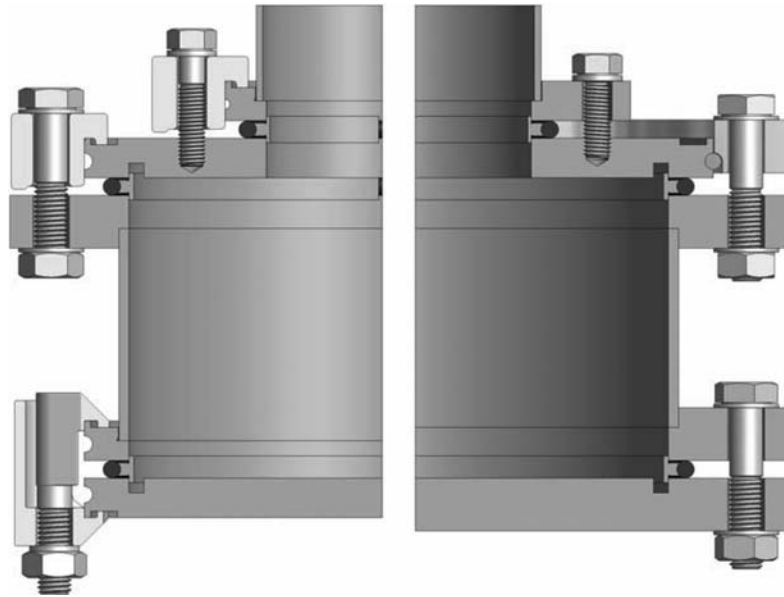


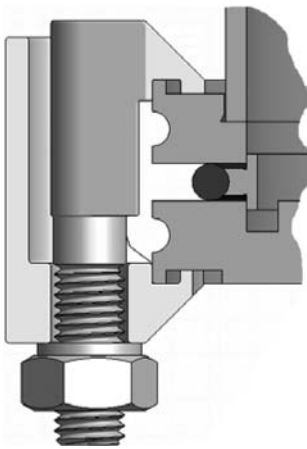
Introduction

The ISO-KF standard for clamp connections (DIN 28404, ISO 1609) is the standard connection for vacuum pipes starting from the nominal diameter DN63 and larger used in fine and high vacuum. The various possibilities of connection between two flanges are shown in the following figures:



Functional principle

Figure 1: Connection with claw clamps



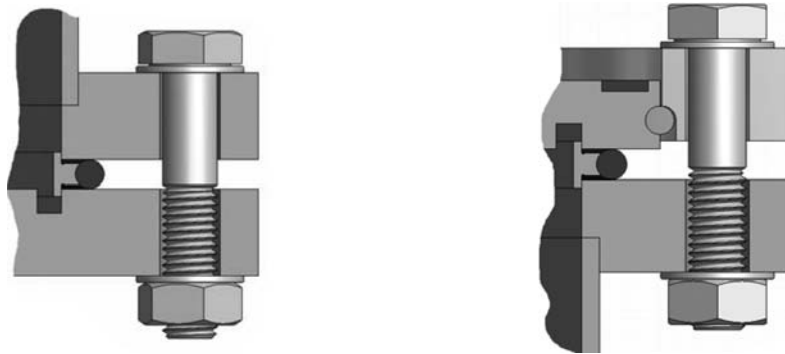
ISO-K: Two single flanges are connected with the help of claw clamps. The flanges have a groove on the back in which the claw clamps are hooked which press the flanges together.

Such as KF connections there is a sealing with centering ring and O-ring between the flanges. Mostly an additional trapped centering ring is used which produces an assembly with constant distance.

Introduction

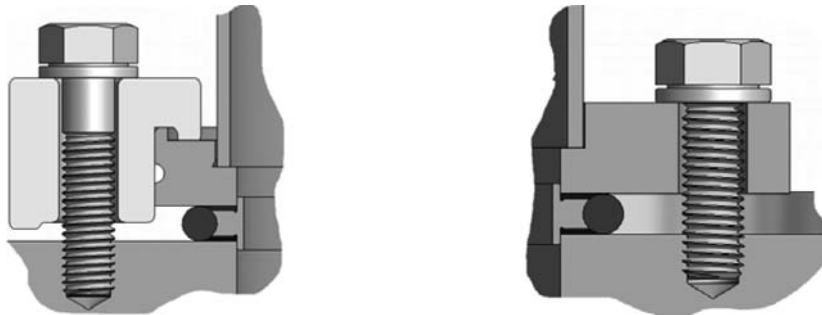
1

Figure 2: Connection with screws



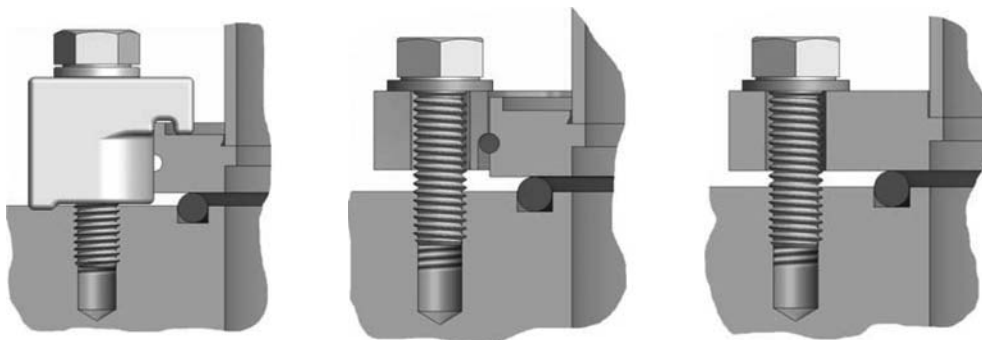
ISO-K flanges with holes are called ISO-F flanges and the sealing is the same as for ISO-K flanges. Both flanges can be easily combined with each other. An ISO-K flange can be transformed into a rotatable ISO-F flange by means of a rotatable bolt ring with retaining ring. Screws hold the flanges together.

Figure 3: Combination ISO-K / ISO-F



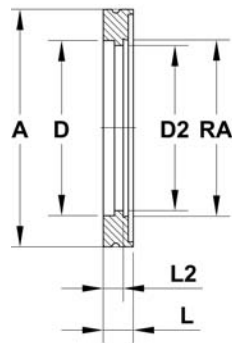
ISO-F flanges are commonly used for wall mounting or with gate valves. An ISO-K flange can be fastened thereon with the help of claw clamps. Claw clamps are available for tapped blind holes as well as for through bolt holes.

Further combination possibilities:

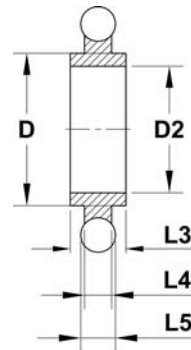


It is possible to dispense with the screws, if the O-ring lies in a groove on the flange. But claw clamps with mated length have to be used in this case.

Introduction



ISO Flange



ISO Centering ring

Dimensions of ISO-K flanges and centering rings

| Nominal diameter | 63 | 80 | 100 | 160 | 200 | 250 | 320 | 400 | 500 | 630 |
|-----------------------|---------|---------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|
| A | 95 | 110 | 130 | 180 | 240 | 290 | 370 | 450 | 550 | 690 |
| D | 70 | 83 | 102 | 153 | 213 | 261 | 318 | 400 | 501 | 651 |
| D2 | 66 / 70 | 81 / 83 | 100 / 102 | 150 / 153 | 200 / 213 | 250 / 261 | 318 | 400 | 501 | 651 |
| RA | 70 / 76 | 85 / 89 | 104 / 108 | 154 / 159 | 204 / 219 | 254 / 267 | 324 | 406 | 508 | 660 |
| L | 12 | 12 | 12 | 12 | 12 | 12 | 17 | 17 | 17 | 22 |
| L2 | 8 / 6 | 8 / 6 | 8 / 6 | 8 / 6 | 8 / 6 | 8 / 6 | 10 | 10 | 10 | 15 |
| L3 | 8 | 8 | 8 | 8 | 8 | 8 | 14 | 14 | 14 | 14 |
| L4 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 5.6 | 5.6 | 5.6 | 5.6 |
| L5 | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | 7 | 7 | 7 | 7 |
| Number of clamps | 4 | 4 | 4 | 4 | 6 | 6 | 8 | 8 | 12 | 12 |
| Number of claw clamps | 4 | 8 | 8 | 8 | 12 | 12 | 12 | 16 | 16 | 20 |
| Claw clamp size | M8 x 35 | M8 x 35 | M8 x 35 | M10 x 40 | M10 x 40 | M10 x 40 | M12 x 50 | M12 x 50 | M12 x 50 | M12 x 55 |
| Number of screws | 4 | 8 | 8 | 8 | 12 | 12 | 12 | 16 | 16 | 20 |
| Screw size | M8 x 40 | M8 x 40 | M8 x 40 | M10 x 50 | M10 x 50 | M10 x 50 | M12 x 60 | M12 x 60 | M12 x 60 | M12 x 70 |

Materials

| Sealing | Flange | Components |
|---|----------------------|-----------------------|
| NBR (O-ring) | stainless steel 304 | stainless steel 304 |
| FKM (O-ring) | stainless steel 316L | stainless steel 304L |
| aluminium (edge sealing) | | stainless steel 316L |
| aluminium (centering ring / trapped centering ring) | | stainless steel 321 |
| stainless steel 304 (centering ring) | | stainless steel 316Ti |

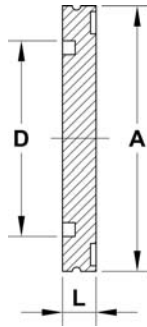
Fields of application

| Materials Components and sealings | Pressure range (mbar - bar) | Leak rate (mbar l / s) | Recommended connecting element |
|--|-----------------------------|------------------------|-------------------------------------|
| Stainless steel with elastomer sealing | 1.0E-7 - 1.5 | 1.0E-9 | with claw clamp or wall clamp |
| Stainless steel with metal sealing | 1.0E-9 - 1.5 | < 1.0E-9 | with chain clamp or ISO-F with nuts |

ISO Flanges

1

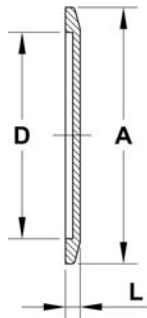
ISO-K Claw clamp blank flanges, stainless steel



| Order code | | DN | A | D | L |
|---------------|-----------------|-----|-----|-----|----|
| St. steel 304 | St. steel 316L* | | | | |
| ISO63BK-304 | ISO63BK-316 | 63 | 95 | 70 | 12 |
| ISO80BK-304 | ISO80BK-316 | 80 | 110 | 83 | 12 |
| ISO100BK-304 | ISO100BK-316 | 100 | 130 | 102 | 12 |
| ISO160BK-304 | ISO160BK-316 | 160 | 180 | 153 | 12 |
| ISO200BK-304 | ISO200BK-316 | 200 | 240 | 213 | 12 |
| ISO250BK-304 | ISO250BK-316 | 250 | 290 | 261 | 12 |
| ISO320BK-304 | ISO320BK-316 | 320 | 370 | 318 | 17 |

* For clean room compatible packaging please add "-CRP" to the order code

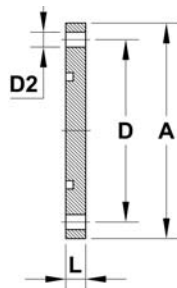
ISO Blank flanges, conical, stainless steel



| Order code | DN | A | D | L |
|-------------|-----|-----|-----|----|
| KF63BS-304 | 63 | 87 | 70 | 5 |
| KF80BS-304 | 80 | 114 | 83 | 12 |
| KF100BS-304 | 100 | 134 | 102 | 12 |

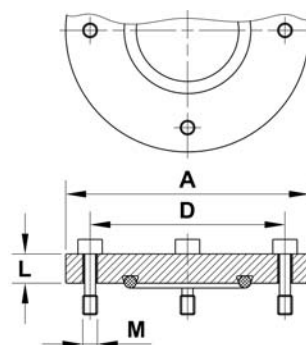
- Mountable with ISO clamp chains

ISO-F Blank flanges, stainless steel



| Order code | DN | A | D | D2 | L |
|---------------|-----|-----|-----|----|----|
| ISO63FBK-304 | 63 | 130 | 110 | 9 | 12 |
| ISO80FBK-304 | 80 | 145 | 125 | 9 | 12 |
| ISO100FBK-304 | 100 | 165 | 145 | 9 | 12 |
| ISO160FBK-304 | 160 | 225 | 200 | 11 | 16 |
| ISO200FBK-304 | 200 | 285 | 260 | 11 | 16 |
| ISO250FBK-304 | 250 | 335 | 310 | 11 | 16 |
| ISO320FBK-304 | 320 | 425 | 395 | 14 | 20 |

ISO-F Chamber flanges, stainless steel



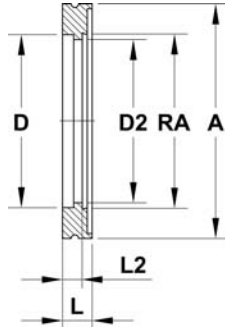
Technical data

- Flange stainless steel 1.4404
- O-ring FKM
- Bolts DIN 7964KE, A2
- Temperature range -10 °C to 150 °C
- Application wall mounting

| Order code | DN | A | D | L | M |
|----------------|-----|-----|-----|----|-----|
| ISOF40KAM-316 | 40 | 100 | 80 | 12 | M6 |
| ISOF63KAM-316 | 63 | 130 | 110 | 12 | M8 |
| ISOF100KAM-316 | 100 | 165 | 145 | 12 | M8 |
| ISOF160KAM-316 | 160 | 225 | 200 | 12 | M10 |

ISO Flanges

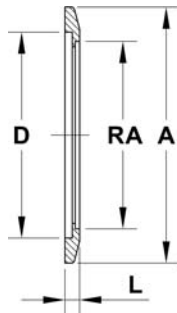
ISO-K Claw clamp bored flanges, stainless steel



| Order code | | DN | A | D | D2 | RA | L | L2 |
|---------------------|----------------------|-----|-----|-----|-----|-----|----|----|
| Stainless steel 304 | Stainless steel 316L | | | | | | | |
| ISO63B70-304 | ISO63B70-316 | 63 | 95 | 70 | 66 | 70 | 12 | 8 |
| ISO63B76-304 | ISO63B76-316 | 63 | 95 | 70 | 70 | 76 | 12 | 6 |
| ISO80B85-304 | ISO80B85-316 | 80 | 110 | 83 | 81 | 85 | 12 | 8 |
| ISO80B89-304 | ISO80B89-316 | 80 | 110 | 83 | 83 | 89 | 12 | 6 |
| ISO100B104-304 | ISO100B104-316 | 100 | 130 | 102 | 100 | 104 | 12 | 8 |
| ISO100B108-304 | ISO100B108-316 | 100 | 130 | 102 | 102 | 108 | 12 | 6 |
| ISO160B154-304 | ISO160B154-316 | 160 | 180 | 153 | 151 | 154 | 12 | 8 |
| ISO160B159-304 | ISO160B159-316 | 160 | 180 | 153 | 153 | 159 | 12 | 6 |
| ISO200B204-304 | ISO200B204-316 | 200 | 240 | 213 | 200 | 204 | 12 | 8 |
| ISO200B219-304 | ISO200B219-316 | 200 | 240 | 213 | 213 | 219 | 12 | 6 |
| ISO250B254-304 | ISO250B254-316 | 250 | 290 | 261 | 250 | 254 | 12 | 8 |
| ISO250B267-304 | ISO250B267-316 | 250 | 290 | 261 | 261 | 267 | 12 | 6 |
| ISO320B324-304 | ISO320B324-316 | 320 | 370 | 318 | 318 | 324 | 17 | 10 |

* For clean room compatible packaging please add "-CRP" to the order code

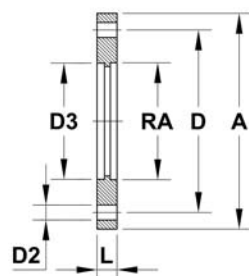
ISO Bored flanges, conical, stainless steel



| Order code | DN | A | D | RA | L |
|---------------|-----|-----|-----|-----|----|
| KF63B63-304 | 63 | 87 | 70 | 63 | 5 |
| KF80B76-304 | 80 | 114 | 83 | 76 | 12 |
| KF100B102-304 | 100 | 134 | 102 | 102 | 12 |

- Mountable with ISO clamp chains

ISO-F Bored flanges, stainless steel

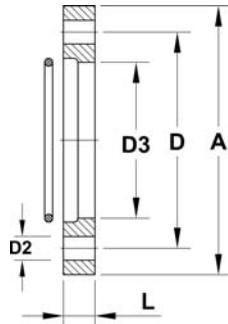


| Order code | DN | A | D | D2 | D3 | L | RA |
|----------------|-----|-----|-----|----|-----|----|-----|
| ISO63F70-304 | 63 | 130 | 110 | 9 | 70 | 12 | 70 |
| ISO80F85-304 | 80 | 145 | 125 | 9 | 83 | 12 | 85 |
| ISO100F104-304 | 100 | 165 | 145 | 9 | 102 | 12 | 104 |
| ISO160F154-304 | 160 | 225 | 200 | 11 | 153 | 16 | 154 |
| ISO200F204-304 | 200 | 285 | 260 | 11 | 213 | 16 | 204 |
| ISO250F254-304 | 250 | 335 | 310 | 11 | 261 | 16 | 254 |
| ISO320F324-304 | 320 | 425 | 395 | 14 | 318 | 20 | 324 |

ISO Flanges

1

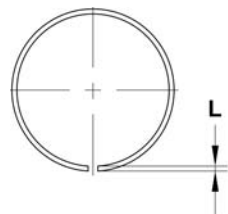
ISO Rotatable bolt rings with retaining ring, steel, nickel plated



| Order code | DN | A | D | D2 | D3 | L | Number of holes |
|------------|-----|-----|-----|----|-----|----|-----------------|
| ISO63R | 63 | 130 | 110 | 9 | 95 | 12 | 4 |
| ISO80R | 80 | 145 | 125 | 9 | 110 | 12 | 8 |
| ISO100R | 100 | 165 | 145 | 9 | 130 | 12 | 8 |
| ISO160R | 160 | 225 | 200 | 11 | 180 | 16 | 8 |
| ISO200R | 200 | 285 | 260 | 11 | 240 | 16 | 12 |
| ISO250R | 250 | 335 | 310 | 11 | 290 | 16 | 12 |
| ISO320R | 320 | 425 | 395 | 14 | 371 | 20 | 12 |

- For clean room compatible packaging please add "-CRP" to the order code

ISO Replacement retaining rings for rotatable bolt rings



| Order code | L | Accessories for |
|------------|---|-----------------|
| ISO63RR | 3 | ISO63R |
| ISO80RR | 3 | ISO80R |
| ISO100RR | 3 | ISO100R |
| ISO160RR | 5 | ISO160R |
| ISO200RR | 5 | ISO200R |
| ISO250RR | 5 | ISO250R |
| ISO320RR | 5 | ISO320R |

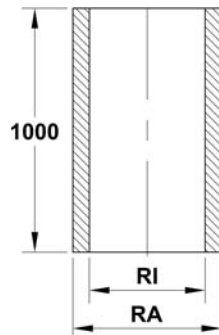
ISO Flange caps, plastics



| Order code | DN | Pack size |
|------------|-----|-----------|
| ISO63CAP | 63 | 10 |
| ISO100CAP | 100 | 10 |
| ISO160CAP | 160 | 10 |
| ISO200CAP | 200 | 1 |
| ISO250CAP | 250 | 1 |

ISO Fittings

ISO Tube, 1 m length, stainless steel

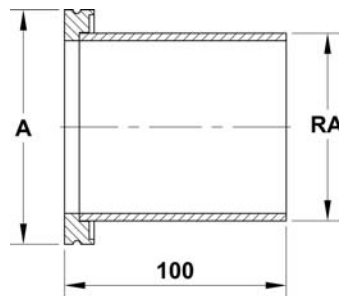


Technical data

- Lengthwise welded
- Outside and inside etched
- DIN 11850
- Ra < 0.8 μm
- Ra (welding seam area) < 1.6 μm

| Order code | | DN | RI | RA |
|----------------|----------------|-----|-----|-----|
| St. steel 304 | St. steel 316L | | | |
| R304-70x2.0-1 | R316-70x2.0-1 | 63 | 66 | 70 |
| R304-85x2.0-1 | R316-85x2.0-1 | 80 | 81 | 85 |
| R304-104x2.0-1 | R316-104x2.0-1 | 100 | 100 | 104 |
| R304-154x2.0-1 | R316-154x2.0-1 | 160 | 150 | 154 |
| R304-204x2.0-1 | R316-204x2.0-1 | 200 | 200 | 204 |

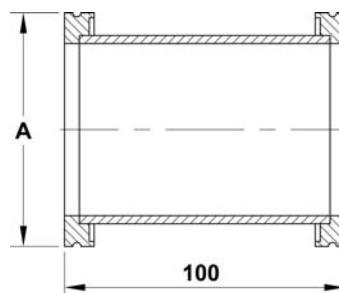
ISO-K Claw clamp tubulations (half nipples), stainless steel



| Order code | DN | A | RA |
|------------------|-----|-----|-----|
| ISO63TU | 63 | 95 | 76 |
| ISO63TU-70 | 63 | 95 | 70 |
| ISO80TU | 80 | 110 | 89 |
| ISO80TU-85 | 80 | 110 | 85 |
| ISO100TU-316 | 100 | 130 | 108 |
| ISO100TU-104-316 | 100 | 130 | 104 |
| ISO160TU | 160 | 180 | 159 |
| ISO160TU-154 | 160 | 180 | 154 |
| ISO200TU | 200 | 240 | 219 |
| ISO200TU-204 | 200 | 240 | 204 |
| ISO250TU | 250 | 290 | 267 |
| ISO250TU-254 | 250 | 290 | 254 |
| ISO320TU | 320 | 370 | 324 |

- For clean room compatible packaging please add "-CRP" to the order code

ISO-K Straight connectors (full nipples), stainless steel



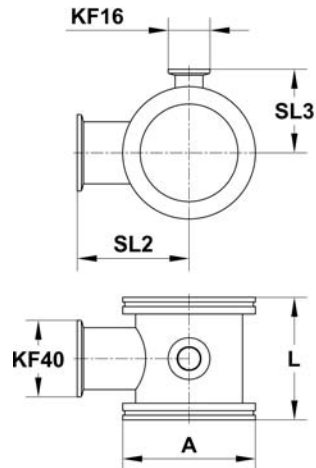
| Order code | DN | A |
|------------|-----|-----|
| ISO63SC | 63 | 95 |
| ISO80SC | 80 | 110 |
| ISO100SC | 100 | 130 |
| ISO160SC | 160 | 180 |
| ISO200SC | 200 | 240 |
| ISO250SC | 250 | 290 |

- For clean room compatible packaging please add "-CRP" to the order code

ISO Fittings

1

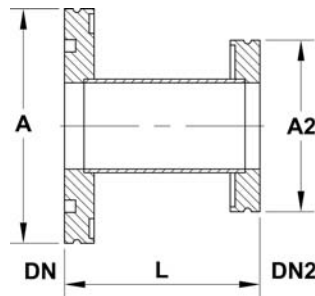
ISO-K Straight connectors with lateral KF ports, stainless steel



| Order code | DN | A | SL2 | SL3 | L |
|---------------|-----|-----|-----|-----|-----|
| ISO63SC4016K | 63 | 95 | 80 | 60 | 88 |
| ISO100SC4016K | 100 | 130 | 75 | 75 | 108 |
| ISO160SC4016K | 160 | 180 | 100 | 100 | 138 |

- For clean room compatible packaging please add "-CRP" to the order code

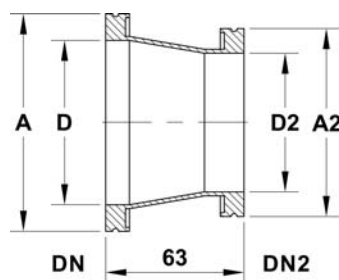
ISO-K Tubulated reducing adapters, stainless steel



| Order code | | DN | DN2 | A | A2 | L |
|---------------------|-----------------------|-----|-----|-----|-----|----|
| Stainless steel 304 | Stainless steel 316L* | | | | | |
| ISO100R63-304 | ISO100R63-316 | 100 | 63 | 130 | 95 | 50 |
| ISO160R63-304 | ISO160R63-316 | 160 | 63 | 180 | 95 | 50 |
| ISO160R100-304 | ISO160R100-316 | 160 | 100 | 180 | 130 | 50 |
| ISO200R100-304 | ISO200R100-316 | 200 | 100 | 240 | 130 | 90 |
| ISO250R100-304 | ISO250R100-316 | 250 | 100 | 290 | 130 | 90 |

* For clean room compatible packaging please add "-CRP" to the order code

ISO-K Tubulated reducing adapters, conical, stainless steel

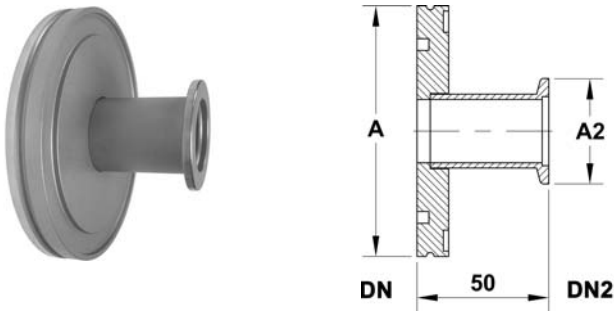


| Order code | DN | DN2 | A | A2 | D | D2 |
|---------------|-----|-----|-----|-----|-----|-----|
| ISO80R63/CO | 80 | 63 | 110 | 95 | 83 | 70 |
| ISO100R63/CO | 100 | 63 | 130 | 95 | 102 | 70 |
| ISO100R80/CO | 100 | 80 | 130 | 110 | 102 | 83 |
| ISO160R63/CO | 160 | 63 | 180 | 95 | 153 | 70 |
| ISO160R100/CO | 160 | 100 | 180 | 130 | 153 | 102 |

- For clean room compatible packaging please add "-CRP" to the order code

ISO Fittings

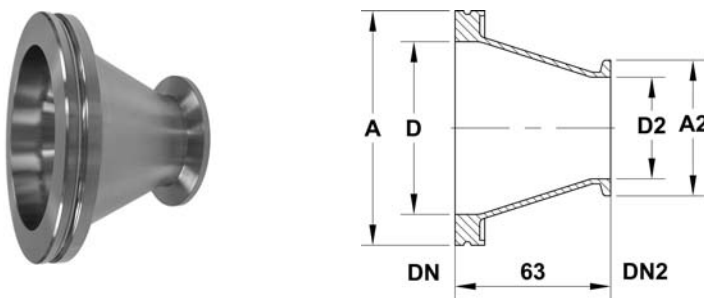
ISO-K to KF Adapters, stainless steel



| Order code | | DN | DN2 | A | A2 |
|---------------|-----------------|-----|-----|-----|----|
| St. steel 304 | St. steel 316L* | | | | |
| SK6325-304 | SK6325-316 | 63 | 25 | 95 | 40 |
| SK6340-304 | SK6340-316 | 63 | 40 | 95 | 55 |
| SK6350-304 | SK6350-316 | 63 | 50 | 95 | 75 |
| SK1040-304 | SK1040-316 | 100 | 40 | 130 | 55 |

* For clean room compatible packaging please add "-CRP" to the order code

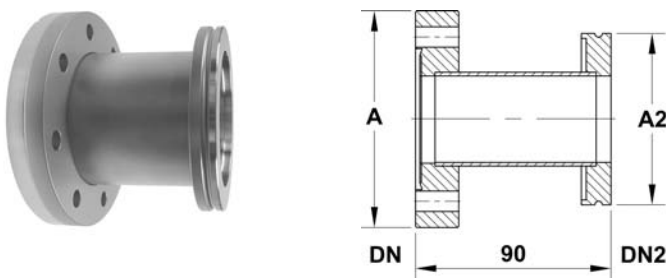
ISO-K to KF Adapters, conical, stainless steel



| Order code | DN | DN2 | A | A2 | D | D2 |
|------------|-----|-----|-----|----|-----|----|
| SK6340/CO | 63 | 40 | 95 | 55 | 70 | 41 |
| SK6350/CO | 63 | 50 | 95 | 75 | 70 | 52 |
| SK8040/CO | 80 | 40 | 95 | 55 | 83 | 41 |
| SK8050/CO | 80 | 50 | 95 | 75 | 83 | 52 |
| SK1040/CO | 100 | 40 | 130 | 55 | 102 | 41 |
| SK1050/CO | 100 | 50 | 130 | 75 | 102 | 52 |

• For clean room compatible packaging please add "-CRP" to the order code

ISO-K to CF Adapters, stainless steel



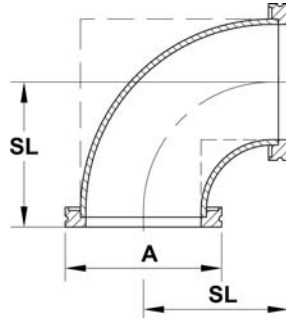
| Order code | DN | DN2 | A | A2 |
|------------|-----|-----|-----|-----|
| SA6363 | 63 | 63 | 114 | 95 |
| SA1063 | 100 | 63 | 152 | 95 |
| SA1010 | 100 | 100 | 152 | 130 |
| SA1510 | 150 | 100 | 203 | 130 |
| SA1516 | 150 | 160 | 203 | 180 |

• For clean room compatible packaging please add "-CRP" to the order code

ISO Fittings

1

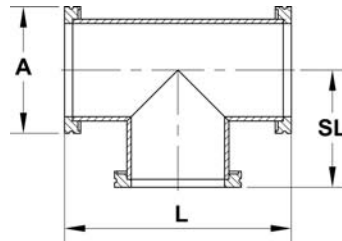
ISO-K Elbows 90°, stainless steel



| Order code | | DN | A | SL | Form |
|---------------------|-----------------------|-----|-----|-----|--------|
| Stainless steel 304 | Stainless steel 316L* | | | | |
| ISO63E-304 | ISO63E-316 | 63 | 95 | 88 | swept |
| ISO80E-304 | ISO80E-316 | 80 | 110 | 98 | swept |
| ISO100E-304 | ISO100E-316 | 100 | 130 | 108 | swept |
| ISO160E-304 | ISO160E-316 | 160 | 180 | 138 | mitred |
| ISO200E-304 | ISO200E-316 | 200 | 240 | 178 | mitred |

* For clean room compatible packaging please add "-CRP" to the order code

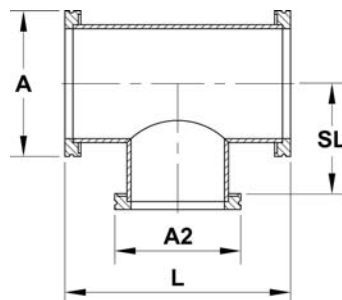
ISO-K Tees, stainless steel



| Order code | | DN | A | L | SL |
|---------------|-----------------|-----|-----|-----|-----|
| St. steel 304 | St. steel 316L* | | | | |
| ISO63TE-304 | ISO63TE-316 | 63 | 95 | 176 | 88 |
| ISO80TE-304 | ISO80TE-316 | 80 | 110 | 196 | 98 |
| ISO100TE-304 | ISO100TE-316 | 100 | 130 | 216 | 108 |
| ISO160TE-304 | ISO160TE-316 | 160 | 180 | 276 | 138 |
| ISO200TE-304 | ISO200TE-316 | 200 | 240 | 356 | 178 |

* For clean room compatible packaging please add "-CRP" to the order code

ISO-K Unequal tees, stainless steel

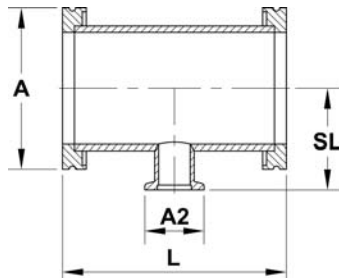


| Order code | | DN | DN2 | A | A2 | L | SL |
|---------------------|-----------------------|-----|-----|-----|-----|-----|-----|
| Stainless steel 304 | Stainless steel 316L* | | | | | | |
| ISO100TE63-304 | ISO100TE63-316 | 100 | 63 | 130 | 95 | 216 | 107 |
| ISO160TE63-304 | ISO160TE63-316 | 160 | 63 | 180 | 95 | 276 | 130 |
| ISO160TE100-304 | ISO160TE100-316 | 160 | 100 | 180 | 130 | 276 | 131 |

* For clean room compatible packaging please add "-CRP" to the order code

ISO Fittings

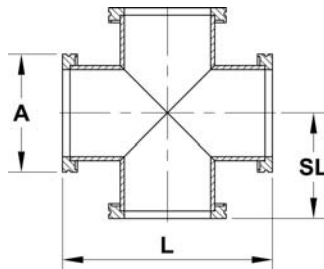
ISO-K to KF Reducing tees, stainless steel



| Order code | | DN | DN2 | A | A2 | L | SL |
|---------------------|-----------------------|-----|-----|-----|----|-----|-----|
| Stainless steel 304 | Stainless steel 316L* | | | | | | |
| ISO63TE25-304 | ISO63TE25-316 | 63 | 25 | 95 | 40 | 204 | 79 |
| ISO63TE40-304 | ISO63TE40-316 | 63 | 40 | 95 | 55 | 204 | 76 |
| ISO100TE40-304 | ISO100TE40-316 | 100 | 40 | 130 | 75 | 260 | 111 |

* For clean room compatible packaging please add "-CRP" to the order code

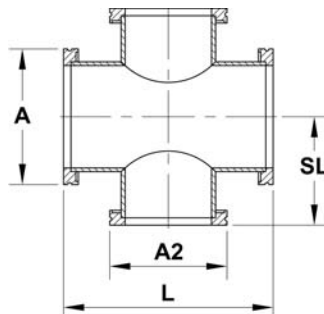
ISO-K 4-way crosses, stainless steel



| Order code | | DN | A | L | SL |
|---------------|-----------------|-----|-----|-----|-----|
| St. steel 304 | St. steel 316L* | | | | |
| ISO63X-304 | ISO63X-316 | 63 | 95 | 176 | 88 |
| ISO80X-304 | ISO80X-316 | 80 | 110 | 196 | 98 |
| ISO100X-304 | ISO100X-316 | 100 | 130 | 216 | 108 |
| ISO160X-304 | ISO160X-316 | 160 | 180 | 276 | 138 |
| ISO200X-304 | ISO200X-316 | 200 | 240 | 356 | 178 |

* For clean room compatible packaging please add "-CRP" to the order code

ISO-K Unequal 4-way crosses, stainless steel



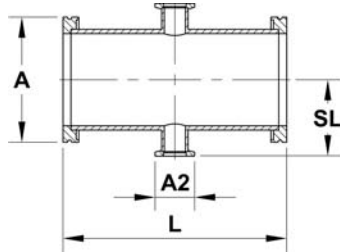
| Order code | | DN | DN2 | A | A2 | L | SL |
|---------------------|-----------------------|-----|-----|-----|-----|-----|-----|
| Stainless steel 304 | Stainless steel 316L* | | | | | | |
| ISO100X63-304 | ISO100X63-316 | 100 | 63 | 130 | 95 | 114 | 108 |
| ISO160X63-304 | ISO160X63-316 | 160 | 63 | 180 | 95 | 260 | 138 |
| ISO160X100-304 | ISO160X100-316 | 160 | 100 | 180 | 130 | 262 | 138 |

* For clean room compatible packaging please add "-CRP" to the order code

ISO Fittings

1

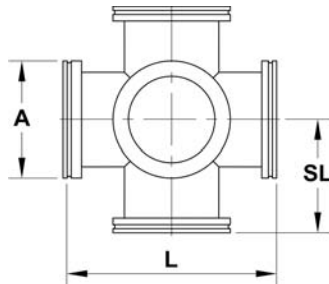
ISO-K to KF Reducing crosses, stainless steel



| Order code | | DN | DN2 | A | A2 | L | SL |
|---------------------|-----------------------|-----|-----|-----|----|-----|----|
| Stainless steel 304 | Stainless steel 316L* | | | | | | |
| ISO63X25-304 | ISO63X25-316 | 63 | 25 | 95 | 40 | 204 | 58 |
| ISO63X40-304 | ISO63X40-316 | 63 | 40 | 95 | 55 | 204 | 76 |
| ISO100X40-304 | ISO100X40-316 | 100 | 40 | 130 | 55 | 260 | 95 |

* For clean room compatible packaging please add "-CRP" to the order code

ISO-K 6-way crosses, stainless steel

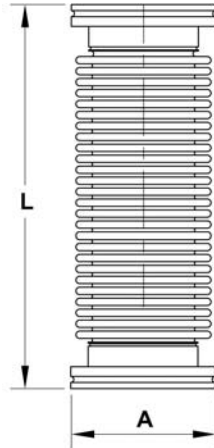


| Order code | DN | A | L | SL |
|------------|-----|-----|-----|-----|
| ISO63XX | 63 | 95 | 176 | 88 |
| ISO80XX | 80 | 110 | 196 | 98 |
| ISO100XX | 100 | 130 | 216 | 108 |
| ISO160XX | 160 | 180 | 276 | 138 |
| ISO200XX | 200 | 240 | 356 | 178 |

- For clean room compatible packaging please add "-CRP" to the order code

ISO Flexible Hoses

ISO-K Flexible hoses, stainless steel



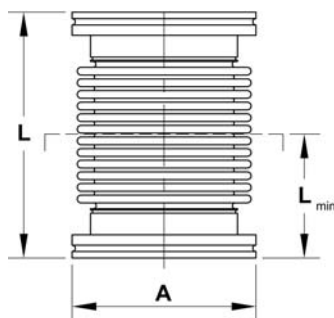
Technical data

| | |
|--------------------|--------|
| ■ Flange material | 1.4301 |
| ■ Bellows material | 1.4404 |

| Order code | DN | A | L |
|-------------|-----|-----|------|
| ISO63FX25 | 63 | 95 | 250 |
| ISO63FX50 | 63 | 95 | 500 |
| ISO63FX75 | 63 | 95 | 750 |
| ISO63FX100 | 63 | 95 | 1000 |
| ISO80FX25 | 80 | 110 | 250 |
| ISO80FX50 | 80 | 110 | 500 |
| ISO80FX75 | 80 | 110 | 750 |
| ISO80FX100 | 80 | 110 | 1000 |
| ISO100FX25 | 100 | 130 | 250 |
| ISO100FX50 | 100 | 130 | 500 |
| ISO100FX75 | 100 | 130 | 750 |
| ISO100FX100 | 100 | 130 | 1000 |
| ISO160FX25 | 160 | 180 | 250 |
| ISO160FX50 | 160 | 180 | 500 |
| ISO160FX75 | 160 | 180 | 750 |
| ISO160FX100 | 160 | 180 | 1000 |

- For clean room compatible packaging please add "-CRP" to the order code

ISO-K Hydroformed bellows connectors, stainless steel



Technical data

| | |
|--------------------|----------------------|
| ■ Flange material | 1.4301 |
| ■ Bellows material | 1.4404 |
| ■ Tolerances | $L \pm 3 \text{ mm}$ |

| Order code | DN | A | L _{min} | L |
|---------------|-----|-----|------------------|-----|
| ISO63FXB-304 | 63 | 95 | 112 | 130 |
| ISO80FXB | 80 | 110 | 112 | 130 |
| ISO100FXB-304 | 100 | 130 | 112 | 130 |
| ISO160FXB | 160 | 180 | 192 | 220 |
| ISO200FXB | 200 | 240 | 180 | 200 |
| ISO250FXB | 250 | 290 | 180 | 200 |

- For clean room compatible packaging please add "-CRP" to the order code

ISO Seals

1

ISO O-rings, elastomer



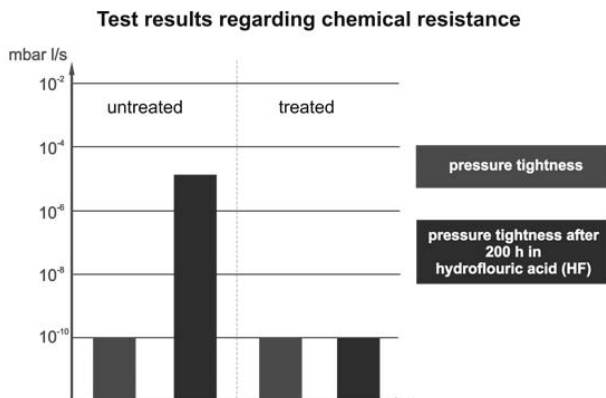
Technical data

- Temperature range: -10 °C to 150 °C (intermittent to 200 °C)

| Order code | | DN | D | L |
|--------------|-------------------|-----|-----|-----|
| FKM treated | FKM vacuum baked* | | | |
| ISO63VR-BEH | ISO63VR-VB | 63 | 76 | 5.3 |
| ISO80VR-BEH | ISO80VR-VB | 80 | 88 | 5.3 |
| ISO100VR-BEH | ISO100VR-VB | 100 | 107 | 5.3 |
| ISO160VR-BEH | ISO160VR-VB | 160 | 158 | 5.3 |
| ISO200VR-BEH | ISO200VR-VB | 200 | 209 | 5.3 |
| ISO250VR-BEH | ISO250VR-VB | 250 | 253 | 5.3 |
| ISO320VR-BEH | ISO320VR-VB | 320 | 330 | 7 |

* For clean room compatible packaging please add "-CRP" to the order code

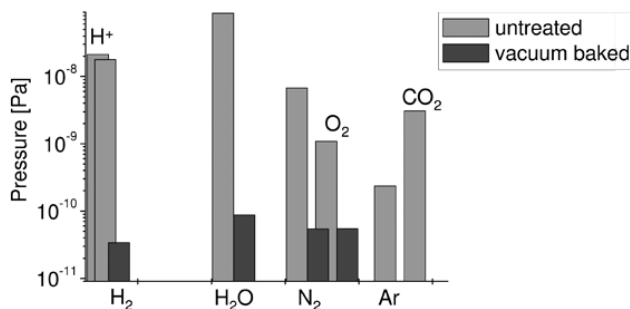
Chemically resistant ISO O-rings, treated FKM



The commonly used elastomer seals suffer irreversible damage in corrosive environments and have a short life cycle. Therefore VACOM developed a procedure which considerably raises the durability of FKM O-rings used in aggressive processes. The procedure involves the pores of FKM so that corrosive liquids and gases cannot directly penetrate the O-ring structure.

The significant reduction in contact surface enables a considerable increase in resistance to reactive substances. Fields of application: Fore vacuum, exhaust pipes and all kinds of processes involving aggressive gases and liquids.

Vacuum baked ISO O-rings

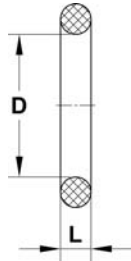


The rate between the residual gas contamination and the pumping speed has to be considered in order to provide an ultrapure vacuum. The desorption of water molecules from the O-ring contaminates the vacuum and causes higher pumping speeds. O-ring particles can disturb delicate vacuum processes.

A considerable particle reduction and low outgassing rates can be achieved by our special treatment of the O-rings. The spectrum inspection shows that our treatment of the O-rings enables a significant reduction in water content and volatile elements.

ISO Seals

ISO O-rings, elastomer



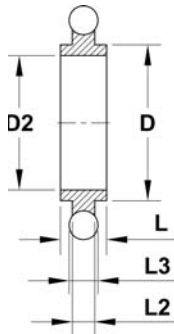
Technical data

- Temperature range NBR -10 °C to 100 °C
- Temperature range FKM -10 °C to 150 °C (intermittent 200 °C)

| Order code | | DN | D | L |
|------------|----------|-----|-----|-----|
| NBR | FKM | | | |
| ISO63NR | ISO63VR | 63 | 76 | 5.3 |
| ISO80NR | ISO80VR | 80 | 88 | 5.3 |
| ISO100NR | ISO100VR | 100 | 107 | 5.3 |
| ISO160NR | ISO160VR | 160 | 158 | 5.3 |
| ISO200NR | ISO200VR | 200 | 209 | 5.3 |
| ISO250NR | ISO250VR | 250 | 253 | 5.3 |
| ISO320NR | ISO320VR | 320 | 330 | 7 |

* For clean room compatible packaging please add "-CRP" to the order code

ISO Centering rings, NBR



Technical data

- Temperature range -10 °C to 100 °C

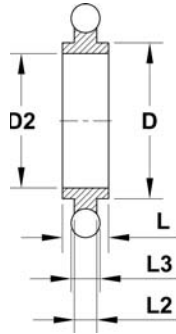
| Order code | | DN | D | D2 | L | L2 | L3 |
|------------|-----------------|-----|-----|-----|----|-----|-----|
| Aluminium | Stainless steel | | | | | | |
| ISO63ANCR | ISO63SNCR | 63 | 70 | 68 | 8 | 3.9 | 5.3 |
| ISO80ANCR | ISO80SNCR | 80 | 83 | 81 | 8 | 3.9 | 5.3 |
| ISO100ANCR | ISO100SNCR | 100 | 102 | 100 | 8 | 3.9 | 5.3 |
| ISO160ANCR | ISO160SNCR | 160 | 153 | 150 | 8 | 3.9 | 5.3 |
| ISO200ANCR | ISO200SNCR | 200 | 213 | 210 | 8 | 3.9 | 5.3 |
| ISO250ANCR | ISO250SNCR | 250 | 261 | 258 | 8 | 3.9 | 5.3 |
| ISO320ANCR | ISO320SNCR | 320 | 318 | 315 | 14 | 5.6 | 7 |

- Larger nominal widths on request

ISO Seals

1

ISO Centering rings, FKM



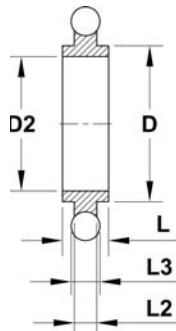
Technical data

- Temperature range -10 °C to 150 °C (intermittent 200 °C)
- Option vacuum baked or with improved chemical resistance (see page 1-44)

| Order code | | DN | D | D2 | L | L2 | L3 |
|------------|---------------------|-----|-----|-----|----|-----|-----|
| Aluminium | Stainless steel 304 | | | | | | |
| ISO63AVCR | ISO63SVCR-304 | 63 | 70 | 68 | 8 | 3.9 | 5.3 |
| ISO80AVCR | ISO80SVCR-304 | 80 | 83 | 81 | 8 | 3.9 | 5.3 |
| ISO100AVCR | ISO100SVCR-304 | 100 | 102 | 100 | 8 | 3.9 | 5.3 |
| ISO160AVCR | ISO160SVCR-304 | 160 | 153 | 150 | 8 | 3.9 | 5.3 |
| ISO200AVCR | ISO200SVCR-304 | 200 | 213 | 210 | 8 | 3.9 | 5.3 |
| ISO250AVCR | ISO250SVCR-304 | 250 | 261 | 258 | 8 | 3.9 | 5.3 |
| ISO320AVCR | ISO320SVCR-304 | 320 | 318 | 315 | 14 | 5.6 | 7 |

- Larger nominal widths on request

ISO Centering rings, FKM, stainless steel 316L



Technical data

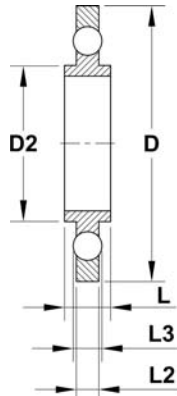
- Temperature range -10 °C to 150 °C (intermittent 200 °C)
- Option vacuum baked or with improved chemical resistance (see page 1-44)

| Order code | | | DN | D | D2 | L | L2 | L3 |
|----------------|--------------------|-------------------|-----|-----|-----|----|-----|-----|
| FKM* | FKM treated | FKM vacuum baked* | | | | | | |
| ISO63SVCR-316 | ISO63SVCR-BEH-316 | ISO63SVCR-VB-316 | 63 | 70 | 68 | 8 | 3.9 | 5.3 |
| ISO80SVCR-316 | ISO80SVCR-BEH-316 | ISO80SVCR-VB-316 | 80 | 83 | 81 | 8 | 3.9 | 5.3 |
| ISO100SVCR-316 | ISO100SVCR-BEH-316 | ISO100SVCR-VB-316 | 100 | 102 | 100 | 8 | 3.9 | 5.3 |
| ISO160SVCR-316 | ISO160SVCR-BEH-316 | ISO160SVCR-VB-316 | 160 | 153 | 150 | 8 | 3.9 | 5.3 |
| ISO200SVCR-316 | ISO200SVCR-BEH-316 | ISO200SVCR-VB-316 | 200 | 213 | 210 | 8 | 3.9 | 5.3 |
| ISO250SVCR-316 | ISO250SVCR-BEH-316 | ISO250SVCR-VB-316 | 250 | 261 | 258 | 8 | 3.9 | 5.3 |
| ISO320SVCR-316 | ISO320SVCR-BEH-316 | ISO320SVCR-VB-316 | 320 | 318 | 315 | 14 | 5.6 | 7 |

* For clean room compatible packaging please add "-CRP" to the order code

ISO Seals

ISO centering rings with outer ring, NBR



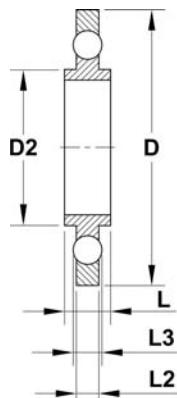
Technical data

- Temperature range -10 °C to 100 °C

| Order code | | DN | D | D2 | L | L2 | L3 |
|-------------|---------------------|-----|-----|-----|----|-----|-----|
| Alu/Alu | Alu/Stainless steel | | | | | | |
| ISO63ANCRT | ISO63SNCRT | 63 | 94 | 70 | 8 | 3.9 | 5.3 |
| ISO80ANCRT | ISO80SNCRT | 80 | 109 | 83 | 8 | 3.9 | 5.3 |
| ISO100ANCRT | ISO100SNCRT | 100 | 128 | 102 | 8 | 3.9 | 5.3 |
| ISO160ANCRT | ISO160SNCRT | 160 | 179 | 153 | 8 | 3.9 | 5.3 |
| ISO200ANCRT | ISO200SNCRT | 200 | 239 | 213 | 8 | 3.9 | 5.3 |
| ISO250ANCRT | ISO250SNCRT | 250 | 287 | 261 | 8 | 3.9 | 5.3 |
| ISO320ANCRT | ISO320SNCRT | 320 | 358 | 318 | 14 | 5.6 | 7 |

- Larger nominal widths on request

ISO centering rings with outer ring, FKM



Technical data

- Temperature range -10 °C to 150 °C (intermittent 200 °C)
- Option vacuum baked or with improved chemical resistance (see page 1-44)

| Order code | | | DN | D | D2 | L | L2 | L3 |
|-------------|-------------------------|---------------------------|-----|-----|-----|----|-----|-----|
| Alu/Alu | Alu/Stainless steel 304 | Alu/Stainless steel 316L* | | | | | | |
| ISO63AVCRT | ISO63SVCRT-304 | ISO63SVCRT-316 | 63 | 94 | 70 | 8 | 3.9 | 5.3 |
| ISO80AVCRT | ISO80SVCRT-304 | ISO80SVCRT-316 | 80 | 109 | 83 | 8 | 3.9 | 5.3 |
| ISO100AVCRT | ISO100SVCRT-304 | ISO100SVCRT-316 | 100 | 128 | 102 | 8 | 3.9 | 5.3 |
| ISO160AVCRT | ISO160SVCRT-304 | ISO160SVCRT-316 | 160 | 179 | 153 | 8 | 3.9 | 5.3 |
| ISO200AVCRT | ISO200SVCRT-304 | ISO200SVCRT-316 | 200 | 239 | 213 | 8 | 3.9 | 5.3 |
| ISO250AVCRT | ISO250SVCRT-304 | ISO250SVCRT-316 | 250 | 287 | 261 | 8 | 3.9 | 5.3 |
| ISO320AVCRT | ISO320SVCRT-304 | ISO320SVCRT-316 | 320 | 358 | 318 | 14 | 5.6 | 7 |

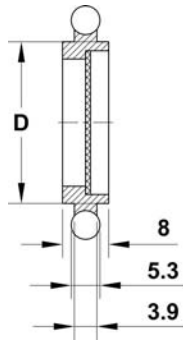
* For clean room compatible packaging please add "-CRP" to the order code

- Larger nominal widths on request

ISO Seals

1

ISO Mesh centering rings, stainless steel, FKM



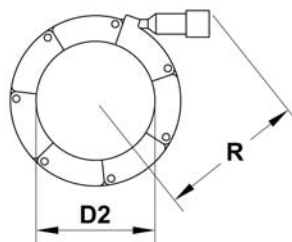
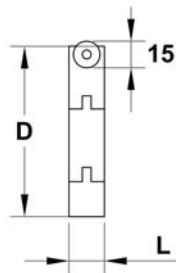
Technical data

- Temperature range -10 °C to 150 °C (intermittent 200 °C)
- Mesh size MCRV 4 mm
- Mesh size MCR1V 1 mm
- Wire size MCRV 0.9 mm
- Wire size MCR1V 0.3 mm

| Order code | | DN | D |
|--------------|--------------|-----|-----|
| 4 mm, 0.9 mm | 1 mm, 0.3 mm | | |
| ISO63MCRV | ISO63MCR1V | 63 | 70 |
| ISO100MCRV | ISO100MCR1V | 100 | 102 |
| ISO160MCRV | ISO160MCR1V | 160 | 153 |

ISO Connecting Elements

ISO Clamp chains, aluminium



Technical data

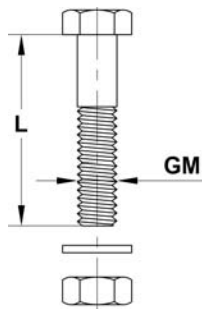
- Temperature FKM gasket 150 °C
- Temperature aluminium gasket 150 °C
- Lock material stainless steel
- Bolt material stainless steel
- Flange type conical ISO flanges

| Order code | DN | D | D2 | R | L |
|------------|-----|-----|-----|-----|----|
| XA63 | 63 | 112 | 77 | 78 | 20 |
| XA80 | 80 | 144 | 103 | 107 | 34 |
| XA100 | 100 | 164 | 123 | 113 | 34 |

- Closing moment depends on sealing material, see data sheet.

ISO Connecting Elements

ISO Nut bolt and washer sets for two bolted flanges

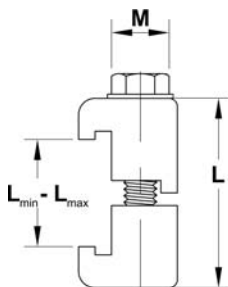


Technical data

- Bolt ISO 4014, 4017, A2
- Nut ISO 4032, A2
- Washer ISO 7089, A2

| Order code | DN | GM | L | Pack size |
|------------|-----|-----|----|-----------|
| ISO63NBW | 63 | M8 | 40 | 4 |
| ISO80NBW | 80 | M8 | 40 | 8 |
| ISO100NBW | 100 | M8 | 40 | 8 |
| ISO160NBW | 160 | M10 | 50 | 8 |
| ISO200NBW | 200 | M10 | 50 | 12 |
| ISO250NBW | 250 | M10 | 50 | 12 |
| ISO320NBW | 320 | M12 | 60 | 12 |

ISO Double claw clamps, aluminium

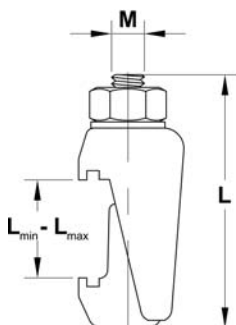


Technical data

- Application with centering ring

| Order code | DN | M | L | Lmax | Lmin |
|---------------|-----------|-----|----|------|------|
| ISO63/100DCA | 63 - 100 | M8 | 50 | 28 | 22 |
| ISO160/250DCA | 160 - 250 | M10 | 51 | 34 | 23 |
| ISO320/500DCA | 320 - 500 | M12 | 67 | 50 | 36 |

ISO Double claw clamps



Technical data

- Application with centering ring

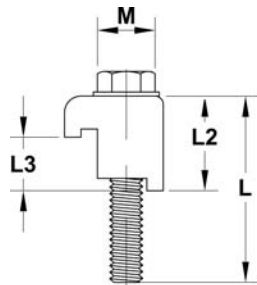
| Order code | | DN | M | L | Lmax | Lmin |
|-------------------------|-----------------|-----------|-----|----|------|------|
| Mild steel, zinc plated | Stainless steel | | | | | |
| ISO63/250DCMS | ISO63/250DCSS | 63 - 250 | M10 | 60 | 27 | 16 |
| ISO320/500DCMS | ISO320/500DCSS | 320 - 500 | M12 | 76 | 37 | 27 |
| ISO630DCMS | - | 630 | M12 | 86 | 46 | 36 |

* For clean room compatible packaging please add "-CRP" to the order code

ISO Connecting Elements

1

ISO Claw clamps



Technical data

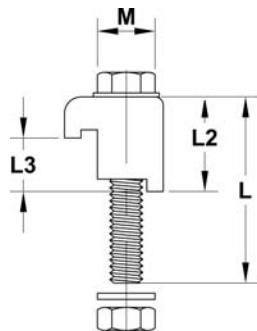
■ Application

for blind tapped holes
with centering rings

| Order code | | | DN | M | L | L2 | L3 |
|---------------|-------------------------|-----------------|-----------|-----|----|----|----|
| Aluminium | Mild steel, zinc plated | Stainless steel | | | | | |
| ISO63/100WCA | ISO63/100WCMS | ISO63/100WCSS | 63 - 100 | M8 | 34 | 23 | 14 |
| ISO160/250WCA | ISO160/250WCMS | ISO160/250WCSS | 160 - 250 | M10 | 35 | 23 | 14 |
| ISO320/500WCA | ISO320/500WCMS | ISO320/500WCSS | 320 - 500 | M12 | 48 | 30 | 21 |

* For clean room compatible packaging please add "-CRP" to the order code

ISO Claw clamps, steel nuts and washers



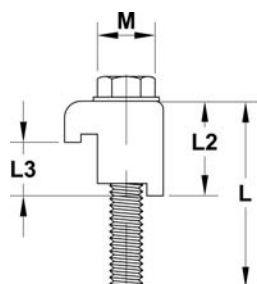
Technical data

■ Application

for through bolt holes
with centering rings

| Order code | | | DN | M | L | L2 | L3 |
|----------------|-------------------------|--|-----------|-----|----|----|----|
| Aluminium | Mild steel, zinc plated | | | | | | |
| ISO63/100WCNA | ISO63/100WCN | | 63 - 100 | M8 | 44 | 23 | 14 |
| ISO160/250WCNA | ISO160/250WCN | | 160 - 250 | M10 | 50 | 23 | 14 |
| ISO320/500WCNA | ISO320/500WCN | | 320 - 500 | M12 | 59 | 36 | 21 |

ISO Claw clamps, mild steel, zinc plated



Technical data

■ Application

with O-ring
without centering ring

| Order code | DN | M | L | L2 | L3 |
|---------------|-----------|-----|----|----|----|
| ISO63/100WCO | 63 - 100 | M8 | 35 | 18 | 10 |
| ISO160/250WCO | 150 - 250 | M10 | 41 | 19 | 10 |
| ISO320/500WCO | 320 - 500 | M12 | 58 | 30 | 15 |