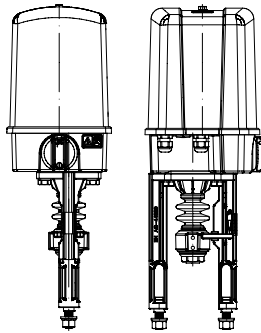


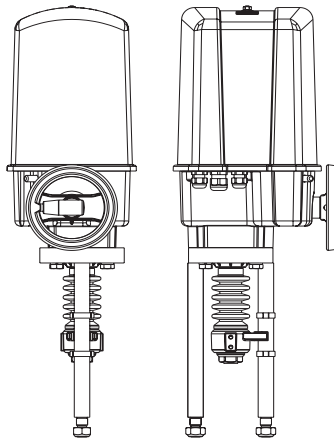
Electric actuator ARI-PREMIO®

Electric thrust actuator  
ARI-PREMIO®  
2,2 - 5 kN



Page 2

Electric thrust actuator  
ARI-PREMIO®  
12 - 25 kN



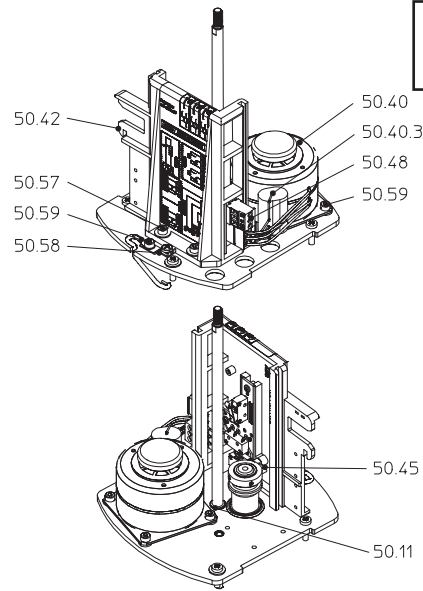
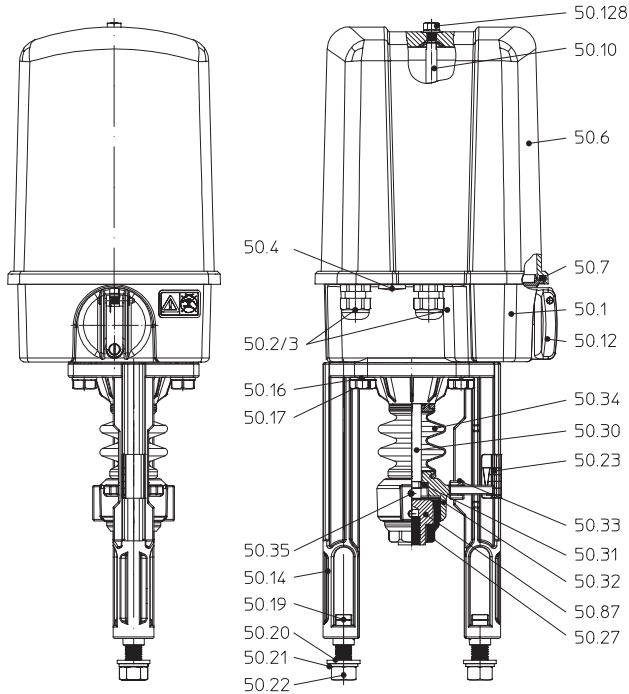
Page 4



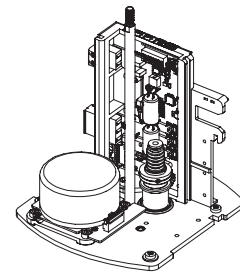
**Features**

- 2 torque switches
- Handwheel
- Operative ambient temperatures -20°C up to +70°C
- Enclosure IP 65
- Additional devices available, e.g. potentiometer
- Travel indicator

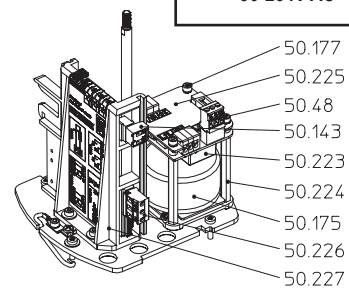
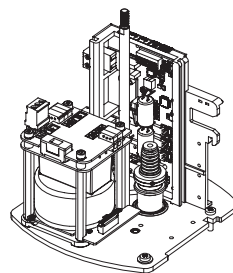
## Electric actuator ARI-PREMIO® 2,2 - 5 kN



**Synchronous motor**  
115V AC - 230V AC



**BLDC motor**  
24V AC/DC



**BLDC motor**  
90-264V AC

| Pos.   | Description                            |
|--------|--|
| 50.1   | Gearbox                                |
| 50.2/3 | Cable gland 2 x M16x1,5                |
| 50.4   | Sealing plug 1 x M16x1,5               |
| 50.6   | Hood                                   |
| 50.7   | Hood seal                              |
| 50.10  | Column                                 |
| 50.11  | Conical spring washer                  |
| 50.12  | Handwheel                              |
| 50.14  | Yoke                                   |
| 50.16  | Spring washer DIN 128-A10              |
| 50.17  | Hexagon screw DIN EN ISO 4017 - M10x40 |
| 50.19  | T-head bolt DIN 261-M12x40             |
| 50.20  | Washer DIN EN ISO 7089                 |
| 50.21  | Spring washer DIN 128 - A12            |
| 50.22  | Hexagon nut DIN EN ISO 4032 - M12      |
| 50.23  | Lift dial                              |
| 50.27  | Coupling                               |
| 50.30  | Driving spindle                        |
| 50.31  | Spindle safety feature                 |
| 50.32  | Torsion safety feature                 |
| 50.33  | Slide                                  |

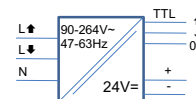
| Pos.    | Description                               |
|---------|---|
| 50.34   | Bellow                                    |
| 50.35   | Grub screw DIN ISO 4766 - M6              |
| 50.40   | Synchronous motor, complete               |
| 50.40.3 | Capacitor                                 |
| 50.42   | Board support, cpl. (incl. circuit board) |
| 50.45   | Shift lever                               |
| 50.48   | Connector, 3-pole (standard)              |
| 50.57   | Cylinder screw DIN EN ISO 4762 - M4x10    |
| 50.58   | Protective conductor terminal             |
| 50.59   | Cylinder screw DIN EN ISO 4762 - M4x6     |
| 50.87   | Threaded bush                             |
| 50.128  | Collar nut with sealing ring M6           |
| 50.143  | Connector, 2-pole (N/L)                   |
| 50.175  | BLDC motor                                |
| 50.177  | Cylinder screw M4x18                      |
| 50.223  | Input board ESP with power supply         |
| 50.224  | Distance bolt M4x65                       |
| 50.225  | Protective cover BLDC ESP                 |
| 50.226  | Connector, 3-pole (0V/24V up/down)        |
| 50.227  | Board support PREMIO, cpl.                |

## Technical data

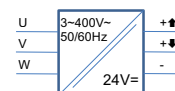
| Type  |                 | ARI-PREMIO® 2,2 kN  |  | ARI-PREMIO® 5 kN |
|---|-----------------|---|--|------------------|
| Thrust force                                      | kN              | 2,2 kN  |  | 5,0 kN           |
| Operating speed                                   | mm/s            | 0,38 mm/s   | 0,25 / 0,38 / 0,47 / 1,0 mm/s adjustable |                  |
| Travel distance max.                              | mm              | 50 mm   |  |                  |
| Duty classification in accordance with EN 60034-1 |                 | S3 80% ED / max. 1200 c/h (at 70°C)   |  |                  |
| Supply voltage                                    | V - Hz          | 230V - 50/60 Hz   | 24V AC/DC                                |                  |
| Motor type  |                 | Synchronous motor   | BLDC (Brushless DC motor)                |                  |
| Power consumption                                 | VA              | 21  | max. 22                                  | max. 65          |
| Current consumption                               | A               | approx. 0,1 A   | approx. 1 A                              | approx. 2,5 A    |
| Torque switch                                     |                 | 2 pcs., fixed wiring switching capacity 10A, 250V~  |  |                  |
| Travel switch                                     |                 | 1 pc., fixed wiring switching capacity 10A, 250V~ (Options trip slide necessary!)           |  |                  |
| Enclosure EN 60529                                |                 | IP 65   |  |                  |
| Max. storage temperature                          | °C              | -40 °C ... +85 °C   |  |                  |
| Max. permissible ambient temperature              | °C              | -20 °C ... +70 °C<br>(For outdoor use and sub-zero temperatures, a heating is recommended!) |  |                  |
| Hand operating device                             |                 | Yes (always running)  |  |                  |
| Operation   |                 | 3-point -<br>Response time up to 100 ms   | 3-point -<br>Response time approx. 80 ms |                  |
| Max. cable cross section                          | mm <sup>2</sup> | 3-point-input: 2,5 mm <sup>2</sup>  |  |                  |
| Mounting position                                 |                 | Any, except: motor not hanging downwards  |  |                  |
| Gear lubricant                                    |                 | Klüber Isoflex Topas NB152  |  |                  |
| Weight  | kg              | 5,8 kg  |  |                  |
| Accessories                                       |                 | refer to page 6   |  |                  |

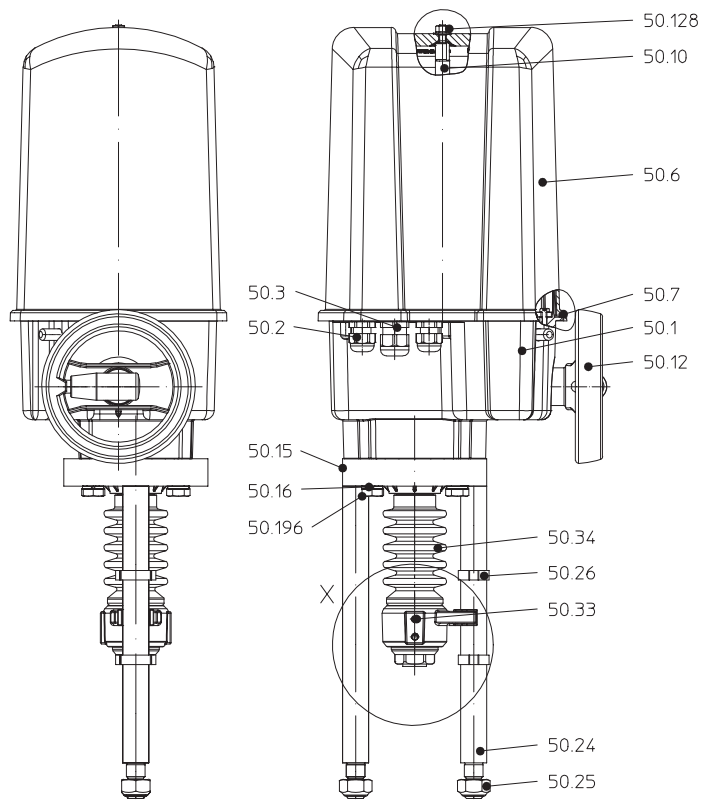
## Additional voltage / frequencies

| Type                     |        | 90-264V AC switching power supply for BLDC version |        |
|--------------------------|--------|--|--------|
| Thrust force             | kN     | 2,2 kN   | 5,0 kN |
| Input voltage            | V - Hz | 3-point signal: 90-264V AC 47-63Hz<br>127-370V DC  |        |
| Output voltage           | V      | 24V DC   |        |
| Output signal            |        | 3-point (TTL technology)                           |        |
| Current consumption max. | A      | max. 0,4 A at 230 V / 0,6 A at 115 V               |        |
| Response time            | ms     | approx. 400 ms                                     |        |

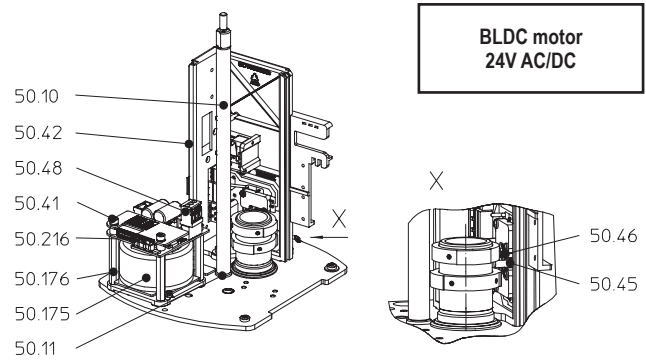
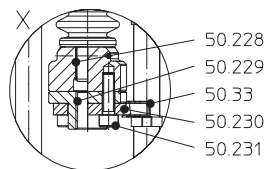
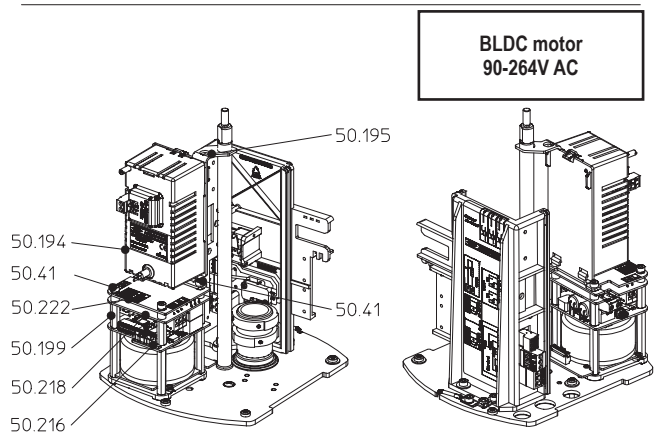
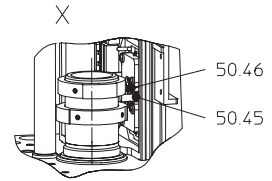


| Type                     |        | 3~ 400V transformer for BLDC version with direction detection and 3-point-output |        |
|--------------------------|--------|--|--------|
| Thrust force             | kN     | 2,2 kN   | 5,0 kN |
| Input voltage            | V - Hz | UVW: 3~ 400V - 50/60Hz   |        |
| Output voltage           | V      | 3-point signal: 24V DC   |        |
| Current consumption max. | A      | max. 0,13 A  |        |
| Response time            | ms     | < 10ms   |        |



**Elektrischer Schubantrieb ARI-PREMIO® 12 - 25 kN**


Coupling 25kN


**BLDC motor  
24V AC/DC**

**BLDC motor  
90-264V AC**

| Pos.   | Description                               |
|--------|---|
| 50.1   | Gearbox                                   |
| 50.2/3 | Cable gland 2 x M16 x 1,5 / 1 x M20 x 1,5 |
| 50.6   | Hood                                      |
| 50.7   | Hood seal                                 |
| 50.10  | Column                                    |
| 50.11  | Conical spring washer                     |
| 50.12  | Handwheel (engageable)                    |
| 50.15  | Flange                                    |
| 50.16  | Spring washer DIN 128-A10                 |
| 50.24  | Distance column                           |
| 50.25  | Hexagon nut DIN EN ISO 7042 -V-M16        |
| 50.26  | 2-ear clamp (Travel indicator)            |
| 50.33  | Slide                                     |
| 50.34  | Bellow                                    |
| 50.35  | Grub screw DIN ISO 4766 - M6              |
| 50.41  | Cylinder screw DIN EN ISO 4762-M4 - 18    |
| 50.42  | Board support, cpl. (incl. circuit board) |

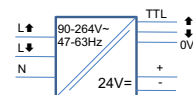
| Pos.   | Description                                |
|--------|--|
| 50.45  | Shift lever                                |
| 50.46  | Spring washer                              |
| 50.48  | Connector, 3-pole (standard)               |
| 50.128 | Collar nut with sealing ring M6            |
| 50.175 | BLDC motor                                 |
| 50.176 | Distance bolt M4x45                        |
| 50.194 | Power supply, cpl.                         |
| 50.195 | Fastening angle power supply               |
| 50.196 | Hexagon screw DIN EN 24017 M10 x 100       |
| 50.199 | Distance bolt M4 x 23                      |
| 50.216 | Motor control board BLDC                   |
| 50.218 | Input board 3-point without power supply   |
| 50.222 | Protective cover BLDC without power supply |
| 50.228 | Spindle unit                               |
| 50.229 | Threaded bush                              |
| 50.230 | Non-rotation lock                          |
| 50.231 | Cylinder screw M10x35                      |

## Technical data

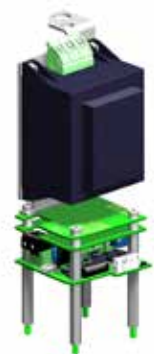
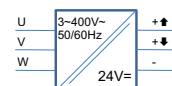
| Type  |                 | ARI-PREMIO® 12 kN   | ARI-PREMIO® 15 kN | ARI-PREMIO® 25 kN   |
|---|-----------------|---|-------------------|---|
| Thrust force                                      | kN              | 12,0 kN   | 15,0 kN           | 25,0 kN   |
| Operating speed                                   | mm/s            | 0,20 / 0,31 / 0,38 / 0,79 mm/s adjustable   |                   |   |
| Travel distance max.                              | mm              | 80 mm   |                   |   |
| Duty classification in accordance with EN 60034-1 |                 | S3 80% ED / max. 1200 c/h (at 70°C)   |                   |   |
| Supply voltage                                    | V - Hz          | 24V AC/DC   |                   |   |
| Motor type  |                 | BLDC (Brushless DC motor)   |                   |   |
| Power consumption                                 | VA              | max. 65 (depending on the operating speed and operating force)                              |                   | max. 130 (depending on the operating speed and operating force) |
| Current consumption                               | A               | approx. 2,5 A   |                   | approx. 5 A   |
| Torque switch                                     |                 | 2 pcs., fixed wiring switching capacity 16A, 250V~  |                   |   |
| Travel switch                                     |                 | 1 pc., fixed wiring switching capacity 16A, 250V~ (Options trip slide necessary!)           |                   |   |
| Enclosure EN 60529                                |                 | IP 65   |                   |   |
| Max. storage temperature                          | °C              | -40 °C ... +85 °C   |                   |   |
| Max. permissible ambient temperature              | °C              | -20 °C ... +70 °C<br>(For outdoor use and sub-zero temperatures, a heating is recommended!) |                   |   |
| Hand operating device                             |                 | Yes (engageable)  |                   |   |
| Operation   |                 | 3-point - Response time approx. 80 ms   |                   |   |
| Max. cable cross section                          | mm <sup>2</sup> | 3-point-input: 2,5 mm <sup>2</sup>  |                   |   |
| Mounting position                                 |                 | Any, except: motor not hanging downwards  |                   |   |
| Gear lubricant                                    |                 | Klübersynth G34 - 130   |                   |   |
| Weight  | kg              | 10,0 kg   |                   | 11,0 kg   |
| Zubehör   |                 | refer to page 6   |                   |   |

## Additional voltage / frequencies

| Type                     |        | 90-264V AC switching power supply<br>for BLDC version |         |   |
|--------------------------|--------|---|---------|---|
| Thrust force             | kN     | 12,0 kN   | 15,0 kN | 25,0 kN                                 |
| Input voltage            | V - Hz | 3-point signal: 90-264V AC 47-63Hz<br>127-370V DC     |         |   |
| Output voltage           | V      | 24V DC  |         |   |
| Output signal            |        | 3-point (TTL technology)                              |         |   |
| Current consumption max. | VA     | max. 1 A at 230 V /<br>1,8 A at 115 V                 |         | max. 1,1 A at 230 V /<br>1,9 A at 115 V |
| Response time            | ms     | approx. 240 ms  |         | approx. 350 ms                          |



| Type                     |        | 3~ 400V transformer    |         |             |
|--------------------------|--------|------------------------|---------|-------------|
| Thrust force             | kN     | 12,0 kN                | 15,0 kN | 25,0 kN     |
| Input voltage            | V - Hz | UVW: 3~ 400V - 50/60Hz |         |             |
| Output voltage           | V      | 3-point signal: 24V DC |         |             |
| Current consumption max. | A      | max. 0,13 A            |         | max. 0,35 A |
| Response time            | ms     | < 10 ms                |         |             |

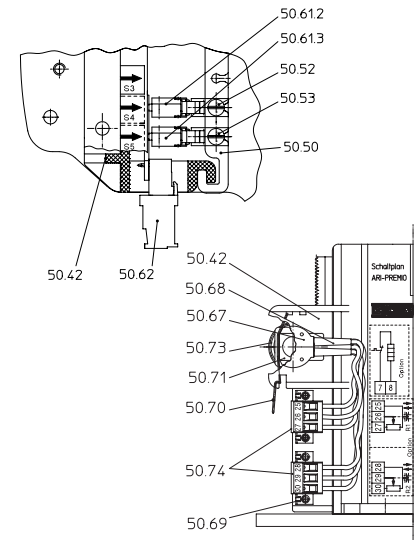


**Accessories**

| Type   |   | ARI-PREMIO® 2,2 kN - 25 kN  |
|--|---|---|
| <b>Trip slide</b>  |   | <b>Required for actuating ...</b><br>- the travel switch S3 / retracting spindle (the travel switch S3 is in the basic version of the actuator already available)<br>- the potentiometer<br>- the additional travel switches S4 / S5  |
| <b>Options trip slide necessary !</b>  | <b>Additional intermediate position switches S4, S5</b><br>(for low switching capacities and at aggressive atmosphere gold contacts should be used)   | <b>Type Standard</b><br>- 2 pieces, zero potential, switching capacity max. 10 A, 250 V~  |
|  |   | <b>Type Low voltage</b><br>- 2 pieces, zero potential, with gold contacts, switching capacity max. 0,1 A, 4-30 V  |
|  | <b>Potentiometer</b>  | <b>Conductive</b><br>(max. 2 pcs.)<br>- 1000, 2000, 5000 Ohm; 1 Watt (at +70 °C)<br>- Wiper current max. 0,01 mA / recommended 0,002 mA   |
|  |   | <b>Wire</b><br>(max. 2 pcs.)<br>- 100, 200 Ohm; 0,5 Watt (bei +70 °C)<br>- Wiper current max. 35 mA / recommended 0,02 mA   |
|  |   | <b>TÜV-approved potentiometer</b><br>(max. 2 pcs.)<br>- TÜV tested „conductive plastic for use as a sensor for position feedback of control devices in electronic systems for controlling and monitoring of fuel, air and gas streams in combustion plants“<br>- 5000 Ohm (standard)<br>- or optional: 100, 200, 1000 Ohm; 1 Watt (at +70 °C)<br>- Wiper current max. 0,01 mA / recommended 0,002 mA<br>- No retrofitting possible! |
|  | <b>Electronic position controller</b><br>(for controlling the actuator with an analogue control signal)   | <b>Type PREMIO-Plus 2G</b><br>(according to separate data sheet / operating instructions)<br>- Input signals: 3-point, 0-10V or 4-20mA<br>- Self-adaptation<br>- Optional position feedback<br>- Galvanical separation between power supply and control signal  |
|  |   | <b>Type ES11</b><br>- Input signals 0(2)...10V or 0 (4)...20mA<br>- Galvanical separation between power supply and control signal<br>- Including potentiometers (note max. number of potentiometers)  |
|  | <b>Electronic position indicator</b><br>(for position feedback with an analogue control signal)   | <b>RI21</b><br>(only for AC)<br>- Analogue output for position-feedback 0(4)...20mA changeable to 0(2)-10V, invertable; galvanical separation between power supply and control signal<br>- Active<br>- Incl. potentiometers (note max. number of potentiometers)  |
|  |   | <b>RI32</b><br>- Analogue output for position-feedback 2... 10V; 4... 20 mA<br>- Compact design; 2 (passive) or 4-wire technology (active)<br>- Power supply: 24V AC/DC<br>- Incl. potentiometers (note max. number of potentiometers)  |
|  | <b>Heating</b>  | <b>Heating resistor</b><br>- (Automatic switching circuit) 230 VAC, 115VAC, 24VAC/DC, 15 Watt   |
| <b>Connection board</b><br>2 Torque- and 1 Travel switch, all switch contacts are wired on terminals<br>(for low switching capacities and at aggressive atmosphere gold contacts should be used) | <b>Type Standard PA</b><br>- Zero potential, switching capacity 10A, 250V~<br>- (At 12-25kN already possible with the standard version)   |   |
|  | <b>Type Low voltage NA</b><br>- Zero potential, with gold contacts, switching capacity max. 0,1 A, 4-30 V   |   |
| <b>(Process-) controller</b>   | <b>Type processcontroller dTRON 316</b><br>(according to data sheet / operating instructions PREMIO®-Plus 2G)<br>- Mounted in the actuator <b>PREMIO®-Plus 2G</b><br>- 4-20mA output for operating the PREMIO-Plus 2G<br>- For resistance thermometers and thermocouples (provided by the customer) or standard signals<br>- Pre-configured for temperature control: control range von -200°C up to +850°C (resistance thermometer) |   |
| <b>Special voltage 3~400 V</b>   |   |   |
| <b>Built-in reversal feature</b>   | <b>Electronic reversing contactor</b><br>(according to data sheet / operating instructions PREMIO®-Plus 2G)   | - <b>PREMIO®-Plus 2G</b> with 3~400 V transformer<br>- 3-point, 4-20mA or 0-10V operation<br>- Electronically commutated, variable speed BLDC motor   |

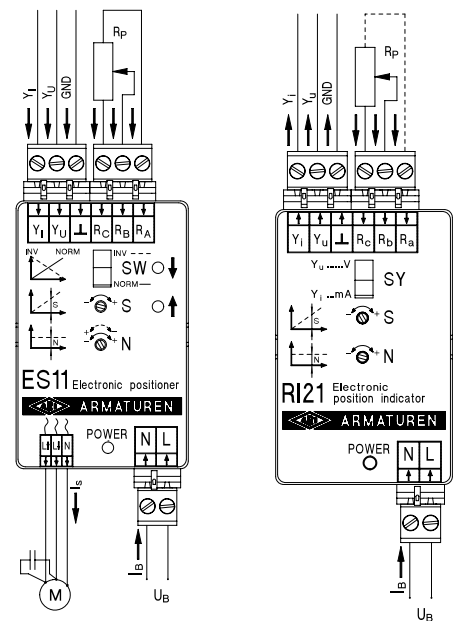
| Intermediate position switch |                               |
|------------------------------|-------------------------------|
| Pos.                         | Description                   |
| 50.42                        | Board support                 |
| 50.50                        | Trip slide                    |
| 50.52                        | Setting spindle for switch S4 |
| 50.53                        | Setting spindle for switch S5 |
| 50.61.2                      | Travel switch S4              |
| 50.61.3                      | Travel switch S5              |
| 50.62                        | Connector, 6-pole             |

| Potentiometer |                    |
|---------------|--------------------|
| Pos.          | Description        |
| 50.42         | Board support      |
| 50.67         | Potentiometer      |
| 50.68         | Connecting cable   |
| 50.69         | Self-tapping screw |
| 50.70         | Pinch spring       |
| 50.71         | Slide block        |
| 50.73         | Pinion             |
| 50.74         | Connector, 3-pole  |

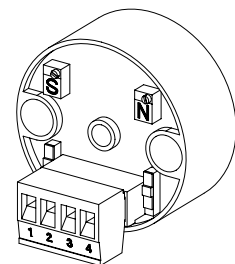


| Electronic position controller ES11 |       |  |           |                   |            |            |
|-------------------------------------|-------|--|-----------|-------------------|------------|------------|
| Motor type                          |       | BLDC motor   |           | Synchronous motor |            |            |
| Operating voltage                   | $U_B$ | 24V - DC   | 24V - AC  | 24V - AC          | 115 V - AC | 230 V - AC |
|                                     |       | --   | 50/60 Hz  | 50/60 Hz          | 50/60 Hz   | 50/60 Hz   |
| Operating current without load      | $I_B$ | 150 mA   |           | 40 mA             | 20 mA      |            |
| Input control signal                | $Y_U$ | 0 (2) .... 10 V DC - (RI = 30 kOhm)  |           |                   |            |            |
| Input control signal                | $Y_I$ | 0 (4) .... 20 mA DC - (RI = 125 Ohm)   |           |                   |            |            |
| Potentiometer input                 | $R_P$ | 0 .... 10 kOhm, recommended 0 .... 1 kOhm<br>(Potentiometer can be used only as a voltage divider) |           |                   |            |            |
| 3-point-output                      | $U_A$ | 24 V - DC  | 24 V - AC | 115 V - AC        | 230 V - AC |            |
| 3-point-switching current           | $I_S$ | 4 A max.   |           |                   |            |            |

| Electronic position indicator RI21 |       |   |                     |                     |
|------------------------------------|-------|---|---------------------|---------------------|
| Operating voltage                  | $U_B$ | 24 V - AC 50/60 Hz  | 115 V - AC 50/60 Hz | 230 V - AC 50/60 Hz |
| Operating current without load     | $I_B$ | 150 mA  | 40 mA               | 20 mA               |
| Output control signal              | $Y_U$ | 0 (2) .... 10 V DC - (load resistance > 1 kOhm) active      |                     |                     |
| Output control signal              | $Y_I$ | 0 (4) .... 20 mA DC - (load resistance max. 800 Ohm) active |                     |                     |
| Potentiometer input                | $R_P$ | 0 .... 1 kOhm   |                     |                     |

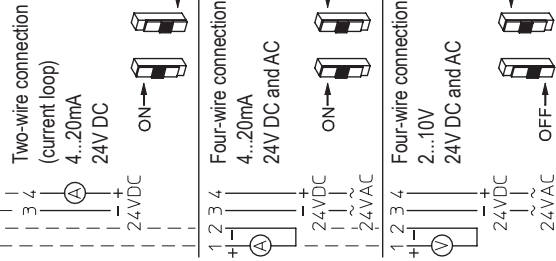
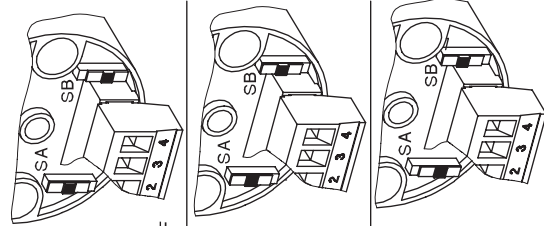
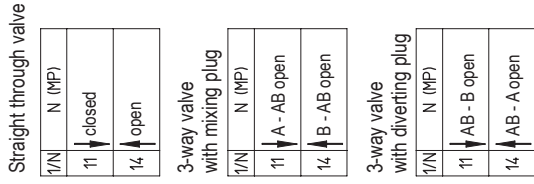


| Electronic position indicator RI32 |       |  |
|------------------------------------|-------|--|
| Operating voltage                  | $U_B$ | 24V - DC/AC 50/60 Hz   |
| Output control signal              | $Y_U$ | 2 .... 10 V DC active  |
| Output control signal              | $Y_I$ | 4 .... 20 mA DC - (load resistance max. 500 Ohm) passive or active |
| Potentiometer input                | $R_P$ | 100 Ohm .... 20 kOhm   |

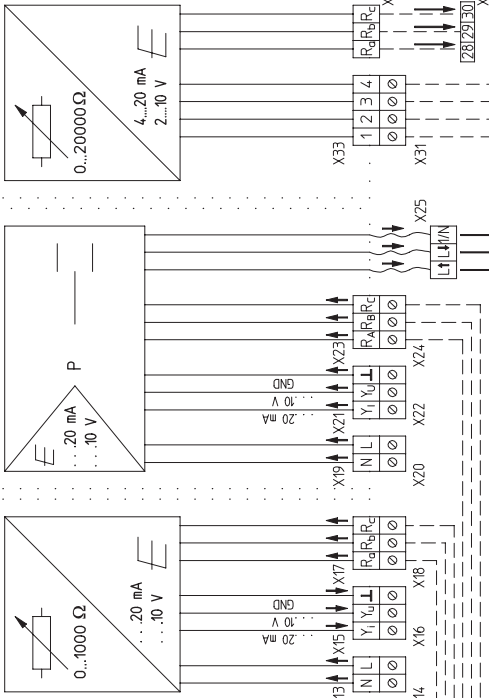


Accessories

Wire connections of the different valve types



only one position indicator R121 or R132 possible!

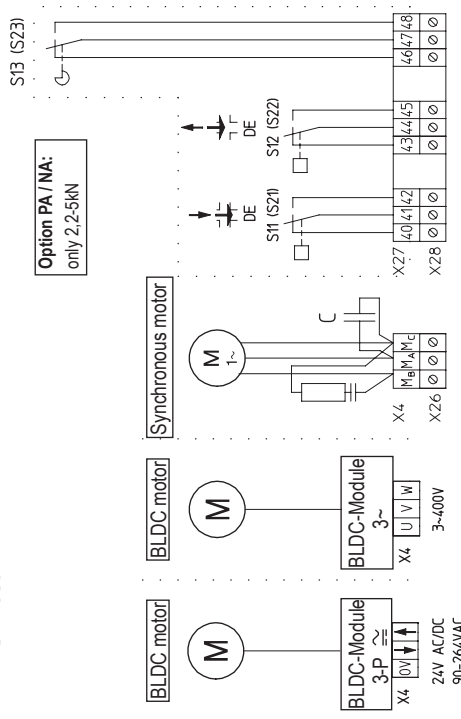
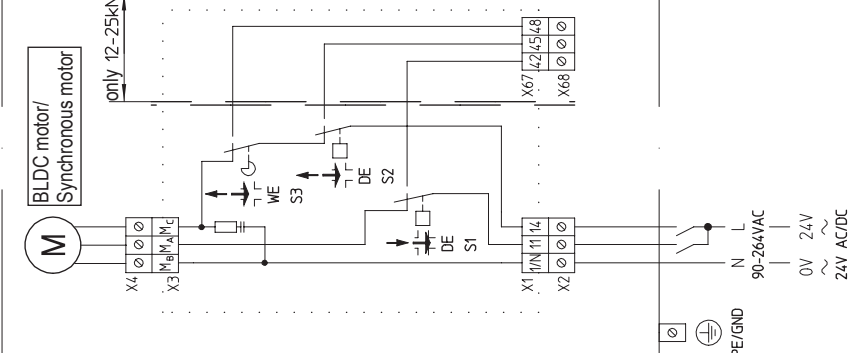


24VAC/DC : X2  
90-264VAC : X2

**R132 Attention!**  
Do not connect terminal 2 and 3.  
By a potential shift the position indicator R132 could be destroyed.

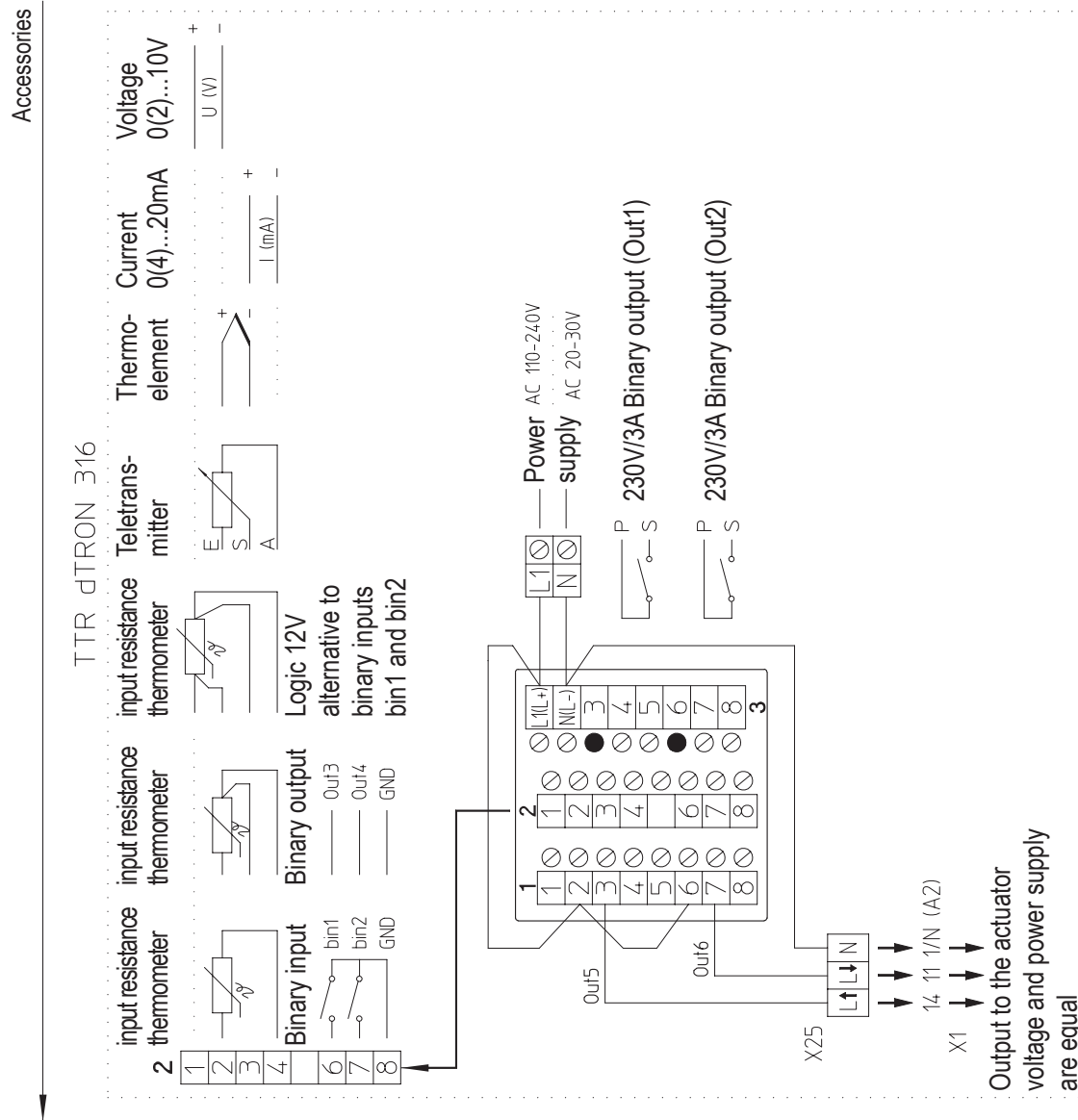
|         |  |
|---------|--|
| HZ      | Heating resistor   |
| DE      | Torque switch  |
| WE (S3) | Travel switch for limiting the travel distance in retracting direction |
| R121    | Electronic position indicator  |
| ES11    | Electronic position controller   |
| R132    | Electronic position indicator  |
| NA      | Low-voltage connection board, zero potential                           |
| PA      | Standard-voltage connection board, zero potential                      |
| POT     | Potentiometer  |
| WE      | Travel switch, zero potential  |

ARI-PREMIO 2,2-25kN 90-264V / 24VAC/DC



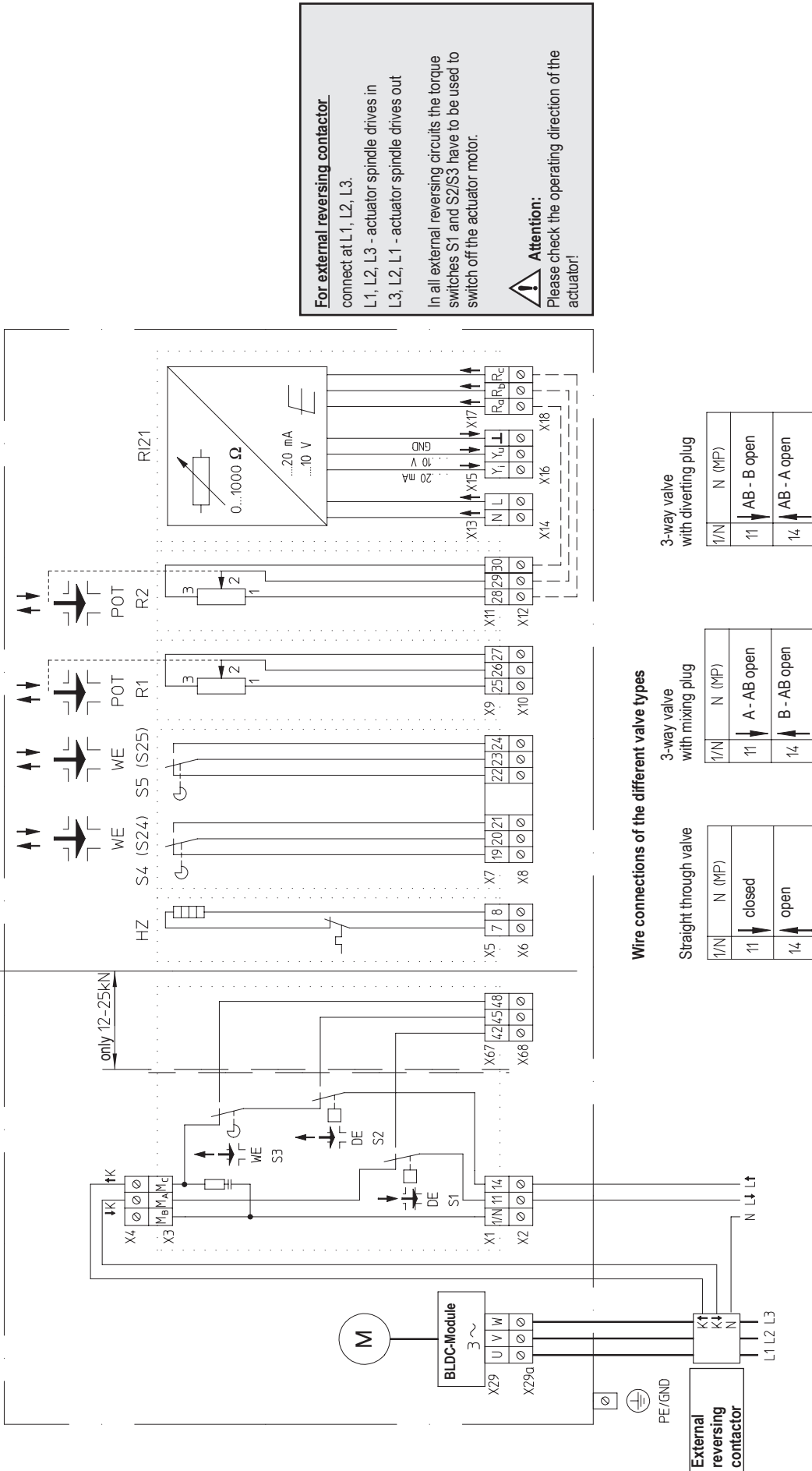
Option PA / NA:  
only 2,2-5kN





Accessories

ARI-PREMIO 2,2-25kN, 3P~ / External reversing contactor



**For external reversing contactor**  
connect at L1, L2, L3.  
L1, L2, L3 - actuator spindle drives in  
L3, L2, L1 - actuator spindle drives out

In all external reversing circuits the torque switches S1 and S2/S3 have to be used to switch off the actuator motor.

**Attention:**  
Please check the operating direction of the actuator!

Wire connections of the different valve types

Straight through valve

|     |        |
|-----|--------|
| 1/N | N (MP) |
| 11  | closed |
| 14  | open   |

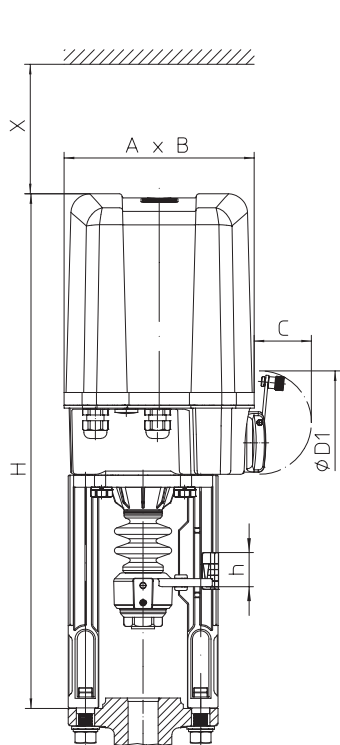
3-way valve with mixing plug

|     |             |
|-----|-------------|
| 1/N | N (MP)      |
| 11  | A - AB open |
| 14  | B - AB open |

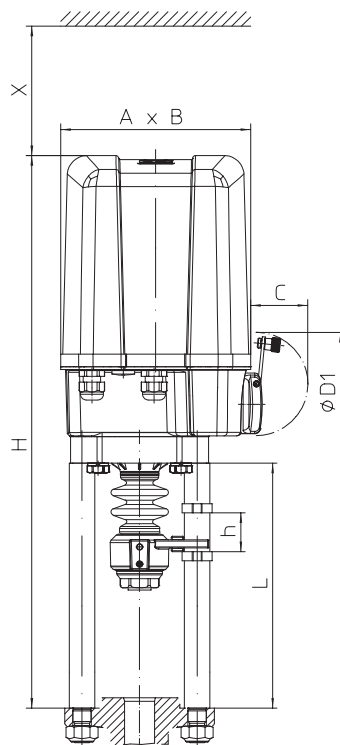
3-way valve with diverting plug

|     |             |
|-----|-------------|
| 1/N | N (MP)      |
| 11  | AB - B open |
| 14  | AB - A open |

- HZ Heating resistor
- DE Torque switch
- WE (S3) Travel switch for limiting the travel distance in opening direction
- RI21 Electronic position controller
- POT Potentiometer
- WE Travel switch, zero potential

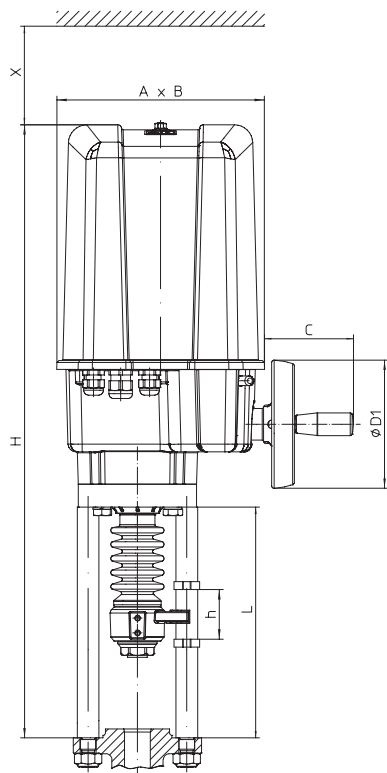


**2,2 - 5 kN**  
 Nominal travel max. 30 mm



**2,2 - 5 kN**  
 Nominal travel > 30 mm - 50 mm

|                    |      | 2,2 - 5 kN |         |
|--------------------|------|------------|---------|
| A                  | (mm) | 171        |         |
| B                  | (mm) | 156        |         |
| C                  | (mm) | 50         |         |
| Ø D1               | (mm) | 90         |         |
| X                  | (mm) | 150        |         |
| H                  | (mm) | 448        | 482     |
| h (Nominal travel) | (mm) | max. 30    | max. 50 |
| L (Column)         | (mm) | 199        |         |



**12 - 25 kN**  
 Nominal travel max. 80 mm

|                    |      | 12 - 25 kN |         |                              |
|--------------------|------|------------|---------|------------------------------|
| A                  | (mm) | 210        |         |                              |
| B                  | (mm) | 184        |         |                              |
| C                  | (mm) | 90         |         |                              |
| Ø D1               | (mm) | 130        |         |                              |
| X                  | (mm) | 200        |         |                              |
| H                  | (mm) | 622        | 637     | 652                          |
| h (Nominal travel) | (mm) | max. 50    | max. 65 | max. 80                      |
| L (Column)         | (mm) | 234        | 249     | for x=83 249<br>for x=98 264 |

