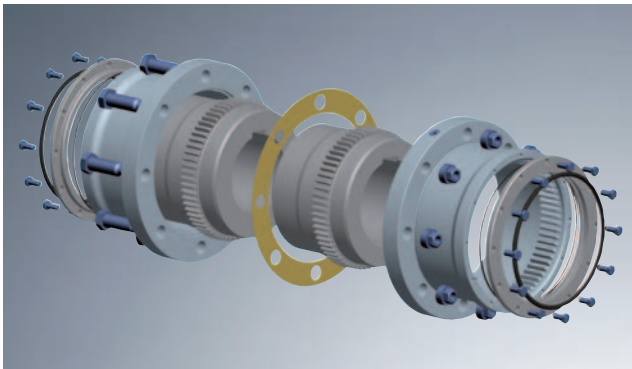
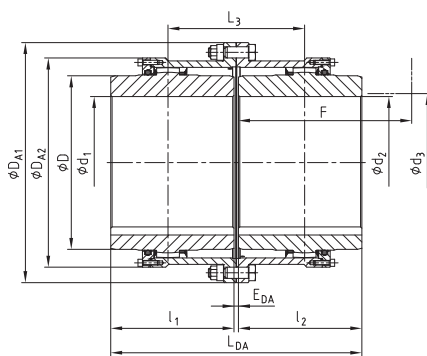


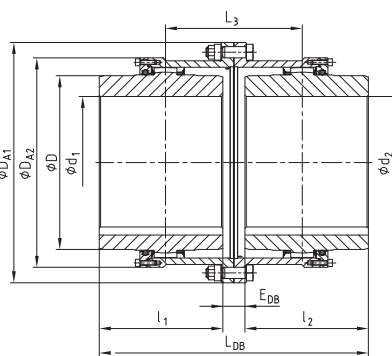
**Type DA, type DB and type DAB**



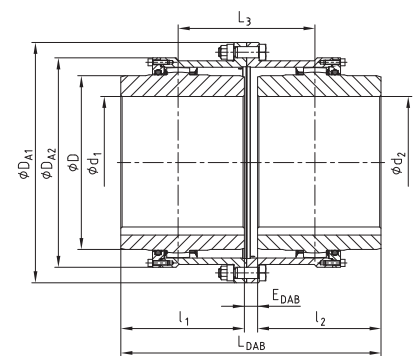
- Double-cardanic crowned gear coupling
- To be used on all applications in general engineering
- Compensating for shaft misalignment axial – radial – angular
- Available with finish bore to ISO, feather key according to DIN 6885 sheet 1, taper and inch bores
- For horizontal assembly
- Higher torques to be realized by special materials



**Type DA**



**Type DB**



**Type DAB**

Dimensions																
Size	Max. finish bore d <sub>1</sub> : d <sub>2</sub>	Dimensions [mm]														Grease <sup>2)</sup> feeding [dm <sup>3</sup> ]
		l <sub>1</sub> , l <sub>2</sub>	E <sub>DA</sub>	E <sub>DB</sub>	E <sub>DAB</sub>	L <sub>DA</sub>	L <sub>DB</sub>	L <sub>DAB</sub>	L <sub>3</sub>	D	D <sub>A1</sub>	D <sub>A2</sub>	F <sup>1)</sup>	d <sub>3</sub> <sup>1)</sup>		
80	300	280	10	50	30	570	610	590	310	394	545	475	310	310	6,5	
85	325	292	13	53	33	597	637	617	325	430	585	515	320	330	7,5	
90	350	305	13	83	48	623	693	658	353	464	640	560	340	360	11	
100	390	330	13	93	53	673	753	713	383	512	690	612	360	400	12	

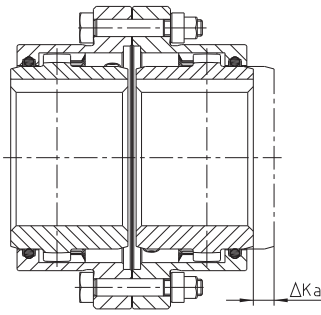
1) Required space to align the coupling or replace the sealing ring, respectively.

2) Grease feeding for each coupling half

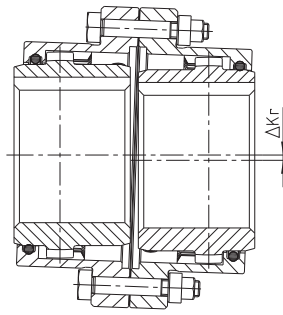
Technical Data										
Size	Torque [Nm]		Max. speed [rpm]	Weight with max. bore-Ø [kg]			Massmoment of inertia J with max. bore-Ø [kgm <sup>2</sup> ]	Dowel screws (10.9)		
	T <sub>KN</sub>	T <sub>Kmax.</sub>		Sleeve	Hub	Total		z	M	T <sub>A</sub> [Nm]
80	175000	350000	1900	64	117	362	14,214	18	M20	610
85	225000	450000	1800	75	148	446	20,320	20	M20	610
90	400000	800000	1500	101	183	568	31,036	20	M24	1000
100	510000	1020000	1400	117	232	698	45,358	24	M24	1000

<b>Order form:</b>	<b>GEAREX® DA 80</b>	<b>d<sub>1</sub> Ø 300</b>	<b>d<sub>2</sub> Ø 300</b>
	Size and type of coupling	Finish bore keyway DIN 6885 sheet 1	Finish bore keyway DIN 6885 sheet 1

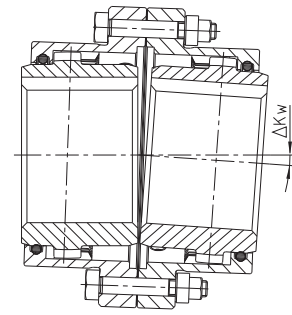
**Displacements**



**Axial displacement**



**Radial displacement**



**Angular displacement**

Displacements			
Size	Max. axial displacement $\Delta K_a$ [mm]	Max. permissible displacements <sup>1)</sup>	
		$\Delta K_r$ [mm]	$\Delta K_w$ [°]
10		0,4	
15		0,5	
20		0,6	
25	$\pm 1,0$	0,8	
30		1,0	
35		1,0	
40		1,2	
45		1,4	
50		1,6	0,5° each hub
55	$\pm 1,5$	1,8	
60		2,0	
70		2,2	
80		2,5	
85		2,8	
90	$\pm 2,0$	3,0	
100		3,2	

1) The displacement figures are maximum figures which must not arise at the same time. If both radial and angular displacement arise at the same time, these figures have to be reduced (see examples of calculation and diagramme).

Example 1:

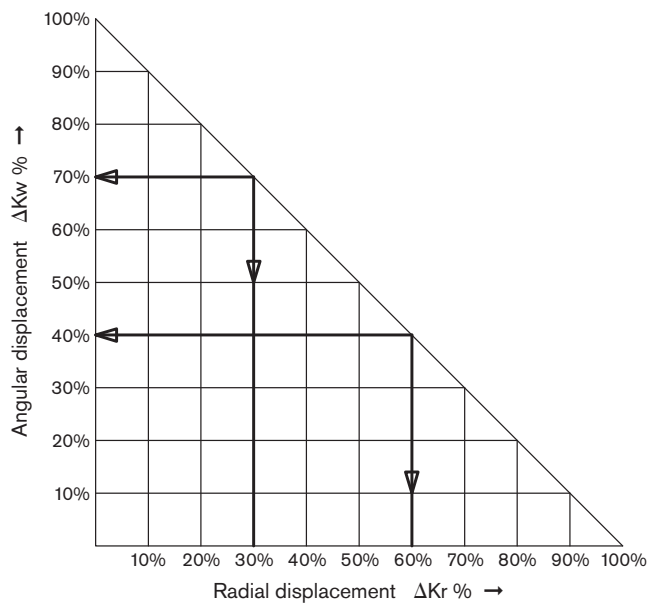
$\Delta K_r = 30\%$

$\Delta K_w = 70\%$

Example 2:

$\Delta K_r = 60\%$

$\Delta K_w = 40\%$



## Coupling selection

The coupling has to be dimensioned in a way that the permissible coupling load is not exceeded during any operating condition. For that purpose the loads that are produced have to be compared to the permissible characteristic figures of the coupling.

### 1 Coupling selection

The coupling is selected according to the rated torque ( $T_{KN}$ ). For that purpose the corresponding operating factors of the driving machine have to be taken into account, see starting factor  $S_Z$  and operating factor  $S_B$ .

### 2 Load of the coupling

$$T_{KN} \geq T_{NS}$$

$$T_{NS} = T_N \cdot S_Z \cdot S_B$$

$$T_N [\text{Nm}] = 9550 \cdot \frac{P_{AN/LN} [\text{kW}]}{n [\text{rpm}]}$$

$T_{KN}$  = rated torque of the coupling

$T_N$  = driving torque

$T_{NS}$  = driving torque including operating factors

$S_Z$  = starting factor

$S_B$  = operating factor

### 3 Starting torque

The permissible starting torque of the machine should not exceed two times the rated torque of the coupling.

### 4 Permissible load on the feather key of the coupling

The shaft-hub-connection should be verified by the customer. Permissible surface pressure according to DIN 6892 (method C).

### 5 Permissible temperature range

The coupling can be used in a temperature range from  $-20\text{ °C}$  to  $+80\text{ °C}$ .

### 6 Example of selection

Electric motor: 30 kW  
Application: textile machine  
Shaft-Ø: 70/65 mm  
Speed: 250 rpm  
Starts: < 10/h  
Starting torque:  $2,5 \cdot T_{KN}$

#### Result:

$$T_N = 9550 \cdot \frac{30 \text{ kW}}{250 \text{ rpm}}$$

$$T_N = 1146 \text{ Nm}$$

$$T_{NS} = 1146 \text{ Nm} \cdot 1 \cdot 1,25$$

$$T_{NS} = 1432,5 \text{ Nm}$$

#### Coupling selected:

GEAREX® 15 ( $T_{KN} = 2000 \text{ Nm}$ )

The starting torque of the machine is 2,5 times the starting torque (3581 Nm).

(permissible  $2 \cdot T_{KN} = 4000 \text{ Nm}$ )

**Service factor  $S_Z$  for starting frequency**

starting frequency/h	10	25	50
$S_Z$	1,0	1,2	1,4

**Operating factor  $S_B$**

Kind of load	Operating features	Machines	Operating factor
Smooth/ smoothly	Permanent operation without overload or shock load. Low connecting frequency.	<ul style="list-style-type: none"> <li>• Electric generators</li> <li>• Radial pumps</li> <li>• Light-weight fans</li> </ul>	1,00
Light-weight	Permanent operation with small overload and short-term and rare shock load.	<ul style="list-style-type: none"> <li>• Multistage radial compressors</li> <li>• Piston pumps</li> <li>• Large fans (heavy load operation)</li> <li>• Mixers for liquids</li> <li>• Mixers for solid matters</li> <li>• Textile machines</li> <li>• Machine tools</li> <li>• Belt conveyor</li> <li>• Elevators</li> </ul>	1,25
Average	Interrupted operation with low shock load and short-term average overload.	<ul style="list-style-type: none"> <li>• Piston compressor, cranes (running or drawing operation)</li> <li>• Winding engine, calenders for rubber and nylon</li> <li>• Calenders</li> <li>• Rolling mill drives</li> <li>• Non-reversing cold rolling mills</li> </ul>	1,50
Heavy	Operation with heavy and frequent shock load. Frequent load reversion. High degree of safety.	<ul style="list-style-type: none"> <li>• Bridge cranes for steel industry</li> <li>• Mixers for rubber and nylon</li> <li>• Cranes (heavy load operation)</li> <li>• Wood grinders, marine drives</li> <li>• Equipment for transport of persons</li> <li>• Mine fans</li> <li>• Roller tables</li> <li>• Non-reversing cold rolling mills</li> <li>• Reversing cold rolling mills</li> <li>• Hot-rolling mill</li> </ul>	2,00
Very heavy	Extreme and overload with frequent and sudden load revolution.	<ul style="list-style-type: none"> <li>• Reversing rolling mill drives</li> <li>• Heavy load operation in steel industry</li> <li>• Slitting machines</li> <li>• Grinding machines</li> <li>• Scissors and cutters</li> <li>• Crushers</li> </ul>	2,50