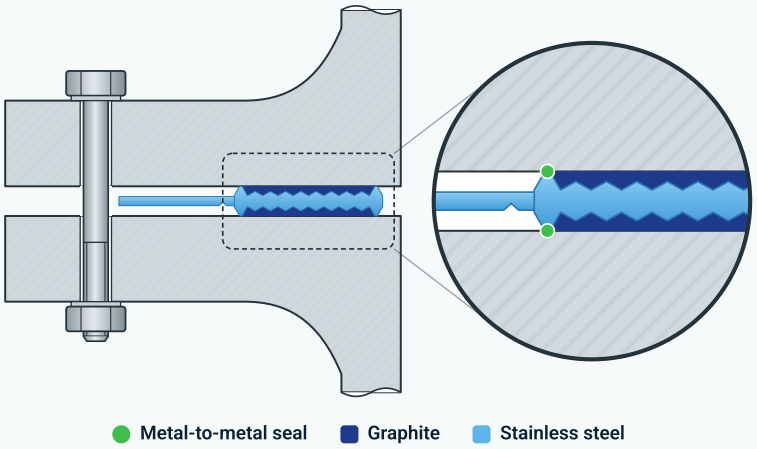
Revoseal JP-2 Data Sheet

Encapsulated flat-profile gasket with profiled sealing face – centering ring with break-off groove, graphite facing.



PRODUCT DESCRIPTION

The internationally patented geometry of the raised outer and inner teeth fully encapsulates the graphite facing. It is designed to achieve optimum compression of the graphite and a dual metal-to-metal seal – even with low-strength bolts. The revoseal JP combines the benefits of metallic and soft-material gaskets in an ideal way. The JP-2 version features a centering ring with a break-off groove.

KEY BENEFITS

- **Extreme pressure and temperature resistance: up to 400 bar and 1,000 °C**
- **Dual metal-to-metal seal – graphite fully encapsulated**
- **Exceeds TA Luft requirements even at low bolt loads**
- **Easy installation and removal**

TECHNICAL DATA

Design	Encapsulated flat-profile gasket, profiled, with centering ring and break-off groove (JP-2)
Operating temperature	−270 °C to +1,000 °C (depending on carrier material)
Operating pressure	Vacuum to 400 bar (ASME Class 1500)
Thickness	From 2.5 mm · characteristics determined on 4.2 mm
Carrier material	1.4571 (316Ti) as standard Others: duplex steels, nickel alloys, titanium, carbon steels, tantalum, silver and more
Facing	Graphite on both sides, fully encapsulated
Tightness	Exceeds TA Luft / VDI 2290 (tightness class L0.01) – even at low bolt loads
Gasket characteristics	Tested to EN 13555 – see pages 2 to 5
Sizes	Available in DIN and ANSI dimensions and in special sizes up to 4,000 mm
Versions	JG/JP 1 · JG/JP TOP · JG/JP 4 with loose centering ring · JG/JP Vario Also with PTFE facing · double gasket with leak detection ports
Applications	Volatile gases, e.g. hydrogen and helium · high-temperature service, especially cyclic processes · cryogenic service down to −270 °C · apparatus gaskets

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Gasket characteristics to EN 13555

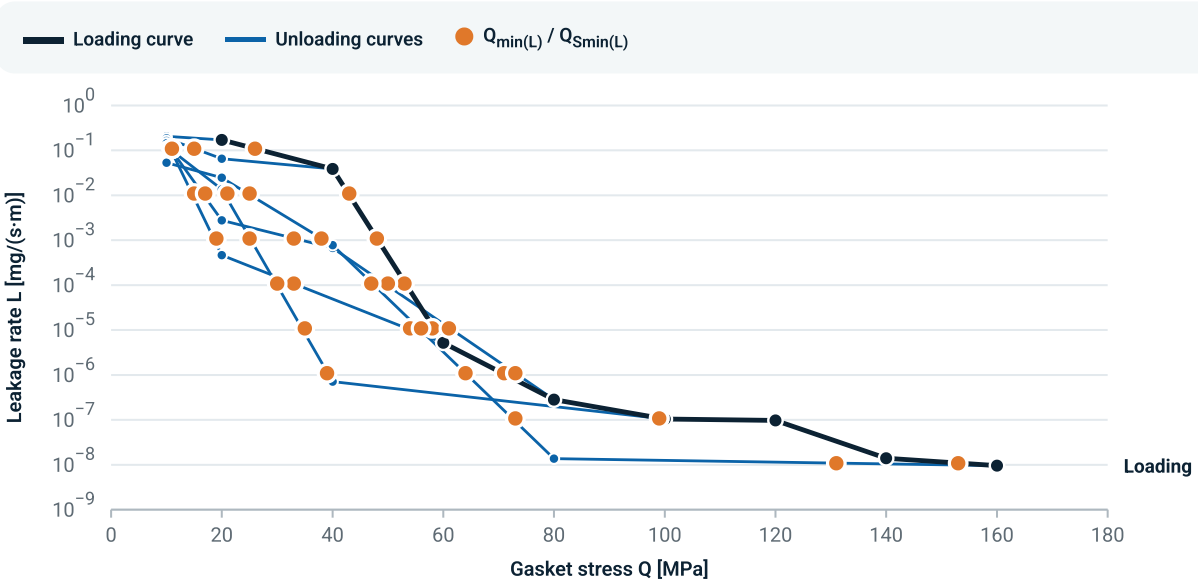
JP-2 with graphite, 4.2 mm

MANUFACTURER	PRODUCT NAME	PRODUCT DIMENSIONS
revoseal Europe GmbH	JP-2 graphite	66.4 × 56.2 × 4.2 mm (DIN EN 1514-4:1997-08)
TESTED TO	**REV. NO.**	**DATE OF ISSUE**
EN 13555:2014-07	1	2017-10-16

1 Minimum gasket stress $Q_{min(L)}$ (at assembly) and $Q_{Smin(L)}$ (after unloading) for p = 80 bar (T = 23 ± 2 °C)

L [mg/(s·m)]	$Q_{min(L)}$ [MPa]	$Q_{Smin(L)}$ [MPa]							
		Q_A = 21 [MPa]	Q_A = 41 [MPa]	Q_A = 61 [MPa]	Q_A = 81 [MPa]	Q_A = 101 [MPa]	Q_A = 121 [MPa]	Q_A = 140 [MPa]	Q_A = 160 [MPa]
10^{0}	**21**	11	11	11	11	11			11
10^{-1}	**27**		16	11	11	11			11
10^{-2}	**43**			15	17	21			25
10^{-3}	**49**			19	34	26			39
10^{-4}	**54**			34	50	30			48
10^{-5}	**59**			54	62	35			56
10^{-6}	**71**				74	40			65
10^{-7}	**100**					99			73
10^{-8}	**154**								132
10^{-9}									

Leakage – 23 ± 2 °C / 80 bar



Shaded cells: not determined or not required. Rev. no.: 1 · Test report issued: 2017-10-16 · Center of Sealing Technologies, Bürgerkamp 3, 48565 Steinfurt, Germany

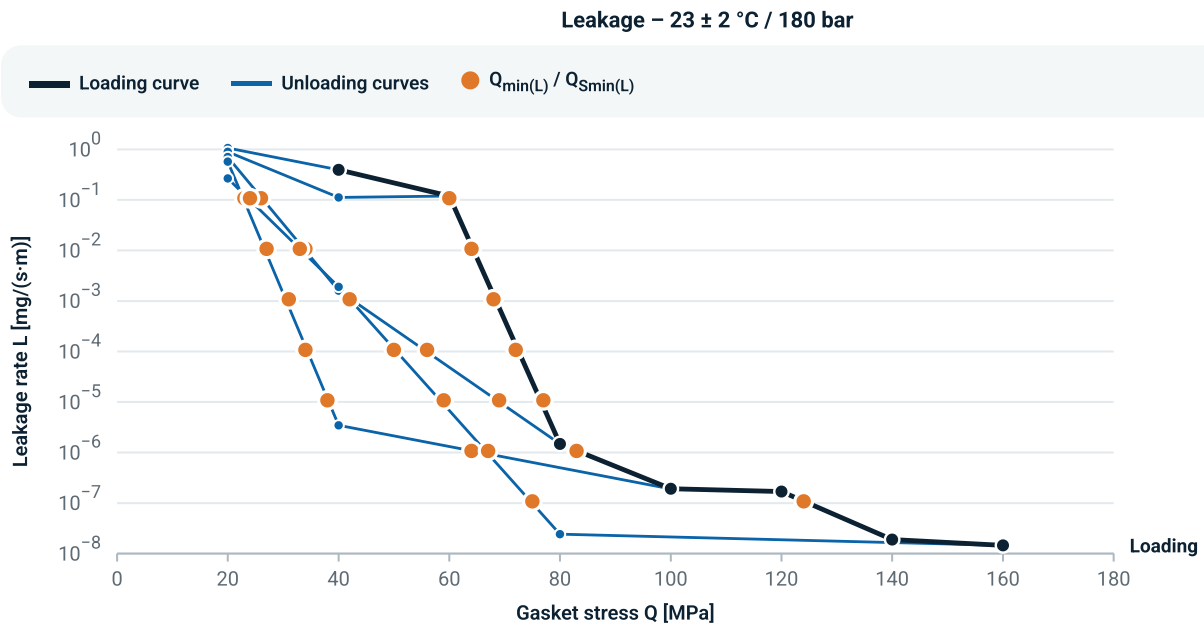
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Gasket characteristics to EN 13555

Leakage at 180 bar internal pressure

2 Minimum gasket stress $Q_{min(L)}$ (at assembly) and $Q_{Smin(L)}$ (after unloading) for p = 180 bar (T = 23 ± 2 °C)

L [mg/(s·m)]	$Q_{min(L)}$ [MPa]	$Q_{Smin(L)}$ [MPa]						
		Q_A = 41 [MPa]	Q_A = 60 [MPa]	Q_A = 81 [MPa]	Q_A = 101 [MPa]	Q_A = 121 [MPa]	Q_A = 141 [MPa]	Q_A = 161 [MPa]
10^0	**41**	21	21	21	21			21
10^{-1}	**61**			27	23			24
10^{-2}	**65**			34	27			34
10^{-3}	**69**			43	31			43
10^{-4}	**73**			56	35			51
10^{-5}	**77**			69	39			59
10^{-6}	**84**				65			67
10^{-7}	**125**							75
10^{-8}								



3 Creep relaxation factor P_{QR} at stiffness C = 500 kN/mm

Gasket stress	23 ± 2 °C		300 °C		600 °C	
	P_{QR}	Δe_{Gc} [µm]	P_{QR}	Δe_{Gc} [µm]	P_{QR}	Δe_{Gc} [µm]
Stress level 1 [50 MPa]	0.99	1	0.82	18	0.69	31
Stress level 2 [90 MPa]	0.99	3	0.91	17	0.79	37
Stress level 3 [150 MPa]	0.99	3	0.93	21	0.88	35
P_{QR} and Δe_{Gc} at maximum permissible gasket stress Q_{Smax}						
P_{QR} at Q_{Smax}	0.99	10	0.95	41	0.88	47
Q_{Smax}	**500 MPa**		**380 MPa**		**200 MPa**	

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Gasket characteristics to EN 13555

Unloading modulus and gasket thickness

4 Secant unloading modulus of the gasket E_G [MPa] and gasket thickness e_G [mm]

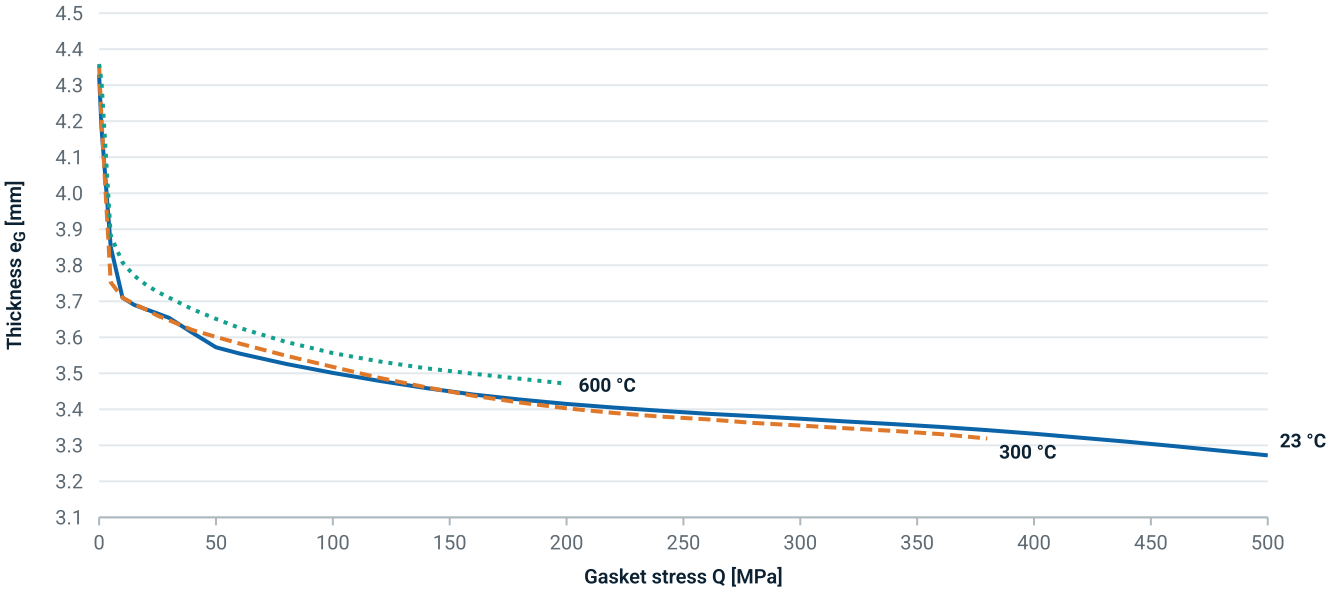
Gasket stress [MPa]	23 ± 2 °C		300 °C		600 °C	
	E_G [MPa]	e_G [mm]	E_G [MPa]	e_G [mm]	E_G [MPa]	e_G [mm]
0	0	4.329	0	4.354	0	4.359
1	0	4.181	0	4.204	0	4.310
5	566	3.851	942	3.753	811	3.882
10	2,142	3.710	2,461	3.710	1,941	3.808
15	6,368	3.690	5,652	3.692	4,168	3.771
20	15,325	3.678	47,681	3.677	10,935	3.746
25	24,786	3.666	21,535	3.660	20,186	3.726
30	36,706	3.654	24,679	3.647	24,791	3.710
40	43,996	3.612	31,788	3.620	28,877	3.678
50	38,356	3.572	33,252	3.601	25,321	3.651
60	38,037	3.555	38,321	3.583	21,409	3.626
80	41,355	3.526	31,738	3.549	19,402	3.587
100	42,360	3.501	68,143	3.518	20,724	3.556
120	46,316	3.479	46,439	3.487	24,057	3.533
140	49,588	3.459	49,660	3.461	27,622	3.514
160	48,915	3.441	52,331	3.438	26,395	3.499
180	54,046	3.427	46,353	3.419	25,104	3.485
200	64,044	3.415	61,772	3.403	23,160	3.471
220	62,813	3.405	66,722	3.390		
240	67,509	3.396	71,622	3.380		
260	69,839	3.388	96,506	3.372		
280	72,134	3.381	81,019	3.362		
300	78,662	3.374	75,769	3.355		
320	79,068	3.366	94,241	3.347		
340	87,017	3.359	119,219	3.340		
360	90,590	3.351	141,225	3.331		
380	99,034	3.342	119,292	3.319		
400	105,188	3.332				
420	108,447	3.321				
440	117,705	3.310				
460	124,125	3.298				
480	127,071	3.285				
500	135,502	3.272				

Shaded cells: not determined or not required. Rev. no.: 1 · Test report issued: 2017-10-16 · Center of Sealing Technologies, Bürgerkamp 3, 48565 Steinfurt, Germany

Gasket characteristics to EN 13555

Gasket thickness e_G

5 Gasket thickness e_G vs. gasket stress at 23, 300 and 600 °C



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BOLTED FLANGE JOINT CALCULATION

Based on these characteristics, we calculate your bolted flange joint to EN 1591-1 – free of charge.

All data are typical values and do not replace a case-specific design. Subject to technical change.