Rating.
- ° Metal required.
- ° Whether Oval or Octagonal shape for "R" series Gaskets.
- ° Non-Standard Metals and Dimensions (to customers' special requirements) are available on request. Please supply drawing describing any non-standard dimensions.

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.

