

\* incl. 20 [-5; +30] mm pull out

3D model is available on request or [www.hyva.com](http://www.hyva.com)

| Specifications                              | Max. pump flow |                                     | Tipping time |                                     |        |
|---|----------------|-------------------------------------|--------------|-------------------------------------|--------|
| Max. working pressure                       | 170 bar        | With KO <sup>1</sup>                | 195 L/min    | With KO <sup>1</sup>                | 42 sec |
| Weight                                      | 413 kg         | Without KO <sup>1</sup>             | 137 L/min    | Without KO <sup>1</sup>             | 60 sec |
| Working volume                              | 137 L          | With KO <sup>1</sup> below -20°C    | 137 L/min    | With KO <sup>1</sup> below -20°C    | 60 sec |
| Total volume                                | 148 L          | Without KO <sup>1</sup> below -20°C | 96 L/min     | Without KO <sup>1</sup> below -20°C | 86 sec |
| Max. cyl. load (start tipping)              | 245 kN         |                                     |              | Allowable lowering time             | 34 sec |
| Max. cyl. load (end of stroke) <sup>2</sup> | 87 kN          |                                     |              |                                     |        |
| Max. cyl. load (end of stroke) <sup>3</sup> | 101 kN         |                                     |              |                                     |        |

**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**

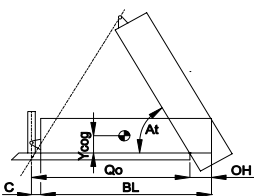
- Bracket options: 015BRA10 & 015BRA12
- Mounting instructions: CYL-0030
- Oil specifications: OIL-0011
- Spec sheet explanation: CYL-0041

**Configuration**

| Extension               | 1    | 2    | 3    | 4    | 5    | 6    | 7 | Total |
|-------------------------|------|------|------|------|------|------|---|-------|
| Effective diameter [mm] | 191  | 169  | 149  | 129  | 110  | 91   |   | 8450  |
| Stroke* [mm]            | 1380 | 1405 | 1410 | 1415 | 1420 | 1420 |   |       |

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

**Tipping weight**

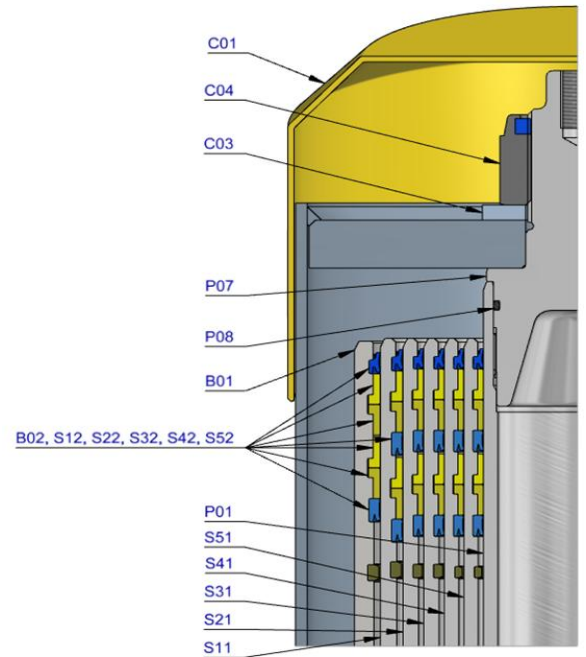


- BL body length
  - OH rear overhang
  - Ycog vert. pos. centre of gravity
  - Qo pivot length
  - C bracket length
  - At tipping angle
- stroke x 60 / Qo*

| BL [mm]   | 1200 |     |     | 10800 |     |     | 10400 |     |     |
|-----------|------|-----|-----|-------|-----|-----|-------|-----|-----|
| OH [mm]   | 200  | 500 | 800 | 200   | 500 | 800 | 200   | 500 | 800 |
| At [°]    | 45   | 46  | 47  | 46    | 48  | 49  | 48    | 50  | 52  |
| Ycog [mm] |      |     |     |       |     |     |       |     |     |
| 600       | 30   | 31  | 33  | 31    | 32  | 34  | 31    | 33  | 36  |
| 900       | 31   | 33  | 35  | 32    | 34  | 37  | 33    | 36  | 38  |
| 1200      | 33   | 35  | 37  | 34    | 36  | 39  | 35    | 38  | 41  |

Tipping weight [ton] at maximum pressure of 170 bar for a vertically mounted cylinder and C is 229 mm

| Pos. | Part no.  | Description                           | Qty. |
|------|-----------|---------------------------------------|------|
| C01  | 71839050  | DUST COVER FC LOW 15-273              | 1    |
| C02  | 71737201  | COVER 273-0735 PIN60 A360 SPH LOCK    | 1    |
| C03  | 01702956K | WASHER M48 DIN 125B ZP                | 1    |
| C04  | 01702907K | TOPNUT NYLOC M48x3 DIN 985 ZP         | 1    |
| C05  | 01791953  | O-RING COVER D.273                    | 1    |
| C06  | 15014550K | BOLT HSHC M12X30X1.75 Q8.8 DIN 912 ZP | 1    |
| P01  | 74472651  | PISTON FL3 S 091-1645-HD-HC           | 1    |
| P02  | 71807093K | SLIDER FL 091 (2 X 1/2) A35           | 1    |
| P03  | 71851091K | OUTER STOPRING FL 091 A22             | 2    |
| P04  | 71822705  | BOTTOM PLATE PISTON FL 091 MK2 HD     | 1    |
| P05  | 01745020K | CIRCLIP 78 DIN 472 (82.5x2.5)         | 1    |
| P06  | 71870215K | O-RING PISTON BOTTOM 091              | 1    |
| P07  | 71848200  | PISTON HEAD FL3 091                   | 1    |
| P08  | 01226430K | O-RING 72.62 X 3.53 MM                | 1    |



|     |           |                                   |   |
|-----|-----------|-----------------------------------|---|
| S51 | 74613650  | STAGE FL2 110-1640-HD             | 1 |
| S52 | 71808110K | PACKSET FL 110/HP 110 TANDEM SEAL | 1 |
| S53 | 71807112K | SLIDER FL 110 (2 X 1/2) A35       | 1 |
| S54 | 71851110K | OUTER STOPRING FL 110 A22         | 2 |
| S55 | 71852110K | LIFTRING FL 110 A22               | 1 |

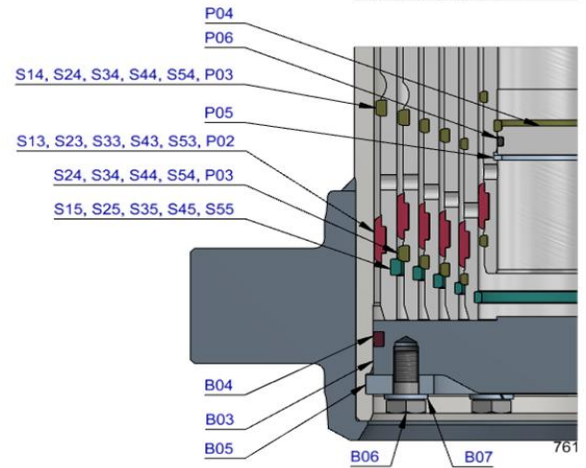
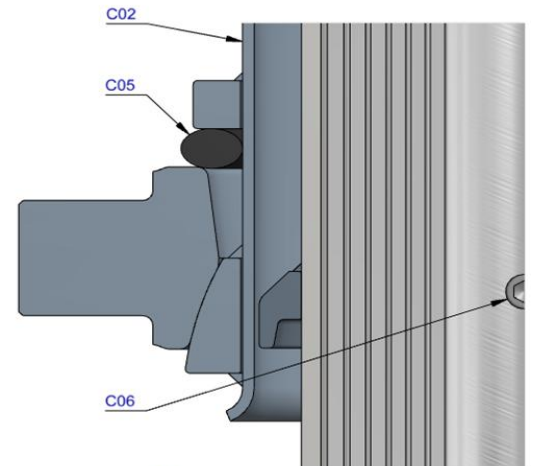
|     |           |                                   |   |
|-----|-----------|-----------------------------------|---|
| S41 | 74614650  | STAGE FL2 129-1640-HD             | 1 |
| S42 | 71808129K | PACKSET FL 129/HP 129 TANDEM SEAL | 1 |
| S43 | 71807131K | SLIDER FL 129 (2 X 1/2) A35       | 1 |
| S44 | 71851129K | OUTER STOPRING FL 129 A22         | 2 |
| S45 | 71852129K | LIFTRING FL 129 A22               | 1 |

|     |           |                                   |   |
|-----|-----------|-----------------------------------|---|
| S31 | 74615640  | STAGE FL2 149-1640-HD             | 1 |
| S32 | 71808149K | PACKSET FL 149/HP 150 TANDEM SEAL | 1 |
| S33 | 71807151K | SLIDER FL 149 A35                 | 1 |
| S34 | 71851149K | OUTER STOPRING FL 149 A22         | 2 |
| S35 | 71852149K | LIFTRING FL 149 A22               | 1 |

|     |           |                            |   |
|-----|-----------|----------------------------|---|
| S21 | 74616640  | STAGE FL2 169-1640-HD      | 1 |
| S22 | 71808169K | PACKSET FL 169 TANDEM SEAL | 1 |
| S23 | 71807171K | SLIDER FL 169 A35          | 1 |
| S24 | 71851169K | OUTER STOPRING FL 169 A22  | 2 |
| S25 | 71852169K | LIFTRING FL 169 A22        | 1 |

|     |           |                            |   |
|-----|-----------|----------------------------|---|
| S11 | 74617640  | STAGE FL2 191-1640-HD      | 1 |
| S12 | 71808191K | PACKSET FL 191 TANDEM SEAL | 1 |
| S13 | 71807193K | SLIDER FL 191 A35          | 1 |
| S14 | 71851191K | OUTER STOPRING FL 191 A22  | 1 |
| S15 | 71852191K | LIFTRING FL 191 A22        | 1 |

|     |               |                                       |   |
|-----|---------------|---------------------------------------|---|
| B01 | 74518654R0635 | BASE FL2 214-1691-4/4BSAE-290-C273-HD | 1 |
| B02 | 71802214K     | PACKSET FL 214                        | 1 |
| B03 | 71825435      | BOTTOM PLATE FL2 214                  | 1 |
| B04 | 71870045K     | SEAL BOTTOM PLATE FL 214              | 1 |
| B05 | 71820214      | LOCKING PLATE FL 214                  | 3 |
| B06 | 01732020K     | BOLT HEX M12X25X1.25 SET 6 PCS        | 1 |
| B07 | 01732523K     | WASHER SPRING M12 SET 6 PCS           | 1 |



Seal kit complete

|           |  |
|-----------|--|
| 71908761K | Consists of all packsets with packset grease and O-rings |
|-----------|--|

Notes

The inner stopring and piston bottom are pre-mounted on spare bases, stage and pistons. Therefore, when ordering new tubes, it is not required to order these parts separately.

For repair instructions see: CYL-0040. Serial no. is located on type plate and near type plate support.