

Two-stage lifting column - *RKPowerlift M*

The mini version of the *RKPowerlift* – the *RKPowerlift M*

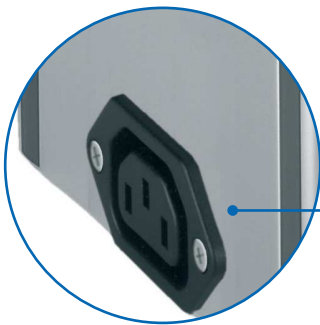


Standard

- ✓ Hand switch receptacle, power receptacle with integrated fuse

Optional

- ✓ Power supply/output versions



RKPowerlift M

- Push and pull forces 1,500 N
- Lifting speed 13 mm/s

Features:

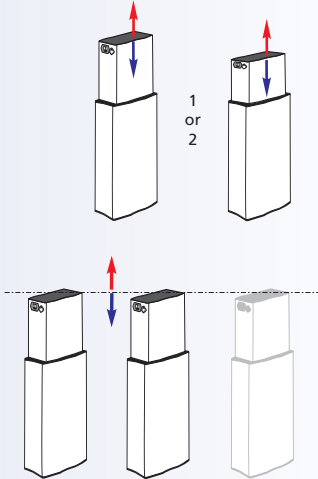
- Withstands high torsional and bending moments
- Integrated motor
- Extremely quiet operation
- Choice of internal or external control

- Four fixing slots in external profile
- Power receptacle at top or bottom, as preferred
- Tested to IEC 60601-1

Options:

- Special stroke lengths available on request
- Special installation lengths available on request
- Higher push forces available on request

RKPowerlift M - Table of contents

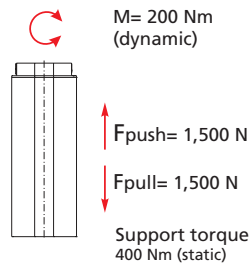
<h3>Properties/Technical data</h3>	<ul style="list-style-type: none"> ■ General information/operating conditions... Page 74 ■ Load data..... Page 74 ■ Parallel and synchronous operation Page 75
<h3>Versions</h3> <p>(Dimensions, order numbers)</p> 	<ul style="list-style-type: none"> ■ <i>RKPowerlift M</i>..... Page 76 ■ <i>RKPowerlift M</i> mono Page 78 ■ <i>RKPowerlift M</i> synchro Page 79
<h3>Accessories</h3> <p style="text-align: right;">Fixing</p> <p style="text-align: center;">Position determination</p>	<ul style="list-style-type: none"> ■ Assembly plate Page 80 ■ Base plate Page 81 ■ Square nut..... Page 82 ■ RK SyncFlex..... Page 82 ■ Controls Page 78 ■ PLC/PC data interface..... Page 83 ■ Hand switches Page 83

RKPowerlift M – Technical data

General information/operating conditions

Type	RKPowerlift M for external control	RKPowerlift M for internal control
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*	1,500 N (3,000 N on request)	
Pull force*	1,500 N	
Max. speed	13 mm/s	
Voltage	24 V DC	
Power input	120 W	
Protection class	IP 30	
Self-locking	Yes	
Ambient temperature	+5°C to +40°C	
Max. displacement with synchronous operation	0-2 mm	
Duty cycle	At nominal load, 15% (max. 1.5 mins operating time, 8.5 mins rest time)	

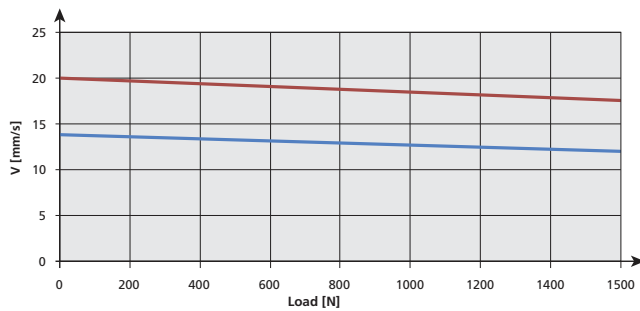
Load data



* In medical applications, the maximum pull force of 750 N and the maximum push force of 1,500 N must not be exceeded.

Speed/Force diagram

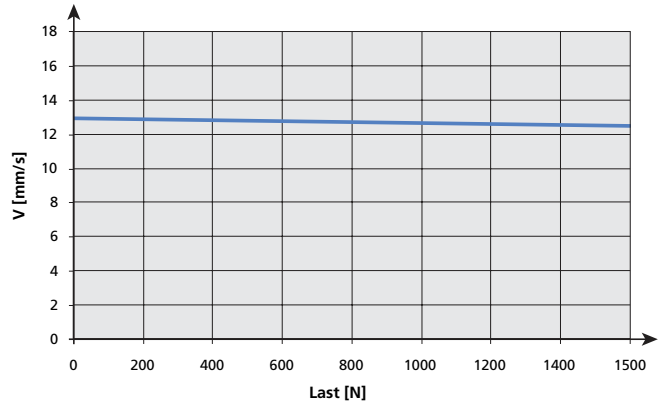
RKPowerlift M for external control



— Powerlift M 1,500N at 24V*1
 — Powerlift M 1,500N at 36V*2

Speed/Force diagram

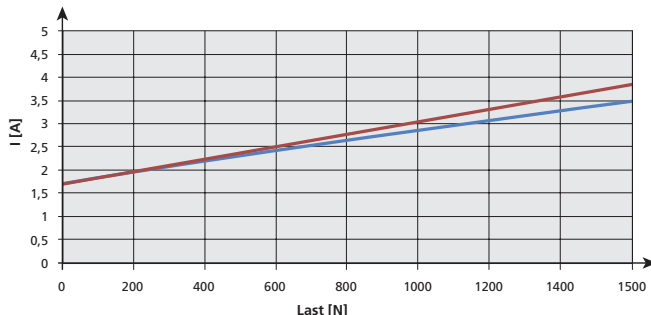
RKPowerlift M, for internal control



— Powerlift M 1,500N internal control

Current output/Force diagram

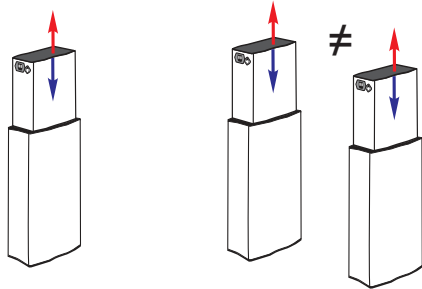
RKPowerlift M, for external control



— Powerlift M 1,500N at 24V*1
 — Powerlift M 1,500N at 36V*2

24 V*1 determined with a transformer control 120 VA
 36 V*2 determined with a MultiControl duo

RKPowerlift M Mono

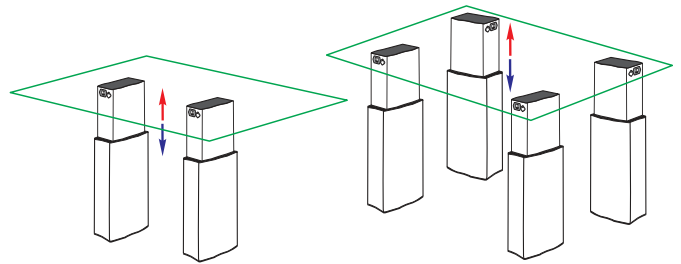


1-2 **RKPowerlifts** in single or parallel operation

Parallel operation

The standard version also supports parallel operation of two **RKPowerlifts** (no synchronisation). This may produce different lifting positions during operation, which can be levelled out by moving to the end positions.

RKPowerlift M Synchro



2-4 **RKPowerlifts** in synchronous operation

Synchronous operation

Synchronous operation of two or more columns. In conjunction with the integrated sensors, the control (see page 146) 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 is max. 2 mm. A memory function is also available.



Movable measuring table, table adjustment via RK Powerlift, adjustment of measuring equipment via EPX/PL linear actuator

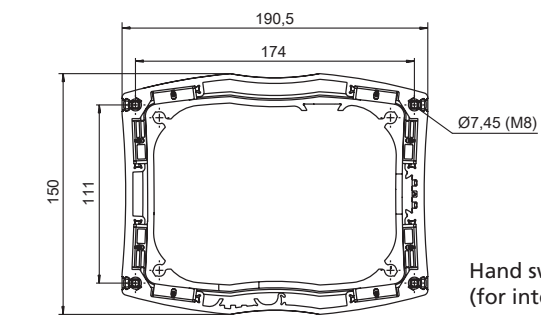
RKPowerlift M - Versions

Versions

■ with internal control

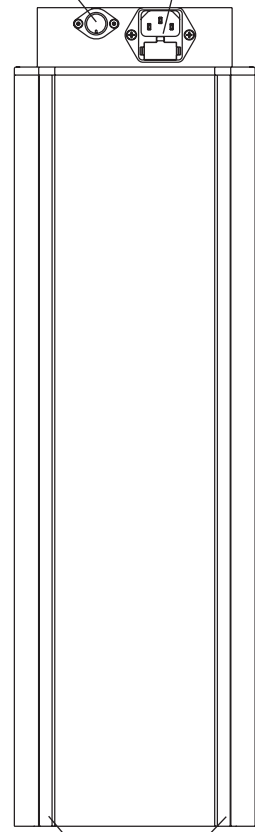
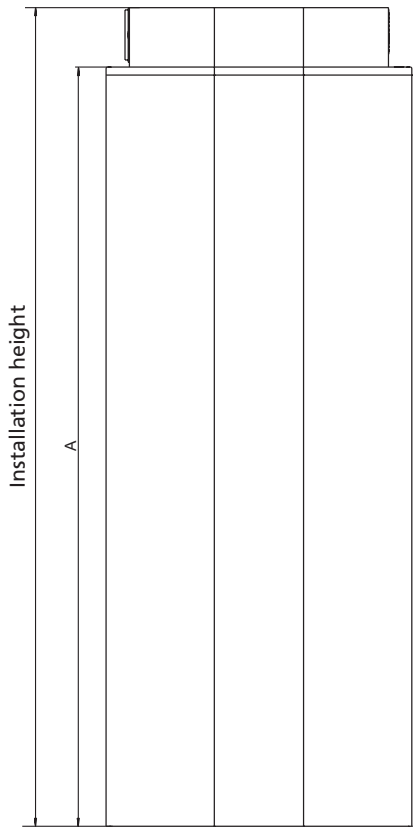
■ for external control



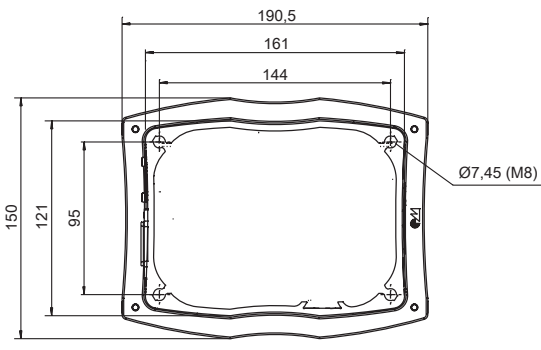


Power supply (for internal control) with integrated fuse (can be replaced externally)

Hand switch connection (for internal control)

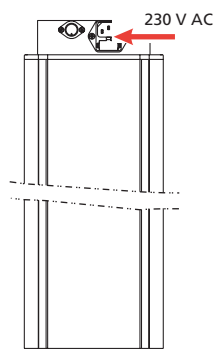


Fixing slot (sealed with cover profile) to accommodate square nuts (see page 396).

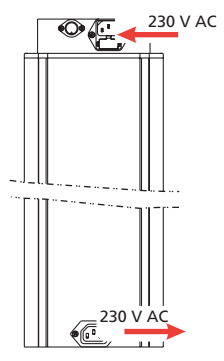


Power supply - versions:

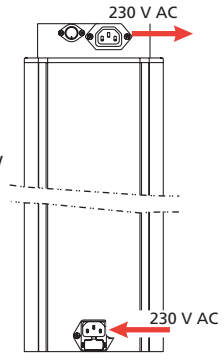
Type 0:
Standard,
Power supply, top



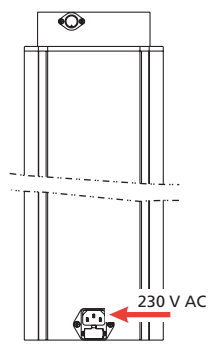
Type 1
(cable feedthrough):
Power supply, top/
power output, bottom



Type 3
(cable feedthrough):
Power supply, bottom/
power output, top

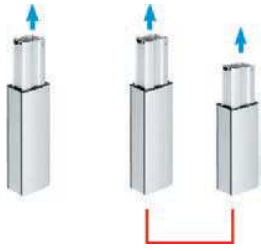


Type 4:
Power supply, bottom



RKPowerlift M - Versions

RKPowerlift M mono



1-2 single or parallel operation

Code No.	Type	Push force [N]	Pull force (med) [N]	Lifting speed [mm/s]	Stroke length [mm]	Installation height [mm]	A [mm]	Weight [kg]
With internal control/standard (start and stop)								
QPM13BC42_300	RKPowerlift M	1,500	1,500	13	300	510	473	~12.0
QPM13BC42_400	RKPowerlift M	1,500	1,500	13	400	610	573	~13.5
QPM13BC42_500	RKPowerlift M	1,500	1,500	13	500	710	673	~15.0
With internal control/memory (9 positions can be stored)								
QPM13BC46_300	RKPowerlift M	1,500	1,500	13	300	510	473	~12.0
QPM13BC46_400	RKPowerlift M	1,500	1,500	13	400	610	573	~13.5
QPM13BC46_500	RKPowerlift M	1,500	1,500	13	500	710	673	~15.0

For mains supply versions see page 77

- 0 = Standard
- 1 = Type 1
- 3 = Type 3
- 4 = Type 4

Code No.	Type	Push force [N]	Pull force (med) [N]	Lifting speed [mm/s]	Stroke length [mm]	Installation height [mm]	A [mm]	Weight [kg]
For external control								
QPM13EC480300	RKPowerlift M	1,500	1,500	13	300	510	473	~12.0
QPM13EC480400	RKPowerlift M	1,500	1,500	13	400	610	573	~13.5
QPM13EC480500	RKPowerlift M	1,500	1,500	13	500	710	673	~15.0

Transformer control 120 VA



approx. 24 V DC

MultiControl mono



approx. 36 V DC

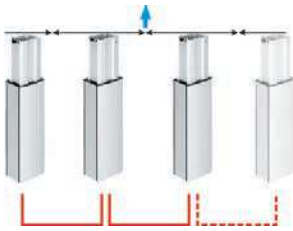
Order information:

Observe the current output of the drives when selecting the control.

Code No.	External control	
QZA09C13BH031	Transformer control 120 VA connection C, up to max. I= 3 A, 24 V DC	Controls up to 2 drives
QSTACCA1AA000	MultiControl mono connection C, up to max. I= 12 A current output, 36 V DC	Controls up to 2 drives
Accessories		
QZD0702844000*	Straight connecting cable (4 m) with 5-pin connector and open cable end	
QZD070526	Extension cable 2,5 m drive for connector C/8-pin DIN socket	

*for the connection of a parallel hand switch or an external potentiometer (in the case of the MultiControl mono)

RKPowerlift M synchro



2-4 in synchronous operation

Code No.	Type	Push force [N]	Pull force [N]	Lifting speed [mm/s]	Stroke length [mm]	Installation height [mm]	A [mm]	Weight [kg]
With internal control / synchro memory (9 positions can be stored)								
QPM13BC47_300	RKPowerlift M	1,500	1,500	13	300	510	473	~12.0
QPM13BC47_400	RKPowerlift M	1,500	1,500	13	400	610	573	~13.5
QPM13BC47_500	RKPowerlift M	1,500	1,500	13	500	710	673	~15.0

For mains supply versions see page 77
 0 = Standard
 1 = Type 1
 3 = Type 3
 4 = Type 4

Code No.	Connecting cable (bus cable)
QZD100093	6 m bus cable for synchronisation of up to 8 synchronous controls

Code No.	Type	Push force [N]	Pull force [N]	Lifting speed [mm/s]	Stroke length [mm]	Installation height [mm]	A [mm]	Weight [kg]
For external control								
QPM13EC480300	RKPowerlift M	1,500	1,500	13	300	510	473	~12.0
QPM13EC480400	RKPowerlift M	1,500	1,500	13	400	610	573	~13.5
QPM13EC480500	RKPowerlift M	1,500	1,500	13	500	710	673	~15.0

MultiControl duo



MultiControl quadro



Order information:
 Observe the current output of the drives when selecting the control.

Code No.	External control	
QST44C02AA000	MultiControl duo connection C, up to max. I = 12 A current output, 36 V DC	for synchronous control up to 2 drives
QST44C04AA000	MultiControl quadro connection C, up to max. I = 12 A current output, 36 V DC	for synchronous control up to 4 drives
Accessories		
QZD070526	Extension cable 2,5 m drive for connector C/8-pin DIN socket	

RKPowerlift M - Fixing

Assembly plate

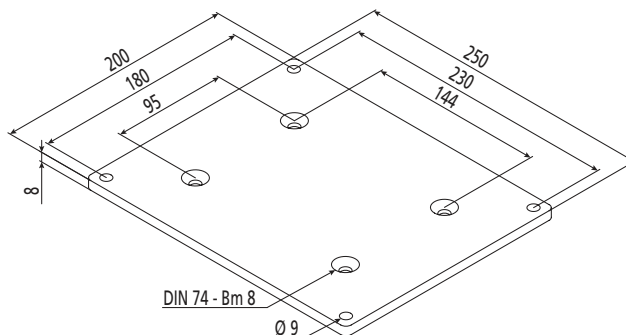
- These mounting plates are fitted using the mounting kits supplied and fixed directly into the screw channels in the Powerlift „M“. A further 4 holes, in the mounting plate, allow easy connection, to brackets or corresponding fixture assembly work etc.

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

Scope of delivery:
Plate, incl. fixing set



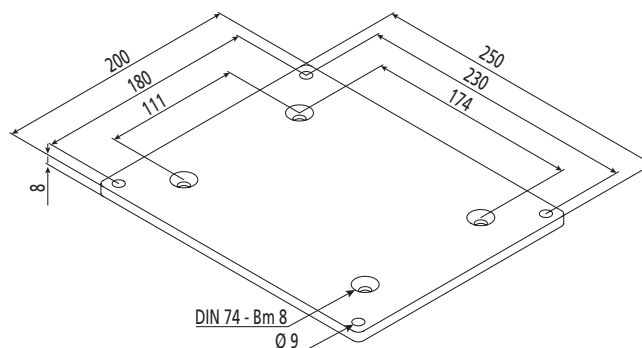
For internal profile



Code No.	Type
QZD100541	Top assembly plate



For external profile

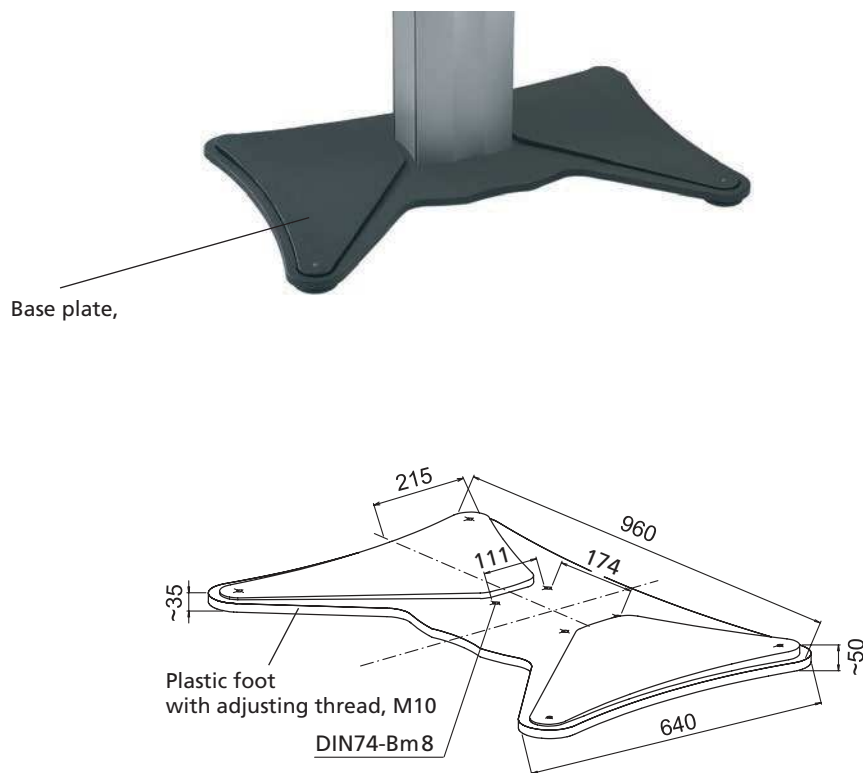


Code No.	Type
QZD100542	Bottom assembly plate

Base plate

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

Scope of delivery: complete with
fastenings



Base plate,

Code No.	Type
QZD100546	Base plate for <i>RKPowerlift M</i>

RKPowerlift M – Fixing

Square nut

- For connecting accessories to the external profile

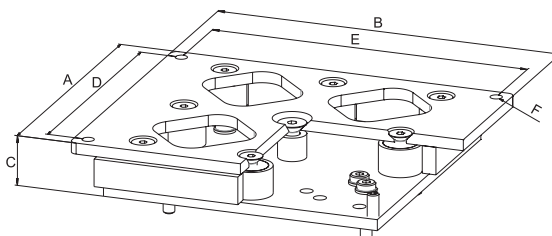


Code No.	Type
QZD100326	Square nut M4, DIN 562, pack of 10

RK SyncFlex H

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.
- Scope of delivery:**
Adjuster plate,
incl. fixing material



[mm]

Code No.	Type	A	B	C	D	E	F
QZD100453	Powerlift M	200	250	36	230	180	M 10

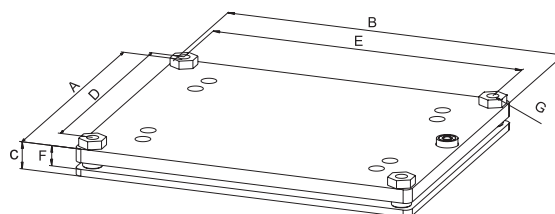
RK SyncFlex V

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.
 - The lifting columns can be aligned via the vertical adjustment around the X-Y axes.
- RK SyncFlex V enables the compensation of unevenness in the mounting environment.



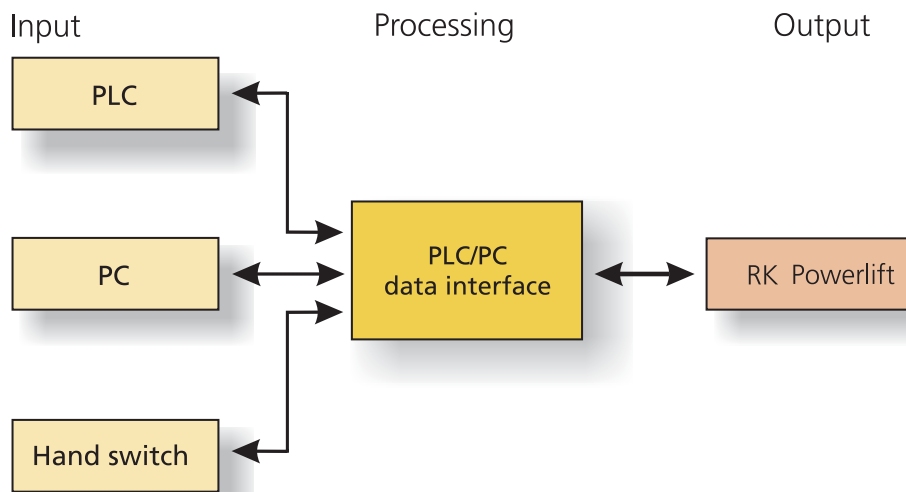
[mm]

Code No.	Type	A	B	C	D	E	F	G
Without pressure plate								
QZD100446	Powerlift M	200	250	-	180	230	10-15	M 10
With pressure plate								
QZD100463	Powerlift M	200	250	15-20	180	230	10-15	M 10

PLC/PC data interface

■ This interface enables actuation of the synchronous control system via different input devices (PLC, PC and hand switch)

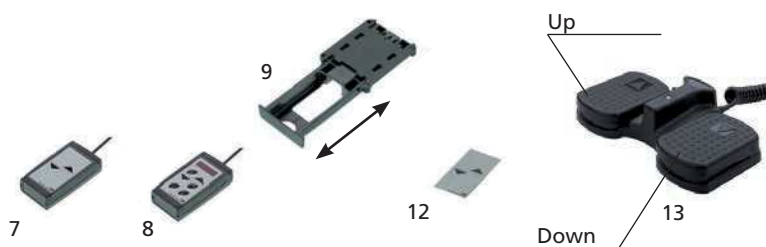
You will find further product information on page 182



Code No.	Type
QZD100108	PLC/PC data interface
QZD100110	Fixing plate for mounting in a control cabinet

Hand switches/accessories

(internal control
RKPowerlift M mono)



Code No.	Version	Fig.
Hand switch for RKPowerlift M mono		
QZB00A00BC011	Membrane keyboard with 1 m spiral cable – 2 function keys	12
QZB02C01AE114GS	Foot switch – 2 function keys	13
QZB00D04AB041	Hand switch with 1 m spiral cable – 2 function keys	7
Hand switch for RKPowerlift M synchro		
QZB00D04AD041	Hand switch with 1 m spiral cable – 6 function keys	8
Accessories for hand switches		
QZD000074	Drawer for hand switch	9

Note:
For further hand switch versions, please refer to the chapter "Controls" on page 146 ff.