

## Specifications

Max. working pressure	250 bar
Weight	213 kg
Working volume	72 L
Total volume	78 L
Max. cyl. load (start tipping)	245 kN
Max. cyl. load (end of stroke) <sup>2</sup>	131 kN
Max. cyl. load (end of stroke) <sup>3</sup>	153 kN

## Max. pump flow

With KO <sup>1</sup>	195 L/min
Without KO <sup>1</sup>	137 L/min
With KO <sup>1</sup> below -20°C	137 L/min
Without KO <sup>1</sup> below -20°C	96 L/min

## Tipping time

With KO <sup>1</sup>	22 sec
Without KO <sup>1</sup>	32 sec
With KO <sup>1</sup> below -20°C	31 sec
Without KO <sup>1</sup> below -20°C	46 sec
Allowable lowering time	18 sec

Extension	1	2	3	4	5	6	7	Total
Effective diameter [mm]	169	149	129	110	91			5225
Stroke* [mm]	1020	1045	1050	1055	1055			

## 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 & 015BRA13

Mounting instructions: CYL-0031

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

## 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]	6900			6650			6400		
OH [mm]	200	500	800	200	500	800	200	500	800
At [°]	46	48	50	47	50	53	50	52	55
Ycog [mm]	46	51	57	47	53		49	55	

Tipping weight [ton] at maximum pressure of 250 bar for a vertically mounted cylinder and C is 158 mm

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

# Alpha series - Front end cylinder with single eye



FE A169-5-05225-019-K1394-HD\*390

Item no.

70536396

Pos.	Part no.	Description	Qty.
C01	71839131	DUST COVER FE 169-5/179-5/191-6	1
P01	74412349	PISTON FL2 S 091-1310-HD-HC	1
P02	71807093 K	SLIDER FL 091 (2 X 1/2) A35	1
P03	71851091 K	OUTER STOPRING FL 091 A22	2
P04	71822705	BOTTOM PLATE PISTON FL 091 MK2 HD	1
P05	01745020 K	CIRCLIP 78 DIN 472 (82.5x2.5)	1
P06	71870215 K	O-RING PISTON BOTTOM 091	1
P07	71847201	PISTON EYE SPH. FL 091 MK2 L=075 GR	1
P08	01226430 K	O-RING 72.62 X 3.53 MM	1
P09	01770085 K	SPHERICAL BEARING D.50 DO GREASED	1
P10	01770560 K	CIRCLIP 75 DIN 472 (79.5x3.0)	1
P11	71875012	PIN ROUND HEAD GROOVED 8x15 mm	2
P12	56288044 K	GREASE NIPPLE M8x1 DIN 71412	1
P13	01317670 K	GREASER PROTECTION CAP	1

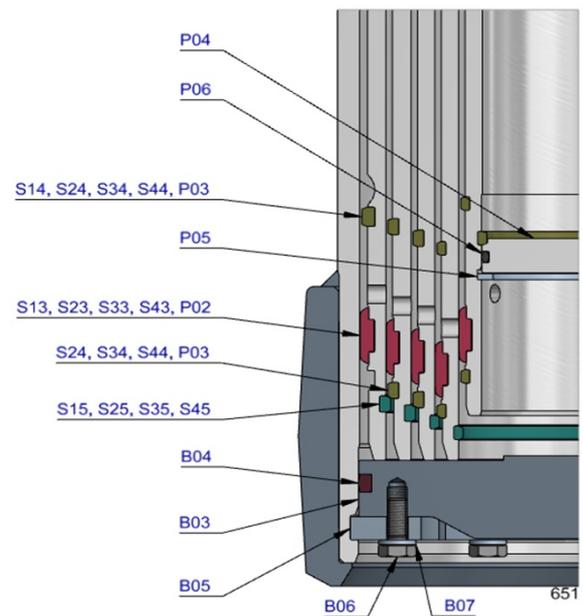
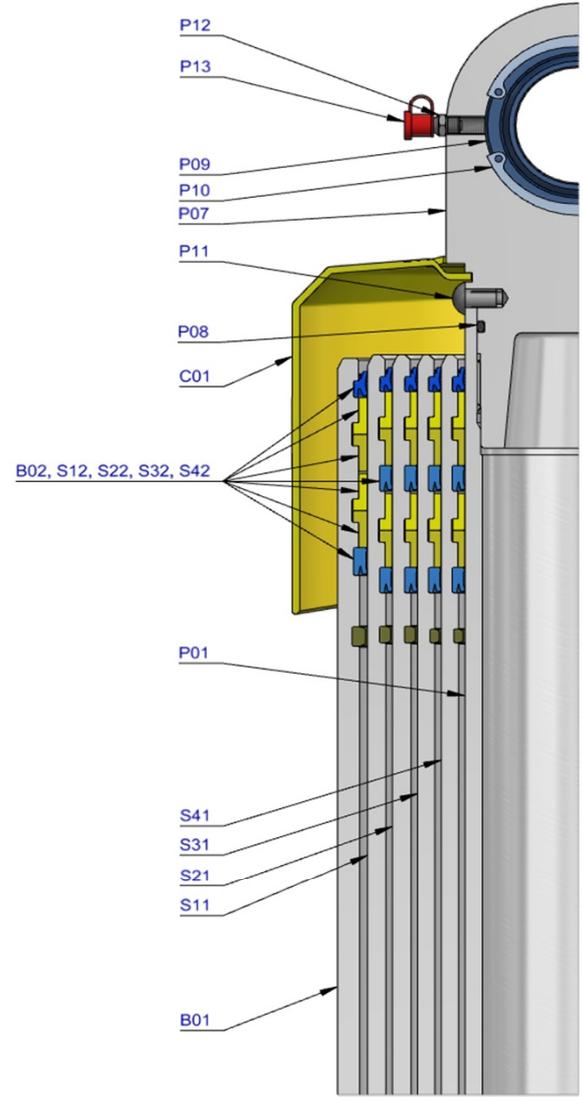
S41	74613300	STAGE FL2 110-1275-HD	1
S42	71808110 K	PACKSET FL 110/HP 110 TANDEM SEAL	1
S43	71807112 K	SLIDER FL 110 (2 X 1/2) A35	1
S44	71851110 K	OUTER STOPRING FL 110 A22	2
S45	71852110 K	LIFTRING FL 110 A22	1

S31	74614300	STAGE FL2 129-1275-HD	1
S32	71808129 K	PACKSET FL 129/HP 129 TANDEM SEAL	1
S33	71807131 K	SLIDER FL 129 (2 X 1/2) A35	1
S34	71851129 K	OUTER STOPRING FL 129 A22	2
S35	71852129 K	LIFTRING FL 129 A22	1

S21	74615300	STAGE FL2 149-1275-HD	1
S22	71808149 K	PACKSET FL 149/HP 150 TANDEM SEAL	1
S23	71807151 K	SLIDER FL 149 A35	1
S24	71851149 K	OUTER STOPRING FL 149 A22	2
S25	71852149 K	LIFTRING FL 149 A22	1

S11	74616300	STAGE FL2 169-1275-HD	1
S12	71808169 K	PACKSET FL 169 TANDEM SEAL	1
S13	71807171 K	SLIDER FL 169 A35	1
S14	71851169 K	OUTER STOPRING FL 169 A22	1
S15	71852169 K	LIFTRING FL 169 A22	1

B01	74517307	BASE FL2 191-1318-4/4BSAE-390-HD	1
B02	71802191 K	PACKSET FL 191	1
B03	71825430	BOTTOM PLATE FL2 191	1
B04	71870040 K	SEAL BOTTOM PLATE FL 191	1
B05	71820195	LOCKING PLATE FL2 191	3
B06	01732055 K	BOLT HEX M8X20X1.25 SET 6 PCS	1
B07	01732559 K	WASHER SPRING M8 SET 6 PCS	1



## Seal kit complete

	71908651 K	Consists of all packsets with packset grease and O-rings	
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## 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.

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