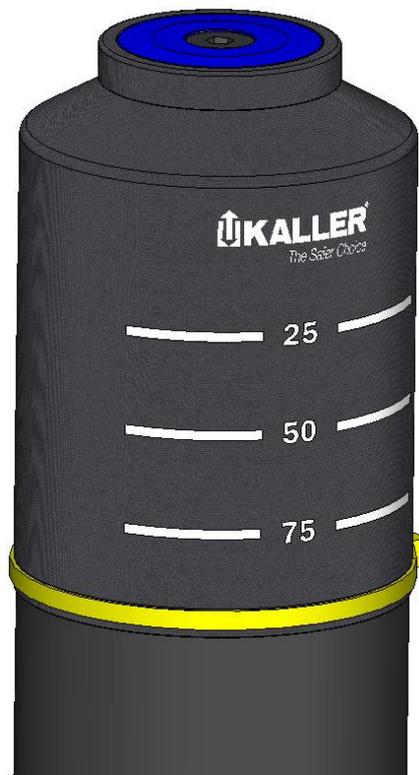


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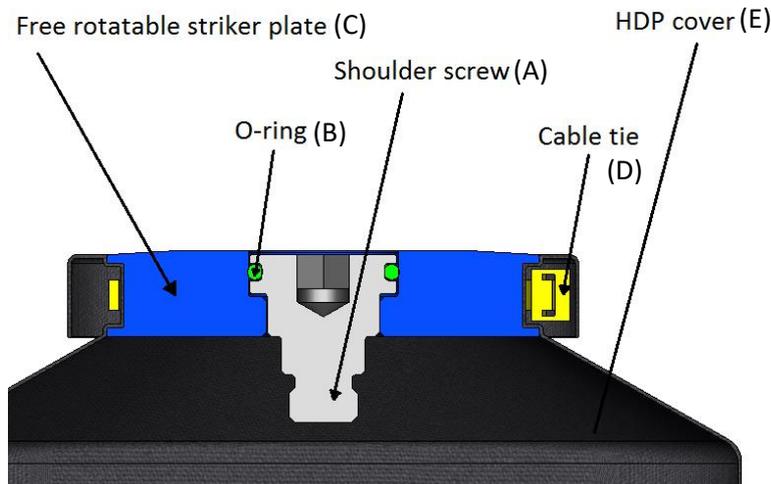
HDP – Heavy Duty Protection



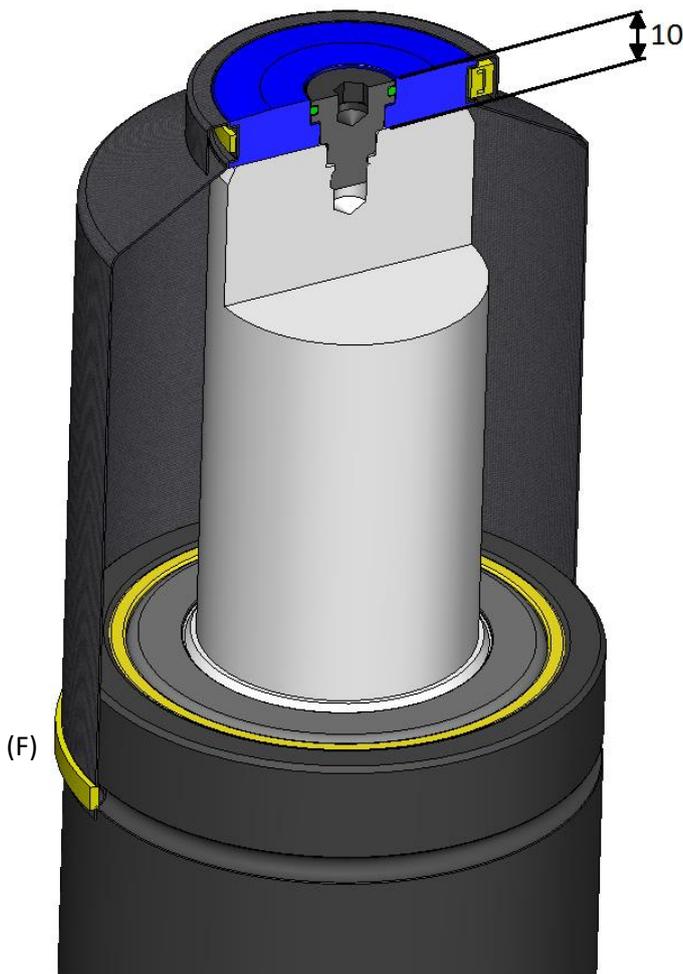
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Content of the HDP



A	Top screw to mount and hold the HDP in position.
B	O-ring to tight the striker plate and allow rotating.
C	Striker plate to hold the HDP.
D	Cable tie to mount the HDP cover on the striker plate.
E	HDP fabric to protect the gas spring.
F	Cable tie to hold the HDP cover in position.



The HDP Heavy Duty Protection is used to protect the piston rod against contamination.

HDP cover is ordered and cut suitable for the gas springs stroke length or can be cut to the right length. (see step 4)

The HDP cover has to be attached to the threaded top of the piston rod (see instruction 2) and to the body of the gas spring (see step 1).

When the HDP are attached to a top mounted gas spring an additionally Flange Adaptor HDPF has to be ordered and used. (see step 3)

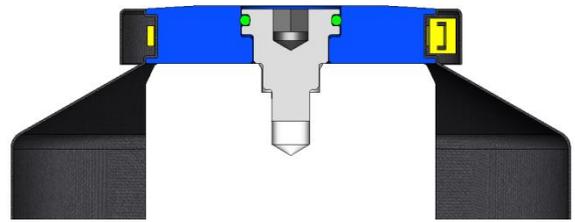
The HDP protection is delivered with the striker plate fitted to the fabric and the top screw in position. The striker plate adds 10 mm height to the gas springs total length.

Note: Keep HDP safe from hot surfaces and hot particles as from welding/grinding. HDP should not be exposed to warmer conditions than spring specification.

Step 1

Assembling to the piston rod:

1. Clean the thread on the piston rod and the thread on the top screw from potential grease and dirt.
2. Before tightening the top screw use a drop of Loctite 2700 on the top screw thread to secure it when tightened. (note the Loctite are not included)*
3. Make sure that the O-ring and top screw are in position and then tighten the top screw on the piston.
Recommended tightening torque: 8 Nm for M8 and 40 Nm for M16.



We recommend that the spring is filled with gas when tightening to prevent the piston rod from rotating.

* Loctite products are recommended to be ordered locally from www.loctite.com

Or from KALLER:

506427 Loctite 2700



NOTE: Never use too much Loctite on the surface of the piston rod. That can cause gas leakage!

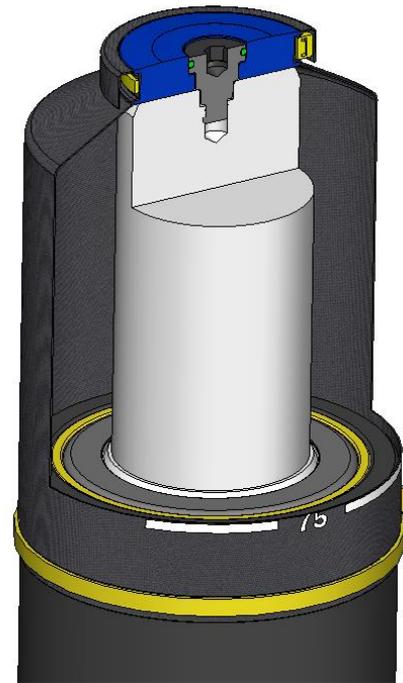
Step 2

Assembling to the tube:

When the HDP is mounted to the piston rod the fabric has to drape down around the extended piston rod and cover a part of the tube inclusive the of C-groove.

1. Use the cable tie as picture shows to fix the fabric to the tube.
2. Hold the HDP cover with a bit tension and tighten the cable tie into the C-groove. Tighten the cable just snug and make sure that the HDP cover is equally distributed around the spring. Then tighten with approximately 70 N. We recommend the use of a hand gun for nylon cable ties to perform this operation properly. (note the hand gun for nylon cable ties not included) **

Your HDP is now assembled to the gas spring and ready to use!



** Recommended hand gun for nylon cable ties to be ordered locally from www.tnb.com

Or from KALLER:

506441 Hand Gun ERG120



Step 3

Assembling to the flange when the gas spring is top mounted

A Flange Adaptor consists of a plastic holder and four metal washers delivered in a plastic bag.

Add a flange adaptor to a flange mounted gas spring by the following steps:

Dismount the screws holding the flange if it is already mounted.

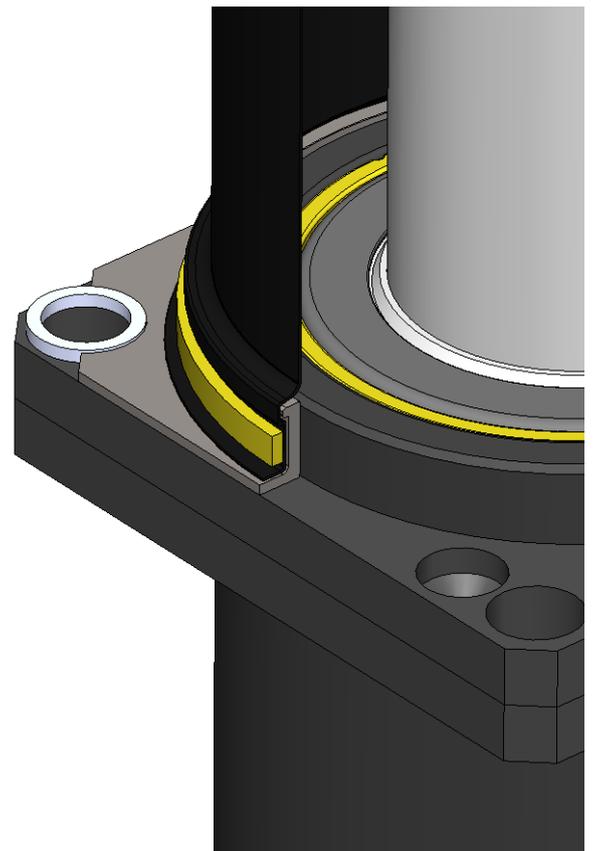
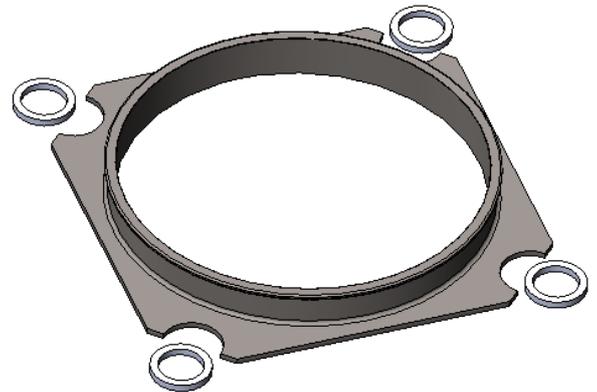
Place HDPF on the flange (FCS).

1. Place the washers in the corners of flange (FCS) see picture. The washers are 2 mm thick and will protect the flange adaptor when the screws are tightened.
2. Insert the bolts in position and make sure that the bolt heads are equally distributed over the washers.
3. Make sure that the HDPF is centred over the flange before tightening.
4. Cross tighten the bolts so the HDPF is tightened evenly across the flange according to the flange mounting user guide. We recommend a tightening torque of 80 Nm for M12 bolts and 160-200 Nm for M16 bolts or according to catalogue.
5. When the HDP is mounted to the piston rod and the flange adaptor is in position the fabric has to drape down around the flange adaptor.
6. Fix the cable tie over the HDPF and tighten enough to hold the HDP cover in position. Make sure that the HDP fabric is equally distributed around the HDPF and then tighten. We recommend the use of a cable tie bearer that can tighten with approximately 70 N.

If there is any fabric overhanging you can bend it up over the cable tie to save space and to protect the cable tie.

Your HDP is now assembled to HDPF!

Make sure that the HDP cover is in position, that the striker plate can rotate and that there is no damage or holes in the fabric.

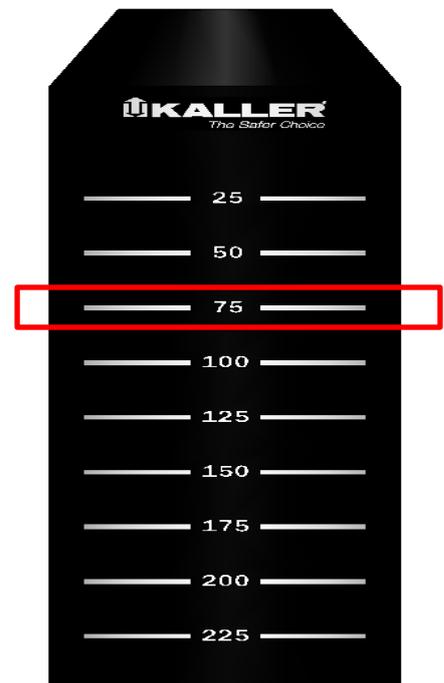


Step 4

How to adjust the length of the HDP protection?

HDP Heavy Duty Protection fabric covers are produced to cover stroke lengths up to 250 mm. The marking on the HDP cover identifies the stroke length. To customize a HDP fabric you need to cut the HDP to the right length. The right length is according to the following table:

Gas springs stroke length (mm)	Cut at HDP marking
10 -25	25
26-50	50
51-75	75
74-100	100
101-125	125
126-150	150
151-175	175
176-200	200
201-225	225



How to get your HDP at the right length according to the stroke length on your Kaller gas spring?

Check the gas springs stroke length according to the above table. Cut the fabric by the correct marking line with a pair of scissors.

Example:

If you have a gas spring with a stroke length 63 mm, you need to cut the HDP fabric at line 75.

