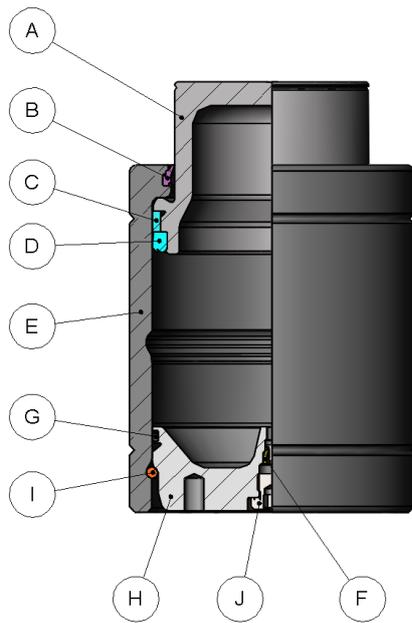


## Gas Spring Models

CU4 740  
CU4 1000  
CU4 1800  
CU4 2900  
CU4 4700  
CU4 7500  
CU4 11800  
CU4 18300



## SERVICE INSTRUCTION



### Please Note!

Actual gas spring design may appear different from what shown here.

- |     |                         |                                       |
|-----|-------------------------|---------------------------------------|
| A)  | Piston                  |                                       |
| B)* | Scraper                 | * = Parts included in the repair kit. |
| C)* | Flex ring               | Differs between model and version.    |
| D)* | Piston seal with O-ring |                                       |
| E)  | Tube                    |                                       |
| F)* | Valve                   |                                       |
| G)* | O-ring (& backup ring)  |                                       |
| H)  | Bottom                  |                                       |
| I)  | Lock ring               |                                       |
| J)* | Cover Screw             |                                       |

### Warning!

- Always read the permanently marked information on the side of the tube before service to make sure you use the correct repair kit. NEVER mix new components together with old gas spring components when servicing the spring.
- Failure to exhaust all gas pressure prior to disassembling could result in serious injury.
- The maximum charging pressure is 150 bar (2175 psi)
- Use only pure nitrogen gas (N<sub>2</sub>) for charging.
- Once the cover screw is removed, never lean directly over the valve. Always direct the valve port away from yourself and others.
- Never use extreme force on the gas spring.
- Charged gas springs are under high internal pressure and should be protected against damage.
- Always use protective jaws when clamping the spring in a vice.
- To achieve maximum service life, keep the gas spring protected from dirt, drawing fluids, and grinding dust.
- Always wear protective equipment incl. safety goggles and rubber gloves, whilst servicing the gas spring in a

well ventilated area. Avoid direct contact with gas spring lubricants and inhalation of any exhausting gases.

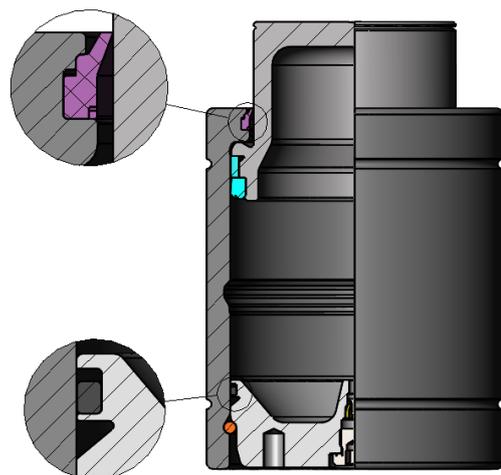
- Only specially trained personnel with good knowledge of the products should carry out the maintenance.

## Disassembly

- 1) To obtain an easy working position, clamp the spring in a vice (use protective jaws). Unscrew the G1/8" cover screw (J) with a 5 mm Allen key. If there is no gas left in the spring, the bottom (H) may rotate. If so, use the threaded holes at the bottom (H) to prevent the rotation and unscrew the G1/8" cover screw (J) slightly.
- 2) If there is still gas pressure in the spring, release it by screwing the threaded end of the valve tool into the charging port until the valve needle opens. The valve (F) must not be unscrewed until the piston can be pushed in by hand or be tapped in using a plastic mallet. Then unscrew the valve and remove the valve.
- 3) Tap in the bottom (H) using a socket and mallet until the lock ring (I) is exposed. Remove the lock ring with the lock ring tool. Bend the lock ring upwards and inwards.
- 4) Pull out the bottom (H), using a T-handle and then pour out the remaining oil.
- 5) Clamp the gas spring in the vise with the piston facing upwards and tap out the piston (A) using socket and mallet.
- 6) Remove the piston seal (D) and the Flex ring (C) from the piston.
 

**Note! Be careful not to damage the piston seal groove when removing the seal.**  
On smaller models it can be difficult to remove the seal by hand. If so, lift the seal and cut it loose using a sharp knife.
- 7) Remove the scraper (B) from the tube.
 

**Note! Replace the scraper (B) with a new one after each disassembly as it will get damaged while tapping out the Piston (A), see the figure below.**



- 8) Remove the O-ring (G) and the back-up ring (where applicable) from the bottom.
 

**Note! Be careful not to damage the overpressure protection groove while disassembling.**

## Inspection

- 9) Thoroughly clean the tube, the piston and the bottom.
- 10) Closely inspect the inside of the tube, the sealing groove on the piston, the mechanical stop of the piston (A) and bottom. There should be no scratches or dents on the inside surface of the tube, the piston or the lock ring grooves. If these parts are scratched or damaged in any way then they should be replaced. Also never use tubes with external pressure marks.

## Assembly

- 11) Unpack the repair kit. Make sure the correct repair kit is being used. Check to make sure that all parts are contained in the kit by comparing the contents in the list of page 2. If the repair kit contains 2 plastic bags, use the one that pictures the bottom of your gas spring and discard the other. Discard all parts that are to be replaced with new ones from the repair kit.
- 12) First fit the scraper (B) into the top of the tube. Make sure the scraper sits correctly in the groove with the lip pointing upwards.
- 13) Mount the Flex ring (C) and the piston seal (D) with the O-ring facing downwards (gas side).
- 14) Mount the O-ring (G) to the bottom. Make sure it is fitted in the square groove. If backup ring is present in the repair kit (see 11) it should be in the same groove together with the O-ring, opposite of the O-ring gas side.
- 15) Clamp the tube with the lock ring groove facing upwards securely in the vise. Oil the seals on the piston and upper part of the tube and then tapping it down carefully, using a socket and mallet. Making sure all of the stroke length becomes exposed.
- 16) Fill the spring with the appropriate oil volume (see table to the right).
- 17) Oil the O-ring (G) on the bottom. Tap down the bottom (H) carefully into the tube until the lock ring groove is exposed using the socket and plastic mallet.  
**Note! Make sure not to pinch the O-ring while tapping down the bottom.**
- 18) Fit the lock ring (I) into the lock ring groove by pushing one of the ends into the groove, then either press or hit the other until it snaps into the groove.  
**Note! Use a T-handle to pull up the bottom in case the bottom falls down into the tube. Use a T-handle extension if needed.**
- 19) Pull out the bottom (H) using a T-handle until the bottom and the tube are flush.  
**Warning! If the bottom and the tube are not flush, the assembly is incorrect. DO NOT charge the spring. Charging an incorrectly assembled spring could result in serious injury.**
- 20) Mount the valve (F) into the charging port using the valve tool. Tighten only finger tight. The gas spring is now ready for charging.

Model	Stroke Length [mm]	Oil [ml]
CU4 740	6 - 25	2
	32 - 50	3
CU4 1000	6	1
	10 - 32	2
	40	4
	50	6
CU4 1800	6 - 25	4
	32 - 40	6
	50 - 65	10
CU4 2900	10 - 16	4
	25 - 32	6
	40 - 65	10
CU4 4700	10 - 25	6
	32 - 40	10
	50 - 65	15
CU4 7500	10 - 25	10
	32 - 40	15
	50 - 65	20
CU4 11800	10 - 25	20
	32	30
	40	40
	50 - 65	50
CU4 18300	10 - 25	30
	32	40
	40 - 50	50
	65	60

For gas charging see Gas Charging Instruction  
8200-1873 available at [kaller.com](http://kaller.com)