



## Mounting and operating instructions

### Elastic coupling DXA



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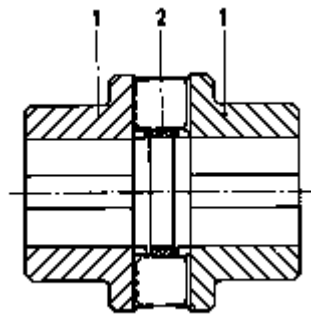
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## Components of the DXA coupling



- 1 Coupling hub
- 2 Spider 92° Shore A, white  
or 98° Shore B, blue

Fig. 1

### 1. Notes on Safety

DXA couplings can be used on a wide variety of machines.

Therefore, please pay special attention to the laws on machine protection for your particular application.

The following points are to be observed in particular when operating the DXA coupling and during all installation, maintenance and repair work in order to avoid accidents and injuries:

- During all maintenance and repair work on the coupling, make sure that the machine is at a standstill and that the main machine switch is de-activated and secured against being inadvertently re-activated.
- The maximum speed as per the data sheet or catalogue must not be exceeded.
- The admissible loading values according to the data sheet or catalogue must not be exceeded.
- The admissible alignment values to Table 1 must not be exceeded.
- The ambient temperature must not exceed +80°C during operation and +100°C at standstill.
- Rotating components must be safely covered to avoid contact.
- Before commissioning, it must be ensured that all assembly aids are removed from the coupling.
- **Make sure before commissioning that all the protective features are mounted.**
- Modifications to the coupling may only be made with the express approval of the manufacturer.
- **The manufacturer must be consulted if the admissible loading values should be exceeded.**

## 2. Function

The flexible DXA coupling is a non-racing claw coupling with flexible element for connecting shafts.

Due to its flexibility the coupling effectively dampens impacts, torsional vibrations and noises.

The flexible elements (spiders) are dimensioned so that they offset radial, axial and angular motions between the two coupling hubs.

Due to the fixed position of the spider, the deformability in axial direction is unlimited, which means that no detrimental axial forces can act on the machine bearings during torque transmission.

The smallest possible outside diameter with bores as big as possible results in low weight and mass moment of inertia.

## 3. Commissioning

observe the notes on safety in section 1 for all the following work on the coupling.

### 3.1 Installation

The smallest hubs size 24 and 28 are delivered without bore. From size 32, the hubs have a pilot bore. Finished bores should be made in tolerance H7. The reworking can be done by MÄDLER at extra charge. We recommend the shaft tolerance k6 up to a shaft diameter of 50 mm and m6 above this figure. In general, this shaft seat is sufficient to prevent axial misalignment.

Before mounting the coupling, the coupling hubs and shafts should be greased slightly to prevent them from rusting in at a future date.

Normally, the coupling hubs should sit flush with the shaft ends. However, the shaft may also project in the area of the claws.

The shafts with the coupling halves are now aligned to achieve the appropriate axial spacing, the assembly distance "S" to Table 1 or any installation drawing available.

The radial misalignment is checked with a ruler or dial gauge.

The angular misalignment is determined by measuring the distance "S" at several points, preferably every 90° (see Fig. 5).

The admissible misalignment values are to be determined in accordance with 3.2.

The more accurately the machinery is aligned, the greater the reserves of the coupling are for accommodating misalignment during operation.

### 3.2 Admissible misalignment values

If the forms of misalignment occur individually as described above, the respective values in Table 1 can be fully exploited up to a speed of 600 rpm.

As combined misalignment mainly occurs in practice, the sum of the measurements made must not exceed the values in Table 1.

The following applies:

$$\frac{\Delta W_r}{\Delta K_r} + \frac{\Delta W_a}{\Delta K_a} + \frac{\Delta W_w}{\Delta K_w} \leq 1 \quad \text{applies to a coupling speed of 600 rpm}$$

$$\leq 0,80 \text{ from } 601 - 1000 \text{ rpm}$$

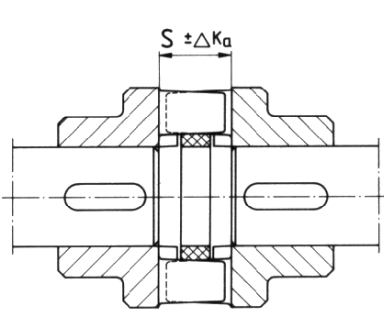
$$\leq 0,65 \text{ from } 1001 - 1500 \text{ rpm}$$

$$\leq 0,50 \text{ from } 1501 - 3000 \text{ rpm}$$

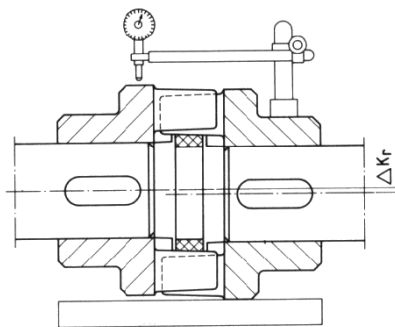
$\Delta K_{r/a/w}$  = admissible radial, axial or angular misalignment of the shafts or coupling hubs (see Table 1).

$\Delta W_{r/a/w}$  = measured radial, axial or angular misalignment of the shafts or coupling hubs.

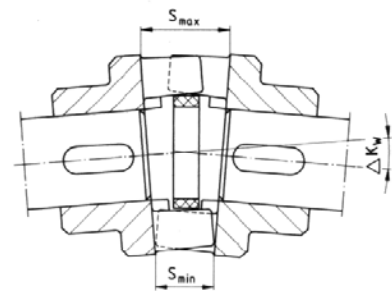
The coupling is to be able to accommodate the admissible misalignment values above all during operation. The objective must therefore be to align the coupling as accurately as possible during assembly.



**Fig. 2: Axial misalignment**



**Fig. 3: Radial misalignment**



**Fig. 3: Angular misalignment**

**Table 1**

Size	Distance „S“ mm	Shaft misalignment up to 600 rpm			
		radial $\Delta K_r$ mm	axial $\Delta K_a$ mm	angular $\Delta K_w$ mm	$\Delta K_w$ degrees
24	18	0,3	1,2	0,7	
28	20	0,3	1,2	0,8	
32	22	0,3	1,2	0,9	
38	24	0,4	1,5	1,0	
42	26	0,4	1,5	1,1	
48	28	0,4	1,5	1,3	
55	30	0,5	1,8	1,5	
60	32	0,5	1,8	1,6	0,7
65	35	0,5	1,8	1,7	
75	40	0,6	2,1	2,0	
85	44	0,7	2,1	2,0	
100	50	0,8	2,4	2,3	
110	55	0,9	2,4	2,3	
125	60	1,0	3,0	2,8	
140	65	1,1	3,0	2,8	
160	75	1,2	3,0	2,8	

AK, = Smax - Smin

## 4. Maintenance

Maintenance of the DXA coupling is not required. However, we recommend you to check the alignment regularly. When doing so, please observe the notes on safety in section 1. Installation and alignment as described under section 3. Also the spider must be checked regularly. If you can see a large wear or the play is too much, the spider must be replaced.