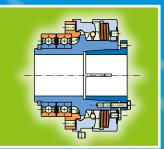


# EAS®-HSC/EAS®-HSE

High-speed safety clutches for high-speed applications











# **Construction and Development**

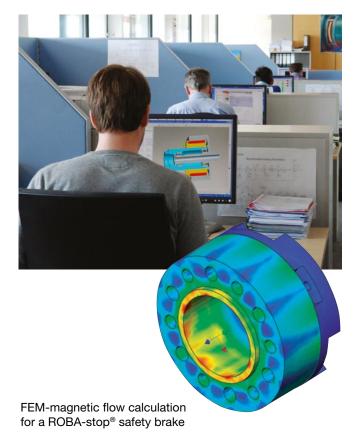
#### **Innovations for Your Success**

With our innovative and economical solutions, we are able to set new records in the field of power transmission. Our many worldwide patents prove our constant ambition to develop better and technologically superior products.

Highly qualified engineers, high-performance 3D-CADsystems and the most up-to-date FEM calculation aids used in our Development and Construction departments mean that our business is perfectly equipped to offer our customers effective solutions.

#### **Experts for all Power Transmission Questions**

Exploit our know-how, gained by decades of experience in the development, production and application of power transmission products. Our experts in Construction and Development are happy to advise you personally and competently when selecting and dimensioning the drive solution you require.

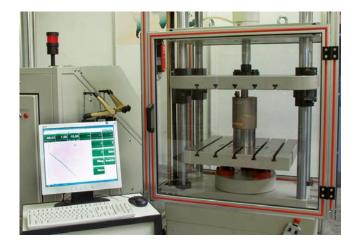


# From Prototype to Finished Product

No mayr® product is released onto the market until it has proved its functional capabilities and reliability in extreme, long-term tests.

The spectrum of testing stands is as varied as our range of products:

- ☐ Friction work test stands
- Wear test stands
- Noise measurement room with highly accurate noise measurement inspection devices
- ☐ Torque inspection stands up to 200,000 Nm
- ☐ Impact alternating load test stands
- □ Force test stands
- ☐ Linear movement test stands
- ☐ Continuous performance test stands
- Magnetic flow measurement test stands
- ☐ High-speed test stands up to 20,000 rpm
- ☐ Misalignment and angular misalignment test stands
- Load and measurement test stands for DC motors



# Product Data: Our 24-hour Service

Our website offers you detailed information 24 hours per day, 365 days per year with no delays. Here you can find not only the latest catalogues and technical documentation but also CAD-files for cost-saving construction of our products.

# Unsurpassed Our Standard Program

For safety clutches, safety brakes, backlash-free shaft couplings and high-quality DC drives, we offer you a complete product range with market and branch optimised constructions and designs.



# EAS®-HSC / EAS®-HSE The perfect safety clutches for all fast-running drives

## **Characteristics**

- Positive locking overload clutch
- Complete separation
- Synchronous re-engagement
- Balanced when completely installed
- Diverse mounting variations
- ☐ High torsional rigidity
- ☐ High performance density
- Low mass moment of inertia
- ☐ High speeds of up to 12,000 rpm (up to 20,000 rpm possible as special design)



In comparison to the torque limiting clutches common on the market, the new EAS®-HSC and EAS®-HSE test stand clutches possess numerous special technical features. The extremely compact design of these clutches is immediately obvious. A high performance density reduces the rotating masses and has a positive effect on the running smoothness and machine dynamics.

## High balance quality

The basic pre-requisite for the use of a torque limiting clutch in high-speed applications is amongst other things the high balance quality of each individual component in order to achieve optimum running smoothness of the drive line when these components are combined.

Torque limiting clutches consist of many individual components, which must not change their positions when the clutch is installed or after overload. This is ensured through design measures. In addition, the clutch is balanced in completely installed condition to a balance quality of G 2,5 - reference speed 3000 rpm.

# Ideal for use in test stands

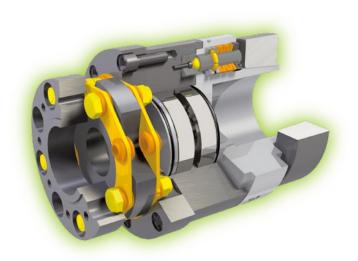
We specialise in the development of customer-tailored solutions. Contact us if our standard-design EAS®-HSC and EAS®-HSE clutches do not provide the optimum solution for your test stand.

We will modify our standard products precisely according to your wishes, or develop an economic, customer-specific solution especially for you.

Profit from our 50 years of experience in the development, manufacture and implementation of test stand clutches.



EAS®-HSC torque limiting clutch Torque range: 5 Nm – 1,000 Nm Speeds of up to 12,000 rpm



EAS®-HSE torque limiting clutch Torque range: 100 Nm – 8,400 Nm Speeds of up to 12,000 rpm (up to 20,000 rpm possible as special design).

# Further test stand clutches and couplings

# ROBA®-DS – torsionally rigid shaft coupling

ROBA®-DS shaft couplings transfer the nominal coupling torque using frictional locking and backlash-free even with full displacement and with alternating torques.

# **ROBA®-DSM – measuring machine element**

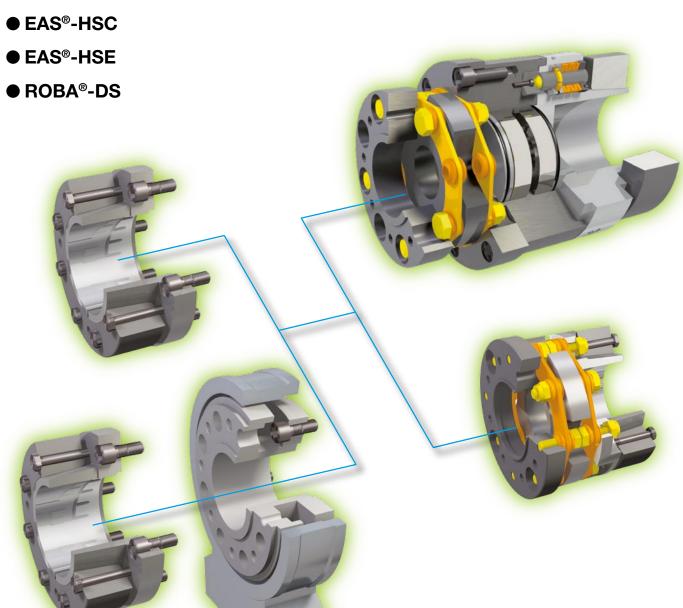
Integrated into tried and tested, backlash-free shaft compensation couplings, the ROBA®-DSM permits condition monitoring of machines and systems.

# ROBATIC® - electromagnetic clutch

Energised to engage, electromagnetic pole face clutch for static and virtually static applications.



# **Configuration possibilities**



# With torque measuring flange

The construction of the system permits extremely high flexibility with regard to the connection points (hubs) and the output-side mounting parts (shaft coupling, ROBA®-HSC and ROBA®-HSE).

Standard market torque measuring flanges can be adapted.

Contact mayr® to obtain more details on your measuring flange



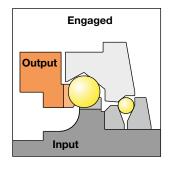
# **EAS®-HSC**

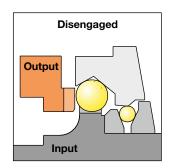
#### Function in case of overload

If the set limit torque is exceeded, the clutch disengages. The torque drops immediately. A mounted limit switch detects the disengagement movement and switches off the drive. The limit switch signal can also be used for other control functions.

The EAS®-HSC High-Speed-Compact completely disconnects the input and output side and remains in this condition until it is purposely re-engaged by hand or using devices.







During operation, EAS®-HSC clutches transfer the torque backlash-free and ensure that the drive components slow down freely after overload.

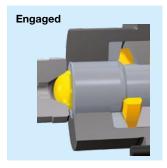
During the overtravel time, no engagement impacts occur which might have a negative effect on the drive line.

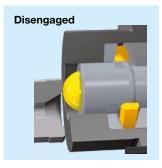
The design permits re-engagement only at the disengagement position.

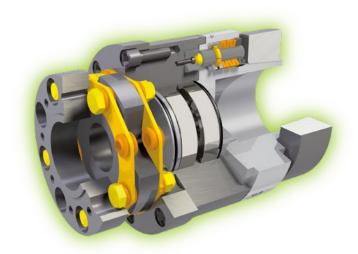
# **EAS®-HSE**

#### Function in case of overload

- ☐ If the proportional circumferential force on the individual elements proves too large, the resulting axial force causes an axial movement of the bolt via the ball/calotte system and therefore the disconnection of the torque transmission.
- ☐ The maximum circumferential force is individually determined through the adjusting nut and mayr®-cup springs. The transmittable torque is determined in this way.
- Due to the axial stroke of the bolt (ball carrier), the control segments move radially outwards and thus cause axial overload.
- ☐ Re-engagement of the balls through a bolt stroke in the direction of the calotte takes place manually.





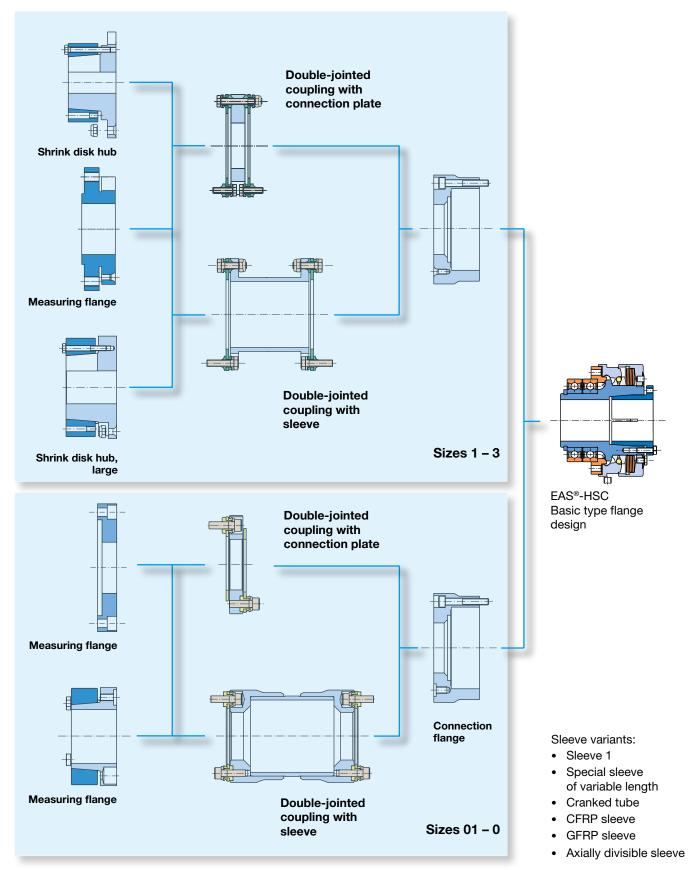


During operation, EAS®-HSE clutches transfer the torque with low backlash and ensure that the drive components slow down freely after overload.

Reliable, precise torque limitation through positive locking torque adjustment. Complete disconnection of the drive line on overload – no engagement impacts. Quick re-engagement without special tools being necessary. High balance quality.



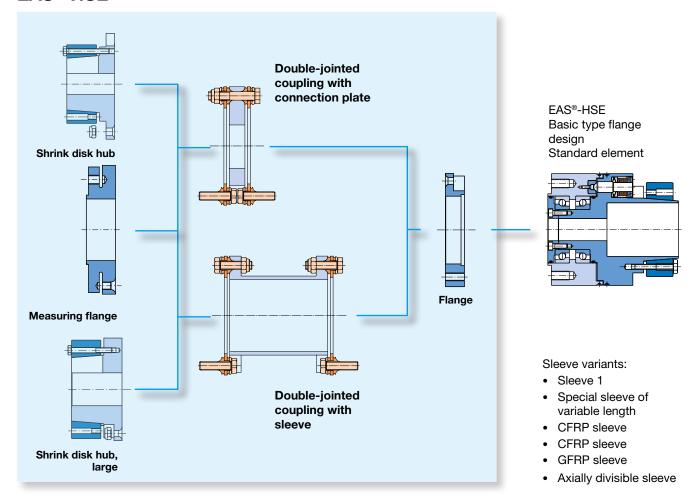
# Configuration possibilities/Standard designs EAS®-HSC



We are happy to advise you on the dimensioning and configuration of your optimum design.



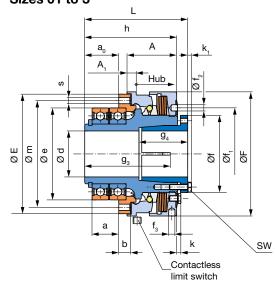
# Configuration possibilities/Standard designs EAS®-HSE





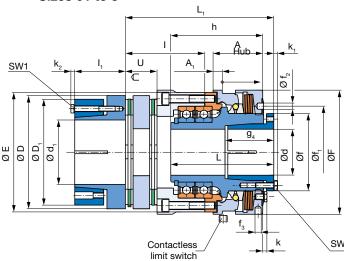
# **EAS®-HSC**

EAS®-side cone bushing: Type 4090.\_1300 Basic type Sizes 01 to 3

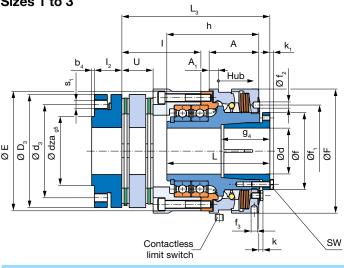


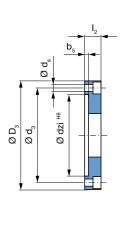
EAS®-side cone bushing: Type 4096.\_1319 ROBA®-DS-side for measuring flange Sizes 1 to 3

EAS®-side cone bushing: Type 4096.\_1319 ROBA®-DS-side shrink disk hub Sizes 01 to 3



EAS®-side cone bushing: Type 4096.\_13\_ \_ ROBA®-DS-side for measuring flange Sizes 01 to 0





### **Order number**

Cone bushing Basic type Torque Connection plate adjustment value 1 2 Sleeve 2) Basic type 3) 0 with ROBA®-DS 4) 6  $\nabla$  $\nabla$  $\nabla$  $\nabla$ 1 3 4 0 9  $\triangle$  $\triangle$  $\triangle$  $\triangle$  $\triangle$  $\triangle$ Sizes Basic type 0 Bore Torque range 1) Bore With limit switch, 01 5 Shrink disk hub 2 Medium Hub 1 Hub 2 see pages to High 6 Measuring flange 6 13 - 14 $Ø d^{H6}$  $Ød_1^{H6}$ Shrink disk hub, large 3 Very high 7 9 (optional)

Example: Order number 1 / 4096.61312.0 / 23 /25 /60 / limit switch 055.002.5

- 1) See Technical data, limit torque for overload M<sub>G</sub>, other torques on request
- 2) When using a sleeve, please contact mayr®

Maximum<sup>2)</sup>

- 3) With basic type, only 4090. $\_$ 1300 possible
- 4) Not possible with ROBA®-DS 4090.\_1300



Tachnical data						Size 1)		
Technical data		01	0	1	2	3		
	Type 409513	M <sub>G</sub>	[Nm]	5 – 12,5	10 – 25	20 - 50	40 – 100	80 – 200
Limit torques	Type 409613	M <sub>G</sub>	[Nm]	10 – 25	20 - 50	40 – 100	80 – 200	160 – 400
for overload 1) 2)	Type 409713	M <sub>G</sub>	[Nm]	20 – 50	40 – 100	80 – 200	160 – 400	320 – 800
	Type 409813	M <sub>G</sub>	[Nm]	25 – 62,5	50 – 125	100 – 250	200 – 500	400 – 1000
Max. speed 11)		n <sub>max</sub>	[rpm]	12000	10000	9000	7000	6000
Max. speed	Type 409813	n <sub>max</sub>	[rpm]	8000	7000	6000	5000	4000
Thrust washer stroke	on overload coupling		[mm]	2	2,6	3,2	3,8	4,3
Nominal torques, tors	sionally rigid coupling	T <sub>KN</sub>	[Nm]	100	150	420	650	1000
axial 12)		$\Delta \mathbf{K}_{a}$	[mm]	0,3	0,35	0,3	0,35	0,4
Permitted misalignments	radial	$\Delta \mathbf{K}_{r}$	[mm]	0,06	0,05	0,05	0,08	0,1
inioangimiento	angular	ΔK <sub>w</sub>	[°]	0,3	0,6	0,45	0,45	0,45

Mass moments of inertia and weights 10)			10)	Size						
			,	01	0	1	2	3		
EAS®-hub-side Type 40901300 I [10 <sup>-3</sup> kgm <sup>2</sup> ]				0,448	1,210	2,572	5,171	11,412		
EAS®-pressure flange-sid	de Type 40901300	ı	[10 <sup>-3</sup> kgm <sup>2</sup> ]	0,101	0,560	0,777	1,416	2,800		
ROBA®-DS-side	Type 4096131 <sup>2</sup> / <sub>9</sub>	ı	[10 <sup>-3</sup> kgm <sup>2</sup> ]	0,856	1,839	3,887	8,213	17,344		
NODA*-D3-Side	Type 40961316	ı	[10 <sup>-3</sup> kgm <sup>2</sup> ]	0,863	1,655	3,847	8,517	15,444		
	Type 40901300	m	[kg]	0,973	1,770	2,765	3,968	6,340		
Weights Type 4096131 <sup>2</sup> / <sub>9</sub> Type 40961316		m	[kg]	2,071	3,421	5,529	8,260	12,983		
		m	[kg]	1,893	3,211	5,442	8,194	12,364		

Tonoioning corou	us and sarow an l	horoc				Size			
rensioning screv	vs and screw-on l	oores		01	0	1	2	3	
Quantity, dimension M [mm]				6 × M4	6 × M4	8 × M4	8 × M5	8 × M6	
In cone bushing, EAS®-side	Wrench opening	SW	[mm]	7	7	7	8	10	
EAS -Side	Tightening torque			4	4	4	8	12	
la alasiala diala	Quantity, dimension	M <sub>1</sub>	[mm]	4 × M5	6 × M5	6 × M5	6 × M5	6 × M6	
In shrink disk, ROBA®-DS-side	Wrench opening	SW <sub>1</sub>	[mm]	8	8	8	8	10	
NODA -D3-side	Tightening torque		[Nm]	6	6	8,5	8,5	14	
Screw-on bores in Quantity, dimension s [mm]			[mm]	12 x M4	12 x M5	12 × M6	12 × M6	12 × M8	
pressure flange Pitch				8 x 45° / 6 x 60°					

Dimensions for	1			Size		
Dimensions [m	ımı	01	0	1	2	3
Α	34	40	45	50	55	
$\mathbf{A}_{_{1}}$		8	9	10	10	10
a <sup>5)</sup>		15	20	26	29	29
$\mathbf{a}_{_{0}}$		18	24	31	35	37
b		6	7	9	10	12
E		65	80	95	110	130
<b>e</b> <sub>h5</sub> 6)		47	62	75	90	100
F		70	85	100	115	135
f		38	44	56	70	84
f,		50	55	70	84	100
f <sub>2</sub>		5	5	5	6	7
f <sub>3</sub>		4	6	6	6	6
Pitch			4	x 90	)°	
Minimum	g <sub>3</sub>	50	60	76	83	93
shaft length	g <sub>4</sub>	34	39	42	48	53
h		55	68	82	91	101
k	2,8	2,8	3,5	4,0	4,0	
k <sub>1</sub>		2,8	2,8	2,8	3,5	4,0
L 7)	62	76	90	100	112	
m		56	71	85	100	116

Dime	ensions			Size		
[mm	]	01	0	1	2	3
ROB	A®-DS	10	15	25	40	64
	D	69	79	89	104	123
_်ဝ	<b>D</b> <sub>1</sub> <sup>8)</sup>	68	78	82	100	115
Type 4096131 <sup>2</sup> / <sub>9</sub>	<b>D</b> <sub>1</sub> 9)	68	78	64	74	84
Ÿ,	$k_2$	3,5	3,5	3,5	3,5	4
960	L <sub>1</sub> 7)	88,3	103	123	138,8	161
94	1	44,3	51	64	73,8	86
ğ	l <sub>1</sub> <sup>8)</sup>	32	37,5	45	50	55
_	l <sub>1</sub> 9)	32	37,5	40	45	50
	U	15,3	15,8	22	26,2	34
	b <sub>4</sub>	-	-	2	2	3
	$b_5$	3,5	3,5	-	-	-
9	$D_3$	100	100	99	123	123
5	$d_{_3}$	87	87	84	101,5	101,5
9150 44096 4		6,6	6,6	M8	M10	M10
9	Pitch		8	3 x 45	0	
/pe	1 Iton	-	-	(	6 x 60°	•
۲	dza <sub>g5</sub>	-	-	57	75	75
	dzi <sup>H6</sup>	75	75	-	-	-
	l <sub>2</sub>	15	19	25	30,2	29,8

Day		. [mana]				Size		
Bores [mm]				01	0	1	2	3
® (	<u>o</u>		$\mathbf{d}_{\min}$	10	15	22	32	35
EAS®	S	d <sup>H6 2) 4)</sup>	d <sub>max</sub>	20	25	35	45	55
<b>.</b>		ROBA®	-DS	10	15	25	40	64
Ä,	Ð	d, H6 3) 8)	$\mathbf{d}_{\mathrm{1min}}$	19	25	32	40	45
.¥	<u>Š</u>	u <sub>1</sub> ,	$\mathbf{d}_{_{1\text{max}}}$	38	45	52	60	70
ROBA®-DS	•	പ H63)9)	d <sub>1 min</sub>	19	25	20	25	30
		d <sub>1</sub> H6 3) 9)	d <sub>1 max</sub>	38	45	36	45	45

- 1) Further sizes for smaller and larger
- torques available on request
  2) Observe shaft load in maximum torque range
- 3) Shaft tolerance up to  $\emptyset$  38 <sub>h6</sub>, over  $\emptyset$  38 <sub>h8</sub>
- 4) Transmittable torques available with smaller bores on request 5) Mounting tolerance + 0,1
- 6) Tolerance user-side H6
- 7) Dimensions in released condition (shorter in tensioned condition)
  8) Only valid for type 4096.\_13\_9
  9) Only valid for type 4096.\_13\_2
- 10) Mass moments of inertia and weights apply for maximum bore
- 11) Higher speeds available on request12) Only permitted as a static or virtually static value

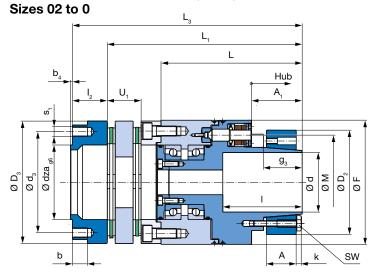
We reserve the right to make dimensional and constructional alterations.



# **EAS®-HSE**

EAS®-side shrink disk hub: Type 4036.60412 EAS®-side shrink disk hub: Type 4030.60400 ROBA®-DS-side shrink disk hub Basic type Sizes 02 to 0 Sizes 02 to 0 L Hub Hub SW, U,  $A_1$  $g_3$  $g_3$ Ø D, Ø E Ø D<sub>2</sub> ∑ Ø Ø D ∑ Ø ØΕ Ø ď ۵\_ Ø SW SW

# EAS®-side shrink disk hub: Type 4036.60416 ROBA®-DS-side for measuring flange



Order	numbe	r										
		Standard	element			0		0 1	Basic typ			Torque adjustment
Basic typ with ROB				0 6				2	Sleeve 2)	·		value
				$\nabla$		$\nabla$		$\nabla$				$\nabla$
/	/ 4	0	3		·	0	4		_	/	/ /	/ _
$\triangle$					$\triangle$				$\triangle$	$\triangle$	$\triangle$	
Sizes 02 to 0	Torque ra Medium High Very high Maximum				4 5 6 7	Basic typ Shrink die Measurin Shrink die	sk hub g flange		0 2 6 9	Bore Hub 1 Ø d <sup>H6</sup>	Bore Hub 2 Ø d <sub>1</sub> <sup>H6</sup>	

Example: Order number 1 / 4036.60416 / 52 / 70 / 1250

<sup>1)</sup> See Technical data, limit torque for overload  $\rm M_{_{\rm G}},$  other torques on request

<sup>2)</sup> When using a sleeve, please contact mayr®



Technical data		EAS®-	element				Siz	e 1)	
recrimical data		Number	Туре			02	01	(	)
Type 403404 Limit torques		2	440.604.0	$M_{\rm g}$	[Nm]	100 – 250	325 – 650	1400 – 2800	-
		4	440.604.0	M <sub>G</sub>	[Nm]	250 – 500	685 – 1250	2800 – 5600	-
for overload 1) 2)	·		440.604.0	M <sub>G</sub>	[Nm]	375 – 750	1000 – 2000	-	4200 – 8400
	Type 403704	8	440.604.0	$M_{\rm G}$	[Nm]	500 – 1000	1250 – 2500	-	-
EAS®-element (Size)						02	01	(	)
Max. speed 10)				n <sub>max</sub>	[rpm]	12000	10000	7000	7000
Bolt stroke on overloa	ad				[mm]	2,5	4	6	6
Nominal torques, tors	sionally rigid couplin	g		T <sub>KN</sub>	[Nm]	1100	2600	5800	9500
			axial 11)	$\Delta \mathbf{K_a}$	[mm]	0,4	0,5	0,45	0,5
Permitted misalignments			radial	$\Delta \mathbf{K}_{r}$	[mm]	0,1	0,1	0,1	0,1
			angular	$\Delta K_{w}$	[°]	0,4	0,4	0,3	0,3

Tonoioning corous o	and corour on horse				Si	ze	
rensioning screws a	Tensioning screws and screw-on bores				01	(	)
In shrink disk, Quantity, dimension M				4 × M8	8 × M8	8 ×	M12
EAS®-side	Wrench opening	SW	[mm]	13	13	1	9
LAG -Side	Tightening torque	T <sub>A</sub>	[Nm]	36	36	9	3
la abuint diak	Quantity, dimension	M <sub>1</sub>	[mm]	6 × M6	6 × M8	8 × M10	8 × M12
In shrink disk, ROBA®-DS-side	Wrench opening	SW <sub>1</sub>	[mm]	10	13	17	19
NODA -D3-side	Tightening torque	T <sub>A</sub>	[Nm]	10	36	56	93
Screw-on bores in pressure flange	Pitch, dimension	s	[mm]	6 × 60° M10	6 × 60° M14	8 × 45° M20	8 × 45° M20

Mass moments of iner	Mass moments of inertia and weights <sup>9)</sup>					Size					
Wass moments of mer							0				
EAS®-hub-side	Type 403004	1	[10 <sup>-3</sup> kgm <sup>2</sup> ]	10,271	47,180	341	,804				
EAS®-pressure flange-side	Type 403004	1	[10 <sup>-3</sup> kgm <sup>2</sup> ]	8,081	37,321	233	,775				
	ROBA®-DS			64	160	500	850				
ROBA®-DS-side	Type 40360416	1	[10 <sup>-3</sup> kgm <sup>2</sup> ]	10,223	40,896	193,757	281,625				
	Type 4036041 <sup>2</sup> / <sub>9</sub>	1	[10 <sup>-3</sup> kgm <sup>2</sup> ]	12,024	53,899	241,013	405,591				
Weights	Type 40300400_ m			8,77	22,457	68,	790				
Type 40360416			[kg]	13,220	32,154	93,939	100,044				
	Type 4036041 <sup>2</sup> / <sub>9</sub>	m	[kg]	14,083	84,615	102,578	115,994				

		Size	
Dimensions [mm]	02	01	0
Α	30	38	63
A <sub>1</sub>	51	63,4	89
L	142,2	182,4	250
Z	4	4	5
b	20	25	42
М	95	133	190
$D_{\!\scriptscriptstyle 2}$	105	141	234
I	80	100	130
$g_{_3}$	40	50	75
k	5,3	5,3	7,5
Е	125	170	250
<b>e</b> <sub>h6</sub> 6)	80	105	160
F	125	170	250
m	103	140	210

Dimensions [mm]			Si	ze		
וווט	iens	sions [mm]	02	01	C	)
RO	BA®.	-DS	64	160	500	850
		D	123	167	198	234
		D <sub>1</sub> 7)	115	162	198	234
ွ		D <sub>1</sub> 8)	84	118	198	234
312/		L,	162,2	250,8	344	359
Ψ,		L <sub>2</sub> 7)	251,2	320,8	439	474
36		L <sub>2</sub> <sup>8)</sup>	246,2	310,8	439	474
Type 4036131 <sup>2</sup> / <sub>9</sub>		U <sub>1</sub>	34	40,4	52	65
Ž		l <sub>1</sub> 7)	55	70	95	115
_		l <sub>1</sub> <sup>8)</sup>	50	60	95	115
		k <sub>2</sub>	4	5,3	6,4	7,5
		A <sub>2</sub>	31,5	39	51	63
		dza <sub>g6</sub>	75	90	110	140
		d <sub>3</sub>	101,5	130	155,5	196
316		D <sub>3</sub>	123	167	210	252
Ţ		b <sub>4</sub>	2	2,8	2,8	3
930		b	15	14	26	29
Type 40361316		Pitch		8 ×	45°	
ξ	S <sub>1</sub>	Dimension	M10	M12	M14	M16
		l <sub>2</sub>	35	35	36	29
		L <sub>3</sub>	231,2	285,8	380	388

Bores [mm]			Size				
			02	01	0		
EAS®-	side	d <sup>H7</sup> 2)	d <sub>min</sub>	48	47	70	
			$\mathbf{d}_{\max}$	60	75	120	
ROBA®-DS		ROBA®-DS		64	160	500	850
	- side	d <sub>1</sub> <sup>H7 3) 7)</sup>	d <sub>1 min</sub>	45	65	60	70
			d <sub>1 max</sub>	70	100	100	120
		d <sub>1</sub> H7 3) 8).	d <sub>1 min</sub>	30	40	60	70
			d <sub>1 max</sub>	45	65	100	120

- 1) Further sizes for smaller and larger torques available on request
- 2) Observe shaft load in maximum
- torque range
- 3) Shaft tolerance up to Ø 38 he, over Ø 38 he
  4) Transmittable torques available with smaller bores on request
- 5) Mounting tolerance + 0,1
- 6) Tolerance user-side H6
  7) Only valid for type 4096.\_13\_9
- Only valid for type 4096.\_13\_2
- Mass moments of inertia and weights apply for maximum bore
- 10) Higher speeds available on request
- 11) Only permitted as a static or virtually static value

We reserve the right to make dimensional and constructional alterations.



# Other test stand clutches and couplings

# ROBA®-DSM Torque measurement coupling

Measurement ranges 190 Nm - 1,600 Nm Accuracy < 1 %

Bandwidth 3.5 kHz, usable resolution 12 Bit

- ☐ Integrated into tried and tested, backlash-free shaft compensation coupling
- ☐ Simple electrical and mechanical installation
- Robust and reliable machine element
- Absolutely maintenance-free

Can be combined with ROBA®-DS shaft couplings and EAS®-torque limiting clutches

For detailed Technical data, see Catalogue

**ROBA®-DSM** 

P.971005.V\_\_.\_



Torque range 10 Nm - 640 Nm Speeds up to 8,600 rpm

- ☐ Short switching times/high switching frequency
- ☐ High performance density
- Large permitted shaft diameter
- ☐ High torque reliability
- Simple installation
- □ Compact construction

For detailed technical data, see Catalogue

**ROBATIC®** 

K.500.V .

# ROBA®-DS shaft coupling

Torque range 3 Nm - 110,000 Nm Speeds up to 13,600 rpm

- ☐ Resistant to alternating loads up to 100% of the nominal torque, up to Size 2200
- ☐ Low mass moment of inertia due to high performance density
- ☐ Completely backlash-free up to the nominal torque
- High misalignment compensation capability with low restoring forces
- ☐ High torsional rigidity up to the nominal torque
- ☐ Completely wear-free and maintenance-free
- Optimum design due to high diversity of variants

For detailed technical data, see Catalogue

**ROBA®-DS** 

K.950.V\_ \_.\_ \_







ROBA®-DS shaft couplings transmit the coupling nominal torque using frictional locking and backlash-free even with full displacement and alternating torques. The maximum performance density permits the use of the respective smallest size. The mass moment of inertia and the diameter are minimised.

Maximum running smoothness due to highly precise components and complete balancing.



# Limit Switch Type 055.00\_.5 (contactless)

## **Application**

This device is used for measuring and monitoring axial and radial disengaging movements, e.g. on EAS®-clutches. It acts as a control sensor for electronic and mechanical sequences.

#### **Function**

When the sensor surface of the NAMUR sensor scans a metal control flag (damped), the signal relay is triggered, is deenergised and drops. Contacts 1 - 2 are opened. Damping is possible from all sides

# **Electrical Connection (Terminal)**

1-2-3 floating changeover-contacts 5-6 Connection input voltage

#### Design

The electronic amplifier is installed in a light metal housing. The limit switch is fixed using two screw-on mounting links attached diagonally with M4 cap screws.

#### **Technical Data**

Input voltage 230 VAC, ±10 %, 50–60 Hz (dependent on design) 115 VAC, ±10 %, 50–60 Hz

24 VDC, PELV, ±5 %,

protected against reverse polarity, for overvoltage category II connection

Power consumption max. 1,5 VA

Ambient temperature -10 °C bis +60 °C limit switch

-25 °C bis +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 at 24 VDC (in system)

Signalling relay Potential-free two-way contacts
Contact load max. 250 VAC/12 A

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, operating distance SN 2 mm, flush

fitting, max. switching frequency 2 kHz, the zero point can be set per 1 mm by means of the lateral adjusting

screw SW 7

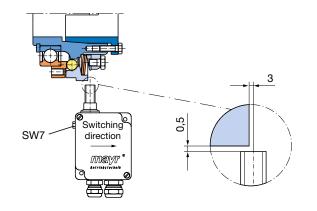
NAMUR sensor external metal housing M12 x 1, operating-

distance SN 2 mm, flush fitting, max. switching frequency 2 kHz,

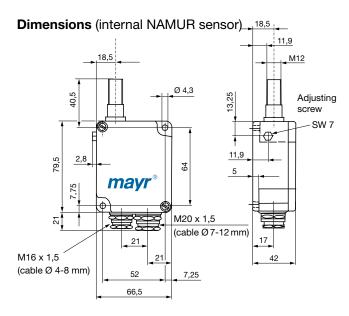
standard cable length 2 m, max. 100 m with special design,

protection IP 67

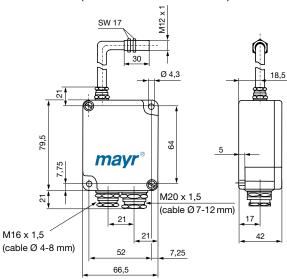
# Installation







# **Dimensions** (external NAMUR sensor)



Order number							
0	5	5	. 0	0		. 5	/ _
					$\triangle$		$\triangle$
Contactless sensing						Conne	ection voltage
Sensor external					1		230 VAC
Sensor internal					2		115 VAC
							24 V/DC



# Limit Switch Type 055.012.6 (Contactless, with mounting flange)

## **Application**

The inductive proximity switch monitors and detects operating conditions on EAS® overload clutches. Axial movements caused by overload or switching procedures are registered by the proximity switch. The signal can be used for further process controlling e.g. for drive switch-off.

#### **Function**

When the overload clutch disengages, the inductive proximity switch converts from a damped to an undamped condition and the signal level on the output (2) changes from the input voltage value to 0V.

#### **Electrical Connection**

1	L+	BN (brown)
2	NO contact	BK (black)
3	L-	BU (blue)

#### **Technical Data**

Identification code NBB1,5-8GM30-E2-Y

Construction size M8 x 1

Type of construction Rustproof stainless steel Input voltage 10 – 30 VDC PELV

No-load current  $\leq$  15 mA Power capacity 100 mA

Contact type PNP/NO contact

Switching distance S<sub>a</sub> 1,5 mm, flush installation

Assured

switching distance  $S_a$  1,2 mm

Characteristics Inverse polarity protection

Clocking short circuit protection

Switching condition indicator via LED

Connection type Cable 3 m/PUR

Tightening torque 10 Nm

Connection

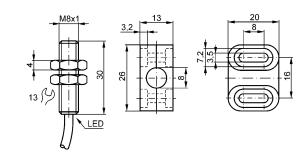
 $\begin{array}{ll} \mbox{cross-section} & \mbox{0,14 mm}^2 \, / \, \mbox{AWG 26} \\ \mbox{Ambient temperature} & \mbox{-25 °C bis +70 °C} \end{array}$ 

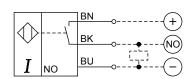
Protection IP 67

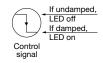
Accessories Mounting flange

# C UL US C E

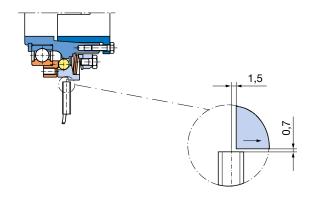
#### Dimensions (mm)

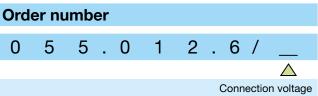






#### Installation





# **Product Summary**

# **Safety Clutches/Overload Clutches**

■ EAS®-Compact®/EAS®-NC

Positive locking and completely backlash-free torque limiting clutches

EAS®-smartic®

Cost-effective torque limiting clutches, quick installation

EAS®-element clutch/EAS®-elements

Load-disconnecting protection against high torques

EAS®-axial

Exact limitation of tensile and compressive forces

EAS®-Sp/EAS®-Sm/EAS®-Zr

Load-disconnecting torque limiting clutches with switching function

ROBA®-slip hub

Load-holding, frictionally locked torque limiting clutches

ROBA®-contitorque

Magnetic continuous slip clutches



# **Shaft Couplings**

smartflex®

Perfect precision couplings for servo and stepping motors

■ ROBA®-ES

Backlash-free and damping for vibration-sensitive drives

ROBA®-DS/ROBA®-D

Backlash-free, torsionally rigid all-steel couplings

■ EAS®-control-DS

Cost-effective torque-measuring couplings



# **Electromagnetic Brakes/Clutches**

■ ROBA-stop® standard

Multifunctional all-round safety brakes

■ ROBA-stop®-M motor brakes

Robust, cost-effective motor brakes

ROBA-stop®-S

Water-proof, robust monoblock brakes

■ ROBA-stop®-Z/ROBA-stop®-silenzio®

Doubly safe elevator brakes

ROBA®-diskstop®

Compact, very quiet disk brakes

ROBA®-topstop®

Brake systems for gravity loaded axes

□ ROBA®-linearstop

Backlash-free brake systems for linear motor axes

□ ROBATIC®/ROBA®-quick/ROBA®-takt

Electromagnetic clutches and brakes, clutch brake units



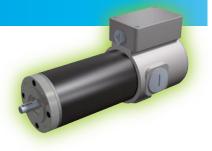
# **DC Drives**

tendo®-PM

Permanent magnet-excited DC motors

■ tendo®-SC

1 quadrant and 4 quadrant transistor controllers





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You can find the complete address for the representative responsible for your area under www.mayr.com in the internet. 💍