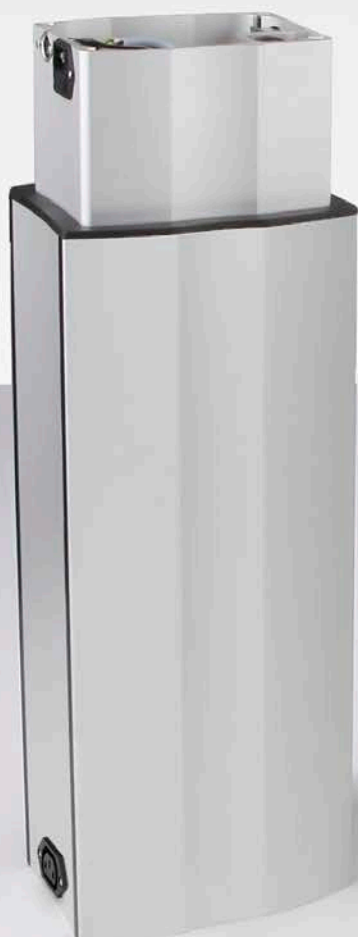




# Electrical height adjustment

... now available with compressive forces up to 3,000 N and SMPS technology

3,000 N



## RK Powerlift M

# Two-stage lifting column - *RKPowerlift M*

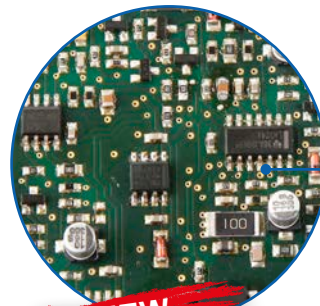


The mini version of the *RKPowerlift* – the *RKPowerlift M*



### Standard

- ✓ Hand switch receptacle, power receptacle with integrated fuse



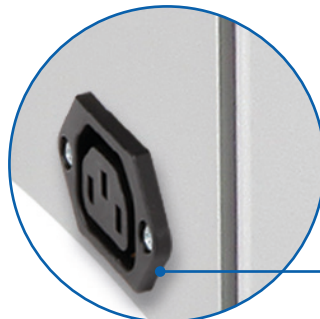
**NEW**

Soft control versions are available with **SMPS technology** (Switched-Mode Power Supply technology)

- ✓ Wide range input (100 - 240 V~ 50 / 60 Hz)
- ✓ Soft start and stop process
- ✓ Overcurrent-monitoring
- ✓ Temperature-monitoring
- ✓ Single-fault protection
- ✓ Energy-efficient
- ✓ Weight-optimised

### Optional

- ✓ Power supply/output versions



### *RKPowerlift M*

**NEW**

- Compressive forces to 3,000 N
- Tensile 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
- Testet to:  
IEC 60601-1 (ed.3)  
EN 60601-1:2006/A1:2013

### Options:

- Special stroke lengths available on request
- Special installation lengths available on request

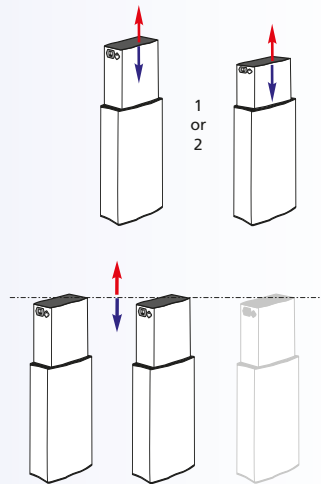
**RKPowerlift M - Table of contents**

**Properties/Technical data**

- General information/operating conditions..... Page 4
- Load data..... Page 4
- Parallel and synchronous operation ..... Page 5

**Versions**

(Dimensions, order numbers)



- *RKPowerlift M*..... Page 6
- *RKPowerlift M* mono ..... Page 8
- *RKPowerlift M* synchro ..... Page 9

**Accessories**

**Fixing**

- Assembly plate ..... Page 10
- Base plate ..... Page 11
- Square nut..... Page 11
- RK SyncFlex..... Page 12

**Position determination**

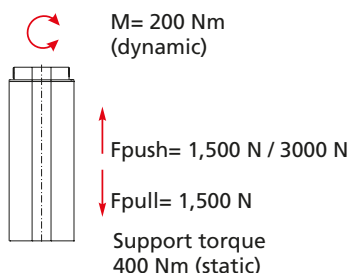
- Controls ..... Page 8
- Hand switches ..... Page 14
- PLC/PC data interface..... Page 15
- IEC cable ..... Page 15

# 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                                   | 3,000 N   |                                    |
| Pull force*                                  | 1,500 N   |                                    |
| Max. speed                                   | 13 mm/s   |                                    |
| Voltage                                      | 24 V DC   | 230 V AC / 100 - 240 V AC          |
| Power input                                  | 120 W   | 150 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) |                                    |

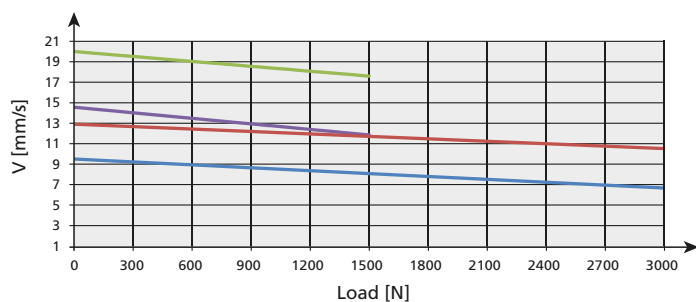
## Load data



\*In medical applications, the maximum pull force of 750 N must not be exceeded.

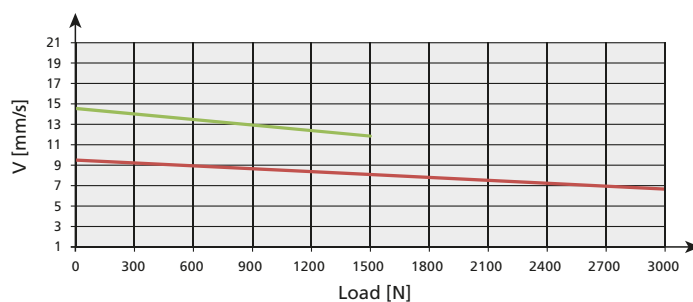
### Speed/Force diagram

RKPowerlift M for external control



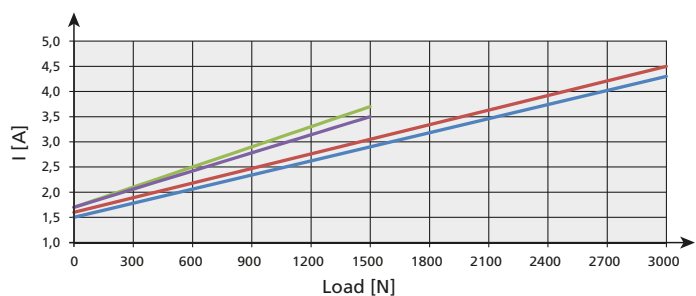
### Speed/Force diagram

RKPowerlift M, with internal control



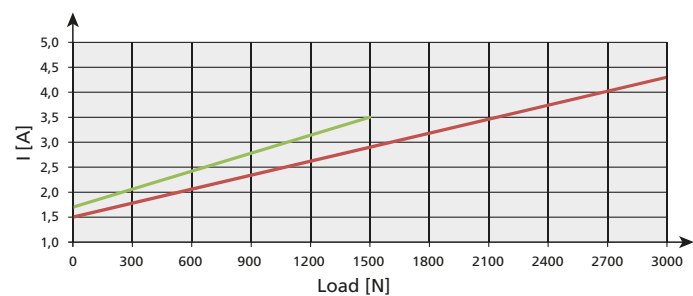
### Current output/Force diagram

RKPowerlift M, for external control



### Current output/Force diagram

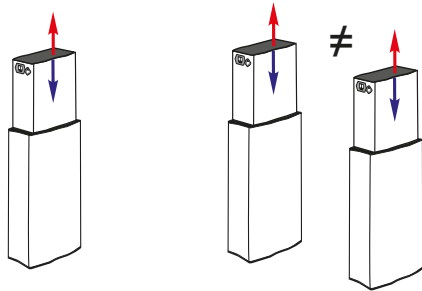
RKPowerlift M, with internal control



— Powerlift M 3,000N at 36V\*2 — Powerlift M 1,500N at 36V\*2 — Powerlift M 3,000N internal control  
 — Powerlift M 3,000N at 24V\*1 — Powerlift M 1,500N at 24V\*1 — Powerlift M 1,500N internal control

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

### **RKPowerlift M Mono**

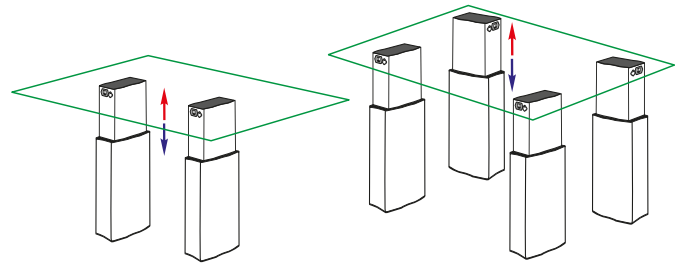


1-2 **RKPowerlifts** in single or parallel operation

#### **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 (page 8) ensures synchronisation, and this 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

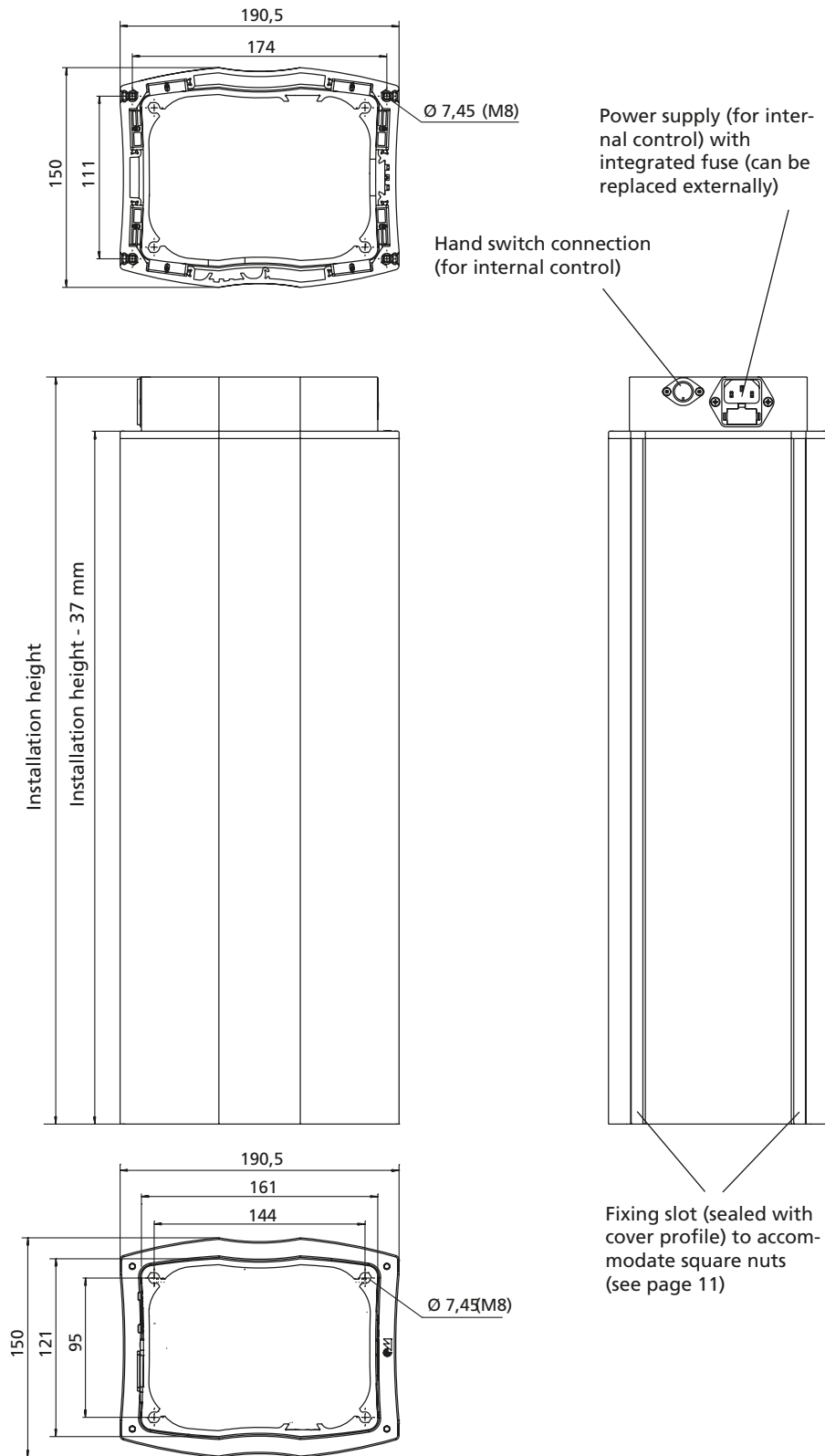
# RK Powerlift M - Versions

## Versions

■ with internal control

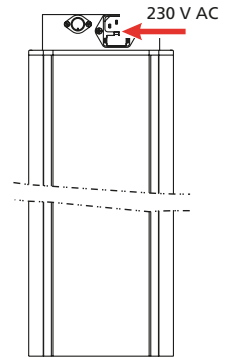
■ for external control



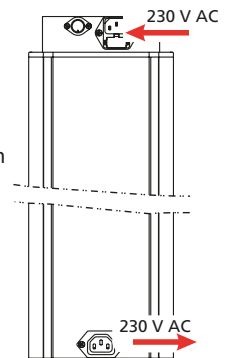


**Power supply - versions:**

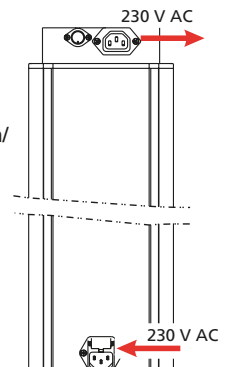
Type 0:  
Standard,  
Power supply, top



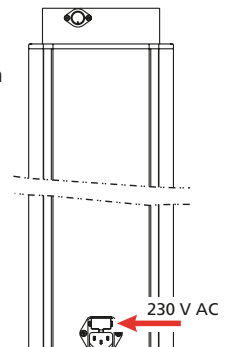
Type 1  
(cable feedthrough):  
Power supply, top/  
power output, bottom



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

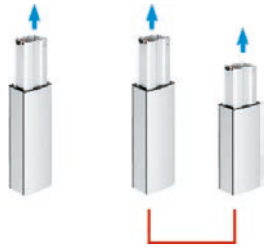


Type 4:  
Power supply, bottom



# RKPowerlift M - Versions

## RKPowerlift M mono



1-2 single or parallel operation


**Immediately**

### \* Order information:

Soft control versions are now available with SMPS technology.


Only for Soft-Control-Versions please select IEC cable separately (page 15).

**The other versions with internal control will be available with SMPS from 2017.**

| Code No.   | Type   | Push force [N]     | Pull force [N]    | Lifting speed [mm/s] | Stroke length [mm] | Installation height [mm] | Weight [kg] |
|--|--|--------------------|-------------------|----------------------|--------------------|--------------------------|-------------|
| <b>NEW</b>   |  |                    |                   |                      |                    |                          |             |
| With internal control / SNT mono – Soft Control*         |  |                    |                   |                      |                    |                          |             |
| QPM08DE42_300  | RKPowerlift M<br> | 3000 / 3000 (med.) | 1500 / 750 (med.) | 9                    | 300                | 510                      | ~11,0       |
| QPM08DE42_400  |  |                    |                   |                      | 400                | 610                      | ~12,5       |
| QPM13DC42_300  |  | 1500 / 1500 (med.) | 1500 / 750 (med.) | 13                   | 300                | 510                      | ~11,0       |
| QPM13DC42_400  |  |                    |                   |                      | 400                | 610                      | ~12,5       |
| QPM13DC42_500  |  |                    |                   |                      | 500                | 710                      | ~14,0       |
| With internal control/memory (9 positions can be stored) |  |                    |                   |                      |                    |                          |             |
| QPM13BC46_300  | RKPowerlift M  | 1500               | 1500              | 13                   | 300                | 510                      | ~12,0       |
| QPM13BC46_400  |  |                    |                   |                      | 400                | 610                      | ~13,5       |
| QPM13BC46_500  |  |                    |                   |                      | 500                | 710                      | ~15,0       |

For mains supply versions see page 7

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

| Code No.             | Type   | Push force [N]     | Pull force [N]    | Lifting speed [mm/s] | Stroke length [mm] | Installation height [mm] | Weight [kg] |
|----------------------|--|--------------------|-------------------|----------------------|--------------------|--------------------------|-------------|
| <b>NEW</b>           |  |                    |                   |                      |                    |                          |             |
| For external control |  |                    |                   |                      |                    |                          |             |
| QPM08EE480300        | RKPowerlift M<br> | 3000 / 3000 (med.) | 1500 / 750 (med.) | 9                    | 300                | 510                      | ~12,0       |
| QPM08EE480400        |  |                    |                   |                      | 400                | 610                      | ~13,5       |
| QPM13EC480300        |  | 1500 / 1500 (med.) | 1500 / 750 (med.) | 13                   | 300                | 510                      | ~12,0       |
| QPM13EC480400        |  |                    |                   |                      | 400                | 610                      | ~13,5       |
| QPM13EC480500        |  |                    |                   |                      | 500                | 710                      | ~15,0       |



Transformer control 120 VA approx. 24 V DC



MultiControl mono approx. 36 V DC

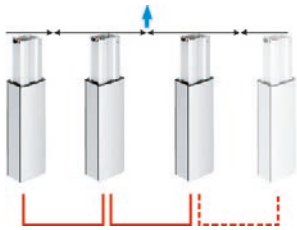
### Order information:

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

| Code No.      | External control mono  |                         |
|---------------|--|-------------------------|
| QZA09C13BH031 | Transformer control 120 VA connection C, up to max. I= 3 A, 24 V DC        | Controls up to 1 drives |
| QSTACCA1AA000 | MultiControl mono connection C, up to max. I= 12 A current output, 36 V DC | Controls up to 2 drives |




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] | Weight [kg] |
|--|---------------|----------------|----------------|----------------------|--------------------|--------------------------|-------------|
| With internal control / synchro memory (9 positions can be stored) |               |                |                |                      |                    |                          |             |
| QPM13BC47_300  | RKPowerlift M | 1500           | 1500           | 13                   | 300                | 510                      | ~12,0       |
| QPM13BC47_400  |               |                |                |                      | 400                | 610                      | ~13,5       |
| QPM13BC47_500  |               |                |                |                      | 500                | 710                      | ~15,0       |

For mains supply versions see page 7  
 0 = Standard  
 1 = Type 1  
 3 = Type 3  
 4 = Type 4

| Code No.                 | Type   | Push force [N]     | Pull force [N]    | Lifting speed [mm/s] | Stroke length [mm] | Installation height [mm] | Weight [kg] |
|--------------------------|--|--------------------|-------------------|----------------------|--------------------|--------------------------|-------------|
| For external control     |  |                    |                   |                      |                    |                          |             |
| <b>NEW</b> QPM08EE480300 | RKPowerlift M<br> | 3000 / 3000 (med.) | 1500 / 750 (med.) | 9                    | 300                | 510                      | ~12,0       |
| QPM08EE480400            |  |                    |                   |                      | 400                | 610                      | ~13,5       |
| QPM13EC480300            |  | 1500 / 1500 (med.) | 1500 / 750 (med.) | 13                   | 300                | 510                      | ~12,0       |
| QPM13EC480400            |  |                    |                   |                      | 400                | 610                      | ~13,5       |
| QPM13EC480500            |  |                    |                   |                      | 500                | 710                      | ~15,0       |



MultiControl duo  
approx. 36 V DC



MultiControl quadro  
approx. 36 V DC

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

| Code No.      | External control synchro  |  |
|---------------|---|--|
| 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 |

# RK Powerlift M - Fixing

## Assembly plate

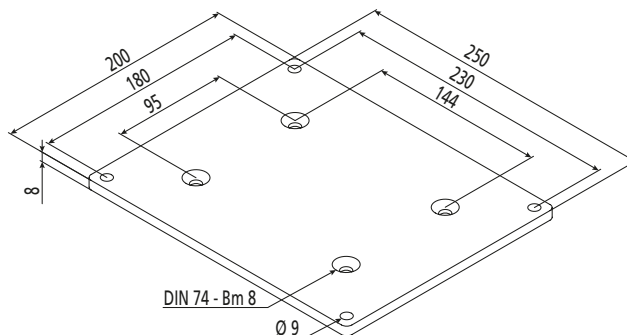
- These mounting plates are fitted using the mounting kits supplied and fixed directly into the screw channels in the Powerlift „M“. A further 4 holes, in the mounting plate, allow easy connection, to brackets or corresponding fixture assembly work etc.

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

**Scope of delivery:**  
Plate, incl. fixing set



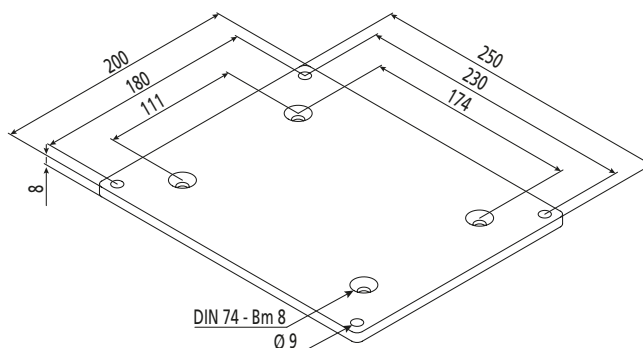
For internal profile



| Code No.  | Type               |
|-----------|--------------------|
| QZD100541 | Top assembly plate |



For external profile



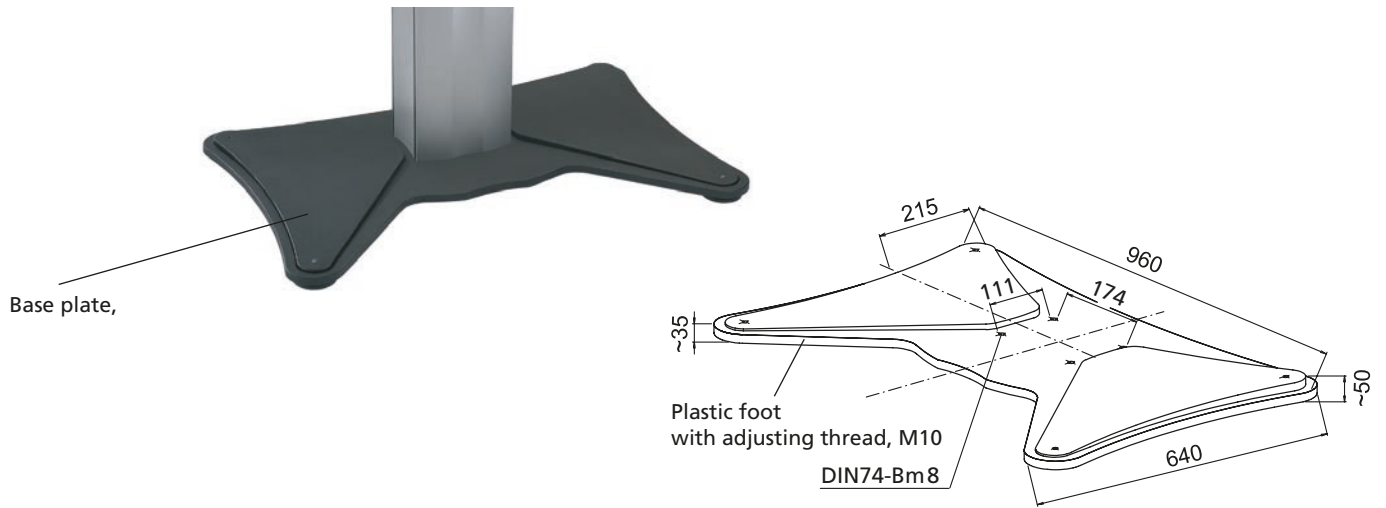
| Code No.  | Type                  |
|-----------|-----------------------|
| QZD100542 | Bottom assembly plate |

**Base plate**

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

**Scope of delivery:**  
complete with fastenings

**Order information:**  
Base plate only in combination  
with "Type 0" possible  
(see page 7)



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

**Order instruction square nut:**

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

**Square nut**

- For connecting accessories to the external profile



| Code No.   | Type                    | lot sizes         |
|------------|-------------------------|-------------------|
| qzd1003261 | Square nut M4, DIN 562, | 10, 20, 30... pcs |

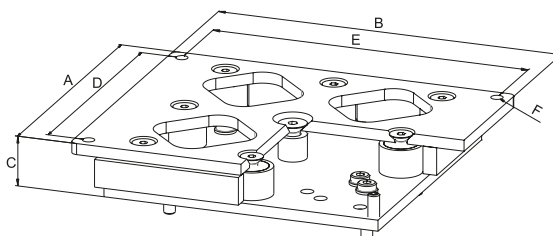
# RKPowerlift M – Fixing

## 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 | <i>RKPowerlift M</i> | 200 | 250 | 36 | 180 | 230 | M 10 |

**RK SyncFlex V**

**Vertikale Ausrichtung**

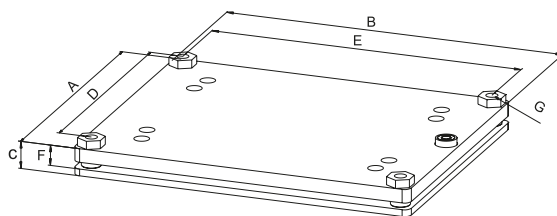
■ If the lifting columns are not parallel, the distance between the two upper fixing points will change during the movement. However, a rigid connection keeps this distance constant, and this means that the lifting columns are subject to very strong forces.

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.

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

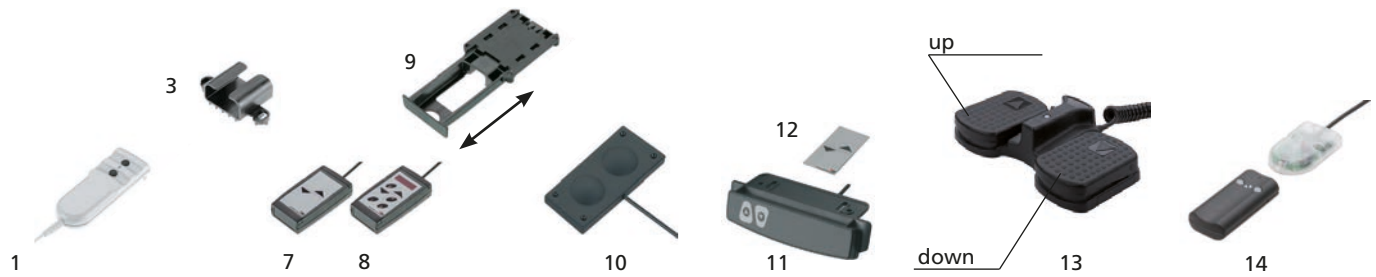
**Option:**  
Optionally available with  
or without pressure plate  
(see table)



[mm]

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

## Hand switches/accessories



| Code No.           | Version  | For internal control    |        |                | For external control |         | Fig. |
|--------------------|--|-------------------------|--------|----------------|----------------------|---------|------|
|                    |  | SNT mono - Soft Control | Memory | Synchro Memory | Mono                 | Synchro |      |
| QZB02C03AB031      | Hand switch 2 function keys<br>– 1 m spiral cable –            |                         |        |                | ●                    | ●       | 1    |
| QZB00D04AB041      | Hand switch 2 function keys<br>– 1 m spiral cable –            | ●                       |        |                | ●                    | ●       | 7    |
| QZB00D04AD041      | Hand switch 6 function keys /<br>display – 1 m spiral cable –  |                         | ●      | ●              |                      | ●       | 8    |
| QZB02A03AB041      | Hand switch 2 function keys<br>– 1 m cable –                   |                         |        |                | ●                    | ●       | 10   |
| QZB00A00AB051      | Table hand switch 2 function keys<br>– 1 m spiral cable –      |                         |        |                | ●                    | ●       | 11   |
| QZB00A00BC011      | Membrane keyboard 2 function keys<br>– 1 m spiral cable –      | ●                       |        |                | ●                    | ●       | 12   |
| QZB02C01AE114GS    | Foot switch – 2 function keys<br>– 2 m cable –                 | ●                       |        |                | ●                    | ●       | 13   |
| QZB00D07BK141      | Wireless hand switch –<br>2 function keys – 1 m spiral cable – | ●                       |        |                | ●                    | ●       | 14   |
| <b>Accessories</b> |  |                         |        |                |                      |         |      |
| QZD000072          | Bracket for hand switch  |                         |        |                |                      |         | 3    |
| QZD000074          | Drawer for hand switch   |                         |        |                |                      |         | 9    |

## Optional accessories



| Code No.       | Versions   | For internal control    |        |                | For external control |         | Fig. |
|----------------|--|-------------------------|--------|----------------|----------------------|---------|------|
|                |  | SNT mono - Soft Control | Memory | Synchro Memory | Mono                 | Synchro |      |
| QZD100093      | Bus cable for networking of up to 8<br>synchronous control with 6 m cable          |                         |        | ●              |                      | ●       |      |
| QZD070308*     | Hand switch cabel /<br>open cable end with helix cable 1m                          | ●                       |        |                | ●                    | ●       |      |
| QZD0702844000* | Connecting cable with<br>5- pin connector<br>and open cable end with 4 m cable     |                         |        |                | ●                    | ●       | 3    |
| QZD070526      | Extension cable drive for connector<br>C / 8 - pin DIN -<br>socket with cabel 2,5m |                         |        |                | ●                    | ●       | 4    |

\*for the connection of customer's hand switch or an external potentiometer (in the case of the MultiControl mono)

**IEC cable**

■ Only for Soft-Control-Versions  
please select IEC cable separately



**F**  
(Europe)



**J**  
(Switzerland)



**G**  
(Great Britain)



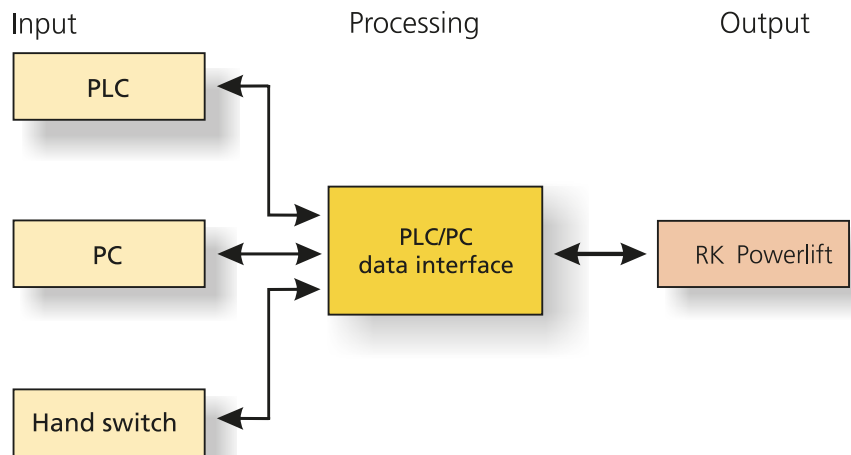
**B**  
(Japan, USA)

| 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       |

**PLC/PC data interface**

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

For detailed information, please look in our catalogue, "Linear Technology **Lifting columns and electric cylinders**" (page 182)



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

**R** RENOWNED  
KNOW-HOW

  
**RK ROSE+KRIEGER**

A Phoenix Mecano Company

**LINEAR-  
PROFILE-  
CONNECTING-  
MODULE-  
TECHNOLOGY**



## FAX reply form

Yes, I would like to know more about  
RK linear technology, please:

send me the Linear Technology lifting columns  
and electric cylinders catalogue

send me details of your product range in PDF  
format on a CD-ROM

contact me

Company: \_\_\_\_\_

Contact partner: \_\_\_\_\_

Department: \_\_\_\_\_

Address: \_\_\_\_\_

Tel. + Fax: \_\_\_\_\_

E-mail: \_\_\_\_\_

  
**RK ROSE+KRIEGER**  
A Phoenix Mecano Company

**Connecting and positioning systems**

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