

# Installation of the over-center valve assembly kits type LHK acc. to D 7100

Mounting order in the manifold. Assembly is best in vertical position, otherwise individual parts can be kept in their correct position by applying a grease spot !

1. Insert piston (17) with seal rings (18) + (19) and spring (20) (with LHK 3.) until its stop. Observe correct installation position with LHK 2. and LHK 4.!
2. Screw in and tighten (max. 45 Nm) the tapped guide (16) (16 is a sleeve with LHK 2.. that must be inserted together with the O-ring).
3. Insert flat seal (14) and ring (13) (omitted with LHK 2.).
4. Insert the bearing needle (15) in the tapped guide (16) but only for 3 mm to ease correct installation of subsequent parts.
5. Place spring (12) over the needle (15)
6. Place spherical strainer (11) over the needle (15) (→ Attention, centering must intrude the spring end!)
7. Place check valve disc (10) over the needle (15) (shiny face upwards in direction of the valve seat (9)).
8. Insert valve seat (9) until its stop (must not be angled, as diameter of disc and hole are almost equal !)
9. Insert ball / roller with spherical ends (8), strainer (22) (only LHK 33 and LHK 44), and disc guide (7).

10. Screw in carefully the spring housing (1) completely assembled with seals (2) + (3), (and spring (6), spring guide (4), screw (21) and lock nut (5) for type LHK..V) by hand until only 1 mm of the journal over the seals is visible; push down simultaneously the spring (6), (must be positioned exactly on the centering of disc (7)). Pressing down the spring is necessary as it ensures correct centering of the ball / roller with spherical ends (8).

Watch out that the seals on the spring housing are not damaged.

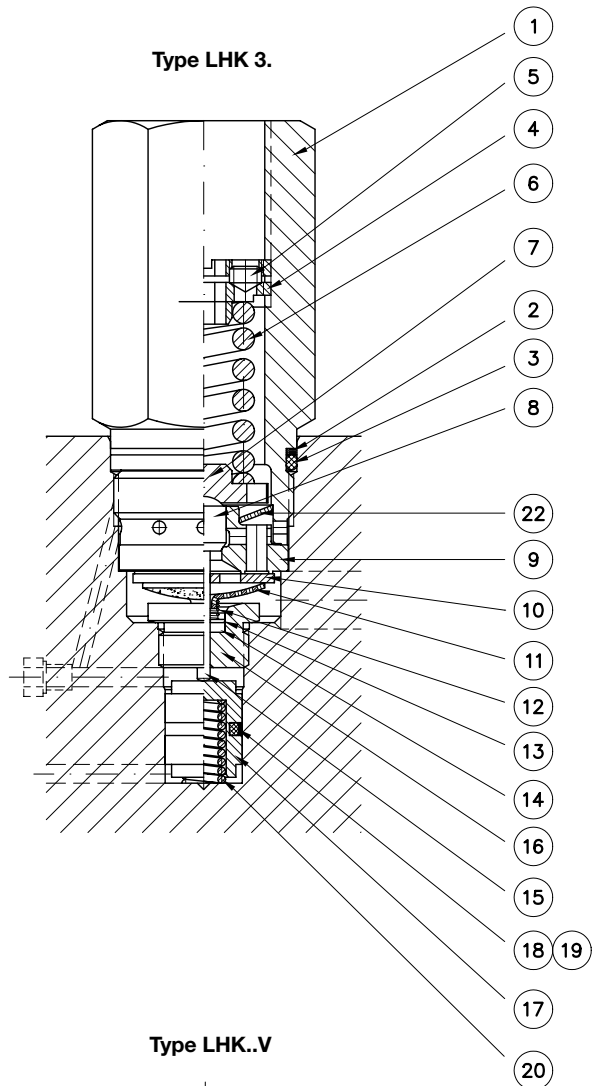
Do not use a spanner when the housing can't be screwed in as far as necessary, but dismantle again and check whether all parts are positioned correctly (especially parts (4) to (9))

Tighten the spring housing with correct torque: 30 Nm for LHK 2., 180 Nm for LHK 3. and LHK 4..

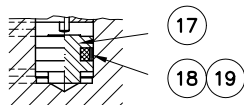
11. Subsequently the pressure is adjusted, what should be done always with pump running and a pressure gauge.

LHK: Screw in the tapped washer (4) (grub screw (5) screwed in but not tightened) until the desired pressure is achieved. Fix position of the tapped washer (4) by tightening the grub screw (5).

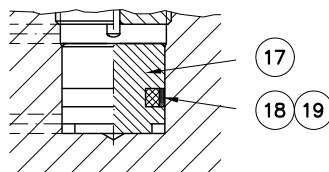
LHK..V: Screw in the set screw (21) until the desired pressure is achieved. Fix position of the set screw (21) by tightening the lock nut (5).



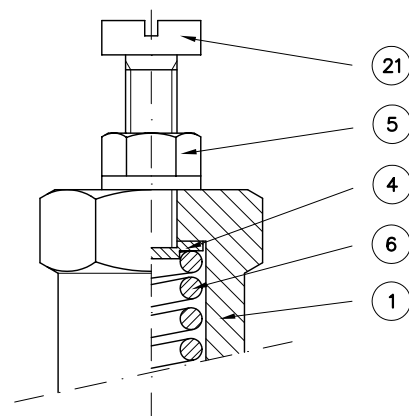
Type LHK 2.



Type LHK 4.



Type LHK..V



## Pressure adjustment / variation

Any pressure adjustment should be done always with pump running and monitored by a pressure gauge!

The figures for pressure variation per turn / travel are only a guide line to ease finding the correct position.

Type		LHK 20		LHK 21		LHK 22		LHK 30			LHK 32		LHK 33 LHK 337			LHK 40		LHK 43 LHK 44 LHK 447	
Pressure range up to ...	(bar)	200	400	200	200	400	130	320	360	130	320	130	320	360	130	350	160	350	
Pressure variation	per turn (bar/turn)	18	75	55	24	100	22	24	30	46	62	63	85	87	31	47	45	70	
ca.	per mm travel (bar/mm)	18	75	45	18	75	17	19	24	36	46	36	46	48	25	38	25	38	