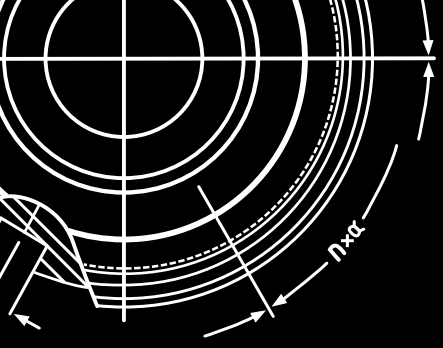
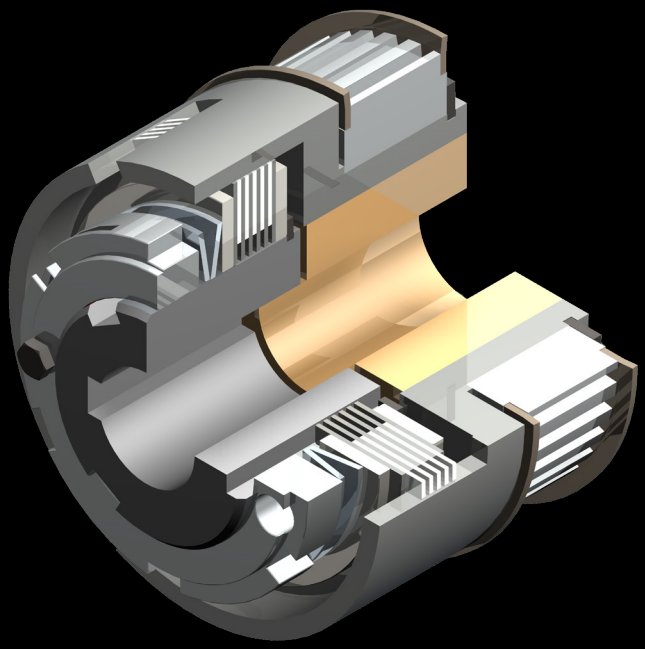


Mönninghoff

Multiple-disc torque limiter
Type 581

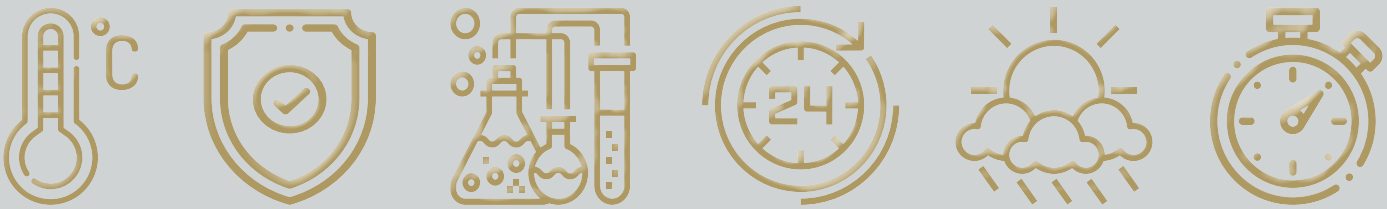


Mönninghoff

Multiple-disc torque limiter - Type 581

Characteristics and features

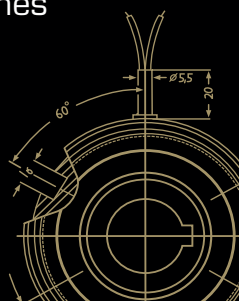
- negligible wear due to special friction lining
- frictional torque transmission
- transmitted torque is infinitely variable between 80% and 110% of the rated torque
- on request smaller torques are possible
- transmitted torque is maintained when overload occurs
- to avoid thermal damage, the input drive must be switched off as quickly as possible by means of slip or zero speed detectors
- oil or dry running



Mönninghoff power transmission represents an infinite variant diversity that is applied by all areas of modern mechanical engineering.

Our technologies are mostly designed to operate under extreme conditions. We offer high precision products for medical robotics, fail-proof security for aerospace technology or synchronization soultions for the packaging or printing industry.

We thus address customers who have the highest standards for their own machines or systems. To them, we can offer highly complex, application-specific solutions.

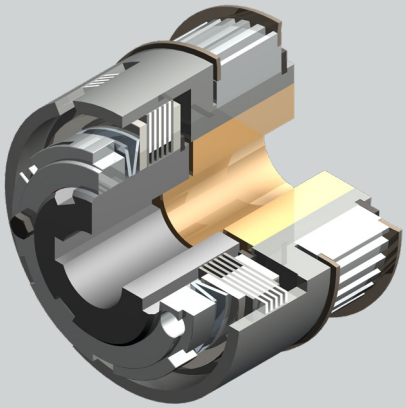


Mönninghoff

Multiple-disc torque limiter - Type 581

Match code

Mönninghoff multiple-disc torque limiters are indicated by the following match code:



581 . A . B . C

A coupling size
B design
C system

Other individual characteristics:

- bore size with keyway

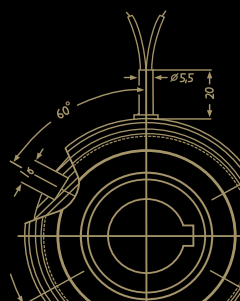
According to these characteristics, we design individual solutions concerning transmitted torque, engaging behavior or rotation speed.

Our engineers can assist with finding an application-specific clutch at any time. Together, we can develop individual and innovative solutions for extreme operating conditions.

Ordering example

Mönninghoff multiplate torque limiter
Type 581.21.1.4

Bore size d	25 mm H7, keyway acc. to DIN 6885/1
Bore size d_1	32 mm H7, keyway acc. to DIN 6885/1



Multiple-disc torque limiter - Type 581

Selection according to the torque

When dimensioning a Mönninghoff multiple-disc torque limiter, several technical preconditions should be considered:

- the overload torque should be at least 20% larger than the average torque
- for the selection of the correct size, not only the peak load but also the dynamic behavior of the drive have to be taken into account, especially for starting or slowing down
- generally, the selection of the correct torque limiter is based on torque:

$$T_K = (T_a + T_L) \times K \quad [Nm]$$

Selection according to the heat-potential

Friction clutches also have to be examined as to their ability to cope with the frictional heat.

- the permissible heat potential of the coupling plus the correction factors K1 and K2 must be smaller than the actual energy to be absorbed.

$$E_p < E_K \times K_1 \times K_2$$

$$E_p = 2 \times \pi \times T \times n$$

T_K = coupling torque

T_a = starting torque

T_L = load torque

K = service factor 1,2 to 3

K_1 = service factor, dependent on cycle

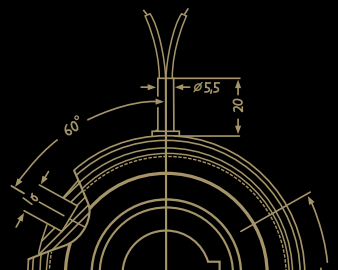
K_2 = service factor, dependent on the number of the shift cycle

E_K = permissible heat potential

E_p = real take up energy

T = real slide torque

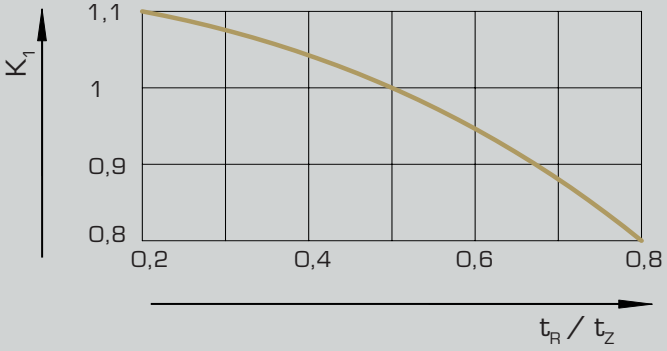
n = number of the complete rotations during slide condition



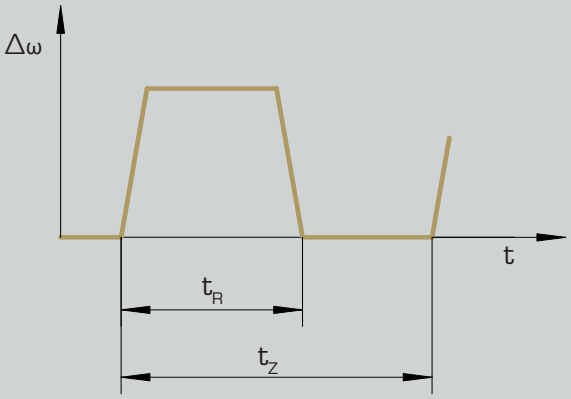
Multiple-disc torque limiter - Type 581

Determination of the heat potential

The real take up energy of the coupling depends on the sliding time per cycle in correlation to the cycle time and on the number of slides per hour. The correction factors for the real take up energy E_p of the coupling can be derived from the tables and graphs.

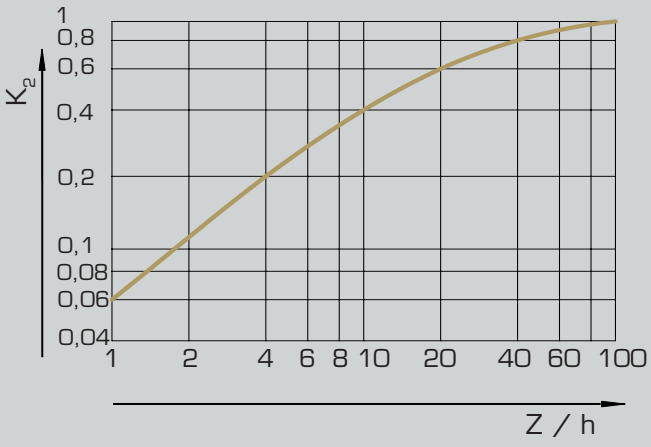


Service-factor K_1 as function of t_R / t_Z

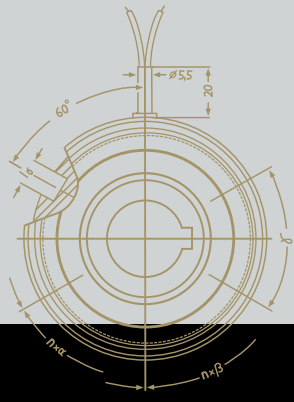


Course of the slipping cycle

t_R = sliding time per cycle
t_Z = cycle-time
$\Delta\omega$ = differential angular velocity



Correction factor k_2 as function of number of slides Z / hour

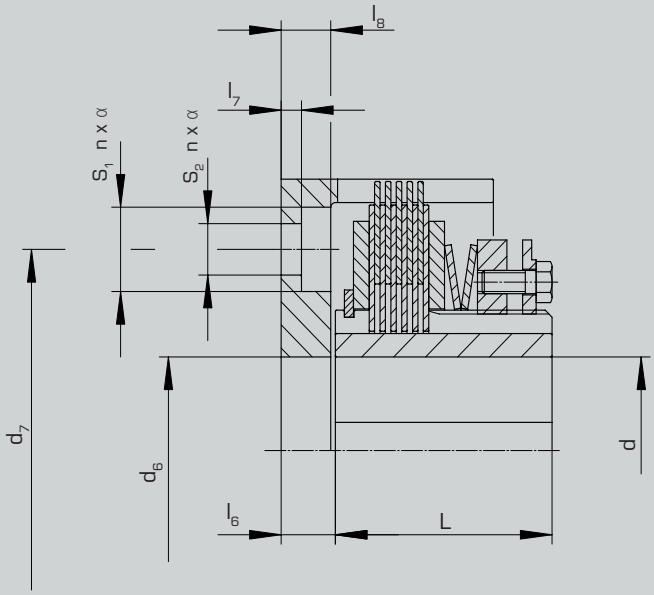


Heat potential Type 581

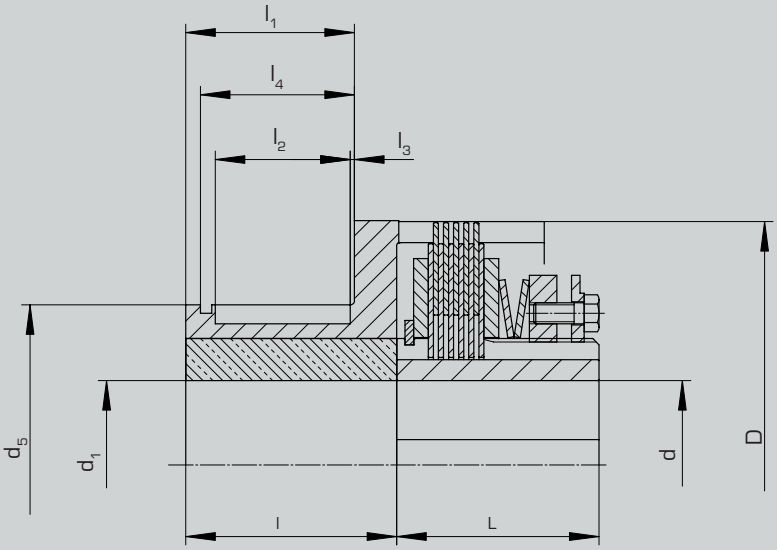
Size	11	13	21	22	24	26
E_K [Nm/h]	120.000	210.000	370.000	600.000	850.000	1.300.000

Multiple-disc torque limiter - Type 581

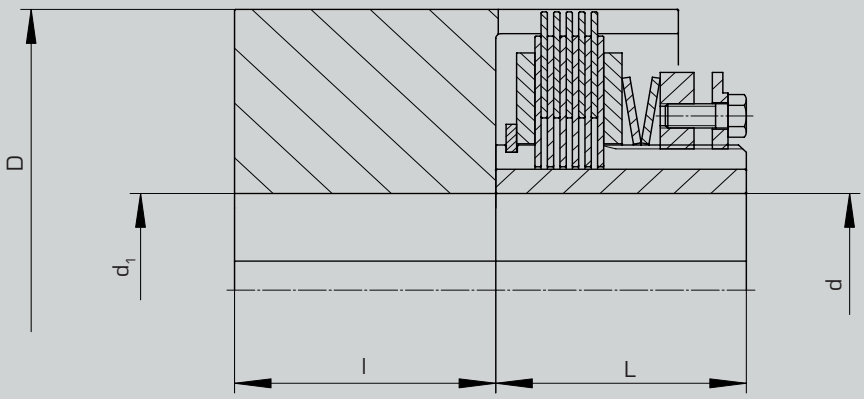
Coupling size



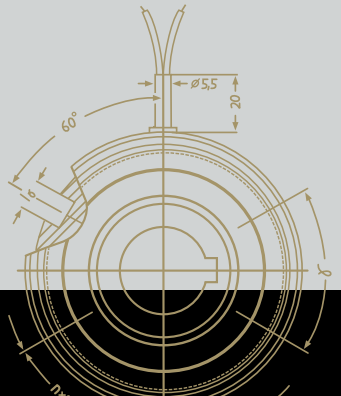
Design 1.1:



Design 1.3:
with sliding bearing



Design 1.4:
for connection of 2 shaft-ends

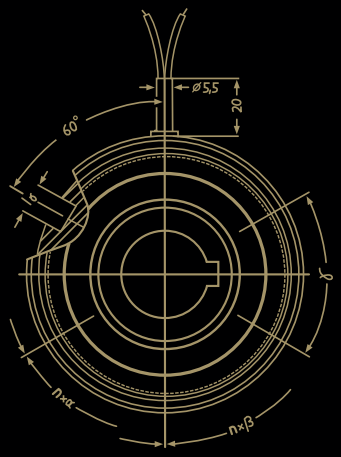


Mönninghoff

Multiple-disc torque limiter - Type 581

Technical data

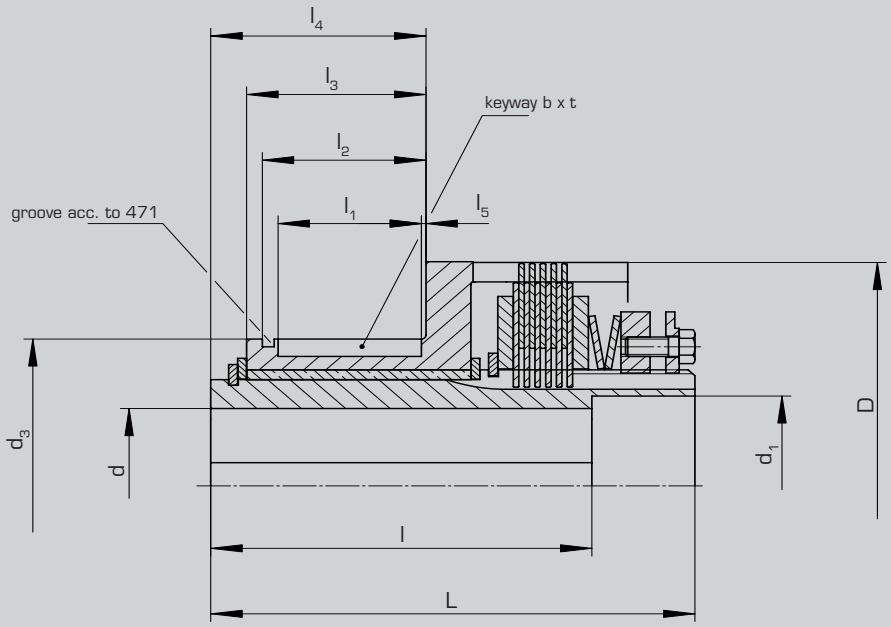
Size				11	13	21	22	24	26
torque		T_{K1}	[Nm]	10	30	100	200	400	600
weight	design 1.1		[kg]	0,7	1,3	4,2	5,3	13	16
	design 1.3			0,8	1,7	4,5	5,6	14	17
	design 1.4			0,9	2,3	6,3	7,4	18	21
bore d	keyway acc. to DIN 6885/1	min.	[mm]	10	15	20	20	30	30
		max.		18	32	40	40	70	70
bore d_1	keyway acc. to DIN 6885/1	min.		10	15	20	20	30	30
		max.		24	40	55	55	90	90
dimensions		D	[mm]	59	79	116	116	160	160
		d_5 k6		35	55	75	75	120	120
		d_6 H8		20	30	40	40	60	60
		d_7 ±0,2		40	56	86	86	126	126
		L		32	42	48	64	80	96
		l		25	36	50	50	70	70
		l_1		20	30	40	40	60	60
		l_2		14	22	32	32	50	50
		l_3		1	1	1	1	1	1
		l_4		16	24	34	34	52	52
		l_6		6	8	12	12	12	12
		l_7		3,5	4	6,5	6,5	6,5	6,5
		l_8		5,5	7	11	11	11	11
		S1		10	11	18	18	18	18
		S2		5,5	6,6	11	11	11	11
		n x α		3 x 120°	4 x 90°	4 x 90°	4 x 90°	6 x 60°	6 x 60°
		b x t		4 x 2,5	6 x 3,5	10 x 4,5	10 x 4,5	14 x 5	14 x 5



Mönninghoff

Multiple-disc torque limiter - Type 581

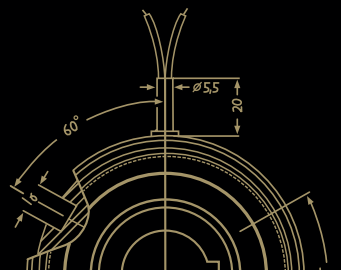
Coupling size



Design 2.3: assembled unit

Technical data

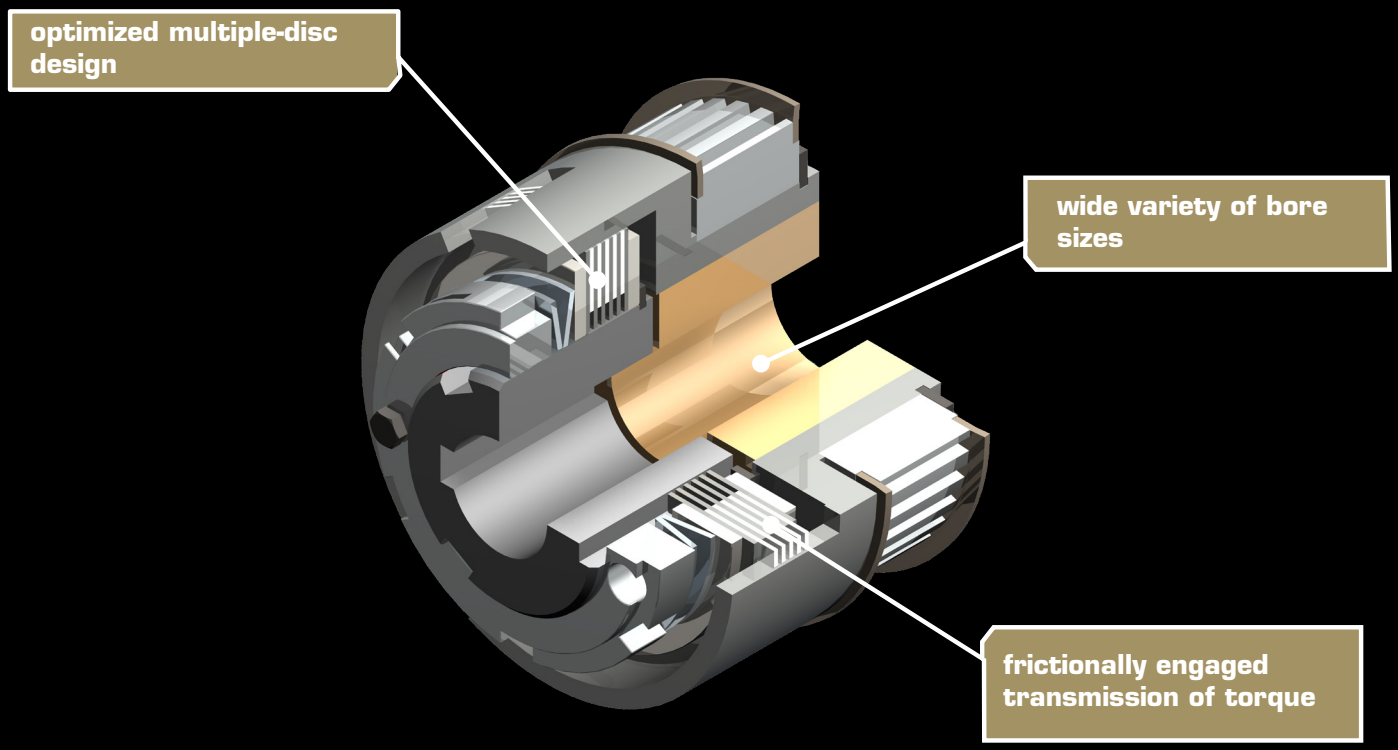
Size				11	13	21	22	24	26
torque		T_{K1}	[Nm]	10	30	100	200	400	600
weight			[kg]	0,8	1,8	4,7	6	14,5	18
bore d	keyway acc. to DIN 6885/1	min.	[mm]	10	15	20	20	30	30
		max.		18	32	40	40	70	70
dimensions		D	[mm]	59	79	116	116	160	160
		d_1		20	34	44	44	80	80
		d_3 k3		35	55	75	75	120	120
		L		64,5	87	108	124	165	181
		l	to d = 38	40	60	85	85	85	85
			to 38 < d < 55	-	-	-	-	115	115
			to 55 < d < 55	-	-	-	-	130	145
		l_1		14	22	32	32	50	50
		l_2		17,6	25,85	36,15	36,15	55,2	55,2
		l_3		20	30	40	40	60	60
		l_4		26	37,5	48	48	70	70
		l_5		1	1	1	1	1	1
		b x t		4 x 2,5	6 x 3,5	10 x 4,5	10 x 4,5	14 x 5	14 x 5



Mönninghoff

Multiple-disc torque limiter - Type 581

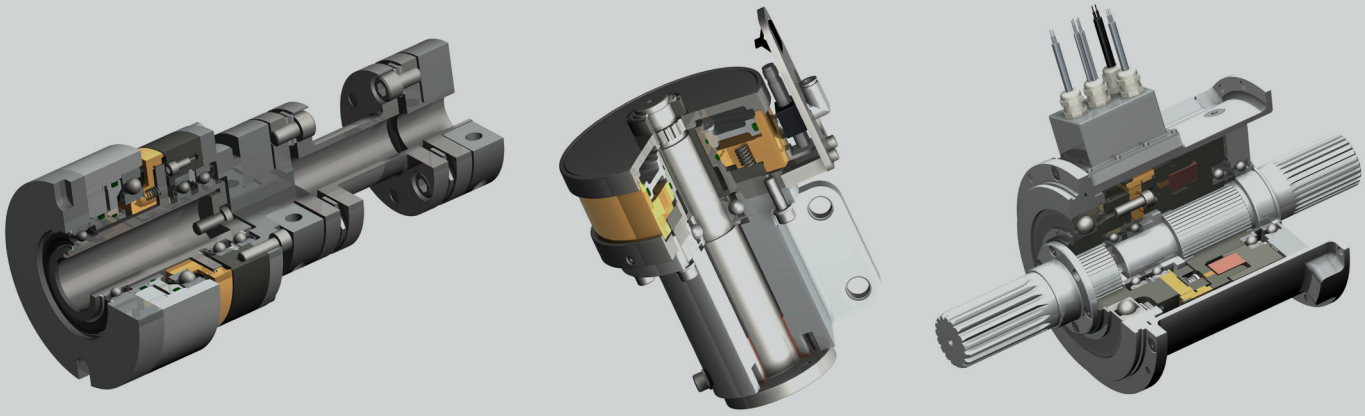
At a glance



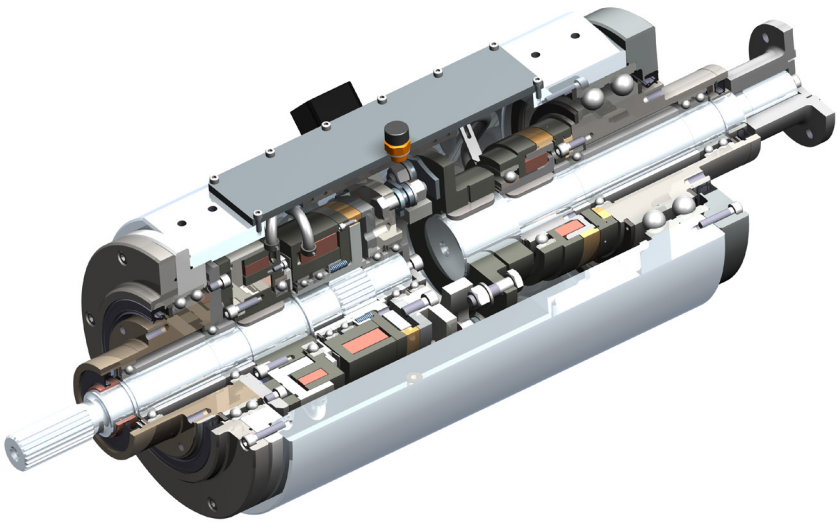
System solutions

You need more?

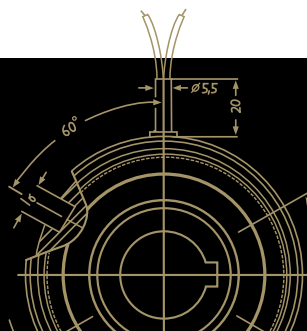
Mönninghoff clutches can be combined with a variety of many other power transmission elements. Such complex high-tech systems can solve any application-specific tasks and can fulfill any customer-specific wishes.



In many cases, a combination of different drive elements is needed to solve the applications particular problems and difficulties. Being not just supplier but technological partner to our customers, our extensive engineering is part of extraordinary and challenging power transmission projects.



Our product is the know-how,
with hardware as an added bonus.



Mönninghoff

Driven by excellence

Why Mönninghoff

- intensive dialog with our customers‘ engineers
- decades of experience and competence
- deep understanding for all areas of mechanical engineering
- highly modern and flexible machine park
- enthusiasm for quality
- flexibility, inventiveness and communication skills of our employees
- commitment to Germany and Bochum as industrial location

How to reach us

Sales
sales@moenninghoff.de
+49 2327 3033-250

Helps you find a customer-specific power transmission solution for extraordinary circumstances.

Order Management
confirmation@moenninghoff.de
+49 2327 3033-353

For the competent processing and smooth handling of your orders and delivery dates.

Service
service@moenninghoff.de
+49 2327 3033-333

Feels committed to protect and preserve the high value of your machine and to secure its availability.

www.moenninghoff.de/en