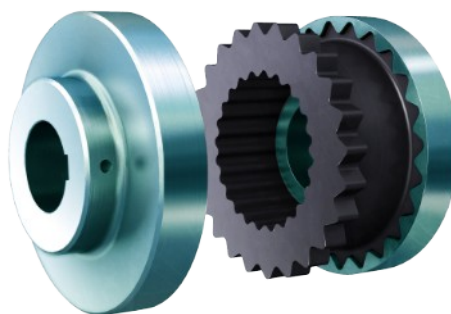


SR-flex®



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2. ASSEMBLY

- During the final boring of couplings supplied with a pre-bore, make sure that the hub to be machined is centered correctly on its larger diameter. In this way, the bore will be absolutely concentric, a primordial condition for fault-free alignment. Indeed, the premature wear of the elastic packing can result from incorrect bore concentricity.
- It is not advisable to assemble the hubs on the shafts by driving them with hammer blows so as to avoid damage to the bearings supporting the shafts to be connected. Assembly will be carried out preferably with a threaded rod fitted with a nut and washer. Simply screw this rod into the tapped hole

of the shaft. A Thrust Bearing will greatly simplify the task (see fig.1 § 7 - Coupling Disassembly page 4).

- To facilitate the assembly of large size couplings, the prior heating of the hubs is advisable. However, avoid exceeding a temperature of 100 °C. After hubs have cooled down, the elastic sleeve should be inserted into one of the hubs (whereby the steel ring should be hanging loose on the sleeve for sleeves type SE) (see fig.2 § 7 - Coupling Disassembly page 4).

3. ALIGNMENT

Drive components to be coupled must be positioned so that the distance between both coupling halves corresponds with the value shown on the dimensional drawing. An accurate check of alignment is essential. Correct alignment requires that the axes of the shafts in question are :

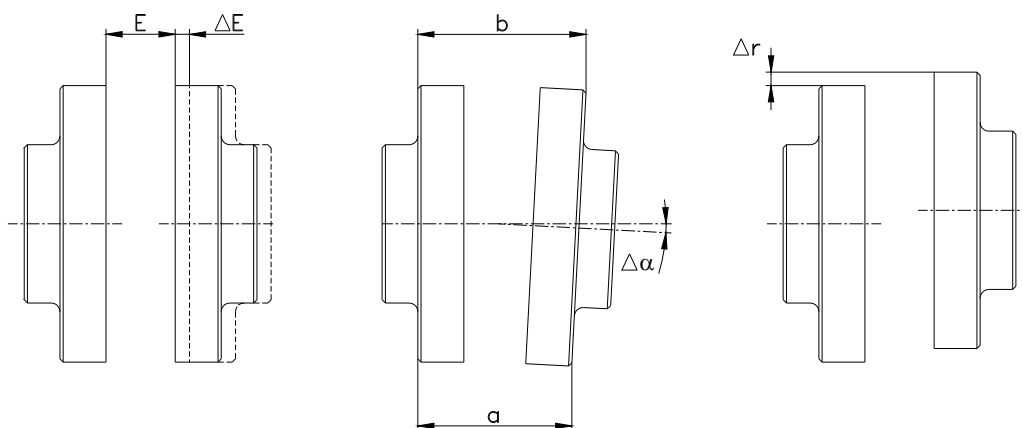
- Parallel, i.e. no angular displacement is present (voir fig.3A § 7 - Coupling Disassembly page 4)
- not radially offset from each other (voir fig.3B § 7 - Coupling Disassembly page 4).

Angular misalignment is eliminated when the distance between the coupling halves is the same around the whole periphery of the coupling (see fig.4 § 7 - Coupling Disassembly page 4). Check with a feeler gauge.

Parallel or offset misalignment is eliminated when by checking with a straight edge contact is obtained across the outside diameters of the coupling halves (see fig.5 § 7 - Coupling Disassembly page 4).

It is very important that the shafts to be connected are aligned as accurately as possible. Although the SR-flex® coupling can compensate for a limited degree of misalignment could lead to premature wear of the sleeve.

If it is necessary (SE flexible sleeve), The steel ring must be located in the groove provided in the outside diameter of the sleeve. Set screws if any should be secured to prevent the coupling from moving axially.



Size		3	4	5	6	7	8	9	10	11	12	13	14	16
E ^{ΔE} mm		12 ^{±1}	18 ^{±1}	22 ^{±1,5}	26 ^{±1,5}	30 ^{±2}	33 ^{±2}	40 ^{±2}	46 ^{±2,5}	53 ^{±2,5}	64 ^{±3}	73 ^{±3}	88 ^{±3}	125 ^{±4}
Δα (b-a) mm	Procouplan, EPDM	0,9	1,1	1,4	1,8	2,1	2,4	2,8	3,3	3,8	4,5	5,0	6,2	8,4
	Hytrel®	-	-	-	0,4	0,5	0,6	0,7	0,8	0,9	1,0	1,25	1,5	-
Δr mm	Procouplan, EPDM	0,25	0,25	0,4	0,4	0,5	0,5	0,65	0,65	0,8	0,8	1,0	1,1	1,6
	Hytrel®	-	-	-	0,25	0,3	0,4	0,4	0,5	0,56	0,64	0,76	0,9	-

In practice, measure each misalignment value; report this value with respect to the maximum indicated value.

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The sum of these ratios shall not exceed 1.

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

With:

dr : value of measured radial misalignment

Δr : value of maximum radial misalignment (e.g. 0,5 mm for a size 7)

$d\alpha$: value of measured angular misalignment

$\Delta\alpha$: value of maximum angular misalignment (e.g. (b-a)=2,1 mm for a size 7)

The misalignment measurements must be made on two perpendicular planes and the verification measurements be made at four points at 90°.

Check the adjustment values when the machine is warm.

4. EARTHING

The hubs or the shafts on which they are mounted must be grounded.

5. INSPECTION AND REPLACEMENT OF ELESTIC ELEMENTS

One of the hubs has to be displaced axially to allow the elastic sleeve to be removed radially.

A new elastic sleeve is mounted in the way described in the chapter §2 - Assembly.

6. CLEANING OF ELASTIC ELEMENTS

Clean the elastic elements with a damp cloth. Do not use solvent but soapy water.

7. COUPLING DISASSEMBLY

A hub puller can be used to remove the hubs taking care not to damage the coupling flanges.

Any retaining screw should be released beforehand.

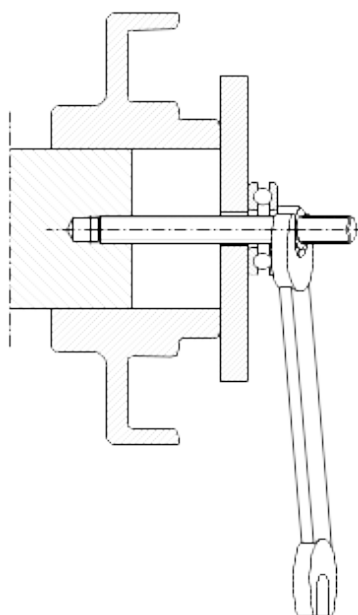


Fig. 1

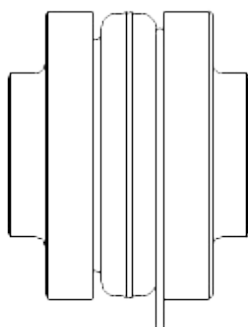


Fig. 2

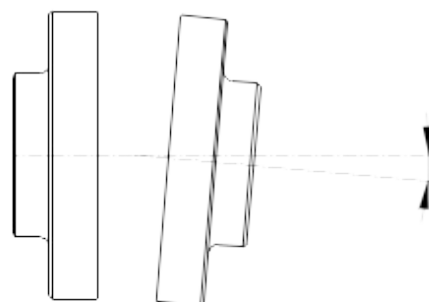


Fig. 3a

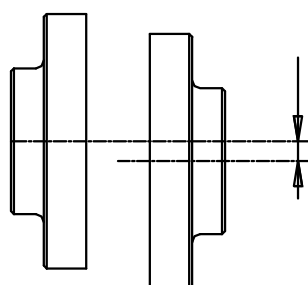


Fig 3b

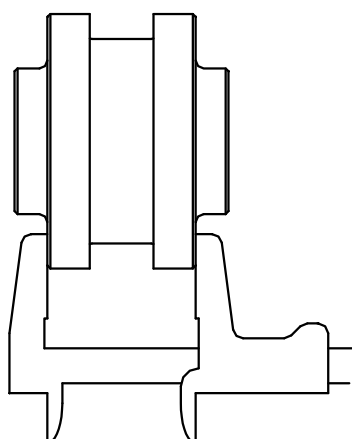


Fig. 4

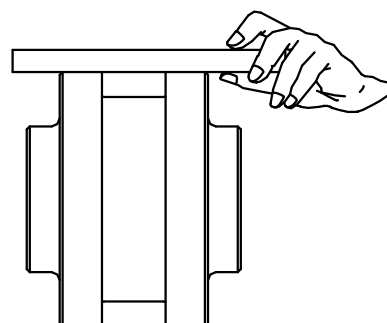


Fig. 5

8. USE IN EXPLOSIVE ATMOSPHERES

➔ IMPORTANT : Any coupling not presenting marking as detailed in chapter 8.4 MUST NOT be used in explosive atmosphere.

Indications and instructions regarding use in explosive atmospheres:

8.1. INSPECTION INTERVALS DFOR USE IN EXPLOSIVE AMOSPHERE

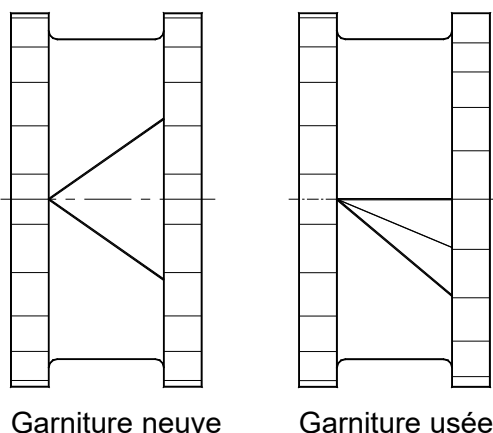
Explosion Group	Inspection Intervals
II 2D c 120 °C II 2G c T4	The visual inspection of elastic element wear must be carried out after 100 hours of operation, or one month at the latest. If no significant deformation is observed, the following inspections can be performed every 2000 hours of operation or at most 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 VALUES

The JX & JXC sleeves have two durability lines.

When, without load, one of the lines is aligned with the axis of rotation, the sleeve is regarded as worn and must be replaced.

Any sleeve with surface scratches must be replaced.



- ★ **CAUTION:** To ensure lasting operation, risk-free in an explosive atmosphere, its is particularly important to check misalignment.
- ★ If the values indicated in chapter 3 are exceeded, the couplings should be considered as damaged and replaced.

8.3. MATERIAL USED

- Material for hubs type SJ sizes 3 à 5 : Zamak 3
- Material for hubs type S & SC sizes 5 à 16 : EN-GJL-200 (formerly FGL200).
- Material of sleeves : JX/JXC : ProCouplan / H/SH : Hytrel® / SE : EPDM

8.4. MARKING OF COUPLINGS FOR EXPLOSIVE ZONES



Couplings for use in an explosive zone are marked:



II 2 D 120°C



II 2 G T4



II 3 D 120°C



II 3 G T4

8.5. FIRST START

Before startup, check that the radial screws (if there are any) are tight, or check that the shaft end screw is tight. Check the alignment and the size between the plates.

Check that the hubs screws are tight (SC execution) :

Size SC	Screw	Tightening torque (Nm)
5	M5x35	5,5
6	M6x40	9
7	M6x45	9
8	M8x55	24
9	M10x60	48
10	M12x75	80
11	M12x90	80

★ In an explosive atmosphere, the screws must be protected from any possible loosening off, for instance, by the application of Loctite 243 threadlock or equivalent to 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 Sleeve 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 elastic sleeve 4) Tighten the axial screws of the flanges and lock them. 5) Check the alignment at a stop and in operation and correct if necessary.

Malfunction	Cause	Indication of risk in Hazardous Areas	Solution
	Wear of elastic Sleeve.	Danger of Elastic Sleeve overheating.	1) Turn off the machine. 2) Move the flanges away. 3) Check the coupling parts and replace them if necessary. 4) Tighten the axial screws of the flanges and lock them. 5) Check the alignment at a stop and in operation and correct if necessary. 6) Check the selection values
	Spacing between flanges not respected.	Too close : Danger of elastic sleeve overheating. Too spaced : Danger of premature wear of elastic sleeve.	1) Turn off the machine. 2) Move the flanges away. 3) Check the coupling parts and replace them if necessary. 4) Tight the axial screws of the flanges and lock them. 5) Check the alignment at a stop and in operation and correct if necessary.
	Loosening of the flange attaching screws.	Danger of premature wear of elastic sleeve.	1) Turn off the machine. 2) Move the flanges away. 3) Check the wear of elastic sleeve. 4) Tight the axial screws of the flanges and lock them. 5) Check the alignment at a stop and in operation and correct if necessary.
Sleeve failure	Dimensioning not adapted to the application	Danger of elastic Sleeve overheating.	1) Turn off the machine. 2) Move the flanges away. 3) Check the coupling parts and replace them if necessary. 4) Tight the axial screws of the flanges and lock them. 5) Check the alignment at a stop and in operation and correct if necessary. 6) Check the selection values
	Overload, transmission shocks.		1) Turn off the machine. 2) Move the flanges away. 3) Replace the sleeve. 4) Tight the axial screws of the flanges and lock them. 5) Check the alignment at a stop and in operation and correct if necessary. 6) Look for the overload causes.

Malfunction	Cause	Indication of risk in Hazardous Areas	Solution
	Error upon machine commissioning.		1) Turn off the machine. 2) Move the flanges away. 3) Replace the sleeve. 4) Tight the axial screws of the flanges and lock them. 5) Check the alignment at a stop and in operation and correct if necessary. 6) Train the operating personnel.
Premature wear of elastic sleeve due to material fusion.	Machine vibration.	Danger of elastic sleeve overheating and ignition.	1) Turn off the machine. 2) Move the flanges away. 3) Replace the sleeve. 4) Tight the axial screws of the flanges and lock them. 5) Check the alignment at a stop and in operation and correct if necessary. 6) Look for the vibrations causes.
Elastic Sleeve Tears and scratches.	Overtorque, aggressive atmosphere, misalignment, wrong selection.	Danger of elastic sleeve overheating.	1) Turn off the machine. 2) Move the flanges away. 3) Check the coupling parts and replace them if necessary. 4) Tight the axial screws of the flanges and lock them. 5) Check the alignment at a stop and in operation and correct if necessary. 6) Protect coupling from contact with possible aggressive ambiance. 7) Check the selection values.
Premature wear of elastic sleeve.	Misalignment.	Danger of elastic sleeve 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 elastic sleeve 4) Tighten the axial screws of the flanges and lock them. 5) Check the alignment at a stop and in operation and correct if necessary.
	Contact with harsh products such as hydrocarbons, ozone ...)	Danger of elastic sleeve wear and overheating.	1) Turn off the machine. 2) Move the flanges away. 3) Check the coupling parts and replace them is necessary. 4) Tighten the setscrews of the flanges and lock them up. 5) Check the alignment while stopped and in operation and correct if necessary. 6) Protect the coupling from all contact with the fluid in question.

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Malfunction	Cause	Indication of risk in Hazardous Areas	Solution
	Operating temperature outside the authorized range – 20 °C/+40 °C.	Danger of elastic sleeve scratch or overheating.	1) Turn off the machine. 2) Move the flanges away. 3) Check the coupling parts and replace them if necessary 4) Tighten the setscrews of the flanges and lock them up. 5) Check alignment while stopped and in operation and correct if necessary. 6) Measure and regulate the ambient temperature.

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