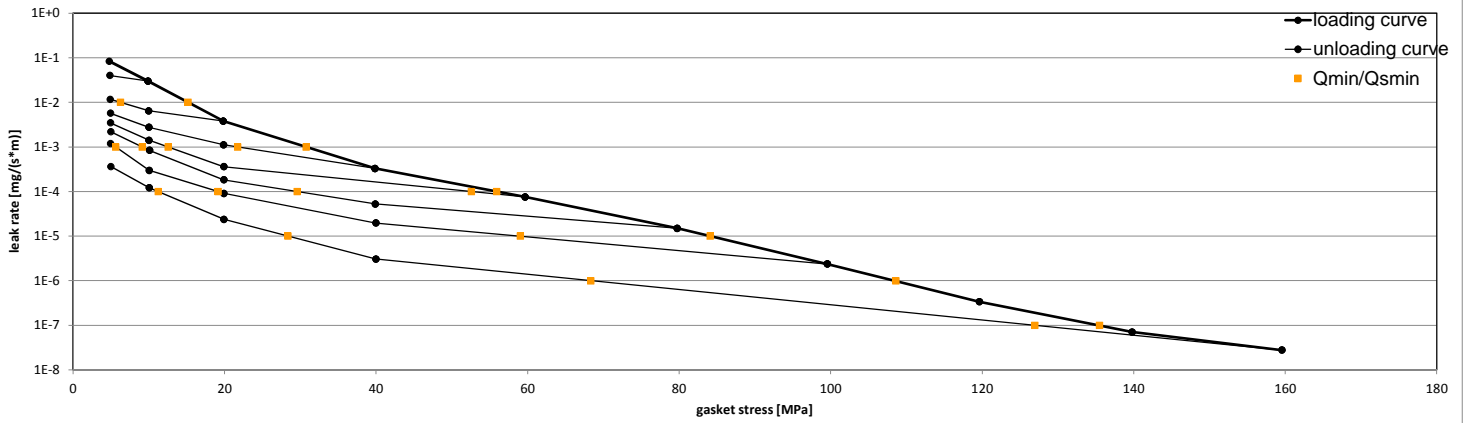


Company Address	Kempchen Dichtungstechnik GmbH, Im Waldteich 21, 46147 Oberhausen, Germany
Gasket Type	Grooved gasket B25A / B27A / B29A - Graphite with/without inner eyelet (1.4541 / 0,5 mm; D = 1,0g/cm ³)
Sealing element dimensions [mm]	53 / 69 x 92 x 4,9 (WN 145 , DIN 1514-6)

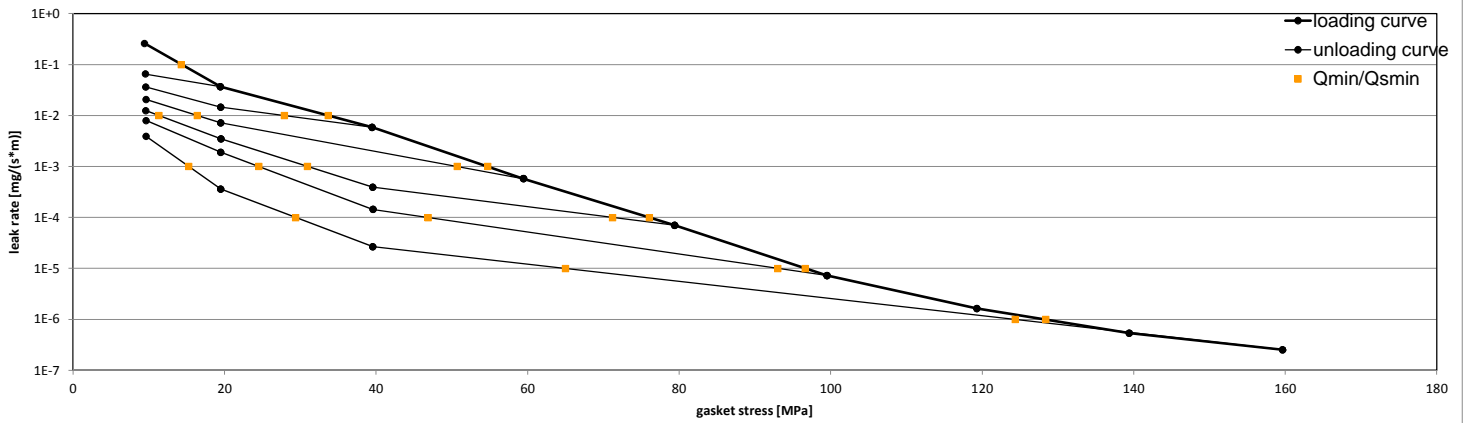
L [mg/(s*m)]	Q _{min/L} [MPa]	Minimum stress to seal Q _{min/L} (at assembly), Q _{Smin/L} (after off-loading) for p = 10 bar								
		Q _{Smin/L} [MPa]								
		Q _A = 10 MPa	Q _A = 20 MPa	Q _A = 40 MPa	Q _A = 60 MPa	Q _A = 80 MPa	Q _A = 100 MPa	Q _A = 120 MPa	Q _A = 140 MPa	Q _A = 160 MPa
10 ⁻⁰	5	5	5	5	5	5	5			5
10 ⁻¹	5	5	5	5	5	5	5			5
10 ⁻²	15		6	5	5	5	5			5
10 ⁻³	31			22	13	9	6			5
10 ⁻⁴	56				53	30	19			11
10 ⁻⁵	84						59			28
10 ⁻⁶	109									68
10 ⁻⁷	135									127
10 ⁻⁸										

Leakage - ambient temperature / inner pressure = 10 bar



L [mg/(s*m)]	Q _{min/L} [MPa]	Minimum stress to seal Q _{min/L} (at assembly), Q _{Smin/L} (after off-loading) for p = 40 bar								
		Q _{Smin/L} [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	
10 ⁻⁰	9	9	9	9	9	9			9	
10 ⁻¹	14	9	9	9	9	9			9	
10 ⁻²	34		28	16	11	9			9	
10 ⁻³	55			51	31	25			15	
10 ⁻⁴	76				71	47			29	
10 ⁻⁵	97					93			65	
10 ⁻⁶	128								124	
10 ⁻⁷										
10 ⁻⁸										

Leakage - ambient temperature / inner pressure = 40 bar



Note: the content of darkened cells was not determined respectively is unnecessary

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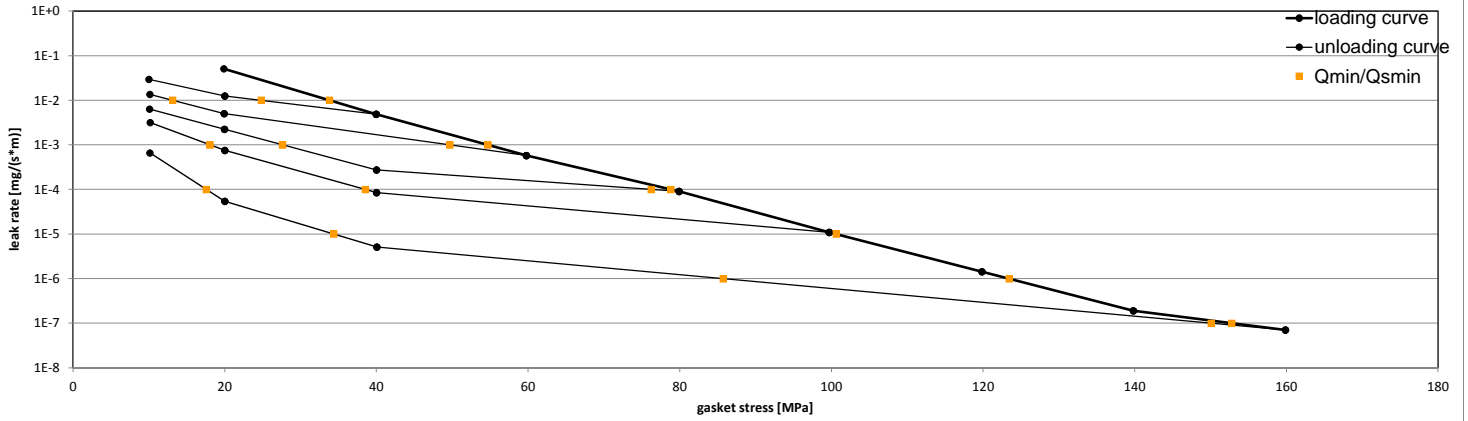


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Company Address	Kempchen Dichtungstechnik GmbH, Im Waldteich 21, 46147 Oberhausen, Germany
Gasket Type	Grooved gasket B25A / B27A / B29A - Graphite with/without inner eyelet (1.4541 / 0,5 mm; D = 1,0g/cm ³)
Sealing element dimensions [mm]	53 / 69 x 92 x 4,9 (WN 145 , DIN 1514-6)

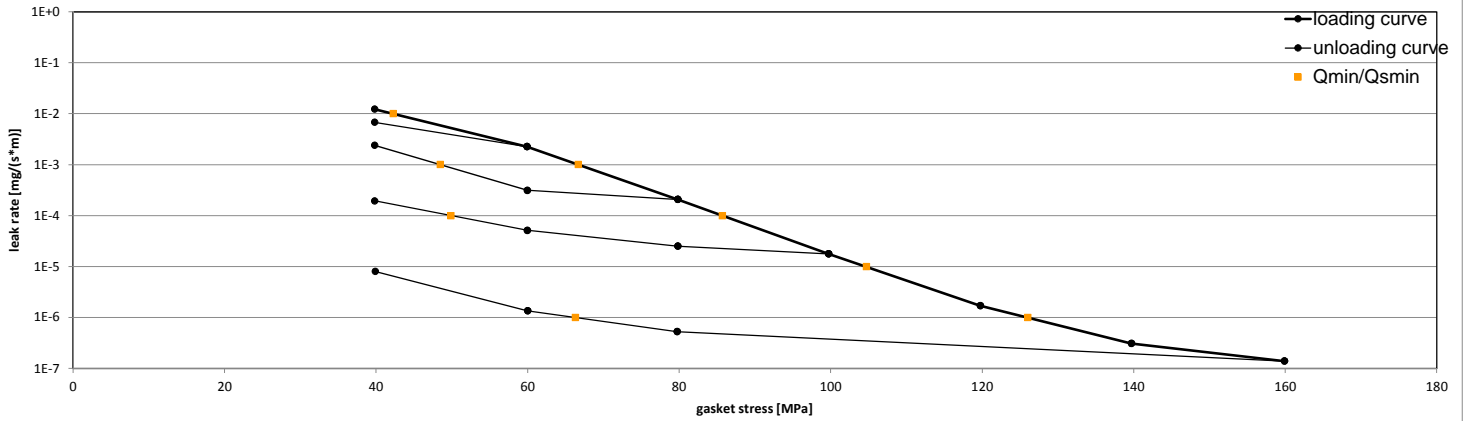
L [mg/(s*m)]	Q _{min/L} [MPa]	Minimum stress to seal Q _{min/L} (at assembly), Q _{Smin/L} (after off-loading) for p = 80 bar							Q _{Smin/L} [MPa]						
		Q _A = 40 MPa	Q _A = 60 MPa	Q _A = 80 MPa	Q _A = 100 MPa	Q _A = 120 MPa	Q _A = 140 MPa	Q _A = 160 MPa							
		10 ⁻⁰	20	10	10	10	10			10					
10 ⁻¹	20	10	10	10	10			10							
10 ⁻²	34	25	13	10	10			10							
10 ⁻³	55		50	28	18			10							
10 ⁻⁴	79			76	39			18							
10 ⁻⁵	101							34							
10 ⁻⁶	123							86							
10 ⁻⁷	153							150							
10 ⁻⁸															

Leakage - ambient temperature / inner pressure = 80 bar



L [mg/(s*m)]	Q _{min/L} [MPa]	Minimum stress to seal Q _{min/L} (at assembly), Q _{Smin/L} (after off-loading) for p = 160 bar					Q _{Smin/L} [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						
		10 ⁻⁰	40	40	40	40			40				
10 ⁻¹	40	40	40	40			40						
10 ⁻²	42	40	40	40			40						
10 ⁻³	67		48	40			40						
10 ⁻⁴	86			50			40						
10 ⁻⁵	105						40						
10 ⁻⁶	126						66						
10 ⁻⁷													
10 ⁻⁸													

Leakage - ambient temperature / inner pressure = 160 bar



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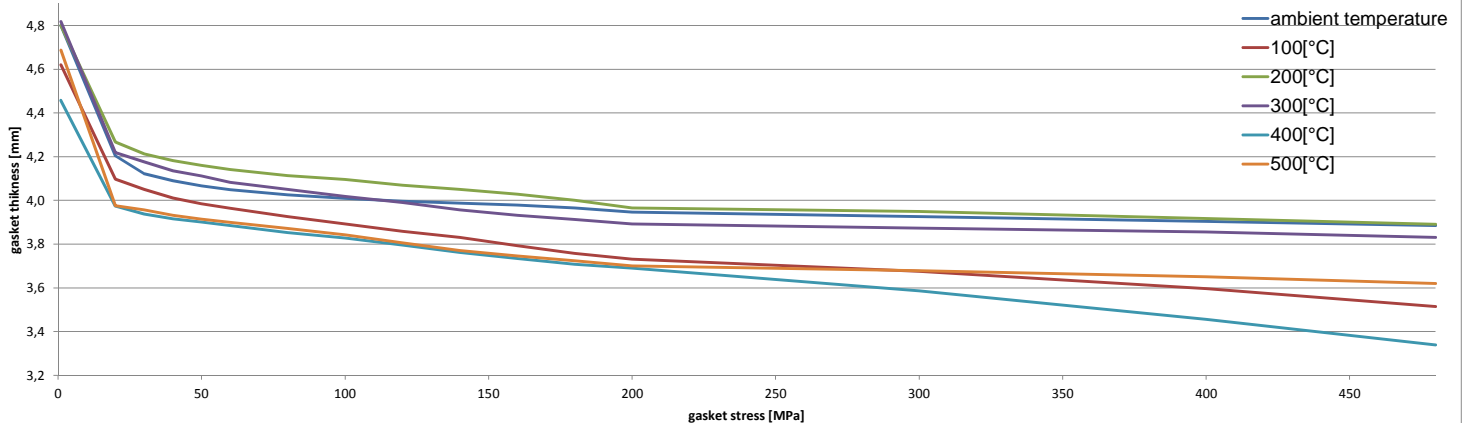
Company Address	Kempchen Dichtungstechnik GmbH, Im Waldteich 21, 46147 Oberhausen, Germany
Gasket Type	Grooved gasket B25A / B27A / B29A - Graphite with/without inner eyelet (1.4541 / 0,5 mm; D = 1,0g/cm ³)
Sealing element dimensions [mm]	53 / 69 x 92 x 4,9 (WN 145 , DIN 1514-6)

Relaxation ratio P _{QR} for stiffness C = 500 kN/mm						
Gasket stress [MPa]	ambient temperature	temperature 1 [100 °C]	temperature 2 [200 °C]	temperature 3 [300 °C]	temperature 4 [400 °C]	temperature 5 [500 °C]
Stress level 1 [50 MPa]	0,98	0,88	0,85	0,98	0,51	0,60
Stress level 2 [180 MPa]	0,87	0,90	0,87	0,87	0,94	0,84
PQR at Q _{Smax}	0,99 at 480 MPa	0,97 at 480 MPa	0,94 at 480 MPa	0,94 at 480 MPa	0,93 at 480 MPa	0,90 at 480 MPa

Maximal applicable gasket stress Q _{Smax}					
Q _{Smax} [MPa] ambient temperature	Q _{Smax} [MPa] – temperature 1 [100 °C]	Q _{Smax} [MPa] – temperature 2 [200 °C]	Q _{Smax} [MPa] – temperature 3 [300 °C]	Q _{Smax} [MPa] – temperature 4 [400 °C]	Q _{Smax} [MPa] – temperature 5 [500 °C]
480	480	480	480	480	480

Sekant unloading modulus of the gasket E _G [MPa] and gasket thickness e _G [mm]												
Gasket stress [MPa]	ambient temperature		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												
1		4,800		4,620		4,800		4,818		4,458		4,688
20	3891	4,204	5507	4,097	2193	4,267	2175	4,220	3901	3,974	4016	3,975
30	3230	4,122	7193	4,050	4100	4,213	3711	4,177	6758	3,938	5377	3,956
40	5119	4,091	5842	4,011	5491	4,182	5754	4,136	6390	3,916	6762	3,932
50	6558	4,067	7983	3,985	6150	4,160	6497	4,113	7647	3,902	7579	3,915
60	7575	4,049	9490	3,964	5728	4,141	9068	4,083	7045	3,886	8353	3,900
80	8639	4,026	10753	3,926	10512	4,113	10687	4,051	6885	3,853	9805	3,872
100	10892	4,010	11595	3,893	13100	4,096	9957	4,019	12645	3,828	11414	3,843
120	10958	3,997	13484	3,859	11029	4,070	12061	3,990	11353	3,795	11153	3,806
140	13913	3,987	12748	3,831	12119	4,050	13223	3,957	13251	3,762	11731	3,771
160	13773	3,979	12801	3,793	13538	4,028	14400	3,933	14077	3,734	13525	3,746
180	12919	3,966	18491	3,758	15268	4,000	19335	3,913	13554	3,709	15028	3,724
200	13609	3,947	19971	3,731	14791	3,965	14938	3,893	17704	3,690	14024	3,701
300	20710	3,926	25845	3,676	25326	3,950	16109	3,874	21100	3,586	17068	3,679
400	18965	3,904	27676	3,597	20681	3,918	18878	3,856	22064	3,457	18145	3,650
480	18733	3,886	28366	3,515	19537	3,891	18779	3,831	23463	3,339	18425	3,621

Gasket thickness e_G



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