

\* 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>                | 190 L/min    | With KO <sup>1</sup>                | 37 sec |
| Weight                                      | 398 kg         | Without KO <sup>1</sup>             | 137 L/min    | Without KO <sup>1</sup>             | 51 sec |
| Working volume                              | 117 L          | With KO <sup>1</sup> below -20°C    | 133 L/min    | With KO <sup>1</sup> below -20°C    | 53 sec |
| Total volume                                | 127 L          | Without KO <sup>1</sup> below -20°C | 96 L/min     | Without KO <sup>1</sup> below -20°C | 73 sec |
| Max. cyl. load (start tipping)              | 245 kN         |                                     |              | Allowable lowering time             | 37 sec |
| Max. cyl. load (end of stroke) <sup>2</sup> | 85 kN          |                                     |              |                                     |        |
| Max. cyl. load (end of stroke) <sup>3</sup> | 99 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

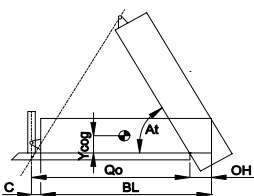
|                         |                     |
|-------------------------|---------------------|
| Bracket options:        | 015BRA10 & 015BRA12 |
| Mounting instructions:  | CYL-0030            |
| Oil specifications:     | OIL-0011            |
| Spec sheet explanation: | CYL-0041            |

Configuration

| Extension               | 1    | 2    | 3    | 4    | 5    | 6 | 7 | Total |
|-------------------------|------|------|------|------|------|---|---|-------|
| Effective diameter [mm] | 169  | 149  | 129  | 110  | 91   |   |   | 8530  |
| Stroke* [mm]            | 1690 | 1710 | 1710 | 1710 | 1710 |   |   |       |

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

Tipping weight

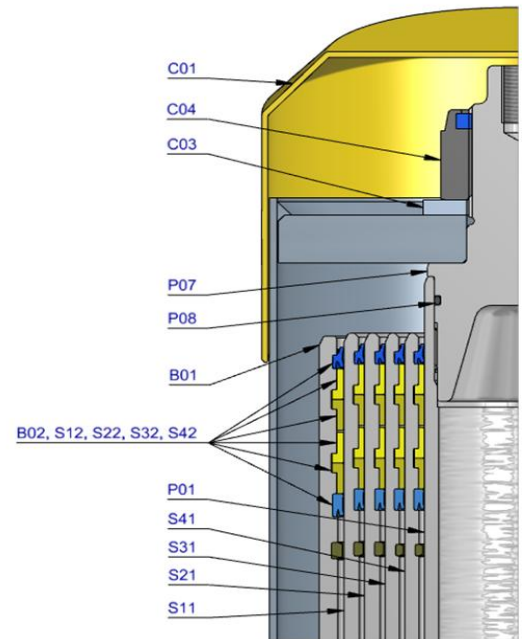


BL body length  
OH rear overhang  
Ycog vert. pos. centre of gravity  
Qo pivot length  
C bracket length  
At tipping angle  
stroke x 60 / Qo

| BL [mm]   | 11400 |     |     | 10900 |     |     | 10400 |     |     |
|-----------|-------|-----|-----|-------|-----|-----|-------|-----|-----|
| OH [mm]   | 200   | 500 | 800 | 200   | 500 | 800 | 200   | 500 | 800 |
| At [°]    | 44    | 45  | 47  | 46    | 47  | 49  | 48    | 50  | 52  |
| Ycog [mm] | 600   |     |     | 900   |     |     | 1200  |     |     |
|           | 29    | 31  | 32  | 30    | 32  | 34  | 31    | 33  | 35  |
|           | 31    | 32  | 34  | 32    | 33  | 36  | 33    | 35  | 38  |
|           | 32    | 34  | 36  | 33    | 35  | 38  | 35    | 37  | 40  |

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  | 71839040  | DUST COVER FC LOW 15-244      | 1    |
| C02  | 71706895  | COVER 242-1795 PIN60 A340 FIX | 1    |
| C03  | 01702956K | WASHER M48 DIN 125B ZP        | 1    |
| C04  | 01702907K | TOPNUT NYLOC M48x3 DIN 985 ZP | 1    |
| P01  | 74462781  | PISTON FL3 S 091-1995-HC      | 1    |
| P02  | 71853091K | SLIDER FL 091 (2 X 1/2) A22   | 1    |
| P03  | 71851091K | OUTER STOPRING FL 091 A22     | 1    |
| P04  | 71822091  | BOTTOM PLATE PISTON FL 091    | 1    |
| P05  | 01745012K | CIRCLIP 82 DIN 472 (87.5x2.5) | 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    |



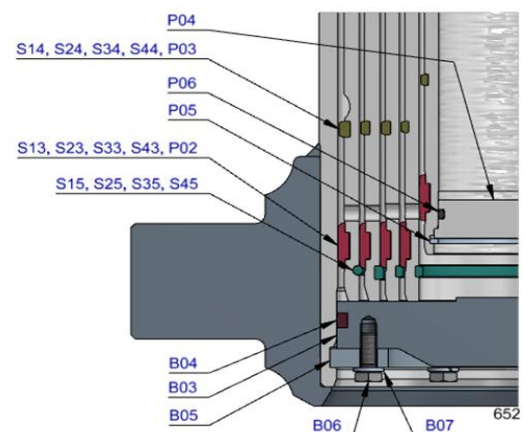
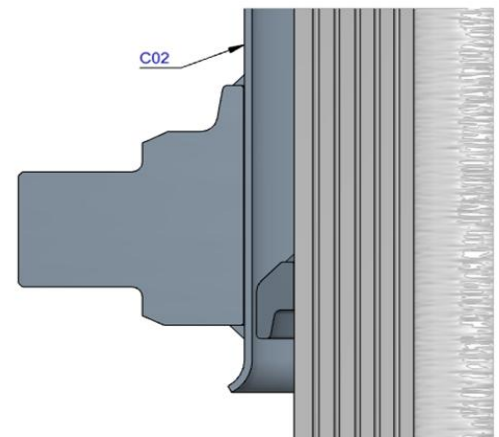
|     |           |                             |   |
|-----|-----------|-----------------------------|---|
| S41 | 74603780  | STAGE FL2 110-1990          | 1 |
| S42 | 71802110K | PACKSET FL 110              | 1 |
| S43 | 71853110K | SLIDER FL 110 (2 X 1/2) A22 | 1 |
| S44 | 71851110K | OUTER STOPRING FL 110 A22   | 1 |
| S45 | 71852110K | LIFTRING FL 110 A22         | 1 |

|     |           |                             |   |
|-----|-----------|-----------------------------|---|
| S31 | 74604780  | STAGE FL2 129-1990          | 1 |
| S32 | 71802129K | PACKSET FL 129/HP 129       | 1 |
| S33 | 71853129K | SLIDER FL 129 (2 X 1/2) A22 | 1 |
| S34 | 71851129K | OUTER STOPRING FL 129 A22   | 1 |
| S35 | 71852129K | LIFTRING FL 129 A22         | 1 |

|     |           |                           |   |
|-----|-----------|---------------------------|---|
| S21 | 74605780  | STAGE FL2 149-1990        | 1 |
| S22 | 71802149K | PACKSET FL 149/HP 150     | 1 |
| S23 | 71807151K | SLIDER FL 149 A35         | 1 |
| S24 | 71851149K | OUTER STOPRING FL 149 A22 | 1 |
| S25 | 71852149K | LIFTRING FL 149 A22       | 1 |

|     |           |                           |   |
|-----|-----------|---------------------------|---|
| S11 | 74606780  | STAGE FL2 169-1990        | 1 |
| S12 | 71802169K | PACKSET FL 169            | 1 |
| S13 | 71807171K | SLIDER FL 169 A35         | 1 |
| S14 | 71851169K | OUTER STOPRING FL 169 A22 | 1 |
| S15 | 71813169K | LIFTRING FL 169x5         | 1 |

|     |               |                                    |   |
|-----|---------------|------------------------------------|---|
| B01 | 74507820R1695 | BASE FL2 191-2033-4/4BSAE-190-C242 | 1 |
| B02 | 71802191K     | PACKSET FL 191                     | 1 |
| B03 | 71825430      | BOTTOM PLATE FL2 191               | 1 |
| B04 | 71870040K     | SEAL BOTTOM PLATE FL 191           | 1 |
| B05 | 71820195      | LOCKING PLATE FL2 191              | 3 |
| B06 | 01732055K     | BOLT HEX M8X20X1.25 SET 6 PCS      | 1 |
| B07 | 01732559K     | WASHER SPRING M8 SET 6 PCS         | 1 |



### Seal kit complete

|           |  |
|-----------|--|
| 71908650K | 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.