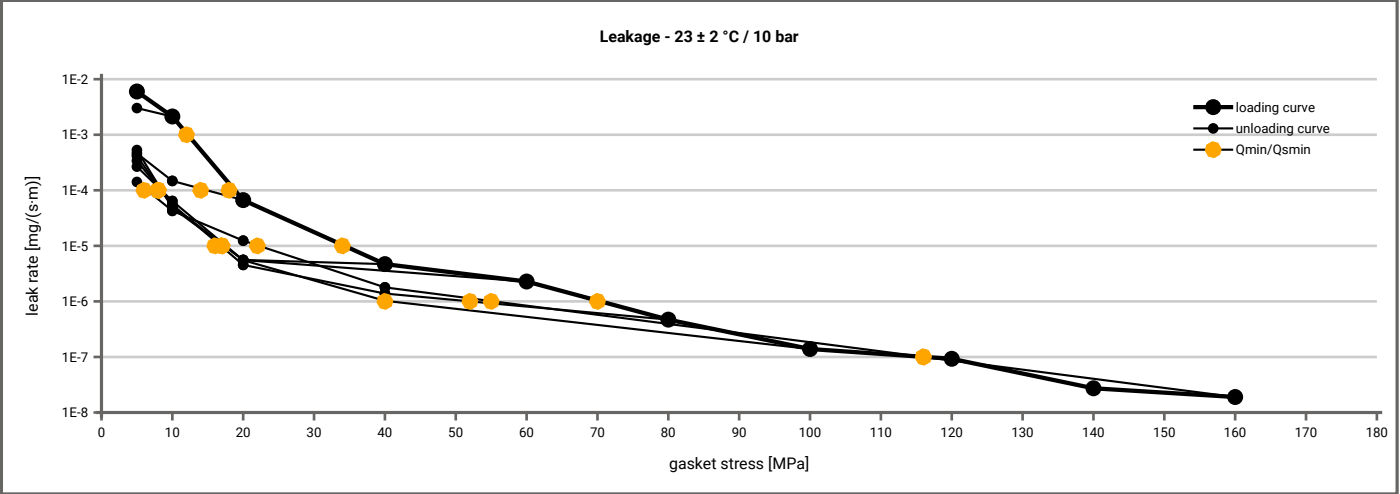
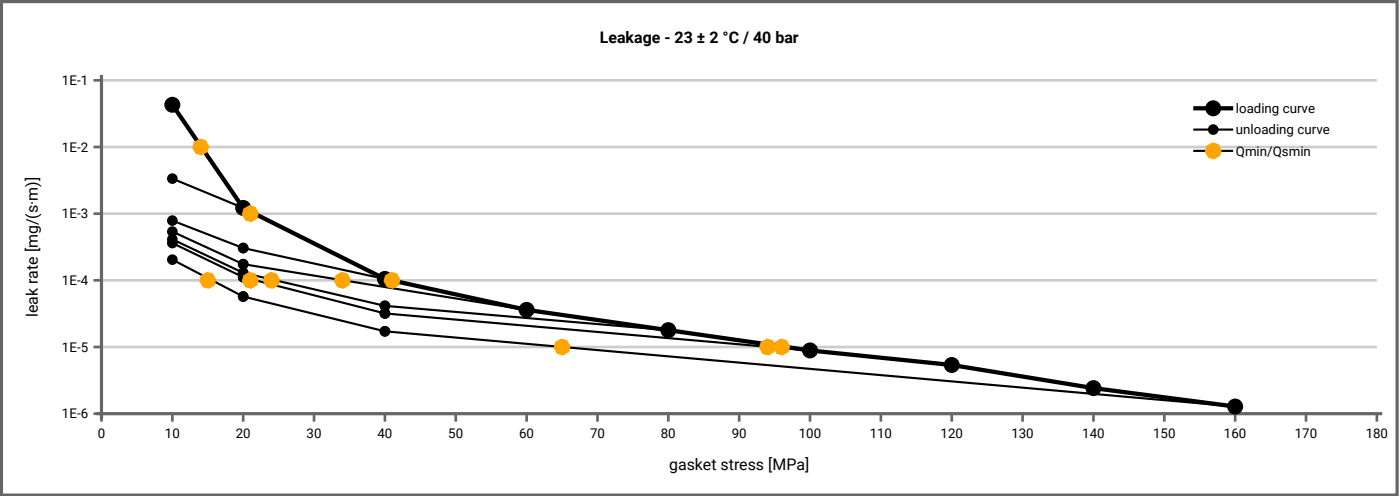


Manufacturer address	KLINGER Kempchen GmbH, Im Waldteich 21, 46147 Oberhausen, DE	According to DIN EN 13555 2005-2
Product name	Corrugated gasket W1A-3 - Graphite (1.4571 / 0,8 mm; D 1,0 g/ccm)	
Product dimensions	92 x 86 x 3 mm (DIN EN 1514-4 1997-8)	

Minimum stress to seal $Q_{min(L)}$ (at assembly), $Q_{smin(L)}$ (after off-loading) for $p = 10$ bar ($T = 23 \pm 2$ °C)											
L [mg/(s·m)]	$Q_{min(L)}$ [MPa]	$Q_{smin(L)}$ [MPa]									
		$Q_A = 5$ [MPa]	$Q_A = 10$ [MPa]	$Q_A = 20$ [MPa]	$Q_A = 40$ [MPa]	$Q_A = 60$ [MPa]	$Q_A = 80$ [MPa]	$Q_A = 100$ [MPa]	$Q_A = 120$ [MPa]	$Q_A = 140$ [MPa]	$Q_A = 160$ [MPa]
1E-0	5		5	5	5	5	5	5			5
1E-1	5		5	5	5	5	5	5			5
1E-2	5		5	5	5	5	5	5			5
1E-3	12			5	5	5	5	5			5
1E-4	19			15	9	8	8	9			6
1E-5	34				17	17	17	18			22
1E-6	70						52	41			55
1E-7	116										116
1E-8											



Minimum stress to seal $Q_{\min(L)}$ (at assembly), $Q_{s\min(L)}$ (after off-loading) for p = 40 bar (T = 23 ± 2 °C)										
L [mg/(s·m)]	$Q_{\min(L)}$ [MPa]	$Q_{s\min(L)}$ [MPa]								
		Q_A = 10 [MPa]	Q_A = 20 [MPa]	Q_A = 40 [MPa]	Q_A = 60 [MPa]	Q_A = 80 [MPa]	Q_A = 100 [MPa]	Q_A = 120 [MPa]	Q_A = 140 [MPa]	Q_A = 160 [MPa]
1E-0	10		10	10	10	10	10			10
1E-1	10		10	10	10	10	10			10
1E-2	14		10	10	10	10	10			10
1E-3	22			10	10	10	10			10
1E-4	41				34	25	22			16
1E-5	97						94			65
1E-6										
1E-7										



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Relaxation ratio P_{QR} for stiffness $C = 500$ [kN/mm]												
Gasket stress	23 ± 2 °C		Temperature 1 [100 °C]		Temperature 2 [200 °C]		Temperature 3 [300 °C]		Temperature 4 [400 °C]		Temperature 5 [500 °C]	
	P_{QR}	Δe_{Gc} [µm]	P_{QR}	Δe_{Gc} [µm]	P_{QR}	Δe_{Gc} [µm]	P_{QR}	Δe_{Gc} [µm]	P_{QR}	Δe_{Gc} [µm]	P_{QR}	Δe_{Gc} [µm]
Stress level 1 [30 MPa]	0.99	0	0.76	2	0.66	3	0.59	4	0.62	4	0.59	4
Stress level 2 [50 MPa]	0.99	0	0.86	2	0.75	4	0.72	4	0.74	4	0.76	4
Stress level 3 [90 MPa]	1.00	0	0.96	1	0.80	6	0.84	5	0.84	5	0.84	5
Stress level 4 [180 MPa]	1.00	0	0.94	3	0.90	6	0.89	6	0.88	7	0.89	6
P_{QR} and Δe_{Gc} at maximum gasket stress to be applied (Q_{smax})												
P_{QR} at Q_{smax}	0.99	1	0.95	5	0.92	7	0.92	7	0.93	7	0.91	8
Q_{smax}	280 MPa		280 MPa		280 MPa		280 MPa		280 MPa		280 MPa	

Sekant unloading modulus of the gasket E_G [MPa] and gasket thickness e_g [mm]												
Gasket stress [MPa]	23 ± 2 °C		Temperature 1 [100 °C]		Temperature 2 [200 °C]		Temperature 3 [300 °C]		Temperature 4 [400 °C]		Temperature 5 [500 °C]	
	E_G [MPa]	e_g [mm]	E_G [MPa]	e_g [mm]	E_G [MPa]	e_g [mm]	E_G [MPa]	e_g [mm]	E_G [MPa]	e_g [mm]	E_G [MPa]	e_g [mm]
0	0	2.699	0	2.788	0	2.647	0	2.765	0	2.748	0	2.892
1	0	2.699	0	2.788	0	2.647	0	2.765	0	2.748	0	2.892
20	892	1.634	1220	1.573	1323	1.514	1776	1.538	2682	1.520	2229	1.547
30	1844	1.550	1336	1.526	1427	1.461	3644	1.484	5024	1.472	6079	1.524
40	2695	1.495	1978	1.482	1831	1.415	8408	1.437	5218	1.431	4335	1.482
50	2209	1.452	2485	1.450	2289	1.379	4430	1.398	5052	1.397	3919	1.446
60	3116	1.422	2255	1.416	3368	1.353	4401	1.368	10464	1.371	6708	1.418
80	3982	1.370	2727	1.366	4323	1.314	6546	1.325	11407	1.327	5305	1.359
100	6273	1.333	5576	1.339	3552	1.278	7623	1.295	10663	1.288	5242	1.315
120	5524	1.303	4184	1.307	3992	1.247	9027	1.272	16073	1.259	6151	1.280
140	7045	1.281	4543	1.275	4953	1.226	10829	1.254	9475	1.236	6424	1.254
160	8015	1.263	4787	1.242	7069	1.207	8472	1.236	8330	1.215	5326	1.230
180	7863	1.247	5998	1.216	7597	1.187	9371	1.214	9720	1.199	6015	1.212
200	9698	1.236	9368	1.199	6064	1.159	13371	1.194	9221	1.185	6234	1.194
280	8389	1.182	10639	1.116	10279	0.922	12186	1.096	8430	1.143	6423	1.120

