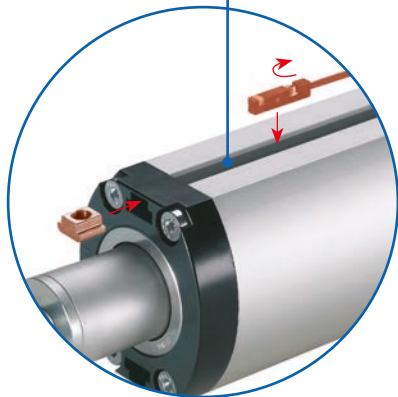


# LZ 80 Heavy-duty cylinder

The industrial design complete system with push/pull forces up to 10,000 N.

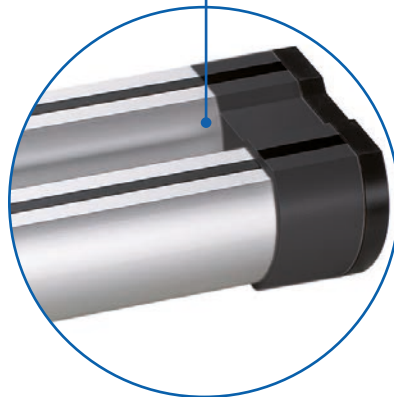
## Electrical connection

- ✓ Cable outlet
- ✓ Internal limit switches, incremental displacement pick-up and optional lead-through for brake
- ✓ Connection to PLC or equivalent control 24 V / 36V



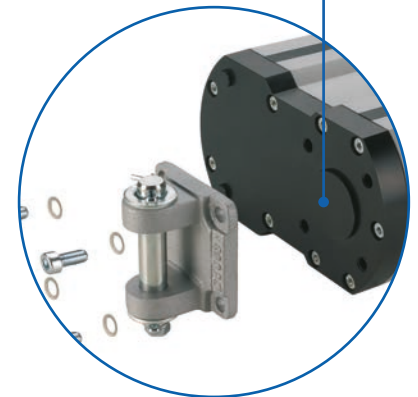
## Adjustable external magnetic switch

- ✓ Covered in slot geometry
- ✓ Stroke can be adjusted
- ✓ Accessories can be retrofitted
- ✓ Pre-fitted with internal magnets for external magnetic switch



## High-performance DC motor

- ✓ Integrated motor brake on "ball screw" version



## Cylinder fixing

- ✓ Simple connection of trunnion flange, trunnion or clevis

## Features:

- Integrated DC drive
- Integrated limit switches
- Flexible use of space thanks to parallel motor positioning
- Coverable slot geometry on both sides, supports a range of fixing options
- Push rod with rotation locking

- Maintenance-free for entire lifetime of unit
- IP 54
- Self-locking
- Choice of ACME screw or recirculating-ball spindle

## Options:

- Optional IP 66 can be supplied
- Special stroke lengths available on request
- ACME screw version optionally available with motor brake

## LZ 80 Electric cylinder - Table of contents

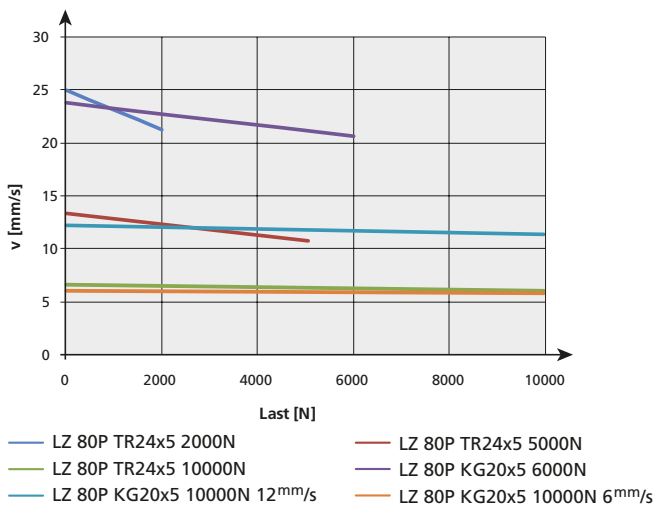
<b>Properties/Technical data</b>	<ul style="list-style-type: none"> <li>■ General information/operating conditions ... 286</li> </ul>				
<b>Versions</b> (Dimensions, order numbers)	LZ 80 electric cylinder with ACME screw and ball screw drive: <ul style="list-style-type: none"> <li>■ Dimensions/Order table ..... 287</li> </ul>				
<b>Accessories</b>	<table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; width: 30%;"><b>Fixing</b></td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> <li>■ Slot stones ..... 288</li> <li>■ Clevis ..... 288</li> <li>■ Bearing block for Clevis ..... 288</li> <li>■ Swivel head ..... 288</li> <li>■ Fork attachment for Swivel head ..... 289</li> <li>■ Swivel ..... 289</li> <li>■ Bearing block for Swivel ..... 289</li> <li>■ Trunnion mounting set ..... 290</li> <li>■ Support blocks for trunnion mounting ..... 290</li> </ul> </td> </tr> <tr> <td style="vertical-align: top;"><b>Position determination</b></td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> <li>■ Magnetic switch ..... 291</li> <li>■ Controls ..... 291</li> </ul> </td> </tr> </table>	<b>Fixing</b>	<ul style="list-style-type: none"> <li>■ Slot stones ..... 288</li> <li>■ Clevis ..... 288</li> <li>■ Bearing block for Clevis ..... 288</li> <li>■ Swivel head ..... 288</li> <li>■ Fork attachment for Swivel head ..... 289</li> <li>■ Swivel ..... 289</li> <li>■ Bearing block for Swivel ..... 289</li> <li>■ Trunnion mounting set ..... 290</li> <li>■ Support blocks for trunnion mounting ..... 290</li> </ul>	<b>Position determination</b>	<ul style="list-style-type: none"> <li>■ Magnetic switch ..... 291</li> <li>■ Controls ..... 291</li> </ul>
<b>Fixing</b>	<ul style="list-style-type: none"> <li>■ Slot stones ..... 288</li> <li>■ Clevis ..... 288</li> <li>■ Bearing block for Clevis ..... 288</li> <li>■ Swivel head ..... 288</li> <li>■ Fork attachment for Swivel head ..... 289</li> <li>■ Swivel ..... 289</li> <li>■ Bearing block for Swivel ..... 289</li> <li>■ Trunnion mounting set ..... 290</li> <li>■ Support blocks for trunnion mounting ..... 290</li> </ul>				
<b>Position determination</b>	<ul style="list-style-type: none"> <li>■ Magnetic switch ..... 291</li> <li>■ Controls ..... 291</li> </ul>				

# LZ 80 – Technical data

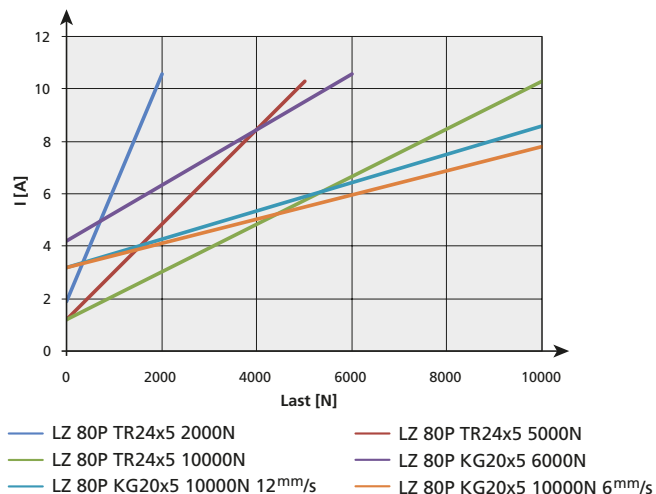
## General information/operating conditions

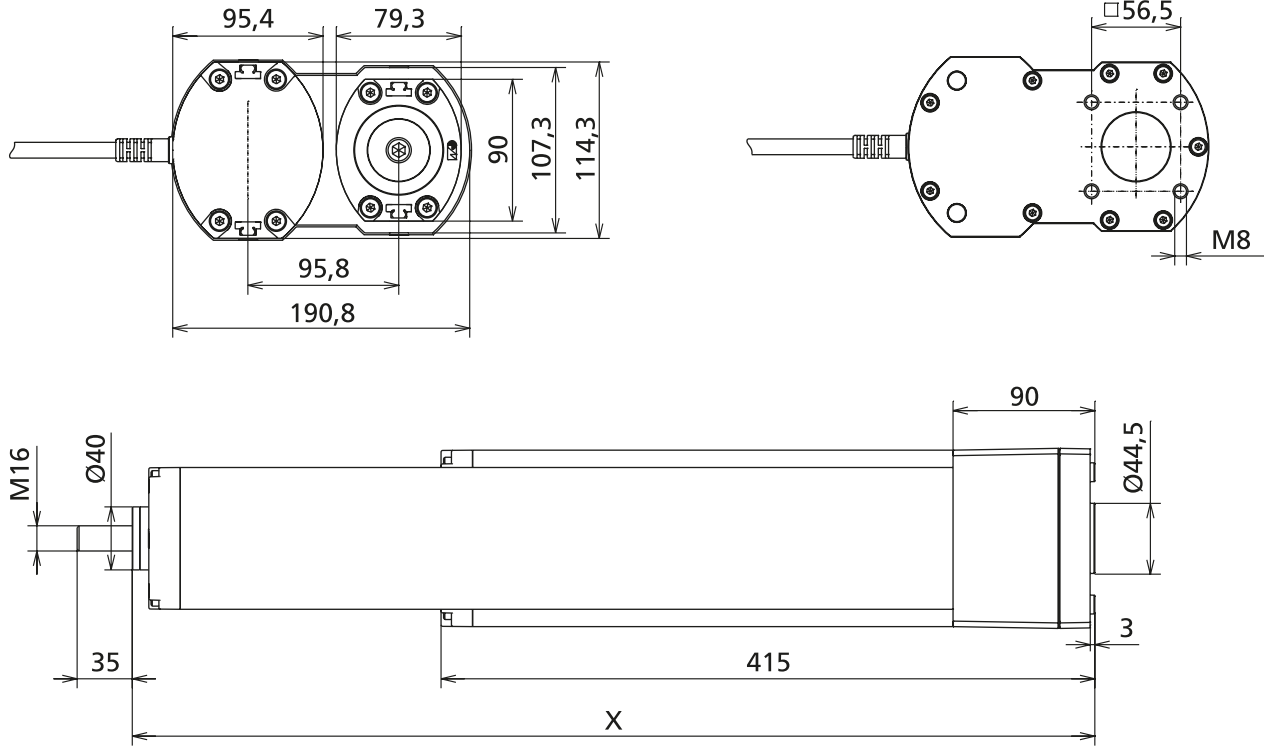
	ACME screw	Ball screw
Design	Linear cylinder with integrated DC motor	
Guide	Double bearing with POM bushes	
Installation position	Any position, without shear forces	
Ambient temperature	+5°C to +40°C	
Repeatability	0.5 mm	
Speed	Max. 25 mm/s	
Duty cycle (at max. load)	10% (1 min. operating time; 9 mins rest time/depending on sizing, up to 100% duty cycle possible)	
Voltage	24 V	
Current consumption	12 A	
Power input	288 W	
Protection class	IP 54 (optional IP 66)	
Compressive force/tensile force	10,000 N	
Self-locking	10,000 N	10,000 N (motor brake)

## Speed/Force diagram



## Current consumption/Force diagram





Versions LZ 80

Code No.	Type	Max. force F [N]	Max. speed [mm/s]
<b>ACME screw 24 x 5</b>			
QLP00AAAB_ _ _ _	LZ 80	2,000	25
QLP00ABAB_ _ _ _	LZ 80	5,000	13
QLP00ACAB_ _ _ _	LZ 80	10,000	6.5
<b>Ball screw drive 20 x 5</b>			
QLP11ADAB_ _ _ _	LZ 80	6,000	24
QLP11AEAB_ _ _ _	LZ 80	10,000	12
QLP11AFAB_ _ _ _	LZ 80	10,000	6

Stroke lengths available in increments of 7.5 mm  
 e.g. stroke [mm] = 0 3 9 7 .5

Stroke [mm]	Installation dimension X [mm]	Weight [kg]
7.5 to 397.5	Stroke + 311.0	12.5-16.0
405.0 to 600.0	Stroke + 348.5	16.0-18.0
607.5 to 795.0	Stroke + 386.0	18.0-20.0
802.5 to 1005.0	Stroke + 431.0	20.0-22.0

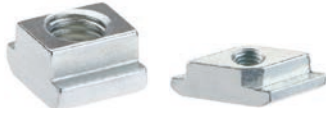
# LZ 80 – Fixing/Position determination

## Order instruction square nut:

- Purchase only in lot sizes and a multiple of that, see product table below

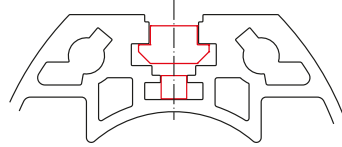
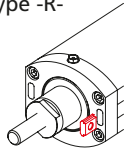
- Slot stones facilitate the attachment of fittings to the cylinder.
- To this end, the slot stones can be slid into the lateral slots (Type -N-) or swivelled into the slot from above (Type -R-).

## Slot stone



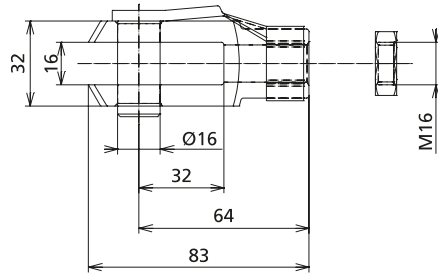
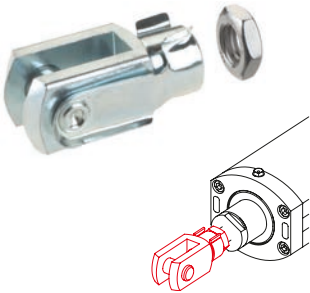
Type -N-

Type -R-



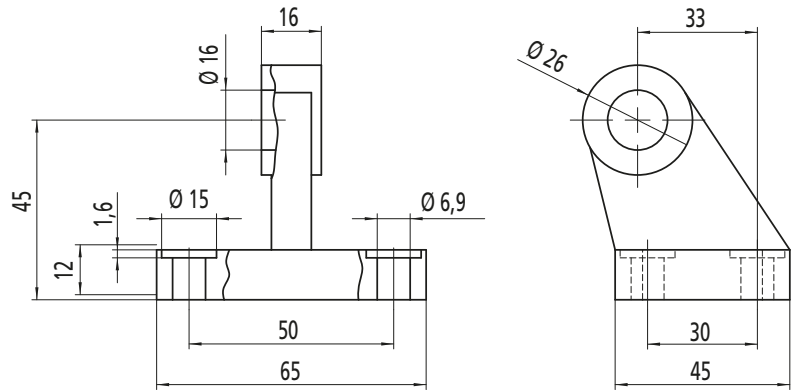
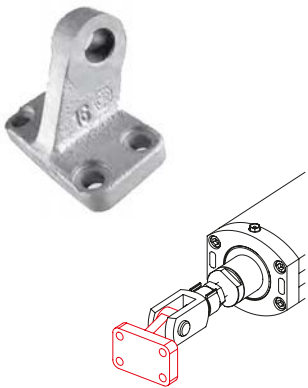
Code No.	Type	lot sizes	F [N]
4026203	Slot stone -N- M6	10, 20, 30... pcs	9,000
4026206	Slot stone -N- M8	10, 20, 30... pcs	9,000
4026221	Slot stone -R- M6	10, 20, 30... pcs	8,000
4026222	Slot stone -R- M8	10, 20, 30... pcs	8,000

## Clevis



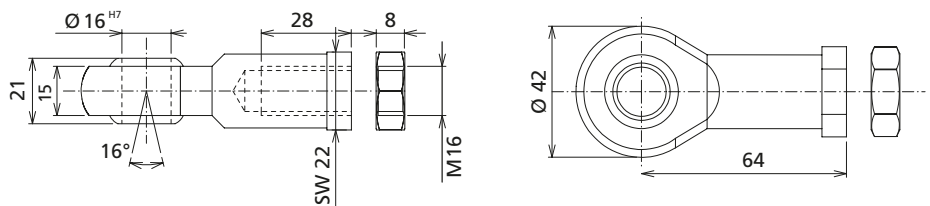
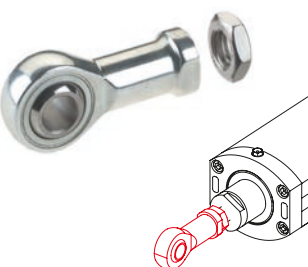
Code No.	Type
QZD050571	Clevis M16

## Bearing block for Clevis



Code No.	Type	
QZD050573	LZ 80	Bearing block Ø16

## Swivel head

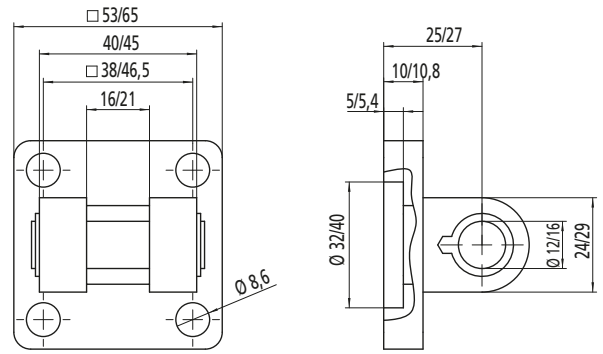
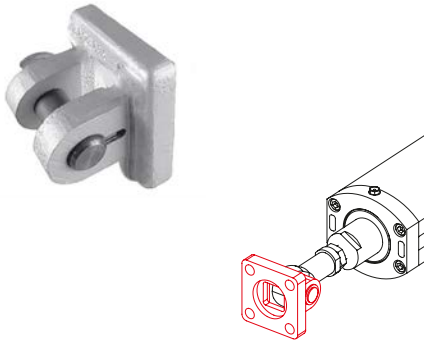


Code No.	Type	
QZD050575	LZ 80	Swivel head M16



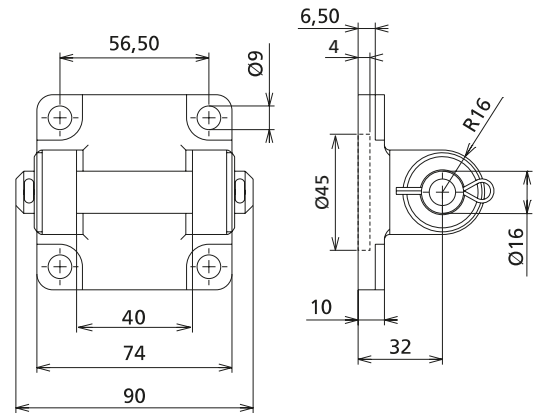
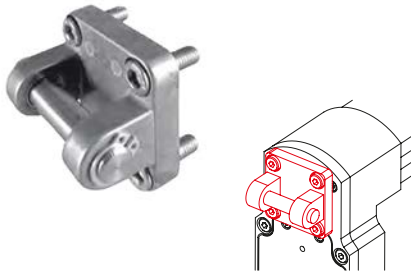
# LZ 80 - Fixing/Position determination

## Fork attachment for Swivel head



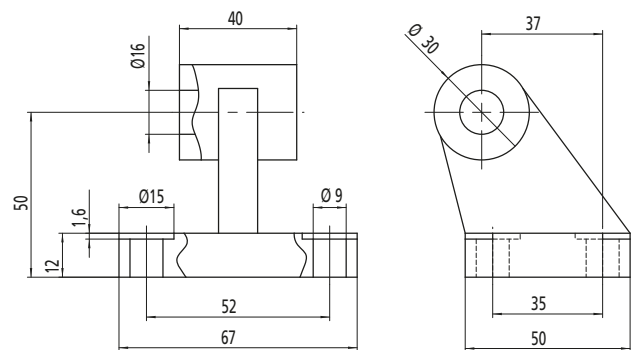
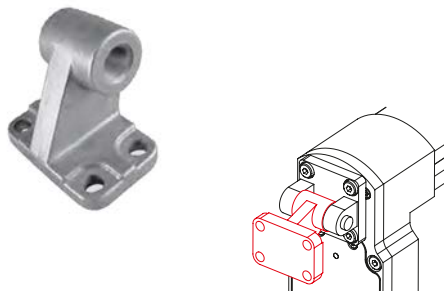
Code No.	Type
QZD050577	LZ 80 Fork attachment $\varnothing 16$

## Swivel



Code No.	Type
QZD050580	LZ 80 Swivel $\varnothing 16$

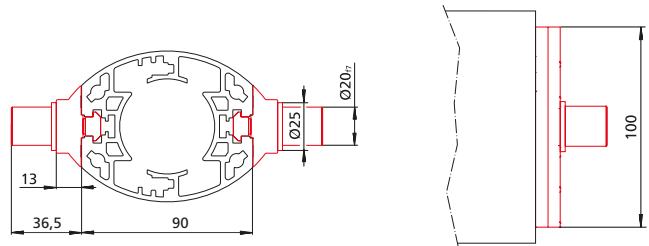
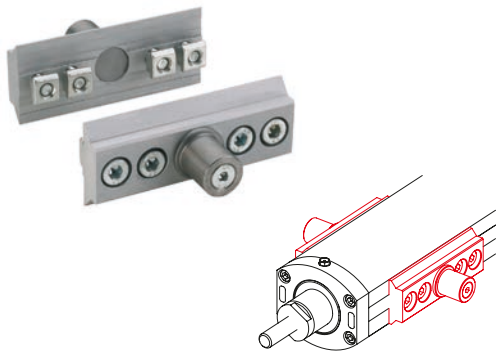
## Bearing block for Swivel



Code No.	Type
QZD050585	LZ 80 Swivel head wide $\varnothing 16$

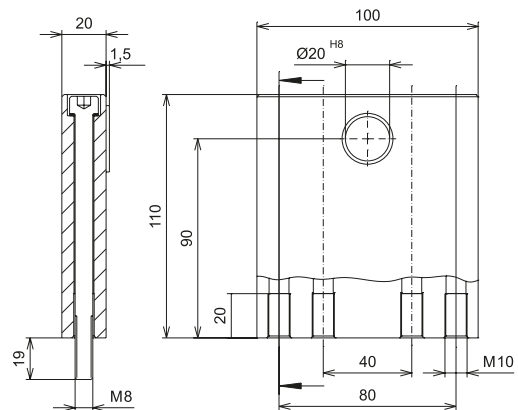
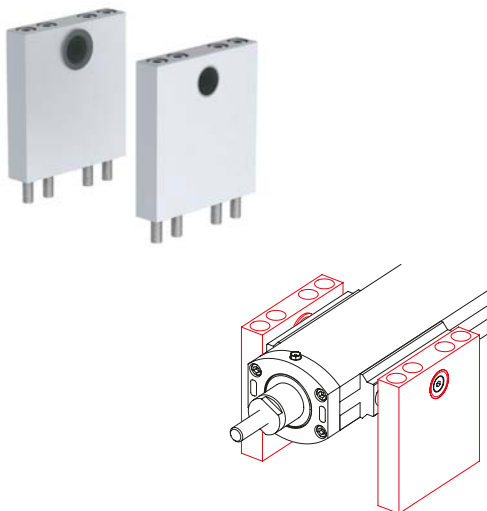
# LZ 80 – Fixing/Position determination

## Trunnion mounting set



Code No.	Type
QZD050588	Trunnion mounting set LZ 80

## Support blocks for trunnion mounting

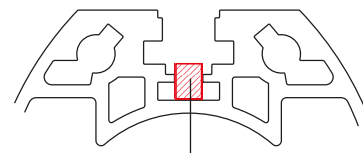
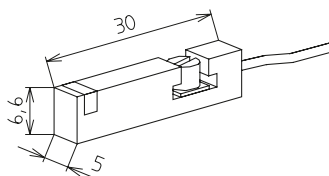


Code No.	Type
QZD050589	Support blocks LZ 70/80

## Magnetic switch

- Signals from the magnetic switch can be collected and evaluated by a customer-provided control unit (such as a PLC).

- The switch can be retrofitted in the lateral slot (protected by a cover profile as standard)
- Magnets are integrated in the cylinder as standard.



Magnetic switch

Code No.	Type
QZD050598	Magnetic switch, NO contact, cable length 6 m
QZD050599	Magnetic switch, NC contact, cable length 5.3 m

## Magnetic switch – Technical data

	NC contact	NO contact
Voltage	10-30 V DC	5-30 V DC
Current consumption	< 10 mA	< 10 mA
Output current	Max. 100 mA	Max. 50 mA
Output type	PNP	PNP
Function indication	LED	LED
Ambient temperature	-25°C to +85°C	-20°C to +70°C
Protection class	IP 67	IP 68

## Control requirements

Power supply	24 V DC, at least 500 W
Current output	At least 20 A
Deceleration	Via generator brakes
Brake power	At least 500 W
Duty cycle	Up to 100%
Motor brake	24 V DC, at max. 1 A
Limit switch evaluation	Upper and lower limit switch (NC contacts)

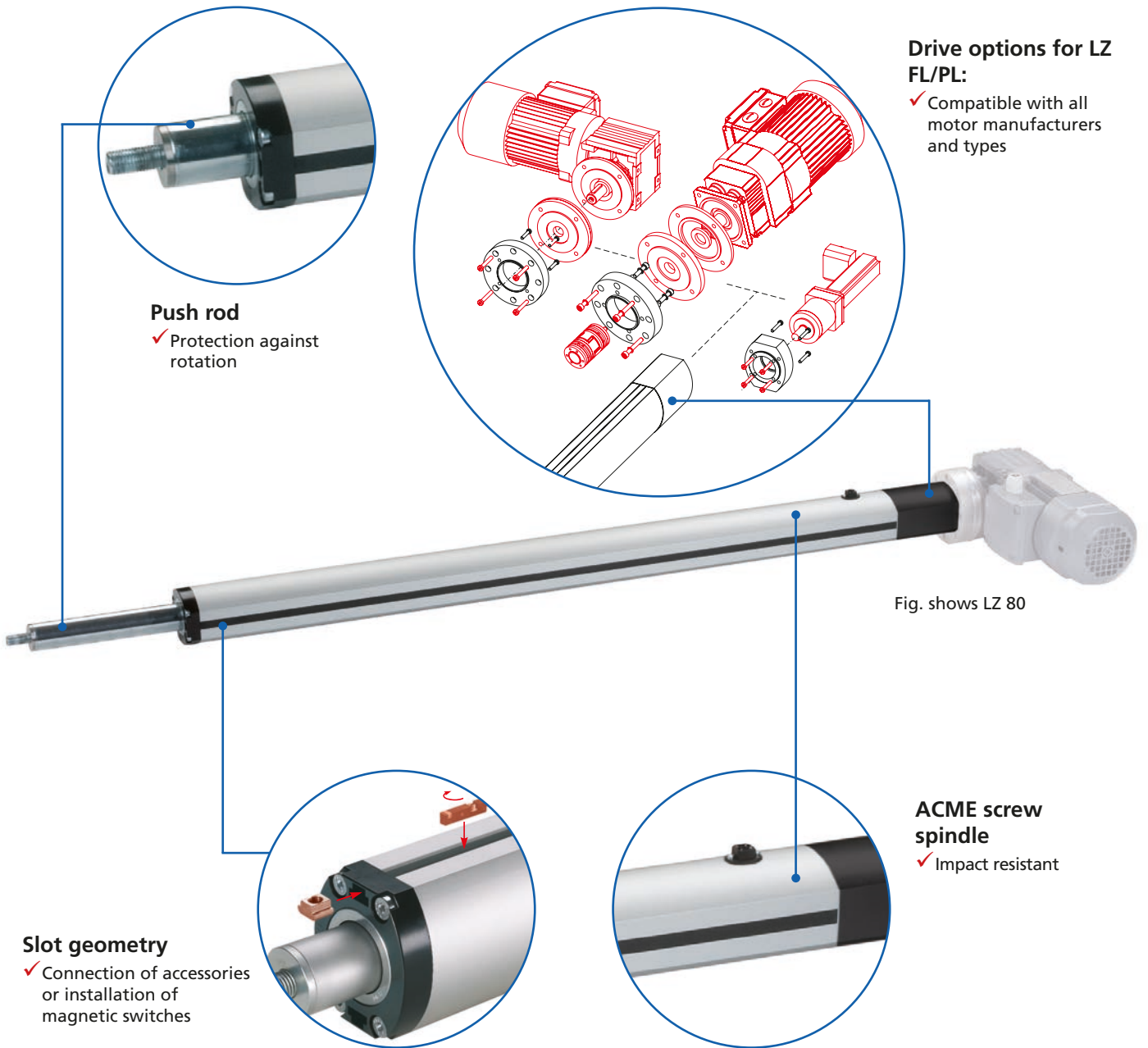
**Note:**

Controls available on request.



# Heavy duty cylinder – LZ 70/80 TR PL

## The new generation of industrial linear cylinders



### Drive options for LZ FL/PL:

- ✓ Compatible with all motor manufacturers and types

Fig. shows LZ 80

### ACME screw spindle

- ✓ Impact resistant

### Features:

- Freely selectable drive (three-phase motor / servo motor / stepper motor)
- Flexible use of space thanks to different motor configurations
- Coverable slot geometry on both sides supports a range of fixing options

- Push rod with rotation locking
- Service life of up to 5 million double strokes (500 mm stroke with KG spindles)
- Protection class IP 54
- Integrated sensors for external magnetic switches

### Options:

- Optional IP 65 can be supplied
- Special stroke lengths available on request
- External magnetic switches
- Angular three-phase motor with fixing boss available on request

## LZ electric cylinders - Table of contents

<b>Properties/performance data</b>	<ul style="list-style-type: none"> <li>■ General information/operating conditions ... 294</li> <li>■ Power diagram LZ 70 ..... 294</li> <li>■ Power diagram LZ 80 ..... 295</li> </ul>						
<b>Versions</b> (Dimensions, order numbers)	<ul style="list-style-type: none"> <li>■ LZ 70 PL electric cylinder ..... 296 - 297</li> <li>■ LZ 80 PL electric cylinder ..... 296 - 297</li> </ul>						
<b>Accessories</b>	<table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; padding-right: 20px;"><b>Fixing</b></td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> <li>■ Clevis ..... 298</li> <li>■ Bearing block for Clevis ..... 298</li> <li>■ Swivel head ..... 298</li> <li>■ Fork attachment for swivel head ..... 299</li> <li>■ Swivel ..... 299</li> <li>■ Bearing block for swivel ..... 299</li> <li>■ Trunnion mounting set ..... 300</li> <li>■ Support blocks for trunnion mounting ..... 300</li> <li>■ Slot stone ..... 300</li> <li>■ Axial adjustment – RK SyncFlex A ..... 301</li> </ul> </td> </tr> <tr> <td style="vertical-align: top; padding-right: 20px;"><b>Drive</b></td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> <li>■ Motor adaptor kit ..... 302</li> </ul> </td> </tr> <tr> <td style="vertical-align: top; padding-right: 20px;"><b>Position determination</b></td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> <li>■ Magnetic switch ..... 303</li> </ul> </td> </tr> </table>	<b>Fixing</b>	<ul style="list-style-type: none"> <li>■ Clevis ..... 298</li> <li>■ Bearing block for Clevis ..... 298</li> <li>■ Swivel head ..... 298</li> <li>■ Fork attachment for swivel head ..... 299</li> <li>■ Swivel ..... 299</li> <li>■ Bearing block for swivel ..... 299</li> <li>■ Trunnion mounting set ..... 300</li> <li>■ Support blocks for trunnion mounting ..... 300</li> <li>■ Slot stone ..... 300</li> <li>■ Axial adjustment – RK SyncFlex A ..... 301</li> </ul>	<b>Drive</b>	<ul style="list-style-type: none"> <li>■ Motor adaptor kit ..... 302</li> </ul>	<b>Position determination</b>	<ul style="list-style-type: none"> <li>■ Magnetic switch ..... 303</li> </ul>
<b>Fixing</b>	<ul style="list-style-type: none"> <li>■ Clevis ..... 298</li> <li>■ Bearing block for Clevis ..... 298</li> <li>■ Swivel head ..... 298</li> <li>■ Fork attachment for swivel head ..... 299</li> <li>■ Swivel ..... 299</li> <li>■ Bearing block for swivel ..... 299</li> <li>■ Trunnion mounting set ..... 300</li> <li>■ Support blocks for trunnion mounting ..... 300</li> <li>■ Slot stone ..... 300</li> <li>■ Axial adjustment – RK SyncFlex A ..... 301</li> </ul>						
<b>Drive</b>	<ul style="list-style-type: none"> <li>■ Motor adaptor kit ..... 302</li> </ul>						
<b>Position determination</b>	<ul style="list-style-type: none"> <li>■ Magnetic switch ..... 303</li> </ul>						

# Technical data – LZ 70/80 TR PL

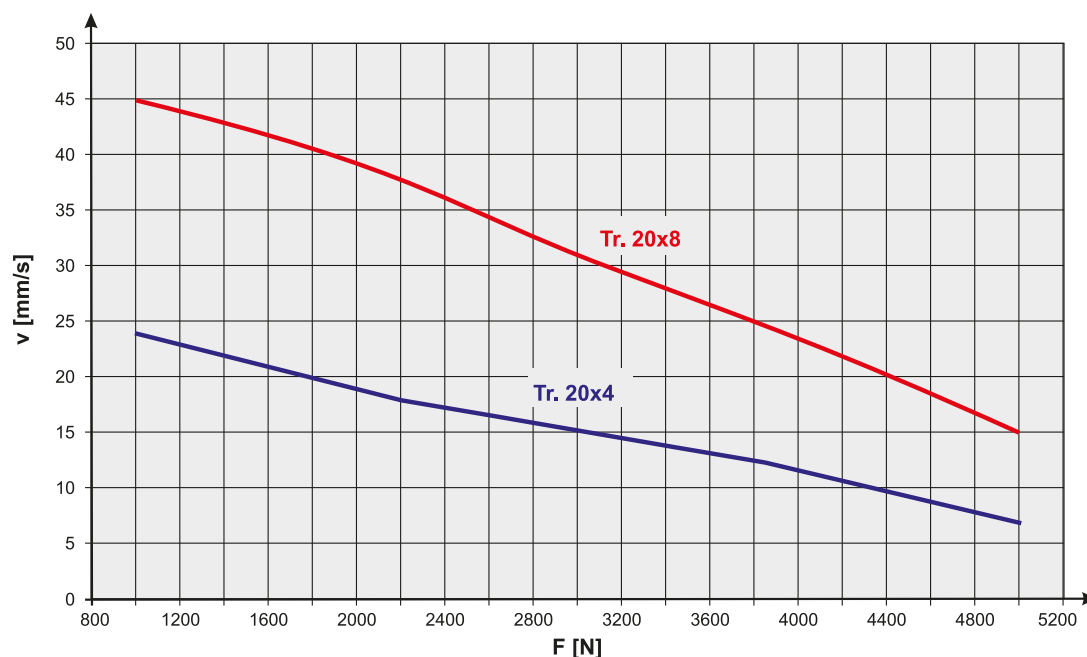
## General information / operating conditions

Linear cylinder with ACME screw  
for robust, versatile moving applications (Move-Tec)

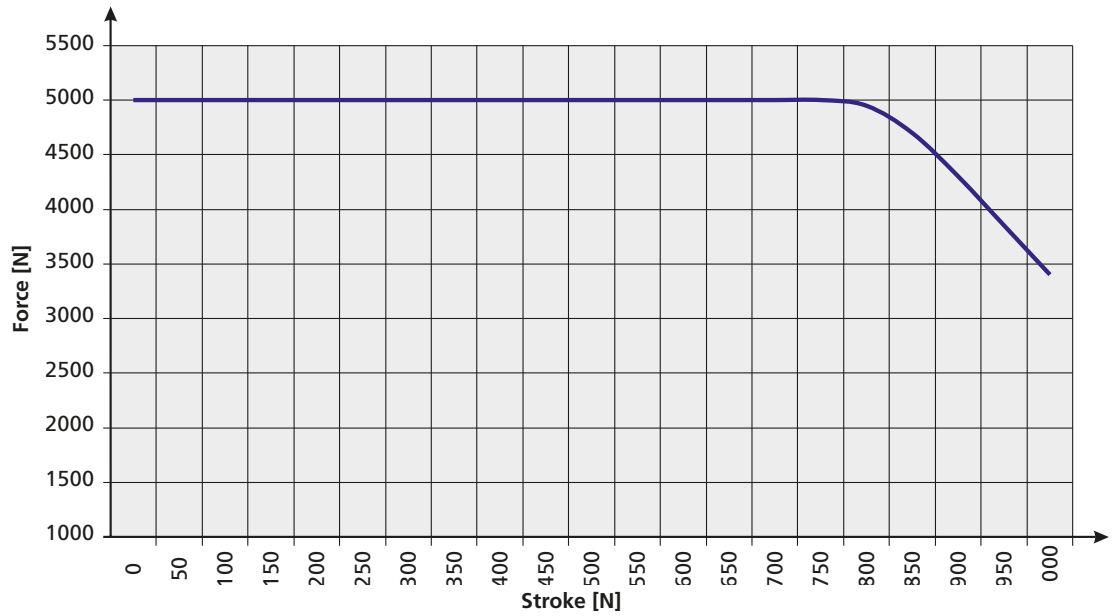
Type	LZ 70 PL	LZ 80 PL
Max. compressive force / tensile force	5.000 N	10.000 N
Max. driving torque	20 Nm	25 Nm
Max. speed	24 / 48 mm/s	29 mm/s
Max. acceleration	3 m/s <sup>2</sup>	3 m/s <sup>2</sup>
Repeatability	± 0.2 mm	± 0.2 mm
Max. no-load torque	0.7 Nm	-
Drive	ACME screw TR 20x4 / 20x8	ACME screw TR 24x5
Lead accuracy	≤ 0.15 mm / 300 mm	≤ 0.15 mm / 300 mm
Duty cycle	S3 30%	S3 20%
Ambient temperature	+0°C to +50°C	+5°C to +40°C
Degree of protection	IP 54 (optional IP 65)	IP 54
Continuous sound pressure level	≤ 65 dB (A)	≤ 65 dB (A)

## Speed/Force diagram for LZ70 with ACME screw TR 20x4 / TR 20x8

The application of an ACME screw TR 20x8 requires a drive motor with brake.  
At 5000N and Stroke >800 mm see Diagram „Maximal Load“ (page 295).



**Maximal Load, Force/Stroke diagram for TR 20x4 / TR 20x8**



**Speed/Force diagram for LZ80 with ACME screw TR 24x5**



# Dimensions / ordering data

## Order information:

- Maintenance opening of the LZ 70 can be moved on request
- Integr. position transducer available with the LZ 70 on request

## LZ PL electric cylinder with ACME screw



Fig. shows LZ 70

Code No.	Type	Spindle	A	B	C	D
TQ1_A2A1D34AA_	LZ 70 PL	TR 20x4	69	77	44	47.6
TQ1_A2A1D37AA		TR 20x8	69	77	44	47.6

Stroke [mm] freely configurable  
e.g. **0 3 9 7**

Degree of protection:  
1 = IP 54  
3 = IP 65

Travel	Installation dimension X	Weight [kg]	
		Basic length	per 100 mm travel
1 to 397 mm	Stroke + 302 mm	2.5	0.7
398 to 600 mm	Stroke + 339.5 mm	2.5	0.7
601 to 795 mm	Stroke + 377 mm	2.5	0.7
796 to 1000 mm	Stroke + 407 mm	2.5	0.7

Code No.	Type	Spindle	A	B	C	D
TQ1_A1A1B11AA	LZ 80 PL	TR 24x5	80	91	55	48

Stroke [mm] configurable in 7.5 mm increments  
e.g. **0 3 9 7 . 5**

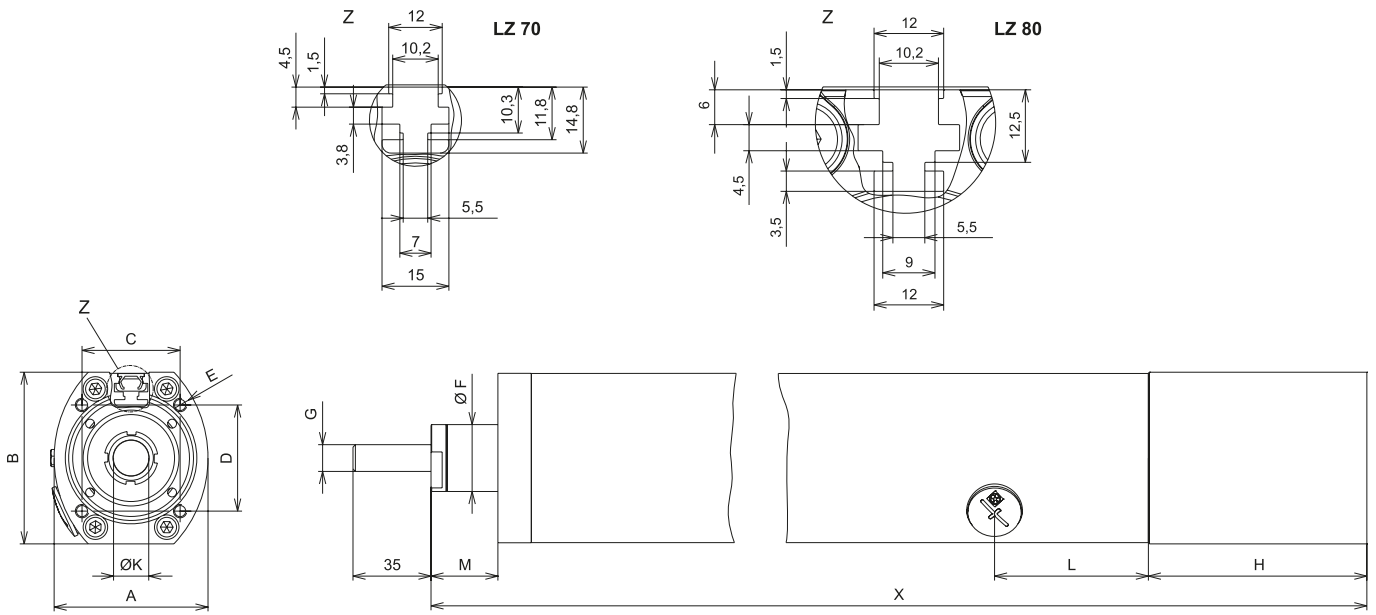
Degree of protection:  
1 = IP 54  
3 = IP 65

Travel	Installation dimension X	Weight [kg]	
		Basic length	per 100 mm travel
7.5 to 397.5 mm	Stroke + 348.5 mm	6.5	1
405 to 600 mm	Stroke + 386 mm	6.5	1
607.5 to 795 mm	Stroke + 423.5 mm	6.5	1
802.5 to 1005 mm	Stroke + 468.5 mm	6.5	1



# LZ 80 TR PL - Position determination

**RK ROSE+KRIEGER**



[mm]

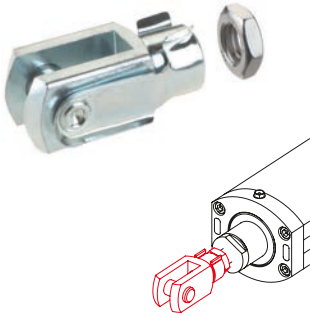
E	F	G	H	K	L	M
M6	30	M12	98	12	69	30
M6	30	M12	98	12	69	30

[mm]

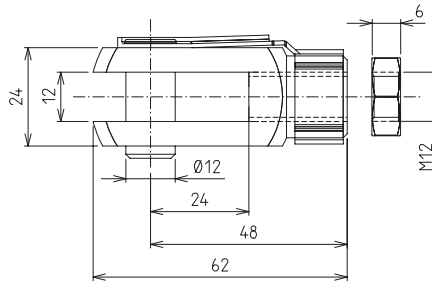
E	F	G	H	K	L	M
M6	40	M16	110	15	Stroke-33 (slot)	28.2

# Fixing

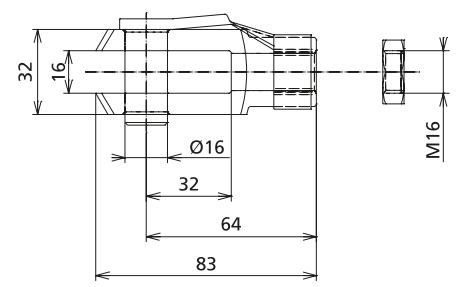
## Clevis



Clevis M12 for LZ 70

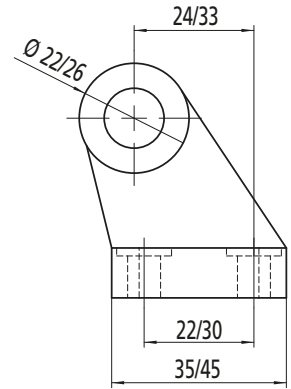
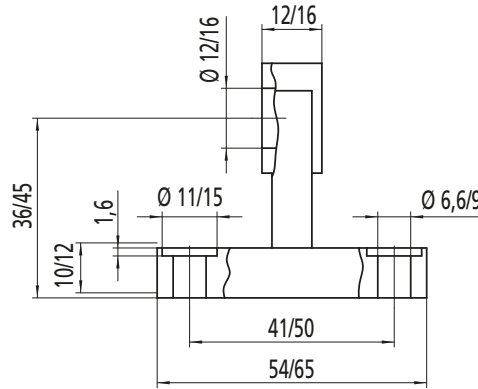
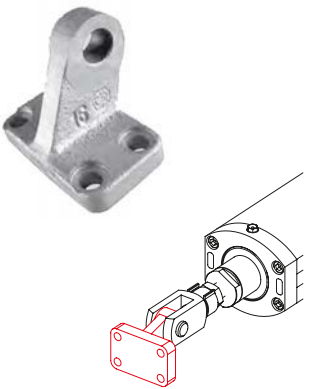


Clevis M12 for LZ 80



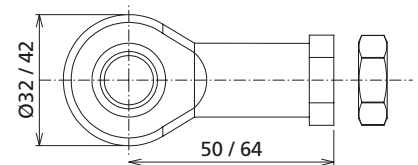
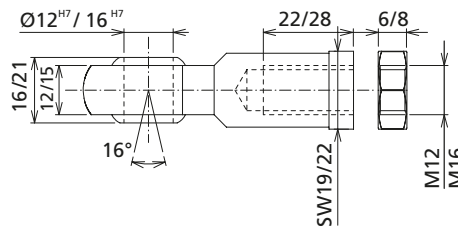
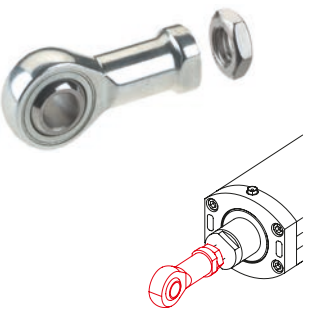
Code No.	Type	
QZD050570	LZ 70	Clevis M12
QZD050571	LZ 80	Clevis M16

## Bearing block for Clevis



Code No.	Type	
QZD050572	LZ 70	Bearing block Ø 12
QZD050573	LZ 80	Bearing block Ø 16

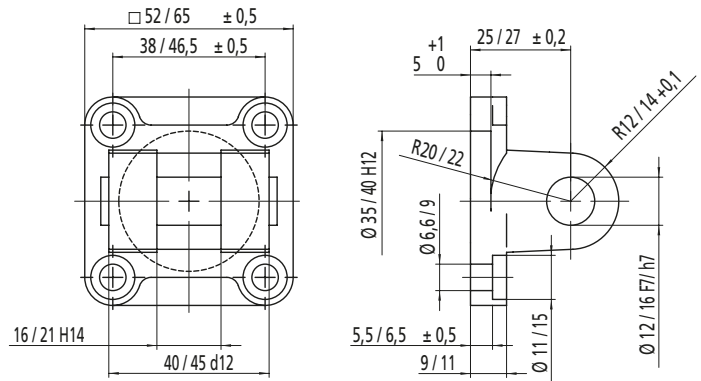
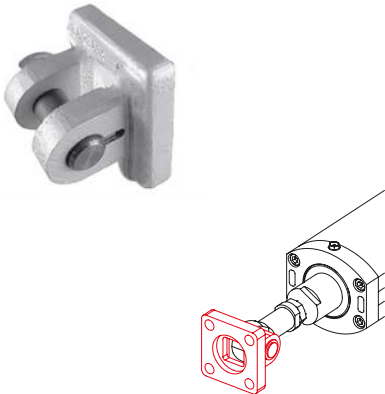
## Swivel head



Code No.	Type	
QZD050574	LZ 70	Swivel head M12
QZD050575	LZ 80	Swivel head M16

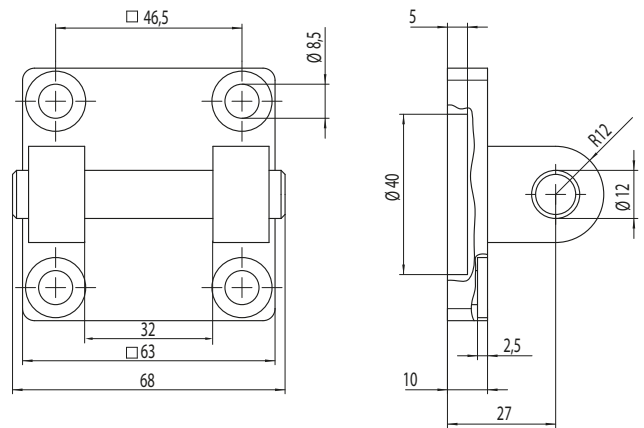
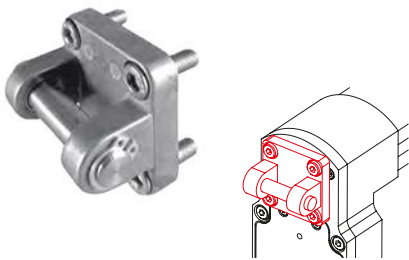


### Fork attachment for Swivel head



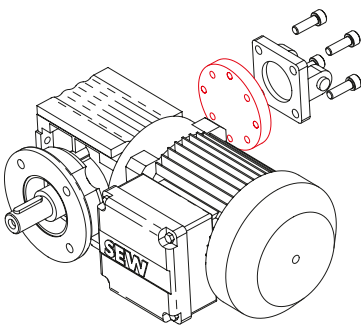
Code No.	Type	
QZD050576	LZ 70	Fork attachment Ø 12
QZD050577	LZ 80	Fork attachment Ø 16

### Swivel



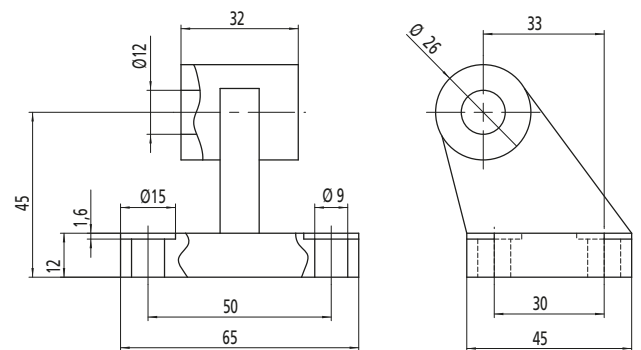
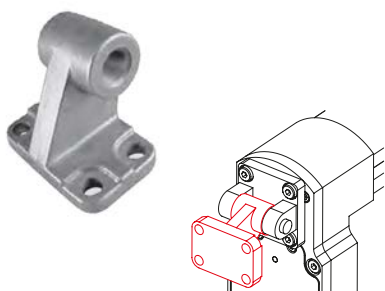
Code No.	Type	
QZD050579	LZ 70	Swivel Ø 12

For use with SEW spiro plan geared motor one of following adaptor plates is needed



Code No.	Type	
QZD050581	LZ 70	Adaptor plates SEW WF 20
QZD050582	LZ 70	Adaptor plates SEW WF 30

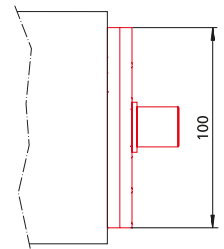
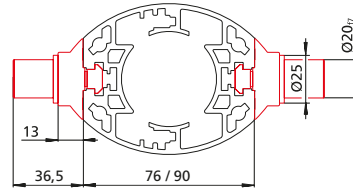
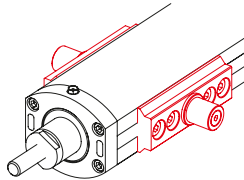
### Bearing block for Swivel



Code No.	Type	
QZD050584	LZ 70	Bearing block wide Ø 12

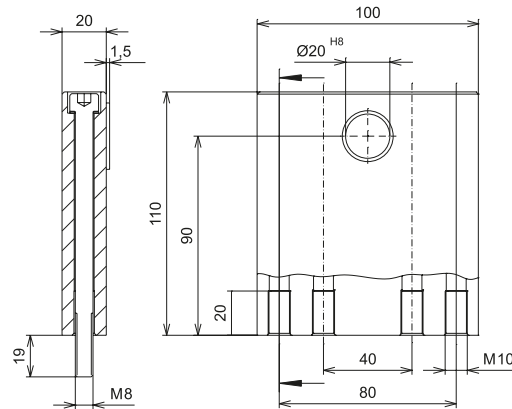
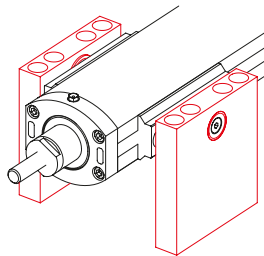


## Trunnion mounting set



Code No.	Type
QZD050587	Trunnion mounting set LZ 70
QZD050588	Trunnion mounting set LZ 80

## Support blocks for trunnion mounting



Code No.	Type
QZD050589	Support blocks LZ 70/80

### Order instruction square nut:

- Purchase only in lot sizes and a multiple of that, see product table below

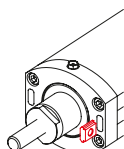
- Slot stones facilitate the attachment of fittings to the cylinder.
- They can be slid into the lateral slots (Type -N-) or swivelled into the slot from above (Type -R-).

## Slot stone



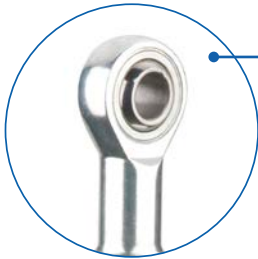
Type -N-

Type -R-



Code No.	Type	lot sizes	F [N]	
4006201	LZ 70	Slot stone -N- M5	10, 20, 30... pcs	4,000
4006203		Slot stone -N- M6	10, 20, 30... pcs	4,000
4026207	LZ 80	Slot stone -N- M5	10, 20, 30... pcs	4,000
4026203		Slot stone -N- M6	10, 20, 30... pcs	9,000
4026206		Slot stone -N- M8	10, 20, 30... pcs	9,000
4026221		Slot stone -R- M6	10, 20, 30... pcs	8,000
4026222		Slot stone -R- M8	10, 20, 30... pcs	8,000

## RK SyncFlex A – axial adjustment for LZ 70



### Levelling eye

- ✓ Eliminates distortions

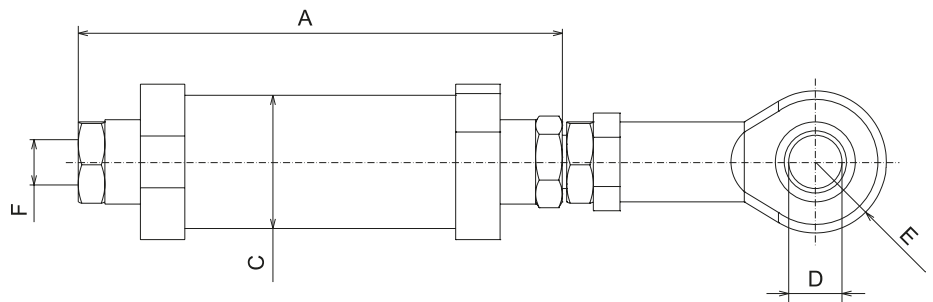
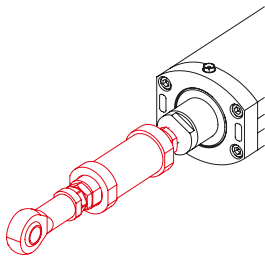
### Scope of delivery:

Axial adjustment, incl. swivel head as depicted



### Axial adjustment

- ✓ Compensates manufacturing tolerances
- ✓ Compensates installation tolerances
- ✓ Length compensation -2 mm
- ✓ Reduces commissioning times



**Note:**  
Screw depth 15 mm max.



[mm]

Code No.	Load	A	C	D	E	F
QZD050590	600 N	102	Ø30	Ø12	R16	M12
QZD050591	1.000 N	102				
QZD050592	2.000 N	103,5				
QZD050593	2.500 N	109				
QZD050594	3.000 N	107,5				
QZD050595	4.000 N	139,5				
QZD050596	5.000 N	137				

## Motor adaptor kit for 3 phase and servo motors

- Servomotors from the RK standard range can be easily connected

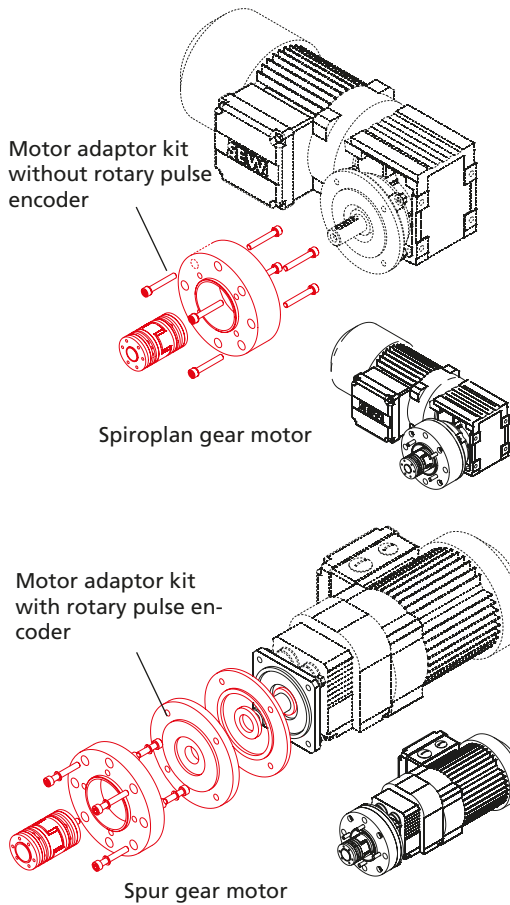
- Complete motor adaptor kits manufactured to your specifications on request

- Motor adaptors offer degree of protection IP 54 (IP 65 available on request)

### Scope of delivery:

Motor adaptor, elastomer coupling and fastenings

### 3 phase motor

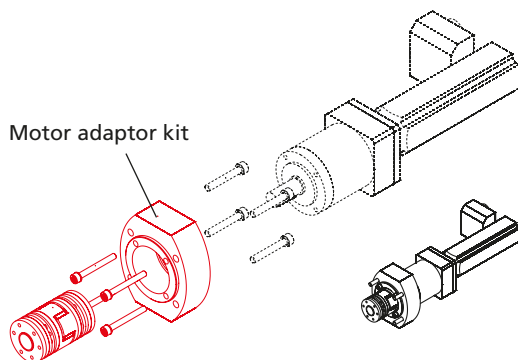


Code No.	Type	Version
LZ 70 for 3 phase motor		
949088	SEW WF20DR63L2	with gear
	SEW WF20DR63M2	with gear
	SEW WF20DR63S2	with gear
	SEW WF30DRS71M2	with gear

Code No.	Type	Version
LZ 80 for 3 phase motor		
949089	SEW WF20DR63L2	with gear
	SEW WF20DR63M2	with gear
	SEW WF20DR63M4	with gear
	SEW WF30DRS71M2	with gear
	SEW WF30DRS71S4	with gear
	SEW WF30DRS80S2	with gear
949090	SEW WF20DR63L2	with gear and rotary pulse encoder
	SEW WF20DR63M2	with gear and rotary pulse encoder
	SEW WF20DR63M4	with gear and rotary pulse encoder
	SEW WF30DRS71M2	with gear and rotary pulse encoder
	SEW WF30DRS71S4	with gear and rotary pulse encoder
	SEW WF30DRS80S2	with gear and rotary pulse encoder

Note: Motor adaptor fits all SEW flanges Ø120 with shaft Ø20x40.

### Servo motor

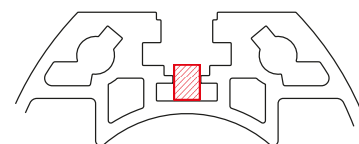
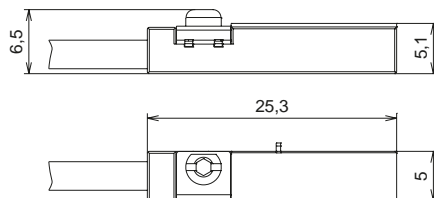


Code No.	Type	Version
LZ 70 for servo motor		
949091	RK-AC 112	with PLE 60 gear
949092	RK-AC 118	without gear
949093	RK-AC 240	without gear
949094	RK-AC 260 / 280	with PLE 80 gear
949095	RK-AC 470	without gear

Code No.	Type	Version
LZ 80 for servo motor		
949096	RK-AC 112	with PLE 60 gear

## Magnetic switch

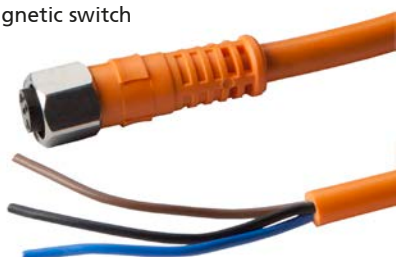
- Signals from the magnetic switch can be collected and evaluated by a customer-provided control unit (such as a PLC).
- The switch can be retrofitted in the lateral slot (protected by a cover profile as standard)
- Magnets are already integrated within the cylinder as standard.



Magnetic switch

### Magnetic switch – Technical data

Extension for magnetic switch



	NC contact
Voltage	10-30 V DC
Current consumption	< 10 mA
Output current	Max. 100 mA
Output type	PNP
Function indication	LED
Ambient temperature	-20°C to +70°C
Degree of protection	IP 67

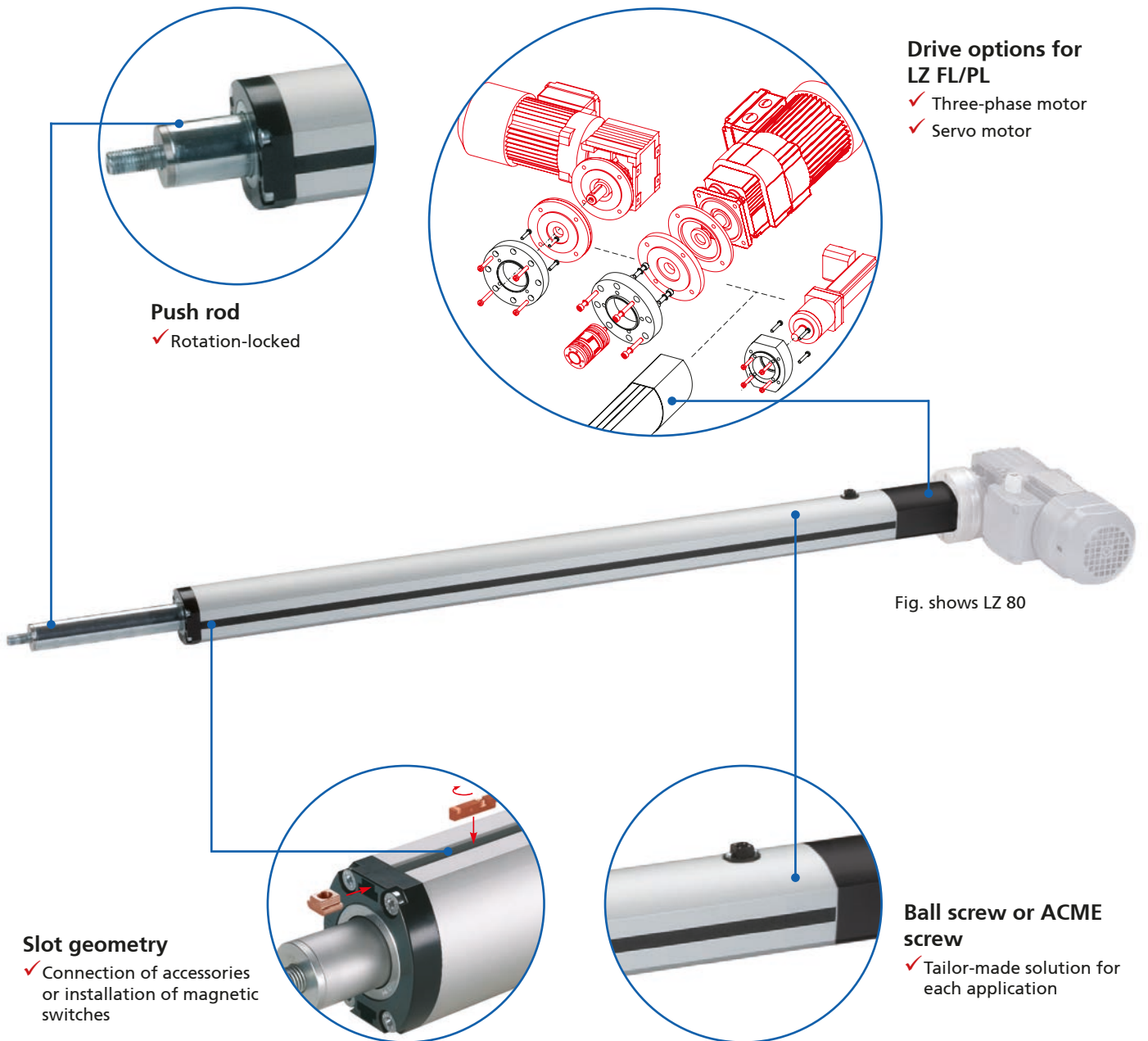
Code No.	Type
QZD050602	Magnetic switch, NC contact, incl. extension for magnetic switch, cable length 5,3 m

LZ 70 with swivel head and trunnion



# Heavy duty cylinder – LZ 70/80 FL/PL

## The new generation of industrial linear cylinders



### Drive options for LZ FL/PL

- ✓ Three-phase motor
- ✓ Servo motor

### Push rod

- ✓ Rotation-locked

Fig. shows LZ 80

### Slot geometry

- ✓ Connection of accessories or installation of magnetic switches

### Ball screw or ACME screw

- ✓ Tailor-made solution for each application

### Features:

- Selectable drive (3-phase motor/servo motor)
- Flexible use of space due to different motor assembly options
- Coverable slot geometry on both sides supports a range of fixing options
- Push rod rotation locked

- Maintenance-free for up to 400 operating hours (with ball screws)
- Service life of up to 1 million double strokes (500 mm travel)
- Protection class IP 54
- Integrated magnets for external magnetic switches

### Options:

- Optional IP 65 can be supplied
- Special stroke lengths available on request
- External magnetic switches
- Angular 3-phase motor with fixing boss available on request

## LZ electric cylinders - Table of contents

<b>Properties/performance data</b>		<ul style="list-style-type: none"> <li>■ General information/operating conditions ... 490</li> <li>■ Power diagram LZ 70 ..... 490</li> <li>■ Power diagram LZ 80 ..... 492</li> </ul>
<b>Versions</b> (Dimensions, order numbers)		<ul style="list-style-type: none"> <li>■ LZ 70 FL/PL electric cylinder ..... 494 - 495</li> <li>■ LZ 80 FL/PL electric cylinder ..... 494 - 495</li> </ul>
<b>Accessories</b>	<b>Fixing</b>	<ul style="list-style-type: none"> <li>■ Clevis ..... 498</li> <li>■ Bearing block for Clevis ..... 498</li> <li>■ Swivel head ..... 498</li> <li>■ Fork attachment for Swivel head ..... 499</li> <li>■ Swivel ..... 499</li> <li>■ Bearing block for Swivel ..... 499</li> <li>■ Trunnion mounting set ..... 500</li> <li>■ Support blocks for trunnion mounting ..... 500</li> <li>■ Slot stone ..... 500</li> <li>■ Axial adjustment – RK SyncFlex A ..... 501</li> </ul>
	<b>Drive</b>	<ul style="list-style-type: none"> <li>■ Motor adaptor kit ..... 502</li> </ul>
	<b>Position determination</b>	<ul style="list-style-type: none"> <li>■ Magnetic switch ..... 503</li> </ul>

# LZ 70/80 FL/PL – Versions

## Linear cylinder with ball screw for precision positioning applications (Control-Tec)

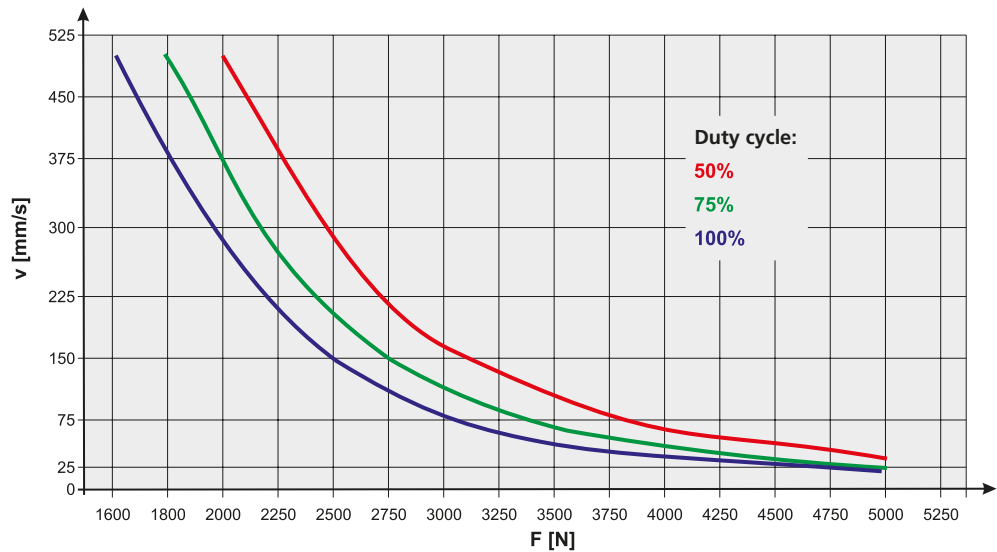
Type	LZ 70 FL / LZ 70 P FL	LZ 70 PL / LZ 70 P PL	LZ 80 FL	LZ 80 PL
Max. compressive force / tensile force	1.500 N	5.000 N	3.000 N	6.200 N
Max. driving torque	15 Nm	15 Nm	20 Nm	20 Nm
Max. speed	1.000 mm/s	500 mm/s	288 mm/s	28 mm/s
Max. acceleration	10 m/s <sup>2</sup> / 5 m/s <sup>2</sup>	10 m/s <sup>2</sup> / 5 m/s <sup>2</sup>	10 m/s <sup>2</sup>	10 m/s <sup>2</sup>
Repeatability	± 0.05 mm	± 0.05 mm	± 0.05 mm	± 0.05 mm
Max. no-load torque	0.3 / 0.54 Nm	0.3 / 0.54 Nm	-	-
Drive	Ball screw KG 20x20	Ball screw KG 20x10	Ball screw KG 20x50	Ball screw KG 20x5
Lead accuracy	T7 (±0.052mm / 300 mm)			
Duty cycle	S3 100 %	S3 100 %	S3 100 %	S3 100 %
Ambient temperature	+0°C to +60°C	+0°C to +60°C	+5°C to +40°C	+5°C to +40°C
Degree of protection	IP 54 (optional IP 65)	IP 54 (optional IP 65)	IP 54	IP 54
Continuous sound pressure level	≤ 75 dB (A)	≤ 75 dB (A)	≤ 70 dB (A)	≤ 70 dB (A)

### Speed/Force diagram – LZ 70

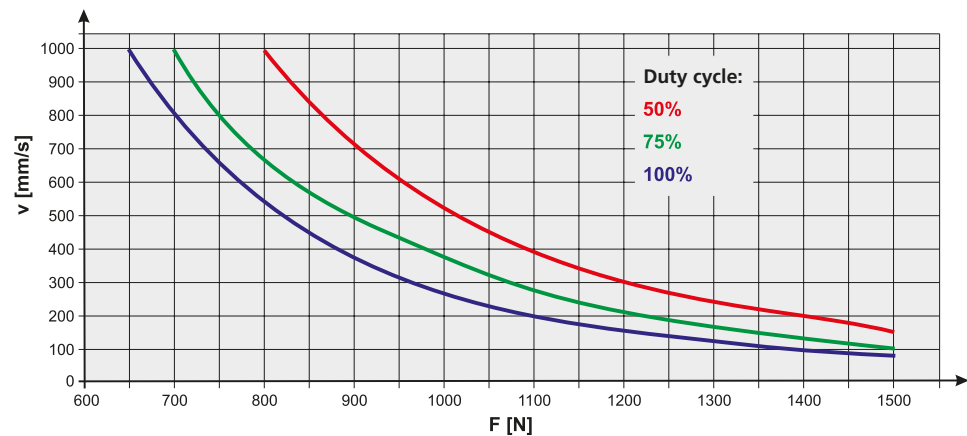
For stroke lengths >600 mm, see diagram "Critical speed"

#### LZ 70 with ball screw KG 20x10

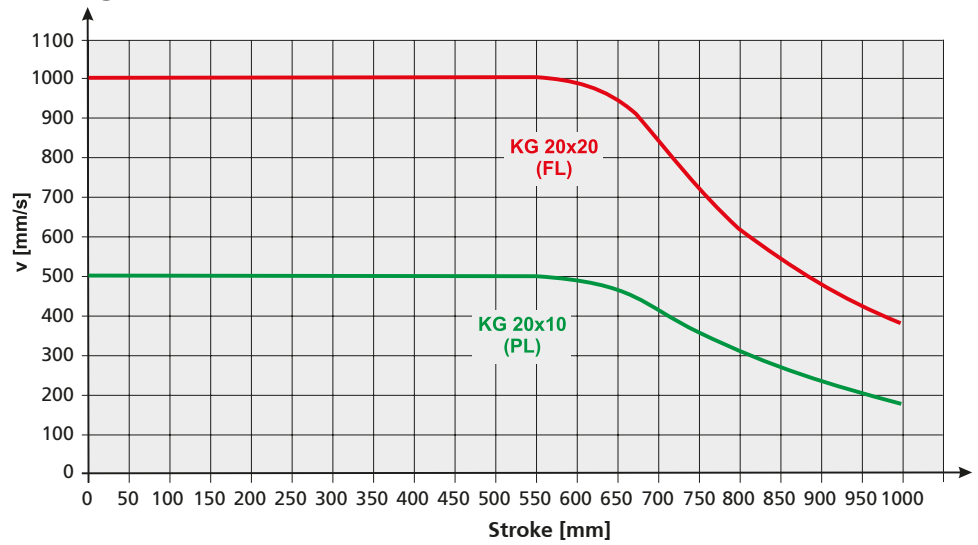
At 5000N and Stroke >800 mm see Diagram „Maximal Load“ (page 491).



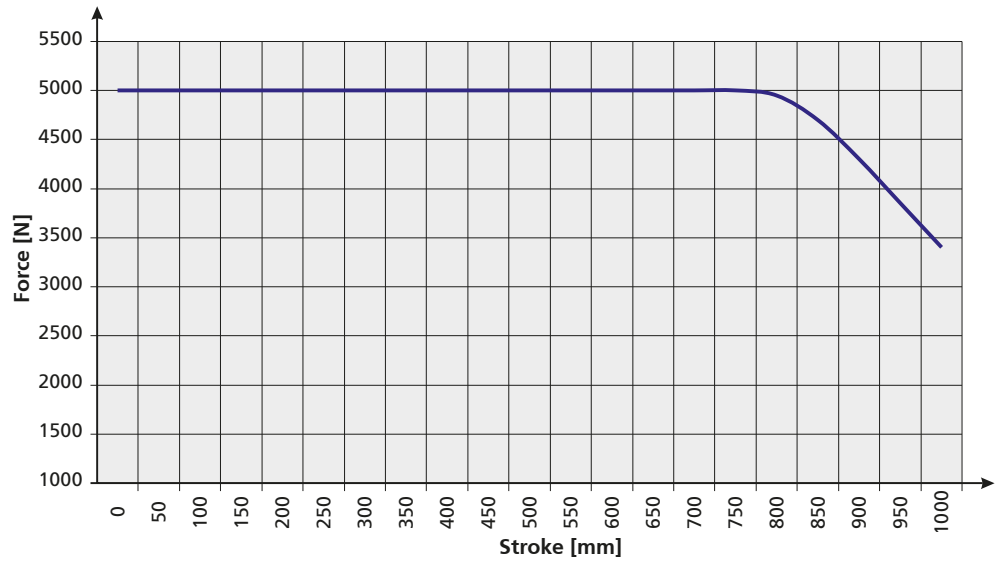
#### LZ 70 with ball screw KG 20x20



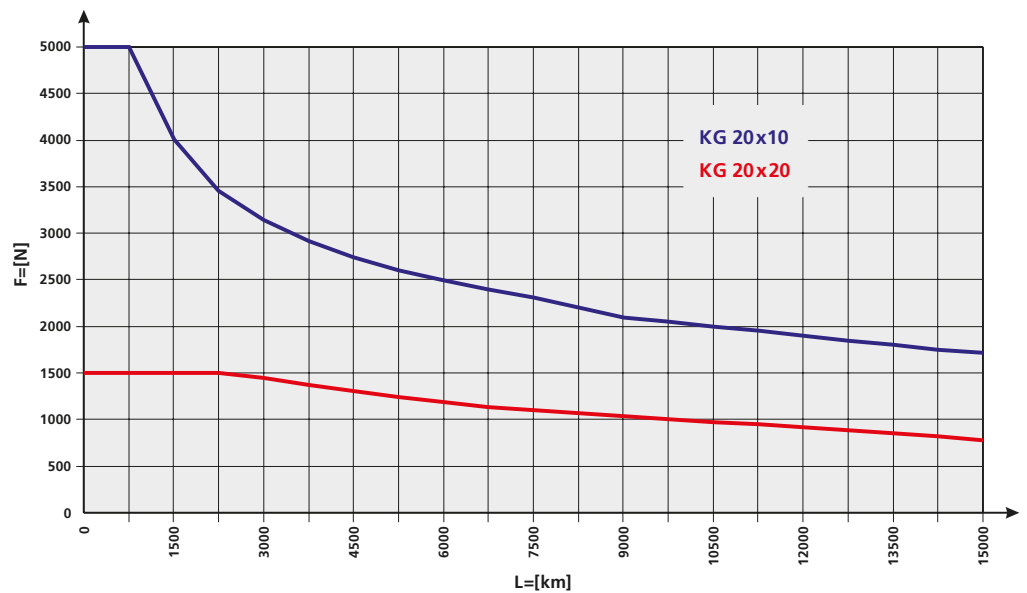
### Critical speed, Speed/Stroke diagram for KG 20x10 / KG 20x20



### Maximal Load, Force/Stroke diagram for KG 20x10



### Durability, Force/Path diagram for KG-20x10/KG-20x20

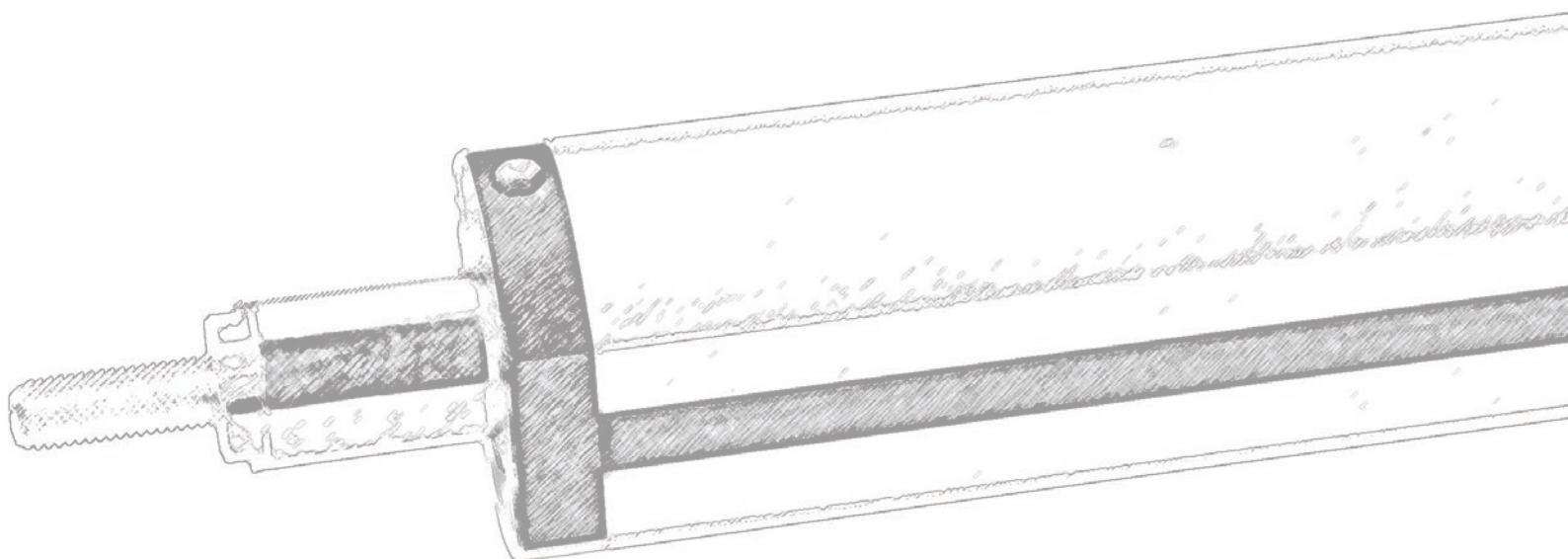
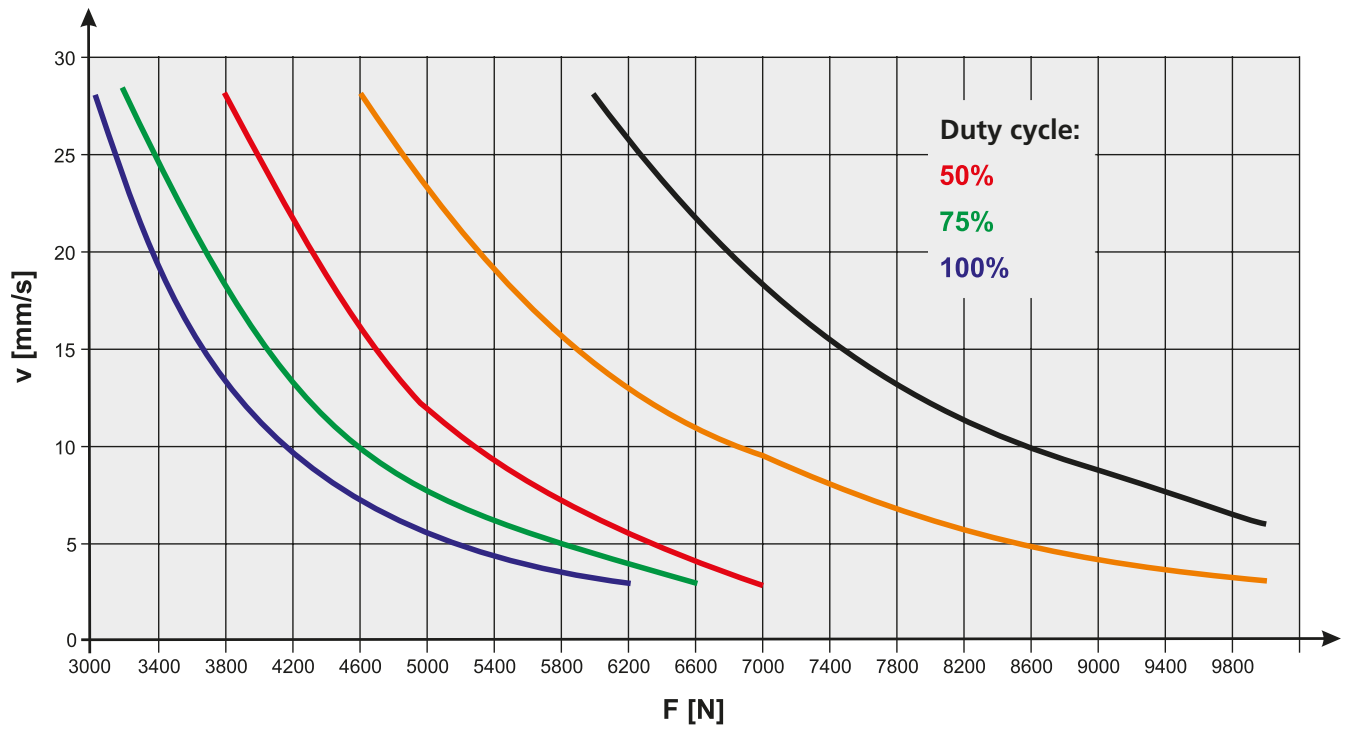




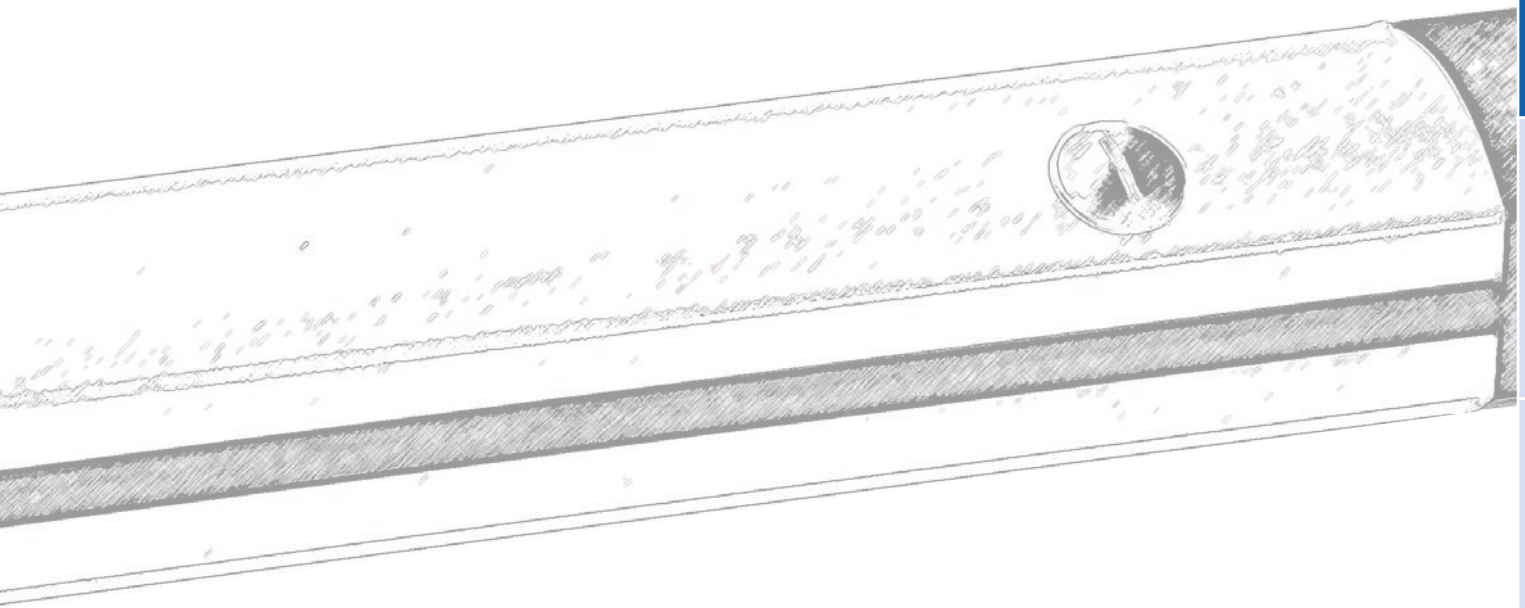
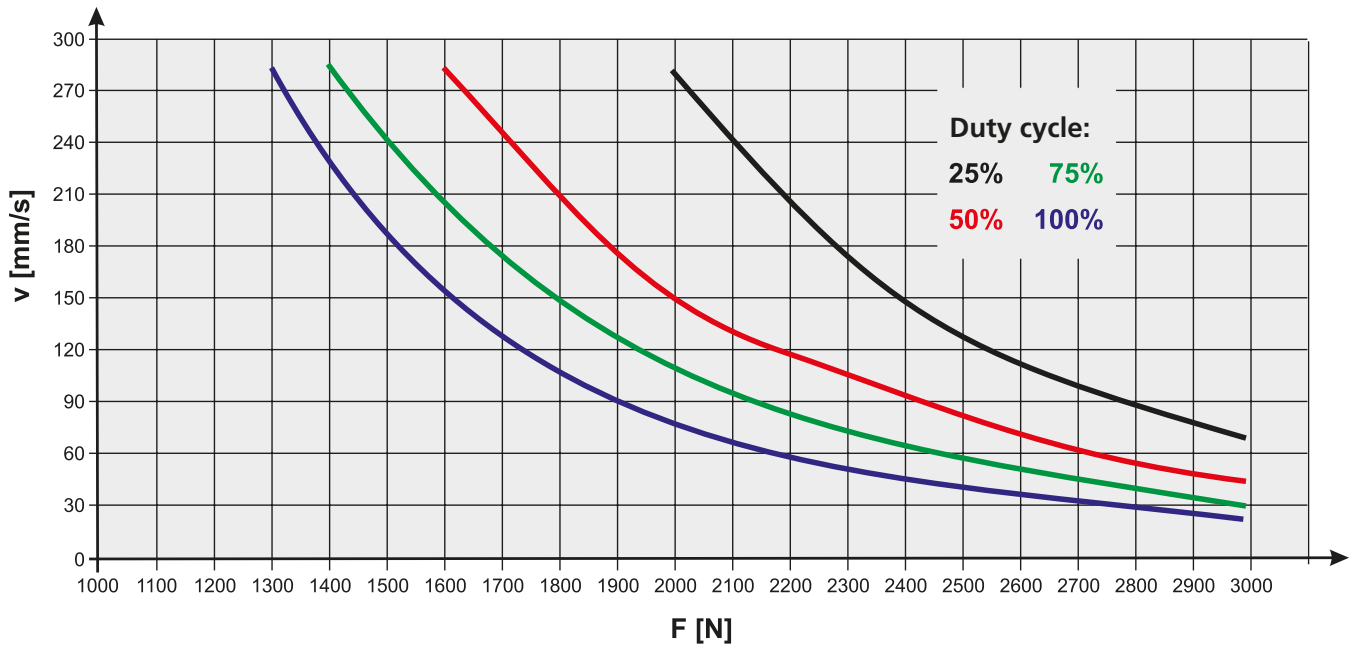
# Technical data – Control-Tec

## Speed/Force diagram – LZ 80

LZ80 with ball screw KG 20x5



**LZ80 with ball screw KG 20x50**



# Dimensions / ordering data

## Order information:

- Maintenance opening of the LZ 70 can be moved on request

## LZ FL/PL electric cylinder with ball screw Control-Tec



Fig. shows LZ 70

Code No.	Type	Spindle	A	B	C	D
TQ1_A2A1D35AA_ _ _ _	LZ 70 PL	KG 20x10	69	77	44	47.6
TQ1_A2A1D36AA	LZ 70 FL	KG 20x20	69	77	44	47.6

Stroke [mm] freely configurable  
e.g. **0 3 9 7**

**Degree of protection LZ PL:**  
1 = IP 54  
3 = IP 65

**Degree of protection LZ FL:**  
2 = IP 54  
4 = IP 65

Travel	Installation dimension X	Weight [kg]	
		Basic length	per 100 mm travel
1 to 397 mm	Stroke + 302 mm	3.0	0.7
398 to 600 mm	Stroke + 339.5 mm	3.0	0.7
601 to 795 mm	Stroke + 377 mm	3.0	0.7
796 to 1000 mm	Stroke + 407 mm	3.0	0.7

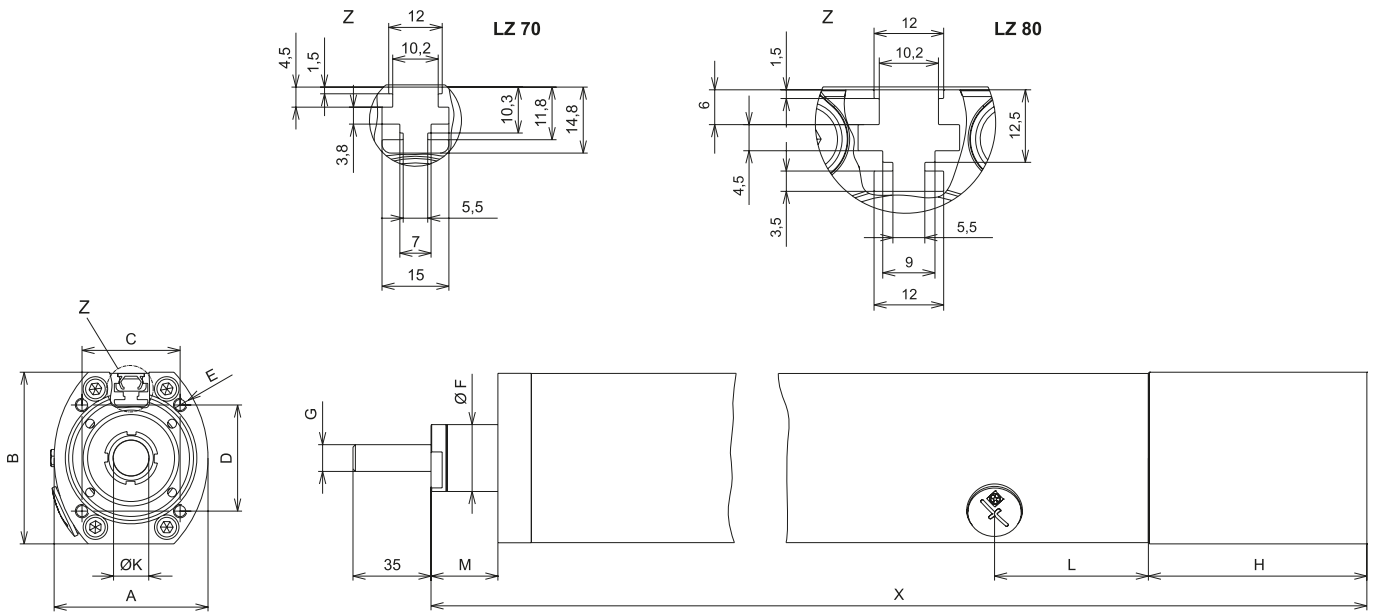
Code No.	Type	Spindle	A	B	C	D
TQ1_A1A1B12AA_ _ _ _	LZ 80 PL	KG 20x5	80	91	55	48
TQ1_A1A1B13AA	LZ 80 FL	KG 20x50	80	91	55	48

Stroke [mm] configurable in 7.5 mm increments  
e.g. **0 3 9 7 . 5**

**Degree of protection LZ PL:**  
1 = IP 54  
3 = IP 65

**Degree of protection LZ FL:**  
2 = IP 54  
4 = IP 65

Travel	Installation dimension X	Weight [kg]	
		Basic length	per 100 mm travel
7.5 to 397.5 mm	Stroke + 348.5 mm	6.5	1
405 to 600 mm	Stroke + 386 mm	6.5	1
607.5 to 795 mm	Stroke + 423.5 mm	6.5	1
802.5 to 1005 mm	Stroke + 468.5 mm	6.5	1



[mm]

E	F	G	H	K	L	M
M6	30	M12	98	12	69	30
M6	30	M12	98	12	69	30

[mm]

E	F	G	H	K	L	M
M6	40	M16	110	15	Stroke-33 (slot)	28.2
M6	40	M16	110	15	Stroke-33 (slot)	28.2

# Dimensions / ordering data

## Order information:

- Position for maintenance point for LZ 70 P upon request

## LZ P FL/PL electric cylinder with ball screw Control-Tec



Fig. shows LZ 70 P incl. Motor adapter

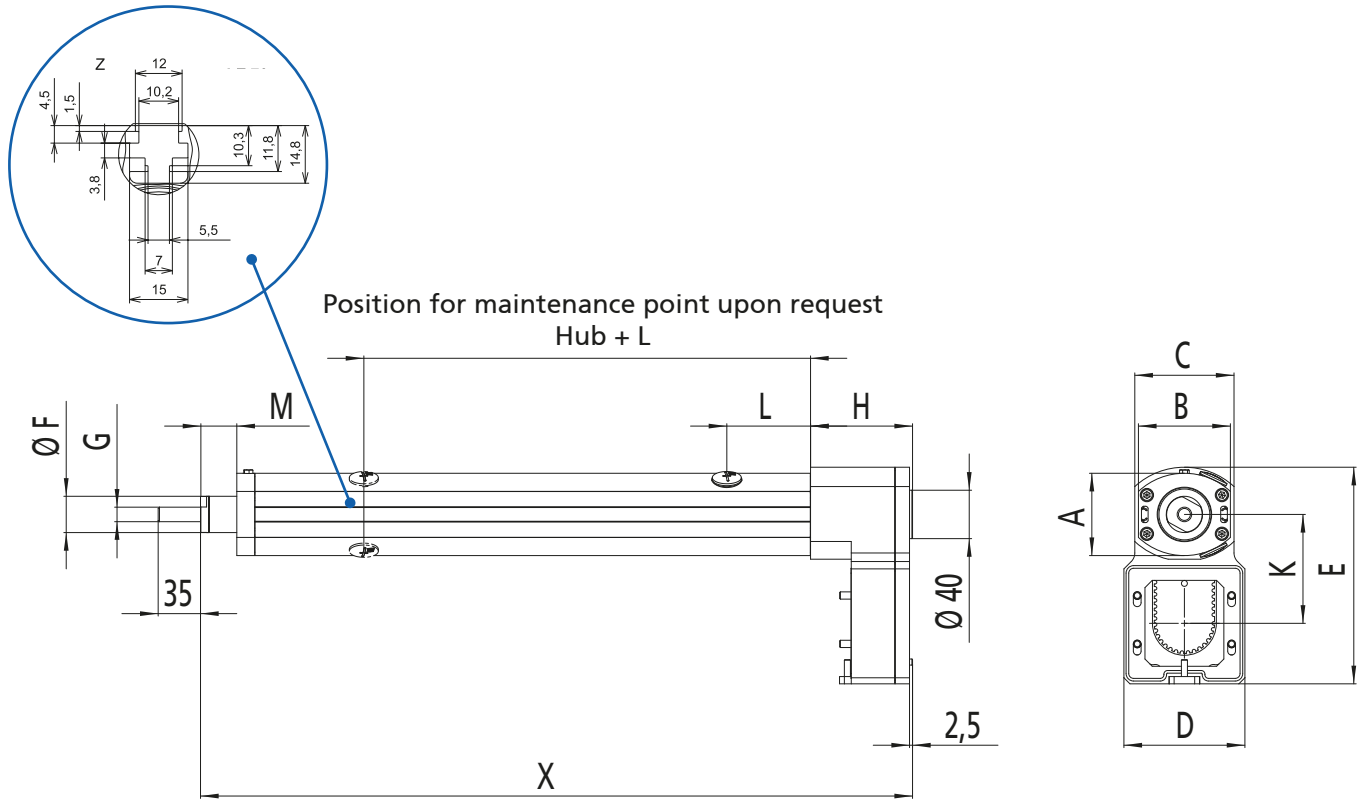
Code No.	Type	Spindle	A	B	C	D
TQ1_A2B1D35AA_ _ _ _	LZ 70 P PL	KG 20x10	69	77	82	100
TQ1_A2B1D36AA	LZ 70 P FL	KG 20x20	69	77	82	100

Stroke [mm] freely configurable  
e.g. **0 3 9 7**

Degree of protection  
**LZ P PL:**  
1 = IP 54  
3 = IP 65

Degree of protection  
**LZ P FL:**  
2 = IP 54  
4 = IP 65

Travel	Installation dimension X	Weight [kg]	
		Basic length	per 100 mm travel
1 to 397 mm	Stroke + 288,5 mm	5	0,7
398 to 600 mm	Stroke + 326 mm	5	0,7
601 to 795 mm	Stroke + 363,5 mm	5	0,7
796 to 1000 mm	Stroke + 393,5 mm	5	0,7

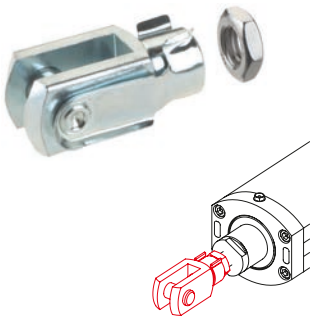


[mm]

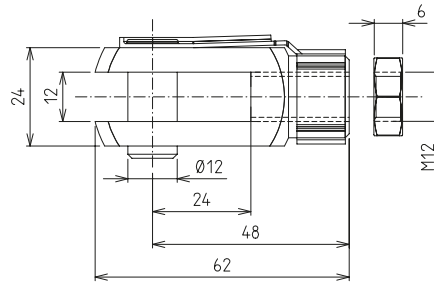
E	F	G	H	K	L	M
179	30	M12	84,5	90	69	30
179	30	M12	84,5	90	69	30

# Fixing

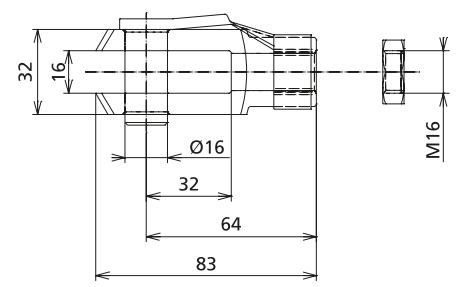
## Clevis



Clevis M12 for LZ 70

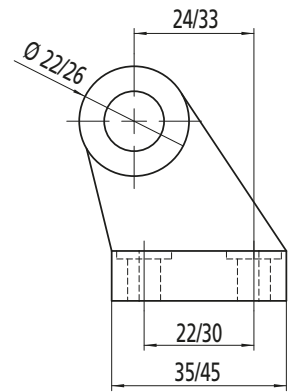
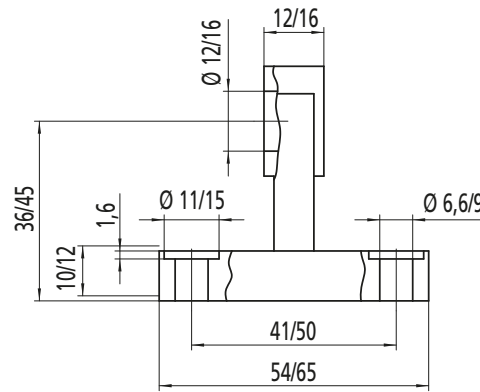
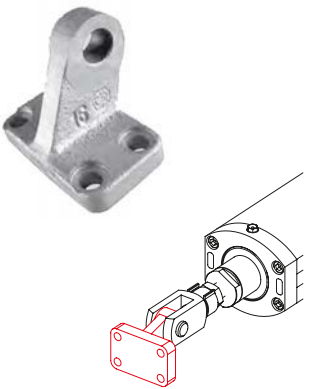


Clevis M12 for LZ 80



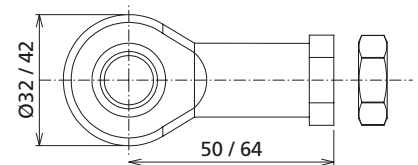
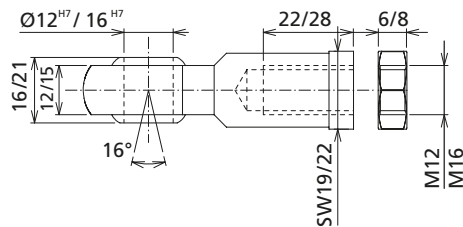
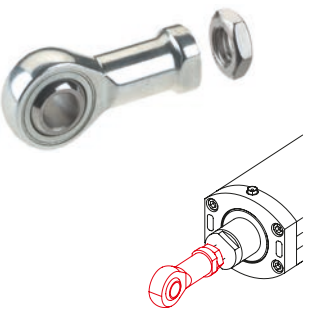
Code No.	Type	
QZD050570	LZ 70	Clevis M12
QZD050571	LZ 80	Clevis M16

## Bearing block for Clevis



Code No.	Type	
QZD050572	LZ 70	Bearing block Ø12
QZD050573	LZ 80	Bearing block Ø16

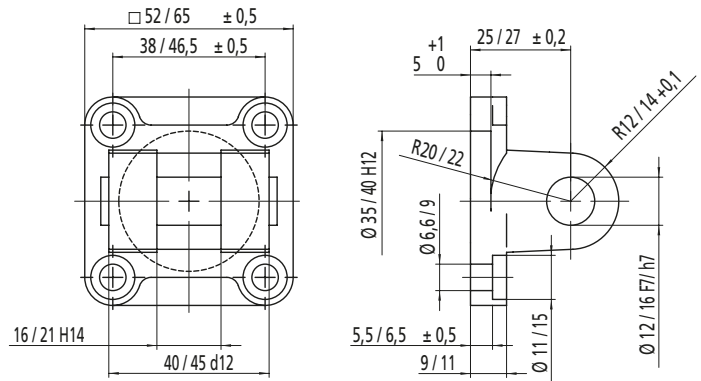
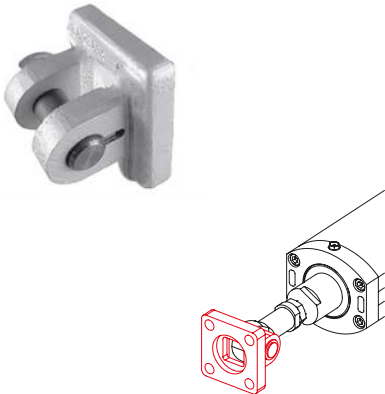
## Swivel head



Code No.	Type	
QZD050574	LZ 70	Swivel head M12
QZD050575	LZ 80	Swivel head M16

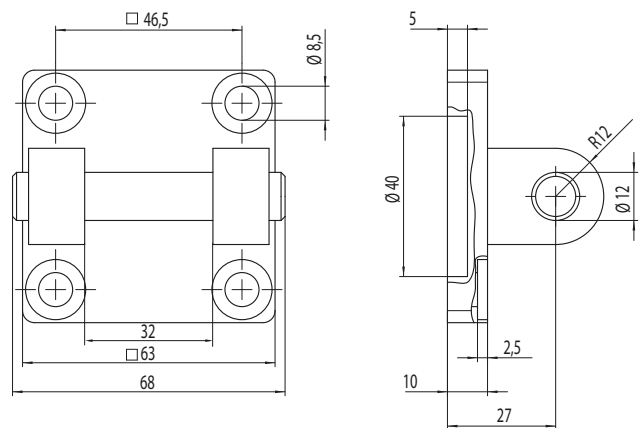
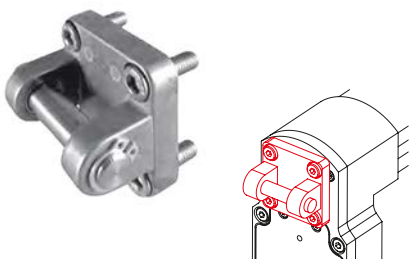


### Fork attachment for Swivel head



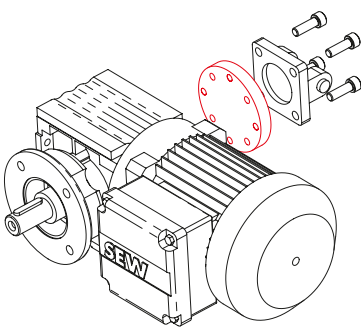
Code No.	Type	
QZD050576	LZ 70	Fork attachment $\emptyset 12$
QZD050577	LZ 80	Fork attachment $\emptyset 16$

### Swivel



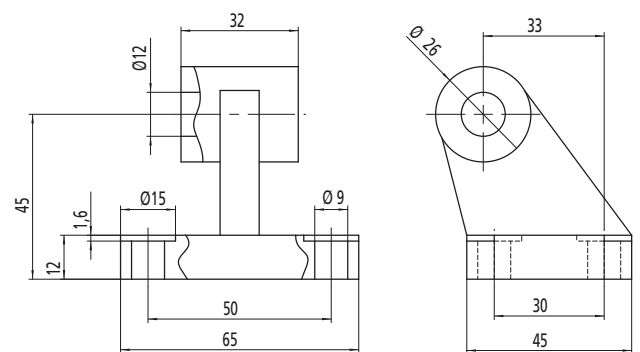
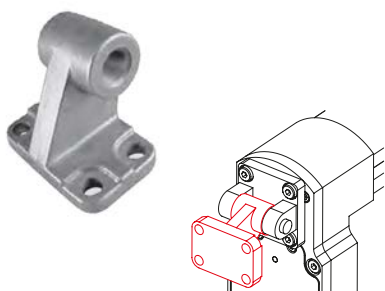
Code No.	Type	
QZD050579	LZ 70	Swivel $\emptyset 12$

For use with SEW spiro plan geared motor one of following adaptor plates is needed



Code No.	Type	
QZD050581	LZ 70	Adaptor plates SEW WF 20
QZD050582	LZ 70	Adaptor plates SEW WF 30

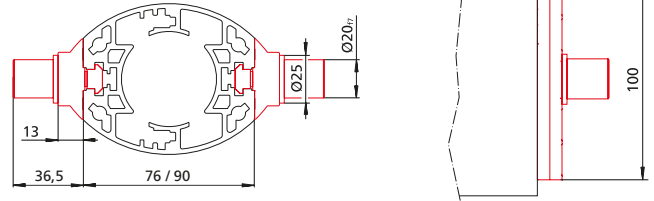
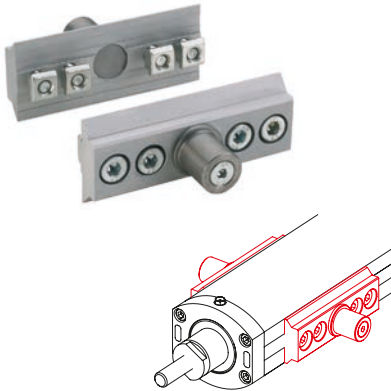
### Bearing block for Swivel



Code No.	Type	
QZD050584	LZ 70	Bearing block wide $\emptyset 12$

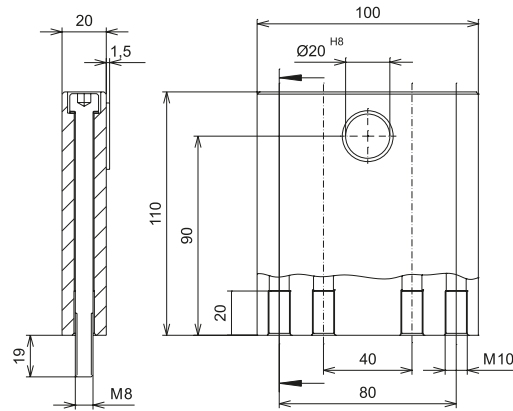
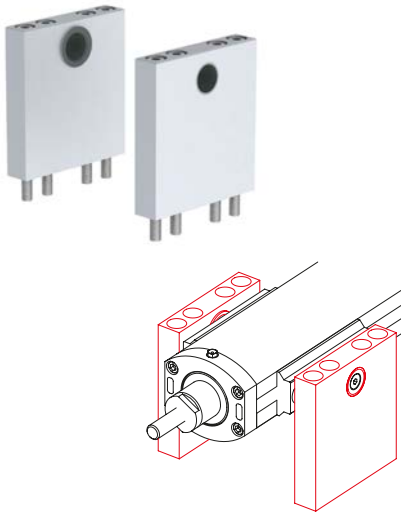


## Trunnion mounting set



Code No.	Type
QZD050587	Trunnion mounting set LZ 70
QZD050588	Trunnion mounting set LZ 80

## Support blocks for trunnion mounting



Code No.	Type
QZD050589	Support blocks LZ 70/80

### Order instruction square nut:

- Purchase only in lot sizes and a multiple of that, see product table below

- Slot stones facilitate the attachment of fittings to the cylinder.

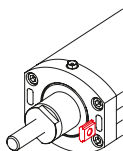
- They can be slid into the lateral slots (Type -N-) or swivelled into the slot from above (Type -R-).

## Slot stone



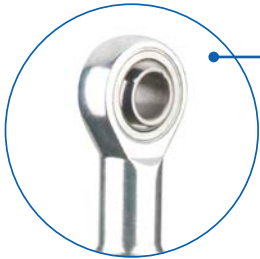
Type -N-

Type -R-



Code No.	Type	lot sizes	F [N]	
4006201	LZ 70	Slot stone -N- M5	10, 20, 30... pcs	4.000
4006203		Slot stone -N- M6	10, 20, 30... pcs	4.000
4026207	LZ 80	Slot stone -N- M5	10, 20, 30... pcs	4.000
4026203		Slot stone -N- M6	10, 20, 30... pcs	9.000
4026206		Slot stone -N- M8	10, 20, 30... pcs	9.000
4026221		Slot stone -R- M6	10, 20, 30... pcs	8.000
4026222		Slot stone -R- M8	10, 20, 30... pcs	8.000

## RK SyncFlex A – axial adjustment for LZ 70



### Levelling eye

- ✓ Eliminates distortions

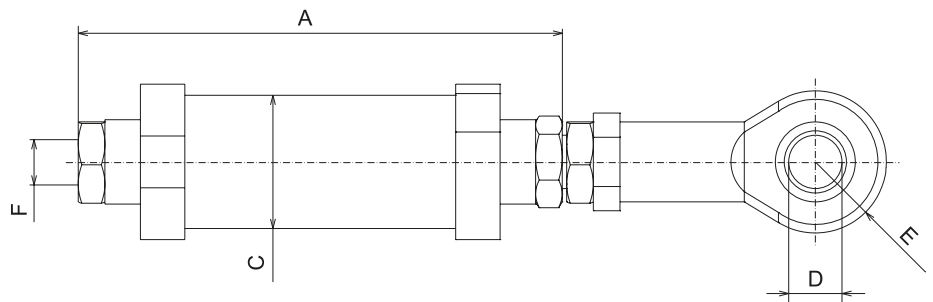
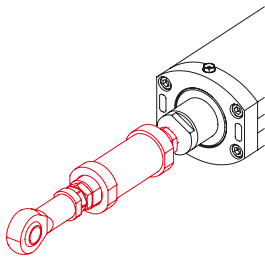
### Scope of delivery:

Axial adjustment, incl. swivel head as depicted



### Axial adjustment

- ✓ Compensates manufacturing tolerances
- ✓ Compensates installation tolerances
- ✓ Length compensation -2 mm
- ✓ Reduces commissioning times



**Note:**  
Screw depth 15 mm max.



Code No.	Load	A	C	D	E	F
QZD050590	600 N	102	Ø30	Ø12	R16	M12
QZD050591	1,000 N	102				
QZD050592	2,000 N	103,5				
QZD050593	2,500 N	109				
QZD050594	3,000 N	107,5				
QZD050595	4,000 N	139,5				
QZD050596	5,000 N	137				

[mm]

## Motor adaptor kit for 3 phase and servo motors

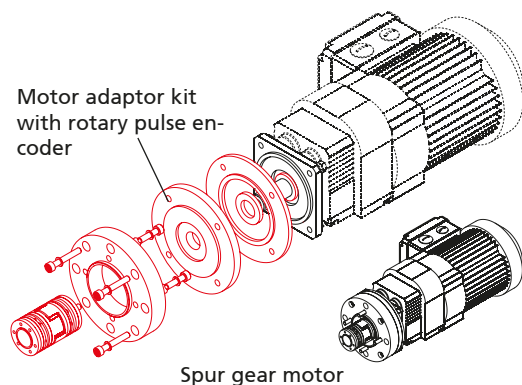
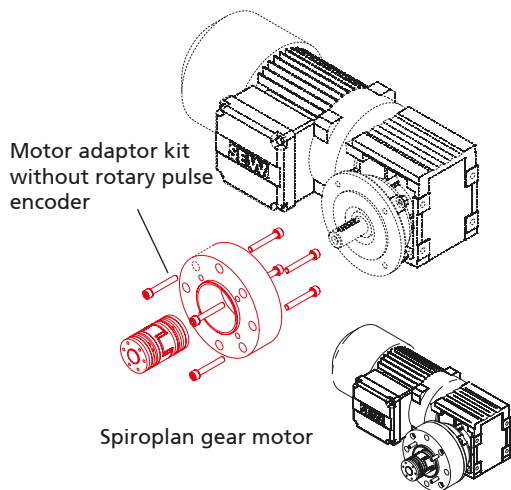
- Servomotors from the RK standard range can be easily connected

- Complete motor adaptor kits manufactured to your specifications on request

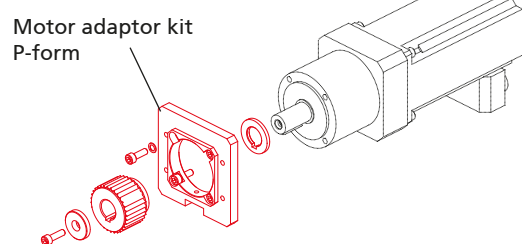
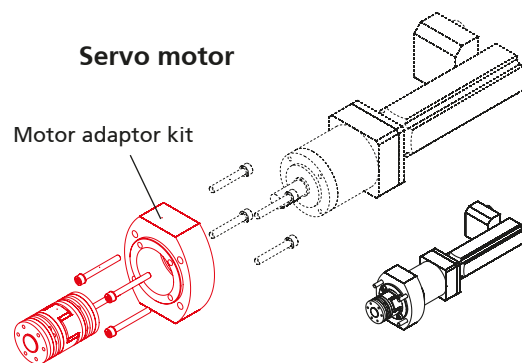
- Motor adaptors offer degree of protection IP 54 (IP 65 available on request)

**Scope of delivery:**  
Motor adaptor, elastomer coupling and fastenings

### 3 phase motor



### Servo motor



Code No.	Type	Version
LZ 70 for 3 phase motor		
949088	SEW WF20DR63L2	with gear
	SEW WF20DR63M2	with gear
	SEW WF20DR63S2	with gear
	SEW WF30DRS71M2	with gear

Code No.	Type	Version
LZ 80 for 3 phase motor		
949089	SEW WF20DR63L2	with gear
	SEW WF20DR63M2	with gear
	SEW WF20DR63M4	with gear
	SEW WF30DRS71M2	with gear
	SEW WF30DRS71S4	with gear
949090	SEW WF30DRS80S2	with gear
	SEW WF20DR63L2	with gear and rotary pulse encoder
	SEW WF20DR63M2	with gear and rotary pulse encoder
	SEW WF20DR63M4	with gear and rotary pulse encoder
	SEW WF30DRS71M2	with gear and rotary pulse encoder
	SEW WF30DRS71S4	with gear and rotary pulse encoder
	SEW WF30DRS80S2	with gear and rotary pulse encoder

Note: Motor adaptor fits all SEW flanges Ø120 with shaft Ø20x40.

Code No.	Type	Version
LZ 70 for servo motor		
949091	RK-AC 112	with PLE 60 gear
949092	RK-AC 118	without gear
949093	RK-AC 240	without gear
949094	RK-AC 260 / 280	with PLE 80 gear
949095	RK-AC 470	without gear

Code No.	Type	Version
LZ 80 for servo motor		
949096	RK-AC 112	with PLE 60 gear

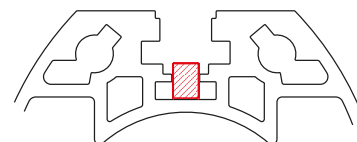
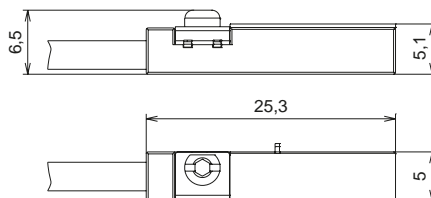
Code No.	Type	Version
LZ 70 P for servo motor		
949994	RK-AC 260	with PLE 80 gear
949995	RK-AC 345/470	without gear

## Magnetic switch



- Signals from the magnetic switch can be collected and evaluated by a customer-provided control unit (such as a PLC).

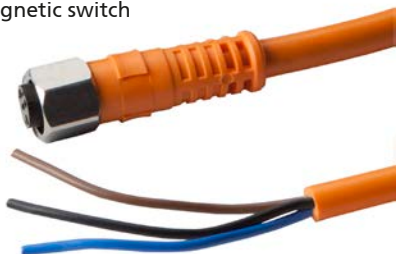
- The switch can be retrofitted in the lateral slot (protected by a cover profile as standard)
- Magnets are already integrated within the cylinder as standard.



Magnetic switch

### Magnetic switch – Technical data

Extension for magnetic switch



	NC contact
Voltage	10-30 V DC
Current consumption	< 10 mA
Output current	Max. 100 mA
Output type	PNP
Function indication	LED
Ambient temperature	-20°C to +70°C
Degree of protection	IP 67

Code No.	Type
QZD050602	Magnetic switch, NC contact, incl. extension for magnetic switch, cable length 5,3 m

LZ 70 with swivel head and trunnion

