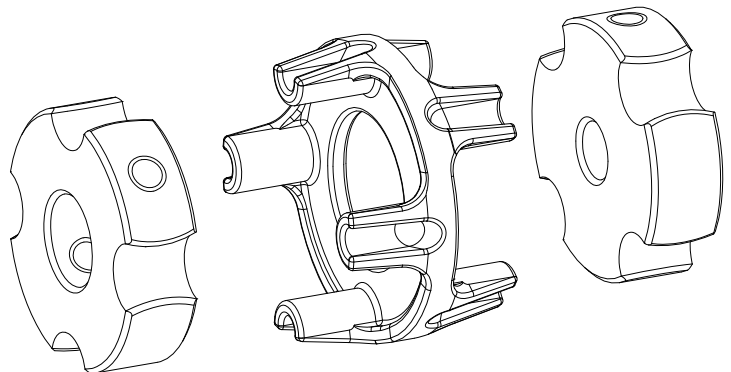




# COUNTEX®

Torsionally stiff, backlash-free  
shaft coupling



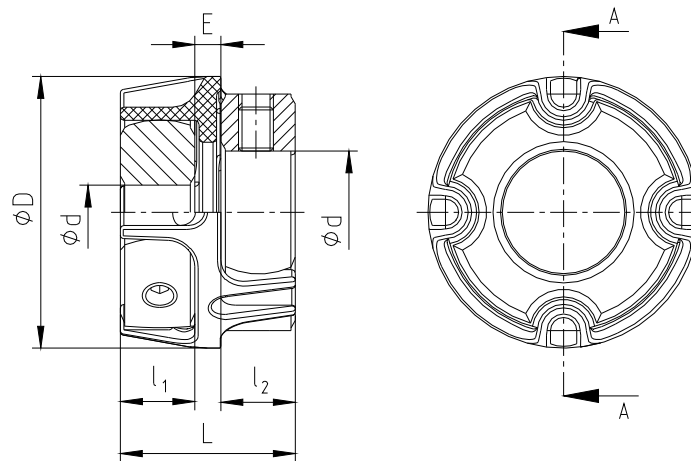
**COUNTEX®** is a backlash-free shaft coupling. It is able to compensate for shaft displacement caused by, as an example, inaccuracies in production, heat expansion, etc.

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**1 Technical Data**



picture 1: COUNTEX®

**Table 1:**

COUNTEX® size	Torque [Nm]		Dimensions [mm]					
			Finish bore		D	$l_1; l_2$	E	L
	$T_{KN}^{1)}$	$T_{Kmax.}^{2)}$	$d_{min.}$	$d_{max.}$				
6	0,3	0,6	2	6	15	4	4	12
14	1,0	2,0	5	14	30	8	4	20

Operating temperature -40 °C to +160 °C.

<sup>1)</sup>  $T_{KN}$  = Rated torque of the coupling which can be permanently transmitted taking into account the permissible displacements.

<sup>2)</sup>  $T_{Kmax.}$  = Maximum torque of the coupling which can be transmitted during the overall service life of the coupling taking into account the permissible displacements as pulsating load  $\geq 10^5$  times or as alternating load  $5 \cdot 10^4$ , respectively.

**2 Hints**

**2.1 General Hints**

Please read through these mounting instructions carefully before you set the coupling into operation.

Please pay special attention to the safety instructions!

The mounting instructions are part of your product. Please keep them carefully and close to the coupling.

The copyright for these mounting instructions remains with KTR Kupplungstechnik GmbH.

**2.2 Safety and Advice Hints**



**DANGER!**

**Danger of injury to persons.**



**CAUTION!**

**Damages on the machine possible.**



**ATTENTION!**

**Pointing to important items.**

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## 2 Hints

### 2.3 General Hints of Danger



#### **DANGER!**

**With assembly, operation and maintenance of the coupling it has to be made sure that the entire drive train is protected against unintentional engagement. You can be seriously hurt by rotating parts. Please make absolutely sure to read through and observe the following safety instructions.**

- All operations on and with the coupling have to be performed taking into account "safety first".
- Please make sure to disengage the power pack before you perform your work.
- Protect the power pack against unintentional engagement, e. g. by providing hints at the place of engagement or removing the fuse for current supply.
- Do not touch the operation area of the coupling as long as it is in operation.
- Please protect the coupling against unintentional touch. Please provide for the necessary protection devices and caps.

### 2.4 Proper Use

You may only assemble, operate and maintain the coupling if you

- carefully read through the mounting instructions and understood them
- had technical training
- are authorized to do so by your company

The coupling may only be used in accordance with the technical data (see table 1 in chapter 1). Unauthorized modifications on the coupling design are not admissible. We do not take any warranty for resulting damages. To further develop the product we reserve the right for technical modifications.

The **COUNTEX®** described in here corresponds to the technical status at the time of printing of these mounting instructions.

## 3 Storage

The coupling hubs made of steel are supplied in preserved condition and can be stored at a dry and roofed place for 6 - 9 months.

The coupling hubs made of aluminium can be stored in a roofed, dry place for 6 - 9 months.

The features of the spacer remain unchanged for up to 7 years in case of favourable stock conditions.



#### **CAUTION!**

**The storage rooms may not include any ozone-generating devices, like e. g. fluorescent light sources, mercury-vapour lamps or electrical high-voltage appliances.**

**Humid storage rooms are not suitable.**

**Please make sure that there is no condensation. The best relative air humidity is under 65%.**

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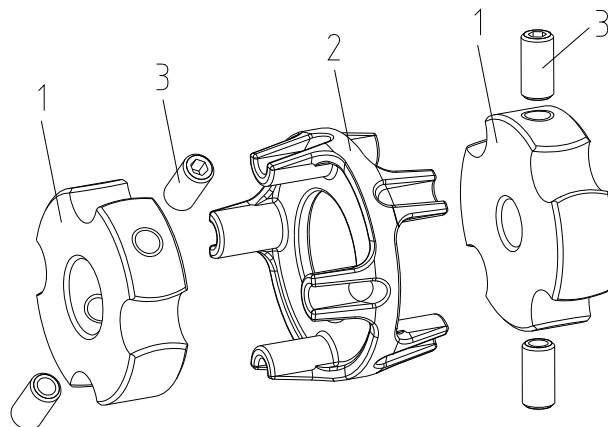
## 4 Assembly

Basically the coupling is supplied in individual parts. Before assembly the coupling has to be controlled for completeness.

### 4.1 Components of Couplings

#### Components of COUNTEX®, shaft coupling

Component	Quantity	Designation
1	2	Hub
2	1	Spacer
3	4	Setscrew DIN EN ISO 4029



picture 2: COUNTEX®

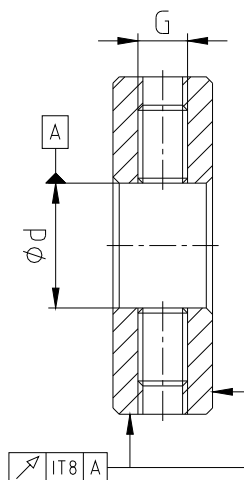
### 4.2 Hint Regarding the Finish Bore



#### DANGER!

The maximum permissible bore diameters  $d$  (see table 1 in chapter 1 - Technical Data) must not be exceeded. If these figures are disregarded, the coupling may tear. Rotating particles may cause serious danger.

- Hub bores machined by the customer have to observe concentric running or axial running, respectively (see picture 3).
- Please make absolutely sure to observe the figures for  $d_{max}$ .
- Carefully align the hubs when the finish bores are brought in.
- Please use a setscrew according to DIN EN ISO 4029 with a cup point or an end plate to fasten the hubs axially.



picture 3: concentric running and axial running



#### CAUTION!

The orderer is responsible for all subsequently made machinings to unbored or pilot bored and to finish machined coupling parts and spare parts. KTR does not assume any warranty claims resulting from insufficient refinish.

Table 2: setscrew DIN EN ISO 4029

COUNTEX® size	6	14
Dimension G	M2	M4
Tightening torque $T_A$ [Nm]	-	1,5



## 4 Assembly

### 4.3 Assembly of the Hubs



#### ATTENTION!

We recommend to check bores, shaft, keyway and feather key for dimensional accuracy before assembly.

Light heating facilitates the assembly or disassembly, respectively.



#### DANGER!

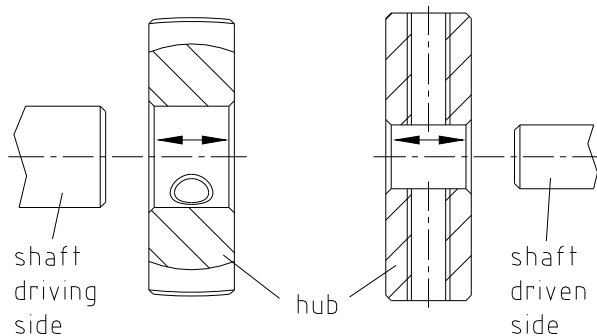
Touching the heated hubs causes burns.  
We would recommend to wear safety gloves.



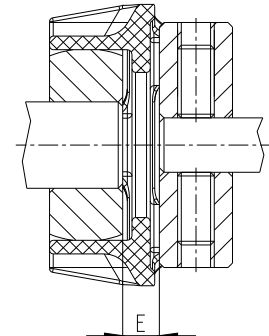
#### CAUTION!

For the assembly please make sure that the distance dimension E (see table 1) is kept to ensure that the spacer can be moved axially.  
Disregarding this hint may cause damage on the coupling.

- Assemble the hubs onto the shaft of driving and driven side (see picture 4).
- Insert the spacer into the keyways of the hub on the driving or driven side.
- Move the power packs in axial direction until the dimension E is achieved (see picture 5).
- If the power packs are already firmly assembled, axial movement of the hubs on the shafts allows for adjusting the dimension E.
- Fasten the hubs by tightening the setscrews DIN EN ISO 4029 with cup point (tightening torque see table 2).



picture 4: assembly of the hubs



picture 5: coupling assembly

### 4.4 Displacements - Alignment of the Couplings

The displacement figures shown in table 3 offer sufficient safety to compensate for environmental influences like, for example, heat expansion or lowering of foundation.



#### CAUTION!

In order to ensure a long lifetime of the coupling, the shaft ends have to be aligned accurately. Please absolutely observe the displacement figures indicated (see table 3). If the figures are exceeded, the coupling will be damaged.  
The exacter the alignment of the coupling, the higher is its lifetime.

#### Please note:

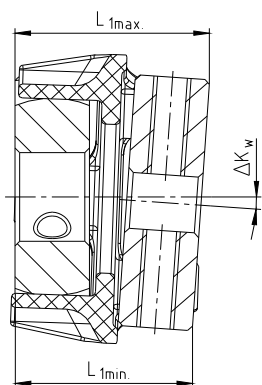
- The displacement figures mentioned in table 3 are maximum figures which must not arise in parallel. If radial and angular displacement arises at the same time, the permissible displacement values may only be used in part (see picture 7).
- Please check with a dial gauge, ruler or feeler whether the permissible displacement figures of table 3 can be observed.

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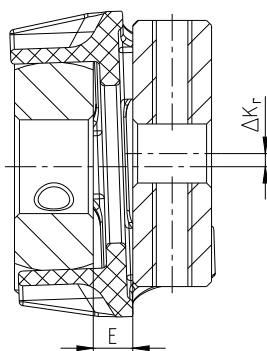
**4 Assembly**

**4.4 Displacements - Alignment of the Couplings**

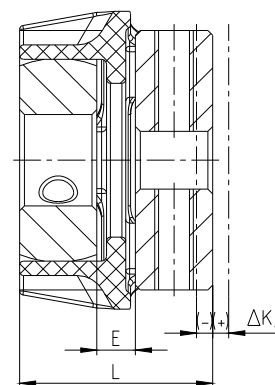


angular displacements

$$\Delta K_w = L_{1max} - L_{1min} \text{ [mm]}$$



radial displacements



axial displacements

$$L_{max} = L + \Delta K_a \text{ [mm]}$$

picture 6: displacements

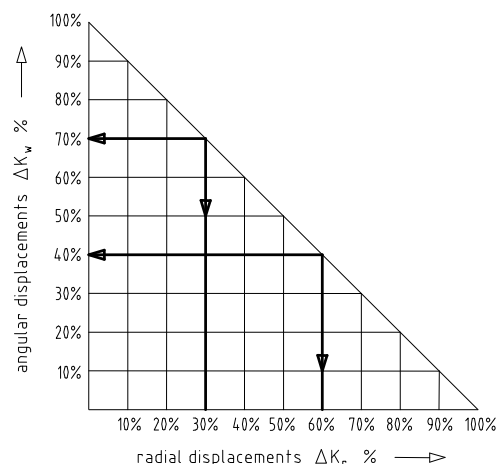
Example for the misalignment combinations given in picture 7:

Example 1:  
 $\Delta K_r = 30 \%$   
 $\Delta K_w = 70 \%$

Example 2:  
 $\Delta K_r = 60 \%$   
 $\Delta K_w = 40 \%$

$$\Delta K_{total} = \Delta K_r + \Delta K_w \leq 100 \%$$

picture 7:  
combinations of displacement



**Table 3: displacement figures**

COUNTEX® size	6	14
Max. axial displacement $\Delta K_a$ [mm]	-0,3 +0,6	-0,5 +1,0
Max. radial displacement $\Delta K_r$ [mm]	0,05	0,12
Max. angular displacement $\Delta K_w$ [degree]	0,36	0,57

**4.5 Spares Inventory, Customer Service Addresses**

A basic requirement to guarantee the operational readiness of the coupling is a stock of the most important spare parts on site.

Contact addresses of the KTR partners for spare parts and orders can be obtained from the KTR homepage under [www.ktr.com](http://www.ktr.com).



**ATTENTION!**

**KTR does not assume any liabilities or guarantees regarding the use of spare parts and accessories which are not provided by KTR and for the damages resulting herefrom.**

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