

Linear Technology

Lifting columns and electric cylinders for the new control generation MultiControl II



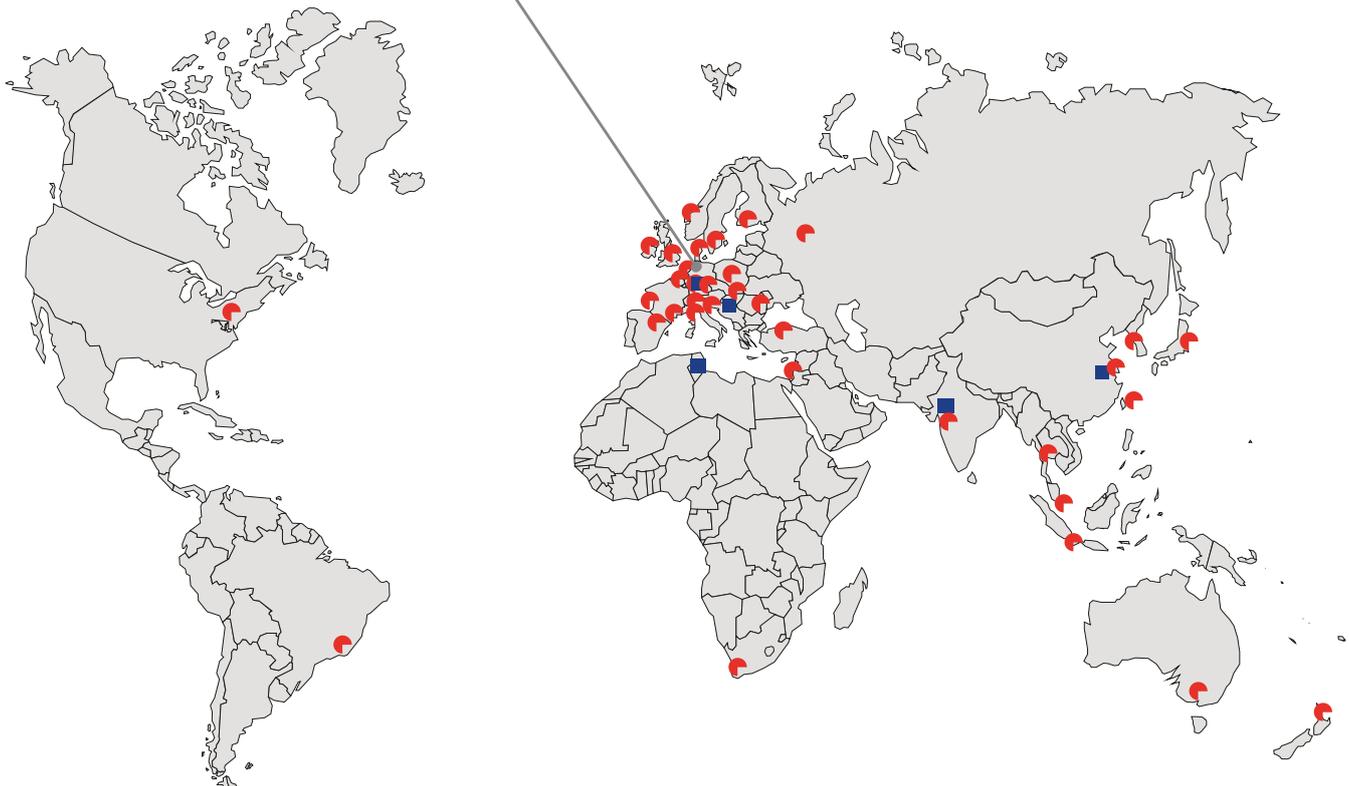
About Us

As a subsidiary of the global Phoenix Mecano AG, we offer an unrivalled range of products in the fields of linear, profile, connecting and module technology. With decades of experience and expertise in a huge range of industrial applications, you need look no further for a highly competent partner. From the first point of contact through to delivery, we focus entirely on your requirements. Individual advice and short delivery periods are two central priorities in our customer-focused corporate philosophy. Our aim is your success, and we look forward to being your strategic partner.



Head Office: Germany, Minden/Westph.

- ✓ Company sales representatives
- ✓ Distributors and system partners



Available around the globe.

- ✓ Profit Centre within Phoenix Mecano
- ✓ Sales and system partners

■ = Production facilities

● = Distribution companies

Fax: +49 571 9335-119

Telephone: +49 571 9335-0

E-Mail: anfrage.vertrieb@rk-online.de

www.rk-rose-krieger.com

Our product range

CONNECTING TECHNOLOGY

- ✓ Fittings for the secure clamp connection of round and square tubes
- ✓ Elements made of aluminium, stainless steel and plastic
- ✓ Sizes from 8 mm to 80 mm



PROFILE TECHNOLOGY

- ✓ The tried and tested BLOCAN® aluminium assembly system
- ✓ Sections from 20 mm to 320 mm for all applications
- ✓ Connecting technology with an unsurpassed combination of flexibility and reliability



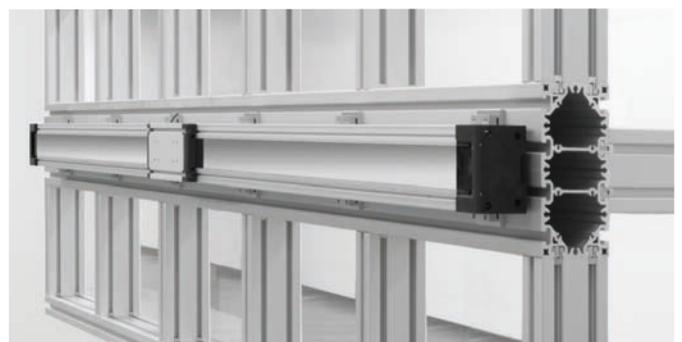
LINEAR TECHNOLOGY

- ✓ Manual adjustment units
- ✓ Electric cylinders
- ✓ Lifting columns
- ✓ Linear axes
- ✓ We can move loads for you of up to 3 t and up to 12 m dynamically, reliably and with great precision



MODULE TECHNOLOGY

- ✓ Machine frames
- ✓ Workstations
- ✓ Machine guards
- ✓ Multidimensional linear axis modules
- ✓ Complete drive solutions



One of the core competencies of RK Rose+Krieger is our range of variable-length linear systems with their electric motor driven modules for height adjustment. The lifting columns and electric cylinders are extremely versatile, so they are used in many different sectors:

- ✓ Industrial applications
- ✓ Installation aids to assist with heavy loads
- ✓ Height-adjustable standing or sitting workstations
- ✓ Effective support to enable greater independence for the physically challenged
- ✓ Applications in the field of medical technology

Whilst the lifting columns are designed to handle bending moments, the electric cylinders are an excellent alternative to pneumatic cylinders. They offer some major advantages:

- ✓ Smooth running, including at low speeds
- ✓ Exact positioning
- ✓ Self-locking when stationary
- ✓ Efficiency (no leakage losses possible)

Reliable technology and ease of installation in your system are essential requirements. On the following pages, we hope to inspire you and introduce you to the products from our variable-length linear technology product range in more detail.

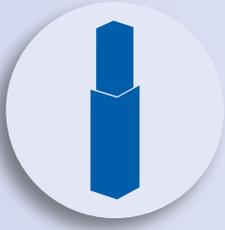
**Place your individual and unique applications in the hands
of our experienced specialists.
We will be happy to advise you regarding customised solutions.**

Technology that adapts to your needs!

The RK linear circle

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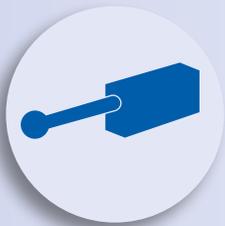
- Lifting columns
- Electric cylinders
- Controls & Accessories



Lifting columns

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- Product selection
- RK Slimlift
- RK Slimlift EM
- Multilift
- Multilift interior carriage
- Multilift II
- RK PowerLift M
- Multilift II telescope



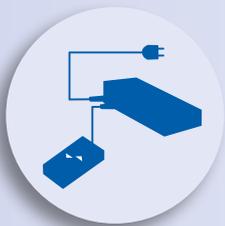
Electric cylinder

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- Product selection
- LZ 60 P
- LZ 60 S

You will find more electric cylinders in the General Catalogue PDF

Linear Technology Lifting columns and electric cylinders



Controls & Accessories

Page 126

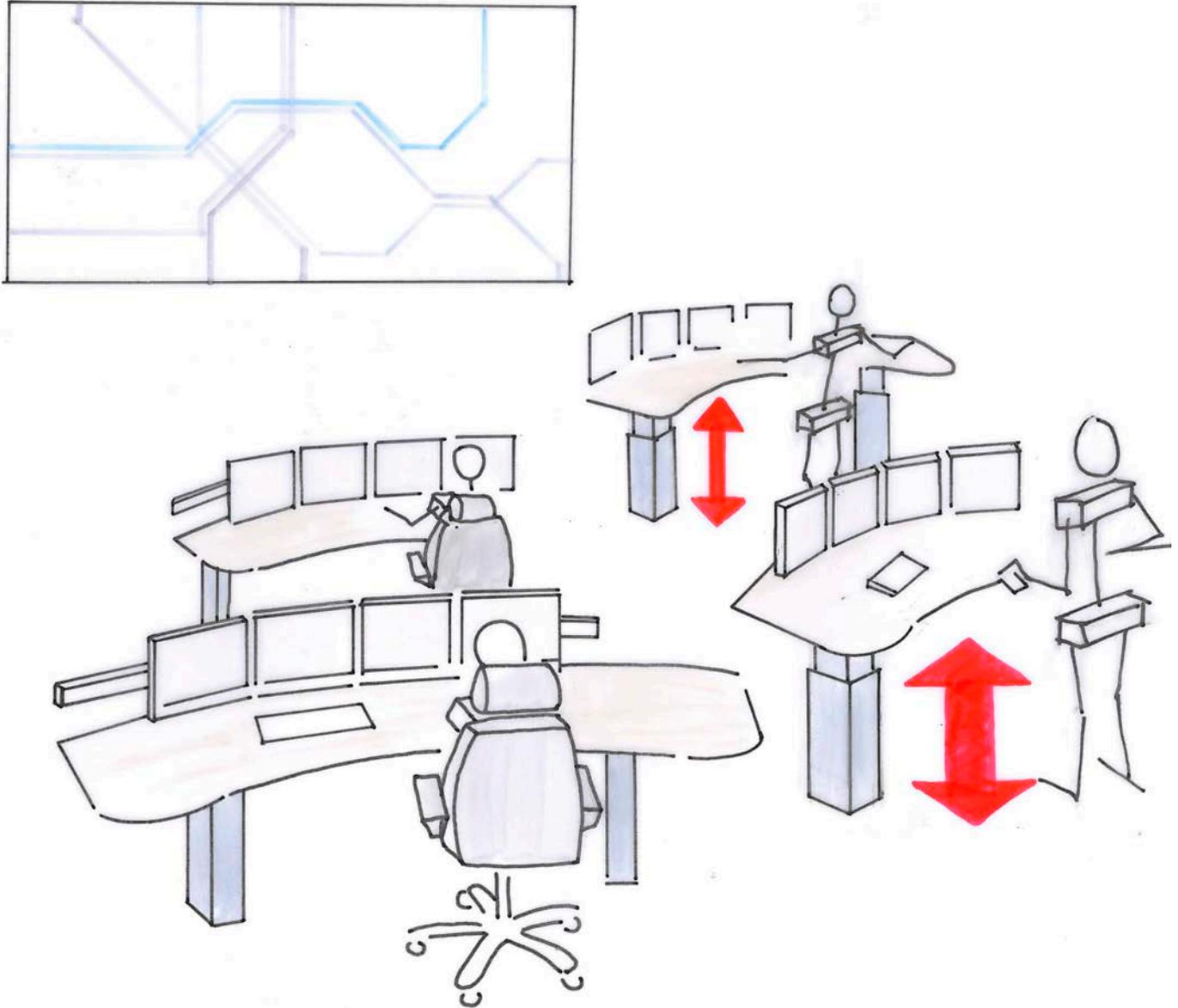
- MultiControl II duo
- MultiControl II quadro
- I/O - Interface
- Compact-e-3-EU

Appendix

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- Inquiry form
- Glossary
- Index

Areas of application



Advantages

- ✓ Fewer absences due to illness
- ✓ Mobilises the locomotor system
- ✓ Increases concentration
- ✓ Dynamic working helps prevent work fatigue



Further application examples

The wide range of RK Rose+Krieger GmbH lifting columns and electric cylinders means that the applications are virtually unlimited. The following is just a selection of the most commonly used systems.

We will be pleased to advise you regarding customised solutions.

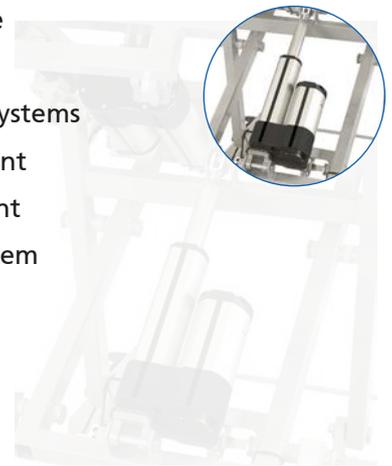
Workplace ergonomics

- ✓ Control rooms (power plant, police, fire service, radio, locks)
- ✓ Assembly workstations
- ✓ Laboratory workstations
- ✓ Control cabinet installation
- ✓ RK LEAN assembly workstation systems
- ✓ Office workstations
- ✓ Ergonomic ship bridge design (DNV GL)



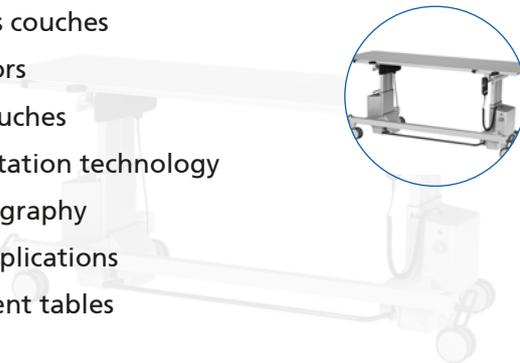
Industrial technology

- ✓ Table press machine
- ✓ Polishing machines
- ✓ Equipment carrier systems
- ✓ Scissor lift adjustment
- ✓ Conveyor adjustment
- ✓ Mobile transfer system
- ✓ Industrial scanner



Medical technology

- ✓ Wellness couches
- ✓ Incubators
- ✓ X-ray couches
- ✓ Rehabilitation technology
- ✓ Mammography
- ✓ Chair applications
- ✓ Instrument tables



Media technology

- ✓ Media screen
- ✓ TV height adjustment
- ✓ Presentation technology
- ✓ Projector adjustment
- ✓ Information board
- ✓ Lectern



Our Multilift II systems

The perfect lifting column for every application



Assembly workstations for the manufacture of electronic components

- ✓ Multilift II ESD – discharging voltages via the lifting column

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Assembly workstations for industry

- ✓ Multilift II impact – with integrated damping system

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Overhead applications without external securing

- ✓ Multilift II safety – with integrated drop protection

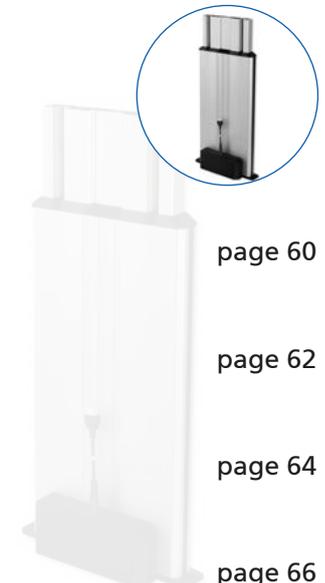
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Ergonomics in the clean room

- ✓ Multilift II clean – for use in clean room areas

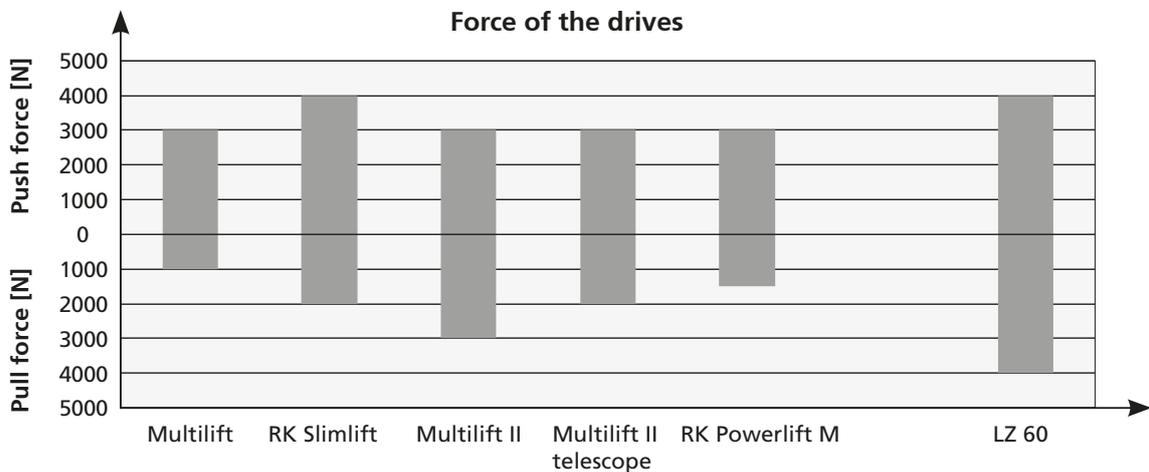
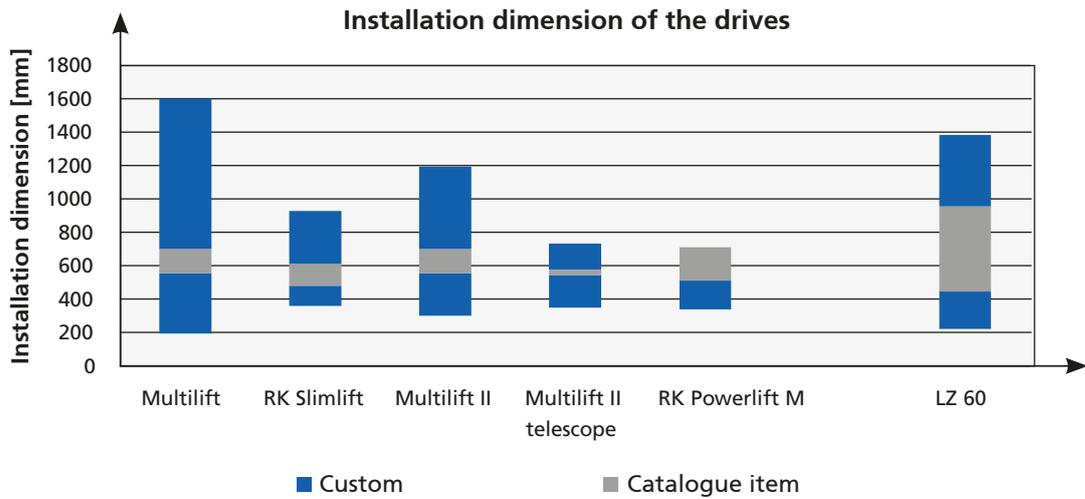
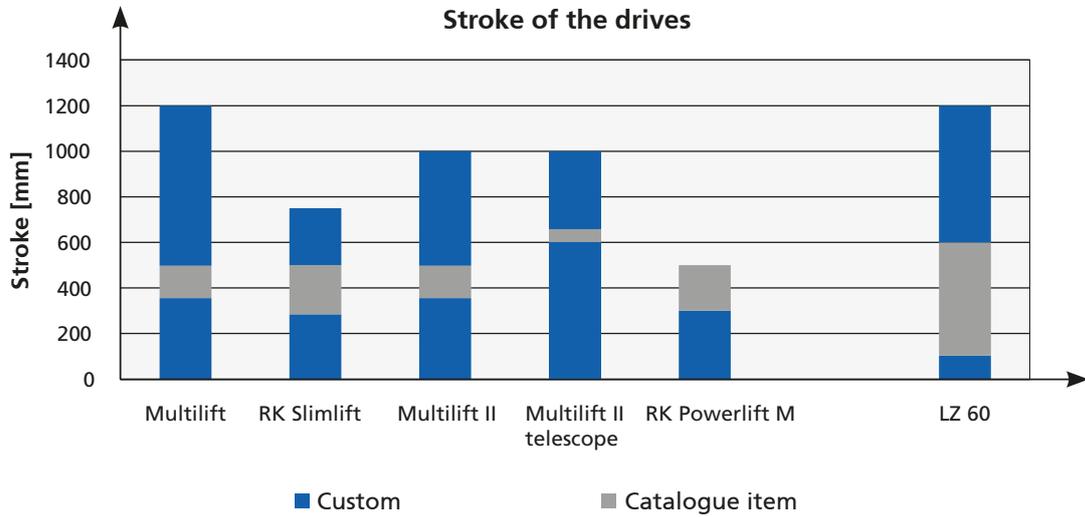
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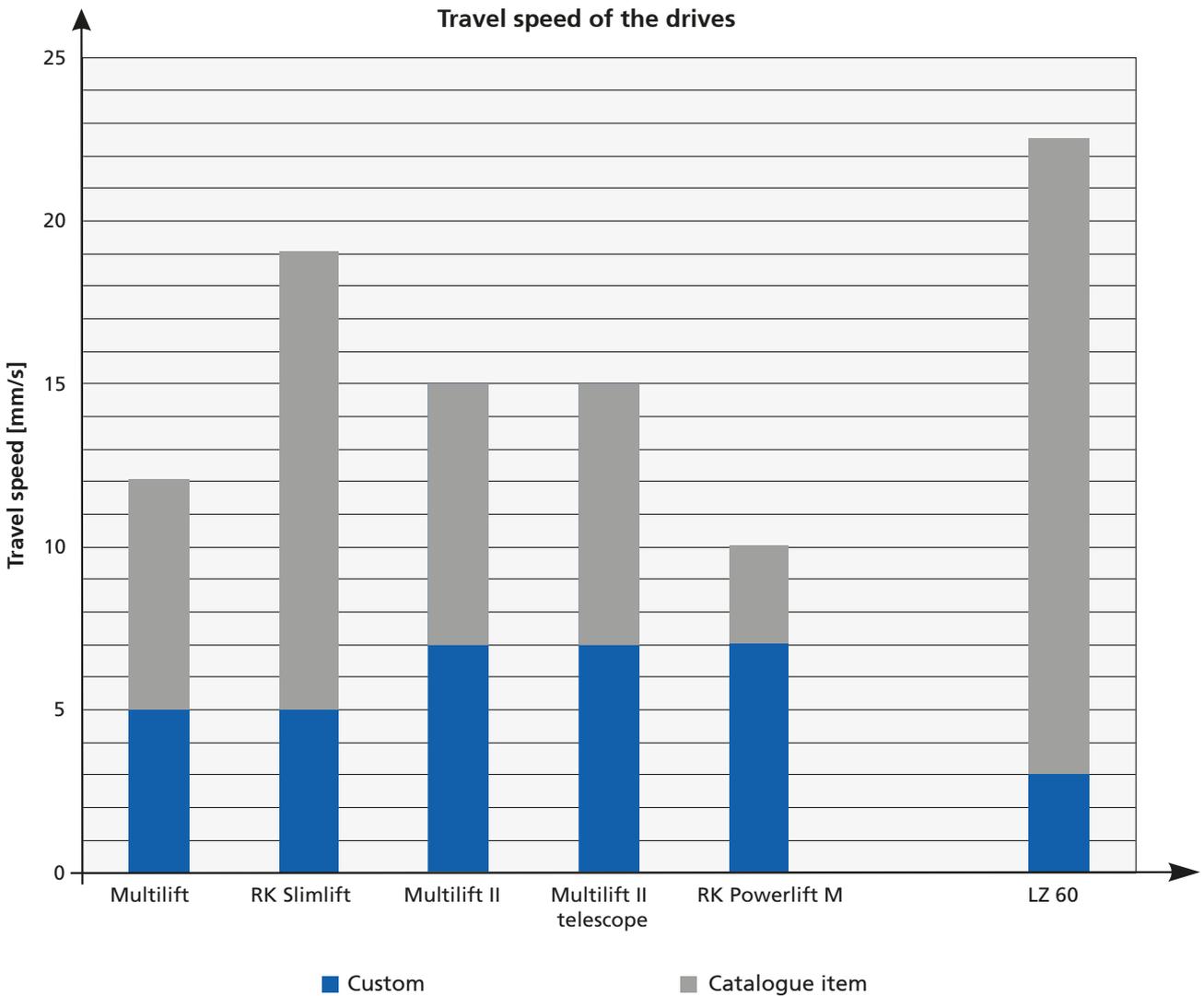
Product selection

The comparative diagrams will enable you to select a product based on various criteria. However, special versions (e.g. longer stroke, greater lifting force, higher travel speed etc.) are also available on request.

The specifications of the catalogue items (grey) refer to the standard version. The custom specifications (blue) apply to drive versions already implemented.



Lifting columns and electric cylinders

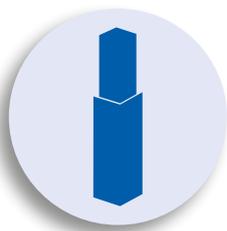


The RK linear circle



Features:

- ✓ Fully integrated technology / maintenance-free
- ✓ Self-locking, even under max. load
- ✓ Withstands torsional and bending moments
- ✓ Clear anodised aluminium profile surface
- ✓ Special versions available on request



Lifting columns

from page 12

Electric cylinder

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Your application
takes
centre stage

Controls & Accessories

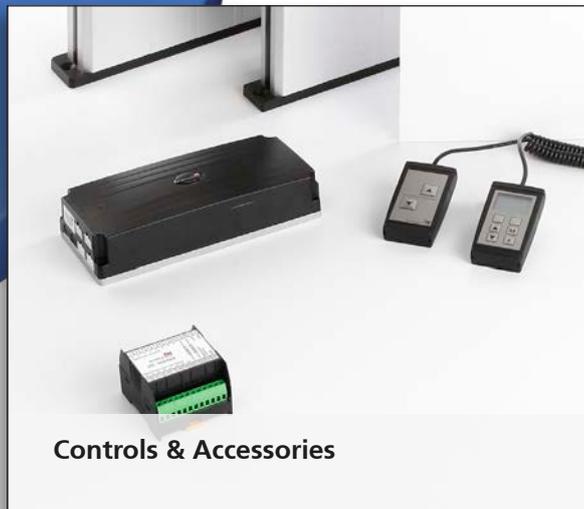
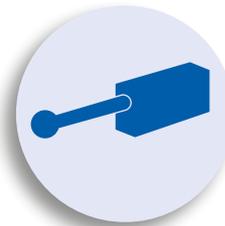
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Electric cylinder

Features:

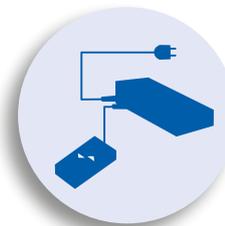
- ✓ Fully integrated technology / maintenance-free
- ✓ Self-locking, even under max. load
- ✓ Can be installed in any position
- ✓ Various stroke lengths and speeds
- ✓ Special versions available on request

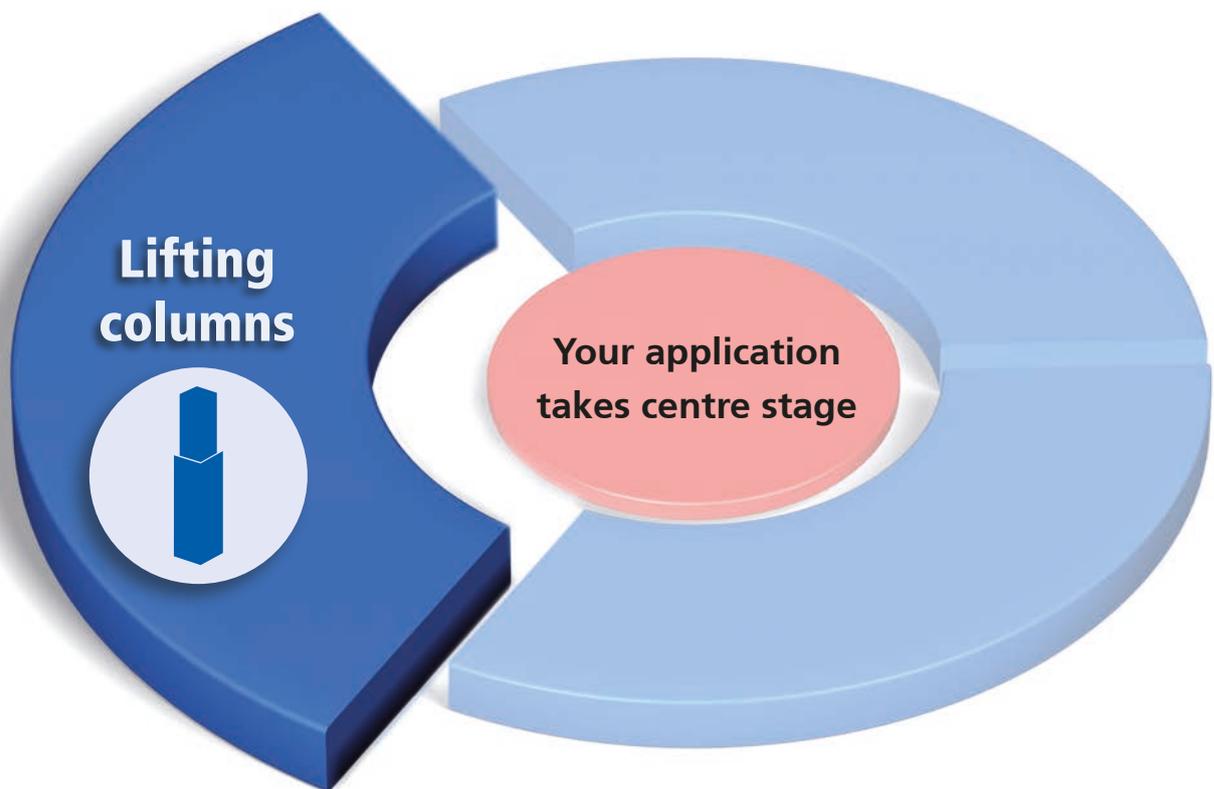


Controls & Accessories

Features:

- ✓ Connection for up to 32 drives (bus system)
- ✓ Memory function
- ✓ Visual status indication
- ✓ Standardised Modbus (RTU) protocol
- ✓ Guided start-up
- ✓ Automatic BUS search





Lifting columns

are the ideal drive elements when stable guidance is required in addition to motorised adjustment. Electrotechnical knowledge is not generally necessary for putting them into operation. Combinations forming multiple synchronisations open up an impressive range of applications.



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Multilift II telescope ESD Page 96

Lifting columns

Lifting columns - Product selection

Finding the right lifting column

Depending on technical and optical requirements, it takes just 2 steps to find the lifting column that matches your needs.

Step 1

Determine the type of lifting column.

Step 2

Choose the appropriate version.

Two-stage lifting columns (up to 500 mm travel)

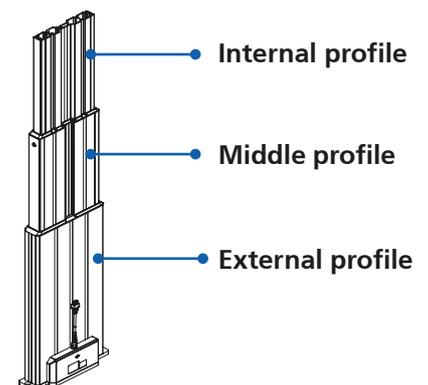
The data refer to the standard sizes

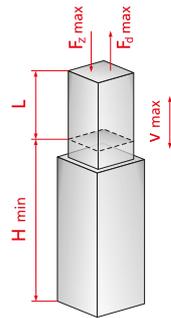


Features	RK Slimlift page 16	RK Slimlift EM page 26	Multilift page 34	Multilift with internal carriage page 46	Multilift II page 54
Max. travel	500 mm	500 mm	498 mm	498 mm	498 mm
Max. push force	4000 N	1000 N	3000 N	3000 N	3000 N
Max. pull force	2000 N	1000 N	1000 N	1000 N	3000 N
Max. travel speed	5-19 mm/s	15 mm/s	6-13 mm/s	6-13 mm/s	8-16 mm/s
Protection rating	4,5 A	3,5 A	4 A	4 A	4 A
Integrated limit switch	IP 30	IP 30	IP 20	IP 10	IP 20
Can be synchronised by means of control system	●	●	●	●	●
Integr. control					
Manual version optional with hand wheel / crank handle optional	●		●		
Features	✓ Rod-shaped design, extremely quiet operation	✓ Rod-shaped design, with external motor, quiet operation	✓ Quadruple bearings with POM slide bearing shells	✓ Special stroke lengths available on request ✓ Height adjustment of equipment and devices in the tightest of spaces	✓ Side fixing slot

RK Rose+Krieger lifting columns consist of two or three extruded and bright anodised aluminium profiles (inner, middle and outer) in various forms, depending on the version. The telescoping versions allow you to achieve optimum installation height/stroke length ratios. All the drives also feature excellent stability and a high stroke.

Up to four drives can be connected to one controller and operated synchronously. A BUS connection can be used to combine up to 8 controllers with each other.





L = Travel [mm]
 H = Installation dimension [mm]
 F_d = Push force [N]
 F_z = Pull force [N]
 v = Travel speed [mm/s]

Two-stage lifting columns (up to 500 mm travel)

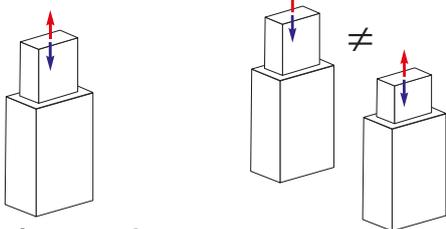
Multi-stage lifting columns (more than 500 mm travel)



Multilift II ESD page 60	Multilift II impact page 62	Multilift II safety page 64	Multilift II clean page 72	RK Powerlift M page 80	Multilift II telescope page 80	Multilift II telescope ESD page 82
498 mm	498 mm	498 mm	498 mm	500 mm	650 mm	650 mm
3000 N	3000 N	–	3000 N	3000 N	3000 N	3000 N
3000 N	3000 N	600 N	3000 N	1500 N	2000 N	2000 N
8-16 mm/s	8 mm/s	16 mm/s	8-16 mm/s	7-10 mm/s	8-16 mm/s	8-16 mm/s
4 A	4 A	2 A	4 A	4,5 A	4,5 A	4,5 A
IP 20	IP 20	IP 20	IP 20	IP 30	IP 30	IP 30
•	•	•	•	• •*	•	•
✓ Outer and inner profile electrically connected to each other	✓ Allows impact forces due to an internal damping system	✓ Allows over-head use due to integrated fall protection	✓ Suitability according to EN ISO 14644 -1 for clean rooms	✓ Enables high bending moments	✓ Optimum stroke/ installation height ratio ✓ DIN EN 527-1:2011 konform	✓ Outer and inner profile electrically connected to each other

*The Powerlift M with internal control is included in the catalogue of lifting columns and electric cylinders

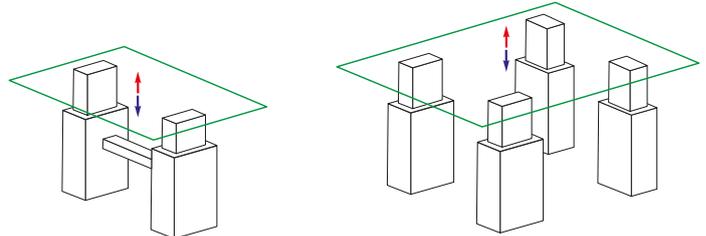
Single columns (can be moved individually)



Single operation/
Mono operation

Parallel operation

Synchronised columns (2–32 units) (can be moved synchronously)



Synchronised operation

Multiple column system

Two-stage lifting column – *RKSlimlift*

Rod-shaped design and extremely quiet operation

RKSlimlift



4 fixing threads

- ✓ Simple connection
- Axial cable output on request

Integrated drive

- ✓ Slim design

Fixed motor cable

- ✓ (2,5 m) with plug

Eclipse

Basic

Attractive design

- ✓ Slender rod shape in the design versions Eclipse and Basic

Highlights / Features:

- Excellent installation height/ stroke length ratio
- Self-locking, even at max. load
- Fixing slots in external profile

Options:

- Version with manual drive via crank handle
- Further stroke lengths available on request
- Quadro control enables control of up to 32 columns synchron

Table of contents – *RK Slimlift*

<p>Versions</p>	<p>Lifting column</p> <ul style="list-style-type: none"> ■ <i>RK Slimlift</i> Page 18
<p>Accessories</p>	<p>Fixing</p> <ul style="list-style-type: none"> ■ Foot..... Page 22 ■ Square nut Page 23 ■ Profile adaptor Page 23

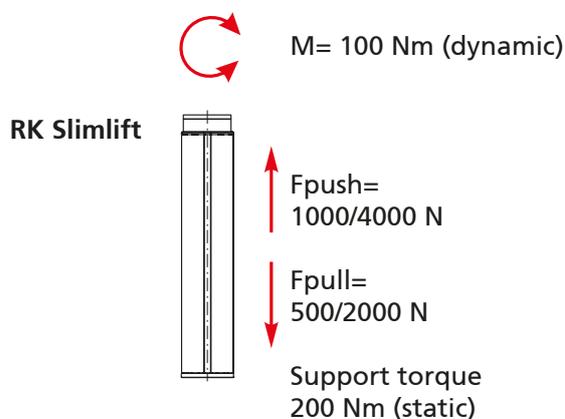
General information / operating conditions

Type	RK Slimlift	Custom
Design	Rod-shaped lifting column	
Guide	POM slide bearings	
Installation position	Any position/suspended with drop protection provided by the customer	
Push force	4000 N or 1000 N	
Pull force	2000 N or 500 N	
Self-locking	yes	
Max. travel speed	5 mm/s or 19 mm/s	
Max. stroke	460 mm	750 mm
Installation dimension	610 mm	930 mm
Voltage	36 V DC	
Current output	3,5 A or 4,5 A	
Protection class	IP 30	
Ambient temperature	+5°C to +40°C	
Displacement during synchronous operation	0 to 4 mm	
Duty cycle (Operation mode S3)	At nominal load, 15% (max. 1.5 mins operating time, 8.5 mins rest time)	

Note:

All information refers to the standard sizes. All data of push/pull forces are referring to the individual lifting column, for combined applications a safety factor of up to 0,6 has to be considered.

Load data



Drive	Push force [N]	Travel speed [mm/s]	Number of assigned motor channels			
			1	2	3	4
RK Slimlift	1000	19	✓	✓	each 500 N	each 300 N
RK Slimlift	4000	5	✓	✓	each 3500 N	each 2000 N
			MultiControl II duo		MultiControl II quadro	

Note:

If more than 2 drives are to be operated synchronously at nominal load, BUS communication between two or more MultiControl II duo controllers is required.

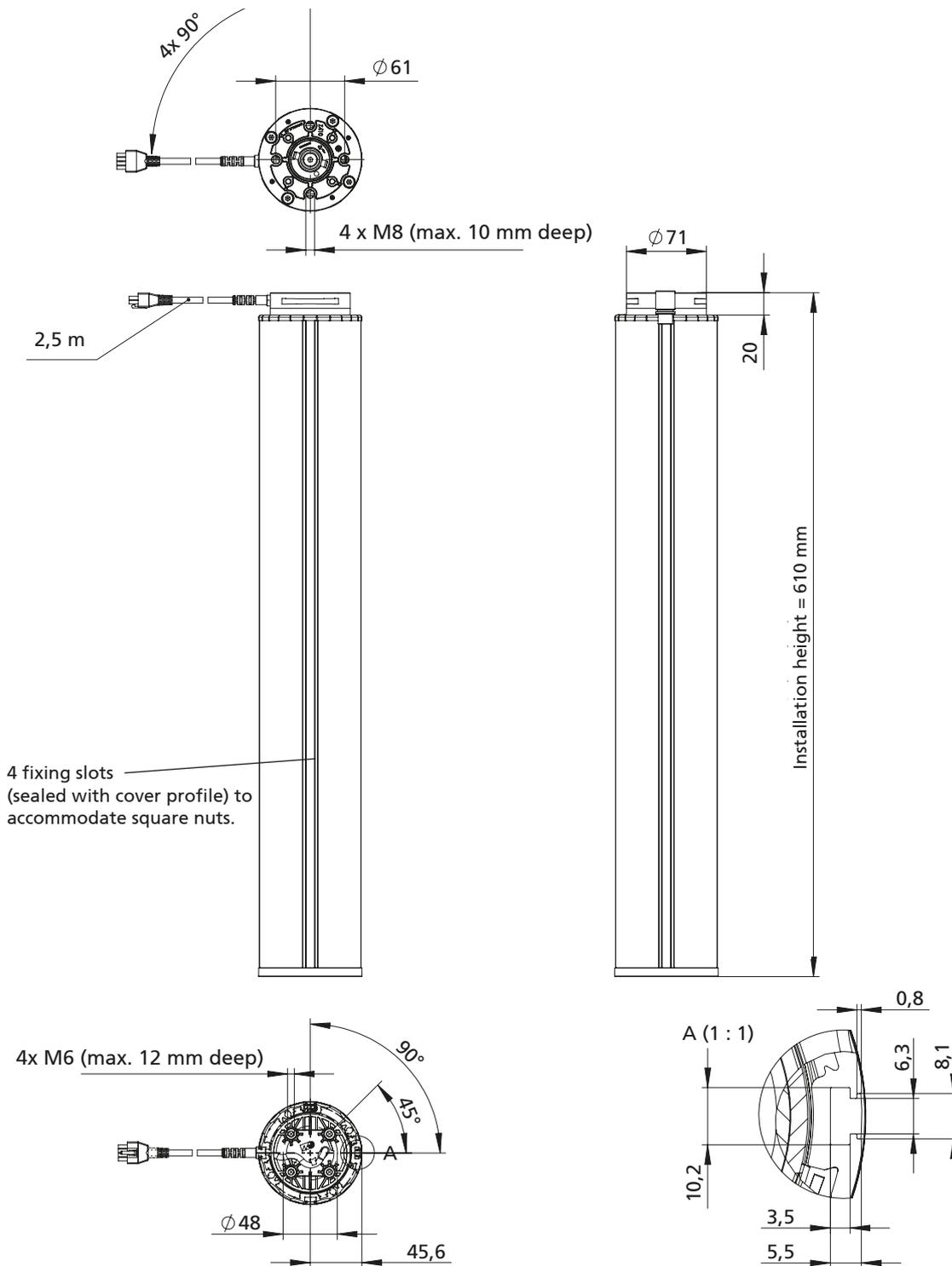
The necessary accessories can be found on page 146

The procedure for setting up BUS communication is described in detail in the operating manual.





RK Slimlift



RKSlimlift – Versions

RKSlimlift

The **RKSlimlift** with integrated drive technology delivers high forces and requires a minimum of space. The resultant installation height/stroke length ratio means that short travel times and forces of up to 4000 N can also be achieved. The maximum stroke of the standard catalogue model is 460 mm (customised 700 mm). The slimline design, made from bright anodised extruded aluminium profiles guided by preconfigured plastic slide elements, opens up a wide range of possible combinations for you.

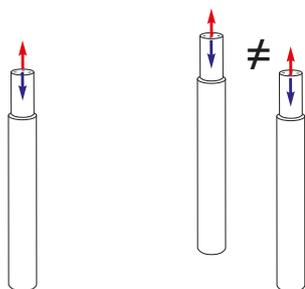


Special features:

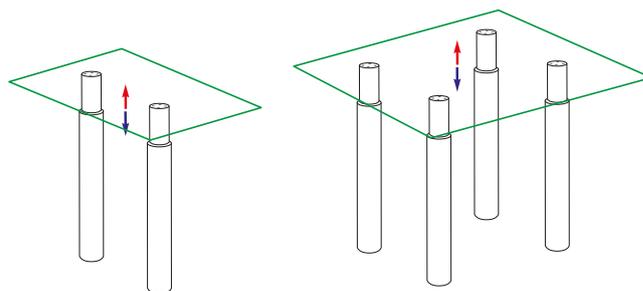
- Excellent installation height/stroke length ratio
- Attractive design
- Self-locking, even under max. load
- Fixing slots in external profile

Ideal areas of application:

- ✓ Workplace ergonomics
- ✓ Industrial technology
- ✓ Media technology



1-2 Slimlifts in single or parallel operation



2-4 Slimlifts in synchronous operation

Parallel operation

The premium version of the MultiControl II quadro has drive group management. Alongside synchronous and stand-alone operation, this also allows the following drive combinations to run parallel (1+1, 1+2, 2+1, 2+2).

Synchronous operation

Synchronous operation of two or more columns. In conjunction with the integrated sensors, the control (see page 130) ensures synchronisation, and thus constant alignment of all the columns in both directions of travel, even if subject to different loads. The synchronous operation tolerance depends on the lifting speed and is max. 1.5 mm for the 5 mm/s version and max. 3 mm for the 19 mm version. A memory function is also available.

Individual components:

Lifting column *RKSlimlift*

Code No.	Type	Push force [N]	Pull force [N]	Lifting speed [mm/s]	Total travel [mm]	Installation dimension [mm]	Weight [kg]
QSL32BA180460	<i>RKSlimlift</i> Eclipse	1000	500	19	460	610	6.0
QSL32BA380460	<i>RKSlimlift</i> Basic	1000	500	19	460	610	6.0
QSL10BD380285	<i>RKSlimlift</i> Basic	4000	2000	5	285	610	7.0

System components

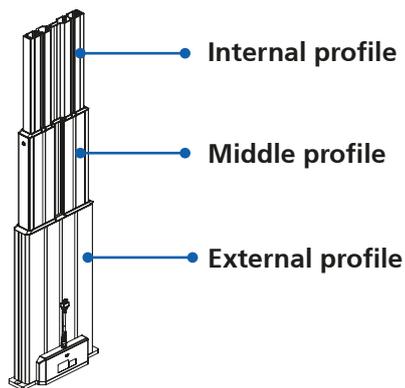
Code No.	Accessories	
Controls		
QST20H12AA000	MultiControl II duo - Basic	<i>RKSlimlift</i>
QST20H12AA022	MultiControl II duo - Premium	
QST20H14AA000	MultiControl II quadro - Basic	<i>RKSlimlift</i>
QST20H14AA022	MultiControl II quadro - Premium	
Hand switches		
QZB11G07AV041	Hand switch with 6 function keys and display – 1 m cable length	
QZB11G07AB041	Hand switch with 2 function keys – 1 m cable length	
QZD000074	Hand switch drawer for hand switch with 6 and 2 function keys	
IEC connector		
QZD070618	IEC cable (Europe version, earthed plug)	

Note:

Further accessories (hand switches, connecting cables etc.) can be found in the chapter „Controls and accessories“ starting on page 126

RK Slimlift – Accessories

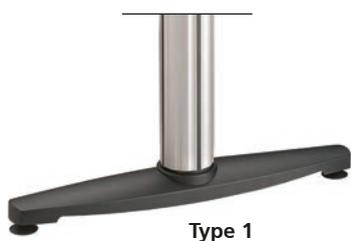
Foot



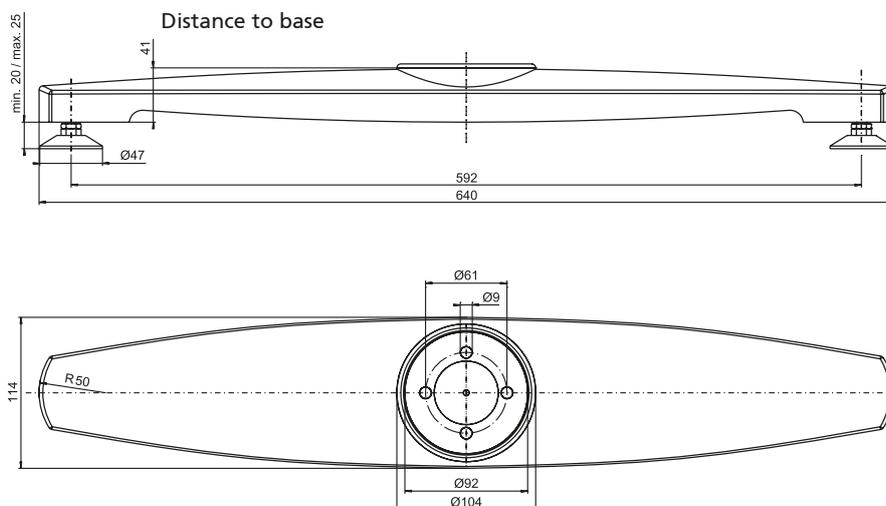
■ Both foot versions can be bolted to the external profile without the need for any further modifications

Material: GK-ALSi12/3.2583.02, black powder-coating

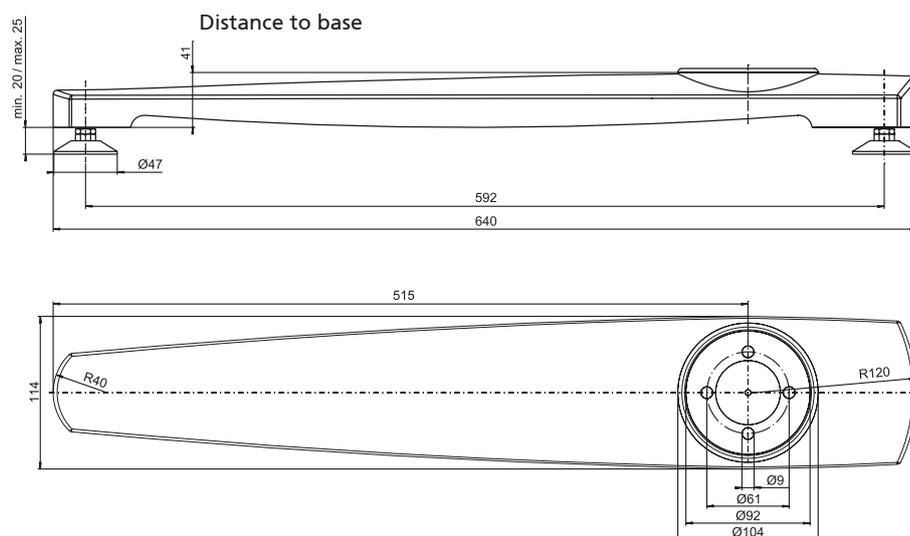
Max. load 1000 N



Type 1



Type 2



Code No.	Type	Max. load	RK Slimlift	
			Internal profile	External profile
QZD120341	1	1000 N		•
QZD120342	2	1000 N		•

Square nut

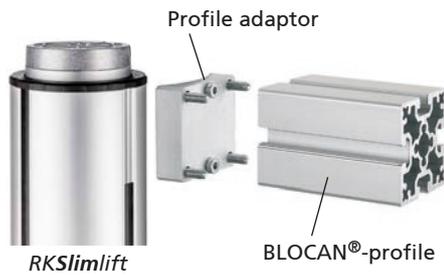


- For connecting accessories to the external profile **Material:** zinc plated steel

Code No.	lot sizes	Type
QZD0505971	10, 20, 30... pcs	Square nut M6, DIN 562

Profile adaptor

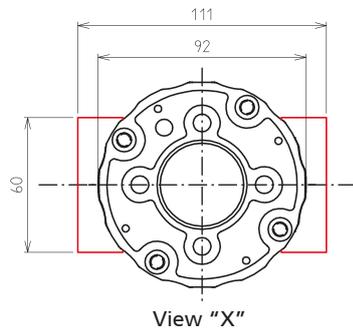
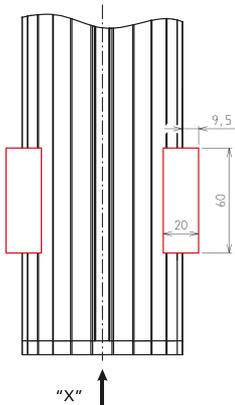
Connection example



- The profile adaptor allows several lifting columns to be together to form a stable combination. In this way, and with minimum effort, four columns can be connected to form lifting tables and operated via a synchronous control (MultiControl quadro). The aluminium profiles F-60/1, F-60-L, F-G 60, F-2G 60 from the BLOCAN® Profile Assembly System are suitable as struts for this purpose.

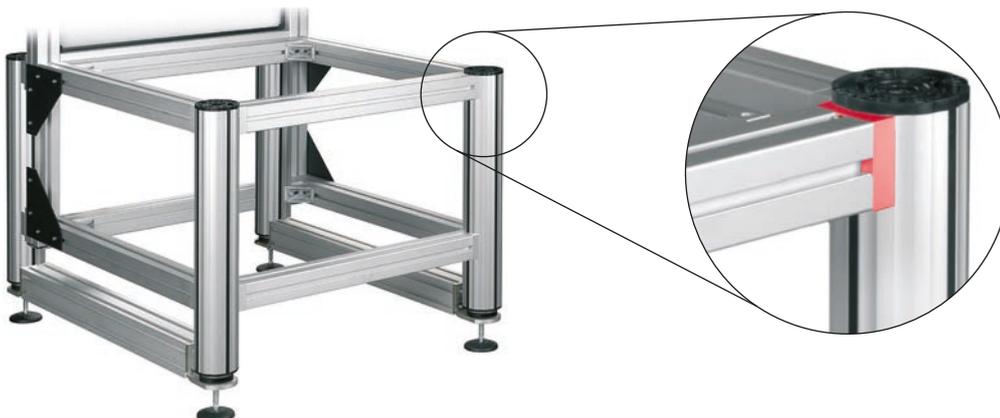
Material: AlMgSi, clear anodised zinc plated fastenings

Scope of delivery: one profile adaptor with fastenings for attachment to one end of the profile



Code No.	Type	RK Slimlift	
		Internal profile	External profile
QZD120256	Complete profile adaptor		●

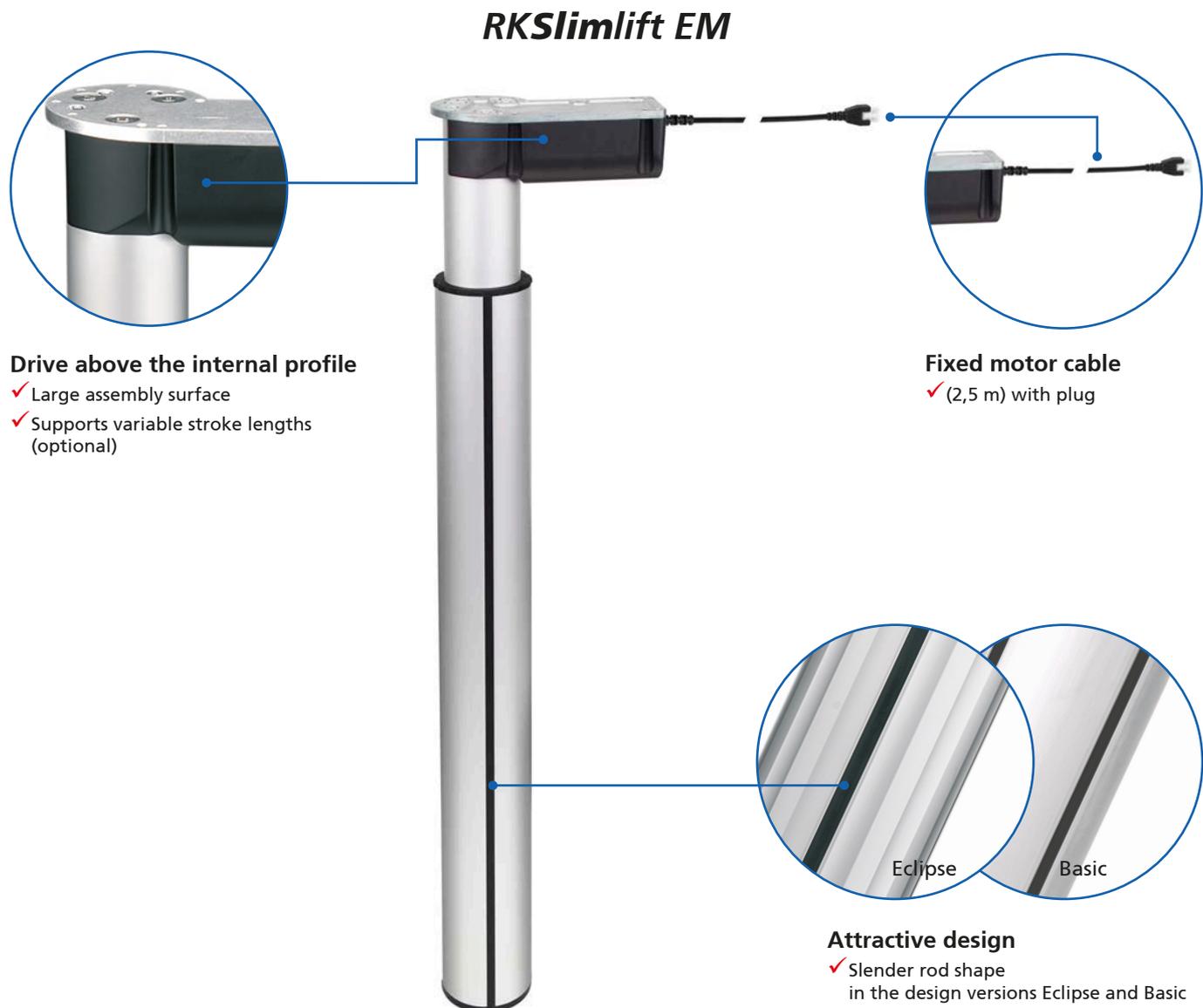
Application example:





Two-stage lifting column – *RKSlimlift EM*

Rod-shaped design and extremely quiet operation



Highlights / Features:

- Excellent installation height/stroke length ratio
- Self-locking, even at max. load
- Fixing slots in external profile

Optionen:

- Version with manual drive via crank handle
- Further stroke lengths available on request
- Quadro control enables control of up to 32 columns synchron

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RK Slimlift EM – Technical data

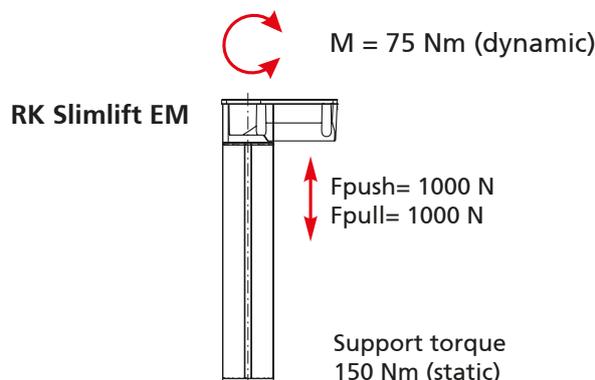
General information / operating conditions

Type	RK Slimlift EM	Custom
Design	Rod-shaped lifting column	
Guide	POM slide bearings	
Installation position	Any position/suspended with drop protection provided by the customer	
Push force	1000 N	
Pull force	1000 N	
Self-locking	yes	
Max. travel speed	15 mm/s	
Max. stroke	500 mm	750 mm
Installation dimension	Stroke + 180 mm	930 mm
Voltage	36 V DC	
Current output	3,5 A	
Protection class	IP 30	
Ambient temperature	+5°C to +40°C	
Displacement during synchronous operation	0 to 4 mm	
Duty cycle (Operation mode S3)	At nominal load, 15% (max. 1.5 mins operating time, 8.5 mins rest time)	

Note:

All information refers to the standard sizes. All data of push/pull forces are referring to the individual lifting column, for combined applications a safety factor of up to 0,6 has to be considered.

Load data



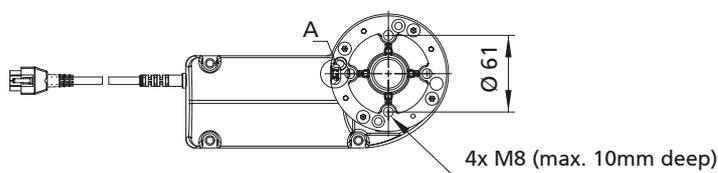
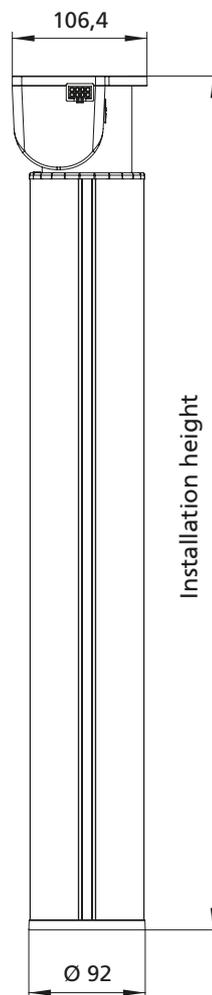
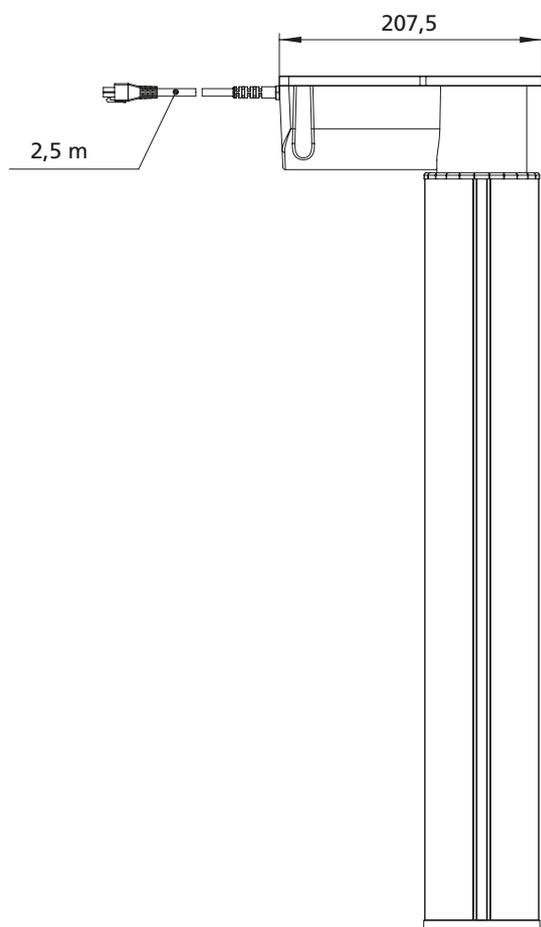
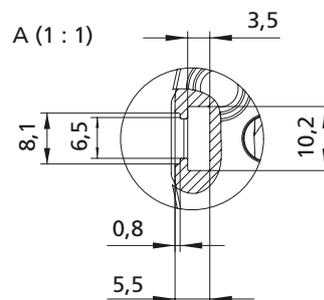
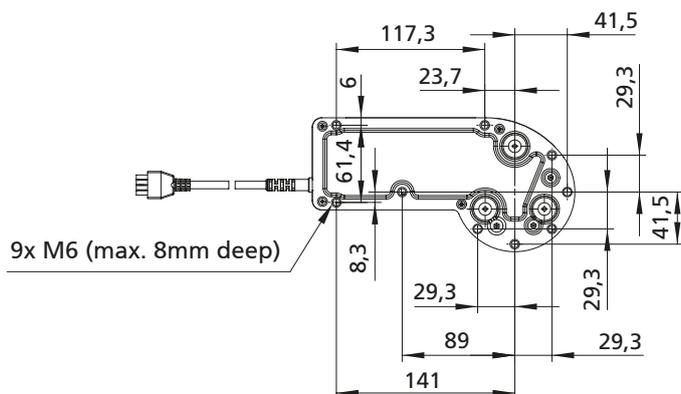
Drive	Push force [N]	Travel speed [mm/s]	Number of assigned motor channels			
			1	2	3	4
RK Slimlift EM	1000	15	✓	✓	each 900 N	each 600 N
			MultiControl II duo		MultiControl II quadro	

Note:

If more than 2 drives are to be operated synchronously at nominal load, BUS communication between two or more MultiControl II duo controllers is required. The necessary accessories can be found on page 146. The procedure for setting up BUS communication is described in detail in the operating manual.



RK Slimlift EM



RK Slimlift EM – Versions

RK Slimlift EM

Based on the tried-and-tested **RK Slimlift** lifting column a further version has been developed. On the **RK Slimlift EM** the motor/gear unit is installed above the inner profile and is used simultaneously as a mounting surface for table frames screwed in place from above or table tops screwed in place from below, for instance. With a compressive force of 1000 N the **RK Slimlift EM** achieves 15 mm/s and absorbs side torques of an impressive 150 Nm. The standard installation dimension is 610 mm, with a stroke of up to 500 mm (Custom 750 mm) being possible.

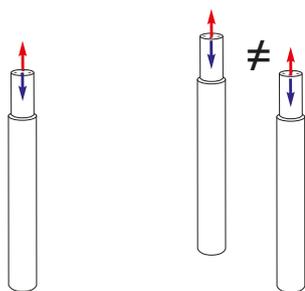


Special features:

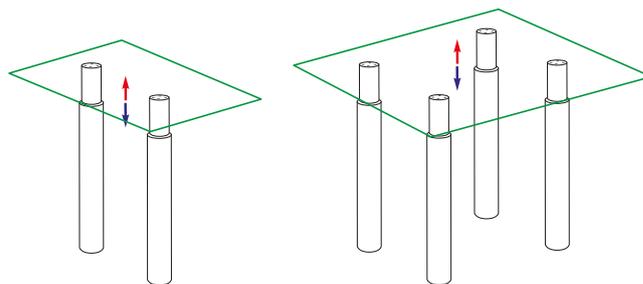
- Excellent installation height/stroke length ratio
- Attractive design
- Self-locking, even under max. load
- Fixing slots in external profile

Ideal areas of application:

- ✓ Workplace ergonomics
- ✓ Industrial technology
- ✓ Media technology



1-2 Slimlifts in single or parallel operation



2-4 Slimlifts in synchronous operation

Parallel operation

The premium version of the MultiControl II quadro has drive group management. Alongside synchronous and stand-alone operation, this also allows the following drive combinations to run parallel (1+1, 1+2, 2+1, 2+2).

Synchronous operation

Synchronous operation of two or more columns. In conjunction with the integrated sensors, the control (see page 130) ensures synchronisation, and thus constant alignment of all the columns in both directions of travel, even if subject to different loads. The synchronous operation tolerance depends on the lifting speed and is max. 1.5 mm for the 8 mm/s version. A memory function is also available.

Individual components:

Lifting column *RKSlimlift EM*

Code No.	Type	Push force [N]	Pull force [N]	Lifting speed [mm/s]	Total travel [mm]	Installation dimension [mm]	Weight [kg]
QSL25BA290300	<i>RKSlimlift EM</i> Basic	1000	1000	15	300	480	~4.5
QSL25BA190300	<i>RKSlimlift EM</i> Eclipse	1000	1000	15	300	480	~4.5
QSL25BA290400	<i>RKSlimlift EM</i> Basic	1000	1000	15	400	580	~5.3
QSL25BA190400	<i>RKSlimlift EM</i> Eclipse	1000	1000	15	400	580	~5.3
QSL25BA290430	<i>RKSlimlift EM</i> Basic	1000	1000	15	430	610	~5.5
QSL25BA190430	<i>RKSlimlift EM</i> Eclipse	1000	1000	15	430	610	~5.5
QSL25BA290500	<i>RKSlimlift EM</i> Basic	1000	1000	15	500	680	~6.0
QSL25BA190500	<i>RKSlimlift EM</i> Eclipse	1000	1000	15	500	680	~6.0

System components

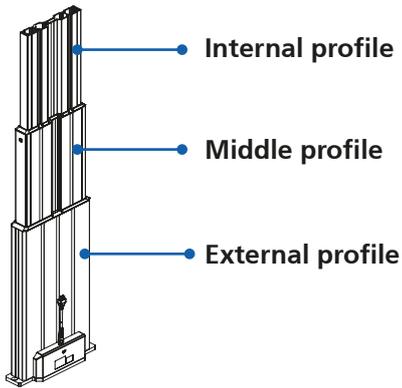
Code No.	Accessories	
Controls		
QST20H12AA000	MultiControl II duo - Basic	<i>RKSlimlift EM</i>
QST20H12AA022	MultiControl II duo - Premium	
QST20H14AA000	MultiControl II quadro - Basic	<i>RKSlimlift EM</i>
QST20H14AA022	MultiControl II quadro - Premium	
Hand switches		
QZB11G07AV041	Hand switch with 6 function keys and display – 1 m cable length	
QZB11G07AB041	Hand switch with 2 function keys – 1 m cable length	
QZD000074	Hand switch drawer for hand switch with 6 and 2 function keys	
IEC connector		
QZD070618	IEC cable (Europe version, earthed plug)	

Note:

Further accessories (hand switches, connecting cables etc.) can be found in the chapter „Controls and accessories“ starting on page 130

RK Slimlift EM – Accessories

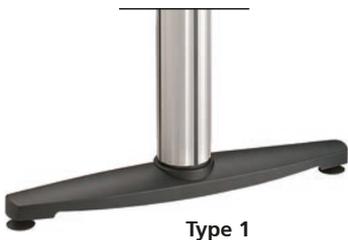
Foot



- Both foot versions can be bolted to the external profile without the need for any further modifications

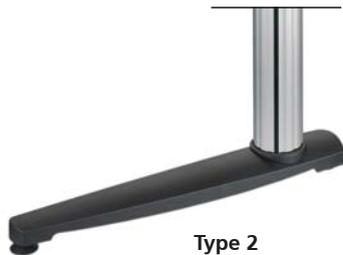
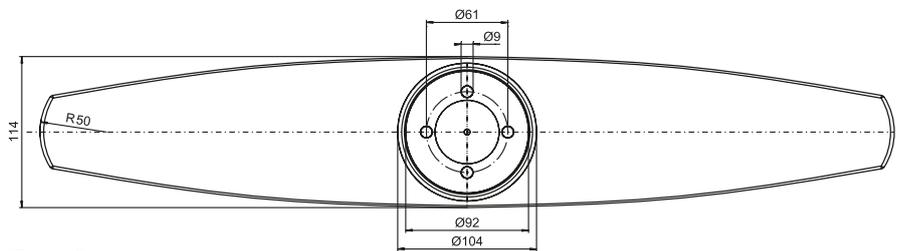
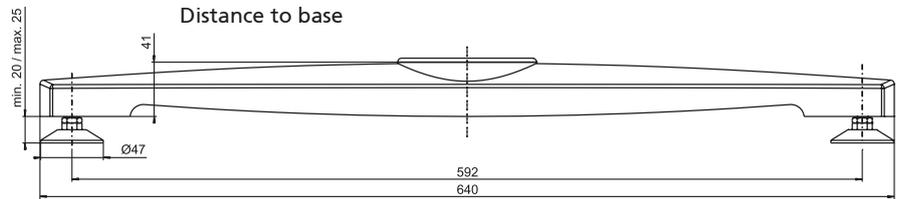
Material: GK-ALSi12/3.2583.02, black powder-coating

Max. load 1000 N



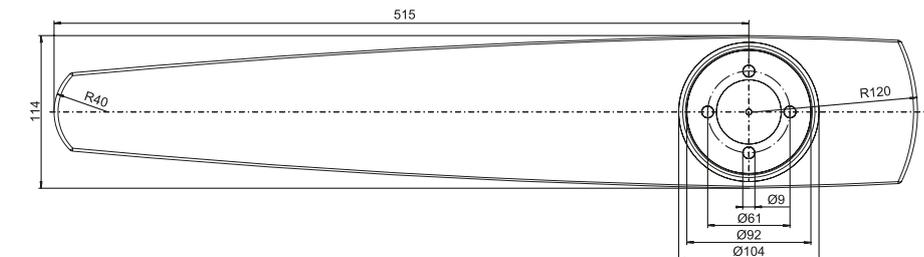
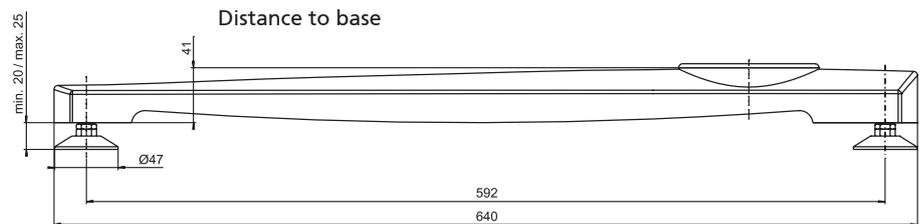
Type 1

Type 1



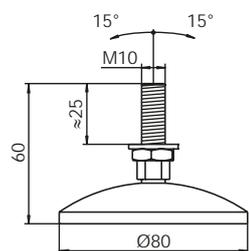
Type 2

Type 2



Code No.	Type	Max. load	RK Slimlift EM	
			Internal profile	External profile
QZD120341	1	1000 N		•
QZD120342	2	1000 N		•

Levelling foot (for Type EM)



- The foot can be bolted centrally into the base plate of the Pivot plate PA, black RK Slimlift EM.

Material: steel parts zinc plated

- Max. screw-in depth 25 mm



Code No.	Type	RK Slimlift EM	
		Internal profile	External profile
QZD120340	Levelling foot		•

Square nut



■ For connecting accessories to the external profile

Material: zinc plated steel

Code No.	lot sizes	Type
QZD0505971	10, 20, 30... pcs	Square nut M6, DIN 562

Profile adaptor

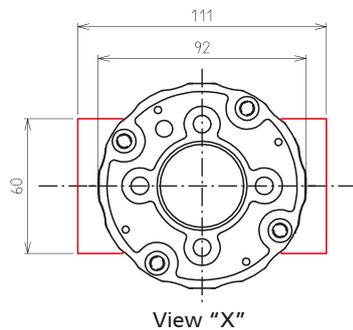
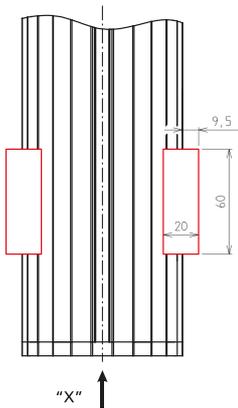
Connection example



■ The profile adaptor allows several lifting columns to be together to form a stable combination. In this way, and with minimum effort, four columns can be connected to form lifting tables and operated via a synchronous control (MultiControl II quadro). The aluminium profiles F-60/1, F-60-L, F-G 60, F-2G 60 from the BLOCAN® Profile Assembly System are suitable as struts for this purpose.

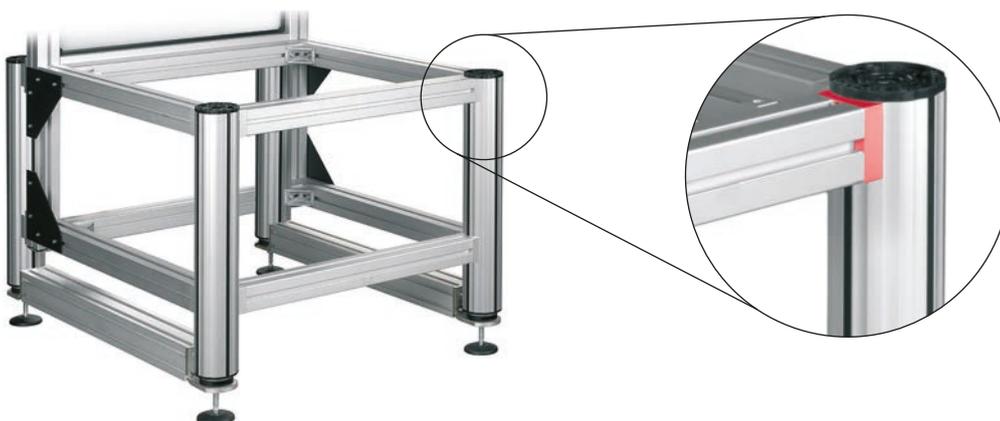
■ **Material:** AlMgSi, clear anodised Galvanised fastenings

Scope of delivery: one profile adaptor with fastenings for attachment to one end of the profile



Code No.	Type	RK Slimlift EM	
		Internal profile	External profile
QZD120256	Complete profile adaptor		●

Application example:





Slimline design and an unbeatable price/performance ratio



Highlights / Features:

- Quadruple bearings with POM slide bearing shells
- High-performance DC motor
- Integrated limit switches
- Self-locking, even under max. load

Options:

- Special stroke lengths
- Quadro control enables control of up to 32 columns synchron
- Tested to EN 60601-1 (3E)

Multilift - Table of contents

<p>Versions</p>	<p>Lifting column</p>	<ul style="list-style-type: none"> ■ Multilift Synchro Page 38
<p>Accessories</p>	<p>Fixing</p>	<ul style="list-style-type: none"> ■ Adaptor bar Page 53 ■ Assembly plate Page 42 ■ RK SyncFlex..... Page 43 ■ Foot..... Page 44

Multilift – Technical data

General information/operating conditions

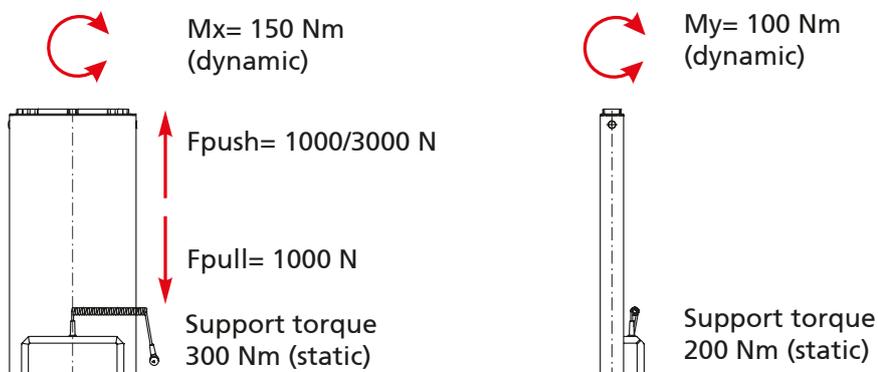
Type	Multilift	Custom
Design	Slim lifting column	
Guide	POM slide bearings	
Installation position	Any position / suspended with drop protection provided by the customer	
Push force*	3000 N or 1000 N	
Pull force*	1000 N (only in conjunction with factory-mounted base plate)	
Self-locking	Yes	
Max. travel speed	6 mm/s or 13 mm/s	
Max. stroke	498 mm	1200 mm
Installation dimension	Stroke + 206 mm (incl. base plate)	1600 mm
Voltage	24 V DC	
Current output	3 A or 4 A	
Protection class	IP 20	
Ambient temperature	+5°C to +40°C	
Displacement during synchronous operation	0 to 4 mm	
Duty cycle	At nominal load, 10% (max. 2 mins operating time, 18 mins rest time)	

*Note:

All information refers to the standard sizes. All data of push/pull forces are referring to the individual lifting column, for combined applications a safety factor of up to 0,6 has to be considered.

In medical applications, the maximum pull force of 500 N and, in the case of the version with a travel speed of 8 mm/s, the maximum push force of 2000 N must not be exceeded.

Load data



Drive	Push force [N]	Travel speed [mm/s]	Number of assigned motor channels			
			1	2	3	4
Multilift	1000	13	✓	✓	✓	je 750 N
Multilift	3000	6	✓	✓	each 2200 N	each 1500 N

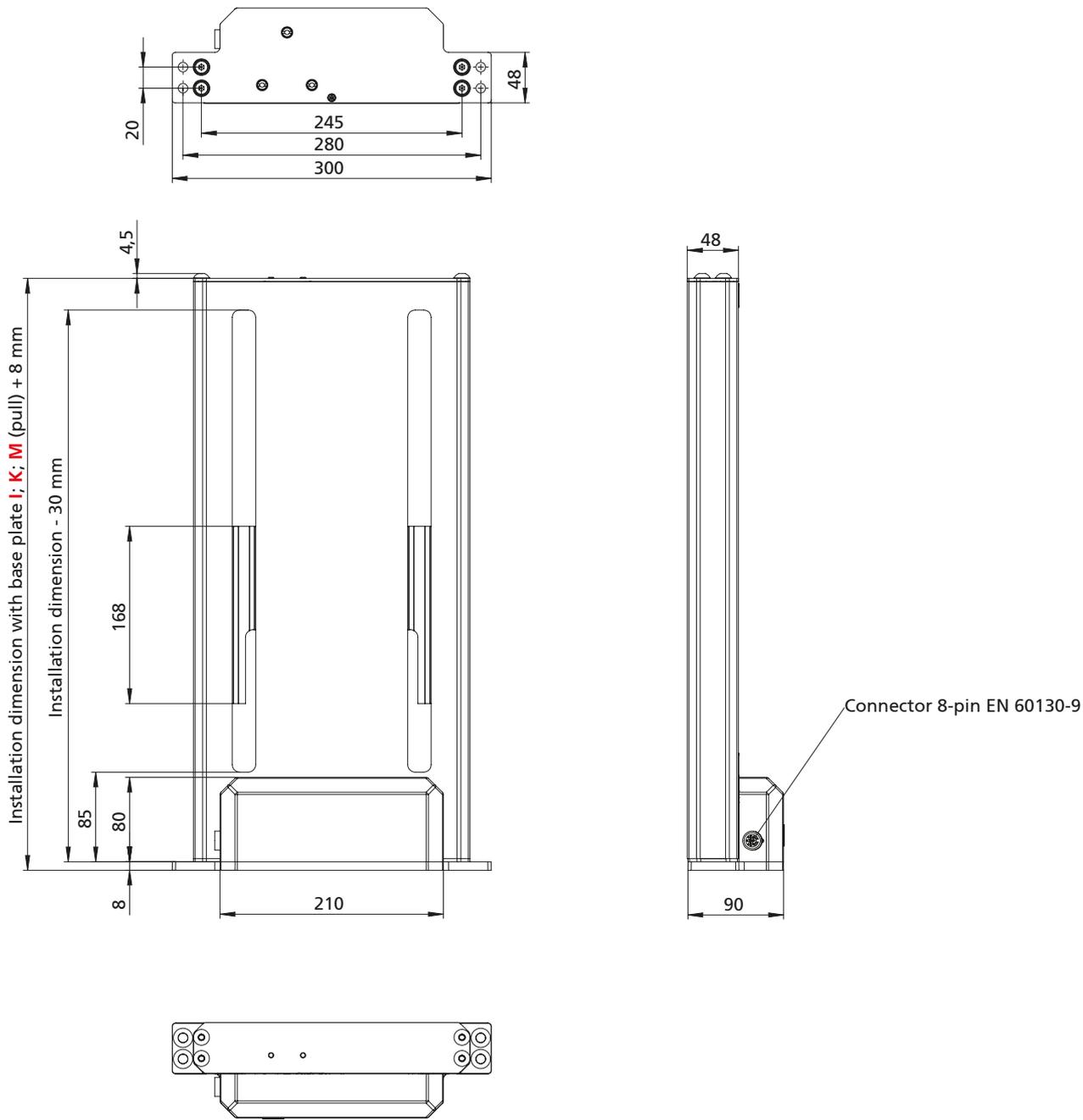


Note:

If more than 2 drives are to be operated synchronously at nominal load, BUS communication between two or more MultiControl II duo controllers is required.

The necessary accessories can be found on page 146.

The procedure for setting up BUS communication is described in detail in the operating manual.



Multilift - Versions

Multilift

The Multilift is used for continuously variable height adjustment of tables, assembly workstations and equipment etc. The lifting column can be operated individually or in synchronously as a pair. With lifting forces of up to 3000 N and a maximum stroke of 498 mm in the standard range, this lifting column is suitable for a wide range of applications. A version of the Multilift with milled slots in the inner profile is also available. They can be used, for instance, for connecting accessories and for stabilising table attachments.



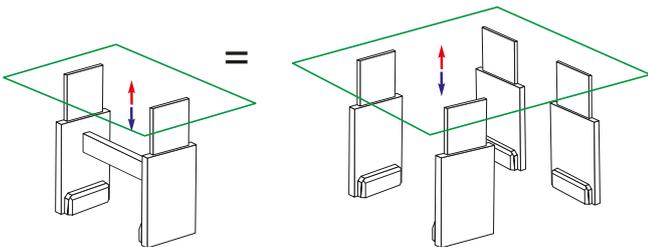
Special features:

- High-performance DC motor
- Integrated limit switches
- Self-locking, even under max. load
- Special stroke lengths available on request

Ideal areas of application:

- ✓ Workplace ergonomics
- ✓ Industrial technology
- ✓ Media technology

Multilift Synchro



2-4 Multilifts in synchronous operation

Synchronous operation

Synchronous operation of two or more columns. In conjunction with the integrated sensors, the control (see page 130) ensures synchronisation, and thus constant alignment of all the columns in both directions of travel, even if subject to different loads. The synchronous operation tolerance depends on the lifting speed and is max 2 mm on the 6 mm/s version and max 4 mm on the 13 mm/s version. A memory function is also available.



Universal Table Ironing Machine

Multilift Synchro



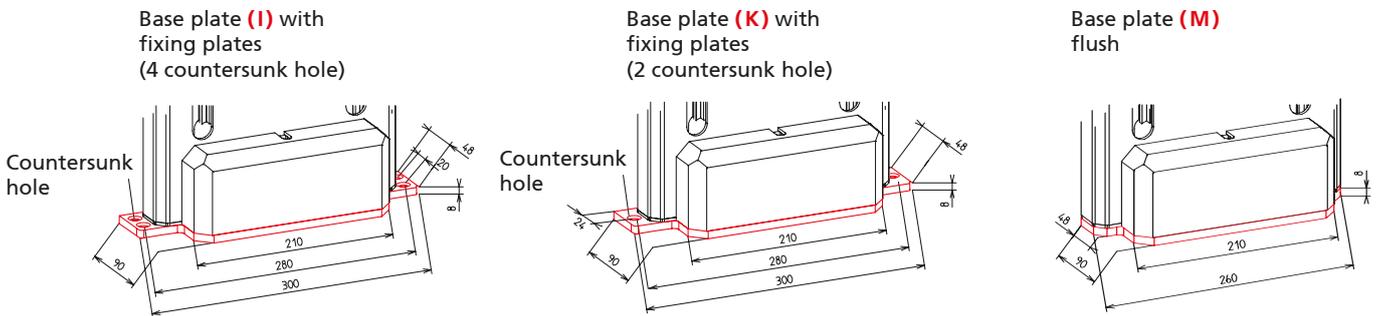
Note:
A separate adapter cable is required to use the Multilift on the MultiControl II.
This can be found on 137

Code No.	Type	max. push force [N]	max. pull force [N]	max. lifting speed [mm/s]	Total travel [mm]	Installation dimension incl. base plate [mm]	Weight [kg]
QAB13_G0_0355	Multilift 350	3000 / 2000 (med.)	1000 / 500 (med.)	6	355	558	10.1
QAB13_G0_0400	Multilift 400				400	603	11.0
QAB13_G0_0450	Multilift 450				452	658	11.8
QAB13_G0_0500	Multilift 500				498	703	12.5
QAB26_G0_0355	Multilift 350 s	1000 / 1000 (med.)	1000 / 500 (med.)	13	355	558	10.1
QAB26_G0_0400	Multilift 400 s				400	603	11.0
QAB26_G0_0450	Multilift 450 s				452	658	11.8
QAB26_G0_0500	Multilift 500 s				498	703	12.5

Version:
3 = B (with milled slot in the external profile)
4 = A (without milled slot in the external profile)

Base plate (For dimensions, see below):
I = with external fixing plates
 4 counterbores
K = with external fixing plates
 2 counterbores
M = base plate flush

Dimension base plate



System components

Code No.	Accessories	
Controls		
QST10H12AA000	MultiControl II duo - Basic	Multilift
QST10H14AA000	MultiControl II quadro - Basic	
Hand switches		
QZB11G07AV041	Hand switch with 6 function keys and display – 1 m cable length	
QZB11G07AB041	Hand switch with 2 function keys – 1 m cable length	
QZD000074	Hand switch drawer for hand switch with 6 and 2 function keys	
IEC connector		
QZD070618	IEC cable (Europe version, earthed plug)	

Code No.	Length [mm]	Adapter cable
QZD020722	200	Adapter cable Multilift I on MultiControl II 0,2 m
QZD020711	2500	Connecting cable Multilift I on MultiControl II 2,5 m



Note: Further accessories (hand switches, connecting cables etc.) can be found in the chapter „Controls and accessories“ starting on page 126

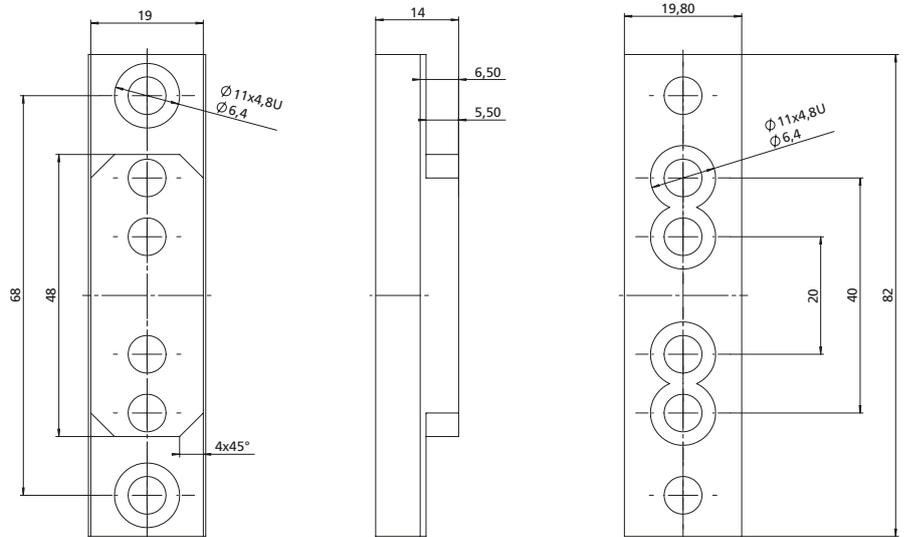
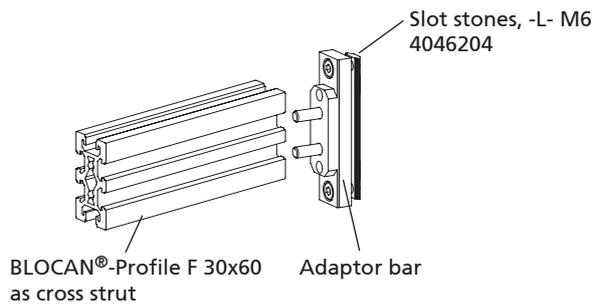
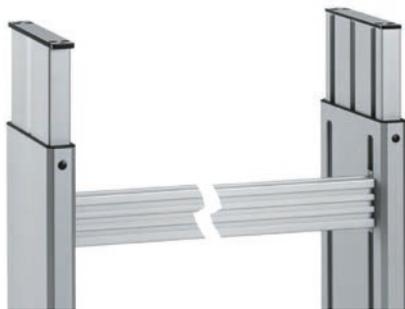
Multilift – Accessories

Adaptor bar

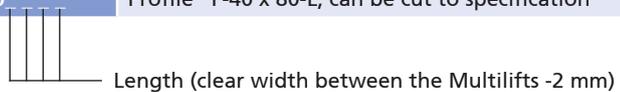
■ Cross struts from the BLOCAN® Profile Assembly System are used to increase the stability of two version B Multilifts (see page 34). The adaptor bar is suitable for F profile 40 x 80 L and F 30x60.

Material: AlMgSi 0.5
Fixing set, zinc plated

Scope of delivery:
2x adaptor bars, fixing set



Code No.	Version
QZD020020	Adaptor bar for BLOCAN® profiles
4285000	Profile* F-40 x 80-L, can be cut to specification



* For dimensions of the profiles, please refer to the catalogue BLOCAN PROFILE TECHNOLOGY



Multilift – Fixing

Multilift assembly plates / compression plate

Material: Die-cast, black powder-coated zinc plated fixing set

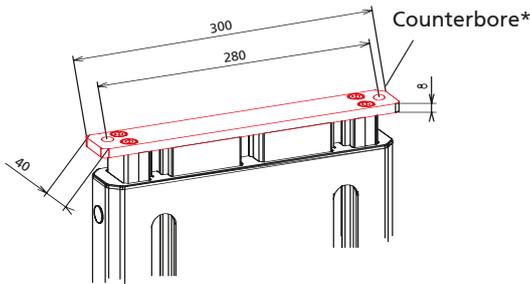
Scope of delivery: 1x assembly or thrust compression plate fixing set

Note:

The “top” assembly plates listed here and the thrust compression plate are only suitable for push loads.

For applications involving pull force and in synchronised groups, a base plate – factory-mounted on the Multilift – must be used.

You will find further information in the operating manual



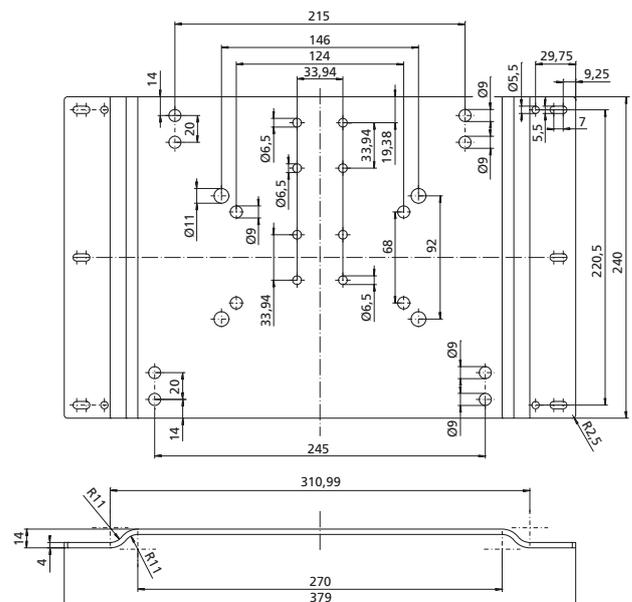
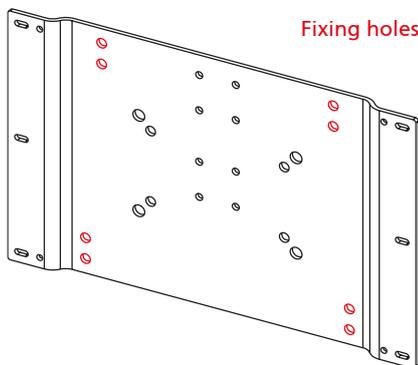
Top assembly plate *DIN 74 - F8

Code No.	Version	Multilift	
		Internal profile	External profile
QZD020549	Top assembly plate	●	

Fixing plate

■ This universal plate can be bolted directly into the screw channel of the lifting column using a fixing set. The numerous pre-drilled holes in the metal make it easy to attach table tops, brackets, etc.

Material: steel, black powder-coated (RAL 9005), zinc plated fastenings



Code No.	Version	Multilift	
		Internal profile	External profile
QZD100313	Fixing plate	●	
QZD120336	Fixing set, 4x M6 x 14, DIN 7984		

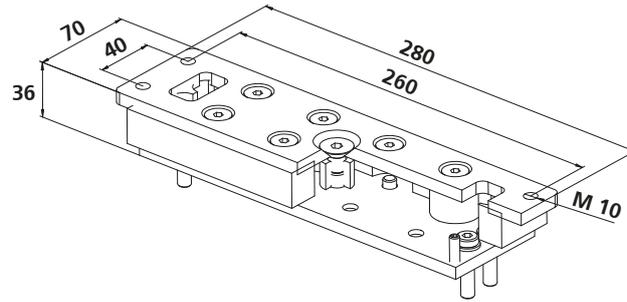
Multilift – Fixing
RK SyncFlex H

Scope of delivery:
Adjuster plate, incl. fixing material

Horizontal alignment

- To prevent locked-up stress in mechanically overdefined bearing systems (more than one fixed bearing) around the horizontal axis. With RK SyncFlex H defined loose bearings supplement the application.

- The horizontal compensation in the Z-axis enables the freedom of movement required when moving the lifting columns.



[mm]

Code No.	Type	Max. load	Multilift	
			Internal profile	External profile
QZD020471	Multilift	3000 N		●

RK SyncFlex V

Scope of delivery:
Adjuster plate, incl. fixing material

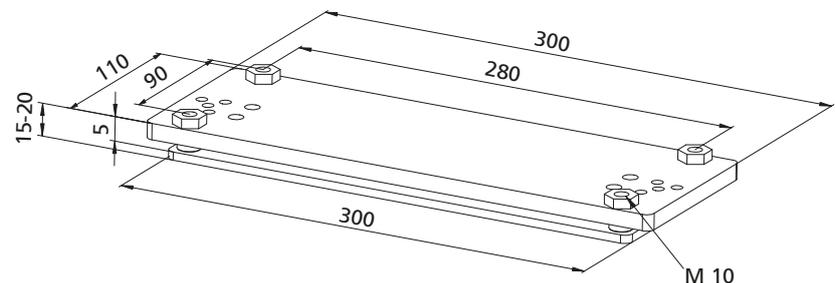
Option:
Optionally available with or without pressure plate (see table)

Vertical alignment

- If the lifting columns are not parallel, the distance between the two upper fixing points will change during the movement. However, a rigid connection keeps this distance constant, and this means that the lifting columns are subject to very strong forces.

RK SyncFlex V enables the compensation of unevenness in the mounting environment.

- The lifting columns can be aligned via the vertical adjustment around the X-Y axes.



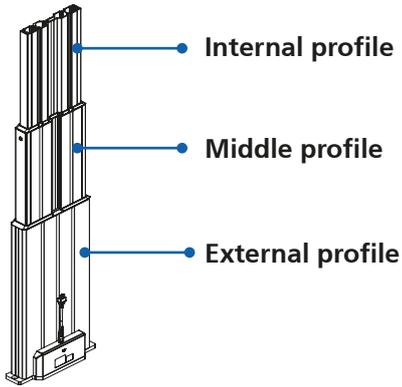
[mm]

Code No.	Type	Max. load	Multilift	
			Internal profile	External profile
Without pressure plate				
QZD020472	Multilift	3000 N	●*	●
With pressure plate				
QZD020462	Multilift	3000 N		

●* = in connection with the assembly plate (page 42)

Multilift – Accessories

Foot



- Different foot versions for the Multilift
- No modifications to the Multilift required

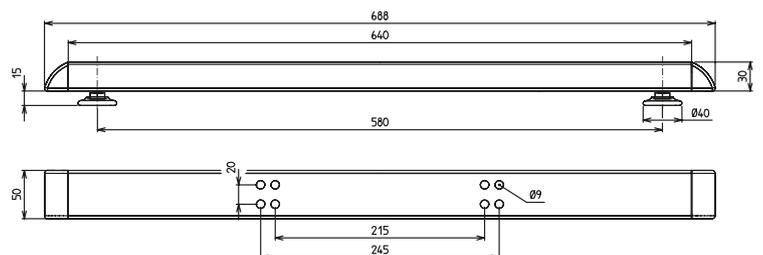
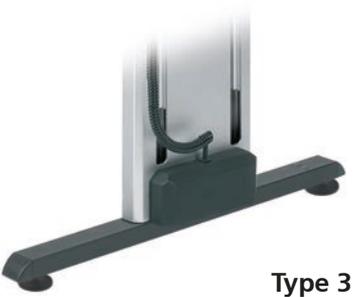
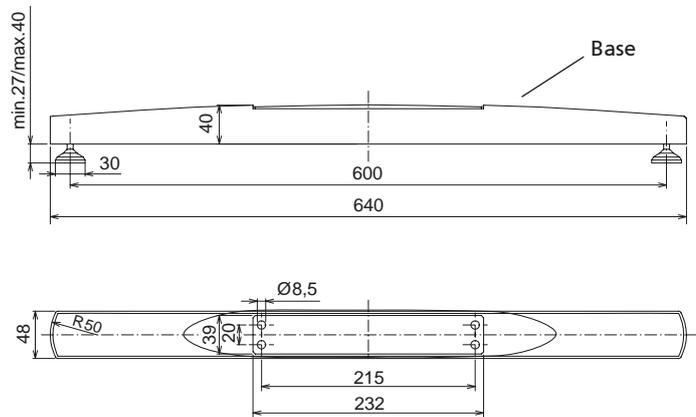
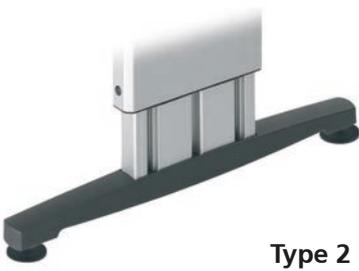
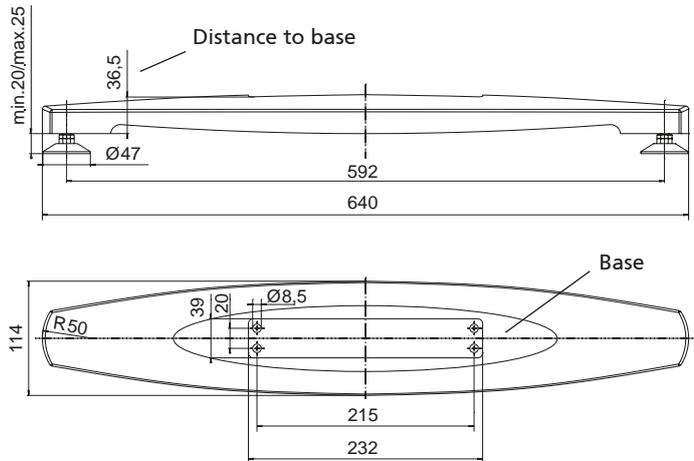
Material:

Type 1/2/5 GK-ALSi12/3.2583.02, black powder-coating

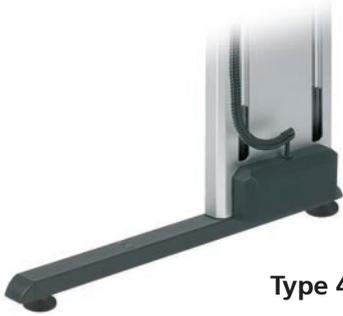
Type 3/4 steel tube, ends capped black powder-coating

Scope of delivery:

one foot with fixing set

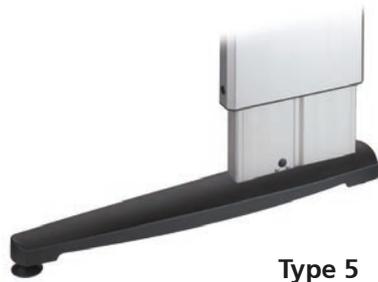
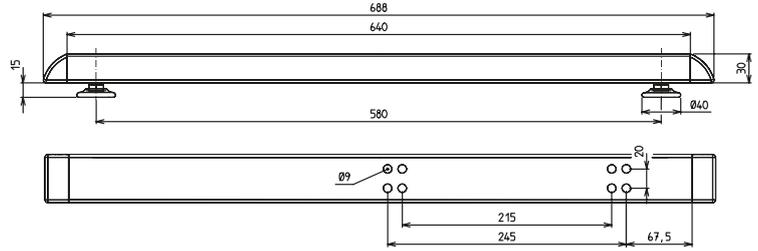


Multilift centrally mounted
(choice of internal or external
profile)

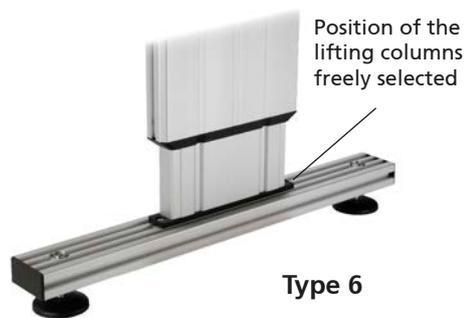
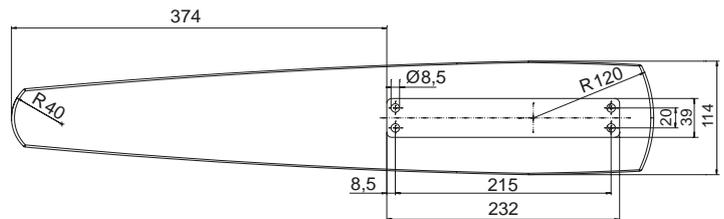
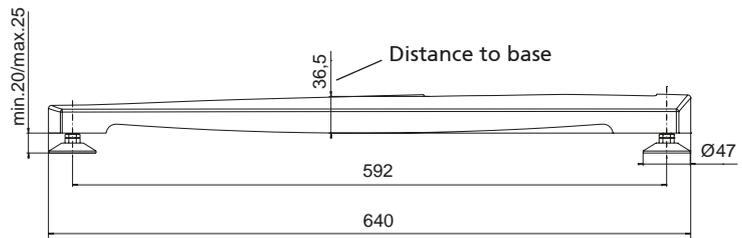


Type 4

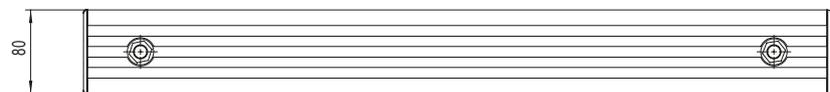
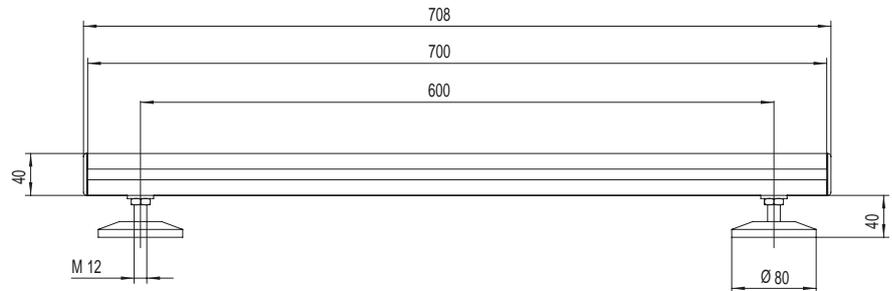
Multilift mounted off-centre
(choice of internal or external profile)



Type 5



Type 6

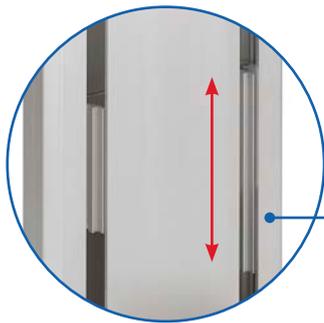


Code No.	Type	max. load	Multilift	
			Internal profile	External profile
QZD020252	1	1000 N	●	
QZD020253	2	1000 N	●	
QZD020254	3	1000 N	●	●
QZD020255	4	1000 N	●	●
QZD020343	5	1000 N	●	
QZD020256	6	3000 N	●	●

Multilift – with internal carriage



Slimline design and an unbeatable price/performance ratio



Longitudinal slots

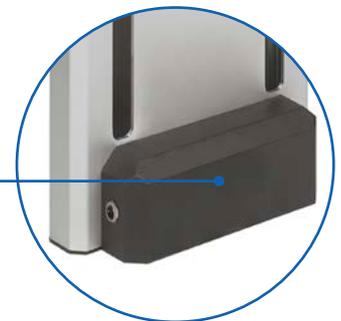
✓ Simple connection



Milled slot in the external profile (version B)

✓ This enables the bracing of two parallel Multilifts

with interior carriage



High-performance DC motor

Highlights / Features:

- Quadruple bearings with POM slide bearing shells
- High-performance DC motor
- Integrated limit switches
- Self-locking, even under max. load

Options:

- Special stroke lengths
- Quadro control enables control of up to 32 columns synchron
- Tested to EN 60601-1 (3E)

Multilift - Table of contents

<p>Versions</p>	<p>Lifting column</p>	<ul style="list-style-type: none"> ■ Multilift with internal carriage Synchro Page 48
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<p>Accessories</p>	<p>Fixing</p>	<ul style="list-style-type: none"> ■ Foot..... Page 52
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Multilift – Technical data – internal carriage

General information/operating conditions

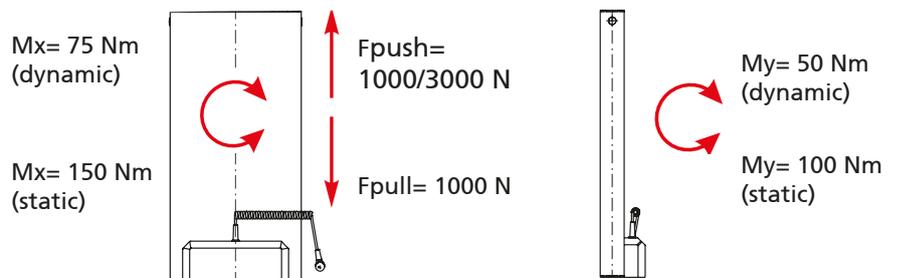
Type	Multilift with internal carriage	Custom
Design	Slim lifting column with internal carriage	
Guide	POM slide bearings	
Installation position	Any position / suspended with drop protection provided by the customer	
Push force*	3000 N or 1000 N	
Pull force*	1000 N (only in conjunction with factory-mounted base plate)	
Self-locking	Yes	
Max. travel speed	6 mm/s or 13 mm/s	
Max. stroke	498 mm	1200 mm
Installation dimension	Stroke + 210,5 mm (incl. base plate)	1600 mm
Voltage	24 V DC	
Current output	3 A or 4 A	
Protection class	IP 10	
Ambient temperature	+5°C to +40°C	
Displacement during synchronous operation	0 to 4 mm	
Duty cycle	At nominal load, 10% (max. 2 mins operating time, 18 mins rest time)	

*Note:

All information refers to the standard sizes. All data of push/pull forces are referring to the individual lifting column, for combined applications a safety factor of up to 0,6 has to be considered.

In medical applications, the maximum pull force of 500 N and, in the case of the version with a travel speed of 8 mm/s, the maximum push force of 2000 N must not be exceeded.

Load data with internal carriage



Drive	Push force [N]	Travel speed [mm/s]	Number of assigned motor channels			
			1	2	3	4
Multilift with internal carriage	1000	13	✓	✓	✓	each 750 N
Multilift with internal carriage	3000	6	✓	✓	each 2200 N	each 1500 N

MultiControl II duo MultiControl II quadro

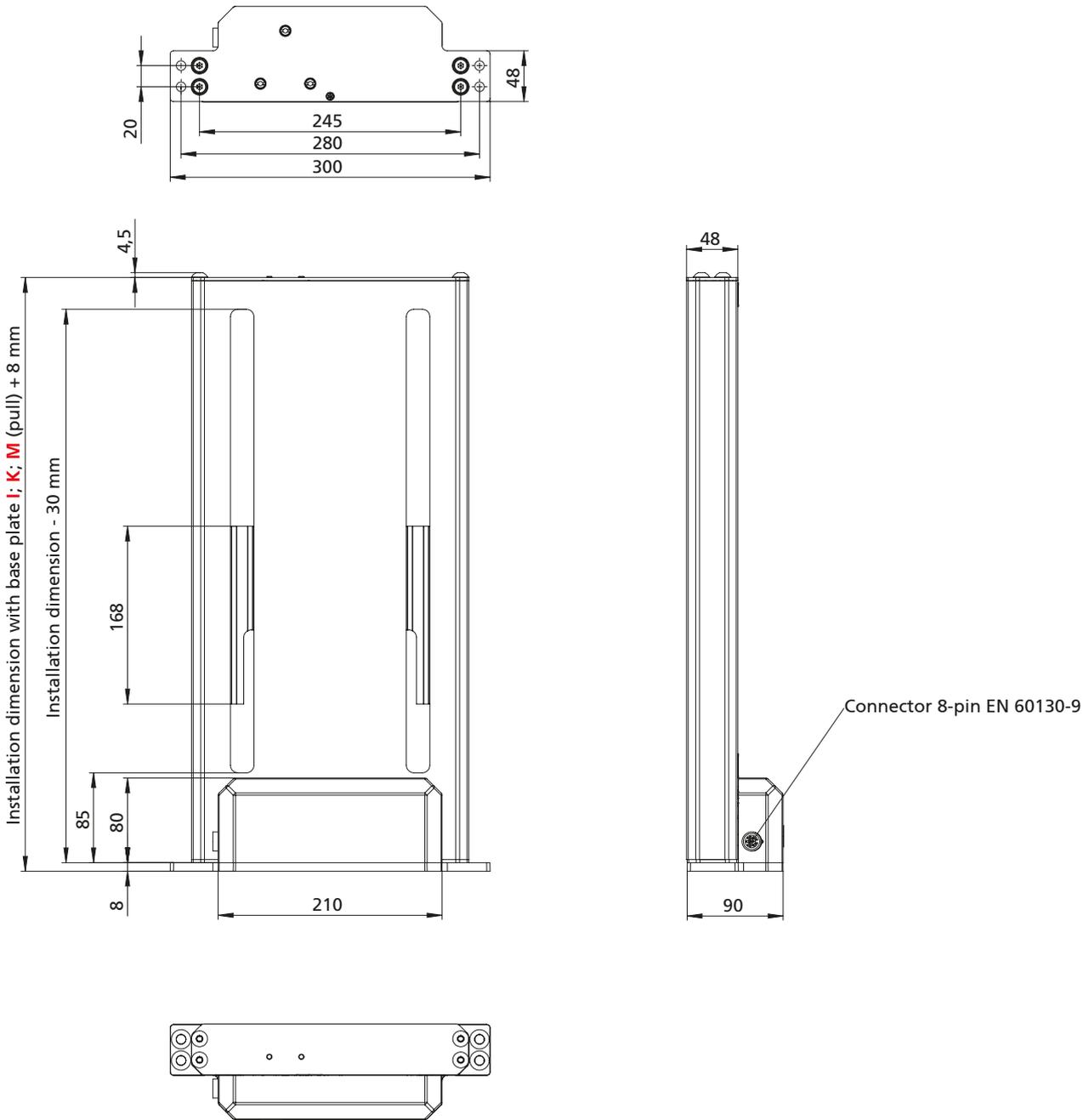


Note:

If more than 2 drives are to be operated synchronously at nominal load, BUS communication between two or more MultiControl II duo controllers is required.

The necessary accessories can be found on page 146

The procedure for setting up BUS communication is described in detail in the operating manual.



Multilift - Versions

Multilift with internal carriage

The Multilift with internal carriage is used for continuously variable adjustment of equipment, operating units and screens etc. Unlike the Multilift, no inner profile is extended from the lifting column but rather a carriage moves in the base body of the lifting column. Any type of equipment can be connected and positioned using the slots in the carriage. The lifting column can be operated individually or in parallel as a pair. With lifting forces of up to 3000 N and an installation dimension of 500 mm in the standard range, this lifting column is suitable for a wide range of applications. Special lengths are also available on request.



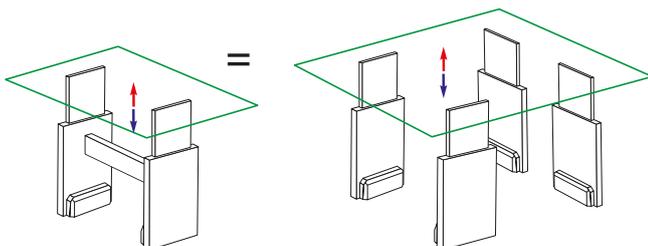
Special features:

- High-performance DC motor
- Integrated limit switches
- Self-locking, even under max. load
- Special stroke lengths available on request

Ideal areas of application:

- ✓ Workplace ergonomics
- ✓ Industrial technology
- ✓ Media technology

Multilift Synchro



2-4 Multilifts in synchronous operation

Synchronous operation

Synchronous operation of two or more columns. In conjunction with the integrated sensors, the control (see page 130) ensures synchronisation, and thus constant alignment of all the columns in both directions of travel, even if subject to different loads. The synchronous operation tolerance depends on the lifting speed and is max 2 mm on the 6 mm/s version and max 4 mm on the 13 mm/s version. A memory function is also available.



Universal Table Ironing Machine

Multilift Synchro

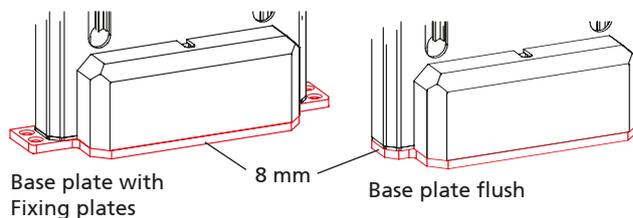

Note:

A separate adapter cable is required to use the Multilift on the MultiControl II. This can be found on 137.

Code No.	Type	max. push force [N]	max. pull force [N]	max. lifting speed [mm/s]	Total travel [mm]	Installation dimension incl. base plate [mm]	Weight [kg]
QAB13_G080355	Multilift 350	3000 / 2000 (med.)	1,000 / 500 (med.)	6	355	565.5	6.4
QAB13_G080400	Multilift 400				400	610.5	6.7
QAB13_G080450	Multilift 450				452	665.5	7.1
QAB13_G080500	Multilift 500				498	710.5	7.4
QAB26_G080355	Multilift 350 s	1000 / 1000 (med.)	1,000 / 500 (med.)	13	355	565.5	6.4
QAB26_G080400	Multilift 400 s				400	610.5	6.7
QAB26_G080450	Multilift 450 s				452	665.5	7.1
QAB26_G080500	Multilift 500 s				498	710.5	7.4

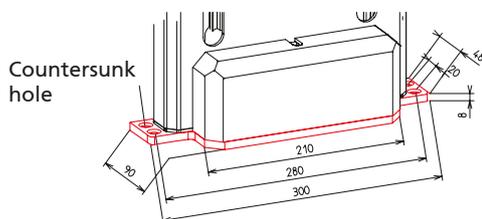
Base plate (For dimensions, see below):

- I** = with external fixing plates
4 counterbores
- M** = base plate flush

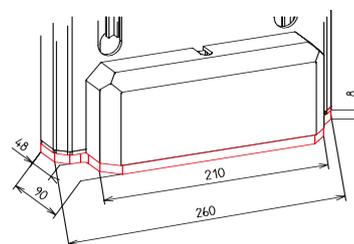


Dimension base plate

Base plate (**I**) with fixing plates
(4 countersunk hole)



Base plate (**M**) flush



System components

Code No.	Accessories	
	Controls	
QST10H12AA000	MultiControl II duo - Basic	Multilift
QST10H14AA000	MultiControl II quadro - Basic	
	Hand switches	
QZB11G07AV041	Hand switch with 6 function keys and display – 1 m cable length	
QZB11G07AB041	Hand switch with 2 function keys – 1 m cable length	
QZD000074	Hand switch drawer for hand switch with 6 and 2 function keys	
	IEC connector	
QZD070618	IEC cable (Europe version, earthed plug)	

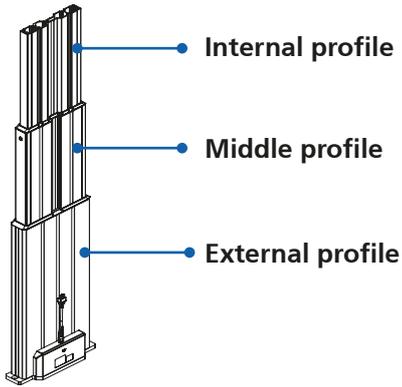
Code No.	Length [mm]	Adapter cable
QZD020722	200	Adapter cable Multilift I on MultiControl II 0,2 m
QZD020711	2500	Connecting cable Multilift I on MultiControl II 2,5 m



Note: Further accessories (hand switches, connecting cables etc.) can be found in the chapter „Controls and accessories“ starting on page 126

Multilift – Accessories

Foot

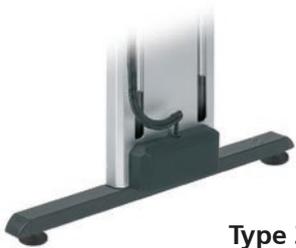


- Different foot versions for the Multilift
- No modifications to the Multilift required
- Max. load 1000 N

Material:

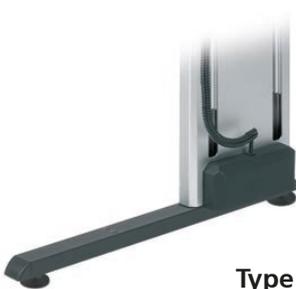
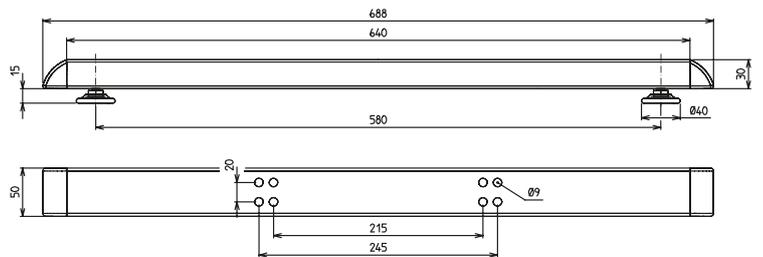
Type 1/2/5 GK-ALSi12/3.2583.02, black powder-coating
 Type 3/4 steel tube, ends capped black powder-coating

Scope of delivery:
 one foot with fixing set



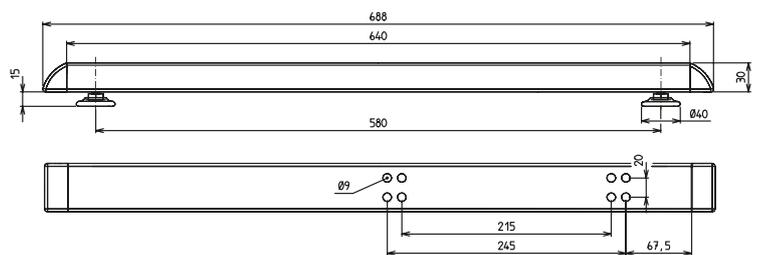
Type 3

Multilift centrally mounted
 (choice of internal or external profile)



Type 4

Multilift mounted off-centre
 (choice of internal or external profile)

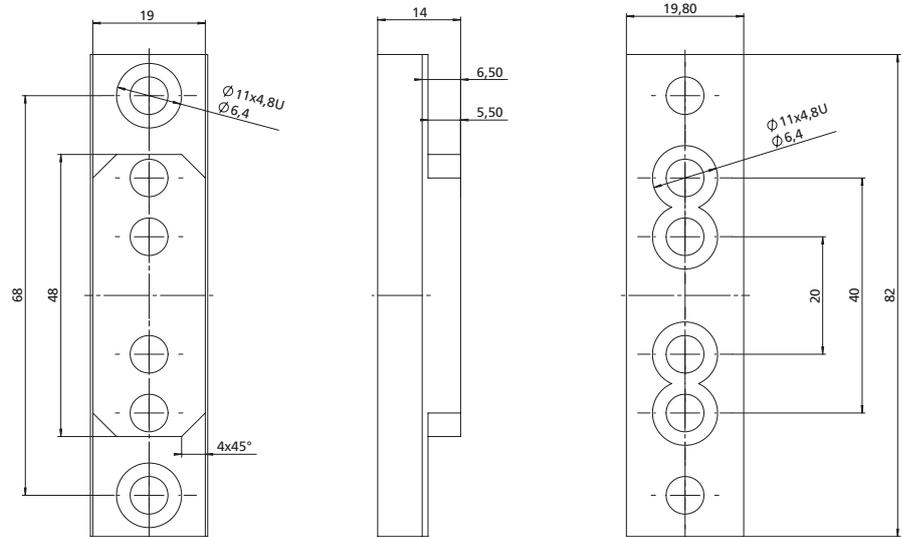
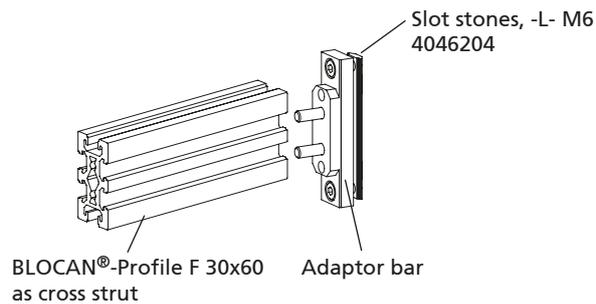
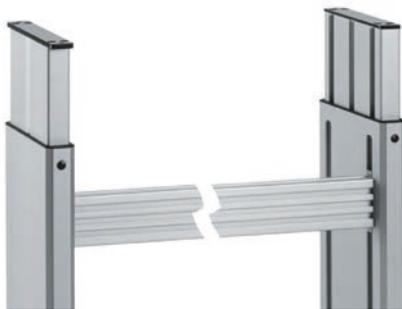


Code No.	Type	Max. load	Multilift	
			Internal profile	External profile
QZD020254	3	1000 N	●	●
QZD020255	4	1000 N	●	●

Adaptor bar

- Cross struts from the BLOCAN® Profile Assembly System are used to increase the stability of two version B Multilifts (see page 34). The adaptor bar is suitable for F profile 40 x 80 L and F 30x60.

Material: AlMgSi 0.5
 Fixing set, zinc plated
Scope of delivery:
 2x adaptor bars, fixing set



Code No.	Version
QZD020020	Adaptor bar for BLOCAN® profiles
4285000	Profile* F-40 x 80-L, can be cut to specification

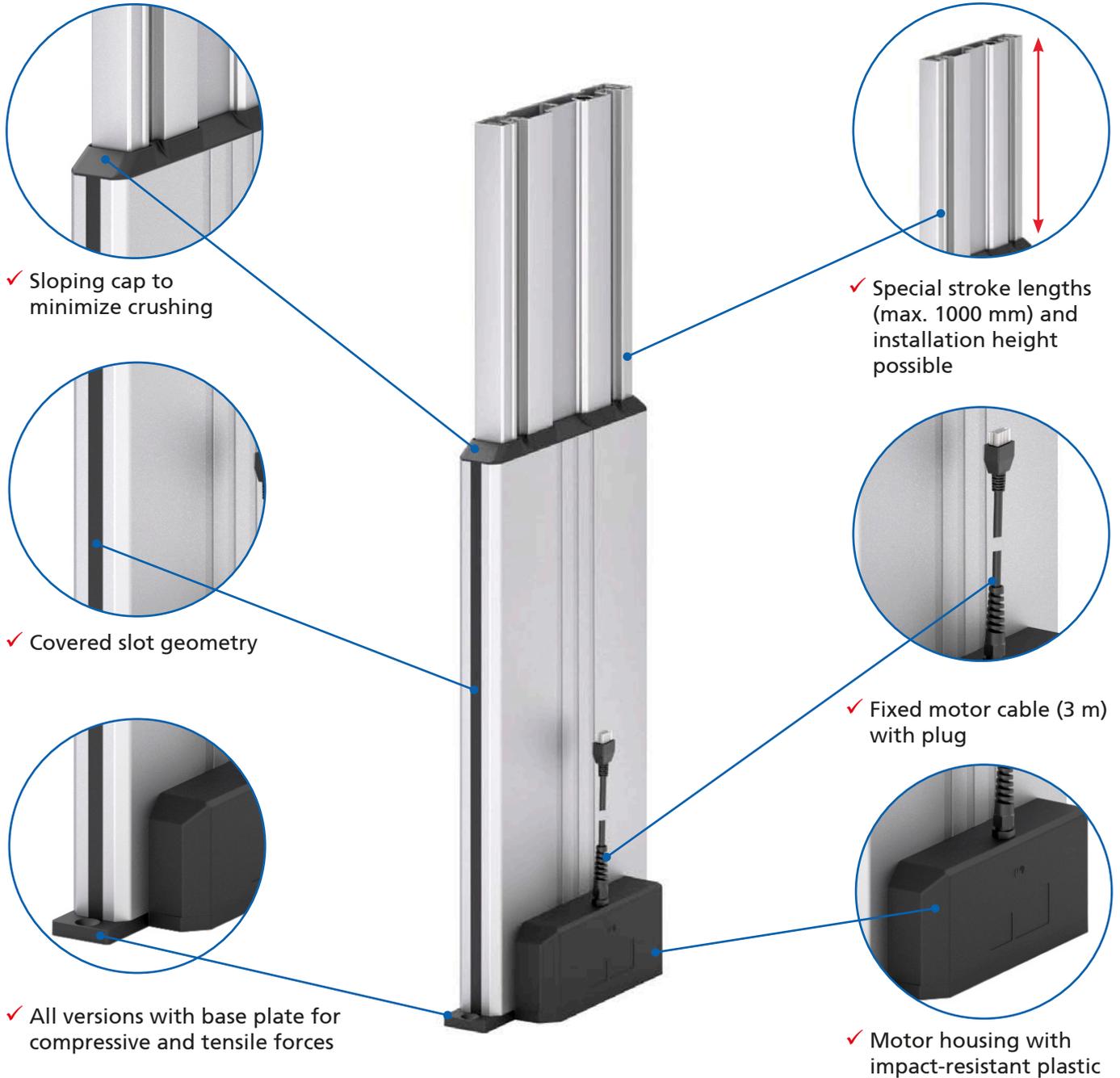


Length (clear width between the Multilifts -2 mm)

* For dimensions of the profiles, please refer to the catalogue BLOCAN PROFILE TECHNOLOGY



Slimline design makes for great versatility



Highlights / Features:

- Integrated limit switches
- Self-locking, even at max. load
- Lateral fixing slot in external profile
- Position feedback by hall sensor

Options:

- Special stroke lengths and installation height available on request
- With synchronous control:
 - Cascading of several columns
- Customised solutions on request
- Testet to:
 - IEC 60601-1:2005
 - IEC 60601-1:2005/AMD1:2012
- With milled slot on request

Multilift II – Table of contents

<p>Versions</p>	<p>Lifting columns</p> <ul style="list-style-type: none"> ■ Multilift II Page 58 ■ Multilift II ESD Page 60 ■ Multilift II impact Page 62 ■ Multilift II safety..... Page 64 ■ Multilift II clean..... Page 66
<p>Accessories</p>	<p>Fixing</p> <ul style="list-style-type: none"> ■ RK SyncFlex..... Page 68 ■ Assembly plates..... Page 69 ■ Support struts..... Page 69 ■ Foot versions Page 70

Multilift II – Technical data

General information/operating conditions

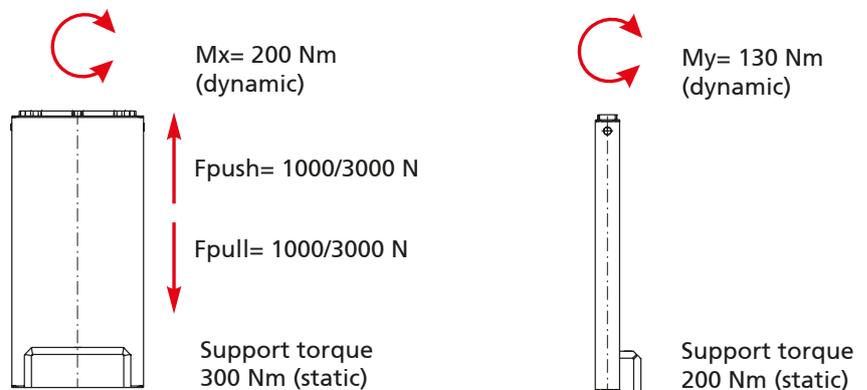
Type	Multilift II	Multilift II ESD	Multilift II clean	Multilift II impact	Multilift II safety	Custom
Design	Slim lifting column					
Guide	POM slide bearings					
Installation position	Any position / hanging only with drop protection provided by the customer				hanging	
Push force	3000 N or 1000 N			3000 N	–	
Pull force	3000 N or 1000 N			3000 N	600 N	
Self-locking	Yes					
Max. travel speed	8 mm/s or 16 mm/s			8 mm/s	16 mm/s	
Max. Stroke	500 mm					1000 mm
Installation dimension	Stroke + 203 mm			Stroke + 212 mm	Stroke + 203 mm	
Voltage	28 V DC					
Current output	4 A					
Protection class	IP 20					
Ambient temperature	+5°C to +40°C					
Displacement during synchronous operation	0 to 2 mm				Synchronous operation not possible	
Duty cycle (Operation mode S3)	At nominal load, 10% (2 min operating time, 18 mins rest time)					

Note:

All information refers to the standard sizes. All data of push/pull forces are referring to the individual lifting column, for combined applications a safety factor of up to 0,6 has to be considered.

In medical applications, the maximum pull force of 500 N and, in the case of the version with a travel speed of 8 mm/s, the maximum push force of 2500 N must not be exceeded.

Load data Multilift II



Drive	Push force [N]	Travel speed [mm/s]	Number of assigned motor channels			
			1	2	3	4
Multilift II	1000	16	✓	✓	✓	each 750 N
Multilift II	3000	8	✓	✓	each 2200 N	each 1500 N
Multilift II safety	600	16	✓	–	–	–

Note:

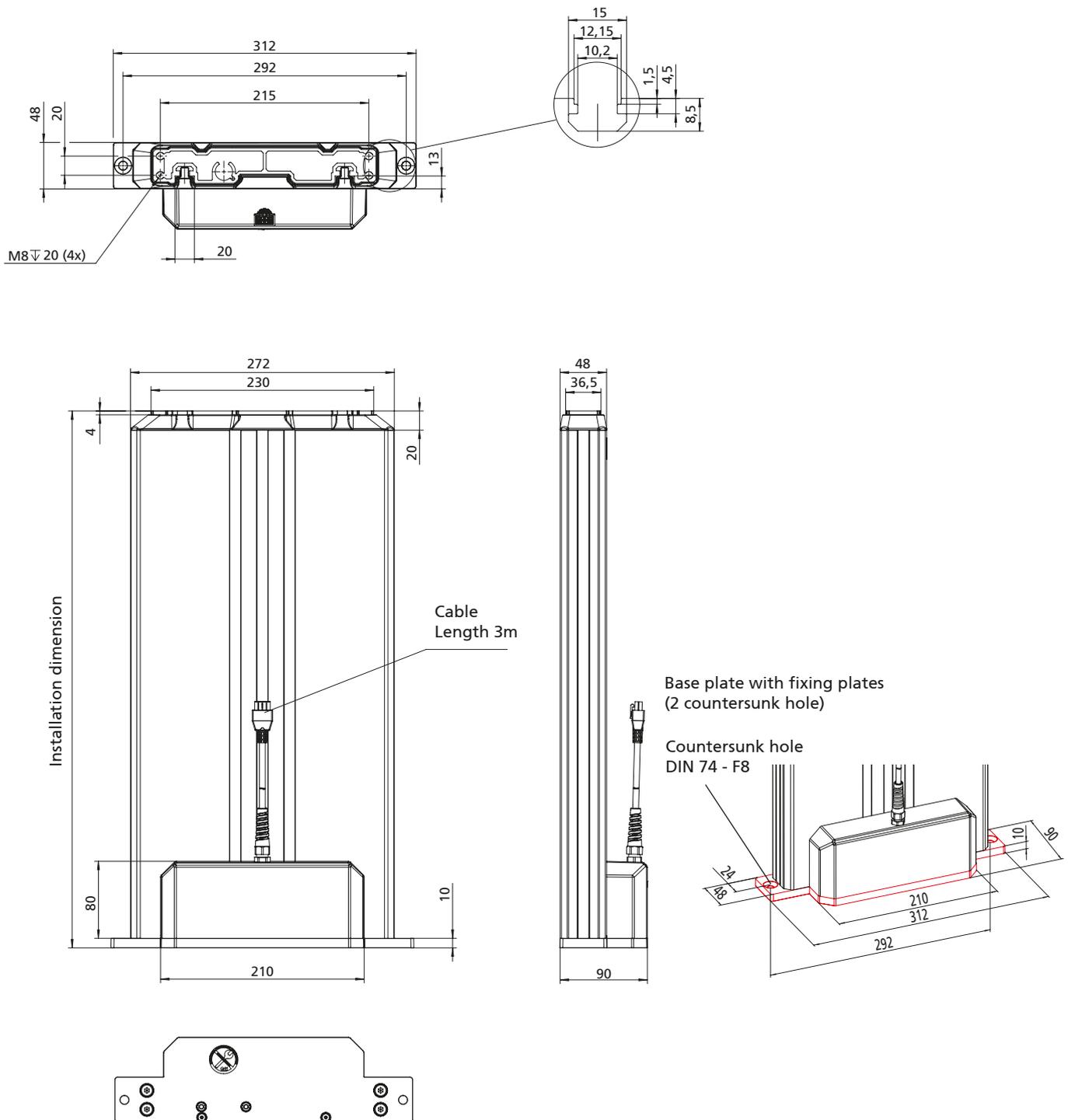
If more than 2 drives are to be operated synchronously at nominal load, BUS communication between two or more MultiControl II duo controllers is required.

The necessary accessories can be found on page 146

The procedure for setting up BUS communication is described in detail in the operating manual.



Multilift II



The fixing slots on the side allow an easy attachment of accessories. For example, a screen, CPU bracket or system reinforcements can be fixed to the lifting columns by using slot stones. The 30 slot geometry is also compatible with the RK BLOCAN® aluminium profile system.

Multilift II – Versions

Multilift II – maximum versatility

Customer feedback formed the basis for a number of improvements to the design of the Multilift II. Our latest new feature is an assembly slot on both sides of the external profile of the electric lifting column, which is compatible with the RK Rose+Krieger aluminium profile system and can take corresponding slot stones. They allow additional attachments such as reinforcements, screening and so on to be mounted without any problems.



Special features:

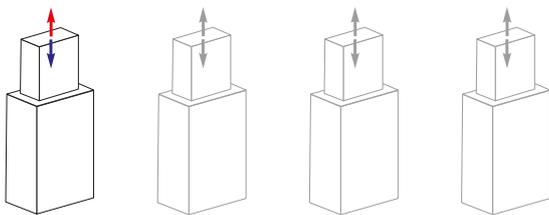
- Lateral fixing slots
- Captive plug connections
- Suitable for both tensile and compressive loads

Ideal area of application:

- ✓ Workplace ergonomics
- ✓ Industrial technology
- ✓ Media technology

Lifting column and control as individual components:

Multilift II can be used exclusively in combination with MultiControl II duo (see page 130) and MultiControl II quadro (see page 138).

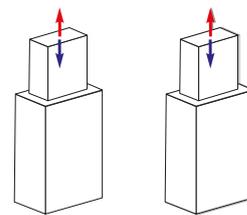


Features:

- Supports configuration of systems with up to 32 drives
- Wide-range input
- High duty cycle
- Simple connection to master control system
- Intuitive operation

Lifting column and control as pre-assembled set:

Multilift II can be used exclusively in combination with Compact-e-3-EU (see page 158)



Features:

- Exclusively for a 2-column table system
- System is factory-initialised (Plug & Play)

Individual components:
 Lifting column Multilift II


Code No.	Type	max. push force [N]	max. pull force [N]	max. lifting speed [mm/s]	Total travel [mm]	Installation dimension [mm]	Weight [kg]
TM22B1C3C22CA0355	Multilift II	3000 / 2500 (med.)	3000 / 500 (med.)	8	355	558	10.5
TM22B1C3C22CA0400					400	603	11.5
TM22B1C3C22CA0450					452	658	12.0
TM22B1C3C22CA0500					497	703	13.0
TM22B1C2C22CA0355	Multilift II	1000 / 1000 (med.)	1000 / 500 (med.)	16	355	558	10.5
TM22B1C2C22CA0400					400	603	11.5
TM22B1C2C22CA0450					452	658	12.0
TM22B1C2C22CA0500					497	703	13.0

System components

Code No.	Accessories	
Controls		
QST11H12AA000	MultiControl II duo - Basic	Multilift II
QST11H12AA022	MultiControl II duo - Premium	
QST11H14AA000	MultiControl II quadro - Basic	Multilift II
QST11H14AA022	MultiControl II quadro - Premium	
Hand switches		
QZB11G07AV041	Hand switch with 6 function keys and display – 1 m cable length	
QZB11G07AB041	Hand switch with 2 function keys – 1 m cable length	
QZD000074	Hand switch drawer for hand switch with 6 and 2 function keys	
IEC connector		
QZD070618	IEC cable (Europe version, earthed plug)	

Note: Further accessories (hand switches, connecting cables etc.) can be found in the chapter „Controls and accessories“ starting on page 126

Set:

Multilift II in combination with Compact-e-3-EU control

Scope of delivery:

 2 Multilifts II, 1 Controller box
 Compact-e-3-EU, 4 Cover profiles,
 4 Slot stones

Order instruction:

Please select mains cable and hand switch separately (see page 158)

Code No.	Type	max. push force [N]	max. pull force [N]	max. lifting speed [mm/s]	Total travel [mm]	Installation dimension [mm]	Weight [kg]
TS22B1C3C22CA0355	Multilift II Set 230V AC	3000	3000	8	355	558	21.5
TS22B1C3C22CA0400					400	603	23.5
TS22B1C3C22CA0450					452	658	24.5
TS22B1C3C22CA0500					497	703	26.5
TS22B1C2C22CA0355	Multilift II Set 230V AC	1000	1000	16	355	558	21.5
TS22B1C2C22CA0400					400	603	23.5
TS22B1C2C22CA0450					452	658	24.5
TS22B1C2C22CA0500					497	703	26.5

Note: The load value information is referring to the individual lifting column. For combined applications a safety factor of up to 0,6 has to be considered.

Multilift II ESD – Versions

Multilift II ESD – discharging voltages via the lifting column

In the electronics and semiconductor manufacturing industry, electrostatic discharges can impair the function of components being assembled, or even destroy them. With the Multilift II ESD, RK Rose+Krieger has developed a patented electric height adjustment system that is able to dissipate voltages.



Special feature:

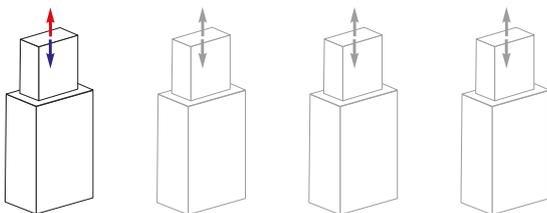
- Outer and inner profile electrically connected to each other

Ideal area of application:

- ✓ Assembly workstations for the manufacture of electronic components

Lifting column and control as individual components:

Multilift II ESD can be used exclusively in combination with MultiControl II duo (see page 130) and MultiControl II quadro (see page 138).



Features:

- Supports configuration of systems with up to 32 drives
- Wide-range input
- High duty cycle
- Simple connection to master control system
- Intuitive operation

Individual components:
 Lifting column Multilift II ESD


Code No.	Type	max. push force [N]	max. pull force [N]	max. lifting speed [mm/s]	Total travel [mm]	Installation dimension [mm]	Weight [kg]
TM22B1C3C22CC0355	Multilift II ESD	3000 / 2500 (med.)	3000 / 500 (med.)	8	355	558	10.5
TM22B1C3C22CC0400					400	603	11.5
TM22B1C3C22CC0450					452	658	12.0
TM22B1C3C22CC0500					497	703	13.0
TM22B1C2C22CC0355	Multilift II ESD	1000 / 1000 (med.)	1000 / 500 (med.)	16	355	558	10.5
TM22B1C2C22CC0400					400	603	11.5
TM22B1C2C22CC0450					452	658	12.0
TM22B1C2C22CC0500					497	703	13.0

System components

Code No.	Accessories	
Controls		
QST11H12AA000	MultiControl II duo - Basic	Multilift II ESD
QST11H12AA022	MultiControl II duo - Premium	
QST11H14AA000	MultiControl II quadro - Basic	Multilift II ESD
QST11H14AA022	MultiControl II quadro - Premium	
Hand switches		
QZB11G07AV041	Hand switch with 6 function keys and display – 1 m cable length	
QZB11G07AB041	Hand switch with 2 function keys – 1 m cable length	
QZD000074	Hand switch drawer for hand switch with 6 and 2 function keys	
IEC connector		
QZD070618	IEC cable (Europe version, earthed plug)	

Note:

Further accessories (hand switches, connecting cables etc.) can be found in the chapter „Controls and accessories“ starting on page 126

Multilift II impact – Versions

Multilift II impact – integrated damping absorbs high impact forces

The slim electric height adjustment system has an integrated damping system that is able to absorb high impact forces, such as those that occur when unloading a workpiece.



Special feature:

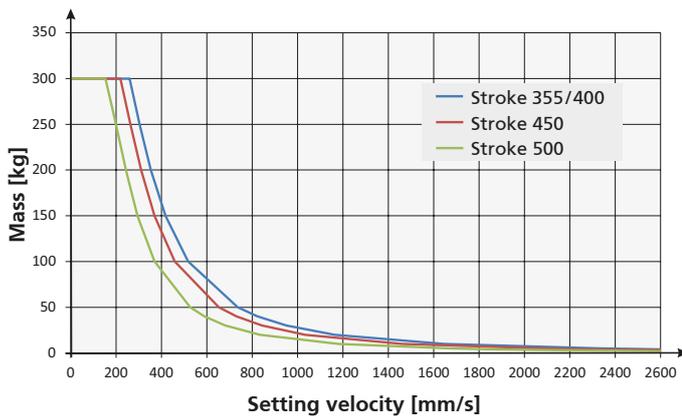
- Allows impact forces due to an internal damping system

Ideal area of application:

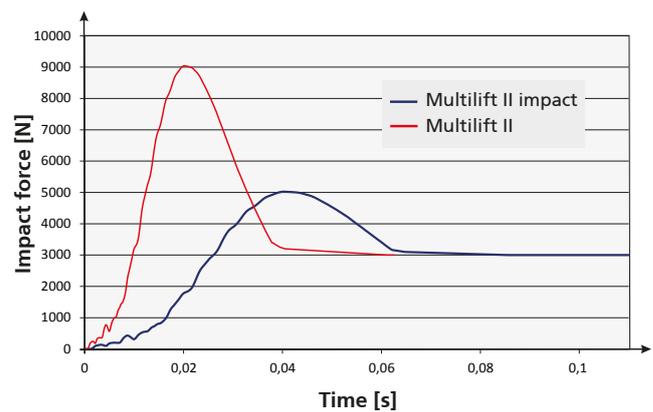
- ✓ Workplace ergonomics
- ✓ Industrial technology

Performance diagram Multilift II impact

Possible setting velocity in relation to the weight of the workpiece in consideration of the different stroke lengths



Exemplary force progression at an impact of a workpiece with $v = 260$ [mm/s] and $m = 300$ [Kg]



Individual components:
 Lifting column Multilift II impact


Code No.	Type	max. push force [N]	max. pull force [N]	max. lifting speed [mm/s]	Total travel [mm]	Installation dimension [mm]	Weight [kg]
TM22B1C3C22CB0355	Multilift II impact	3000 / 2500 (med.)	3,000 / 500 (med.)	8	355	567	10.5
TM22B1C3C22CB0400					400	612	11.5
TM22B1C3C22CB0450					452	667	12.0
TM22B1C3C22CB0500					497	712	13.0

System components

Code No.	Accessories	
Controls		
QST13H12AA000	MultiControl II duo - Basic	Multilift II impact
QST13H12AA022	MultiControl II duo - Premium	
QST13H14AA000	MultiControl II quadro - Basic	Multilift II impact
QST13H14AA022	MultiControl II quadro - Premium	
Hand switches		
QZB11G07AV041	Hand switch with 6 function keys and display – 1 m cable length	
QZB11G07AB041	Hand switch with 2 function keys – 1 m cable length	
QZD000074	Hand switch drawer for hand switch with 6 and 2 function keys	
IEC connector		
QZD070618	IEC cable (Europe version, earthed plug)	

Note:

Further accessories (hand switches, connecting cables etc.) can be found in the chapter „Controls and accessories“ starting on page 126

Multilift II safety – Versions

Multilift II safety – turning things on their head

RK Rose+Krieger has developed this column specially for overhead applications in media technology. Its uses include the correct positioning of projectors and monitors, whereby the lifting column is mounted upside down on the ceiling.



Special feature:

- Integrated fall protection

Ideal area of application:

- ✓ Media technology

The Multilift II safety is only designed for centric load. 

In cases of eccentric load
please contact RK Rose+Krieger.

<https://www.rk-rose-krieger.com/english/contact/>

Individual components:

Lifting column Multilift II safety

Code No.	Type	max. push force [N]	max. pull force [N]	max. lifting speed [mm/s]	Total travel [mm]	Installation dimension [mm]	Weight [kg]
TM22B1C2C22CD0355	Multilift II safety	–	600	16	355	558	11.5
TM22B1C2C22CD0400					400	603	12.0
TM22B1C2C22CD0450					452	658	13.0
TM22B1C2C22CD0500					497	703	13.5

Note: The Multilift II safety is not designed for synchronous applications. This drive must only be used in stand-alone applications.

System components

Code No.	Accessories	
	Controls	
QST11H12AA000	MultiControl II duo - Basic	Multilift II safety
QST11H12AA022	MultiControl II duo - Premium	
	Hand switches	
QZB11G07AV041	Hand switch with 6 function keys and display – 1 m cable length	
QZB11G07AB041	Hand switch with 2 function keys – 1 m cable length	
QZD000074	Hand switch drawer for hand switch with 6 and 2 function keys	
	IEC connector	
QZD070618	IEC cable (Europe version, earthed plug)	

Note:

Further accessories (hand switches, connecting cables etc.) can be found in the chapter „Controls and accessories“ starting on page 126

Multilift II clean – Versions

Multilift II clean – ideally suited to use in the clean room

The Multilift II clean has now been added to the range. It has been deliberately developed for use in the clean room. A special shroud for the DC motor with brushes of the lifting column means discharge of particles is kept to a minimum. To verify its suitability for use in clean rooms, the Fraunhofer Institute for Manufacturing Engineering and Automation IPA carried out a particle emissions test as per DIN EN ISO 14644-1 and certified the lifting column for use in clean rooms up to a globally valid class 4.



Special feature:

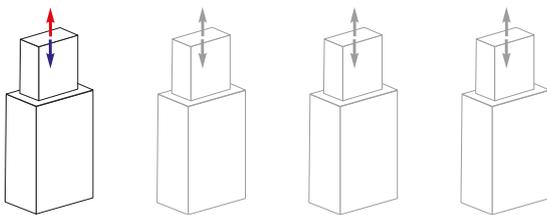
- Suitability according to EN ISO 14644 -1 for clean rooms

Ideal area of application:

- ✓ Assembly workstations for the use in clean rooms up to class 4

Lifting column and control as individual components:

Multilift II clean can be used exclusively in combination with MultiControl II duo (see page 130) and MultiControl II quadro (see page 138).



Features:

- Supports configuration of systems with up to 32 drives
- Wide-range input
- High duty cycle
- Simple connection to master control system
- Intuitive operation

Individual components:

Lifting column Multilift II clean

Code No.	Type	max. push force [N]	max. pull force [N]	max. lifting speed [mm/s]	Total travel [mm]	Installation dimension [mm]	Weight [kg]
TM22B1C3C22CE0355	Multilift II clean	3000	3000	8	355	558	10.5
TM22B1C3C22CE0400					400	603	11.5
TM22B1C3C22CE0450					452	658	12.0
TM22B1C3C22CE0500					497	703	13.0
TM22B1C2C22CE0355	Multilift II clean	1000	1000	16	355	558	10.5
TM22B1C2C22CE0400					400	603	11.5
TM22B1C2C22CE0450					452	658	12.0
TM22B1C2C22CE0500					497	703	13.0

System components

Code No.	Accessories	
Controls		
QST11H12AA000	MultiControl II duo - Basic	Multilift II clean
QST11H12AA022	MultiControl II duo - Premium	
QST11H14AA000	MultiControl II quadro - Basic	Multilift II clean
QST11H14AA022	MultiControl II quadro - Premium	
Hand switches		
QZB11G07AV041	Hand switch with 6 function keys and display – 1 m cable length	
QZB11G07AB041	Hand switch with 2 function keys – 1 m cable length	
QZD000074	Hand switch drawer for hand switch with 6 and 2 function keys	
IEC connector		
QZD070618	IEC cable (Europe version, earthed plug)	

Note:

Further accessories (hand switches, connecting cables etc.) can be found in the chapter „Controls and accessories“ starting on page 126

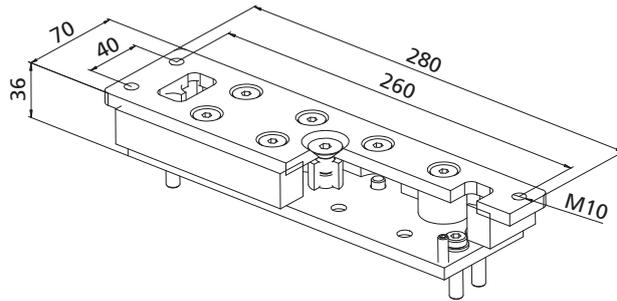
Multilift II – Accessories

RK SyncFlex H

Scope of delivery:
Adjuster plate, incl. fixing material

Horizontal alignment

- To prevent locked-up stress in mechanically overdefined bearing systems (more than one fixed bearing) around the horizontal axis. With RK SyncFlex H, defined floating bearings supplement the application.
- The horizontal compensation in the Z-axis enables the mobility required when moving the lifting columns.



[mm]

Code No.	Type	Max. load	Multilift II	
			Internal profile	External profile
QZD020471	Multilift II product line	3000 N	●	

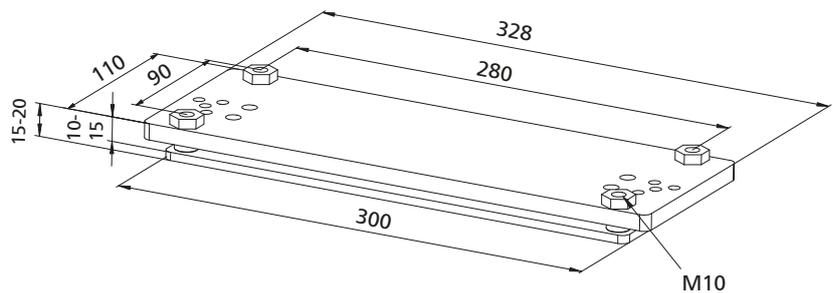
RK SyncFlex V

Scope of delivery:
Adjuster plate, incl. fixing material

Option:
Pressure plate (see table) can be ordered separately

Vertical alignment

- If the lifting columns are not parallel, the distance between the two upper fixing points will change during the movement. However, a rigid connection keeps this distance constant, which means that the lifting columns are subject to very strong forces.
- RK SyncFlex V enables the compensation of unevenness in the mounting environment.
- The lifting columns can be aligned via the vertical adjustment around the X-Y axes.



[mm]

Code No.	Type	Max. load	Multilift II	
			Internal profile	External profile
RK SyncFlex V Adjusting plate				
QZD020620	Multilift II product line	3000 N	●*	●
Pressure Plate				
QZD020621	Multilift II product line	3000 N		

* = in connection with the assembly plate Type 2 (page 69)

Assembly plates

- The assembly plates are for easy assembling in customer applications.

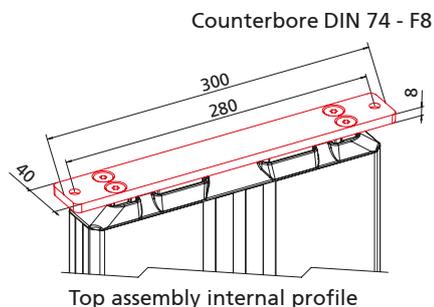
Material:

Option of black-powdered die cast zinc or black-powdered steel, zinc plated fixing set

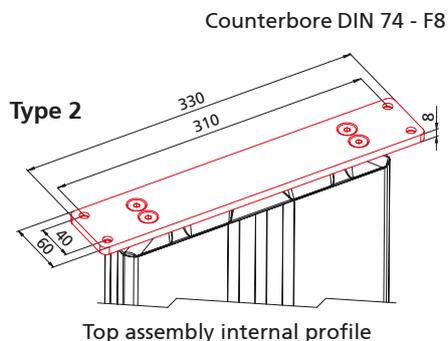
Scope of delivery:

Plate with fixing set

Type 2



Type 3



Code No.	Type	for drive	Material
QZD020549	2	Multilift II/ clean	Zinc die cast
QZD020671	2	Multilift II ESD	Zinc die cast
QZD020552	3	Multilift II/impact/safety/clean / ESD	Steel

Support struts

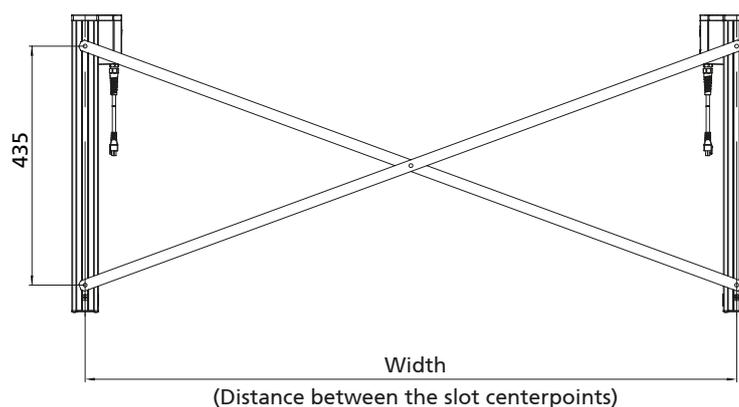
- For stabilisation of column structures.
- Available for all Multilift II / Multilift II telescope variants.

Material:

Aluminium not anodized

Scope of delivery:

Two support struts including fastenings



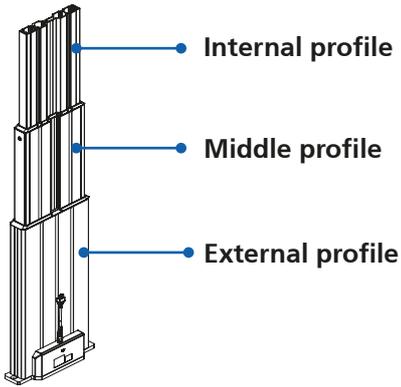
Code No.	Type	Width (min.)	Width (max.)	Multilift II	
				Internal profile	External profile
QZD020734	Support struts Multilift II product line	750 mm	2000 mm		●

Distance between the slot centerpoints [mm]

[mm]

Multilift II – Accessories

Foot versions

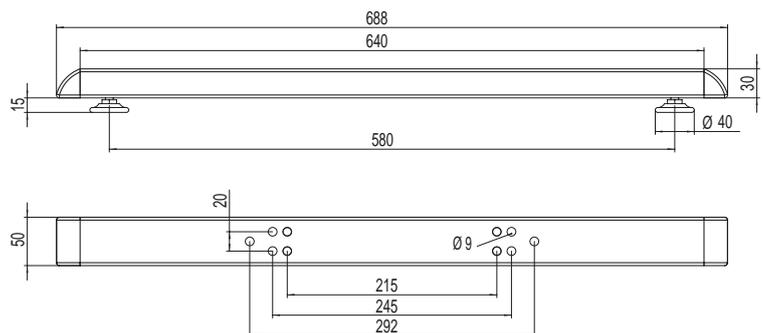
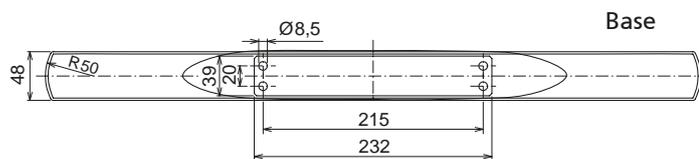
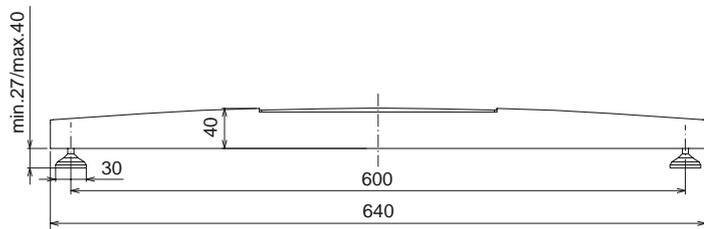
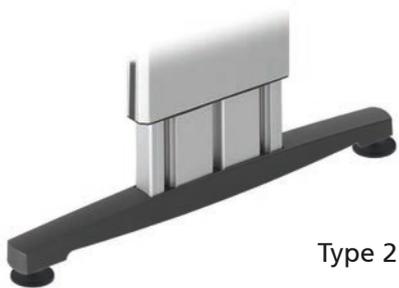
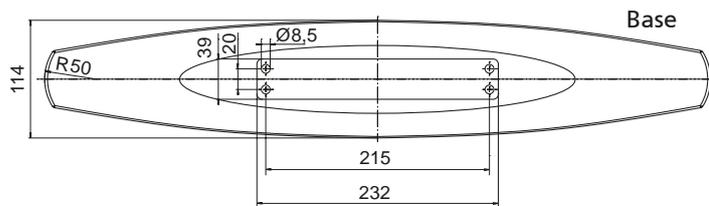
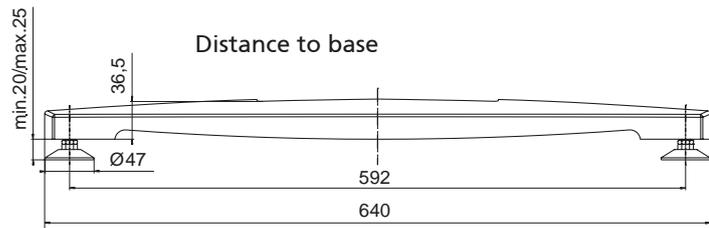


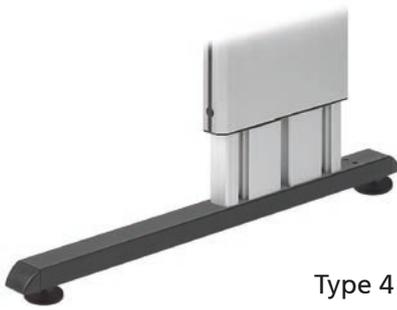
- Different foot versions for the Multilift
- No modifications of the Multilift required

Material:
Type 1/2 GK-ALSi12/3.2583.02,
black powder-coated

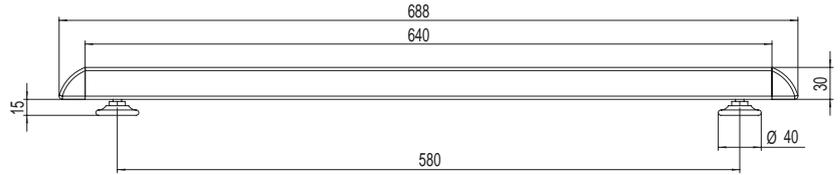
Type 3/4 steel tube, ends capped
black powder-coated

Scope of delivery:
one foot with fixing set

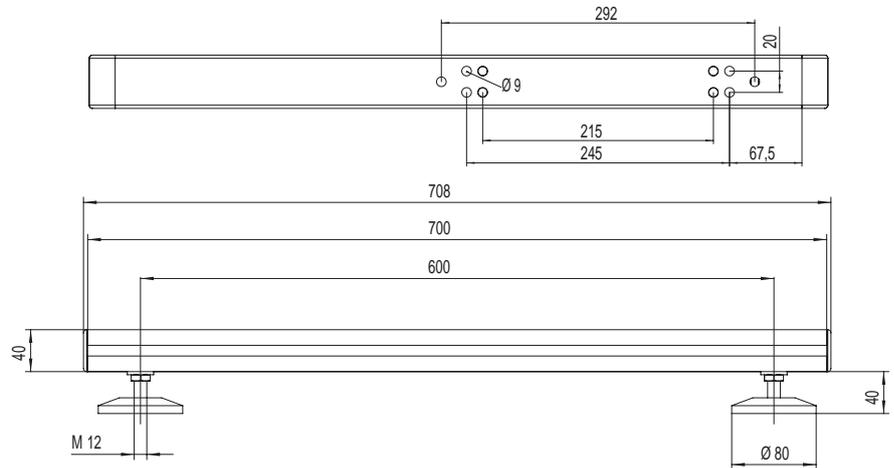




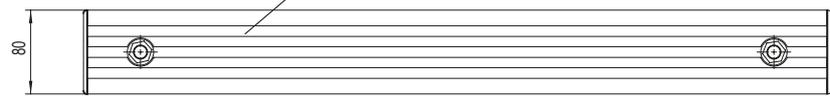
Type 4



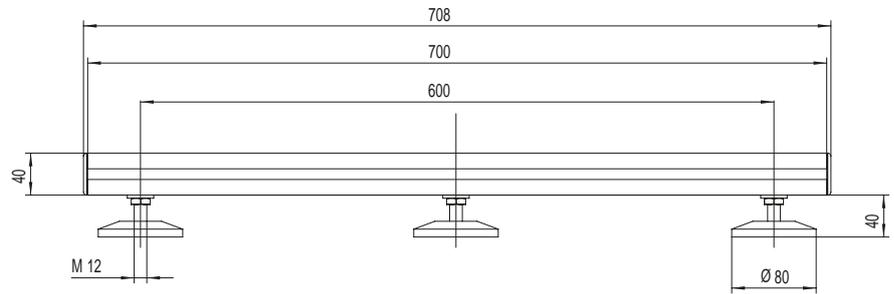
Type 6/Type 7



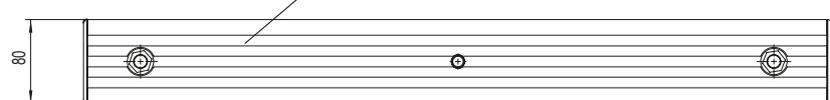
Slot geometry 40



Type 8



Slot geometry 40



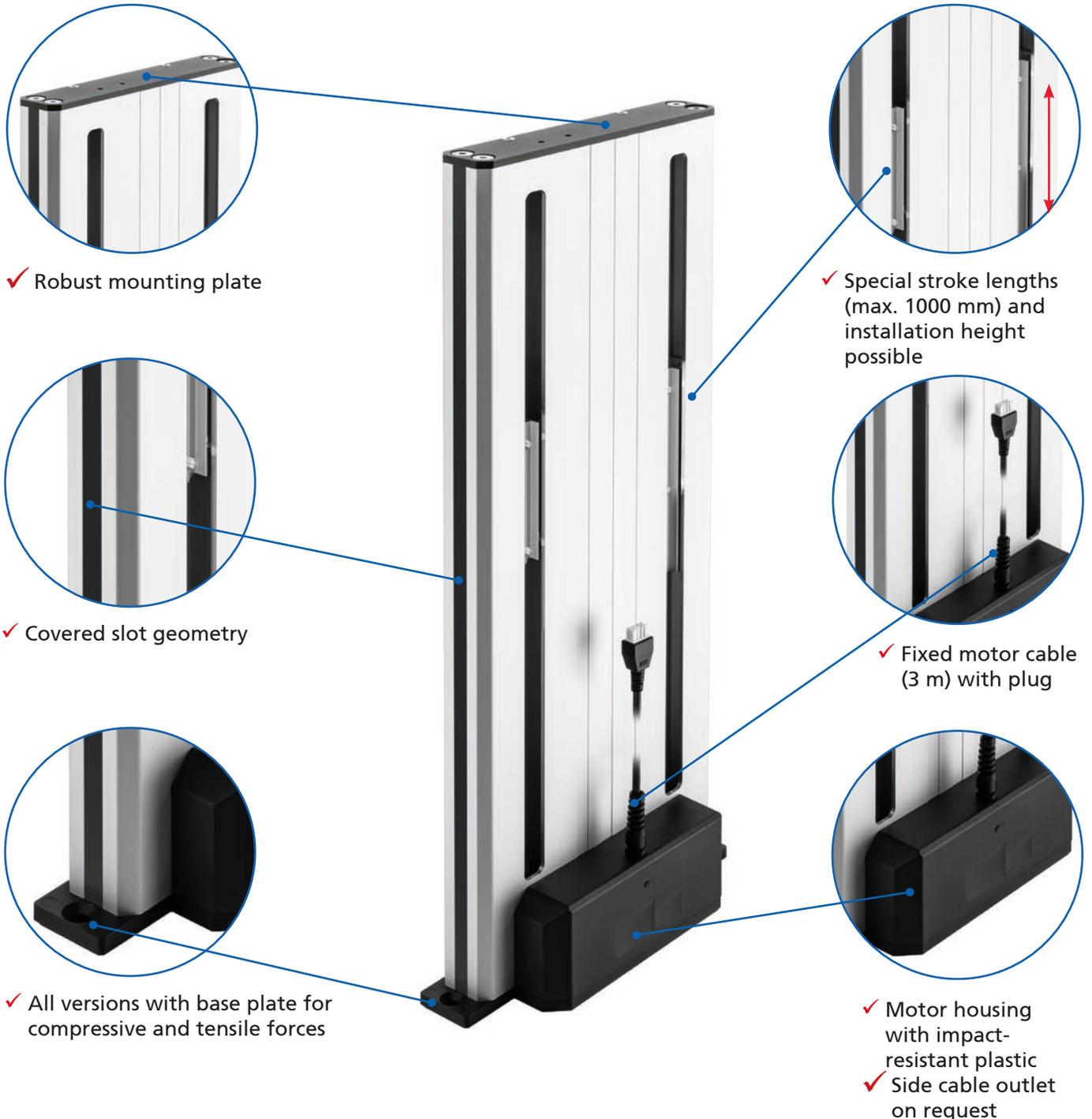
*** Order instruction:**

The application example shown – internal profile mounted on Type 6, 7, 8 – is only in combination with an assembly plate possible (see page 69)

Code No.	Type	Max. load	Multilift II / Multilift II clean		Multilift II ESD		Multilift II impact	
			Internal profile	External profile	Internal profile	External profile	Internal profile	External profile
QZD020252	1	1000 N	●					
QZD020253	2	1000 N	●					
QZD020254	3	1000 N	●	●				
QZD020255	4	1000 N	●	●				
QZD020256	6	3000 N	●*	●				
QZD020257	7	3000 N			●*	●		
QZD020258	8	3000 N					●*	●

Multilift II with internal carriage

Slimline design makes for great versatility



✓ Robust mounting plate

✓ Covered slot geometry

✓ All versions with base plate for compressive and tensile forces

✓ Special stroke lengths (max. 1000 mm) and installation height possible

✓ Fixed motor cable (3 m) with plug

✓ Motor housing with impact-resistant plastic
✓ Side cable outlet on request

Highlights / Features:

- Integrated limit switches
- Self-locking, even at max. load
- Lateral fixing slot in external profile
- Position feedback by hall sensor

Options:

- Special stroke lengths and installation height available on request
- With synchronous control:
 - Cascading of several columns
- Customised solutions on request

Multilift II – Table of contents

<p>Versions</p>	<p>Lifting columns</p>	<ul style="list-style-type: none"> ■ Multilift II with internal carriage Page 74
<p>Accessories</p>	<p>Fixing</p>	<ul style="list-style-type: none"> ■ RK SyncFlex..... Page 78 ■ Mounting bracket Page 79 ■ Support struts..... Page 79 ■ Foot versions Page 80

Multilift II with internal carriage – Technical data

General information/operating conditions

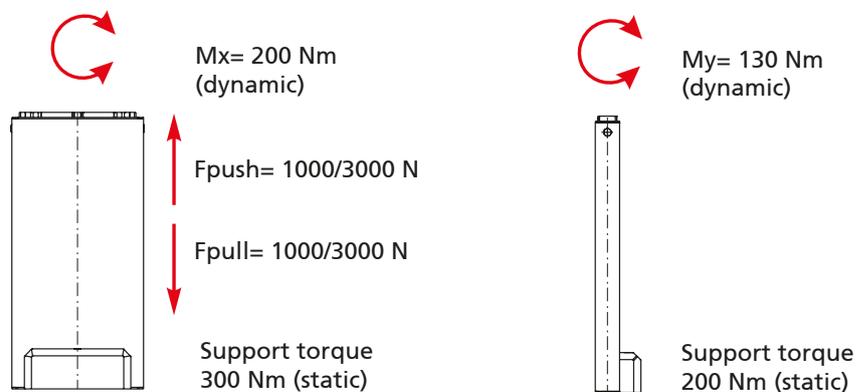
Type	Multilift II with internal carriage	Custom
Design	Slim lifting column	
Guide	POM slide bearings	
Installation position	Any position / hanging only with drop protection provided by the customer	
Push force	3000 N or 1000 N	
Pull force	3000 N or 1000 N	
Self-locking	Yes	
Max. travel speed	8 mm/s or 16 mm/s	
Max. Stroke	500 mm	1000 mm
Installation dimension	Stroke + 210 mm	
Voltage	28 V DC	
Current output	4 A	
Protection class	IP 10	
Ambient temperature	+5°C to +40°C	
Displacement during synchronous operation	0 to 2 mm	
Duty cycle (Operation mode S3)	At nominal load, 10% (2 min operating time, 18 mins rest time)	

Note:

All information refers to the standard sizes. All data of push/pull forces are referring to the individual lifting column, for combined applications a safety factor of up to 0,6 has to be considered.

In medical applications, the maximum pull force of 500 N and, in the case of the version with a travel speed of 8 mm/s, the maximum push force of 2500 N must not be exceeded.

Load data Multilift II



Drive	Push force [N]	Travel speed [mm/s]	Number of assigned motor channels			
			1	2	3	4
Multilift II with internal carriage	1000	16	✓	✓	✓	each 750 N
Multilift II with internal carriage	3000	8	✓	✓	each 2200 N	each 1500 N
			MultiControl II duo		MultiControl II quadro	

Note:

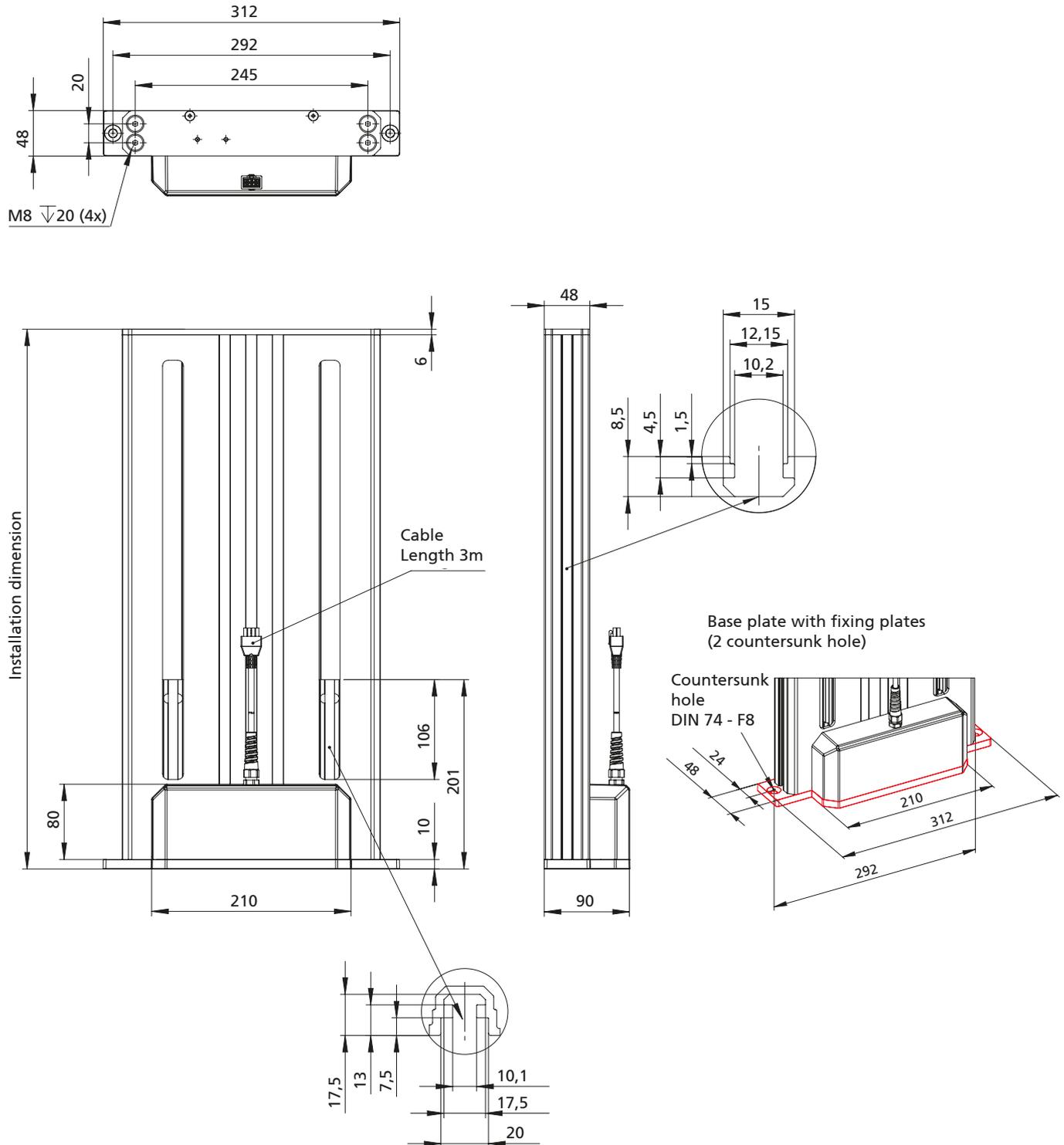
If more than 2 drives are to be operated synchronously at nominal load, BUS communication between two or more MultiControl II duo controllers is required.

The necessary accessories can be found on page 146

The procedure for setting up BUS communication is described in detail in the operating manual.



Multilift II with internal carriage



The fixing slots on the side allow an easy attachment of accessories. For example, a screen, CPU bracket or system reinforcements can be fixed to the lifting columns by using slot stones. The 30 slot geometry is also compatible with the RK BLOCAN® aluminium profile system.

Multilift II with internal carriage – Versions

Multilift II with internal carriage – maximum versatility

Customer feedback formed the basis for a number of improvements to the design of the Multilift II. Our latest new feature is an assembly slot on both sides of the external profile of the electric lifting column, which is compatible with the RK Rose+Krieger aluminium profile system and can take corresponding slot stones. They allow additional attachments such as reinforcements, screening and so on to be mounted without any problems.



Special features:

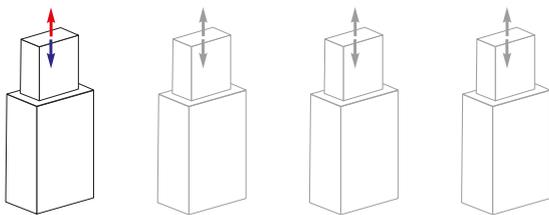
- Lateral fixing slots
- Captive plug connections
- Suitable for both tensile and compressive loads
- Internal carriage

Ideal area of application:

- ✓ Workplace ergonomics
- ✓ Industrial technology
- ✓ Media technology
- ✓ Materials handling

Lifting column and control as individual components:

Multilift II can be used exclusively in combination with MultiControl II duo (see page 130) and MultiControl II quadro (see page 138).



Features:

- Supports configuration of systems with up to 32 drives
- Wide-range input
- High duty cycle
- Simple connection to master control system
- Intuitive operation

Individual components:
 Multilift II with internal carriage


Code No.	Type	max. push force [N]	max. pull force [N]	max. lifting speed [mm/s]	Total travel [mm]	Installation dimension [mm]	Weight [kg]
TM24B1C3C22CF0362	Multilift II with internal carriage	3000 / 2500 (med.)	3000 / 500 (med.)	8	362,5	573	9,2
TM24B1C3C22CF0407					407,5	618	9,6
TM24B1C3C22CF0460					460	670	10
TM24B1C3C22CF0505					505	715	10,5
TM24B1C2C22CF0362	Multilift II with internal carriage	1000 / 1000 (med.)	1000 / 500 (med.)	16	362,5	573	9,2
TM24B1C2C22CF0407					407,5	618	9,6
TM24B1C2C22CF0460					460	670	10
TM24B1C2C22CF0505					505	715	10,5

System components

Code No.	Accessories	
Controls		
QST11H12AA000	MultiControl II duo - Basic	Multilift II / Multilift II with internal carriage
QST11H12AA022	MultiControl II duo - Premium	
QST11H14AA000	MultiControl II quadro - Basic	Multilift II / Multilift II with internal carriage
QST11H14AA022	MultiControl II quadro - Premium	
Hand switches		
QZB11G07AV041	Hand switch with 6 function keys and display – 1 m cable length	
QZB11G07AB041	Hand switch with 2 function keys – 1 m cable length	
QZD000074	Hand switch drawer for hand switch with 6 and 2 function keys	
IEC connector		
QZD070618	IEC cable (Europe version, earthed plug)	

Note: Further accessories (hand switches, connecting cables etc.) can be found in the chapter „Controls and accessories“ starting on page 126

Multilift II – Accessories

RK SyncFlex V

Scope of delivery:

Adjuster plate, incl. fixing material

Option:

Pressure plate (see table) can be ordered separately

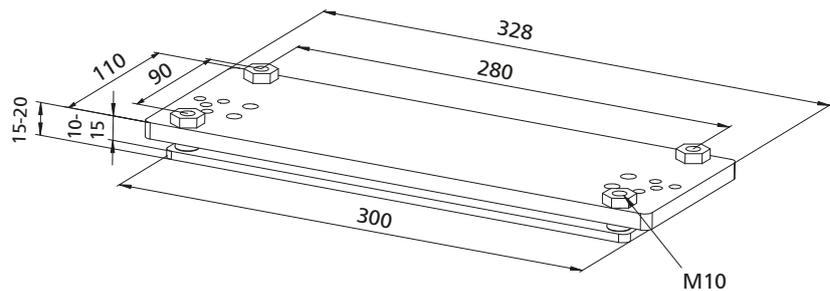


Vertical alignment

■ If the lifting columns are not parallel, the distance between the two upper fixing points will change during the movement. However, a rigid connection keeps this distance constant, which means that the lifting columns are subject to very strong forces.

RK SyncFlex V enables the compensation of unevenness in the mounting environment.

■ The lifting columns can be aligned via the vertical adjustment around the X-Y axes.



[mm]

Code No.	Type	Max. load	Multilift II	
			Internal profile	External profile
RK SyncFlex V Adjusting plate				
QZD020620	Multilift II product line	3000 N	●*	●
Pressure Plate				
QZD020621	Multilift II product line	3000 N		

Adaptor bar

■ Cross struts from the BLOCAN® Profile Assembly System are used to increase the stability of two version Multilift II with internal carriage. The adaptor bar is suitable for F profile 40 x 80 L and F 30x60.

Material:

AlMgSi 0,5

Fixing set, zinc plated

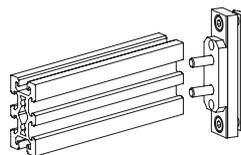
Scope of delivery:

2x adaptor bars, fixing setsatz

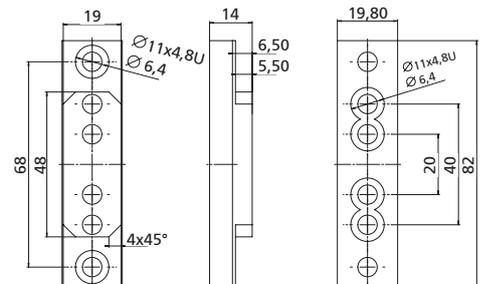


BLOCAN®-Profile F 30x60 as cross strut

Slot stones, -L M6 4046204



Adaptor bar



Code No.	Version
QZD020020	Adaptor bar for BLOCAN® profiles
4285000	Profile* F-40 x 80-L, can be cut to specification

Length (clear width between the Multilifts -2 mm)

* For dimensions of the profiles, please refer to the catalogue BLOCAN PROFILE TECHNOLOGY

Mounting bracket for Multilift II



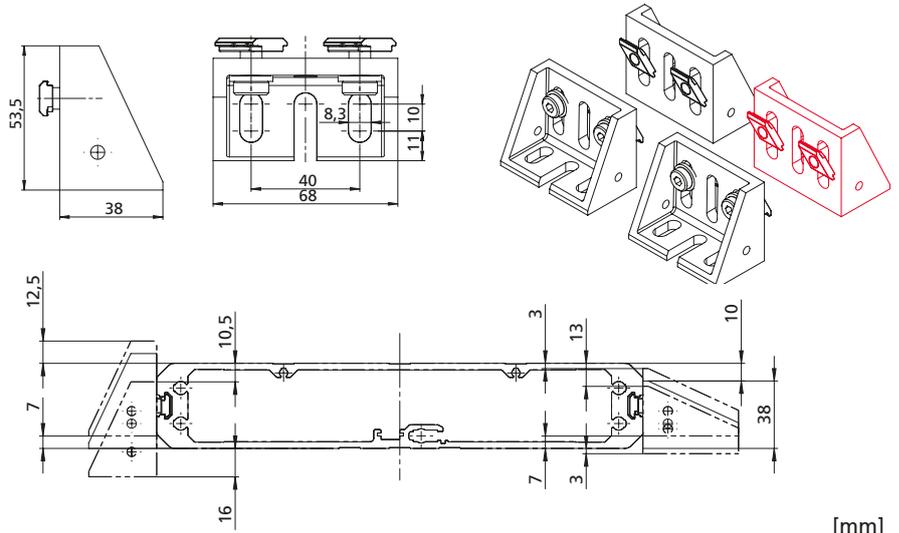
- The mounting brackets are used to to fix the lifting column horizontally or vertically horizontally or vertically by means of the fixing slots on the outer profile of the Multilift II. Also suitable for ESD applications.

Material:

Aluminium die cast

Scope of delivery:

One mounting bracket including mounting material



[mm]

Code No.	Type	Max. load	Multilift II	
			Internal profile	External profile
QZD020745	Multilift II mounting bracket	3000 N		●

Support struts

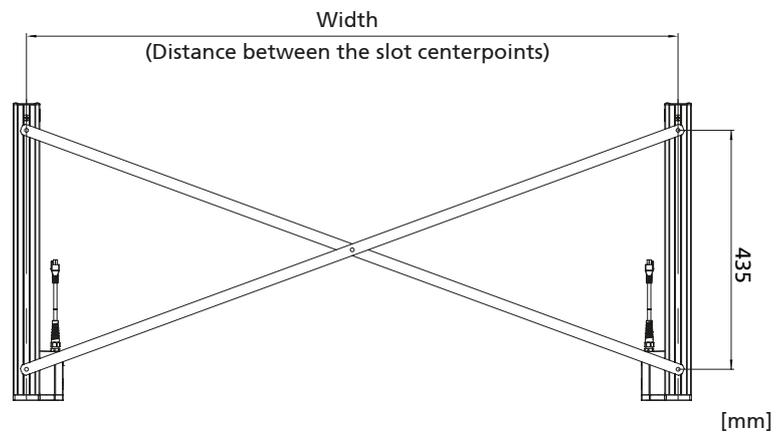
- For stabilisation of column structures.
- Available for all Multilift II / Multilift II telescope variants.

Material:

Aluminium not anodized

Scope of delivery:

Two support struts including fastenings



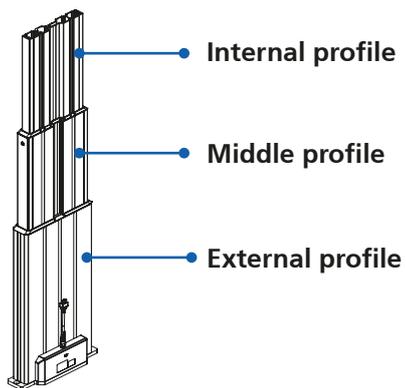
[mm]

Code No.	Type	Width (min.)	Width (max.)	Multilift II	
				Internal profile	External profile
QZD020734	Support struts Multilift II product line	750 mm	2000 mm		●

Distance between the slot centerpoints [mm]

Multilift II – Accessories

Foot versions



- Different foot versions for the Multilift
- No modifications of the Multilift required

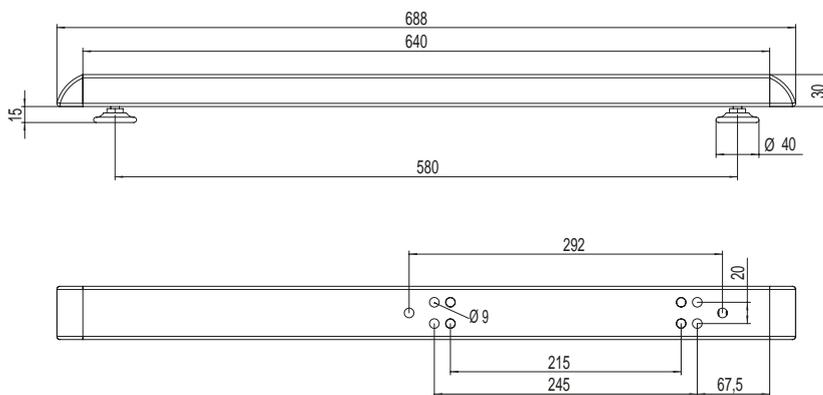
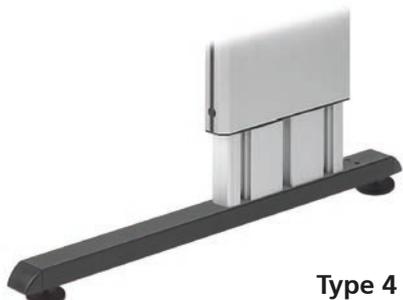
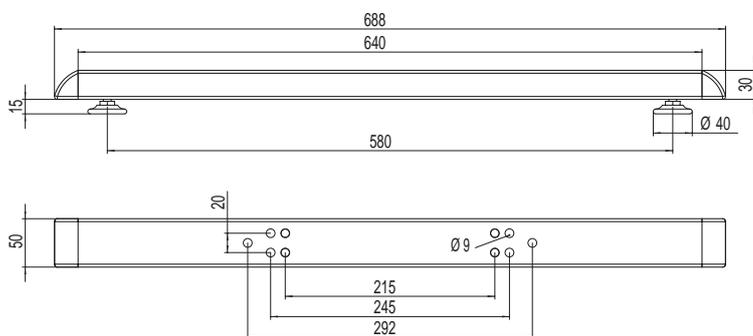
Material:

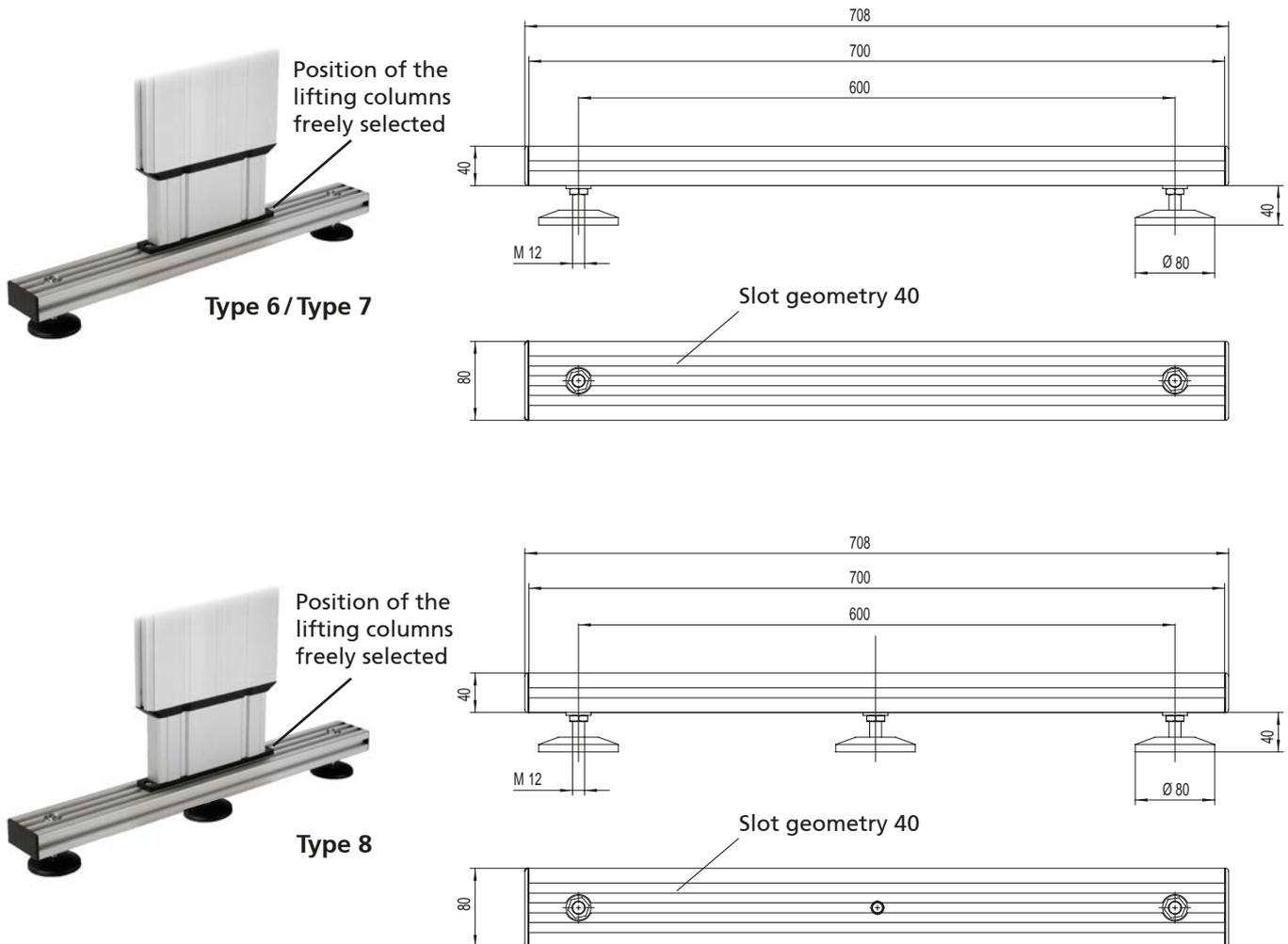
Type 1/2 GK-ALSi12/3.2583.02, black powder-coated

Type 3/4 steel tube, ends capped black powder-coated

Scope of delivery:

one foot with fixing set





Code No.	Type	Max. load	Multilift II with internal carriage		
			Internal profile	External profile	Properties
QZD020254	3	1000 N		●	
QZD020255	4	1000 N		●	
QZD020256	6	3000 N		●	
QZD020257	7	3000 N		●	For ESD-Version
QZD020258	8	3000 N		●	

RK Powerlift M



The mini version of the RK Powerlift – the RK Powerlift M



Fixing slot

- ✓ To accommodate clamping bars
- ✓ Fitted with cover profile

- ✓ Fixed motor cable (3 m) with plug

Highlights / Features:

- Withstands high torsional and bending moments
- Integrated motor
- Extremely quiet operation
- External control
- Four fixing slots in external profile
- Power receptacle at top or bottom, as preferred
- Tested to:
IEC 60601-1 (ed.3)
EN 60601-1:2006/A1:2013

Options:

- Special stroke lengths and installations height available on request
- With synchronous control:
 - Cascading of several columns
- Specific solutions on request

RK Powerlift M – Table of contents

<p>Versions</p>	<p>Lifting columns</p> <ul style="list-style-type: none"> ■ RK Powerlift M for external control Page 86
<p>Accessories</p>	<p>Fixing</p> <ul style="list-style-type: none"> ■ RK SyncFlex..... Page 88 ■ Square nut Page 88 ■ Assembly plates..... Page 89 ■ Base plate Page 89

RK Powerlift M – Technical data

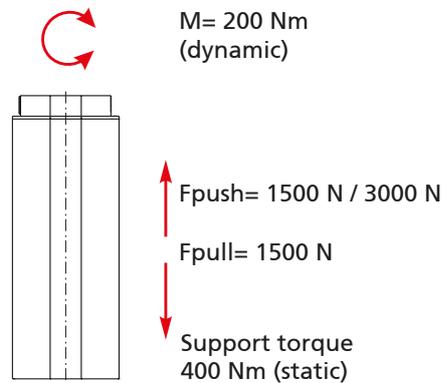
General information/operating conditions

Type	RK Powerlift M
Design	Rectangular lifting column in compact design
Guide	16 POM slide bearings
Installation position	Any position/suspended with drop protection provided by the customer
Push force	3000 N or 1500 N
Pull force	1500 N
Self-locking	Yes
Max. travel speed	7 mm/s or 10 mm/s
Max. Stroke	500 mm
Installation dimension	Stroke + 210 mm
Voltage	24 V DC
Current output	3,5 A or 4,5 A
Protection class	IP 30
Ambient temperature	+5°C to +40°C
Displacement during synchronous operation	0 to 2 mm
Duty cycle (Operation mode S 3)	At nominal load, 15% (max. 1.5 mins operating time, 8.5 mins rest time)

*Note:

All information refers to the standard sizes. All data of push/pull forces are referring to the individual lifting column, for combined applications a safety factor of up to 0,6 has to be considered. In medical applications, the maximum pull force of 750 N must not be exceeded.

Load data RK Powerlift M



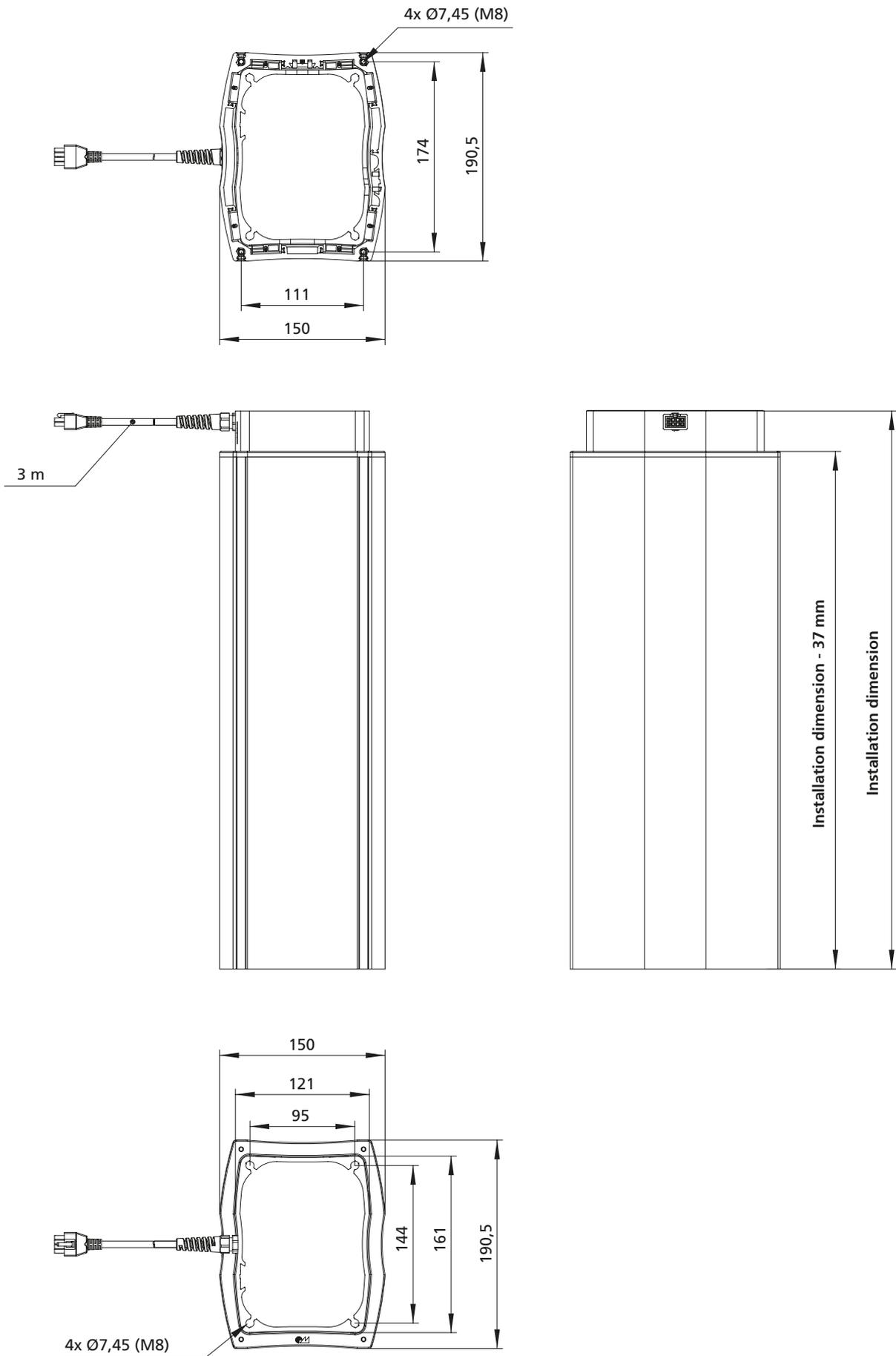
Drive	Push force [N]	Travel speed [mm/s]	Number of assigned motor channels			
			1	2	3	4
Powerlift M	1500	10	✓	✓	each 1300 N	each 500 N
Powerlift M	3000	7	✓	✓	each 1600 N	each 1000 N
			MultiControl II duo		MultiControl II quadro	

Note:

If more than 2 drives are to be operated synchronously at nominal load, BUS communication between two or more MultiControl II duo controllers is required. The necessary accessories can be found on page 146. The procedure for setting up BUS communication is described in detail in the operating manual.



RK Powerlift M for external control



RK Powerlift M – Versions

RK Powerlift M for external control

The design of the **RK Powerlift M** is impressive, with its high torque support and its compact form. As a result, this lifting column is often used as a mono column. In addition to the existing 1500 N version, the range has been extended to include the RK Powerlift M for compressive forces of 3000 N. The combination of high compressive force and torque support makes the RK Powerlift M a powerful lifting column with many different applications.



Special features:

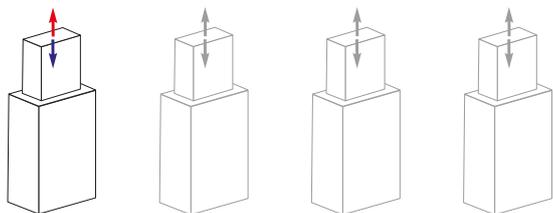
- Withstands high torsional and bending moments
- Compact form

Ideal area of application:

- ✓ Workplace ergonomics
- ✓ Industrial technology
- ✓ Media technology
- ✓ Medical technology

Lifting column and control as individual components:

RK Powerlift M can be used exclusively in combination with MultiControl II duo (see page 130) and MultiControl II quadro (see page 138).



Features:

- Supports configuration of systems with up to 32 drives
- Wide-range input
- High duty cycle
- Simple connection to master control system
- Intuitive operation

RK Powerlift M

Code No.	Type	max. push force [N]	max. pull force [N]	max. lifting speed [mm/s]	Total travel [mm]	Installation dimension [mm]	Weight [kg]
For external control							
QPM08EE490300	RK Powerlift M 	3000 / 3000 (med.)	1500 / 750 (med.)	7	300	510	~12,0
QPM08EE490400					400	610	~13,5
QPM13EC490300		1500 / 1500 (med.)	1500 / 750 (med.)	10	300	510	~12,0
QPM13EC490400					400	610	~13,5
QPM13EC490500					500	710	~15,0

System components

Code No.	Accessories	
Controls		
QST44H12AA000	MultiControl II duo - Basic	RK Powerlift M
QST44H12AA022	MultiControl II duo - Premium	
QST44H14AA000	MultiControl II quadro - Basic	RK Powerlift M
QST44H14AA022	MultiControl II quadro - Premium	
Hand switches		
QZB11G07AV041	Hand switch with 6 function keys and display – 1 m cable lenth	
QZB11G07AB041	Hand switch with 2 function keys – 1 m cable lenth	
QZD000074	Hand switch drawer for hand switch with 6 and 2 function keys	
IEC connector		
QZD070618	IEC cable (Europe version, earthed plug)	

Note:

Further accessories (hand switches, connecting cables etc.) can be found in the chapter „Controls and accessories“ starting on page 126

RK Powerlift M – Accessories

RK SyncFlex H

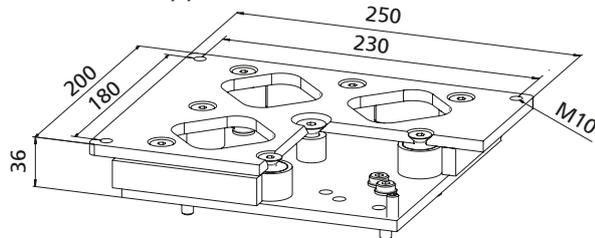
Scope of delivery:
Adjuster plate,
incl. fixing material



Horizontal alignment

- To prevent locked-up stress in mechanically overdefined bearing systems (more than one fixed bearing) around the horizontal axis. With RK SyncFlex H defined loose bearings supplement the application.

- The horizontal compensation in the Z-axis enables the freedom of movement required when moving the lifting columns.



[mm]

Code No.	Type	Max. load	Powerlift M	
			Internal profile	External profile
QZD100453	RK Powerlift M	3000 N	●	

RK SyncFlex V

Scope of delivery:
Adjuster plate,
incl. fixing material

Option:
Optionally available with or
without pressure plate (see table)

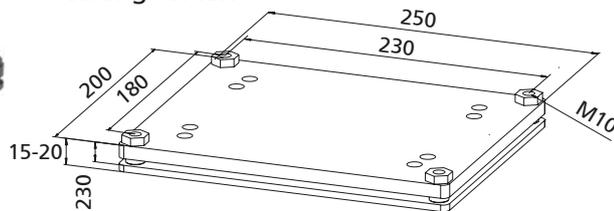


Vertikale Ausrichtung

- If the lifting columns are not parallel, the distance between the two upper fixing points will change during the movement. However, a rigid connection keeps this distance constant, and this means that the lifting columns are subject to very strong forces.

RK SyncFlex V enables the compensation of unevenness in the mounting environment.

- The lifting columns can be aligned via the vertical adjustment around the X-Y axes.



Code No.	Type	Max. load	Powerlift M	
			Internal profile	External profile
RK SyncFlex V Adjusting plate				
QZD100446	RK Powerlift M	3000 N		●
Pressure Plate				
QZD100463	RK Powerlift M	3000 N		

Square nut



- For connecting accessories to the external profile

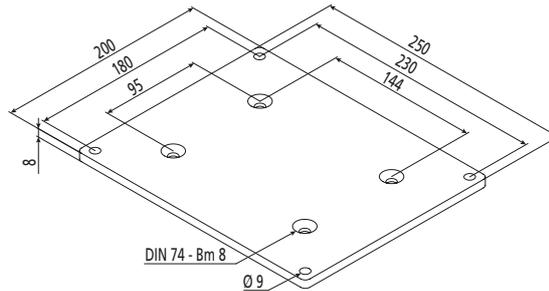
Code No.	lot sizes	Type
QZD1003261	10, 20, 30... pcs	Square nut M4, DIN 562

Assembly plates

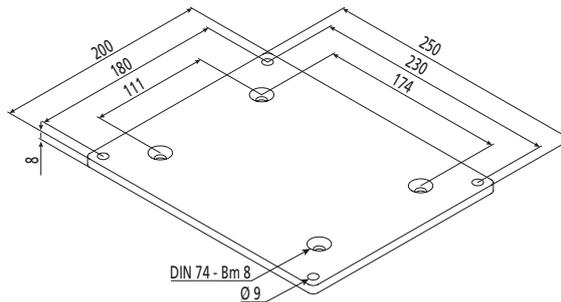
■ These mounting plates are fitted using the mounting kits supplied and fixed directly into the screw channels in the **RKPowerlift M**. A further 4 holes, in the mounting plate, allow easy connection, to brackets or corresponding fixture assembly work etc.

Material: S 235 JR, black powder-coated, zinc plated fixing set

Scope of delivery:
Plate, incl. fixing set



Code No.	Type	Powerlift M	
		Internal profile	External profile
QZD100541	Top assembly plate	●	

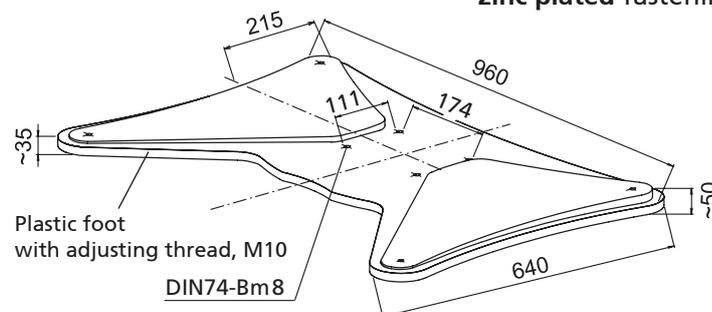
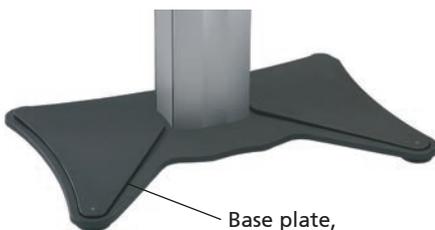


Code No.	Type	Powerlift M	
		Internal profile	External profile
QZD100542	Bottom assembly plate		●

Base plate

Scope of delivery:
complete with fastenings

Material:
steel, black powder-coated (RAL 9005),
zinc plated fastenings

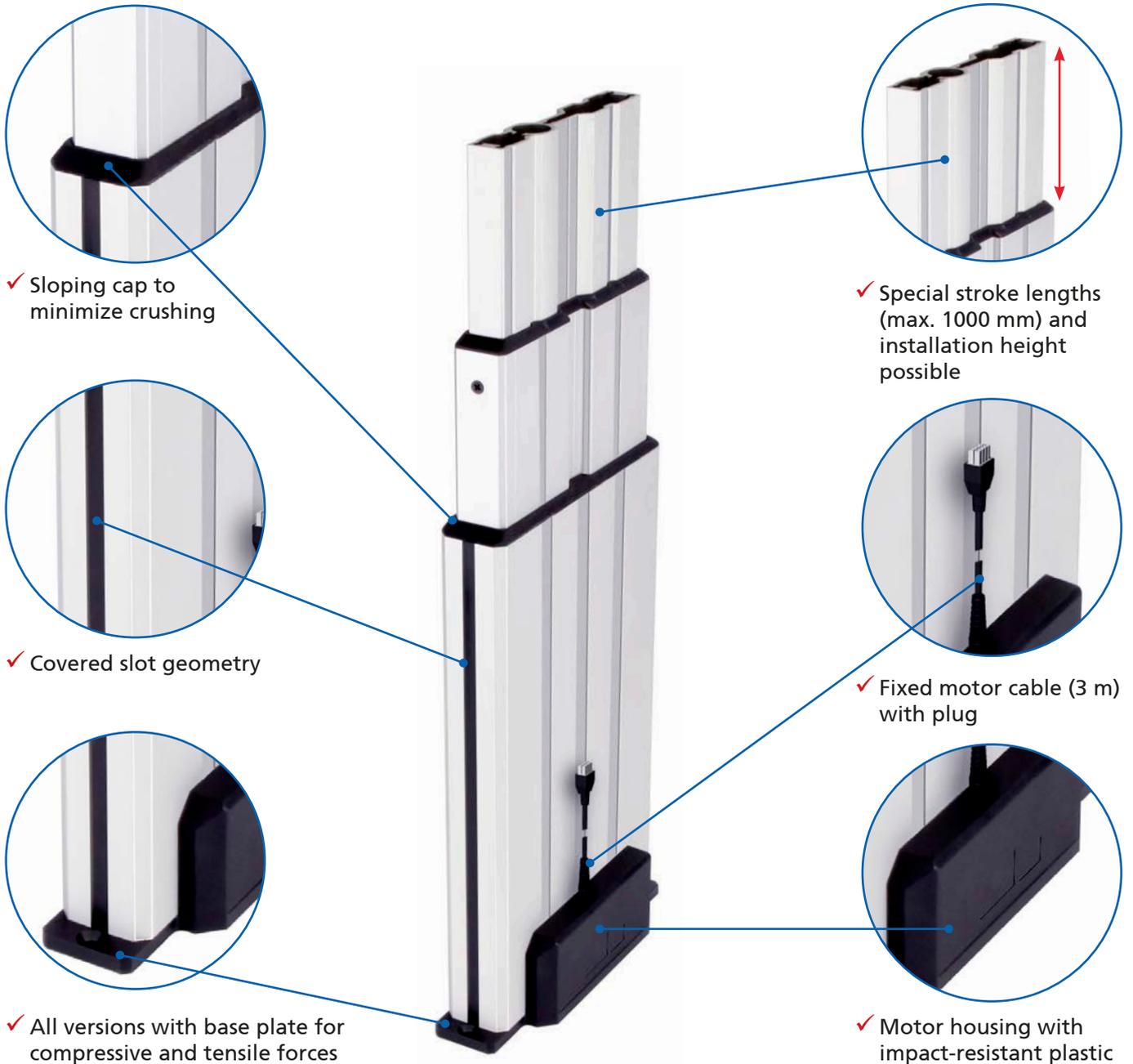


Code No.	Type	Powerlift M	
		Internal profile	External profile
QZD100546	Base plate for RK Powerlift M		●

Multilift II telescope



Optimised unique height/stroke length ratio conforms to the ergonomics standard for workbenches (DIN EN 527-1:2011)



Highlights / Features:

- Integrated limit switches
- Self-locking, even at max. load
- Lateral fixing slot in external profile
- Position feedback by hall sensor
- Optimised height/stroke length ratio conforms to the ergonomic standard for workbenches (DIN EN 527-1:2011)

Options:

- Special stroke lengths and installation height available on request
- With synchronous control:
 - Cascading of several columns
- Specific solutions on request
- Tested to: IEC 60601-1:2005, IEC 60601-1:2005/AMD1:2012

Multilift II telescope – Table of contents

<p>Versions</p> <p>Lifting columns</p>	<ul style="list-style-type: none"> ■ Multilift II telescope..... Page 94 ■ Multilift II telescope ESD Page 96
<p>Accessories</p> <p>Fixing</p>	<ul style="list-style-type: none"> ■ RK SyncFlex..... Page 98 ■ Assembly plates..... Page 99 ■ Support struts..... Page 99 ■ Foot versions Page 100

Multilift II telescope – Technical data

General information/operating conditions

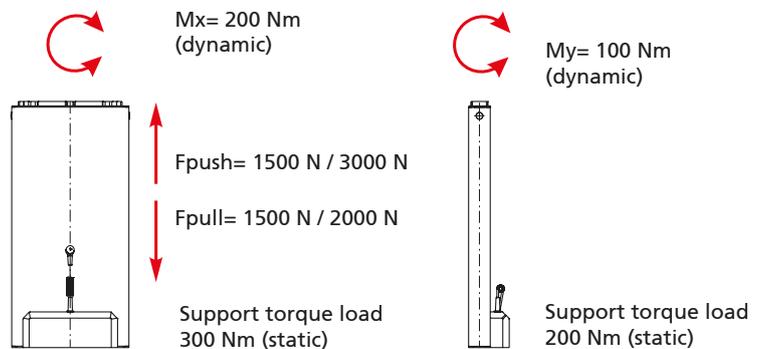
Type	Multilift II telescope	Multilift II telescope ESD	Custom
Design	Slim lifting column		
Guide	POM slide bearings		
Installation position	Any position / hanging only with drop protection provided by the customer		
Push force	3000 N or 1000 N		
Pull force	2000 N or 1000 N		
Self-locking	Yes		
Max. travel speed	8 mm/s or 16 mm/s		
Max. Stroke	650 mm		1000 mm
Installation dimension	560 mm		732,5 mm
Voltage	28 V DC		
Current output	4 A		
Protection class	IP 30		
Ambient temperature	+5°C to +40°C		
Displacement during synchronous operation	0 to 2 mm		
Duty cycle (Operation mode S3)	At nominal load, 10% (2 min operating time, 18 mins rest time)		

Note:

All information refers to the standard sizes. All data of push/pull forces are referring to the individual lifting column, for combined applications a safety factor of up to 0,6 has to be considered.

In medical applications, the maximum pull force of 500 N and, in the case of the version with a travel speed of 8 mm/s, the maximum push force of 1500 N must not be exceeded.

Load data Multilift II telescope



Drive	Push force [N]	Travel speed [mm/s]	Number of assigned motor channels			
			1	2	3	4
Multilift II telescope	1000	16	✓	✓	each 850 N	each 500 N
Multilift II telescope	3000	8	✓	✓	each 1800 N	each 1000 N
			MultiControl II duo		MultiControl II quadro	

Note:

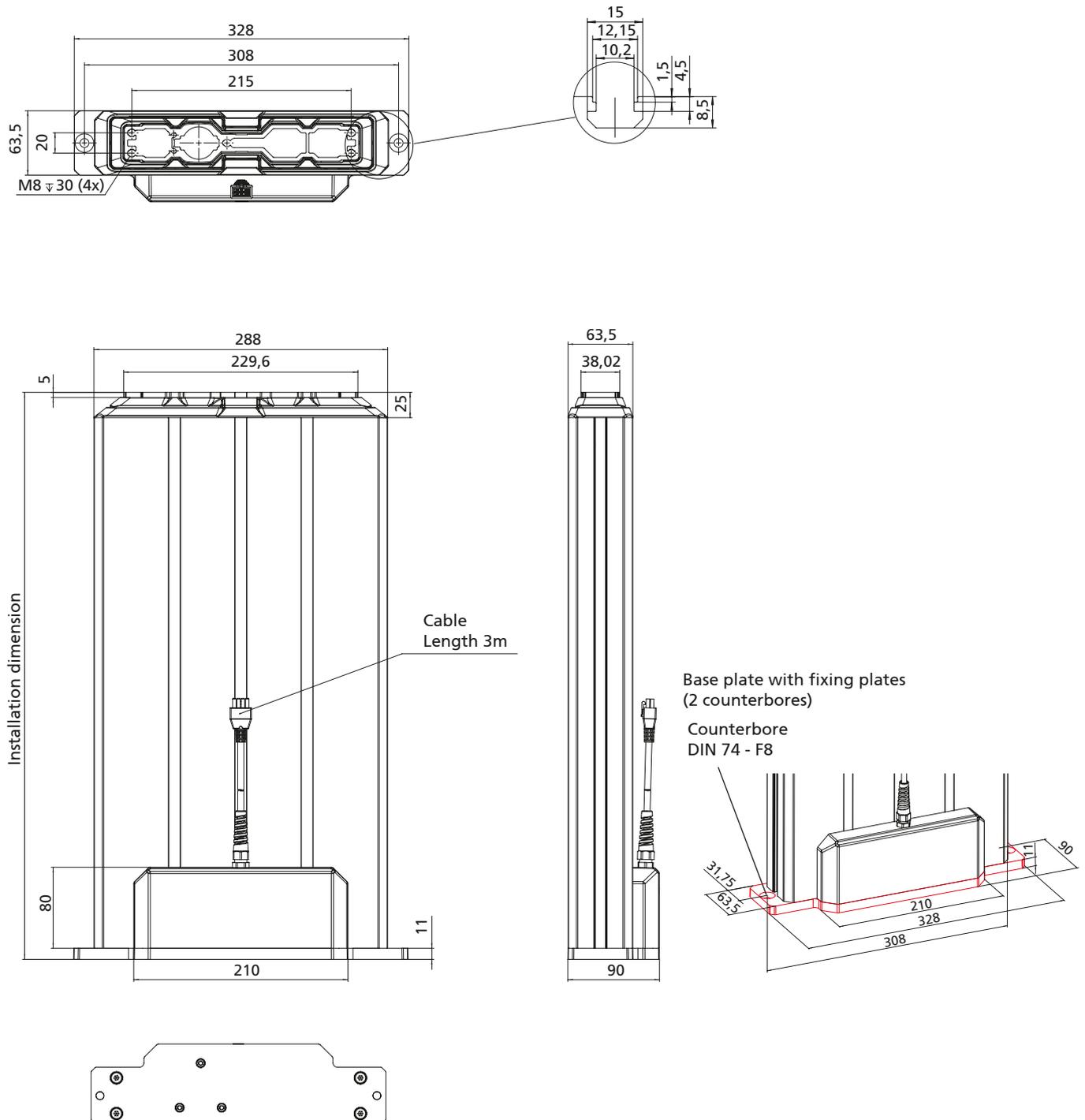
If more than 2 drives are to be operated synchronously at nominal load, BUS communication between two or more MultiControl II duo controllers is required.

The necessary accessories can be found on page 146.

The procedure for setting up BUS communication is described in detail in the operating manual.



Multilift II telescope



The fixing slots on the side allow an easy attachment of accessories. For example, a screen, CPU bracket or system reinforcements can be fixed to the lifting columns by using slot stones. The 30 slot geometry is also compatible with the RK BLOCAN® aluminium profile system.

Multilift II telescope – Versions

Multilift II telescope – unique installation height / stroke ratio

The three-stage lifting column conforms to the ergonomics standard for workbenches (DIN EN 527-1:2011) and features an optimum height / stroke length ratio: the installation dimension in a retracted position is just 560 mm. The maximum stroke is 650 mm (Custom 1000 mm) with a maximum lifting force of up to 3000 N per drive.



Special feature:

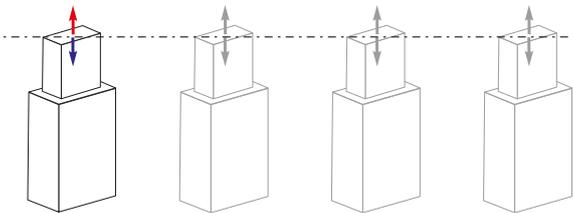
- Optimised height / stroke length ratio conforms to the ergonomic standard for workbenches (DIN EN 527-1:2011)

Ideal area of application:

- ✓ Especially for seated and standing workplaces in the production
- ✓ LEAN-Workplaces

Lifting column and control as individual components:

Multilift II telescope can be used exclusively in combination with MultiControl II duo (see page 138) and MultiControl II quadro (see page 138).

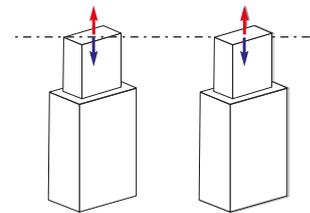


Features:

- Supports configuration of systems with up to 32 drives
- Wide-range input
- High duty cycle
- Simple connection to master control system
- Intuitive operation

Lifting column and control as pre-assembled set:

Multilift II telescope can be used exclusively in combination with Compact-e-3-EU (see page 158)



Features:

- Exclusively for a 2-column table system
- System is factory-initialised (Plug & Play)

Individual components:

Lifting column Multilift II telescope



Code No.	Type	max. push force [N]	max. pull force [N]	max. lifting speed [mm/s]	Total travel [mm]	Installation dimension [mm]	Weight [kg]
TM13B1C3C22CA0650	Multilift II telescope	3000 / 1500 (med.)	2000 / 500 (med.)	8	650	560	15.0
TM13B1C2C22CA0650	Multilift II telescope	1000 / 1000 (med.)	1000 / 500 (med.)	16	650	560	15.0

System components

Code No.	Accessories	
Controls		
QST44H12AA000	MultiControl II duo - Basic	Multilift II telescope
QST44H12AA022	MultiControl II duo - Premium	
QST44H13AA000	MultiControl II quadro - Basic	Multilift II telescope
QST44H13AA022	MultiControl II quadro - Premium	
Hand switches		
QZB11G07AV041	Hand switch with 6 function keys and display – 1 m cable length	
QZB11G07AB041	Hand switch with 2 function keys – 1 m cable length	
QZD000074	Hand switch drawer for hand switch with 6 and 2 function keys	
IEC connector		
QZD070618	IEC cable (Europe version, earthed plug)	

Note:

Further accessories (hand switches, connecting cables etc.) can be found in the chapter „Controls and accessories“ starting on page 126

Set:

Multilift II telescope in combination with Compact-e-3-EU control

Scope of delivery:

2 Multilifts II, 1 Controller box Compact-e-3-EU, 4 Cover profiles, 4 Slot stones

Order instruction:

Please select mains cable and hand switch separately (see page 158)

Code No.	Type	max. push force [N]	max. pull force [N]	max. lifting speed [N]	Total travel [mm]	Installation dimension [mm]	Weight [kg]
TS13B1C3C22CA0650	Multilift II telescope Set 230V AC	3000	2000	8	650	560	31.0
TS13B1C2C22CA0650	Multilift II telescope Set 230V AC	1000	1000	16	650	560	31.0

Note:

The load value information is referring to the individual lifting column. For combined applications a safety factor of up to 0,6 has to be considered.

Multilift II telescope ESD

Multilift II telescope ESD – discharging voltages via the lifting column

In the electronics and semiconductor manufacturing industry, electrostatic discharges can impair the function of components being assembled, or even destroy them. With the Multilift II telescope ESD, RK Rose+Krieger has developed a patented electric height adjustment system that is able to dissipate voltages.



Special feature:

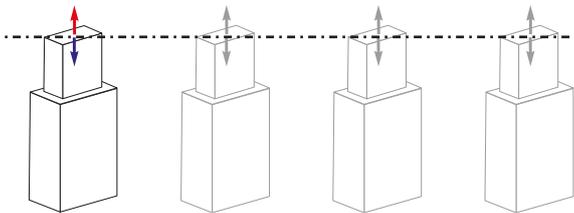
- Outer and inner profile electrically connected to each other

Ideal area of application:

- ✓ Assembly workstations for the manufacture of electronic components

Lifting column and control as individual components:

Multilift II telescope ESD can be used exclusively in combination with MultiControl II duo (see page 130) and MultiControl II quadro (see page 138).



Features:

- Supports configuration of systems with up to 32 drives
- Wide-range input
- High duty cycle
- Simple connection to master control system
- Intuitive operation

Individual components:
 Lifting column Multilift II ESD


Code No.	Type	max. push force [N]	max. pull force [N]	max. lifting speed [mm/s]	Total travel [mm]	Installation dimension [mm]	Weight [kg]
TM13B1C3C22CC0650	Multilift II telescope ESD	3000 / 1500 (med.)	2,000 / 500 (med.)	8	650	560	15.0
TM13B1C2C22CC0650	Multilift II telescope ESD	1000 / 1000 (med.)	1,000 / 500 (med.)	16	650	560	15.0

System components

Code No.	Accessories	
Controls		
QST12H12AA000	MultiControl II duo - Basic	Multilift II telescope ESD
QST12H12AA022	MultiControl II duo - Premium	
QST12H14AA000	MultiControl II quadro - Basic	Multilift II telescope ESD
QST12H14AA022	MultiControl II quadro - Premium	
Hand switches		
QZB11G07AV041	Hand switch with 6 function keys and display – 1 m cable length	
QZB11G07AB041	Hand switch with 2 function keys – 1 m cable length	
QZD000074	Hand switch drawer for hand switch with 6 and 2 function keys	
IEC connector		
QZD070618	IEC cable (Europe version, earthed plug)	

Note:

Further accessories (hand switches, connecting cables etc.) can be found in the chapter „Controls and accessories“ starting on page 126

Multilift II telescope – Accessories

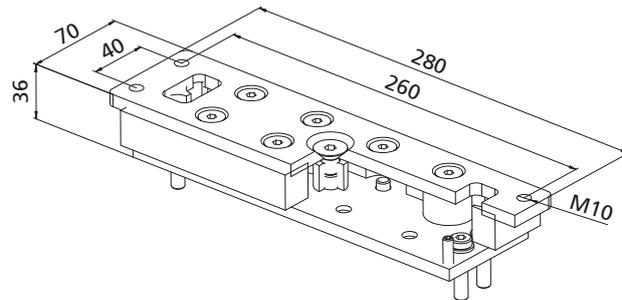
RK SyncFlex H

Scope of delivery:
Adjuster plate, incl. fixing material



Horizontal alignment

- To prevent locked-up stress in mechanically overdefined bearing systems (more than one fixed bearing) around the horizontal axis. With RK SyncFlex H, defined floating bearings supplement the application.
- The horizontal compensation in the Z-axis enables the mobility required when moving the lifting columns.



[mm]

Code No.	Type	Max. load	Multilift II telescope	
			Internal profile	External profile
QZD020471	Multilift II product line	3000 N	●	

RK SyncFlex V

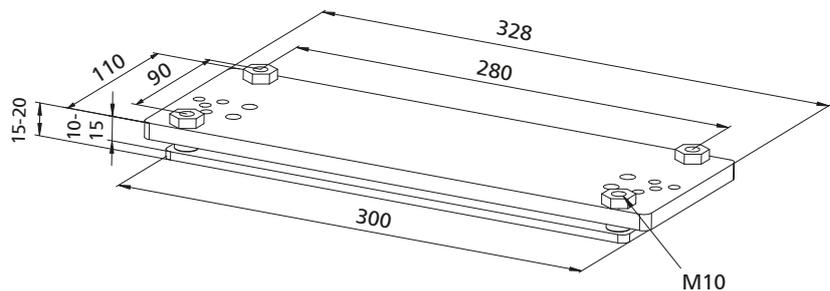
Scope of delivery:
Adjuster plate, incl. fixing material

Option:
Pressure plate (see table) can be ordered separately



Vertical alignment

- If the lifting columns are not parallel, the distance between the two upper fixing points will change during the movement. However, a rigid connection keeps this distance constant, which means that the lifting columns are subject to very strong forces.
- RK SyncFlex V enables the compensation of unevenness in the mounting environment.
- The lifting columns can be aligned via the vertical adjustment around the X-Y axes.



[mm]

Code No.	Type	Max. load	Multilift II telescope	
			Internal profile	External profile
RK SyncFlex V Adjusting plate				
QZD020620	Multilift II product line	3000 N	●*	●
Pressure Plate				
QZD020621	Multilift II product line	3000 N		

* = in connection with the assembly plate Type 2 (page 99)

Assembly plates

- The assembly plates are for easy assembling in customer applications.

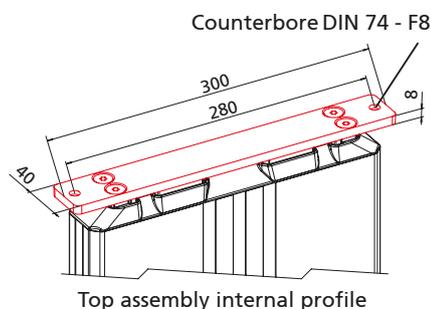
Material:

Option of black-powdered die cast zinc or black-powdered steel. zinc plated fixing set

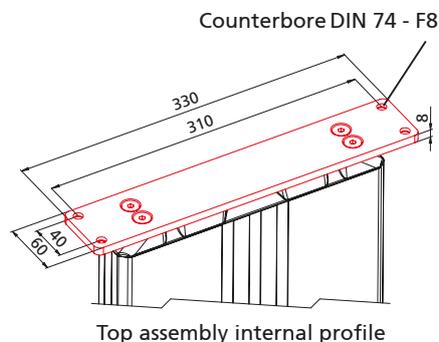
Scope of delivery:

Plate with fixing set

Type 2



Type 3



Code No.	Type	for drive	Material	Multilift II telescope	
				Internal profile	External profile
QZD020549	2	Multilift II telescope	Zinc die cast	●	
QZD020552	3	Multilift II telescope	Steel	●	

Support struts

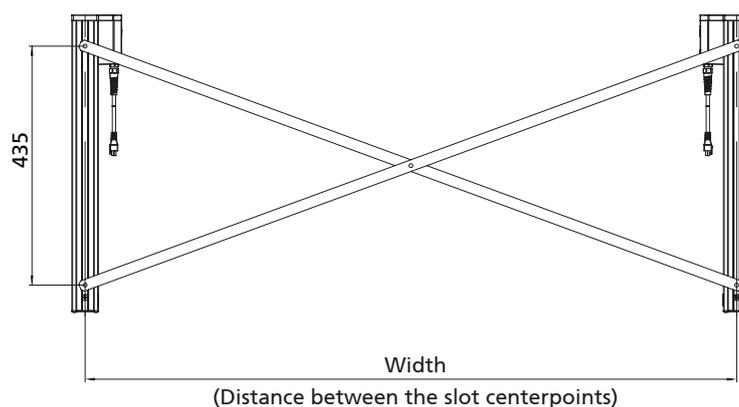
- For stabilisation of column structures.
- Available for all Multilift II / Multilift II telescope variants.

Material:

Aluminium not anodized

Scope of delivery:

Two support struts including fastenings

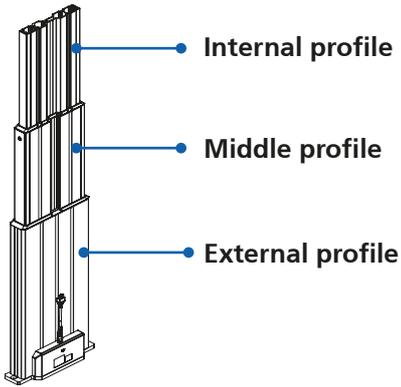


Code No.	Type	Width (min.)	Width (max.)	Multilift II telescope	
				Internal profile	External profile
QZD020734	Support struts Multilift II product line	750 mm	2000 mm		●

Distance between the slot centerpoints [mm]

Multilift II telescope – Accessories

Foot versions

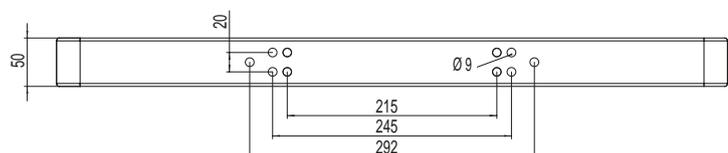
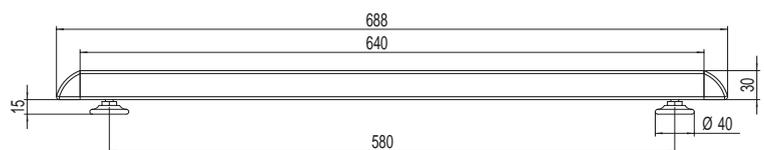
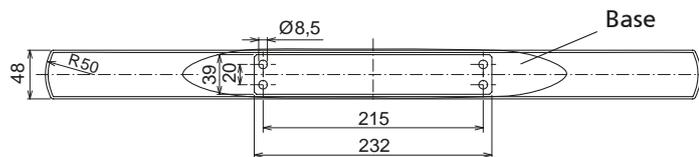
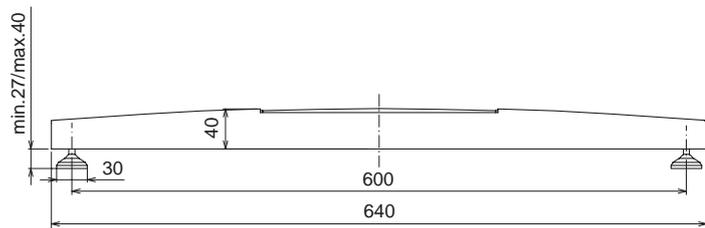
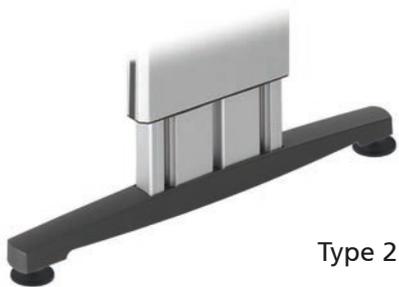
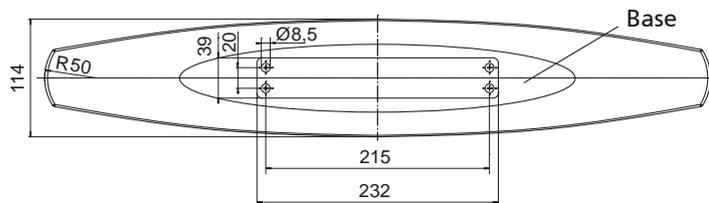
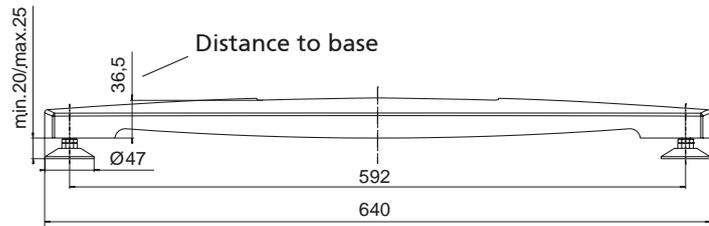


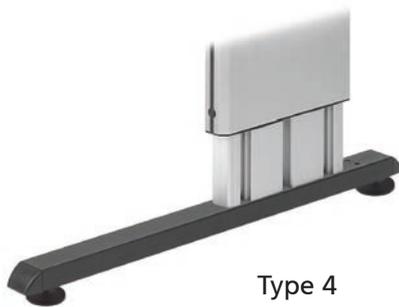
- Different foot versions for the Multilift
- No modifications of the Multilift required

Material:
Type 1/2 GK-ALSi12/3.2583.02,
black powder-coated

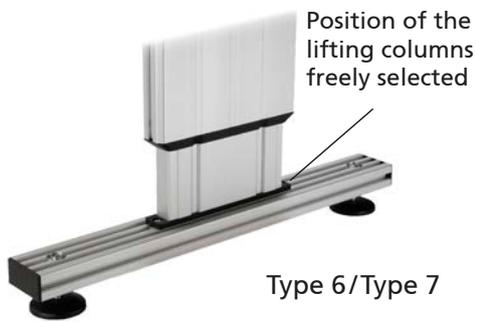
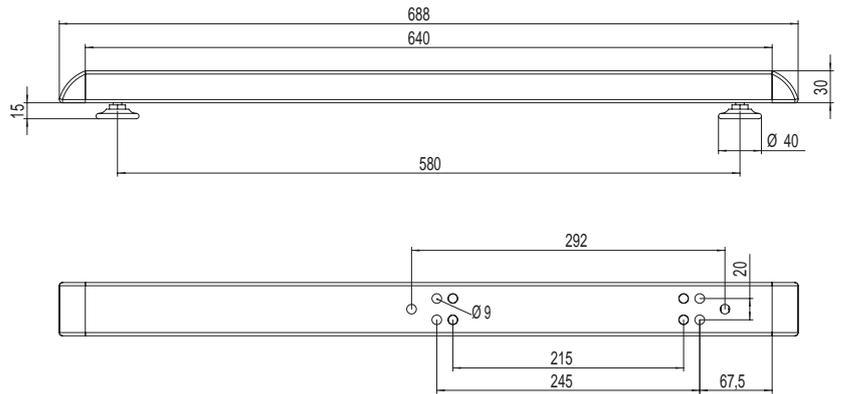
Type 3/4 steel tube, ends capped
black powder-coated

Scope of delivery:
one foot with fixing set

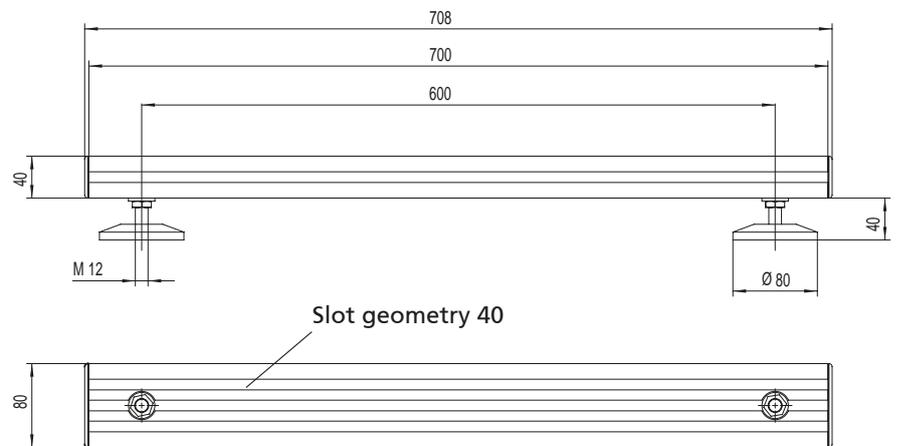




Type 4



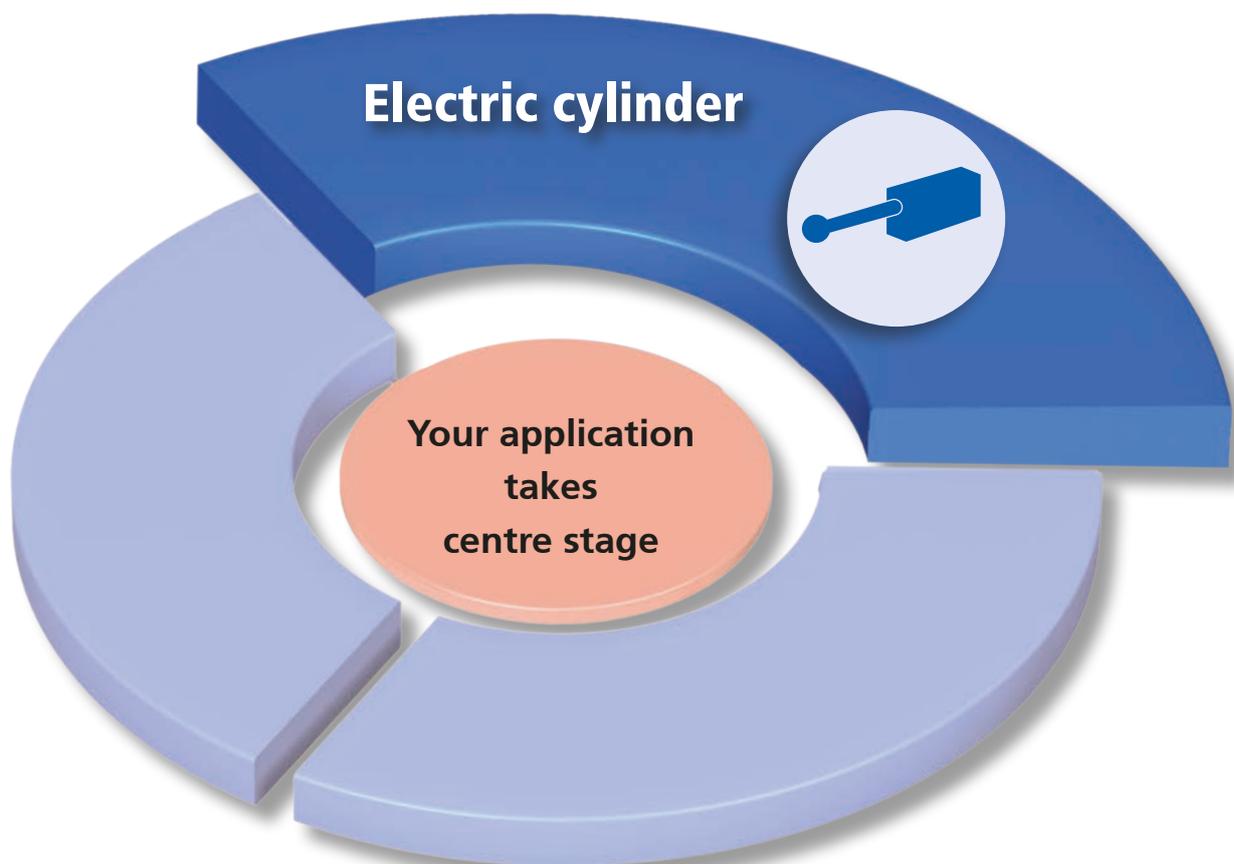
Type 6/Type 7



***Order instruction:**

The application example shown – internal profile mounted on Type 6 – is only in combination with an assembly plate possible (see page 99)

Code No.	Type	Max. load	Multilift II telescope		Multilift II telescope ESD	
			Internal profile	External profile	Internal profile	External profile
QZD020252	1	1000 N	●			
QZD020253	2	1000 N	●			
QZD020254	3	1000 N	●			
QZD020255	4	1000 N	●			
QZD020256	6	3000 N	●*	●		
QZD020257	7	3000 N			●*	●



Electric cylinders

are self-locking, which means that no power is supplied when at a standstill. This makes electric cylinders an interesting alternative to pneumatic and hydraulic actuators. Powerful DC motors, signal lines, potentiometers and Hall ICs for position sensing, and integrated limit switches thus respond to the most common requirements.



Contents

E-Zylinder LZ60 S..... Page 106

E-Zylinder LZ60 P..... Page 116

You will find more electric cylinders in
the General Catalogue PDF:
**Linear Technology Lifting columns
and electric cylinders**

Electric cylinder

Electric cylinder – Product selection

Finding the right electric cylinder



Depending on technical and optical requirements, it takes just 2 steps to find the electric cylinder that matches your needs.
Step 1 - Determine the type of electric cylinder.
Step 2 - Choose the appropriate version.

Step 1

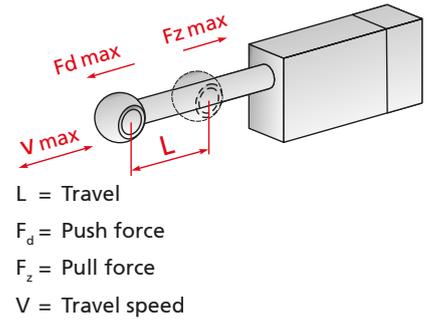


Select the electric cylinder on the right that meets your requirements.

Step 2

For step 2, please refer to the relevant catalogue page.





Cylinders performance class 2



All data refer to standard sizes

Features	LZ 60 S page 106	LZ 60 P page 116
Max. travel	600 mm	600 mm
Max. push force	3000 N	4000 N
Max. pull force	3000 N	4000 N
Max. travel speed	18,5 mm/s	22 mm/s
Current output	5,5 A	5,5 A
Protection class	IP 54	IP 54
Integrated limit switch	•	•
Can be synchronised by means of control system	•	•
Fitted with signal contact	•	•
Features	✓ Ideally suited to industrial applications	✓ Ideally suited to industrial applications

LZ 60 S Electric cylinder

The industrial design complete system with push/pull forces up to 3000 N.



External control electrically connection „e“

- ✓ Connection (2,5 m) to MultiControl II synchronous control

External control

- ✓ Range of connecting options:
 - Up/down mono operation
 - PLC
 - synchronous control
 - integrated control

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

Range of fitting dimensions

- ✓ Slide-in clasp nuts enable fitting dimensions of 37.5 to 40.5 mm.
- ✓ Compatible with a wide range of fixing elements from the pneumatic industry.

Elec. connection “b”

- ✓ All connecting cables (approx. 1 m) is fed out of the unit (limit switches, motor, 2-channel Hall sensor) e.g for connection to a PLC
- ✓ Connection to PLC or equivalent control 24 V/36 V

Highlights / Features:

- Integrated DC drive
- Flexible use of space due to different motor installation options: parallel (LZ 60 P) or rod shaped (LZ 60 S)
- Coverable slot geometry on both sides supports a range of fixing options
- Push rod with rotation locking
- Maintenance-free for up to 10,000 double strokes
- IP 54
- Self-locking

Options:

- Special stroke lengths available on request

Electric cylinder LZ 60 S – Table of contents

<p>Versions</p>	<p>Electric cylinder</p> <ul style="list-style-type: none"> ■ E-cylinder LZ60 SPage 109
<p>Accessories</p>	<ul style="list-style-type: none"> ■ FixingPage 112 ■ Magnetic switchPage 115

LZ 60 S – Technical data

General information/operating conditions

Type	LZ 60 S external control	Custom
Design	Linear cylinder with integrated DC motor	
Guide	Double bearing via POM bushes	
Installation position	Any position/without shear forces/hanging only with drop protection provided by the customer	
Push force	3000 N or 750 N	
Pull force	3000 N or 750 N	
Self-locking	Yes	
Max. travel speed	4,5 mm/s or 50 mm/s	
Max. Hub	600 mm	1200 mm
Installation dimension	Stroke + 341 mm or Stroke + 356 mm	1383 mm
Voltage	24 to 36 V DC	
Current output	3 A or 4 A	
Protection class	IP 54	
Ambient temperature	+5°C to +40°C	
Displacement during synchronous operation	0 to 2 mm	
Duty cycle (Operation mode S3)	At nominal load, 15% (1,5 min operating time, 8,5 mins rest time)	
Repeatability	0,5 mm	
Stroke tolerances	+0,5 mm / -2,5 mm	

Note: RK Rose+Krieger GmbH cylinders are only designed for centric loads.

Drive	Push force [N]	Travel speed [mm/s]	Number of assigned motor channels			
			1	2	3	4
LZ 60 S	750	18,5	✓	✓	✓	✓
LZ 60 S	3000	4,5	✓	✓	✓	each 2500 N
			MultiControl II duo		MultiControl II quadro	

Note:

If more than 2 drives are to be operated synchronously at nominal load, BUS communication between two or more MultiControl II duo controllers is required.

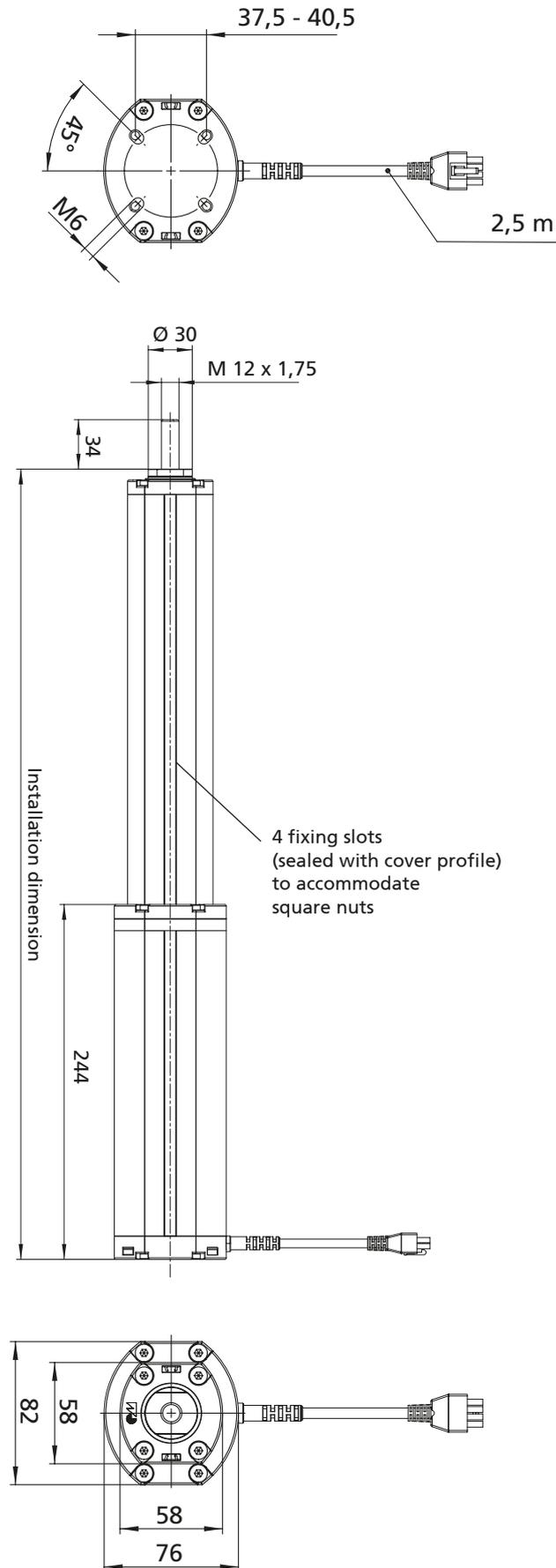
The necessary accessories can be found on page 146.

The procedure for setting up BUS communication is described in detail in the operating manual.





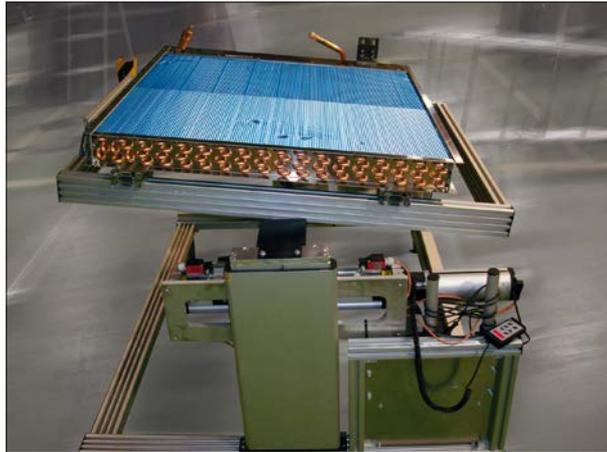
LZ 60 S – Version



LZ 60 S – Technical data

LZ 60 S linear cylinder – highly versatile use

The LZ 60 series does not just impress with high functionality and high power density, but also with its attractive design. The side slots and the versatile accessories facilitate simple connection in accordance with the customer's requirements. The maximum stroke is 600 mm with a maximum lifting force of up to 3000 N per drive.

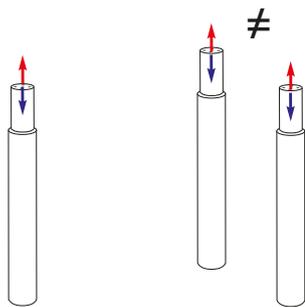


Special features:

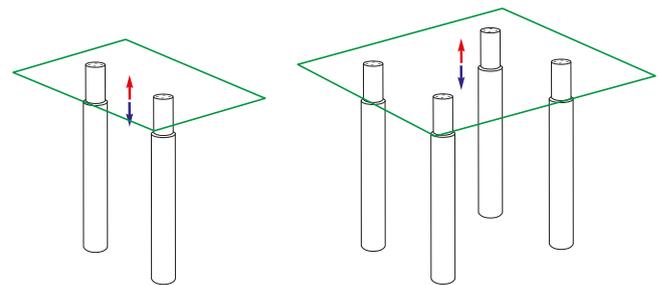
- High functionality
- High power density
- Attractive design

Special features:

- ✓ Precise industrial applications with compact design which require a high power density



1-2 LZ 60 in single or parallel operation



2-4 LZ 60 in synchronous operation

Parallel operation

The premium version of the MultiControl II quadro has drive group management. Alongside synchronous and stand-alone operation, this also allows the following drive combinations to run parallel (1+1, 1+2, 2+1, 2+2).

Synchronous operation

Synchronous operation of two or more drives. In conjunction with the integrated sensors, the control (see page 122) ensures synchronisation, and thus constant alignment of all the drives in both directions of travel, even if subject to different loads. The synchronous operation tolerance depends on the lifting speed and is max. 1.5 mm for the 8 mm/s version and max. 3 mm for the 25/32 mm version. A memory function is also available.

Version for external control with open motor cable / incremental position sensor / limit switch

Code No.	Type	Max. force F [N]	max. travel speed [mm/s] 24 V DC	max. travel speed [mm/s] 36 V DC
QKI00AG0B0_ _ _	LZ 60 S	750	36	45
QKI00AB0B0_ _ _	LZ 60 S	3000	9	12

 e.g. stroke [mm] = **2 0 2**

Stroke* [mm]	Installation dimension X [mm]	Weight [kg]
105	446.0	2.9
150	491.0	3.0
202	543.5	3.2
255	596.0	3.4
300	641.0	3.6
352	708.5	3.7
405	761.0	3.9
450	806.0	4.1
502	858.5	4.3
555	911.0	4.4
600	956.0	4.6

Version for external MultiControl II synchronous control

Code No.	Type	Max. force F [N]	max. travel speed [mm/s] 28 V DC
QKI00AG0E0_ _ _	LZ 60 S	750	18,5
QKI00AB0E0_ _ _	LZ 60 S	3000	4,5

 e.g. stroke [mm] = **6 0 0**

*Tolerance: +0.5mm / -2.5mm

System components

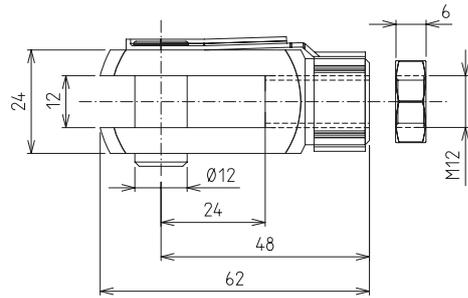
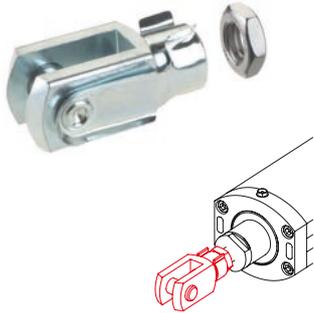
Code No.	Accessories
Controls	
QST30H12AA000	MultiControl II duo - Basic
QST30H12AA022	MultiControl II duo - Premium
QST30H14AA000	MultiControl II quadro - Basic
QST30H14AA022	MultiControl II quadro - Premium
Hand switches	
QZB11G07AV041	Hand switch with 6 function keys and display – 1 m cable length
QZB11G07AB041	Hand switch with 2 function keys – 1 m cable length
QZD000074	Hand switch drawer for hand switch with 6 and 2 function keys
IEC connector	
QZD070618	IEC cable (Europe version, earthed plug)

Note:

Further accessories (hand switches, connecting cables etc.) can be found in the chapter „Controls and accessories“ starting on page 126

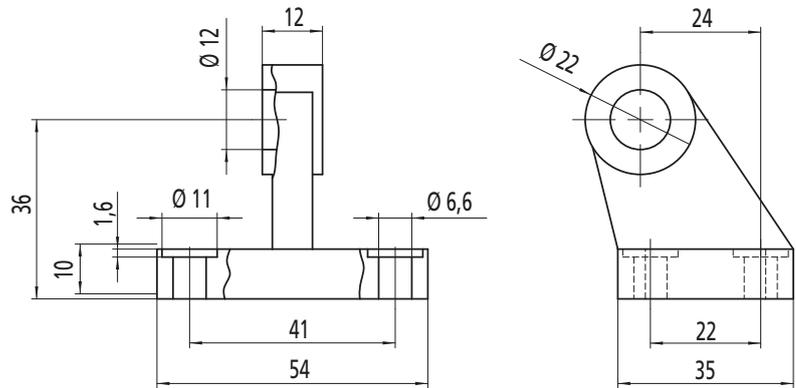
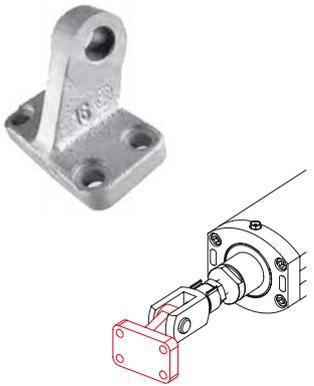
LZ 60 S – Accessories

Clevis



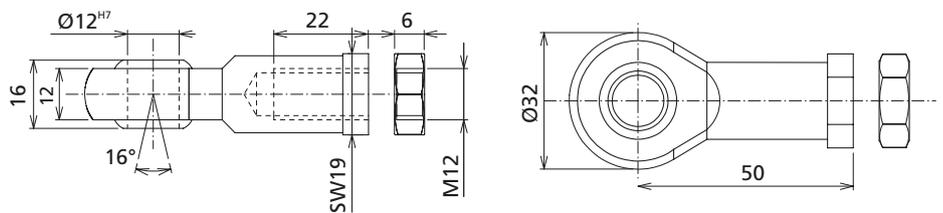
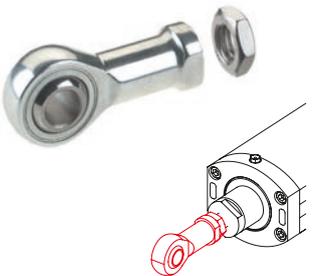
Code No.	Type
QZD050570	Clevis M12

Bearing block for clevis



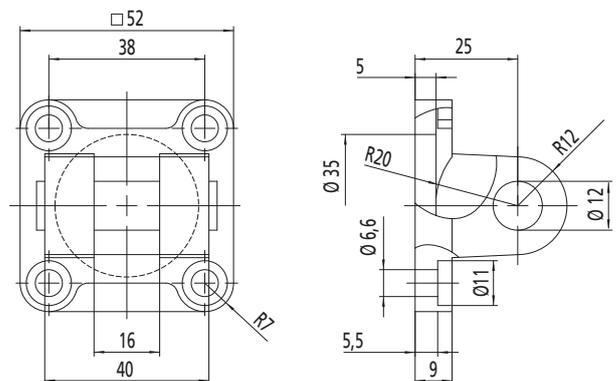
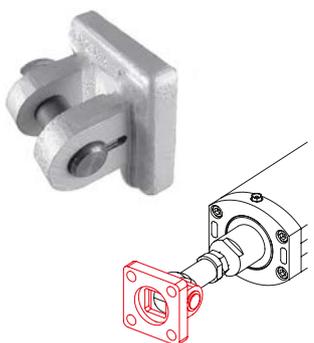
Code No.	Type
QZD050572	LZ 60 Bearing block Ø 12

Swivel head



Code No.	Type
QZD050574	Swivel head M12

Clevis mounting for swivel head

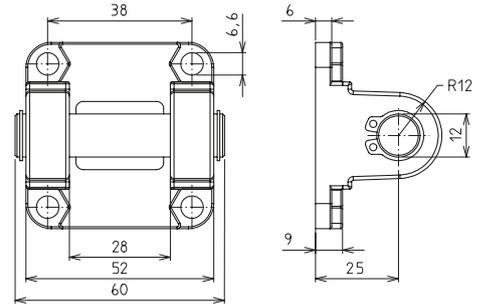
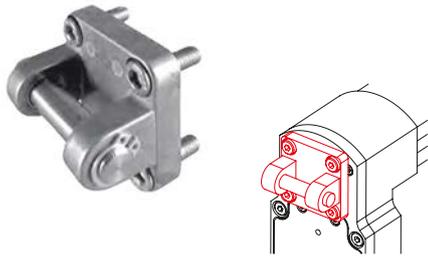


Code No.	Type
QZD050576	LZ 60 Clevis mounting Ø 12



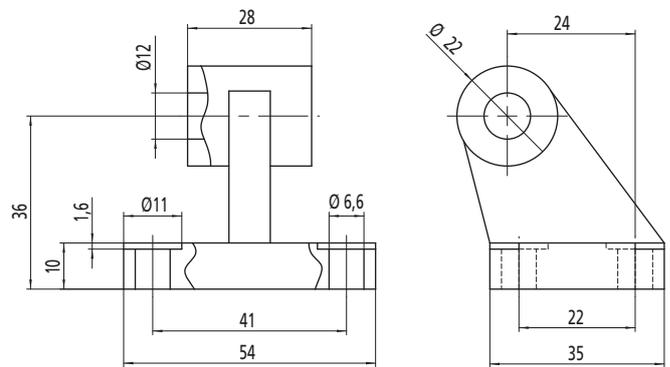
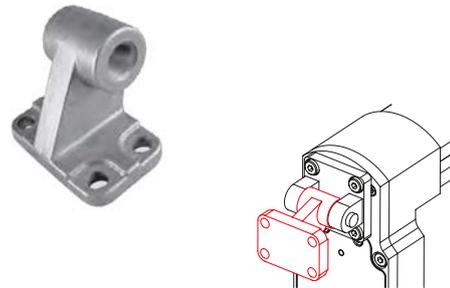
LZ 60 S Fixing

Swivel flange



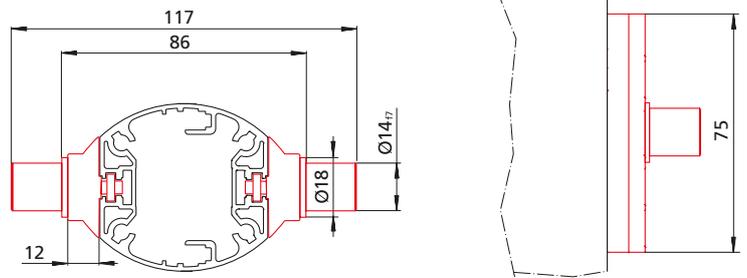
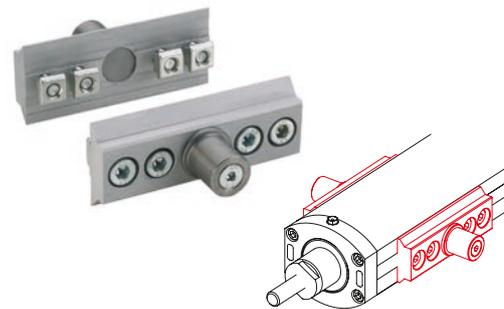
Code No.	Type
QZD050578	Swivel flange Ø 12

Bearing block for swivel flange



Code No.	Type
QZD050583	LZ 60 Bearing block Ø 12

Trunnion support blocks

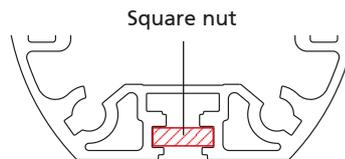


Code No.	Type
QZD050586	Trunnion support blocks LZ 60

Order instruction square nut:

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

Square nut



■ The square nut enables the the attachment of fittings to the cylinder. Nuts can be slid into the lateral slots for this purpose.

Code No.	lot sizes	Type
QZD0505971	10, 20, 30... pcs	Square nut M6, DIN562

LZ 60 S – Accessories

Axial adjustment

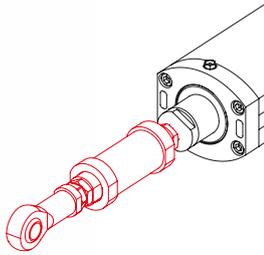


Axial adjustment

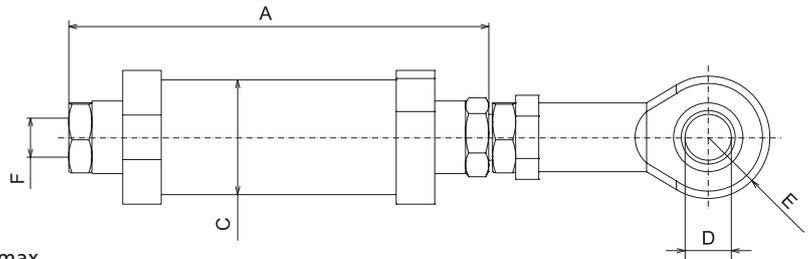
- ✓ Compensates manufacturing tolerances
- ✓ Compensates installation tolerances
- ✓ Length compensation -2 mm
- ✓ Reduces commissioning times

Scope of delivery:

Axial adjustment, incl. swivel head as depicted



Note:
Screw depth 15 mm max.



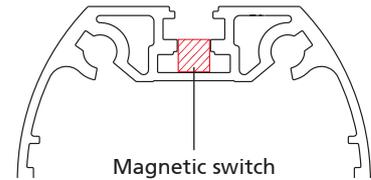
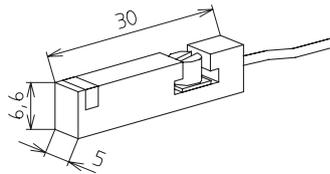
[mm]

Code No.	Load	A	C	D	E	F
QZD050590	600 N	102	Ø30	Ø12	R16	M12
QZD050591	1000 N	102				
QZD050592	2000 N	103.5				
QZD050593	2500 N	109				
QZD050594	3000 N	107.5				
QZD050595	4000 N	139.5				



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 in the cylinder as standard.



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 output	< 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

LZ 60 P Electric cylinder

The industrial design complete system with push/pull forces up to 4000 N.

External control

- ✓ Range of connecting options:
 - Up/down mono operation
 - PLC
 - synchronous control
 - integrated control

External control electrically connection „e“

- ✓ Connection (2,5 m) to MultiControl II synchronous control

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

Range of fitting dimensions

- ✓ Slide-in clasp nuts enable fitting dimensions of 37.5 to 40.5 mm.
- ✓ Compatible with a wide range of fixing elements from the pneumatic industry.

Elec. connection “b”

- ✓ All connecting cables (approx. 1 m) is fed out of the unit (limit switches, motor, 2-channel Hall sensor) e.g for connection to a PLC
- ✓ Connection to PLC or equivalent control 24 V/36 V

Highlights / Features:

- Integrated DC drive
- Flexible use of space due to different motor installation options: parallel (LZ 60 P) or rod shaped (LZ 60 S)
- Coverable slot geometry on both sides supports a range of fixing options
- Push rod with rotation locking
- Maintenance-free for up to 10,000 double strokes
- IP 54
- Self-locking

Options:

- Special stroke lengths available on request

Electric cylinder LZ 60 P – Table of contents

<p>Versions</p>	<p>Electric cylinder</p>	<ul style="list-style-type: none"> ■ E-cylinder LZ60 PPage 120
<p>Accessories</p>		<ul style="list-style-type: none"> ■ FixingPage 122 ■ Magnetic switchPage 125

LZ 60 P – Technical data

General information/operating conditions

Type	LZ 60 P external control	Custom
Design	Linear cylinder with integrated DC motor	
Guide	Double bearing via POM bushes	
Installation position	Any position/without shear forces/hanging only with drop protection provided by the customer	
Push force	Up to 4000 N	
Pull force	Up to 4000 N	
Self-locking	Yes	
Max. travel speed	Up to 50 mm/s	
Max. Hub	600 mm	1200 mm
Installation dimension	Stroke + 168,5 mm or Stroke + 184 mm	1383 mm
Voltage	24 to 36 V DC	
Current output	3 A or 4 A	
Protection class	IP 54	
Ambient temperature	+5°C to +40°C	
Displacement during synchronous operation	0 to 2 mm	
Duty cycle (Operation mode S3)	At nominal load, 15% (1,5 min operating time, 8,5 mins rest time)	
Repeatability	0,5 mm	
Stroke tolerances	+0,5 mm / -2,5 mm	

Note: RK Rose+Krieger GmbH cylinders are only designed for centric loads.

Drive	Push force [N]	Travel speed [mm/s]	Number of assigned motor channels			
			1	2	3	4
LZ 60 P	1000	22,5	✓	✓	each 600 N	each 500 N
LZ 60 P	2000	11	✓	✓	each 1300 N	each 1000 N
LZ 60 P	3000	5,5	✓	✓	each 2100 N	each 1500 N
LZ 60 P	4000	3	✓	✓	each 3100 N	each 2500 N
			MultiControl II duo		MultiControl II quadro	

Note:

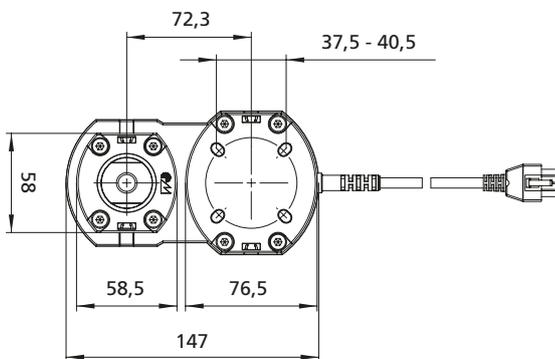
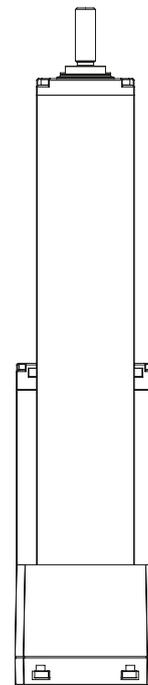
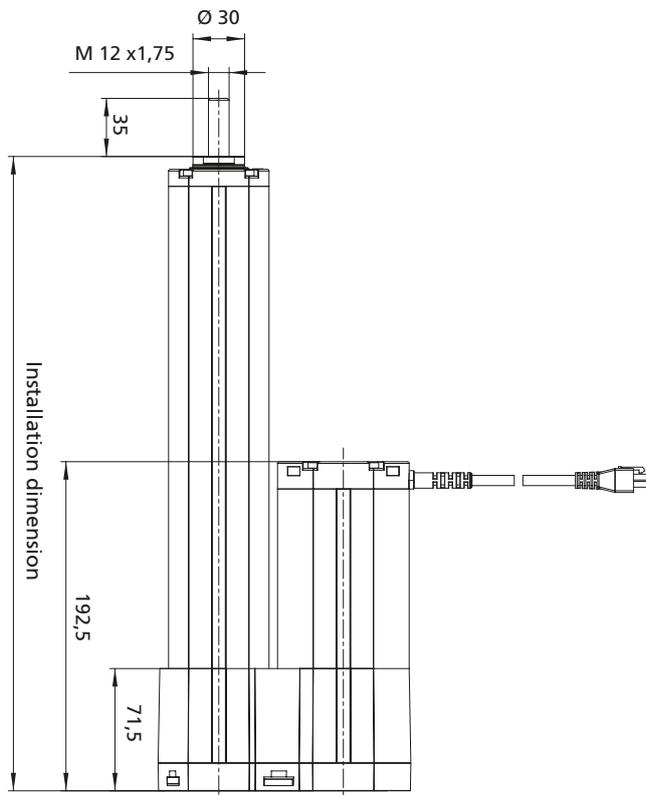
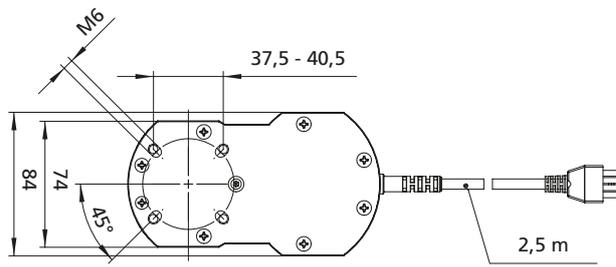
If more than 2 drives are to be operated synchronously at nominal load, BUS communication between two or more MultiControl II duo controllers is required.

The necessary accessories can be found on page 146.

The procedure for setting up BUS communication is described in detail in the operating manual.



LZ 60 P – Version



LZ 60 P – Technical data

LZ 60 S linear cylinder – highly versatile use

The LZ 60 series does not just impress with high functionality and high power density, but also with its attractive design. The side slots and the versatile accessories facilitate simple connection in accordance with the customer's requirements. The maximum stroke is 600 mm with a maximum lifting force of up to 4000 N per drive.

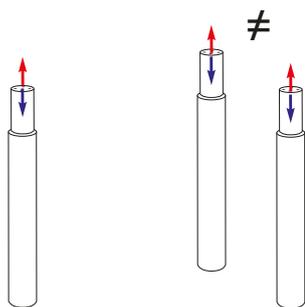


Special features:

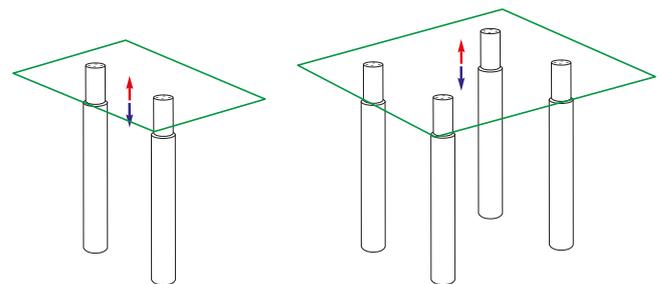
- High functionality
- High power density
- Attractive design

Ideal areas of application:

- ✓ Precise industrial applications with compact design which require a high power density



1-2 LZ 60 in single or parallel operation



2-4 LZ 60 in synchronous operation

Parallel operation

The premium version of the MultiControl II quadro has drive group management. Alongside synchronous and stand-alone operation, this also allows the following drive combinations to run parallel (1+1, 1+2, 2+1, 2+2).

Synchronous operation

Synchronous operation of two or more drives. In conjunction with the integrated sensors, the control (see page 122) ensures synchronisation, and thus constant alignment of all the drives in both directions of travel, even if subject to different loads. The synchronous operation tolerance depends on the lifting speed and is max. 1.5 mm for the 8 mm/s version and max. 3 mm for the 25/32 mm version. A memory function is also available.

Version for external control with open motor cable / incremental position sensor / limit switch

Code No.	Type	Max. force F [N]	max. travel speed [mm/s] 24 V DC	max. travel speed [mm/s] 36 V DC
QKX00AC0B0_ _ _	LZ 60 P	1000	40	50
QKX00AB0B0_ _ _	LZ 60 P	2000	22	28
QKX00AE0B0_ _ _	LZ 60 P	3000	12	15
QKX00AF0B0	LZ 60 P	4000	6	9

e.g. stroke [mm] = **2 0 2**

Stroke* [mm]	Installation dimension X [mm]	Weight [kg]
105	273.5	3.7
150	318.5	3.8
202	371.0	4.0
255	423.5	4.2
300	468.5	4.4
352	536.0	4.5
405	588.5	4.7
450	633.5	4.9
502	686.0	5.1
555	738.5	5.2
600	783.5	5.4

Version for external MultiControl II synchronous control

Code No.	Type	Max. force F [N]	max. travel speed [mm/s] 28 V DC
QKX00AC0E0_ _ _	LZ 60 P	1000	22,5
QKX00AB0E0_ _ _	LZ 60 P	2000	11
QKX00AE0E0_ _ _	LZ 60 P	3000	5,5
QKX00AF0E0	LZ 60 P	4000	3

e.g. stroke [mm] = **6 0 0**

*Tolerance: +0.5mm / -2.5mm

System components

Code No.	Accessories	
Controls		
QST30H12AA000	MultiControl II duo - Basic	LZ 60 P
QST30H12AA022	MultiControl II duo - Premium	
QST30H14AA000	MultiControl II quadro - Basic	LZ 60 P
QST30H14AA022	MultiControl II quadro - Premium	
Hand switches		
QZB11G07AV041	Hand switch with 6 function keys and display – 1 m cable length	
QZB11G07AB041	Hand switch with 2 function keys – 1 m cable length	
QZD000074	Hand switch drawer for hand switch with 6 and 2 function keys	
IEC connector		
QZD070618	IEC cable (Europe version, earthed plug)	

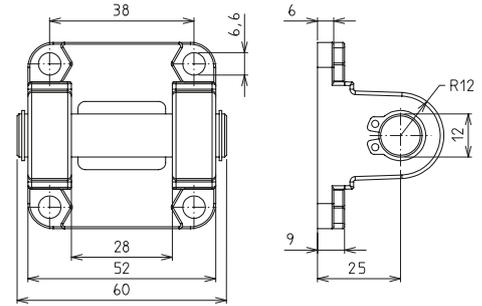
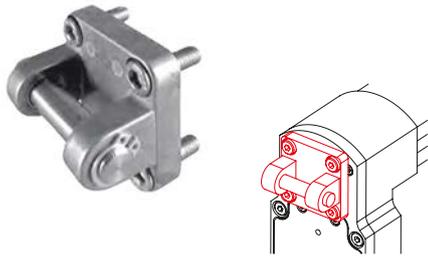
Note:

Further accessories (hand switches, connecting cables etc.) can be found in the chapter „Controls and accessories“ starting on page 126



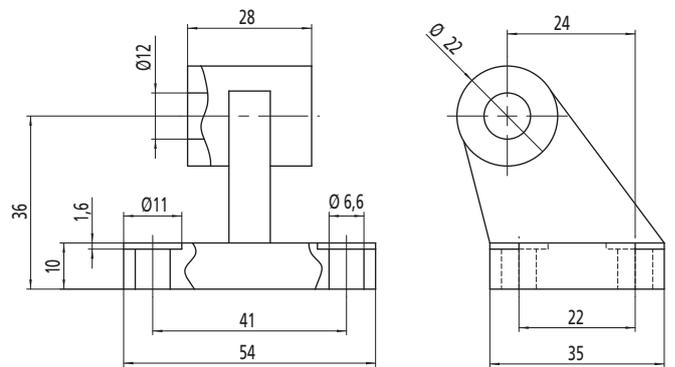
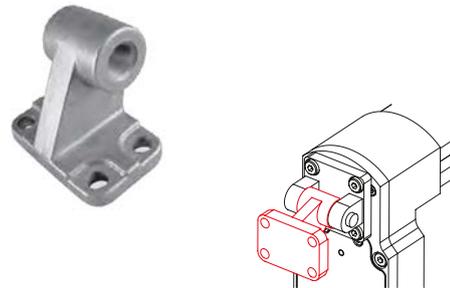
LZ 60 P Fixing

Swivel flange



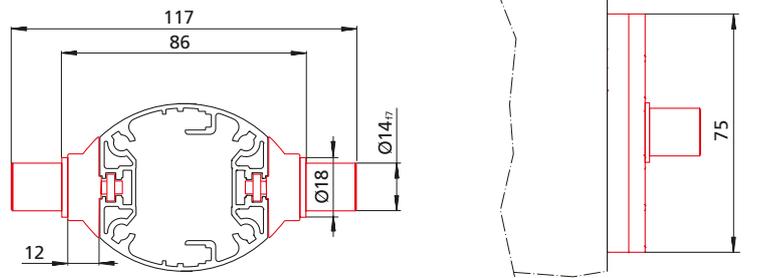
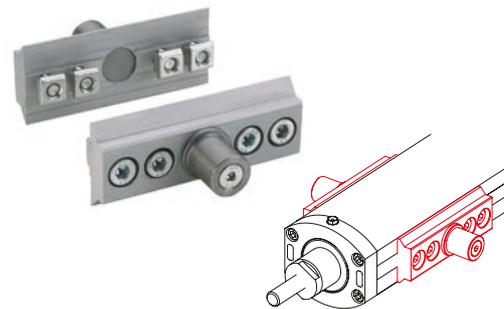
Code No.	Type
QZD050578	Swivel flange Ø 12

Bearing block for swivel flange



Code No.	Type
QZD050583	LZ 60 Bearing block Ø 12

Trunnion support blocks

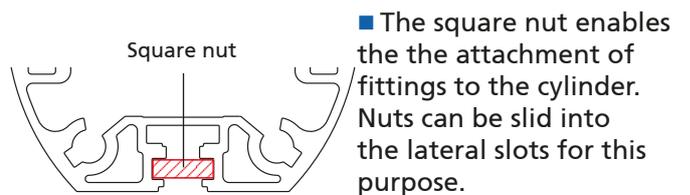


Code No.	Type
QZD050586	Trunnion support blocks LZ 60

Order instruction square nut:

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

Square nut



Code No.	lot sizes	Type
QZD0505971	10, 20, 30... pcs	Square nut M6, DIN562

LZ 60 P – Accessories

Axial adjustment

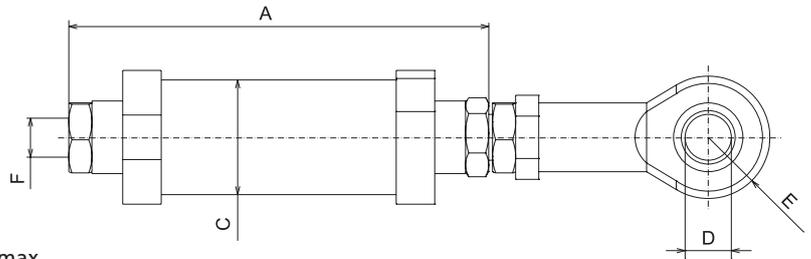
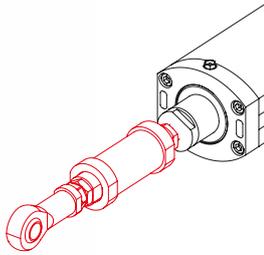


Axial adjustment

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

Scope of delivery:

Axial adjustment, incl. swivel head as depicted



Note:
Screw depth 15 mm max.

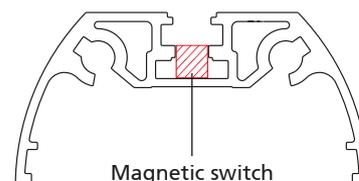
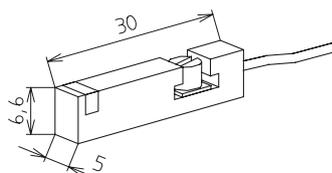
[mm]

Code No.	Load	A	C	D	E	F
QZD050590	600 N	102	Ø30	Ø12	R16	M12
QZD050591	1000 N	102				
QZD050592	2000 N	103.5				
QZD050593	2500 N	109				
QZD050594	3000 N	107.5				
QZD050595	4000 N	139.5				



Magnetic switch

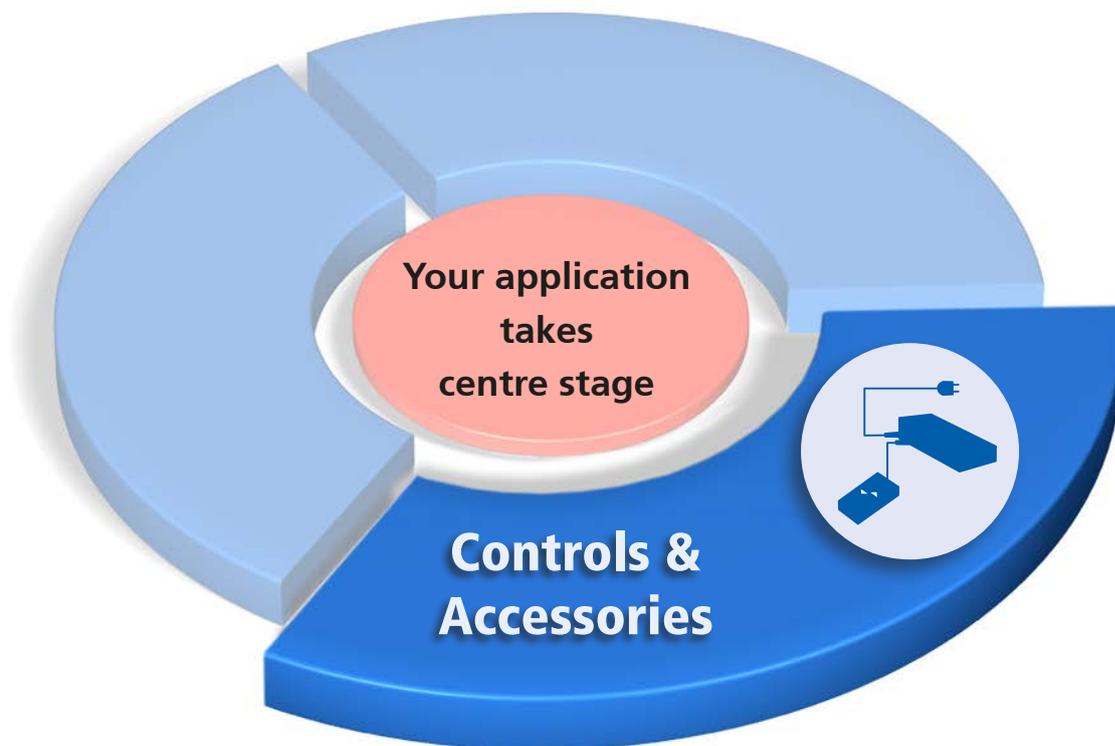
- Signals from the magnetic switch can be collected and evaluated by a customer-provided control unit (such as a PLC).
- The switch can be retrofitted in the lateral slot (protected by a cover profile as standard)
- Magnets are already integrated in the cylinder as standard.



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 output	< 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



Controls & Accessories

RK Rose+Krieger has redesigned its controllers specifically for the Multilift II range of lifting columns. The result is the MultiControl II, which is available in „duo“ and „quadro“ configurations, each in the three versions, Basic, Premium and Premium Customized. The controller has many unique features, including a high-performance, energy-efficient switched power supply and a wide-range input for worldwide use. It also offers a considerably greater duty cycle than comparable products, a hand switch with graphics-capable display for intuitive operation and backward compatibility with the successful Multilift I lifting columns.

Even the basic version has numerous innovative software functions, such as dynamic duty cycle calculation, temperature monitoring and visual status indication.

The premium version of the MultiControl II duo has additional software functions, such as integrated „Smart Product Protection (SPP)“ collision detection plus absolute and relative positioning. The MultiControl II quadro also features drive group management.

On request, we can also supply the MultiControl II with customised programming as the Premium Customized version.



RK ROSE+KRIEGER



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Compact-e-3-EU.....	Page 158

Controls & Accessories

Controls

MultiControl II duo



Synchronous control for up to **2 drives**
(16 in bus combination)

MultiControl II quadro



Synchronous control for up to **4 drives**
(32 in bus combination)

The MultiControl II duo and MultiControl II quadro each have a 10 A power output. If the drives require more than **10 amps** for the particular application, multiple MultiControl II duo controls have to be used in a bus combination. The necessary accessories can be found on page „MultiControl II – Accessories“ on page 146. The procedure for setting up BUS communication is described in detail in the operating manual.



Drive		Push force [N]	Travel speed [mm/s]	Custom			
				1	2	3	4
Lifting columns	RK Slimlift	1000	19	✓	✓	each 500 N	each 300 N
	RK Slimlift	4000	5	✓	✓	each 3500 N	each 2000 N
	RK Slimlift EM	1000	15	✓	✓	each 900 N	each 600 N
	Multilift	1000	13	✓	✓	✓	each 750 N
	Multilift	3000	6	✓	✓	each 2200 N	each 1500 N
	Multilift interior carriage	1000	13	✓	✓	✓	each 750 N
	Multilift interior carriage	3000	6	✓	✓	each 2200 N	each 1500 N
	Multilift II	1000	16	✓	✓	✓	each 750 N
	Multilift II	3000	8	✓	✓	each 2200 N	each 1500 N
	Multilift II safety	600	16	✓	–	–	–
	Powerlift M	1500	10	✓	✓	each 1300 N	each 500 N
	Powerlift M	3000	7	✓	✓	each 1600 N	each 1000 N
	Multilift II telescope	1000	16	✓	✓	each 850 N	each 500 N
	Multilift II telescope	3000	8	✓	✓	each 1800 N	each 1000 N
Electric cylinder	LZ 60 S	750	18,5	✓	✓	✓	✓
	LZ 60 S	3000	4,5	✓	✓	✓	each 2500 N
	LZ 60 P	1000	22,5	✓	✓	each 600 N	each 500 N
	LZ 60 P	2000	11	✓	✓	each 1300 N	each 1000 N
	LZ 60 P	3000	5,5	✓	✓	each 2100 N	each 1500 N
	LZ 60 P	4000	3	✓	✓	each 3100 N	each 2500 N

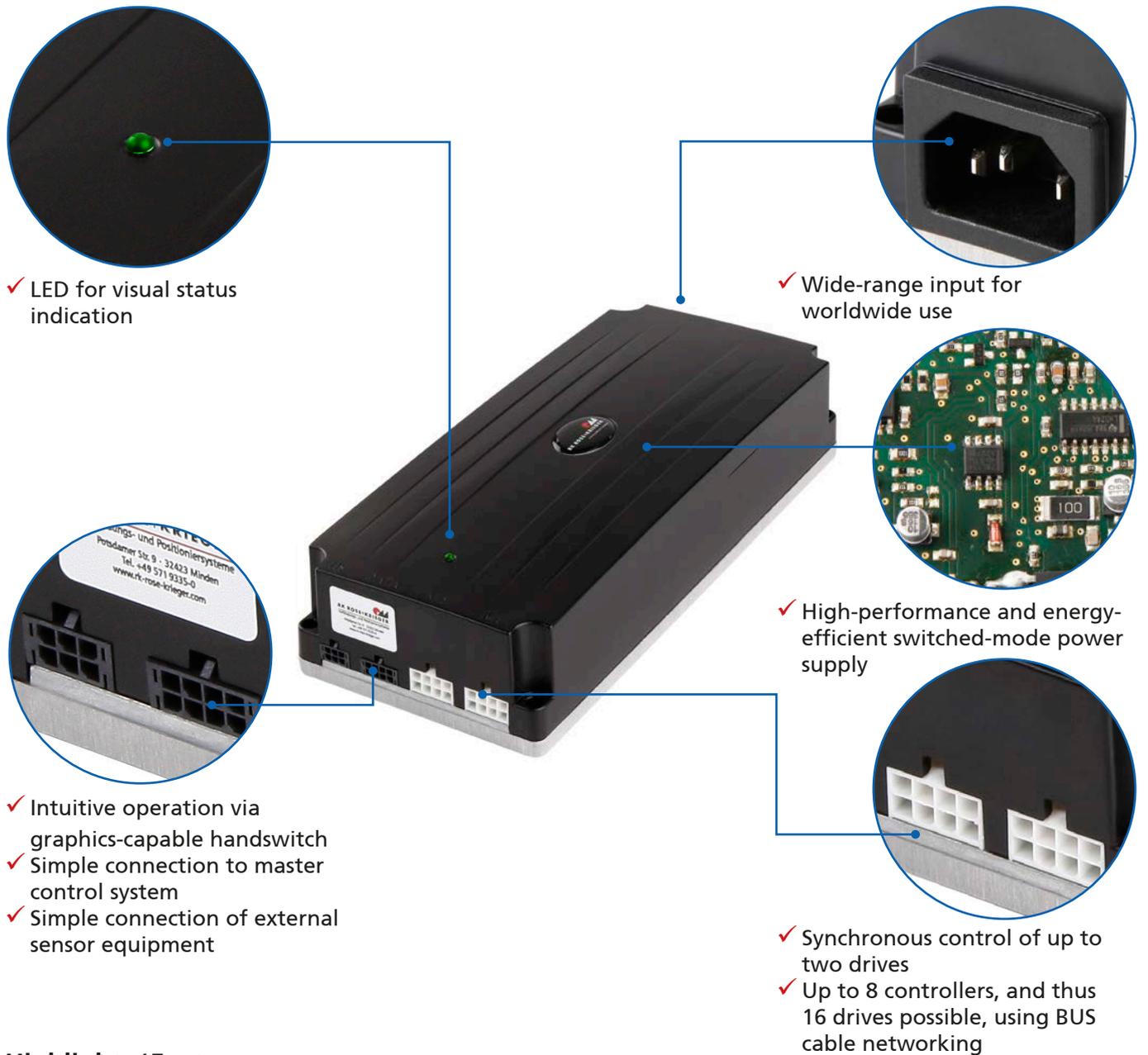
MultiControl II duo

MultiControl II quadro

**Note:**

If more than 2 drives are to be operated synchronously at nominal load, BUS communication between two or more MultiControl II duo controllers is required. The required accessories can be found on page 146. The procedure for setting up BUS communication is described in detail in the operating manual.

MultiControl II duo



✓ LED for visual status indication

✓ Wide-range input for worldwide use

✓ High-performance and energy-efficient switched-mode power supply

- ✓ Intuitive operation via graphics-capable handswitch
- ✓ Simple connection to master control system
- ✓ Simple connection of external sensor equipment

- ✓ Synchronous control of up to two drives
- ✓ Up to 8 controllers, and thus 16 drives possible, using BUS cable networking

Highlights / Features:

- Dynamic duty cycle calculation
- Duty cycle, overcurrent and temperature monitoring for overload protection as standard
- Intuitive operation thanks to hand switch with graphics-capable display
- The hand switch with 6 function keys can be used to perform multiple functions, such as the storage of intermediate positions or user changeovers
- Simple connection to the master control system level using serial interface (RS-485) and standardised bus protocol (Modbus RTU)
- Energy-efficient overall system (control incl. hand switch) thanks to switched-mode power supply with wide-range input (standby consumption <0.5 watts)
- Controller available in Basic and Premium versions
- Certified control according to NRTL (UL 61010-1; CAN/CSA C22.2 No. 61010-1) and FCC Part 15

Option:

- Special functions available on request
- CB report as per 61010-1
- Versions as per DNV GL (e.g. CG 0339)
- High-performance version on request



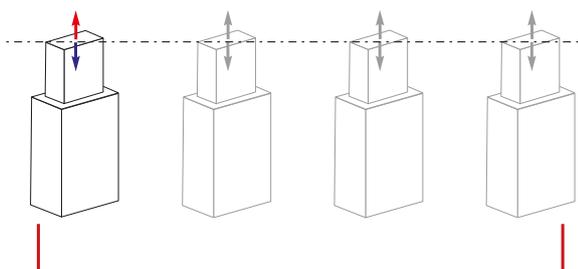
MultiControl II duo – Table of contents

<p>Controls</p> <p>MultiControl II duo</p>	<ul style="list-style-type: none"> ■ General information Page 132 ■ MultiControl II duo basic Page 134 ■ MultiControl II duo premium Page 134
<p>Accessories</p>	<ul style="list-style-type: none"> ■ IEC cable Page 146 ■ Cabel Page 146 ■ Hand switch Page 148 ■ Hand switch drawer Page 148 ■ RKX Page 150 ■ I/O - Interface Page 156

MultiControl II duo – Technical data

General information / operating conditions

Type	MultiControl II duo
Compatible	Multilift, Slimlift, Multilift II, Multilift II telescope, Powerlift M, LZ 60
Input voltage	100 – 240 V ~ 50 / 60 Hz
Output voltage	28 V DC
Current output	max. 10 A
Power	285 VA
Standby-power	≤ 0,5 W
Ambient temperature	+5 °C to +40 °C
Relative humidity (for operation)	30 % to 75 %
Protection class (with earth terminal)	I
Protection class	IP 20
Dimensions (L, B, H) [mm]	240 x 105 x 56
Weight	880 g
Duty cycle (Operation mode S 3)	At nominal load, 20% (4 min operating time, 16 mins rest time)



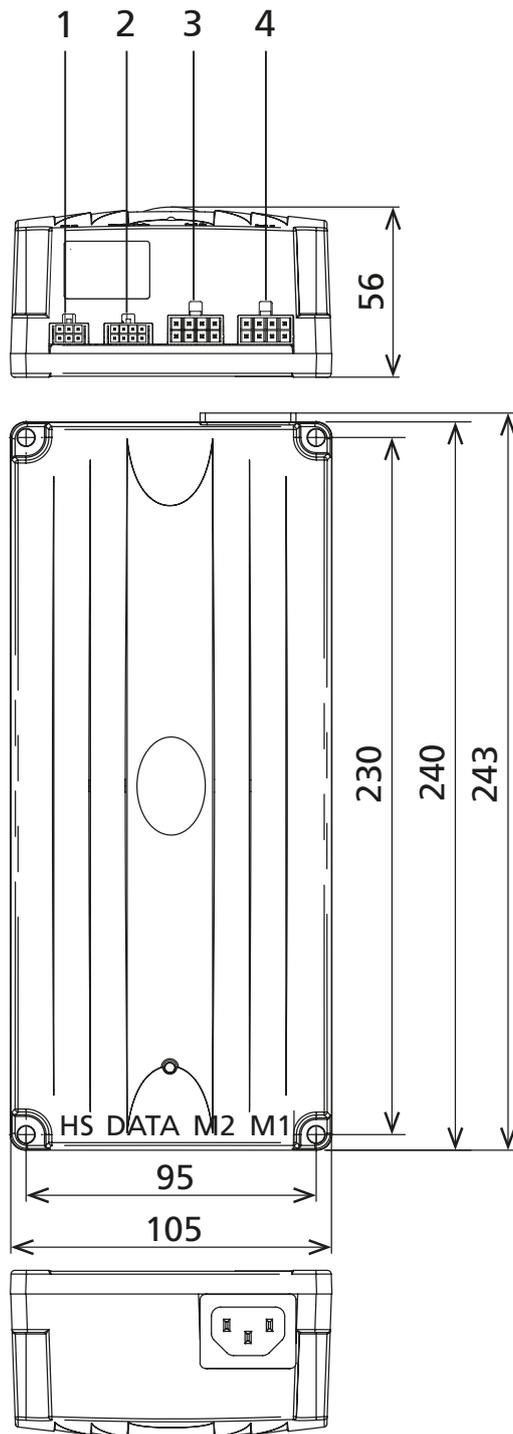
Supports configuration of systems with up to 16 drives



MultiControl II duo



- 1 HS = Hand switch connector
- 2 DATA = Interface for sensors (e.g. safety edge and synchronisation bus)
- 3 M2 = Motor connector 2
- 4 M1 = Motor connector 1 (must always be assigned)
- P = Power socket



MultiControl II duo – Versions

MultiControl II duo basic/premium

The MultiControl II duo controller is available in a Basic and a Premium version.

The Premium version includes three additional software functions compared to the Basic version. These are described on the following pages.

Feature/software function	Basic	Premium
Low standby consumption	•	•
Wide-range input	•	•
Dynamic duty cycle calculation	•	•
Temperature monitoring	•	•
Visual status indication	•	•
Networking of multiple controllers*	•	•
Stroke limitation*	•	•
Memory positions*	•	•
Change/set stroke display/base height*	•	•
View error history	•	•
View current consumption of drives	•	•
Transfer parameter settings to other systems*	•	•
Serial interface (RS-485)	•	•
Standardised bus protocol (Modbus RTU)	•	•
I/O interface compatibility	•	•
Connection of external sensor equipment (e.g. safety edge)	•	•
Integrated collision detection (SPP)		•
Absolute positioning*		•
Relative positioning*		•
Key Lock*		•

*Note: Hand switch with 6 function keys required for functionality

Controls

Code No.	Softwareversion	for drive
QST11H12AA000	Basic	Multilift II, Multilift II ESD, Multilift II safety, Multilift II clean
QST11H12AA022	Premium	
QST12H12AA000	Basic	Multilift II telescope, Multilift II telescope ESD
QST12H12AA022	Premium	
QST13H12AA000	Basic	Multilift II impact
QST13H12AA022	Premium	
QST44H12AA000	Basic	Powerlift M
QST44H12AA022	Premium	
QST10H12AA000	Basic	Multilift
QST20H12AA000	Basic	RK Slimlift
QST20H12AA022	Premium	
QST21H12AA000	Basic	RK Slimlift EM
QST21H12AA022	Premium	
QST30H12AA000	Basic	Elektrozylinder LZ 60
QST30H12AA022	Premium	

MultiControl II duo

SPP – Smart Product Protection (integrated collision detection)

Function description

The Premium version of the MultiControl II control unit includes RK Rose+Krieger GmbH's own in-house developed SPP technology. This technology makes for a considerable reduction of the risk of product damage in the customer's application. In the process, protection is not just provided for the connected drives, but also for the connecting construction as a whole.

When adjusting the height of tables or machine frames, for instance, there is a latent risk of collisions as a result of the raising and lowering of a load. If they occur, these collisions can cause hitches and damage to drives (reduction of the service life, possible complete failure) and even to the connecting construction.

SPP is a software-based solution for collision detection. A major benefit is the fact that the technology is fully integrated into the control system. This way, it is not necessary to equip the customer application with additional external sensor equipment.

A further special feature is the option of the user to adjust the sensitivity of the system (triggering force when a collision is detected) specifically to the application.

The following is a further summary of the significant benefits of integrated collision detection.



Highlights / Features:

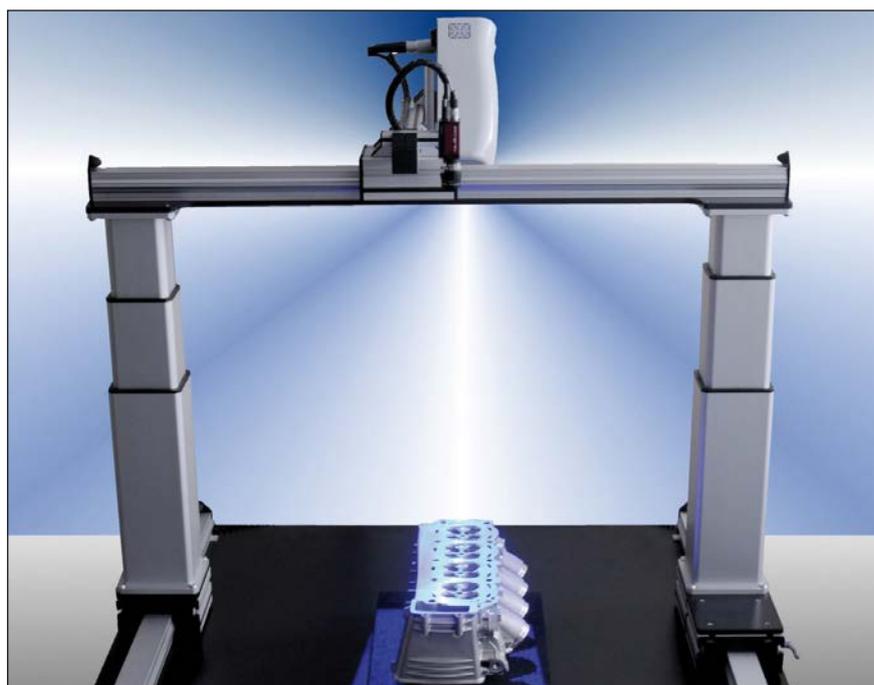
- Higher product safety – SPP detects obstacles, both during upward and downward movement
- No external obstructing contour – the technology is fully integrated into the control system and works with all compatible drives
- High process reliability – SPP functions regardless of the load or other ambient parameters, e.g. ambient temperature
- Plug & Play – no further installation steps are required for the collision protection thanks to integration into the control system
- Flexibility – sensitivity can be adjusted using the hand switch with 6 function keys

Relative and absolute positioning

Alongside the integrated collision detection (SPP), the Premium version has two further functions which relate to the type of drive positioning.

In addition to moving to previously stored memory positions, it is also possible to carry out relative or absolute positioning. The first variant refers to positioning relative to the current position of the lifting column. This way, the operating control can be used to set a defined value (e.g. 30% or 30 mm) by which the drive further retracts or extends.

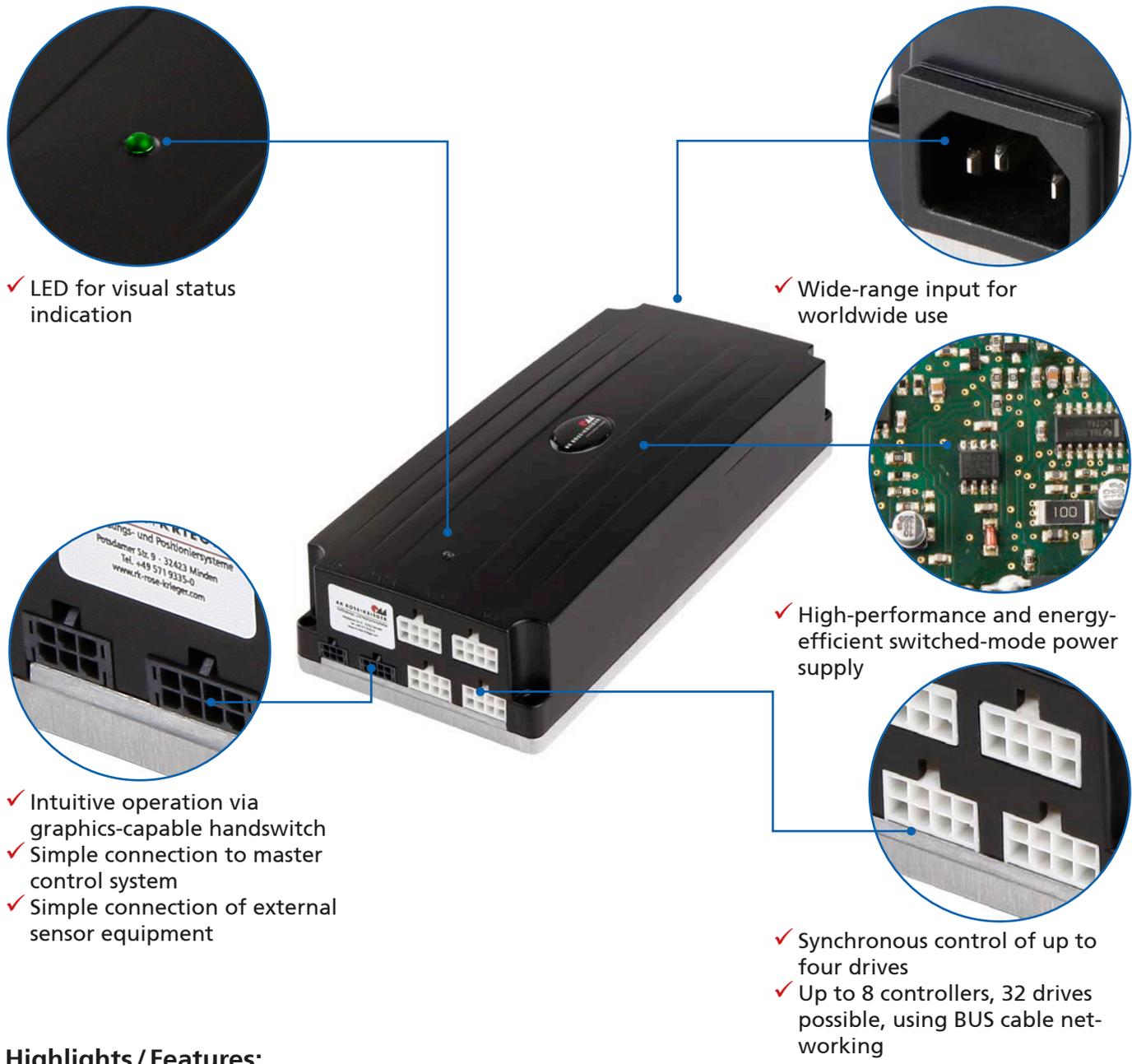
Absolute positioning, on the other hand, refers to the complete scale of the adjustment range. Thus it is also possible to use the operating control to move the drive precisely to a predefined position. This function can be very significant, for instance, for applications in which components are measured.



Highlights / Features:

- Absolute positioning – precise positioning to a defined position in relation to the complete adjustment range of the drive
- Relative positioning – gradual positioning in relation to the current position of the drive
- Positioning accuracy – both software functions allow positioning to predefined positions which is accurate to the millimetre

MultiControl II quadro



✓ LED for visual status indication

✓ Wide-range input for worldwide use

✓ High-performance and energy-efficient switched-mode power supply

- ✓ Intuitive operation via graphics-capable handswitch
- ✓ Simple connection to master control system
- ✓ Simple connection of external sensor equipment

- ✓ Synchronous control of up to four drives
- ✓ Up to 8 controllers, 32 drives possible, using BUS cable networking

Highlights / Features:

- Dynamic duty cycle calculation
- Duty cycle, overcurrent and temperature monitoring for overload protection as standard
- Intuitive operation thanks to hand switch with graphics-capable display
- The hand switch with 6 function keys can be used to perform multiple functions, such as the storage of intermediate positions or user changeovers
- Simple connection to the master control system level using serial interface (RS-485) and standardised bus protocol (Modbus RTU)
- Energy-efficient overall system (control incl. hand switch) thanks to switched-mode power supply with wide-range input (standby consumption < 1 watts)
- Controller available in Basic and Premium versions
- Certified control according to NRTL (UL 61010-1; CAN/CSA C22.2 No. 61010-1) and FCC Part 15

Option:

- Special functions available on request
- CB report as per 61010-1
- Versions as per DNV GL (e.g. CG 0339)
- High-performance version on request



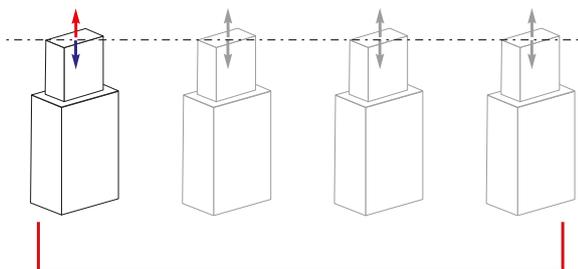
MultiControl II quadro – Table of contents

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Accessories		<ul style="list-style-type: none"> ■ IEC cable Page 146 ■ Cabel Page 146 ■ Hand switch Page 148 ■ Hand switch drawer Page 148 ■ RKX Page 150 ■ I/O-Interface..... Page 156

MultiControl II quadro – Technical data

General information / operating conditions

Type	MultiControl II quadro
Compatible	Multilift, Slimlift, Multilift II, Multilift II telescope, Powerlift M, LZ 60
Input voltage	100 – 240 V ~ 50 / 60 Hz
Output voltage	28 V DC
Current output	max. 10 A
Power	285 VA
Standby-power	≤ 1 W
Ambient temperature	+5 °C to +40 °C
Relative humidity (for operation)	30 % to 75 %
Protection class (with earth terminal)	I
Protection class	IP 20
Dimensions (L, B, H) [mm]	240 x 105 x 56
Weight	ca. 1000g
Duty cycle (Operation mode S 3)	At nominal load, 20% (4 min operating time, 16 mins rest time)



Supports configuration of systems with up to 32 drives

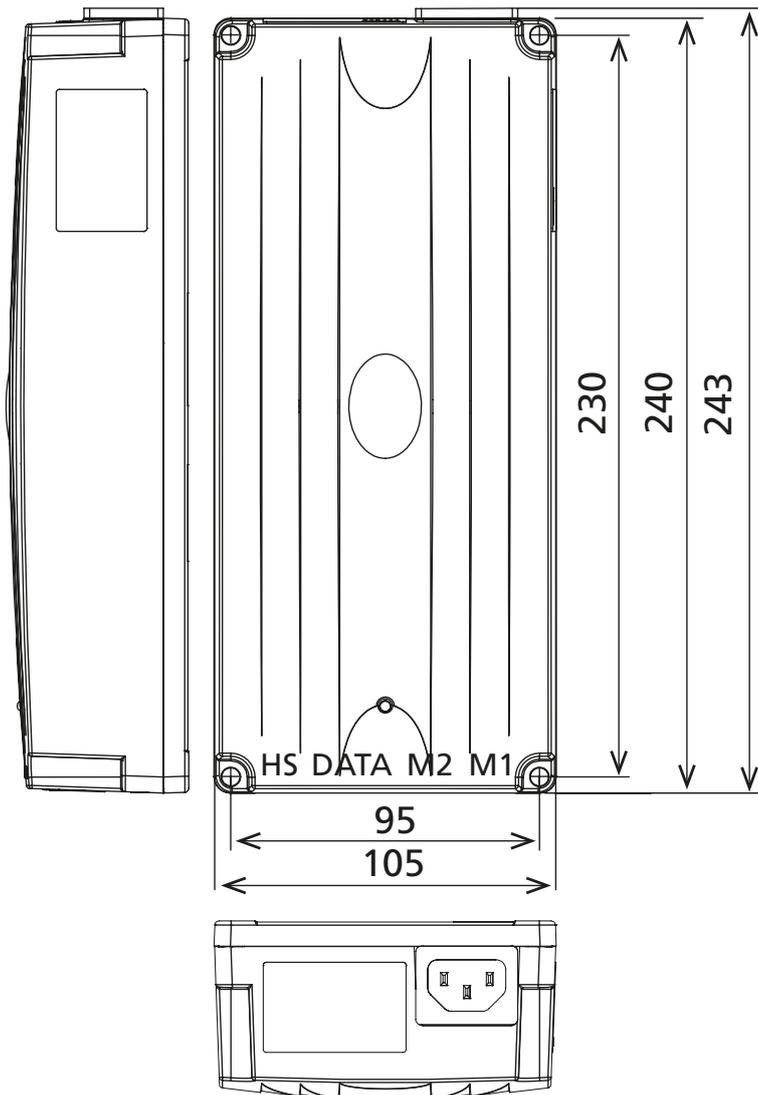
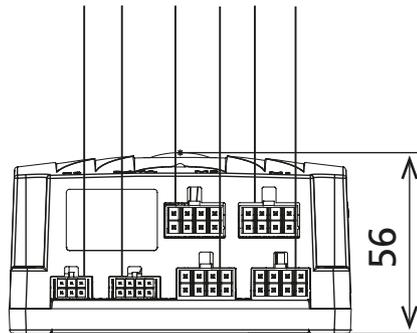


MultiControl II quadro



- 1 HS = Hand switch connector
- 2 DATA = Interface for sensors (e.g. safety edge and synchronisation bus)
- 3 M4 = Motor connector 4
- 4 M2 = Motor connector 2
- 5 M3 = Motor connector 3
- 6 M1 = Motor connector 1
- P = Power socket

1 2 3 4 5 6



MultiControl II quadro – Versions

MultiControl II quadro basic/premium

The MultiControl II duo controller is available in a Basic and a Premium version.

The Premium version includes three additional software functions compared to the Basic version. These are described on the following pages.

Feature/software function	Basic	Premium
Low standby consumption	●	●
Wide-range input	●	●
Dynamic duty cycle calculation	●	●
Temperature monitoring	●	●
Visual status indication	●	●
Networking of multiple controllers*	●	●
Stroke limitation*	●	●
Memory positions*	●	●
Change/set stroke display/base height*	●	●
View error history*	●	●
View current consumption of drives*	●	●
Transfer parameter settings to other systems*	●	●
Serial interface (RS-485)	●	●
Standardised bus protocol (Modbus RTU)	●	●
I/O interface compatibility	●	●
Connection of external sensor equipment (e.g. safety edge)	●	●
Integrated collision detection (SPP)		●
Absolute positioning*		●
Relative positioning*		●
Key Lock*		●
Drive group management*		●

*Note: Hand switch with 6 function keys required for functionality

Controls

Code No.	Softwareversion	for drive
QST11H14AA000	Basic	Multilift II, Multilift II ESD, Multilift II safety, Multilift II clean
QST11H14AA022	Premium	
QST12H14AA000	Basic	Multilift II telescope, Multilift II telescope ESD
QST12H14AA022	Premium	
QST13H14AA000	Basic	Multilift II impact
QST13H14AA022	Premium	
QST44H14AA000	Basic	Powerlift M
QST44H14AA022	Premium	
QST10H14AA000	Basic	Multilift
QST20H14AA000	Basic	RK Slimlift
QST20H14AA022	Premium	
QST21H14AA000	Basic	RK Slimlift EM
QST21H14AA022	Premium	
QST30H14AA000	Basic	Elektrozylinder LZ 60
QST30H14AA022	Premium	

MultiControl II quadro

Drive group management (DGM)

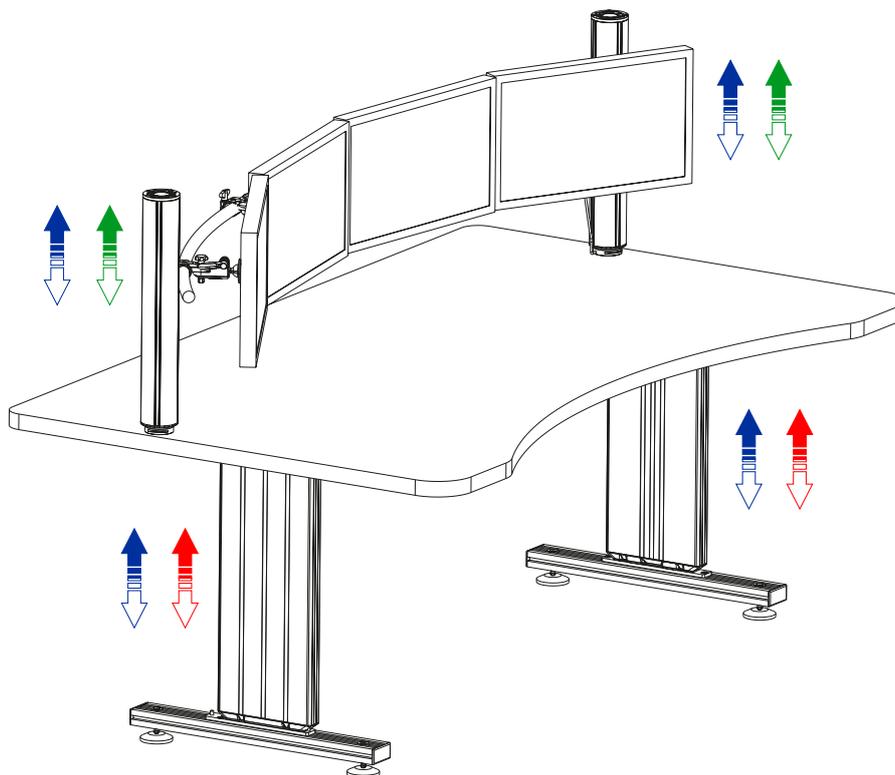
Function description

The basic version of the MultiControl II quadro allows you to position four drives synchronously. Those for whom this functionality is not sufficient can opt for the premium version of the control unit.

Alongside the renowned collision detection (SPP), it also has drive group management. The function, which was developed by RK Rose+Krieger in-house, allows different drive groups to be freely configured (2+2, 2+1, 1+2 and 1+1). In the process, up to two different drive types (e.g. RK Slimlift and Multilift II) can be combined with each other or positioned individually, in parallel or synchronously.

Furthermore, when drive group management is activated, the numerous further premium functions can be used. The second drive group, for example, can be positioned independently of the first either absolutely or relatively, and memory positions can also be assumed independently.

The integrated collision detection can also be freely configured for each group in the upwards and downwards movement. These benefits, combined with the intuitive menu navigation of the MultiControl II family, facilitate a number of new applications. The following is a summary of the essential benefits of drive group management.



Highlights/features:

- Freely configurable motor groups (2+2, 2+1, 1+2, 1+1)
- Plug & play – thanks to integration in the control. No need for a bus connection with four drives
- The full range of premium functions are also available for activation
- Flexibility – Free selection of combinable drives underneath the motor groups



MultiControl II – Accessories

IEC cable



F
(Europe)



J
(Switzerland)



G
(Great Britain)



B
(Japan, USA)

Code No	Version	Typ	Cable length
QZD070618	IEC cable (Europe version, earthed plug)	F	1.80 m
QZD020159	IEC cable (Switzerland version, earthed plug)	J	1.80 m
QZD070619	IEC cable (Great Britain version, earthed plug)	G	1.80 m
QZD070631	IEC cable (Japan, version earthed plug)	B	1.80 m
QZD070622	IEC cable (USA, version earthed plug)	B	2.00 m



1



2



3



4

Code No.	Accessories	Interface	Fig.
QZD070731	BUS cable 6 m for networking of up to 8 synchronous control	DATA	1
QZD070694	Terminating resistor (only necessary when more than 2 synchronous controls are connected) *	BUS-cabel 6 m	2
QZD070730	BUS cable 1 m for networking of 2 synchronous control	DATA	3
QZD070718	Interface cable (open cable end) – 4 m straight	DATA	4

***Note:** If there are more than two connected controllers, the overall system always requires two terminating resistors at the beginning and end of the BUS system.

Connecting cable for Multilift I to MultiControl II family



Code No.	Multilift I to MultiControl II*	Interface	Fig.
QZD020711	Connecting cable with locking mechanism, Multilift I to MultiControl II - 2.5 m	Motor connector	5
QZD020722	Adapterkabel Multilift I an MultiControl II - 0,2 m	Motor connector	6

*Note: For the compatibility of the Multilift I lifting column, you require one of the adapter cables shown.



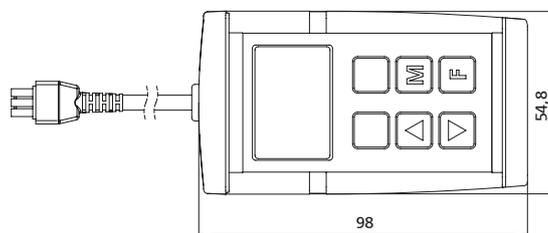
Code No.	Accessories	Interface	Fig.
QZD070700	Hand switch extension cable – 2.5 m straight	HS	7
QZD070710	Hand switch cable (open cable end) – 4 m straight	HS	8
QZD070712	Extension cable for drives to MultiControl II - 3 m straight	Motor connector	9

*Note: When using the 3 m extension cable for drives (QZD070712), lag error E11 / E12 may occur due to the increased line resistance. In this case it is necessary to reduce the travel speed, for which you require the hand switch with 6 function keys and display.

MultiControl II – Accessories

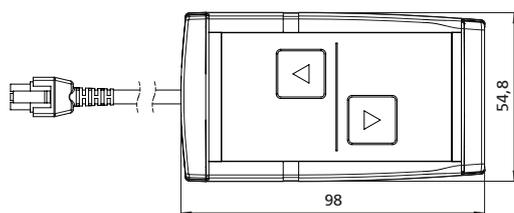
Hand switches with 6 function keys

1



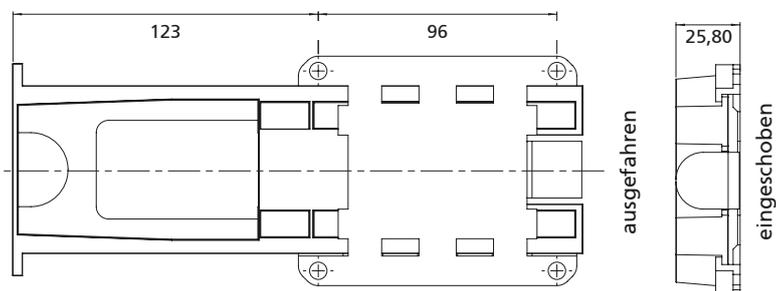
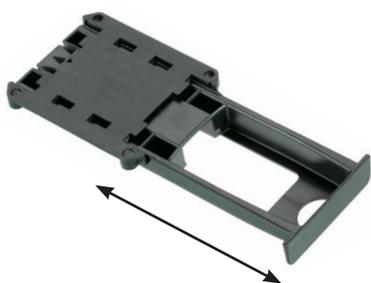
Hand switches with 2 function keys

2



Hand switch drawer

3



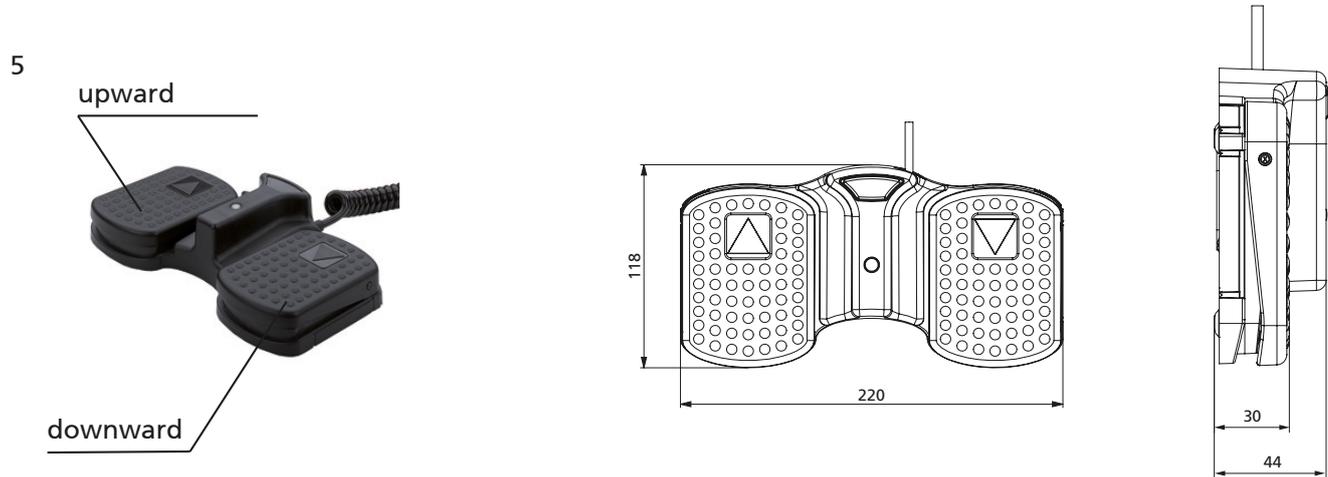
Code No.	Version	Fig.
QZB11G07AV041	Hand switch with 6 function keys and display – 1 m cable length	1
QZB11G07AB041	Hand switch with 2 function keys – 1 m cable length	2
QZD000074	Hand switch drawer for hand switches with 6 and 2 function keys	3

Remote hand switch with 2 function keys



* Please note the ordering information below!

Foot switch with 2 function keys



* Please note the ordering information below!

Adapter cable

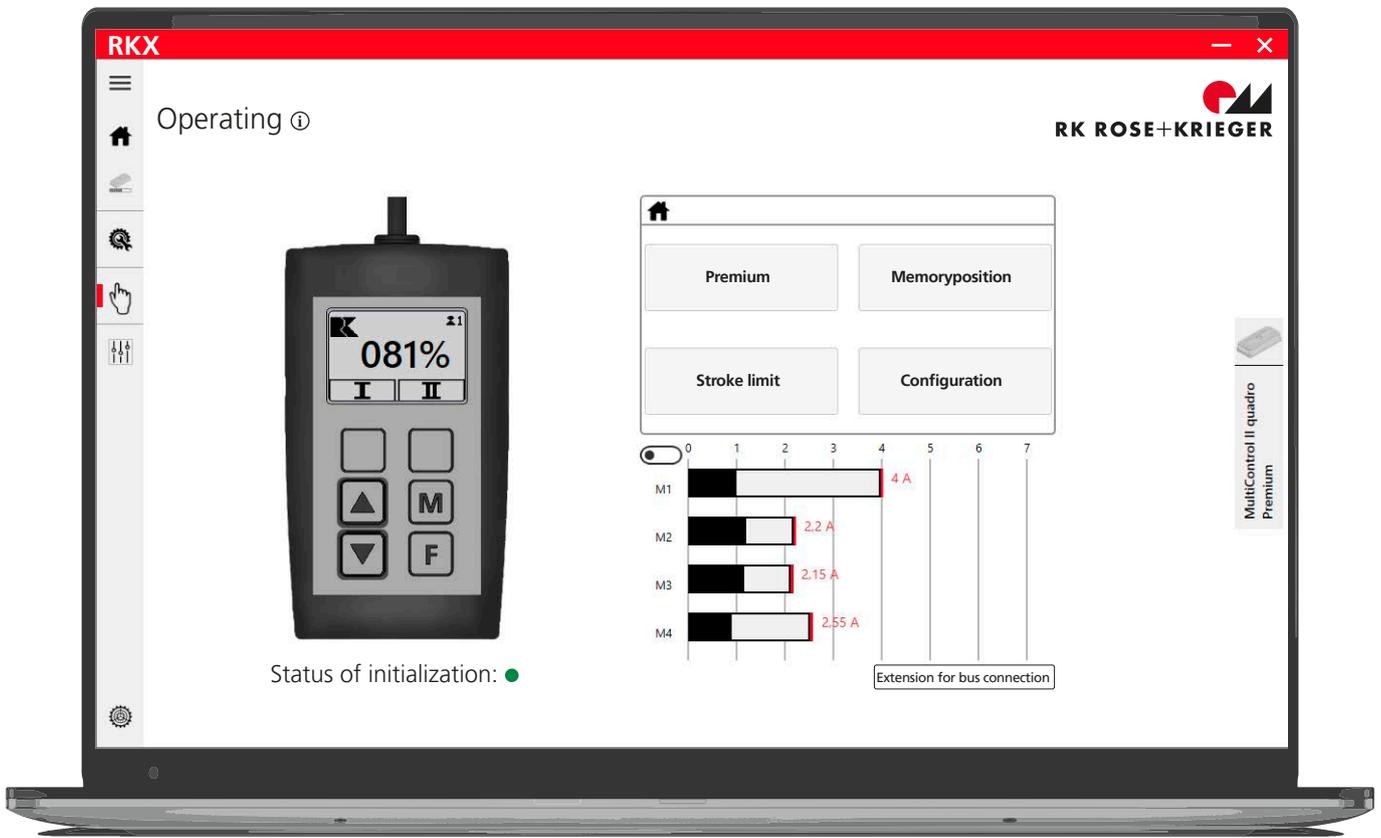


Code No.	Version	Fig.
QZB00D07BK141	Remote hand switch – 2 function keys	4
QZB02C01AE114	Foot switch – 2 function keys	5
QZD070699	Adapter cable DIN 7-pin to Molex 6-pin (Hand switch to MultiControl II) – 0.2 m	6

*Order instruction: When using a foot switch with 2 function keys and remote hand switch with 2 function keys, the adapter cable is essential.

MultiControl II – Accessories

One interface, countless possibilities



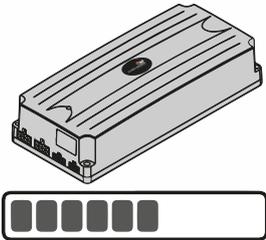
Highlights / Features:

- Easy detection of distortions or an overloaded system
- Visualisation of motor current for up to 32 drives
- Storage of your requirements in configuration profiles
- Guided start-up of the system
- Software update
- System configuration
- System operation
- Read-out and export of fault history for detailed analysis

Code No.	Version
QZD070742	RKX Interface – 2 m

The **RKX** (Windows software), in conjunction with the **RKX**-interface (Cable), provides you with numerous different options for interaction with your controller. Alongside the main functions explained in the following, you can also view the prior run time, the current temperature of the controller, the number of positioning movements completed and much more.

Update



Using the **RKX** you can update the Multi Control II controllers with a new software version and thus access new functions.

Also, in the event of a replacement delivery to your end customer you can restore the individual factory settings (e.g. preactivated functions, certain software version etc.) so that integration into your customer's overall system works smoothly.

Software profiles which have been individually adapted to you or your customer by RK Rose+Krieger can also be transferred to the controller.

Service



The **RKX** also provides you with access to the fault history of your MultiControl II. This feature can be used to read out the most recent 20 reports from the controller. The entries can be used to draw conclusions relating to one-off or recurring faults, e.g. constructional distortions, faults in the voltage supply or overloaded drives. This data can be used to define further measures for optimisation of the service life and to reduce downtimes on your overall system.

Configuration



This menu item is used to configure various (pre) settings for the MultiControl II in accordance with your individual requirements. The start-up procedure for the entire system and the various premium functions can also be performed intuitively.

Moreover, the set options can be saved as (customer) profiles, allowing you to guarantee consistent functionality for your end customers

Operating



In order to check the settings made previously and determine the current motor current of your application, for instance, the drives can also be moved using the **RKX**. In addition to many further options, you can also set the premium functions (collision detection (SPP), drive group management, and relative and absolute positioning), memory positions and stroke limitation.

That way, nothing stands between you and problem-free set-up of your or your customer's application.

RKX-Software



More information

More information on our RK Rose+Krieger website. Simply scan the QR code to find out more about our **RKX**-Software.

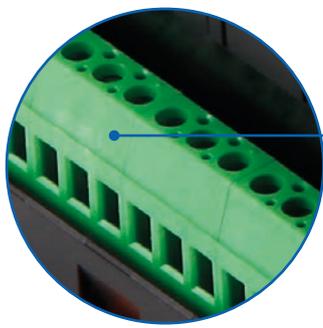
I/O - Interface



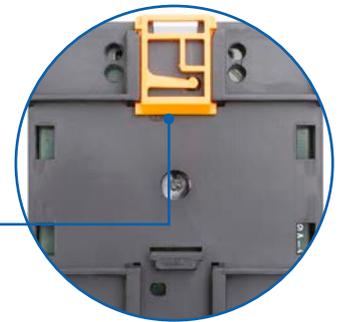
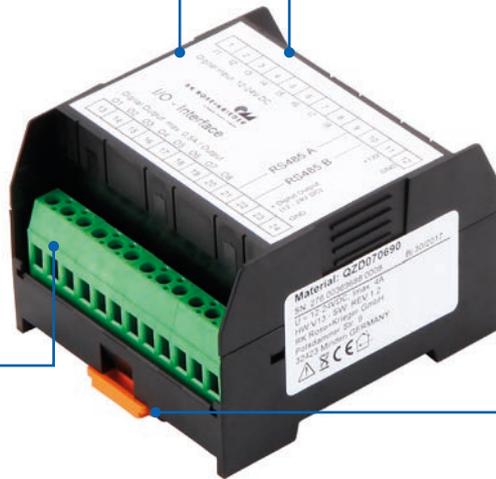
- ✓ Compatible with the MultiControl II product family



- ✓ Receives digital signals (e.g. from a PLC) as commands



- ✓ Forwards feedback from the controller to digital outputs



- ✓ Quick and easy installation in the control cabinet with mounting rail housing (TS35)

Highlights/features:

- Connecting element from MultiControl II to master control system
- Bidirectional communication between controller and master control system via 16 digital inputs and outputs
- Storing and moving to up to 7 memory positions
- Starting up the initialisation sequence
- Adjustable travel speed
- Enables resetting of errors
- Feedback to master control system (e.g. movement active, position reached, error status etc.)

- Encoder simulation A/B delivers a signal which simulates a 2-channel encoder and represents the position of motor 1.

Standard functions mean quicker and simpler programming.

- **Standard functions of the digital inputs:**
 - ✓ Status indication
 - ✓ Initialisation complete
 - ✓ Memory position reached
 - ✓ Movement active
 - ✓ Retracted status
 - ✓ Encoder simulation

Option:

- Special functions available on request
- Quick and easy storage and moving to memory positions using hand switch with 6 function keys

I/O - Interface – Table of contents

Versions

- I/O - Interface..... Page 154

Accessories

- Control-BUS-cabel Page 159
- Hand switches Page 159

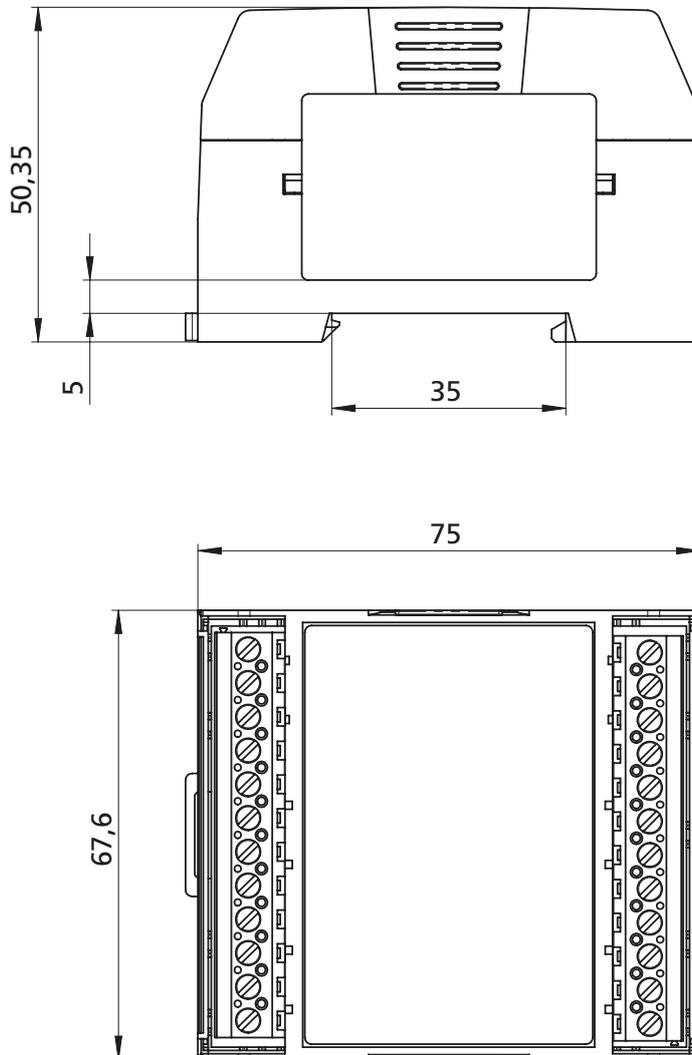
General information/operating conditions

The voltage supply for the logic of the I/O module	is provided by connecting the MultiControl II control system
Voltage supply for the digital inputs	High level: 5 V DC – 30 V DC Low level: 0 V DC – 2 V DC
Voltage supply for the digital outputs	10-30 V DC, max. 4 A
Protection class	III
Ambient temperature	0 °C to +50°C
Protection class	IP20
Dimensions	B x H x L: 67 x 50 x 75 mm

Input	Standard function
Input voltage (input 1 - input 8)	High: 5 VDC – 30 VDC Low: 0 VDC – 2 VDC
Input impedance	10 k Ohm
1	UP
2	DOWN
3	Action enabled from 3-bit mask (input 4 – 6)
4, 5, 6	3 bit mask for memory position
7	Speed (s / l)
8	Reset error

Output	Standard function	Logic level
Output voltage level O1 – O 8	High: as voltage on terminal 23 Low: GND	–
RS485 A/B	A/B	–
Power supply for the digital outputs	+ Digital output: 10 – 30 VDC, max. 4 A GND	–
1	Error status	High active
2	Initialised	High active
3	Position reached	High active
4	Movement active	High active
5	N/A	–
6	Zero position	Low active
7	Encoder simulation A	High/Low
8	Encoder simulation B	High/Low

I/O-Interface



I/O - Interface – Versions

I/O - Interface

The RK Rose + Krieger lifting column range supports a wide range of workflows in a wide range of assembly and manufacturing processes. A special data interface has now been developed in order to further optimise these workflows and increase the level of automation.

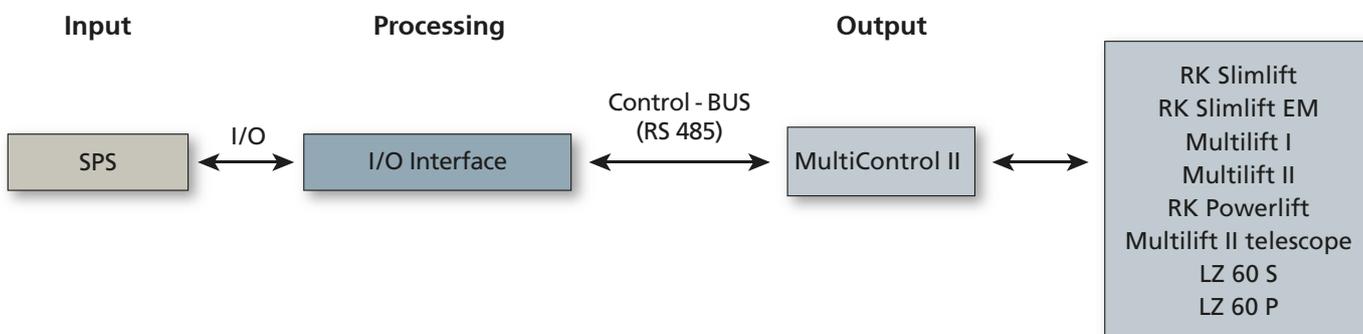
A lifting column for userfriendly setting up, for instance, can be operated using a hand switch. The ongoing production process is then controlled by PLC.



Scope of delivery:
Data interface with housing,
Connecting cable to control
(4 Meter), Documentation



Code No.	Type	Version	Interface
QZD070690	I/O-Interface	for MultiControl II	HS



Connection of a PLC

The I/O interface is used to activate the MultiControl II via digital inputs and outputs (e.g. of a PLC). For this purpose the module forwards the digital inputs to the MultiControl II as commands. The feedback signals from the controller are in turn transferred via the digital outputs.

The I/O interface thus transmits the serial RS485 interface of the MultiControl II to the digital inputs and outputs bidirectionally. All the inputs and outputs of the module are configured with standard functions. Thus the digital inputs 4, 5 and 6, for instance, are intended for saving the memory positions of the lifting column.

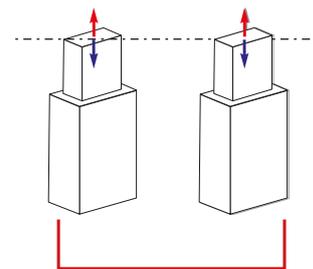
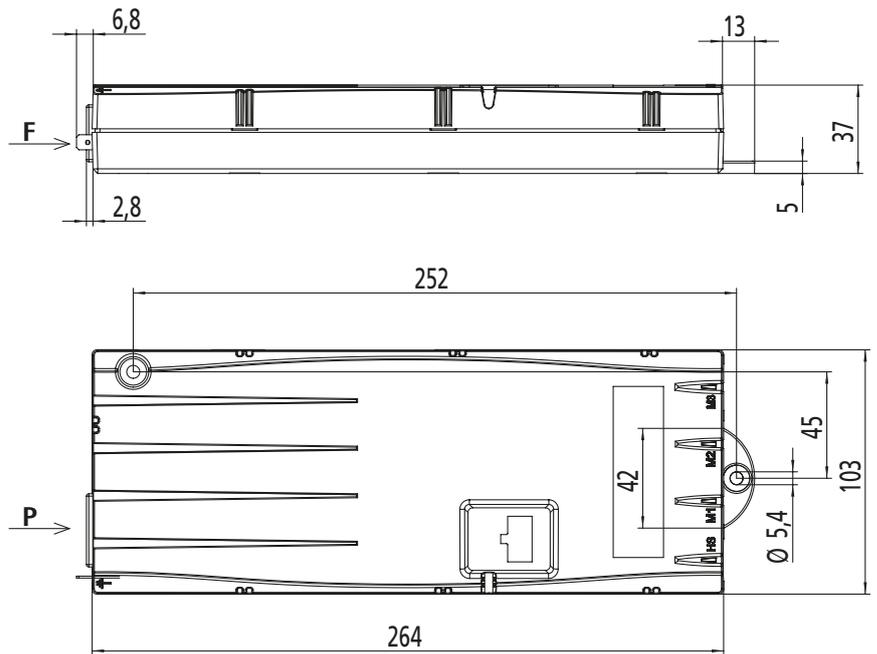
It is important to mention that the hand switch with 6 function keys simplifies the saving of memory positions considerably. It can be used to save and assume memory positions.

Please refer to the installation instructions for detailed information on the I/O interface.



Compact-e-3-EU

- 1 HS = Hand switch connector
- 2 M1 = Motor connector 1
- 3 M2 = Motor connector 2
- 4 M3 = Motor connector 3
- P = Power socket
- F = Cable lug for earthing of table frame (6.3 x 0.8 mm cable lug)



2 drives synchronised

Features:

- Synchronous control of up to two drives
- Duty cycle monitoring as over-load protection
- Highly efficient switched-mode power supply (SMPS)
- The hand switches with display support storage of four different intermediate positions (memory) which can be called up at the touch of a button
- Acoustic status message thanks to Click Codes

Additional functions:

Adjustable by customer

- Relative or absolute height display on hand switch with display
- Programmable software end positions

General information / operating conditions

Type	Compact-e-3-EU
Compatible	Set Multilift II/Set Multilift II telescope
Input voltage	EU: 230V / 50Hz US: 120V / 60Hz (on request) / JP: 100V / 60 Hz (on request)
Output voltage	33 V
Current output	7 A
Power	231 VA
Standby-power	0,5 W
Ambient temperature	0 °C to +30 °C
Relative humidity (for operation)	5 to 90% (non-condensing)
Protection class (with earth terminal)	I
Protection class	IP 20
Dimensions (L, B, H) [mm]	264 x 103 x 37
Weight	523 g
Duty cycle (Operation mode S 3)	At nominal load, 10% (2 min operating time, 18 mins rest time)

IEC cable

Code No	Version	Typ	Cable length
QZD070618	IEC cable (Europe version, earthed plug)	F	1.80 m
QZD020159	IEC cable (Switzerland version, earthed plug)	J	1.80 m
QZD070619	IEC cable (Great Britain version, earthed plug)	G	1.80 m

Hand switches / Accessories



1
HSU-MDF-4M2



2
TOUCHbasic UD



3
TOUCH UD

Code No.	Vesion	Description / information	Additional functions (see page 158)	Cable length	Fig.
QZB30E07BR126	HSU-MDF-4M2	Up to 4 memory positions/Display	•	1.90 m	1
QZB30E07BN126	TOUCHbasic UD	2 Up-/Down function		1.80 m	2
QZB30E07BP126	TOUCH UD	Up to 4 memory positions/Display	•	2.00 m	3

Features:

HSU-MDF-4M2



- Up to 4 memory positions
- 2 Up-/Down function
- 3- digit display
- Membrane key pad slim design

TOUCHbasic UD



- 2 Up-/Down function
- Large keys

TOUCH UD



- Up to 4 memory positions
- 2 Up-/Down function
- 4- digit display for „inch“ or „cm“
- Key Lock

TOUCH UD (retractable)



- Mounting under table top
- Ultra-flat design



RK ROSE+KRIEGER



Belastungsdaten

Gesamtlänge (mm)	Ausführung	E 1R	E 20	E 30	E 40	E 50	E 60	AE 30	AE 40
1000									
1500									
2000									
3000									
4000									
5000									
6000									

* Bezogen auf „geschlossenen“ Führungsschlitzen (Durchbiegung d...)

Belastungsdaten* - A / AS -

Gesamtlänge (mm)	Fx		Fy
	1000	2000	10000
A/AAS 30	15000 N		
A/AAS 40	18000 N		
A/AAS 50	20000 N		
A/AAS 60	20000 N		

* Bezogen auf „geschlossenen“ Führungsschlitzen (Durchbiegung d...)

Geschwindigkeit

Ausführung
E/AE
E/AE
A/AAS

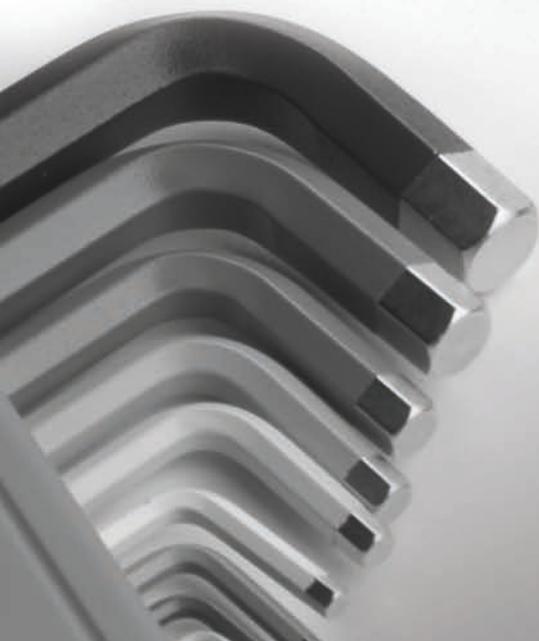
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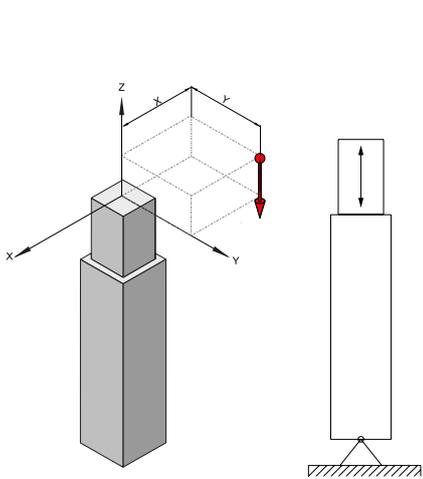
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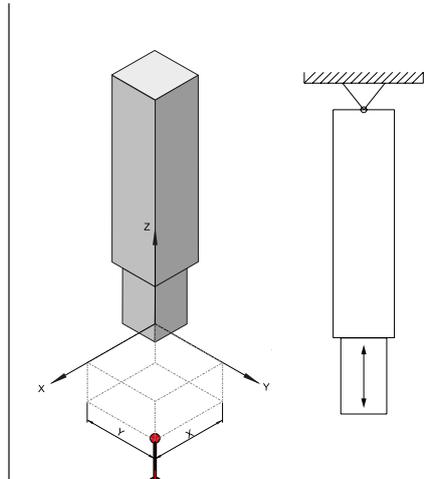




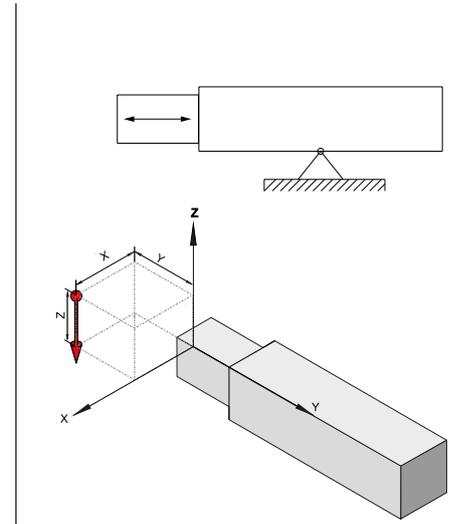
Application examples: □1 □2 □3 □4 □5 □6 □7



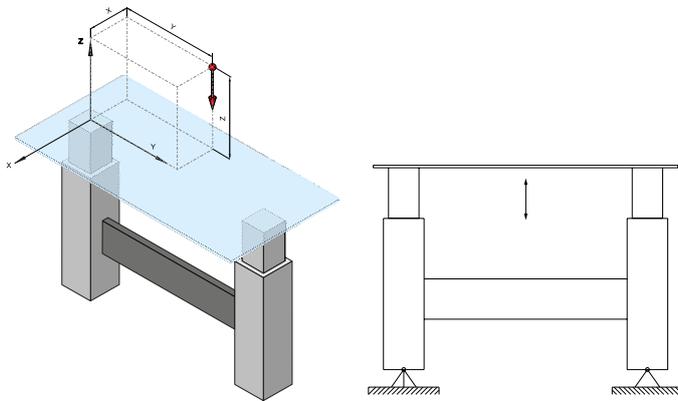
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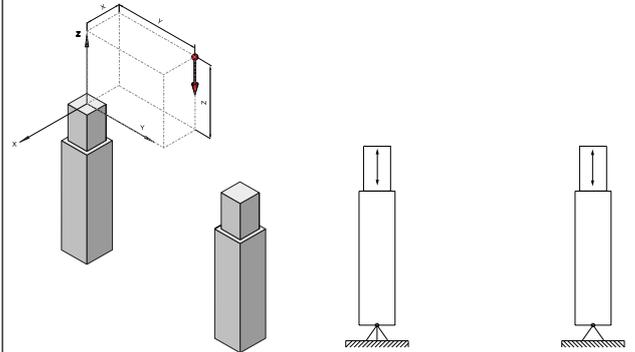
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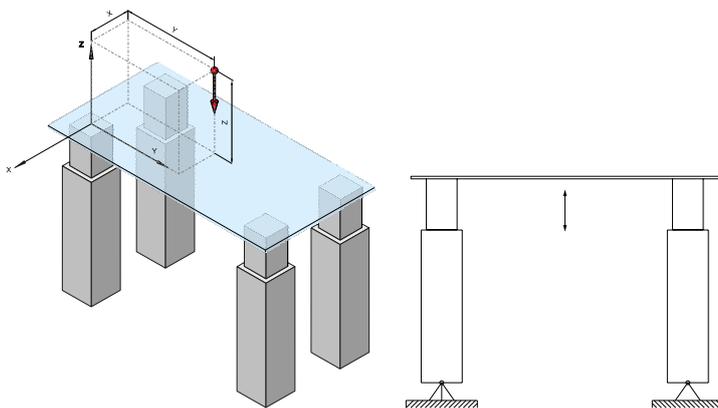
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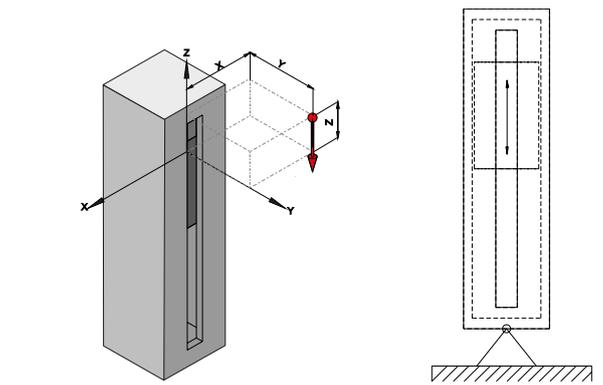
□4



□5

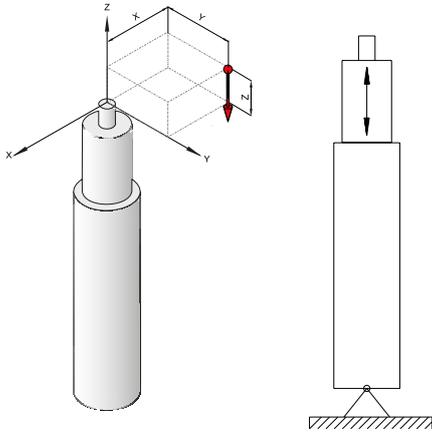


□6

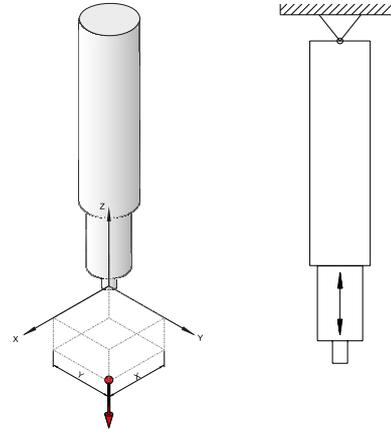


□7

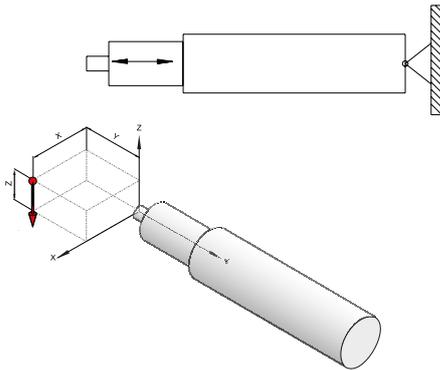
Application examples: □1 □2 □3 □4 □5 □6



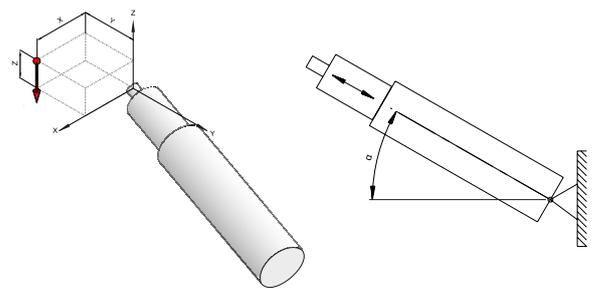
□1



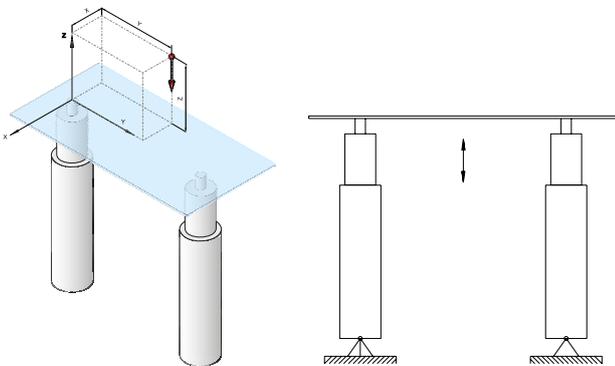
□2



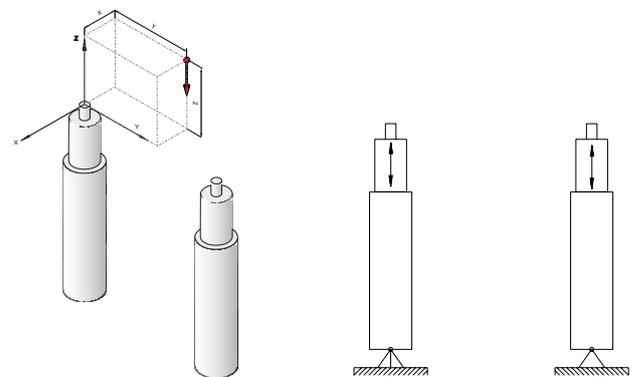
□3



□4



□5



□6

Adjustment load: Each drive type has a different, structurally-dependent, adjustment load. This variable defines the maximum push and tractive force that a drive can handle (for linear drives). The adjustment load is always a so-called dynamic load. The drive still performs reliable adjusting movements under the specified maximum load. The adjustment load is defined in terms of Newtons (N), whereby the following applies: 1 kg » 10 N.

BLOCAN: Product name of the RK Rose+Krieger aluminium profile system with patented connection system, which permits the quick and easy assembly of very different structures. These profiles are available in a wide range of cross-sections and sizes.

Checkback signal: A technical means for the detection of the current position and speed of the drive. A distinction is made between the relative (incremental) and absolute (analogue) method.

Incremental (relative):

A so-called Hall sensor generates a fixed number of electrical impulses for each distance travelled. The control then calculates up-to-date information on the current position and speed relative to a defined reference point. In order to ensure the reliable operation of the drive, it is essential that a correct reference value is always available. However, if this reference value is lost, such as in the unlikely event of a power failure or a malfunction, it is essential to specify a new reference point.

Analogue (absolute):

In this case, the position/speed is detected using a so-called potentiometer. This electronic component is permanently coupled to the drive movement and adjusts its resistance value according to the current position. The control uses this information to calculate the current position and speed. This type of position determination does not require a reference point as all potentiometer values are constantly available.

Control: The control combines the various functions required to operate the drive. The switching signals of a hand switch are converted to control functions for the connected drives. At the same time, the control contains facilities for power supply and various protection devices to protect against overloads and short-circuits.

Transformer control:

The hand switch controls electromechanical relays, which, in turn, control the drive currents (the most common control technology).

Customer applications: The responsibility for RK Rose+Krieger products (in the specific application) and compliance with the applicable directives, standards and laws lies with the manufacturer of the complete system in which the RK Rose+Krieger products are installed.

Duty cycle (max): This technical variable defines the maximum time period that a drive can be operated continuously. This maximum period must be followed by a specified idle time. Both values are defined in the specified duty cycle (DC) in relation to one another. In the case of drive systems, 2/18 min has become standard in the field of drive technology, i.e. 2 minutes of continuous operation must be followed by 18 minutes idle time. It therefore follows that if the unit is operated for a shorter period, the idle time can also be shortened respectively. It is essential to ensure adherence to these specifications for periodic duty; failure to do so may cause the unit to overload and trigger protection equipment.

Earthing conductor cable: The Multicontrol Care power cable with earth connection on the control side is for connecting the application to the earthing conductor. Install the control-side earthing conductor cable in your application in accordance with the applicable standards and current practice.



Hand switch: The operator can use this operating device to control the full range of drive functions. A press of the button generates switching signals, which are converted to corresponding control signals in the control system.

Standard:

The hand switch is directly connected to the control system via a connecting cable; transmission of the switching signals is hard-wired.

Radio:

Instead of the standard hand switch, a radio receiver is connected to the control interface. The switching signals sent by the radio remote control are picked up by the receiver and relayed on to the control.

Installation dimension: This dimension specifies the installation length of the respective drive. Installation length = basic length + travel.

Installation position: Observe operating manual: www.rk-rose-krieger.com/english/service/download-documents/technical-manuals/linear-technology

Lifting column: Single actuator with a special, often design-oriented linear guide. This actuator is able to reliably withstand lateral forces and ensure the necessary stability even in a fully extended position while taking the maximum torques into account.

Memory synchronous drive: This kind of actuator is equipped with a position and stroke detection system. Information on the current position of the drive is continuously transmitted back to a synchronised control system. This memory drive is generally used in applications where the stored positions can be retrieved with the simple press of a button. They are also required in applications with synchronous/memory controls.

Power cable feedthrough: Additional voltage tap for the supply of external devices.

Protection class: The impermeability of electronic devices against the penetration of foreign bodies and liquids is defined by means of a two-digit IP code. The first number refers to the level of ingress protection against solid materials, such as dust, and the second to ingress protection against liquids. The most common protection classes are IP 20 (touch protection); IP 44 (water spray protection); IP 66 (water jet protection).

Repeatability: Repeatability is the ability of the linear unit drive to return to a once reached position within the given tolerance limits under identical conditions. Factors that influence repeatability (and positioning accuracy) include: load, speed, delay, direction of movement and temperature.

Stroke: In the case of lifting columns and electric cylinders, the maximum travel is referred to as stroke.

Service life of drives: The lifetime depends on the drives used and the application. Depending on the system, there is a considerable difference between the lifetime of ball screw drives and acme screw drives. The lifetime of the drives is also affected by the control systems used and the associated duty cycles. As a guideline for acme screw drives, a stroke of 500 mm, with adherence to the permitted loads and duty cycles, we estimate a lifetime of 10,000 double strokes. Any changes of application will effect a corresponding change in the expected lifetime of the drive. Ball screw drives are expected to have a considerably longer lifetime. Please contact us if you require any further advice and we will be happy to assist.

Synchronous control:

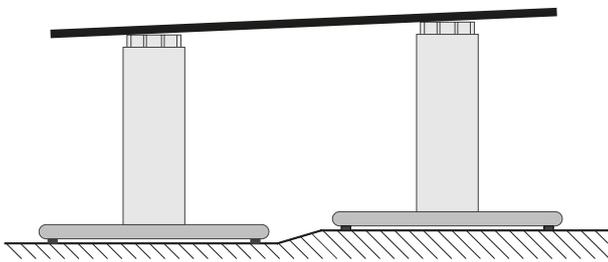
The synchronous operation of several drives at the same speed is possible even in the case of widely ranging loads. This technology is always used if a single adjusting movement is implemented via more than one drive (such as the height adjustment of workstations).

Synchronous operation: Synchronised drives are used for the simultaneous movement of several mechanically connected columns. "Standard" single drives are generally not able to meet the requirements of such applications.

The following section contains some brief information on the best way to set up a synchronous system. More detailed information on this subject can be found in the respective technical instructions on our website www.rk-rose-krieger.com/english/service/download-documents/technical-manuals/linear-technology.

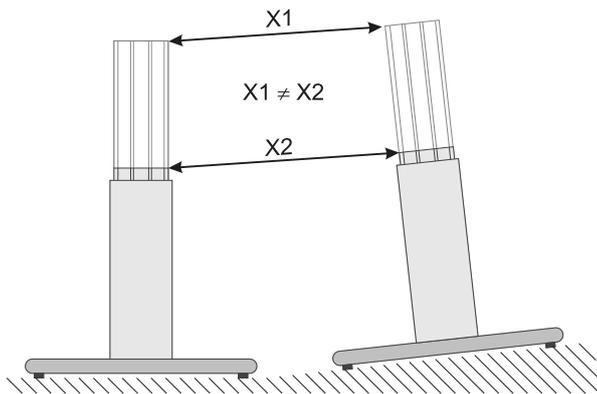
The following errors can occur during set-up:

Different heights:



A rigid connection between the lifting columns aligns them at the same height. Fixing the table frame in place may cause the lifting columns to distort.

Parallel alignment:



If the lifting columns are not parallel, the distance between the two upper fixing points will change during the movement. However, a rigid connection keeps this distance constant, and this means that the lifting columns are subject to very strong forces.

Distorted table frame:

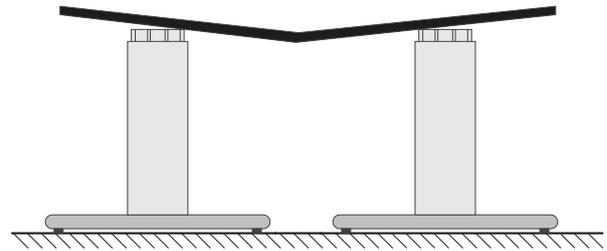
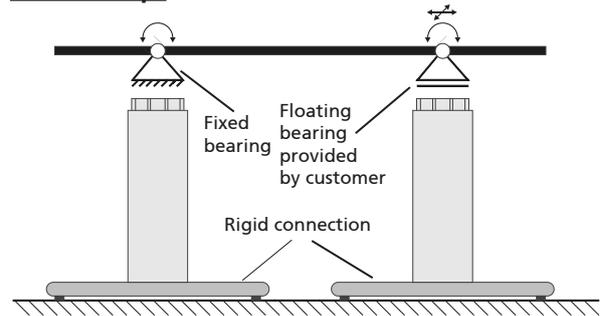


Table frames are generally made of welded steel tubes and connecting plates that connect to the lifting columns. If the connecting plates are not lying flat on the lifting column, the synchronous system will distort during screw attachment.

Failure to address these mechanical errors may impair the running properties of the drive, shorten lifetime or damage the lifting column. If using an electronic control system, this may cause the output of error messages and render the system inoperable.

Ideal set-up:

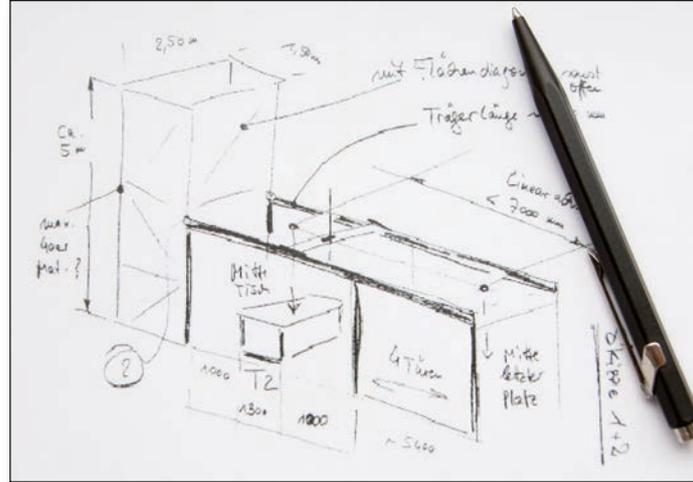


Surfaces at the foot and top of the columns must be at the same height, parallel to one another and as flat and even as possible, the columns themselves must also be aligned so that they are completely parallel. Existing tolerances and height differences due to control deviations are offset by means of a customer-provided floating bearing.

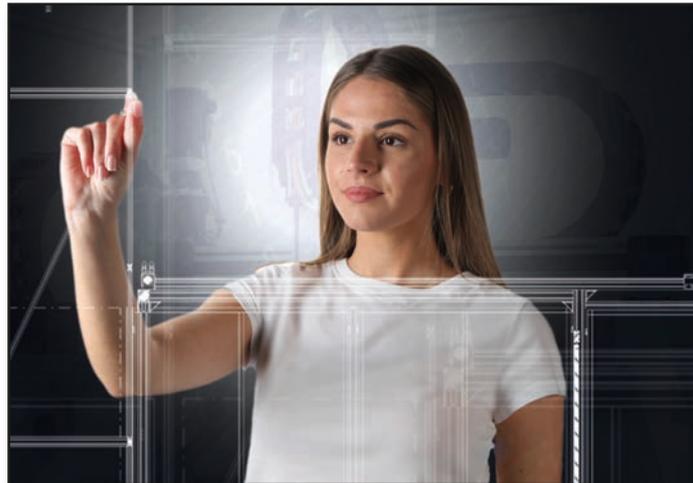
Our service

Do you need to focus your resources on other tasks and are you looking for a competent partner you can rely on? Working in close collaboration with you, our specialists will develop solutions tailor-made to meet your needs. If you wish, we can also assemble and commission the units on site.

- Just make a sketch of your requirements

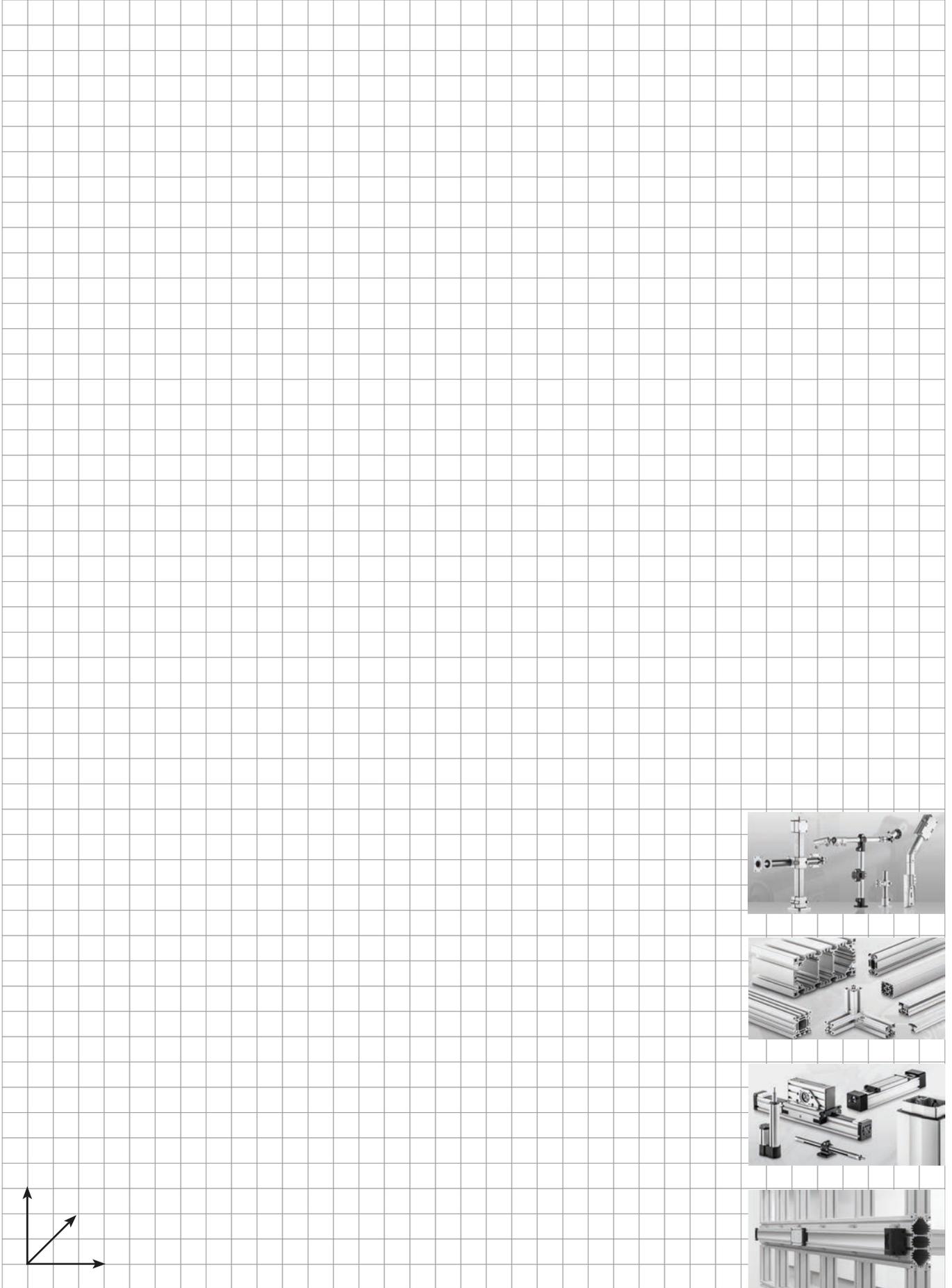


- Our product specialists will devise a solution for you



- We can deliver your turnkey solution or assemble and commission it for you on site







Our product ranges

CONNECTING TECHNOLOGY

- ✓ Fittings for the secure clamp connection of round and square tubes
- ✓ Elements made of aluminium, stainless steel and plastic
- ✓ Sizes from 8 mm to 80 mm



PROFILE TECHNOLOGY

- ✓ The tried and tested BLOCAN® aluminium assembly system
- ✓ Sections from 20 mm to 320 mm for all applications
- ✓ Connecting technology with an unsurpassed combination of flexibility and reliability



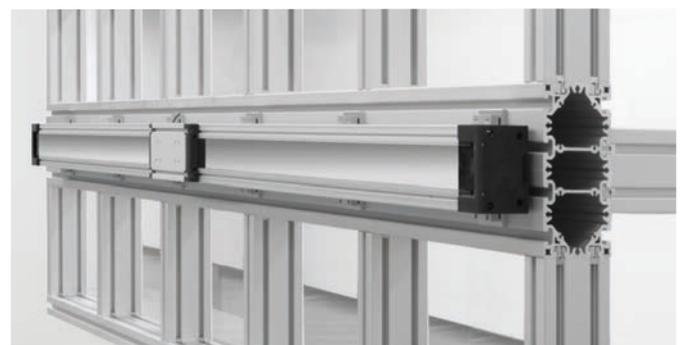
LINEAR TECHNOLOGY

- ✓ Manual adjustment units
- ✓ Electric cylinders
- ✓ Lifting columns
- ✓ Linear axes
- ✓ We can move loads for you of up to 3 t and up to 12 m dynamically, reliably and with great precision



MODULE TECHNOLOGY

- ✓ Machine frames
- ✓ Workstations
- ✓ Machine guards
- ✓ Multidimensional linear axis modules
- ✓ Complete drive solutions



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RK ROSE+KRIEGER

A Phoenix Mecano Company

RK Rose+Krieger GmbH
Connecting and positioning systems
Potsdamer Straße 9
32423 Minden, Germany
Telephon +49 571 93 35-0
Telefax +49 571 93 35-119
info@rk-online.de
www.rk-rose-krieger.com



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