

## Specifications

|   |         |
|---|---------|
| Max. working pressure                       | 170 bar |
| Weight                                      | 316 kg  |
| Working volume                              | 130 L   |
| Total volume                                | 139 L   |
| Max. cyl. load (start tipping)              | 345 kN  |
| Max. cyl. load (end of stroke) <sup>2</sup> | 119 kN  |
| Max. cyl. load (end of stroke) <sup>3</sup> | 139 kN  |

## Max. pump flow

|                                     |           |
|-------------------------------------|-----------|
| With KO <sup>1</sup>                | 190 L/min |
| Without KO <sup>1</sup>             | 170 L/min |
| With KO <sup>1</sup> below -20°C    | 133 L/min |
| Without KO <sup>1</sup> below -20°C | 119 L/min |

## Tipping time

|                                     |        |
|-------------------------------------|--------|
| With KO <sup>1</sup>                | 41 sec |
| Without KO <sup>1</sup>             | 46 sec |
| With KO <sup>1</sup> below -20°C    | 59 sec |
| Without KO <sup>1</sup> below -20°C | 66 sec |
| Allowable lowering time             | 41 sec |

| Extension               | 1    | 2    | 3    | 4    | 5    | 6 | 7 | Total |
|-------------------------|------|------|------|------|------|---|---|-------|
| Effective diameter [mm] | 191  | 169  | 149  | 129  | 110  |   |   | 7130  |
| Stroke* [mm]            | 1410 | 1430 | 1430 | 1430 | 1430 |   |   |       |

## Technical notes

- This cylinder is a lifting device only. • It should not be used as a structural member and should not be subjected to side loads. • Tipping valve must have a pressure relief at the cylinder port set not higher than max. working pressure. • Verify max. cyl. load. • Working temperature range is between -40°C and +80°C. • Max. duration of extension is 0.5 hours (excluded hard chromed stages). • Cylinder is painted black (RAL9005) with a min. thickness conforming to the 480 hours neutral salt spray test as per ISO 9227. • <sup>1</sup> Hyva knock-off. • <sup>2</sup> Unsubstantial unloading (sticky load).
- <sup>3</sup> Substantial unloading.

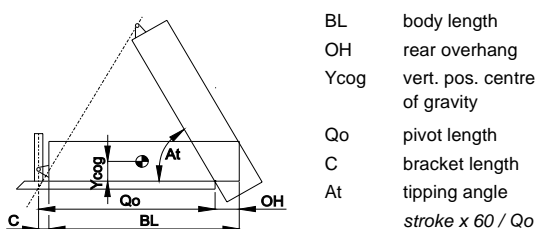
## Related documentation

Bracket options: 015BRA10 &amp; 015BRA13

Mounting instructions: CYL-0031

 Oil specifications: OIL-0011  
 Spec sheet explanation: CYL-0041

## Tipping weight



| BL [mm]   | 9400 |     |     | 9200 |     |     | 9000 |     |     |
|-----------|------|-----|-----|------|-----|-----|------|-----|-----|
| OH [mm]   | 200  | 500 | 800 | 200  | 500 | 800 | 200  | 500 | 800 |
| At [°]    | 46   | 47  | 49  | 47   | 48  | 50  | 48   | 50  | 52  |
| Ycog [mm] |      |     |     |      |     |     |      |     |     |
| 600       | 43   | 46  | 49  | 44   | 47  | 50  | 45   | 48  | 52  |
| 900       | 46   | 49  | 53  | 47   | 50  | 54  | 47   | 51  | 56  |
| 1200      | 49   | 52  | 57  | 50   | 54  | 59  | 51   | 55  | 61  |

Tipping weight [ton] at maximum pressure of 170 bar for a vertically mounted cylinder and C is 158 mm

For detailed tipping calculations please refer to: <https://tipper.hyva.com>

| Pos. | Part no.   | Description                        | Qty. |
|------|------------|------------------------------------|------|
| C01  | 71839130   | DUST COVER FE 169-4/191-5          | 1    |
| P01  | 74403651   | PISTON FL2 S 110-1645-HC           | 1    |
| P02  | 71853110 K | SLIDER FL 110 (2 X 1/2) A22        | 1    |
| P03  | 71851110 K | OUTER STOPRING FL 110 A22          | 1    |
| P04  | 71822110   | BOTTOM PLATE PISTON FL 110         | 1    |
| P05  | 01745050 K | CIRCLIP 100 DIN 472 (105.5x3.0)    | 1    |
| P06  | 71870220 K | O-RING PISTON BOTTOM 110           | 1    |
| P07  | 71847300   | PISTON EYE SPH. FL 110 MK2 L=075   | 1    |
| P08  | 01226538 K | O-RING 91.67 X 3.53 MM NBR         | 1    |
| P09  | 71875450 K | SPHERICAL BEARING D.50 MAINT. FREE | 1    |
| P10  | 01770560 K | CIRCLIP 75 DIN 472 (79.5x3.0)      | 1    |
| P11  | 71875012   | PIN ROUND HEAD GROOVED 8x15 mm     | 2    |

|     |            |                             |   |
|-----|------------|-----------------------------|---|
| S41 | 74604650   | STAGE FL2 129-1640          | 1 |
| S42 | 71802129 K | PACKSET FL 129/HP 129       | 1 |
| S43 | 71853129 K | SLIDER FL 129 (2 X 1/2) A22 | 1 |
| S44 | 71851129 K | OUTER STOPRING FL 129 A22   | 1 |
| S45 | 71852129 K | LIFTRING FL 129 A22         | 1 |

|     |            |                           |   |
|-----|------------|---------------------------|---|
| S31 | 74605650   | STAGE FL2 149-1640        | 1 |
| S32 | 71802149 K | PACKSET FL 149/HP 150     | 1 |
| S33 | 71807151 K | SLIDER FL 149 A35         | 1 |
| S34 | 71851149 K | OUTER STOPRING FL 149 A22 | 1 |
| S35 | 71852149 K | LIFTRING FL 149 A22       | 1 |

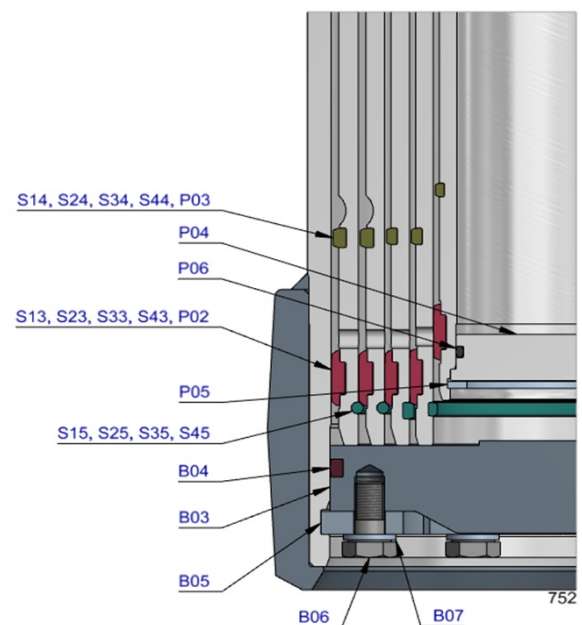
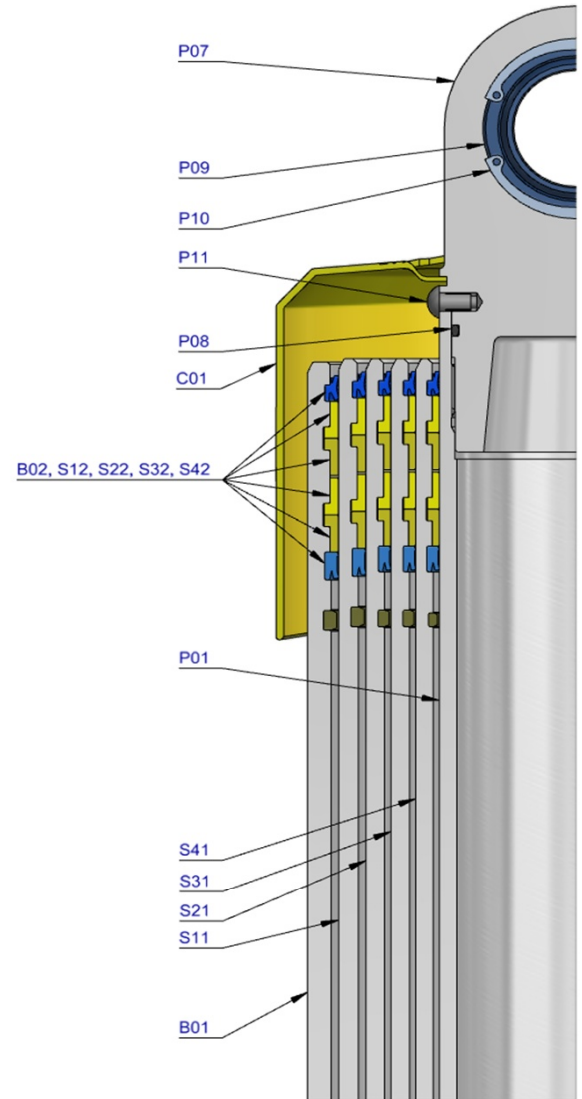
|     |            |                           |   |
|-----|------------|---------------------------|---|
| S21 | 74606650   | STAGE FL2 169-1640        | 1 |
| S22 | 71802169 K | PACKSET FL 169            | 1 |
| S23 | 71807171 K | SLIDER FL 169 A35         | 1 |
| S24 | 71851169 K | OUTER STOPRING FL 169 A22 | 1 |
| S25 | 71813169 K | LIFTRING FL 169x5         | 1 |

|     |            |                           |   |
|-----|------------|---------------------------|---|
| S11 | 74607650   | STAGE FL2 191-1640        | 1 |
| S12 | 71802191 K | PACKSET FL 191            | 1 |
| S13 | 71807193 K | SLIDER FL 191 A35         | 1 |
| S14 | 71851191 K | OUTER STOPRING FL 191 A22 | 1 |
| S15 | 71813191 K | LIFTRING FL 191x5         | 1 |

|     |            |                                |   |
|-----|------------|--------------------------------|---|
| B01 | 74508654   | BASE FL2 214-1691-4/4B SAE-290 | 1 |
| B02 | 71802214 K | PACKSET FL 214                 | 1 |
| B03 | 71825435   | BOTTOM PLATE FL2 214           | 1 |
| B04 | 71870045 K | SEAL BOTTOM PLATE FL 214       | 1 |
| B05 | 71820214   | LOCKING PLATE FL 214           | 3 |
| B06 | 01732020 K | BOLT HEX M12X25X1.25 SET 6 PCS | 1 |
| B07 | 01732523 K | WASHER SPRING M12 SET 6 PCS    | 1 |

### Seal kit complete

|  |            |  |  |
|--|------------|--|--|
|  | 71908750 K | Consists of all packsets with packset grease and O-rings |  |
|--|------------|--|--|



### Notes

The inner stopring is pre-mounted in the grooves on spare bases and stages. Therefore, when ordering new tubes, it is not required to order inner stoprings separately.