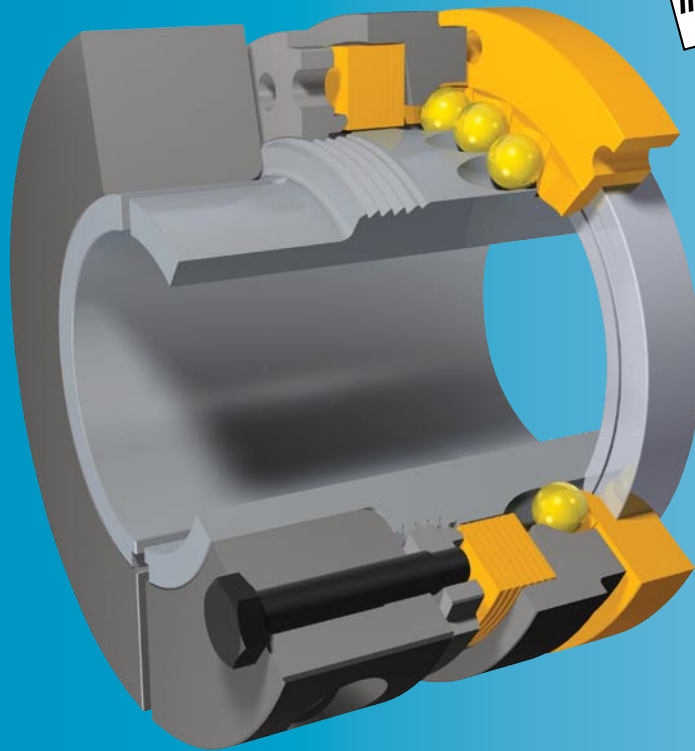


# EAS<sup>®</sup>-smartic<sup>®</sup>

Installation space-optimised  
torque limiting clutches

The  
**No. 1**  
for torque  
limiting clutches



- *Simple, easily readable torque adjustment*
- *Quick installation via clamping hub*
- *Backlash-free torque transmission*
- *Good dynamic characteristics*

[www.mayr.de](http://www.mayr.de)

K.481.V09.GB

**mayr**<sup>®</sup>  
your reliable partner

**Characteristics and Advantages of the EAS®-smartic®:**

- ❑ **Very easy and quick installation via the clamping hub by tightening one single screw**
- ❑ **Durable backlash-free torque transmission**
- ❑ **Good dynamic characteristics**
- ❑ **Economical and reliable**
- ❑ **Simple and safe torque adjustment via a graduation scale with a directly readable torque indication**
- ❑ **Highest possible transmission security due to keyway and clamping hub**
- ❑ **High torque range from 6 – 100 % of the maximum torque**
- ❑ **Adjustment of the different torques possible by re-layering the cup springs already installed without reducing/adding the number of springs**

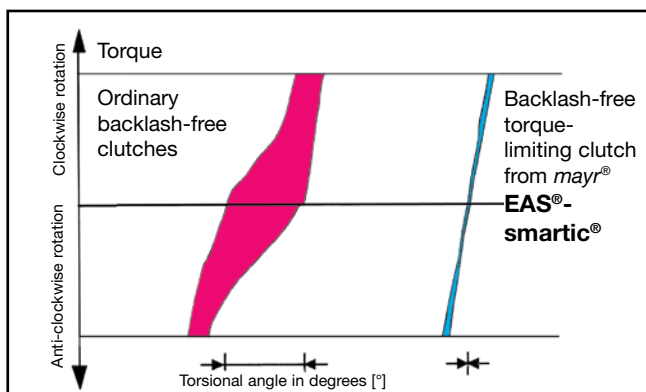


**Function**

The EAS®-smartic® Type 481 transmits the torque from the drive shaft onto a drive element which can be mounted onto the ball bearing-supported clutch flange. The EAS®-smartic® Type 484 and Type 486 connect two shafts and compensate for shaft misalignments. The torque transmission takes place backlash-free for the entire lifetime of the clutch. When the set limit torque is exceeded, the clutch disengages. The torque drops immediately. The mounted mayr®-limit switch registers the disengagement movement and switched off the drive. After the malfunction has been removed, the clutch re-engages automatically.

**Re-engagement**

After the malfunction has been removed (overload), the clutch re-engages exactly at the point at which it previously disengaged. The input and output, therefore, always have the same angular position to each other during operation.



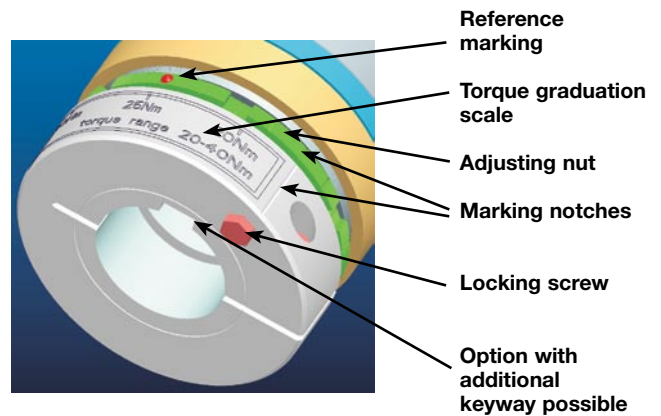
**Backlash is:**

- The torsional angle between the clutch input and output
- Also known as "torsional backlash"
- Not to be confused with the transmission backlash from the shaft onto the hub
- At mayr®, backlash-free means: Backlash → 0 (see Diagram)

**Torque Adjustment**

If the torque is not specified on order, we set your clutch to c. 80 % of the maximum torque. The reference marking and the torque indication show the set value directly. Should the torque need setting to a different value, simply:

- Loosen the fixing screw,
- Turn the adjusting nut using a hook wrench until the reference marking shows the required torque value.
- If necessary, slightly correct the adjusting nut position until the marking notches align, and
- Screw the locking screws back in again.



**Installation**

**Shaft securement – clamping hub**

The device is secured onto the shaft by tightening one single screw. The clamping hub is dimensioned so that it transfers even the maximum clutch torque safely and reliably. It is optionally available with an additional keyway for highest transmission safety.

**Drive elements**

Drive elements are centred on the ball bearing of the EAS®-smartic® and screwed to the pressure flange. The screw quality and the tightening torque on the fixing screws are to be chosen so that the set limit torque is transmitted with sufficient security using frictional locking.

## Summary of Structural Design

### EAS®-smartic® flange design

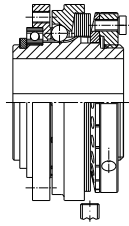


Fig. 1 Type 481.\_25.0

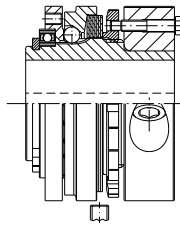


Fig. 2 Type 481.\_35.0 / 481.\_45.0

EAS®-smartic® flange clutch for backlash-free torque transmission between the shaft and the drive element.

With key hub:	Type 481._25.0	pages 4/5
With clamping hub:	Type 481._35.0	pages 4/5
With clamping hub and keyway:	Type 481._45.0	pages 4/5

### EAS®-smartic® lastic backlash-free

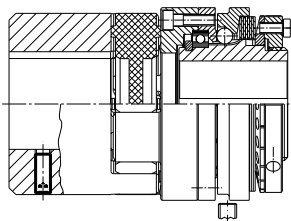


Fig. 3 Type 484.\_25.\_

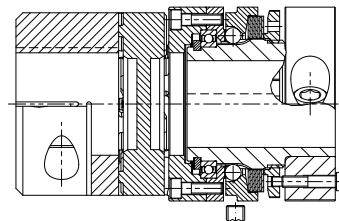


Fig. 4 Type 484.\_35.\_ / 484.\_45.\_

Overload clutch for backlash-free torque transmission between two coaxial shafts. Compensation of axial, radial and angular misalignments. High damping qualities.

Key hub both sides:	Type 484._25._	pages 6/7
Clamping hub both sides:	Type 484._35._	pages 6/7
Clamping hub and keyway both sides:	Type 484._45._	pages 6/7

### EAS®-smartic® torsionally rigid

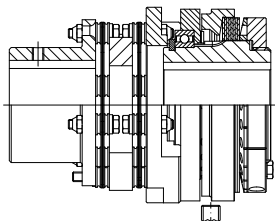


Fig. 5 Type 486.\_25.0

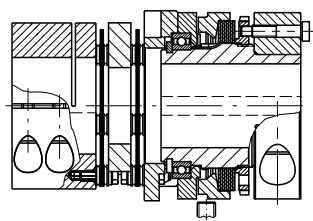


Fig. 6 Type 486.\_35.0 / 486.\_45.0

Overload clutch for backlash-free and torsionally rigid torque transmission between two coaxial shafts. Compensation of axial, radial and angular misalignments. High torsional spring rigidity.

Key hub both sides:	Type 486._25.0	pages 8/9
Clamping hub both sides:	Type 486._35.0	pages 8/9
Clamping hub and keyway both sides:	Type 486._45.0	pages 8/9

## Installation Examples

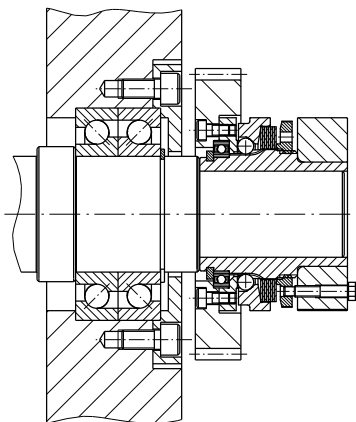


Fig. 7 Type 481.\_35.0

EAS®-smartic® flange clutch with clamping hub. The drive element is centred onto the deep groove ball bearing and screwed together using the pressure flange. If the resulting radial force lies anywhere near the ball bearing centre, an additional bearing on the drive element is unnecessary.

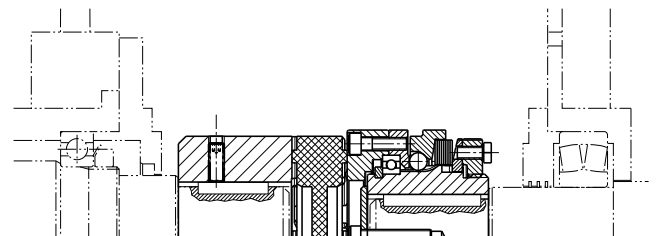


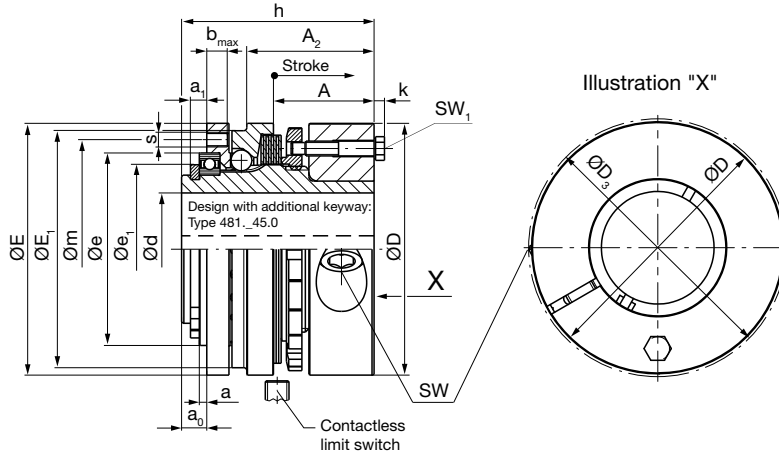
Fig. 8 Type 484.\_25.\_

EAS®-smartic® lastic backlash-free. Overload clutch with key hub on both sides for backlash-free torque transmission between two coaxial shafts. Compensation of axial, radial and angular misalignments. The axial securement takes place EAS®-side via a press cover or lastic-side via a set screw.

EAS®-smartic® flange design

Type 481.\_.35.0  
with clamping hub

Type 481.\_.45.0  
with clamping hub and keyway



Sizes 01 to 2  
Clamping hub

Dimensions	Size			
	01	0	1	2
a <sup>1)</sup>	2,5	2,5	2,5	3
a <sub>0</sub>	6,5	7,5	8,5	9
a <sub>1</sub>	4,5	5	5,5	6
A	29	29	34	38
A <sub>1</sub>	14	15	17	19
A <sub>2</sub>	33,5	37	43	50
A <sub>3</sub>	18,3	23	26	31
b <sub>max</sub>	6	6,5	7	9,5
Ø D	55	70	85	100
Ø D <sub>2</sub>	50	65	78	91
Ø D <sub>3</sub>	59	72	88	104
Ø e <sub>h5</sub>	42	52	65	78
Ø e <sub>1</sub>	39	50,5	61	72
Ø E	55	70	85	100
Ø E <sub>1</sub>	50	65	80	95
h	51	56	65	75
h <sub>1</sub>	36	42	48	56
k	2,8	2,8	3,5	4
k <sub>1</sub>	1,5	2,8	3,5	3,5
m	48	60	74	89
s	8 x M4	8 x M4	8 x M5	8 x M6
SW	6	6	8	10
SW <sub>1</sub>	7	7	8	10
SW <sub>3</sub>	5	7	8	8

Bores	Size	Size			
		01	0	1	2
Type 481._.25.0 Ø d <sub>2</sub> <sup>H7</sup>	min.	10	14	19	20
	max.	22 <sup>3)</sup>	30 <sup>4)</sup>	38 <sup>5)</sup>	45 <sup>6)</sup>
Type 481._.35.0 Ø d <sup>H7</sup>	min. <sup>2)</sup>	10	14	19	20
	max. <sup>2)</sup>	22	32	42	50
Type 481._.45.0 Ø d <sup>H7</sup>	min.	10	14	19	20
	max.	20 <sup>7)</sup>	30 <sup>4)</sup>	38 <sup>5)</sup>	45 <sup>6)</sup>

We reserve the right to make dimensional and constructional alterations.

Accessory parts (hook wrench for torque adjustment)		
Size	Article number hook wrench	
	Type 481._.25.0	Types 481._.35.0 / 481._.45.0
01	8170662	8170663
0	4084939	4084158
1	4084939	4084158
2	4084940	4084159

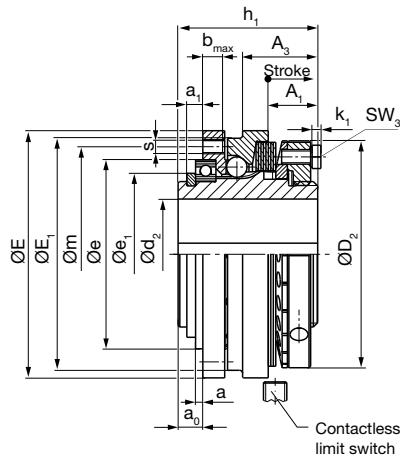
- 1) Mounting tolerance +0,1.
- 2) The frictionally locking transmittable torques are dependent on the bore diameter d, see Table below on page 6.
- 3) Up to ø 19 keyway acc. DIN 6885/1, over ø 19 keyway acc. DIN 6885/3
- 4) Up to ø 27 keyway acc. DIN 6885/1, over ø 27 keyway acc. DIN 6885/3
- 5) Up to ø 36 keyway acc. DIN 6885/1, over ø 36 keyway acc. DIN 6885/3
- 6) Up to ø 43 keyway acc. DIN 6885/1, over ø 43 keyway acc. DIN 6885/3
- 7) Up to ø 17 keyway acc. DIN 6885/1, over ø 17 keyway acc. DIN 6885/3

**Please Observe:**

According to German notation, decimal points in this catalogue are represented with a comma (e.g. 0,5 instead of 0.5).

EAS<sup>®</sup>-smartic<sup>®</sup> flange design

Type 481.\_.25.0  
with key hub



Sizes 01 to 2  
Key hub

Technical Data				Size				
				01	0	1	2	
Limit torques for overload	Type 481.2_5.0 (Torque range 2)	$M_G$	[Nm]	2,7 - 5	5 - 10	10 - 20	20 - 40	
	Type 481.3_5.0 (Torque range 3)	$M_G$	[Nm]	5 - 10	10 - 20	20 - 40	40 - 80	
	Type 481.4_5.0 (Torque range 4)	$M_G$	[Nm]	8 - 15	15 - 30	30 - 60	60 - 120	
	Type 481.5_5.0 (Torque range 5)	$M_G$	[Nm]	11 - 20	20 - 40	40 - 80	80 - 160	
	Type 481.6_5.0 (Torque range 6)	$M_G$	[Nm]	18 - 33	35 - 65	70 - 125	140 - 250	
	Type 481.7_5.0 (Torque range 7)	$M_G$	[Nm]	32 - 40	60 - 80	120 - 160	240 - 320	
	Type 481.8_5.0 <sup>9)</sup> (Torque range 8)	$M_G$	[Nm]	35 - 60	70 - 120	150 - 240	300 - 500	
Maximum speed		$n_{max}$	[rpm]	3000	3000	2500	2000	
Thrust washer stroke on overload			[mm]	0,9	1,1	1,3	1,5	
Tightening torques, clamping screws	SW	$T_A$	[Nm]	40	40	83	140	
Mass moments of inertia <sup>8)</sup>	Type 481._.25.0	EAS <sup>®</sup> -smartic <sup>®</sup> hub-side	J	[kgm <sup>2</sup> ]	0,00011	0,00037	0,00090	0,00220
		Output-side	J	[kgm <sup>2</sup> ]	0,00004	0,00012	0,00025	0,00060
	Type 481._.35.0	EAS <sup>®</sup> -smartic <sup>®</sup> hub-side	J	[kgm <sup>2</sup> ]	0,00021	0,00061	0,00177	0,00350
		Output-side	J	[kgm <sup>2</sup> ]	0,00004	0,00012	0,00025	0,00060
Weights <sup>8)</sup>	Type 481._.25.0		[kg]	0,37	0,71	1,14	1,92	
	Type 481._.35.0		[kg]	0,60	1,00	1,62	2,62	
Permitted bearing load	Axial forces	$F_A$	[N]	400	500	800	1200	
	Radial forces	$F_R$	[N]	400	500	800	1200	
	Transverse force torques <sup>10)</sup>	$M_Q$	[Nm]	3	5	10	15	

8) The mass moments of inertia and weights refer to clutches with maximum bore.

9) Maximum speed: 250 rpm

10) Torques which place strain on the deep groove ball bearing due to non-centric axial forces affecting the pressure flange.

## Order Number

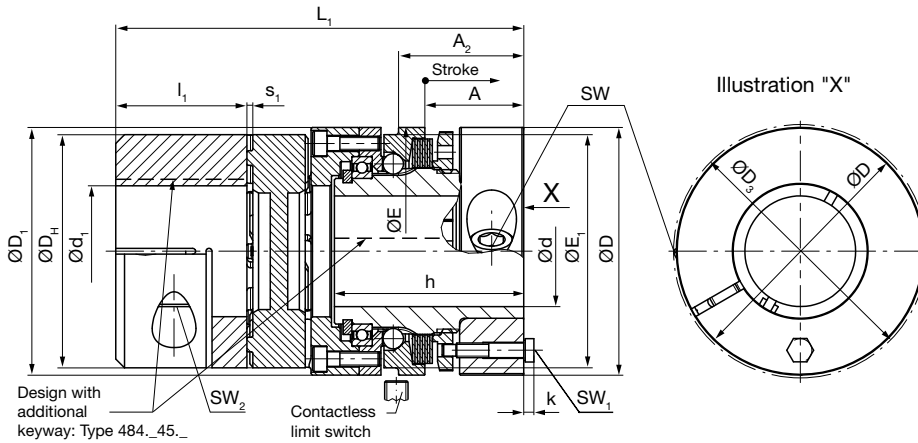
—	/	4	8	1	.	—	—	5	.	0	/	—	/	—	/	—
▲				▲		▲						▲		▲		▲
<b>Size</b>		Torque range		<b>2</b>		<b>2</b>		Keyway				Bore		Bore		With limit switch
<b>01</b>		Torque range		<b>3</b>		<b>3</b>		Clamping hub				$\varnothing d^{H7}$		$\varnothing d_2^{H7}$		
<b>0</b>		Torque range		<b>4</b>		<b>4</b>		Clamping hub								
<b>1</b>		Torque range		<b>5</b>				+ keyway								see page 10
<b>2</b>		Torque range		<b>6</b>												
		Torque range		<b>7</b>												
		Torque range		<b>8</b>												

Example: 0 / 481.535.0 / 30 plus limit switch 055.002.5

EAS®-smartic® lastic backlash-free

Type 484.\_35.\_  
Clamping hub both sides

Type 484.\_45.\_  
Clamping hub and keyway  
both sides



Sizes 01 to 2  
ROBA®-ES-side: clamping hub, EAS®-smartic®-side: clamping hub

Dimensions	Size			
	01	0	1	2
A	29	29	34	38
A <sub>1</sub>	14	15	17	19
Ø D	55	70	85	100
Ø D <sub>1</sub>	57	70	85	105
Ø D <sub>2</sub>	50	65	78	91
Ø D <sub>H</sub>	55	65	80	105
Ø E	55	70	85	100
Ø E <sub>1</sub>	50	65	80	95
G	M5	M6	M8	M8
h	51	56	65	75
h <sub>1</sub>	36	42	48	56
k	2,8	2,8	3,5	4
k <sub>1</sub>	1,5	2,8	3,5	3,5
L <sub>1</sub>	107	118	142	170
L <sub>2</sub>	92	104	125	151
l <sub>1</sub>	30	35	45	56
s <sub>1</sub>	2	2,5	3	3,5
SW	6	6	8	10
SW <sub>1</sub>	7	7	8	10
SW <sub>2</sub>	5	6	6	10
SW <sub>3</sub>	5	7	8	8
t	10	15	15	25

	Bores	Size				
		01	0	1	2	
EAS®-smartic® side	Type 484._25._	Ø d <sub>2</sub> min.	10	14	19	20
		Ø d <sub>2</sub> max.	22 <sup>1)</sup>	30 <sup>2)</sup>	38 <sup>3)</sup>	45 <sup>4)</sup>
	Type 484._35._	Ø d <sup>H7</sup> min.	10	14	19	20
		Ø d <sup>H7</sup> max.	22	32	42	50
ROBA®-ES side	Type 484._45._	Ø d <sup>H7</sup> min.	10	14	19	20
		Ø d <sup>H7</sup> max.	20 <sup>5)</sup>	30 <sup>2)</sup>	38 <sup>3)</sup>	45 <sup>4)</sup>
	Type 484._25._	Ø d <sub>3</sub> min.	8	10	13	20
		Ø d <sub>3</sub> max.	28	38	45	60
	Type 484._35._/4	Ø d <sub>1</sub> min. <sup>6)</sup>	15	19	20	35
		Ø d <sub>1</sub> max. <sup>6)</sup>	28	35	45	55

We reserve the right to make dimensional and constructional alterations.

Accessory parts (hook wrench for torque adjustment)		
Size	Article number hook wrench	
	Type 484._25._	Types 484._35._ / 484._45._
01	8170662	8170663
0	4084939	4084158
1	4084939	4084158
2	4084940	4084159

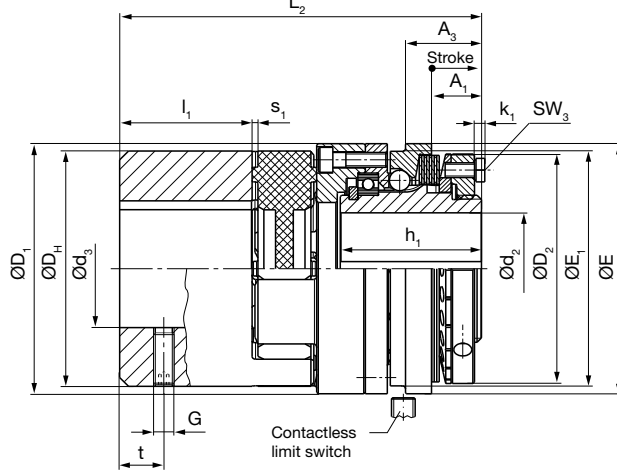
- 1) Up to ø 19 keyway acc. DIN 6885/1, over ø 19 keyway acc. DIN 6885/3
- 2) Up to ø 27 keyway acc. DIN 6885/1, over ø 27 keyway acc. DIN 6885/3
- 3) Up to ø 36 keyway acc. DIN 6885/1, over ø 36 keyway acc. DIN 6885/3

- 4) Up to ø 43 keyway acc. DIN 6885/1, over ø 43 keyway acc. DIN 6885/3
- 5) Up to ø 17 keyway acc. DIN 6885/1, over ø 17 keyway acc. DIN 6885/3
- 6) The transmittable torques on the flexible coupling "T<sub>KN</sub>" are dependent on factors such as e.g. temperature factor, torsional rigidity factor etc., (please contact the manufacturers). Furthermore, the transmittable torques are dependent on the bore diameters d or d<sub>1</sub> (see Table below: Preferred bores and respective transmittable torques).

Preferred bores and respective transmittable torques [Nm] on diameters d and d <sub>1</sub> of frictional locking on hubs														
• for shaft tolerance k <sub>6</sub> ROBA®-ES-side														
• for shaft tolerance h <sub>6</sub> / h <sub>8</sub> EAS®-smartic®-side														
Size	Ø 10	Ø 11	Ø 12	Ø 14	Ø 15	Ø 20	Ø 25	Ø 28	Ø 32	Ø 35	Ø 42	Ø 45	Ø 50	Ø 55
	Ø d	Ø d	Ø d	Ø d	Ø d	Ø d <sub>1</sub>	Ø d	Ø d <sub>1</sub>	Ø d	Ø d <sub>1</sub>	Ø d	Ø d <sub>1</sub>	Ø d	Ø d <sub>1</sub>
Torque ranges 2 up to 7 (Types 484.235._, 484.335._, 484.435._, 484.535._, 484.635._ and 484.735._)														
01	23	27	30	37	40	34	53	54	-	57	-	63	-	-
0	-	-	-	42	45	-	64	83	80	104	90	116	102	133
1	-	-	-	-	-	-	88	83	110	104	124	116	142	133
2	-	-	-	-	-	-	140	-	175	-	210	-	240	266
Torque range 8 (Type 484.835._)														
01	37	43	48	59	64	54	85	86	-	91	-	101	-	-
0	-	-	-	67	72	-	102	133	128	166	144	186	163	213
1	-	-	-	-	-	-	141	133	176	166	198	186	227	213
2	-	-	-	-	-	-	224	-	280	-	336	-	384	426

EAS®-smartic® lastic backlash-free

Type 484. 25. \_  
key hub both sides



Sizes 01 to 2  
ROBA®-ES-side: key hub, EAS®-smartic®-side: key hub

Technical Data				Size					
				01	0	1	2		
Limit torques for overload	Type 484.2.5. _ (Torque range 2)	$M_G$	[Nm]	2,7 - 5	5 - 10	10 - 20	20 - 40		
	Type 484.3.5. _ (Torque range 3)	$M_G$	[Nm]	5 - 10	10 - 20	20 - 40	40 - 80		
	Type 484.4.5. _ (Torque range 4)	$M_G$	[Nm]	8 - 15	15 - 30	30 - 60	60 - 120		
	Type 484.5.5. _ (Torque range 5)	$M_G$	[Nm]	11 - 20	20 - 40	40 - 80	80 - 160		
	Type 484.6.5. _ (Torque range 6)	$M_G$	[Nm]	18 - 33	35 - 65	70 - 125	140 - 250		
	Type 484.7.5. _ (Torque range 7)	$M_G$	[Nm]	32 - 40	60 - 80	120 - 160	240 - 320		
	Type 481.8.5.0 <sup>8)</sup> (Torque range 8)	$M_G$	[Nm]	35 - 60	70 - 120	150 - 240	300 - 500		
Nominal and maximum torques, <sup>6)</sup> flexible backlash-free shaft coupling	92 Shore A	$T_{KN}$	[Nm]	35	95	190	310		
		$T_{Kmax}$	[Nm]	70	190	380	620		
	98 Shore A	$T_{KN}$	[Nm]	60	160	325	525		
		$T_{Kmax}$	[Nm]	120	320	650	1050		
Maximum speed		$n_{max}$	[rpm]	3000	3000	2500	2000		
Thrust washer stroke on overload			[mm]	0,9	1,1	1,3	1,5		
Tightening torques, clamping screws	SW	$T_A$	[Nm]	40	40	83	140		
	SW <sub>2</sub>	Torque ranges 2 up to 7	$T_A$	[Nm]	10	25	25	120	
		Torque range 8	$T_A$	[Nm]	17	40	40	140	
Permitted misalignments, flexible backlash-free shaft coupling	Axial displacement	92/98 Shore A	$\Delta K_a$	[mm]	1,4	1,5	1,8	2,1	
	Radial misalignment	92 Shore A	$\Delta K_r$	[mm]	0,14	0,15	0,17	0,21	
		98 Shore A	$\Delta K_r$	[mm]	0,1	0,11	0,12	0,16	
	Angular misalignment	92 Shore A	$\Delta K_w$	[°]	1,0	1,0	1,0	1,0	
		98 Shore A	$\Delta K_w$	[°]	0,9	0,9	0,9	0,9	
Mass moments of inertia <sup>7)</sup>	Type 484. 25. _	EAS®-smartic® hub-side	J	[kgm <sup>2</sup> ]	0,00011	0,00037	0,00090	0,00220	
		ROBA®-ES-side	J	[kgm <sup>2</sup> ]	0,00028	0,00056	0,00149	0,00773	
	Type 484. 35. _	EAS®-smartic® hub-side	J	[kgm <sup>2</sup> ]	0,00021	0,00061	0,00177	0,00350	
		ROBA®-ES-side	Torque ranges 2 up to 7	J	[kgm <sup>2</sup> ]	0,00024	0,00058	0,00140	0,00490
			Torque range 8	J	[kgm <sup>2</sup> ]	0,00038	0,00088	0,00228	0,00490
Weights <sup>7)</sup>	Type 484. 25. _			[kg]	0,78	1,31	2,27	5,89	
	Type 484. 35. _	Torque ranges 2 up to 7		[kg]	1,01	1,62	2,75	6,72	
		Torque range 8		[kg]	1,29	2,06	3,59	6,72	

7) The mass moments of inertia and weights refer to clutches with maximum bore.

8) Maximum speed: 250 rpm

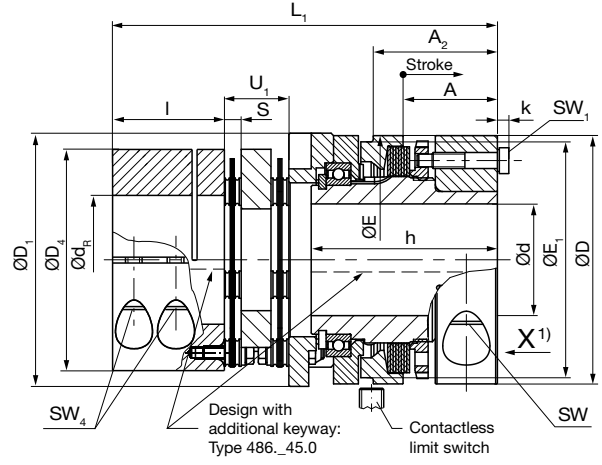
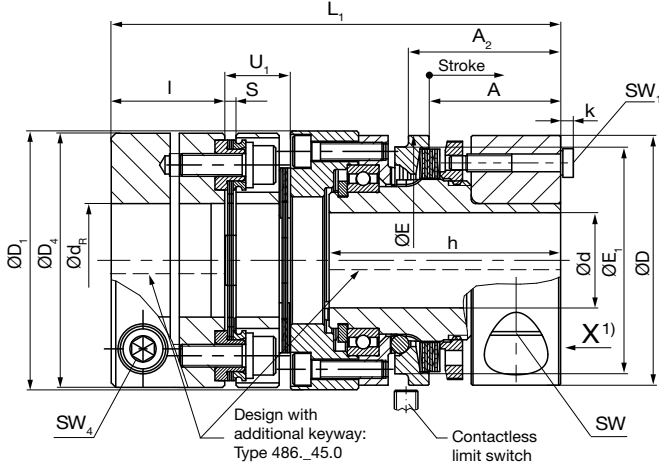
### Order Number

_ / 4 8 4 . _ _ 5 . _ / _ / _ / _ / _ / _									
▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
<b>Size</b>	Torque range	<b>2</b>	92 Shore A	<b>3</b>	Bore	Bore	Bore	Bore	With
<b>01</b>	Torque range	<b>3</b>	98 Shore A	<b>4</b>	$\varnothing d^{H7}$	$\varnothing d_1^{F7}$	$\varnothing d_2^{H7}$	$\varnothing d_3^{H7}$	limit switch
<b>0</b>	Torque range	<b>4</b>							
<b>1</b>	Torque range	<b>5</b>	<b>2</b>	Keyway					see
<b>2</b>	Torque range	<b>6</b>	<b>3</b>	Clamping hub					page 10
	Torque range	<b>7</b>	<b>4</b>	Clamping hub +					
	Torque range	<b>8</b>		keyway					

Example: 1 / 484.535.4 / 35 / 35 / plus limit switch 055.002.5

EAS®-smartic® torsionally rigid

Clamping hub both sides: Type 486.\_.35.0; Clamping hub and keyway both sides: Type 486.\_.45.0



Sizes 01 to 1  
ROBA®-DS-side: clamping hub, EAS®-smartic®-side: clamping hub

Size 2  
ROBA®-DS-side: clamping hub, EAS®-smartic®-side: clamping hub

Dimensions	Size			
	01	0	1	2
A	29	29	34	38
A <sub>1</sub>	14	15	17	19
A <sub>2</sub>	33,5	37	43	50
A <sub>3</sub>	18,3	23	26	31
Ø d <sub>1</sub>	-	-	-	60
Ø D	55	70	85	100
Ø D <sub>1</sub>	57	70	85	102
Ø D <sub>2</sub>	50	65	78	91
Ø D <sub>3</sub>	59	72	88	104
Ø D <sub>4</sub>	56	69	79	89
Ø D <sub>5</sub>	-	-	-	89
Ø E	55	70	85	100
Ø E <sub>1</sub>	50	65	80	95
G	-	-	-	M6 <sup>2)</sup>
h	51	56	65	75
h <sub>1</sub>	36	42	48	56
k	2,8	2,8	3,5	4
k <sub>1</sub>	1,5	2,8	3,5	3,5
L <sub>1</sub>	99,2	110,5	127,2	155,4
L <sub>2</sub>	84,2	96,5	110,2	136,4
l	25	32	33,5	45
S	2,6	3	2,9	7,2
SW	6	6	8	10
SW <sub>1</sub>	7	7	8	10
SW <sub>3</sub>	5	7	8	8
SW <sub>4</sub>	5	6	6	6
t	-	-	-	15
U <sub>1</sub>	14,7	15,5	15,8	26,4

	Bore	Size	Size			
			01	0	1	2
EAS-smartic® side	Type 486._.25.0	Ø d <sub>2</sub> min.	10	14	19	20
		Ø d <sub>2</sub> max.	22 <sup>3)</sup>	30 <sup>4)</sup>	38 <sup>5)</sup>	45 <sup>6)</sup>
	Type 486._.35.0	Ø d min.	10	14	19	20
		Ø d max.	22	32	42	50
ROBA-DS side	Type 486._.45.0	Ø d min.	10	14	19	20
		Ø d max.	20 <sup>7)</sup>	30 <sup>4)</sup>	38 <sup>5)</sup>	45 <sup>6)</sup>
	Type 486._.25.0	Ø d <sub>p</sub> min.	14	19	25	20
		Ø d <sub>p</sub> max.	28	35	42	40
Type 486._.35.0	Ø d <sub>r</sub> min. <sup>8) 9)</sup>	14	19	25	22	
	Ø d <sub>r</sub> max. <sup>8) 9)</sup>	28	35	42	52	

We reserve the right to make dimensional and constructional alterations.

Accessory parts (hook wrench for torque adjustment)			
Size	Article number hook wrench		
	Type 486._.25.0	Types 486._.35.0 / 486._.45.0	
01	8170662	8170663	
0	4084939	4084158	
1	4084939	4084158	
2	4084940	4084159	

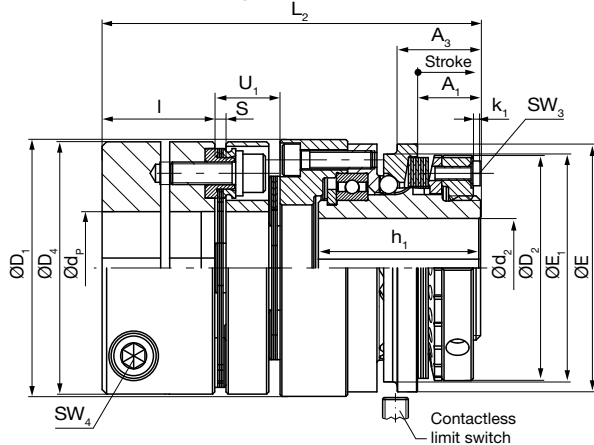
- 1) Illustration "X": see Fig. page 4.
- 2) M5 on bore under ø 22.
- 3) Up to ø 19 keyway acc. DIN 6885/1, over ø 19 keyway acc. DIN 6885/3
- 4) Up to ø 27 keyway acc. DIN 6885/1, over ø 27 keyway acc. DIN 6885/3
- 5) Up to ø 36 keyway acc. DIN 6885/1, over ø 36 keyway acc. DIN 6885/3
- 6) Up to ø 43 keyway acc. DIN 6885/1, over ø 43 keyway acc. DIN 6885/3
- 7) Up to ø 17 keyway acc. DIN 6885/1, over ø 17 keyway acc. DIN 6885/3
- 8) Type 486.\_.35.0: The transmittable torques on the flexible torsionally rigid coupling are dependent on the bore diameters d or d<sub>r</sub> (see Table below: Preferred bores and respective transmittable torques).
- 9) Recommended hubs/shaft tolerance, Type 486.\_.35.0 – ROBA®-DS-side: H7 / k6 (sizes 01 to 1) and H7 / h6 (size 2).

Preferred bores and respective transmittable torques [Nm] on diameters d and d<sub>r</sub> of frictional locking on hubs  
 • for shaft tolerance k<sub>v</sub> (clamping hub Sizes 01 to 1) / h<sub>6</sub> (clamping hub Size 2) ROBA®-DS-side  
 • for shaft tolerance h<sub>6</sub> / h<sub>8</sub> EAS®-smartic®-side

Size	Ø 10	Ø 11	Ø 12	Ø 14	Ø 15	Ø 16	Ø 18	Ø 19	Ø 20	Ø 22	Ø 24	Ø 25	Ø 28	Ø 30	Ø 32	Ø 35	Ø 38	Ø 40	Ø 42	Ø 45	Ø 50	
	Ø d	Ø d	Ø d	Ø d	Ø d <sub>R</sub>	Ø d	Ø d <sub>R</sub>	Ø d <sub>R</sub>	Ø d <sub>R</sub>	Ø d	Ø d <sub>R</sub>	Ø d <sub>R</sub>	Ø d	Ø d <sub>R</sub>	Ø d	Ø d <sub>R</sub>	Ø d	Ø d <sub>R</sub>	Ø d <sub>R</sub>	Ø d	Ø d <sub>R</sub>	Ø d
01	23	27	30	37	46	40	51	56	65	70	53	74	84	92	-	95	-	107	-	-	-	-
0	-	-	-	42	-	45	-	-	-	99	64	105	116	128	80	135	90	151	162	102	173	-
1	-	-	-	-	-	-	-	-	-	88	-	-	-	110	143	124	163	177	142	191	155	211
2	-	-	-	-	-	-	-	-	-	140	-	199	-	175	226	210	253	290	240	325	266	355



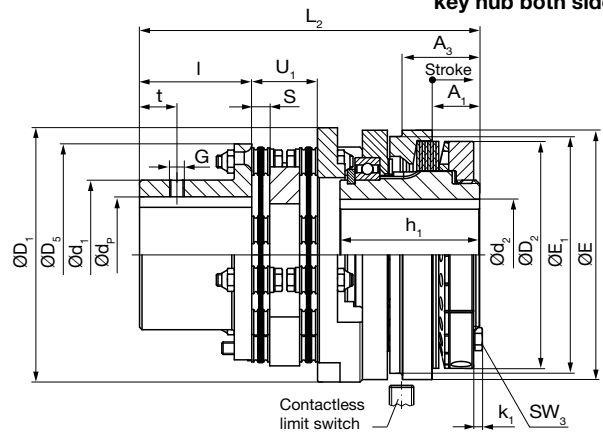
## EAS®-smartic® torsionally rigid



### Sizes 01 to 1

ROBA®-DS-side: clamping hub/keyway, EAS®-smartic®-side: key hub

## Type 486.\_.25.0 key hub both sides



### Size 2

ROBA®-DS-side: key hub, EAS®-smartic®-side: key hub

Technical Data				Size			
				01	0	1	2
Limit torques for overload	Type 486.2_5.0 (Torque range 2)	$M_G$ [Nm]	2,7 - 5	5 - 10	10 - 20	20 - 40	
	Type 486.3_5.0 (Torque range 3)	$M_G$ [Nm]	5 - 10	10 - 20	20 - 40	40 - 80	
	Type 486.4_5.0 (Torque range 4)	$M_G$ [Nm]	8 - 15	15 - 30	30 - 60	60 - 120	
	Type 486.5_5.0 (Torque range 5)	$M_G$ [Nm]	11 - 20	20 - 40	40 - 80	80 - 160	
	Type 486.6_5.0 (Torque range 6)	$M_G$ [Nm]	18 - 33	35 - 65	70 - 125	140 - 250	
	Type 486.7_5.0 (Torque range 7)	$M_G$ [Nm]	32 - 40	60 - 80	120 - 160	240 - 320	
Nominal and peak transient torques, flexible torsionally rigid shaft coupling	Nominal torque <sup>10)</sup>	$T_{KN}$ [Nm]	60	100	150	290	
	Peak transient torque <sup>11)</sup>	$T_{KS}$ [Nm]	90	150	225	435	
Maximum speed		$n_{max}$ [rpm]	3000	3000	2500	2000	
Thrust washer stroke on overload		[mm]	0,9	1,1	1,3	1,5	
Clamping screws, tightening torques	SW	$T_A$ [Nm]	40	40	83	140	
	SW <sub>4</sub>	$T_A$ [Nm]	13	33	33	42	
Permitted misalignments <sup>12)</sup> flexible torsionally rigid shaft coupling	Axial displacement <sup>13)</sup>	$\Delta K_a$ [mm]	0,7	0,9	1,1	1,3	
	Radial misalignment	$\Delta K_r$ [mm]	0,15	0,2	0,2	0,3	
	Angular misalignment	$\Delta K_w$ [°]	2,0	2,0	2,0	2,0	
Mass moments of inertia <sup>14)</sup>	Type 486._.25.0	EAS®-smartic® hub-side	J [kgm <sup>2</sup> ]	0,00011	0,00037	0,00090	0,00220
		ROBA®-DS-side	J [kgm <sup>2</sup> ]	0,00027	0,00066	0,00138	0,00254
	Type 486._.35.0	EAS®-smartic® hub-side	J [kgm <sup>2</sup> ]	0,00021	0,00061	0,00177	0,00350
		ROBA®-DS-side	J [kgm <sup>2</sup> ]	0,00027	0,00066	0,00138	0,00352
Weights <sup>14)</sup>	Type 486._.25.0	[kg]	0,84	1,43	2,22	3,60	
	Type 486._.35.0	[kg]	1,05	1,72	2,70	4,75	

10) Valid for max. permitted shaft misalignment.

11) Valid for one rotational direction, max. stress  $\leq 10^5$ .

12) The permitted misalignments may not simultaneously reach their max. value.

The values refer to couplings with 2 disk packs.

13) Only permitted as a static or virtually static value.

14) The mass moments of inertia and weights refer to clutches with maximum bore.

## Order Number

_ / 4 8 6 . _ _ 5 . 0 / _ / _ / _ / _ / _								
▲		▲	▲	▲	▲	▲	▲	▲
<b>Size</b>	Torque range	<b>2</b>	<b>2</b> Keyway	Bore	Bore	Bore	Bore	With limit switch
<b>01</b>	Torque range	<b>3</b>	<b>3</b> Clamping hub	$\varnothing d^{H7}$	$\varnothing d_2^{H7}$	$\varnothing d_p^{H7}$	$\varnothing d_r^{H7}$	see page 10
<b>0</b>	Torque range	<b>4</b>	<b>4</b> Clamping hub					
<b>1</b>	Torque range	<b>5</b>	<b>5</b> Clamping hub + keyway					
<b>2</b>	Torque range	<b>6</b>						
	Torque range	<b>7</b>						

Example: 1 / 486.535.0 / 35 / 35 / plus limit switch 055.002.5

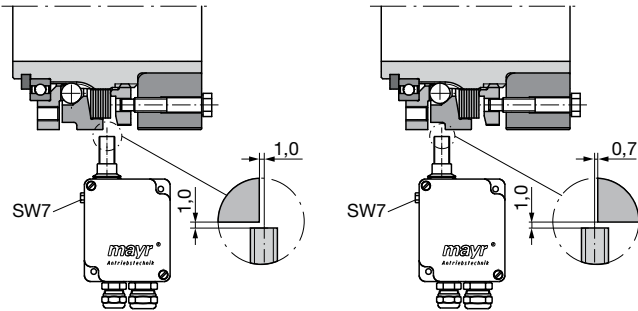
**Limit Switch Installation**

Adjust the switching distances for the mechanical or contactless limit switch according to the Fig. below. The distance between the thrust washer and the switching point can be finely adjusted using a hexagon head screw SW7.

**Contactless limit switch**

**Undamped installation**  
(Limit switch is damped when clutch disengages)

**Damped installation**  
(Limit switch is not damped when clutch disengages)



**Limit switch Type 055.00\_5 (contactless)**

**Technical Data**

Input voltage (acc. design)	230 VAC, ±10 %, 50–60 Hz 115 VAC, ±10 %, 50–60 Hz 24 VDC, PELV, ±5 %, polarity reversal-proof, for connection to overvoltage category II
Power consumption	Max. 1,5 VA
Ambient temperature	-10 °C to +60 °C limit switch -25 °C to +60 °C NAMUR-sensor
Protection	IP 54
Conductor cross section	Max. 2,5 mm <sup>2</sup> / AWG 14
Weight	400 g / 14 oz
Protection fuse	0,1 A/fast acting with 24 VDC (in the system)
Signalling relay	Potential-free changeover contacts Contact load max. 250 VAC/12 A Contact material AgNi 90/10 Max. switching frequency 20 Hz at min. load, 0,1 Hz at max. load
NAMUR-Sensor internal	Installed in a light metal housing, switching distance S <sub>n</sub> 2 mm, flush fitting, max. switching frequency 2 kHz, the zero point can be adjusted by 1 mm each using the side adjusting screw SW 7
NAMUR-Sensor external	Metal housing M12 x 1, switching distance S <sub>n</sub> 2 mm, flush fitting, max. switching frequency 2 kHz, standard cable length 2 m, max. 100 m on special design, Protection IP 67

**Order Number**

0 5 5 . 0 0 \_ . 5 / \_



Contactless sensing		Connection voltage	
Sensor external	1	230 VAC	
Sensor internal	2	115 VAC	
		24 VDC	

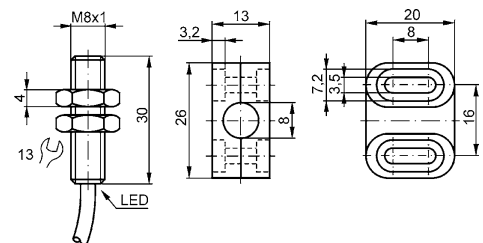
On size 2, use of the mechanical limit switch Type 055.000.5 is also possible.

**Contactless limit switch with mounting flange**

**Limit switch Type 055.012.6 (contactless, with mounting flange)**

**Technical Data**

Name	NBB1,5-8GM30-E2-Y
Construction size	M8 x 1
Construction Type	Rustproof stainless steel
Input voltage	10 - 30 VDC PELV
No-load current	≤ 15 mA
Current capacity	100 mA
Contact type	PNP-NO contact
Switching distance S <sub>n</sub>	1,5 mm, flush fitting
Secured switching frequency S <sub>a</sub>	1,2 mm
Characteristics	Polarity reversal-proof = synchronised short circuit protection = switching condition indication via LED
Connection Type	Cable 3 m/PUR
Tightening torque	10 Nm
Conductor cross section	0,14 mm <sup>2</sup>
Ambient temperature	-25 °C to +70 °C
Protection	IP 67
Accessory	Mounting flange



**Order Number**

0 5 5 . 0 1 2 . 6 / \_



	Connection voltage	
	10-30 VDC	



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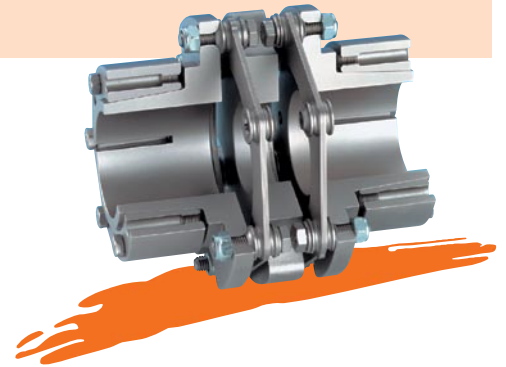
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Positive locking and completely backlash-free torque limiting clutches
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Cost-effective torque limiting clutches, quick installation
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Load-disconnecting protection against high torques
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Exact limitation of tensile and compressive forces
- ❑ **EAS®-Sp/EAS®-Sm/EAS®-Zr**  
Load-disconnecting torque limiting clutches with switching function
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Load-holding, frictionally locked torque limiting clutches
- ❑ **ROBA®-contitorque**  
Magnetic continuous slip clutches



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Perfect precision couplings for servo and stepping motors
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