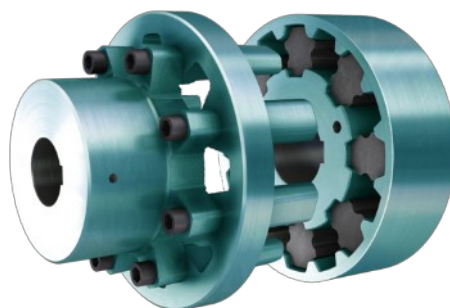


TEX-O-flex



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2. MOUNTING

- When machining the finished bore in a rough bored coupling, the coupling half must be centred accurately from its outside diameter in order to obtain a perfectly concentric bore, which is essential for accurate alignment. Premature wear of the flexible elements and possible vibration may result from a lack of bore concentricity.
- Hammer blows should be avoided when fitting couplings, in order not to damage the supporting shaft bearings. It is preferable to use the method shown in fig. 1 using a threaded bar and nut, and a metal block or plate as a bridge. A tapped hole is required in the shaft and a thrust bearing will greatly reduce the effort required (See Figure 1: Mounting of flanges).
- The mounting of larger couplings is made easier by heating them in advance, taking care not to exceed 100 °C. The flexible elements must of course be removed before heating.

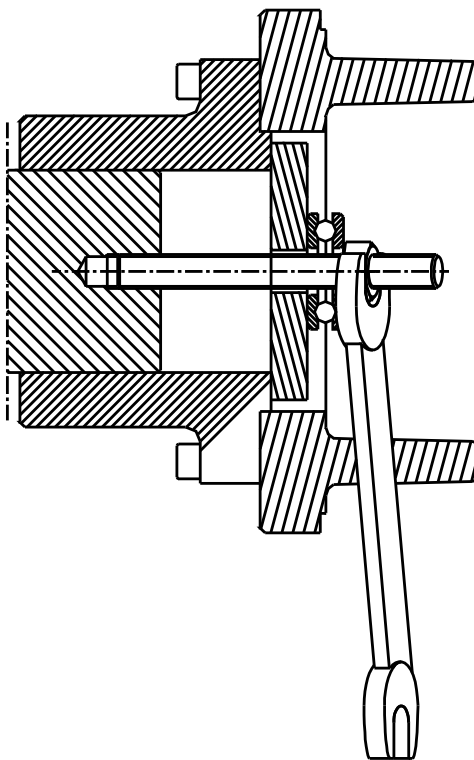


Figure 1: Mounting of flanges

2.1. TAPPED PULLER HOLES

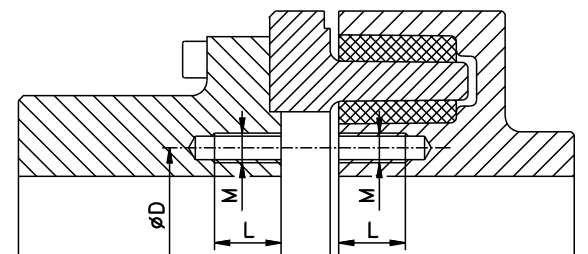


Figure 2: Tapped puller holes (D3)

Table 1: Puller Holes D3 & DS

Size	M	L	D
E	M6	12	58
F	M6	12	67
G	M8	16	76
H	M8	16	85
J	M10	20	96
K	M10	20	107
L	M12	24	122
M	M12	24	137
N	M16	32	154
P	M16	32	172
Q	M20	40	189

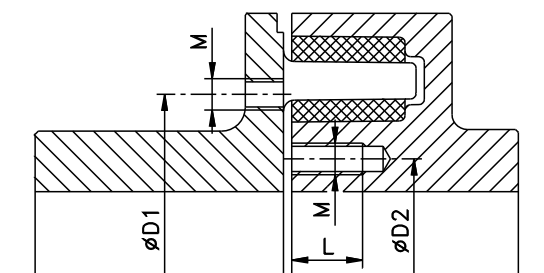


Figure 3: Tapped puller holes (D2)

Table 2: Puller Holes D2

Size	M	L	D1	D2
D	M5	10	67	50
E	M6	12	77	58
F	M6	12	87	67
G	M8	16	98	76
H	M8	16	110	85
J	M10	20	126	96

2.2. TIGHTENING OF FIXING SCREW

Before commissioning or after removal of claw-ring or spacer, check tightening of claw-ring or spacer fixing screws for version D3 and DS.

2.2.1 Tightening torques

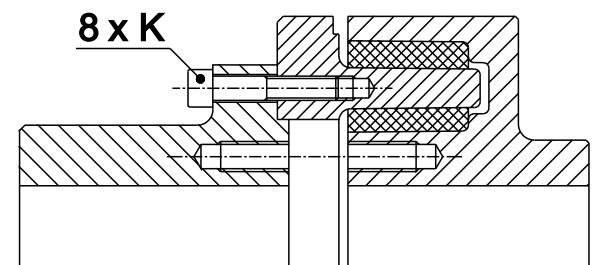


Figure 4: Tightening screws (Version D3 & DS)

Table 3: Tightening torques

Size	Number	K	Cs (Nm)
E	8	M4x14	2,7
F		M5x18	5
G		M6x20	9
H		M8x25	22
J		M8x30	22
K		M10x35	45
L		M12x40	75
M		M12x45	75
N		M16x70	185
P		M16x70	185
Q		M20x80	370

3. ALIGNMENT

Drive components to be coupled must be positioned so that the distance $E \pm \Delta E$ between both coupling halves corresponds with the values shown on Table 4: Maximum misalignment values page 6. An accurate check of alignment is essential.

Correct alignment requires that the axes of the shafts in question are :

- a) Parallel i.e. no angular displacement is present (See Figure 5: Angular Misalignment)
- b) Not radially offset from each other (see Figure 6: Radial Misalignment).

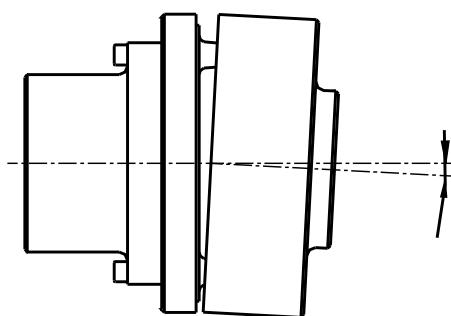


Figure 5: Angular Misalignment

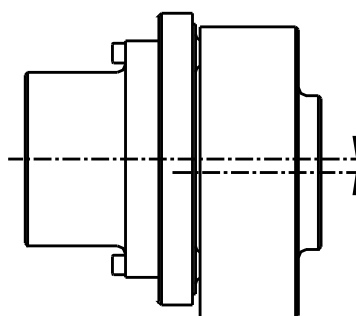


Figure 6: Radial Misalignment

Angular misalignment (a) is eliminated when the gap between the coupling halves is the same around the whole periphery of the coupling (see bottom of Figure 7: Misalignment check). Check with a feeler gauge.

Parallel or offset misalignment (b) is eliminated when by checking with a straight edge full contact is obtained across the outside diameters of the coupling halves (see top of Figure 7: Misalignment check).

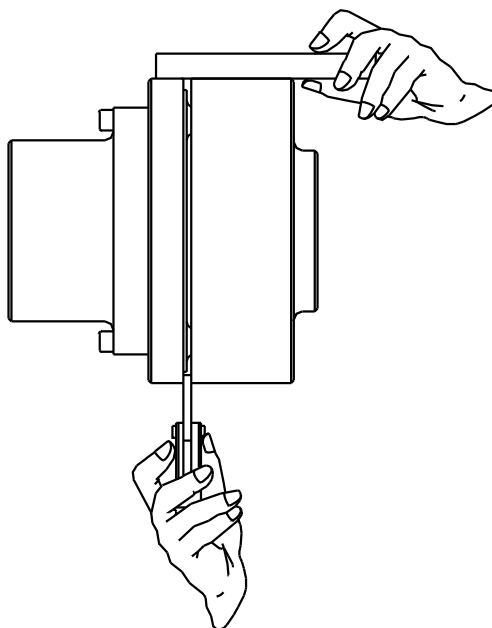


Figure 7: Misalignment check

It is very important that the shafts to be connected are aligned as accurately as possible. Although the TEX-O-flex coupling can compensate for a limited degree of misalignment, the presence of any excessive misalignment could lead to premature wear of the flexible elements.

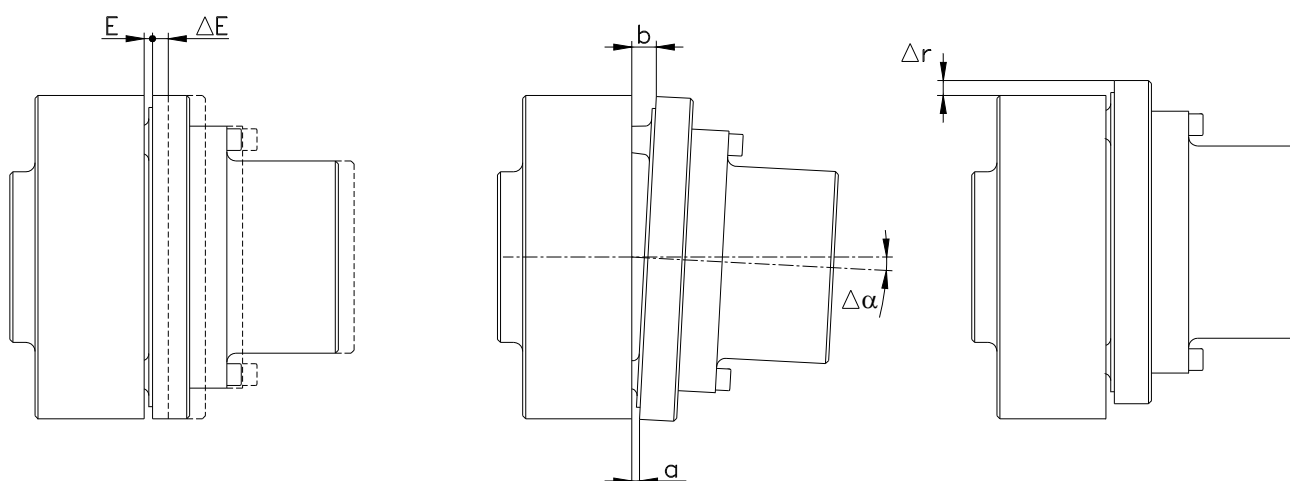


Figure 8: Measuring misalignment

Table 4: Maximum misalignment values

	Size	D	E	F	G	H	J	K	L	M	N	P	Q
E ^{ΔE}	D2/D3/DF	4 ^{±1}	4,5 ^{±1}	4,5 ^{±1}	4,5 ^{±1}	5 ^{±1,5}	5 ^{±1,5}	6,5 ^{±2}	7 ^{±2}	7 ^{±2}	7 ^{±2}	8 ^{±2}	8,5 ^{±2}
	DS		4,5 ^{±1}	4,5 ^{±1}	4,5 ^{±1}	5 ^{±1,5}	5 ^{±1,5}	6,5 ^{±2}	7 ^{±2}	7 ^{±2}	7 ^{±2}	8 ^{±2}	8,5 ^{±2}
Δα (b-a)	(All)	0,7	0,8	0,9	1,0	1,2	1,4	1,4	1,6	1,8	2,2	2,4	2,8
Δr	D2/D3/DF	0,4	0,4	0,4	0,5	0,6	0,6	0,7	0,8	0,8	1,0	1,0	1,2
	DS		0,3	0,3	0,4	0,4	0,4	0,5	0,6	0,6	0,8	0,8	1,0

In practice, measure each misalignment value and compare with the maximum misalignment value indicated.

Their sum should there should not exceed 1.

$$dr/\Delta r + d\alpha/\Delta\alpha < 1$$

With :

dr : measured radial misalignment value

Δr : maximum radial misalignment value from the table (for example 0.6 mm for a D.H)

dα: measured angular misalignment value

Δα: maximum angular misalignment value from the table (for example (b-a)=1,2 mm for a DH)

Measurements for misalignment values should be done in two perpendicular planes and the measurements for validation should be done at four perpendicular points.

Check the misalignment values when the machine is hot.

4. EARTHING

The hubs or the shafts on which they are mounted should be earthed.

5. INSPECTION AND REPLACEMENT OF ELASTIC ELEMENTS

5.1. ACCESS TO THE FLEXIBLE ELEMENTS

5.1.1 Execution D2 and DF in two pieces

Axial displacement of connected hubs is necessary. (See Figure 9: TEX-O-flex D2).

5.1.2 Execution D3 in three pieces

Driving claws (3) can be unbolted, rotated and withdrawn, allowing access without axial displacement (see Figure 10: TEX-O-flex D3).

5.1.3 Execution DS with spacer

Driving claws (3) can be unbolted, rotated and pressed into the flexible elements allowing the spacer (5) sufficient axial clearance for removal (See Figure 11: TEX-O-flex DS).

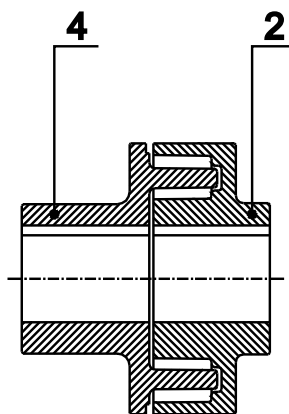


Figure 9: TEX-O-flex D2

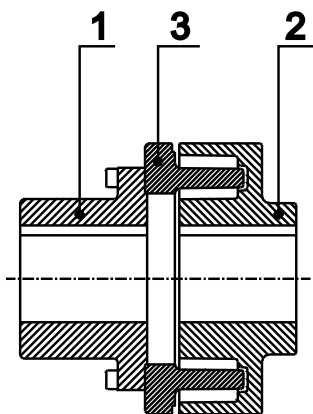


Figure 10: TEX-O-flex D3

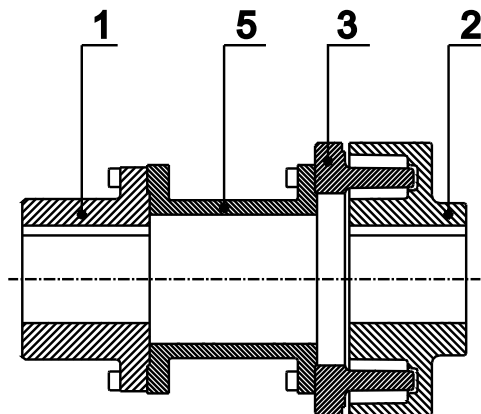


Figure 11: TEX-O-flex DS

5.2. REMOVAL OF FLEXIBLE ELEMENTS

Up to size M they can be removed with a screwdriver or similar tool.

For sizes N, P & Q, they can be pushed from their seating through holes provided in the driven half (2).

5.3. FITTING NEW FLEXIBLE ELEMENTS

The flexible elements should be lubricated with a small amount of talcum before tapping them into place with a rubber hammer.

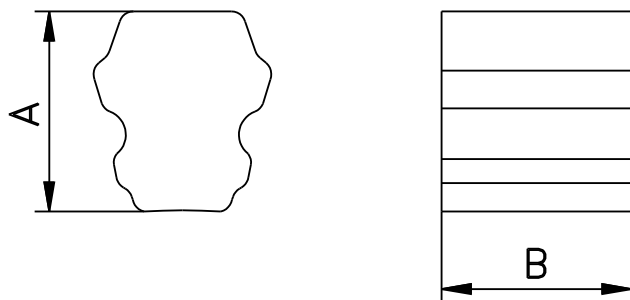


Figure 12: Dimensions of elements

Size	Number	A	B
D	6	14,5	18
E	8	17	18,5
F		21	22
G		24	27
H		28	31
J		31	36
K		40	42
L		43	50
M		49	59
N		58	66
P		63,5	77
Q		74	86

6. CLEANING THE FLEXIBLE ELEMENTS

➔ Clean the flexible elements with a damp cloth.

➔ Do not use solvent by use soapy water.

7. DISASSEMBLY OF COUPLING

All couplings which are delivered bored and keywayed are provided with two tapped holes (see fig. Figure 2: Tapped puller holes (D3) and Figure 3: Tapped puller holes (D2) page 3) to allow the hubs to be pulled on the shaft end (see Figure 13: Removal of hubs). A hub puller can be used for the smaller types taking care not to damage the coupling flanges and avoiding hammer blows.

Remove first any retaining screws.

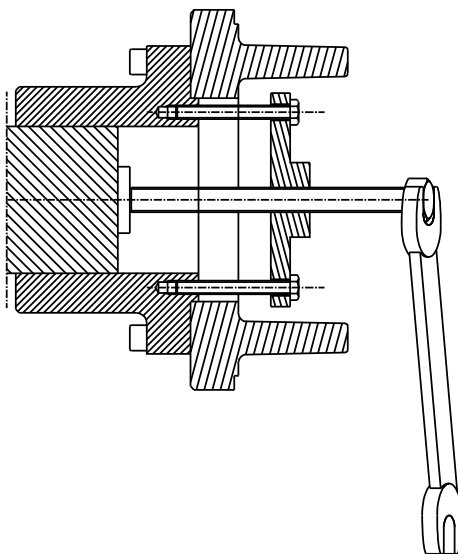


Figure 13: Removal of hubs

8. USE IN HAZARDOUS AREAS

➔ IMPORTANT : A coupling that is not marked according to paragraph 8.4 must NOT be used in hazardous areas.

Indications and instructions concerning use in hazardous areas:

8.1. INSPECTION INTERVALS FOR USE IN HAZARDOUS AREAS

Explosive Group	Inspection intervals
II 2D c 120 °C II 2G c T4 II 3D c 120 °C II 3G c T4	The visual inspection of elastic element wear must be carried out after 100 hours of operation, or after one month at the latest. If no significant deformation is observed, the following inspections can be performed every 2000 hours of operation or at least every 3 months. If the elements are worn or show signs of major deformation and if tearing is observed, it will be necessary to replace the elements and seek the possible causes as described in the chapter « Malfunctions and remedies ». The periodicity of the maintenance intervals must be restarted if the operating parameters are changed.

8.2. INDICATION OF WEAR VALUE

The wear of the elastic elements is checked by the angular offset between the hubs:

The measurement must be made at a stop and without any load in order to measure the angular clearance

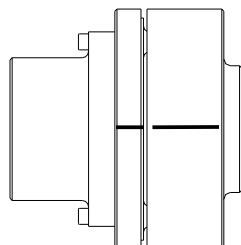


Figure 14: New elements

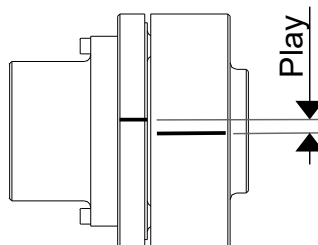


Figure 15: Used elements

Table 5: Maximum Wear Value

Size	D	E	F	G	H	J	K	L	M	N	P	Q
Max play (mm)	4	4,5	5,5	6,5	7,5	8	11	11,5	13	15,5	17	20

★ **CAUTION: To ensure lasting operation, risk-free in an explosive atmosphere, it is particularly important to check misalignment.**

★ **If the values indicated in chapter 3 - Alignment are exceeded, the couplings should be considered as damaged and replaced.**

8.3. MATERIAL USED

- Hubs material : EN-GJL-200
- Claw-ring material : EN-GJS-500-7
- Flexible elements material : EPDM mixture.

8.4. MARKING OF COUPLING FOR HAZARDOUS AREAS



Couplings for use in hazardous areas are marked with :



II 2D c 120°C



II 2G c T4



II 3D c 120°C



II 3G c T4

8.5. START-UP

Before startup, check that the radial screws (if there are any) are tight, or check that the shaft end screw is tight.

Also check tightening of claw-ring (Version D3) and spacer (version DS) fixing screws. These screws must be protected against loosening by the application of a « Thread-lock » paste (See §2.2 - Tightening of fixing screw page 3).

Check the alignment and the size between the plates. (See §1 - Alignment page 4).

Check the correct assembly of flexible elements in female hub (See § 5.3 - Fitting new flexible elements page 7).

➔ In an explosive atmosphere, the screws must be protected from any possible loosening off, for instance, by the application of a “Thread-Lock” product onto the threads

8.6. MALFUNCTIONS AND REMEDIES

Malfunction	Cause	Indication of risk in hazardous areas.	Solution
Noise and vibration during operation.	Misalignment.	Danger of elastic elements overheating	1) Turn off the machine. 2) Eliminate the cause of misalignment (loose attaching screw, broken fastener, and dilatation, assembly dimensions not complied with, deformation of support under load). 3) Check the wear of the components and replace as necessary.
	Wear of elastic elements, short-term risk of metal on metal contact.	Danger of ignition due to sparks	1) Turn off the machine. 2) Disassemble the end stop on the elastic elements and remove them. 3) Check the coupling parts and replace them if necessary. 4) Fit new elastic elements. 5) Check the alignment at a stop and in operation and correct if necessary.
	Loosening of the plate end attaching screws.	Danger of ignition due to sparks	1) Turn off the machine. 2) Check the alignment of the coupling. 3) Tighten the end attaching screws of the plates and lock them. 4) Check the wear of the elements. 5) Check the alignment at a stop and in operation and correct if necessary.
Premature wear of elastic elements (degradation of material inside plates).	Vibration on machine.	Danger of elastic elements overheating.	1) Turn off the machine. 2) Replace the elastic elements. 3) Check the alignment at a stop and in operation and correct if necessary. 4) On the machine seek the cause of vibration.
Claw-ring breakage.	Wear of elastic elements, transmission of torque by metal on metal contact.	Danger of ignition due to sparks.	1) Turn off the machine. 2) Replace the entire coupling 3) Check the alignment at a stop and in operation and correct if necessary.
	Claw-ring breakage due to shock or overtorque.	Danger of ignition due to sparks.	1) Turn off the machine. 2) Identify and eliminate the cause of overload. 3) Replace the entire coupling 4) Check the alignment at a stop and in operation and correct if necessary.

Malfunction	Cause	Indication of risk in hazardous areas.	Solution
Claw-ring breakage.	Loosening of the ring fixation screws	Danger of ignition due to sparks.	1) Turn off the machine. 2) Replace the entire coupling 4) Tighten the claw-ring fixing screw with the recommended torque and use a thread-lock paste
	The conditions of use do not correspond to the coupling performance.	Danger of ignition due to sparks.	1) Turn off the machine. 2) Check the operating conditions and select a larger coupling. 3) Install the new coupling 4) Check the alignment at a stop and in operation and correct if necessary.
	Error on machine commissioning.	Danger of ignition due to sparks.	1) Turn off the machine. 2) Replace the entire coupling 3) Check the alignment at a stop and in operation and correct if necessary. 4) Train the operating and maintenance personnel.
Loosening of the claw-ring fixation screws.	Bad tightening of the screws or lack of thread-lock paste.	Danger of destruction of the claw-ring and the hubs with ignition due to sparks.	1) Turn off the machine 2) Control components of the coupling and replace them if necessary. 3) Tighten claw-ring fixing screws to recommended torque and use a thread-lock paste.
Premature wear of elastic elements.	Contact with harsh product such as hydrocarbons, ozone...	Danger of overheating and ignition due to sparks.	1) Turn off the machine. 2) Check the coupling parts and replace them if necessary. 3) Fit new elastic elements. 4) Protect the coupling from all contact with the fluid in question.
	Operating temperature outside the authorized range -20 °C/+40 °C.	Danger of overheating and ignition due to sparks.	1) Turn off the machine. 2) Check the coupling parts and replace them if necessary. 4) Fit new elastic elements. 5) Measure and regulate the ambient temperature.
Premature wear of elastic elements.	Misalignment.	Danger of overheating and ignition due to sparks.	1) Turn off the machine. 2) Eliminate the cause of misalignment (loose attaching screw, broken fastener, and dilatation, assembly dimensions not complied with, deformation of support under load). 3) Check the wear of the components and replace as necessary. 4) Fit new elastic elements 5) Check the alignment at a stop and in operation and correct if necessary.

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