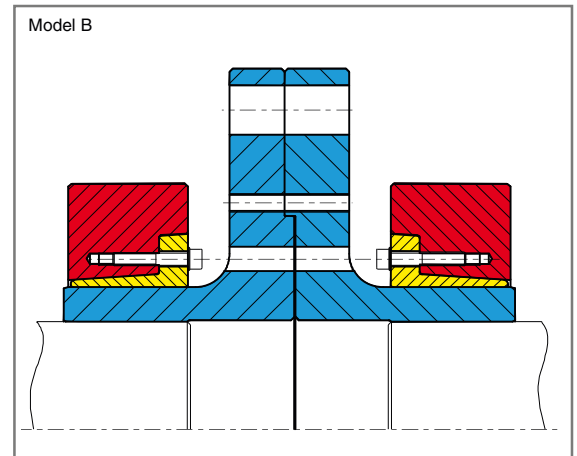
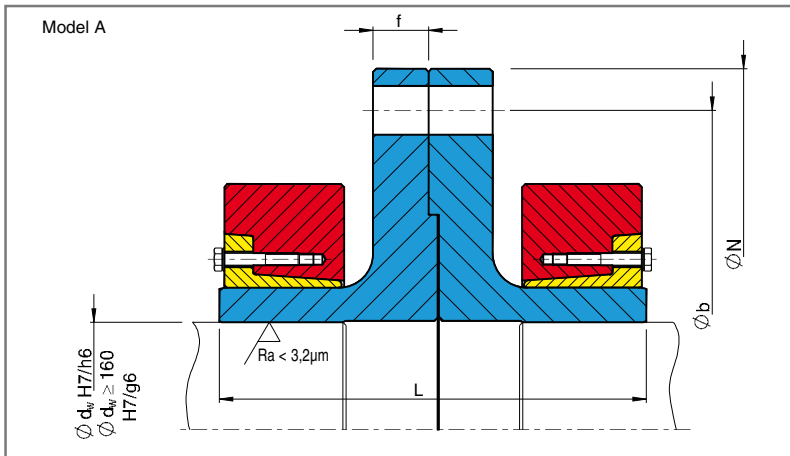


Flange Coupling FKH



Code: M_t maximum transmissible torque
 M_a required tightening torque of the tightening bolts (see also "Mounting and Removal Instructions")
 $M_a FI$ required tightening torque of the flange bolts

| Type | d_w mm | M_t kNm | Shrink Disc | M_a Nm | B^{**} | N mm | b mm | L mm | f mm | Flange bolts* | $M_a FI$ Nm | kg |
|---------------|-------------|--------------|--------------|-------------|----------|-----------|-----------|-----------|-----------|---------------|----------------|-----|
| FKH 240 - 80 | 70 | 6 | HSD 100 - 22 | 160 | M14 | 240 | 206 | 136 | 24 | 6 x M16 | 210 | 27 |
| | 75 | 7 | | | | | | | | | | |
| | 84 | 10 | | | | | | | | | | |
| FKH 300 - 90 | 85 | 12 | HSD 125 - 22 | 160 | M14 | 300 | 260 | 160 | 24 | 6 x M20 | 420 | 47 |
| | 95 | 16 | | | | | | | | | | |
| | 100 | 19 | | | | | | | | | | |
| FKH 340 - 100 | 95 | 17 | HSD 140 - 22 | 160 | M14 | 340 | 280 | 190 | 24 | 5 x M24 | 720 | 61 |
| | 100 | 20 | | | | | | | | | | |
| | 115 | 28 | | | | | | | | | | |
| FKH 370 - 110 | 115 | 30 | HSD 155 - 22 | 160 | M14 | 370 | 310 | 210 | 24 | 8 x M24 | 720 | 78 |
| | 120 | 33 | | | | | | | | | | |
| | 125 | 36 | | | | | | | | | | |
| FKH 400 - 120 | 120 | 37 | HSD 165 - 22 | 240 | M16 | 400 | 350 | 228 | 30 | 8 x M24 | 720 | 110 |
| | 125 | 41 | | | | | | | | | | |
| | 135 | 50 | | | | | | | | | | |
| FKH 400 - 130 | 130 | 45 | HSD 175 - 22 | 240 | M16 | 400 | 350 | 228 | 30 | 8 x M24 | 720 | 112 |
| | 135 | 49 | | | | | | | | | | |
| | 145 | 58 | | | | | | | | | | |
| FKH 470 - 140 | 140 | 64 | HSD 185 - 22 | 240 | M16 | 470 | 416 | 278 | 36 | 10 x M30 | 1450 | 173 |
| | 145 | 70 | | | | | | | | | | |
| | 150 | 76 | | | | | | | | | | |
| FKH 470 - 150 | 150 | 80 | HSD 200 - 22 | 240 | M16 | 470 | 416 | 278 | 36 | 10 x M30 | 1450 | 182 |
| | 155 | 87 | | | | | | | | | | |
| | 160 | 93 | | | | | | | | | | |
| | 170 | 119 | | | | | | | | | | |
| FKH 520 - 160 | 160 | 103 | HSD 220 - 22 | 470 | M20 | 520 | 456 | 300 | 36 | 12 x M30 | 1450 | 245 |
| | 165 | 110 | | | | | | | | | | |
| | 170 | 119 | | | | | | | | | | |
| FKH 560 - 180 | 170 | 122 | HSD 240 - 22 | 470 | M20 | 560 | 496 | 322 | 36 | 16 x M30 | 1450 | 302 |
| | 180 | 140 | | | | | | | | | | |
| | 190 | 159 | | | | | | | | | | |

*Grade 10.9 **Tightening bolts for Model A: DINEN ISO 4014/4017, Model B: DINEN ISO 4762
 When ordering please state: e.g. FKH340 - 100x100 (Type x $\varnothing d_w$) Quantity & size of flange bolts

| Type | d _w mm | M _t kNm | Shrink Disc | M _a Nm | B** | N mm | b mm | L mm | f mm | Flange bolts* | M _a Fl Nm | kg |
|---------------|----------------------|-----------------------|--------------|----------------------|-----|---------|---------|---------|---------|---------------|-------------------------|------|
| FKH 560 - 200 | 190 | 163 | HSD 260 - 22 | 470 | M20 | 560 | 496 | 322 | 36 | 16 x M30 | 1450 | 334 |
| | 200 | 184 | | | | | | | | | | |
| | 210 | 207 | | | | | | | | | | |
| FKH 590 - 220 | 210 | 215 | HSD 280 - 22 | 470 | M20 | 590 | 526 | 392 | 40 | 18 x M30 | 1450 | 420 |
| | 220 | 240 | | | | | | | | | | |
| | 230 | 267 | | | | | | | | | | |
| FKH 630 - 240 | 220 | 271 | HSD 300 - 22 | 820 | M24 | 630 | 550 | 408 | 40 | 18 x M30 | 1450 | 494 |
| | 230 | 300 | | | | | | | | | | |
| | 240 | 331 | | | | | | | | | | |
| FKH 630 - 250 | 240 | 301 | HSD 320 - 22 | 820 | M24 | 630 | 550 | 408 | 40 | 18 x M30 | 1450 | 534 |
| | 250 | 332 | | | | | | | | | | |
| | 260 | 364 | | | | | | | | | | |
| FKH 710 - 260 | 250 | 390 | HSD 340 - 22 | 820 | M24 | 710 | 656 | 450 | 40 | 24 x M30 | 1450 | 717 |
| | 260 | 427 | | | | | | | | | | |
| | 270 | 466 | | | | | | | | | | |
| FKH 710 - 280 | 270 | 496 | HSD 360 - 22 | 820 | M24 | 710 | 656 | 450 | 40 | 24 x M30 | 1450 | 754 |
| | 280 | 539 | | | | | | | | | | |
| | 290 | 584 | | | | | | | | | | |
| FKH 800 - 300 | 290 | 640 | HSD 390 - 22 | 1210 | M27 | 800 | 736 | 500 | 50 | 28 x M30 | 1450 | 1006 |
| | 300 | 691 | | | | | | | | | | |
| | 320 | 800 | | | | | | | | | | |
| FKH 800 - 330 | 320 | 742 | HSD 420 - 22 | 1210 | M27 | 800 | 736 | 540 | 50 | 28 x M30 | 1450 | 1158 |
| | 330 | 797 | | | | | | | | | | |
| | 350 | 911 | | | | | | | | | | |

Further sizes on request.

Technical changes to be reserved without notice.

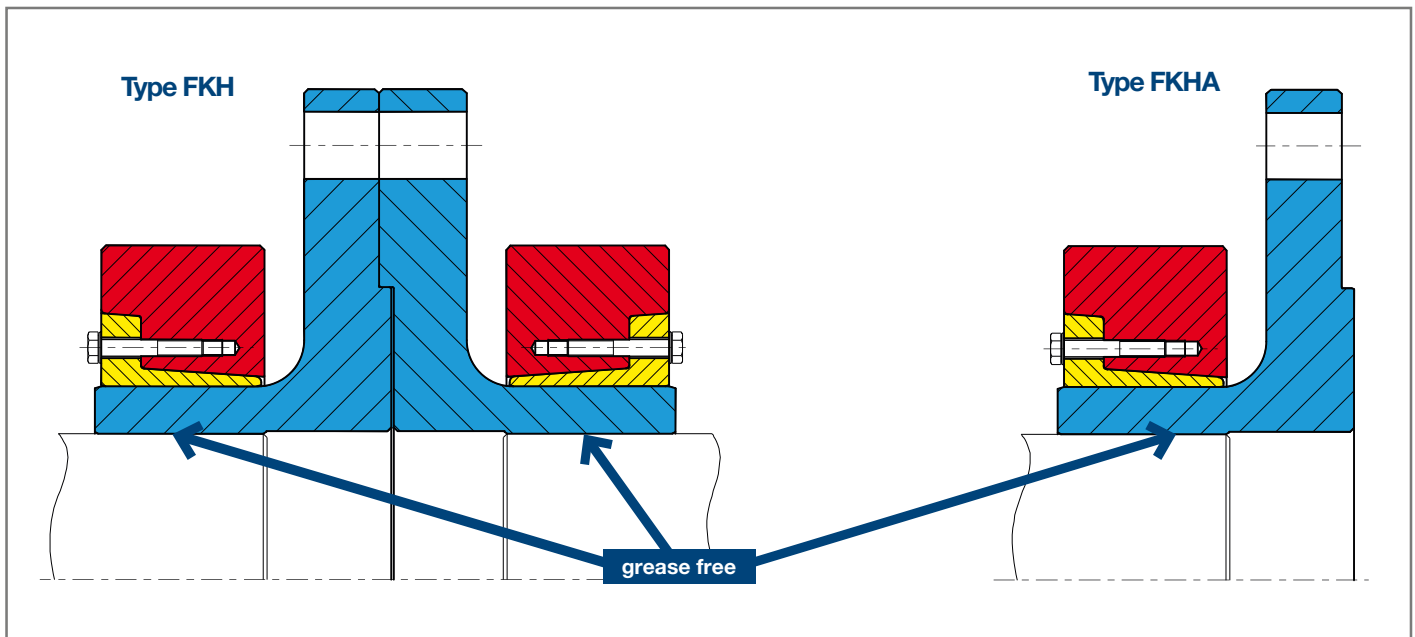
* Grade 10.9 **Tightening bolts for Model A: DIN EN ISO 4014/4017

Model B: DIN EN ISO 4762

When ordering please state: e. g. FKH 710 - 260x270 (Type x Ø d_w)

Quantity & size of flange bolts

Mounting- und Removal Instructions for Flange Coupling FKH



Mounting

The STÜWE® flange couplings type and FKHA are supplied ready to be mounted. Therefore they should not be dismantled prior to employing the unit for the first time.

1. Degrease the flange bore and shaft. Safe torque transmission substantially depends on this procedure. Dirty solvents or cleaning cloths are unsuitable for degreasing.
2. Push the flange onto the shaft.
3. Tighten four bolts evenly distributed over the circumference by reduced torque (approx. 50 to 70 % of maximum tightening torque) on each shrink disc.
4. Afterwards tighten all tightening bolts uniformly, one by one, over several revolutions. When tighten the bolts it will initially tilt with an in and out radial motion until the fit clearances are bridged.

Thereafter a true seat between bore and shaft is achieved and any tilting eliminated.

5. All bolts are tightening until the outer ring and inner ring are flush. This indicates that the full transmissible torque is achieved.

Check each tightening bolt twice for the required tightening torque.

Dismounting

This is similar to mounting.

1. Loosen all locking bolts uniformly one by one, initially not more than a quarter turn per bolt, until it is observed that the outer ring has released from the inner ring.



Under no circumstances should the locking bolts be completely removed as this could be dangerous and result in injury.

2. Should the outer ring, when loosening the bolts, not slide automatically from the inner ring, this can be assisted by removing those locking bolts adjacent to the tapped holes provided for jacking purposes and screwing them into these tapped holes. The jacking procedure must continue until release of the outer ring is achieved.
3. Dismount shaft or draw off flange. Remove rust which may have formed on the shaft in front of the flange.

Cleaning and greasing

Dismantled shrink discs do not have to be dismantled and re-lubricated before remounting.

The shrink disc has to be cleaned and re-lubricated only if employed in dirty environment.

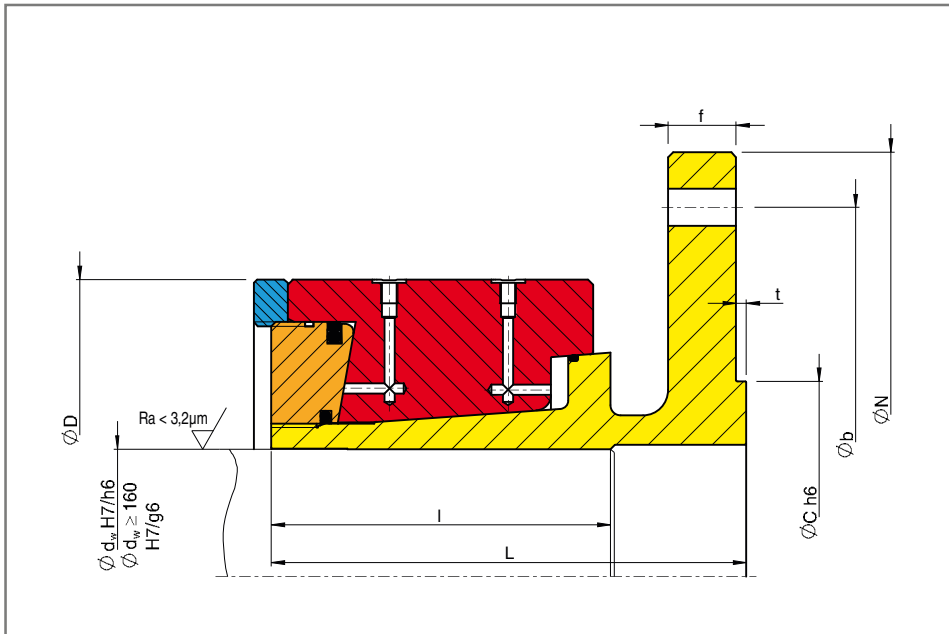
Use a solid containing lubricant with a high content of MoS₂ and a coefficient of friction of $\mu = 0,04$ for the conical surfaces. Usually a combination of bonded coating and paste is chosen.

Examples for Lubricant

| Lubricant | Source |
|------------------------------------|--------------|
| Molykote D 321 R (bonded coating) | Dow Corning |
| Aema-Sol MO 84-K (bonding coating) | A.C. Matthes |
| Molykote G Rapid + (paste) | Dow Corning |
| Aema-Sol M 19 P (paste) | A.C. Matthes |

The bolts have to be renewed if possible. The bolts are lubricated with commercially available bolt lubricants ($\mu = 0,1$).

Flange Coupling FK HYD



Code:

M_t = maximum transmissible torque

max. hyd. press = maximum hydraulic clamping pressure

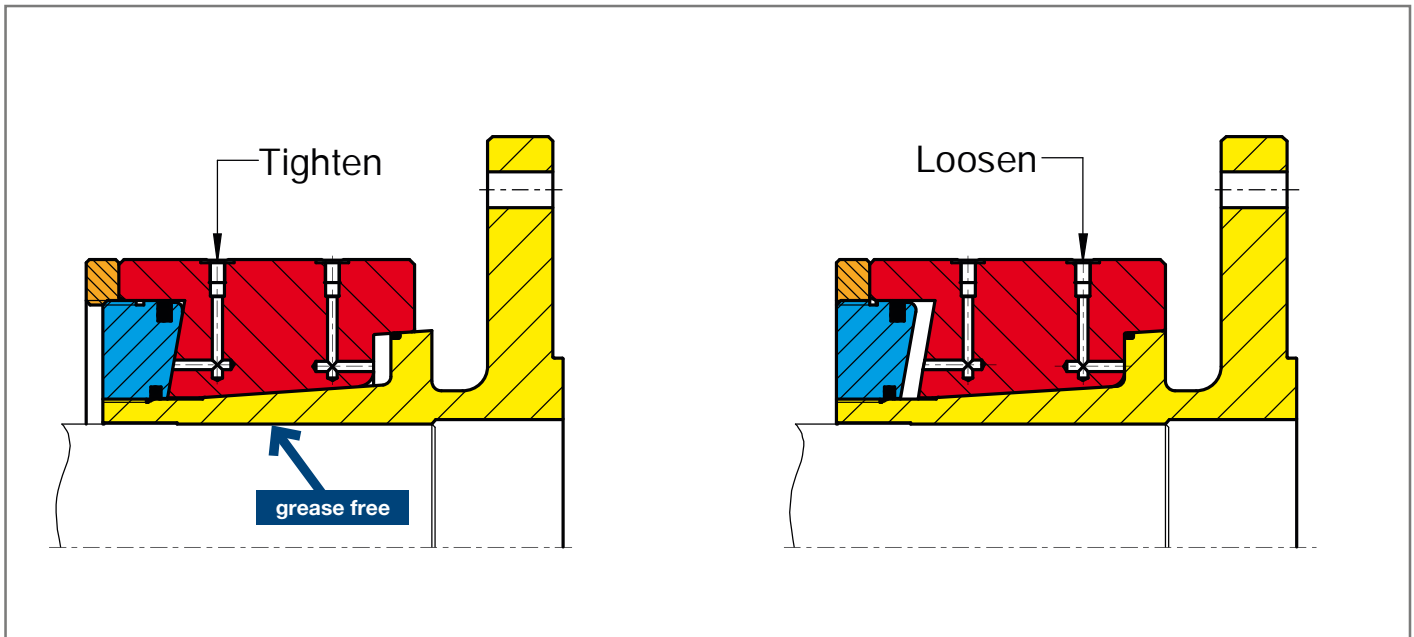
Dimensions N , b , c , t plus quantity and size of flange bolts depend on the counterflange and can be changed if necessary.

Flanges can also be supplied counterbored for internal spigot location.

| Type | d_w mm | M_t kNm | max. hyd. press bar | N mm | D mm | L mm | l mm | f mm | kg |
|-------------------|-------------|--------------|------------------------|-----------|-----------|-----------|-----------|-----------|------|
| FK HYD 400 - 120 | 120 | 40 | 450 | 400 | 300 | 150 | 90 | 30 | 69 |
| | 130 | 48 | | | | | | | |
| | 140 | 57 | | | | | | | |
| FK HYD 470 - 160 | 150 | 87 | 450 | 470 | 340 | 185 | 117 | 36 | 111 |
| | 160 | 101 | | | | | | | |
| | 170 | 115 | | | | | | | |
| FK HYD 520 - 180 | 170 | 115 | 450 | 520 | 370 | 185 | 117 | 36 | 131 |
| | 180 | 130 | | | | | | | |
| | 190 | 147 | | | | | | | |
| FK HYD 560 - 200 | 190 | 167 | 450 | 560 | 430 | 210 | 140 | 36 | 189 |
| | 200 | 186 | | | | | | | |
| | 210 | 208 | | | | | | | |
| FK HYD 590 - 220 | 220 | 248 | 450 | 590 | 460 | 240 | 160 | 40 | 234 |
| | 230 | 275 | | | | | | | |
| | 240 | 304 | | | | | | | |
| FK HYD 650 - 240 | 240 | 360 | 450 | 630 | 520 | 260 | 180 | 40 | 325 |
| | 250 | 394 | | | | | | | |
| | 260 | 430 | | | | | | | |
| FK HYD 710 - 260 | 260 | 435 | 450 | 710 | 570 | 310 | 220 | 40 | 455 |
| | 270 | 474 | | | | | | | |
| | 280 | 515 | | | | | | | |
| FK HYD 800 - 300 | 290 | 765 | 450 | 800 | 640 | 320 | 220 | 50 | 611 |
| | 300 | 832 | | | | | | | |
| | 310 | 901 | | | | | | | |
| FK HYD 900 - 340 | 330 | 850 | 450 | 900 | 720 | 360 | 255 | 50 | 857 |
| | 340 | 910 | | | | | | | |
| | 360 | 1030 | | | | | | | |
| FK HYD 1000 - 380 | 360 | 1016 | 450 | 1000 | 760 | 360 | 255 | 50 | 969 |
| | 380 | 1147 | | | | | | | |
| | 400 | 1270 | | | | | | | |
| FK HYD 1100 - 420 | 400 | 1915 | 450 | 1100 | 850 | 420 | 295 | 50 | 1342 |
| | 420 | 2100 | | | | | | | |
| | 440 | 2300 | | | | | | | |

Further sizes on request. Technical changes to be reserved without notice.
When ordering please state : e. g. FKHYD 520 - 180 x 180 (Type x $\varnothing d_w$) Dimensions N, b, c, t
Quantity & size of flange bolts

Mounting and Removal Instructions for Flange Coupling FKHYD



Mounting

The STÜWE® flange couplings type FKHYD are supplied ready to be mounted and with hydraulic oil in the pressure chamber.

1. Shaft and hub must be absolutely free of grease in the fit area. Full torque transmission is absolutely dependant on this measure. Do not use contaminated cleaning solvents and unclean rags.
2. Push the flange on to the shaft.
3. Remove screw plugs from the "Spannen" (Tighten) and "Entspannen" (Loosen) connections. Collect any oil leakage.
4. Connect pressure line to connection marked "Spannen" (Tighten).
5. Tighten the shrink disc by applying hydraulic pressure. The correct tightening force is reached as soon as the end faces of the outer and inner ring are aligned (visually observed to be flush). **Maximum allowable hydraulic pressure is 450 bar!**
6. When pressurising the flange it will initially tilt with an in and out radial motion until the fit clearances are bridged. Thereafter a true seat between bore and shaft is achieved and any tilting eliminated. The correct tightening force requirement is achieved as soon as the outer and inner rings are aligned (visually observed to be flush). The max. allowable hydraulic pressure is stamped on the Flange Coupling.
7. Tighten the counter nut by hand against the outer ring.
8. Release the hydraulic pressure. The safety nut will then be tightly compressed against the outer ring due to the stored energy.
9. Replace the screw plugs to retain the hydraulic oil in flange coupling.

Dismounting

1. Remove screw plugs from the "Spannen" (Tighten) and "Entspannen" (Loosen) connections. Collect any oil leakage.
2. Connect the pressure line to the connection marked "Spannen" (Tighten).
3. Increase the hydraulic pressure until the safety nut can be loosened by hand (max.450 bar!). Continue loosening the safety nut.



Make sure that a minimum of two turns remain connected when loosening the ring nut. Otherwise the nut might fall off! This could be dangerous and result in injury.

4. Release the hydraulic pressure and connect the pump to the "Entspannen" (Loosen) connection.
5. Increasing the oil pressure (max. 450 bar!) will initiate the release of the connection. **As soon as the outer ring starts sliding towards the ring nut reduce the oil pressure immediately to max. 150 bar.** When the outer ring reaches the support ring the oil pressure will automatically increase. **At this point fully release the oil pressure. Make sure the oil pressure does not exceed 180 bar.**
6. The connection is loose now. Collect oil leakage coming out of the "Spannen" (Tighten) connection.
7. Leave all hydraulic oil within the shrink disc and replace the "Spannen" (Tighten) and "Entspannen" (Loosen) screw plugs so that the flange coupling is oil tight.
8. Remove the flange from the shaft. Prior to removal clean off any rust from the shaft in the immediate vicinity of the flange.