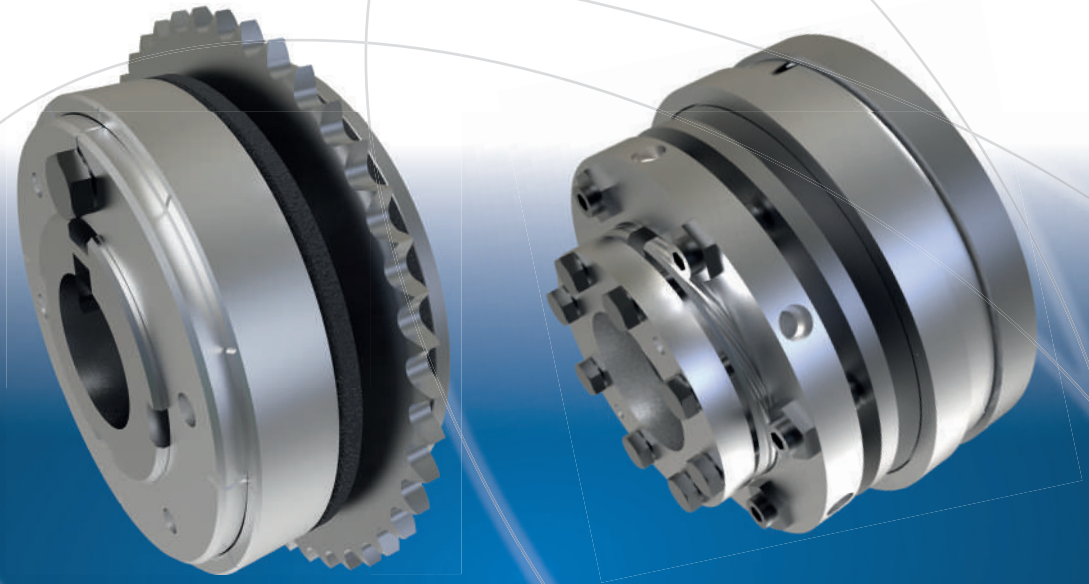
mayr®

your reliable partner



Torque Limiters

IMG.402.V10.EN

www.mayr®.com

We safeguard the movements of this world





The Christian Mayr mill-construction business – founded in 1897.



Communications Centre mayr.com – opened in 2018.

Specialists in power transmission for more than a century

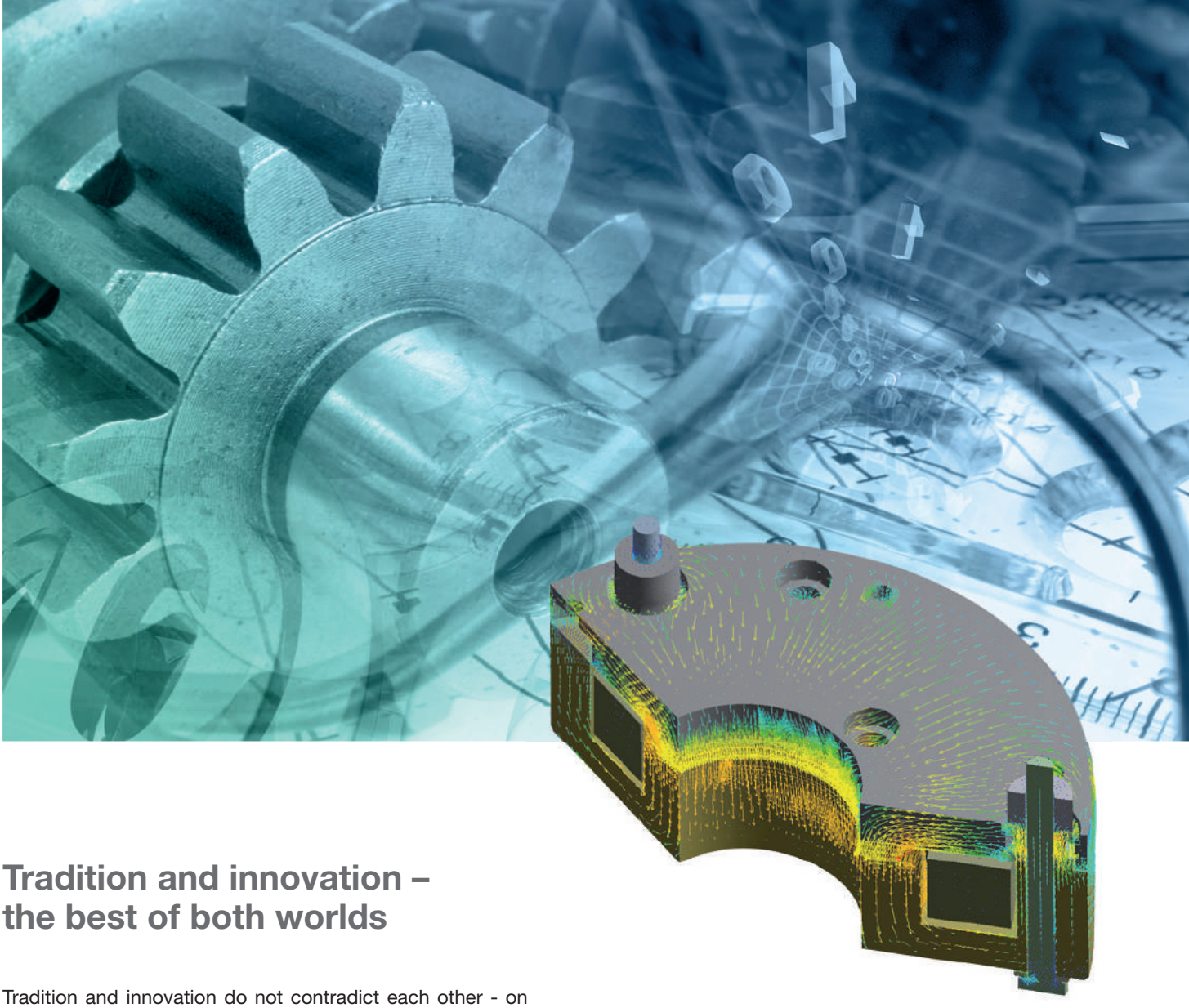
mayr® power transmission is one of the most traditional and yet most innovative German companies in the field of power transmission. From modest beginnings in the year 1897, the family enterprise from the Allgäu region has developed into the world market leader. Today, approximately 700 employees work at the headquarters in Mauerstetten; about 1200 employees work for the company worldwide.

An unsurpassed standard product range

mayr® power transmission offers an extensive variety of torque limiters, safety brakes, backlash-free shaft misalignment compensation couplings and high-quality DC drives. Regarding customer-specific requirements, too, the company possesses the expertise to develop customized and economical solutions. This is why numerous renowned machine manufacturers trust in holistic solutions by *mayr*® power transmission.

Represented worldwide

With eight subsidiaries in Germany, sales offices in the USA, France, Great Britain, Italy, Singapore and Switzerland as well as 40 additional country representatives, *mayr*® is available in all important industrial areas, guaranteeing optimum customer service around the globe.



Tradition and innovation – the best of both worlds

Tradition and innovation do not contradict each other - on the contrary. They are the two supporting pillars which have guaranteed stability and reliability for generations. Long-term stability, independence as well as a good reputation and satisfied customers are important values for a family enterprise rich in tradition.

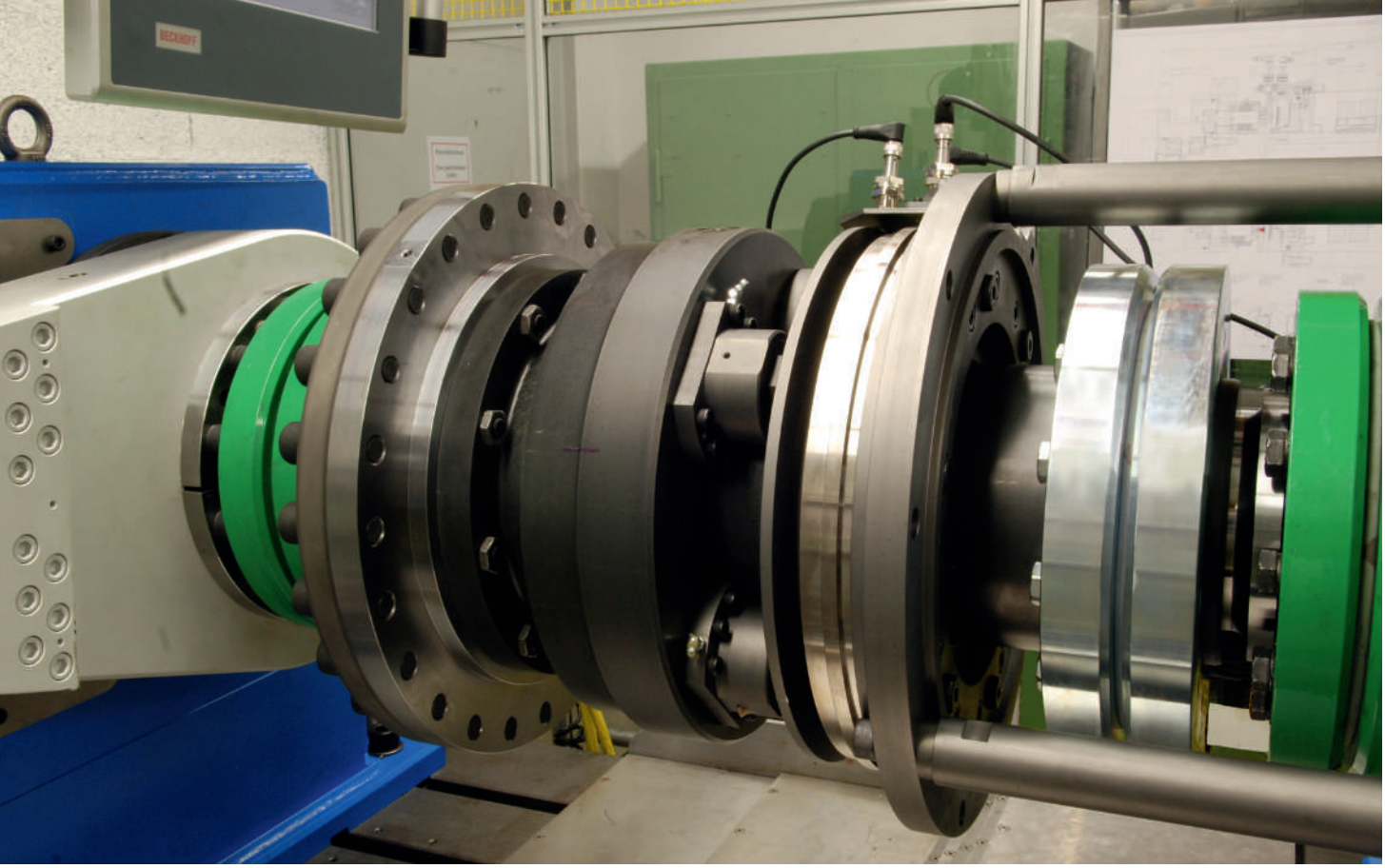
Therefore, we place emphasis on:

- Tested product quality,
- Optimum customer service,
- Comprehensive know-how,
- Global presence,
- Successful innovations,
- Effective cost management.

By pursuing our own objective of always offering our customers the technologically most advanced and most economical solution, we have been able to gain the trust of many leading industrial companies from all branches and from all over the world as a reliable partner.

Place your trust in our know-how and our more than 50 years of experience in torque limiters, safety brakes and shaft couplings.

mayr®
your reliable partner



Tested quality and reliability

mayr® products are subject to meticulous quality inspections. These include quality assurance measures during the design process as well as a comprehensive final inspection. Only the best, tested quality leaves our factory. All products are rigorously tested on calibrated test stands, and adjusted precisely to the requested values. An electronic database in which the measurement values are archived together with the associated serial numbers guarantees 100 % traceability. On request, we confirm the product characteristics with a test protocol.

The certification of our quality management according to DIN EN ISO 9001:2015 confirms the quality-consciousness of our colleagues at every level of the company.

Never compromise on safety

We make no compromises where safety is concerned. Only top products of a perfect quality guarantee that no people are injured or machines damaged in case of malfunctions, collisions and other hazardous situations. The safety of your employees and machines is our motivation to always provide the best and most reliable clutches, couplings or brakes.

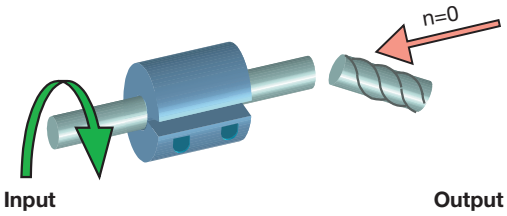
mayr® power transmission holds numerous ground-breaking patents, and is the global market or technological leader for

- application-optimised **safety brakes,** for example for passenger elevators, stage technology and gravity loaded axes
- **torque limiters** to protect against expensive overload damage and production losses and
- backlash-free **servo couplings**.

No overload protection means a high risk of damage

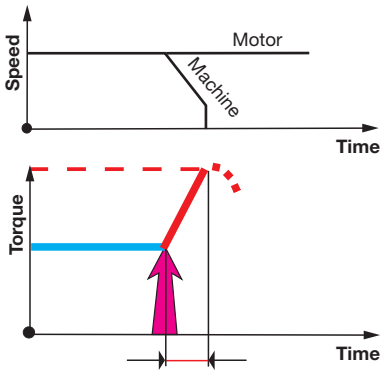
Situation

The input and output sides are connected firmly to each other (material-locking) in the drive line. There are no frictionally-locking or positive-locking connections which could give way without destruction on overload. Current changes in the motor cannot be monitored or processed.



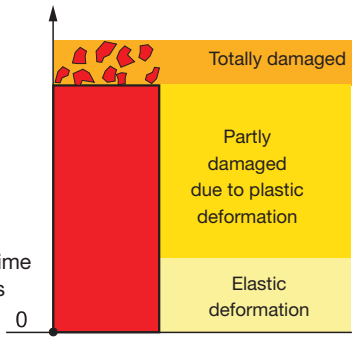
Speed and Torque Paths

After a collision, the torque increases very rapidly to values which can be much higher than the operating torque.
This overload leads to breaks in the drive line. The motor continues to run; the machine speed falls to 0.



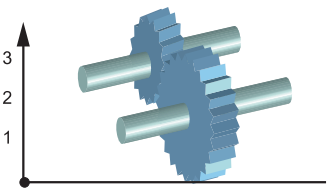
Risk of Damage

Collisions without overload protection usually lead to the machine being completely damaged. The weakest link in the drive line breaks. The machine is no longer operational and downtime will last until the repairs have been carried out.



Dimensioning

Heavy, solid and slow-running constructions with high safety factors are necessary in order to keep collision factors as low as possible.



Costs

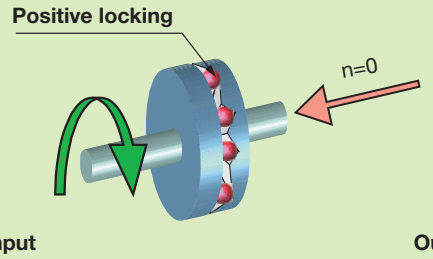
- Expensive replacement parts
- Complicated repairs
- Long downtimes



Perfect overload protection with EAS®-clutches

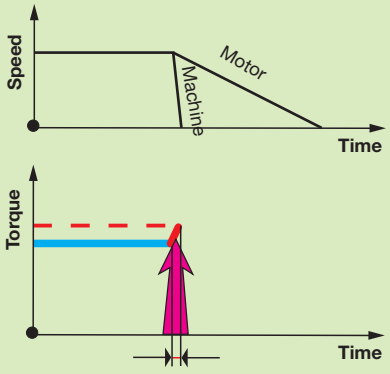
Situation

EAS®-clutches combine input and output-sides using positive locking and limit the torque accurately to the set value. These clutches work with an extremely high setting and repeat accuracy.



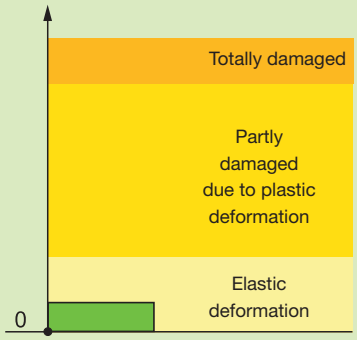
Speed and Torque Paths

On overload, the clutch disengages and separates input and output as quickly as possible. The stored rotatory energy is disconnected and runs free. A limit switch registers clutch disengagement and switches off the drive.



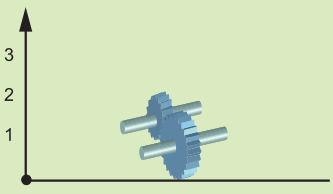
Risk of Damage

The high accuracy and exact torque limitation mean that the drive line is not damaged. All components remain within the elastic deformation range.



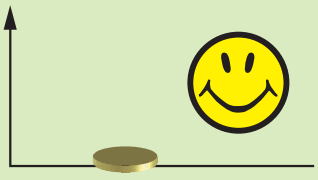
Dimensioning

Small and light constructions are possible due to accurate torque limitation and exact predictions on component load.



Costs

Costs incurred due to damage or wear are no longer to be expected. After a short downtime to remove the overload, the system can be re-started.



Why use EAS®-torque limiters?

Advantages for the Machine Manufacturer

Torque limiters ensure that the load on the components does not exceed the permitted values due to exact torque limitation.
This means that the modern demands on the machine construction can be fulfilled without risk.

- ❒ **Reduction of constructional safety factors**
- ❒ **Optimum machine dimensions**
- ❒ **Low mass moment of inertia**
- ❒ **Smaller drive motors and gearbox**
- ❒ **Material and cost reductions**
- ❒ **High rigidity and vibration-free transmission**

Advantages for Productional Operation

No machine is safe from collisions. They occur due to incorrect operation, control software and hardware malfunctions or ambient influences such as foreign objects.
Torque limiters provide reliable protection and ensure:

- ❒ **Low operational costs**
- ❒ **Minimum repair time expenditure**
- ❒ **High system availability**
- ❒ **High productivity**
- ❒ **Punctual production**
- ❒ **Good delivery image for customers**

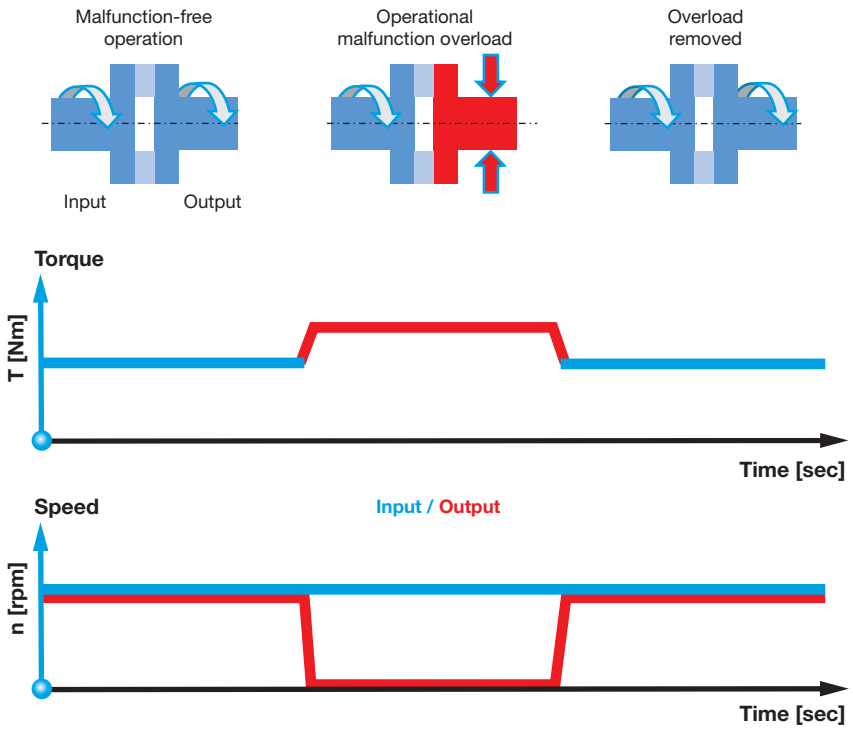
Classification of *mayr*®-torque limiters

8 – 25

	Torque limiting	Force limiting	Frictionally-locking	Positive-locking	Magnetic	Ratchetting	Disengaging	Pneum. switchable + controllable	Electr. switchable + controllable	Rustproof	Rustproof and sealed	Catalogue page
Load holding torque limiters												
ROBA®-slip hubs	x		x									8
EAS®-compact®-torque sensor / EAS®-torque sensor	x			x								9
ROBA®-contitorque / ROBA®-capping head	x				x					x	x	10
Load separating torque limiters												
EAS®-compact® / EAS®-NC	x			x		x						11
EAS®-compact® rustproof	x			x		x				x	x	12
EAS®-smartic®	x			x		x						13
EAS®-HTL	x			x		x	x					14
EAS®-reverse	x			x			x					15
EAS®-compact®-F	x			x			x					16
EAS®-compact®-F for high-speed applications	x			x			x					17
EAS®-HSE	x			x			x					18
EAS®-elements	x			x			x					19
EAS®-HT	x			x			x					20
EAS®-dutytorque	x			x			x					22
EAS®-Sp	x			x			x	x				23
EAS®-Sm / EAS®-Zr	x			x			x		x			24
EAS®-axial		x		x			x					25
Limit Switch												**26**

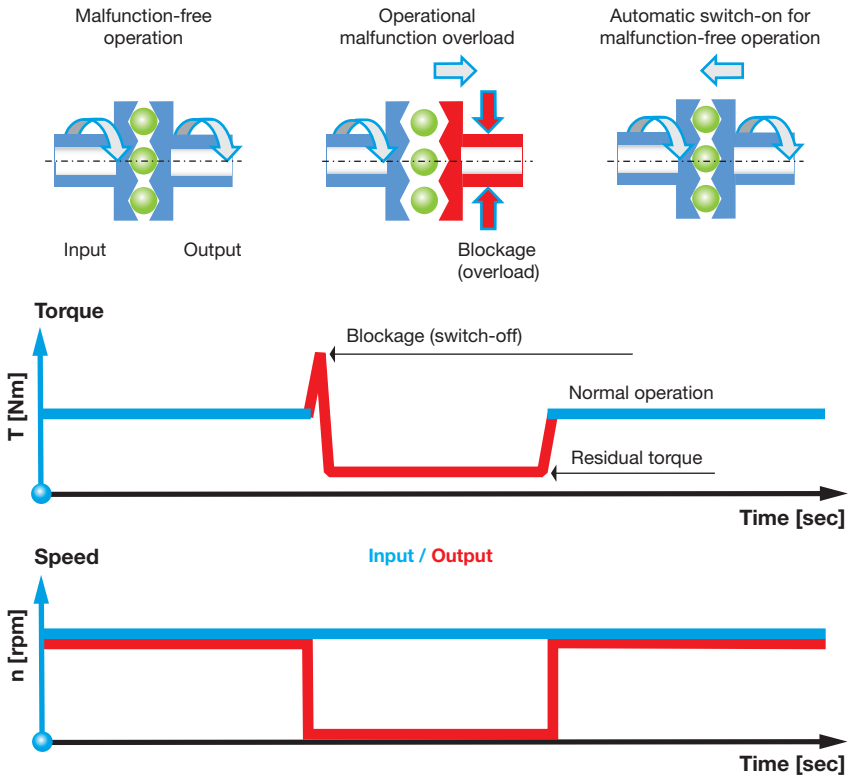
Load holding torque limiters

Example 1: Torque and speed paths of a **load holding frictionally-locking** torque limiter



Load separating torque limiters

Example 2: Torque and speed paths of a **load separating ratchetting** torque limiter



ROBA®-slip hub
the load holding frictionally-locking torque limiter

Performance Characteristics

- **Slipping on overload. The device can continue operation immediately after elimination of the overload**
- **Torque transmission due to frictional locking**
- **Simple to install and handle**
- **Torque can be adjusted easily and steplessly using adjustment tables**
- **High-quality friction materials provide lowest-possible wear**
- **Low friction value tolerance due to optimized construction and materials**
- **Excellent repeat accuracy**





ROBA®-slip hub for ensuring safety for conveyor belts in a bottle-filling plant

Designs

- ❒ Standard design for narrow drive elements e.g. single-row chain sprockets
- ❒ ROBA®-max for very wide drive elements and for elements with a small diameter
- ❒ With rustproof friction linings for operation outside, in humid conditions or for longer downtimes
- ❒ With a clamping hub for fast, cost-saving installation
- ❒ With a needle bearing for drive elements with high radial loads, a high slipping frequency and high demands on the shaft run-out accuracy
- ❒ With a flexible or torsionally rigid coupling for connection of two shafts and to compensate for shaft misalignment

Applications

- ❒ Test stands
- ❒ Crusher
- ❒ Extruder
- ❒ General mechanical engineering
- ❒ Conveyor technology
- ❒ Filling plants

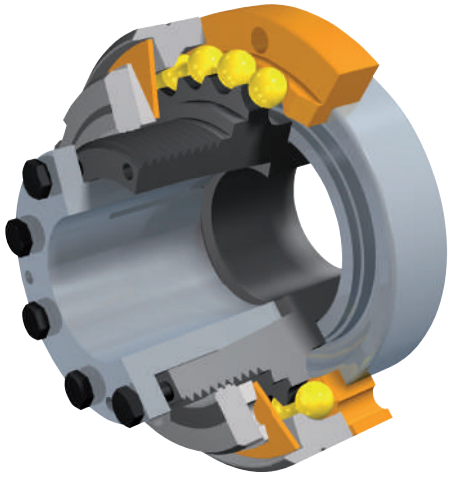
Technical Data, Dimensions			Size													
			0	01	1	2	3	4	5	6	7	8	9	10	11	12
Limit torques for overload	M_G	[Nm]	2 – 30	6 – 90	14 – 200	26 – 400	50 – 800	110 – 1600	140 – 2100	240 – 2400	400 – 4000	680 – 6800	1200 – 12000	2000 – 20000	3400 – 34000	5000 – 50000
Operating speed	n_{max}	[rpm]	8500	6600	5600	4300	3300	2700	2200	1900	1600	1300	1100	920	780	690
Outer diameter		[mm]	45	58	68	88	115	140	170	200	240	285	350	415	490	555
Minimum bore		[mm]	7	12	12	15	19	25	30	40	48	60	57	80	90	100
Maximum bore		[mm]	20	22	25	35	45	55	65	80	100	120	140	160	180	200
Length		[mm]	33	45	52	57	68	78	92	102	113	115	162	185	222	250

For detailed technical data and dimensions, please see catalogue **ROBA®-slip hubs: K.123.V_ _._ _**

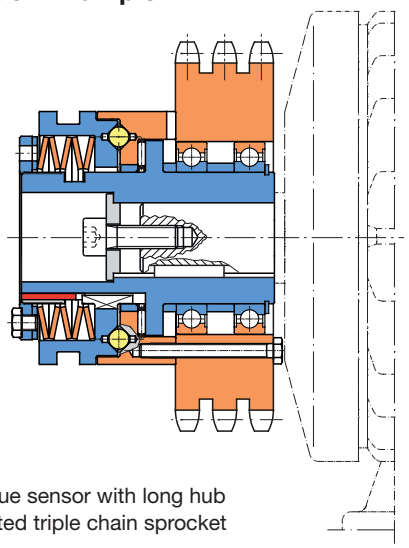
EAS®-torque sensor / EAS®-compact®-torque sensor the load holding positive-locking torque limiter

Performance Characteristics

- **Emits a signal immediately on overload, but does not separate the masses (no mechanical overload protection) — ideal for vertical applications**
- **Connects the input and the output via positive locking in all operating conditions fail-safe**
- **Torque can be adjusted easily and steplessly using the scaled adjusting nut**



Installation Example



EAS®-torque sensor with long hub and mounted triple chain sprocket

Designs

- ❒ Flange design for mounting bearing-supported drive elements such as chain sprockets, toothed wheels and pulleys
- ❒ Design with integrated bearing for simple symmetrical and narrow drive elements.
  Simple, ready-to-mount clutch
- ❒ Design with a long hub for wide drive elements (see Installation Example)
- ❒ Designs with flexible couplings for connection of two shafts and to compensate for shaft misalignment

Applications

- ❒ Vertical drives
- ❒ Hoists
- ❒ All drives in which separation of the shafts is not permitted

Technical Data, Dimensions				Size EAS®-torque sensor									
				0	1	2	3	4	5	6	7	8	9
Limit torques for overload		M_G	[Nm]	5 – 40	12 – 100	25 – 200	50 – 400	100 – 800	175 – 1400	300 – 2400	500 – 4000	850 – 6800	1500 – 12000
Maximum speed		n_{max}	[rpm]	6500	4300	3580	3000	2500	2050	1800	1470	1250	920
Outer diameter			[mm]	55	82	100	120	146	176	200	240	285	380
Minimum bore			[mm]	8	11	15	19	25	30	40	50	60	70
Maximum bore			[mm]	20	25	35	45	55	65	75	100	120	150
Length	Flange design		[mm]	38.5	52	61	78	99.5	113.5	119	141	172	190

Technical Data and Dimensions of the special design **EAS®-compact®-torque sensor** on request

For detailed technical data and dimensions, please see catalogue EAS®-standard: K.407.V_ _._ _

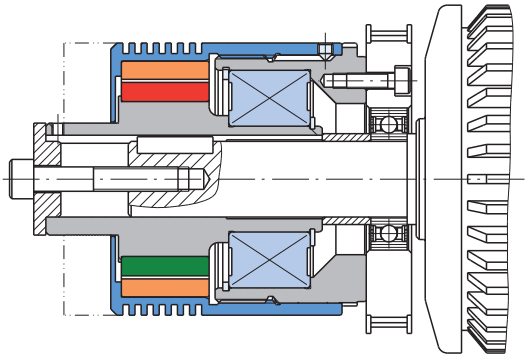
ROBA®-contitorque
the load holding, magnetic torque limiter

Performance Characteristics



- **Long-term continuous torque due to magnetic hysteresis principle**
- **Wear and maintenance-free**
- **Torques are transmitted contactlessly and synchronously via magnetic forces**
- **Precise torque limiting on overload**
- **Torque can be adjusted easily and steplessly using the scale marked with torque values**
- **Can be used as a clutch or brake**
- **Low weight and mass moment of inertia**

Installation Example



The clutch is secured directly onto the motor shaft and the pulley is bearing-mounted separately using the deep groove ball bearing (used as a clutch for torque limitation).

Designs

- ❒ Two torque ranges per construction size for most accurate torque graduation
- ❒ Rustproof stainless steel design
- ❒ Sealed; can be used in foodstuffs plants
- ❒ Design with rustproof hysteresis-capping head: ROBA®-capping head

Applications

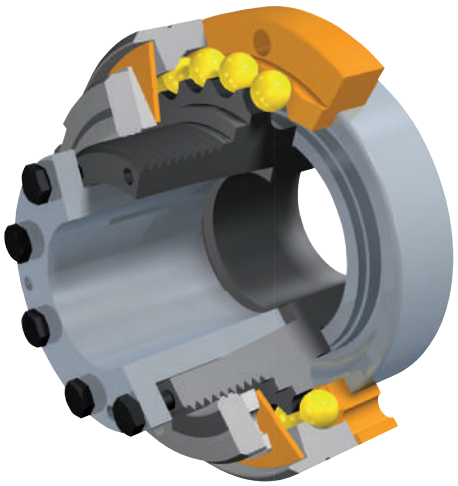
- ❒ In test stand technology, this device can simulate defined loads
- ❒ Can be used to screw on closing caps of any kind
- ❒ Force limitation for coiling and uncoiling procedures
- ❒ Torque limitation in different power transmission applications
- ❒ Rail / switch plate adjustments (railway)

Technical Data, Dimensions			Size 1	2	3	4	5
Limit torques for overload	M_G	[Nm]	0.1 – 0.8	0.1 – 1.6	0.1 – 3	0.2 – 6	0.5 – 12
Maximum speed	n_{max}	[rpm]	4000	3500	3000	3000	3000
Outer diameter		[mm]	62	77	90	113	145
Minimum bore		[mm]	10	12	15	18	20
Maximum bore		[mm]	14	20	25	38	50
Length		[mm]	83	98	110	129	160

For detailed technical data and dimensions, please see catalogue ROBA®-contitorque: K.150.V_ _._ _
ROBA®-capping head: P.151000.V_ _._ _

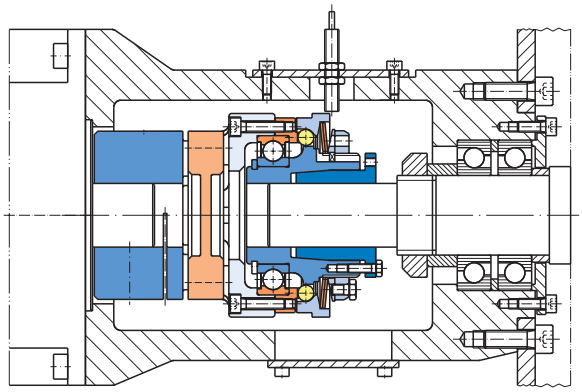
EAS®-compact® / EAS®-NC
the load separating ratchetting torque limiter

Performance Characteristics



- **Separates immediately, re-engages automatically**
- **Transmits the torque backlash-free in normal operation**
- **Separates input and output in milliseconds on overload**
- **Electrical signal emittance on overload**
- **High switch-off and repeat accuracy**
- **Torque can be adjusted easily and steplessly using adjustment tables**
- **Re-engagement every 15° or synchronously after 360°**
- **High rigidity**

Installation Example



The EAS®-compact® with a backlash-free, torsionally flexible and vibration-damping shaft coupling for the connection of two shafts. The coupling compensates for axial, radial and angular shaft misalignments.

Designs

- ❒ Flange clutches with single or double bearings for direct mounting onto drive elements such as pulleys, toothed wheels and chain sprockets
- ❒ Design with a long hub for mounting very wide drive elements. An additional bearing on the hub using a roller bearing or a plain bearing is possible
- ❒ Combinations with torsionally rigid or flexible couplings for the connection of two shafts; compensation of shaft misalignment

Applications

- ❒ General drive technology
- ❒ Automation technology
- ❒ Machine tools
- ❒ Packing machines
- ❒ Printing and paper machines
- ❒ Foodstuffs technology
- ❒ Conveyor technology
- ❒ Drinks industry

Technical Data, Dimensions			Size 03	02	01	0	1	2	3	4
Limit torques for overload	M_G	[Nm]	0.65 – 3.8	2 – 15	5 – 62.5	10 – 125	20 – 250	40 – 500	70 – 875	120 – 1500
Maximum speed	n_{max}	[rpm]	4000	4000	4000	3000	2500	2000	1200	800
Outer diameter		[mm]	45	50	70	85	100	115	135	166
Minimum bore		[mm]	6	8	10	15	22	28	32	40
Maximum bore		[mm]	12	16	20	25	35	45	55	65
Length Flange design		[mm]	28.5	34.5	47	56	67	73	86	130

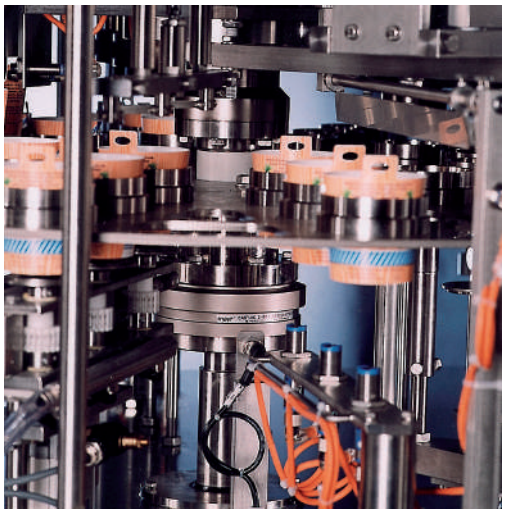
For detailed technical data and dimensions, please see catalogue EAS®-compact®: K.490.V_ _._ _

EAS®-compact® rustproof
the load separating ratchetting torque limiter

Performance Characteristics

- **Separates immediately, re-engages automatically**
- **Transmits the torque backlash-free in normal operation**
- **Separates input and output in milliseconds on overload**
- **High switch-off and repeat accuracy**
- **Simple torque adjustment**
- **Re-engagement synchronously after 360°**
- **Long service lifetime due to hardened functional components**
- **Use of lubricants with approval for the food industry**





EAS®-compact® rustproof in a filling machine for cream cheese

Designs

- ❒ Rustproof, open design:
  EAS®-compact®-R clutch, completely made of rustproof stainless steel; identical in design with the EAS®-compact® standard
- ❒ Rustproof, sealed design:
  EAS®-compact®-RA clutch, completely rustproof, enclosed due to rustproof seal;
  no penetration of cleaning liquids or any other media, no grease leakage
- ❒ Flange clutches with single bearings for direct mounting onto drive elements such as pulleys, toothed wheels and chain sprockets

Applications

- ❒ Foodstuffs technology
- ❒ Process engineering
- ❒ Chemical industry

Technical Data, Dimensions				Size 0	1	2	3
Limit torques for overload		M_G	[Nm]	10 – 100	20 – 200	40 – 400	70 – 700
Maximum speed		n_{max}	[rpm]	3000	2500	2000	1200
Outer diameter	Sealed design		[mm]	90	105	120	140
	Open design		[mm]	80	95	110	130
Minimum bore			[mm]	15	22	28	32
Maximum bore			[mm]	25	35	45	55
Length	Sealed design		[mm]	64	77	88	98
	Open design		[mm]	56	67	73	86

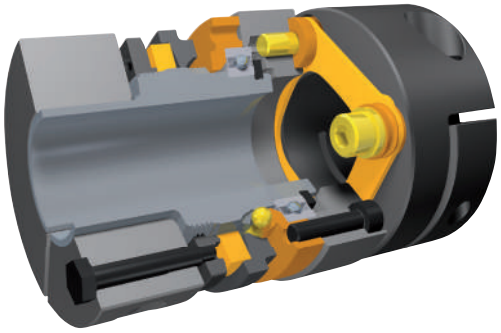
For detailed technical data and dimensions, please see catalogue EAS®-compact®-R: P.49A.V_ _._ _

EAS®-smartic®
the load separating ratchetting torque limiter

Performance Characteristics



- **Separates immediately, re-engages automatically**
- **Very easy and quick installation via the clamping ring hub by tightening one single screw**
- **Permanent 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 ring 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**



EAS®-smartic® combined with
the backlash-free, torsionally rigid disk pack coupling ROBA®-DS

Designs

- ❒ Flange clutches for direct mounting onto drive elements such as pulleys, toothed wheels and chain sprockets
- ❒ Combinations with a backlash-free flexible coupling for the connection of two shafts; compensation of shaft misalignment and damping of critical vibrations
- ❒ Combinations with a backlash-free torsionally rigid coupling for the connection of two shafts; compensation of shaft misalignment and high torsional spring rigidity

Applications

- ❒ General drive technology
- ❒ Automation technology
- ❒ Machine tools
- ❒ Packing machines
- ❒ Printing and paper machines
- ❒ Foodstuffs technology
- ❒ Conveyor technology
- ❒ Drinks industry

Technical Data, Dimensions				Size			
				01	0	1	2
Limit torques for overload		M_G	[Nm]	2.7 – 60	5 – 120	10 – 240	20 – 500
Maximum speed	Flange design, clamping ring hub	n_{max}	[rpm]	3000	3000	2500	2000
Outer diameter			[mm]	59	72	88	104
Minimum bore			[mm]	10	14	19	20
Maximum bore			[mm]	22	32	42	50
Length			[mm]	51	56	65	75

For detailed technical data and dimensions, please see catalogue EAS®-smartic®: K.481.V_ _._ _

EAS®-HTL
the load separating, ratchetting or disengaging torque limiter

Performance Characteristics

- **Separates immediately on overload**
- **Re-engages automatically (ratchetting and synchronous clutch design)**
- **Slows down freely (overload clutch design)**
- **EAS®-compact® in a housing with IEC or NEMA flanges (housing protection IP53)**
- **Integrated limit switch for switch-off in case of overload**
- **Cost-effective, closed unit**
- **Easy installation due to standardised connection dimensions and short design**
- **Fail-safe and reliable due to protection against mechanical damage, corrosion, penetration of dirt and washing out of grease**
- **Solid housing**
  Hanging loads can be attached to it
- **Backlash-free torque transmission**
- **Torque adjustment possible**



Designs

- ❒ Enclosed in an IEC or NEMA flanged housing
- ❒ Synchronous, ratchetting or overload clutch designs

Applications

- ❒ Foodstuffs technology
- ❒ Process engineering
- ❒ Chemical industry

Technical Data, Dimensions			Size			
			Synchronous, ratchetting clutch		Overload clutch	
			IEC 63 – 180	NEMA 56C – 256TC	IEC 80 – 315	NEMA 56C – 256TC
Limit torques for overload	M_G	[Nm]	2 – 700	5 – 400	5 – 2400	5 – 400
Maximum speed	n_{max}	[rpm]	4000	4000	8000	8000
Outer diameter		[mm]	140 – 350	180 – 250	200 – 660	180 – 250
Minimum bore			11 mm	0.625 inch	19 mm	0.625 inch
Maximum bore			48 mm	1.625 inch	80 mm	1.625 inch
Length			55 – 126 mm	3.070 – 5.280 inch	81 – 266 mm	3.070 – 5.280 inch

For detailed technical data and dimensions, please see catalogue **EAS®-HTL: P.HTL.V_ _._ _**

EAS®-reverse
the disengaging torque limiter with automatic re-engagement

Performance Characteristics

- **Residual torque-free disconnection in case of overload**
- **Automatic re-engagement through reversal of direction of rotation**
- **Easy handling**
- **Completely sealed**
- **Robust double bearing**
- **Torque steplessly adjustable with scaled adjusting nut**
- **Extremely low-backlash (< 0.05°)**
- **Hardened functional components**
- **Housing with standard IEC or NEMA dimensions**
- **Temperature range from -30 °C to +80 °C**
- **Optionally available with brake disk**
- **Optionally available with switching disk + cover ring**



EAS®-reverse flange design



EAS®-reverse double shaft design with a flexible, positive locking coupling (with switching disk + cover ring)



EAS®-reverse in housing with standard-conform dimensions

Designs

- ❒ EAS®-reverse with bearing-supported flange for direct mounting of drive elements
- ❒ Combinations with flexible, positive locking couplings for the connection of two shafts
- ❒ EAS®-reverse in housing with standard-conform dimensions

Applications

- ❒ Heavy machine industry
- ❒ Conveyor technology

Technical Data, Dimensions			Size EAS®-reverse flange design			
			3	4	5	6
Limit torques for overload	**M_G**	**[Nm]**	75 – 750	125 – 1250	250 – 2500	500 – 6000
Maximum speed	**n_{max}**	**[rpm]**	3600	2000	2000	2000
Outer diameter		**[mm]**	152	170	222	280
Minimum bore		**[mm]**	17	20	30	40
Maximum bore		**[mm]**	40	50	75	100
Length		**[mm]**	128	148	170	218

For detailed technical data and dimensions, please see catalogue EAS®-reverse: P.4100.V_ _._ _

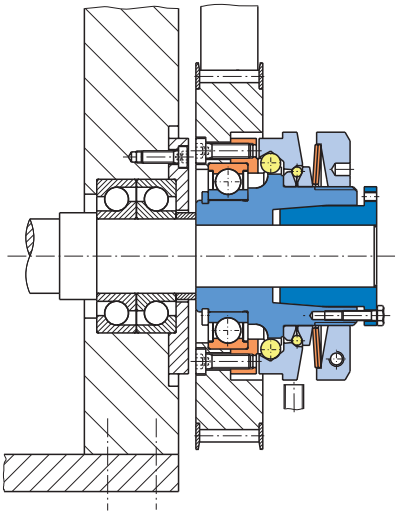
EAS®-compact®-F
the load separating disengaging torque limiter

Performance Characteristics

- **Separates immediately on overload**
- **Slows down freely**
- **Exact and reproducible responses**
- **Re-engagement either by hand or via remote control**
- **Torque can be adjusted easily and steplessly using adjustment tables**
- **Operation possible with or without limit switch for overload recognition**
- **Transmits the torque backlash-free in normal operation**



Installation Example



EAS®-compact®-F with a short hub: The clutch interrupts the transmission between the motor and the toothed belt pulley on overload and remains disengaged.

Designs

- ❒ Flange clutch with integrated ball bearing for direct mounting onto drive elements such as pulleys, toothed wheels and chain sprockets
- ❒ If requested, a device with a long hub and double mounting bearing for very wide drive elements is available
- ❒ Combinations with flexible couplings for the connection of two shafts; compensation of shaft misalignment
- ❒ Combinations with a backlash-free torsionally rigid coupling for the connection of two shafts; compensation of shaft misalignment and high torsional spring rigidity

Applications

- ❒ General drive technology
- ❒ Automation technology
- ❒ Machine tools
- ❒ Packing machines
- ❒ Printing and paper machines
- ❒ Foodstuffs technology
- ❒ Conveyor technology
- ❒ Drinks industry

Technical Data, Dimensions				Size 01	0	1	2	3	4	5
Limit torques for overload		M_G	[Nm]	5 – 62.5	10 – 125	20 – 250	40 – 500	80 – 1000	120 – 1500	240 – 3000
Maximum speed		n_{max}	[rpm]	8000	7000	6000	5000	4000	3500	3000
Outer diameter			[mm]	70	85	100	115	135	175	225
Minimum bore	Flange design, cone bushing		[mm]	10	15	22	32	35	40	45
Maximum bore			[mm]	20	25	35	45	55	65	85
Length			[mm]	52	63	73	81	93	160	193

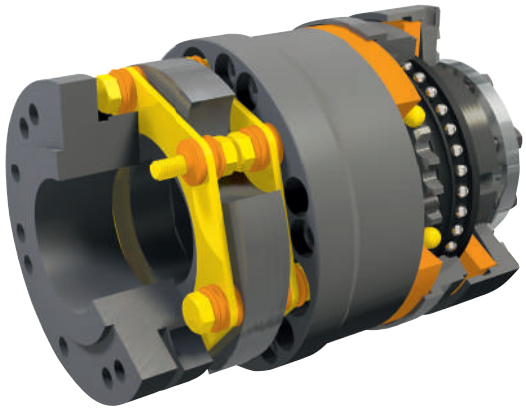
For detailed technical data and dimensions, please see catalogue EAS®-compact®-F: K.4190.V_ _._ _

EAS®-compact®-F for high-speed applications the load separating disengaging torque limiter

Performance Characteristics



- **Separates immediately on overload**
- **Slows down freely**
- **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 12000 rpm**



EAS®-compact®-F for high-speed applications
combined with the torsionally rigid disk pack coupling ROBA®-DS

Designs

- ❒ Flange Design
- ❒ Combinations with a torsionally rigid misalignment-flexible all-steel coupling (ROBA®-DS coupling) for the connection of two shafts; compensation of shaft misalignment

Applications

- ❒ Test stands
- ❒ For high-speed applications

Technical Data, Dimensions				Size				
				01	0	1	2	3
Limit torques for overload		M_G	[Nm]	5 – 62.5	10 – 125	20 – 250	40 – 500	80 – 1000
Maximum speed		n_{max}	[rpm]	12000	10000	9000	7000	6000
Outer diameter			[mm]	70	85	100	115	135
Minimum bore			[mm]	10	15	22	32	35
Maximum bore			[mm]	20	25	35	45	55
Length	Flange design		[mm]	62	76	90	100	112

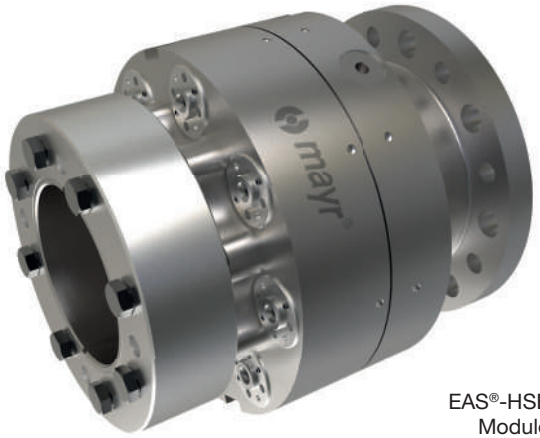
For detailed technical data and dimensions, please see catalogue **EAS®-compact®-F: K.4190.V_ _._ _**

EAS®-HSE
the load separating disengaging torque limiter

Performance Characteristics

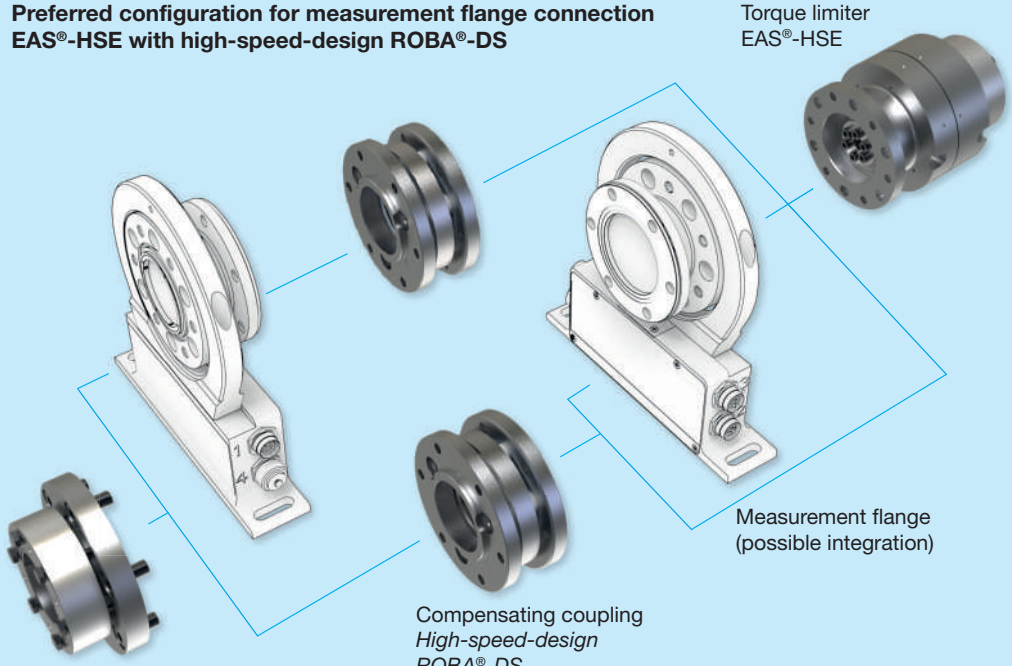
- **Separates immediately on overload**
- **Slows down freely**
- **Positive locking overload clutch**
- **Synchronous re-engagement**
- **Components manufactured with high precision**
- **Flexible mounting directly on the measurement flange**
- **High torsional rigidity**
- **Compact, with a high performance density**
- **High speeds of up to 25000 rpm**

  Torques from 45 Nm to 11200 Nm in the standard design



EAS®-HSE
Module

Preferred configuration for measurement flange connection EAS®-HSE with high-speed-design ROBA®-DS



Designs

- ❒ EAS®-HSE Module
- ❒ EAS®-HSE for measurement flange connection (with high-speed-design ROBA®-DS coupling)
- ❒ Combinations with a torsionally rigid misalignment-flexible all-steel coupling (from standard series ROBA®-DS coupling) for the connection of two shafts; compensation of shaft misalignment

Applications

- ❒ High-torque test stands
- ❒ High-speed applications

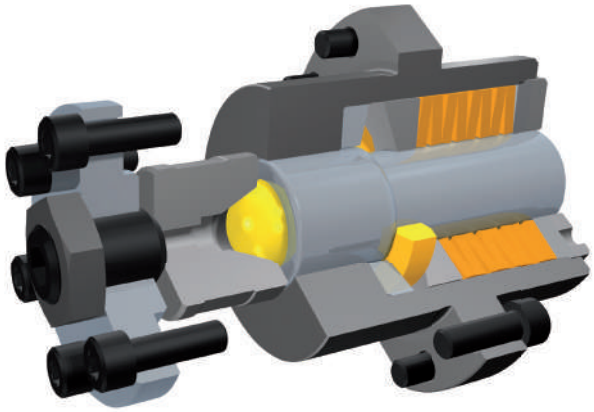
Technical Data, Dimensions			Size EAS®-HSE Module							
			2	3	4	5	6	7	8	9
Limit torques for overload	M_G	[Nm]	45 – 270	93 – 560	125 – 1000	250 – 1500	325 – 2600	500 – 4000	1150 – 7000	1400 – 11200
Maximum speed	n_{max}	[rpm]	25000	22000	16000	14000	12000	11000	10000	8000
Outer diameter		[mm]	99	100	125	135	170	185	205	250
Minimum bore		[mm]	20	25	35	35	42	42	70	70
Maximum bore		[mm]	36	45	65	60	80	80	95	120
Length		[mm]	130	128	145	165	190	220	250	280

For detailed technical data and dimensions, please see catalogue **EAS®-HSE: P.4130.V_ _._ _**

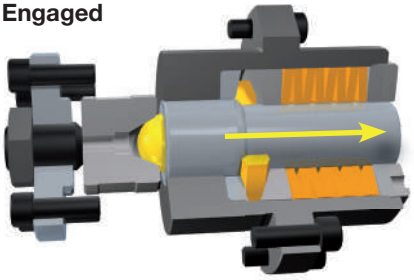
EAS®-elements
the load separating disengaging elements

Performance Characteristics

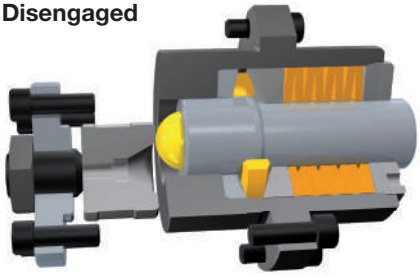
- **Separates immediately on overload**
- **Slows down freely**
- **Maximum performance density**
- **Release forces can be adjusted easily and steplessly**
- **Simple and fast engagement**
- **Large number of disengagement actions**
- **On overload, the entire system can be stopped by a speed monitor**



Engaged



Disengaged



Designs

- ❒ EAS®-elements for installation in two bearing-supported flanges facing each other or for integration into existing constructions
- ❒ As EAS®-HT torque limiter component
- ❒ For customer-specific constructions
- ❒ Rustproof design on request

Applications

- ❒ Conveyor belts
- ❒ Crushers
- ❒ Rolling mills
- ❒ Underground mining / mining
- ❒ Raw material extraction

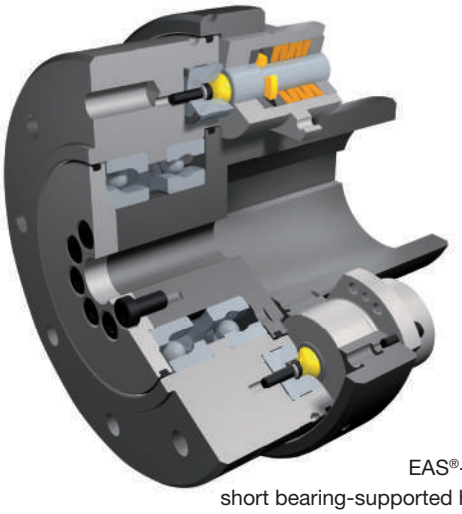
Technical Data, Dimensions			Size 02	01	0	1	2
Circumferential force	F_u	[kN]	0.22 – 2.5	1 – 5	1.8 – 38	5 – 75	4 – 150
Axial force	F_{ax}	[kN]	0.2 – 2.25	0.9 – 4.5	1.62 – 20	4.5 – 40	3.6 – 80
Outer diameter		[mm]	31.2	41.6	85	110	150
Length		[mm]	56	77.5	127	163	243

For detailed technical data and dimensions, please see catalogue **EAS®-HT: K.4050.V_ _._ _**

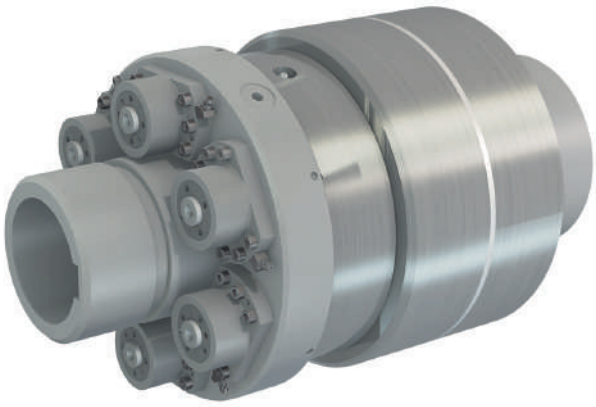
EAS®-HT short bearing-supported hub
the load separating disengaging torque limiter

Performance Characteristics

- **Separates immediately on overload**
- **Slows down freely**
- **Designed for high torques**
- **Robust and with long service lifetime**
- **Individual constructional design according to the customer's requests**
- **Re-engagement either by hand or via remote control**
- **Torque can be adjusted easily and steplessly using adjustment tables**
- **On overload, the entire system can be stopped by a speed monitor**



EAS®-HT
short bearing-supported hub



EAS®-HT lastic
(EAS®-HT short bearing-supported hub combined with a flexible, positive-locking coupling)

Designs

- ❒ Short bearing-supported hub for direct mounting onto drive elements
- ❒ Combinations with flexible couplings for the connection of two shafts; damping of impact loads
- ❒ Rustproof design on request
- ❒ Cold climate clutch design on request (special design, overload protection up to -48 °C)

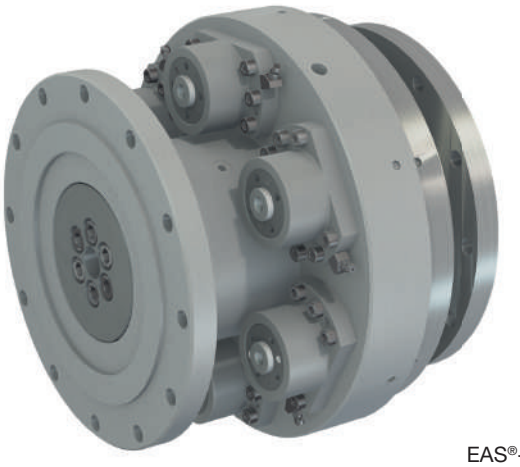
Technical Data, Dimensions			Size EAS®-HT short bearing-supported hub			
			7	8	9	10
Limit torques for overload	M_G	[kNm]	1.4 – 8.5	1.7 – 14	4 – 28	5.2 – 42
Maximum speed	n_{max}	[rpm]	3000	2800	2500	2200
Outer diameter		[mm]	265	304	350	450
Bore EAS®-hub side		[mm]	100	130	160	200
Length		[mm]	228	270	340	392

For detailed technical data and dimensions, please see catalogue **EAS®-HT: K.4050.V_ _._ _**

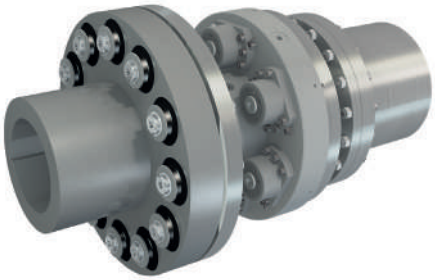
EAS®-HT, flange design
the load separating disengaging torque limiter



EAS®-HT backlash-free
(EAS®-HT flange design combined with a disk pack coupling)



EAS®-HT
flange design



EAS®-HT lastic bolt
(EAS®-HT flange design combined with a flexible, positive-locking coupling)



EAS®-HT toothed coupling
(EAS®-HT flange design combined with a toothed coupling with crowned teeth cutting)

Designs

- The compact, ready for installation flange design can easily be integrated into the drive line
- Combinations with flexible couplings for the connection of two shafts; damping of impact loads
- Combinations with a toothed coupling for the connection of two shafts; high misalignment compensation capability, temperature-resistant
- Combination with a backlash-free torsionally rigid coupling for the connection of two shafts; compensation of shaft misalignment and high torsional spring rigidity

Applications

Heavy duty applications; used for example in

- shovel excavators
- dredgers
- turbine construction
- water lock drives
- rolling mills
- steel plants

Technical Data, Dimensions			Size EAS®-HT flange design						
			0	1	2	3	4	5	6
Limit torques for overload	M_G	[kNm]	7.5 – 15	12.5 – 25	20 – 40	37.5 – 75	70 – 140	125 – 250	220 – 440
Maximum speed	n_{max}	[rpm]	2000	1750	1500	1250	1000	900	750
Outer diameter		[mm]	275	320	380	455	545	620	720
Bore Toothed coupling		[mm]	95	130	150	185	210	285	340
Length		[mm]	226	243	298	312	328	476	485

For detailed technical data and dimensions, please see catalogue **EAS®-HT: K.4050.V_ _._ _**

EAS®-dutytorque
the load separating disengaging torque limiter

Performance Characteristics

- **Separates immediately on overload**
- **Slows down freely**
- **High reliability due to robust mechanics**
- **High switch-off and repeat accuracy**
- **Simple and fast re-engagement**
- **Can be disassembled radially without moving the motor**
- **High balance quality**
- **Extensive, adjustable torque ranges**
- **Large shaft bores**
- **Long service lifetime**
- **Separable shaft coupling**
- **Minimum maintenance requirements**
- **Compact design**

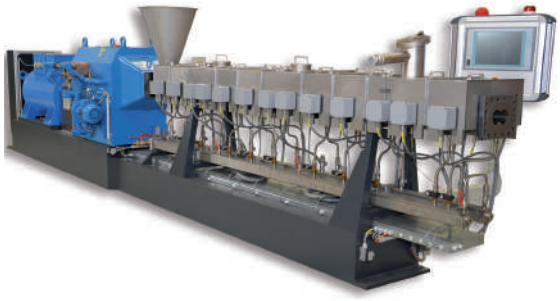


Designs

- ❒ Disengaging torque limiter with a mounted, plug-in elastomer compensating coupling for the connection of two shafts and to compensate for shaft misalignment
- ❒ Disengaging torque limiter without attachment (overload module)

Applications

- ❒ Extruders



The operating conditions for extruders place maximum demands on drive systems: Only special, optimised clutches for torque limitation, such as the EAS®-dutytorque, guarantee reliable protection in case of overload.

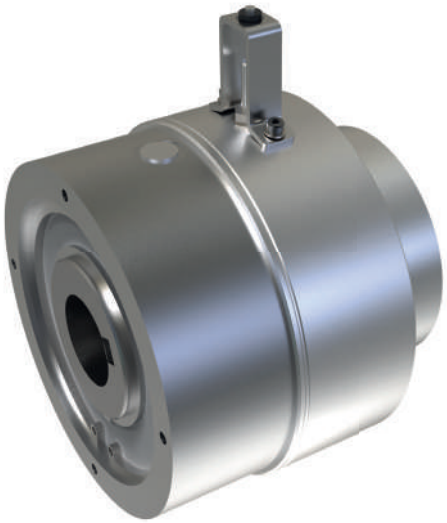
Technical Data, Dimensions				Size							
				2	3	4	5	6	7	8	9
Limit torques for overload		M_G	[Nm]	70 – 1400	70 – 1400	150 – 2800	150 – 4000	150 – 5600	800 – 9000	800 – 12000	800 – 17000
Maximum speed		n_{max}	[rpm]	3500	3000	3000	2750	2500	2250	2000	1750
Outer diameter			[mm]	194	214	240	240	265	330	330	370
Maximum bore	EAS®-hub side		[mm]	90	90	120	120	120	140	140	140
	Flexible side		[mm]	85	95	95	100	115	130	135	160
Length			[mm]	368	381.5	472	510.5	512.5	636	654.5	685

For detailed technical data and dimensions, please see catalogue EAS®-dutytorque: K.4043.V_ _._ _

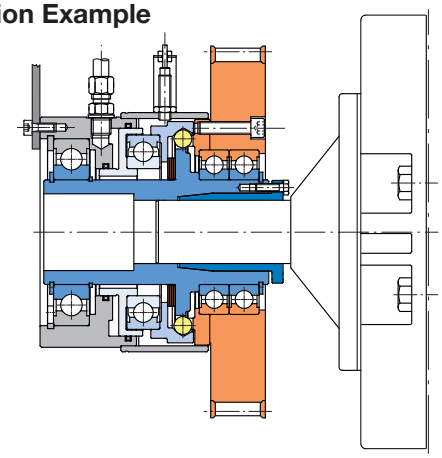
EAS®-Sp
the load separating switchable and controllable torque limiter

Performance Characteristics

- **Separates immediately on overload at the controlled switch-off torque**
- **Pneumatically switchable and controllable**
- **Synchronous coupling after each full turn**
- **High switch-off and repeat accuracy**
- **Torque can be steplessly adjusted via compressed air**
- **Optimum torque adaptation possible in every production process phase**
- **Application-tailored switching and control devices for optimum use of function and performance range**



Installation Example



EAS®-Sp clutch mounted onto the shaft end:
The clutch is axially secured via a cone bushing and allows a backlash-free torque connection from shaft to hub.

Designs

- ❒ Pneumatic clutch with steplessly adjustable torque using the amount of air pressure
- ❒ Flange clutches with two integrated ball bearings for direct mounting onto drive elements such as pulleys, toothed wheels and chain sprockets
- ❒ Combinations with a torsionally rigid flexible coupling for the connection of two shafts; compensation of shaft misalignment
- ❒ Designed for automated machines with changing operating conditions or changing cycle sequences and speeds

Applications

- ❒ Filling machines
- ❒ Printing machines
- ❒ Packing machines
- ❒ Conveyor technology

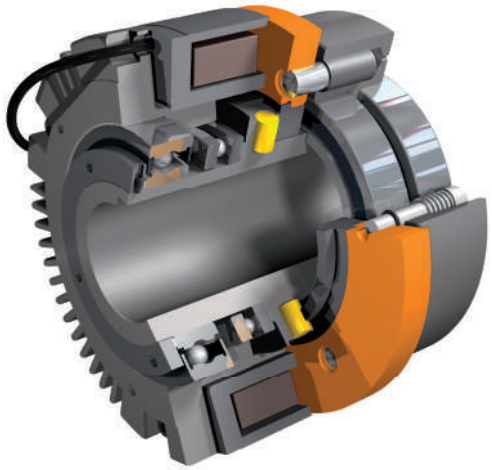
Technical Data, Dimensions				Size						
				01	0	1	2	3	4	5
Limit torques for overload		M_G	[Nm]	4 – 40	15 – 75	25 – 150	50 – 200	100 – 500	200 – 1000	500 – 2500
Maximum speed		n_{max}	[rpm]	5000	4000	2500	2000	2000	1500	500
Outer diameter			[mm]	76	90	115	130	160	200	285
Minimum bore	Flange design, keyway		[mm]	10	12	15	20	20	25	38
Maximum bore			[mm]	20	22	35	42	50	65	95
Length			[mm]	87	105	126	135	153	185	260

For detailed technical data and dimensions, please see catalogue EAS®-Sp/EAS®-Sm/Zr: K.406.V_ _._ _

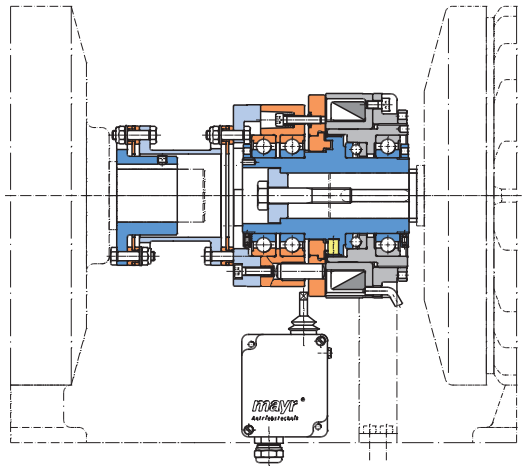
EAS®-Sm / EAS®-Zr
the load separating switchable and controllable torque limiter

Performance Characteristics

- **Separates immediately on overload at the controlled switch-off torque**
- **Electrically switchable and controllable**
- **Synchronous coupling after each full turn on EAS®-Sm**
- **Coupling in 15°-steps on EAS®-Zr**
- **High switch-off and repeat accuracy**
- **Torque can be steplessly adjusted via current**
- **Optimum torque adaptation possible in every production process phase**
- **Application-tailored switching and control devices for optimum use of function and performance range**



Installation Example



EAS®-Sm with torsionally rigid flexible all-steel coupling positioned between the motor and the gearbox. When the clutch disengages, the armature disk moves axially and operates the limit switch.

Designs

- ❒ Electromagnetic clutch with steplessly adjustable torque using the current
- ❒ Flange clutches with two integrated ball bearings for direct mounting onto drive elements such as pulleys, toothed wheels and chain sprockets
- ❒ Design with cover for dusty and dirty operation areas
- ❒ Combinations with a torsionally rigid flexible coupling for the connection of two shafts; compensation of shaft misalignment
- ❒ Designed for automated machines with changing operating conditions or changing cycle sequences and speeds

Applications

- ❒ Filling machines
- ❒ Printing machines
- ❒ Packing machines
- ❒ Conveyor technology

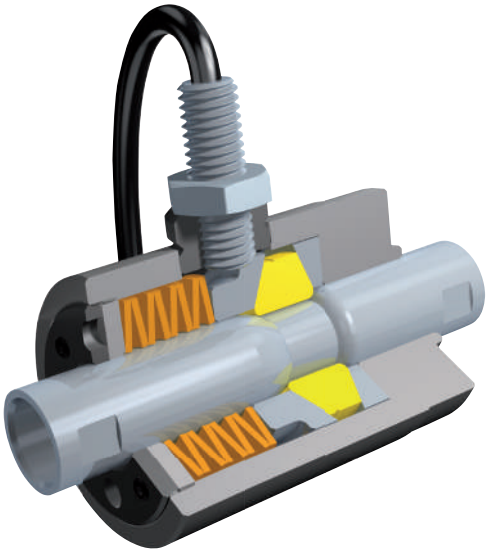
Technical Data, Dimensions				Size 0	1	2	3	4
Limit torques for overload		M_G	[Nm]	6 – 25	12 – 50	25 – 100	50 – 200	100 – 375
Maximum speed		n_{max}	[rpm]	4000	3000	2500	2000	2000
Outer diameter			[mm]	115	135	155	180	210
Minimum bore	Flange design, keyway		[mm]	9	14	19	22	24
Maximum bore			[mm]	22	35	42	50	60
Length			[mm]	100	110	125	140	155

For detailed technical data and dimensions, please see catalogue EAS®-Sp/EAS®-Sm/Zr: K.406.V_ _._ _

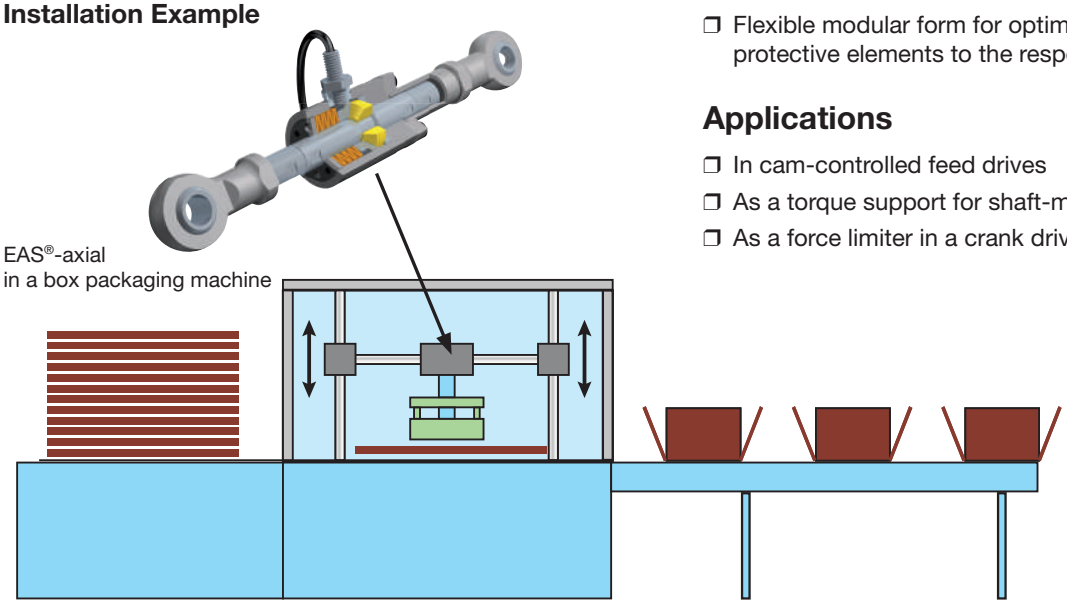
EAS®-axial
the load separating torque limiter for linear movements

Performance Characteristics

- **Separates immediately on overload**
- **Re-engages synchronously**
- **Transmits the forces backlash-free up to the adjusted release force**
- **High axial rigidity**
- **Reliably limits tensile and compressive forces**
- **Re-engages automatically exactly at the place of disengagement**
- **Free stroke in both tensile and compressive direction can be defined by the user**
- **Release force can be steplessly adjusted**



Installation Example



EAS®-axial
in a box packaging machine

Designs

❒ Flexible modular form for optimum adaptation of the protective elements to the respective application

Applications

❒ In cam-controlled feed drives
❒ As a torque support for shaft-mounted gearboxes
❒ As a force limiter in a crank drive

Technical Data, Dimensions			Size							
			1	2	3	4	5	6	7	8
Release forces	F_A	[kN]	0.075 – 0.8	0.2 – 2	0.3 – 5	0.6 – 12	3 – 30	6 – 70	12 – 150	30 – 300
Free stroke (in tensile and/or compressive direction)		[mm]	200	300	400	500	600	700	800	1000
Outer diameter		[mm]	30	37	48	68	95	120	160	240
Length Basic element		[mm]	52	75	95	130	190	230	350	460

For detailed technical data and dimensions, please see catalogue EAS®-axial: K.403.C.V_ _._ _

Limit Switch

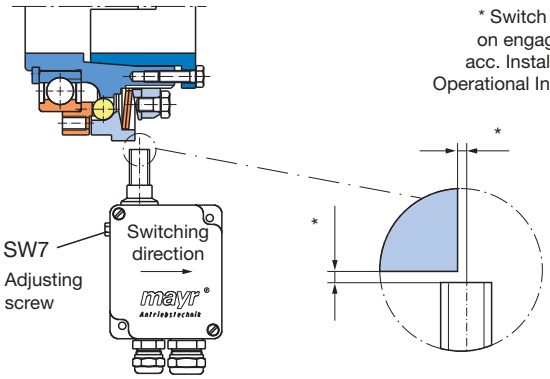
Type 055.00_.5 — Contactless actuation



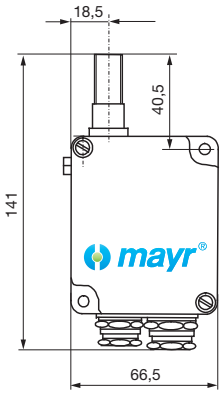
Characteristics

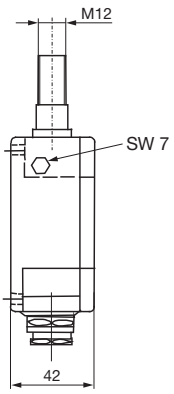
- Registration of axial and radial disengagement movements
- Either internal or external NAMUR sensor
- Floating contacts
- Adjustable zero point
- Robust light metal housing

Installation example



Detail drawing

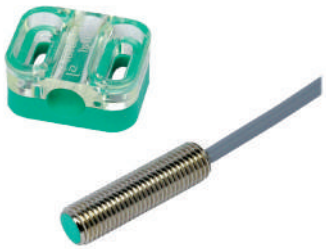




Approvals

CE c UL us E189728

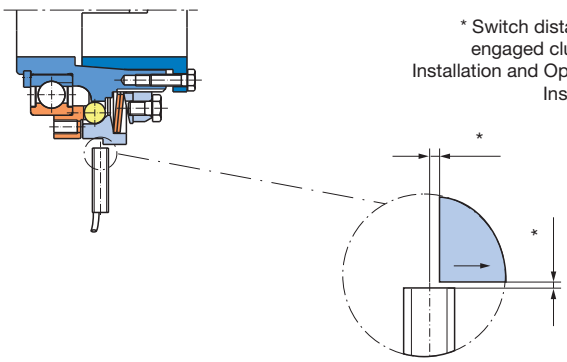
Type 055.012.6 — Contactless actuation



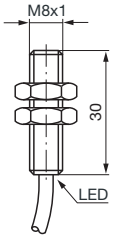
Characteristics

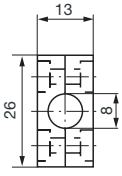
- Registration of axial disengagement movements
- PNP NO contact
- Cost-effective

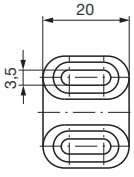
Installation example



Detail drawing







Approvals

CE c UL us LISTED

Limit Switch

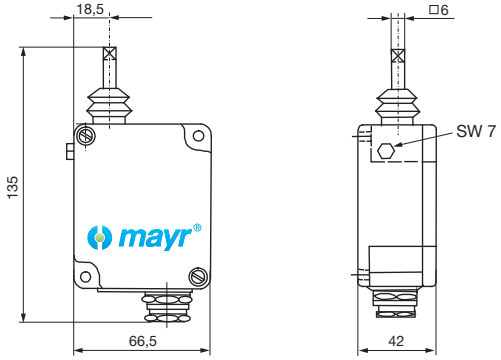
Type 055.000.5 — Mechanical actuation



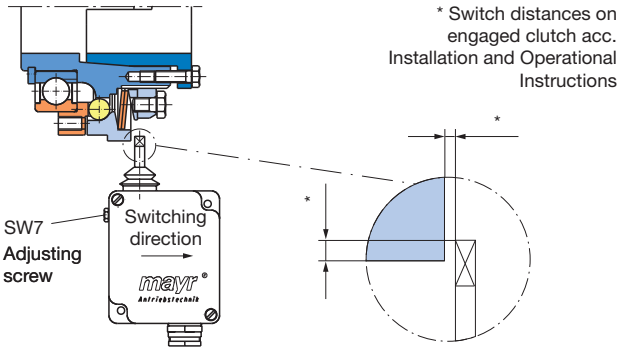
Characteristics

- Registration of axial disengagement movements
- Adjustable zero point
- Robust light metal housing

Detail drawing



Installation example



Approvals

CE

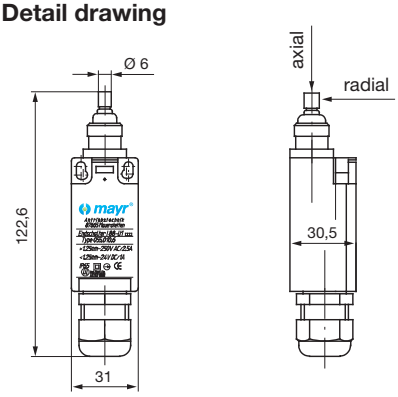
Type 055.010.6 — Mechanical actuation, multi-directional



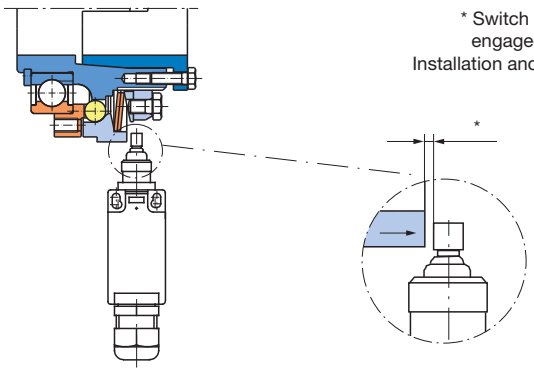
Characteristics

- Registration of axial and radial disengagement movements
- Positive opening contacts ⊖

Detail drawing



Installation example



Approvals

CE

UL Ind.Cont.Eq. LISTED 1B68

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06/12/2022 GC/SL