

RING-JOINTS RTJ

Ring joint gaskets are made from metallic materials. The requirements in terms of dimensional accuracy and surface quality are therefore high. This relates to both the gasket and the sealing section of the flange.

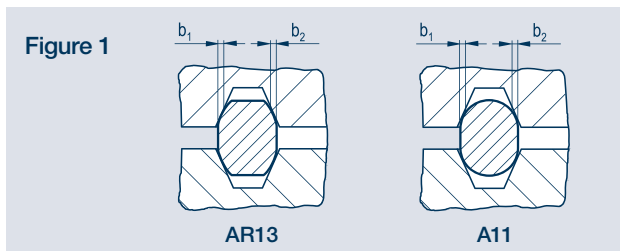
The necessary surface quality depends substantially on the Brinell hardness of the gasket material. The relationship $R_z[\mu\text{m}] \leq 300/\text{HB}$ provides a useful indication.

A distinction is made between two kinds of ring joint gaskets and two different calculation methods are therefore used:

1. RTJ gaskets with osculating radius (Figure 1)

- The convex octagonal RTJ gaskets, Profile AR 13, in which the convex cone case surfaces of the gasket are pressed against the even cone case surfaces of the groove when tensioned.
- The oval ring-joint gasket, Profile A11, in which the circular surface is pressed against the cone case surfaces of the groove.

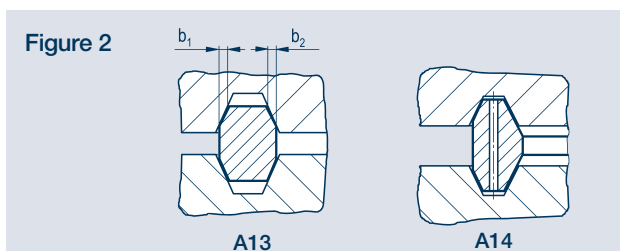
The sealing surface pressure increases or decreases to a **lesser extent** in response to any change in the bolt load.



2. RTJ gaskets with flat sealing surfaces (Figure 2)

The octagonal RTJ gasket, Profiles A13 and A14, are flat gaskets in which the sealing surfaces are two cone case surfaces. The projection in the direction of the bolting force $b_G = b_1 + b_2$ should be set as the sealing surface width.

The sealing surface pressure increases or decreases **proportionally** in response to any change in the bolt load.



The application thresholds values of oval octagonal RTJ gaskets can be more accurately calculated in relation to material, diameter, pressure, temperature and the surface pressure limits.

Here the fictitious sealing characteristic values in accordance with AD are replaced with the values of σ_v and σ_g .

Ring Joint gaskets in accordance with API and ASME standards are mainly used in the petrochemical industry and in refineries as a reliable gasket for production pipelines.

We are permitted to give our products the API Monogram. This guarantees that our products meet the latest API standards.

It should be noted that in Profile A12 the flanges have metal-to-metal contact. Profile AR13 with convex sealing surfaces.

Ring Joint gaskets can be produced as blind gaskets in Profile A11S, A13S etc. or as blind spectacle gaskets in Profile A11BS, A13BS (see Blind Gaskets).



Material

| Code designation | Material no. | Hardness (HB) | US-Type AISI | Code |
|----------------------|--------------|---------------|------------------|--------|
| Pure iron, e.g. Armo | 1.1003 | 90-100 | Soft-Iron | D |
| Stw24mod | - | 90-110 | Soft-Iron | D |
| Low-Carbon-Steel | - | 120 | Low-Carbon-Steel | S |
| 13 CrMo 4 4 | 1.7335 | ca. 160 | - | 7335 |
| 12 CrMo 19 5 mod | 1.7362 mod | ca. 130 | 501 | F5 |
| X6 Cr 13 | 1.4000 | ca. 160 | 410 | S 410 |
| X5 CrNi 18 10 | 1.4301 | ca. 160 | 304 | S 304 |
| X5 CrNiMo 17 12 2 | 1.4401 | ca. 160 | 316 | S 316 |
| X6 CrNiTi 18 10 | 1.4541 | ca. 160 | 321 | S 321 |
| X6 CrNiNb 18 10 | 1.4550 | ca. 160 | 347 | S 347 |
| X6 CrNiMo Ti 17 12 2 | 1.4571 | ca. 160 | 316Ti | 316 Ti |

* Further technical data see section "Materials commonly used".

RING-JOINTS RTJ

Material, profiles, surface pressure limits, surface roughness

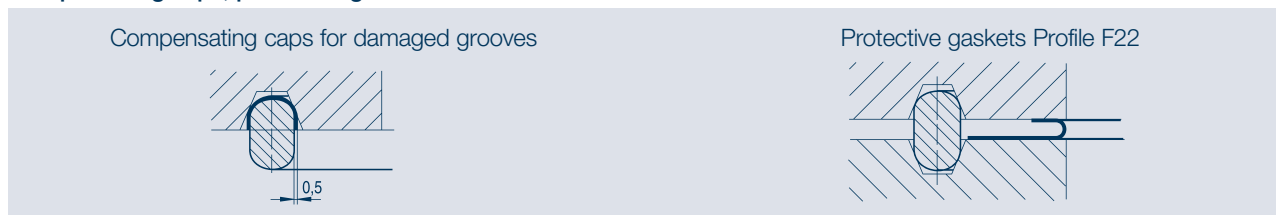
With the addition of a protective ring made from sheet metal to Profile F22, disruptive turbulence and accretions are avoided. At small edge widths the protective gaskets are symmetrical, at larger edge widths they are centred on one side. We can supply soft-iron compensating caps for damaged grooves, such as Profile AK11, AK12, AK13, AK14.

For a complete estimate on sealing flange connections, our efficient sealing estimate service is available.

Gasket profiles

| Profile | Cross-section |
|---------|---------------|
| A11 | |
| A12 | |
| A13 | |
| AR13 | |
| A14 | |
| F22 | |
| AK11 | |
| AK12 | |
| Ak13 | |
| AK14 | |

Compensating caps, protective gaskets

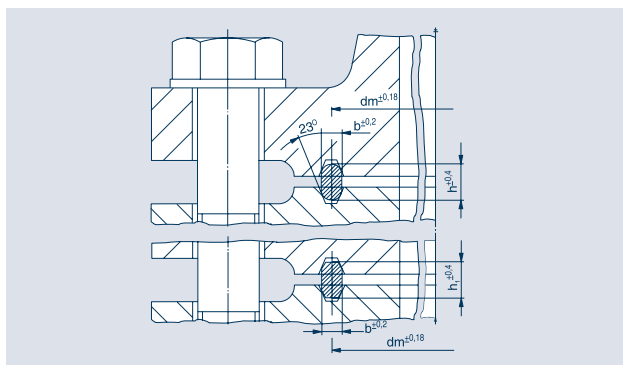


Gasket limiting values

| Profiles | A11, A11S, A11BS, A12, A13, A13S, A13BS, AR13, AR13S, AR13BS, A14 | | | | | | | | | |
|---|---|-------------------------|--|--|------------------------------|------------------------------|---|-------------------------------------|------------------|-----------------|
| | Materials | Iron 1.1003 Stw24mod | Heat-resistant mild steel 1.5415 | Heat-resistant mild steel 1.7362 | Stainless Steel 1.4541 | Stainless Steel 1.4828 | Carbon steel 1.0308 copper-plated | Stainless steel 1.4541 plated | Copper 2.0090 | Monel 2.4360 |
| Recommended max. roughness of the flange surfaces | μm from to | 3,2 6,3 | 3,2 6,3 | 3,2 6,3 | 1,6 3,2 | 1,6 3,2 | 3,2 6,3 | 6,3 12,5 | 3,2 6,3 | 3,2 6,3 |
| Surface pressure limits for 20 °C | N/mm^2 σ_v σ_s | 235 | 300 | 400 | 335 | 400 | 135 | 100 | 135 | 260 |
| | | 525 | 675 | 900 | 750 | 900 | 600 | 750 | 300 | 660 |
| E-Modul at 20 °C | kN/mm^2 | 210 | 210 | 210 | 200 | 200 | 210 | 200 | 128 | 178 |
| Surface pressure limits for 300 °C | N/mm^2 σ_v σ_s | 235 | 300 | 400 | 335 | 400 | 135 | 100 | 135 | 260 |
| | | 315 | 585 | 730 | 630 | 750 | 390 | 630 | 150 | 650 |
| E-Modul at 300 °C | kN/mm^2 | 185 | 185 | 190 | 186 | 186 | 185 | 186 | 114 | 175 |

RING JOINT GASKETS, TYPE R

Ring joint gaskets, Type R, dimensions
in accordance with ASME B16.20, API Std 6 A for flanges
in accordance with ASME B16.5 and ASME B16.47 Series A
in accordance with EN 12560-5



Ordering example for an oval ring joint gasket,
Profile A11, NPS 5, Class 150, made of ... 1):

Ring joint gasket R 40 A11 / 1.4541

Ordering example for an octagonal ring joint gasket,
Profile A13, NPS 20, Class 1500, made of ... 1):

Ring joint gasket R 75 A13 / 1.4541

Ring joint gaskets, Type R

| NPS | class | Ring-No. | Ring measurements | | | |
|-----|-------------|----------|-------------------|-------|-------|----------------|
| | | | dm | b | h | h ₁ |
| ½ | 300 to 600 | R 11 | 34,13 | 6,35 | 11,11 | 9,53 |
| ½ | 900 1500 | R 12 | 39,69 | 7,94 | 14,29 | 12,70 |
| ½ | 2500 | R 13 | 42,86 | 7,94 | 14,29 | 12,70 |
| ¾ | 300 to 600 | R 13 | 42,86 | 7,94 | 14,29 | 12,70 |
| ¾ | 900,1500 | R 14 | 44,45 | 7,94 | 14,29 | 12,70 |
| 1 | 150 | R 15 | 47,63 | 7,94 | 14,29 | 12,70 |
| ¾ | 2500 | R 16 | 50,80 | 7,94 | 14,29 | 12,70 |
| 1 | 300 to 1500 | R 16 | 50,80 | 7,94 | 14,29 | 12,70 |
| 1¼ | 150 | R 17 | 57,15 | 7,94 | 14,29 | 12,70 |
| 1 | 2500 | R 18 | 60,33 | 7,94 | 14,29 | 12,70 |
| 1¼ | 300 to 1500 | R 18 | 60,33 | 7,94 | 14,29 | 12,70 |
| 1½ | 150 | R 19 | 65,09 | 7,94 | 14,29 | 12,70 |
| 1½ | 300 to 1500 | R 20 | 68,26 | 7,94 | 14,29 | 12,70 |
| 1½ | 2500 | R 21 | 72,23 | 11,11 | 17,46 | 15,88 |
| 2 | 150 | R 22 | 82,55 | 7,94 | 14,29 | 12,70 |
| 1½ | 2500 | *R 23 | 82,55 | 11,11 | 17,46 | 15,88 |
| 2 | 300 to 600 | *R 23 | 82,55 | 11,11 | 17,46 | 15,88 |
| 2 | 900,1500 | *R 24 | 95,25 | 11,11 | 17,46 | 15,88 |
| 2½ | 150 | R 25 | 101,60 | 7,94 | 14,29 | 12,70 |
| 2 | 2500 | *R 26 | 101,60 | 11,11 | 17,46 | 15,88 |
| 2½ | 300 to 600 | *R 26 | 101,60 | 11,11 | 17,46 | 15,88 |
| 2½ | 900,1500 | *R 27 | 107,95 | 11,11 | 17,46 | 15,88 |
| 2½ | 2500 | R 28 | 111,13 | 12,70 | 19,05 | 17,46 |
| 3 | 150 | R 29 | 114,30 | 7,94 | 14,29 | 12,70 |
| 3 | 300 to 600 | R 30 | 117,48 | 11,11 | 17,46 | 15,88 |
| 3 | 300 to 900 | *R 31 | 123,83 | 11,11 | 17,46 | 15,88 |
| 3 | 2500 | R 32 | 127,00 | 12,70 | 19,05 | 17,46 |
| 3½ | 150 | R 33 | 131,76 | 7,94 | 14,29 | 12,70 |
| 3½ | 300 to 600 | R 34 | 131,76 | 11,11 | 17,46 | 15,88 |
| 3 | 1500 | *R 35 | 136,53 | 11,11 | 17,46 | 15,88 |
| 4 | 150 | R 36 | 149,23 | 7,94 | 14,29 | 12,70 |
| 4 | 300 to 900 | *R 37 | 149,23 | 11,11 | 17,46 | 15,88 |
| 4 | 2500 | R 38 | 157,16 | 15,88 | 22,23 | 20,64 |
| 4 | 1500 | *R 39 | 161,93 | 11,11 | 17,46 | 15,88 |
| 5 | 150 | R 40 | 171,45 | 7,94 | 14,29 | 12,70 |
| 5 | 300 to 900 | *R 41 | 180,98 | 11,11 | 17,46 | 15,88 |
| 5 | 2500 | R 42 | 190,50 | 19,05 | 25,40 | 23,81 |
| 6 | 150 | R 43 | 193,68 | 7,94 | 14,29 | 12,70 |
| 5 | 1500 | *R 44 | 193,68 | 11,11 | 17,46 | 15,88 |
| 6 | 300 to 900 | *R 45 | 211,14 | 11,11 | 17,46 | 15,88 |
| 6 | 1500 | *R 46 | 211,14 | 12,70 | 19,05 | 17,46 |
| 6 | 2500 | R 47 | 228,60 | 19,05 | 25,40 | 23,81 |
| 8 | 150 | R 48 | 247,65 | 7,94 | 14,29 | 12,70 |
| 8 | 300 to 900 | *R 49 | 269,88 | 11,11 | 17,46 | 15,88 |
| 8 | 1500 | *R 50 | 269,88 | 15,88 | 22,23 | 20,64 |
| 8 | 2500 | R 51 | 279,40 | 22,23 | 28,58 | 26,99 |
| 10 | 150 | R 52 | 304,80 | 7,94 | 14,29 | 12,70 |
| 10 | 300 to 900 | *R 53 | 323,85 | 11,11 | 17,46 | 15,88 |
| 10 | 1500 | *R 54 | 323,85 | 15,88 | 22,23 | 20,64 |
| 10 | 2500 | R 55 | 342,90 | 28,58 | 36,51 | 34,93 |
| 12 | 150 | R 56 | 381,00 | 7,94 | 14,29 | 12,70 |
| 12 | 300 to 900 | *R 57 | 381,00 | 11,11 | 17,46 | 15,88 |
| 12 | 1500 | R 58 | 381,00 | 22,23 | 28,58 | 26,99 |
| 14 | 150 | R 59 | 396,88 | 7,94 | 14,29 | 12,70 |

Dimensions in mm

| NPS | class | Ring-No. | Ring measurements | | | |
|-----|---------------|---------------------|-------------------|-------|-------|----------------|
| | | | dm | b | h | h ₁ |
| 12 | 2500 | R 60 | 406,40 | 31,75 | 39,69 | 38,10 |
| 14 | 300 to 600 | R 61 | 419,10 | 11,11 | 17,46 | 15,88 |
| 14 | 900 | R 62 | 419,10 | 15,88 | 22,23 | 20,64 |
| 14 | 1500 | R 63 | 419,10 | 25,40 | 33,34 | 31,75 |
| 16 | 150 | R 64 | 454,00 | 7,94 | 14,29 | 12,70 |
| 16 | 300 to 600 | *R 65 | 469,90 | 11,11 | 17,46 | 15,88 |
| 16 | 900 | *R 66 | 469,90 | 15,88 | 22,23 | 20,64 |
| 16 | 1500 | R 67 | 469,90 | 28,58 | 36,51 | 34,93 |
| 18 | 150 | R 68 | 517,53 | 7,94 | 14,29 | 12,70 |
| 18 | 300 to 600 | R 69 | 533,40 | 11,11 | 17,46 | 15,88 |
| 18 | 900 | R 70 | 533,40 | 19,05 | 25,40 | 23,81 |
| 18 | 1500 | R 71 | 533,40 | 28,58 | 36,51 | 34,93 |
| 20 | 150 | R 72 | 558,80 | 7,94 | 14,29 | 12,70 |
| 20 | 300 to 600 | *R 73 | 584,20 | 12,70 | 19,05 | 17,46 |
| 20 | 900 | *R 74 | 584,20 | 19,05 | 25,40 | 23,81 |
| 20 | 1500 | R 75 | 584,20 | 31,75 | 39,68 | 38,10 |
| 24 | 150 | R 76 | 673,10 | 7,94 | 14,29 | 12,70 |
| 24 | 300 to 600 | R 77 | 692,15 | 15,88 | 22,23 | 20,64 |
| 24 | 900 | R 78 | 692,15 | 25,40 | 33,34 | 31,75 |
| 24 | 1500 | R 79 | 692,15 | 34,92 | 44,45 | 41,28 |
| 22 | 150 | R 80 | 615,95 | 7,93 | - | 12,70 |
| 22 | 300 to 600 | R 81 | 635,00 | 14,28 | - | 19,05 |
| 1 | 10000 | R 82 | 57,15 | 11,11 | - | 15,87 |
| 1½ | 10000 | R 84 | 63,50 | 11,11 | - | 15,87 |
| 2 | 10000 | R 85 | 79,37 | 12,70 | - | 17,46 |
| 2½ | 10000 | R 86 | 90,49 | 15,87 | - | 20,63 |
| 3 | 10000 | R 87 | 100,01 | 15,87 | - | 20,63 |
| 4 | 10000 | R 88 | 123,83 | 19,05 | - | 23,81 |
| 3½ | 10000 | R 89 | 114,30 | 19,05 | - | 23,81 |
| 5 | 10000 | R 90 | 155,58 | 22,22 | - | 26,98 |
| 10 | 10000 | R 91 | 260,35 | 31,75 | - | 38,10 |
| | | R 92 | 228,60 | 11,11 | 17,46 | 15,87 |
| 26 | 300, 400, 600 | R 93 ²⁾ | 749,30 | 19,05 | - | 23,81 |
| 28 | 300, 400, 600 | R 94 ²⁾ | 800,10 | 19,05 | - | 23,81 |
| 30 | 300, 400, 600 | R 95 ²⁾ | 857,25 | 19,05 | - | 23,81 |
| 32 | 300, 400, 600 | R 96 ²⁾ | 914,40 | 22,22 | - | 26,98 |
| 34 | 300, 400, 600 | R 97 ²⁾ | 965,2 | 22,22 | - | 26,98 |
| 36 | 300, 400, 600 | R 98 ²⁾ | 1022,35 | 22,22 | - | 26,98 |
| 8 | 2000, 3000 | R 99 | 234,95 | 11,11 | - | 15,87 |
| 26 | 900 | R 100 ²⁾ | 749,30 | 28,57 | - | 34,92 |
| 28 | 900 | R 101 ²⁾ | 800,10 | 31,75 | - | 38,10 |
| 30 | 900 | R 102 ²⁾ | 857,25 | 31,75 | - | 38,10 |
| 32 | 900 | R 103 ²⁾ | 914,40 | 31,75 | - | 38,10 |
| 34 | 900 | R 104 ²⁾ | 965,20 | 34,92 | - | 41,27 |
| 36 | 900 | R 105 ²⁾ | 1022,35 | 34,92 | - | 41,27 |

- Flanges compliant with the standard not available Dimensions in mm

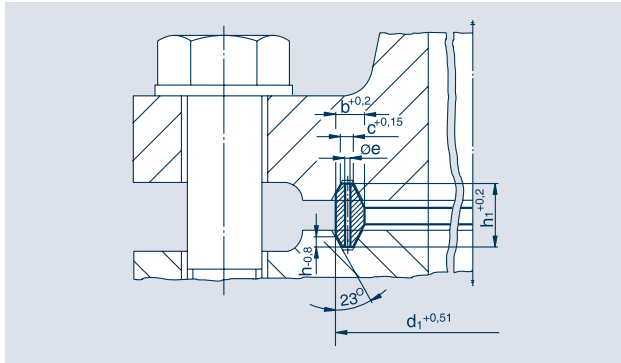
* These rings conform to API standard 6A. The measurements given in mm are converted measurements and will differ marginally from the metric API table.

1) Specify material when placing order

2) Ring for flanges in accordance with ASME B16.47 Series A

RING JOINT GASKETS, TYPE RX

Ring joint gaskets, Type RX, dimensions in accordance with ASME B16.20 and/or API Std 6 A for API 6B flanges



Ordering example for an oval ring joint gasket, Profile A14, NPS 4, Class 3000, made of ...¹⁾:

Ring joint gasket R 37 A14 / 1.4541

Ring joint gaskets, Type RX

| NPS | class | Ring-No. | Ring measurements | | | | | Bore* e |
|-------|------------------|----------|-------------------|-------|-------|----------------|------|------------|
| | | | d ₁ | b | c | h ₁ | h | |
| 1½ | 2000, 3000, 5000 | RX 20 | 76,2 | 8,73 | 4,62 | 19,05 | 3,18 | - |
| 2 | 2000 | RX 23 | 93,27 | 11,91 | 6,45 | 25,4 | 4,24 | - |
| 2 | 3000,5000 | RX 24 | 105,97 | 11,91 | 6,45 | 25,4 | 4,24 | - |
| 3½ | 5000 | RX 25 | 109,54 | 8,73 | 4,62 | 19,05 | 3,18 | - |
| 2½ | 2000 | RX 26 | 111,92 | 11,91 | 6,45 | 25,4 | 3,78 | - |
| 2½ | 3000, 5000 | RX 27 | 118,27 | 11,91 | 6,45 | 25,4 | 4,24 | - |
| 3 | 2000, 3000 | RX 31 | 134,54 | 11,91 | 6,45 | 25,4 | 4,24 | - |
| 3 | 5000 | RX 35 | 147,24 | 11,91 | 6,45 | 25,4 | 4,24 | - |
| 4 | 2000, 3000 | RX 37 | 159,94 | 11,91 | 6,45 | 25,4 | 4,24 | - |
| 4 | 5000 | RX 39 | 172,64 | 11,91 | 6,45 | 25,4 | 4,24 | - |
| 5 | 2000, 3000 | RX 41 | 191,69 | 11,91 | 6,45 | 25,4 | 4,24 | - |
| 5 | 5000 | RX 44 | 204,39 | 11,91 | 6,45 | 25,4 | 4,24 | - |
| 6 | 2000, 3000 | RX 45 | 221,85 | 11,91 | 6,45 | 25,4 | 4,24 | - |
| 6 | 5000 | RX 46 | 222,25 | 13,49 | 6,68 | 28,58 | 4,78 | - |
| 8 | crossover flange | RX 47 | 245,3 | 19,84 | 10,34 | 41,28 | 6,88 | - |
| 8 | 2000, 3000 | RX 49 | 280,59 | 11,91 | 6,45 | 25,4 | 4,24 | - |
| 8 | 5000 | RX 50 | 283,37 | 16,67 | 8,51 | 31,75 | 5,28 | - |
| 10 | 2000, 3000 | RX 53 | 334,57 | 11,91 | 6,45 | 25,4 | 4,24 | - |
| 10 | 5000 | RX 54 | 337,34 | 16,67 | 8,51 | 31,75 | 5,28 | - |
| 12 | 2000, 3000 | RX 57 | 391,72 | 11,91 | 6,45 | 25,4 | 4,24 | - |
| 14 | 5000 | RX 63 | 441,72 | 26,99 | 14,78 | 50,8 | 8,46 | - |
| 16 | 2000 | RX 65 | 480,62 | 11,91 | 6,45 | 25,4 | 4,24 | - |
| 16 | 3000 | RX 66 | 483,39 | 16,67 | 8,51 | 31,75 | 5,28 | - |
| 18 | 2000 | RX 69 | 544,1 | 11,91 | 6,45 | 25,4 | 4,24 | - |
| 18 | 3000 | RX 70 | 550,1 | 19,84 | 10,34 | 41,28 | 6,88 | - |
| 20 | 2000 | RX 73 | 596,1 | 13,49 | 6,68 | 31,75 | 5,28 | - |
| 20 | 3000 | RX 74 | 600,87 | 19,84 | 10,34 | 41,28 | 6,88 | - |
| 1 | 10000 | RX 82 | 67,87 | 11,91 | 6,45 | 25,4 | 4,24 | 1,6 |
| 1½ | 10000 | RX 84 | 74,22 | 11,91 | 6,45 | 25,4 | 4,24 | 1,6 |
| 2 | 10000 | RX 85 | 90,09 | 13,49 | 6,68 | 25,4 | 4,24 | 1,6 |
| 2½ | 10000 | RX 86 | 103,58 | 15,08 | 8,51 | 28,58 | 4,78 | 2,4 |
| 3 | 10000 | RX 87 | 113,11 | 15,08 | 8,51 | 28,58 | 4,78 | 2,4 |
| 4 | 10000 | RX 88 | 139,3 | 17,46 | 10,34 | 31,75 | 5,28 | 3,2 |
| 3½ | 10000 | RX 89 | 129,78 | 18,26 | 10,34 | 31,75 | 5,28 | 3,2 |
| 5 | 10000 | RX 90 | 174,62 | 19,84 | 12,17 | 44,45 | 7,42 | 3,2 |
| 10 | 10000 | RX 91 | 286,94 | 30,16 | 19,81 | 45,24 | 7,54 | 3,2 |
| 8 | 2000, 3000 | RX 99 | 245,67 | 11,91 | 6,45 | 25,4 | 4,24 | - |
| 1¼ | 5000 | RX 201 | 51,46 | 5,74 | 3,2 | 11,3 | 1,45 | - |
| 1¾ | 5000 | RX 205 | 62,31 | 5,56 | 3,05 | 11,1 | 1,83 | - |
| 2½ | 5000 | RX 210 | 97,63 | 9,53 | 5,41 | 19,05 | 3,18 | - |
| 4 | 5000 | RX 215 | 140,89 | 11,91 | 5,33 | 25,4 | 4,24 | - |
| 4x 4¼ | 5000 | RX 215 | 140,89 | 11,91 | 5,33 | 25,4 | 4,24 | - |

- Flanges compliant with the standard not available

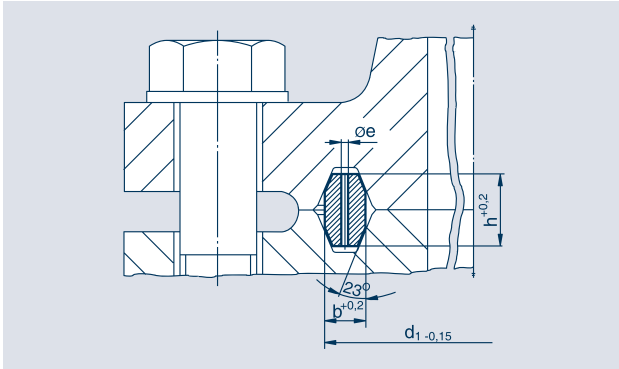
Dimensions in mm

* A compensating bore on the ring circumference.
The compensating bore equalises the pressure in both air chambers.

¹⁾ Specify material when placing order.

RING JOINT GASKET, TYPE RX

Ring joint gasket, Type BX, dimensions in accordance with API Std 6 A for API 6BX flanges



Ordering example for an ring joint gasket, Profile A12, NPS 3 1/16, Class 15000, made of ...¹⁾:

Ring joint gasket BX 154 A12 / 1.4541

Ring joint gaskets, Type BX

| NPS | class | Ring-No. | d_1 | b | h | Bore* e |
|---------|-------------------|----------|--------|-------|-------|------------|
| 1 11/16 | 10000,15000 | BX 150 | 72,19 | 9,30 | 9,30 | 1,6 |
| 1 13/16 | 10000,15000,20000 | BX 151 | 76,40 | 9,63 | 9,63 | 1,6 |
| 2 1/16 | 10000,15000,20000 | BX 152 | 84,68 | 10,24 | 10,25 | 1,6 |
| 2 9/16 | 10000,15000,20000 | BX 153 | 100,94 | 11,38 | 11,38 | 1,6 |
| 3 1/16 | 10000,15000,20000 | BX 154 | 116,84 | 12,40 | 12,40 | 1,6 |
| 4 1/16 | 10000,15000,20000 | BX 155 | 147,96 | 14,22 | 14,22 | 1,6 |
| 7 1/16 | 10000,15000,20000 | BX 156 | 237,92 | 18,62 | 18,62 | 3,2 |
| 9 | 10000,15000 | BX 157 | 294,46 | 20,98 | 20,98 | 3,2 |
| 11 | 10000,15000 | BX 158 | 352,04 | 23,14 | 23,14 | 3,2 |
| 13 5/8 | 10000 | BX 159 | 426,72 | 25,70 | 25,70 | 3,2 |
| 13 5/8 | 5000 | BX 160 | 402,59 | 13,74 | 23,83 | 3,2 |
| 16 3/4 | | BX 161 | 491,41 | 16,20 | 28,07 | 3,2 |
| 16 3/4 | 5000,10000 | BX 162 | 475,49 | 14,22 | 14,22 | 1,6 |
| 18 3/4 | 5000 | BX 163 | 556,16 | 17,37 | 30,10 | 3,2 |
| 18 3/4 | 10000 | BX 164 | 570,56 | 24,59 | 30,10 | 3,2 |
| 21 1/4 | 5000 | BX 165 | 624,71 | 18,49 | 32,03 | 3,2 |
| 21 1/4 | 10000 | BX 166 | 640,03 | 26,14 | 32,03 | 3,2 |
| 26 3/4 | 2000 | BX 167 | 759,36 | 13,11 | 35,86 | 1,6 |
| 26 3/4 | 3000 | BX 168 | 765,25 | 16,05 | 35,86 | 1,6 |
| 5 1/8 | 10000 | BX 169 | 173,52 | 12,93 | 15,84 | 1,6 |
| 9 | | BX 170 | 218,03 | 14,22 | 14,22 | 1,6 |
| 11 | | BX 171 | 267,44 | 14,22 | 14,22 | 1,6 |
| 13 5/8 | | BX 172 | 333,07 | 14,22 | 14,22 | 1,6 |
| 30 | 2000, 3000 | BX 303 | 852,75 | 16,97 | 37,95 | 1,6 |

Dimensions in mm

* A compensating bore on the ring circumference.
The compensating bore equalises the pressure in both air chambers.

¹⁾ Specify material when placing order.