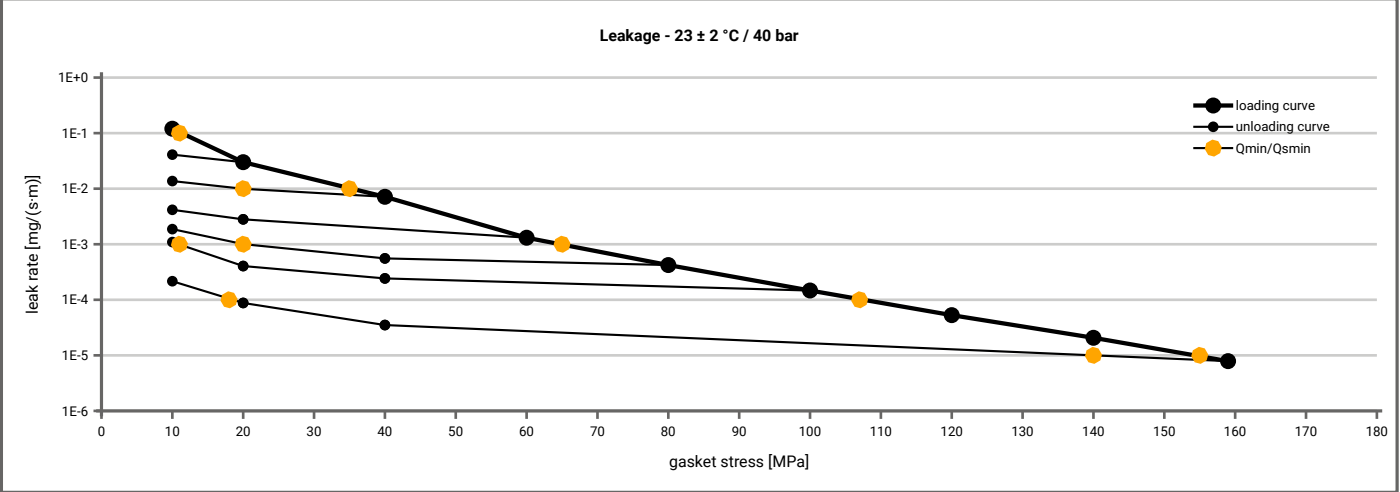


|                      |                                                                       |                                                      |
|----------------------|-----------------------------------------------------------------------|------------------------------------------------------|
| Manufacturer address | Kempchen Dichtungstechnik GmbH, Im Waldteich 21, 46147 Oberhausen, DE | According to<br><b>DIN EN 13555</b><br><b>2005-2</b> |
| Product name         | Flachdichtung F1 RHD2S305-I (316L / Graphit 99%)                      |                                                      |
| Product dimensions   | 92 x 49 x 2 mm (DIN EN 1514-1 1997-8)                                 |                                                      |

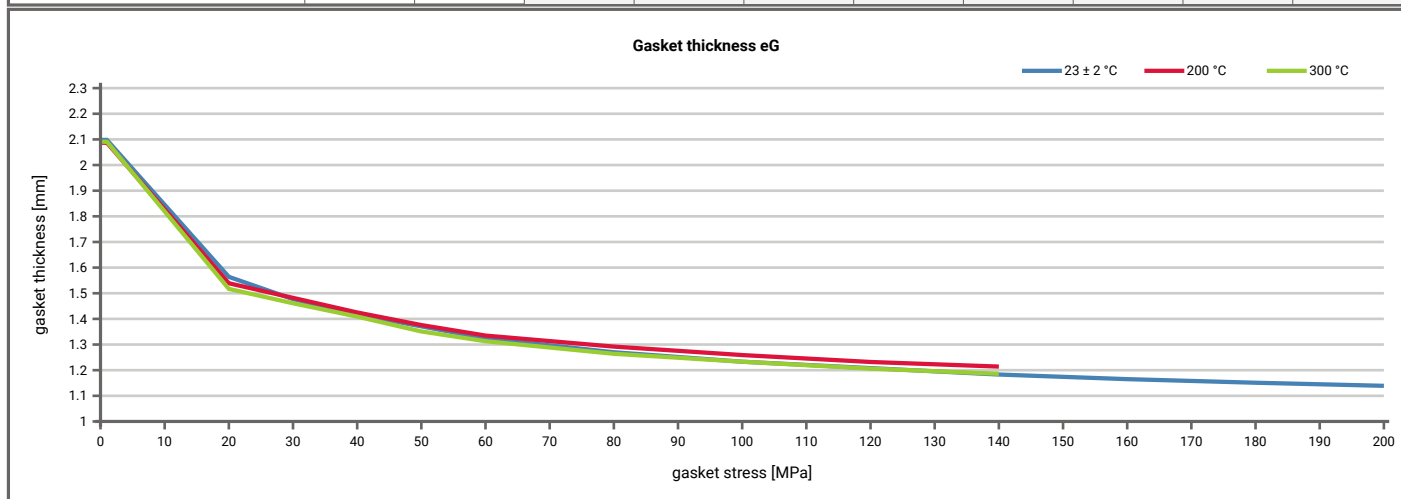
| Minimum stress to seal $Q_{min(L)}$ (at assembly), $Q_{smin(L)}$ (after off-loading) for p = 40 bar (T = 23 ± 2 °C) |                    |                     |                  |                  |                  |                  |                   |                   |                   |                   |
|---------------------------------------------------------------------------------------------------------------------|--------------------|---------------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| L [mg/(s·m)]                                                                                                        | $Q_{min(L)}$ [MPa] | $Q_{smin(L)}$ [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] |
| 1E-0                                                                                                                | 10                 |                     | 10               | 10               | 10               | 10               | 10                |                   |                   | 10                |
| 1E-1                                                                                                                | 12                 |                     | 10               | 10               | 10               | 10               | 10                |                   |                   | 10                |
| 1E-2                                                                                                                | 35                 |                     |                  | 20               | 10               | 10               | 10                |                   |                   | 10                |
| 1E-3                                                                                                                | 65                 |                     |                  |                  |                  | 20               | 11                |                   |                   | 10                |
| 1E-4                                                                                                                | 108                |                     |                  |                  |                  |                  |                   |                   |                   | 19                |
| 1E-5                                                                                                                | 155                |                     |                  |                  |                  |                  |                   |                   |                   | 141               |
| 1E-6                                                                                                                |                    |                     |                  |                  |                  |                  |                   |                   |                   |                   |
| 1E-7                                                                                                                |                    |                     |                  |                  |                  |                  |                   |                   |                   |                   |
| 1E-8                                                                                                                |                    |                     |                  |                  |                  |                  |                   |                   |                   |                   |



|                      |                                                                       |                                                      |
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| Product name         | Flachdichtung F1 RHD2S305-I (316L / Graphit 99%)                      |                                                      |
| Product dimensions   | 92 x 49 x 2 mm (DIN EN 1514-1 1997-8)                                 |                                                      |

| Relaxation ratio $P_{QR}$ for stiffness $C = 500$ [kN/mm]                      |           |                      |                        |                      |                        |                      |          |                      |          |                      |
|--------------------------------------------------------------------------------|-----------|----------------------|------------------------|----------------------|------------------------|----------------------|----------|----------------------|----------|----------------------|
| Gasket stress                                                                  | 23 ± 2 °C |                      | Temperature 1 [200 °C] |                      | Temperature 2 [300 °C] |                      |          |                      |          |                      |
|                                                                                | $P_{QR}$  | $\Delta e_{Gc}$ [µm] | $P_{QR}$               | $\Delta e_{Gc}$ [µm] | $P_{QR}$               | $\Delta e_{Gc}$ [µm] | $P_{QR}$ | $\Delta e_{Gc}$ [µm] | $P_{QR}$ | $\Delta e_{Gc}$ [µm] |
| Stress level 1 [50 MPa]                                                        | 0.94      | 27                   | 0.83                   | 71                   | 0.83                   | 71                   |          |                      |          |                      |
| Stress level 2 [120 MPa]                                                       | 0.99      | 10                   | 0.96                   | 45                   | 0.95                   | 55                   |          |                      |          |                      |
|                                                                                |           |                      |                        |                      |                        |                      |          |                      |          |                      |
|                                                                                |           |                      |                        |                      |                        |                      |          |                      |          |                      |
|                                                                                |           |                      |                        |                      |                        |                      |          |                      |          |                      |
|                                                                                |           |                      |                        |                      |                        |                      |          |                      |          |                      |
|                                                                                |           |                      |                        |                      |                        |                      |          |                      |          |                      |
|                                                                                |           |                      |                        |                      |                        |                      |          |                      |          |                      |
| $P_{QR}$ and $\Delta e_{Gc}$ at maximum gasket stress to be applied $Q_{smax}$ |           |                      |                        |                      |                        |                      |          |                      |          |                      |
| $P_{QR}$ at $Q_{smax}$                                                         | 1.00      | 9                    | 0.95                   | 65                   | 0.94                   | 70                   |          |                      |          |                      |
| $Q_{smax}$                                                                     | 210 MPa   |                      | 140 MPa                |                      | 140 MPa                |                      |          |                      |          |                      |

| Sekant unloading modulus of the gasket E <sub>G</sub> [MPa] and gasket thickness e <sub>G</sub> [mm] |                      |                     |                        |                     |                        |                     |                      |                     |                      |                     |
|------------------------------------------------------------------------------------------------------|----------------------|---------------------|------------------------|---------------------|------------------------|---------------------|----------------------|---------------------|----------------------|---------------------|
| Gasket stress [MPa]                                                                                  | 23 ± 2 °C            |                     | Temperature 1 [200 °C] |                     | Temperature 2 [300 °C] |                     |                      |                     |                      |                     |
|                                                                                                      | E <sub>G</sub> [MPa] | e <sub>G</sub> [mm] | E <sub>G</sub> [MPa]   | e <sub>G</sub> [mm] | E <sub>G</sub> [MPa]   | e <sub>G</sub> [mm] | E <sub>G</sub> [MPa] | e <sub>G</sub> [mm] | E <sub>G</sub> [MPa] | e <sub>G</sub> [mm] |
| 0                                                                                                    | 0                    | 2.098               | 0                      | 2.087               | 0                      | 2.091               |                      |                     |                      |                     |
| 1                                                                                                    | 0                    | 2.098               | 0                      | 2.087               | 0                      | 2.091               |                      |                     |                      |                     |
| 20                                                                                                   | 454                  | 1.564               | 554                    | 1.539               | 538                    | 1.517               |                      |                     |                      |                     |
| 30                                                                                                   | 758                  | 1.477               | 846                    | 1.482               | 849                    | 1.461               |                      |                     |                      |                     |
| 40                                                                                                   | 1006                 | 1.417               | 998                    | 1.425               | 1087                   | 1.409               |                      |                     |                      |                     |
| 50                                                                                                   | 1287                 | 1.371               | 1420                   | 1.376               | 1182                   | 1.351               |                      |                     |                      |                     |
| 60                                                                                                   | 1548                 | 1.324               | 1388                   | 1.335               | 1687                   | 1.313               |                      |                     |                      |                     |
| 80                                                                                                   | 2530                 | 1.270               | 2249                   | 1.292               | 2384                   | 1.264               |                      |                     |                      |                     |
| 100                                                                                                  | 2738                 | 1.233               | 2474                   | 1.259               | 2605                   | 1.233               |                      |                     |                      |                     |
| 120                                                                                                  | 3338                 | 1.208               | 2489                   | 1.232               | 2837                   | 1.206               |                      |                     |                      |                     |
| 140                                                                                                  | 2917                 | 1.183               | 3183                   | 1.214               | 3022                   | 1.186               |                      |                     |                      |                     |
| 160                                                                                                  | 3169                 | 1.165               |                        |                     |                        |                     |                      |                     |                      |                     |
| 180                                                                                                  | 3998                 | 1.151               |                        |                     |                        |                     |                      |                     |                      |                     |
| 200                                                                                                  | 4329                 | 1.139               |                        |                     |                        |                     |                      |                     |                      |                     |



|                                                                                    |             |                                         |
|------------------------------------------------------------------------------------|-------------|-----------------------------------------|
| Note: the content of darkened cells was not determined respectively is unnecessary | Rev.-No.: 1 | Creation date of this sheet: 2011-10-18 |
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