

INDUSTRIAL FITTINGS - couplings

Oil and gas extraction, other couplings

Couplings for drilling fluid tanks are used for drilling operations around the world. The drilling fluid is necessary to carry the cuttings to the surface, cool the drilling equipment in the well and to stabilize the well bore. The tanks within a drilling fluid system must be leak tight, easily twist to close or twist to open for diameters from 4 up to 16 inch. There are two types of connections. The first type is „pneumatic” (Seal-O-Grip) - a rubber seal is inflated to achieve leak tight connection between the pipe and the tank. The second type of connection, Hammerseal coupling, seals on O-ring when a nut is tightened.



Seal-O-Grip

Material: Carbon steel
Seal: NBR
Working press: 11.4 bar (170 PSI)

Seal-O-Grip is an air-inflatable coupling intended for suction or return lines of low pressure formation fluid or drilling fluid. The steel body of the coupling is welded into a drilling fluid tank or manifold pipeline. The connection is leak tight as soon as the seal is inflated, even if the pipe is not perfectly aligned. The seal made of NBR rubber is resistant to oil and abrasion. It can be inflated up to 13.8 bar pressure up against the external diameter of the connecting pipe. The use of the couplings speeds up the connection process and eliminates the need to use low pressure flange connections.



Hammer Seal

Material: Carbon steel
Seal: NBR
Working press: 10 bar (150 PSI)

Hammer Seal coupling is intended for fast connection of drilling fluid tanks, with no flanges used. Even if drilling fluid tanks are not perfectly aligned, Hammer Seal coupling ensures tight, leakproof connection. A female unit with male thread must be welded into the tank, whereas a connecting pipe is equipped with a nut with female thread and O-ring. The coupling provides the perfect, leakproof connection as soon as the nut with O-ring is tightened.

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API flange couplings



Material: Carbon steel
Working press: From 138 bar to 1380 bar
 (depending on flange type)

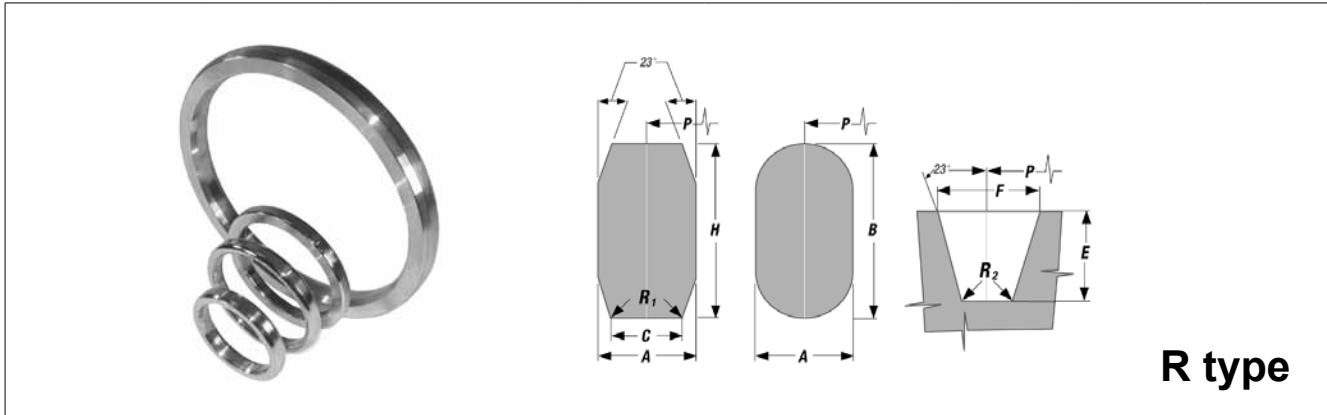
Flange couplings are widely used in petrochemical industry e.g. to connect pipelines or to connect a blowout preventer. The flanges are of a groove type, compatible with sealing rings of R, RX and BX type. Made according to API standard. Fixed flanges with welding neck are also available.

API 6B					
138 bar (2000 PSI)		207 bar (3000 PSI)		345 bar (5000 PSI)	
size [inch]	ring number (R or RX)	size [inch]	ring number (R or RX)	size [inch]	ring number (R or RX)
2.1/16	23	2.1/16	24	2.1/16	24
2.9/16	26	2.9/16	27	2.9/16	27
3.1/8	31	3.1/8	31	3.1/8	35
4.1/16	37	4.1/16	37	4.1/16	39
5.1/8	41	5.1/8	41	5.1/8	44
7.1/16	45	7.1/16	45	7.1/16	46
9	49	9	49	9	50
11	53	11	53	11	54
13.5/8	57	13.5/8	57	-	-
16.3/4	65	16.3/4	66	-	-
21.1/4	73	20.3/4	74	-	-
API 6BX					
138 bar (2000 PSI)		207 bar (3000 PSI)		345 bar (5000 PSI)	
size [inch]	ring number (BX)	size [inch]	ring number (BX)	size [inch]	ring number (BX)
26.3/4	167	26.3/4	168	13.5/8	160
30	303	30"	303	16.3/4	162
-	-	-	-	18.3/4	163
-	-	-	-	21.1/4	165
690 bar (10000 PSI)		1035 bar (15000 PSI)		1380 bar (20000 PSI)	
1.13/16	151	1.13/16	151	1.13/16	151
2.1/16	152	2.1/16	152	2.1/16	152
2.9/16	153	2.9/16	153	2.9/16	153
3.1/16	154	3.1/16	154	3.1/16	154
4.1/16	155	4.1/16	155	4.1/16	155
5.1/8	169	5.1/8	169	7.1/16	156
7.1/16	156	7.1/16	156	9	157
9	157	9	157	11	158
11	158	11	158	13.5/8	159
13.5/8	159	13.5/8	159	-	-
16.3/4	162	18.3/4	164	-	-
18.3/4	164	-	-	-	-
21.1/4	166	-	-	-	-

INDUSTRIAL FITTINGS - couplings

API ring gaskets

Steel sealing rings designed for connection and sealing of specially skived grooved flanges. Used in high pressure and high temperature connections. Manufactured of carbon steel. Cast iron or stainless steel versions available on request. Meets the requirements of API-6A.

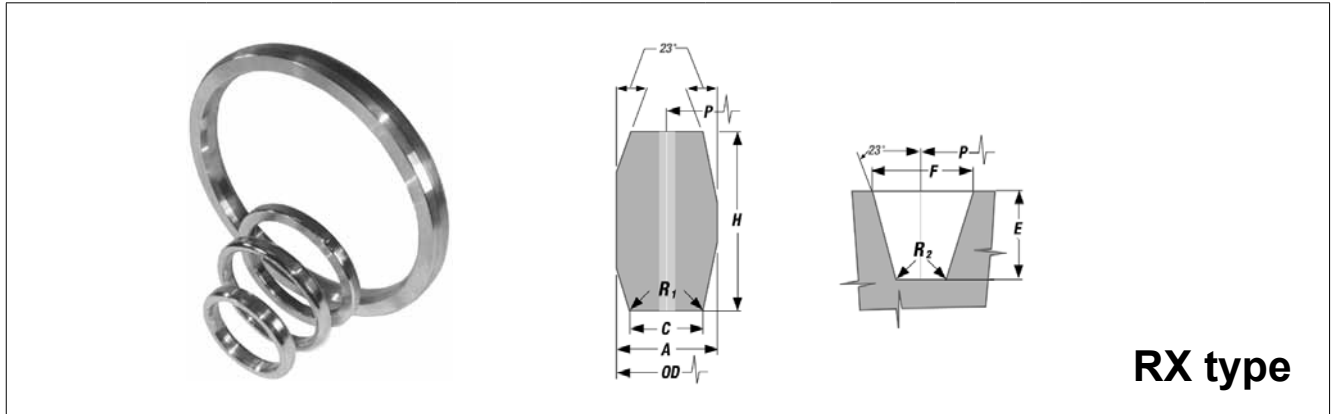


code	dimensions [inch]								
	P	A	B	H	C	R1	E	F	R2
HL-RO-020	2.688	0.313	0.56	0.50	0.206	0.06	0.25	0.344	0.03
HL-RO-023	3.250	0.438	0.69	0.63	0.305	0.06	0.31	0.469	0.03
HL-RO-024	3.750	0.438	0.69	0.63	0.305	0.06	0.31	0.469	0.03
HL-RO-026	4.000	0.438	0.69	0.63	0.305	0.06	0.31	0.469	0.03
HL-RO-027	4.250	0.438	0.69	0.63	0.305	0.06	0.31	0.469	0.03
HL-RO-031	4.875	0.438	0.69	0.63	0.305	0.06	0.31	0.469	0.03
HL-RO-035	5.375	0.438	0.69	0.63	0.305	0.06	0.31	0.469	0.03
HL-RO-037	5.875	0.438	0.69	0.63	0.305	0.06	0.31	0.469	0.03
HL-RO-039	6.375	0.438	0.69	0.63	0.305	0.06	0.31	0.469	0.03
HL-RO-041	7.125	0.438	0.69	0.63	0.305	0.06	0.31	0.469	0.03
HL-RO-044	7.625	0.438	0.69	0.63	0.305	0.06	0.31	0.469	0.03
HL-RO-045	8.313	0.438	0.69	0.63	0.305	0.06	0.31	0.469	0.03
HL-RO-046	8.313	0.500	0.75	0.69	0.341	0.06	0.38	0.531	0.06
HL-RO-047	9.000	0.750	1.00	0.94	0.485	0.06	0.50	0.781	0.06
HL-RO-049	10.625	0.438	0.69	0.63	0.305	0.06	0.31	0.469	0.03
HL-RO-050	10.625	0.625	0.88	0.81	0.413	0.06	0.44	0.656	0.06
HL-RO-053	12.750	0.438	0.69	0.63	0.305	0.06	0.31	0.469	0.03
HL-RO-054	12.750	0.625	0.88	0.81	0.413	0.06	0.44	0.656	0.06
HL-RO-057	15.000	0.438	0.69	0.63	0.305	0.06	0.31	0.469	0.03
HL-RO-063	16.500	1.000	1.31	1.25	0.681	0.09	0.62	1.063	0.09
HL-RO-065	18.500	0.438	0.69	0.63	0.305	0.06	0.31	0.469	0.03
HL-RO-066	18.500	0.625	0.88	0.81	0.413	0.06	0.44	0.656	0.06
HL-RO-069	21.000	0.438	0.69	0.63	0.305	0.06	0.31	0.469	0.03
HL-RO-070	21.000	0.750	1.00	0.94	0.485	0.06	0.50	0.781	0.06
HL-RO-073	23.000	0.500	0.75	0.69	0.341	0.06	0.38	0.531	0.06
HL-RO-074	23.000	0.750	1.00	0.94	0.485	0.06	0.50	0.781	0.06

Sealing ring with an octagonal cross-section. Ensure better sealing of the connection than ring gaskets with an oval cross-section. To order, please contact Sales or Technical Department of TUBES INTERNATIONAL®. Working pressure up to 700 bar. Working temperature (carbon steel) from -40°C up to +500°C.

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API ring gaskets



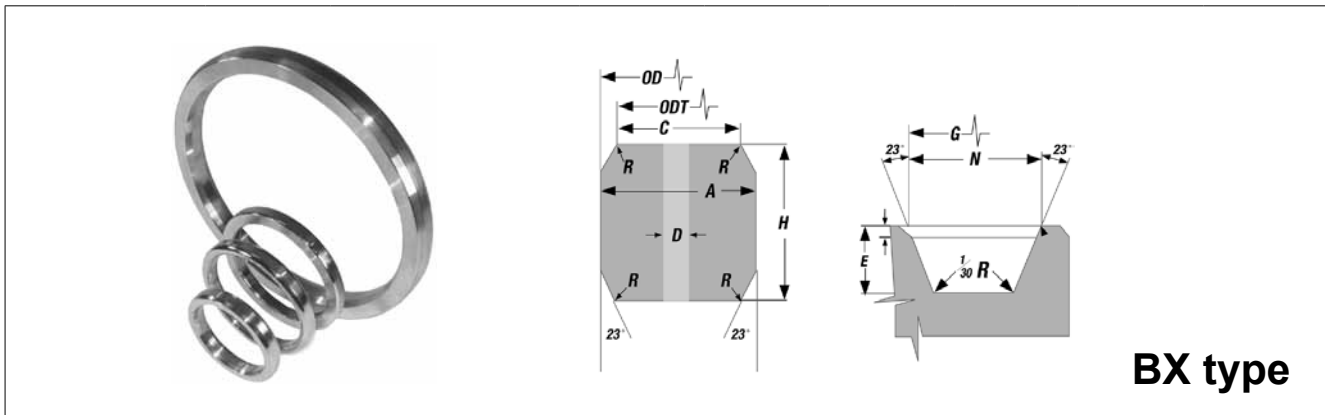
RX type

code	dimensions [inch]								
	P	OD	A	C	H	R1	E	F	R2
HL-RX-020	2.688	3.000	0.344	0.182	0.125	0.06	0.25	0.344	0.03
HL-RX-023	3.250	3.672	0.469	0.254	0.167	0.06	0.31	0.469	0.03
HL-RX-024	3.750	4.172	0.469	0.254	0.167	0.06	0.31	0.469	0.03
HL-RX-025	4.000	4.313	0.344	0.182	0.125	0.06	0.25	0.344	0.03
HL-RX-026	4.000	4.406	0.469	0.254	0.167	0.06	0.31	0.469	0.03
HL-RX-027	4.250	4.656	0.469	0.254	0.167	0.06	0.31	0.469	0.03
HL-RX-031	4.875	5.297	0.469	0.254	0.167	0.06	0.31	0.469	0.03
HL-RX-035	5.375	5.797	0.469	0.254	0.167	0.06	0.31	0.469	0.03
HL-RX-037	5.875	6.297	0.469	0.254	0.167	0.06	0.31	0.469	0.03
HL-RX-039	6.375	6.797	0.469	0.254	0.167	0.06	0.31	0.469	0.03
HL-RX-041	7.125	7.547	0.469	0.254	0.167	0.06	0.31	0.469	0.03
HL-RX-044	7.625	8.047	0.469	0.254	0.167	0.06	0.31	0.469	0.03
HL-RX-045	8.313	8.734	0.469	0.254	0.167	0.06	0.31	0.469	0.03
HL-RX-046	8.313	8.750	0.531	0.263	0.188	0.06	0.38	0.531	0.06
HL-RX-047	9.000	9.656	0.781	0.407	0.271	0.09	0.50	0.781	0.06
HL-RX-049	10.625	11.047	0.469	0.254	0.167	0.06	0.31	0.469	0.03
HL-RX-050	10.625	11.156	0.656	0.335	0.208	0.06	0.44	0.656	0.06
HL-RX-053	12.750	13.172	0.469	0.254	0.167	0.06	0.31	0.469	0.03
HL-RX-054	12.750	13.281	0.656	0.335	0.208	0.06	0.44	0.656	0.06
HL-RX-057	15.000	15.422	0.469	0.254	0.167	0.06	0.31	0.469	0.03
HL-RX-073	23.000	23.469	0.531	0.263	0.208	0.06	0.38	0.531	0.06
HL-RX-074	23.000	23.656	0.781	0.407	0.271	0.09	0.50	0.781	0.06
HL-RX-210	3.500	3.844	0.375	0.213	0.125	0.03	0.25	0.750	0.03

RX type sealing ring is interchangeable with R type. Working pressure up to 750 bar. Working temperature (carbon steel) from -40°C up to +500°C.

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API ring gaskets



code	dimensions [inch]								
	OD	H	A	ODT	C	D	E	G	N
HL-BX-150	2.842	0.366	0.366	2.790	0.314	0.06	0.22	2.893	0.450
HL-BX-151	3.008	0.379	0.379	2.954	0.325	0.06	0.22	30.62	0.466
HL-BX-152	3.334	0.403	0.403	3.277	0.346	0.06	0.23	3.395	0.498
HL-BX-153	3.974	0.448	0.448	3.910	0.385	0.06	0.27	4.046	0.554
HL-BX-154	4.600	0.488	0.488	4.531	0.419	0.06	0.30	4.685	0.606
HL-BX-155	5.825	0.560	0.560	5.746	0.481	0.06	0.33	5.930	0.698
HL-BX-156	9.367	0.733	0.733	9.263	0.629	0.12	0.44	9.521	0.921
HL-BX-157	11.593	0.826	0.826	11.476	0.709	0.12	0.50	11.774	1.039
HL-BX-158	13.860	0.911	0.911	13.731	0.782	0.12	0.56	14.064	1.149
HL-BX-159	16.800	1.012	1.012	16.657	0.869	0.12	0.62	17.033	1.279
HL-BX-160	15.850	0.938	0.541	15.717	0.408	0.12	0.56	16.063	0.786
HL-BX-161	19.347	1.105	0.638	19.191	0.482	0.12	0.67	19.604	0.930
HL-BX-162	18.720	0.560	0.560	18.641	0.481	0.06	0.33	18.832	0.705
HL-BX-163	21.896	1.185	0.684	21.728	0.516	0.12	0.72	22.185	1.006
HL-BX-164	22.463	1.185	0.968	22.295	0.800	0.12	0.72	22.752	1.290
HL-BX-165	24.595	1.261	0.728	24.417	0.550	0.12	0.75	24.904	1.071
HL-BX-166	25.198	1.261	1.029	25.020	0.851	0.12	0.75	25.507	1.373
HL-BX-167	29.896	1.412	0.516	29.696	0.316	0.06	0.84	30.249	0.902
HL-BX-168	30.128	1.412	0.632	29.928	0.432	0.06	0.84	30.481	1.018
HL-BX-169	6.831	0.624	0.509	6.743	0.421	0.06	0.38	6.955	0.666
HL-BX-170	8.584	0.560	0.560	8.505	0.481	0.06	0.33	8.696	0.705
HL-BX-171	10.529	0.560	0.560	10.450	0.481	0.06	0.33	10.641	0.705
HL-BX-172	13.113	0.560	0.560	13.034	0.481	0.06	0.33	13.225	0.705
HL-BX-303	33.573	1.494	0.668	33.361	0.457	0.06	0.89	33.949	1.078

BX type sealing ring can only be used for flanges and grooves of API BX type. BX model has an opening allowing for pressure balance. Working pressure up to 1500 bar. Working temperature (carbon steel) from -40°C up to +500°C.