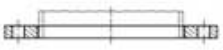


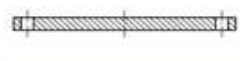
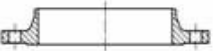

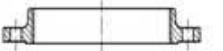
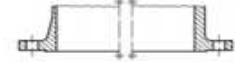


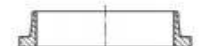
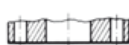

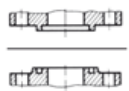
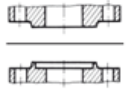
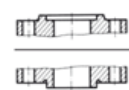




FLANGE TYPES ACCORDING DIN EN 1092-1 (previously DIN)

| | | | |
|---|--|--|--|
| Type 01 | DIN 2573/2576 + 28031 | Type 02 | DIN 2641/42 + 2655/56 |
|  | Flat Flange for welding |  | Lap joint flange for plain collar or butt weld end Type 32, Type 33 |
| Type 04 | DIN 2673 | Type 05 | DIN 2527 |
|  | Lap joint flange for short stub end Type 34 |  | Blind flange |
| Type 11 | DIN 2627 to 2635 | Type 12 | DIN 86029 + 86030 |
|  | Welding neck flange |  | Slip-on flanges with neck |
| Type 13 | DIN 2558/2565-2567 | Type 21 | DIN 2527 |
|  | Threaded flange with neck |  | Integral flange |
| Type 32 | DIN 2641/42 + 2655/56 | Type 33 | DIN 2641 + 2642 |
|  | Plain collar |  | Butt weld end |
| Type 34 | DIN 2673 | | |
|  | Short stub end | | |

SEALING SURFACES

According to DIN EN 1092-1 as machining procedure turning is requested. Turning includes every machining procedure where by concentric or spiral lines will be produced. The radius of the lathe tool should be 1 mm as minimum for forms A, B1, E, F (other without demands)

| OUT-DATED DESIGNATION ACCORDING | | | | | NEW DESIGNATION ACC DIN EN 1092-1 | | |
|--|-----------------------------|---|----------------------------|-----------------------------|-----------------------------------|--------------------------|--|
| Flanges | Standard | Remark | Sealing Surf. | Sealing Surf. | Ra in μm | Rz in μm | |
|  with flat face | DIN 2573/6 | without demands Rz = 160, turned* | Form A Form B | Form A | 3,2 - 12,5 | 12,5 - 50 | |
|  with raised face | DIN 2630 bis DIN 2635 | Rz = 160, turned* Rz = 40, turned* Rz = 16, turned* | Form C Form D Form E | Form B 1 ** Form B 2 *** | 3,2 - 12,5 0,8 - 3,2 | 12,5 - 50 3,2 - 12,5 | |
|  with tongue with groove | DIN 2512 | | Form F Form N | Form C Form D | 0,8 - 3,2 0,8 - 3,2 | 3,2 - 12,5 3,2 - 12,5 | |
|  with male with female | DIN 2513 | | Form V 13 Form R 13 | Form E Form F | 3,2 - 12,5 3,2 - 12,6 | 12,5 - 50 12,5 - 51 | |
|  with female with male | DIN 2514 | for O-rings | Form R 14 Form V 14 | Form G Form H | 0,8 - 3,2 0,8 - 3,3 | 3,2 - 12,5 3,2 - 12,5 | |
|  flanges | DIN 2696 | for lens gaskets | Form L | | | | |
|  flanges | DIN 2695 | for membrane weld gaskets | Form M | | | | |

* not smoother than 40 μm

** usual for PN 2,5 - PN 40

*** B 2 usual for PN 63 a PN 100

DIN/EN, ANSI/ASME STANDARDS

| Standard | Type of gasket | Pressure levels | For flange type: |
|---|---|-------------------------|---|
| ANSI/ASME B 16.5 | Flat gasket Form SR | Class 150 to Class 1500 | ANSI/ASME B16.5 |
| | Flat gasket Form TG | Class 150 to Class 1500 | ANSI/ASME B16.5 |
| | Rubber-steel gasket | Class 150 to Class 300 | ANSI/ASME B16.5 |
| | Grooved gasket | Class 150 to Class 1500 | ANSI/ASME B16.5 tongue/groove |
| | Grooved gasket | Class 150 to Class 1500 | ANSI/ASME B16.5 male/female |
| ASME B 16.20 | Spiral-wound gasket | Class 150 to Class 2500 | ANSI/ASME B16.5 |
| | Jacketed gasket | Class 150 to Class 2500 | ANSI/ASME B16.5 |
| | Spiral-wound gasket | Class 150 to Class 900 | ANSI/ASME B16.47 Series A |
| | Jacketed gasket | Class 150 to Class 900 | ANSI/ASME B16.47 Series A |
| | Spiral-wound gasket | Class 150 to Class 900 | ANSI/ASME B16.47 Series B |
| ASME B 16.21 | Jacketed gasket | Class 150 to Class 900 | ANSI/ASME B16.47 Series B |
| | Flat gasket Form FF | Class 150 to Class 300 | ANSI/ASME B16.5 |
| | Flat gasket Form IBC | Class 150 to Class 900 | ANSI/ASME B16.5 |
| | Flat gasket Form IBC | Class 150 to Class 600 | ANSI/ASME B16.47 Series A |
| ASME B 16.20 API Std 6 A EN 12560-5 | Flat gasket Form IBC | Class 75 to Class 600 | ANSI/ASME B16.47 Series B |
| | Ring Joint Gasket, Type R | | ASME B16.5 |
| | Ring Joint Gasket, Type RX | | ASME B16.47 Series A |
| | Ring Joint Gasket, Type BX | | API 6B API 6BX |
| DIN 2690 | Flat gasket Form IBC | PN 1 to PN 40 | DIN/EN |
| | Rubber-steel gasket | PN 6 to PN 40 | DIN/EN |
| DIN 2691 | Flat gasket Form TG | PN 10 to PN 160 | DIN/EN |
| | Grooved gasket | PN 10 to PN 160 | DIN/EN tongue/groove |
| DIN 2692 | Flat gasket Form SR | PN 10 to PN 100 | DIN/EN |
| | Grooved gasket | PN 10 to PN 100 | DIN/EN male/female face |
| DIN 2695-2000 | Membrane weld ring gasket | PN 63 to PN 400 | DIN/EN |
| | Membrane weld ring gasket | Class 150 to Class 2500 | ANSI/ASME B 16.5 |
| DIN 2695-2002 | Weld ring gasket | | |
| | Profile A22 and A23 | PN 10 to PN 400 | DIN/EN |
| | Weld ring gasket Profile A22 and A23 | Class 150 to Class 2500 | ANSI/ASME B 16.5 |
| DIN 2696 1999-08, Series 1 | Lens gaskets | PN 63 to PN 400 | DIN/EN |
| DIN 2696 1999-08, Series 2 | Lens gaskets | PN 63 to PN 320 | DIN/EN |
| DIN 28040 | Flat gasket | | DIN 28031, 28032, 28034, 28036,28038 |
| DIN 7603 | Flat gasket | | |
| | Jacketed gasket | | DIN 3850, DIN 908, DIN 7601 |
| | Convex gasket | | |
| DIN 82331, Series 1 | Flat gasket Form FF | | DIN 82330 |
| DIN 82331, Series 2 | Flat gasket Form FF | | DIN 82330 |
| DIN 86071 | Flat gasket Form FF | PN 6 to PN 25 | DIN/EN |
| DIN 86072 | Flat gasket Form FF | | DIN/EN |



| | | | |
|------------|--|--|---|
| EN 12560-1 | Flat gasket Form IBC Flat gasket Form SR Flat gasket Form TG | Class 150 to Class 900 Class 300 to Class 900 Class 300 to Class 900 | ANSI/ASME B16.5 ANSI/ASME B16.5 ANSI/ASME B16.5 |
| EN 12560-2 | Spiral-wound gasket | Class 150 to Class 2500 | ANSI/ASME B16.5 |
| EN 12560-4 | Corrugated gasket | Class 150 to Class 2500 | ANSI/ASME B16.5 |
| EN 12560-7 | Jacketed gasket | Class 150 to Class 2500 | ANSI/ASME B16.5 |
| EN 1514-1 | Flat gasket Form FF Flat gasket Form SR | PN 10 to PN 40 PN 10 to PN 40 | DIN/EN DIN/EN |
| EN 1514-1 | Flat gasket Form TG Flat gasket Form IBC | PN 10 to PN 40 PN 2,5 to PN 63 | DIN/EN DIN/EN |
| EN 1514-2 | Spiral-wound gasket | PN 10 to PN 160 | DIN/EN DIN/EN |
| EN 1514-4 | Corrugated gasket | PN 10 to PN 100 | DIN/EN DIN/EN |

GOST STANDARDS

| Standard | Type of gasket | Pressure levels (MPa) | For flange type: |
|---|---------------------------------------|-----------------------|---|
| GOST 15180-86 | Non metallic flexible flat Type A | From 0,1 to 4,0 | GOST 12815-80*, Form 1 |
| GOST 15180-86 | Non metallic flexible flat Type A | From 0,1 to 16,0 | GOST 12815-80, Form 2 and 3 |
| GOST 15180-86 | Non metallic flexible flat Type V | From 0,1 to 16,0 | GOST 12815-80, Form 4 and 5 |
| GOST 15180-86 | Non metallic flexible flat Type G | From 0,1 to 16,0 | GOST 12815-80, Form 8 and 9 |
| GOST 15180-86 | Non metallic flexible flat Type D | From 0,1 to 20,0 | GOST 12815-80, Form 1 and 5 |
| *GOST 12815-80: Flanges for valves, fittings, and pipe lines | | | |
| GOST 28759.6-90 | Non metallic flat gaskets Type 1 | From 0,3 to 1,6 | GOST 28759.2** Form 2-5, 8-10, 12-15 |
| | | From 0,6 to 6,3 | GOST 28759.3-90* Form 1-12 |
| * GOST 28759.3-90: Steel butt welded flanges of vessels and apparatus | | | |
| GOST 28759.6-91 | Non metallic flat gaskets Type 2 | From 0,3 to 6,3 | GOST 28759.2 Form 1, 6, 11 |
| **GOST 28759.2: Steel flat welded flanges of vessels and apparatus | | | |
| GOST 52376-2005 | Spiral-wound gasket Type A | From 0,1 to 16,0 | GOST 12815-80 * Form 2-3 |
| | | From 0,1 to 20,0 | GOST 12815-80 Form 4-5, 8-9 |
| GOST 52376-2005 | Spiral-wound gasket | From 0,1 to 16,0 | GOST 12815-80, Form 2-3 |
| GOST 52376-2005 | Spiral-wound gasket | From 0,1 to 4,0 | GOST 12815-80, Form 1 |
| GOST 52376-2005 | Spiral-wound gasket Type D | From 0,1 to 4,0 | GOST 12815-80, Form 1 |
| *GOST 12815-80: Flanges for valves, fittings, and pipe lines | | | |
| GOST 53561-2009 | Ring Joint Gasket Oval Type | From 6,3 to 20,00 | GOST 12815, Form 7 |
| GOST 53561-2009 | Ring Joint Gasket Octagonal Type | From 6,3 to 20,00 | GOST 12815, Form 7 |
| GOST 53561-2009 | Ring Joint Gasket Lenticular Type | From 6,3 to 20,00 | GOST 12815-80 |
| GOST 28759.8-90 | Metal gasket of Octangular Section | From 6,3 to 16,00 | GOST 28759.4*** |
| ***GOST 28759.4: Still butt welded flanges of vessels and apparatus for gaskets of octangular sections. | | | |