



RING TYPE JOINT GASKETS

Flexitallic™





GLOBAL RESOURCE

FLEXITALLIC, A WORLDWIDE ORGANISATION

LOCAL SERVICE

COMMITTED TO MEETING CUSTOMER NEEDS

COMPREHENSIVE

PRODUCT RANGE

FOR ALL INDUSTRIAL AND PETRO-CHEMICAL APPLICATIONS

LET FLEXITALLIC TAKE THE PRESSURE

SEALING SOLUTIONS

THE ANSWER IS ALWAYS FLEXITALLIC

Flexitallic



Flexitallic Ltd is an international market leader committed to providing high quality, high value sealing products, backed by outstanding customer service and technical support.

Flexitallic has the resources to maintain a network of manufacturing sites, joint ventures and licensees across the world's industrialised regions - combining global expertise with local availability. Furthermore, in an age when industry is increasingly focused on international environmental standards and emission regulations, Flexitallic products make a significant contribution to achieving a clean, safe environment.

For the industrial buyer the name Flexitallic is a guarantee of high standards, consistent quality and a comprehensive product portfolio. The Flexitallic product range can be single sourced from any of its sales operations and distributors around the world and is composed of four primary product groups, usually referred to as: Semi Metallic Gaskets, Sheet Gasket Materials, Compression Packings and Metallic Gaskets.

Each business throughout the world is able to provide a highly professional level of technical expertise and customer support. Most important of all, every Flexitallic company is proud to proclaim its ability to supply both standard and special products - the result of local market knowledge and awareness of customer needs.

**SEALING SOLUTIONS -
THE ANSWER IS ALWAYS FLEXITALLIC**





WORLDWIDE REPUTATION

Flexitallic has been at the forefront of sealing technology for over 100 years. During this time the company has gained an unrivalled reputation as a global supplier of quality products and services.

An ethos of continuous development and improvement of products and services coupled with close attention to local market needs, ensures the Company's status as a worldwide market leader way into the future.

PRODUCT RANGE

The ability of a product to meet the requirements of a dynamic market place is key to the success of any company. Flexitallic has the ability to supply the world's industries with an unparalleled range of products and services - 'The Total Sealing Solution'.

Flexitallic manufactures a full range of metallic static seals, they are manufactured in types R, oval and octagonal profiles, along with RX, BX, SRX and SBX.

All our Ring Type Joints are made to the

exacting API 6A standard, with the highest product service level 4. Flexitallic's specialist solid metal gaskets, including Lens Rings and Weld Rings, are made to British or International standards.

All Flexitallic's products are manufactured to the highest quality standards ensuring fitness for purpose with the added convenience of the support of global supply.

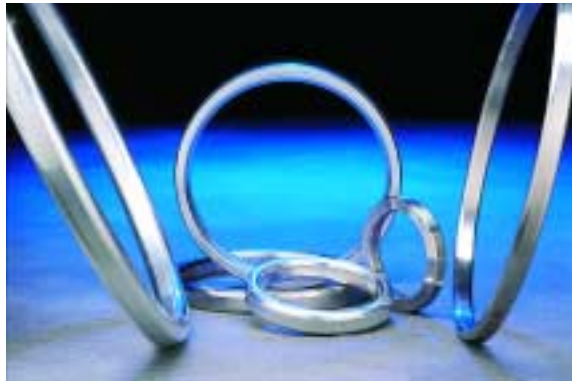
Manufacturing capability in the UK, USA, Mexico and Norway.

RESEARCH AND DEVELOPMENT

The dynamic needs of the market place can only be satisfied by manufacturers who are prepared to invest in research and development. Flexitallic works continuously with highly respected and dedicated research centres worldwide. This is supported with specialist development work undertaken at both UK manufacturing sites, by product teams aided by the latest technology such as Finite Element Analysis (FEA).



Extensive stocking



TECHNICAL SUPPORT AND CUSTOMER SERVICE

The company's command of its technology provides a sound basis for technical and commercial customer support. Qualified engineers are always available for technical audits, advice on specifications or troubleshooting, whilst every sales office has a full team of staff to deal with technical or sales enquires by telephone, fax, e-mail or letter.

The 'customer ethic' is central to Flexitallic's philosophy and this is a part of the global strategy which is apparent in every Flexitallic business throughout the world.

PRODUCT SELECTION

Increasing environmental and economic pressures require that the most suitable product be used in every application. This brochure is intended to aid the process of product selection.

If you require more detailed information to ensure compatibility, please consult Flexitallic's Technical Department who will be pleased to assist.

All products are designed and manufactured under stringent quality controls

COMPANY STATEMENT

The Products

Flexitallic Ltd designs and manufactures all its products under a quality system which is accredited to BS EN ISO 9001. The operating mission is to produce an unrivalled level of excellence in product specification, performance and availability.

The People

The company is committed to meeting customer needs and to the development, rights and equal opportunities of all its employees. Its track record includes the prestigious IIP (Investor in People) award.

The Environment

In the design and manufacture of its products Flexitallic Ltd gives full consideration to environmental concerns. By supplying cost-effective and proven sealing products to industry the company contributes not only to greater productivity and reduced downtime, but also to the control and prevention of fugitive emissions.



QUALITY ASSURED MANUFACTURING

All Flexitallic Ring Type Joints are manufactured from fully traceable materials and are supplied to NACE specifications upon request. Each Ring Type Joint is identified by low stress stamping with style, ring number, API license number, material reference, Product Specification Level (PSL), a unique Flexitallic material identification number, and month and year of manufacture. 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.

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 Type Joint materials, with the recommended maximum hardness and identification as specified in API 6A, are shown in the table below.

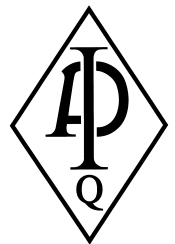
For more highly specialised applications, Ring Type Joints can be machined from DUPLEX steels and other exotic materials such as Monel®, Inconel®, Incoloy®, and Hastelloy®. The Technical Department is available to advise on other materials.



Low Stress stamping for identification and traceability

PROTECTIVE COATING

In accordance with API Specifications, soft iron and low carbon steel Ring Type Joints are protected with electroplated zinc to a maximum thickness of 8µm. Alternative material coatings can be supplied on request.



6A-0062

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			

* Measured with 3000 Kg load except soft iron which is measured with 500 Kg load

† Measured with 100 Kg load and 1/16 inch diameter ball

STYLE R

The Ring Type Joint was initially developed for high pressure/temperature applications found in the petroleum industry and is primarily used in the oil field on drilling and completion equipment.

However, today this product range can also be found on valves and pipework assemblies, along with some high integrity pressure vessel joints.

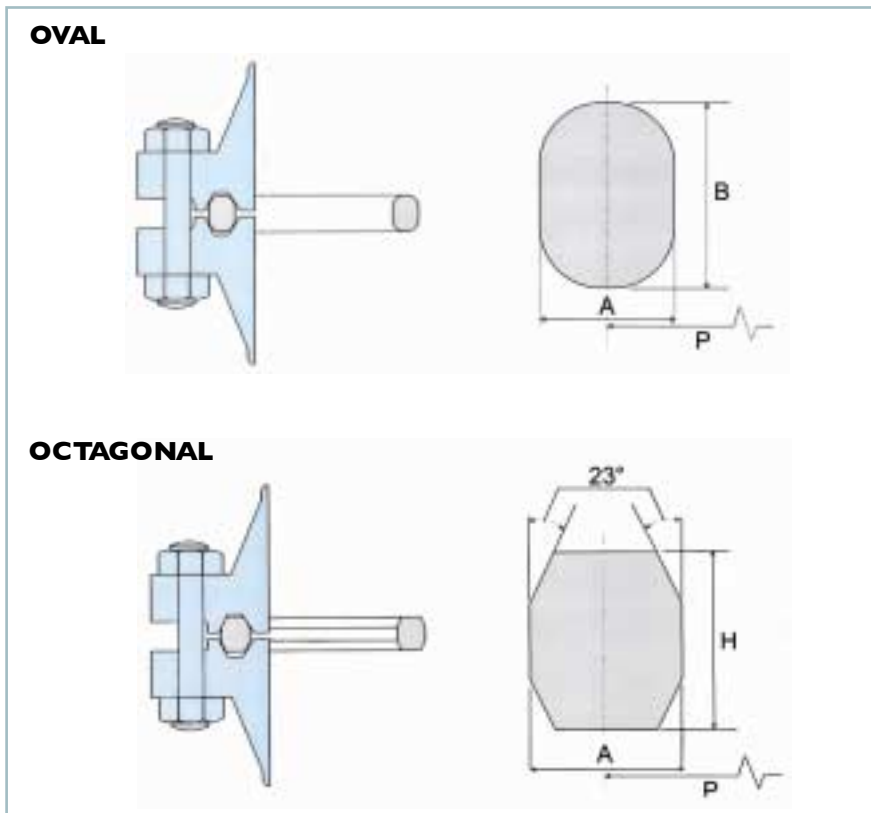
Standard Style R Ring Type Joints are manufactured in accordance with both API 6A and ASME B16.20 size/ratings. Available in both oval and octagonal configurations, both types are interchangeable on the modern octagonal type grooved flanges.



Style R

As with all solid metal Ring Type Joints including Style R, it is recommended to replace the ring when flange connection is broken

DIMENSIONAL DATA – STYLE R



TOLERANCES: (INCHES)

A (width of ring)	± 0.008
B, H (height of ring)	± 0.020
P (average pitch diameter of ring)	± 0.007
23° (angle)	$\pm 1/2^\circ$

Flexitallic Style R Ring Type Joints can be manufactured in accordance with all relevant standards to suit the following flange designations:

*API 6A
ASME/ANSI B16.5
MSS SP44 (ASME B16.47 SERIES A)
BS 1560*

STYLE R

Dimensions in millimetres

RING NO.	PRESSURE CLASS RATINGS							PITCH DIAMETER OF RING P	WIDTH OF RING A	HEIGHT OF RING		APPROX. DISTANCE BETWEEN MADE UP FLANGES	GASKET WEIGHTS, lbs.	
	ANSI, BS & MSS					API (PSI)				OVAL	OCTAGONAL		OVAL	OCTAGONAL
	150	300/600	900	1500	2500	2000/3000	5000			B	H			
NOMINAL PIPE SIZE (INCHES)														
R11	-	1/2	-	-	-	-	-	34.13	6.35	11.1	9.5	-	.111	.104
R12	-	-	1/2	1/2	-	-	-	39.69	7.95	14.3	12.7	-	.216	.200
R13	-	3/4	-	-	1/2	-	-	42.86	7.95	14.3	12.7	-	.234	.216
R14	-	-	3/4	3/4	-	-	-	44.45	7.95	14.3	12.7	-	.242	.224
R15	1	-	-	-	-	-	-	47.63	7.95	14.3	12.7	-	.260	.240
R16	-	1	1	1	3/4	-	-	50.80	7.95	14.3	12.7	-	.278	.256
R17	1 1/4	-	-	-	-	-	-	57.15	7.95	14.3	12.7	-	.311	.288
R18	-	1 1/4	1 1/4	1 1/4	1	-	-	60.33	7.95	14.3	12.7	-	.328	.304
R19	1 1/2	-	-	-	-	-	-	65.09	7.95	14.3	12.7	-	.354	.328
R20*	-	1 1/2	1 1/2	1 1/2	-	-	-	68.28	7.95	14.3	12.7	4.1	.372	.344
R21	-	-	-	-	1 1/4	-	-	72.23	11.11	17.5	15.9	-	.660	.643
R22	2	-	-	-	-	-	-	82.55	7.95	14.3	12.7	-	.450	.415
R23*	-	2	-	-	1 1/2	2 1/16**	-	82.55	11.11	17.5	15.9	4.8	.755	.734
R24*	-	-	2	2	-	2 1/16	2	95.25	11.11	17.5	15.9	4.8	.870	.846
R25	2 1/2	-	-	-	-	-	-	101.60	7.95	14.3	12.7	-	.553	.510
R26*	-	2 1/2	-	-	2	2 9/16	-	101.60	11.11	17.5	15.9	4.8	.930	.904
R27*	-	-	2 1/2	2 1/2	-	(2 9/16)	2 9/16	107.95	11.11	17.5	15.9	-	1.050	.960
R28	-	-	-	-	2 1/2	-	-	111.13	12.70	19.1	17.5	-	1.255	1.230
R29	3	-	-	-	-	-	-	114.30	7.95	14.3	12.7	-	.622	.575
R30†	-	3	-	-	-	-	-	117.48	11.11	17.5	15.9	-	1.075	1.047
R31*	-	3	3	-	-	3 1/8	-	123.83	11.11	17.5	15.9	4.8	1.130	1.100
R32	-	-	-	-	3	-	-	127.00	12.70	19.1	17.5	-	1.435	1.405
R33	3 1/2	-	-	-	-	-	-	131.76	7.95	14.3	12.7	-	.718	.664
R34	-	3 1/2	-	-	-	-	-	131.76	11.11	17.5	15.9	-	1.200	1.170
R35*	-	-	-	3	-	-	3 1/8	136.53	11.11	17.5	15.9	4.8	1.250	1.210
R36	4	-	-	-	-	-	-	149.23	7.95	14.3	12.7	-	.813	.735
R37*	-	4	4	-	-	4 1/16	-	149.23	11.11	17.5	15.9	4.8	1.360	1.330
R38	-	-	-	-	4	-	-	157.16	15.88	22.4	20.6	-	2.56	2.52
R39*	-	-	-	4	-	-	4 1/16	161.93	11.11	17.5	15.9	4.8	1.480	1.440
R40	5	-	-	-	-	-	-	171.45	7.95	14.3	12.7	-	.935	.865
R41*	-	5	5	-	-	-	-	180.98	11.11	17.5	15.9	4.8	1.66	1.61
R42	-	-	-	-	5	-	-	190.50	19.05	25.4	23.9	-	4.21	4.16
R43	6	-	-	-	-	-	-	193.68	7.95	14.3	12.7	-	1.055	.975
R44*	-	-	-	5	-	-	-	193.68	11.11	17.5	15.9	4.8	1.77	1.73
R45*	-	6	6	-	-	7 1/16	-	211.14	11.11	17.5	15.9	4.8	1.93	1.88
R46*	-	-	-	6	-	-	7 1/16	211.14	12.70	19.1	17.5	4.8	2.39	2.33
R47*	-	-	-	-	6	-	-	228.60	19.05	25.4	23.9	4.1	5.06	4.99
R48	8	-	-	-	-	-	-	247.65	7.95	14.3	12.7	-	1.350	1.240
R49*	-	8	8	-	-	9	-	269.88	11.11	17.5	15.9	4.8	2.47	2.40
R50*	-	-	-	8	-	-	9	269.88	15.88	22.4	20.6	4.1	4.40	4.32
R51	-	-	-	-	8	-	-	279.40	22.23	28.6	27.0	-	8.05	8.17
R52	10	-	-	-	-	-	-	304.80	7.95	14.3	12.7	-	1.66	1.53
R53*	-	10	10	-	-	11	-	323.85	11.11	17.5	15.9	4.8	3.00	2.88
R54*	-	-	-	10	-	-	11	323.85	15.88	22.4	20.6	4.1	5.29	5.18
R55	-	-	-	-	10	-	-	342.90	28.58	36.5	34.9	-	16.23	17.04
R56	12	-	-	-	-	-	-	381.00	7.95	14.3	12.7	-	2.07	1.92
R57*	-	12	12	-	-	13 5/8	-	381.00	11.11	17.5	15.9	4.8	3.48	3.38

* Denotes ring number specified in API 6A.

Nominal Pipe Sizes marked** apply to class rating 2000 only.

Nominal Pipe Sizes in brackets apply to class rating 3000 only.

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

STYLE R

Dimensions in millimetres

RING NO.	PRESSURE CLASS RATINGS							PITCH DIAMETER OF RING P	WIDTH OF RING A	HEIGHT OF RING		APPROX. DISTANCE BETWEEN MADE UP FLANGES	GASKET WEIGHTS, lbs.	
	ANSI, BS & MSS					API (PSI)				OVAL B	OCTAGONAL H		OVAL	OCTAGONAL
	150	300/600	900	1500	2500	2000/3000	5000			NOMINAL PIPE SIZE (INCHES)				
R58	-	-	-	12	-	-	-	381.00	22.23	28.6	27.0	-	11.00	11.13
R59	14	-	-	-	-	-	-	396.88	7.95	14.3	12.7	-	2.16	2.00
R60	-	-	-	-	12	-	-	406.40	31.75	39.7	38.1	-	23.10	23.50
R61	-	14	-	-	-	-	-	419.10	11.11	17.5	15.9	-	3.83	3.73
R62	-	-	14	-	-	-	-	419.10	15.88	22.2	20.6	-	6.84	6.71
R63*	-	-	-	14	-	-	-	419.10	25.40	33.3	31.8	5.6	16.20	16.67
R64	16	-	-	-	-	-	-	454.03	7.95	14.3	12.7	-	2.47	2.29
R65*	-	16	-	-	-	16 ^{3/4} **	-	469.90	11.11	17.5	15.9	4.8	4.30	4.18
R66*	-	-	16	-	-	(16)	-	469.90	15.88	22.2	20.6	4.1	7.67	7.53
R67	-	-	-	16	-	-	-	469.90	28.58	36.5	34.9	-	22.30	23.40
R68	18	-	-	-	-	-	-	517.53	7.95	14.3	12.7	-	2.82	2.60
R69*	-	18	-	-	-	-	-	533.40	11.11	17.5	15.9	4.8	4.87	4.74
R70*	-	-	18	-	-	(18)	-	533.40	19.05	25.4	23.9	4.8	11.80	11.64
R71	-	-	-	18	-	-	-	533.40	28.58	36.5	34.9	-	25.20	26.50
R72	20	-	-	-	-	-	-	558.80	7.95	14.3	12.7	-	3.04	2.81
R73*	-	20	-	-	-	21 ^{1/4} **	-	584.20	12.7	19.1	17.5	3.3	6.60	6.47
R74*	-	-	20	-	-	(20 ^{3/4})	-	584.20	19.05	25.4	23.9	4.8	12.95	12.75
R75	-	-	-	20	-	-	-	584.20	31.75	39.7	38.1	-	33.30	35.30
R76	24	-	-	-	-	-	-	673.10	7.95	14.3	12.7	-	3.66	3.38
R77	-	24	-	-	-	-	-	692.15	15.88	22.4	20.6	-	11.30	11.10
R78	-	-	24	-	-	-	-	692.15	25.4	33.3	31.8	-	27.10	27.58
R79	-	-	-	24	-	-	-	692.15	34.93	44.5	41.3	-	48.70	49.75
R80	22	-	-	-	-	-	-	615.95	7.95	-	12.7	-	-	3.11
R81	-	22	-	-	-	-	-	635.00	14.29	-	19.1	-	-	8.55
R82*	-	-	-	-	-	-	-	57.14	11.11	-	15.9	4.8	-	.508
R84*	-	-	-	-	-	-	-	63.50	11.11	-	15.9	4.8	-	.564
R85*	-	-	-	-	-	-	-	79.38	12.70	-	17.5	3.3	-	.978
R86*	-	-	-	-	-	-	-	90.50	15.88	-	20.6	4.1	-	1.447
R87*	-	-	-	-	-	-	-	100.03	15.88	-	20.6	4.1	-	1.597
R88*	-	-	-	-	-	-	-	122.83	19.05	-	23.9	4.8	-	2.735
R89*	-	-	-	-	-	-	-	114.30	19.05	-	23.9	4.8	-	2.528
R90*	-	-	-	-	-	-	-	155.58	22.23	-	26.9	4.8	-	4.55
R91*	-	-	-	-	-	-	-	260.25	31.75	-	38.1	4.1	-	15.05
R92	-	-	-	-	-	-	-	228.60	11.11	17.5	15.9	-	2.07	2.02
R93	-	26	-	-	-	-	-	749.30	19.05	-	23.9	-	-	16.33
R94	-	28	-	-	-	-	-	800.10	19.05	-	23.9	-	-	17.44
R95	-	30	-	-	-	-	-	857.25	19.05	-	23.9	-	-	18.69
R96	-	32	-	-	-	-	-	914.40	22.23	-	27.0	-	-	26.65
R97	-	34	-	-	-	-	-	965.20	22.23	-	27.0	-	-	28.13
R98	-	36	-	-	-	-	-	1022.35	22.23	-	27.0	-	-	29.79
R99*	-	-	-	-	-	-	-	234.95	11.11	-	15.9	4.8	-	2.08
R100	-	-	26	-	-	-	-	749.30	28.58	-	34.9	-	-	-
R101	-	-	28	-	-	-	-	800.10	31.75	-	38.1	-	-	-
R102	-	-	30	-	-	-	-	857.25	31.75	-	38.1	-	-	-
R103	-	-	32	-	-	-	-	914.40	31.75	-	38.1	-	-	-
R104	-	-	34	-	-	-	-	965.20	34.93	-	41.3	-	-	-
R105	-	-	36	-	-	-	-	1022.35	34.93	-	41.3	-	-	-

* Denotes ring number specified in API 6A.
 Nominal Pipe Sizes marked** apply to class rating 2000 only.
 Nominal Pipe Sizes in brackets apply to class rating 3000 only.
 † Ring no. R30 is suitable for lapped flanges only.

STYLE RX

The Style RX is an adaptation of the standard Style R which energises on assembly. The RX is designed to fit the same groove design as a standard Style R, making the joints interchangeable.

Consideration should be given to the difference in finished make-up distance.

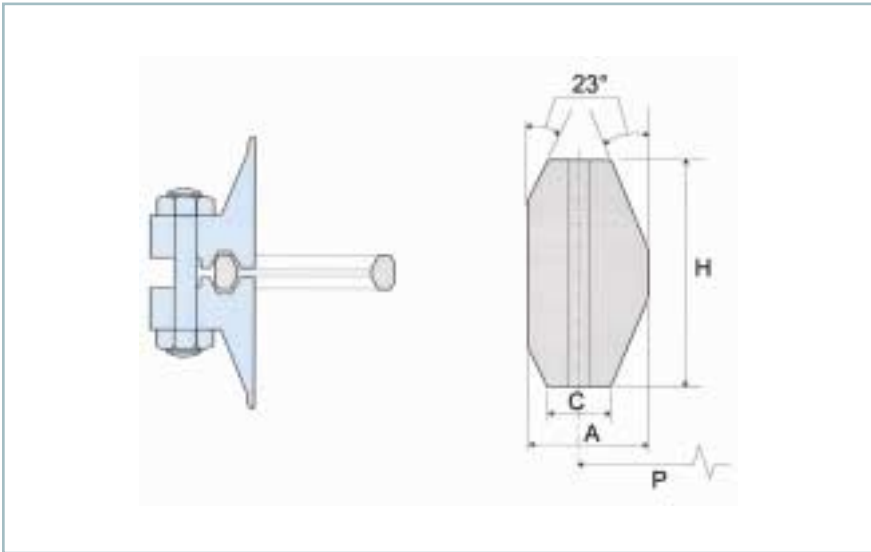
The modified design uses an energising on assembly effect which improves the efficiency of the seal.



Style RX

Designs are also available for Subsea applications.

DIMENSIONAL DATA – STYLE RX



TOLERANCES: (INCHES)

A* (width of ring)
+0.008,-0.000

H* (height of ring)
+0.008,-0.000

OD (od of ring)
+0.020,-0.000

23° (angle) ± 1/2°

*A plus tolerance of 0.008 inches for width 'A' and height 'H' is permitted, provided the variation in width or height does not exceed 0.004 inches throughout its entire circumference.

NOTE 1:

The pressure passage hole illustrated in the Ring Type Joint cross section ensures equalisation of pressure which may be trapped in the grooves, it is in rings RX82 through RX91 only. Centre line of hole shall be located at mid point of dimension 'c' (width of flat). Hole diameter shall be as follows:

- 0.06 inches for rings RX82 through RX85;*
- 0.09 inches for rings RX86 and RX87;*
- 0.12 inches for rings RX88 through RX91.*

STYLE RX

Dimensions in millimetres

NO.	PRESSURE CLASS RATING (PSI)			PITCH DIAMETER OF RING P	OUTSIDE DIAMETER OF RING OD	WIDTH OF RING A	HEIGHT OF RING H	WEIGHT, lbs.
	2000	3000	5000					
	NOMINAL PIPE SIZE (INCHES)							
RX20	-	-	-	68.26	76.20	8.73	19.05	0.527
RX20†	-	-	2 1/16	68.26	76.20	8.73	19.05	0.527
RX23	2 1/16	-	-	82.55	93.27	11.91	25.40	1.15
RX24	-	2 1/16	2 1/16	95.25	105.97	11.91	25.40	1.33
RX25†	-	-	3 1/8	101.60	109.54	8.73	19.05	1.42
RX26	2 9/16	-	-	101.60	111.92	11.91	25.40	1.50
RX27	-	2 9/16	2 9/16	107.95	118.27	11.91	25.40	1.73
RX31	3 1/8	3 1/8	-	123.83	134.54	11.91	25.40	1.91
RX35	-	-	3 1/8	136.53	147.24	11.91	25.40	2.09
RX37	4 1/16	4 1/16	-	149.23	159.94	11.91	25.40	2.27
RX39	-	-	4 1/16	161.93	172.64	11.91	25.40	2.54
RX41	-	-	-	180.98	191.69	11.91	25.40	2.72
RX44	-	-	-	193.68	204.39	11.91	25.40	2.96
RX45	7 1/16	7 1/16	-	211.14	211.93	11.91	25.40	3.66
RX46	-	-	7 1/16	211.14	222.25	13.49	28.58	8.56
RX47	-	-	-	228.60	245.27	19.84	41.28	3.79
RX49	9	9	-	269.88	280.59	11.91	25.40	5.36
RX50	-	-	9	269.88	283.37	16.67	31.75	4.56
RX53	11	11	-	323.85	334.57	11.91	25.40	6.45
RX54	-	-	11	323.85	337.34	16.67	31.75	5.36
RX57	13 5/8	13 5/8	-	381.00	391.72	11.91	25.40	26.40
RX63	-	-	-	419.10	441.72	26.99	50.80	6.63
RX65	16 3/4	-	-	469.90	480.62	11.91	25.40	9.39
RX66	-	16 3/4	-	469.90	483.39	16.67	31.75	7.52
RX69	-	-	-	533.40	544.12	11.91	25.40	20.14
RX70	-	-	-	533.40	550.07	19.84	41.28	11.63
RX73	21 1/4	-	-	584.20	596.11	13.49	31.75	22.10
RX74	-	20 3/4	-	584.20	600.87	19.84	41.28	0.790
RX82	-	-	-	57.15	67.87	11.91	25.40	0.880
RX84	-	-	-	63.50	74.22	11.91	25.40	0.880
RX85	-	-	-	79.38	90.09	13.49	25.40	1.79
RX86	-	-	-	90.49	103.58	15.08	28.58	1.98
RX87	-	-	-	100.01	113.11	15.08	28.58	3.22
RX88	-	-	-	123.83	139.30	17.46	31.75	2.98
RX89	-	-	-	114.30	129.78	18.26	31.75	6.82
RX90	-	-	-	155.58	174.63	19.84	44.45	17.10
RX91	-	-	-	260.35	286.94	30.16	45.24	3.31
* RX99	-	-	-	234.95	245.67	11.91	25.40	-
RX201†	-	-	1 3/8	46.04	46.04	5.74	11.30	-
* RX205†	-	-	1 13/16	57.15	62.31	5.56	11.10	-
* RX210†	-	-	2 9/16	88.90	97.63	9.53	19.05	-
* RX215	-	-	4 1/16	130.18	140.89	11.91	25.40	-
* RX215†	-	-	4 1/16 x 4 1/4	130.18	140.89	11.91	25.40	-

* API allows more liberal tolerances on RX 201-215

† Denotes API Ring Type Joint gaskets for segmented flanges for dual completions to API Standard 6A.

Designs are also available for Subsea applications.

STYLE BX

The Style BX energised Ring Type Joints, manufactured in accordance with API 6A, are designed for use on pressurised systems up to 20,000 psi.

When correctly fitted, the style BX gasket allows virtual face to face contact of the flange faces which means that the gasket is fully trapped on both the inner and outer diameters.

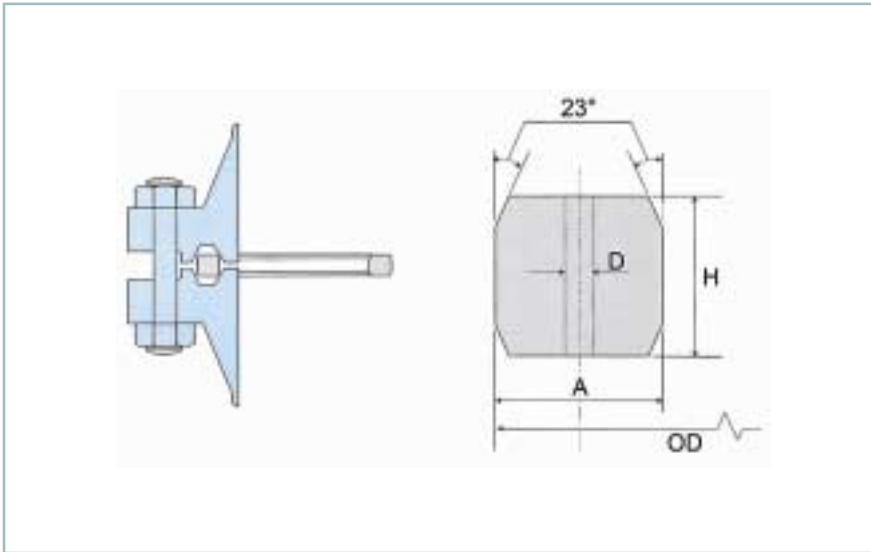
All BX gaskets incorporate a pressure balance hole to ensure equalisation of pressure which may be trapped in the grooves.

Designs are also available for Subsea applications.



Style BX

DIMENSIONAL DATA – STYLE BX



NOTE I:

Radius of the ring shall be 8% to 12% of the ring height 'H'.

TOLERANCES: (INCHES)

A* (width of ring)
+0.008,-0.000

D (hole size) ± 0.02

H* (height of ring)
+0.008,-0.000

OD (od of ring)
+0.000,-0.005

23° (angle) ± 1/4°

One pressure passage hole required per ring on centre line *A plus tolerance of 0.008 inches for width 'A' and height 'H' is permitted, provided the variation in width or height does not exceed 0.004 inches throughout its entire circumference.

STYLE BX

Dimensions in millimetres

RING NO.	PRESSURE CLASS RATING (PSI)				OUTSIDE DIAMETER OF RING OD	HEIGHT OF RING H	WIDTH OF RING A	HOLE SIZE D	GASKET WEIGHT, lbs. for API 6BX flanges
	5000	10000	15000	20000					
	NOMINAL PIPE SIZE (INCHES)								
BX150	–	–	–	–	72.19	9.30	9.30	1.59	0.295
BX151	–	1 13/16	1 13/16	1 13/16	76.40	9.63	9.63	1.59	0.337
BX152	–	2 1/16	2 1/16	2 1/16	84.68	10.24	10.24	1.59	0.425
BX153	–	2 9/16	2 9/16	2 9/16	100.94	11.38	11.38	1.59	0.632
BX154	–	3 1/16	3 1/16	3 1/16	116.84	12.40	12.40	1.59	0.875
BX155	–	4 1/16	4 1/16	4 1/16	147.96	14.22	14.22	1.59	1.22
BX156	–	7 1/16	7 1/16	7 1/16	237.92	18.62	18.62	3.18	4.14
BX157	–	9	9	9	294.46	20.98	20.98	3.18	6.55
BX158	–	11	11	11	352.04	23.14	23.14	3.18	9.60
BX159	–	13 5/8	13 5/8	13 5/8	426.72	25.70	25.70	3.18	14.41
BX160	13 5/8	–	–	–	402.59	23.83	13.74	3.18	6.75
BX161	16 3/4	–	–	–	491.41	28.07	16.21	3.18	–
BX162	16 3/4	16 3/4	16 3/4	–	475.49	14.22	14.22	1.59	–
BX163	18 3/4	–	–	–	556.16	30.10	17.37	3.18	–
BX164	–	18 3/4	18 3/4	–	570.56	30.10	24.59	3.18	–
BX165	21 1/4	–	–	–	624.71	32.03	18.49	3.18	–
BX166	–	21 1/4	–	–	640.03	32.03	26.14	3.18	–
BX167*	–	–	–	–	759.36	35.87	13.11	1.59	–
BX168†	–	–	–	–	765.25	35.87	16.05	1.59	–
BX169**	–	–	–	–	173.51	15.85	12.93	1.59	–
BX170	–	–	–	–	218.03	14.22	14.22	1.59	–
BX171	–	–	–	–	267.44	14.22	14.22	1.59	–
BX172	–	–	–	–	333.07	14.22	14.22	1.59	–
BX303††	–	–	–	–	852.75	37.95	16.97	1.59	–

* BX167 is suitable for 26 3/4 Nominal Pipe Size 2,000 psi rating.

** BX169 is suitable for 5 3/4 Nominal Pipe Size 10,000 psi rating.

† BX168 is suitable for 26 3/4 Nominal Pipe Size 3,000 psi rating.

†† BX303 is suitable for 30 Nominal Pipe Size 2,000 and 3,000 psi ratings.

Designs are also available for Subsea applications.

SPECIALISED RING TYPE JOINTS

RUBBER COATED RING TYPE JOINTS

This is an oval Ring Type Joint totally enclosed in a nitrile rubber coating. The Ring Type Joint material is usually soft iron or low carbon steel.

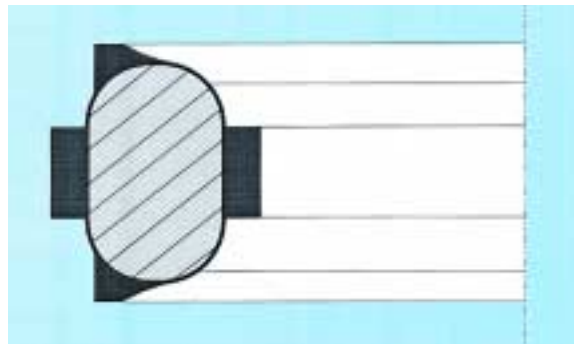
This type of gasket has three main functions:

- It is used in pressure testing to minimise damage to flanges.
- The rubber contact points provide additional seals while protecting the flange surfaces.
- It provides increased assurance against corrosion, which can occur between conventional Ring Type Joints and the engaged surfaces of the groove.

A wide range of standard sizes are available, with special sizes available upon request.



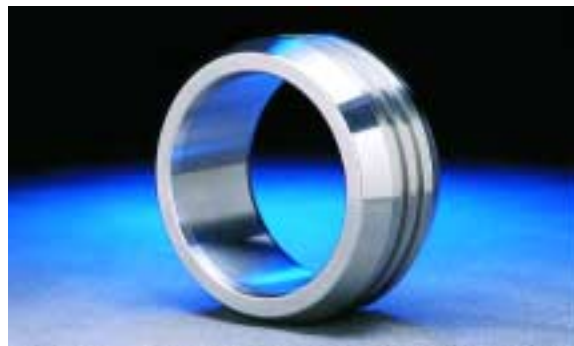
Rubber Ring Joint



Section through a Rubber Ring Joint

CUSTOM MANUFACTURED SEALS

Flexitallic supplies gaskets, with or without inserts, and other specialised machined metallic components to suit subsea and wellhead equipment.



Special BOP Type Joint

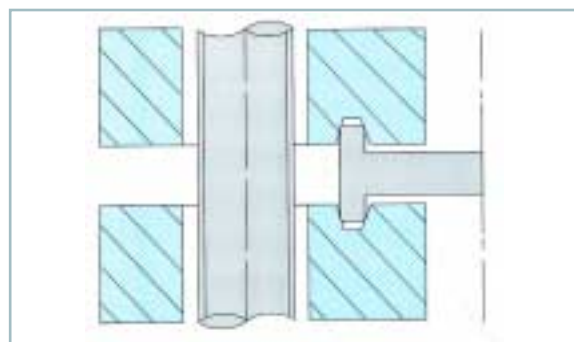
BLIND RING TYPE JOINTS

Special Ring Type Joints can be manufactured to blank off flanges and pipework. They consist of standard Ring Type Joints with integral solid metallic centres.

Blind Ring Type Joints can be supplied in all standard materials and exotic alloys.

For further information on the specialised Ring Type Joint products, please contact Flexitallic's Technical Department.

For problematic ring type flange applications, the specialised Flexitallic "CG-RJ" Spiral Wound gasket design may also be considered.



Section through Blind Ring Type Joint

SPECIALISED RING TYPE JOINTS

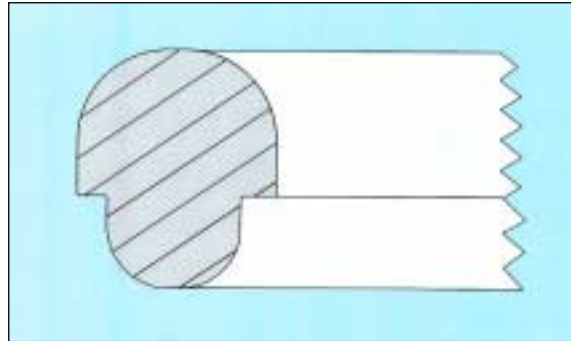
For critical and non-standard applications, Flexitallic offers a range of specialised Ring Type Joints to suit the needs of the petrochemical industry.

TRANSITION RING TYPE JOINTS

These are combination rings which consist of two different sizes having the same pitch circle diameter. They are used for sealing Ring Type Joint flanges where the mating flanges have different ring groove diameters.

Transition Ring Type Joints can be manufactured from standard materials, as well as exotic alloys.

Transition Ring Type Joints are available with either oval or octagonal facings and are not encompassed by the API specification.



Transition Ring

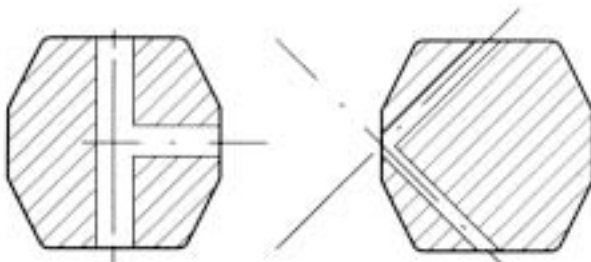
SUB SEA GASKETS

Flexitallic are able to provide safe, dimensionally and functionally interchangeable subsea wellhead, mudline and tree equipment within the scope of API.

The performance requirement of pressure integrity, thermal integrity, material choice along with no observable leakage allowable are met with these sealing desires.

To distinguish from topside Ring Type Joints the suffix 's' is used to indicate the additional pressure passage hold in the ring cross section. This is to indicate the additional requirement to prevent pressure lock when connections are made up underwater.

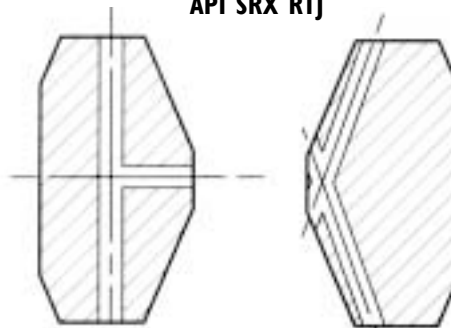
API SBX RTJ



OPTION A

OPTION B

API SRX RTJ



OPTION A

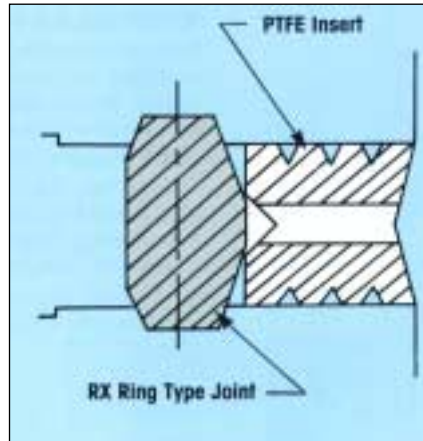
OPTION B

STYLE RX WITH PTFE INSERTS

STYLE RX RING TYPE JOINTS WITH PTFE INSERTS

Style RX Ring Type Joints can also be supplied with PTFE inserts, in order to reduce turbulent flow and eliminate gasket/flange erosion. The insert is specially designed with radially drilled pressure passage holes so that the self energising performance of the RX Ring Joint is not impaired.

As can be seen right, the insert is located between the inside diameter of the Ring Type Joint and the bore of the flange. On assembly, the insert is completely trapped between the make up of the flanges, filling the annular space between the flange bore and gasket.



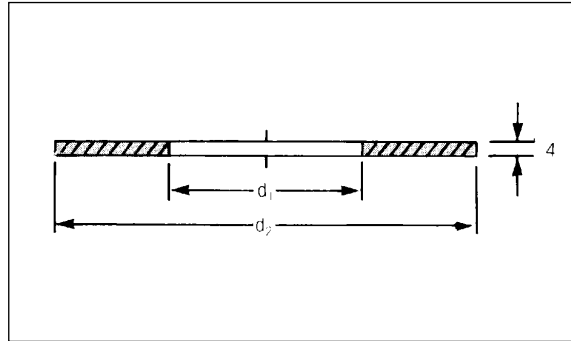
Section through Oval Ring with Insert

WELD RINGS

Another gasket concept, with origins from the German industrial market, is welded gaskets. As standard, two variants exist, Welded Membrane gaskets in accordance with DIN 2695 and Weld Ring gaskets.

WELDED MEMBRANE GASKETS

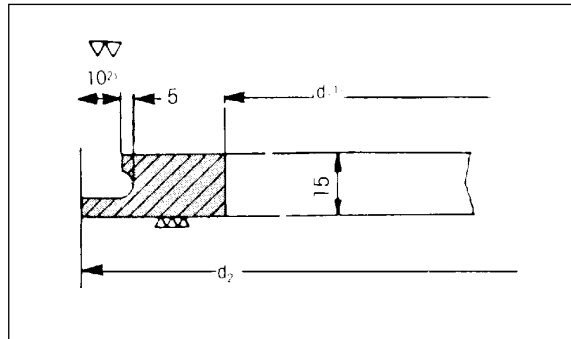
The Welded Membrane gasket consists of two similar rings each of 4mm thickness. For chemical compatibility and in order to ensure controlled thermal conductivity and weld compatibility, the gasket material must always be the same as the flange material. Each ring is individually welded to its mating flange and upon flange assembly, a second welding operation ensures the joining of the rings on their outer diameter, thus providing a fully welded joint.



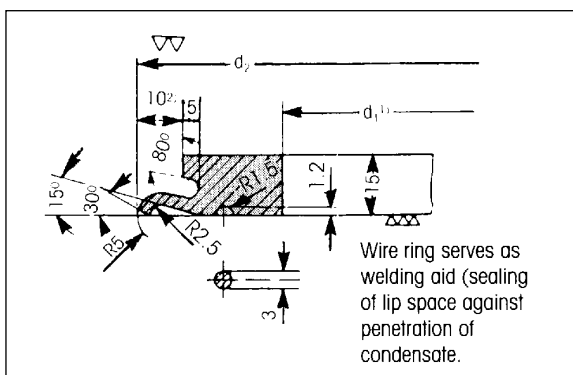
Single Seal Ring

WELDED RING GASKETS

As with Membrane Welded Gaskets, Weld Ring Gaskets are utilised in pairs. As standard, each ring is 15mm thick and manufactured to similar materials to that of the flange, thus ensuring full compatibility. All welding is conducted on the outside of the outside of the gasket and flange, thus ensuring ease of location, especially in restricted applications where space is of a minimum. Two styles exist, Style SR and Style SRL.



Style SR



Style SRL

LENS RINGS

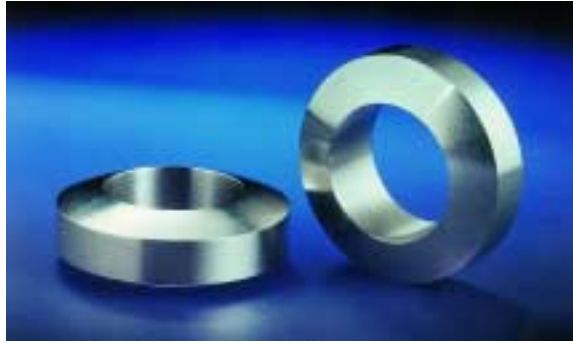
Flexitallic Lens Rings, manufactured in accordance with DIN 2696, provide the engineer with a high integrity, high pressure/temperature seal for specialist applications.

Lens Rings have a spherical surface and are suitable for use with conical flange faces (other styles are available on request).

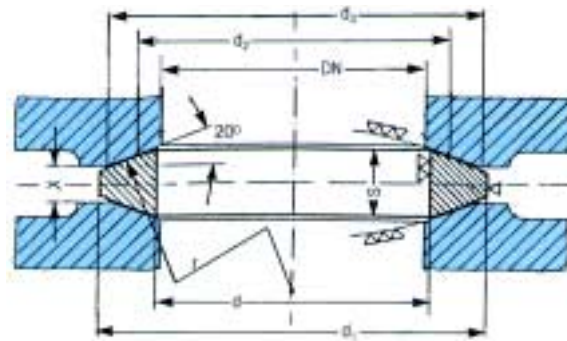
As standard, the gasket material should be softer than the flange material, thus ensuring that the applied compressive load leads to the elastic/plastic deformation of the Lens Ring and not the flange sealing face.

By applying higher loads on the gasket the contact area between the Lens Ring and the flange increases. This prevents the gasket from being overstressed.

As with all metallic joints, the re-use of Lens Rings is not recommended. During assembly and use, work hardening of the material occurs. With subsequent re-use, increased bolt loads are required to achieve similar sealing performance. This can lead to damage to the flange faces.



Lens rings



Cross Section of Lens

Flexitallic Product Range

The following non-asbestos product ranges are available from Flexitallic Ltd and its associated distributors and licensees.

- | | |
|---|---|
| Semi Metallic Gaskets | - Spiral wound, kammprofile, metal reinforced graphite, metal jacket etc. |
| Sheet Gasket Materials | - SF/AF non-asbestos, SIGMA, Flexicarb, Thermiculite. |
| Compression Packings | - Braided packings, pre-formed graphite rings, Syntron packings, Enviroflex valve stem sealing systems. |
| Cork/Rubber Sheet Sealing Materials | - Flexitallic SRC range. |
| Proofed Sheeting, Tapes and Rings | - GST, GTP, GRG and SST ranges. |
| Beater Addition Sheet Sealing Materials | - OJ & PR ranges. |
| Thread Sealing Compounds | |
| PTFE Spray | |
| Solid PTFE Products | |
| Insulating Gaskets | - Pikotek |

SUITABLE FOR STRINGENT REQUIREMENTS



THE ENVIRONMENT

All products are produced entirely asbestos-free and to the highest standards consistent with their role in helping to protect the environment.

FOR FURTHER PRODUCT INFORMATION AND / OR DATA SHEETS PLEASE CONTACT THE SALES OR TECHNICAL DEPARTMENT AT FLEXITALLIC. CONTACT DETAILS CAN BE FOUND ON THE BACK OF THIS BROCHURE.

<http://www.flexitallic.com>

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