revoseal

GASKET
PRODUCT CATALOG

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revoseal. awesome gaskets.

Awesome applications require awesome gaskets

The productivity of a system decides on its competitiveness – in particular in international process industries. In the chemical, petrochemical, gas production and related sectors, the small and almost invisible elements of a facility or a column are playing a crucial role; we are talking about gaskets. Their technology, quality and durability decide on productivity or downtime.

revoseal is partner of the process industry for extraordinarily efficient gaskets and with the necessary products, patents and technical know-how.

At revoseal innovative capacity, quality and technology are combined with international service, professional key-accounting and technical expertise for sector-specific requirements also in pharma and food.

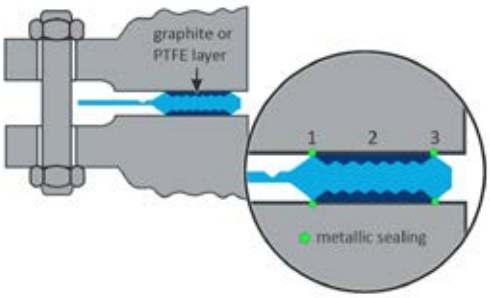
At their Cologne location revoseal invests in research and development thus providing for a sustainable basis needed for further continuous improvement of the products as well as expansion of the portfolio in the near future.

revoseal gasket concept

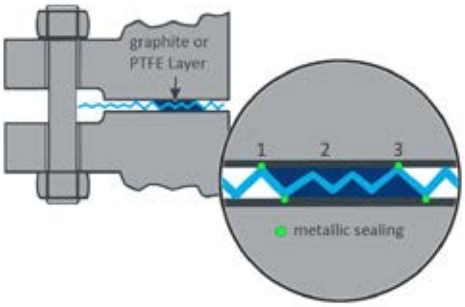
The high level of functionality of the international patented revoseal flange gaskets is based on a primarily metallic sealing concept. This provides a maximum of seal tightness and outstanding performance in conjunction with secondarily sealing soft materials (graphite or PTFE). Where conventional flange gaskets reach their limits revoseal gaskets guarantee a higher plant availability and reliability. Due to the long life time the maintenance costs can also be reduced.

Cross sections of our patented types of gaskets:

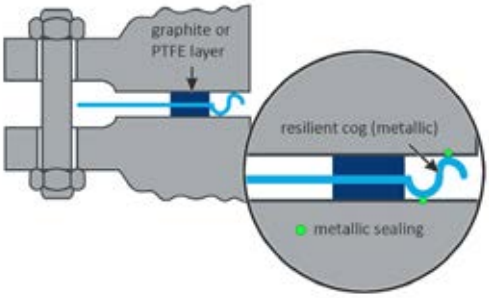
JP-2
triple sealing system



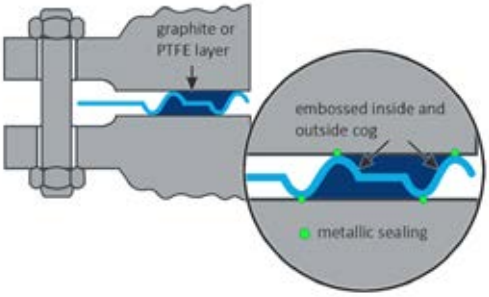
Revolution
triple sealing system



Eco+
metal flat profile gasket with layers



Visio
embossed metal gasket with layers



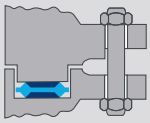
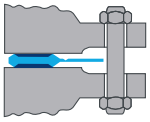
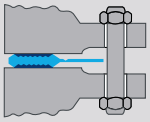
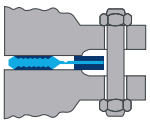
Encapsulated flat profile gaskets

revoseal JG/JP

The internationally patented geometry of outer and inner cogging completely encapsulates the graphite or PTFE layers. The tooth geometry has been calculated in such a way that even at using low quality bolts an ideal compression of the graphite layers and a double metallic sealing can be achieved. Therefore, Jungtec JG or JP (encapsulated flat profile gaskets) combine the advantages of metal and composite materials in an ideal way.

Highlights

- The effective gasket width can be adapted in order to achieve optimum sealability in accordance to the Technical Instructions on Air Quality Control (TA-Luft), **VDI 2290** according to **DIN EN 1591**.
- Temperature: - 270°C to + 1000°C (dependent on the carrier material)
- Pressure: from vacuum to 400 bar (1,500 lbs)
- Lowest leakage rates of all gaskets available on the market
- Standard material: 1.4571 (additional materials on request)
- Total thickness 4.2 mm (additional thicknesses on request)
- JG/JP profiles reproduce the tongue and groove principle
- Fire Safe Certificate according to **API 607** (also for PTFE) and blow-out resistance according to **VDI 2200**

Type	*Cross section*	*Designation*
JG/JP 1		Encapsulated flat-profile gasket suitable for tongue & groove and male and female facings according to **DIN EN 1514-4 TG** and **SR**.
JG 2		Encapsulated flat-profile gasket with centring ring and predetermined breaking groove for raised face and full face flanges form A and B according to **DIN EN 1092-1**, as well as flanges according to **ANSI B 16.5 / B 16.47-A** and **B 16.47-B**.
JP 2		Encapsulated flat-profile gasket with centring ring and predetermined breaking groove for raised face and full face flanges form A and B according to **DIN EN 1092-1**, as well as flanges according to **ANSI B 16.5 / B 16.47-A** and **B 16.47-B**. Recommended for pressure higher than 200 bar and temperatures exceeding 500 °C.
JP Top		JP TOP has the same properties as JP 2. In addition it has a secondary sealing of graphite or PTFE. This design is especially suited for cold chemicals building a corrosive medium in contact with air (atmosphere).
Vario		JG and JP gaskets are also available with our Vario-centering system (see page 8).

Dimensions JG/JP

Encapsulated flat profile gasket with centring ring and predetermined breaking groove for raised face and full face flanges form B according to DIN EN 1092-1

[DN]	*d1*	*d2*			*d3*									
		PN 10-40	*PN 64-160*	*PN 250-400*	*PN 10*	*PN 16*	*PN 25*	*PN 40*	*PN 64*	*PN 100*	*PN 160*	*PN 250*	*PN 320*	*PN 400*
10	22	36	36	36	46	46	46	46	56	56	56	67	67	67
15	26	42	42	42	51	51	51	51	61	61	61	72	72	78
20	31	47	47	47	61	61	61	61	72	72	-	-	-	-
25	36	52	52	52	71	71	71	71	82	82	82	83	92	104
32	46	62	62	66	82	82	82	82	88	88	-	-	-	-
40	53	69	69	73	92	92	92	92	103	103	103	109	119	135
50	65	81	81	87	107	107	107	107	113	119	119	124	134	150
65	81	100	100	103	127	127	127	127	137	143	143	153	170	192
80	95	115	115	121	142	142	142	142	148	154	154	170	190	207
100	118	138	138	146	162	162	168	168	174	180	180	202	229	256
125	142	162	162	178	192	192	194	194	210	217	217	242	274	301
150	170	190	190	212	217	217	224	224	247	257	257	284	311	348
175	195	215	215	245	247	247	254	265	277	287	284	316	358	402
200	220	240	248	280	272	272	284	290	309	324	324	358	398	442
250	270	290	300	340	327	328	340	352	364	391	388	442	488	-
300	320	340	356	400	377	383	400	417	424	458	458	536	-	-
350	375	395	415	-	437	443	457	474	486	512	-	-	-	-
400	426	450	474	-	489	495	514	546	543	572	-	-	-	-
450	480	506	-	-	539	555	564	571	-	-	-	-	-	-
500	530	560	588	-	594	617	624	628	657	704	-	-	-	-
600	630	664	700	-	695	734	731	747	764	813	-	-	-	-
700	730	770	812	-	810	804	833	852	879	950	-	-	-	-
800	830	876	886	-	917	911	942	974	988	-	-	-	-	-
900	930	982	994	-	1017	1011	1042	1084	1108	-	-	-	-	-
1000	1040	1098	1110	-	1124	1128	1154	1194	1220	-	-	-	-	-
1200	1250	1320	1334	-	1341	1342	1364	1398	1452	-	-	-	-	-
1400	1440	1522	-	-	1548	1542	1578	1618	-	-	-	-	-	-
1600	1650	1742	-	-	1772	1764	1798	1830	-	-	-	-	-	-
1800	1850	1914	-	-	1972	1964	2000	-	-	-	-	-	-	-
2000	2050	2120	-	-	2182	2186	2230	-	-	-	-	-	-	-
2200	2250	2328	-	-	2384	2378	-	-	-	-	-	-	-	-
2400	2460	2512	-	-	2594	-	-	-	-	-	-	-	-	-

*DIN / Inch = nominal width • The graphite dimensions for a flange calculation are available on our website - **revoseal.com***
*The total thickness is 4.2 + /- 0.1 mm • other thicknesses available • also available in other DIN and ANSI dimensions • Design and calculation according to **revoseal** factory standard*

Dimensions JG/JP

Encapsulated flat profile gasket JP-2 with centring ring and predetermined breaking groove for flanges according to ANSI B16.5

[inch]	d1	d2			d3					
	[inch]	150-300 lbs	400-600 lbs	900-1500 lbs	150 lbs	300 lbs	400 lbs	600 lbs	900 lbs	1500 lbs
1/2	23	33	33	33	44,4	50,8	50,8	50,8	60,3	60,3
3/4	29	40	40	40	53,9	63,5	63,5	63,5	66,7	66,7
1	37	47	47	47	63,5	69,8	69,5	69,5	76,2	76,2
1 1/4	44	60	60	60	73,0	79,4	79,4	79,4	85,7	85,7
1 1/2	52	70	70	70	82,5	92,1	92,1	92,1	95,2	95,2
2	70	89	89	89	101,8	108,0	108,0	108,0	139,7	139,7
2 1/2	83	102	102	102	120,6	127,0	127,0	127,0	161,9	161,9
3	94	124	124	124	133,4	146,1	146,1	146,1	165,1	171,5
3 1/2	111	136	136	136	158,8	161,9	158,7	158,7	-	-
4	124	149	149	149	171,5	177,8	174,6	190,5	203,2	206,4
5	151	176	176	176	193,7	212,7	209,5	238,1	244,5	250,8
6	179	209	209	209	219,1	247,7	244,5	263,5	285,8	279,4
8	229	260	260	260	276,2	304,8	301,6	317,5	355,6	349,3
10	283	313	313	313	336,5	358,8	355,6	396,9	431,8	431,8
12	340	370	370	378	406,4	419,1	415,9	454,0	495,3	517,5
14	372	402	402	409	447,7	482,6	479,4	488,9	517,5	574,7
16	422	457	457	467	511,2	536,6	533,4	561,9	571,5	638,1
18	479	514	514	530	546,1	593,7	590,5	609,6	635,0	701,7
20	530	570	570	581	603,2	650,9	644,5	679,5	695,3	752,4
22	581	621	621	632	657,2	701,7	698,5	730,3	-	-
24	632	672	672	682	714,4	771,5	765,2	787,4	835,0	898,5

*DIN / Inch = nominal width • The graphite dimensions for a flange calculation are available on our website - **revoseal.com***
Total thickness 4.2 + /- 0.1 mm • other thicknesses available • also available in other DIN and ANSI dimensions
*Design and calculation according to **revoseal** factory standard*

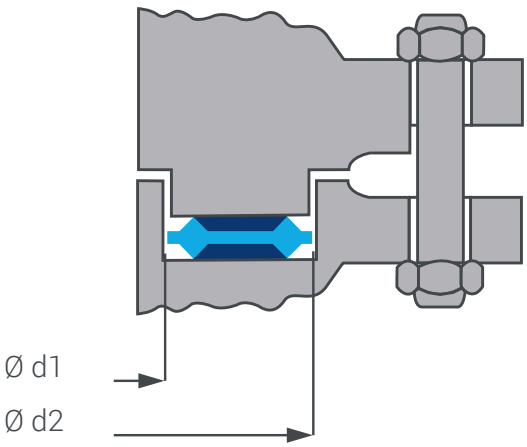
Dimensions JG 1

Encapsulated flat profile gasket for tongue & groove according to DIN 2512 and EN 1514-1 form TG

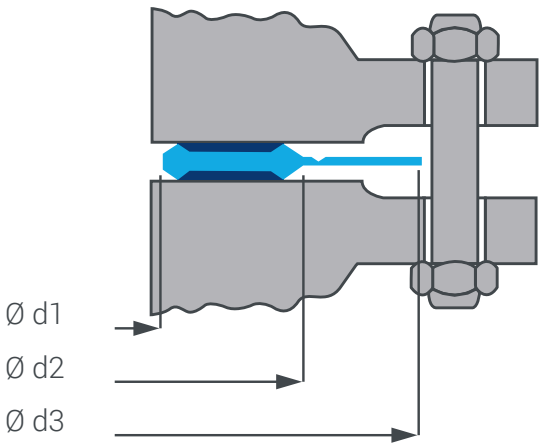
DN	d1	d2	Dicke
10	24	34	2
15	29	39	2
20	36	50	2
25	43	57	2
32	51	65	2
40	61	75	2
50	73	87	2
65	95	109	2
80	106	120	2
100	129	149	2,5
125	155	175	2,5
150	183	203	2,5
200	239	259	2,5
250	292	312	2,5
300	343	363	2,5
350	395	421	3
400	447	473	3
500	549	575	3
600	649	675	3
700	751	777	3
800	856	882	3
900	961	987	3
1000	1061	1093	4

*DN / Inch = nominal width • The graphite dimensions for a flange calculation are available on our website - **revoseal.com** • Total thickness as indicated + /- 0.1 mm • Additional thicknesses available • also available in other DIN and ANSI dimensions*
*Design and calculation according to **revoseal** factory standard*

JG/JP 1



JG 2



Universal centering system

revoseal system Vario

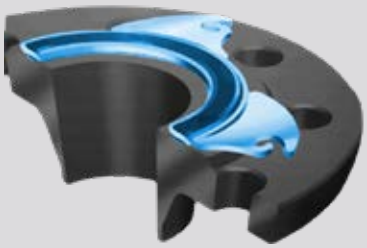
At their ratings centering rings of gaskets of the same nominal width but different pressure stage merely vary in their outside diameter. The installation of non-corresponding dimensions may cause malfunctions and failures of gaskets. The Vario centering system avoids misapplication and at the same time reduces the number of gasket types to be available from stock and increases the system availability.

The variable centering system Vario of revoseal is the solution.

The form of the centering segments allows balancing for different outside diameters. There is no risk of confusion or getting off-centre. Time-consuming positioning by means of anti-fatigue shaft screws is no longer necessary.

Highlights

- Considerable reduction of type varieties
- Accurate centering of the gasket
- Considerable cost-savings in procurement and storage
- No danger of confusion
- Easy assembly at using fatigue-shaft screws

Type	*Cross section*	*Designation*
Vario		The revoseal Vario centering system can be delivered for serrated gaskets as well as for the encapsulated gaskets JG and JP developed by us.

How does the Vario-system work?

If a customer has only DIN-flanges up to PN 160, he can replace four gaskets by one gasket with the Vario-centering system. If a customer has only ANSI-flanges up to 600 lbs, he can also replace four gaskets with the Vario-centering system. The customer using DIN as well as ANSI flanges in a.m. pressure ratings can replace eight dimensions of two different standards!

ANSI-flanges

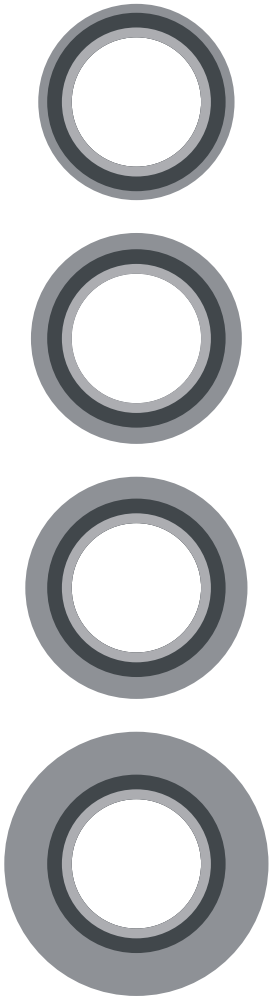
6“,
600 lbs

6“,
400 lbs

6“,
300 lbs

6“,
150 lbs

DIN-flanges



DN 150,
PN 10/16

DN 150,
PN 25/40

DN 150,
PN 64

DN 150,
PN 100/160

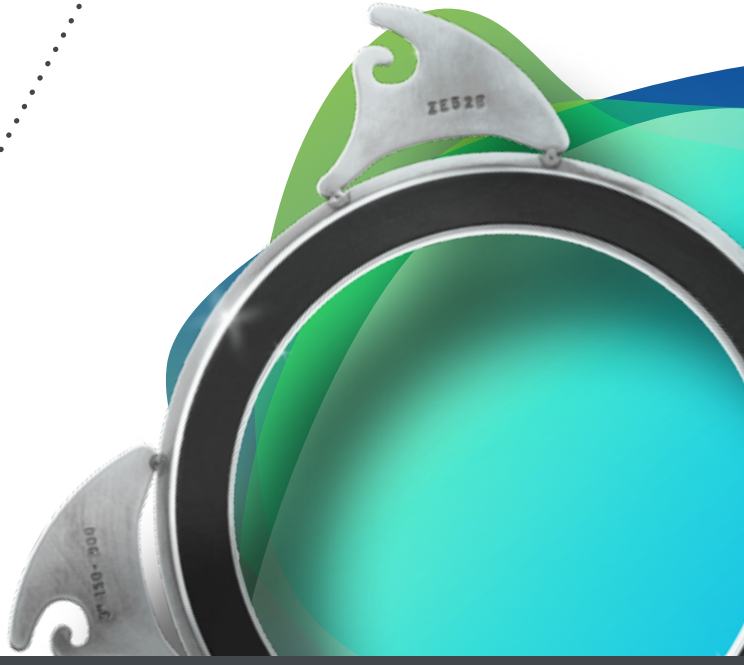


Table of pressure ratings VARIO-centering system

For flanges DIN 2667-2629 series 1, DIN 2627-2629 series 1, DIN 2632-2638 series 1, DIN EN 1092-1, ANSI B 16.5

[DN]	*[inch]*	*PN*	*lbs*	*d1*	*d2*
10	1/2	10-160	150-1500	16,7	33,3
15		10-160		22,7	39,3
15		250-400		18,7	34,3
20	3/4	10-40	150-1500	22,7	39,3
25	1	10-250	150-1500	32,7	49,3
25		320-400		36,7	52,3
32	1 1/4	10-40	150-1500	44,7	61,3
40	1 1/2	10-160	150-1500	51,7	68,3
40		250-400		51,7	68,3
50	2	10-160	150-600	63,7	80,3
50	2	250-400	900-1500	63,7	80,3
65	2 1/2	10-250	150-600	79,7	101,3
65		320-400		79,7	101,3
80	3	10-160	150-900	93,7	114,3
80	3	250-400	1500	93,7	120,3
100	4	10-160	150-600	116,7	137,3
100	4	250-400	900-1500	116,7	144,3
125	5	10-160	150-400	148,7	169,3
125	5	250	600-1500	140,7	161,3
150	6	10-160	150-600	164,7	181,3
150	6	250	900-1500	160,7	203,3
150		320-400		160,7	203,3
175		16-160		188,7	209,3

[DN]	*[inch]*	*PN*	*lbs*	*d1*	*d2*
200	8	10-160	150-600	220,7	241,3
200	8	250	900-1500	208,7	265,3
200		320		208,7	265,3
200		400		208,7	265,3
250	10	10-40	150-400	266,7	287,3
250	10	64-160	600	262,7	293,3
250	10	250	900-1500	262,7	332,3
300	12	10-40	150-300	318,7	339,3
300	12	64-160	400-600	318,7	355,3
300	12	250	900-1500	320,7	400,3
350	14	10-40	150-300	373,7	394,3
350	14	64-100	400-600	362,7	403,3
	14		1500	362,7	403,3
400	16	10-40	150-300	434,7	459,3
400	16	64	400-900	405,7	455,3
	16		1500	405,7	455,3
	18		150-600	497,7	513,3
500	20	10-40	150-400	528,7	559,3
	20		600-900	528,7	586,3
600	24	10-40	150	628,7	664,3
	24		300-600	628,7	664,3
700		10-40		728,7	770,3
800		10-40		828,7	876,3
900		10-40		928,7	982,3
1000		10-40		1038,7	1098,3

DIN / inch = nominal width • d1 = inside diameter • d2 = outside diameter of the graphite layer
Total thickness is 4.2 + /- 0.1 mm • Additional thicknesses available • also available in other DIN and ANSI dimension • Design and calculation according to ***revoseal*** *factory standard*

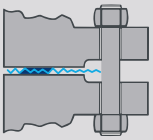
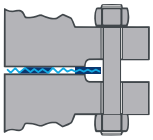
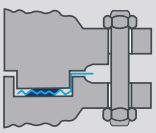
Embossed flat profile gasket

revoseal Revolution

The Revolution gasket is an embossed flat profile gasket consisting of a flexible stainless steel carrier and encapsulated graphite or PTFE on both sides. By the revolutionary construction and flexibility of the embossed cog height double metallic sealing as well as encapsulation of the graphite or PTFE is guaranteed. Owing to its wide application range, Revolution is the alternative to all conventional flat gasket types.

Highlights

- Temperature: -270°C to + 500°C
- Pressure range: from vacuum to 64 bar (400 lbs)
- Over-achieves TA-Luft and **VDI 2290** in connection with a leakage check according to **EN 1591-1** (also at using screws of minor quality)
- Standard material 1.4571 (optional: 1.4404)
- Available for DIN and ANSI – flanges to DN 400 / 16"
- Available with graphite or PTFE coating
- Total thickness 1.6 mm (+/- 0.1 mm)
- Fire Safe Certificate according to **API 607** (also for PTFE) and blow-out resistance according to **VDI 2200**

Type	*Cross section*	*Designation*
Revolution		The Revolution gasket is an embossed flat profile gasket consisting of a flexible stainless steel carrier and encapsulated graphite or PTFE on both sides.
Revolution Top		The Revolution Top has the same properties as the Revolution. It is, however, additionally provided with a secondary sealing of graphite with low density or PTFE. The secondary seal prevents from flange corrosion as often seen with carbon steel flanges.
Revolution tongue & groove		The Revolution tongue & groove has the same properties as the Revolution. Additionally, this type is equipped with a stainless steel mounting flap for smarter installation and removal.

Dimensions Revolution DIN

For flanges according to DIN 2632-2636 series 1 and DIN EN 1092-1

[DN]	d1	d2	d3				
		PN 10-64	PN 10	PN 16	PN 25	PN 40	PN 64
10	22	36	46	46	46	46	56
15	22	39,5	50	50	50	50	61
20	28	46,0	61	61	61	61	-
25	35	53,5	71	71	71	71	82
32	43	62,0	82	82	82	82	-
40	50	69,0	92	92	92	92	103
50	61	80,0	107	107	107	107	113
65	77	97,5	127	127	127	127	137
80	92	115,0	142	142	142	142	148
100	115	139,0	162	162	168	168	174
125	142	169,0	192	192	194	194	210
150	168	194,0	218	218	224	224	247
200	224	251,0	272	272	284	290	309
250	270	298,0	327	328	340	352	364
300	320	348,0	377	383	400	417	424
350	375	405,0	437	443	457	474	486
400	426	459,0	489	495	514	545	543

*DIN / Inch = nominal width • The graphite dimensions for a flange calculation are available on our website - **revoseal.com***
Total thickness is 1.6 + /- 0.1 mm
*Design and calculation according to **revoseal** factory standard*

Dimensions Revolution ANSI

For flanges according ANSI B 16.5

[inch]	d1	d2	d3		
			150 lbs	300 lbs	400 lbs
1/2	16	33,5	44,4	50,8	50,8
3/4	22	39,5	54,0	63,5	63,5
1	28	46,0	63,5	68,0	68,0
1 1/4	35	53,5	73,2	79,5	79,5
1 1/2	50	69,0	82,9	92,0	92,0
2	61	80,0	101,6	107,0	107,0
2 1/2	77	97,5	120,6	127,0	127,0
3	92	115,0	133,3	145,7	145,7
3 1/2	92	115,0	158,7	162,0	158,8
4	124	148,0	171,4	177,8	174,8
5	151	178,0	193,5	212,6	209,6
6	178	205,0	218,9	247,3	244,3
8	224	251,0	276,1	304,8	301,8
10	270	298,0	336,6	359,0	355,6
12	320	348,0	406,4	419,1	415,8
14	375	405,0	447,9	482,6	479,3
16	426	459,0	511,4	536,4	533,4

*DIN / Inch = nominal width • The graphite dimensions for a flange calculation are available on our website - **revoseal.com***
Total thickness is 1.6 + /- 0.1 mm
*Design and calculation according to **revoseal** factory standard*

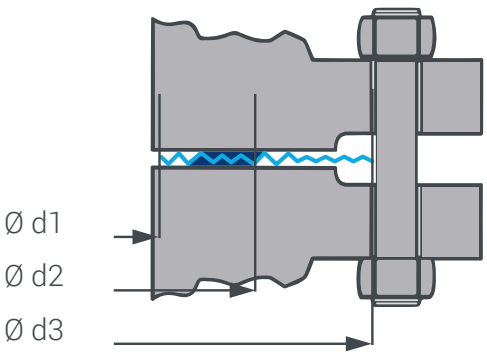
Dimensions Revolution tongue & groove

For flanges according DIN 2512 and EN1514-1 TG

[DN]	d1	d2
10	24	34
15	29	39
20	36	50
25	43	57
32	51	65
40	61	75
50	73	87
65	95	109
80	106	120
100	129	149
125	155	175
150	183	203
200	239	259
250	292	312
300	343	363
350	395	421
400	447	473

*DN / Inch = nominal width • d1 = inner diameter • d2 = outer diameter • The graphite dimensions for a flange calculation are available on our website - **revoseal.com***
Total thickness is 1.6 + /- 0.1 mm
*Design and calculation according to **revoseal** factory standard*

Revolution



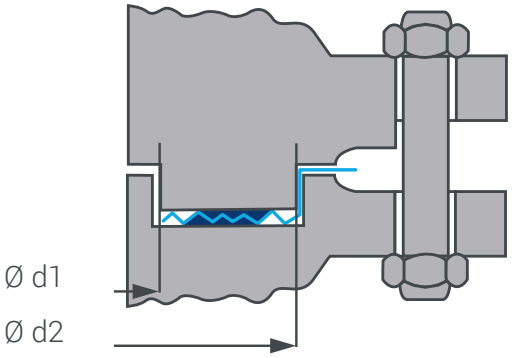


fig: Revolution tongue & groove
with stainless steel mounting flap

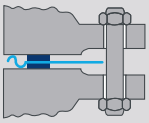
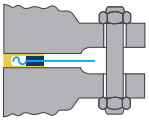
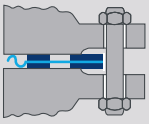
Metal flat profile gaskets with layers

revoseal Eco+

The ECO+ gasket consists of a solid stainless steel carrier, with a thin graphite layer on both sides. On the medium side, a resilient cog is embossed, which metallically seals on both sides of the flange. The resilient cog can balance forces caused by pressure and temperature fluctuations without being plastically deformed.

Highlights

- Temperature: -270°C to + 400°C
- Pressure range : from vacuum to 160 bar (900 lbs)
- Over-achieves TA-Luft and **VDI 2290** in connection with a leakage check according to **EN 1591-1** (also at using screws of minor quality)
- Standard material 1.4571 (additional materials on request)
- Total thickness 1.6 mm (+/- 0.1 mm)
- Fire Safe Certificate according to **API 607** (also for PTFE) and blow-out resistance according to **VDI 2200**

Type	*Cross section*	*Designation*
Eco+		In traditional systems the Eco+ can be used as high-quality replacement for all kinds of flat gaskets up to 2 mm overall height. Due to the thin soft material layers, high surface pressures are already achieved at low bolt forces. At new constructions the Eco+ is the most cost-efficient and technically better alternative to serrated and spiral wound gaskets. Due to the resilient design, retightening of the screws is no longer necessary even at strong pressure and temperature fluctuations.
Eco PU		The Eco PU has a PTFE-U–jacket with diffusion barrier. Therefore, it is best suited for aggressive media in plastic and enamel flanges. Even with low bolt torque forces high surface pressures can be realised.
Eco Top		The Eco TOP has the same properties as the Eco+. It is, however provided with a secondary graphite layer with lower density or PTFE. The secondary seal prevents from flange corrosion as often seen with carbon steel flanges.

Dimensions Eco+

For flanges according DIN2632-2638 – series 1 and DIN EN 1092-1

[DN]	*d1*				*d2*							*d3*						
	PN 10 - 40	*PN 64*	*PN 100*	*PN 160*	*PN 10*	*PN 16*	*PN 25*	*PN 40*	*PN 64*	*PN 100*	*PN 160*	*PN 10*	*PN 16*	*PN 25*	*PN 40*	*PN 64*	*PN 100*	*PN 160*
15	22	22	22	22	40	40	40	40	40	40	40	51	51	51	51	61	61	61
20	32	-	-	-	50	50	50	50	-	-	-	61	61	61	61	-	-	-
25	40	40	40	40	58	58	58	58	58	58	58	71	71	71	71	82	82	82
32	49	-	-	-	69	69	69	69	-	-	-	82	82	82	82	-	-	-
40	57	57	57	57	77	77	77	77	77	77	77	92	92	92	92	103	103	103
50	68	68	68	68	88	88	88	88	88	88	88	107	107	107	107	113	119	119
65	85	85	85	85	107	107	107	107	107	107	107	127	127	127	127	138	144	144
80	102	102	102	102	124	124	124	124	124	124	124	142	142	142	142	148	154	154
100	123	123	123	123	151	151	151	151	155	155	155	162	162	168	168	174	180	180
125	148	148	148	148	176	176	176	176	180	180	180	192	192	194	194	210	217	217
150	176	176	176	176	204	204	204	204	214	214	214	218	218	224	224	247	257	257
200	224	224	224	224	252	252	252	256	262	268	268	273	273	284	290	309	324	324
250	283	283	283	283	315	315	315	321	321	331	331	328	329	340	352	364	391	388
300	330	330	330	330	362	362	368	368	378	378	388	378	384	400	417	424	458	458
350	370	370	370	-	402	402	402	402	408	412	-	438	443	457	474	486	512	-
400	420	420	420	-	452	452	452	458	458	468	-	489	495	514	546	543	572	-
450	480	-	-	-	518	518	528	528	-	-	-	539	555	564	571	-	-	-
500	530	530	530	-	568	568	568	578	578	584	-	594	617	624	628	657	704	-
600	630	630	-	-	668	668	668	678	688	-	-	695	734	731	747	764	-	-
700	730	730	-	-	768	768	778	778	788	-	-	810	804	833	852	879	-	-
800	830	830	-	-	878	878	888	898	898	-	-	917	911	942	974	988	-	-
900	930	930	-	-	978	978	988	998	998	-	-	1017	1011	1042	1084	1108	-	-
1000	1040	1040	-	-	1098	1098	1108	1118	1118	-	-	1124	1128	1154	1194	1220	-	-

*DIN / Inch = nominal width • The graphite dimensions for a flange calculation are available on our website - **revoseal.com***
Total thickness is 1.6 + /- 0.1 mm • also available in other DIN and ANSI dimension
*Design and calculation according to **revoseal** factory standard*

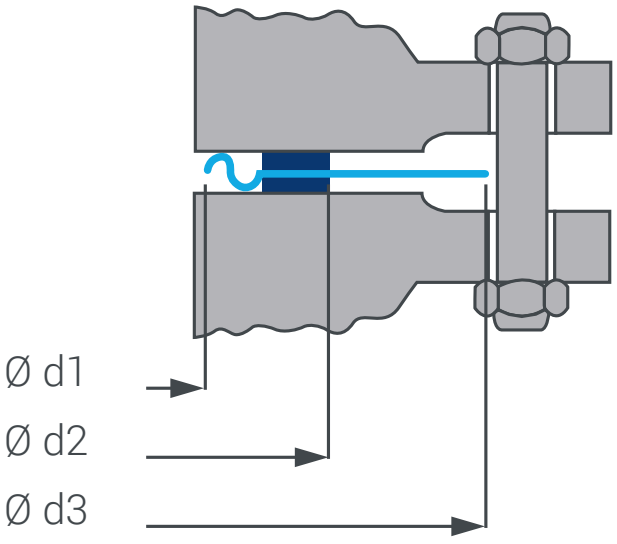
Dimensions Eco+

For flanges according ANSI B 16.5

[inch]	*d1*		*d2*					*d3*				
	150-400 lbs	*600-900 lbs*	*150 lbs*	*300 lbs*	*400 lbs*	*600 lbs*	*900 lbs*	*150 lbs*	*300 lbs*	*400 lbs*	*600 lbs*	*900 lbs*
1/2	18	18	34	34	34	34	34	44,8	50,8	50,8	50,8	60,2
3/4	22	22	40	40	40	40	40	54,2	63,5	63,5	63,5	66,5
1	32	32	50	50	50	50	50	63,5	69,8	69,8	69,8	76,2
1 1/4	40	40	58	58	58	58	58	73,2	79,5	79,5	79,5	85,9
1 1/2	49	49	69	69	69	69	69	82,9	91,9	91,9	91,9	95,6
2	57	57	77	77	77	77	77	101,6	107,9	107,9	107,9	139,7
2 1/2	77	77	97	97	97	97	97	120,6	127,0	127,0	127,0	162,1
3	92	92	114	114	114	114	114	133,3	145,7	145,7	145,7	165,1
3 1/2	115	115	139	139	139	139	139	158,7	161,8	158,8	158,8	-
4	123	123	151	151	155	155	155	171,4	177,8	174,8	190,5	203,1
5	148	148	176	176	180	180	180	193,5	212,6	209,6	238,3	244,3
6	176	176	204	204	208	208	208	218,9	247,3	244,3	263,7	285,7
8	224	224	252	256	262	268	268	276,1	304,8	301,8	317,5	355,6
10	283	283	315	321	321	331	331	336,6	359,0	355,6	396,7	431,8
12	330	330	362	368	368	378	378	406,4	419,1	415,8	453,9	495,3
14	370	370	402	402	408	408	412	447,9	482,6	479,3	489,0	517,7
16	420	420	452	458	458	468	468	511,4	536,4	533,4	562,2	571,5
18	480	480	518	518	528	528	528	546,1	593,6	590,6	609,6	635,0
20	530	530	568	578	578	584	584	603,2	650,7	644,7	679,4	695,5
24	630	630	668	678	688	688	688	714,2	771,7	765,0	787,4	835,2

*DIN / Inch = nominal width • The graphite dimensions for a flange calculation are available on our website - **revoseal.com***
Total thickness is 1.6 + /- 0.1 mm • also available in other DIN and ANSI dimension
*Design and calculation according to **revoseal** factory standard*

ECO+



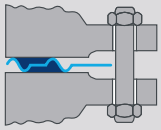
Embossed metal gasket

revoseal Visio

The Visio consists of a solid stainless steel carrier with embossed inside and outside cog and graphite or PTFE layers on both sides.

Highlights

- Temperature: -270°C to + 500°C
- Pressure: from vacuum to 160 bar (900 lbs)
- Over-achieves TA-Luft and **VDI 2290** in connection with a leakage calculation according to **EN 1591-1** (also at using screws of minor quality)
- Standard material 1.4571 (additional materials on request)
- Total thickness 1.6 mm (+/- 0.1 mm)
- Fire Safe Certificate according to **API 607** (also for PTFE) and blow-out resistance according to **VDI 2200**

Type	*Cross section*	*Designation*
Visio		The Visio consists of a solid stainless steel carrier with embossed inside and outside cog and graphite or PTFE layers on both sides. It is also suitable for tongue and groove, male and female facings and device flanges with webs. Owing to the flexible construction re-tightening of the flanges is no longer necessary also at strong pressure and temperature fluctuations.

Dimensions Visio

For flanges according to DIN 2632-2638 series 1 and DIN EN 1092-1

[DN]	*d1*				*d2*							*d3*						
	PN 10-40	*PN 64*	*PN 100*	*PN 160*	*PN 10*	*PN 16*	*PN 25*	*PN 40*	*PN 64*	*PN 100*	*PN 160*	*PN 10*	*PN 16*	*PN 25*	*PN 40*	*PN 64*	*PN 100*	*PN 160*
15	22	22	22	22	34,5	34,5	34,5	34,5	34,5	34,5	34,5	51	51	51	51	61	61	61
20	29	-	-	-	42,5	42,5	42,5	42,5	-	-	-	61	61	61	61	-	-	-
25	36	36	36	36	53,5	53,5	53,5	53,5	53,5	53,5	53,5	71	71	71	71	82	82	82
32	45	-	-	-	60,5	60,5	60,5	60,5	-	-	-	82	82	82	82	-	-	-
40	53	53	53	53	72,5	72,5	72,5	72,5	72,5	72,5	72,5	92	92	92	92	103	103	103
50	66	66	66	66	85,5	85,5	85,5	85,5	85,5	85,5	85,5	107	107	107	107	113	119	119
65	81	81	81	81	102,5	102,5	102,5	102,5	102,5	102,5	102,5	127	127	127	127	138	144	144
80	92	92	92	92	113,5	113,5	113,5	113,5	113,5	113,5	113,5	142	142	142	142	148	154	154
100	117	117	117	117	140,5	140,5	140,5	140,5	140,5	140,5	140,5	162	162	168	168	174	180	180
125	142	142	142	142	167,5	167,5	167,5	167,5	167,5	167,5	167,5	192	192	194	194	210	217	217
150	170	170	170	170	197,5	197,5	197,5	197,5	197,5	197,5	197,5	218	218	224	224	247	257	257
200	222	222	222	222	251,5	251,5	251,5	251,5	251,5	251,5	251,5	273	273	284	290	309	324	324
250	278	278	278	278	310	310	318	318	322	332	332	328	329	340	352	364	391	388
300	330	330	330	330	358	358	358	364	368	368	378	378	384	400	417	424	458	458
350	381	381	381	-	409	409	409	409	419	419	-	438	443	457	474	486	512	-
400	432	432	432	-	460	460	460	470	470	470	-	489	495	514	546	543	572	-
450	486	-	-	-	518	518	528	528	-	-	-	539	555	564	571	-	-	-
500	530	530	530	-	568	568	568	578	578	578	-	594	617	624	628	657	704	-
600	630	630	-	-	668	668	668	678	678	-	-	695	734	731	747	764	-	-
700	730	730	-	-	768	768	778	778	778	-	-	810	804	833	852	879	-	-
800	830	830	-	-	878	878	888	888	888	-	-	917	911	942	974	988	-	-
900	930	930	-	-	978	978	988	988	988	-	-	1017	1011	1042	1084	1108	-	-
1000	1040	1040	-	-	1098	1098	1108	1108	1108	-	-	1124	1128	1154	1194	1220	-	-

*DIN / Inch = nominal width • The graphite dimensions for a flange calculation are available on our website - **revoseal.com***
Total thickness is 1.6 + /- 0.1 mm • Additional thicknesses available • also available in other DIN and ANSI dimensions
*Design and calculation according to **revoseal** factory standard*

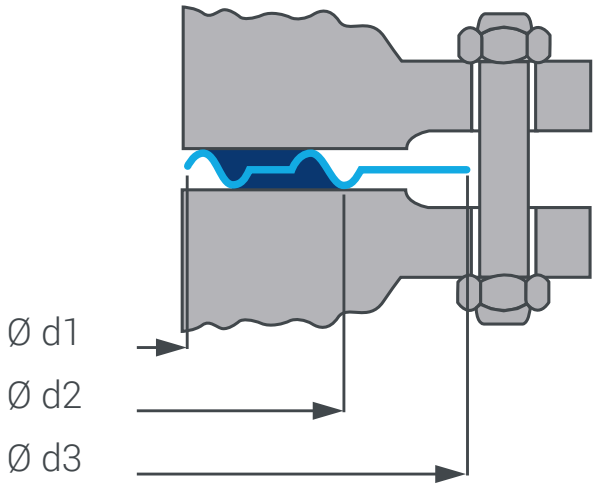
Dimensions Visio

For flanges according ANSI B 16.5

[inch]	*d1*		*d2*					*d3*				
	150-400 lbs	*600-900 lbs*	*150 lbs*	*300 lbs*	*400 lbs*	*600 lbs*	*900 lbs*	*150 lbs*	*300 lbs*	*400 lbs*	*600 lbs*	*900 lbs*
1/2	17	17	29,5	29,5	29,5	29,5	29,5	44,8	50,8	50,8	50,8	60,2
3/4	22	22	34,5	34,5	34,5	34,5	34,5	54,2	63,5	63,5	63,5	66,5
1	30	30	42,5	42,5	42,5	42,5	42,5	63,5	69,8	69,8	69,8	76,2
1 1/4	39	39	54,5	54,5	54,5	54,5	54,5	73,2	79,5	79,5	79,5	85,9
1 1/2	45	45	60,5	60,5	60,5	60,5	60,5	82,9	91,9	91,9	91,9	95,6
2	57	57	78,5	78,5	78,5	78,5	78,5	101,6	107,9	107,9	107,9	139,7
2 1/2	72	72	91,5	91,5	91,5	91,5	91,5	120,6	127,0	127,0	127,0	162,1
3	92	92	113,5	113,5	113,5	113,5	113,5	133,3	145,7	145,7	145,7	165,1
3 1/2	102	102	123,5	123,5	123,5	123,5	-	158,7	161,8	158,8	158,8	-
4	117	117	140,5	140,5	140,5	140,5	140,5	171,4	177,8	174,8	190,5	203,1
5	142	142	167,5	167,5	167,5	167,5	167,5	193,5	212,6	209,6	238,3	244,30
6	170	170	197,5	197,5	197,5	197,5	197,5	218,9	247,3	244,3	263,7	285,70
8	222	222	251,5	251,5	251,5	251,5	251,5	276,1	304,8	301,8	317,5	355,6
10	278	278	300	306	306	312	312	336,6	359	355,6	396,7	431,8
12	326	326	364	364	364	368	368	406,4	419,1	415,8	453,9	495,3
14	370	370	400	400	400	400	400	447,9	482,6	479,3	489	517,7
16	420	420	456	456	456	456	456	511,4	536,4	533,4	562,2	571,5
18	480	480	518	518	520	520	520	546,1	593,6	590,6	609,6	635
20	530	530	568	568	570	570	570	603,2	650,7	644,7	679,4	695,5
24	630	630	668	678	678	678	678	714,2	771,7	765	787,4	835,2

*DIN / Inch = nominal width • The graphite dimensions for a flange calculation are available on our website - **revoseal.com***
Total thickness is 1.6 + /- 0.1 mm • also available in other DIN and ANSI dimensions
*Design and calculation according to **revoseal** factory standard*

Visio

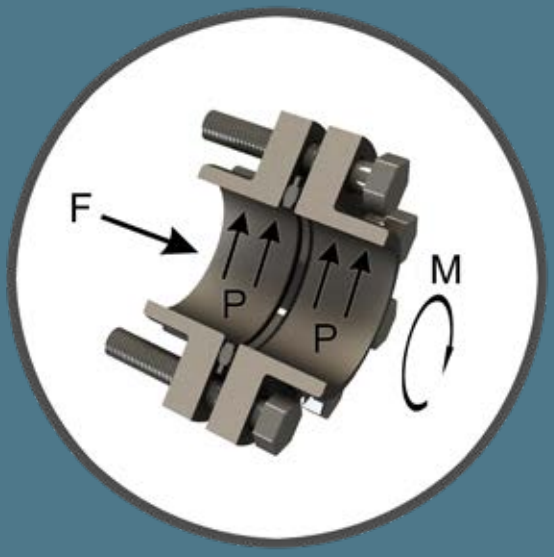


Services

The requirements for sealing systems in industry relating to environmental protection, plant availability and security have been considerably tightened over the last few years.

Taking this as well as the complexity of various factors impacting a flange connection into consideration revoseal provides not only the interpretation but also the calculation of sealing joints according to EN 1591-1.

The qualified leakage test according to EN 1591-1 is based on the gasket characteristic values according to EN 13555 which were determined in comprehensive tests.



EN13555 Gasket characteristics:

Value	*Explanation*	*Unit*
Q_A	surface pressure of the gasket during assembly	MPa
$Q_{min(L)}$	required minimum surface pressure for tightness class L during assembly	MPa
$Q_{Smin(L)}$	required minimum surface pressure for tightness class L after unloading (operation)	MPa
$Q_{Smax(T)}$	maximum surface pressure (at a fixed temperature)	MPa
E_G	secant modulus of the gasket (unloading)	MPa
P_{QR}	creep relaxation factor	-
α_G	axial thermal expansion coefficient of the gasket	K^{-1}

Further services which can be provided:

- Support of customer projects from start to finish
- Product trainings
- Assembly trainings

revoseal gaskets in comparison

revoseal				
	Revolution	***Eco+***	***Visio***	***JG / JP***
Temperature range 1)	-270°C to +500°C from	-270°C to +400°C from	-270°C to +500°C from	-270°C to +1000°C 2)
Pressure range	vacuum to 64bar	vacuum to 160bar	vacuum to 160bar	from vacuum to 400bar
Soft materials	graphite / PTFE	graphite / PTFE	graphite / PTFE	graphite / PTFE
Carrier material	1.4571 / 1.4404	1.4571	1.4571	various stainless steels, nickel, duplex steels, titanium grades, carbon steel etc.
Thicknesses available	1.6mm	1.6mm	1.6mm	JG as of 2.0mm / JP as of 2.5mm
Maximum dimensions	up to DN400 / 16“ (ASME)	up to 1200mm	up to 1200mm	up to 4000mm

1) If using PTFE soft layers temperature limit is 260°C.
2) In relation to metal carrier.

Certificates and statements

	Revolution	***Eco+***	***Visio***	***JG / JP***
TA-Luft (incl. blow-out resistance according to VDI2200)	√	√	√	√
Fire Safe according to API 607	√	√	√	√
FDA certificate (PTFE version)	√	√	√	√
DVGW (DIN 3535-6)	On request it is possible to use certified soft materials according to DVGW (DIN3535-6)			

Gaskets for devices and special purposes

revoseal also provides tailor-made and high quality gasket solutions according to customer specifications.

This includes for example gaskets for heat exchangers, pressure vessels, tank and filter systems as well as devices and equipment for the following areas:

- chemical and petrochemical industries
- pipeline construction (oil and gas)
- refineries
- power plant construction
- industrial plants
- food and pharmaceutical industries

Due to their design appliances like heat exchangers often have a small wall thickness and a weak flange geometry. Therefore, it is often a challenge to find the right gasket.

With regard to device flanges the appropriate seal width can be modified for the qualified mathematical verification of the technical tightness according to TA-Luft, VDI 2290 according to DIN EN 1591-1.

Example of special gasket geometries

JP special (for flange combination comprising form B and C)

JP double (with holes for leakage sensors)

Gasket dimensions up to a maximum of 4.000 mm possible, further technical features concerning our gasket type JG/JP **see page 5.**

revoseal

The **revoseal** delivery program

Standard gaskets

As to complete the product portfolio and for the qualification as full-range provider revoseal offers also all established standard gaskets like metal gaskets with soft materials (grooved gaskets and spiral wound gaskets) as well as metal gaskets in all industry standards and manufactured from a wide variety of materials.

revoseal SWG
spiral wound gaskets

revoseal KJ
grooved gaskets

revoseal RJ
ring joint gaskets

revoseal SJ
weld ring gaskets

Spiral wound gaskets

revoseal SWG

Highlights

- total thickness: 4.5 mm (additional thicknesses on request)
- available in different carrier materials
- available with graphite, PTFE or Mica als filler material
- factory standards: EN1514-2, ASME B16.20 etc.
  (also available in special dimensions)

type	*cross section*	*designation*
SIA		Spiral wound gasket with inner and outer ring, with graphite or PTFE filler material
SI		Spiral wound gasket with inner ring and graphite or PTFE filler material
SA		Spiral wound gasket with outer ring and graphite or PTFE filler material
S		Spiral wound gasket without inner and outer ring, with graphite or PTFE filler material (e.g. for tongue & groove)

Grooved gaskets

revoseal KJ

Highlights

- total thickness: 5.0 mm (4.0 mm metal core + 2x 0.5 mm graphite layer) (additional thicknesses on request)
- available in different carrier materials
- available with graphite or PTFE layer
- All designs also available with crowned profile
- factory standards: EN1514-6, EN 12560-6, ASME B16.20, etc. (also available in special dimensions)

type	*cross section*	*designation*
KJ1		Grooved gasket without centering ring, with graphite or PTFE coating
KJ2		Grooved gasket with centering ring, breaking point groove and graphite or PTFE coating
KJ3		Grooved gasket with loose centering ring and graphite or PTFE coating

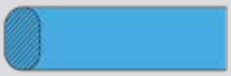
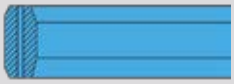
Ring joint gaskets

revoseal RJ

Ring joint gaskets (series RJ) by revoseal are applied primarily in refineries and in the petro-chemical industry.

Highlights

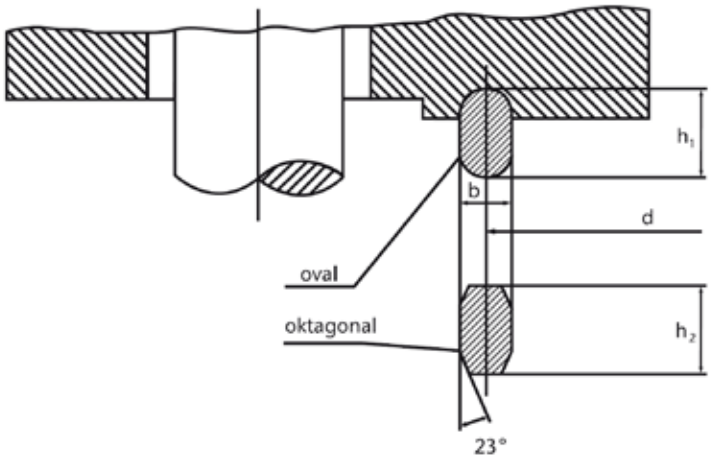
› factory standard: ASME B16.20

type	*cross section*	*designation*
RJ – O		ring joint gasket, oval design
RJ – K		ring joint gasket, octagonal design
RJ – RX		ring joint gasket, type RX
RJ – BX		ring joint gasket, type BX

materials and marking

short designation	*material number*	*hardness (HB)*	*US type AISI*	*marking*
pure iron, Armco	1.1003	90-100	Soft-Iron	D
low carbon steel	-	120	Low-Carbon-Steel	S
13 CrMo 44	1.7335	ca. 130	-	7335
13 CrMo 195	1.7326	ca. 130	501	F5
X6 Cr 13	1.4000	ca. 160	410	S 410
X5 CrNi 1810	1.4301	ca. 160	304	S 304
X5 CrNiMo 17122	1.4401	ca. 160	316	S 316
X6 CrNiTi 1810	1.4541	ca. 160	321	S 321
X6 CrNiNb 1810	1.4550	ca. 160	347	S 347
X6 CrNiMoTi 17112	1.4571	ca. 160	316 Ti	316 Ti

Ring joint gaskets RJ-O, RJ-K



Dimension table type RJ-O, RJ-K

according to ANSI B16.20 or API Std. 6 A

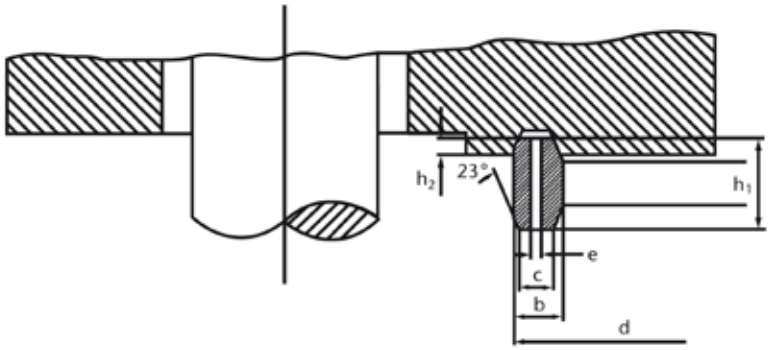
ring	*[DN] inch*	*[PN] lbs*	*ring dimensions*			
			d	*b*	*h oval*	*d octagonal*
R11	½	300 – 600	34.13	6.35	11.11	9.52
R12	½	900 – 1500	39.68	7.93	14.28	12.70
R13	½	2500	42.86	7.93	14.28	12.70
R13	¾	300 – 600	42.86	7.93	14.28	12.70
R14	¾	900 – 1500	44.45	7.93	14.28	12.70
R15	1	150	47.62	7.93	14.28	12.70
R16	¾	2500	50.80	7.93	14.28	12.70
R16	1	300 – 1500	50.80	7.93	14.28	12.70
R17	1 ¼	150	57.15	7.93	14.28	12.70
R18	1	2500	60.32	7.93	14.28	12.70
R18	1 ¼	300 – 1500	60.32	7.93	14.28	12.70
R19	1 ½	150	65.08	7.93	14.28	12.70
R20	1 ½	300 – 1500	68.26	7.93	14.28	12.70
R21	1 ¼	2500	72.23	11.11	17.46	15.87
R22	2	150	82.55	7.93	14.28	12.70
R23	1 ½	2500	82.55	11.11	17.46	15.87
R23	2	300 – 600	82.55	11.11	17.46	15.87
R24	2	900 – 1500	95.25	11.11	17.46	15.87
R25	2 ½	150	101.60	7.93	14.28	12.70
R26	2	2500	101.60	11.11	17.46	15.87
R26	2 ½	300 – 600	101.60	11.11	17.46	15.87
R27	2 ½	900 – 1500	107.95	11.11	17.46	15.87
R28	2 ½	2500	111.12	12.70	19.05	17.46
R29	3	150	114.30	7.93	14.28	12.70
R30	3	300 – 600	117.47	11.11	17.46	15.87
R31	3	300 – 900	123.82	11.11	17.46	15.87
R32	3	2500	127.00	12.70	19.05	17.46
R33	3 ½	150	131.76	7.93	14.28	12.07
R34	3 ½	300 – 600	131.76	11.11	17.46	15.87
R35	3	1500	136.52	11.11	17.46	15.87
R36	4	150	149.22	7.93	14.28	12.70
R37	4	300 – 900	149.22	11.11	17.46	15.87
R38	4	2500	157.16	15.87	22.22	20.64
R39	4	1500	161.92	11.11	17.46	15.87
R40	5	150	171.45	7.93	14.28	12.70

ring	[DN] inch	[PN] lbs	ring dimensions			
			d	b	h oval	d octagonal
R41	5	300 – 900	180.97	11.11	17.46	15.87
R42	5	2500	190.50	19.05	25.40	23.81
R43	6	150	193.67	7.93	14.28	12.70
R44	5	1500	193.67	11.11	17.46	15.87
R45	6	300 – 900	211.13	11.11	17.46	15.87
R46	6	1500	211.13	12.70	19.05	17.46
R47	6	2500	228.60	19.05	25.40	23.81
R48	8	150	247.65	7.93	14.28	12.70
R49	8	300 – 900	269.87	11.11	17.46	15.87
R50	8	1500	269.87	15.87	22.22	20.64
R51	8	2500	279.40	22.22	25.57	26.99
R52	10	150	304.80	7.93	14.28	12.70
R53	10	300 – 900	323.85	11.11	17.46	15.87
R54	10	1500	323.85	15.87	22.22	20.64
R55	10	2500	342.90	28.57	36.51	34.92
R56	12	150	381.00	7.93	14.28	12.70
R57	12	300 – 900	381.00	11.11	17.46	15.87
R58	12	1500	381.00	22.22	28.57	26.99
R59	14	150	396.87	7.93	14.28	12.70
R60	12	2500	406.40	31.75	39.68	38.10
R61	14	300 – 600	419.10	11.11	17.46	15.87
R62	14	900	419.10	15.87	22.22	20.64
R63	14	1500	419.10	25.40	33.33	31.75
R64	16	150	454.02	7.93	14.28	12.70
R65	16	300 – 600	469.90	11.11	17.46	15.87
R66	16	900	469.90	15.87	22.22	20.64
R67	16	1500	469.90	28.57	36.51	34.92
R68	18	150	517.52	7.93	14.28	12.70
R69	18	300 – 600	533.40	11.11	17.46	15.87
R70	18	900	533.40	19.05	25.40	23.81
R71	18	1500	533.40	28.57	36.51	34.92
R72	20	150	558.80	7.93	14.28	12.70
R73	20	300 – 600	584.20	12.70	19.05	17.46
R74	20	900	584.20	19.05	25.40	23.81
R75	20	1500	584.20	31.75	39.68	38.10
R76	24	150	673.10	7.93	14.28	12.70
R77	24	300 – 600	692.15	15.87	22.22	20.64
R78	24	900	692.15	25.40	33.33	31.75
R79	24	1500	692.15	34.92	44.45	41.27
R80	22	150	615.95	7.93	-	12.70
R81	22	300 – 600	635.00	14.28	-	19.05
R82	1	10000	57.15	11.11	-	15.87
R84	1 ½	10000	63.50	11.11	-	15.87
R85	2	10000	79.37	12.70	-	17.46
R86	2 ½	10000	90.49	15.87	-	20.63
R87	3	10000	100.01	15.87	-	20.63
R88	4	10000	123.83	19.05	-	23.81
R89	3 ½	10000	114.30	19.05	-	23.81
R90	5	10000	155.58	22.22	-	26.98
R91	10	10000	260.35	31.75	-	38.10
R92	X	-	228.60	11.11	17.46	15.87
R93	26	300 – 600	749.30	19.05	-	23.81
R94	28	300 – 600	800.10	19.05	-	23.81

ring	[DN] inch	[PN] lbs	ring dimensions			
			d	b	h oval	d octagonal
R95	30	300 – 600	857.25	19.05	-	23.81
R96	32	300 – 600	914.40	22.22	-	26.98
R97	34	300 – 600	965.20	22.22	-	26.98
R98	36	300 – 600	1022.35	22.22	-	26.98
R99	8	2000 – 3000	234.95	11.11	-	15.87
R100	26	900	749.30	28.57	-	34.92
R101	28	900	800.10	31.75	-	38.10
R102	30	900	857.25	31.75	-	38.10
R103	32	900	914.40	31.75	-	38.10
R104	34	900	965.20	34.92	-	41.27
R105	36	900	1022.35	34.92	-	41.27

X not standardized. Additional dimensions available.
Tolerances: d ± 0.18 mm, b ± 0.2 mm, ho and hk ± 0.4 mm
Design according to revoseal factory standard

Ring joint gaskets RJ – RX



Dimension table type RJ – RX

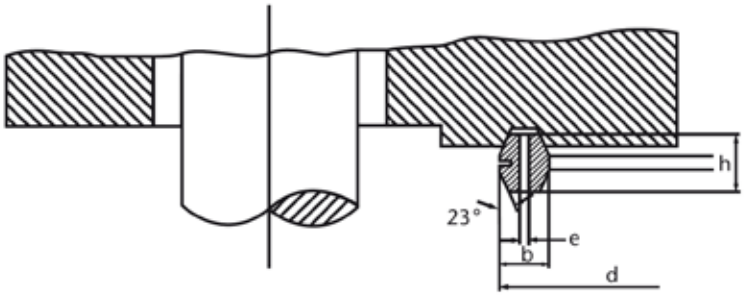
according to ANSI B16.20 or API Std. 6 A

ring	[DN] inch	[PN] lbs	ring dimensions				h2	bore e
			d	b	c	h1		
RX20	1	2000. 3000. 5000	76.20	8.73	4.62	19.05	3.18	-
RX23	2	2000	93.27	11.91	6.45	25.40	4.24	-
RX24	2	3000. 5000	105.97	11.91	6.45	25.40	4.24	-
RX25	3	5000	109.54	8.73	4.62	19.05	3.18	-
RX26	2	2000	111.92	11.91	6.45	25.40	3.78	-
RX27	2	3000. 5000	118.27	11.91	6.45	25.40	4.24	-
RX31	3	2000. 3000	134.54	11.91	6.45	25.40	4.24	-
RX35	3	5000	147.24	11.91	6.45	25.40	4.24	-
RX37	4	2000. 3000	159.94	11.91	6.45	25.40	4.24	-
RX39	4	5000	172.64	11.91	6.45	25.40	4.24	-
RX41	5	2000. 3000	191.69	11.91	6.45	25.40	4.24	-
RX44	5	5000	204.39	11.91	6.45	25.40	4.24	-
RX45	6	2000. 3000	221.85	11.91	6.45	25.40	4.24	-
RX46	6	5000	222.85	13.49	6.68	28.58	4.78	-

ring	[DN] inch	[PN] lbs	ring dimensions				h2	bore e
			d	b	c	h1		
RX47	8	crossover flange	245.30	19.84	10.34	41.28	6.88	-
RX49	8	2000. 3000	280.59	11.91	6.45	25.40	4.24	-
RX50	8	5000	283.37	16.67	8.51	31.75	5.28	-
RX53	10	2000. 3000	334.57	11.91	6.45	25.40	4.24	-
RX54	10	5000	337.34	16.67	8.51	31.75	5.28	-
RX57	12	2000. 3000	391.72	11.91	6.45	25.40	4.24	-
RX63	14	5000	441.72	26.99	14.78	50.80	8.46	-
RX65	16	2000	480.62	11.91	6.45	25.40	4.24	-
RX66	16	3000	483.39	16.67	8.51	31.75	5.28	-
RX69	18	2000	544.10	11.91	6.45	25.40	4.24	-
RX70	18	3000	550.10	19.84	10.34	41.28	6.88	-
RX73	20	2000	596.10	13.49	6.68	31.75	5.28	-
RX74	20	3000	600.87	19.84	10.34	41.28	6.88	-
RX82	X	-	67.87	11.91	6.45	25.40	4.24	1.6
RX84	X	-	74.22	11.91	6.45	25.40	4.24	1.6
RX85	X	-	90.09	13.49	6.68	25.40	4.24	1.6
RX86	X	-	103.58	15.08	8.51	28.58	4.78	2.4
RX87	X	-	113.11	15.08	8.51	28.58	4.78	2.4
RX88	X	-	139.30	17.46	10.34	31.75	5.28	3.2
RX89	X	-	129.78	18.26	10.34	31.75	5.28	3.2
RX90	X	-	174.62	19.84	12.17	44.45	7.42	3.2
RX91	X	-	286.94	30.16	19.81	45.24	7.54	3.2
RX99	X	-	245.67	11.91	6.45	25.40	4.24	-
RX201	1 ¼	5000	51.46	5.74	3.20	11.30	1.45	-
RX205	1 ¾	5000	62.31	5.56	3.05	11.10	1.83	-
RX210	2 ½	5000	97.63	9.53	5.41	19.05	3.18	-
RX215	4	5000	140.89	11.91	5.33	25.40	4.24	-
RX215	4 – 4 ½	5000	140.89	11.91	5.33	25.40	4.24	-

X not standardized. Additional dimensions available.
Tolerances: +0.51 mm, h1/h2 –0.8 mm, b +0.2 mm, c +0.15 mm
Design according to revoseal factory standard

Ring joint gaskets RJ – BX



dimension table type RJ – BX

according to ANSI B16.20 or API Std. 6 A

ring	*[DN] inch*	*[PN] lbs*	*ring dimensions*			
			d	*b*	*c*	*h1*
BX 150	1 11/16	10000. 15000	72.19	9.30	9.30	1.60
BX 151	1 13/16	10000. 15000. 20000	76.40	9.63	9.63	1.60
BX 152	2 1/16	10000. 15000. 20000	84.68	10.24	10.24	1.60
BX 153	2 9/16	10000. 15000. 20000	100.94	11.38	11.38	1.60
BX 154	3 1/16	10000. 15000. 20000	116.84	12.40	12.40	1.60
BX 155	4 1/16	10000. 15000. 20000	147.96	14.22	14.22	1.60
BX 156	7 1/16	10000. 15000. 20000	237.92	18.62	18.62	3.20
BX 157	9 10000.	15000	294.46	20.98	20.98	3.20
BX 158	11 10000.	15000	352.04	23.14	23.14	3.20
BX 159	13 5/8	10000	426.72	25.70	25.70	3.20
BX 160	13 5/8	5000	402.59	13.74	23.83	3.20
BX 161	16 3/4	–	491.41	16.20	28.07	3.20
BX 162	16 3/4	5000. 10000	475.49	14.22	14.22	1.60
BX 163	18 3/4	5000	556.16	17.37	30.10	3.20
BX 164	18 3/4	10000	570.56	24.59	30.10	3.20
BX 165	21 1/4	5000	624.71	18.49	32.03	3.20
BX 166	21 1/4	10000	640.03	26.14	32.03	3.20
BX 167	26 3/4	2000	759.36	13.11	35.86	1.60
BX 168	26 3/4	3000	765.25	16.05	35.86	1.60
BX 169	5 1/8	10000	173.52	12.93	15.84	1.60
BX 170	9	–	218.03	14.22	14.22	1.60
BX 171	11	–	267.44	14.22	14.22	1.60
BX 172	13 5/8	–	333.07	14.22	14.22	1.60
BX 303	30	2000. 3000	852.75	16.97	37.95	1.60

Tolerances: d -0.15 mm. b +0.2 mm. h +0.2 mm. Design according to revoseal factory standard

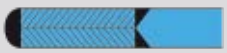
Weld ring gaskets

revoseal SJ

Revoseal weld ring gaskets (series SJ) are applied primarily in chemical and petrochemical industries namely in areas where hazardous media appear and where absolute gasket reliability is required. A long-term technical tightness can be achieved by welding the two diaphragm parts together.

Highlights

- Types SJ-11, SJ-12, SJ-13 are also available with a secondary seal as grooved gasket or spiral gasket.
- Available in different materials and additional types
- Factory standards: DIN, ASME, EN, GOST, JIS, etc. (also available in special dimensions)

type	*cross section*	*designation*
SJ – 10		weld ring gasket with diagraphm
SJ – 11		weld ring gasket with diagraphm and external weld seams
SJ – 12		weld ring gasket with diagraphm with hollow lip compensating different radial extensions
SJ – 13		weld ring gasket with diagraphm with hollow lip compensating vast and different radial extensions, e. g. in heat exchangers

Assembly guide for flange gaskets

This assembly guide is to be understood as completion to the respective operational requirements and assembly documentations.

Before starting the job all necessary permits have to be available and all prescribed measures or requirements have to be fulfilled.

The sealing result depends on the interaction between the individual components of the flange system that have to be compatible.

Tool requirements:

The following tools are usually needed for cleaning and assembly: calibrated torque wrench, counter tools, wire brush (ideally made of brass), lubricants and the personal protective equipment (PPE).

Cleaning process and audit:

Impurities and residues must be completely removed from the gasket surface and the connecting elements (like screws, nuts, washers).

If the reuse of the connecting elements corresponds to the operational requirements it is primarily necessary to check the intactness of the elements. This check comprises for example the control of screw length, cracks, corrosion and damages like scratches on the gasket surfaces.

It is also necessary to check the applied gasket with regard to dimensional accuracy, material and damages.

Important: Damaged components must be replaced in any case.

Assembly guide for flat gaskets

Before installing the gasket it is necessary to align the flanges parallel. Please note that this operation requires skilful and moderate power because otherwise clamping forces of the connecting elements are used for the alignment of the flanges.

Note: If necessary it is possible to use a straightedge for checking purposes.

After correct alignment of the flanges it is possible to slide the gasket carefully into the flange gap. Release agents and sealing pastes should not be used. It must be ensured that the gasket is properly centered.

Note: The use of mounting bolts enables a precise centering of the gasket, also when using connecting elements with anti-fatigue shaft.

Lubrication:

Only registered and certified lubricants are allowed. The lubrication is applied on all bearing surfaces like threads, nuts and washers. A thin lubricant film which however covers the whole surfaces is sufficient.

Note: It must be ensured that neither the gasket nor the flange sealing areas come into contact with lubricants.

Installation of the connecting elements:

The lubricated connecting elements must be inserted and tightened manually.

Afterwards the screws must be tightened crosswise in three passes (30%, 60%, 100% of the torque) with the torque wrench (for more information regarding bolting pattern see page 35).

Example:

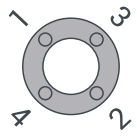
- Stated torque for the installation: 100Nm
- The first pass must be tightened with 30% of the torque (30Nm)
- The second pass must be tightened with 60% of the torque (60Nm)
- The third pass must be tightened with 100% of the torque (100Nm)
- Then all screws must be tightened or checked clockwise with full torque.

Retighten of existing screw connections:

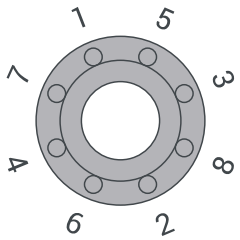
In general screw connections should be retightened only in pressureless condition.

This operation must be performed taking into consideration the initially given torque.

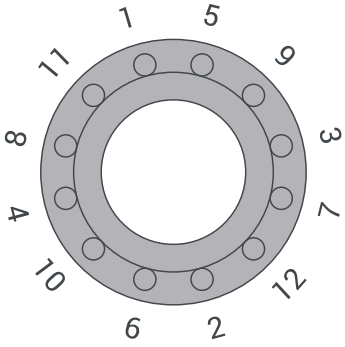
Bolting pattern for flange connections



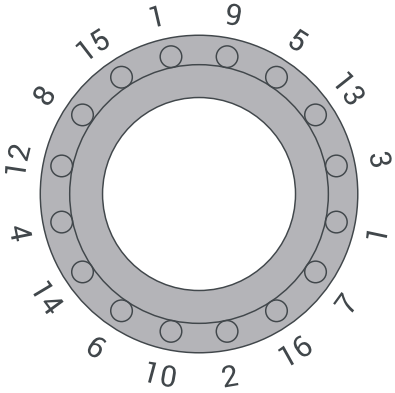
4 hole flanges, pitch 90°



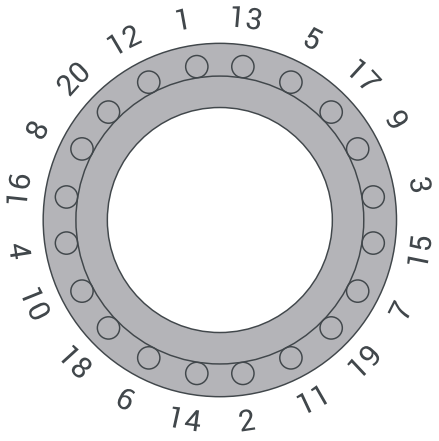
8 hole flanges, pitch 45°



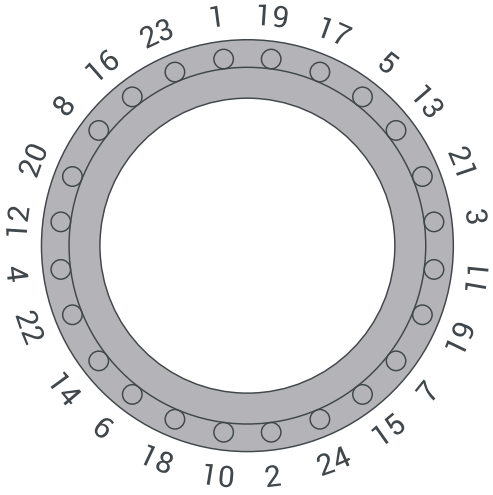
12 hole flanges, pitch 30°



16 hole flanges, pitch 22,5°



20 hole flanges, pitch 18°



24 hole flanges, pitch 15°

Note: With regard to flanges that are equipped with a large number of screws it is recommended to transfer the numeration directly onto the flange.

Materials and designations

designation	short term DIN17006	material DIN 17007	alloy	AISI / ASTM	DIN / EN	UNS	AMS	BS	yield strength N/mm2 RP 0.2	tensile strength Rm	hardness HB	temperature range °C	tightness KG/ dm3	elongation min/ max
pure iron (e.g. Armco)	z. B. S235 JRG1	1.1003	–	soft iron	–	–	–	–	180-230	300-340	90-100	-60 to +450	7.86	8%-11%
modified soft iron	StW24	1.0335	DD14	soft iron	DIN 1614; EN 10111/ 10149-2/ 10051	–	–	–	185-195	170-400	80-90	-60 to +450	7.86	20%-40%
pressure vessel steel	P265GH	1.0425	–	–	DIN EN 10028-2	–	–	–	205-230	410-530	130-180	-60 to +450	7.85	22%-28%
general construction steel	St33	1.0035	–	–	–	–	–	–	190	285-295	95-120	-40 to +500	7.85	8%-11%
	RSt 37-2	1.0122	A105	A570 Gr36	DIN 5512-1; EN 10025-2/10277-2	–	–	S235	215-235	340-370	100-110	-40 to +500	7.85	8%-11%
	St35.8	1.0305	A106		DIN50112-1			P235	190-240	360-440	100-130	-40 to +500	7.85	
electro-galvanized steel	St12	1.0330	DC01	1008	DIN5512-2	G 10080		DC 01/ 1449 Part 1	140-320	290-430	100-110	-40 to +500	7.85	24%-30%
sheet steel	Ust 13. St13	1.0333	–	A366	–	–	–	–	245-255	270-370	50-60	-40 to +500	7.85	20%-30%
corrosion and acid-resistant steel	X12Cr 13	1.4006	410	AISI 410; ASTM F1079	DIN SEW310; EN10088-1'-2'-3/10250-4/10263-5/10272/10297-2	S41000	5351/ 5504/ 5505/ 5591	–	210-340	450-600	195-205	-40 to +500	7.85	20%-30%
	X6Cr 17	1.4016	430	–	DIN5512-3; EN10088-1/2/3/ 10151/ 10250/ 10263/ 10296/ 10297	–	–	–	210-340	450-600	190-200	-20 to +350	7.85	20%-30%
	X20Cr 13	1.4021	420	AISI 420	DIN SEW310; EN10088-1'-2'-3/10250-4/10263-5/10272/10297-2	S4200	5351/ 5504/ 5505/ 5591	–	300-420	500-700	220-230	-20 to +500	7.85	15&-30%
	X5CrNi 18 10	1.4301	304	304	DIN4133/5512-3/ SEW310	S30400			170-190	500-600	130-180	-250 to +550	8.00	40%-55%
	X5CrNiMo 17 12 2	1.4401	316	–	DIN5512-3/8566-2	S31600 / S31609	5524K/ 5573L/ 5690L/ 5907A	1501/ 1503/ 1506/ 1554	250-310	550-700	130-180	-110 to +550	7.95	40%-55%
	X2CrNiMo 17 12 2	1.4404	316L	–	17440	S31603	–	–	250-310	550-700	120-180	-110 to +550	7.95	40%-55%
	X6CrNiTi 18 10	1.4541	321	321/B8TA	DIN4133/5512; EN10028/ 10088/ 10216/ 10217/ 10222/ 10250/ 10263/ 10272/ 10296/ 10297/ 10312/ 50112	S32100	AMS 7325F/ 7490N/ 5510/ 5557/ 5559/ 5570/ 5645/ 5689/ 5896/ 7211	970/ 1501/ 1502/ 1503/ 3605/ 3606	240-320	540-740	130-190	-250 to +550	7.90	40%-55%
	X6CrNiNb 18 10	1.4550	347	347/B8CA	DIN17440; EN10028/ 10088/ 10216/ 10217/ 10222/ 10250/ 10272/ 10296/ 10297	–	–	–	–	–	–	–	–	–
	–	–	970/ 1501/ 1502/ 1503/ 3605/ 3606	240-320	500-700	130-190	-250 bis +550	7.90	40%-55%	–	–	–	–	–
	X6CrNiMoTi 17 12 2	1.4571	316Ti	316Ti	DIN4133/5512; EN10028/ 10088/ 10216/ 10217/ 10222/ 10250/ 10263/ 10272/ 10296/ 10297/ 10312	S31635	–	970/ 1501/ 1554	255-320	540-690	130-190	-110 to +550	7.98	40%-55%
heat resistant stainless steel	X10CrAlSi 25	1.4762	446	–	DIN43700/43720/ SEW 310/ SEW 470; EN10088/10095	S44600	QQ-S-763	–	280-350	520-720	210-230	-110 to +800	8.00	9%-14%
	X15CrNiSi 20 12	1.4828	309	309	DIN SEW310 / SEW 470; EN 10088/10095/10296	S30900	QQ-S-763	1449	245-320	550-770	200-220	-110 to+1000	7.90	20%-30%
	X12NiCrSi 3 5 16	1.4864	330-DS	MT330/ N08330	DIN SEW310 / SEW 470; EN 10088/10095	N08330			250-320	550-750	215-225	-110 to+1000	8.00	25%-35%
	X10NiCrAl 3 2 20	1.4876	800	N08800/ 8810/ 8811/ 8332	DIN SEW310 / SEW 470; EN10088/10095/10297	N08800/ 8810	5766D / 5871D	3072/ 3073/ 3074/ 3075/ 3076	200-280	450-680	185-195	-110 to+1000	8.00	25%-35%
creep resistant steel	16Mo3	1.5415	F /P 1	A / B / C	DIN 4133/SEW 310; EN 10028/ 10216/ 10217/ 10222/ 10273	K11820/ K12020/ K12320	–	1501/ 3059/ 3606	200-310	400-600	130-170	-20 to +530	7.85	20%-30%
	13CrMo 4 5	1.7335	F/P11 F/P12	ASTM F12	DIN SEW310; EN10028/10216/ 10222/10273	K11562/ K11757/ K12062	–	1501/ 1502/ 1503	250-320	440-600	130-175	-60 to +560	7.85	20%-30%
high pressure water resistant construction steel	12CrMo 19 5	1.7362	F/P 5	AISI 501/502; ASTM F5	DIN SEW028 / SEW310; EN 10028/10216	K41545/ S50100/ S50200	6467D	–	250-320	450-690	175-220	-40 to +650	7.85	20%-30%
creep resistant construction steel	10CrMo 9 10	1.7380	F/P 22	ASTM F22	DIN SEW310; EN10028/10216/10273	K21390/ K21590	–	1501/ 1502/ 3059	200-300	480-630	130-175	-40 to +590	7.85	18%-25%
	12CrMo 9 1	1.7386	F/P 9	AISI 504 ASTM F9	DIN SEW310; EN10216	K90941/ S50400/ S50488	–	3059	220-390	590-740	210-220	-40 to +500	8.00	18%-25%

Comparison of international material designations

The German materials according to DIN can only be compared approximately with other assigned materials. The interchangeability between the respective materials must be examined on an individual basis.

Material number	*DIN*	*AISI*	*UNS*	*SS*	*AFNOR*	*B5*
1.4005	X12CrS13	416	S41600	2380	(Z12CF13)	416S21
1.4006	X10Cr13	410	S41000	2302	Z12C13	410S21
1.4016	X6Cr17	430	S43000	2320	Z8C17	430S15
1.4021	X20Cr13	420	S42000	2303	Z20C13	420S37
1.4034	X46Cr13	–	–	(2304)	(Z40C14)	(420S45)
1.4057	X12CrNi72	431	S43100	2321	Z15CN16.02	431S29
1.4104	X12CrMoS172	430F	S43020	2383	Z10CF17	(441S29)
1.4112	X90CrMoV18	440B	S44003	2319	–	–
1.4122	X35CrMo17	–	–	–	–	–
1.4301	X5CrNi1810	304	S30400	2332	Z6CN18.09	304S15
1.4305	X10CrNiS189	303	S30300	2346	Z10CNF18.09	303S31
1.4306	X2CrNi1911	304L	S30403	2352	Z2CN18.10	304S11
1.4310	X12CrNi177	301	S30100	2331	Z12CN17.07	301S21
1.4401	X5CrNiMo17122	316	S31600	2347	Z6CND17.11	316S31
1.4404	X2CrNiMo17132	316L	S31603	2348	Z2CND17.12	316S11
1.4435	X2CrNiMo18143	316L	S31603	2353	Z2CND17.13	316S11S
1.4436	X5CrNiMo17133	316	S31600	2343	Z6CND17.12	316S31
1.4438	X2CrNiMo18164	317L	S31703	2367	Z2CND1915	317S12
1.4439	X2CrNiMo17135	317LNM	S31726	–	–	–
1.4449	X5CrNiMo1713	317	S31700	–	–	317S16
1.4460	X4CrNiMo2752	329	S32900	2324	–	–
1.4462	X2CrNiMoN2253		(S318-08/-03)	2377	(Z3CNDU24.08)	318S13
1.4539	X1NiCrMoCu25205	(904L)	NO8904	2562	Z1NCDU2520	904S13
1.4541	X6CrNiTi1810	321	S32100	2337	Z6CNT18.10	321S31
1.4550	X6CrNiNb1810	347	S34700	2338	Z6CNNb18.10	347S31
1.4571	X6CrNiMoTi17122	316Ti	S31635	2350	Z6CNDT17.12	320S31
1.4713	X10CrAl7	–	–	–	Z8CA7	–
1.4724	X10CrAl13	–	–	–	–	–
1.4742	X10CrAl18	–	–	–	Z10CAS18	–
1.4762	X10CrAl24	446	(S44600)	(2320)	Z10CAS24	–
1.4821	X20CrNiSi254	–	–	–	–	–
1.4828	X15CrNiSi2012	309	S30900	–	Z15CNS20.12	309S24
1.4841	X15CrNiSi2520	314	S31400	–	Z12CNS2520	314S25
1.4845	X12CrNi2521	310S	S31008	2361	Z12CN2520	310S24
1.4864	X12CrNiSi3616	330	NO8330	–	(Z12NC37.18)	(3076NA117)
1.4876	X10CrAlTi3220	(800)	N08800	–	Z8NC3232.21	3076NA15H
1.4878	X12CrNiTi189	321	S32100	2337	Z6CNT18.12	321S20
2.4068	LCNi99.2	B160	–	(N02201)	–	3074NA12
2.4360	NiCu30Fe	B164	–	(N04400)	–	3073NA13
2.4375	NiCu30Al	–	–	(N05500)	–	3076NA18
2.4610	NiMo16Cr16Ti	–	–	(N06455)	–	3076NA45
2.4816	NiCr15Fe	B166	–	(N06600)	–	3076NA14
2.4856	NiCr21Mo	–	–	(N06625)	–	3076NA43

AISI = American Iron Steel Institute • ASTM = American Society for Testing of Materials • UNS = United Numbering System
SS = Swedish Standard • AFNOR = Association Francaise de Normalisation • BS = British Standard • ( ) = standardization in preparation

Technical information

International System of Units

Basic parameter	Unit	Unit symbol
lenghth	metres	m
mass	kilograms	kg
time	seconds	s
current	amperes	A
thermodyn. temperature	kelvin	K
amount of substance	mol	mol

Dimensions

	mm	m	inch	foot
1 mm	1	0.001	0.03937	0.0033
1 m	1000	1	39.37	32.808
1 inch	25.4	0.0254	1	0.0833
1 foot	304.8	0.3048	12	1

Pressure

	Mpa	bar	N/mm²	psi
1 Mpa	1	10	1	145.04
1 bar	0.1	1	0.1	14.504
1 N/mm²	1	10	1	145.04
1 psi	0.00689	0.0689	0.00689	1

Temperature

	K	°C	°F
K		°C + 273.15	(°F - 459.67) x 5/9
°C	K - 273.15		(°F - 32) x 5/9
°F	K x 9/5 - 459.67	°C x 9/5 + 32	

Pressure assignment bar / ISO PN / lbs. / ASME Class

bar	Pressure Nominal (PN)	lbs. (PSIG)	ASME Class #
7		100	
10	10		
16	16		
17		250	
20	20		150
25	25		
35		500	
40	40		
50	50		300
52		750	
64	64		400
70		1000	
100	100		600
105		1500	
140		2000	
150	150		900
175		2500	
210		3000	
245		3500	
250	250		1500
280		4000	
420	420		2500

Conversion: 1bar = 14.5lbs. / 1lbs = 0.0689476bar
Bar values rounded

Application examples

JG/JP

Long-standing sealing problems at a refrigerants manufacturer who apllies hydrogen (H) and the corrosive medium hydrofluoric acid (HF) at a temperature up to 400°C during its process have been successfully resolved by the metal sealed JP gasket (material: alloy stainless steel / graphite).

System Vario

Due to the absence of different gaskets for the respective pressure ranges a German precious metal manufacturer reduces its storage costs and increases the tool life and plant safety by using the Vario centering system.

Revolution

An international chemical company had regular leakages and any resultant plant downtimes due to strongly varying loads in its Malotherm heat transfer oil system (operating temperature 400°C, nominal pressure 10bar) and its steam network (operating temperature 320°C, nominal pressure 30bar). By using the Revolution gasket a permanent tightness was achieved.

Eco+

For an internationally operating gas producer operational disruptions due to gasket failure belong to the past for more than 13 years. Since 2005 the company has been using the ECO+ gasket for extremely flammable and toxic gases in the low temperature range (-175°C) at 16 bar operating pressure of the plants.

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