Metal Ring Joint Gaskets - Type 'R'

Ring joint gaskets are typically manufactured to API 6A / ASME B16.20 and it is primarily used in high pressure & high temperature flange gasket applications. These are made from solid metallic materials. The requirements in terms\of dimensional accuracy and surface finish are therefore high

[4] TYPE "R" Ring Gaskets - According to ASME B16.20 : 2017 / API 6A:2010

ASME B16.20:2017; Table:RJ-5-1 and API 6A 20th Ed.:2010 ;Clause 10.4.2.1 Table 63

Dimensions in millimeters

NOMINAL PIPE SIZE / NOMINAL PRESSURE																					
ASME/ANSI B16.5					API 6B				ASME B16.47 Series A			RING NUMBER	OUTSIDE DIA. OF RING	INSIDE DIA. OF RING	PITCH DIAMETER OF RING	HEIGHT OF RING OVAL	HEIGHT OF RING OCTA.	WIDTH OF RING	WIDTH OF FLAT OF OCTA. RING	Radius in Oct. Ring	WEIGHT	
150	300-600	900	1500	2500	720-960	2000	3000	5000	150	300-600	900		OD ±0.38	ID	P ±0.18	B ±0.5	H (5) +1.3 /-0.5	A ±0.20	C ±0.20	R_1 ±0.50	OVAL Kgs.	OCTA Kgs.
	½											R11	40.49	27.79	34.14	11.2	9.7	6.35	4.32	1.5	0.05	0.05
		½	½									R12	47.65	31.75	39.7	14.2	12.7	7.95	5.23	1.5	0.10	0.10
	¾			½								R13	50.83	34.93	42.88	14.2	12.7	7.95	5.23	1.5	0.10	0.10
		¾	¾									R14	52.4	36.5	44.45	14.2	12.7	7.95	5.23	1.5	0.11	0.11
1												R15	55.58	39.67	47.63	14.2	12.7	7.95	5.23	1.5	0.12	0.11
	1	1	1	¾	1	1	1	1				R16	58.75	42.85	50.8	14.2	12.7	7.95	5.23	1.5	0.12	0.11
1¼												R17	65.1	49.2	57.15	14.2	12.7	7.95	5.23	1.5	0.14	0.13
	1¼	1¼	1¼	1	1¼	1¼	1¼	1¼				R18	68.28	52.37	60.33	14.2	12.7	7.95	5.23	1.5	0.15	0.14
1½												R19	73.05	57.15	65.1	14.2	12.7	7.95	5.23	1.5	0.16	0.15
	1½	1½	1½		1½	1½	1½	1½				R20	76.23	60.33	68.28	14.3	12.7	7.95	5.23	1.5	0.17	0.15
				1¼								R21	83.36	61.11	72.24	17.5	16.0	11.13	7.75	1.5	0.30	0.29
2												R22	90.5	74.6	82.55	14.2	12.7	7.95	5.23	1.5	0.20	0.19
	2			1½	2	2						R23	93.68	71.42	82.55	17.5	15.9	11.13	7.75	1.5	0.34	0.33
		2	2				2	2				R24	106.38	84.12	95.25	17.5	15.9	11.13	7.75	1.5	0.39	0.38
2½												R25	109.55	93.65	101.6	14.2	12.7	7.95	5.23	1.5	0.25	0.23
	2½			2	2½	2½						R26	112.73	90.47	101.6	17.5	15.9	11.13	7.75	1.5	0.42	0.41
		2½	2½				2½	2½				R27	119.08	96.82	107.95	17.5	15.9	11.13	7.75	1.5	0.45	0.43
				2½								R28	123.83	98.43	111.13	19.1	17.5	12.7	8.66	1.5	0.57	0.55
3												R29	122.25	106.35	114.3	14.2	12.7	7.95	5.23	1.5	0.28	0.26
	3											R30	128.6	106.35	117.48	17.5	16.0	11.13	7.75	1.5	0.48	0.47
	3	3			3	3	3					R31	134.95	112.7	123.83	17.5	15.9	11.13	7.75	1.5	0.51	0.50
				3								R32	139.7	114.3	127	19.1	17.5	12.7	8.66	1.5	0.65	0.63
3½												R33	139.73	123.83	131.78	14.2	12.7	7.95	5.23	1.5	0.32	0.30
	3½											R34	142.9	120.65	131.78	17.5	16.0	11.13	7.75	1.5	0.54	0.52
			3					3				R35	147.65	125.4	136.53	17.5	15.9	11.13	7.75	1.5	0.56	0.55
4												R36	157.18	141.27	149.23	14.2	12.7	7.95	5.23	1.5	0.37	0.34
	4	4			4	4	4	3½				R37	160.35	138.1	149.23	17.5	15.9	11.13	7.75	1.5	0.62	0.60
				4								R38	173.05	141.3	157.18	22.4	20.6	15.88	10.49	1.5	1.16	1.14
			4					4				R39	173.05	150.8	161.93	17.5	15.9	11.13	7.75	1.5	0.67	0.65
5												R40	179.4	163.5	171.45	14.2	12.7	7.95	5.23	1.5	0.42	0.39
	5	5			5	5	5					R41	192.1	169.85	180.98	17.5	15.9	11.13	7.75	1.5	0.75	0.73
				5								R42	209.55	171.45	190.5	25.4	23.9	19.05	12.32	1.5	1.91	1.88
6												R43	201.63	185.72	193.68	14.2	12.7	7.95	5.23	1.5	0.48	0.44
			5					5				R44	204.8	182.55	193.68	17.5	15.9	11.13	7.75	1.5	0.80	0.78
	6	6			6	6	6					R45	222.28	200.03	211.15	17.5	15.9	11.13	7.75	1.5	0.87	0.85
			6					6				R46	223.85	198.45	211.15	19.1	17.5	12.7	8.66	1.5	1.08	1.05
				6								R47	247.65	209.55	228.6	25.4	23.9	19.05	12.32	1.5	2.29	2.26
8												R48	255.6	239.7	247.65	14.2	12.7	7.95	5.23	1.5	0.61	0.56
	8	8			8	8	8					R49	281	258.75	269.88	17.5	15.9	11.13	7.75	1.5	1.11	1.09
			8					8				R50	285.75	254	269.88	22.4	20.6	15.88	10.49	1.5	1.99	1.95
				8								R51	301.63	257.18	279.4	28.7	26.9	22.23	14.81	1.5	3.65	3.69
10												R52	312.75	296.85	304.8	14.2	12.7	7.95	5.23	1.5	0.75	0.69
	10	10			10	10	10					R53	334.98	312.72	323.85	17.5	15.9	11.13	7.75	1.5	1.34	1.30
			10					10				R54	339.73	307.98	323.85	22.4	20.6	15.88	10.49	1.5	2.39	2.35
				10								R55	371.48	314.33	342.9	36.6	35.1	28.58	19.81	2.3	7.35	7.68
12												R56	388.95	373.05	381	14.2	12.7	7.95	5.23	1.5	0.93	0.87
	12	12			12	12	12			12	12	R57	392.13	369.87	381	17.5	15.9	11.13	7.75	1.5	1.57	1.53
			12									R58	403.23	358.78	381	28.7	26.9	22.23	14.81	1.5	4.98	5.03
14												R59	404.83	388.92	396.88	14.2	12.7	7.95	5.23	1.5	0.98	0.90
				12								R60	438.15	374.65	406.4	39.6	38.1	31.75	22.33	2.3	10.47	11.09
	14				14	14	14			14		R61	430.23	407.97	419.1	17.5	16.0	11.13	7.75	1.5	1.73	1.69
		14									14	R62	434.98	403.23	419.1	22.4	20.6	15.88	10.49	1.5	3.09	3.04
			14									R63	444.5	393.7	419.1	33.3	31.8	25.4	17.3	2.3	7.33	7.54
16												R64	461.98	446.07	454.03	14.2	12.7	7.95	5.21	1.5	1.12	1.03

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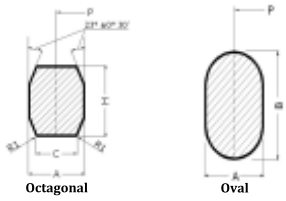
Metal Ring Joint Gaskets - Type 'R'



Note for markings:

- TO BE MARKED WITH API 6A AND ASME B16.20
- TO BE MARKED WITH ASME B16.20 ONLY

[4] TYPE "R" Ring Gaskets - According to ASME B16.20 : 2017 / API 6A:2010

ASME B16.20:2017; Table:RJ-5-1 and API 6A 20th Ed.:2010 ;Clause 10.4.2.1 Table 63

Dimensions in millimeters

NOMINAL PIPE SIZE / NOMINAL PRESSURE																						
ASME/ANSI B16.5					API 6B				ASME B16.47 Series A			RING NUMBER	OUTSIDE DIA. OF RING	INSIDE DIA. OF RING	PITCH DIAMETER OF RING	HEIGHT OF RING OVAL	HEIGHT OF RING OCTA.	WIDTH OF RING	WIDTH OF FLAT OF OCTA. RING	Radius in Oct. Ring	WEIGHT	
150	300-600	900	1500	2500	720-960	2000	3000	10000	150	300-600	900		OD ±0.38	ID	P ±0.18	B ±0.5	H (5) +1.3 /-0.5	A ±0.20	C ±0.20	R_1 ±0.50	OVAL Kgs.	OCTA Kgs.
	16				16	16				16		R65	481.03	458.77	469.9	17.5	15.9	11.13	7.75	1.5	1.94	1.89
		16					16				16	R66	485.78	454.03	469.9	22.4	20.6	15.88	10.49	1.5	3.47	3.40
			16									R67	498.48	441.33	469.9	36.6	35.1	28.58	19.81	2.3	10.07	10.53
18												R68	525.48	509.57	517.53	14.2	12.7	7.95	5.23	1.5	1.28	1.18
	18				18	18				18		R69	544.53	522.27	533.4	17.5	15.9	11.13	7.75	1.5	2.20	2.15
		18					18				18	R70	552.45	514.35	533.4	25.4	23.9	19.05	12.32	1.5	5.35	5.27
			18									R71	561.98	504.83	533.4	36.6	35.1	28.58	19.81	2.3	11.43	11.95
20												R72	566.75	550.85	558.80	14.2	12.7	7.95	5.23	1.5	1.38	1.27
	20				20	20				20		R73	596.90	571.50	584.20	19.1	17.5	12.70	8.66	1.5	2.99	2.92
		20					20				20	R74	603.25	565.15	584.20	25.4	23.9	19.05	12.32	1.5	5.85	5.77
			20									R75	615.95	552.45	584.20	39.6	38.1	31.75	22.33	2.3	15.05	15.94
24												R76	681.05	665.15	673.10	14.2	12.7	7.95	5.23	1.5	1.66	1.53
	24									24		R77	708.03	676.28	692.15	22.4	20.6	15.88	10.49	1.5	5.11	5.01
		24									24	R78	717.55	666.75	692.15	33.3	31.8	25.40	17.30	2.3	12.10	12.46
			24									R79	727.08	657.23	692.15	44.5	41.4	34.93	24.82	2.3	22.58	22.06
									22			R80	623.90	608.00	615.95	-	12.7	7.95	5.23	1.5	1.52	1.40
										22		R81	649.30	620.70	635.00	-	19.1	14.30	9.58	1.5	4.05	3.86
								1				R82	68.28	46.02	57.15	-	15.9	11.13	7.75	1.5	-	0.23
								1½				R84	74.63	52.37	63.50	-	15.9	11.13	7.75	1.5	-	0.25
								2				R85	92.08	66.68	79.38	-	17.5	12.70	8.66	1.5	-	0.40
								2½				R86	106.38	74.63	90.50	-	20.6	15.88	10.49	1.5	-	0.65
								3				R87	115.90	84.15	100.03	-	20.6	15.88	10.49	1.5	-	0.72
								4				R88	142.88	104.78	123.83	-	23.9	19.05	12.32	1.5	-	1.22
								3½				R89	133.35	95.25	114.30	-	23.9	19.05	12.32	1.5	-	1.13
								5				R90	177.80	133.35	155.58	-	26.9	22.23	14.81	1.5	-	2.05
								10				R91	292.10	228.60	260.35	-	38.1	31.75	22.33	2.3	-	7.10
												R92	239.73	217.47	228.60	17.5	16.0	11.13	7.75	1.5	0.94	0.92
										26		R93	768.35	730.25	749.30	-	23.9	19.05	12.32	1.5	0.94	0.92
										28		R94	819.15	781.05	800.10	-	23.9	19.05	12.32	1.5	-	7.40
										30		R95	876.30	838.20	857.25	-	23.9	19.05	12.32	1.5	-	7.90
										32		R96	936.63	892.18	914.40	-	26.9	22.23	14.81	1.5	-	8.47
										34		R97	987.43	942.98	965.20	-	26.9	22.23	14.81	1.5	-	12.08
										36		R98	1,044.58	1,000.13	1,022.35	-	26.9	22.23	14.81	1.5	-	12.75
						8	8					R99	246.08	223.82	234.95	-	15.9	11.13	7.75	1.5	-	13.51
											26	R100	777.88	720.73	749.30	-	35.1	28.58	19.81	2.3	-	0.95
											28	R101	831.85	768.35	800.10	-	38.1	31.75	22.33	2.3	-	16.79
											30	R102	889.00	825.50	857.25	-	38.1	31.75	22.33	2.3	-	21.83
											32	R103	946.15	882.65	914.40	-	38.1	31.75	22.33	2.3	-	23.39
											34	R104	1,000.13	930.28	965.20	-	41.4	34.93	24.82	2.3	-	24.95
											36	R105	1,057.28	987.43	1,022.35	-	41.4	34.93	24.82	2.3	-	31.49

GENERAL NOTE: End flanges to API 6D and API 600 use gaskets for equivalent pipe size under ASME/ANSI B16.5 or ASME B16.47 series A.

NOTE:

1) All dimensions are in mm.
2) R30 is suitable for lapped flanges only.
3) Class 720, 960 and 10000 flanges to API 6B are obsolete. Data are for information only.
4) The 23° surfaces on R and RX gaskets shall have a surface finish not rougher than 1.6 µm *Ra* (63 µin RMS).
5) B, H Variation in height throughout the entire circumference of any ring shall not exceed 0.5 mm within these tolerances..

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