

# STANDARD

## UL 0

### STANDARD EQUIPMENT

- Voltage 230 V AC
- Terminal board connection
- 2 thrust switches
- 2 position switches
- 2 additional position switches
- Mechanical connection - pillars
- Manual control
- Mechanical position indicator
- Space heater with thermal switch
- Protection code IP 66 / IP 68



### Specification table UL 0

Order code

540. X - X X X X X / X X

| Climate resistance   | Ambient temperature | Corrosivity category <sup>10)</sup> | Enclosure               |   |
|----------------------|---------------------|-------------------------------------|-------------------------|---|
| Enclosure            | -25°C...+55°C       | C3                                  | IP 66/68 <sup>11)</sup> | 1 |
| Tropics and Wet      | -25°C...+55°C       | C4                                  |                         | 2 |
| Tropical dry and Dry | -25°C...+55°C       | C3                                  |                         | 6 |
| Sea                  | -25°C...+40°C       | C4                                  |                         | 7 |

| Electric connection | Voltage  | Wiring diagram |   |
|---------------------|----------|----------------|---|
| To terminal board   | 230 V AC | Z455d          | 0 |
|                     | 220 V AC |                | L |
|                     | 24 V AC  |                | 3 |

| Electric motor 230 (220) V AC, 24 V AC - 13.8 W |                                 |           |                                 |         | Operating time |           |           |   |
|-------------------------------------------------|---------------------------------|-----------|---------------------------------|---------|----------------|-----------|-----------|---|
| Switching-off torque <sup>31)</sup>             | Max. load torque <sup>32)</sup> |           | Max. load torque <sup>33)</sup> |         |                |           |           |   |
| 6 900 N                                         | Režim prevádzky<br>Otvor-Zatvor | 6 000 N   | Regulačná prevádzka             | 4 830 N | 10 mm/min      | 12 mm/min | A         |   |
|                                                 |                                 |           |                                 |         | 15 mm/min      | 18 mm/min | B         |   |
|                                                 |                                 |           |                                 |         | 20 mm/min      | 24 mm/min | C         |   |
| 3 400 N                                         |                                 | 2 900 N   |                                 | 2 380 N | 40 mm/min      | 48 mm/min | D         |   |
| 1 400 N                                         |                                 |           |                                 |         | 980 N          | 20 mm/min | 24 mm/min | F |
|                                                 |                                 |           |                                 |         |                | 40 mm/min | 48 mm/min | G |
|                                                 | 80 mm/min                       | 96 mm/min | E                               |         |                |           |           |   |

| Operating stroke [mm]              |                   |   |
|------------------------------------|-------------------|---|
| without transmitter <sup>41)</sup> | with transmitter  |   |
| 4 + 25                             | 4; 7.5; 14; 25    | A |
| 5 + 30                             | 5; 8.5; 16; 30    | B |
| 6 + 35                             | 6; 10.5; 20; 35   | C |
| 7 + 40                             | 7; 12.5; 22.5; 40 | D |

Next page

Order code

540. X - X X X X X / X X

| Transmitter                       |         | Connection | Output      | Wiring diagram |   |
|-----------------------------------|---------|------------|-------------|----------------|---|
| Without transmitter               |         | -          | -           | -              | A |
| Potentiometer                     | Single  | -          | 1 x 100 Ω   | Z5c            | B |
|                                   |         |            | 1 x 2 000 Ω |                | F |
|                                   | Double  | -          | 2 x 100 Ω   | Z6c            | K |
|                                   |         |            | 2 x 2 000 Ω |                | P |
| Electronic position transmitter   | Passive | 2-wire     | 4 - 20 mA   | Z10g           | S |
|                                   |         |            | 0 - 20 mA   | Z257j          | T |
|                                   |         | 3-wire     | 4 - 20 mA   |                | V |
|                                   |         |            | 0 - 5 mA    |                | Y |
|                                   | Active  | 2-wire     | 4 - 20 mA   | Z269r          | Q |
|                                   |         |            | 0 - 20 mA   | Z260h          | U |
|                                   |         | 3-wire     | 4 - 20 mA   |                | W |
|                                   |         |            | 0 - 5 mA    |                | Z |
| Electronic voltage                | Passive | 3-wire     | 0 - 10 V    | Z257k          | D |
|                                   | Active  |            | 0 - 10 V    | Z260k          | R |
| Current <sup>52)</sup><br>DCPT 3M | Passive | 2-wire     | 4 - 20 mA   | Z10g           | 2 |
|                                   | Active  |            |             | Z269r          | 3 |

| Mechanical connection                                   | Operating stroke | Connecting height |       | Thread of stem <sup>62)</sup>                                          | Dimensional drawing |   |
|---------------------------------------------------------|------------------|-------------------|-------|------------------------------------------------------------------------|---------------------|---|
| Direct / flange <sup>61)</sup><br>ISO 5210 - F05 (Y/35) | 25 mm            | 45 mm             | open  | M12x1.25-20                                                            | P-1488/A            | A |
|                                                         | 40 mm            |                   |       |                                                                        | P-1488/B            | Q |
| Flange                                                  | max. 40 mm       | 103 mm            | close | M10x1-26<br>M10x1,5-26<br>M12-26<br>M12x1,5-26<br>M14-26<br>M16x1,5-26 | P-1489/A            | B |
|                                                         |                  | 110 mm            |       |                                                                        | P-1489/B            | C |
|                                                         |                  | 112 mm            |       |                                                                        | P-1489/C            | D |
|                                                         |                  | 92 mm             |       |                                                                        | P-1489/D            | E |
|                                                         |                  | 102 mm            |       |                                                                        | P-1489/E            | F |
|                                                         |                  | 59 mm             |       |                                                                        | P-1489/F            | G |
| Pillars                                                 |                  | 86 mm             |       |                                                                        | P-1489/G            | H |
|                                                         |                  | 127 mm            |       |                                                                        | P-1490/A            | J |
|                                                         |                  | 42 mm             |       |                                                                        | P-1490/B            | K |
|                                                         |                  | 80 mm             |       |                                                                        | P-1490/C            | L |
|                                                         |                  | 27 mm             |       |                                                                        | P-1490/D            | M |
|                                                         |                  | 57 mm             |       |                                                                        | P-1490/E            | N |
|                                                         | 110 mm           |                   |       | P-1490/F                                                               | P                   |   |

| Additional equipment                                                      |                                                                                                  |   |   |
|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---|---|
| A                                                                         | Adjustment of operating stroke for required value                                                | 0 | 1 |
| B                                                                         | Adjustment of switch-off thrust to required value                                                | 0 | 3 |
| H                                                                         | Gold coated contacts of microswitches type D83, details after consultation with the manufacturer | 4 | 0 |
| Allowed combination and code of version: A+B=04; A+H=41; B+H=42; A+B+H=44 |                                                                                                  |   |   |

## Notes:

10) Climate resistance according to ISO 9223 / EN ISO 12944-2.

11) IP 68 - 10 m / 96 hours.

31) Required switch-off thrust must be stated in the order. If not specified it is adjusted to the maximum thrust of the chosen range.

32) By this thrust it is possible to load the actuator under duty cycle S2-10 min, or S4-25%, 6-90 cycles per hour.

33) By this thrust it is possible to load the actuator under duty cycle S4-25%, 90-1200 cycles per hour.

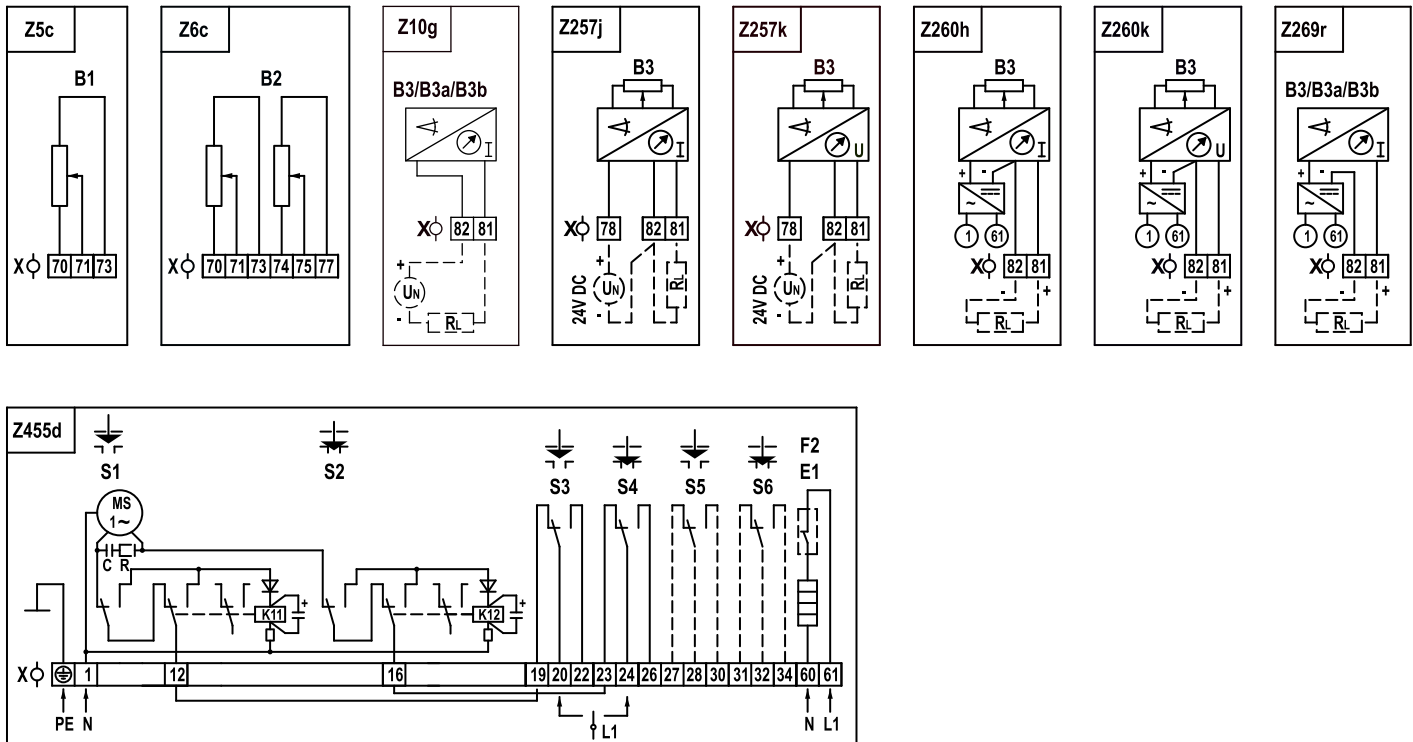
41) Position switches S3, S4 are being set to specified operating stroke. If it is not stated in the order, they will be set to maximum value. When required settings are out of values listed in table, ohmic value of potentiometer will be reduced accordingly.

52) DCPT 3M - electronic contactless transmitter.

61) Y/ 35-centering fitting into the armature.

62) The thread in the coupling must be specified verbally in the order.

## Wiring diagrams



## Electric connection:

- to terminal board with 24 terminals, wire cross section max.1,5 mm<sup>2</sup>
- via 3 cable glands: - M16x1,5 for cable diameter 3,2 to 8,7 mm
- M16x1,5 for cable diameter 6,1 to 11,7mm
- M16x1,5 for cable diameter 6,5 to 14,0 mm

## Notes:

1. Wiring connection is limited by max. number of 24 terminals.
2. Torque switching is not fitted with mechanical interlocking device.
3. Jumpers 12-19 and 16-23 terminal board in wiring diagram Z455d are supplied as standard by the manufacturer.

## Legend:

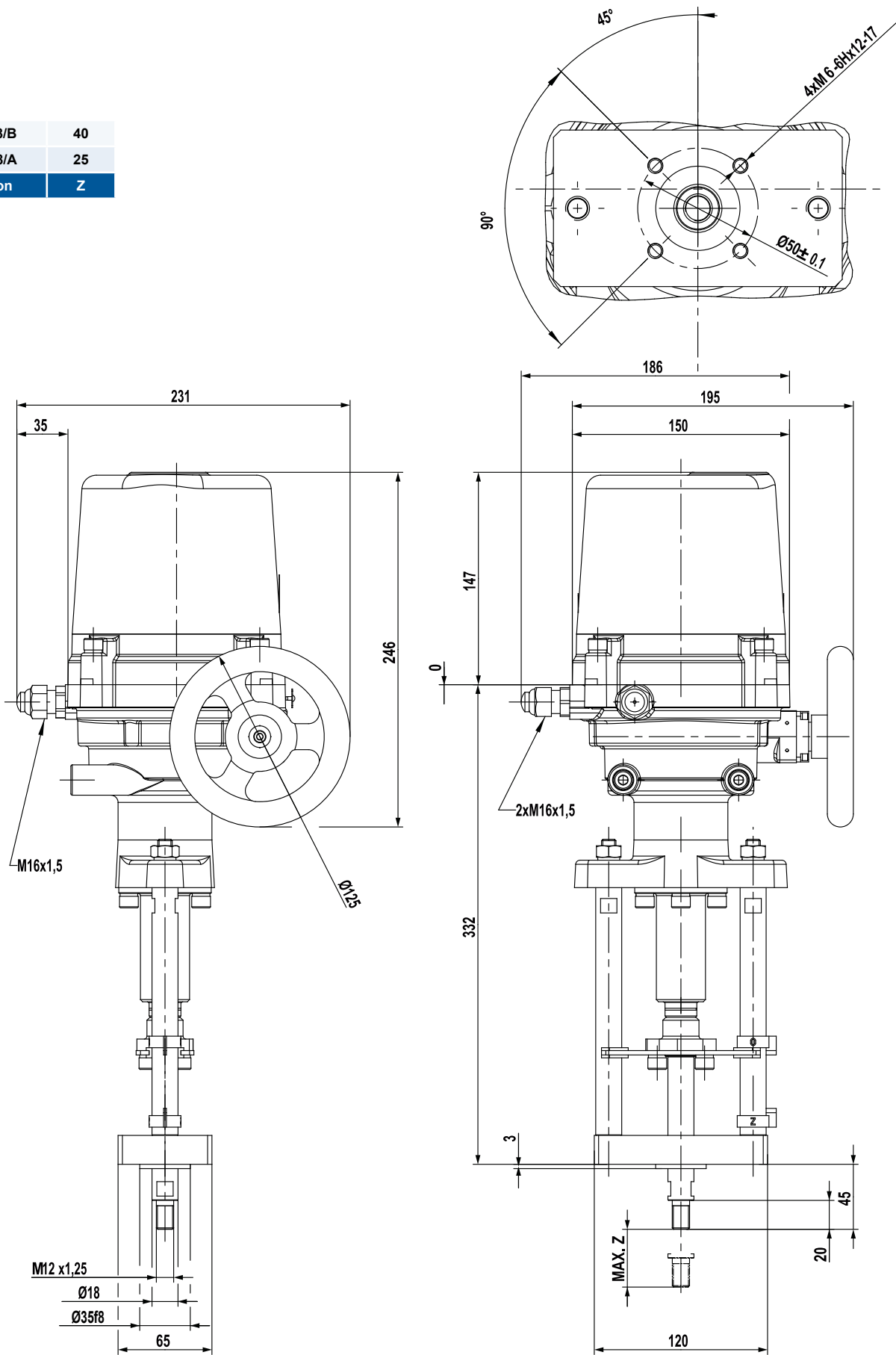
Z5c.....connection of single potentiometer  
 Z6c.....connection of double potentiometer  
 Z10g.....connection of CPT or electronic position transmitter - 2 - wire, passive  
 Z257j.....connection of electronic position transmitter - 3 - wire, passive  
 Z257k.....connection of electronic position transmitter - 3 - wire, active  
 Z260k.....connection of electronic position transmitter - 3 - wire, active  
 Z260h.....connection of electronic position transmitter - 3 - wire, active  
 Z269r.....connection of CPT or electronic position transmitter - 2 wire - active  
 Z455d.....connection of 1-phase electric motor with torque switches, position switches, space heater

## Legend:

B1.....single potentiometer  
 B2.....double potentiometer  
 B3.....CPT or electronic position transmitter  
 B3a.....capacitive current transmitter (CPT)  
 B3b.....DCPT - current position transmitter (magnetic)  
 E1.....space heater  
 F1.....motor's thermal protection  
 F2.....space heater's thermal switch  
 I / U.....current/ voltage output signal  
 M.....electric motor  
 R<sub>L</sub>.....loading resistor  
 S1.....power switch „open“  
 S2.....power switch „closed“  
 S3.....position switch „open“  
 S4.....position switch „closed“  
 S5.....additional position switch „open“  
 S6.....additional position switch „closed“  
 X.....terminal board  
 X2.....reversing board terminal block  
 X5.....local control terminal block  
 RM2.....reversing board 24 V  
 F3.....reversing board fuse  
 U<sub>N</sub>.....supply voltage of the transmitter source  
 OPEN/STOP/CLOSE.....local control buttons  
 REMOTE/OFF/LOCAL.....local control selection button

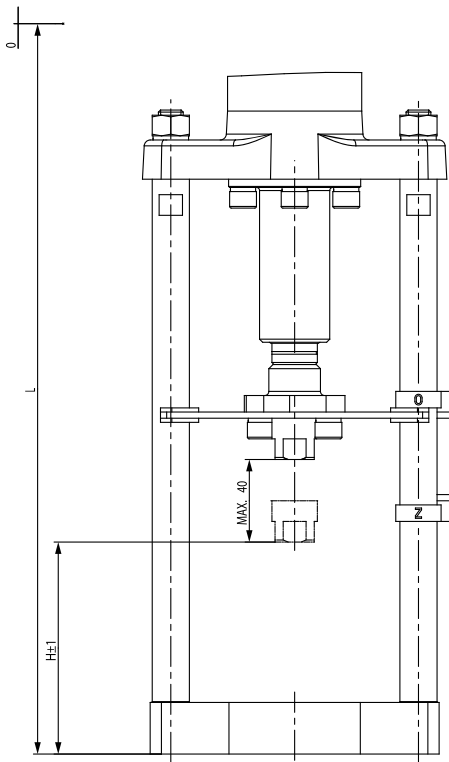
Dimensional drawing UL 0

|          |    |
|----------|----|
| P-1488/B | 40 |
| P-1488/A | 25 |
| Version  | Z  |

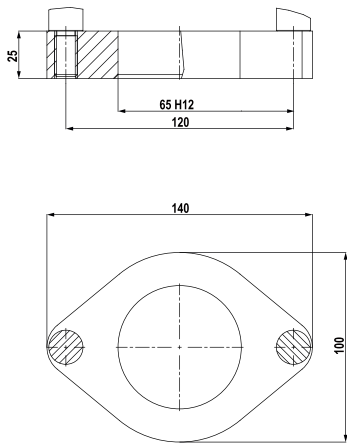


Dimensional drawing UL 0

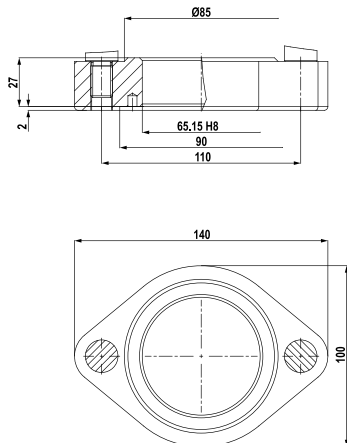
|          |     |     |
|----------|-----|-----|
| P-1489/G | 86  | 402 |
| P-1489/F | 59  | 375 |
| P-1489/E | 102 | 420 |
| P-1489/D | 94  | 410 |
| P-1489/C | 112 | 428 |
| P-1489/B |     |     |
| P-1489/A | 103 | 419 |
| Version  | H   | L   |



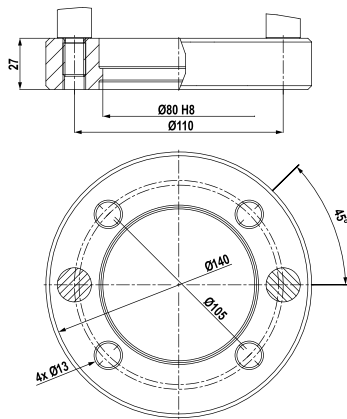
P-1489



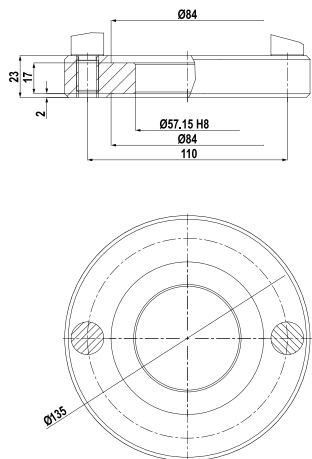
P-1489/A



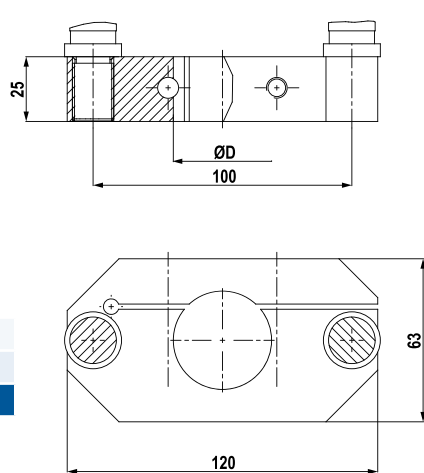
P-1489/B



P-1489/C



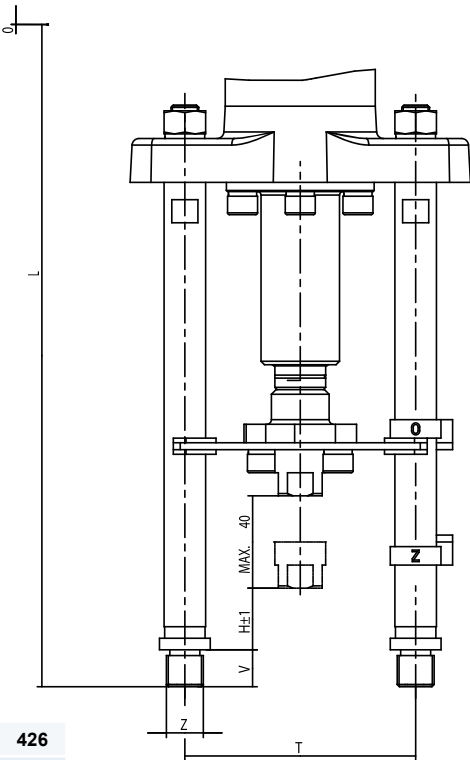
P-1489/D; E



P-1489/F; G

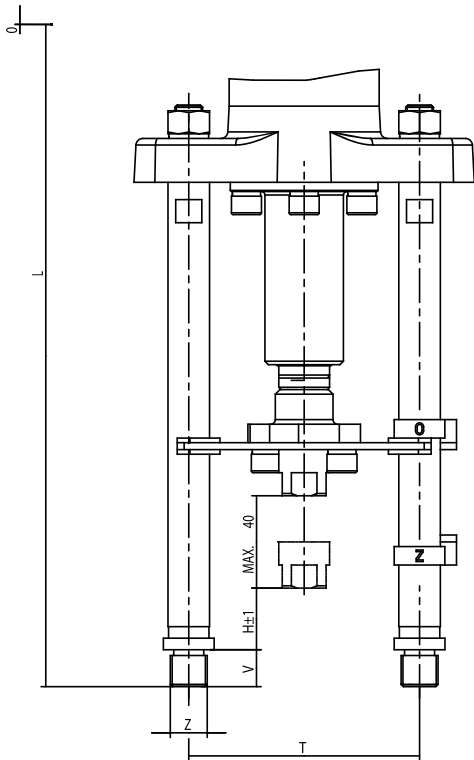
|          |    |
|----------|----|
| P-1489/G | 60 |
| P-1489/F | 38 |
| Version  | D  |

Dimensional drawing UL 0



|          |     |     |     |    |     |
|----------|-----|-----|-----|----|-----|
| P-1490/C |     | 80  |     | 32 | 426 |
| P-1490/B | 110 | 42  | M12 | 20 | 378 |
| P-1490/A |     | 127 |     |    | 463 |
| Version  | T   | H   | Z   | V  | L   |

P-1490/A; B; C



|          |     |     |     |    |     |
|----------|-----|-----|-----|----|-----|
| P-1490/F |     | 110 |     |    | 442 |
| P-1490/E | 100 | 57  | M16 | 16 | 389 |
| P-1490/D |     | 27  |     |    | 359 |
| Version  | T   | H   | Z   | V  | L   |

P-1490/D; E; F