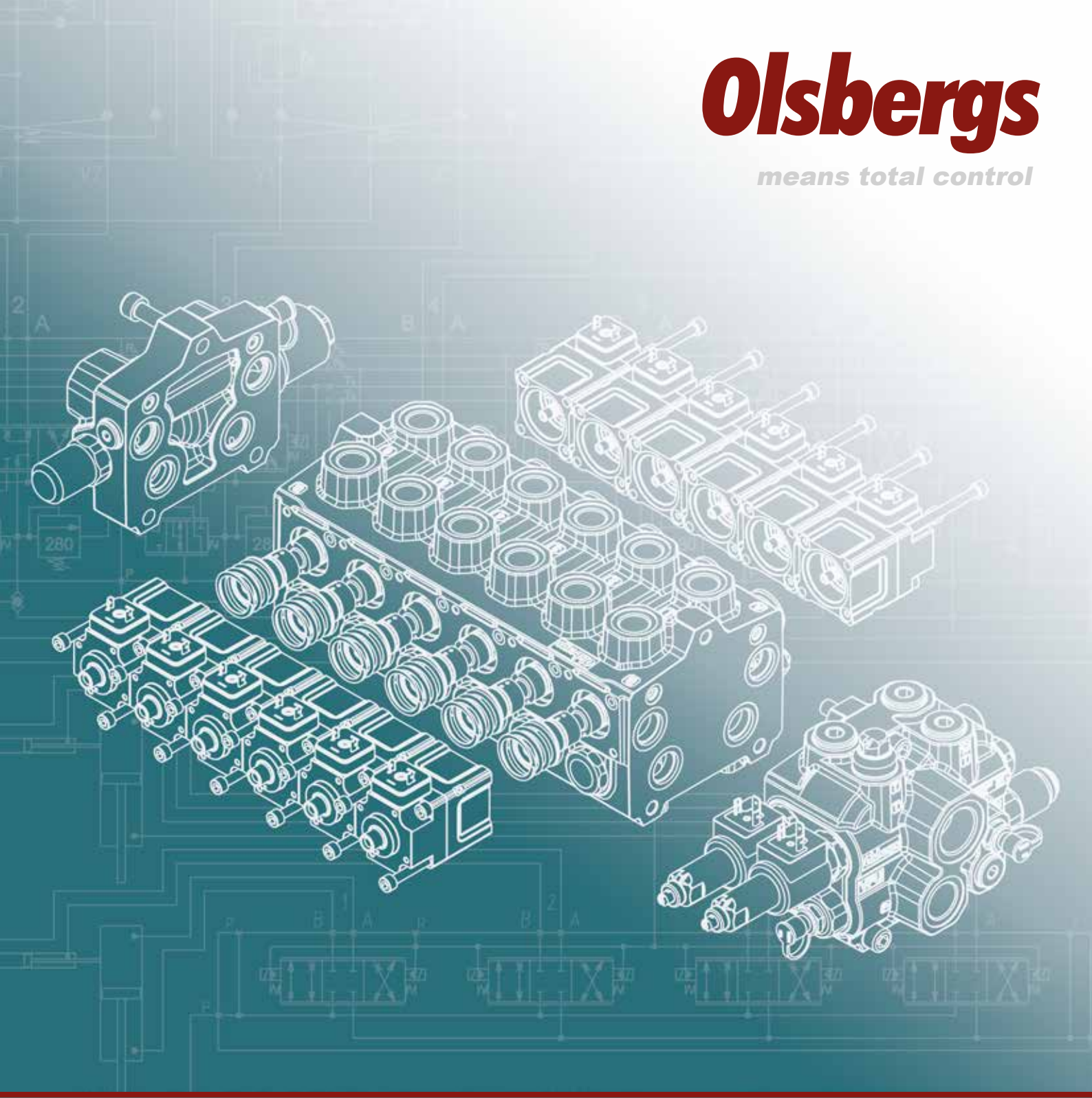
Olsbergs

means total control



Olsbergs Control Systems
Hydraulics

Products and spare parts

Olsbergs

List of contents

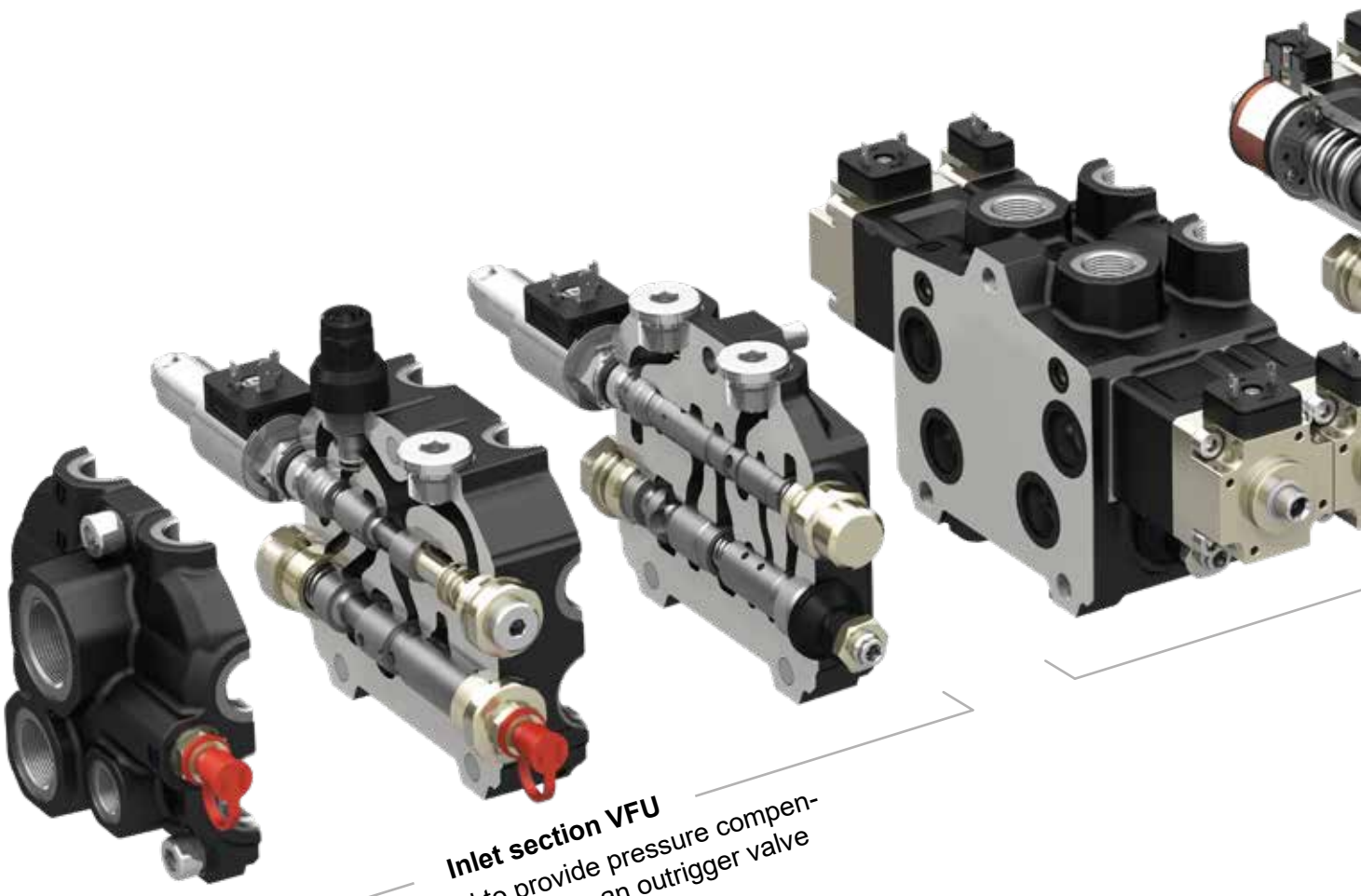
Subject to change in case of printing errors.

Olsbergs Q-series for precision control of demanding applications

Olsbergs latest generation of load sensing and pressure compensated proportional valves, Q200 and Q300, in mono block design.

The Olsbergs hydraulic system is designed in modules for high capacity and flexible system configuration. Equipped with electro-hydraulic servos, positioner P8, the valves can be remote controlled with great precision. Both Q200 and Q300 are high performance valves and can handle pump pressure of 45 MPa, (450 bar), and total feed flows of up to 300 l/min or 150 l/min per section.

Q200 is available in versions with 2 to 8 sections and Q300 is available with 2 to 6 sections. Q200 and Q300 are built in two and three levels, respectively. Levels one and two are the same for both valves. Level one houses a pressure compensator and shuttle system, level two houses the valve spools and level three houses shock relief valves with anti cavitation function. Q200 has G½" connections Q300 has G¾" connections to the valve ports.



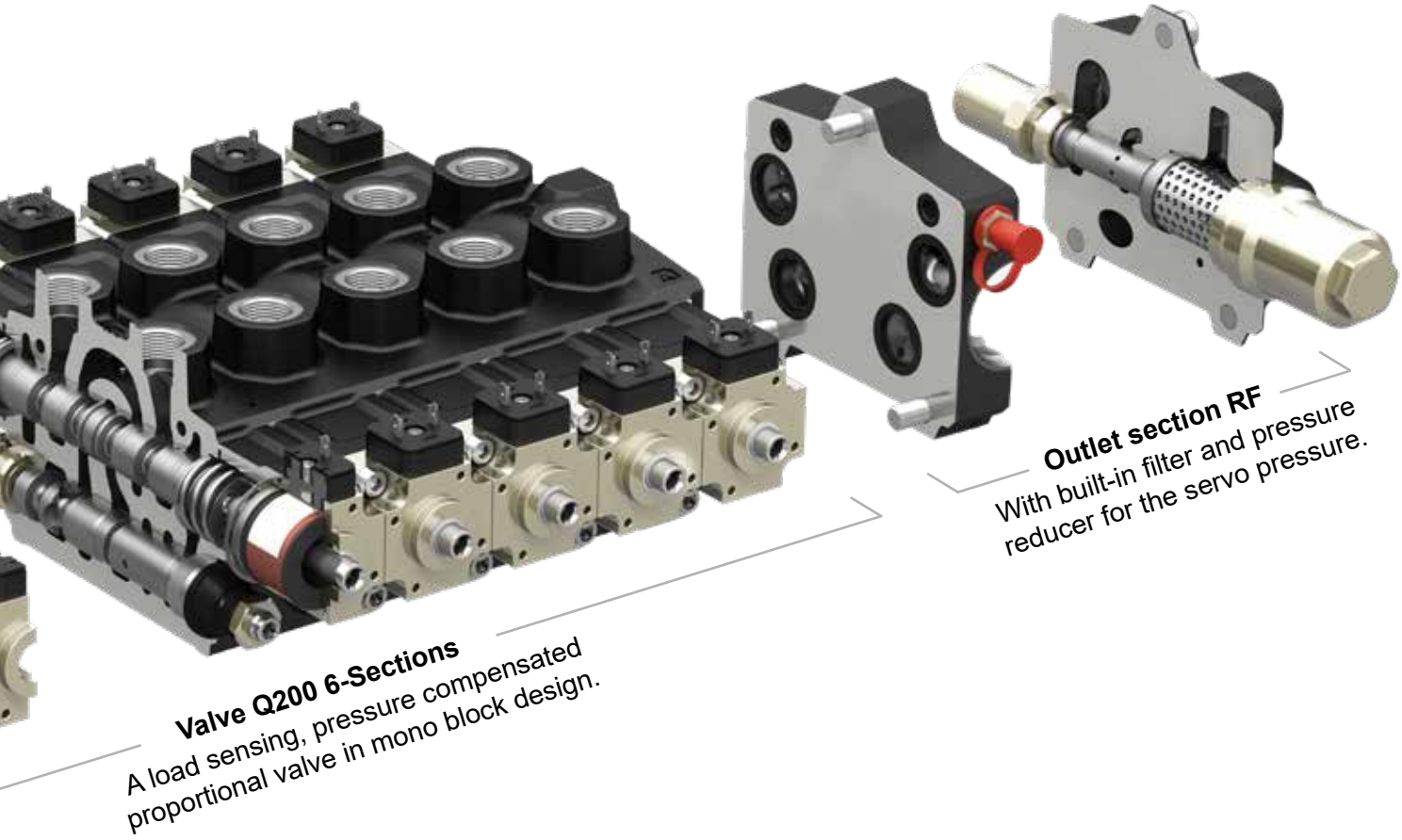
Inlet section VFU
Designed to provide pressure compensated flow to e.g. an outrigger valve

Intelligent inlet sections for compact systems

The inlet sections have a modular design and are available in three versions – J, VF and VFU. All three versions fit valve Q200 and valve Q300. All have connection ports for pump, tank, signal and servo pressure as well as ports for measuring pump pressure, tank pressure and servo pressure.

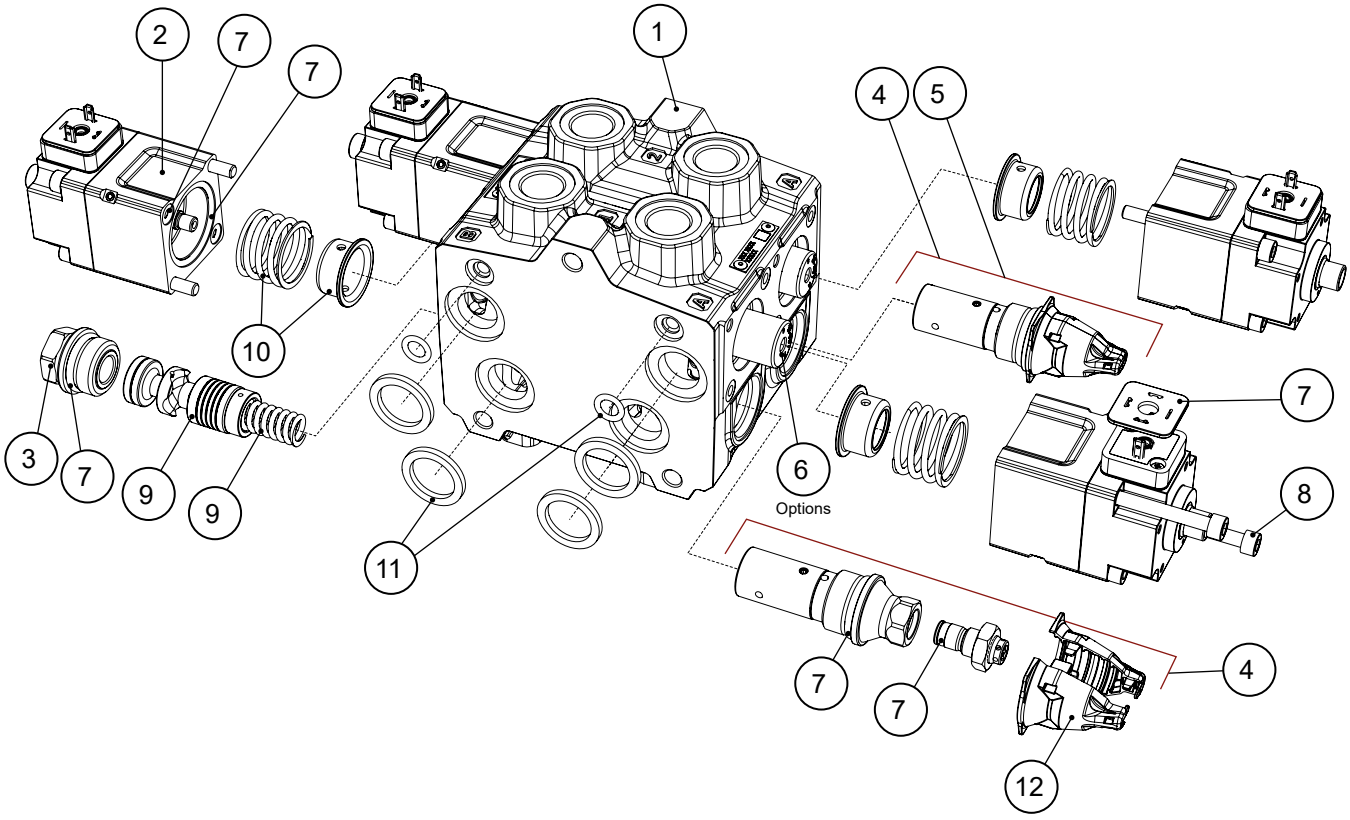
Outlet sections with integrated functions

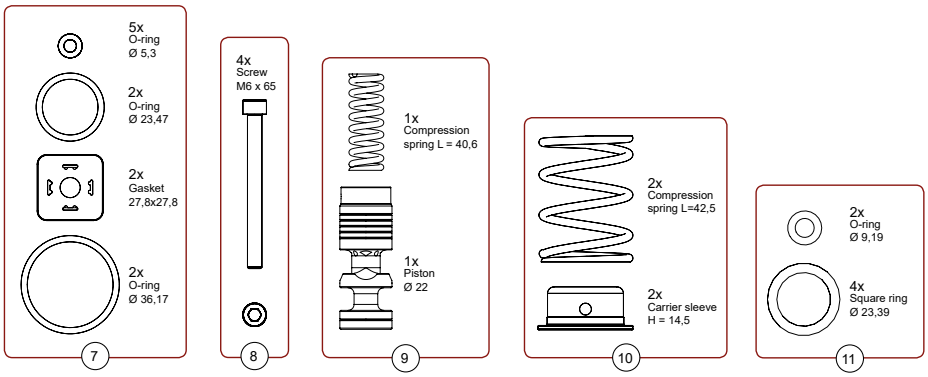
The outlet sections have a modular design and are available in three versions – RF, S and P. All three versions fit valve Q200 and valve Q300. The RF outlet section is the most advanced module, with an integrated pressure reducer and magnetic filter unit.



Valve Q200 EI-P8

Spare parts

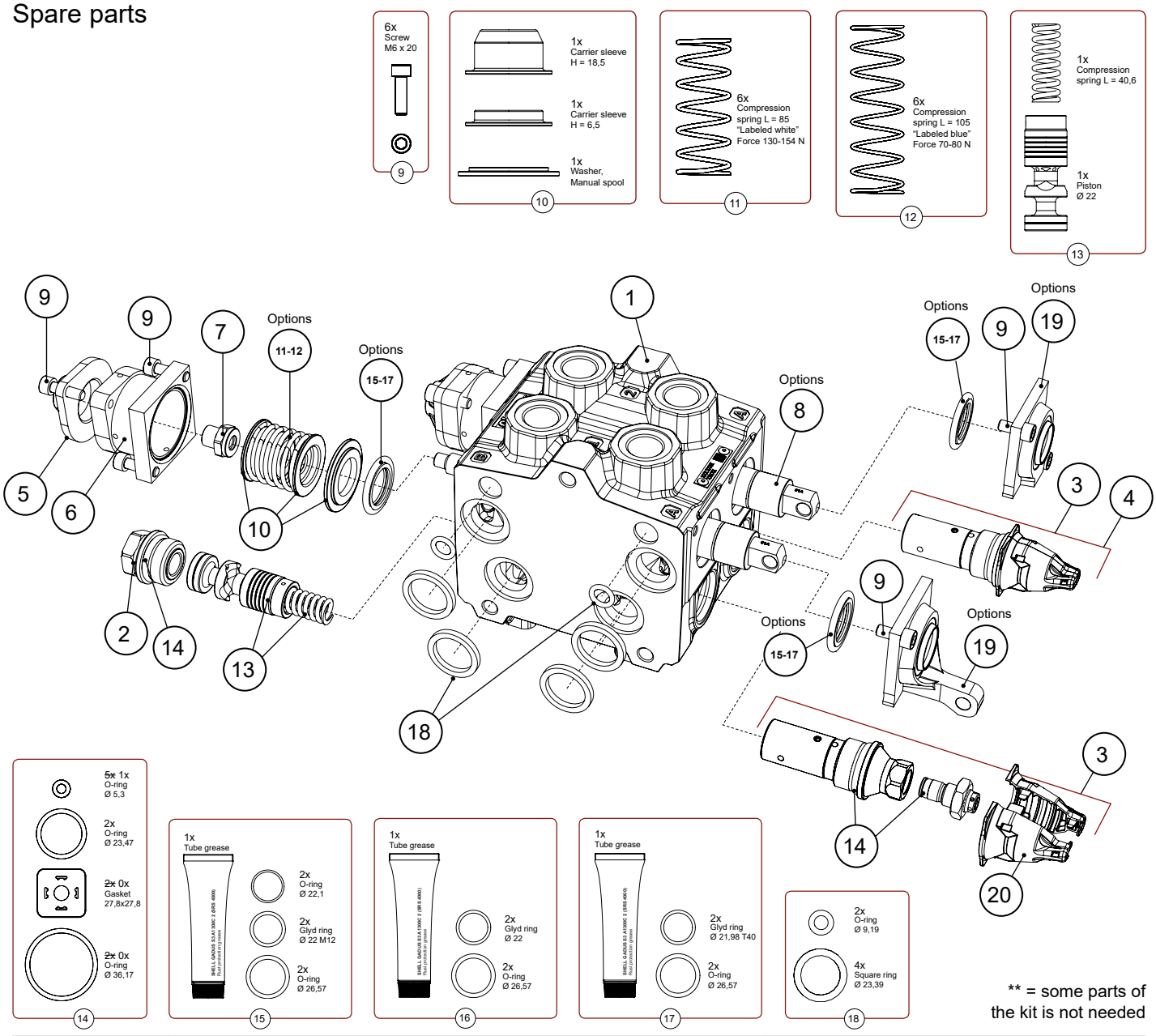




Pos.	Part no.	Description	Note
1	V32xx	Valve Q200 EI-P8, complete	Available in 2-,3-,4-,6-,7-,8-section blocks
2	0423	Positioner P8, complete	See page 66
3	V0741	Plug TK G 3/4”, complete	Incl. o-ring
4	V0750	Signal relief valve complete with shuttle valve	For last section, see valve specification
5	V0751	Signal relief valve complete without shuttle valve	For last section, see valve specification
6	V31xxx	Spool xxx-P8 xx-xx-xx-xx, Q-serie	See valve specification and page 52 - 61
7	V9001	Sealing package TV1	Consumption: 1 kit per valve section
8	V9006	Screw package P8/H8	Consumption: 1 kit per valve section
9	V9002	Pressure compensator Q	Consumption: 1 kit per valve section
10	V9000	Centering kit spool P8	Consumption: 1 kit per valve section
11	V2454	Seal kit	Consumption: 2 kits per valve
12	V2589GR	Closure sealing, grey	Consumption: 1 pcs per signal relief valve

Valve Q200 Manual

Spare parts

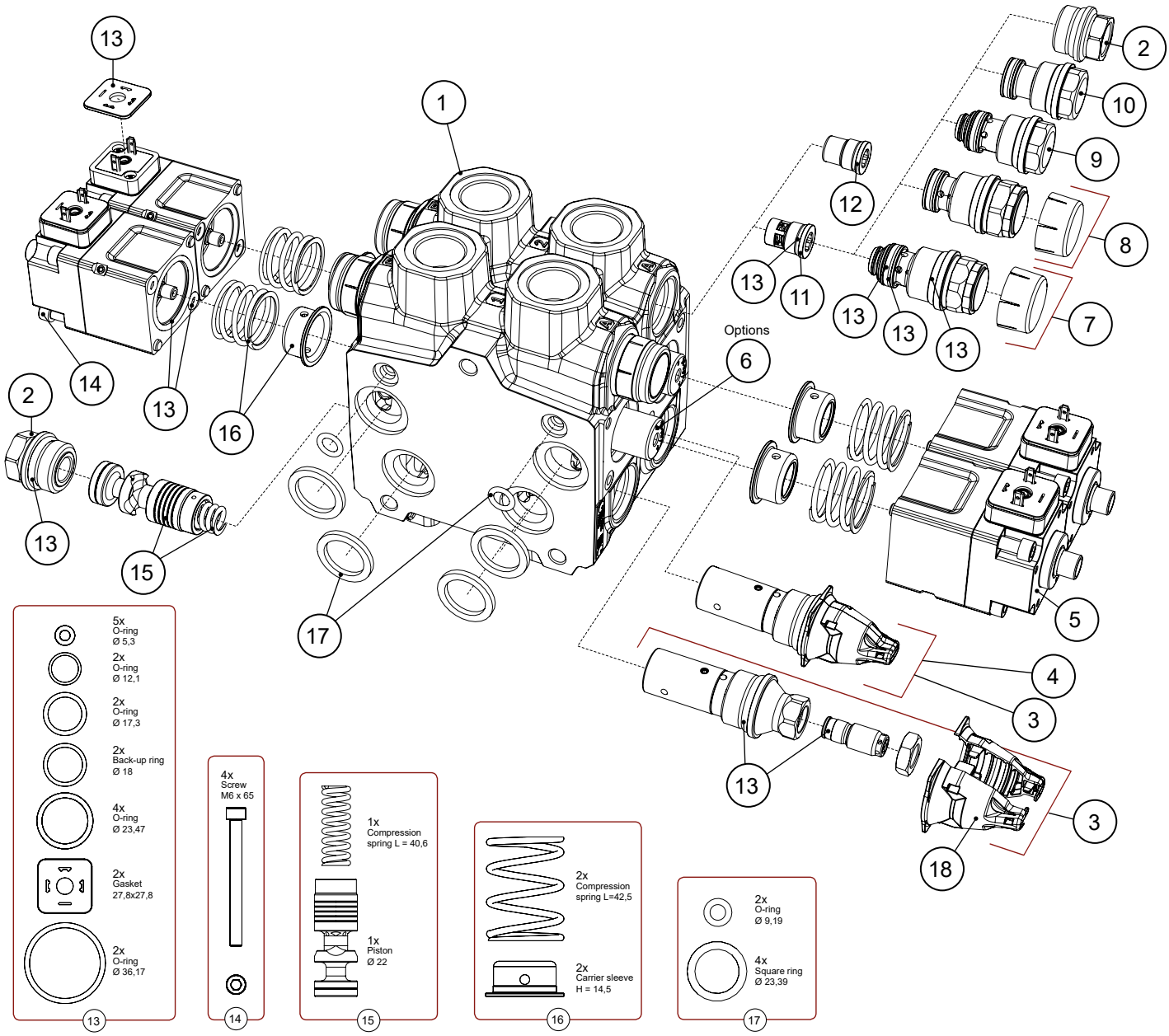


** = some parts of the kit is not needed

Pos.	Part no.	Description	Note
1	V32xxx	Valve Q200 Manual, complete	Available in 2-,3-,4-,6-,7-,8-section blocks
2	V0741	Plug TK G 3/4", complete	Incl. o-ring
3	V0750	Signal relief valve with shuttle	For last section, see valve specification
4	V0751	Signal relief valve without shuttle	For last section, see valve specification
5	V2121	Cover plate V	
6	P0181	Cover V, complete	Incl. o-rings
7	V2120	Bolt, manual	
8	V32xxx	Spool xxxx-Man xx-xx-xx-xx, Q-serie	See valve specification and page 42 - 51
9	V9007	Screw package Man	Consumption: 1 kit per valve section
10	V9008	Spring guide package spool	Consumption: 1 kit per valve section
11	V9005	Spring set x6 white	Consumption: 1 kit per 6 valve sections
12	V9046	Spring set x6 blue	Consumption: 1 kit per 6 valve sections
13	V9002	Pressure compensator Q	Consumption: 1 kit per valve section
14	V9001	Sealing package TV1	Consumption: 1 kit per valve section**
15	V2468	Sealing kit spool	Consumption: 1 kit per valve section
16	S1102	Sealing kit spool	Consumption: 1 kit per valve section
17	V2541	Sealing kit spool	Consumption: 1 kit per valve section
18	V2454	Seal kit	Consumption: 2 kits per valve
19	-	Console	See options on page 70
20	V2589GR	Closure sealing, grey	Consumption: 1 pcs per signal relief valve

Valve Q300 EI-P8

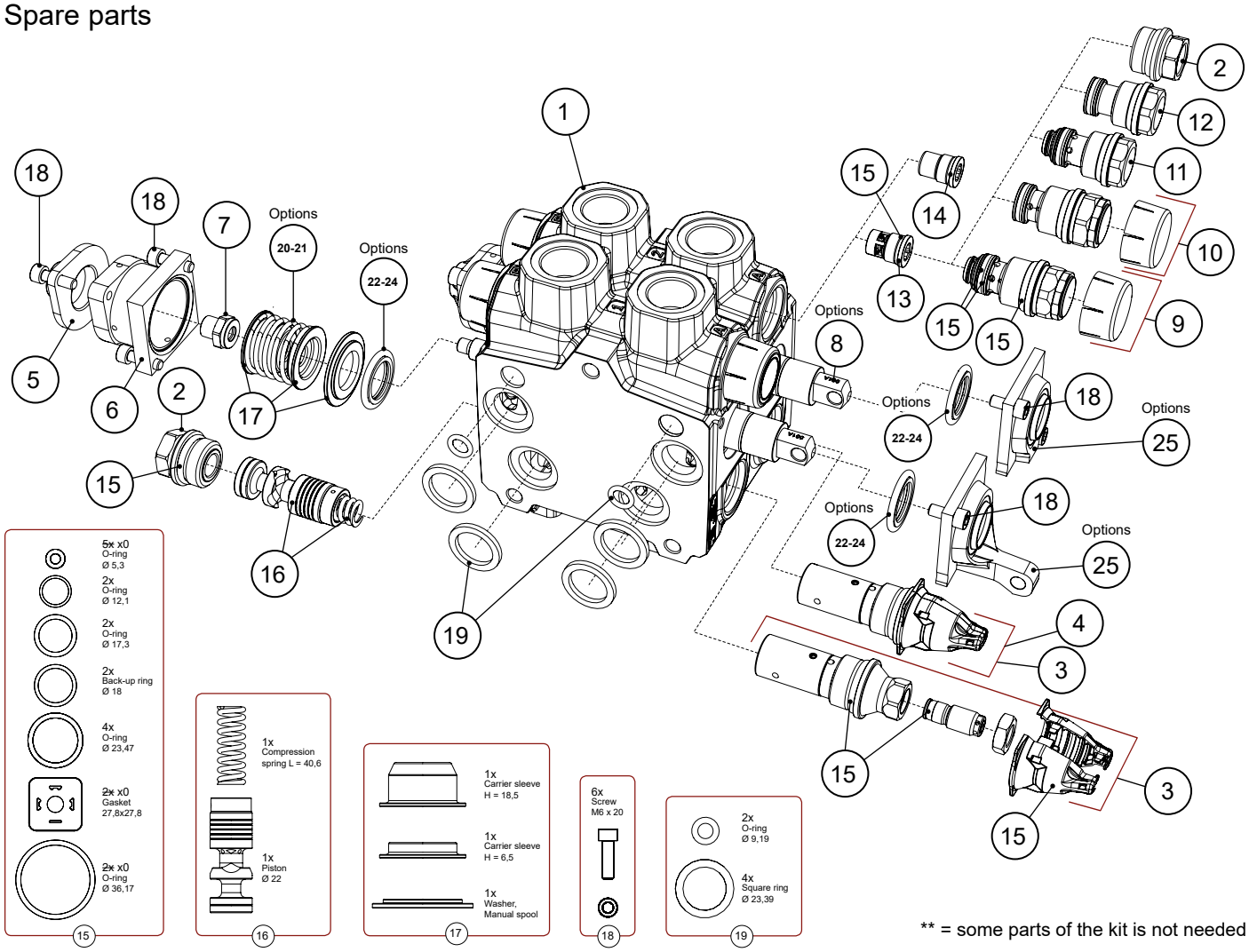
Spare parts



Pos.	Part no.	Description	Note
1	V33xx	Valve Q300 EI-P8, complete	Available in 2-,3-,4-,6-section blocks
2	V0741	Plug TK G 3/4”, complete	Incl. o-ring
3	V0750	Signal relief valve complete with shuttle valve	For last section, see valve specification
4	V0751	Signal relief valve complete without shuttle valve	For last section, see valve specification
5	0423	Positioner P8, complete	See page 66
6	V31xxx	Spool xxx-P8 xx-xx-xx-xx, Q-serie	See valve specification and page 52 - 61
7	V5xxxC	Shock valve xx MPa model C	See valve specification and page 40
8	V5xxxD	Shock valve xx MPa model D	See valve specification and page 41
9	V2455	Plug E, complete	
10	V2456	Plug P, complete	
11	V2436	Check valve Q300 complete	
12	V2438	Plug BV, complete	
13	V9004	Sealing package TV2	Consumption: 1 kit per valve section
14	V9006	Screw package P8/H8	Consumption: 1 kit per valve section
15	V9002	Pressure compensator Q	Consumption: 1 kit per valve section
16	V9000	Centering kit spool P8	Consumption: 1 kit per valve section
17	V2454	Seal kit	Consumption: 2 kits per valve
18	V2589GR	Closure sealing, grey	Consumption: 1 pcs per signal relief valve

Valve Q300 Manual

Spare parts

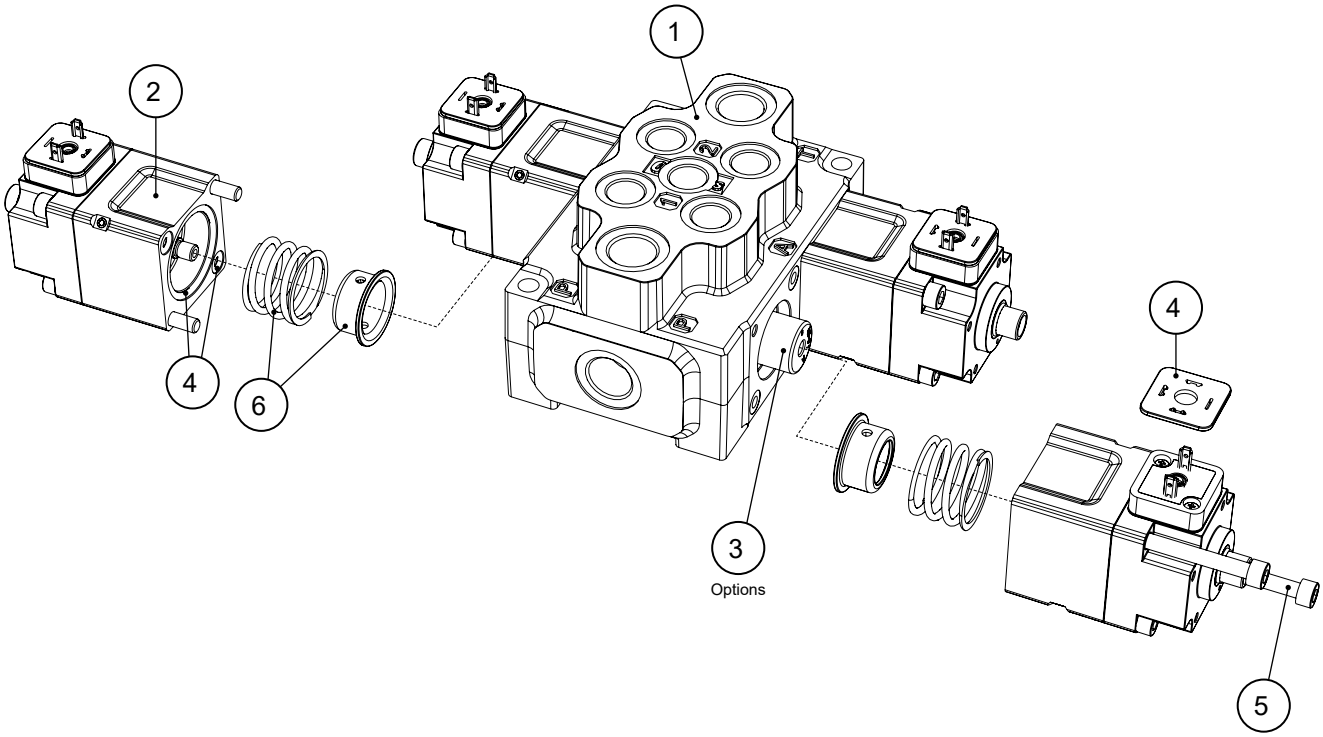


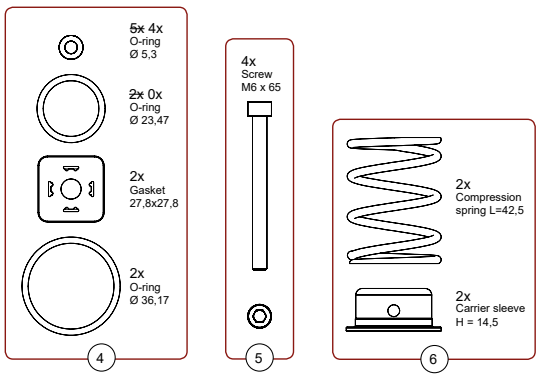
** = some parts of the kit is not needed

Pos.	Part no.	Description	Note
1	V33xxx	Valve Q300 Manual, complete	Available in 2-,3-,4-,6-section blocks
2	V0741	Plug TK G 3/4", complete	Incl. o-ring
3	V0750	Signal relief valve complete with shuttle valve	For last section, see valve specification
4	V0751	Signal relief valve complete without shuttle valve	For last section, see valve specification
5	V2121	Cover plate V	
6	P0181	Cover V, complete	Incl. o-rings
7	V2120	Bolt, manual	
8	V32xxx	Spool xxxx-Man xx-xx-xx-xx, Q-serie	See valve specification and page 42 - 51
9	V5xxxC	Shock valve xx MPa model C	See valve specification and page 40
10	V5xxxD	Shock valve xx MPa model D	See valve specification and page 41
11	V2455	Plug E, complete	
12	V2456	Plug P, complete	
13	V2436	Check valve Q300 complete	
14	V2438	Plug BV, complete	
15	V9004	Sealing package TV2	Consumption: 1 kit per valve section**
16	V9002	Pressure compensator Q	Consumption: 1 kit per valve section
17	V9008	Spring guide package spool	Consumption: 1 kit per valve section
18	V9007	Screw package Man	Consumption: 1 kit per valve section
19	V2454	Seal kit	Consumption: 2 kits per valve
20	V9046	Spring set x6 blue	Consumption: 1 kit per 6 valve sections
21	V9005	Spring set x6 white	Consumption: 1 kit per 6 valve sections
22	S1102	Sealing kit spool	Consumption: 1 kit per valve section
23	V2541	Sealing kit spool	Consumption: 1 kit per valve section
24	V2468	Sealing kit spool	Consumption: 1 kit per valve section
25	-	Console	See options on page 70
26	V2589GR	Closure sealing, grey	Consumption: 1 pcs per signal relief valve

Valve Pv98 EI-P8

Spare parts



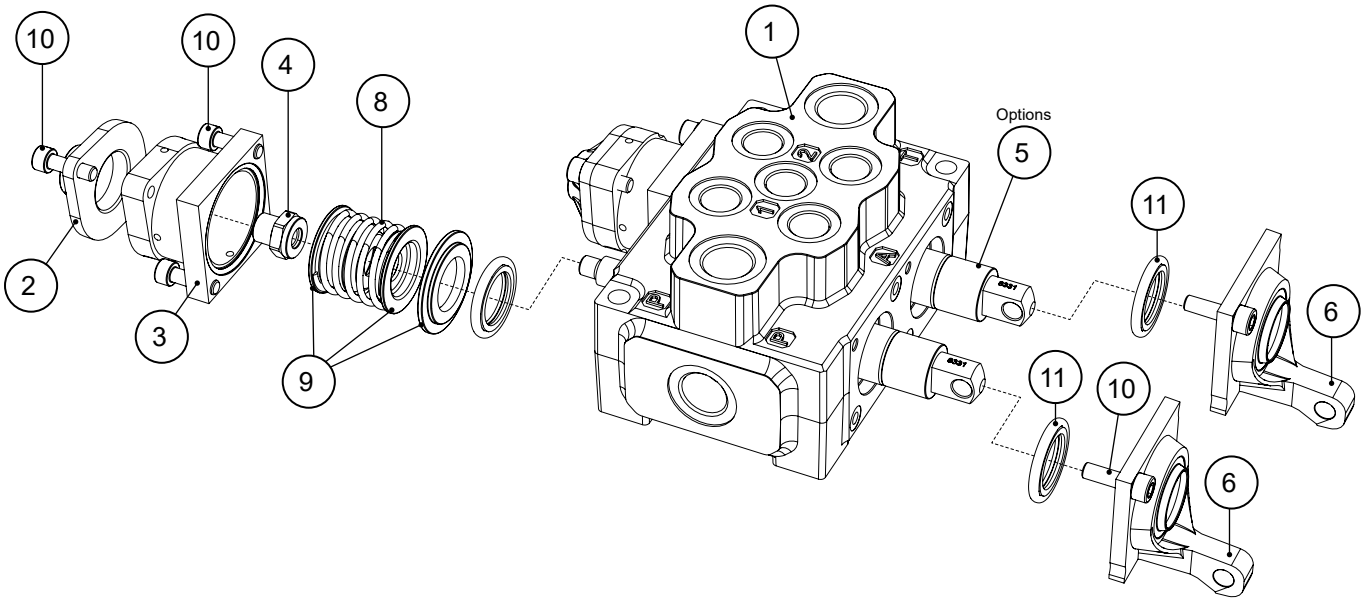


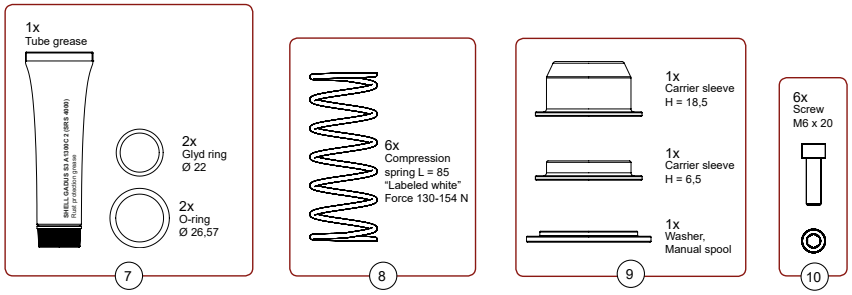
** = some parts of the kit is not needed

Pos.	Part no.	Description	Note
1	98xxx	Valve Pv98 EI-P8, complete	Available in 2- and 4-section blocks
2	0423	Positioner P8, complete	See page 66
3	V46xx	Spool xx xx-xx-xx-xx, Pv98 P8	See valve specification and page 64-65
4	V9001	Sealing package TV1	Consumption: 1 kit per valve section**
5	V9006	Screw package P8/H8	Consumption: 1 kit per valve section
6	V9000	Centering kit spool P8	Consumption: 1 kit per valve section

Valve Pv98 Manual

Spare parts

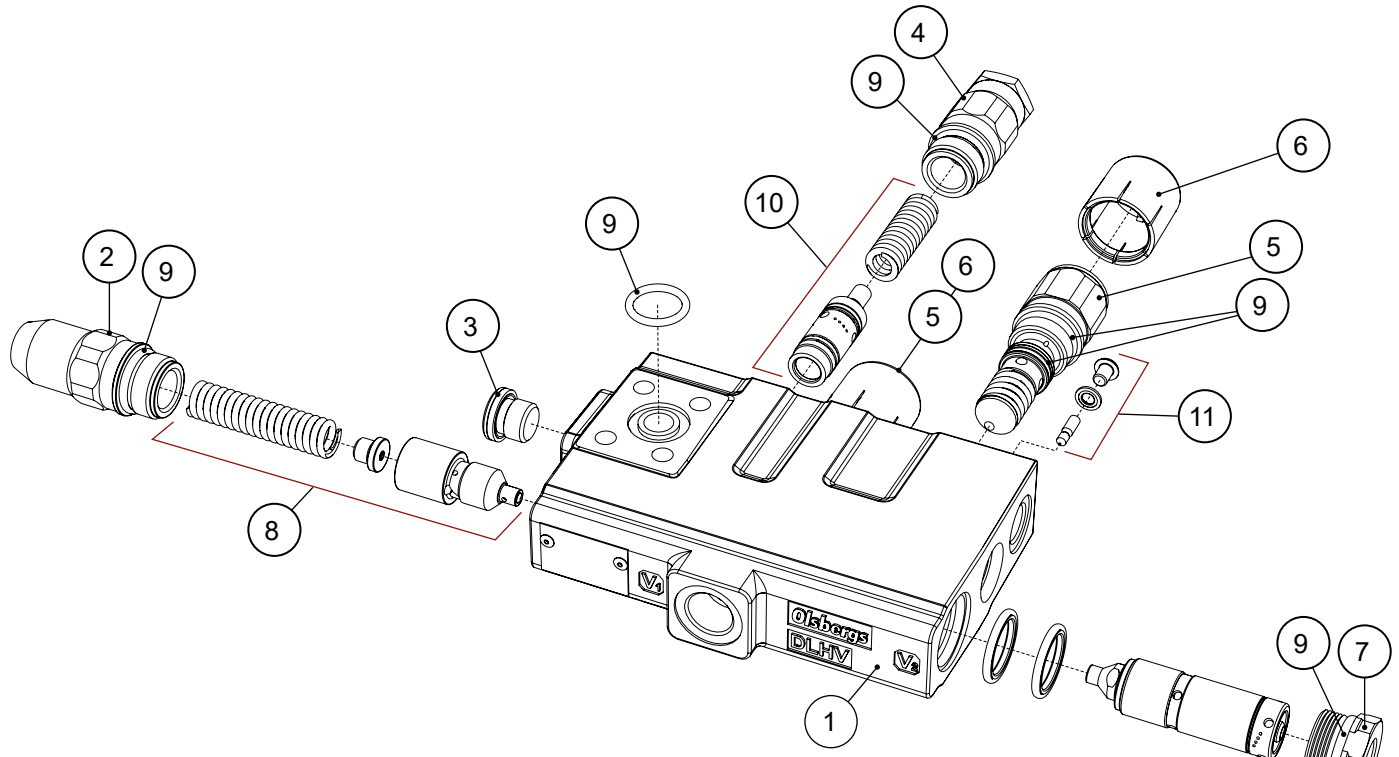


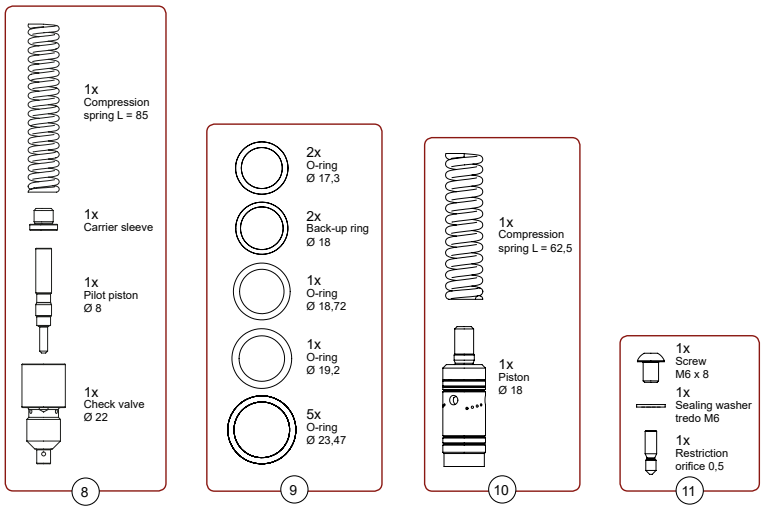


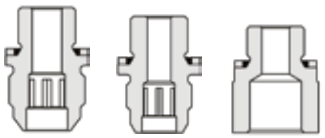
Pos.	Part no.	Description	Note
1	98xx	Valve Pv98 Manual, complete	Available in 2- and 4-section blocks
2	V2121	Cover plate V	
3	P0181	Cover V, complete	Incl. o-rings
4	V2120	Bolt, manual	
5	V47xx	Spool xxxx x-xx-xx-x Pv98	See valve specification and page 62-63
6	V2113	Console with connection (red scraper), complete	
7	S1102	Sealing kit spool	Consumption: 1 kit per valve section
8	V9005	Spring set x6 white	Consumption: 1 kit per 6 valve sections
9	V9008	Spring guide package spool	Consumption: 1 kit per valve section
10	V9007	Screw package Man	Consumption: 1 kit per valve section

Load holding valve DLHV-CC

Spare parts



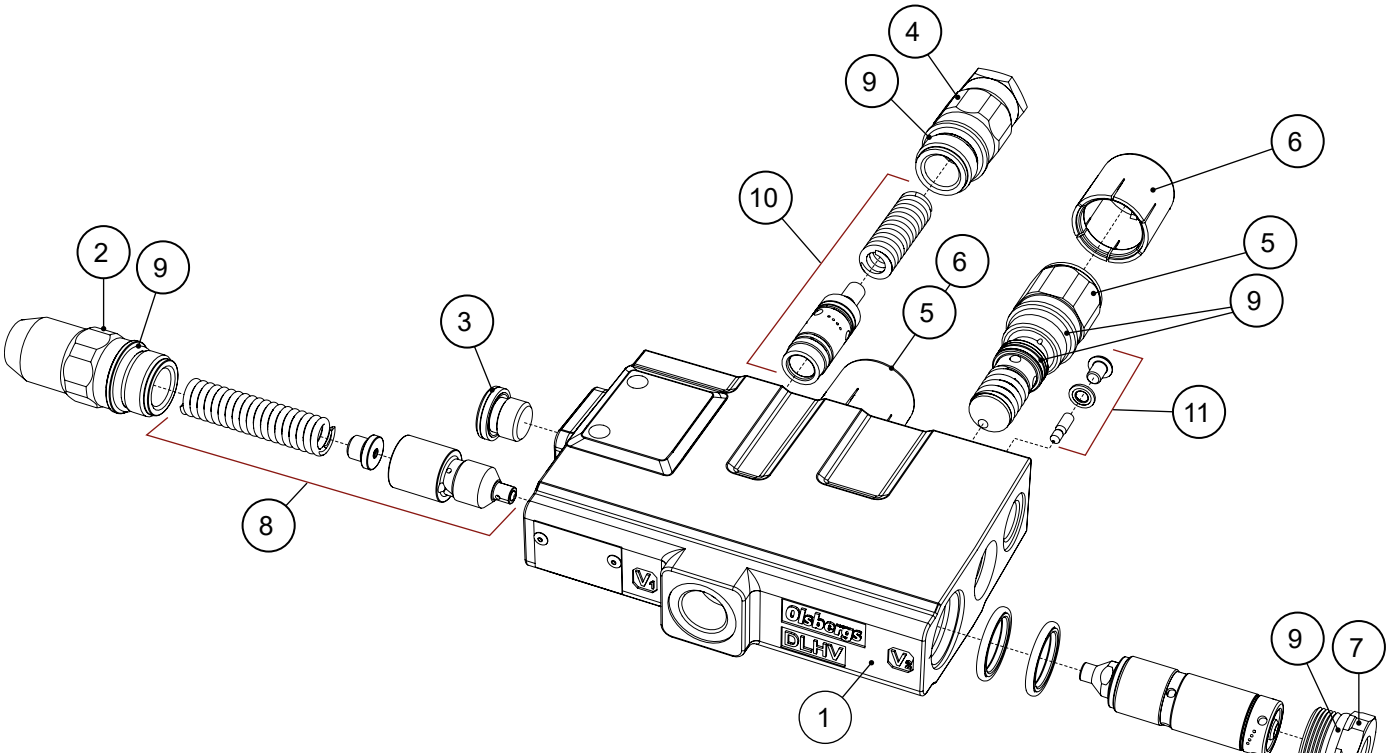


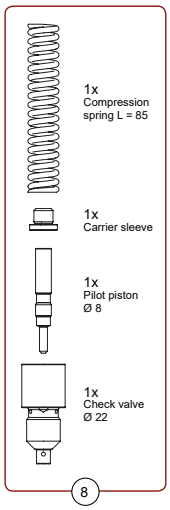


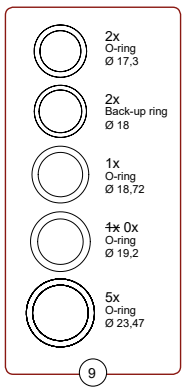
Pos.	Part no.	Description	Note
1	xxxx	Load holding valve DLHV-CC, complete	
2	V2078	Spring housing, complete	Incl. o-ring
3	S3029	Plug G 3/8”	Incl. sealing washer
4	V0951	Adj. screw pressure red., complete	Incl. o-ring
5	V1xxxA	Shock valve xx MPa model A	See page 37
6	V2271GR	Plastic cap grey, shock valve	Replaces factory fitted cap
7	V2291	Adapter R3/4”- R 3/8”, complete	Incl. o-ring
8	V9013	Check valve kit DLHV	Consumption: 1 kit per valve
9	V9009	Sealing package DLHV	Consumption: 1 kit per valve
10	V9012	Pressure reducing piston DLHV	Consumption: 1 kit per valve
11	V9010	Restriction orifice Ø0.5 DLHV	Consumption: 1 kit per valve
12	V2267	Adapter R3/8” - UNF 7/8”, complete	Incl. sealing washer tredo 3/8”
13	V2282	Adapter R3/8” - UNF 3/4”, complete	Incl. sealing washer tredo 3/8”
14	V2299	Adapter R3/8” - R3/8”, complete	Incl. sealing washer tredo 3/8”

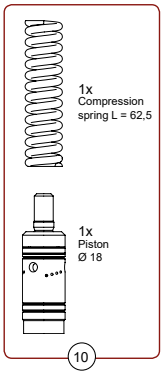
Load holding valve DLHV-PC

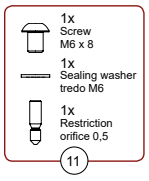
Spare parts

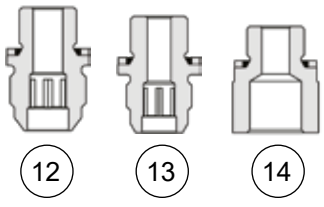










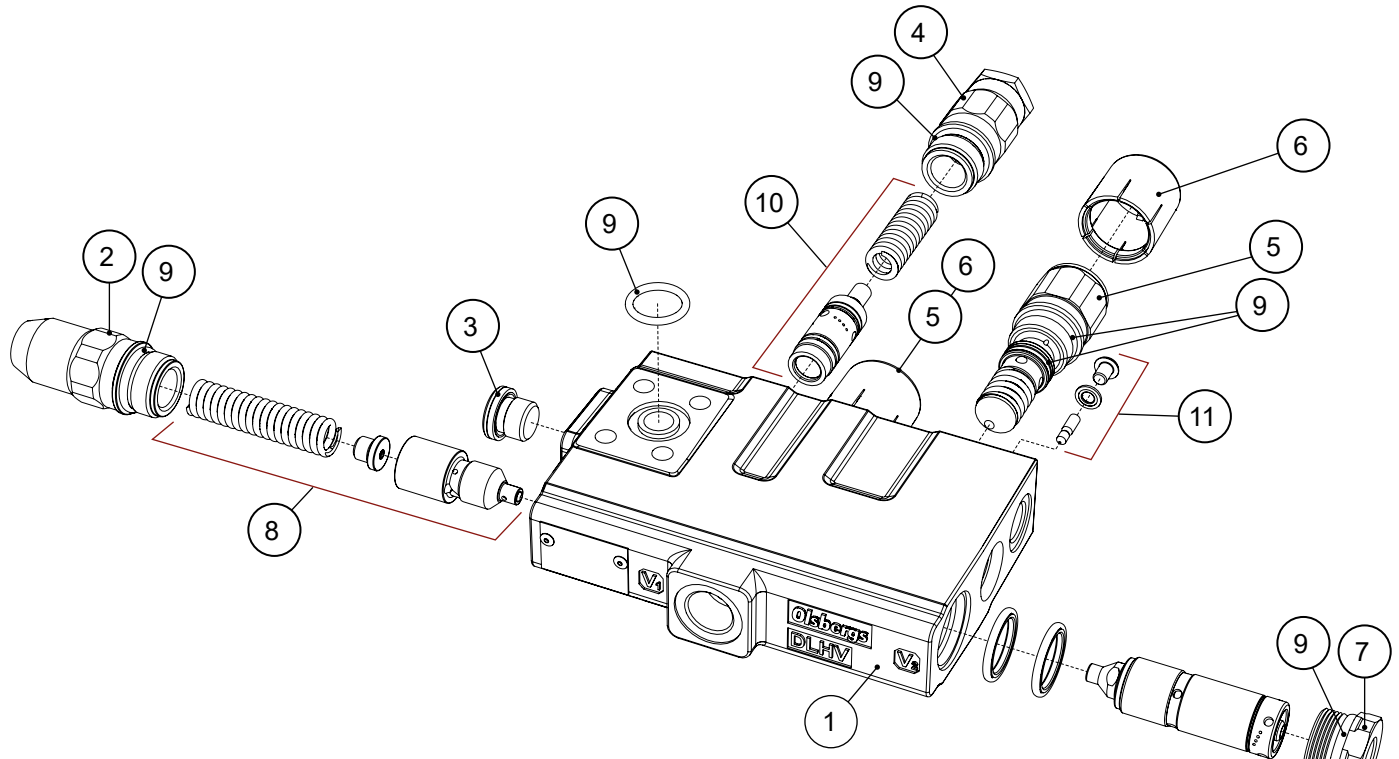


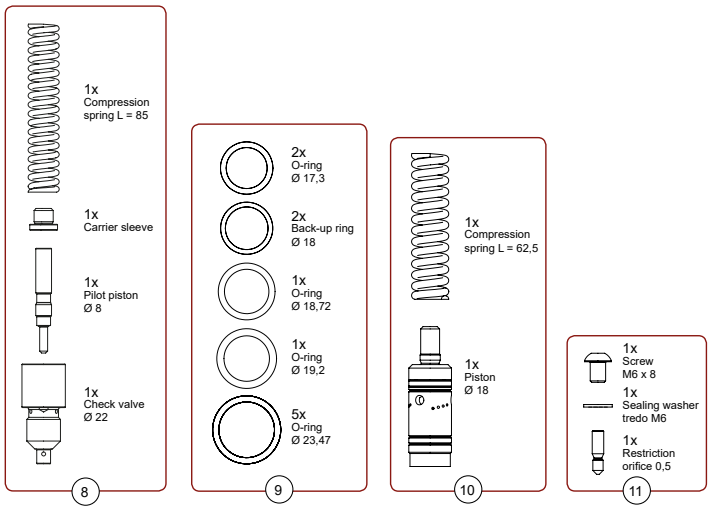
** = some parts of the kit is not needed

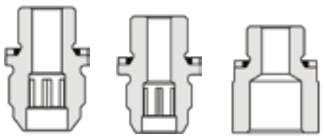
Pos.	Part no.	Description	Note
1	xxxx	Load holding valve DLHV-PC, complete	
2	V2078	Spring housing, complete	Incl. o-ring
3	S3029	Plug G 3/8”	Incl. sealing washer
4	V0951	Adj. screw pressure red., complete	Incl. o-ring
5	V1xxxA	Shock valve xx MPa model A	See page 37
6	V2271GR	Plastic cap grey, shock valve	Replaces factory fitted cap
7	V2291	Adapter R3/4”- R 3/8”, complete	Incl. o-ring
8	V9013	Check valve kit DLHV	Consumption: 1 kit per valve
9	V9009	Sealing package DLHV	Consumption: 1 kit per valve**
10	V9012	Pressure reducing piston DLHV	Consumption: 1 kit per valve
11	V9010	Restriction orifice Ø0.5 DLHV	Consumption: 1 kit per valve
12	V2267	Adapter R3/8” - UNF 7/8”, complete	Incl. sealing washer tredo 3/8”
13	V2282	Adapter R3/8” - UNF 3/4”, complete	Incl. sealing washer tredo 3/8”
14	V2299	Adapter R3/8” - R3/8”, complete	Incl. sealing washer tredo 3/8”

Load holding valve DLHV-CC Type K

Spare parts



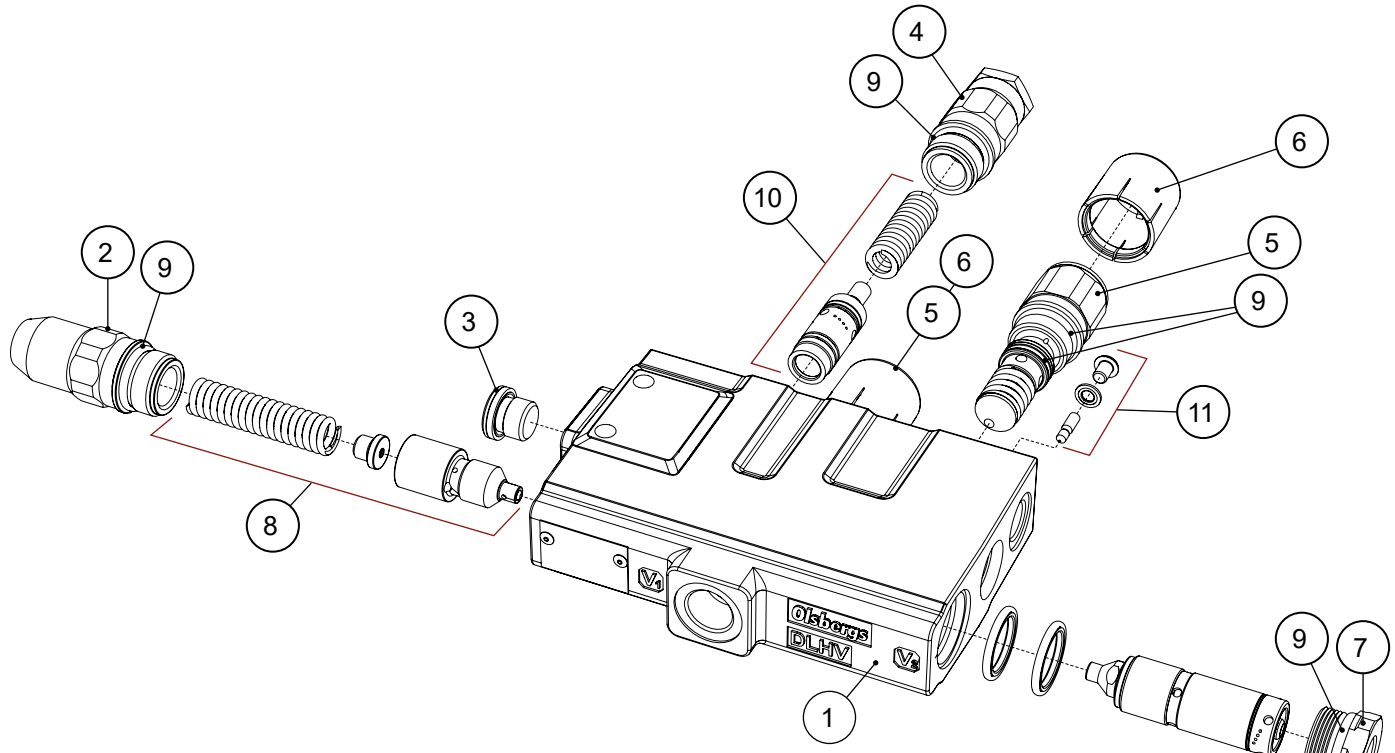


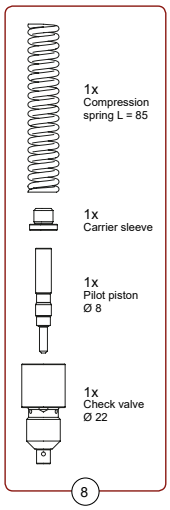


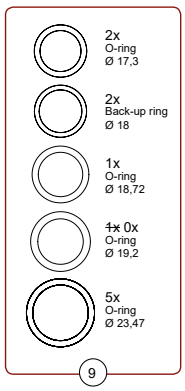
Pos.	Part no.	Description	Note
1	xxxxK	Load holding valve DLHV-CC Type K, complete	
2	V2078	Spring housing, complete	Incl. o-ring
3	S3029	Plug G 3/8”	Incl. sealing washer
4	V0951	Adj. screw pressure red., complete	Incl. o-ring
5	V1xxxAK	Shock valve xx MPa model AK	See page 38
6	V2271GR	Plastic cap grey, shock valve	Replaces factory fitted cap
7	V2291	Adapter R3/4”- R 3/8”, complete	Incl. o-ring
8	V9013	Check valve kit DLHV	Consumption: 1 kit per valve
9	V9009	Sealing package DLHV	Consumption: 1 kit per valve
10	V9012	Pressure reducing piston DLHV	Consumption: 1 kit per valve
11	V9010	Restriction orifice Ø0.5 DLHV	Consumption: 1 kit per valve
12	V2267	Adapter R3/8” - UNF 7/8”, complete	Incl. sealing washer tredo 3/8”
13	V2282	Adapter R3/8” - UNF 3/4”, complete	Incl. sealing washer tredo 3/8”
14	V2299	Adapter R3/8” - R3/8”, complete	Incl. sealing washer tredo 3/8”

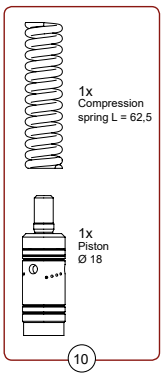
Load holding valve DLHV-PC Type K

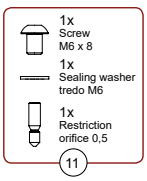
Spare parts

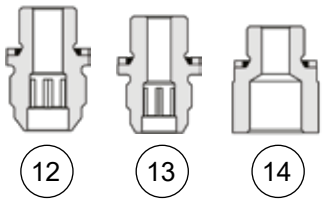










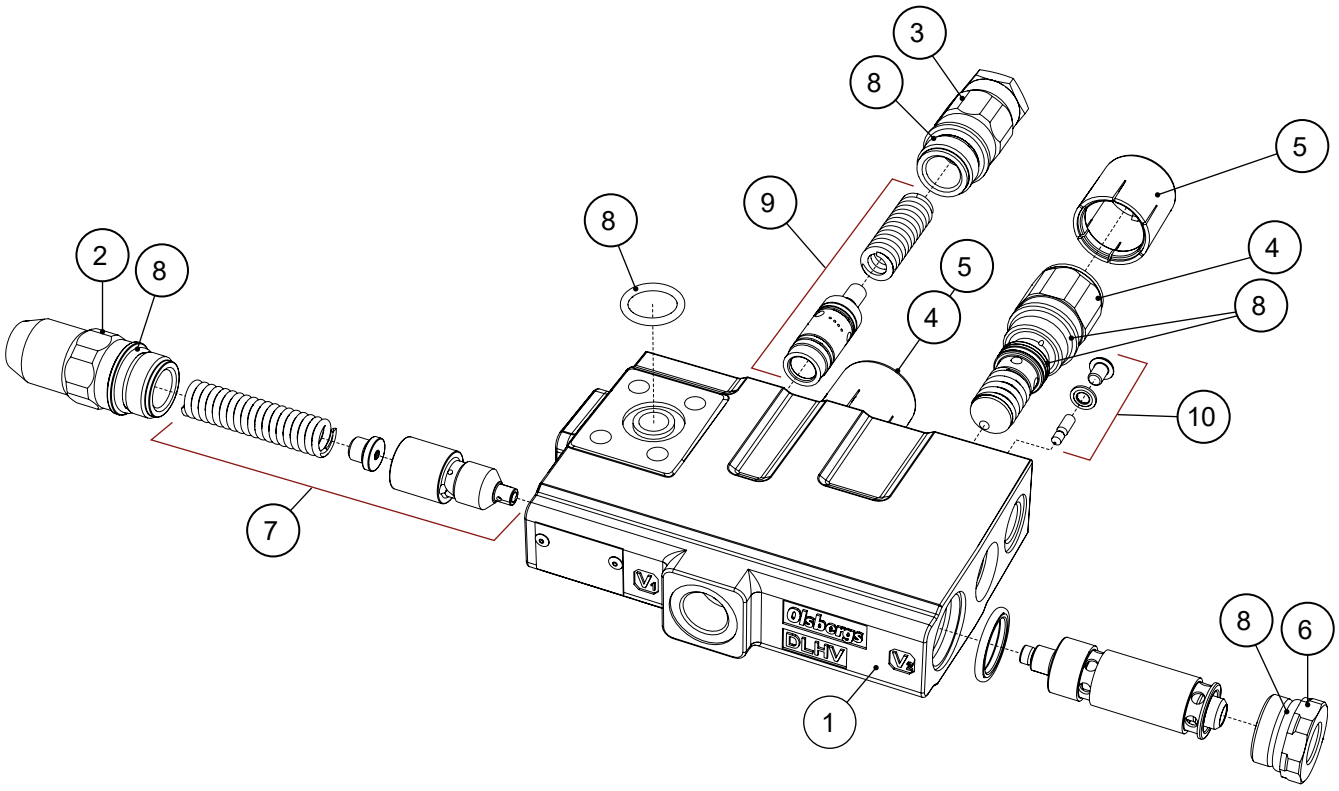


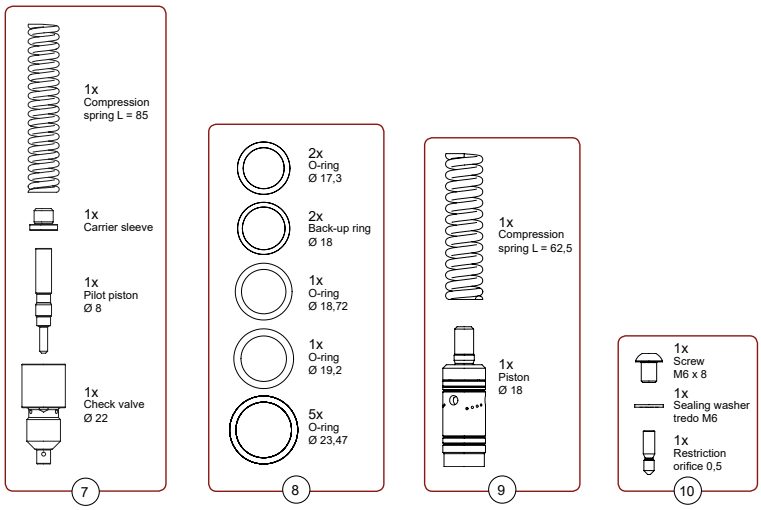
** = some parts of the kit is not needed

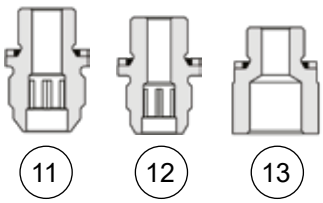
Pos.	Part no.	Description	Note
1	xxxxK	Load holding valve DLHV-PC Type K, complete	
2	V2078	Spring housing, complete	Incl. o-ring
3	S3029	Plug G 3/8”	Incl. sealing washer
4	V0951	Adj. screw pressure red., complete	Incl. o-ring
5	V1xxxAK	Shock valve xx MPa model AK	See page 38
6	V2271GR	Plastic cap grey, shock valve	Replaces factory fitted cap
7	V2291	Adapter R3/4”- R 3/8”, complete	Incl. o-ring
8	V9013	Check valve kit DLHV	Consumption: 1 kit per valve
9	V9009	Sealing package DLHV	Consumption: 1 kit per valve**
10	V9012	Pressure reducing piston DLHV	Consumption: 1 kit per valve
11	V9010	Restriction orifice Ø0.5 DLHV	Consumption: 1 kit per valve
12	V2267	Adapter R3/8” - UNF 7/8”, complete	Incl. sealing washer tredo 3/8”
13	V2282	Adapter R3/8” - UNF 3/4”, complete	Incl. sealing washer tredo 3/8”
14	V2299	Adapter R3/8” - R3/8”, complete	Incl. sealing washer tredo 3/8”

Load holding valve DLHV-CC Type S

Spare parts



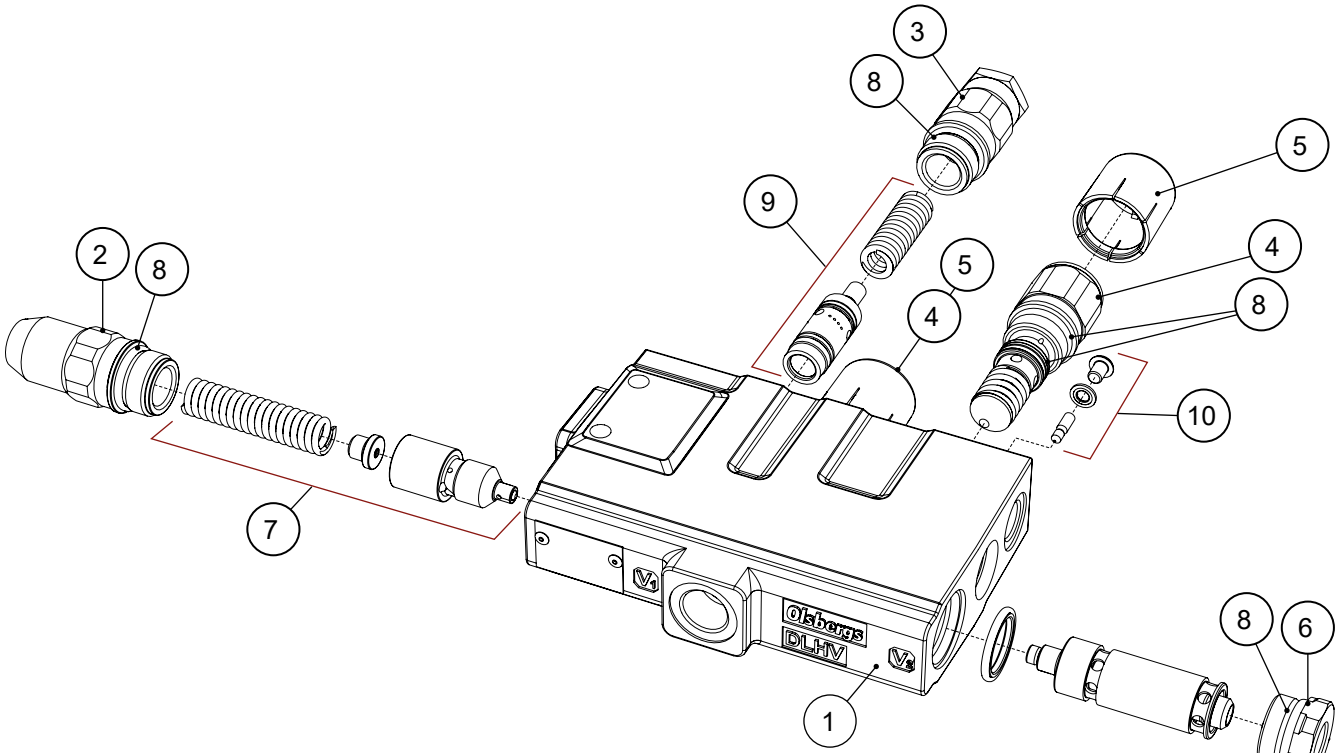


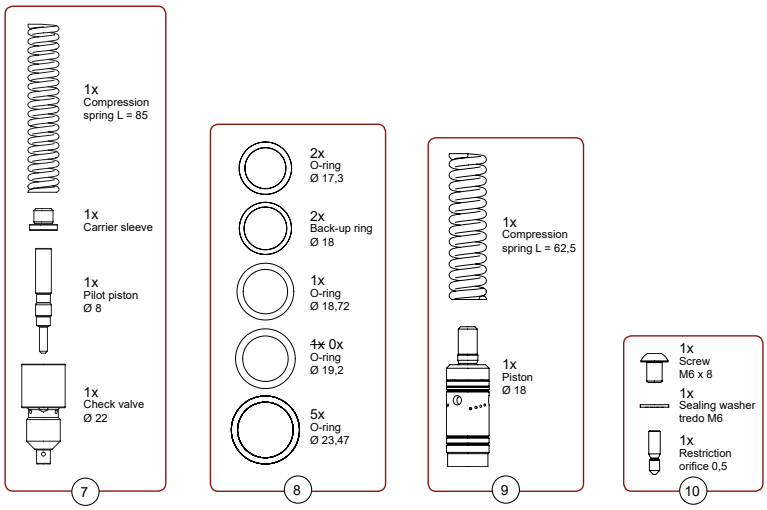


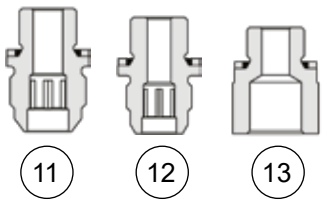
Pos.	Part no.	Description	Note
1	xxxxS	Load holding valve DLHV-CC type S, complete	
2	V2078	Spring housing, complete	Incl. o-ring
3	V0951	Adj. screw pressure red., complete	Incl. o-ring
4	V1xxxA	Shock valve xx MPa model A	See page 37
5	V2271GR	Plastic cap grey, shock valve	Replaces factory fitted cap
6	V2291	Adapter R3/4”- R 3/8”, complete	Incl. o-ring
7	V9013	Check valve kit DLHV	Consumption: 1 kit per valve
8	V9009	Sealing package DLHV	Consumption: 1 kit per valve
9	V9012	Pressure reducing piston DLHV	Consumption: 1 kit per valve
10	V9010	Restriction orifice Ø0.5 DLHV	Consumption: 1 kit per valve
11	V2267	Adapter R3/8” - UNF 7/8”, complete	Incl. sealing washer tredo 3/8”
12	V2282	Adapter R3/8” - UNF 3/4”, complete	Incl. sealing washer tredo 3/8”
13	V2299	Adapter R3/8” - R3/8”, complete	Incl. sealing washer tredo 3/8”

Load holding valve DLHV-PC Type S

Spare parts





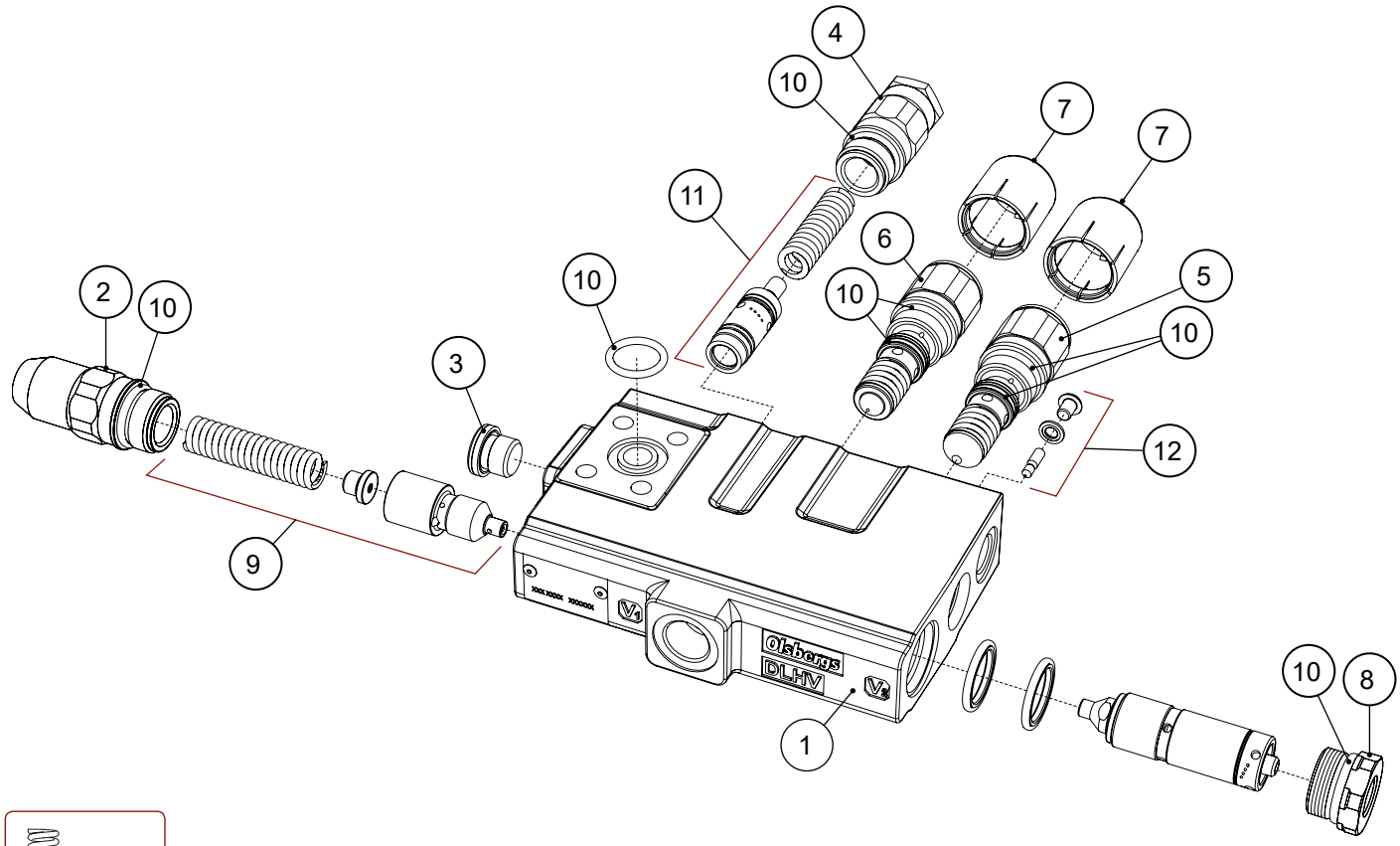


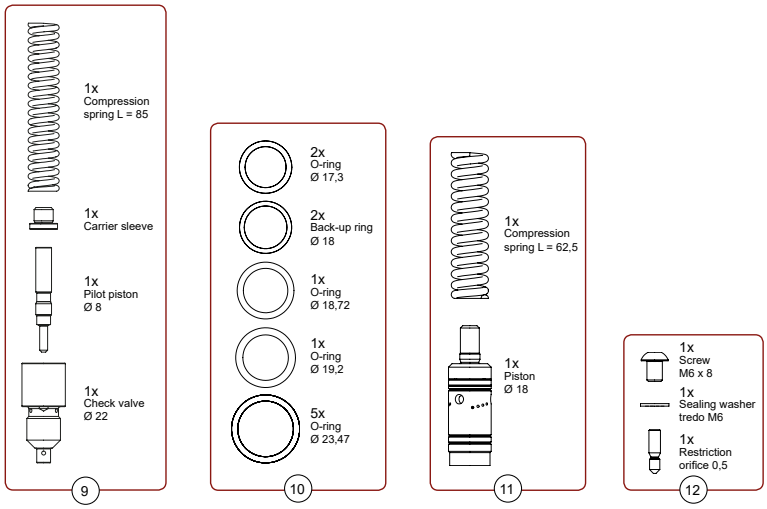
** = some parts of the kit is not needed

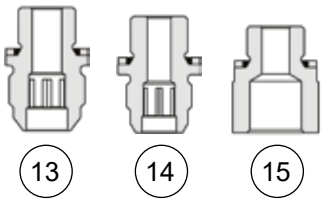
Pos.	Part no.	Description	Note
1	xxxxS	Load holding valve DLHV-PC type S, complete	
2	V2078	Spring housing, complete	Incl. o-ring
3	V0951	Adj. screw pressure red., complete	Incl. o-ring
4	V1xxxA	Shock valve xx MPa model A	See page 37
5	V2271GR	Plastic cap grey, shock valve	Replaces factory fitted cap
6	V2291	Adapter R3/4”- R 3/8”, complete	Incl. o-ring
7	V9013	Check valve kit DLHV	Consumption: 1 kit per valve
8	V9009	Sealing package DLHV	Consumption: 1 kit per valve**
9	V9012	Pressure reducing piston DLHV	Consumption: 1 kit per valve
10	V9010	Restriction orifice Ø0.5 DLHV	Consumption: 1 kit per valve
11	V2267	Adapter R3/8” - UNF 7/8”, complete	Incl. sealing washer tredo 3/8”
12	V2282	Adapter R3/8” - UNF 3/4”, complete	Incl. sealing washer tredo 3/8”
13	V2299	Adapter R3/8” - R3/8”, complete	Incl. sealing washer tredo 3/8”

Load holding valve DLHV-CC Type NLZ

Spare parts



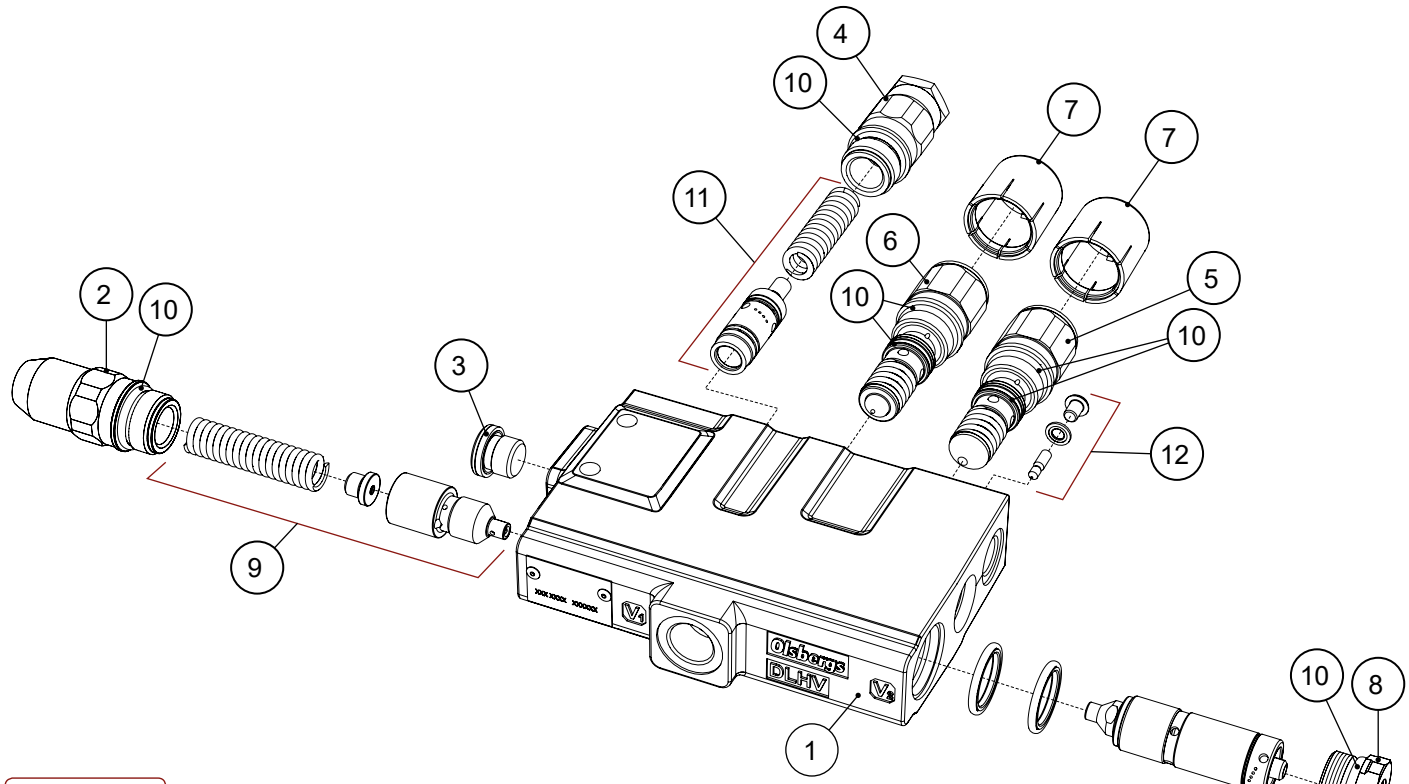


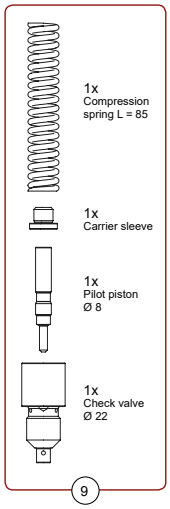


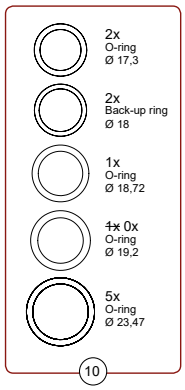
Pos.	Part no.	Description	Note
1	xxxxZ	Load holding valve DLHV-CC type NLZ, complete	
2	V2078	Spring housing, complete	Incl. o-ring
3	S3029	Plug G 3/8”	Incl. sealing washer
4	V0951	Adj. screw pressure red., complete	Incl. o-ring
5	V1xxxA	Shock valve xx MPa model A	See page 37
6	V1xxxAZ	Shock valve xx MPa model AZ	See page 39
7	V2271GR	Plastic cap grey, shock valve	Replaces factory fitted cap
8	V2291	Adapter R3/4”- R 3/8”, complete	Incl. o-ring
9	V9013	Check valve kit DLHV	Consumption: 1 kit per valve
10	V9009	Sealing package DLHV	Consumption: 1 kit per valve
11	V9012	Pressure reducing piston DLHV	Consumption: 1 kit per valve
12	V9010	Restriction orifice Ø0.5 DLHV	Consumption: 1 kit per valve
13	V2267	Adapter R3/8” - UNF 7/8”, complete	Incl. sealing washer tredo 3/8”
14	V2282	Adapter R3/8” - UNF 3/4”, complete	Incl. sealing washer tredo 3/8”
15	V2299	Adapter R3/8” - R3/8”, complete	Incl. sealing washer tredo 3/8”

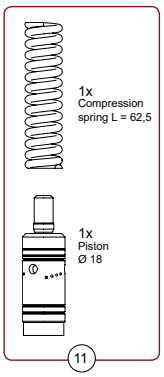
Load holding valve DLHV-PC Type NLZ

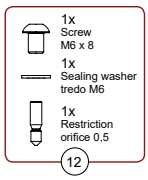
Spare parts

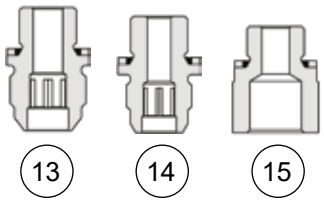










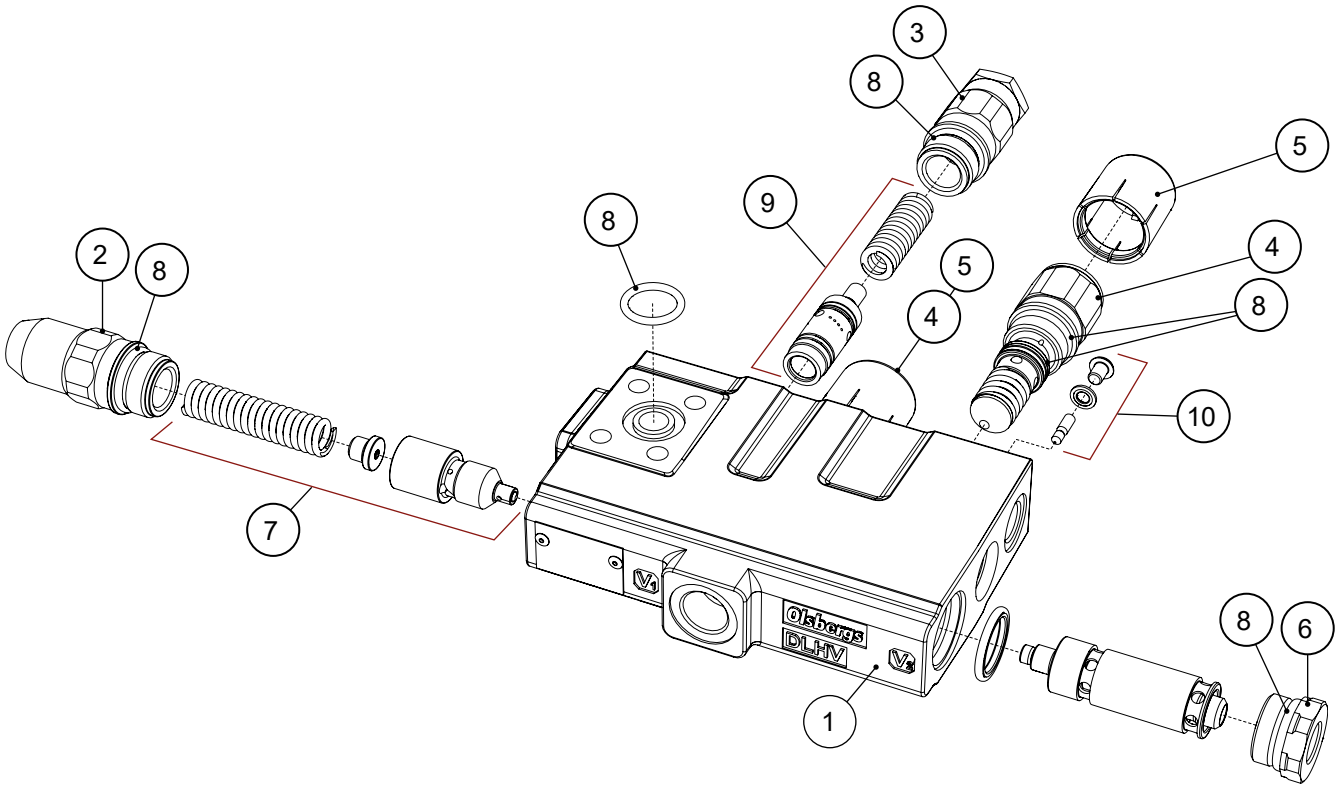


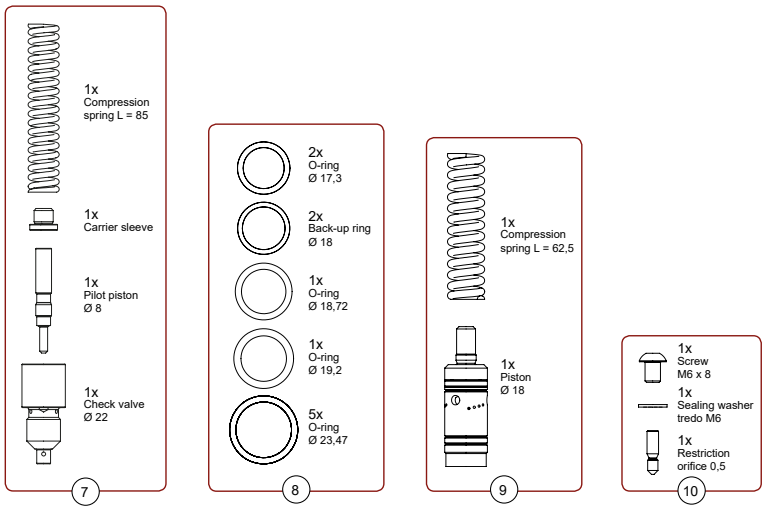
** = some parts of the kit is not needed

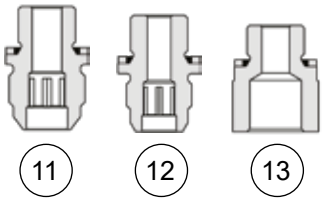
Pos.	Part no.	Description	Note
1	xxxxZ	Load holding valve DLHV-PC type NLZ, complete	
2	V2078	Spring housing, complete	Incl. o-ring
3	S3029	Plug G 3/8”	Incl. sealing washer
4	V0951	Adj. screw pressure red., complete	Incl. o-ring
5	V1xxxA	Shock valve xx MPa model A	See page 37
6	V1xxxAZ	Shock valve xx MPa model AZ	See page 39
7	V2271GR	Plastic cap grey, shock valve	Replaces factory fitted cap
8	V2291	Adapter R3/4”- R 3/8”, complete	Incl. o-ring
9	V9013	Check valve kit DLHV	Consumption: 1 kit per valve
10	V9009	Sealing package DLHV	Consumption: 1 kit per valve**
11	V9012	Pressure reducing piston DLHV	Consumption: 1 kit per valve
12	V9010	Restriction orifice Ø0.5 DLHV	Consumption: 1 kit per valve
13	V2267	Adapter R3/8” - UNF 7/8”, complete	Incl. sealing washer tredo 3/8”
14	V2282	Adapter R3/8” - UNF 3/4”, complete	Incl. sealing washer tredo 3/8”
15	V2299	Adapter R3/8” - R3/8”, complete	Incl. sealing washer tredo 3/8”

Load holding valve DLHV-CC Type SK

Spare parts



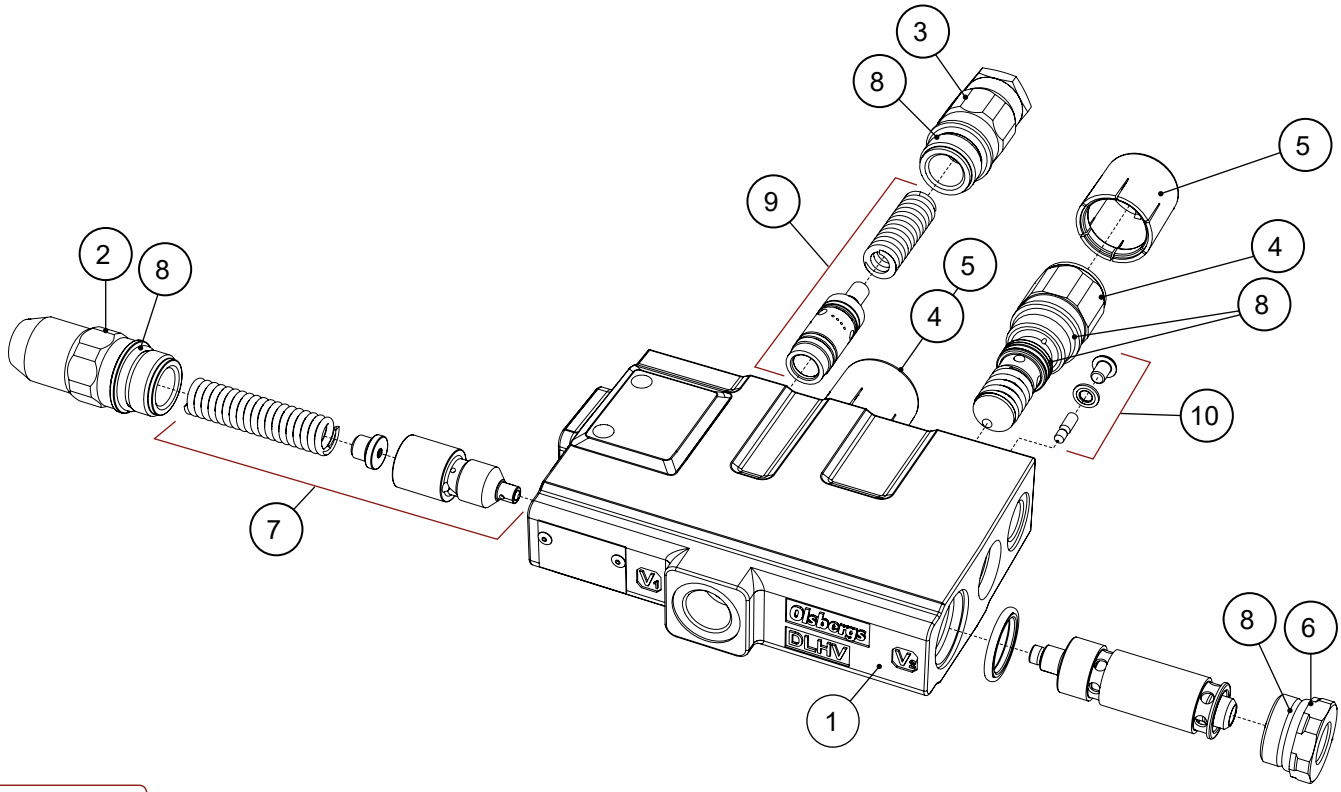


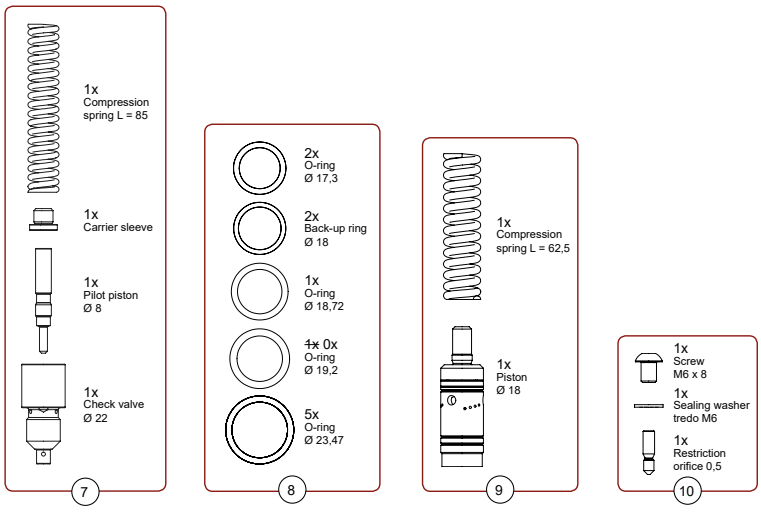


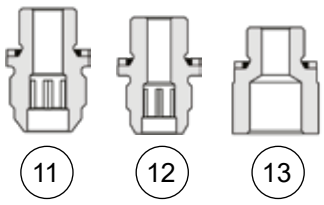
Pos.	Part no.	Description	Note
1	xxxxSK	Load holding valve DLHV-CC type SK, complete	
2	V2078	Spring housing, complete	Incl. o-ring
3	V0951	Adj. screw pressure red., complete	Incl. o-ring
4	V1xxxAK	Shock valve xx MPa model AK	See page 38
5	V2271GR	Plastic cap grey, shock valve	Replaces factory fitted cap
6	V2291	Adapter R3/4”- R 3/8”, complete	Incl. o-ring
7	V9013	Check valve kit DLHV	Consumption: 1 kit per valve
8	V9009	Sealing package DLHV	Consumption: 1 kit per valve
9	V9012	Pressure reducing piston DLHV	Consumption: 1 kit per valve
10	V9010	Restriction orifice Ø0.5 DLHV	Consumption: 1 kit per valve
11	V2267	Adapter R3/8” - UNF 7/8”, complete	Incl. sealing washer tredo 3/8”
12	V2282	Adapter R3/8” - UNF 3/4”, complete	Incl. sealing washer tredo 3/8”
13	V2299	Adapter R3/8” - R3/8”, complete	Incl. sealing washer tredo 3/8”

Load holding valve DLHV-PC Type SK

Spare parts





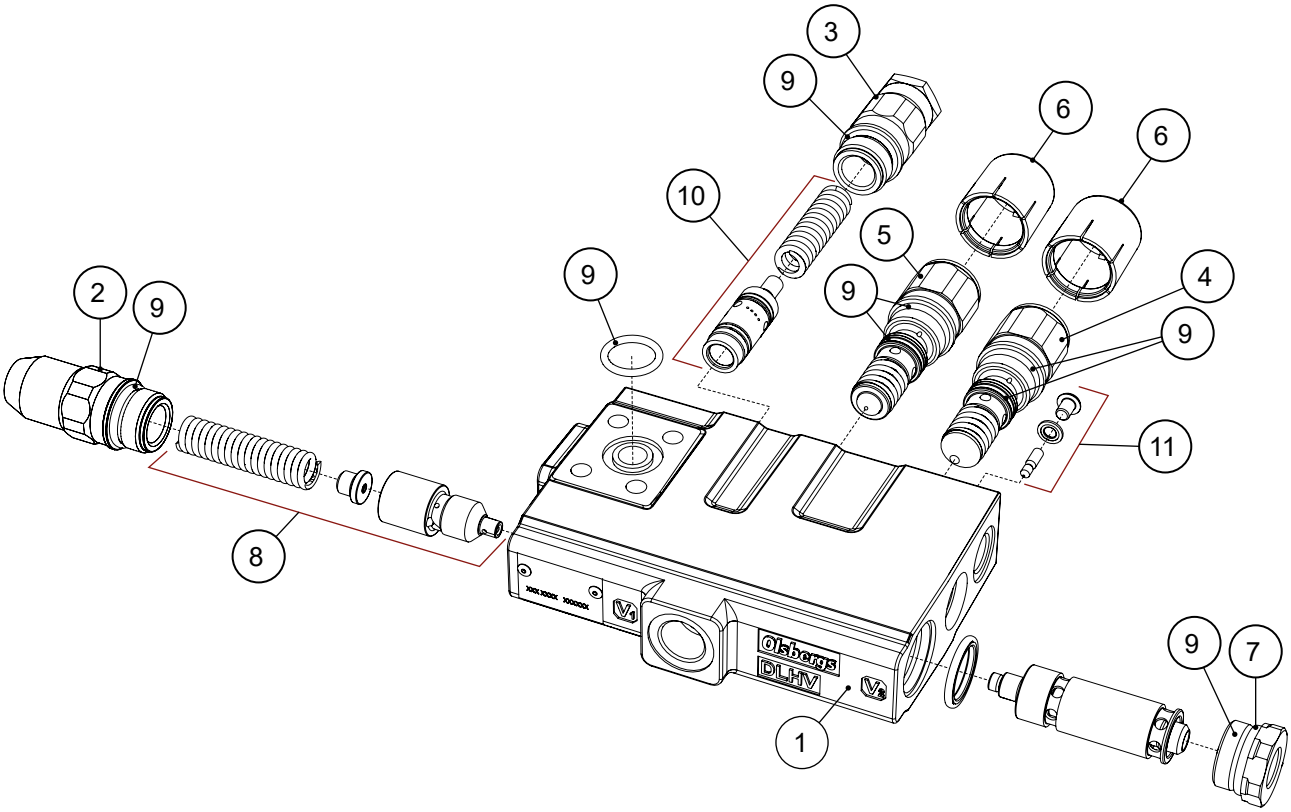


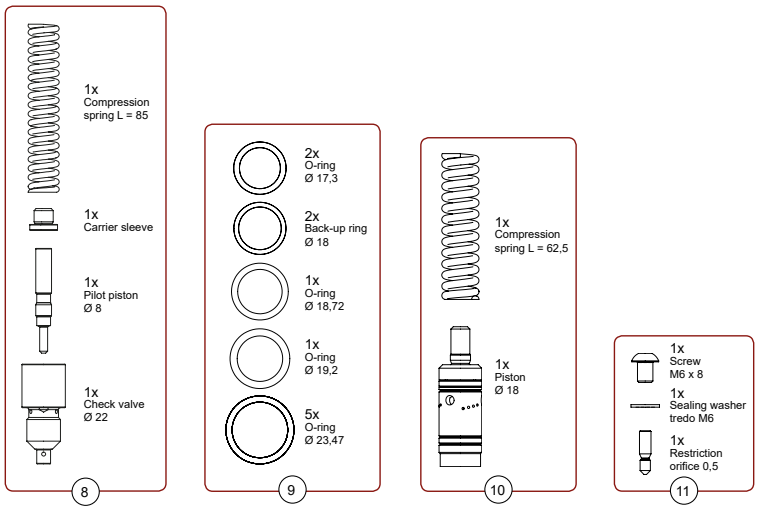
** = some parts of the kit is not needed

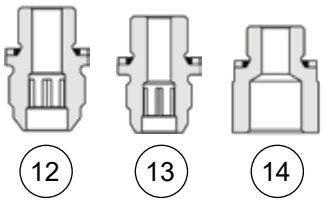
Pos.	Part no.	Description	Note
1	xxxxSK	Load holding valve DLHV-PC type SK, complete	
2	V2078	Spring housing, complete	Incl. o-ring
3	V0951	Adj. screw pressure red., complete	Incl. o-ring
4	V1xxxAK	Shock valve xx MPa model AK	See page 38
5	V2271GR	Plastic cap grey, shock valve	Replaces factory fitted cap
6	V2291	Adapter R3/4”- R 3/8”, complete	Incl. o-ring
7	V9013	Check valve kit DLHV	Consumption: 1 kit per valve
8	V9009	Sealing package DLHV	Consumption: 1 kit per valve**
9	V9012	Pressure reducing piston DLHV	Consumption: 1 kit per valve
10	V9010	Restriction orifice Ø0.5 DLHV	Consumption: 1 kit per valve
11	V2267	Adapter R3/8” - UNF 7/8”, complete	Incl. sealing washer tredo 3/8”
12	V2282	Adapter R3/8” - UNF 3/4”, complete	Incl. sealing washer tredo 3/8”
13	V2299	Adapter R3/8” - R3/8”, complete	Incl. sealing washer tredo 3/8”

Load holding valve DLHV-CC Type ZSK

Spare parts



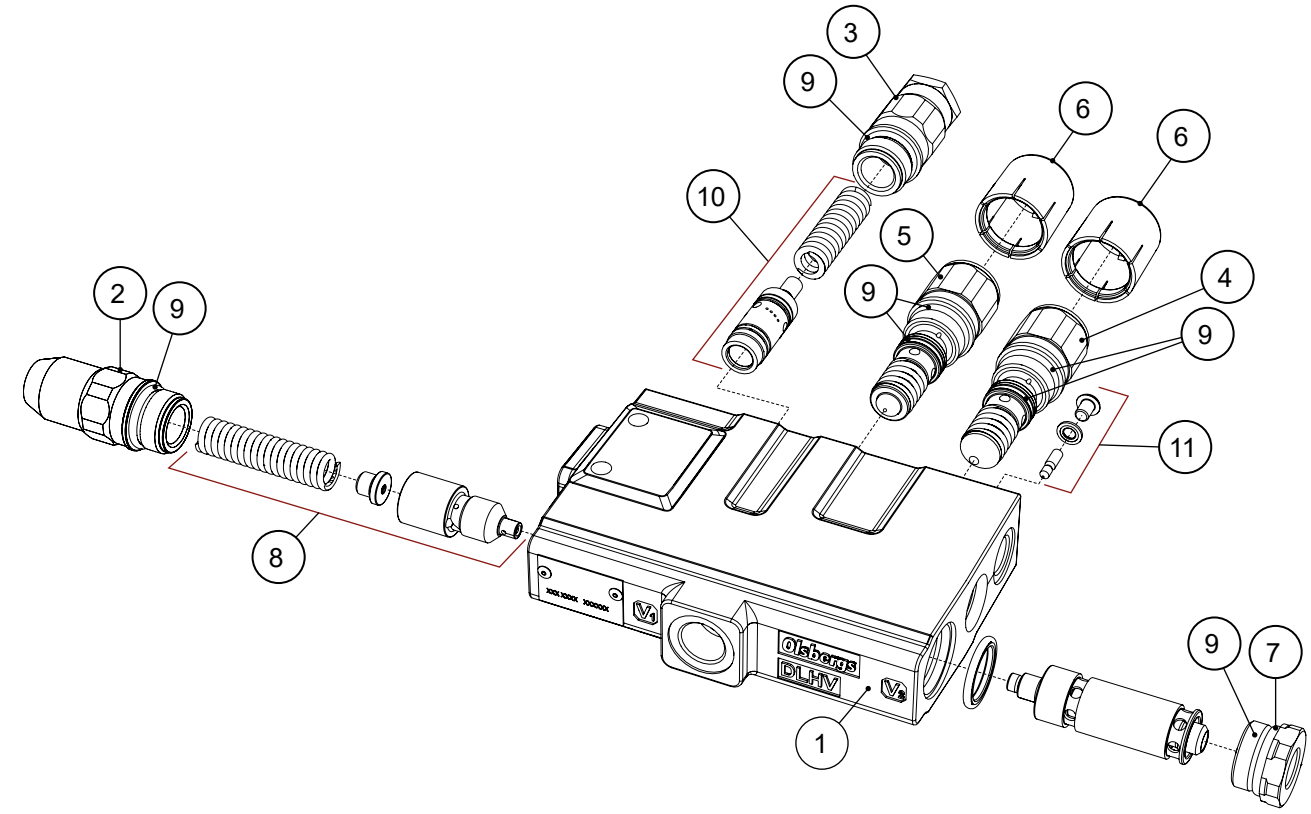


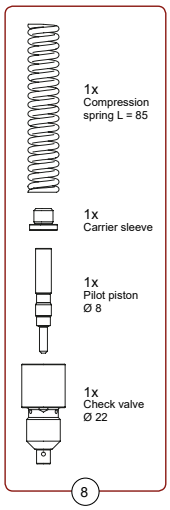


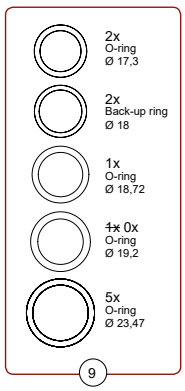
Pos.	Part no.	Description	Note
1	xxxxZSK	Load holding valve DLHV-CC type ZSK, complete	
2	V2078	Spring housing, complete	Incl. o-ring
3	V0951	Adj. screw pressure red., complete	Incl. o-ring
4	V1xxxAK	Shock valve xx MPa Type AK	See page 38
5	V1xxxAZK	Shock valve xx MPa model AZK	See page 39
6	V2271GR	Plastic cap grey, shock valve	Replaces factory fitted cap
7	V2291	Adapter R3/4”- R 3/8”, complete	Incl. o-ring
8	V9013	Check valve kit DLHV	Consumption: 1 kit per valve
9	V9009	Sealing package DLHV	Consumption: 1 kit per valve
10	V9012	Pressure reducing piston DLHV	Consumption: 1 kit per valve
11	V9010	Restriction orifice Ø0.5 DLHV	Consumption: 1 kit per valve
12	V2267	Adapter R3/8” - UNF 7/8”, complete	Incl. sealing washer tredo 3/8”
13	V2282	Adapter R3/8” - UNF 3/4”, complete	Incl. sealing washer tredo 3/8”
14	V2299	Adapter R3/8” - R3/8”, complete	Incl. sealing washer tredo 3/8”

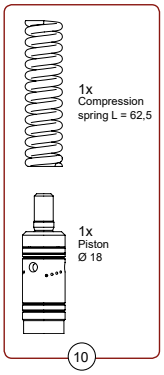
Load holding valve DLHV-PC Type ZSK

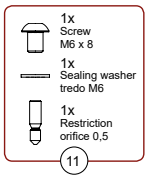
Spare parts

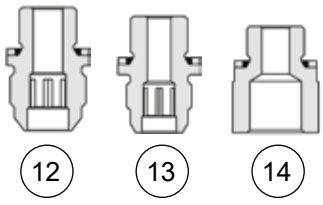










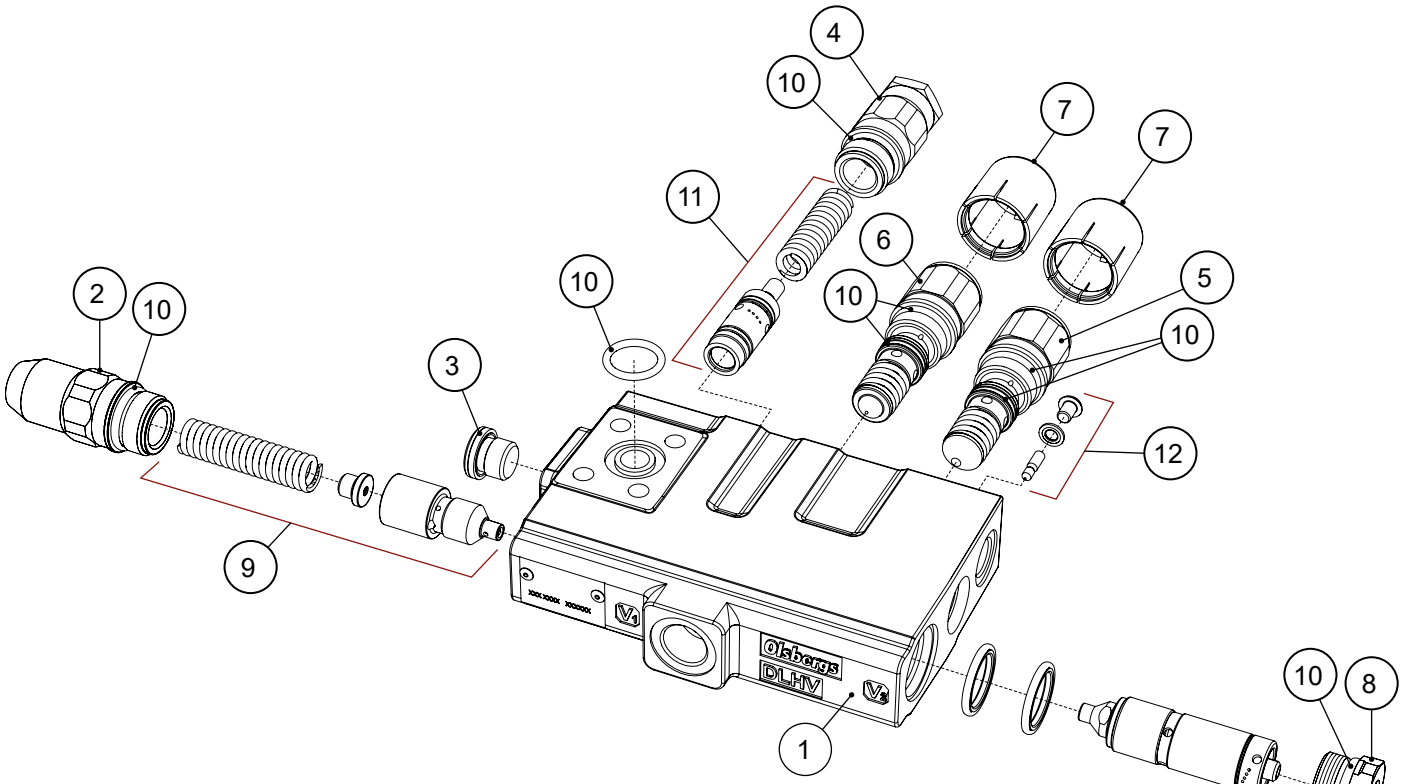


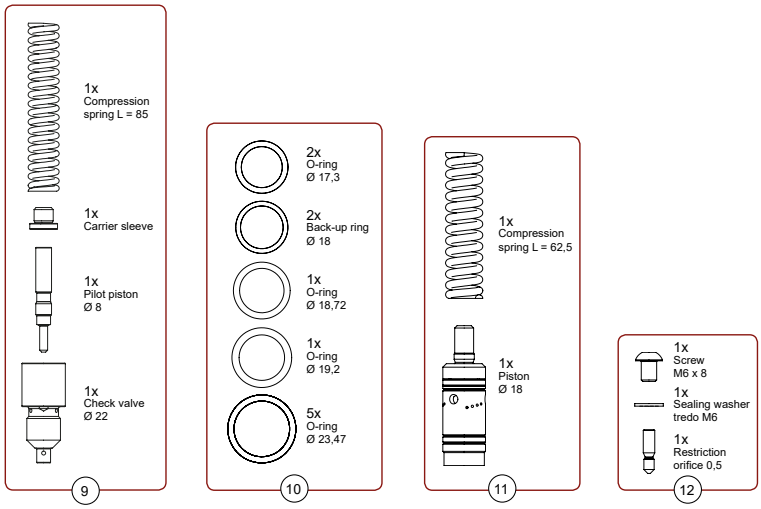
** = some parts of the kit is not needed

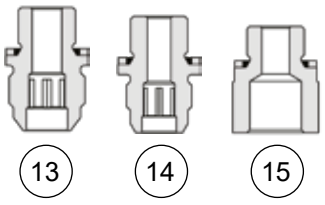
Pos.	Part no.	Description	Note
1	xxxxZSK	Load holding valve DLHV-CC type ZSK, complete	
2	V2078	Spring housing, complete	Incl. o-ring
3	V0951	Adj. screw pressure red., complete	Incl. o-ring
4	V1xxxAK	Shock valve xx MPa Type AK	See page 38
5	V1xxxAZK	Shock valve xx MPa model AZK	See page 39
6	V2271GR	Plastic cap grey, shock valve	Replaces factory fitted cap
7	V2291	Adapter R3/4”- R 3/8”, complete	Incl. o-ring
8	V9013	Check valve kit DLHV	Consumption: 1 kit per valve
9	V9009	Sealing package DLHV	Consumption: 1 kit per valve
10	V9012	Pressure reducing piston DLHV	Consumption: 1 kit per valve
11	V9010	Restriction orifice Ø0.5 DLHV	Consumption: 1 kit per valve
12	V2267	Adapter R3/8” - UNF 7/8”, complete	Incl. sealing washer tredo 3/8”
13	V2282	Adapter R3/8” - UNF 3/4”, complete	Incl. sealing washer tredo 3/8”
14	V2299	Adapter R3/8” - R3/8”, complete	Incl. sealing washer tredo 3/8”

Load holding valve DLHV-CC Type ZK

Spare parts



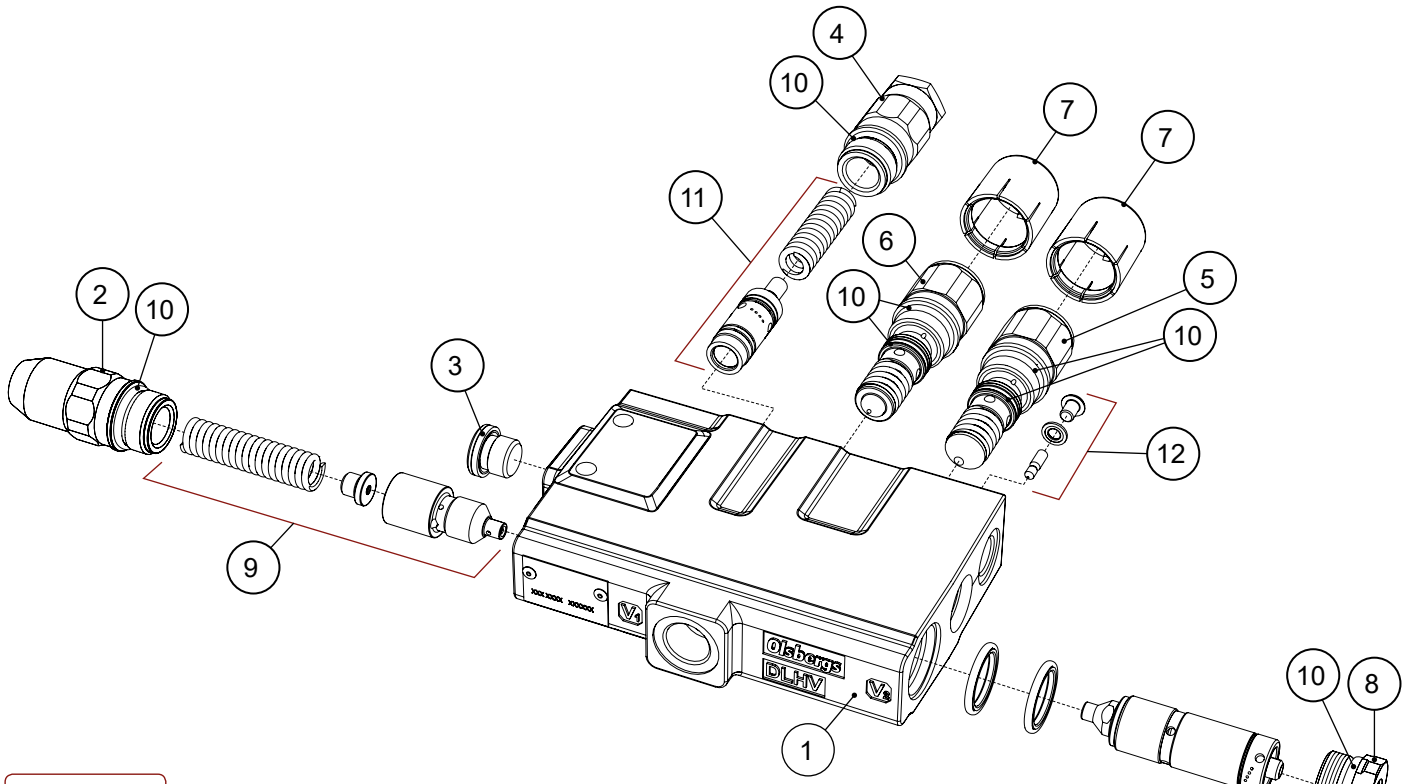


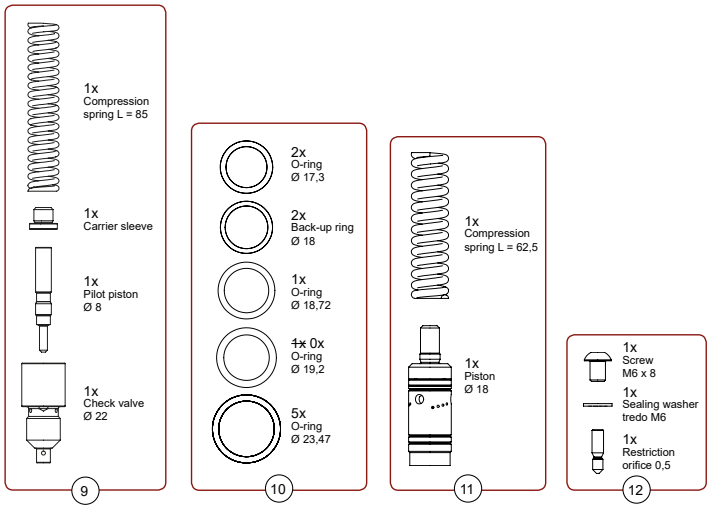


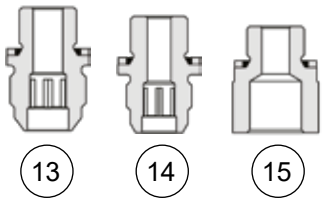
Pos.	Part no.	Description	Note
1	xxxxZK	Load holding valve DLHV-CC type ZK, complete	
2	V2078	Spring housing, complete	Incl. o-ring
3	S3029	Plug G 3/8”	Incl. sealing washer
4	V0951	Adj. screw pressure red., complete	Incl. o-ring
5	V1xxxAK	Shock valve xx MPa model AK	See page 38
6	V1xxxAZ	Shock valve xx MPa model AZ	See page 39
7	V2271GR	Plastic cap grey, shock valve	Replaces factory fitted cap
8	V2291	Adapter R3/4”- R 3/8”, complete	Incl. o-ring
9	V9013	Check valve kit DLHV	Consumption: 1 kit per valve
10	V9009	Sealing package DLHV	Consumption: 1 kit per valve
11	V9012	Pressure reducing piston DLHV	Consumption: 1 kit per valve
12	V9010	Restriction orifice Ø0.5 DLHV	Consumption: 1 kit per valve
13	V2267	Adapter R3/8” - UNF 7/8”, complete	Incl. sealing washer tredo 3/8”
14	V2282	Adapter R3/8” - UNF 3/4”, complete	Incl. sealing washer tredo 3/8”
15	V2299	Adapter R3/8” - R3/8”, complete	Incl. sealing washer tredo 3/8”

Load holding valve DLHV-PC Type ZK

Spare parts





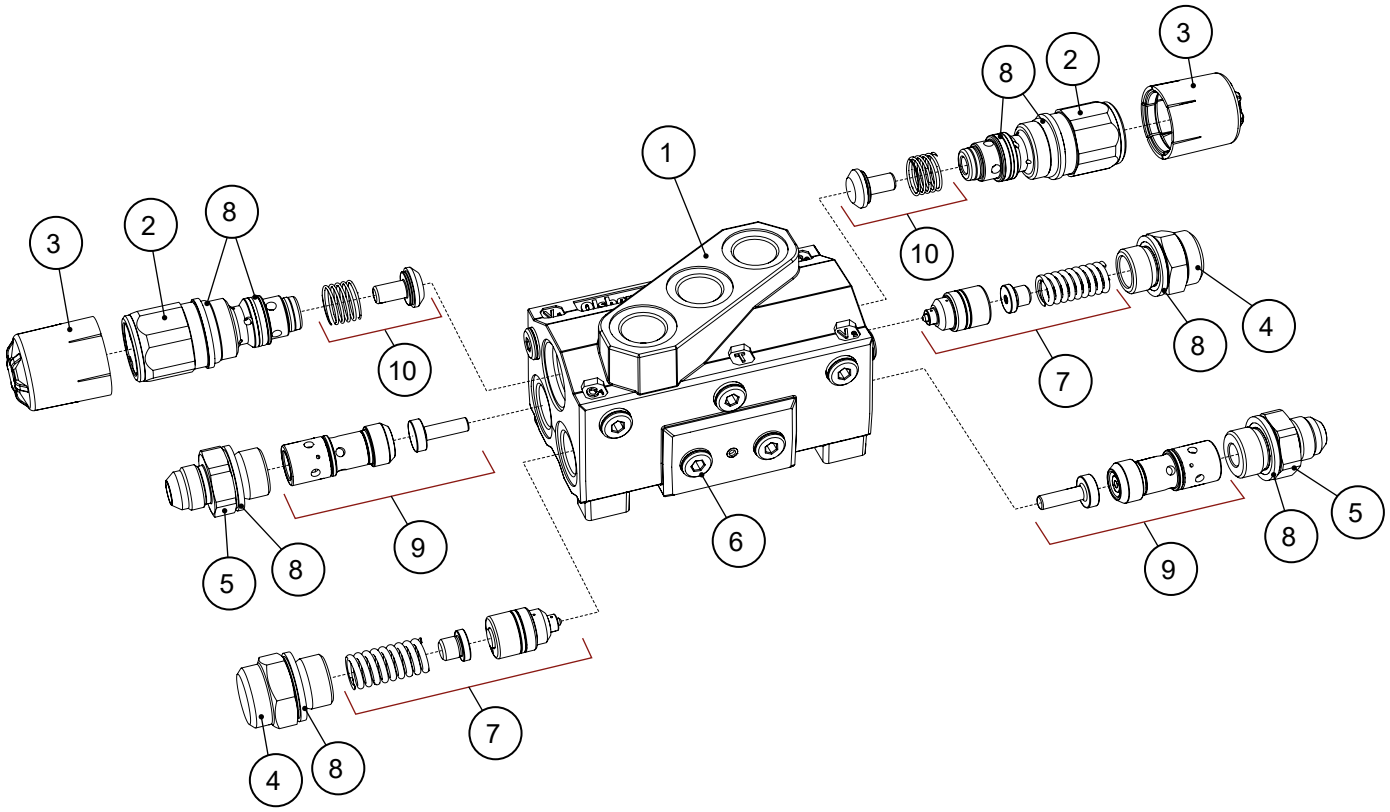


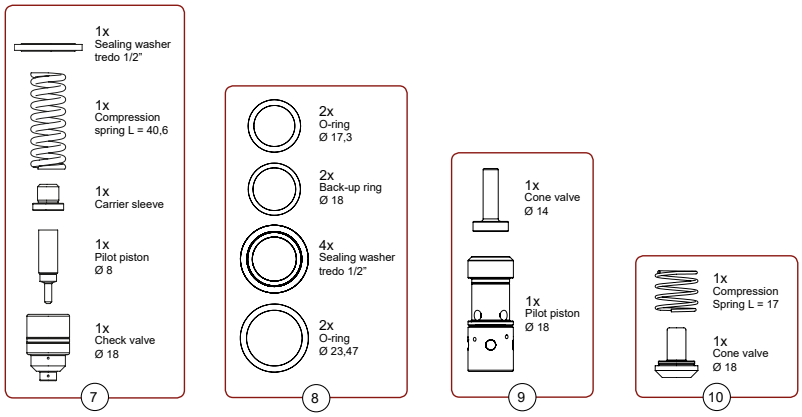
** = some parts of the kit is not needed

Pos.	Part no.	Description	Note
1	xxxxZK	Load holding valve DLHV-PC type ZK, complete	
2	V2078	Spring housing, complete	Incl. o-ring
3	S3029	Plug G 3/8”	Incl. sealing washer
4	V0951	Adj. screw pressure red., complete	Incl. o-ring
5	V1xxxAK	Shock valve xx MPa model AK	See page 38
6	V1xxxAZ	Shock valve xx MPa model AZ	See page 39
7	V2271GR	Plastic cap grey, shock valve	Replaces factory fitted cap
8	V2291	Adapter R3/4”- R 3/8”, complete	Incl. o-ring
9	V9013	Check valve kit DLHV	Consumption: 1 kit per valve
10	V9009	Sealing package DLHV	Consumption: 1 kit per valve**
11	V9012	Pressure reducing piston DLHV	Consumption: 1 kit per valve
12	V9010	Restriction orifice Ø0.5 DLHV	Consumption: 1 kit per valve
13	V2267	Adapter R3/8” - UNF 7/8”, complete	Incl. sealing washer tredo 3/8”
14	V2282	Adapter R3/8” - UNF 3/4”, complete	Incl. sealing washer tredo 3/8”
15	V2299	Adapter R3/8” - R3/8”, complete	Incl. sealing washer tredo 3/8”

Slewing valve DLC

Spare parts

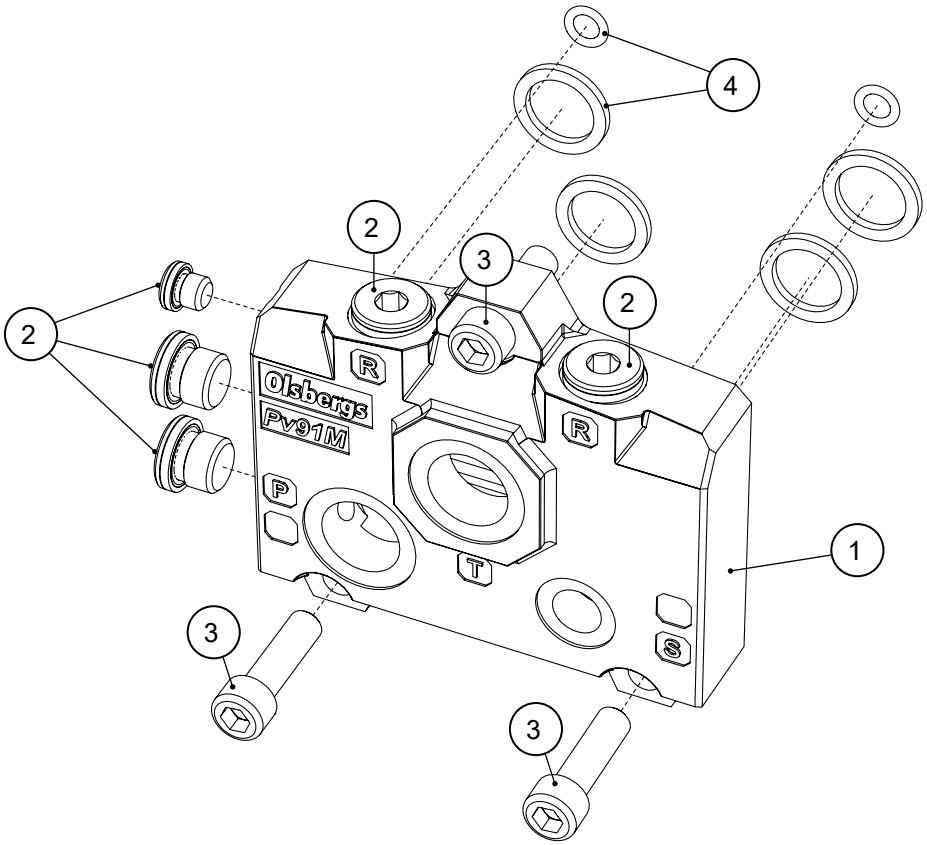


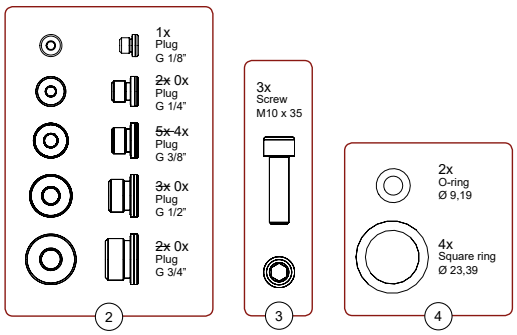


Pos.	Part no.	Description	Note
1	07xx	Slewing valve DLC, complete	
2	V1xxx	Shock valve xx MPa	See page 36
3	V2271GR	Plastic cap grey, shock valve	Replaces factory fitted cap
4	V2084	Spring housing, complete	Incl. sealing washer tredo 1/2”
5	V2279	Adapter straight R1/2” - 3/4”UNF, complete	Incl. sealing washer tredo 1/2”
6	S3049	Plug G 1/8”	Incl. sealing washer
7	V9015	Check valve kit DLC	Consumption: 2 kits per valve
8	V9014	Sealing package DLC	Consumption: 1 kit per valve
9	V2542	Pilot piston and pusher DLC	Consumption: 2 kits per valve
10	V9016	Anti-cavitation kit DLC	Consumption: 2 kits per valve

Inlet section J

Spare parts



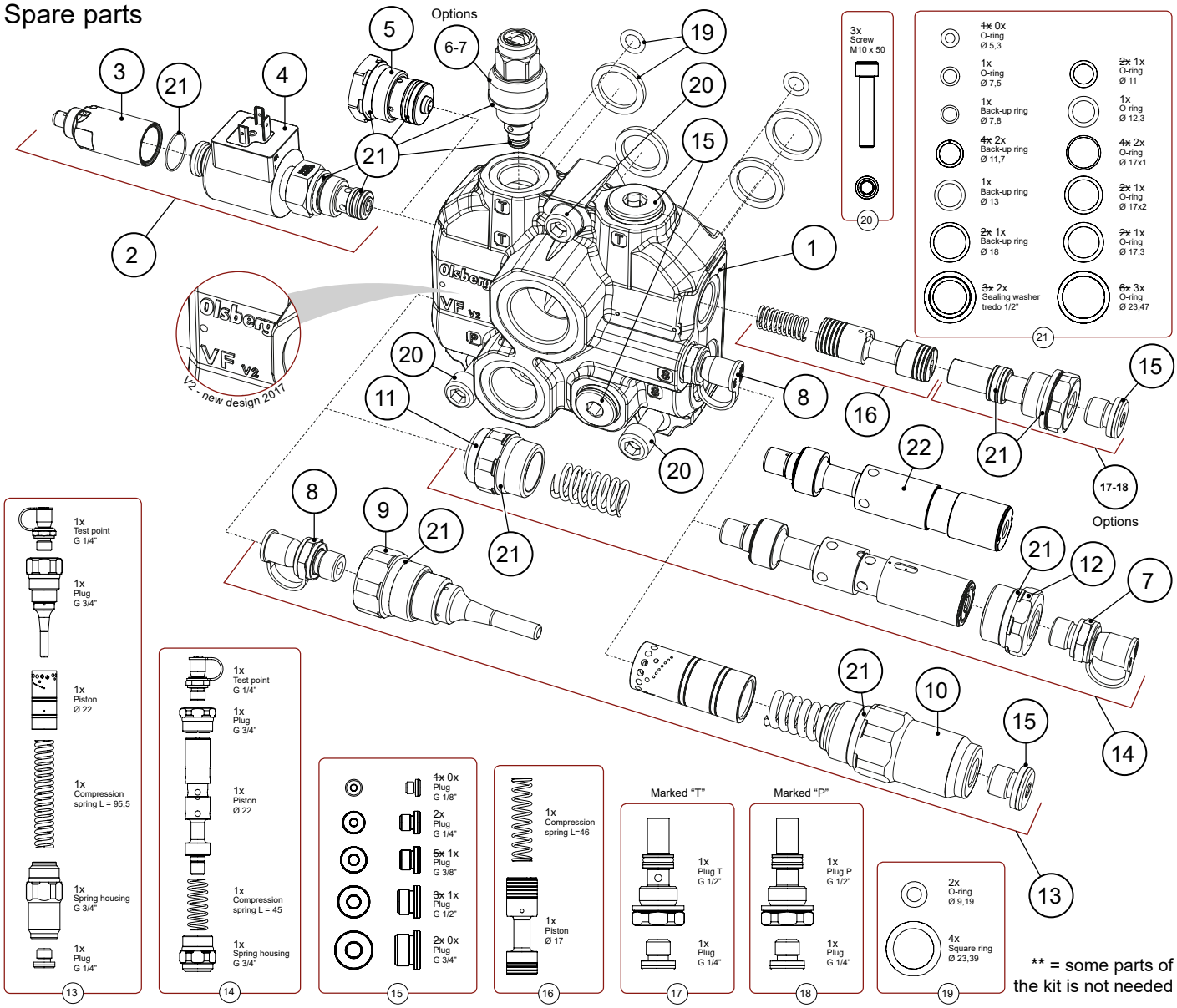


** = some parts of the kit is not needed

Pos.	Part no.	Description	Note
1	V2058	Inlet section J, complete	
2	V9027	Plug kit PG2	Consumption: 1 kit per inlet section**
3	V9017	Screw package SG1	Consumption: 1 kit per inlet section
4	V2454	Seal kit	Consumption: 1 kit per inlet section

Inlet section VF

Spare parts

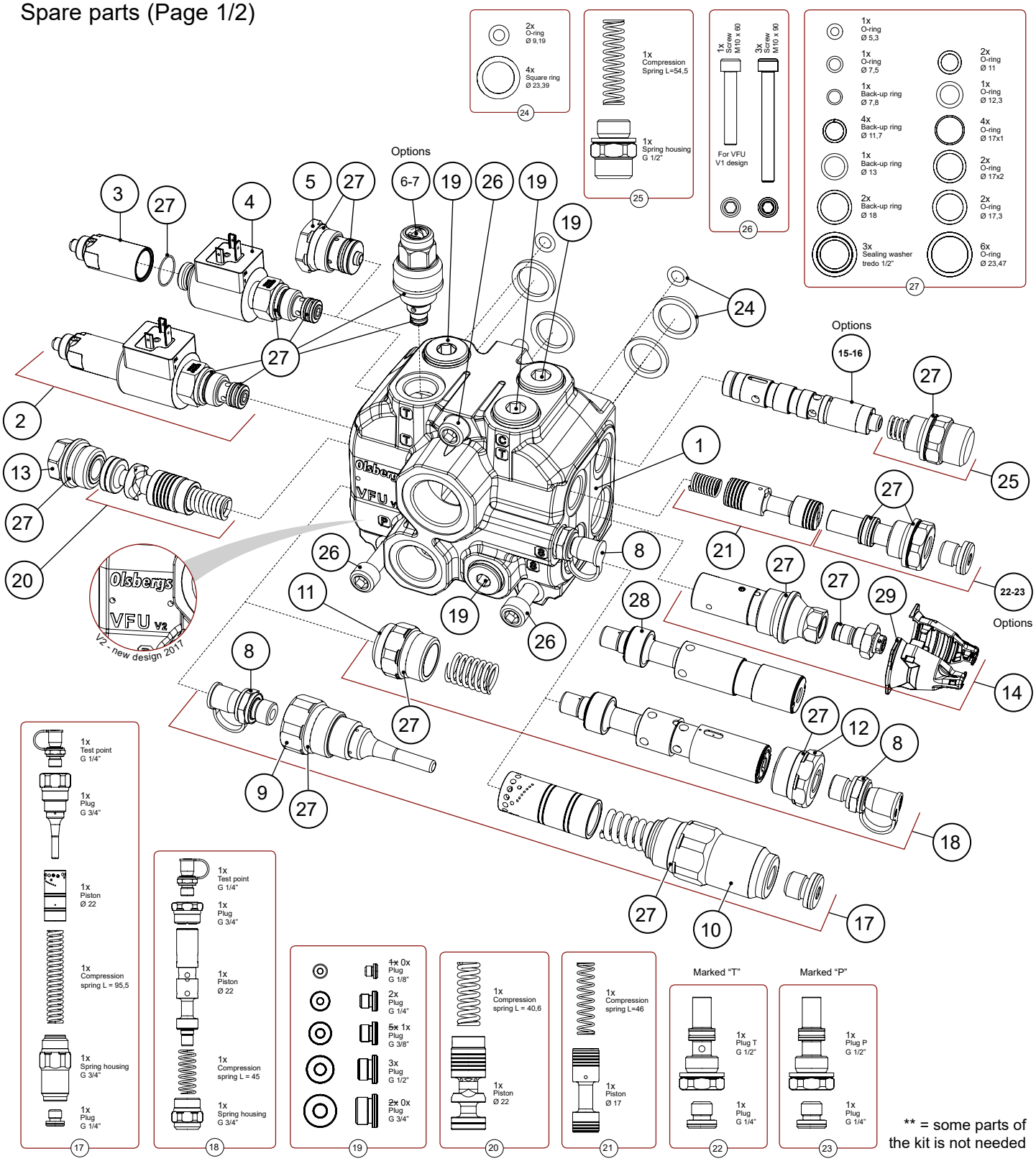


** = some parts of the kit is not needed

Pos.	Part no.	Description	Note
1	V37xx	Inlet section VF, complete	
2	V2418	Solenoid V 28V, complete	
3	V2149-1	Sealing nut solenoid, complete	
4	S2661	Coil 28V	
5	V2326	Reduction VFU-15 Q-series incl. O-ring	Only for VF V1 (old design)
6	V4xxx	Pressure restriction xx MP Q-series, complete	(See specification)
7	V2540	Plug MP	
8	S1546	Measuring point G 1/4"	TEMA system 100
9	V2325	Plug shunt FP Q-series incl. O-ring	(Only fixed pump)
10	V2322	Spring housing shunt 13 Q-series incl. O-ring	(Only fixed pump)
11	V2321	Spring housing VP Q-series incl. O-ring	(Only variable pump)
12	V2320	Plug shunt VP Q-series incl. O-ring	(Only variable pump)
13	V2429	Conversion kit, fixed pump	Consumption: 1 kit per inlet section
14	V2430	Conversion kit, variable pump	Consumption: 1 kit per inlet section
15	V9027	Plug kit PG2	Consumption: 1 kit per inlet section**
16	V9019	Dump piston kit inlet VF/VFU	Consumption: 1 kit per inlet section
17	V9021	Plug kit tank PG1	Consumption: 1 kit per inlet section
18	V9059	Plug kit pump PG1	Consumption: 1 kit per inlet section
19	V2454	Seal kit	Consumption: 1 kit per inlet section
20	V9028	Screw package SG2	Consumption: 1 kit per inlet section
21	V9018	Sealing package TG1	Consumption: 1 kit per inlet section**
22	V2588	Piston VP-P (without shunt)	As option

Inlet section VFU

Spare parts (Page 1/2)



Pos.	Part no.	Description	Note
1	V36xx	Inlet section VFU, complete	
2	V2418	Solenoid V 28V, complete	
3	V2149-1	Sealing nut solenoid, complete	
4	S2661	Coil 28V	
5	V2326	Reduction VFU-15 Q-series incl. O-ring	Only for VFU V1 (old design)
6	V4xxx	Pressure restriction xx MP Q-series, complete	(See specification)
7	V2540	Plug MP	
8	S1546	Measuring point G 1/4”	TEMA system 100
9	V2325	Plug shunt FP Q-series incl. O-ring	(Only fixed pump)
10	V2322	Spring housing shunt 13 Q-series incl. O-ring	(Only fixed pump)

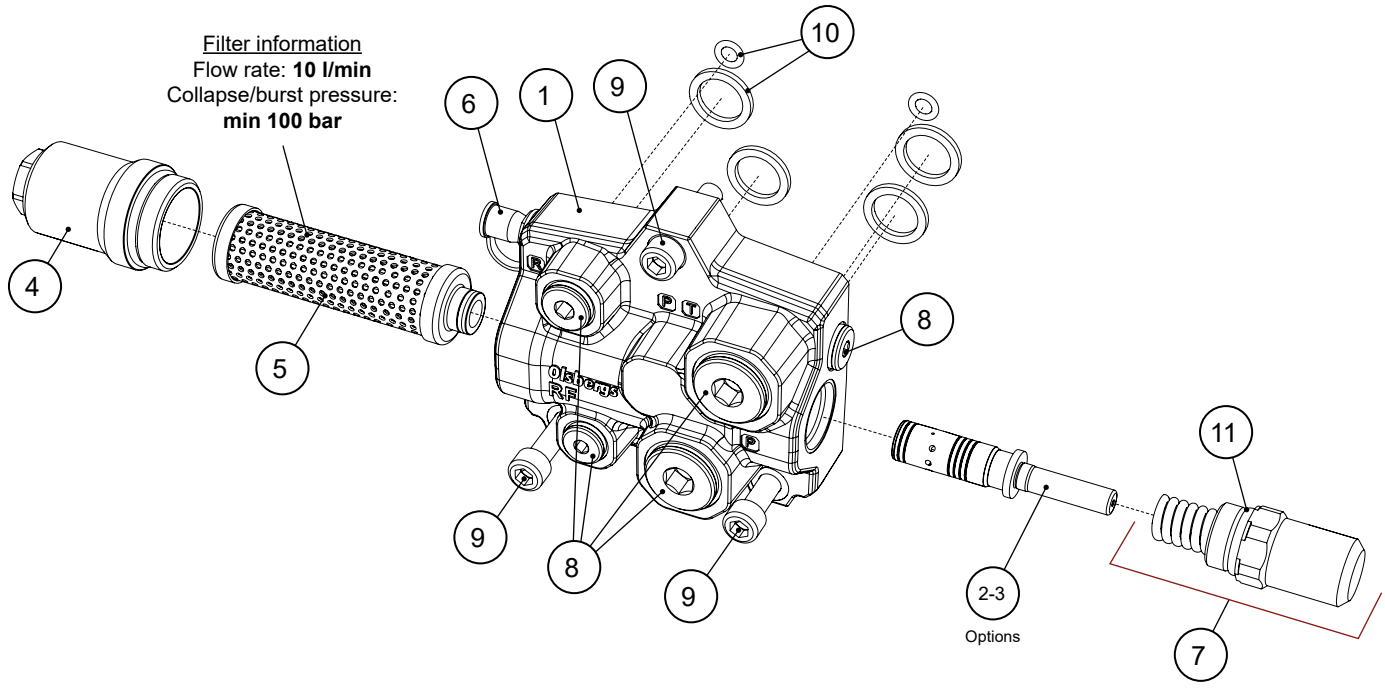
Inlet section VFU

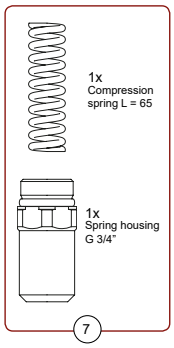
Spare parts (Page 2/2)

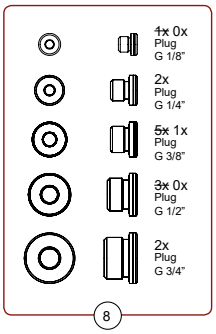
Pos.	Part no.	Description	Note
11	V2321	Spring housing VP Q-series incl. O-ring	(Only variable pump)
12	V2320	Plug shunt VP Q-series incl. O-ring	(Only variable pump)
13	V0741	Plug TK G 3/4”, complete	Incl. o-ring
14	V0750	Signal relief valve complete with shuttle valve	
15	V2387	Piston outlet Q-series 60L, complete	(See specification)
16	V2388	Piston outlet Q-series 85L, complete	(See specification)
17	V2429	Conversion kit, fixed pump	Consumption: 1 kit per inlet section
18	V2430	Conversion kit, variable pump	Consumption: 1 kit per inlet section
19	V9027	Plug kit PG2	Consumption: 1 kit per inlet section**
20	V9002	Pressure compensator Q	Consumption: 1 kit per inlet section
21	V9019	Dump piston kit inlet VF/VFU	Consumption: 1 kit per inlet section
22	V9021	Plug kit tank PG1	Consumption: 1 kit per inlet section
23	V9059	Plug kit pump PG1	Consumption: 1 kit per inlet section
24	V2454	Seal kit	Consumption: 1 kit per inlet section
25	V9035	Spring package outlet piston VFU	Consumption: 1 kit per inlet section
26	V9034	Screw package SG8	Consumption: 1 kit per inlet section
27	V9018	Sealing package TG1	Consumption: 1 kit per inlet section
28	V2588	Piston VP-P (without shunt)	As option
29	V2589GR	Closure sealing, grey	Consumption: 1 pcs per signal relief valve

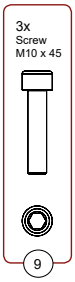
Outlet section RF

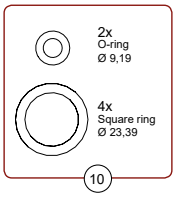
Spare parts

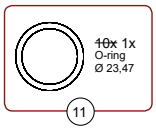










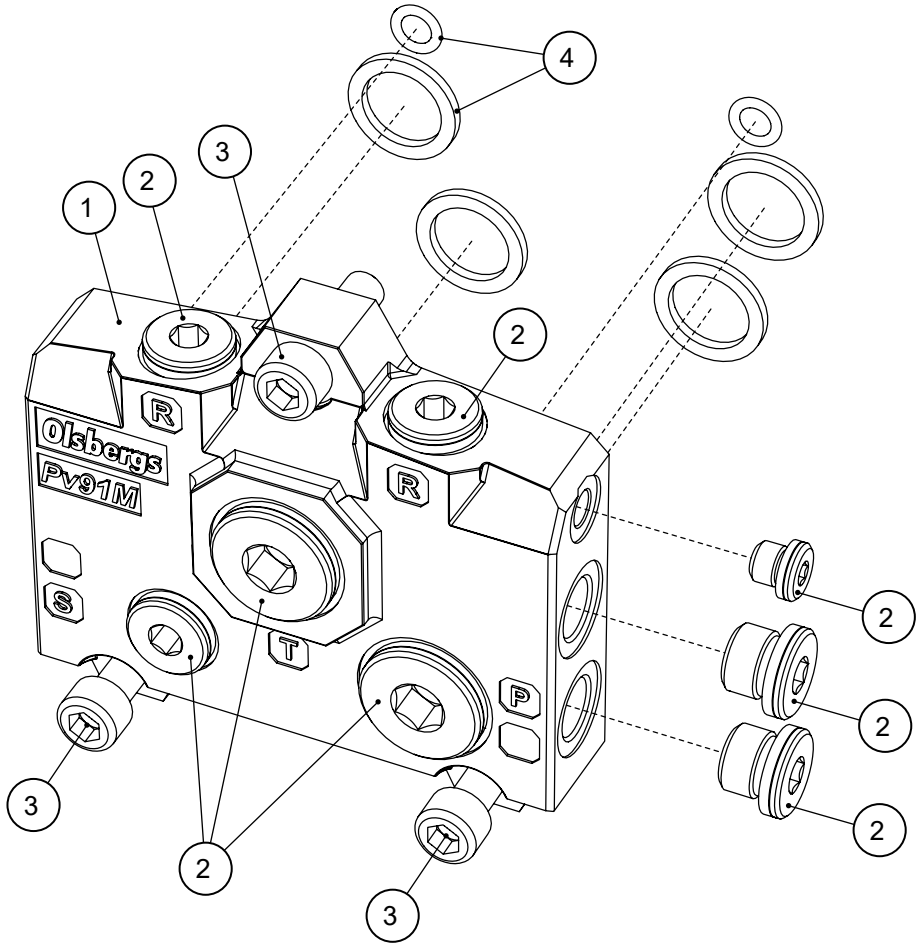


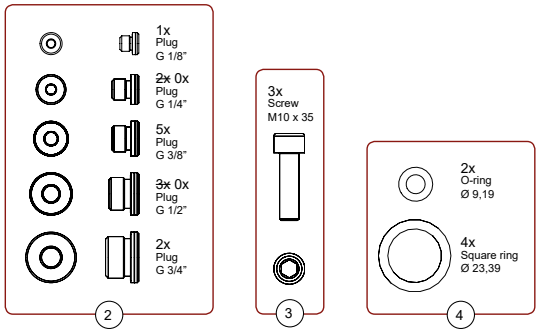
** = some parts of the kit is not needed

Pos.	Part no.	Description	Note
1	V38xx	Outlet section RF, complete	
2	V2319	Piston inline TRR Q-series	
3	V2329	Piston inline TRR Q-series for glyd ring	Incl. glyd ring
4	V2327	Filter housing RF Q-series	Incl. o-ring
5	S3026	Filter cartridge 20my absolute	Incl. o-ring
6	S2250	Measuring nipple G 1/8”	TEMA system 100
7	V9020	Spring package TRR	Consumption: 1 kit per outlet section
8	V9027	Plug kit PG2	Consumption: 1 kit per outlet section**
9	V9033	Screw package SG7	Consumption: 1 kit per outlet section
10	V2454	Seal kit	Consumption: 1 kit per outlet section
11	V9011	Sealing package TE1	Consumption: 1 pcs per component**

Outlet section S

Spare parts



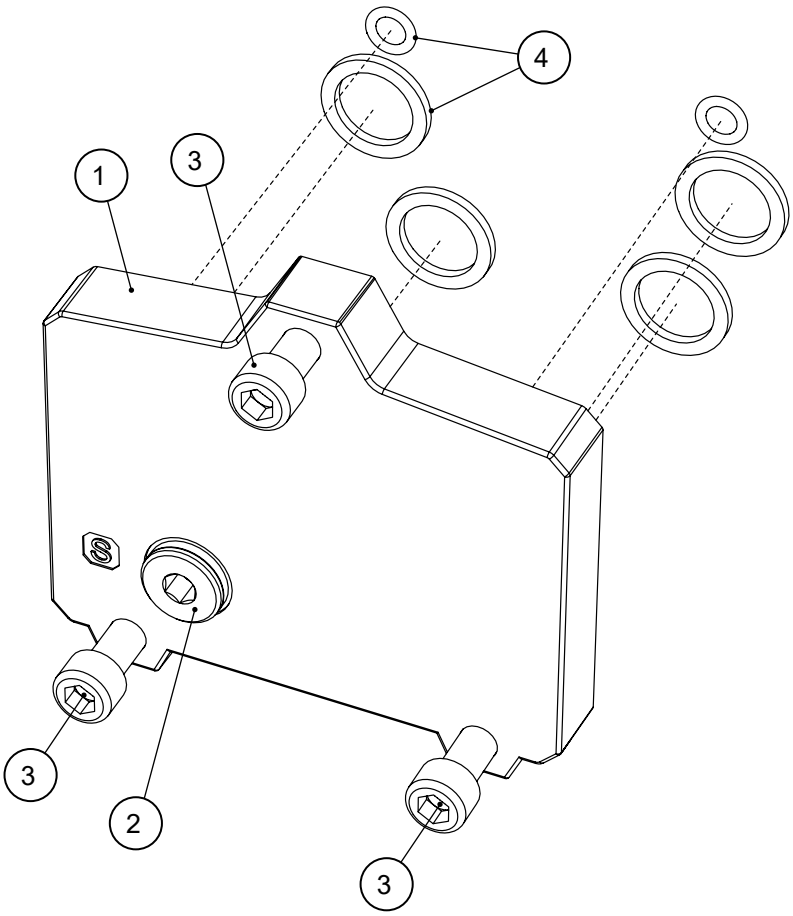


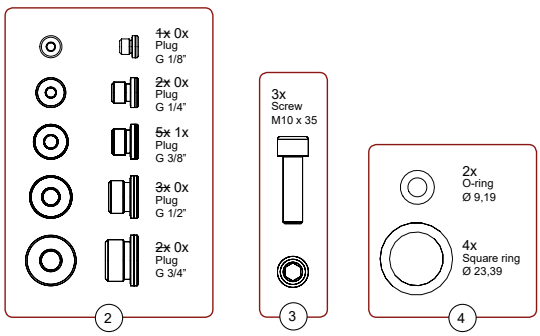
** = some parts of the kit is not needed

Pos.	Part no.	Description	Note
1	V2056	Outlet section S, complete	
2	V9027	Plug kit PG2	Consumption: 1 kit per outlet section**
3	V9017	Screw package SG1	Consumption: 1 kit per outlet section
4	V2454	Seal kit	Consumption: 1 kit per outlet section

Outlet section P

Spare parts



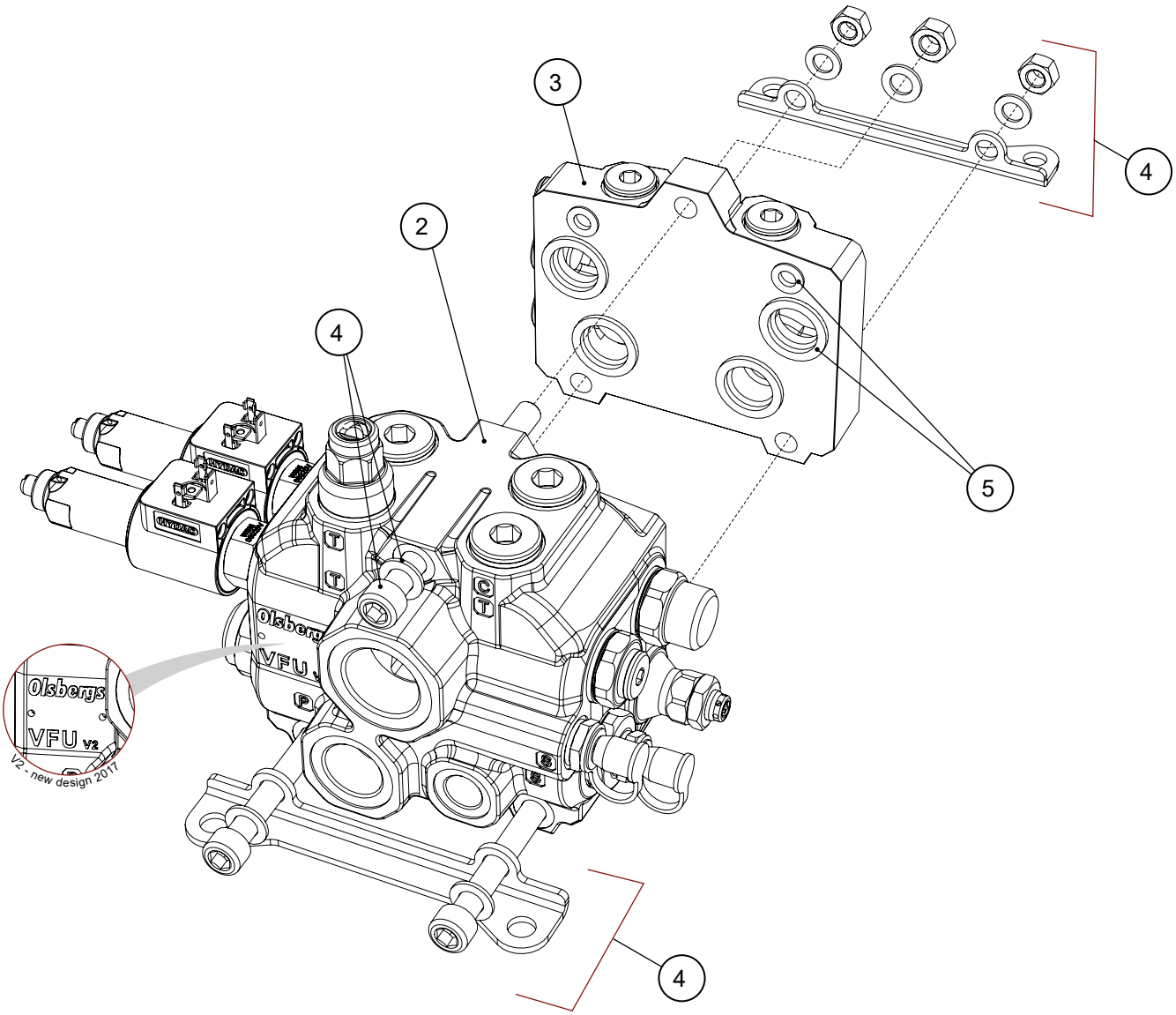


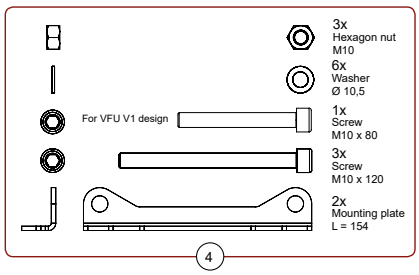
** = some parts of the kit is not needed

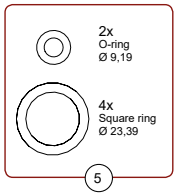
Pos.	Part no.	Description	Note
1	V2054	Outlet section P, complete	
2	V9027	Plug kit PG2	Consumption: 1 kit per outlet section**
3	V9017	Screw package SG1	Consumption: 1 kit per outlet section
4	V2454	Seal kit	Consumption: 1 kit per outlet section

Supply unit VFU, S

Spare parts



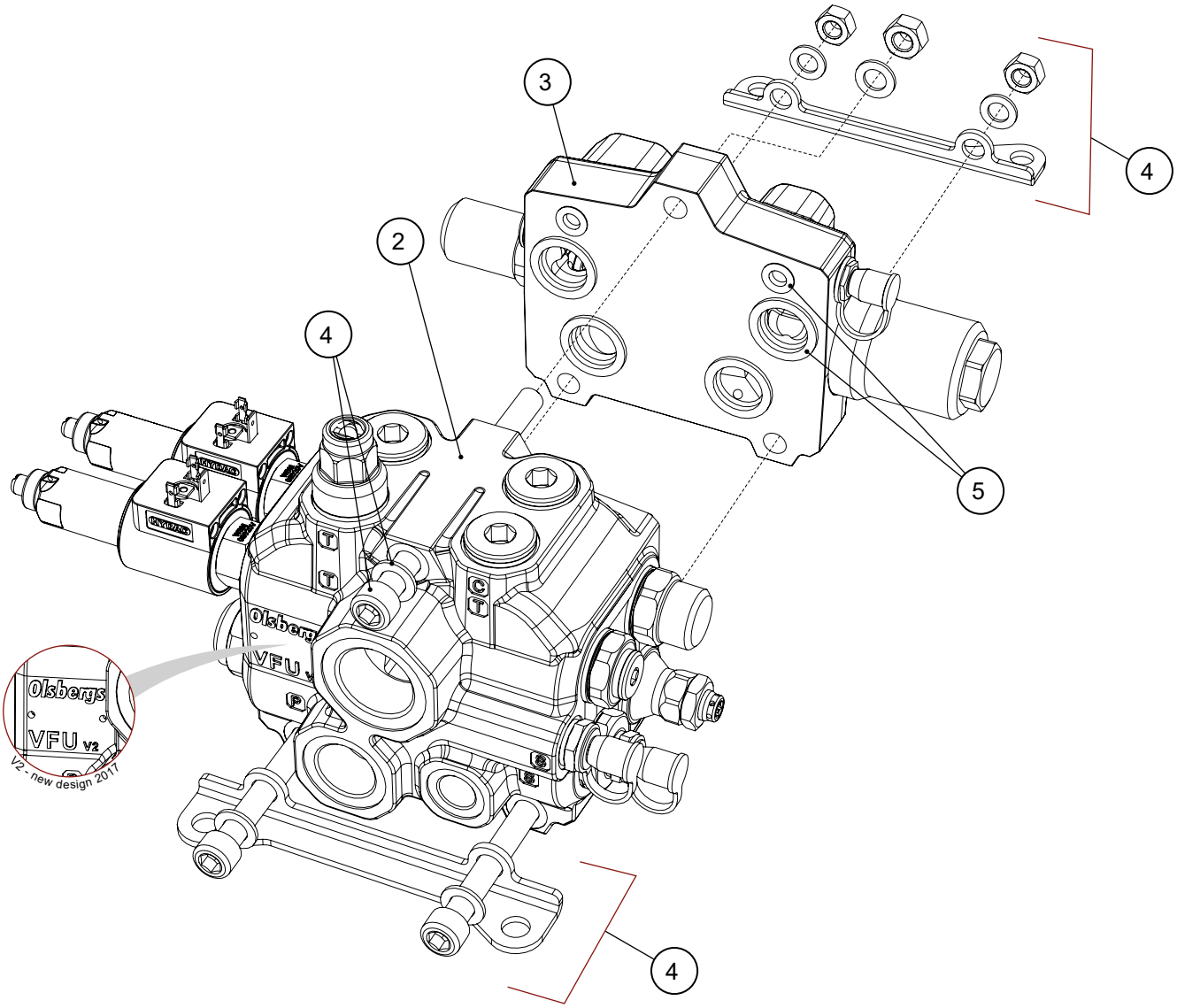


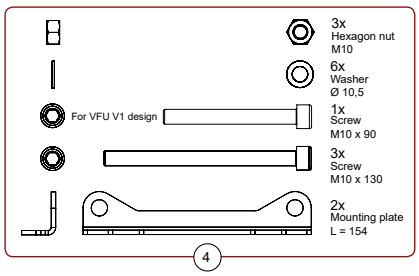


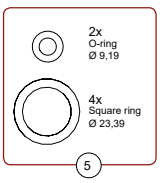
Pos.	Part no.	Description	Note
1	21xxx	Supply unit VFU+S, complete	
2	V36xx	Inlet section VFU complete	See page 29 - 30
3	V20xx	Outlet section S complete	See page 32
4	V9036	Assembly kit FE1	Consumption: 1 kit per supply unit
5	V2454	Seal kit	Consumption: 1 kit per supply unit

Supply unit VFU, RF

Spare parts



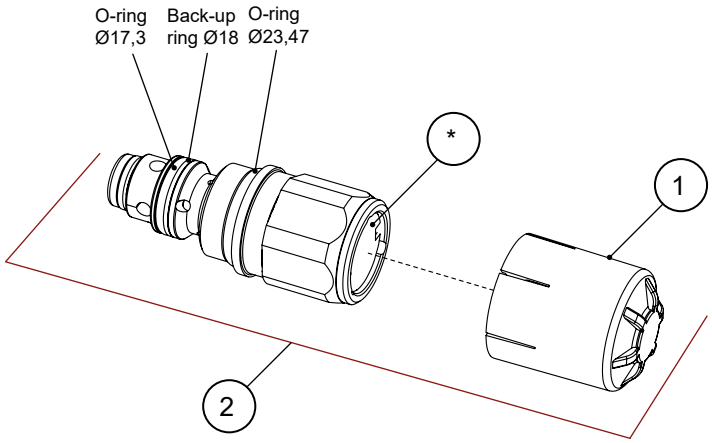




Pos.	Part no.	Description	Note
1	21xxx	Supply unit VFU+RF, complete	
2	V36xx	Inlet section VFU complete	See page 29 - 30
3	V38xx	Outlet section RF complete	See page 31
4	V9037	Assembly kit FE2	Consumption: 1 kit per supply unit
5	V2454	Seal kit	Consumption: 1 kit per supply unit

Shock valve standard (DLC)

Spare parts



Note:
Extra back-up ring and seals are available in the respective valve spare sealing packages

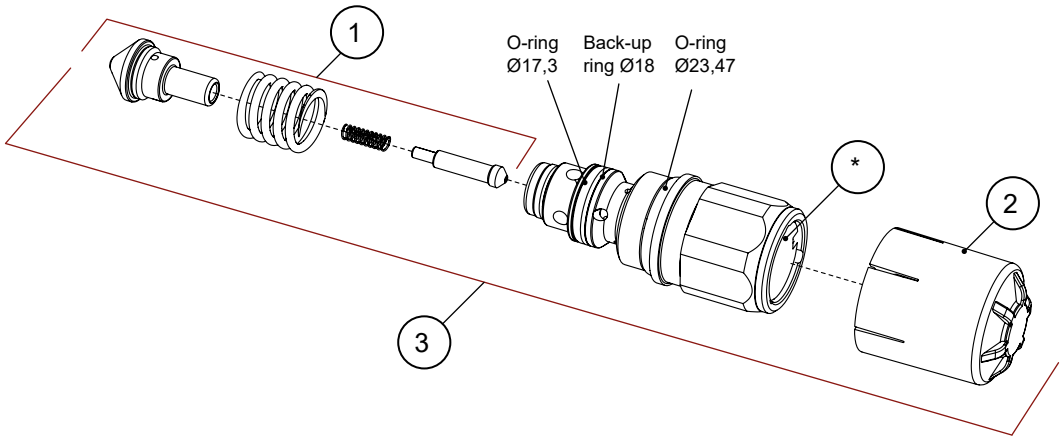
* = marking on cap

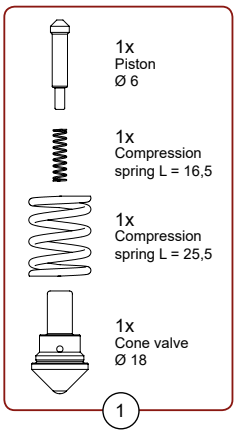
Pos.	Part no.	Description	*
1	V2271GR	Plastic cap grey, shock valve	
2	V1020	Shock valve 2 MPa	2
	V1040	Shock valve 4 MPa	4
	V1050	Shock valve 5 MPa	5
	V1055	Shock valve 5,5 MPa	5,5
	V1060	Shock valve 6 MPa	6
	V1065	Shock valve 6,5 MPa	6,5
	V1070	Shock valve 7 MPa	7
	V1075	Shock valve 7,5 MPa	7,5
	V1080	Shock valve 8 MPa	8
	V1085	Shock valve 8,5 MPa	8,5
	V1090	Shock valve 9 MPa	9
	V1095	Shock valve 9,5 MPa	9,5
	V1100	Shock valve 10 MPa	10
	V1105	Shock valve 10,5 MPa	10,5
	V1110	Shock valve 11 MPa	11
	V1115	Shock valve 11,5 MPa	11,5
	V1120	Shock valve 12 MPa	12
	V1125	Shock valve 12,5 MPa	12,5
	V1130	Shock valve 13 MPa	13
	V1135	Shock valve 13,5 MPa	13,5
	V1140	Shock valve 14 MPa	14
	V1145	Shock valve 14,5 MPa	14,5
	V1150	Shock valve 15 MPa	15
	V1155	Shock valve 15,5 MPa	15,5
	V1160	Shock valve 16 MPa	16
	V1165	Shock valve 16,5 MPa	16,5
	V1170	Shock valve 17 MPa	17
	V1175	Shock valve 17,5 MPa	17,5
	V1180	Shock valve 18 MPa	18
	V1185	Shock valve 18,5 MPa	18,5
	V1190	Shock valve 19 MPa	19
	V1195	Shock valve 19,5 MPa	19,5

Pos.	Part no.	Description	*
2	V1200	Shock valve 20 MPa	20
	V1205	Shock valve 20,5 MPa	20,5
	V1210	Shock valve 21 MPa	21
	V1215	Shock valve 21,5 MPa	21,5
	V1220	Shock valve 22 MPa	22
	V1225	Shock valve 22,5 MPa	22,5
	V1230	Shock valve 23 MPa	23
	V1235	Shock valve 23,5 MPa	23,5
	V1240	Shock valve 24 MPa	24
	V1245	Shock valve 24,5 MPa	24,5
	V1250	Shock valve 25 MPa	25
	V1255	Shock valve 25,5 MPa	25,5
	V1260	Shock valve 26 MPa	26
	V1265	Shock valve 26,5 MPa	26,5
	V1270	Shock valve 27 MPa	27,5
	V1275	Shock valve 27,5 MPa	27,5
	V1280	Shock valve 28 MPa	28
	V1285	Shock valve 28,5 MPa	28,5
	V1290	Shock valve 29 MPa	29
	V1295	Shock valve 29,5 MPa	29,5
	V1300	Shock valve 30 MPa	30
	V1305	Shock valve 30,5 MPa	30,5
	V1310	Shock valve 31 MPa	31
	V1315	Shock valve 31,5 MPa	31,5
	V1320	Shock valve 32 MPa	32
	V1325	Shock valve 32,5 MPa	32,5
	V1330	Shock valve 33 MPa	33
	V1335	Shock valve 33,5 MPa	33,5
	V1340	Shock valve 34 MPa	34
	V1345	Shock valve 34,5 MPa	34,5
	V1350	Shock valve 35 MPa	35
	V1380	Shock valve 38 MPa	38

Shock valve model A (DLHV)

Spare parts





Note:
Extra back-up ring and seals are available in the respective valve spare sealing packages

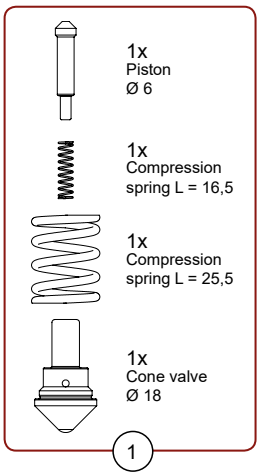
* = marking on cap

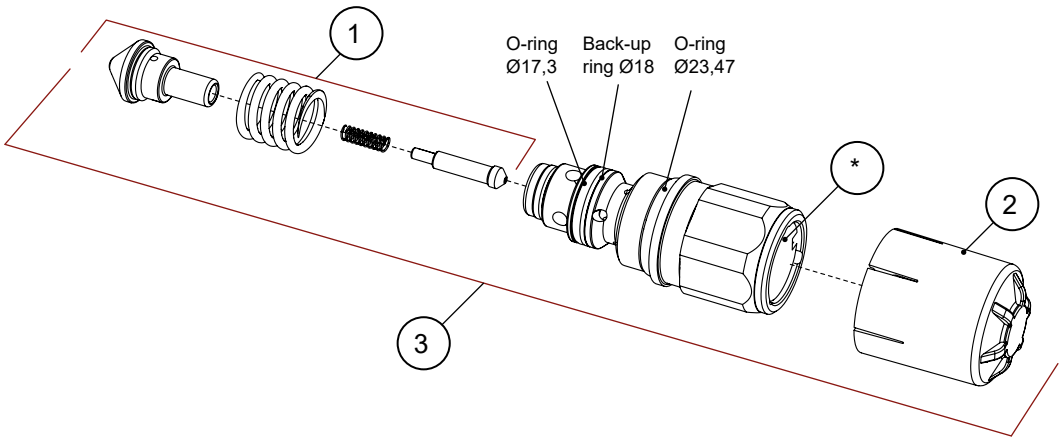
Pos.	Part no.	Description	*
1	V9038	Anti-cavitation kit CV1	
2	V2271GR	Plastic cap grey, shock valve	
3	V1050A	Shock valve 5 MPa model A	5A
	V1055A	Shock valve 5,5 MPa model A	5,5A
	V1060A	Shock valve 6 MPa model A	6A
	V1065A	Shock valve 6,5 MPa model A	6,5A
	V1070A	Shock valve 7 MPa model A	7A
	V1075A	Shock valve 7,5 MPa model A	7,5A
	V1080A	Shock valve 8 MPa model A	8A
	V1085A	Shock valve 8,5 MPa model A	8,5A
	V1090A	Shock valve 9 MPa model A	9A
	V1095A	Shock valve 9,5 MPa model A	9,5A
	V1100A	Shock valve 10 MPa model A	10A
	V1105A	Shock valve 10,5 MPa model A	10,5A
	V1110A	Shock valve 11 MPa model A	11A
	V1115A	Shock valve 11,5 MPa model A	11,5A
	V1120A	Shock valve 12 MPa model A	12A
	V1125A	Shock valve 12,5 MPa model A	12,5A
	V1130A	Shock valve 13 MPa model A	13A
	V1135A	Shock valve 13,5 MPa model A	13,5A
	V1140A	Shock valve 14 MPa model A	14A
	V1145A	Shock valve 14,5 MPa model A	14,5A
	V1150A	Shock valve 15 MPa model A	15A
	V1155A	Shock valve 15,5 MPa model A	15,5A
	V1160A	Shock valve 16 MPa model A	16A
	V1165A	Shock valve 16,5 MPa model A	16,5A
	V1170A	Shock valve 17 MPa model A	17A
	V1175A	Shock valve 17,5 MPa model A	17,5A
	V1180A	Shock valve 18 MPa model A	18A
	V1185A	Shock valve 18,5 MPa model A	18,5A
	V1190A	Shock valve 19 MPa model A	19A
	V1195A	Shock valve 19,5 MPa model A	19,5A
	V1200A	Shock valve 20 MPa model A	20A
	V1205A	Shock valve 20,5 MPa model A	20,5A
	V1210A	Shock valve 21 MPa model A	21A
	V1215A	Shock valve 21,5 MPa model A	21,5A

Pos.	Part no.	Description	*
3	V1220A	Shock valve 22 MPa model A	22A
	V1225A	Shock valve 22,5 MPa model A	22,5A
	V1230A	Shock valve 23 MPa model A	23A
	V1235A	Shock valve 23,5 MPa model A	23,5A
	V1240A	Shock valve 24 MPa model A	24A
	V1245A	Shock valve 24,5 MPa model A	24,5A
	V1250A	Shock valve 25 MPa model A	25A
	V1255A	Shock valve 25,5 MPa model A	25,5A
	V1260A	Shock valve 26 MPa model A	26A
	V1265A	Shock valve 26,5 MPa model A	26,5A
	V1270A	Shock valve 27 MPa model A	27A
	V1275A	Shock valve 27,5 MPa model A	27,5A
	V1280A	Shock valve 28 MPa model A	28A
	V1285A	Shock valve 28,5 MPa model A	28,5A
	V1290A	Shock valve 29 MPa model A	29A
	V1295A	Shock valve 29,5 MPa model A	29,5A
	V1300A	Shock valve 30 MPa model A	30A
	V1305A	Shock valve 30,5 MPa model A	30,5A
	V1310A	Shock valve 31 MPa model A	31A
	V1315A	Shock valve 31,5 MPa model A	31,5A
	V1320A	Shock valve 32 MPa model A	32A
	V1325A	Shock valve 32,5 MPa model A	32,5A
	V1330A	Shock valve 33 MPa model A	33A
	V1335A	Shock valve 33,5 MPa model A	33,5A
	V1340A	Shock valve 34 MPa model A	34A
	V1345A	Shock valve 34,5 MPa model A	34,5A
	V1350A	Shock valve 35 MPa model A	35A
	V1360A	Shock valve 36 MPa model A	36A
	V1370A	Shock valve 37 MPa model A	37A
	V1380A	Shock valve 38 MPa model A	38A
	V1390A	Shock valve 39 MPa model A	39A
	V1410A	Shock valve 41 MPa model A	41A
	V1430A	Shock valve 43 MPa model A	43A
	V1440A	Shock valve 44 MPa model A	44A
	V1450A	Shock valve 45 MPa model A	45A

Shock valve model AK (DLHV)

Spare parts





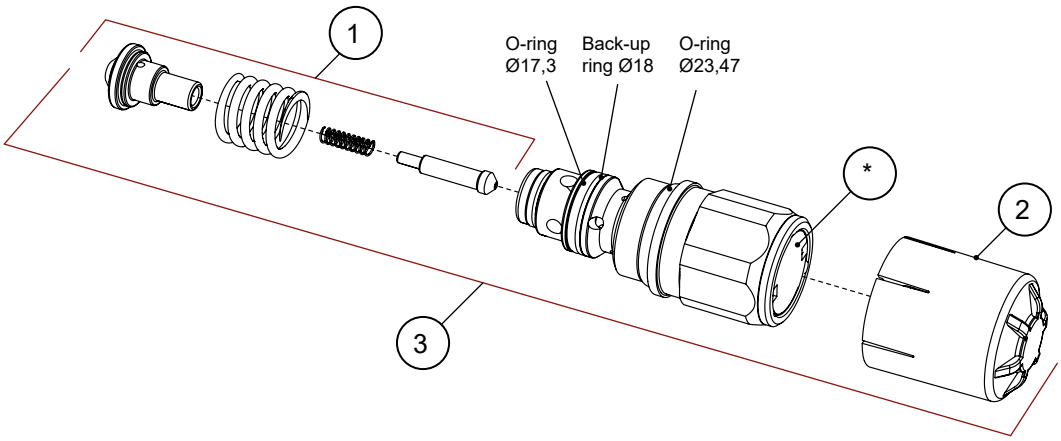
Note:
Extra back-up ring and seals are available in the respective valve spare sealing packages

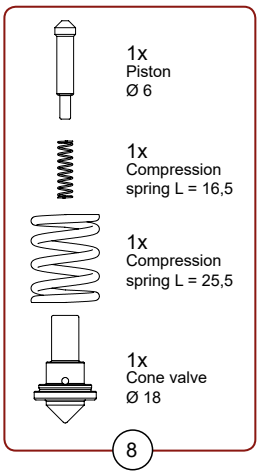
* = marking on cap

Pos.	Part no.	Description	*	Pos.	Part no.	Description	*
1	V9038	Anti-cavitation kit CV1		3	V1200AK	Shock valve 20 MPa model AK	20AK
2	V2271GR	Plastic cap grey, shock valve			V1230AK	Shock valve 23 MPa model AK	23AK
3	V1100AK	Shock valve 10 MPa model AK	10AK		V1240AK	Shock valve 24 MPa model AK	24AK
	V1120AK	Shock valve 12 MPa model AK	12AK		V1260AK	Shock valve 26 MPa model AK	26AK
	V1130AK	Shock valve 13 MPa model AK	13AK		V1330AK	Shock valve 33 MPa model AK	33AK
	V1170AK	Shock valve 17 MPa model AK	17AK		V1420AK	Shock valve 42 MPa model AK	42AK

Shock valve model AZ (DLHV)

Spare parts





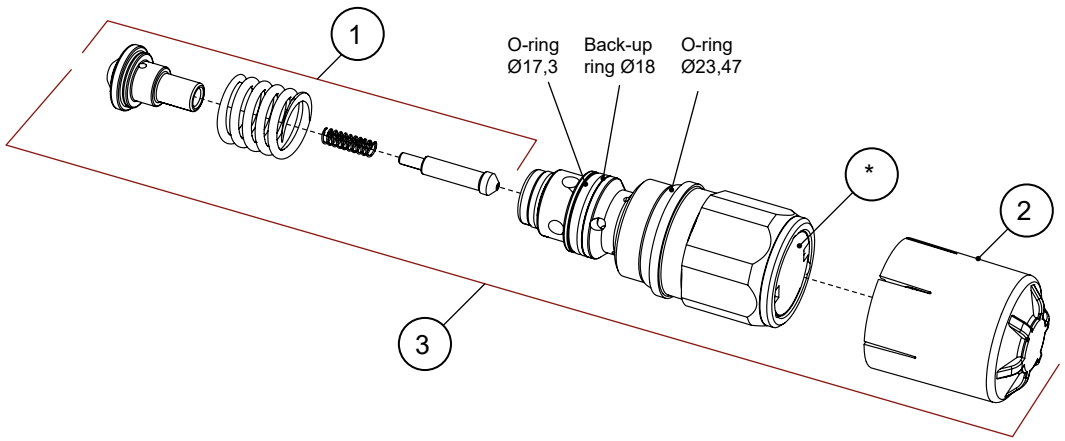
Note:
Extra back-up ring and seals are available in the respective valve spare sealing packages

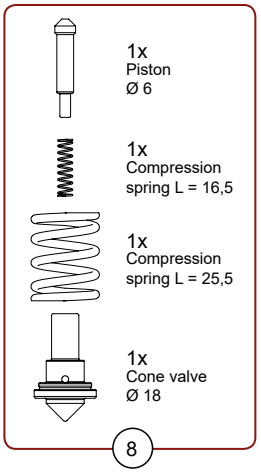
* = marking on cap

Pos.	Part no.	Description	*	Pos.	Part no.	Description	*
1	V9039	Anti-cavitation kit CV2		3	V1330AZ	Shock valve 33 MPa model AZ	33AZ
2	V2271GR	Plastic cap grey, shock valve			V1410AZ	Shock valve 41 MPa model AZ	41AZ
3	V1300AZ	Shock valve 30 MPa model AZ	30AZ		V1420AZ	Shock valve 42 MPa model AZ	42AZ
	V1310AZ	Shock valve 33 MPa model AZ	31AZ				

Shock valve model AZK (DLHV)

Spare parts





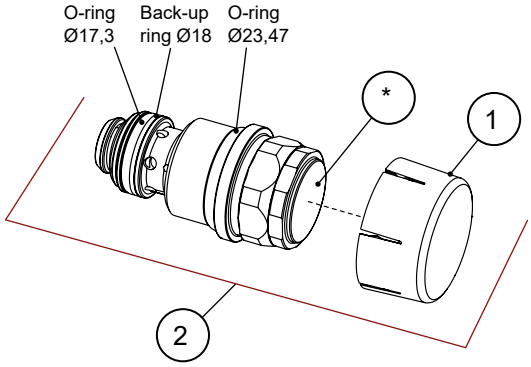
Note:
Extra back-up ring and seals are available in the respective valve spare sealing packages

* = marking on cap

Pos.	Part no.	Description	*	Pos.	Part no.	Description	*
1	V9039	Anti-cavitation kit CV2		3	V1260AZK	Shock valve 26 MPa model AZK	26AZK
2	V2271GR	Plastic cap grey, shock valve			V1330AZK	Shock valve 33 MPa model AZK	33AZK

Shock valve model C (Q300)

Spare parts



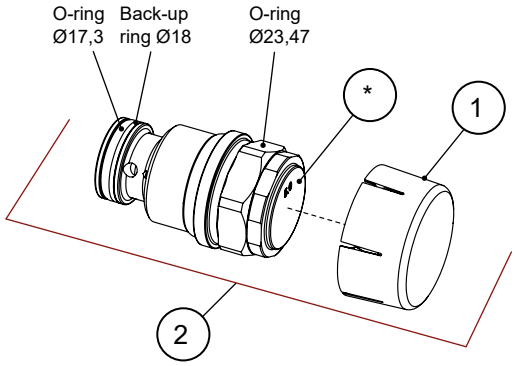
Note:
Extra back-up ring and seals are available in the respective valve spare sealing packages

* = marking on cap

Pos.	Part no.	Description	*	Pos.	Part no.	Description	*
1	V2444GR	Plastic cap grey, shock valve		2	V5250C	Shock valve 25 MPa model C	25
2	V5050C	Shock valve 5 MPa model C	5		V5255C	Shock valve 25,5 MPa model C	25,5
	V5055C	Shock valve 5,5 MPa model C	5,5		V5260C	Shock valve 26 MPa model C	26
	V5060C	Shock valve 6 MPa model C	6		V5265C	Shock valve 26,5 MPa model C	26,5
	V5065C	Shock valve 6,5 MPa model C	6,5		V5270C	Shock valve 27 MPa model C	27
	V5070C	Shock valve 7 MPa model C	7		V5275C	Shock valve 27,5 MPa model C	27,5
	V5075C	Shock valve 7,5 MPa model C	7,5		V5280C	Shock valve 28 MPa model C	28
	V5080C	Shock valve 8 MPa model C	8		V5285C	Shock valve 28,5 MPa model C	28,5
	V5085C	Shock valve 8,5 MPa model C	8,5		V5290C	Shock valve 29 MPa model C	29
	V5090C	Shock valve 9 MPa model C	9		V5295C	Shock valve 29,5 MPa model C	29,5
	V5095C	Shock valve 9,5 MPa model C	9,5		V5300C	Shock valve 30 MPa model C	30
	V5100C	Shock valve 10 MPa model C	10		V5305C	Shock valve 30,5 MPa model C	30,5
	V5105C	Shock valve 10,5 MPa model C	10,5		V5310C	Shock valve 31 MPa model C	31
	V5110C	Shock valve 11 MPa model C	11		V5315C	Shock valve 31,5 MPa model C	31,5
	V5115C	Shock valve 11,5 MPa model C	11,5		V5320C	Shock valve 32 MPa model C	32
	V5120C	Shock valve 12 MPa model C	12		V5325C	Shock valve 32,5 MPa model C	32,5
	V5125C	Shock valve 12,5 MPa model C	12,5		V5330C	Shock valve 33 MPa model C	33
	V5130C	Shock valve 13 MPa model C	13		V5335C	Shock valve 33,5 MPa model C	33,5
	V5135C	Shock valve 13,5 MPa model C	13,5		V5340C	Shock valve 34 MPa model C	34
	V5140C	Shock valve 14 MPa model C	14		V5345C	Shock valve 34,5 MPa model C	34,5
	V5145C	Shock valve 14,5 MPa model C	14,5		V5350C	Shock valve 35 MPa model C	35
	V5150C	Shock valve 15 MPa model C	15		V5355C	Shock valve 35,5 MPa model C	35,5
	V5155C	Shock valve 15,5 MPa model C	15,5		V5360C	Shock valve 36 MPa model C	36
	V5160C	Shock valve 16 MPa model C	16		V5365C	Shock valve 36,5 MPa model C	36,5
	V5165C	Shock valve 16,5 MPa model C	16,5		V5370C	Shock valve 37 MPa model C	37
	V5170C	Shock valve 17 MPa model C	17		V5375C	Shock valve 37,5 MPa model C	37,5
	V5175C	Shock valve 17,5 MPa model C	17,5		V5380C	Shock valve 38 MPa model C	38
	V5180C	Shock valve 18 MPa model C	18		V5385C	Shock valve 38,5 MPa model C	38,5
	V5185C	Shock valve 18,5 MPa model C	18,5		V5390C	Shock valve 39 MPa model C	39
	V5190C	Shock valve 19 MPa model C	19		V5395C	Shock valve 39,5 MPa model C	39,5
	V5195C	Shock valve 19,5 MPa model C	19,5		V5400C	Shock valve 40 MPa model C	40
	V5200C	Shock valve 20 MPa model C	20		V5405C	Shock valve 40,5 MPa model C	40,5
	V5205C	Shock valve 20,5 MPa model C	20,5		V5410C	Shock valve 41 MPa model C	41
	V5210C	Shock valve 21 MPa model C	21		V5415C	Shock valve 41,5 MPa model C	41,5
	V5215C	Shock valve 21,5 MPa model C	21,5		V5420C	Shock valve 42 MPa model C	42
	V5220C	Shock valve 22 MPa model C	22		V5425C	Shock valve 42,5 MPa model C	42,5
	V5225C	Shock valve 22,5 MPa model C	22,5		V5430C	Shock valve 43 MPa model C	43
	V5230C	Shock valve 23 MPa model C	23		V5435C	Shock valve 43,5 MPa model C	43,5
	V5235C	Shock valve 23,5 MPa model C	23,5		V5440C	Shock valve 44 MPa model C	44
	V5240C	Shock valve 24 MPa model C	24		V5445C	Shock valve 44,5 MPa model C	44,5
	V5245C	Shock valve 24,5 MPa model C	24,5		V5450C	Shock valve 45 MPa model C	45

Shock valve model D (Q300)

Spare parts



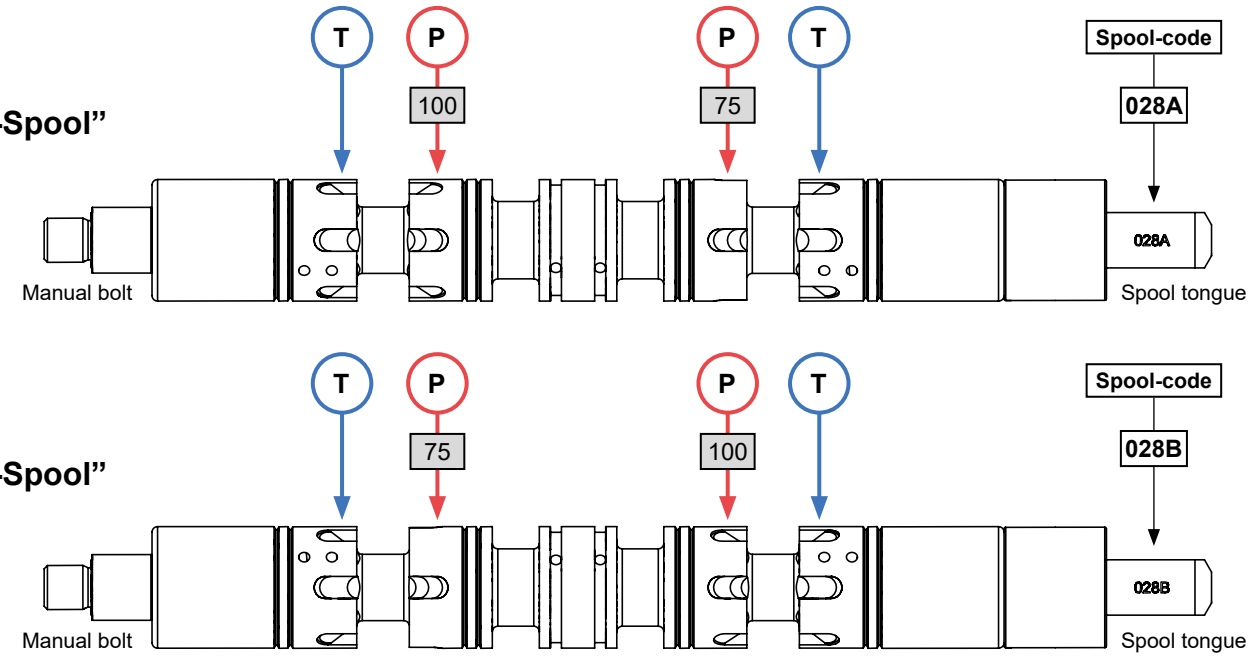
Note:
Extra back-up ring and seals are available in the respective valve spare sealing packages

* = marking on cap

Pos.	Part no.	Description	*	Pos.	Part no.	Description	*
1	V2444GR	Plastic cap grey, shock valve		2	V5250D	Shock valve 25 MPa model D	25
2	V5050D	Shock valve 5 MPa model D	5		V5255D	Shock valve 25,5 MPa model D	25,5
	V5055D	Shock valve 5,5 MPa model D	5,5		V5260D	Shock valve 26 MPa model D	26
	V5060D	Shock valve 6 MPa model D	6		V5265D	Shock valve 26,5 MPa model D	26,5
	V5065D	Shock valve 6,5 MPa model D	6,5		V5270D	Shock valve 27 MPa model D	27
	V5070D	Shock valve 7 MPa model D	7		V5275D	Shock valve 27,5 MPa model D	27,5
	V5075D	Shock valve 7,5 MPa model D	7,5		V5280D	Shock valve 28 MPa model D	28
	V5080D	Shock valve 8 MPa model D	8		V5285D	Shock valve 28,5 MPa model D	28,5
	V5085D	Shock valve 8,5 MPa model D	8,5		V5290D	Shock valve 29 MPa model D	29
	V5090D	Shock valve 9 MPa model D	9		V5295D	Shock valve 29,5 MPa model D	29,5
	V5095D	Shock valve 9,5 MPa model D	9,5		V5300D	Shock valve 30 MPa model D	30
	V5100D	Shock valve 10 MPa model D	10		V5305D	Shock valve 30,5 MPa model D	30,5
	V5105D	Shock valve 10,5 MPa model D	10,5		V5310D	Shock valve 31 MPa model D	31
	V5110D	Shock valve 11 MPa model D	11		V5315D	Shock valve 31,5 MPa model D	31,5
	V5115D	Shock valve 11,5 MPa model D	11,5		V5320D	Shock valve 32 MPa model D	32
	V5120D	Shock valve 12 MPa model D	12		V5325D	Shock valve 32,5 MPa model D	32,5
	V5125D	Shock valve 12,5 MPa model D	12,5		V5330D	Shock valve 33 MPa model D	33
	V5130D	Shock valve 13 MPa model D	13		V5335D	Shock valve 33,5 MPa model D	33,5
	V5135D	Shock valve 13,5 MPa model D	13,5		V5340D	Shock valve 34 MPa model D	34
	V5140D	Shock valve 14 MPa model D	14		V5345D	Shock valve 34,5 MPa model D	34,5
	V5145D	Shock valve 14,5 MPa model D	14,5		V5350D	Shock valve 35 MPa model D	35
	V5150D	Shock valve 15 MPa model D	15		V5355D	Shock valve 35,5 MPa model D	35,5
	V5155D	Shock valve 15,5 MPa model D	15,5		V5360D	Shock valve 36 MPa model D	36
	V5160D	Shock valve 16 MPa model D	16		V5365D	Shock valve 36,5 MPa model D	36,5
	V5165D	Shock valve 16,5 MPa model D	16,5		V5370D	Shock valve 37 MPa model D	37
	V5170D	Shock valve 17 MPa model D	17		V5375D	Shock valve 37,5 MPa model D	37,5
	V5175D	Shock valve 17,5 MPa model D	17,5		V5380D	Shock valve 38 MPa model D	38
	V5180D	Shock valve 18 MPa model D	18		V5385D	Shock valve 38,5 MPa model D	38,5
	V5185D	Shock valve 18,5 MPa model D	18,5		V5390D	Shock valve 39 MPa model D	39
	V5190D	Shock valve 19 MPa model D	19		V5395D	Shock valve 39,5 MPa model D	39,5
	V5195D	Shock valve 19,5 MPa model D	19,5		V5400D	Shock valve 40 MPa model D	40
	V5200D	Shock valve 20 MPa model D	20		V5405D	Shock valve 40,5 MPa model D	40,5
	V5205D	Shock valve 20,5 MPa model D	20,5		V5410D	Shock valve 41 MPa model D	41
	V5210D	Shock valve 21 MPa model D	21		V5415D	Shock valve 41,5 MPa model D	41,5
	V5215D	Shock valve 21,5 MPa model D	21,5		V5420D	Shock valve 42 MPa model D	42
	V5220D	Shock valve 22 MPa model D	22		V5425D	Shock valve 42,5 MPa model D	42,5
	V5225D	Shock valve 22,5 MPa model D	22,5		V5430D	Shock valve 43 MPa model D	43
	V5230D	Shock valve 23 MPa model D	23		V5435D	Shock valve 43,5 MPa model D	43,5
	V5235D	Shock valve 23,5 MPa model D	23,5		V5440D	Shock valve 44 MPa model D	44
	V5240D	Shock valve 24 MPa model D	24		V5445D	Shock valve 44,5 MPa model D	44,5
	V5245D	Shock valve 24,5 MPa model D	24,5		V5450D	Shock valve 45 MPa model D	45

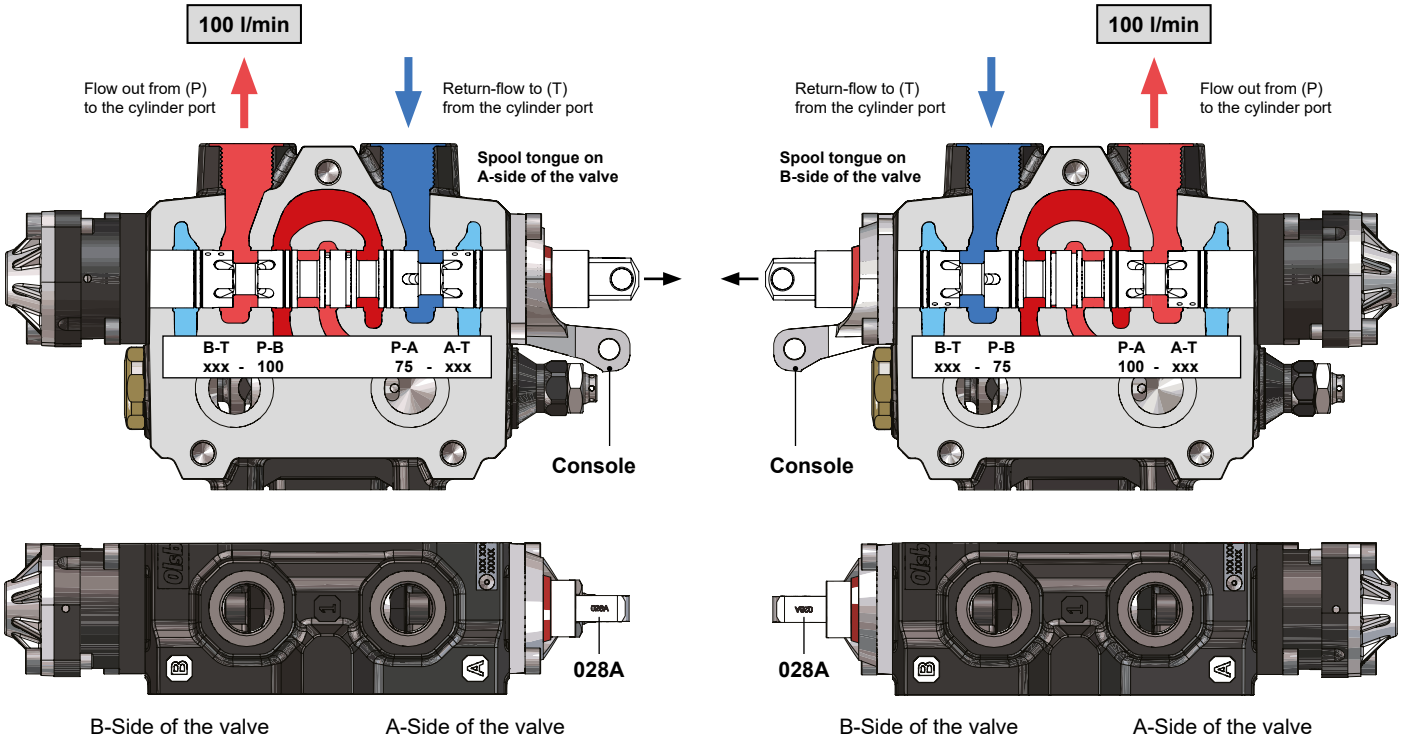
Spools for manually operated Q200 and Q300 valves

Description



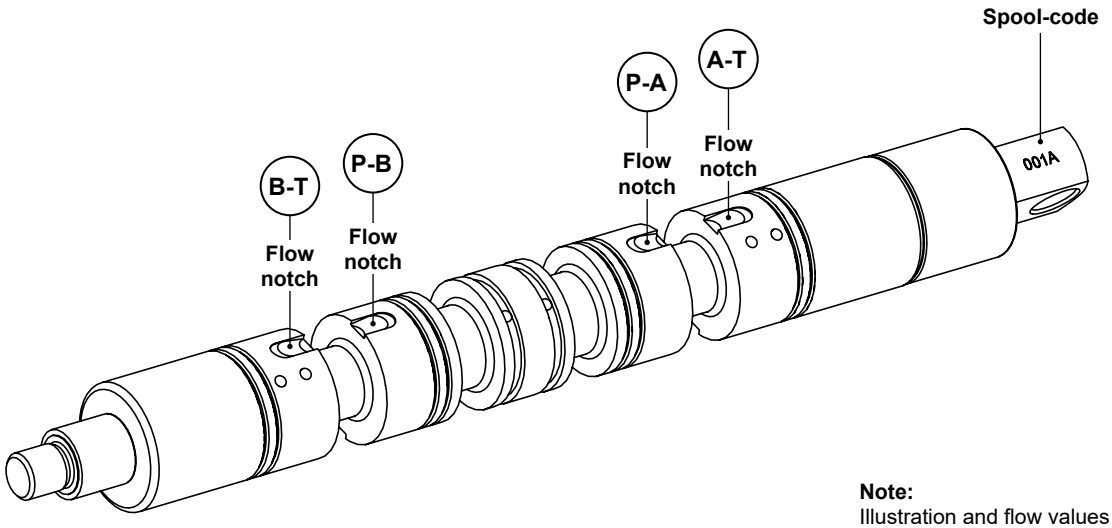
The differences between spools marked with "A" or "B" after the spool-code.
In this example, we use two "matched spools" with spool code **028A** and **028B.** The two spools are manufactured in the same way but what separates them is in which direction they are mounted at the factory. The spool tongue marked with an "A" has the lowest flow nearest the spool tongue. The spool tongue marked with an "B" has the highest flow nearest the spool tongue as shown in the illustration above.

How the spools can be mounted in the valves.
In the illustration below we use the spool with spool-code **028A** and two manual Q200 valves, one with the consoles mounted on the A-side of the valve and one with the consoles mounted on the B-side of the valve (same information applies for valve Q300). In the illustration to the left, the spool is mounted with the tongue on the A-side of the valve and the maximum flow out from the pump (P) to the cylinder port will be at 100 l/min. If we want the maximum flow out from the pump (P) to the same cylinder port to be at 75 l/min instead, we would use the spool with spool-code **028B**.



Spools for manually operated Q200 and Q300 valves

Symmetric spools (Eg. rotator, grapple)



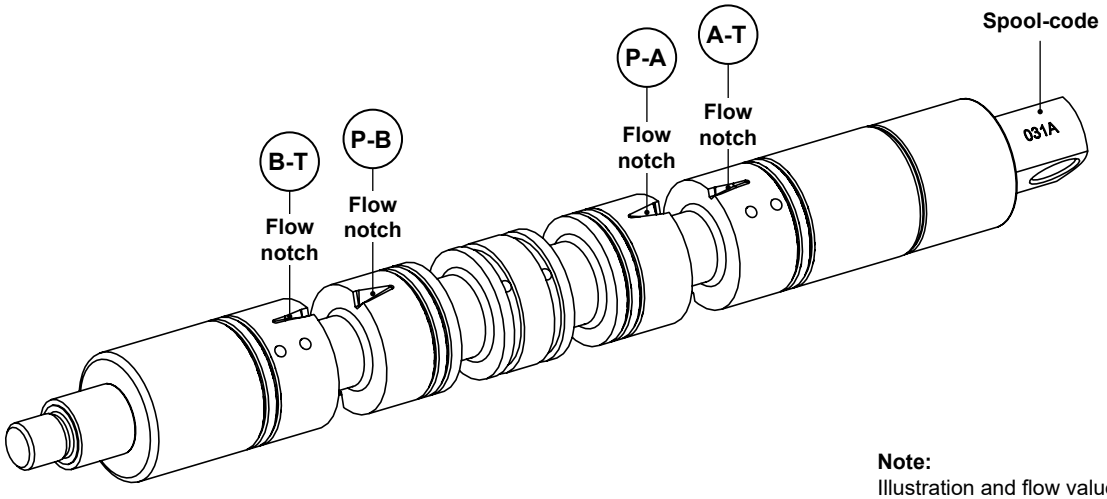
Note:
Illustration and flow values in this table are based on that the spool is mounted with the spool tongue on the A-side of the valve.

		Flow l/min							
Part no.	**Code**	**B-T**		**P-B**		**P-A**		**A-T**	
V32000A	**000A**	7	-	7	-	7	-	7	
V32001A	**001A**	12	-	12	-	12	-	12	
V32002A	**002A**	25	-	25	-	25	-	25	
V32003A	**003A**	35	-	35	-	35	-	35	
V32004A	**004A**	50	-	50	-	50	-	50	

		Flow l/min							
Part no.	**Code**	**B-T**		**P-B**		**P-A**		**A-T**	
V32005A	**005A**	150	-	75	-	75	-	150	
V32006A	**006A**	150	-	100	-	100	-	150	
V32007A	**007A**	150	-	150	-	150	-	150	
V32148A	**148A**	4	-	7	-	7	-	4	

Spools for manually operated Q200 and Q300 valves

Symmetric spools with restricted return notches (Eg. slewing)



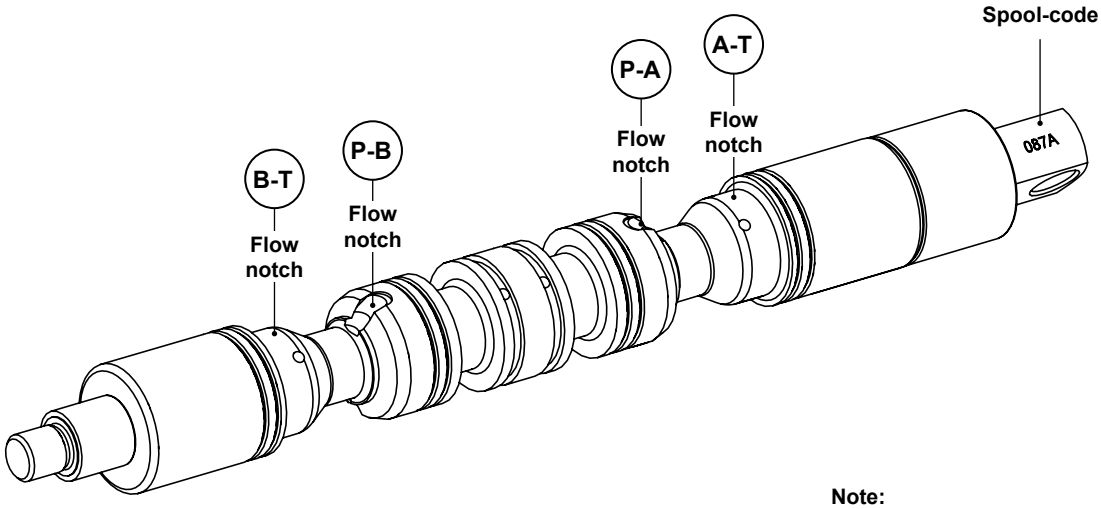
Note:
Illustration and flow values in this table are based on that the spool is mounted with the spool tongue on the A-side of the valve.

		Flow l/min							
Part no.	**Code**	**B-T**		**P-B**		**P-A**		**A-T**	
V32031A	**031A**	S18	-	18	-	18	-	S18	
V32032A	**032A**	S25	-	25	-	25	-	S25	
V32034A	**034A**	S35	-	35	-	35	-	S35	
V32036A	**036A**	S50	-	50	-	50	-	S50	
V32037A	**037A**	S63H	-	63E	-	63E	-	S63H	
V32038A	**038A**	S75	-	75	-	75	-	S75	
V32039A	**039A**	S100	-	100	-	100	-	S100	

		Flow l/min							
Part no.	**Code**	**B-T**		**P-B**		**P-A**		**A-T**	
V32040A	**040A**	S150	-	150	-	150	-	S150	
V32129A	**129A**	S75E	-	75E	-	75E	-	S75E	
V32130A	**130A**	S75G	-	75E	-	75E	-	S75G	
V32133A	**133A**	S63E	-	63E	-	63E	-	S63E	
V32134A	**134A**	S50E	-	50E	-	50E	-	S50E	
V32137A	**137A**	S50G	-	50E	-	50E	-	S50G	
V32330A	**330A**	S12	-	12	-	12	-	S12	

Spools for manually operated Q200 and Q300 valves

Symmetric motor spools (Eg. jib)



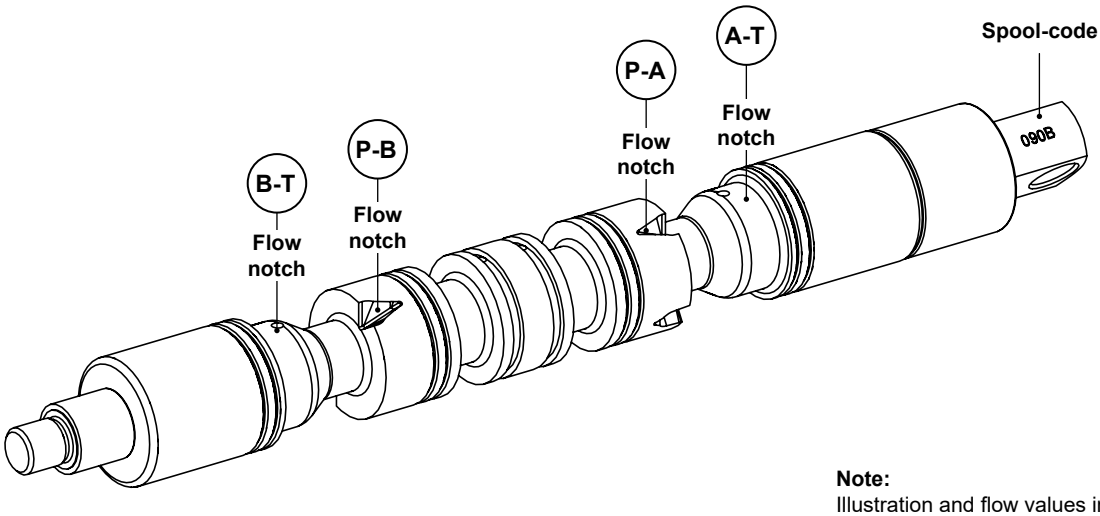
Note:
Illustration and flow values in this table are based on that the spool is mounted with the spool tongue on the A-side of the valve.

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V32081A	**081A**	M	-	12	-	12	-	M	
V32082A	**082A**	M	-	25	-	25	-	M	
V32083A	**083A**	M	-	35	-	35	-	M	
V32084A	**084A**	M	-	50	-	50	-	M	

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V32085A	**085A**	M	-	75	-	75	-	M	
V32086A	**086A**	M	-	100	-	100	-	M	
V32087A	**087A**	M	-	150	-	150	-	M	

Spools for manually operated Q200 and Q300 valves

Matched motor spools (Eg. winch)



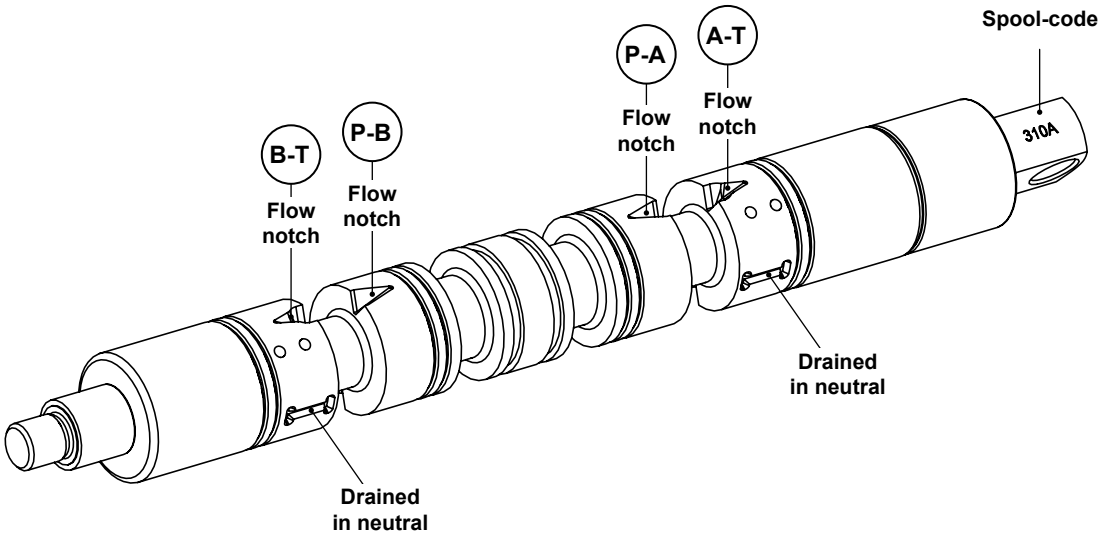
Note:
Illustration and flow values in this table are based on that the spool is mounted with the spool tongue on the A-side of the valve.

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V32090A	**090A**	M	-	50	-	30	-	M	
V32090B	**090B**	M	-	30	-	50	-	M	
V32092A	**092A**	M	-	75	-	50	-	M	
V32092B	**092B**	M	-	50	-	75	-	M	
V32093A	**093A**	M	-	75	-	35	-	M	
V32093B	**093B**	M	-	35	-	75	-	M	

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V32094A	**094A**	M	-	100	-	75	-	M	
V32094B	**094B**	M	-	75	-	100	-	M	
V32157A	**157A**	M	-	35	-	18	-	M	
V32157B	**157B**	M	-	18	-	35	-	M	
V32173A	**173A**	M	-	100	-	63	-	M	
V32173B	**173B**	M	-	63	-	100	-	M	

Spools for manually operated Q200 and Q300 valves

Symmetric spools with drain in neutral position (Eg. slewing with load holding valve)



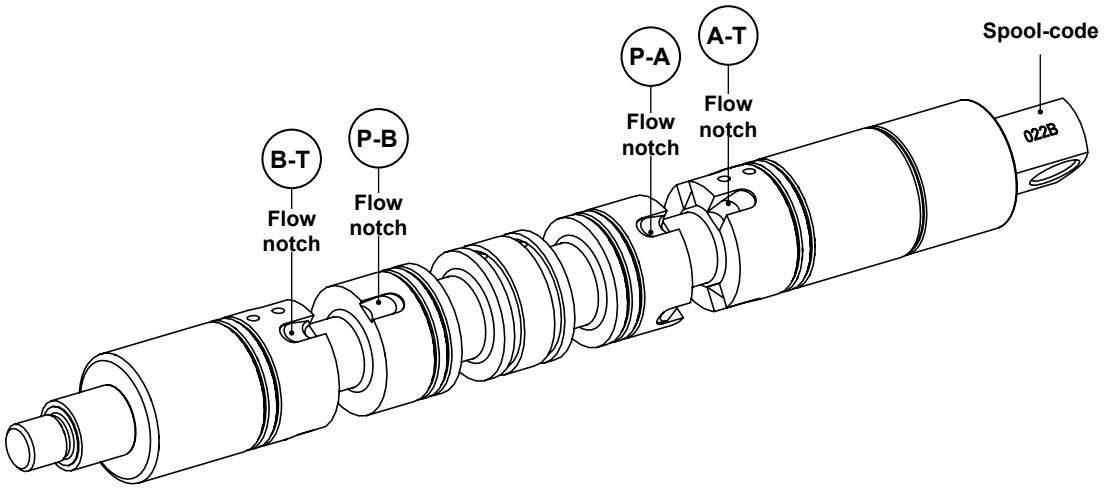
Note:
Illustration and flow values in this table are based on that the spool is mounted with the spool tongue on the A-side of the valve.

		Flow l/min							
Part no.	**Code**	**B-T**		**P-B**		**P-A**		**A-T**	
V32310A	**310A**	D S12	-	12	-	12	-	S12 D	
V32311A	**311A**	D S18	-	18	-	18	-	S18 D	
V32312A	**312A**	D S25	-	25	-	25	-	S25 D	
V32314A	**314A**	D S35	-	35	-	35	-	S35 D	
V32316A	**316A**	D S50	-	50	-	50	-	S50 D	
V32319A	**319A**	D 50	-	50	-	50	-	50 D	
V32320A	**320A**	D 75	-	75	-	75	-	75 D	
V32321A	**321A**	D 12	-	18	-	18	-	12 D	
V32322A	**322A**	D V35	-	35	-	35	-	V35 D	
V32323A	**323A**	D V75	-	75	-	75	-	V75 D	

		Flow l/min							
Part no.	**Code**	**B-T**		**P-B**		**P-A**		**A-T**	
V32324A	**324A**	D 75	-	50	-	50	-	75 D	
V32325A	**325A**	D 63	-	63	-	63	-	63 D	
V32326A	**326A**	D 25	-	25	-	25	-	25 D	
V32328A	**328A**	D V100	-	100	-	100	-	V100 D	
V32329A	**329A**	D S50H	-	50E	-	50E	-	S50H D	
V32332A	**332A**	D S63H	-	63E	-	63E	-	S63H D	
V32356A	**356A**	D S25H	-	25	-	25	-	S25H D	
V32361A	**361A**	D S35H	-	35	-	35	-	S35H D	
V32364A	**364A**	D S75	-	75	-	75	-	S75 D	
V32365A	**365A**	D S75H	-	75H	-	75H	-	S75 H D	

Spools for manually operated Q200 and Q300 valves

Matched spools (Eg. extension)



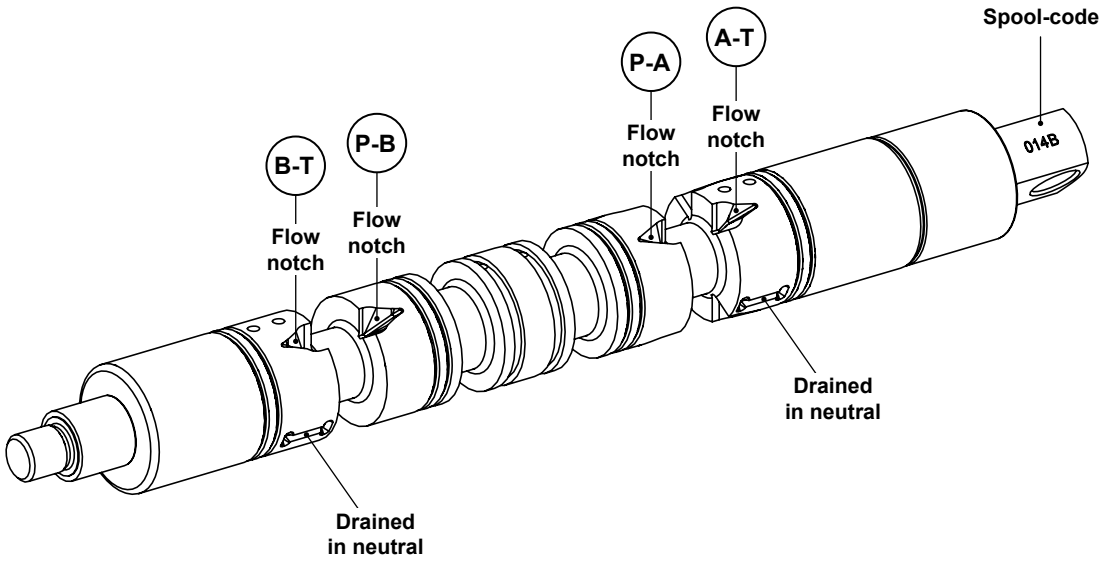
Note:
Illustration and flow values in this table are based on that the spool is mounted with the spool tongue on the A-side of the valve.

		Flow l/min							
Part no.	**Code**	**B-T**		**P-B**		**P-A**		**A-T**	
V32018A	**018A**	50	-	25	-	12	-	50	
V32018B	**018B**	50	-	12	-	25	-	50	
V32020A	**020A**	50	-	35	-	25	-	50	
V32020B	**020B**	50	-	25	-	35	-	50	
V32022A	**022A**	75	-	50	-	12	-	50	
V32022B	**022B**	50	-	12	-	50	-	75	
V32024A	**024A**	75	-	50	-	35	-	75	
V32024B	**024B**	75	-	35	-	50	-	75	
V32026A	**026A**	100	-	75	-	50	-	100	
V32026B	**026B**	100	-	50	-	75	-	100	
V32028A	**028A**	150	-	100	-	75	-	150	
V32028B	**028B**	150	-	75	-	100	-	150	
V32029A	**029A**	150	-	150	-	55	-	150	
V32029B	**029B**	150	-	55	-	150	-	150	
V32030A	**030A**	150	-	150	-	100	-	150	
V32030B	**030B**	150	-	100	-	150	-	150	
V32052A	**052A**	25	-	50	-	35	-	35	
V32052B	**052B**	35	-	35	-	50	-	25	
V32054A	**054A**	35	-	75	-	50	-	50	
V32054B	**054B**	50	-	50	-	75	-	35	
V32056A	**056A**	50	-	100	-	75	-	75	
V32056B	**056B**	75	-	75	-	100	-	50	
V32058A	**058A**	75	-	150	-	100	-	100	
V32058B	**058B**	100	-	100	-	150	-	75	
V32062A	**062A**	35	-	35	-	25	-	12	
V32062B	**062B**	12	-	25	-	35	-	35	
V32064A	**064A**	50	-	50	-	35	-	12	
V32064B	**064B**	12	-	35	-	50	-	50	
V32066A	**066A**	75	-	75	-	50	-	25	
V32066B	**066B**	25	-	50	-	75	-	75	
V32068A	**068A**	100	-	100	-	75	-	35	
V32068B	**068B**	35	-	75	-	100	-	100	
V32070A	**070A**	150	-	150	-	100	-	50	
V32070B	**070B**	50	-	100	-	150	-	150	
V32127A	**127A**	35	-	100	-	75	-	75	

		Flow l/min							
Part no.	**Code**	**B-T**		**P-B**		**P-A**		**A-T**	
V32127B	**127B**	75	-	75	-	100	-	35	
V32128A	**128A**	35	-	100	-	75	-	35	
V32128B	**128B**	35	-	75	-	100	-	35	
V32131A	**131A**	25E	-	100	-	75	-	75	
V32131B	**131B**	75	-	75	-	100	-	25E	
V32138A	**138A**	25E	-	100	-	63	-	63	
V32138B	**138B**	63	-	63	-	100	-	25E	
V32139A	**139A**	18E	-	75	-	50	-	50	
V32139B	**139B**	50	-	50	-	75	-	18E	
V32142A	**142A**	4	-	7	-	4	-	4	
V32142B	**142B**	4	-	4	-	7	-	4	
V32143A	**143A**	7	-	12	-	7	-	7	
V32143B	**143B**	7	-	7	-	12	-	7	
V32144A	**144A**	12	-	18	-	12	-	12	
V32144B	**144B**	12	-	12	-	18	-	12	
V32145A	**145A**	12	-	25	-	18	-	18	
V32145B	**145B**	18	-	18	-	25	-	12	
V32146A	**146A**	18	-	35	-	25	-	25	
V32146B	**146B**	25	-	25	-	35	-	18	
V32147A	**147A**	4	-	5,5	-	4	-	4	
V32147B	**147B**	4	-	4	-	5,5	-	4	
V32149A	**149A**	2,5	-	5,5	-	4	-	4	
V32149B	**149B**	4	-	4	-	5,5	-	2,5	
V32155A	**155A**	30	-	100	-	42	-	25	
V32155B	**155B**	25	-	42	-	100	-	30	
V32161A	**161A**	35	-	125	-	50	-	40	
V32161B	**161B**	40	-	50	-	125	-	35	
V32162A	**162A**	42	-	150	-	63	-	35	
V32162B	**162B**	35	-	63	-	150	-	42	
V32163A	**163A**	50	-	125	-	75	-	75	
V32163B	**163B**	75	-	75	-	125	-	50	
V32169A	**169A**	42	-	100	-	42	-	42	
V32169B	**169B**	42	-	42	-	100	-	42	
V32170A	**170A**	50	-	100	-	42	-	42	
V32170B	**170B**	42	-	42	-	100	-	50	

Spools for manually operated Q200 and Q300 valves

Matched spools with drain in neutral position (Eg. inner boom with load holding valve)



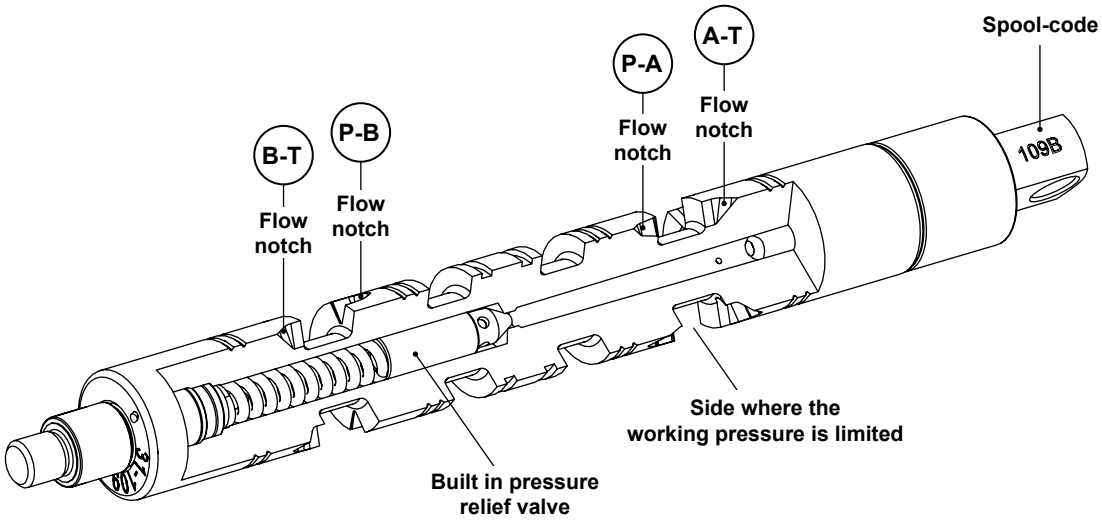
Note:
Illustration and flow values in this table are based on that the spool is mounted with the spool tongue on the A-side of the valve.

		Flow l/min											
Part no.	**Code**	**B-T**		**P-B**		**P-A**		**A-T**					
V32009A	**009A**	D L35	-	35	-	18	-	12 D					
V32009B	**009B**	D 12	-	18	-	35	-	L35 D					
V32010A	**010A**	D L22	-	22	-	12	-	12 D					
V32010B	**010B**	D 12	-	12	-	22	-	L22 D					
V32011A	**011A**	D L35	-	35	-	18	-	18 D					
V32011B	**011B**	D 18	-	18	-	35	-	L35 D					
V32012A	**012A**	D L50	-	50	-	22	-	22 D					
V32012B	**012B**	D 22	-	22	-	50	-	L50 D					
V32013A	**013A**	D L50	-	50	-	27	-	27 D					
V32013B	**013B**	D 27	-	27	-	50	-	L50 D					
V32014A	**014A**	D L63	-	63	-	35	-	35 D					
V32014B	**014B**	D 35	-	35	-	63	-	L63 D					
V32015A	**015A**	D L63	-	63	-	30	-	30 D					
V32015B	**015B**	D 30	-	30	-	63	-	L63 D					
V32016A	**016A**	D L75	-	75	-	35	-	35 D					
V32016B	**016B**	D 35	-	35	-	75	-	L75 D					
V32017A	**017A**	D L75	-	75	-	50	-	50 D					
V32017B	**017B**	D 50	-	50	-	75	-	L75 D					
V32019A	**019A**	D L100	-	100	-	63	-	63 D					
V32019B	**019B**	D 63	-	63	-	100	-	L100 D					
V32113A	**113A**	D 50	-	50	-	35	-	L35 D					

		Flow l/min											
Part no.	**Code**	**B-T**		**P-B**		**P-A**		**A-T**					
V32113B	**113B**	D L35	-	35	-	50	-	50 D					
V32114A	**114A**	D 100	-	100	-	75	-	L75 D					
V32114B	**114B**	D L75	-	75	-	100	-	100 D					
V32115A	**115A**	D 75	-	75	-	50	-	L50 D					
V32115B	**115B**	D L50	-	50	-	75	-	75 D					
V32117A	**117A**	D L75	-	75	-	27	-	27 D					
V32117B	**117B**	D 27	-	27	-	75	-	L75 D					
V32125A	**125A**	D L100	-	100	-	75	-	75 D					
V32125B	**125B**	D 75	-	75	-	100	-	L100 D					
V32171A	**171A**	D 7	-	12	-	7	-	7 D					
V32171B	**171B**	D 7	-	7	-	12	-	7 D					
V32327A	**327A**	D L18	-	18	-	12	-	12 D					
V32327B	**327B**	D 12	-	12	-	18	-	L18 D					
V32333A	**333A**	D L75	-	75	-	42	-	42 D					
V32333B	**333B**	D 42	-	42	-	75	-	L75 D					
V32335A	**335A**	D L100	-	100	-	42	-	25 D					
V32335B	**335B**	D 25	-	42	-	100	-	L100 D					
V32336A	**336A**	D L150	-	150	-	100	-	100 D					
V32336B	**336B**	D 100	-	100	-	150	-	L150 D					
V32339A	**339A**	D L100	-	100	-	42	-	75 D					
V32339B	**339B**	D 75	-	42	-	100	-	L100 D					

Spools for manually operated Q200 and Q300 valves

Matched spools with pressure relief valve (Eg. extension)



Example: 50S22 =
50l/min flow, 22 Mpa working pressure.

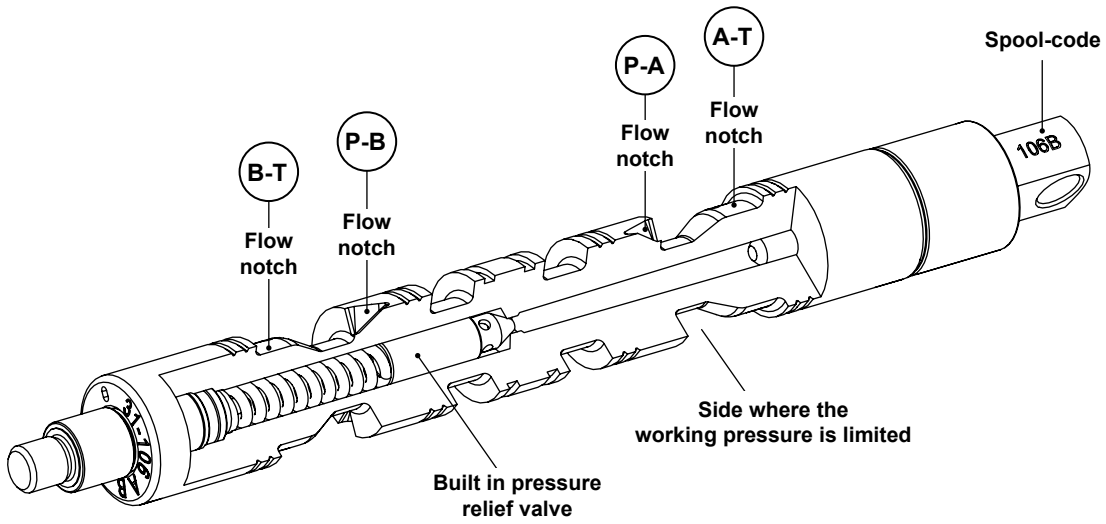
Note:
Illustration and flow values in this table are based on that the spool is mounted with the spool tongue on the A-side of the valve.

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V32096A	**096A**	75	-	50S14	-	35	-	75	
V32096B	**096B**	75	-	35	-	50S14	-	75	
V32098A	**098A**	100	-	75S14	-	50	-	100	
V32098B	**098B**	100	-	50	-	75S14	-	100	
V32101A	**101A**	75	-	50S12	-	35	-	75	
V32101B	**101B**	75	-	35	-	50S12	-	75	
V32102A	**102A**	75	-	50S10	-	35	-	75	
V32102B	**102B**	75	-	35	-	50S10	-	75	
V32103A	**103A**	100	-	75S20	-	50	-	100	
V32103B	**103B**	100	-	50	-	75S20	-	100	
V32104A	**104A**	75	-	50S16	-	35	-	75	
V32104B	**104B**	75	-	35	-	50S16	-	75	
V32108A	**108A**	100	-	75S18	-	50	-	100	
V32108B	**108B**	100	-	50	-	75S18	-	100	
V32109A	**109A**	100	-	75S16	-	50	-	100	
V32109B	**109B**	100	-	50	-	75S16	-	100	
V32111A	**111A**	75	-	50S20	-	35	-	75	
V32111B	**111B**	75	-	35	-	50S20	-	75	
V32116A	**116A**	100	-	75S10	-	50	-	100	
V32116B	**116B**	100	-	50	-	75S10	-	100	
V32118A	**118A**	100	-	75S22	-	50	-	100	
V32118B	**118B**	100	-	50	-	75S22	-	100	
V32136A	**136A**	50	-	75S10	-	100	-	35	

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V32136B	**136B**	35	-	100	-	75S10	-	50	
V32150A	**150A**	7	-	12S7	-	7	-	7	
V32150B	**150B**	7	-	7	-	12S7	-	7	
V32158A	**158A**	100	-	75S10	-	50	-	100	
V32158B	**158B**	100	-	50	-	75S10	-	100	
V32159A	**159A**	25	-	18S10	-	7	-	25	
V32159B	**159B**	25	-	7	-	18S10	-	25	
V32164A	**164A**	125	-	125S10	-	75	-	35	
V32164B	**164B**	35	-	75	-	125S10	-	125	
V32165A	**165A**	100	-	100S10	-	63	-	30	
V32165B	**165B**	30	-	63	-	100S10	-	100	
V32166A	**166A**	100	-	100S10	-	75	-	35	
V32166B	**166B**	35	-	75	-	100S10	-	100	
V32168A	**168A**	100	-	100S14	-	75	-	100	
V32168B	**168B**	100	-	75	-	100S14	-	100	
V32174A	**174A**	100	-	100S12	-	75	-	35	
V32174B	**174B**	35	-	75	-	100S12	-	100	
V32175A	**175A**	35	-	75	-	35S20	-	35	
V32175B	**175B**	35	-	35S20	-	75	-	35	
V32177A	**177A**	75	-	75S12	-	50	-	25	
V32177B	**177B**	25	-	50	-	75S12	-	75	
V32178A	**178A**	50	-	150	-	100S7	-	100	
V32178B	**178B**	100	-	100S7	-	150	-	50	

Spools for manually operated Q200 and Q300 valves

Matched motor spools with pressure relief valve (Eg. extension)



Example: 50S22 =
50l/min flow, 22 Mpa working pressure.

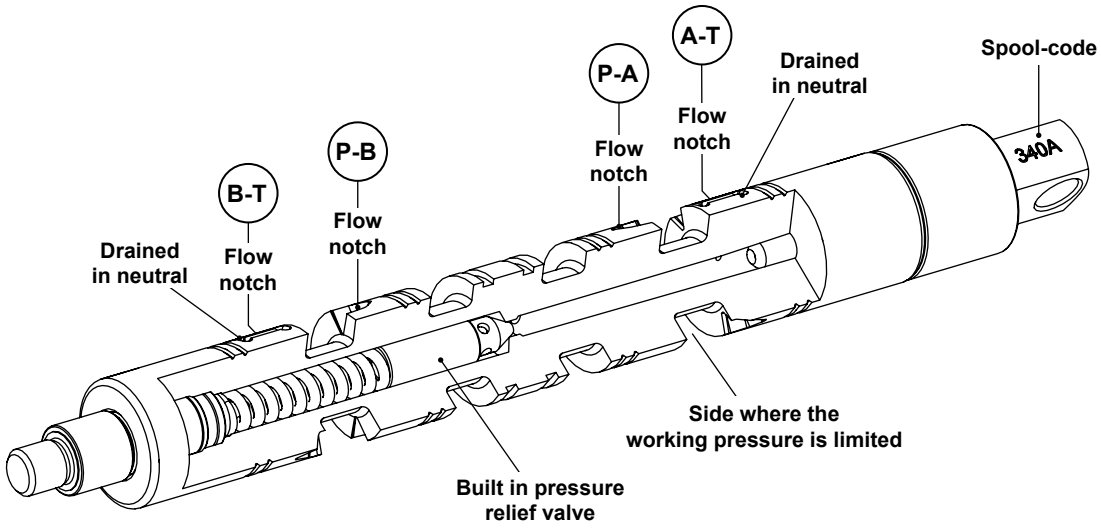
Note:
Illustration and flow values in this table are based on that the spool is mounted with the spool tongue on the A-side of the valve.

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V32106A	**106A**	M	-	50S22	-	30	-	M	
V32106B	**106B**	M	-	30	-	50S22	-	M	
V32107A	**107A**	M	-	50	-	30S20	-	M	
V32107B	**107B**	M	-	30S20	-	50	-	M	
V32110A	**110A**	M	-	50S12	-	30	-	M	
V32110B	**110B**	M	-	30	-	50S12		M	
V32112A	**112A**	M	-	100S22	-	50	-	M	
V32112B	**112B**	M	-	50	-	100S22	-	M	
V32119A	**119A**	M	-	50	-	30S12	-	M	
V32119B	**119B**	M	-	30S12	-	50	-	M	
V32120A	**120A**	M	-	75S22	-	50	-	M	
V32120B	**120B**	M	-	50	-	75S22	-	M	
V32121A	**121A**	M	-	50S12	-	30	-	M	

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V32121B	**121B**	M	-	30	-	50S12	-	M	
V32122A	**122A**	M	-	75S14	-	50	-	M	
V32122B	**122B**	M	-	50	-	75S14	-	M	
V32123A	**123A**	M	-	75S30	-	50	-	M	
V32123B	**123B**	M	-	50	-	75S30	-	M	
V32124A	**124A**	M	-	100S16	-	75	-	M	
V32124B	**124B**	M	-	75	-	100S16	-	M	
V32167A	**167A**	M	-	100S30	-	50	-	M	
V32167B	**167B**	M	-	50	-	100S30	-	M	
V32172A	**172A**	M	-	100S30	-	63	-	M	
V32172B	**172B**	M	-	63	-	100S30	-	M	
V32359A	**359A**	M	-	75S20	-	50	-	M	
V32359B	**359B**	M	-	50	-	75S20	-	M	

Spools for manually operated Q200 and Q300 valves

Matched spools with pressure relief valve and drain in neutral position (Eg. extension)



Example: 50S22 =
50l/min flow, 22 Mpa working pressure.

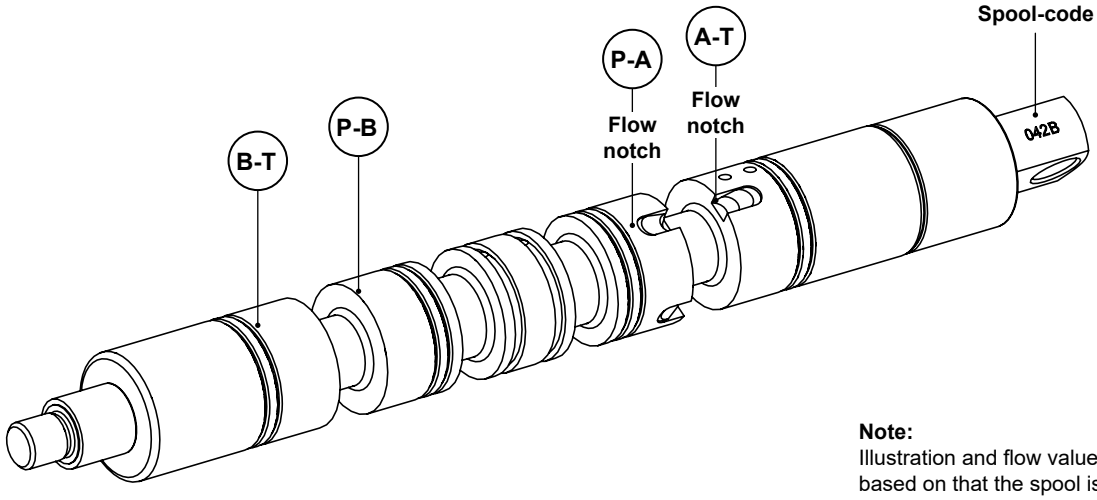
Note:
Illustration and flow values in this table are based on that the spool is mounted with the spool tongue on the A-side of the valve.

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V32340A	**340A**	D L63	-	63	-	42S14	-	42 D	
V32340B	**340B**	D 42	-	42S14	-	63	-	L63 D	
V32341A	**341A**	D L63	-	63	-	30S28	-	30 D	
V32341B	**341B**	D 30	-	30S28	-	63	-	L63 D	
V32342A	**342A**	D L63	-	63	-	35S28	-	35 D	
V32342B	**342B**	D 35	-	35S28	-	63	-	L63 D	
V32343A	**343A**	D L75	-	75	-	35S28	-	35 D	
V32343B	**343B**	D 35	-	35S28	-	75	-	L75 D	
V32344A	**344A**	D L75	-	75	-	50S28	-	50 D	
V32344B	**344B**	D 50	-	50S28	-	75	-	L75 D	
V32345A	**345A**	D 100	-	100S20	-	75	-	L75 D	
V32345B	**345B**	D L75	-	75	-	100S20	-	100 D	
V32346A	**346A**	D 75	-	75S20	-	50	-	L50 D	
V32346B	**346B**	D L50	-	50	-	75S20	-	100 D	
V32347A	**347A**	D L75	-	75	-	42S24	-	42 D	
V32347B	**347B**	D 42	-	42S24	-	75	-	42 D	
V32348A	**348A**	D L150	-	150	-	100S16	-	100 D	
V32348B	**348B**	D 100	-	100S16	-	150	-	L150 D	
V32349A	**349A**	D L100	-	100	-	63S10	-	63 D	
V32349B	**349B**	D 63	-	63S10	-	100	-	L100 D	

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V32350A	**350A**	D 100	-	100S16	-	63	-	L63 D	
V32350B	**350B**	D L63	-	63	-	100S16	-	100 D	
V32352A	**352A**	D L75	-	75	-	50S10	-	50 D	
V32352B	**352B**	D 50	-	50S10	-	75	-	L75 D	
V32353A	**353A**	D L75	-	75	-	27S21	-	27 D	
V32353B	**353B**	D 27	-	27S21	-	75	-	L75 D	
V32354A	**354A**	D 100	-	100S14	-	75	-	L75 D	
V32354B	**354B**	D L75	-	75	-	100S14	-	100 D	
V32355A	**355A**	D L100	-	100	-	75S10	-	75 D	
V32355B	**355B**	D 75	-	75S10	-	100	-	L100 D	
V32357A	**357A**	D 100	-	75S20	-	50	-	100 D	
V32357B	**357B**	D 100	-	50	-	75S20	-	100 D	
V32358A	**358A**	D 100	-	75S14	-	50	-	100 D	
V32358B	**358B**	D 100	-	50	-	75S14	-	100 D	
V32360A	**360A**	D 75	-	50S16	-	35	-	75 D	
V32360B	**360B**	D 75	-	35	-	50S16	-	75 D	
V32362A	**362A**	D L75	-	75	-	50S21	-	50 D	
V32362B	**362B**	D 50	-	50S21	-	75	-	L75 D	
V32363A	**363A**	D 100	-	75S17	-	50	-	100 D	
V32363B	**363B**	D 100	-	50	-	75S17	-	100 D	

Spools for manually operated Q200 and Q300 valves

Single acting spools (Eg. single acting cylinder, inner boom)



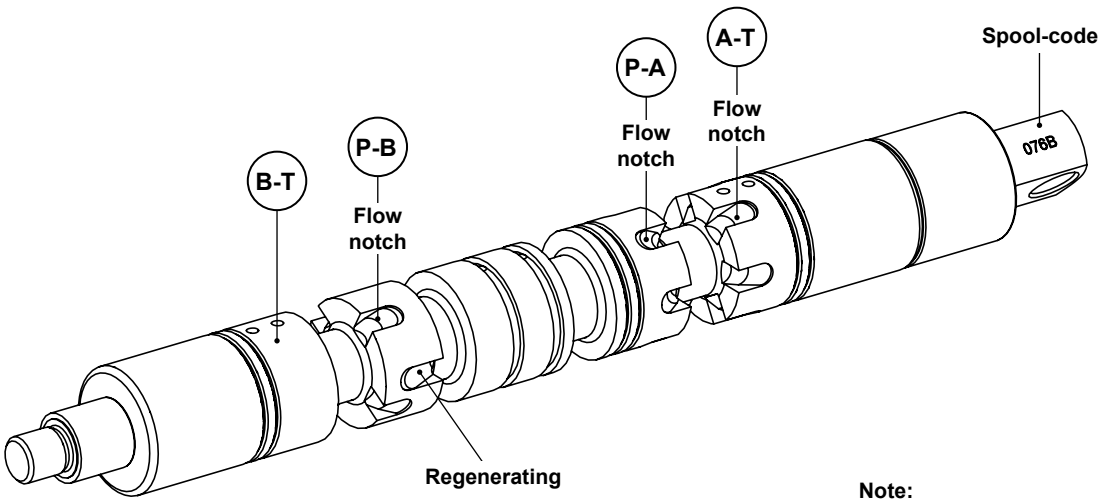
Note:
Illustration and flow values in this table are based on that the spool is mounted with the spool tongue on the A-side of the valve.

		Flow l/min							
Part no.	**Code**	**B-T**		**P-B**		**P-A**		**A-T**	
V32042A	**042A**	25	-	50	-	0	-	0	
V32042B	**042B**	0	-	0	-	50	-	25	
V32044A	**044A**	35	-	75	-	0	-	0	
V32044B	**044B**	0	-	0	-	75	-	35	
V32046A	**046A**	50	-	100	-	0	-	0	

		Flow l/min							
Part no.	**Code**	**B-T**		**P-B**		**P-A**		**A-T**	
V32046B	**046B**	0	-	0	-	100	-	50	
V32048A	**048A**	75	-	150	-	0	-	0	
V32048B	**048B**	0	-	0	-	150	-	75	
V32049A	**049A**	75	-	180	-	0	-	0	
V32049B	**049B**	0	-	0	-	180	-	75	

Spools for manually operated Q200 and Q300 valves

Regenerating spools (Eg. outer boom with pulling cylinder)



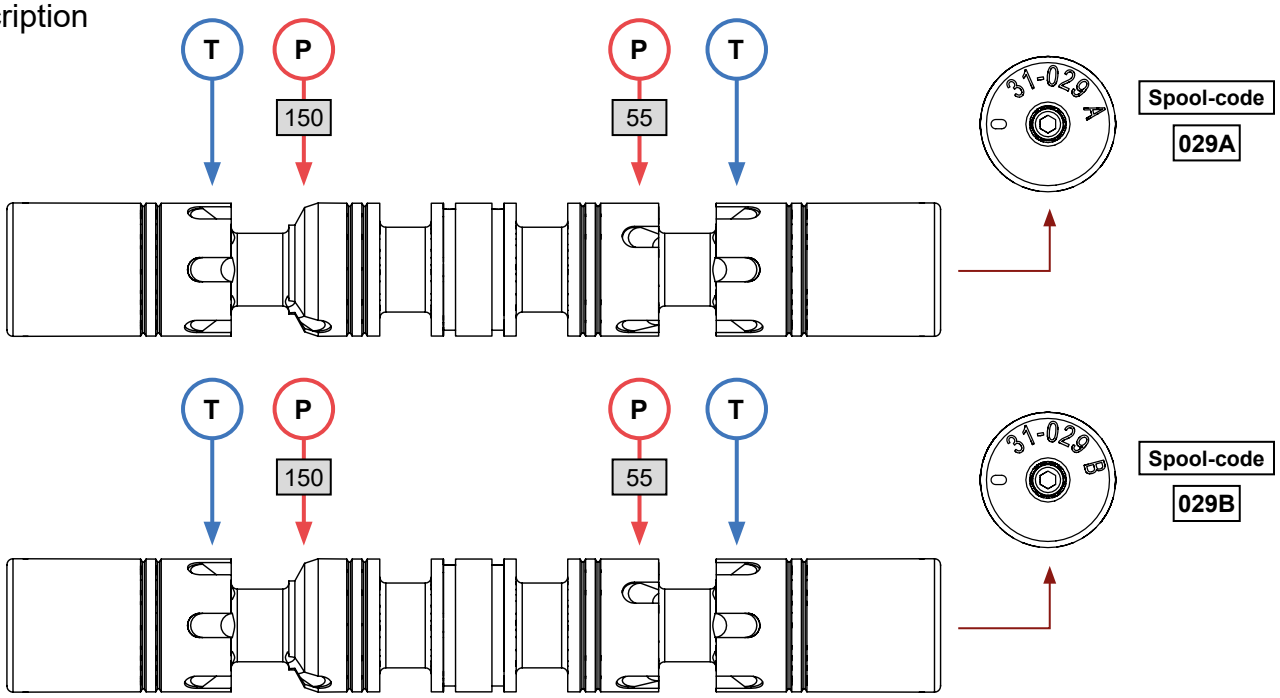
Note:
Illustration and flow values in this table are based on that the spool is mounted with the spool tongue on the A-side of the valve.

		Flow l/min							
Part no.	**Code**	**B-T**		**P-B**		**P-A**		**A-T**	
V32072A	**072A**	50	-	50	-	35	-	R	
V32072B	**072B**	R	-	35	-	50	-	50	
V32074A	**074A**	75	-	75	-	50	-	R	
V32074B	**074B**	R	-	50	-	75	-	75	
V32076A	**076A**	100	-	100	-	75	-	R	
V32076B	**076B**	R	-	75	-	100	-	100	

		Flow l/min							
Part no.	**Code**	**B-T**		**P-B**		**P-A**		**A-T**	
V32078A	**078A**	150	-	150	-	100	-	R	
V32078B	**078B**	R	-	100	-	150	-	150	
V32132A	**132A**	100	-	100F	-	75	-	R75F	
V32132B	**132B**	R75F	-	75	-	100F	-	100	
V32135A	**135A**	75	-	75E	-	50	-	R50F	
V32135B	**135B**	R50F	-	50	-	75E	-	75	

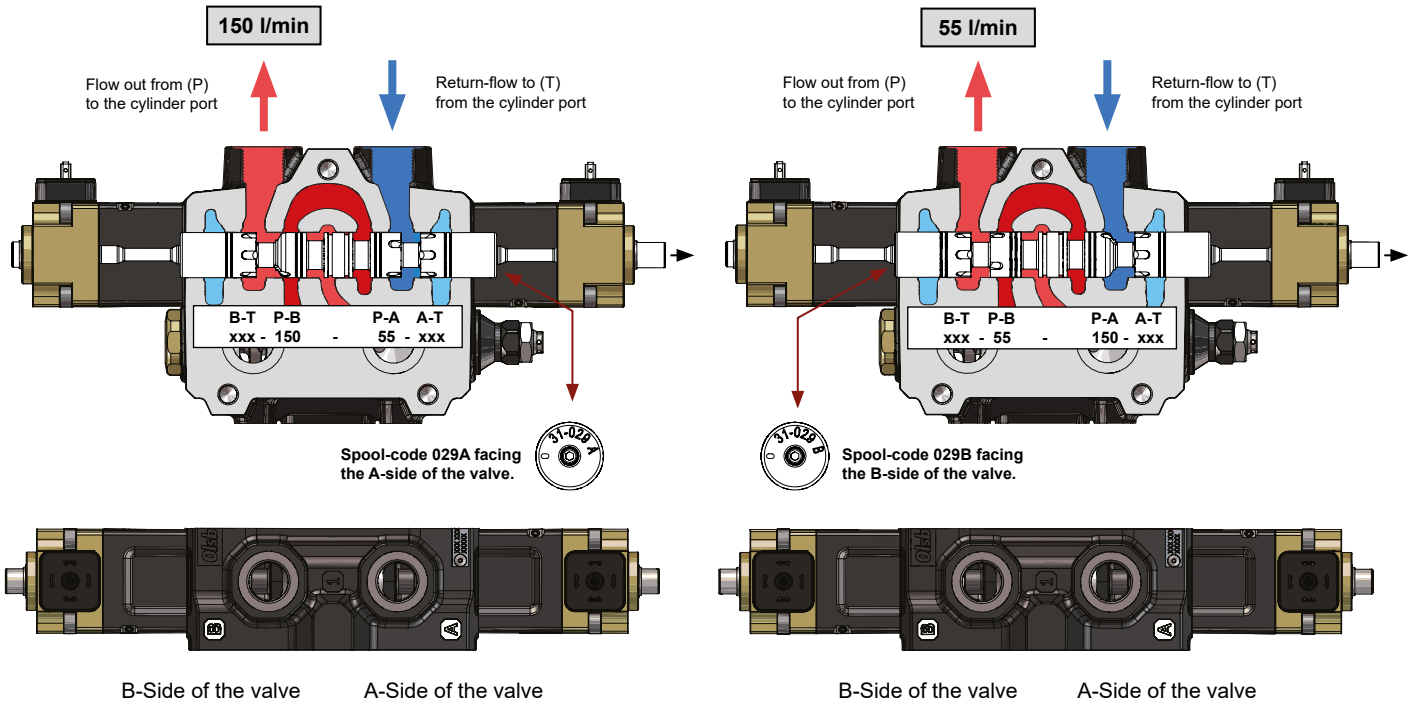
Spools for electrically operated Q200 and Q300 valves with positioner P8

Description



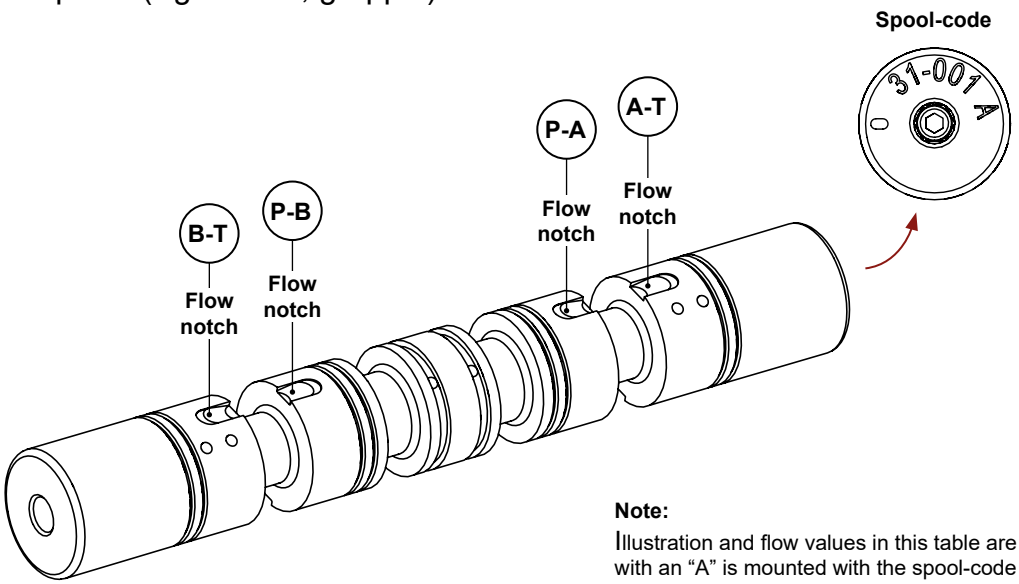
The differences between spools marked with "A" or "B" after the spool-code.
In this example, we use two "matched spools" with spool code **029A** and **029B.** The two spools are manufactured in the same way and the lowest flow on the spool will be nearest the spool-code, as shown in the illustration above. The "A" and "B" stands for in which direction the spool will be mounted in the valve. For example an "A"-spool should always have the spool-code facing the A-side of the valve and a "B"-spool should always have the spool-code facing the B-side of the valve.

How the spools can be mounted in the valves.
In the illustration below we use both spools as shown above and one electrically operated Q200 valve with positioners P8 mounted (same information applies for valve Q300). The left illustration shows the spool with the spool-code **029A** facing the A-side of the valve, with this combination, there will be a maximum flow of 150 l/min out from pump (P) to the cylinder port as shown in the illustration. If we want the maximum flow out from the pump (P) to the same cylinder port to be at 55 l/min instead, we would mount the spool with spool-code **029B** facing the B-side of the valve as shown in the illustration below to the right.



Spools for electrically operated Q200 and Q300 valves with positioner P8

Symmetric spools (Eg. rotator, grapple)



Note:

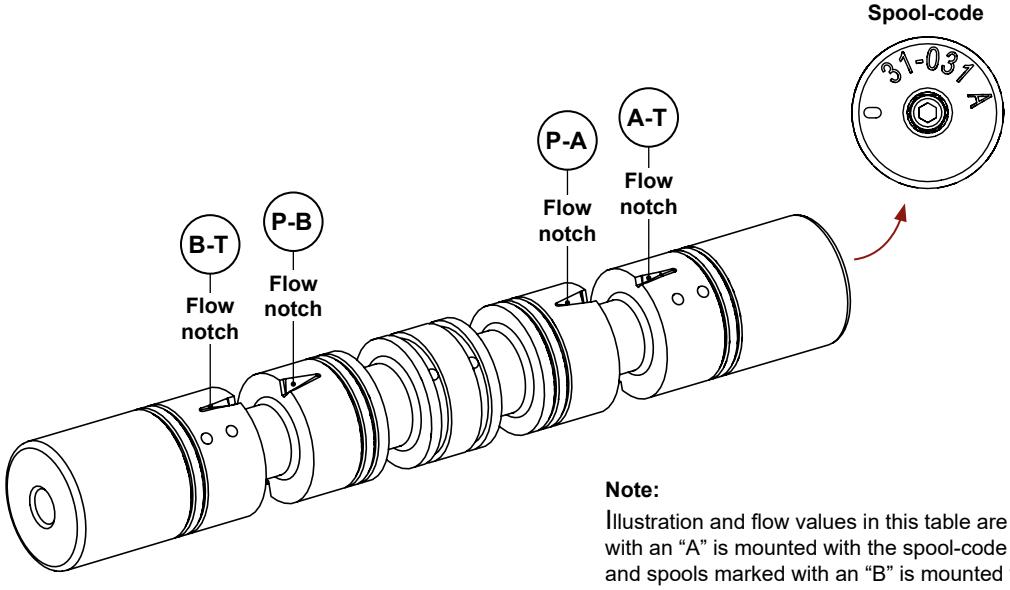
Illustration and flow values in this table are based on: Spools marked with an “A” is mounted with the spool-code on the A-side of the valve and spools marked with an “B” is mounted with the spool-code on the B-side of the valve.

		Flow l/min						
Part no.	Code	B-T		P-B		P-A		A-T
V31000A	**000A**	7	-	7	-	7	-	7
V31001A	**001A**	12	-	12	-	12	-	12
V31002A	**002A**	25	-	25	-	25	-	25
V31003A	**003A**	35	-	35	-	35	-	35
V31004A	**004A**	50	-	50	-	50	-	50

		Flow l/min						
Part no.	Code	B-T		P-B		P-A		A-T
V31005A	**005A**	150	-	75	-	75	-	150
V31006A	**006A**	150	-	100	-	100	-	150
V31007A	**007A**	150	-	150	-	150	-	150
V31148A	**148A**	4	-	7	-	7	-	4
V31156A	**156A**	10	-	10	-	10	-	10

Spools for electrically operated Q200 and Q300 valves with positioner P8

Symmetric spools with restricted return notches (Eg. slewing)



Note:

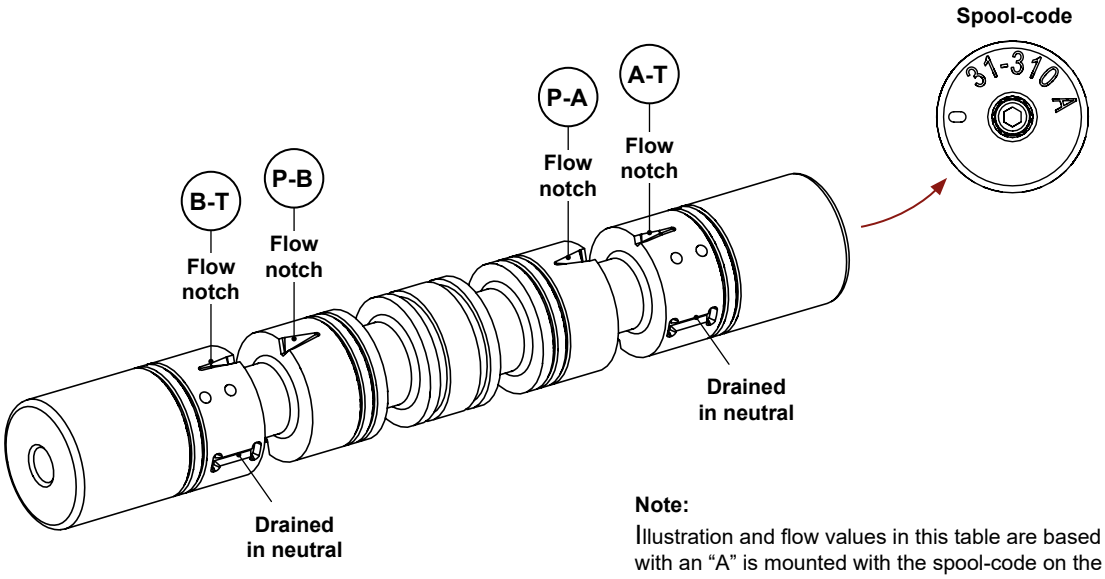
Illustration and flow values in this table are based on: Spools marked with an “A” is mounted with the spool-code on the A-side of the valve and spools marked with an “B” is mounted with the spool-code on the B-side of the valve.

		Flow l/min						
Part no.	Code	B-T		P-B		P-A		A-T
V31031A	**031A**	S18	-	18	-	18	-	S18
V31032A	**032A**	S25	-	25	-	25	-	S25
V31034A	**034A**	S35	-	35	-	35	-	S35
V31036A	**036A**	S50	-	50	-	50	-	S50
V32037A	**037A**	S63H	-	63E	-	63E	-	S63H
V31038A	**038A**	S75	-	75	-	75	-	S75
V31039A	**039A**	S100	-	100	-	100	-	S100
V31040A	**040A**	S150	-	150	-	150	-	S150

		Flow l/min						
Part no.	Code	B-T		P-B		P-A		A-T
V31129A	**129A**	S75E	-	75E	-	75E	-	S75E
V31130A	**130A**	S75G	-	75E	-	75E	-	S75G
V31133A	**133A**	S63E	-	63E	-	63E	-	S63E
V31134A	**134A**	S50E	-	50E	-	50E	-	S50E
V31137A	**137A**	S50G	-	50E	-	50E	-	S50G
V31176A	**176A**	S75H	-	75H	-	75H	-	S75H
V31330A	**330A**	S12	-	12	-	12	-	S12

Spools for electrically operated Q200 and Q300 valves with positioner P8

Symmetric spools with drain in neutral position (Eg. slewing with load holding valve)



Note:

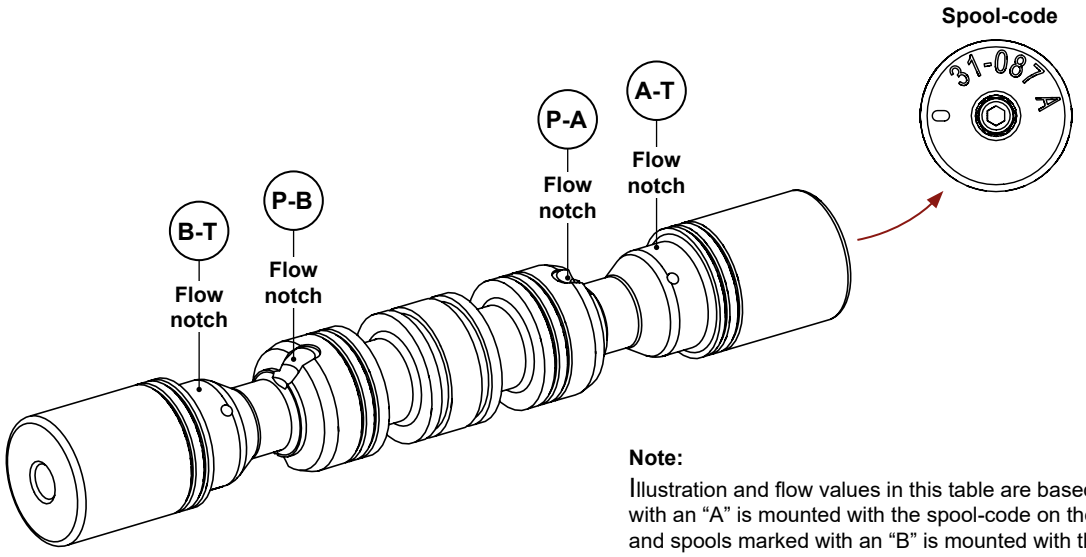
Illustration and flow values in this table are based on: Spools marked with an “A” is mounted with the spool-code on the A-side of the valve and spools marked with an “B” is mounted with the spool-code on the B-side of the valve.

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V31310A	**310A**	D S12	-	12	-	12	-	S12 D	
V31311A	**311A**	D S18	-	18	-	18	-	S18 D	
V31312A	**312A**	D S25	-	25	-	25	-	S25 D	
V31314A	**314A**	D S35	-	35	-	35	-	S35 D	
V31316A	**316A**	D S50	-	50	-	50	-	S50 D	
V31319A	**319A**	D 50	-	50	-	50	-	50 D	
V31320A	**320A**	D 75	-	75	-	75	-	75 D	
V31321A	**321A**	D 12	-	18	-	18	-	12 D	
V31322A	**322A**	D V35	-	35	-	35	-	V35 D	
V31323A	**323A**	D V75	-	75	-	75	-	V75 D	

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V31324A	**324A**	D 75	-	50	-	50	-	75 D	
V31325A	**325A**	D 63	-	63	-	63	-	63 D	
V31326A	**326A**	D 25	-	25	-	25	-	25 D	
V31328A	**328A**	D V100	-	100	-	100	-	V100 D	
V31329A	**329A**	D S50H	-	50E	-	50E	-	S50H D	
V31332A	**332A**	D S63H	-	63E	-	63E	-	S63H D	
V31356A	**356A**	D S25H	-	25	-	25	-	S25H D	
V31361A	**361A**	D S35H	-	35	-	35	-	S35H D	
V31364A	**364A**	D S75	-	75	-	75	-	S75 D	
V31365A	**365A**	D S75H	-	75H	-	75H	-	S75 H D	

Spools for electrically operated Q200 and Q300 valves with positioner P8

Symmetric motor spools (Eg. jib)



Note:

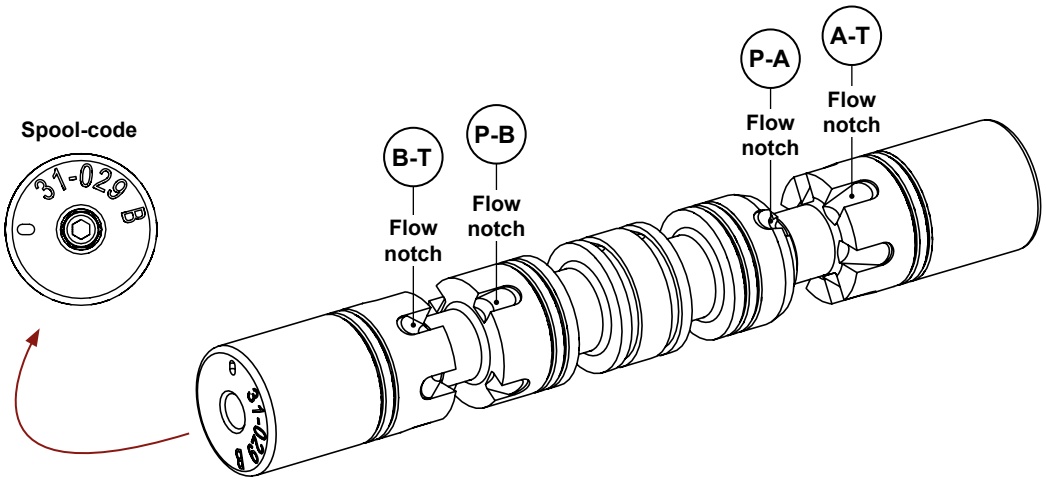
Illustration and flow values in this table are based on: Spools marked with an “A” is mounted with the spool-code on the A-side of the valve and spools marked with an “B” is mounted with the spool-code on the B-side of the valve.

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V31081A	**081A**	M	-	12	-	12	-	M	
V31082A	**082A**	M	-	25	-	25	-	M	
V31083A	**083A**	M	-	35	-	35	-	M	
V31084A	**084A**	M	-	50	-	50	-	M	

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V31085A	**085A**	M	-	75	-	75	-	M	
V31086A	**086A**	M	-	100	-	100	-	M	
V31087A	**087A**	M	-	150	-	150	-	M	

Spools for electrically operated Q200 and Q300 valves with positioner P8

Matched spools (Eg. extensions)



Note:

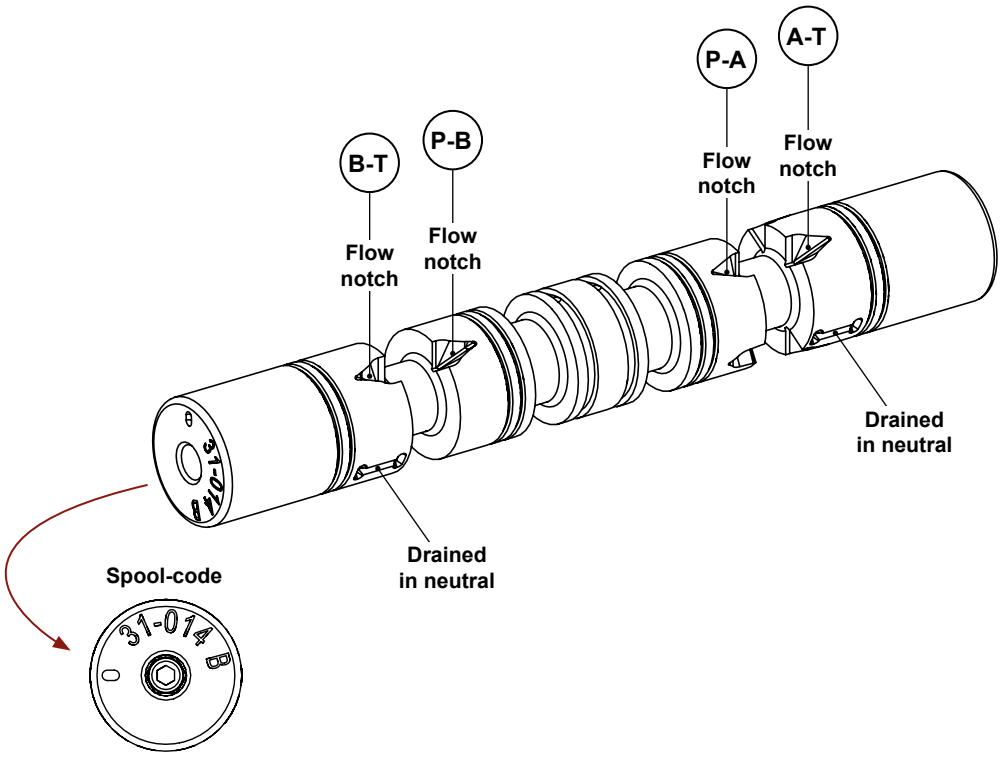
Illustration and flow values in this table are based on: Spools marked with an “A” is mounted with the spool-code on the A-side of the valve and spools marked with an “B” is mounted with the spool-code on the B-side of the valve.

		Flow l/min			
Part no.	Code	B-T	P-B	P-A	A-T
V31018A	**018A**	50	25	12	50
V31018B	**018B**	50	12	25	50
V31020A	**020A**	50	35	25	50
V31020B	**020B**	50	25	35	50
V31022A	**022A**	75	50	12	50
V31022B	**022B**	50	12	50	75
V31024A	**024A**	75	50	35	75
V31024B	**024B**	75	35	50	75
V31026A	**026A**	100	75	50	100
V31026B	**026B**	100	50	75	100
V31028A	**028A**	150	100	75	150
V31028B	**028B**	150	75	100	150
V31029A	**029A**	150	150	55	150
V31029B	**029B**	150	55	150	150
V31030A	**030A**	150	150	100	150
V31030B	**030B**	150	100	150	150
V31052A	**052A**	25	50	35	35
V31052B	**052B**	35	35	50	25
V31054A	**054A**	35	75	50	50
V31054B	**054B**	50	50	75	35
V31056A	**056A**	50	100	75	75
V31056B	**056B**	75	75	100	50
V31058A	**058A**	75	150	100	100
V31058B	**058B**	100	100	150	75
V31062A	**062A**	35	35	25	12
V31062B	**062B**	12	25	35	35
V31064A	**064A**	50	50	35	12
V31064B	**064B**	12	35	50	50
V31066A	**066A**	75	75	50	25
V31066B	**066B**	25	50	75	75
V31068A	**068A**	100	100	75	35
V31068B	**068B**	35	75	100	100
V31070A	**070A**	150	150	100	50
V31070B	**070B**	50	100	150	150
V31127A	**127A**	35	100	75	75
V31127B	**127B**	75	75	100	35

		Flow l/min			
Part no.	Code	B-T	P-B	P-A	A-T
V31128A	**128A**	35	100	75	35
V31128B	**128B**	35	75	100	35
V31131A	**131A**	25E	100	75	75
V31131B	**131B**	75	75	100	25E
V31138A	**138A**	25E	100	63	63
V31138B	**138B**	63	63	100	25E
V31139A	**139A**	18E	75	50	50
V31139B	**139B**	50	50	75	18E
V31142A	**142A**	4	7	4	4
V31142B	**142B**	4	4	7	4
V31143A	**143A**	7	12	7	7
V31143B	**143B**	7	7	12	7
V31144A	**144A**	12	18	12	12
V31144B	**144B**	12	12	18	12
V31145A	**145A**	12	25	18	18
V31145B	**145B**	18	18	25	12
V31146A	**146A**	18	35	25	25
V31146B	**146B**	25	25	35	18
V31147A	**147A**	4	5,5	4	4
V31147B	**147B**	4	4	5,5	4
V31149A	**149A**	2,5	5,5	4	4
V31149B	**149B**	4	4	5,5	2,5
V31151A	**151A**	35	100	63	35
V31151B	**151B**	35	63	100	35
V31155A	**155A**	30	100	42	25
V31155B	**155B**	25	42	100	30
V31161A	**161A**	35	125	50	42
V31161B	**161B**	42	50	125	35
V31162A	**162A**	42	150	63	35
V31162B	**162B**	35	63	150	42
V31163A	**163A**	50	125	75	75
V31163B	**163B**	75	75	125	50
V31169A	**169A**	42	100	42	42
V31169B	**169B**	42	42	100	42
V31170A	**170A**	50	100	42	42
V31170B	**170B**	42	42	100	50

Spools for electrically operated Q200 and Q300 valves with positioner P8

Matched spools with drain in neutral position (Eg. inner boom with load holding valve)



Note:

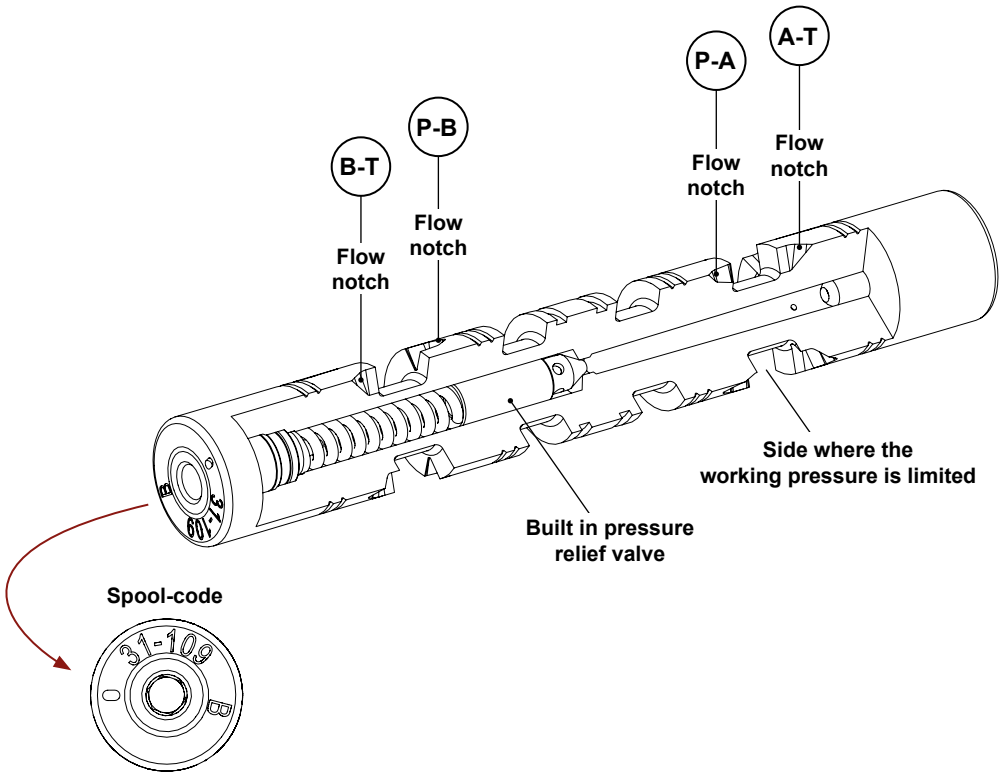
Illustration and flow values in this table are based on: Spools marked with an “A” is mounted with the spool-code on the A-side of the valve and spools marked with an “B” is mounted with the spool-code on the B-side of the valve.

		Flow l/min			
Part no.	Code	B-T	P-B	P-A	A-T
V31009A	**009A**	D L35	35	18	12 D
V31009B	**009B**	D 12	18	35	L35 D
V31010A	**010A**	D L22	22	12	12 D
V31010B	**010B**	D 12	12	22	L22 D
V31011A	**011A**	D L35	35	18	18 D
V31011B	**011B**	D 18	18	35	L35 D
V31012A	**012A**	D L50	50	22	22 D
V31012B	**012B**	D 22	22	50	L50 D
V31013A	**013A**	D L50	50	27	27 D
V31013B	**013B**	D 27	27	50	L50 D
V31014A	**014A**	D L63	63	35	35 D
V31014B	**014B**	D 35	35	63	L63 D
V31015A	**015A**	D L63	63	30	30 D
V31015B	**015B**	D 30	30	63	L63 D
V31016A	**016A**	D L75	75	35	35 D
V31016B	**016B**	D 35	35	75	L75 D
V31017A	**017A**	D L75	75	50	50 D
V31017B	**017B**	D 50	50	75	L75 D
V31019A	**019A**	D L100	100	63	63 D
V31019B	**019B**	D 63	63	100	L100 D
V31113A	**113A**	D 50	50	35	L35 D
V31113B	**113B**	D L35	35	50	50 D
V31114A	**114A**	D 100	100	75	L75 D
V31114B	**114B**	D L75	75	100	100 D

		Flow l/min			
Part no.	Code	B-T	P-B	P-A	A-T
V31115A	**115A**	D 75	75	50	L50 D
V31115B	**115B**	D L50	50	75	75 D
V31117A	**117A**	D L75	75	27	27 D
V31117B	**117B**	D 27	27	75	L75 D
V31125A	**125A**	D L100	100	75	75 D
V31125B	**125B**	D 75	75	100	L100 D
V31152A	**152A**	D L12	12	7	7 D
V31152B	**152B**	D 7	7	12	7 D
V31171A	**171A**	D 7	12	7	7 D
V31171B	**171B**	D 7	7	12	7 D
V31327A	**327A**	D L18	18	12	12 D
V31327B	**327B**	D 12	12	18	L18 D
V31331A	**331A**	D L50	50	35	35 D
V31331B	**331B**	D 35	35	50	L50 D
V31333A	**333A**	D L75	75	42	42 D
V31333B	**333B**	D 42	42	75	L75 D
V31335A	**335A**	D L100	100	42	25 D
V31335B	**335B**	D 25	42	100	L100 D
V31336A	**336A**	D L150	150	100	100 D
V31336B	**336B**	D 100	100	150	L150 D
V31339A	**339A**	D L100	100	42	75 D
V31339B	**339B**	D 75	42	100	L100 D
V31351A	**351A**	D 100	100	63	L63 D
V31351B	**351B**	D L63	63	100	100 D

Spools for electrically operated Q200 and Q300 valves with positioner P8

Matched spools with pressure relief valve (Eg. extension)



Example: 50S22 = 50l/min flow, 22 Mpa working pressure.

Note:

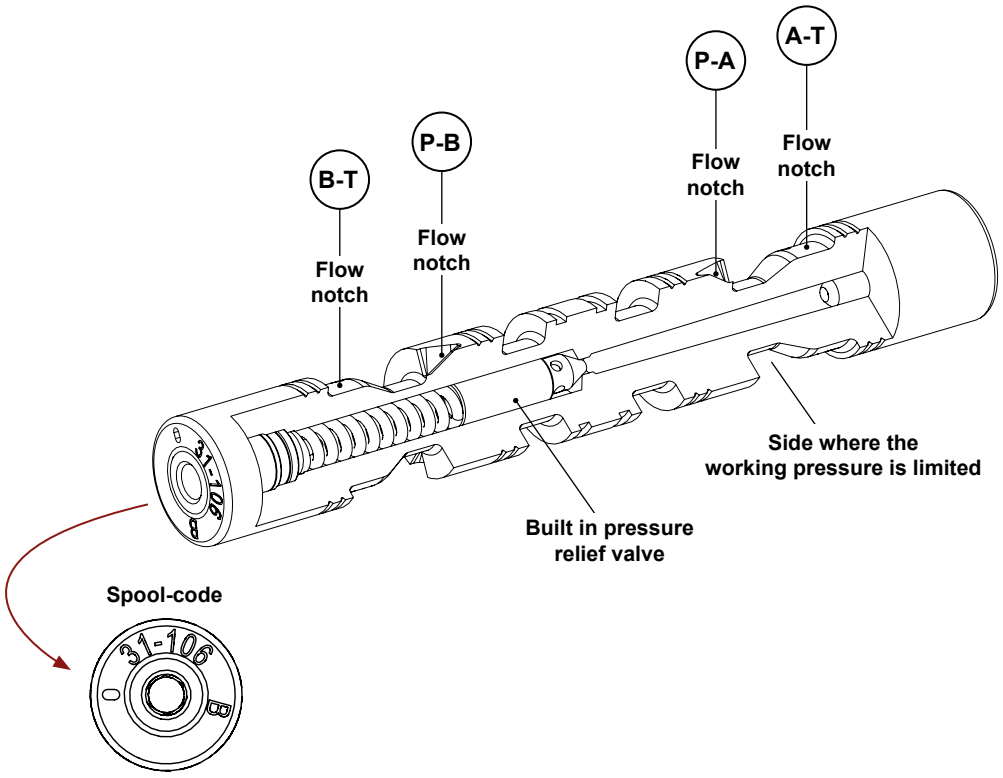
Illustration and flow values in this table are based on: Spools marked with an “A” is mounted with the spool-code on the A-side of the valve and spools marked with an “B” is mounted with the spool-code on the B-side of the valve.

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V31096A	**096A**	75	-	50S14	-	35	-	75	
V31096B	**096B**	75	-	35	-	50S14	-	75	
V31098A	**098A**	100	-	75S14	-	50	-	100	
V31098B	**098B**	100	-	50	-	75S14	-	100	
V31101A	**101A**	75	-	50S12	-	35	-	75	
V31101B	**101B**	75	-	35	-	50S12	-	75	
V31102A	**102A**	75	-	50S10	-	35	-	75	
V31102B	**102B**	75	-	35	-	50S10	-	75	
V31103A	**103A**	100	-	75S20	-	50	-	100	
V31103B	**103B**	100	-	50	-	75S20	-	100	
V31104A	**104A**	75	-	50S16	-	35	-	75	
V31104B	**104B**	75	-	35	-	50S16	-	75	
V31108A	**108A**	100	-	75S18	-	50	-	100	
V31108B	**108B**	100	-	50	-	75S18	-	100	
V31109A	**109A**	100	-	75S16	-	50	-	100	
V31109B	**109B**	100	-	50	-	75S16	-	100	
V32111A	**111A**	75	-	50S20	-	35	-	75	
V32111B	**111B**	75	-	35	-	50S20	-	75	
V31116A	**116A**	100	-	75S10	-	50	-	100	
V31116B	**116B**	100	-	50	-	75S10	-	100	
V31118A	**118A**	100	-	75S22	-	50	-	100	
V31118B	**118B**	100	-	50	-	75S22	-	100	
V31136A	**136A**	50	-	RF35S2	-	100	-	35	

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V31136B	**136B**	35	-	100	-	RF35S2	-	50	
V31150A	**150A**	7	-	12S7	-	7	-	7	
V31150B	**150B**	7	-	7	-	12S7	-	7	
V32158A	**158A**	100	-	75S10	-	50	-	100	
V32158B	**158B**	100	-	50	-	75S10	-	100	
V32159A	**159A**	25	-	18S10	-	7	-	25	
V32159B	**159B**	25	-	7	-	18S10	-	25	
V31164A	**164A**	125	-	125S10	-	75	-	35	
V31164B	**164B**	35	-	75	-	125S10	-	125	
V31165A	**165A**	100	-	100S10	-	63	-	30	
V31165B	**165B**	30	-	63	-	100S10	-	100	
V31166A	**166A**	100	-	100S10	-	75	-	35	
V31166B	**166B**	35	-	75	-	100S10	-	100	
V31168A	**168A**	100	-	100S14	-	75	-	100	
V31168B	**168B**	100	-	75	-	100S14	-	100	
V31174A	**174A**	100	-	100S12	-	75	-	35	
V31174B	**174B**	35	-	75	-	100S12	-	100	
V31175A	**175A**	35	-	75	-	35S20	-	35	
V31175B	**175B**	35	-	35S20	-	75	-	35	
V31177A	**177A**	75	-	75S12	-	50	-	25	
V31177B	**177B**	25	-	50	-	75S12	-	75	
V31178A	**178A**	50	-	150	-	100S7	-	100	
V31178B	**178B**	100	-	100S7	-	150	-	50	

Spools for electrically operated Q200 and Q300 valves with positioner P8

Matched motor spools with pressure relief valve (Eg. extension)



Note:

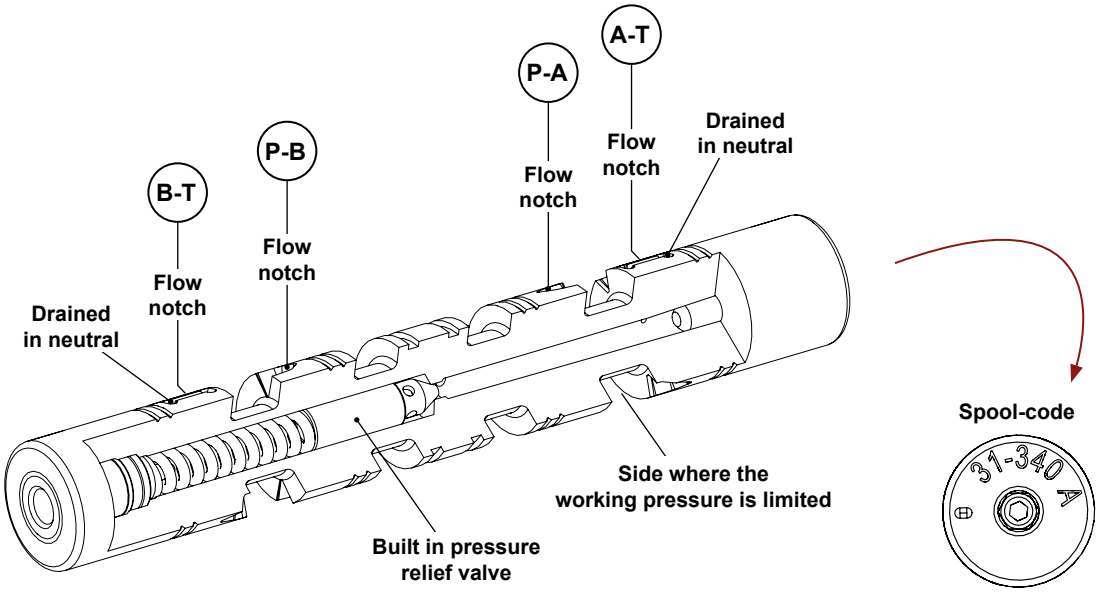
Illustration and flow values in this table are based on: Spools marked with an “A” is mounted with the spool-code on the A-side of the valve and spools marked with an “B” is mounted with the spool-code on the B-side of the valve.

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V31106A	**106A**	M	-	50S22	-	30	-	M	
V31106B	**106B**	M	-	30	-	50S22	-	M	
V31107A	**107A**	M	-	50	-	30S20	-	M	
V31107B	**107B**	M	-	30S20	-	50	-	M	
V31110A	**110A**	M	-	50S12	-	30	-	M	
V31110B	**110B**	M	-	30	-	50S12		M	
V31112A	**112A**	M	-	100S22	-	50	-	M	
V31112B	**112B**	M	-	50	-	100S22	-	M	
V31119A	**119A**	M	-	50	-	30S12	-	M	
V31119B	**119B**	M	-	30S12	-	50	-	M	
V31120A	**120A**	M	-	75S22	-	50	-	M	
V31120B	**120B**	M	-	50	-	75S22	-	M	

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V31122A	**122A**	M	-	75S14	-	50	-	M	
V31122B	**122B**	M	-	50	-	75S14	-	M	
V31123A	**123A**	M	-	75S30	-	50	-	M	
V31123B	**123B**	M	-	50	-	75S30	-	M	
V31124A	**124A**	M	-	100S16	-	75	-	M	
V31124B	**124B**	M	-	75	-	100S16	-	M	
V31167A	**167A**	M	-	100S30	-	50	-	M	
V31167B	**167B**	M	-	50	-	100S30	-	M	
V31172A	**172A**	M	-	100S30	-	63	-	M	
V31172B	**172B**	M	-	63	-	100S30	-	M	
V31359A	**359A**	M	-	75S20	-	50	-	M	
V31359B	**359B**	M	-	50	-	75S20	-	M	

Spools for electrically operated Q200 and Q300 valves with positioner P8

Matched spools with pressure relief valve and drain in neutral position (Eg. extension)



Example: 50S22 = 50l/min flow, 22 Mpa working pressure.

Note:

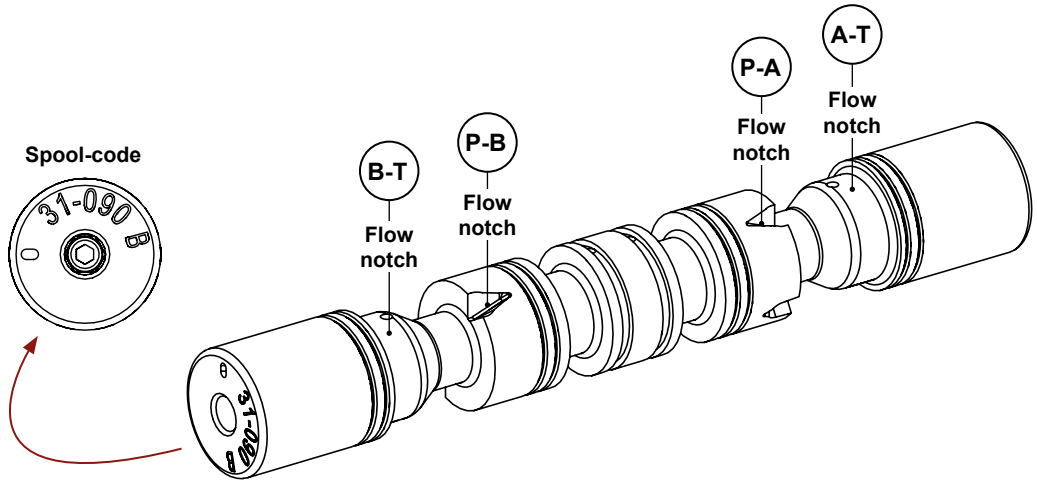
Illustration and flow values in this table are based on: Spools marked with an “A” is mounted with the spool-code on the A-side of the valve and spools marked with an “B” is mounted with the spool-code on the B-side of the valve.

		Flow l/min			
Part no.	Code	B-T	P-B	P-A	A-T
V31340A	**340A**	D L63	63	42S14	42 D
V31340B	**340B**	D 42	42S14	63	L63 D
V31341A	**341A**	D L63	63	30S28	30 D
V31341B	**341B**	D 30	30S28	63	L63 D
V31342A	**342A**	D L63	63	35S28	35 D
V31342B	**342B**	D 35	35S28	63	L63 D
V31343A	**343A**	D L75	75	35S28	35 D
V31343B	**343B**	D 35	35S28	75	L75 D
V31344A	**344A**	D L75	75	50S28	50 D
V31344B	**344B**	D 50	50S28	75	L75 D
V31345A	**345A**	D 100	100S20	75	L75 D
V31345B	**345B**	D L75	75	100S20	100 D
V31346A	**346A**	D 75	75S20	50	L50 D
V31346B	**346B**	D L50	50	75S20	75 D
V31347A	**347A**	D L75	75	42S24	42 D
V31347B	**347B**	D 42	42S24	75	L75 D
V31348A	**348A**	D L150	150	100S16	100 D
V31348B	**348B**	D 100	100S16	150	L150 D
V31349A	**349A**	D L100	100	63S10	63 D
V31349B	**349B**	D 63	63S10	100	L100 D

		Flow l/min			
Part no.	Code	B-T	P-B	P-A	A-T
V31350A	**350A**	D 100	100S16	63	L63 D
V31350B	**350B**	D L63	63	100S16	100 D
V31352A	**352A**	D L75	75	50S10	50 D
V31352B	**352B**	D 50	50S10	75	L75 D
V31353A	**353A**	D L75	75	27S21	27 D
V31353B	**353B**	D 27	27S21	75	L75 D
V31354A	**354A**	D 100	100S14	75	L75 D
V31354B	**354B**	D L75	75	100S14	100 D
V31355A	**355A**	D L100	100	75S10	75 D
V31355B	**355B**	D 75	75S10	100	L100 D
V31357A	**357A**	D 100	75S20	50	100 D
V31357B	**357B**	D 100	50	75S20	100 D
V31358A	**358A**	D 100	75S14	50	100 D
V31358B	**358B**	D 100	50	75S14	100 D
V31360A	**360A**	D 75	50S16	35	75 D
V31360B	**360B**	D 75	35	50S16	75 D
V31362A	**362A**	D L75	75	50S21	50 D
V31362B	**362B**	D 50	50S21	75	L75 D
V31363A	**363A**	D 100	75S17	50	100 D
V31363B	**363B**	D 100	50	75S17	100 D

Spools for electrically operated Q200 and Q300 valves with positioner P8

Matched motor spools (Eg. winch)



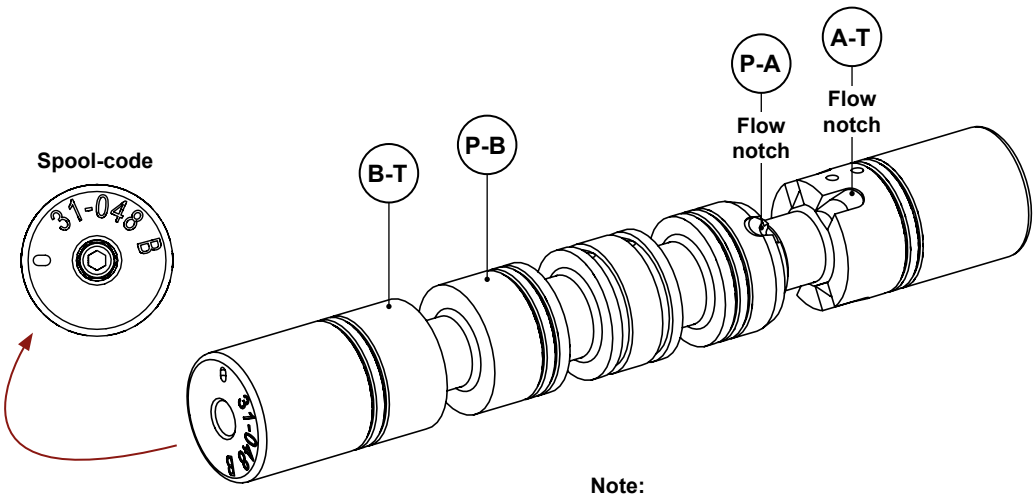
Note:
Illustration and flow values in this table are based on: Spools marked with an “A” is mounted with the spool-code on the A-side of the valve and spools marked with an “B” is mounted with the spool-code on the B-side of the valve.

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V31090A	**090A**	M	-	50	-	30	-	M	
V31090B	**090B**	M	-	30	-	50	-	M	
V31092A	**092A**	M	-	75	-	50	-	M	
V31092B	**092B**	M	-	50	-	75	-	M	
V31093A	**093A**	M	-	75	-	35	-	M	
V31093B	**093B**	M	-	35	-	75	-	M	

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V31094A	**094A**	M	-	100	-	75	-	M	
V31094B	**094B**	M	-	75	-	100	-	M	
V31157A	**157A**	M	-	35	-	18	-	M	
V31157B	**157B**	M	-	18	-	35	-	M	
V31173A	**173A**	M	-	100	-	63	-	M	
V31173B	**173B**	M	-	63	-	100	-	M	

Spools for electrically operated Q200 and Q300 valves with positioner P8

Single acting spools (Eg. single acting cylinder, inner boom)



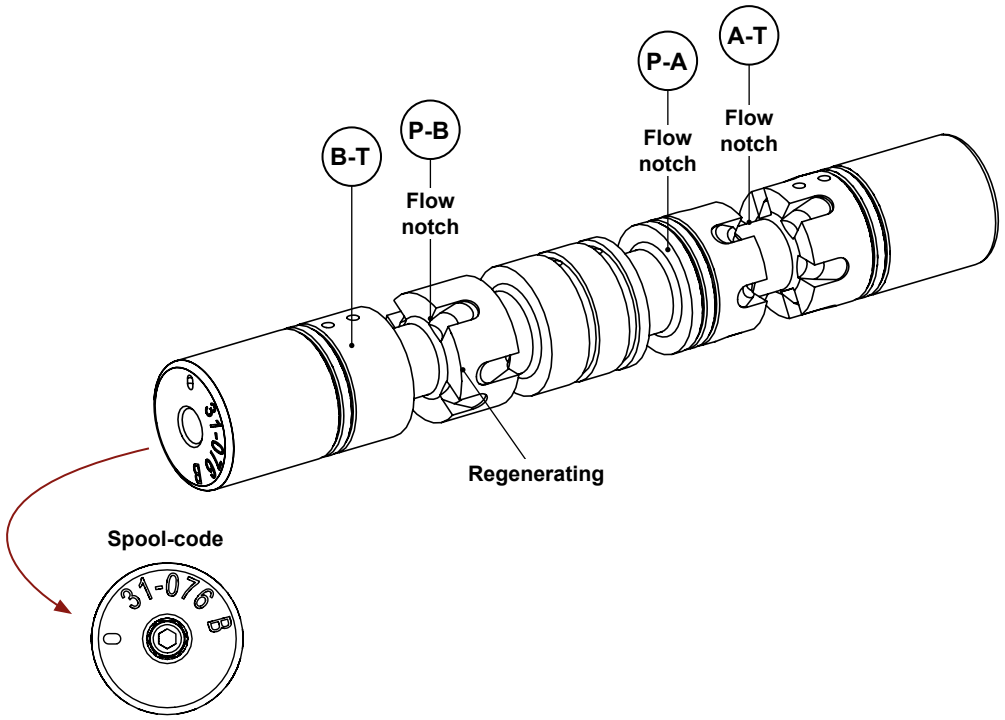
Note:
Illustration and flow values in this table are based on: Spools marked with an “A” is mounted with the spool-code on the A-side of the valve and spools marked with an “B” is mounted with the spool-code on the B-side of the valve.

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V31042A	**042A**	25	-	50	-	0	-	0	
V31042B	**042B**	0	-	0	-	50	-	25	
V31044A	**044A**	35	-	75	-	0	-	0	
V31044B	**044B**	0	-	0	-	75	-	35	
V31046A	**046A**	50	-	100	-	0	-	0	

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V31046B	**046B**	0	-	0	-	100	-	50	
V31048A	**048A**	75	-	150	-	0	-	0	
V31048B	**048B**	0	-	0	-	150	-	75	
V31049A	**049A**	75	-	180	-	0	-	0	
V31049B	**049B**	0	-	0	-	180	-	75	

Spools for electrically operated Q200 and Q300 valves with positioner P8

Regenerating spools (Eg. outer boom with pulling cylinder)



Note:

Illustration and flow values in this table are based on: Spools marked with an “A” is mounted with the spool-code on the A-side of the valve and spools marked with an “B” is mounted with the spool-code on the B-side of the valve.

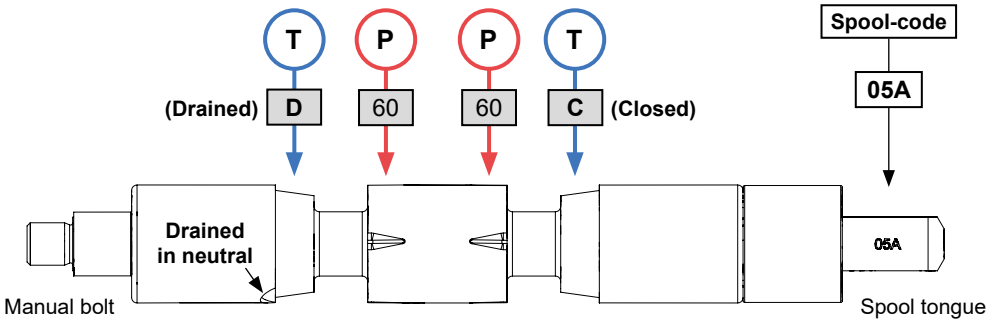
		Flow l/min							
Part no.	**Code**	**B-T**		**P-B**		**P-A**		**A-T**	
V31072A	**072A**	50	-	50	-	35	-	R	
V31072B	**072B**	R	-	35	-	50	-	50	
V31074A	**074A**	75	-	75	-	50	-	R	
V31074B	**074B**	R	-	50	-	75	-	75	
V31076A	**076A**	100	-	100	-	75	-	R	
V31076B	**076B**	R	-	75	-	100	-	100	

		Flow l/min							
Part no.	**Code**	**B-T**		**P-B**		**P-A**		**A-T**	
V31078A	**078A**	150	-	150	-	100	-	R	
V31078B	**078B**	R	-	100	-	150	-	150	
V31132A	**132A**	100	-	100F	-	75	-	R75F	
V31132B	**132B**	R75F	-	75	-	100F	-	100	
V31135A	**135A**	75	-	75E	-	50	-	R50F	
V31135B	**135B**	R50F	-	50	-	75E	-	75	

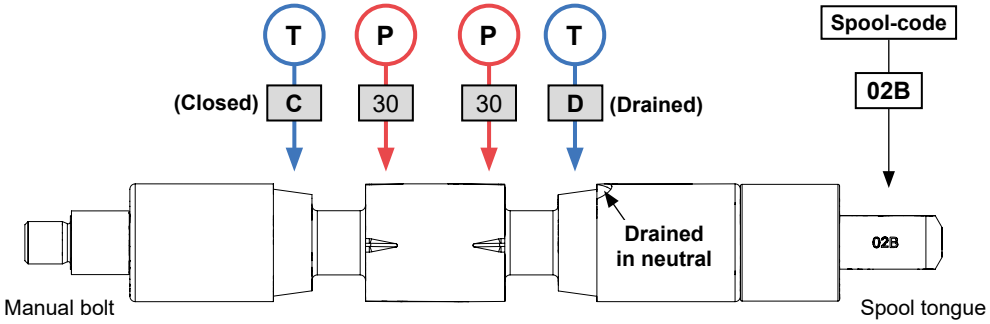
Spools for manually operated Pv98 valves

Description

“A-Spool”



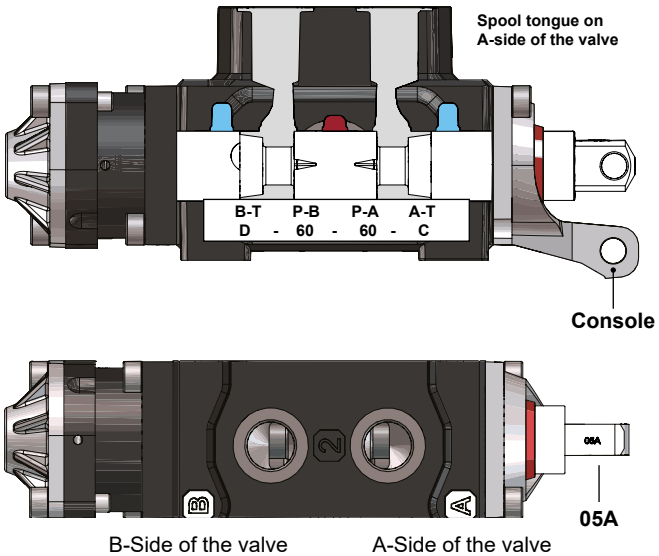
“B-Spool”



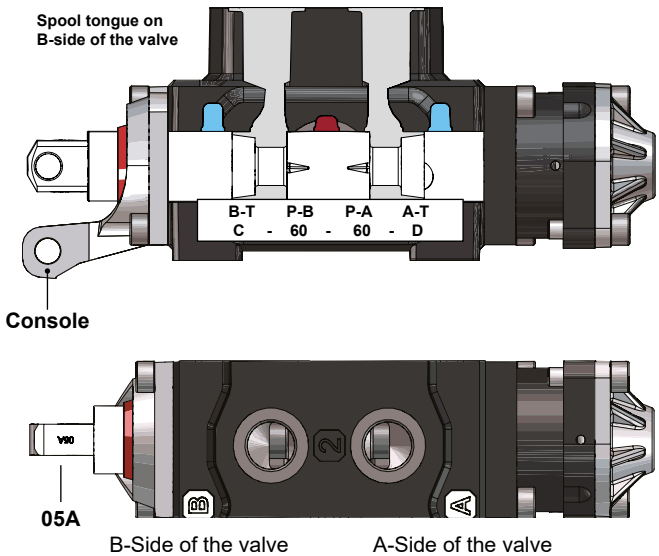
The differences between spools marked with “A” or “B” after the spool-code.
In this example, we use two “symmetric spools with one side drained in neutral position” with spool code 05A and 02B. If the spool tongue is marked with an “A” , the drained side will be furthest from the spool tongue. And if the spool tongue is marked with an “B”, the drained side will be nearest the spool tongue as shown in the illustration above. In this case are both spools symmetric and have the the same flow regardless of the direction they are mounted in, but in general the lowest flow is always nearest the spool tongue.

How the spools can be mounted in the valves.
In the illustration below we use the spool with spool-code **05A** and two manual Pv98 valves, one with the consoles mounted on the A-side of the valve and one with the consoles mounted on the B-side of the valve. In the illustration to the left, the spool is mounted with the tongue on the A-side. When the spool is in neutral position the drainage will be at tank (T) on the B-side of the valve. When the same spool is mounted on the valve with the consoles on the B-side ,the drainage will be at tank (T) on the A-side of the valve, as shown in the illustration below to the right.

Neutral position of the spool

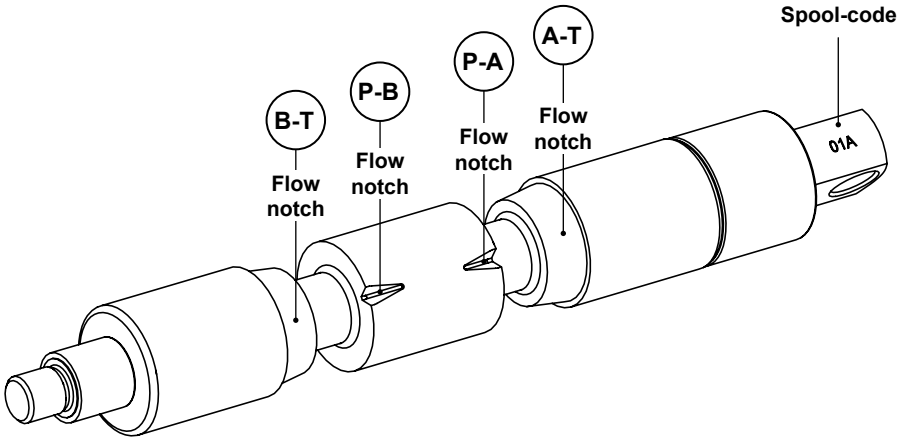


Neutral position of the spool



Spools for manually operated Pv98 valves

Symmetric spools (Eg. support leg)



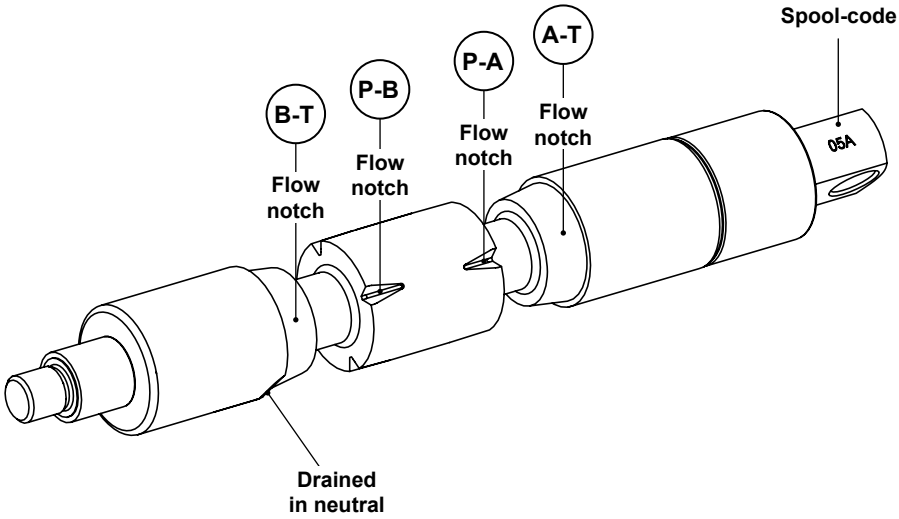
Note:
Illustration and flow values in this table are based on that the spool is mounted with the spool tongue on the A-side of the valve.

		Flow l/min							
Part no.	**Code**	**B-T**		**P-B**		**P-A**		**A-T**	
V4701A	**01A**	C	-	30	-	30	-	C	

		Flow l/min							
Part no.	**Code**	**B-T**		**P-B**		**P-A**		**A-T**	
V4703A	**03A**	C	-	10	-	10	-	C	

Spools for manually operated Pv98 valves

Symmetric spools with one side drained in neutral position (Eg. support leg)



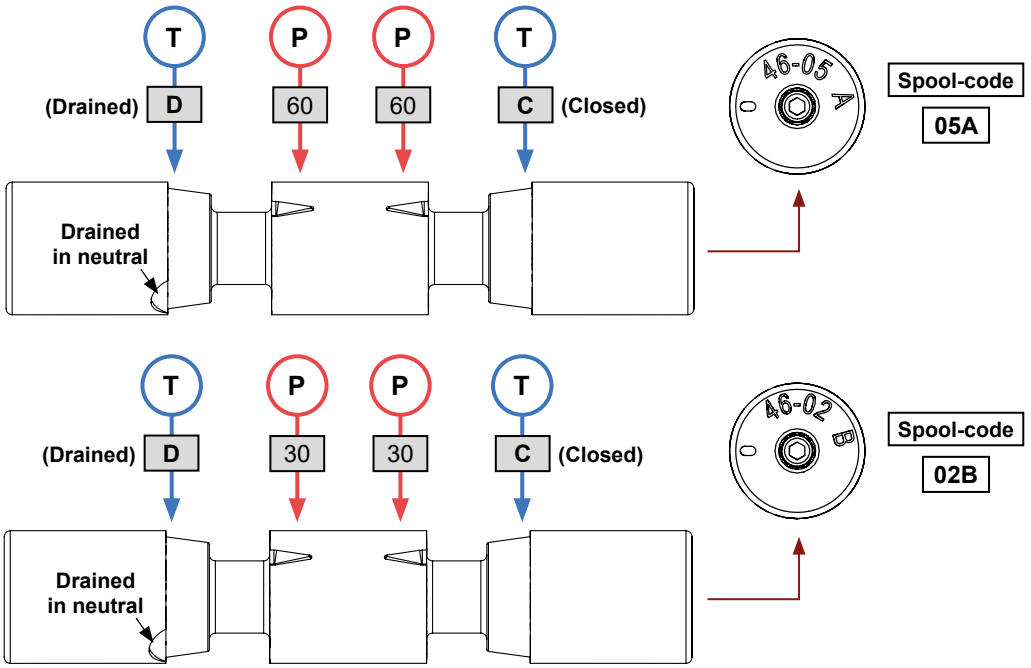
Note:
Illustration and flow values in this table are based on that the spool is mounted with the spool tongue on the A-side of the valve.

		Flow l/min							
Part no.	**Code**	**B-T**		**P-B**		**P-A**		**A-T**	
V4702A	**02A**	D	-	30	-	30	-	C	

		Flow l/min							
Part no.	**Code**	**B-T**		**P-B**		**P-A**		**A-T**	
V4702B	**02B**	C	-	30	-	30	-	D	

Spools for electrically operated Pv98 valves with positioner P8

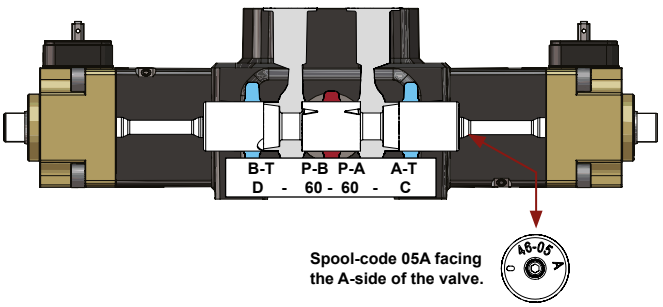
Description



The differences between spools marked with "A" or "B" after the spool-code.
In this example, we use two "symmetric spools with one side drained in neutral position" with spool code 05A and 02B. The "A" and "B" stands for in which direction the spool will be mounted in the valve. For example an "A"-spool should always have the spool-code facing the A-side of the valve and a "B"-spool should always have the spool-code facing the B-side of the valve. In this case both spools are symmetric and have the the same flow regardless of the direction they are mounted in, but in general are the lowest flow always nearest the spool-code.

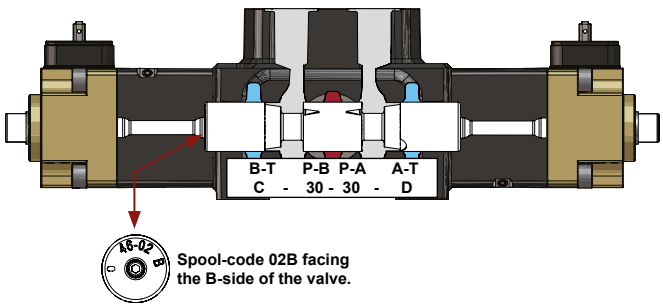
How the spools can be mounted in the valves.
In the illustration below we use both spools as described above and one electrically operated Pv98 valve with positioners P8 mounted. The left illustration shows the spool with the spool-code **05A** facing the A-side of the valve. When the spool is in neutral position the drainage will be at tank (T) on the B-side of the valve. The right illustration shows the spool with the spool-code **02B** facing the B-side of the valve and with this combination you will have the drainage at tank (T) on the A-side of the valve.

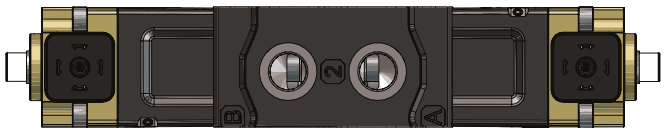
Neutral position of the spool



B-Side of the valve A-Side of the valve

Neutral position of the spool

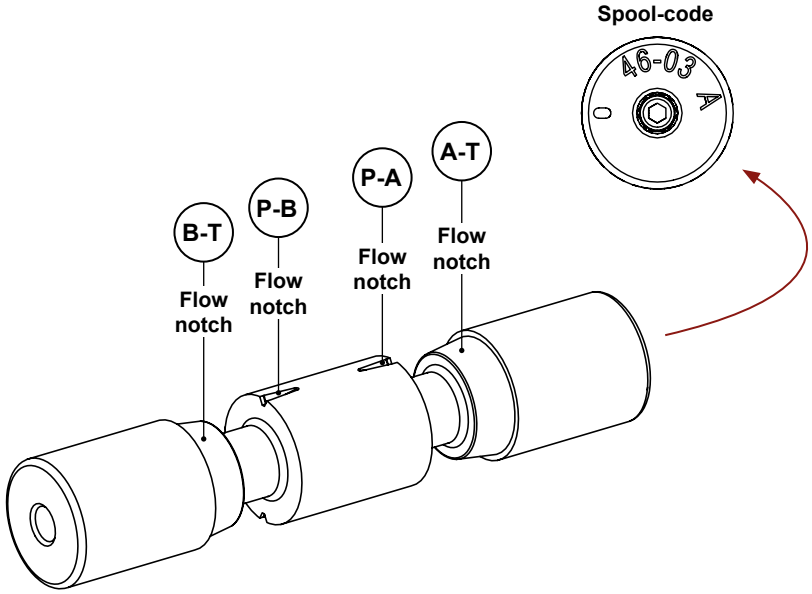




B-Side of the valve A-Side of the valve

Spools for electrically operated Pv98 valves with positioner P8

Symmetric spools (Eg. support leg)



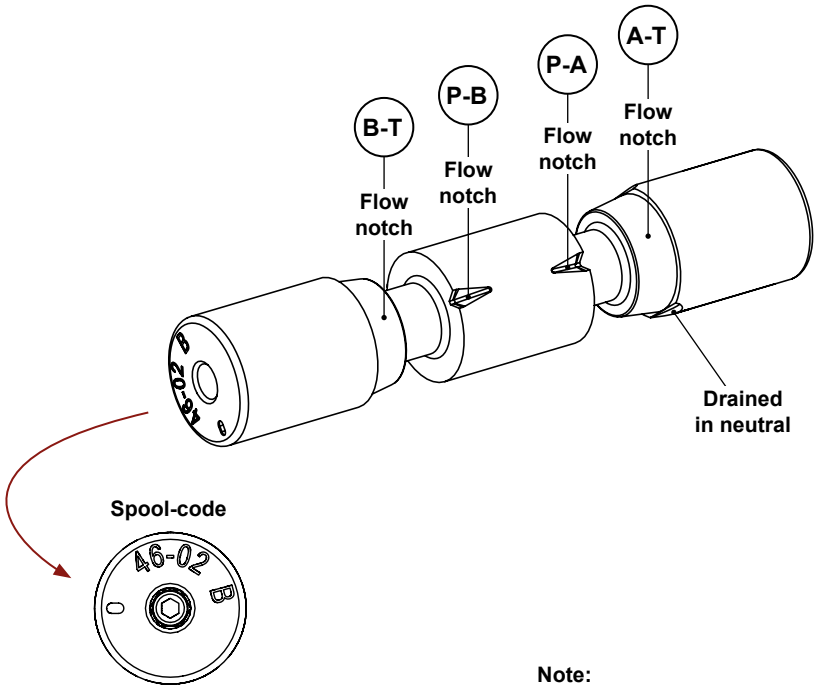
Note:
IIllustration and flow values in this table are based on: Spools marked with an “A” is mounted with the spool-code on the A-side of the valve and spools marked with an “B” is mounted with the spool-code on the B-side of the valve

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V4601	**01A**	C	-	30	-	30	-	C	

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V4603	**03A**	C	-	10	-	10	-	C	

Spools for electrically operated Pv98 valves with positioner P8

Symmetric spools with one side drained in neutral position (Eg. support leg)



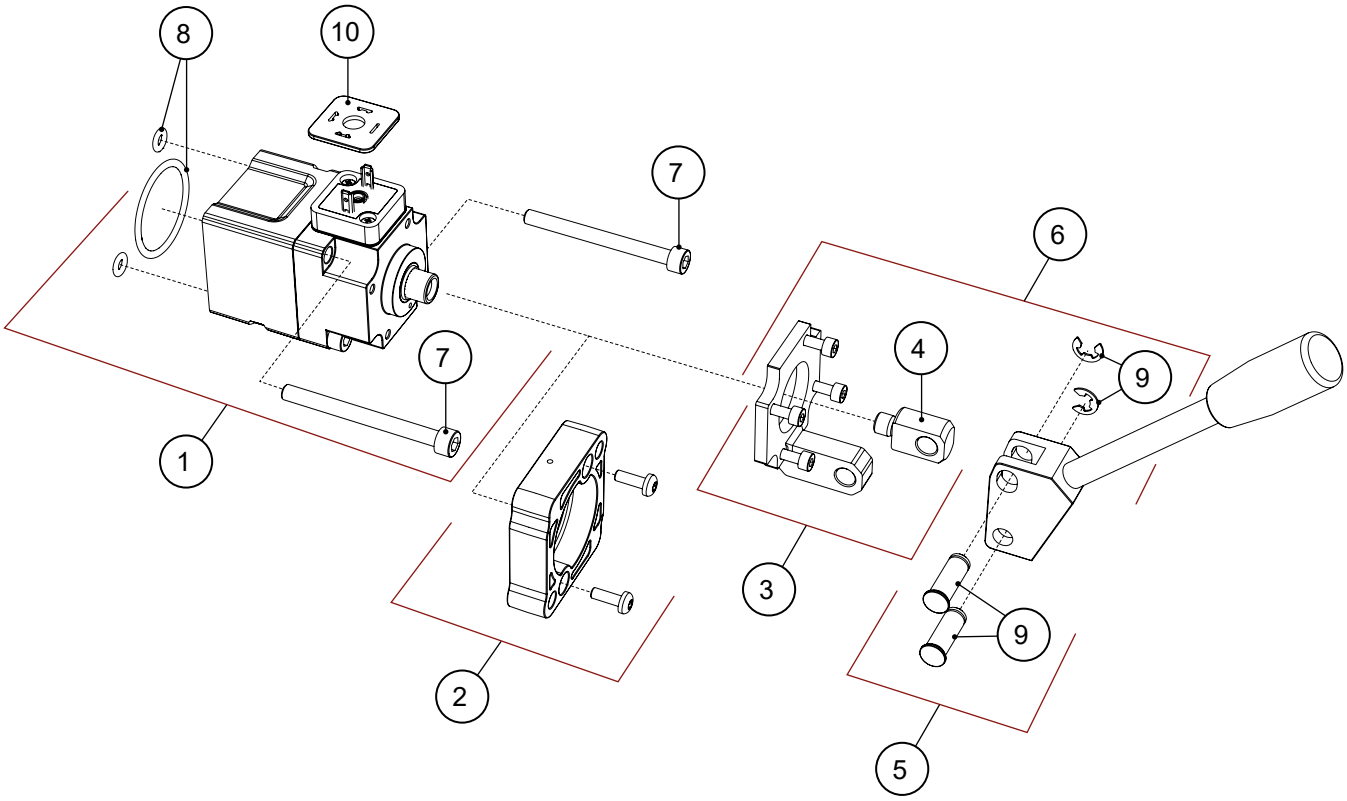
Note:
IIllustration and flow values in this table are based on: Spools marked with an “A” is mounted with the spool-code on the A-side of the valve and spools marked with an “B” is mounted with the spool-code on the B-side of the valve

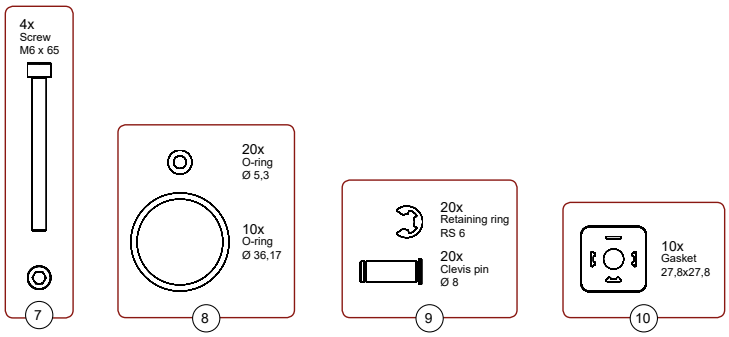
		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V4602A	**02A**	D	-	30	-	30	-	C	

		Flow l/min							
Part no.	Code	B-T		P-B		P-A		A-T	
V4602B	**02B**	C	-	30	-	30	-	D	

Positioner P8

Spare parts

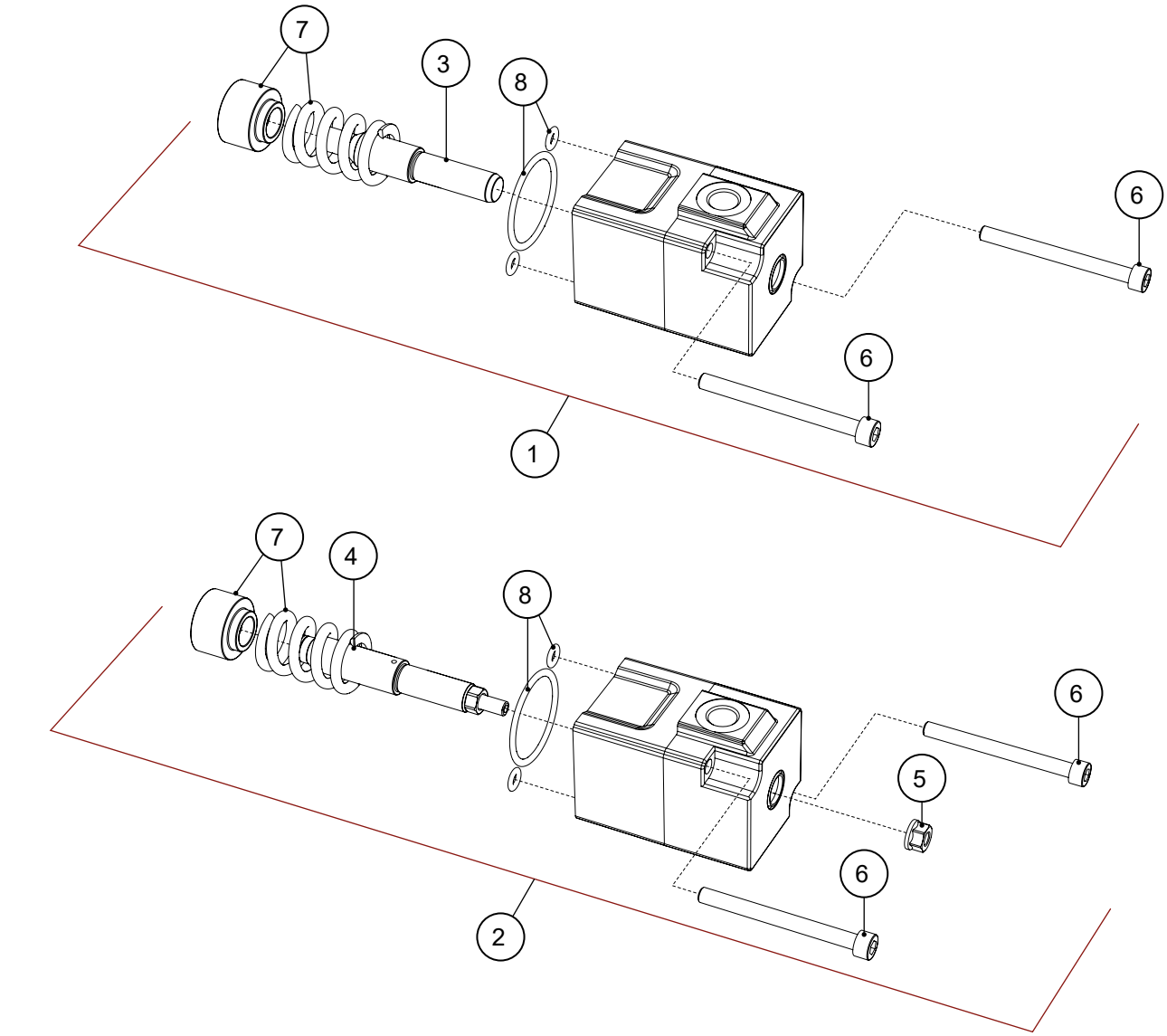


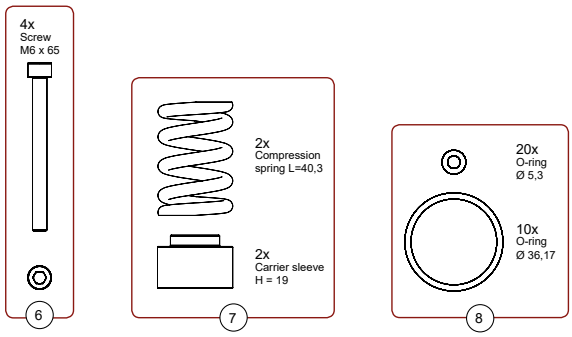


Pos.	Part no.	Description	Note
1	0423	Positioner P8, complete	
2	P0275	Adapter plate spool position sensor, complete	Incl. screw
3	P0276	Bracket P8, complete	Incl. screw and spool end
4	P0232	Spool end P9 HR5	
5	V2463	Lever P8	Incl. bracket lever, pins and circlips
6	V2462	Lever P8, complete	Incl. brackets, spool end, pins, circlips and screws
7	V9006	Screw package P8/H8	Consumption: 1 kit per two positioner
8	V9042	Sealing package TE3	Consumption: 1 kit per 10 positioners
9	V9043	Locking kit lever PX	Consumption: 1 kit per 10 levers
10	V9026	Sealing package TE3	Consumption: 1 kit per 10 positioners

Positioner H8

Spare parts

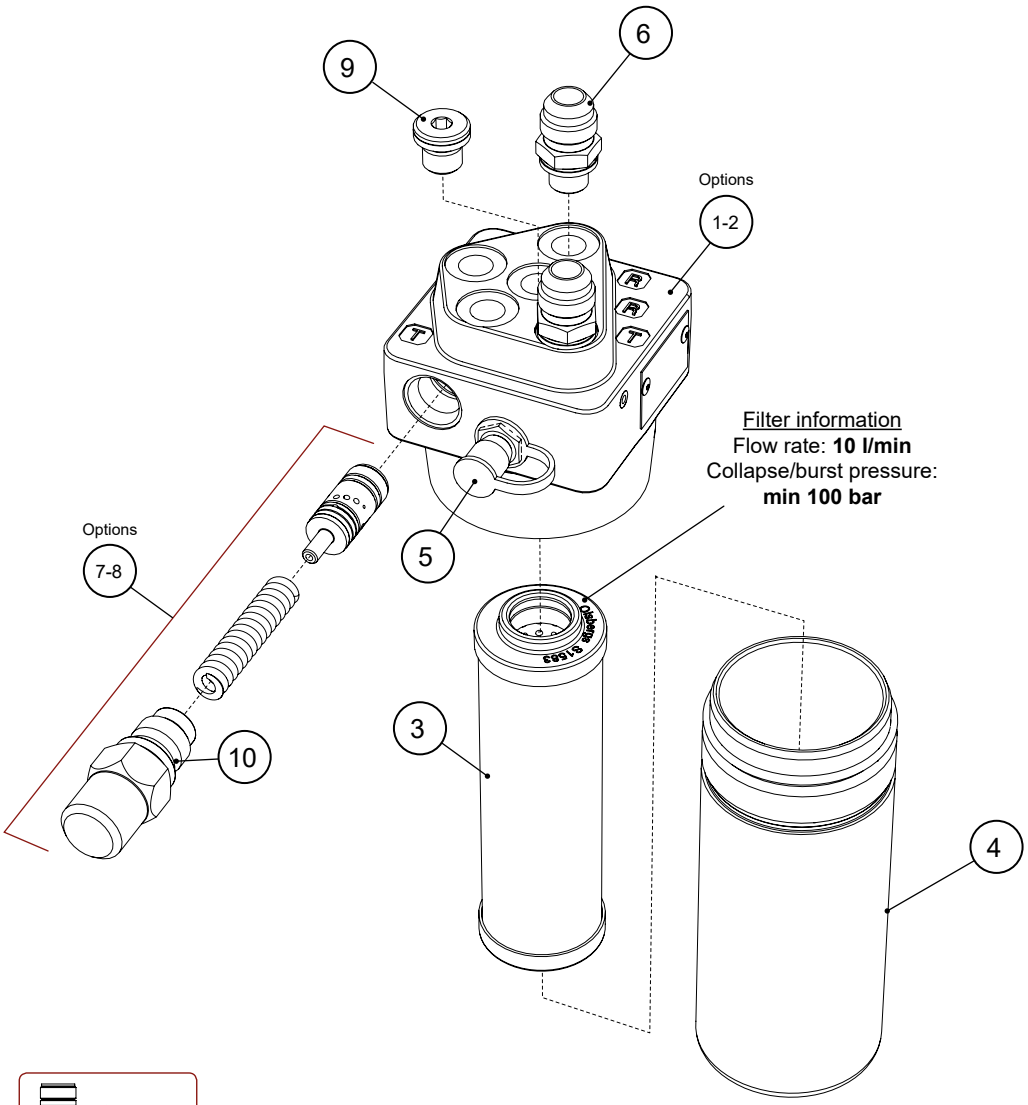


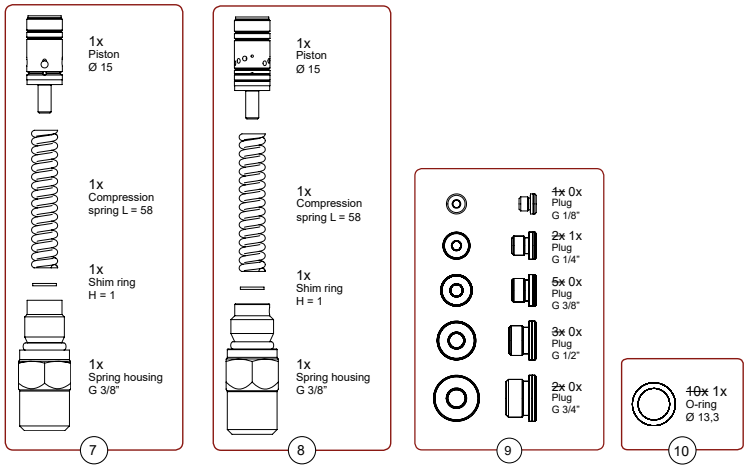


Pos.	Part no.	Description	Note
1	0424	Positioner H8, complete	
2	0425	Positioner H8 adjustable, complete	With adjustable stroke length limiter
3	P0291	Stroke length limiter H8	
4	P0290	Adjustable stroke length limiter H8	Incl. seal lock nut M6
5	S3535	Seal lock nut M6	
6	V9006	Screw package P8/H8	Consumption: 1 kit per two positioner
7	V9060	Centering kit spool H8	Consumption: 1 kit per two positioner
8	V9042	Sealing package TE3	Consumption: 1 kit per 10 positioners

Pressure reducer/filter PRF

Spare parts





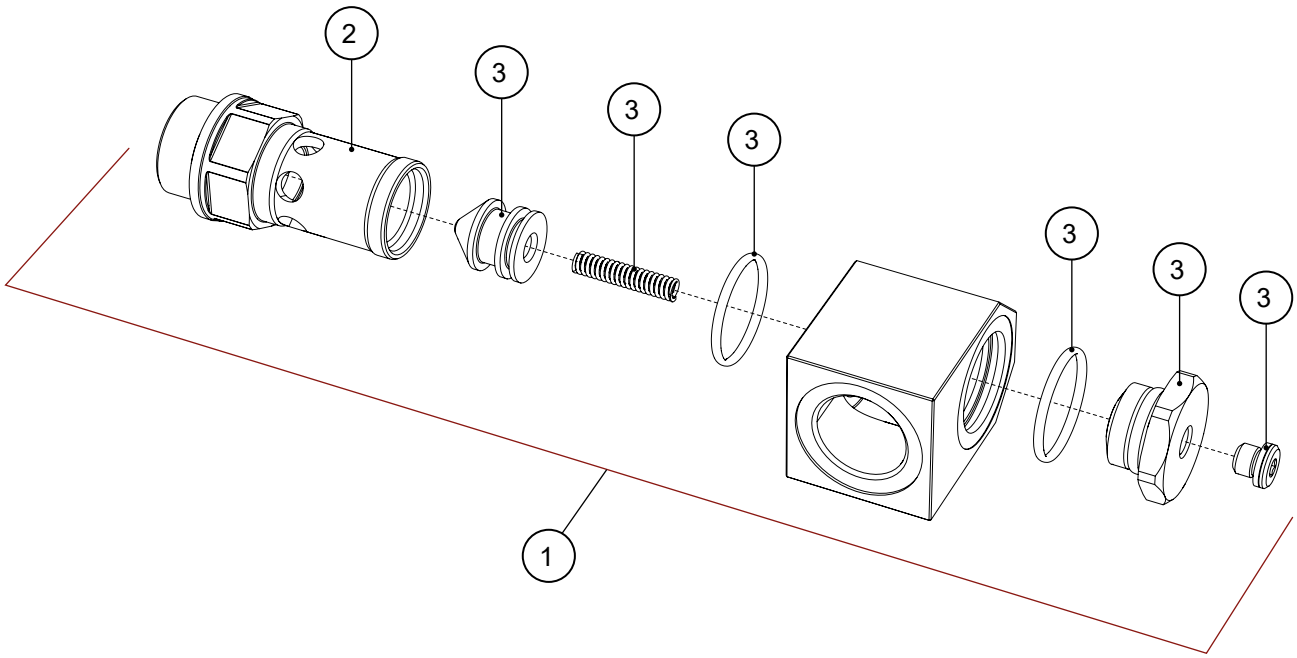
Note:
V9041 fits PRF with serial number up to: 21871
V9040 fits PRF with serial number from: 21871

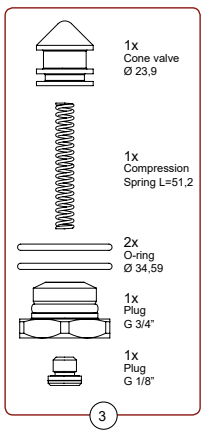
** = some parts of the kit is not needed

Pos.	Part no.	Description	Note
1	0480	Pressure reducer/filter PRF, complete	(2.2-2.5 MPa)
2	0580	Pressure reducer/filter PRF, complete	(2.7-3.0 MPa)
3	S1583	Filter cartridge 10my absolute	Incl. o-ring
4	P0204	Filter housing PRF, complete	Incl. o-ring
5	S2250	Measuring nipple G 1/8”	TEMA system 100
6	S1828	Nipple G 1/4” Jic 3/4”	
7	V9041	Piston kit PRF T1	Consumption: 1 kit per PRF unit
8	V9040	Piston kit PRF T2	Consumption: 1 kit per PRF unit
9	V9027	Plug kit PG2	Consumption: 1 kit per PRF unit**
10	V9022	Sealing package TE2	Consumption: 1 pcs per PRF unit**

Check valve R1

Spare parts

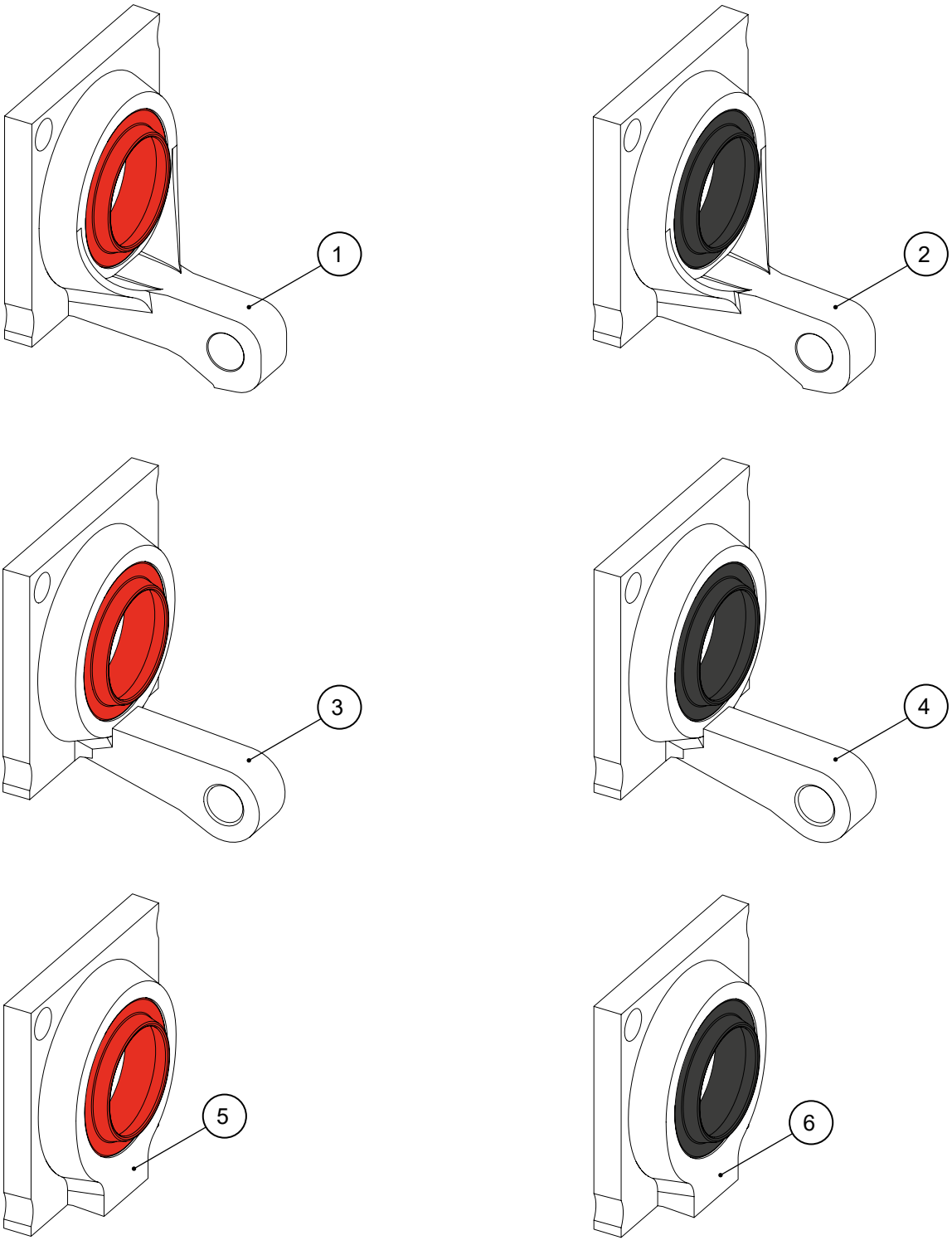




Pos.	Part no.	Description	Note
1	V2417	Check valve R1, complete	
2	V2424	Banjo bolt, check valve R1	Incl. sealing washer tredo
3	V9058	Replacement kit R1	Consumption: 1 kit per check valve

Consoles

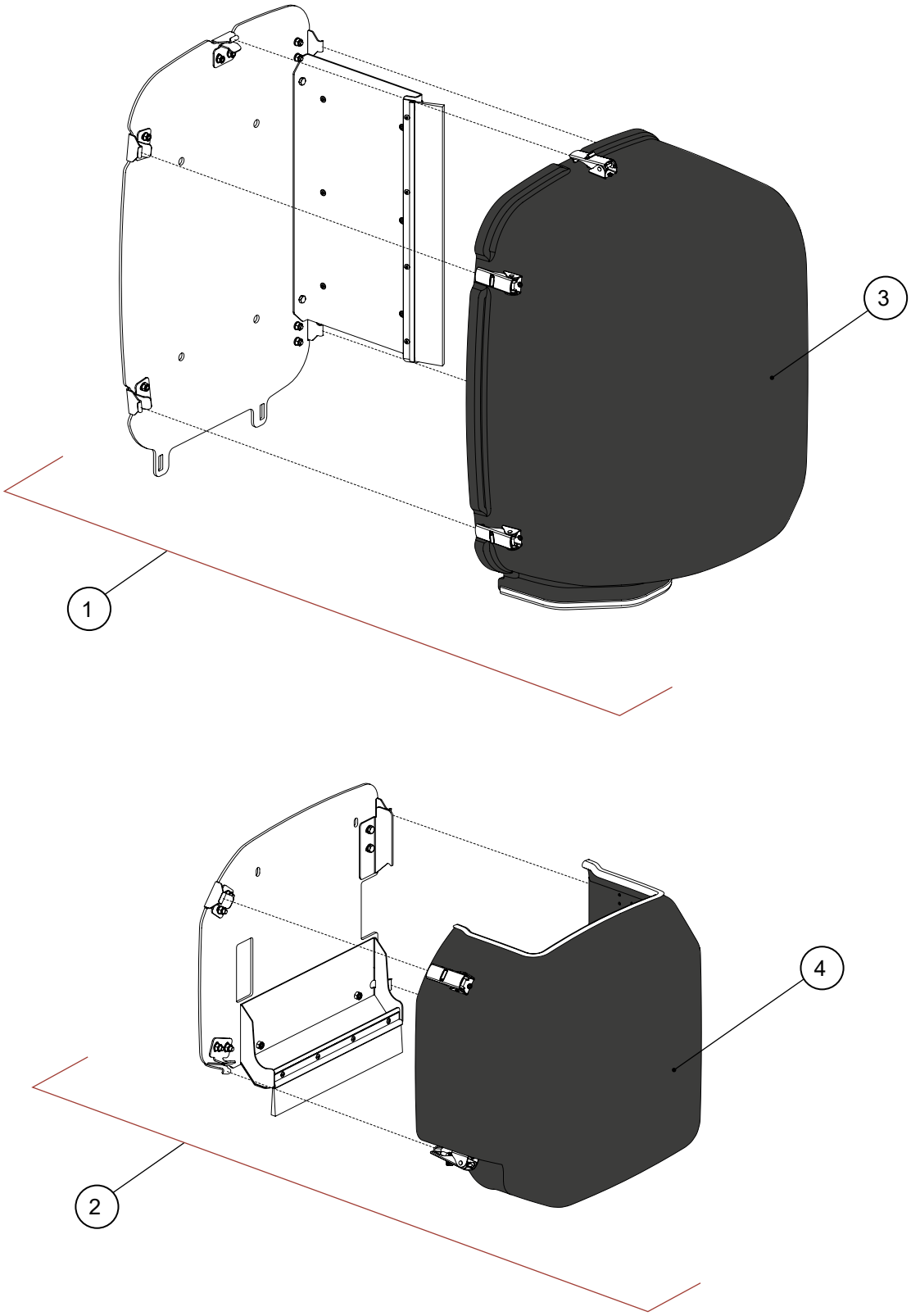
Spare parts



Pos	Part.no	Description	Notes
1	V2113	Console with connection, red scraper	
2	V2522	Console with connection, black scraper	
3	V2428	Steel console with connection, red scraper	
4	V2519	Steel console with connection, black scraper	
5	V2523	Console without connection, red scraper	
6	V2521	Console without connection, black scraper	

Valve protection cover

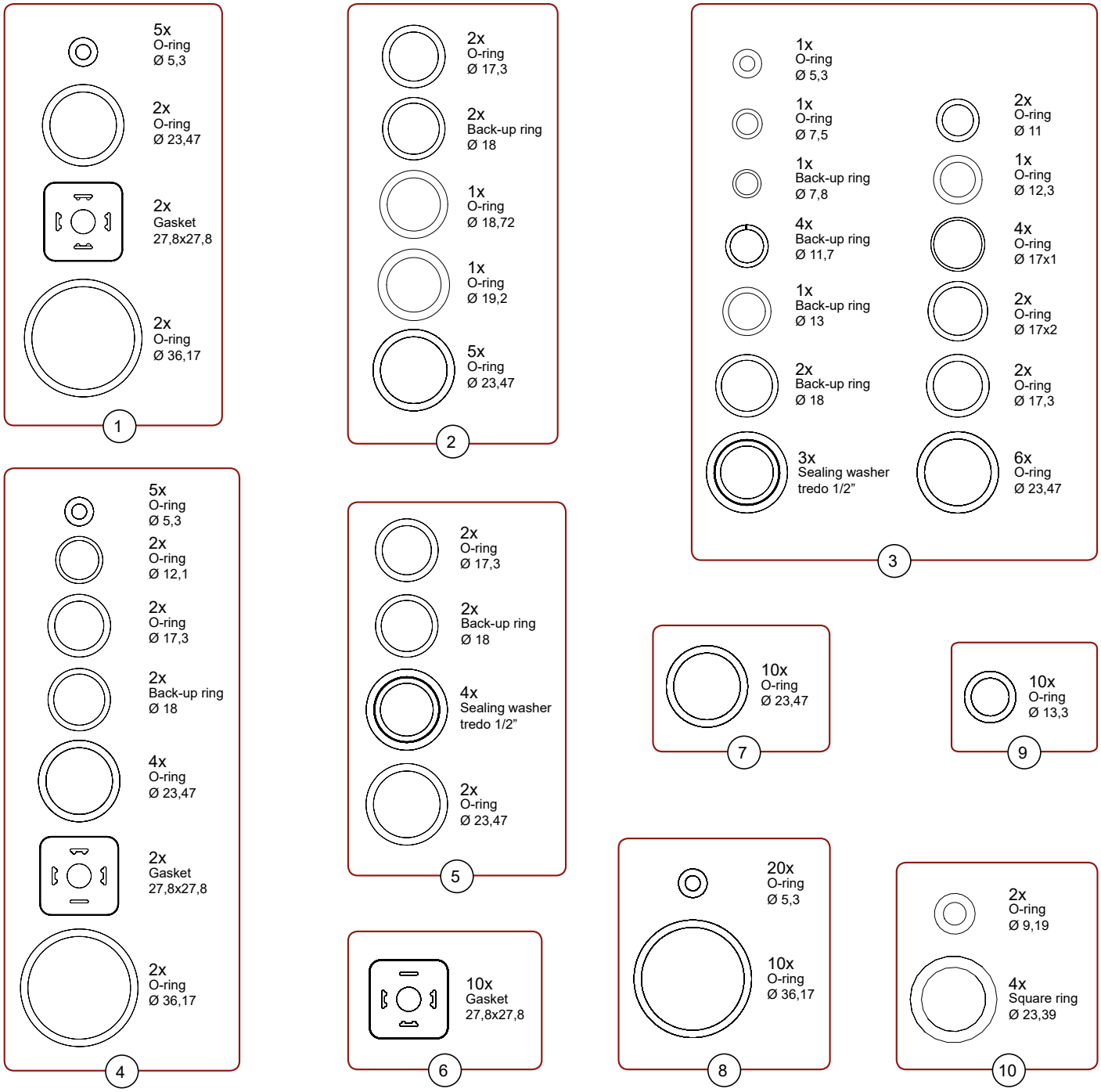
Spare parts



Pos	Part.no	Description	Notes
1	V2469	Valve protection cover Q300 V1, complete	
2	V2491	Valve protection cover support valve Q200 H	
3	V2479	Plastic cover Q300 V1, complete with mounted locks	
4	V2492	Plastic cover Q200 H, complete with mounted locks	

Sealing packages

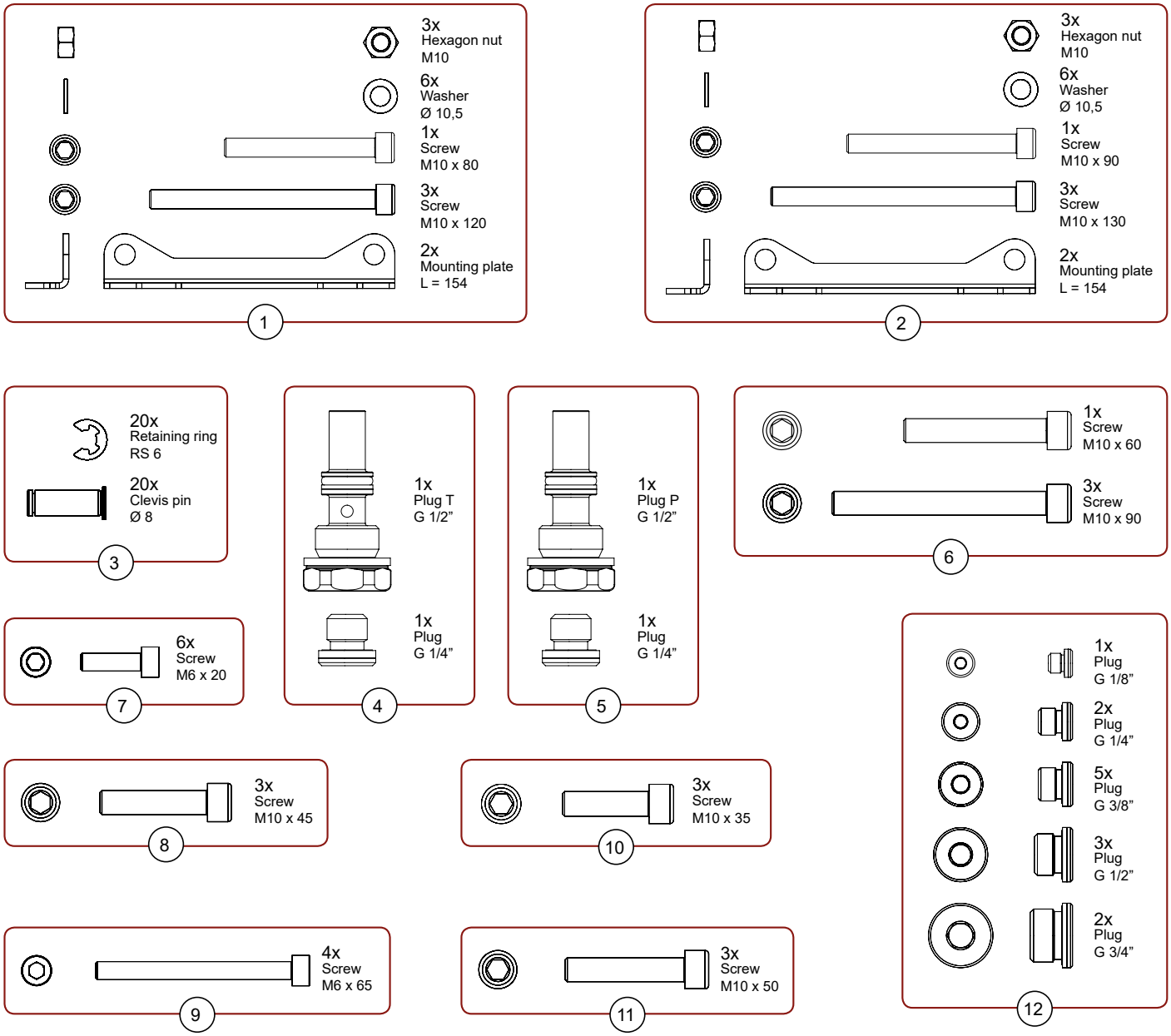
Spare part kits



Pos.	Part no.	Description	Consumption	Fits
1	V9001	Sealing package TV1	1 kit per valve section	Valve Q200, Pv98 amd Pv91M
2	V9009	Sealing package DLHV	1 kit per valve	All DLHV load holding valves
3	V9018	Sealing package TG1	1 kit per inlet section	Inlet section VF and VFU
4	V9004	Sealing package TV2	1 kit per valve section	Valve Q300 and Pv90
5	V9014	Sealing package DLC	1 kit per valve	All DLC slewing valves
6	V9026	Sealing package TE3	1 kit per 10 positioners	Positioner P8 and P9
7	V9011	Sealing package TE1	1 pcs per component	Most components, including plugs, signal pressure limiter, relief valves, spring housings, adaptors
8	V9042	Sealing package TE3	1 kit per 10 positioners	Positioner P8, H8 and P9
9	V9022	Sealing package TE2	1 pcs per component	Pressure reducer filter PRF and inlet section V0290
10	V2454	Seal kit	1 kit per inlet- or outlet section	All Q-series inlet and outlet sections

Assembly and plug packages

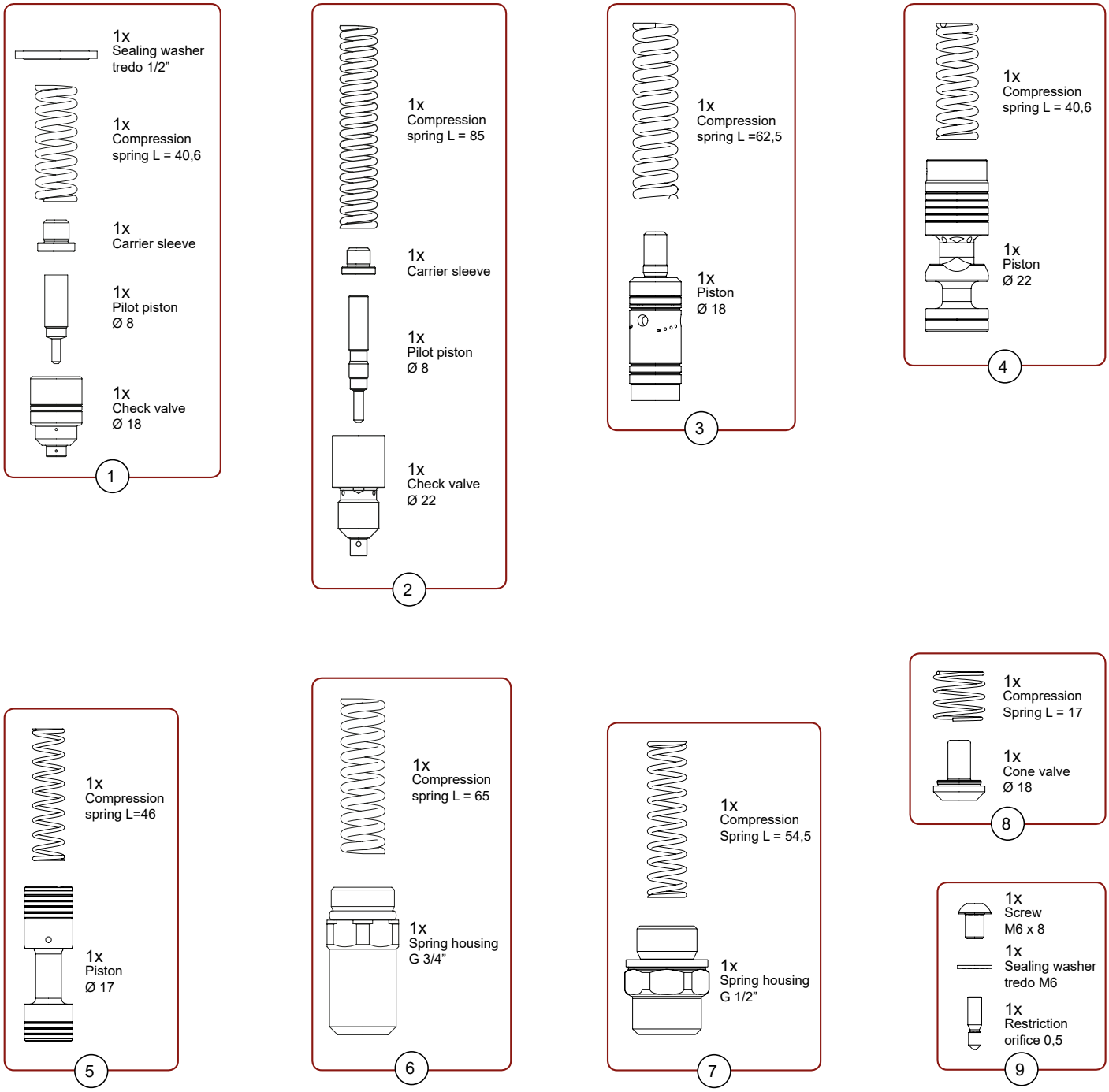
Spare part kits



Pos.	Part no.	Description	Consumption	Fits
1	V9036	Assembly kit FE1	1 kit per supply unit	Supply unit VFU,S
2	V9037	Assembly kit FE2	1 kit per supply unit	Supply unit VFU, RS
3	V9043	Locking kit lever PX	1 kit per 10 levers	Lever for P8 and P9
4	V9021	Plug kit tank PG1	1 kit per inlet section	Inlet section VF and VFU
5	V9059	Plug kit pump PG1	1 kit per inlet section	Inlet section VF and VFU
6	V9034	Screw package SG8	1 kit per inlet section	Inlet section VFU
7	V9007	Screw package Man	1 kit per valve section	All manual operated valves
8	V9033	Screw package SG7	1 kit per outlet section	Outlet section RF
9	V9006	Screw package P8/H8	1 kit per two positioner	Positioner P8/H8
10	V9017	Screw package SG1	1 kit per inlet- or outlet section	Inlet section J, V2051, Outlet section S, P, V2053
11	V9028	Screw package SG2	1 kit per inlet section	Inlet section VF
12	V9027	Plug kit PG2	1 kit per inlet- or outlet section	Inlet section J, VF, VFU, V2160, V2161, V0731, V0290, V2050, V2052, Outlet section RF, S, P , V0292, V2053, V2055, Pressure reducer filter PRF

Spring and piston packages

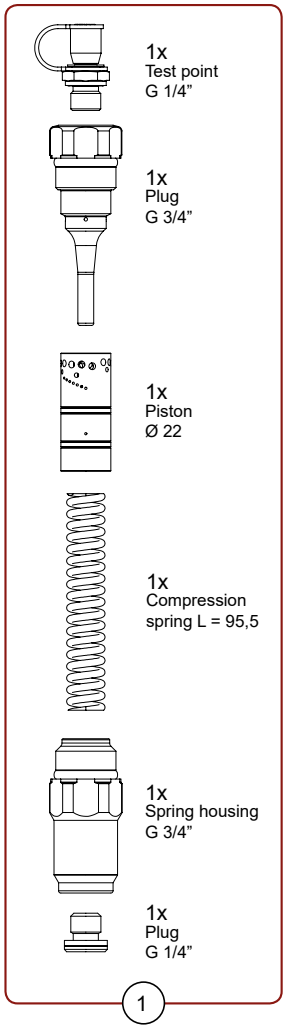
Spare part kits

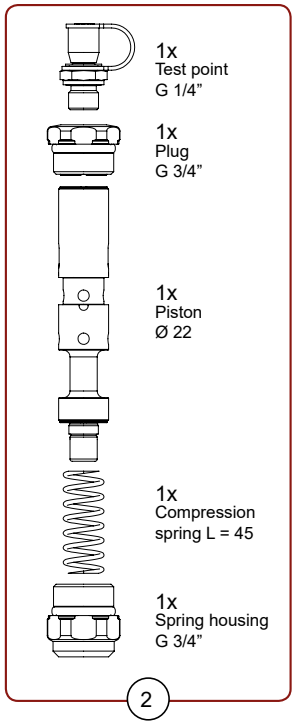


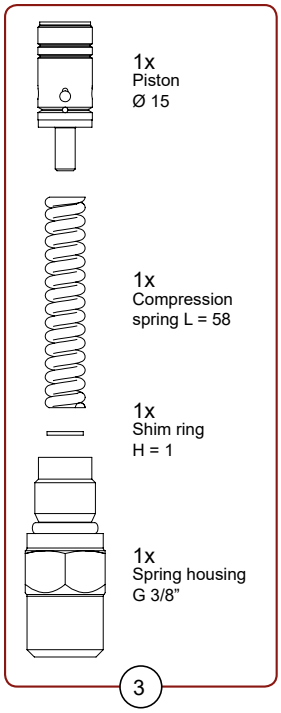
Pos.	Part no.	Description	Consumption	Fits
1	V9015	Check valve kit DLC	2 kits per valve	All DLC slewing valves
2	V9013	Check valve kit DLHV	1 kit per valve	All DLHV load holding valves
3	V9012	Pressure reducing piston DLHV	1 kit per valve	All DLHV load holding valves
4	V9002	Pressure compensator Q	1 kit per valve section	Valve Q200, Q300 and inlet section VFU
5	V9019	Dump piston kit inlet VF/VFU	1 kit per inlet section	Inlet section VF and VFU
6	V9020	Spring package TRR	1 kit per outlet section	Outlet section RF
7	V9035	Spring package outlet piston VFU	1 kit per inlet section	Inlet section VFU
8	V9016	Anti-cavitation kit DLC	2 kits per valve	All DLC slewing valves
9	V9010	Restriction orifice Ø0.5 DLHV	1 kit per valve	All DLHV load holding valves

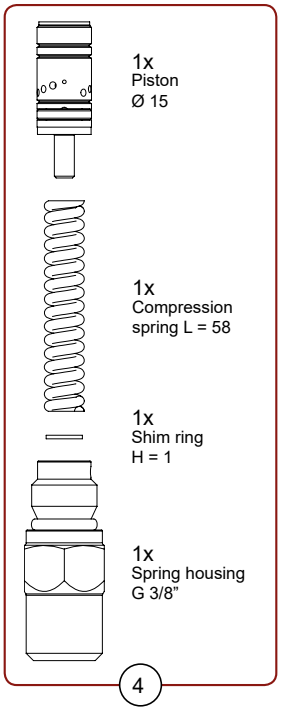
Spring and piston packages

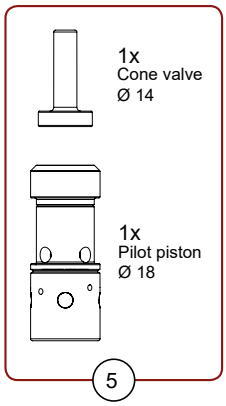
Spare part kits

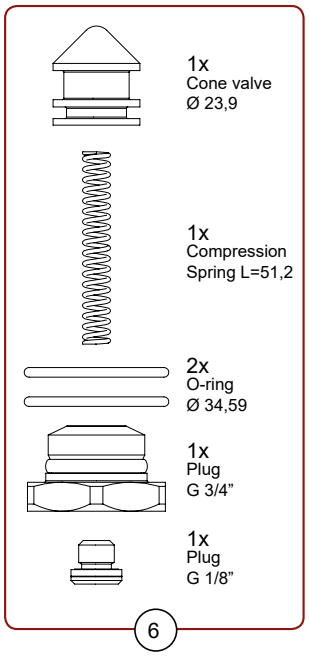


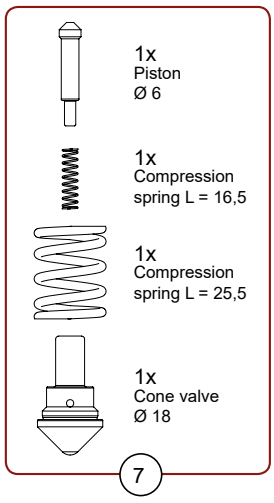


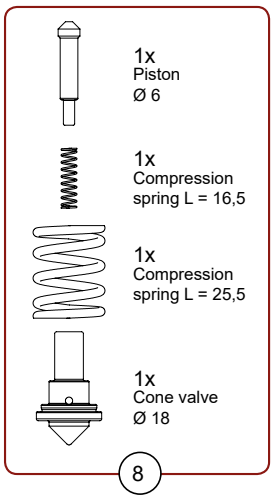








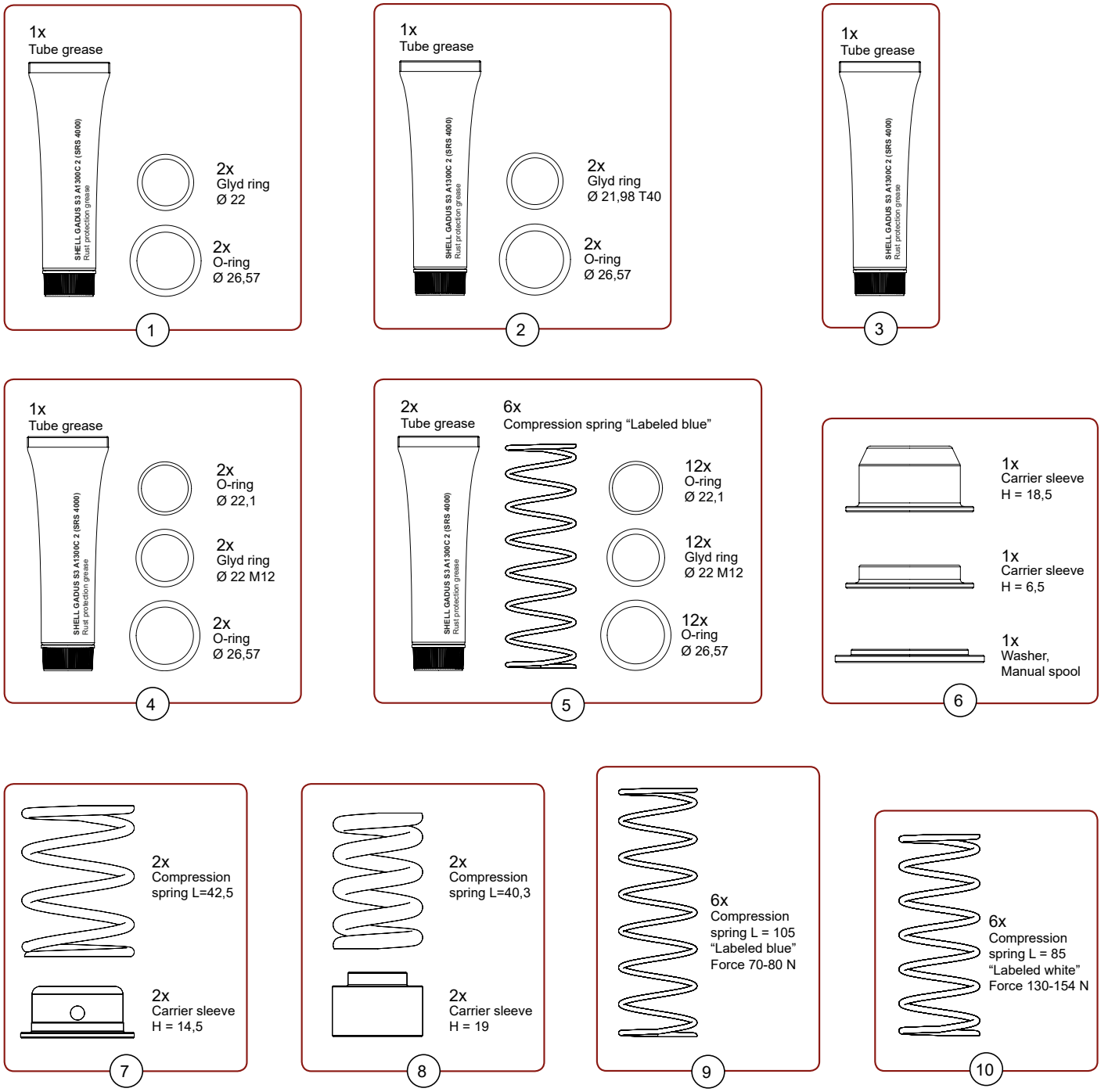




Pos.	Part no.	Description	Consumption	Fits
1	V2429	Conversion kit, fixed pump	1 kit per inlet section	Inlet section VF and VFU
2	V2430	Conversion kit, variable pump	1 kit per inlet section	Inlet section VF and VFU
3	V9041	Piston kit PRF T1	1 kit per PRF unit	PRF with serial number up to 21871
4	V9040	Piston kit PRF T2	1 kit per PRF unit	PRF with serial number from 21871
5	V2542	Pilot piston and pusher DLC	2 kits per valve	All DLC slewing valves
6	V9058	Replacement kit R1	1 kit per check valve	Check valve R1
7	V9038	Anti-cavitation kit CV1	1 kit per shock valve	Shock valve model A, AK
8	V9039	Anti-cavitation kit CV2	1 kit per shock valve	Shock valve model AZ, AZK

Spring and sealing packages for spools

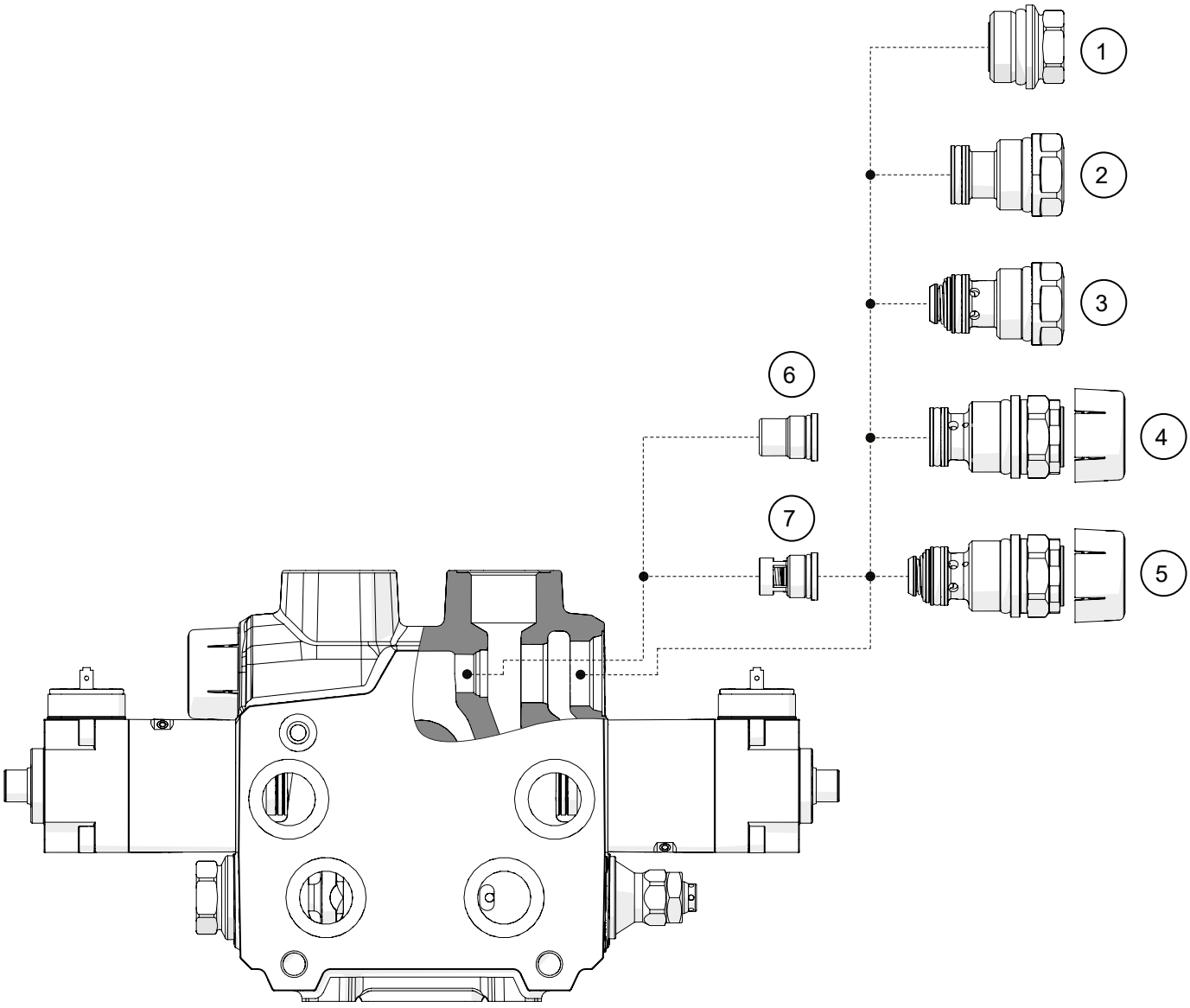
Spare part kits



Pos.	Part no.	Description	Consumption	Fits
1	S1102	Sealing kit spool	1 kit per valve section	Valve Q200 man, Q300 man, Pv98 man
2	V2541	Sealing kit spool	1 kit per valve section	Valve Q200 man, Q300 man
3	S2943	Grease 20 gram	not specified	For component assembly
4	V2468	Sealing kit spool	1 kit per valve section	Valve Q200 man, Q300 man
5	V2520	Low friction kit	1 kit per 6 valve sections	Valve Q200 man, Q300 man
6	V9008	Spring guide package spool	1 kit per valve section	All manual operated valves
7	V9000	Centering kit spool P8	1 kit per valve section	All valves with mounted P8
8	V9060	Centering kit spool H8	1 kit per valve section	All valves with mounted H8
9	V9046	Spring set x6 blue	1 kit per 6 valve sections	Valve Q200 man, Q300 man and Pv90 man
10	V9005	Spring set x6 white	1 kit per 6 valve sections	Valve Q200 man, Q300 man, Pv98 man and Pv90 man

Valve Q300 plugs and shock valve options

Overview



Valve Q300

Pos.	Part no.	Description	Function
1	V0741	Plug TK	Cylinder port constantly connected to tank
2	V2456	Plug P	Cylinder port constantly isolated from tank
3	V2455	Plug E	Anti-cavitation function
4	V5xxxD	Shock valve D	Shock valve function
5	V5xxxC	Shock valve C	Shock valve and anti-cavitation function
6	V2438	Plug BV	Without regeneration function
7	V2436	Check valve Q300	Regeneration function

Instructions - Load holding valve DLHV

Adjusting the pressure reducer on the load holding valve (Page 1/3)

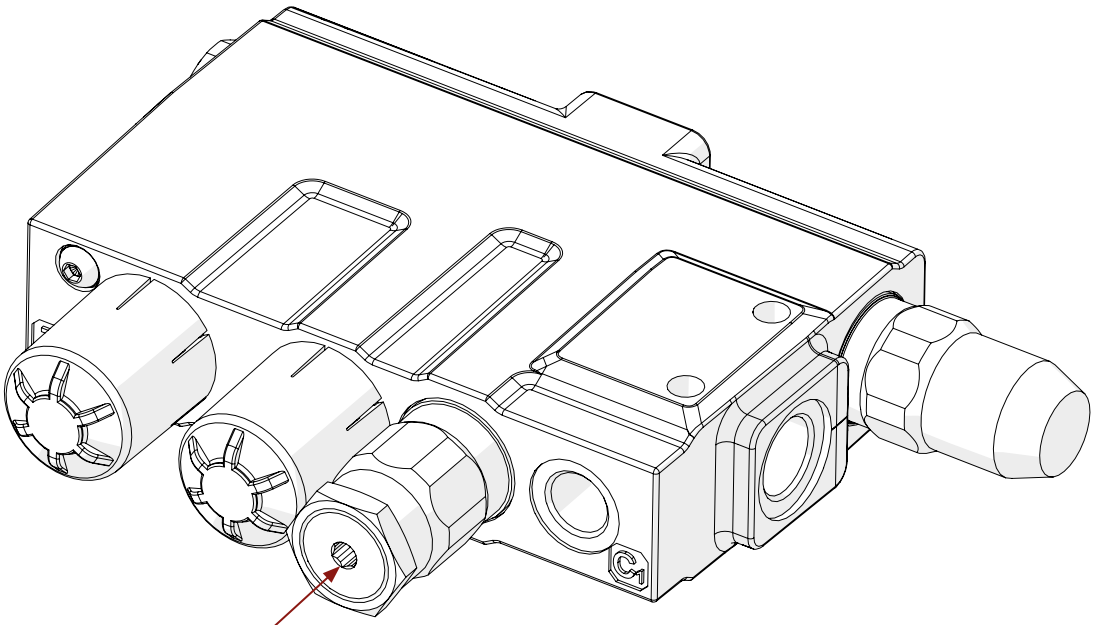
Olsbergs load holding valves are designed to have stable control characteristics and to have a minimum of pressure built up while using the lowering functions. The load holding valve is closed and tight in neutral position and gives protection against a broken hose. It has shock valves with anti-cavitation function for both piston and piston rod side of the cylinder.

- The Q200 valve spools and flow orifices are designed to give the same speed for the lifting and lowering movements.

Example: The spool flow to the lifting cylinder´s piston side is dimensioned to 60 l/min. Area ratio 2:1. The spool flow to the piston rod side is consequently designed to 30 l/min. The load holding valve has an adjustable pressure reducer function.

The reduced pressure in the hydraulic hose between the load holding valve and the Q200 valve can be adjusted between 10-25 bar. The pressure keeps itself constant independent of the cylinder´s load. If the pressure reducer is adjusted too low, the flow out from the cylinder is too low compared to the flow in to the piston rod side of the cylinder. The result of this is that the pressure to the cylinder´s piston rod side increases to maximum pressure and the excess oil flow will pass over the shock valve.
- A waste of energy!

The pressure reducer shall be adjusted so the oil flow out from the cylinder´s piston side is somewhat higher than the flow in to the piston rod side. No unnecessary pressure will be built up while lowering the crane. The deficit on the piston rod side will be compensated by flow from tank by help of the anti-cavitation valve.



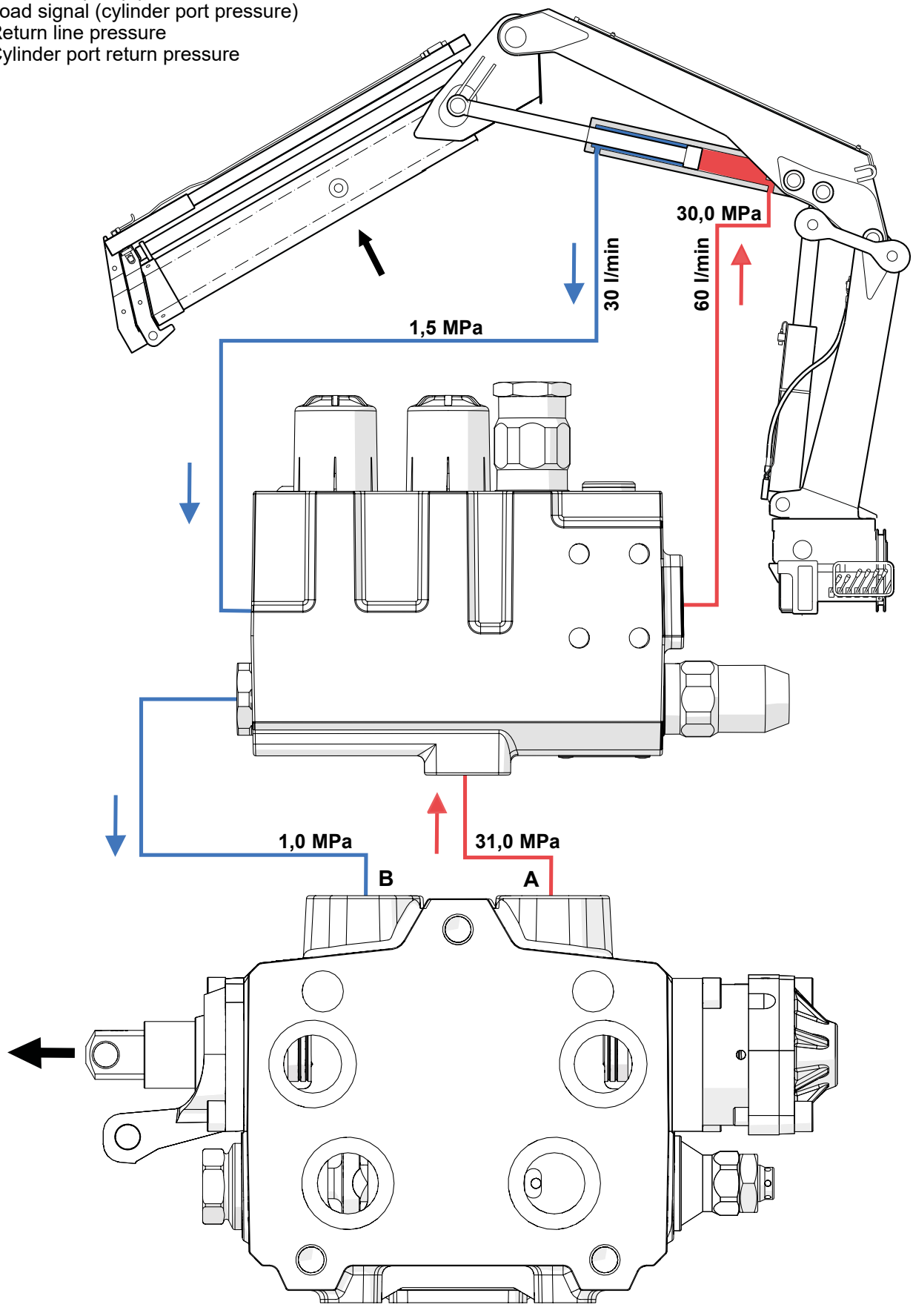
Instructions

1. Screw out the pressure reducer adjustment screw.
2. Lower the outer boom in the low pressure lowering area and make sure that the pressure to the piston rod side goes to maximum. For example 200 bar.
3. Screw the adjustment screw half a turn in.
4. Repeat the lowering movement and check if the pressure to the piston rod side has decreased to a low pressure.
5. If the pressure still reaches its maximum;- repeat step 3 to 4. until the pressure goes down to the low pressure.
6. When you reached the low pressure, screw an extra half turn (but not more) on the adjustment screw and then lock the screw in that position.
7. The flow out from the cylinder is now somewhat higher than the flow in to the cylinders piston rod side.

Instructions - Load holding valve DLHV

Adjusting the pressure reducer on the load holding valve (Page 2/3)

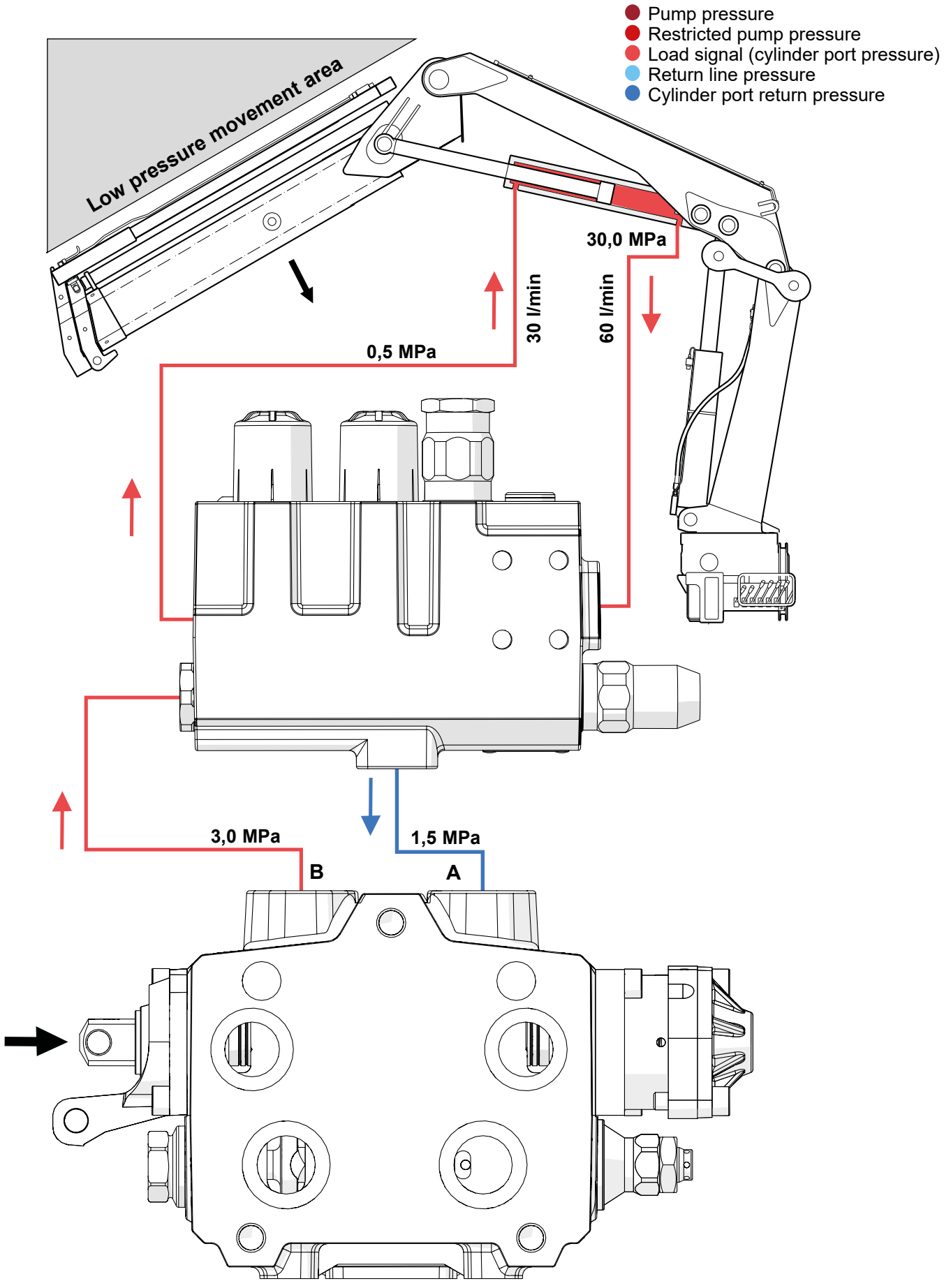
- Pump pressure
- Restricted pump pressure
- Load signal (cylinder port pressure)
- Return line pressure
- Cylinder port return pressure



Function: Lifting of outer boom.

Instructions - Load holding valve DLHV

Adjusting the pressure reducer on the load holding valve (Page 3/3)



Function: Lowering of outer boom.

Instructions - Pressure overview with signal relief valve

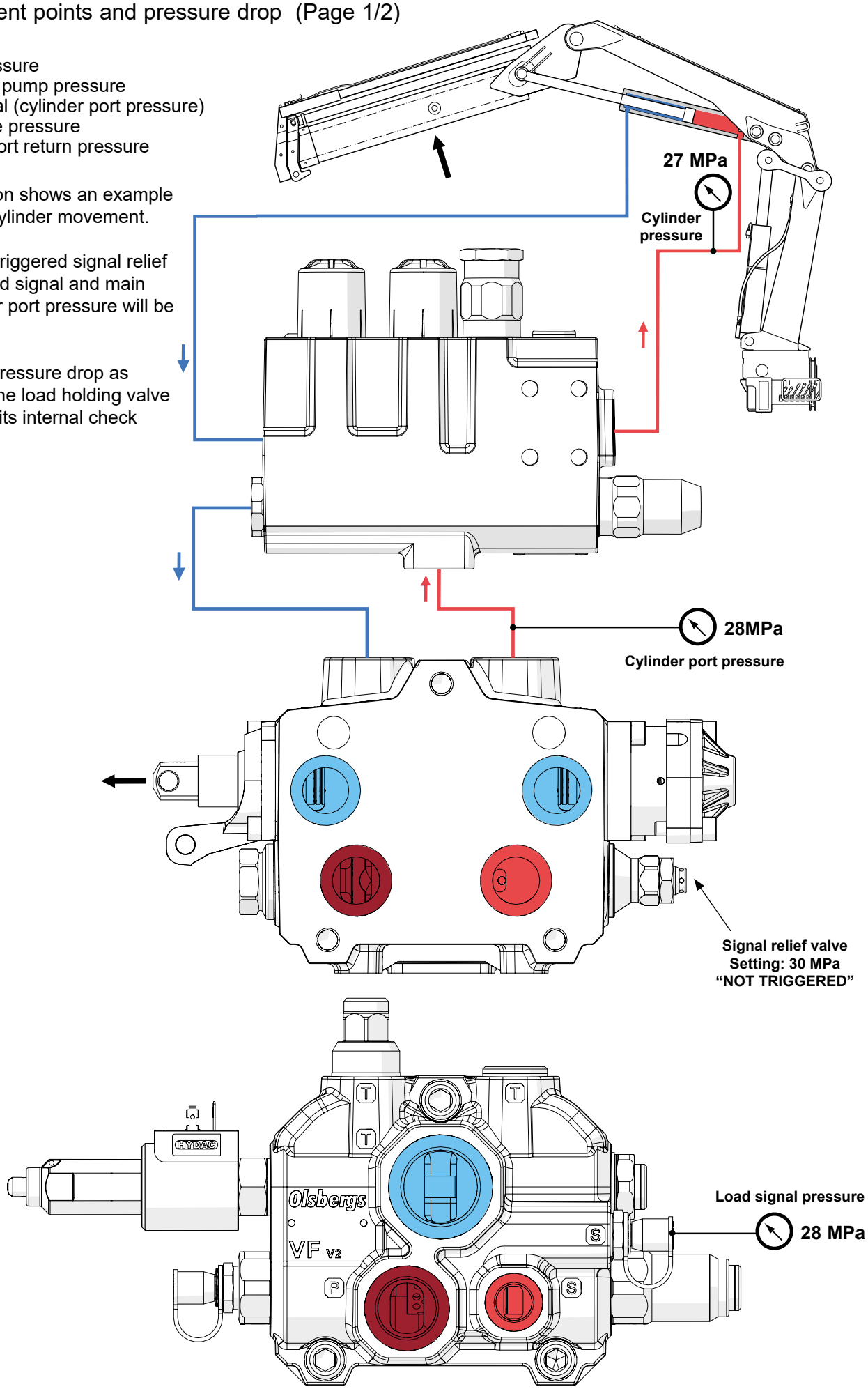
Measurement points and pressure drop (Page 1/2)

- Pump pressure
- Restricted pump pressure
- Load signal (cylinder port pressure)
- Return line pressure
- Cylinder port return pressure

This illustration shows an example of a normal cylinder movement.

With a none triggered signal relief valve, the load signal and main valve cylinder port pressure will be the same.

The normal pressure drop as shown over the load holding valve is caused by its internal check valve.



Instructions - Pressure overview with signal relief valve

Measurement points and pressure drop (Page 2/2)

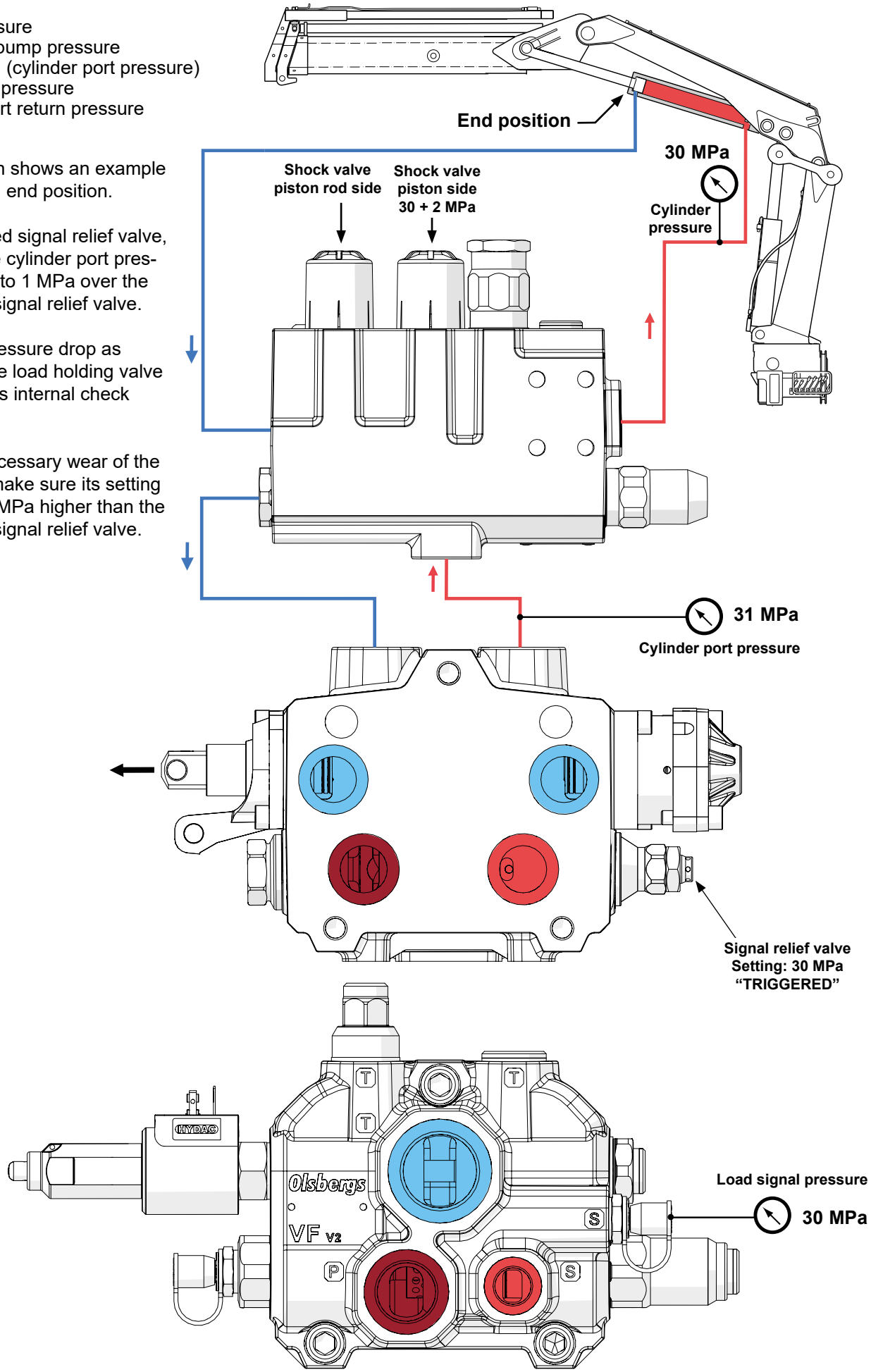
- Pump pressure
- Restricted pump pressure
- Load signal (cylinder port pressure)
- Return line pressure
- Cylinder port return pressure

This illustration shows an example of a cylinder in end position.

With a triggered signal relief valve, the main valve cylinder port pressure is limited to 1 MPa over the setting of the signal relief valve.

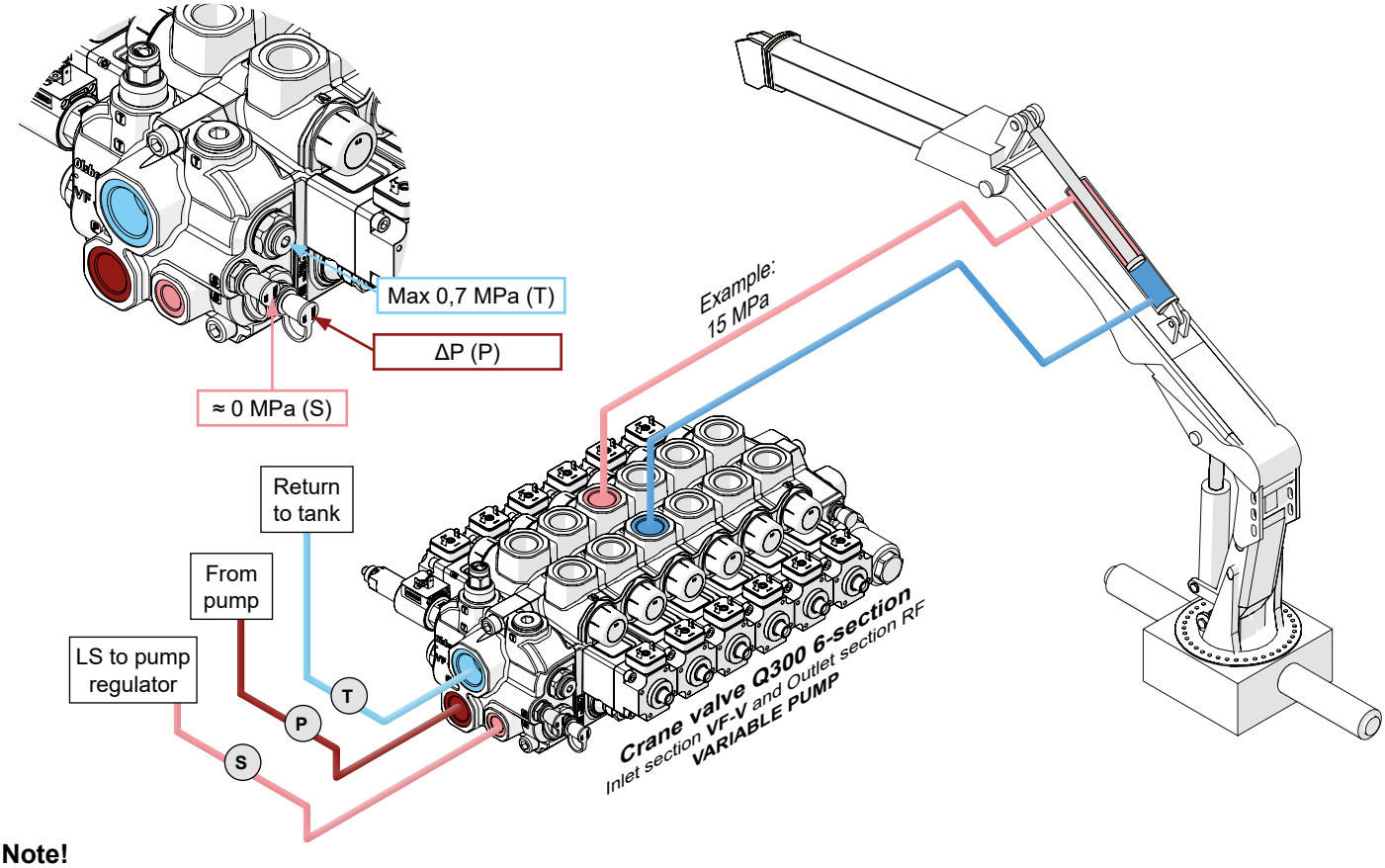
The normal pressure drop as shown over the load holding valve is caused by its internal check valve.

To avoid unnecessary wear of the shock valve, make sure its setting is minimum 2 MPa higher than the setting of the signal relief valve.



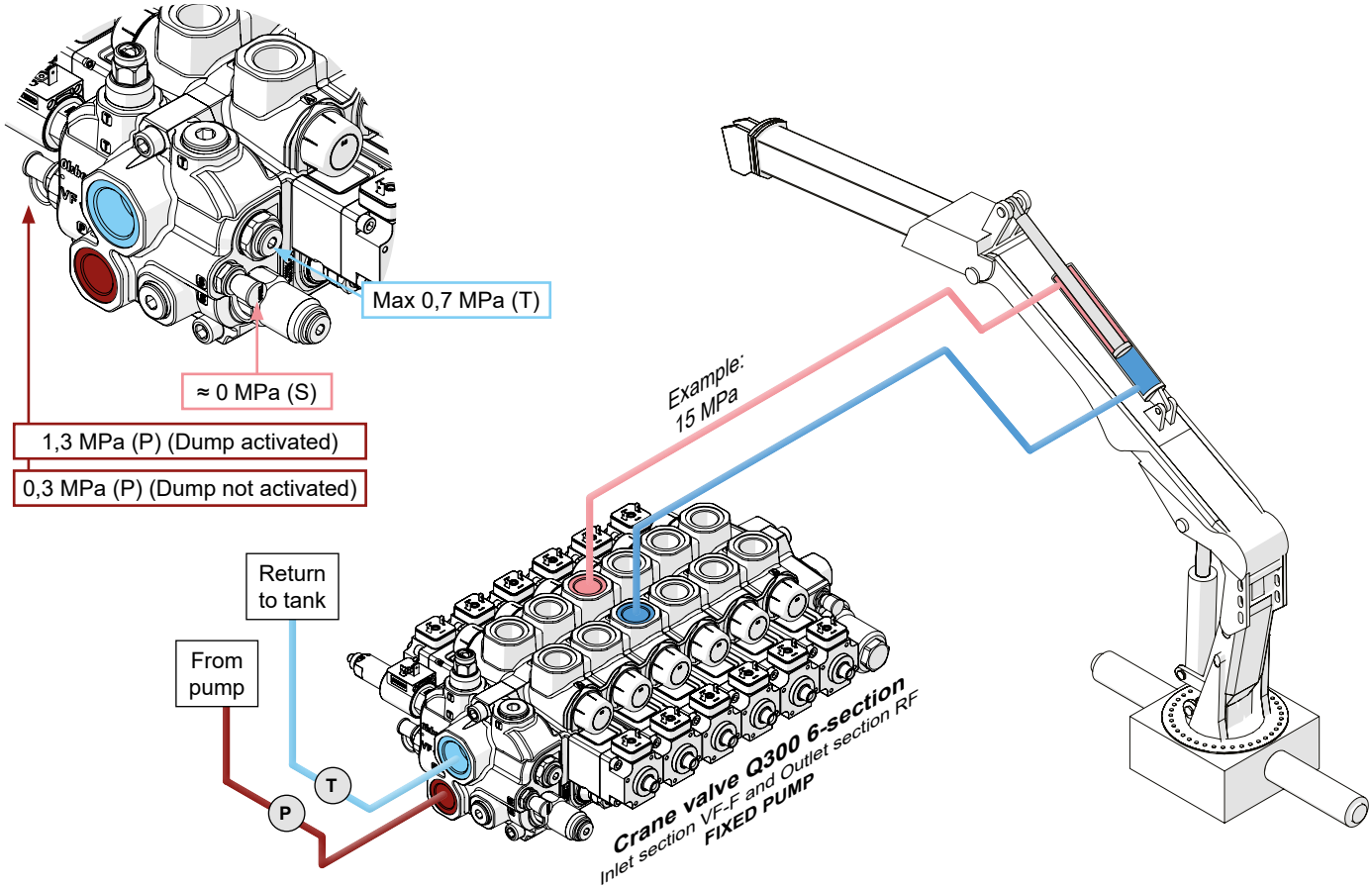
Instructions - Measuring instruction for crane valve Q300

Variable pump, cylinder in standby (spool not activated)



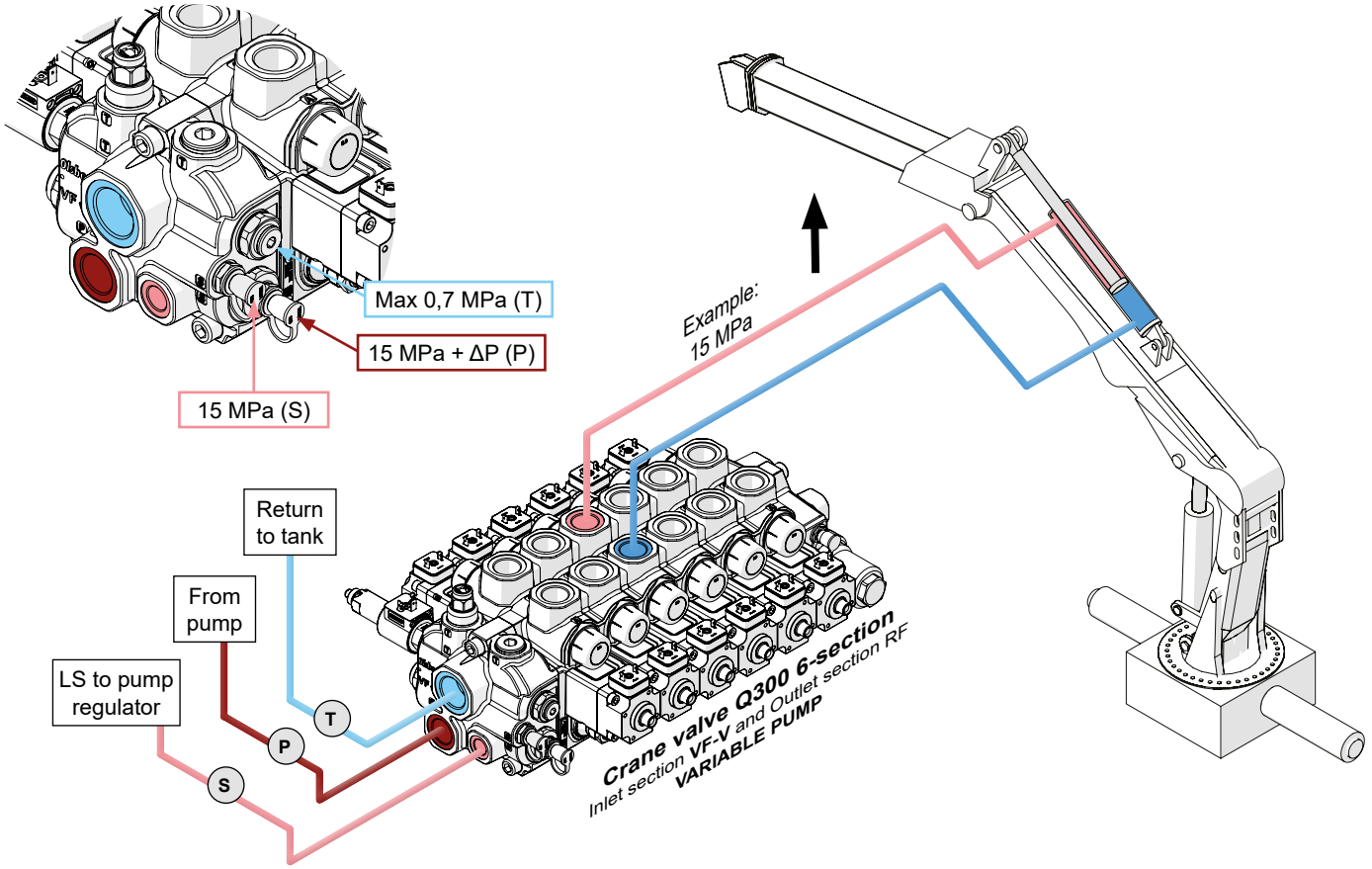
Note!
Setting of standby pressure depends on pump type, dimension and length of signal line and the required response time.

Fixed pump, cylinder in standby (spool not activated)



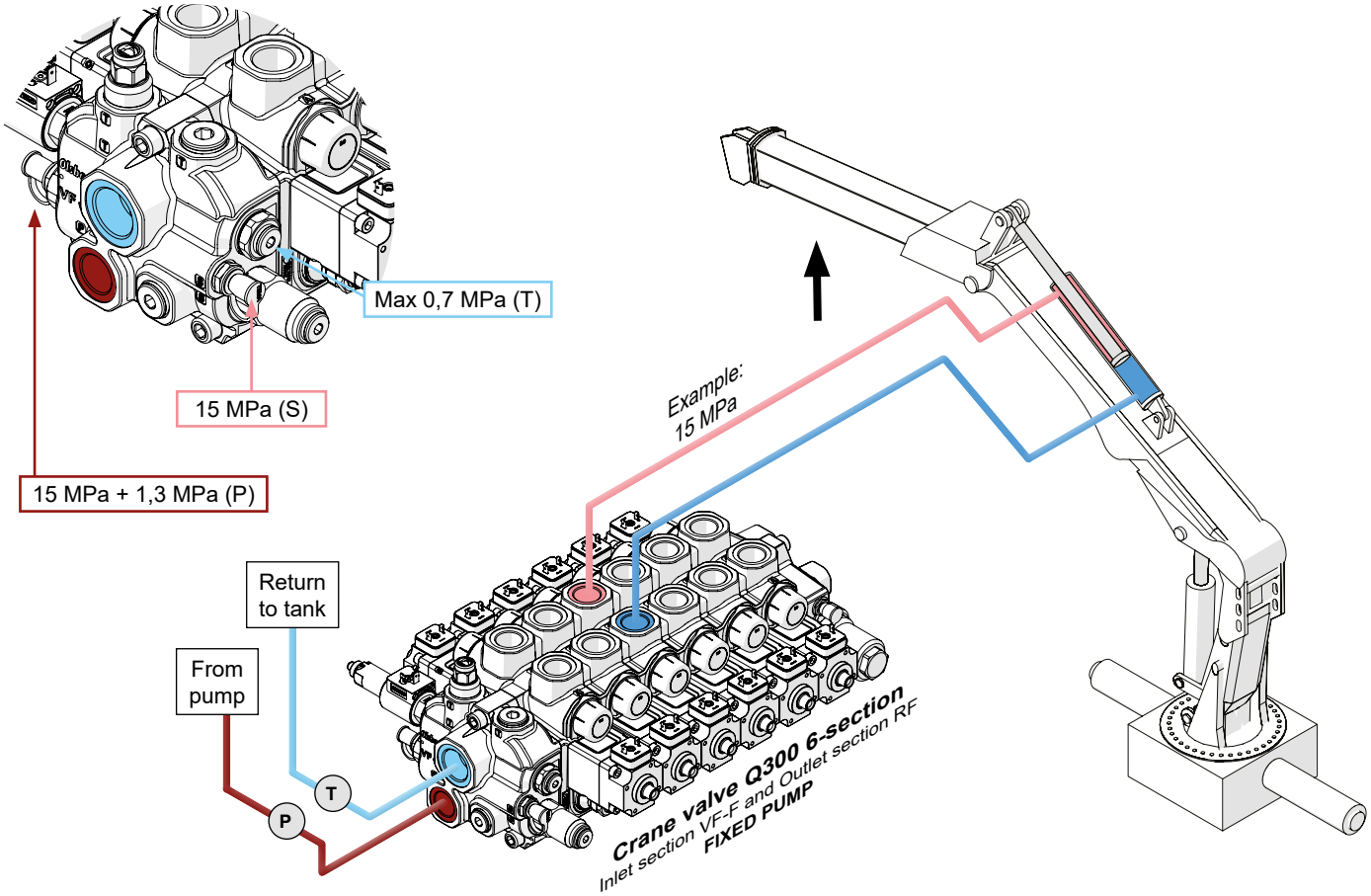
Instructions - Measuring instruction for crane valve Q300

Variable pump, cylinder in movement (spool activated)



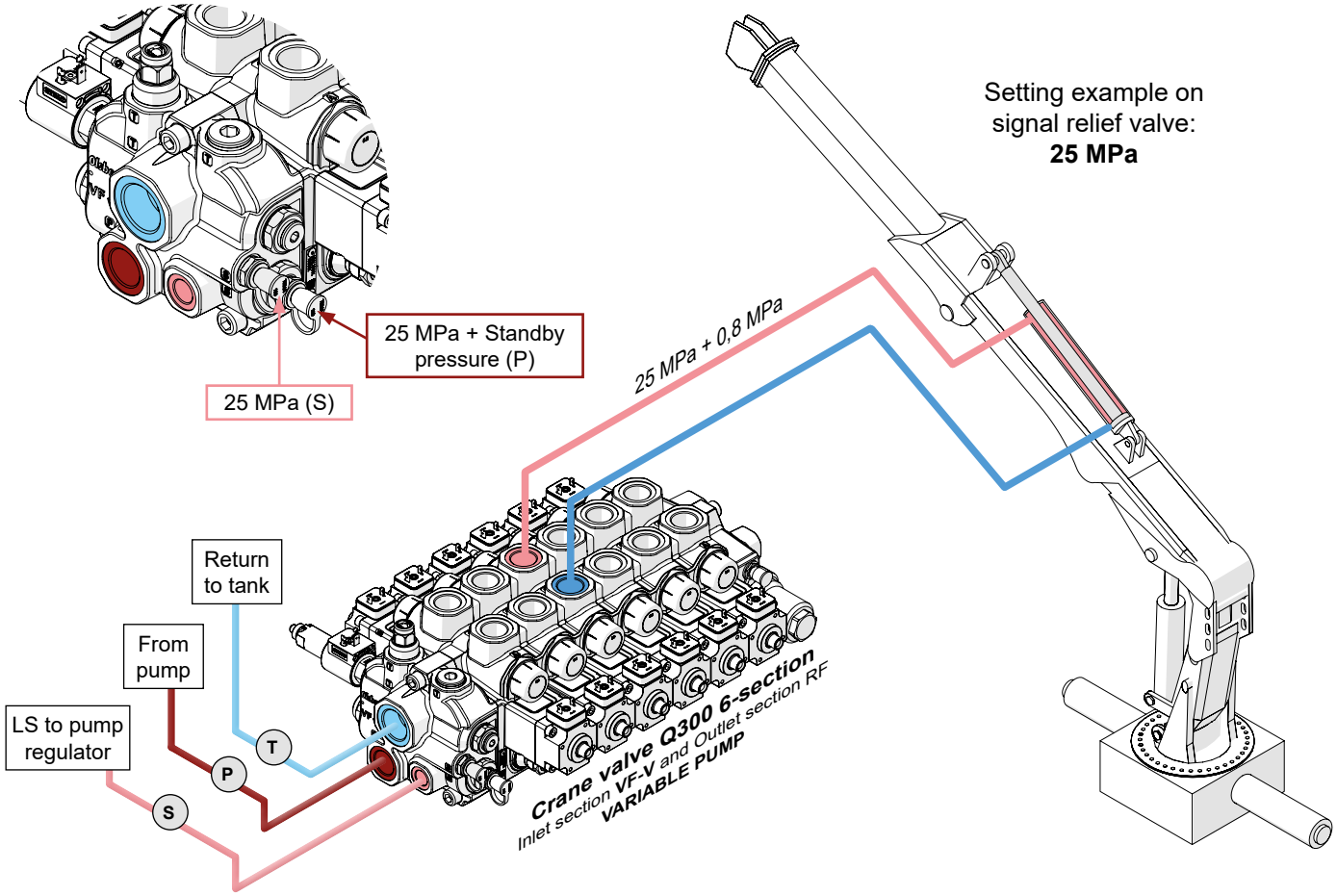
Note!
Delta P (ΔP) = P-S, Delta P must always be minimum 1,3 MPa

Fixed pump, cylinder in movement (spool activated)

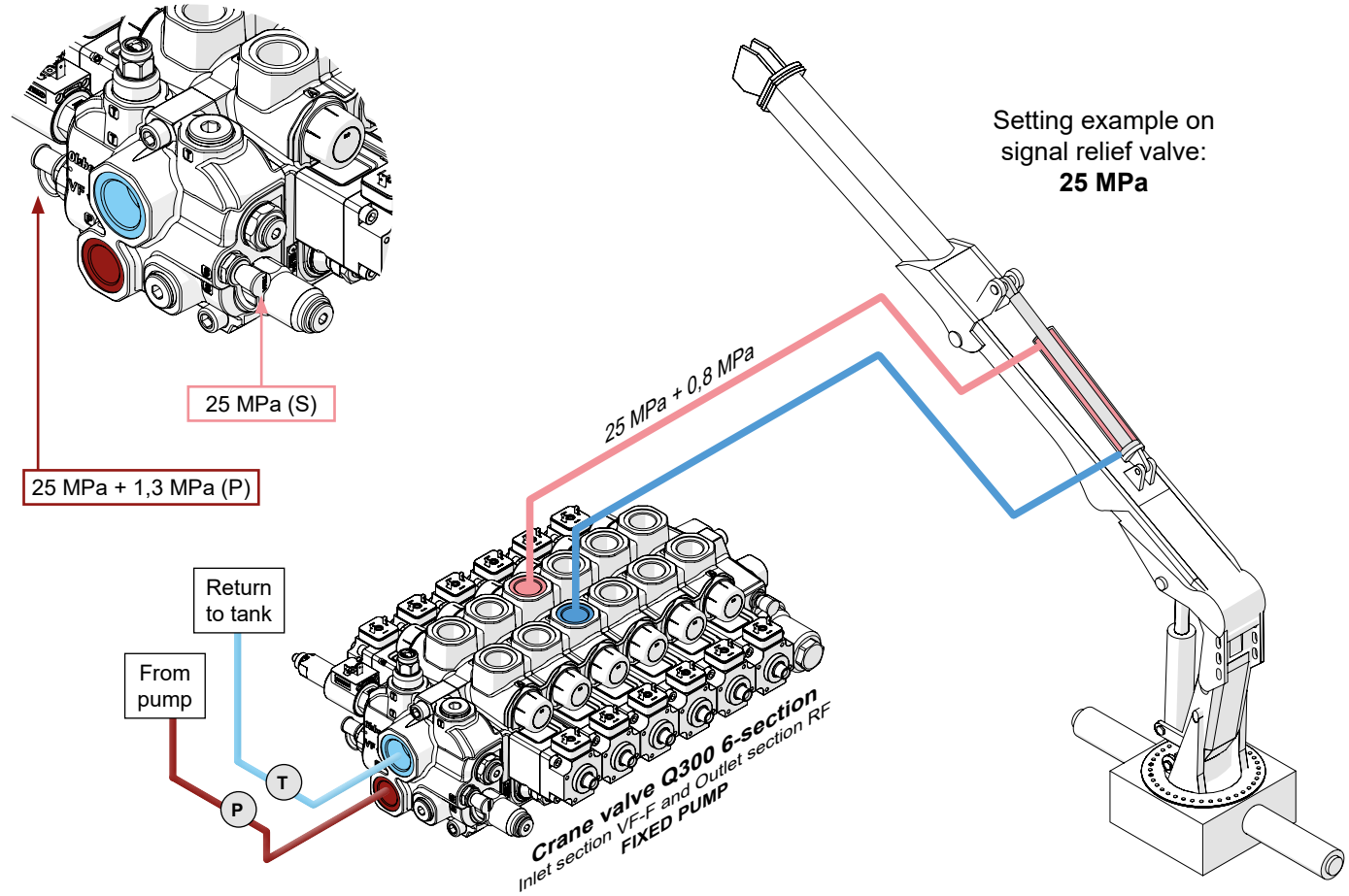


Instructions - Measuring instruction for crane valve Q300

Variable pump, cylinder in end position (signal relief valve activated)



Fixed pump, cylinder in end position (signal relief valve activated)

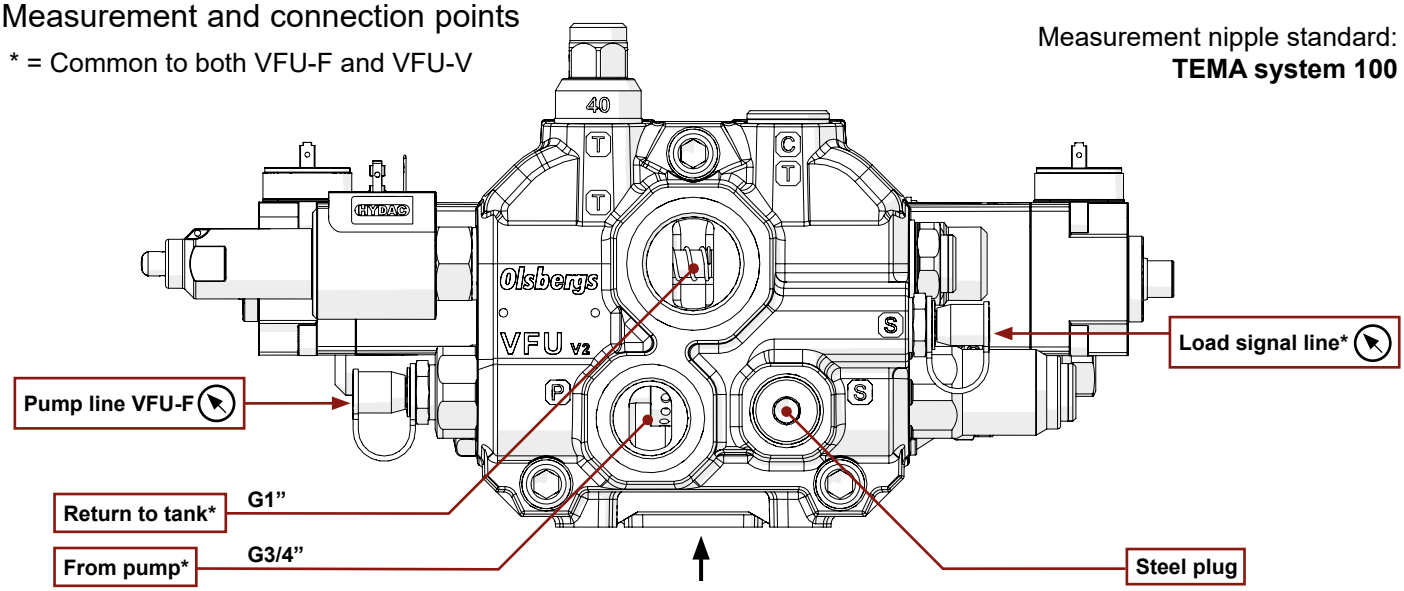


Instructions - Inlet section VFU and outlet section RF

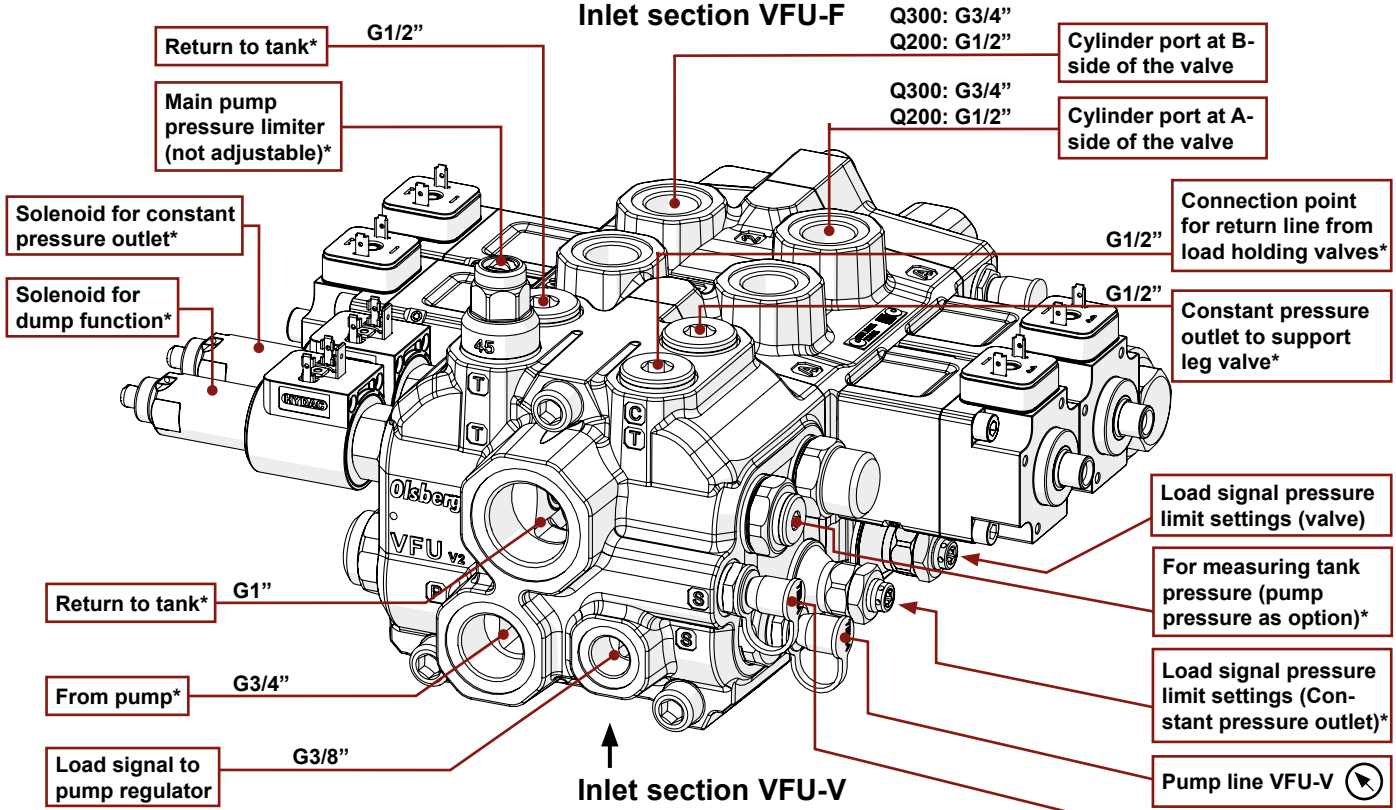
Measurement and connection points

* = Common to both VFU-F and VFU-V

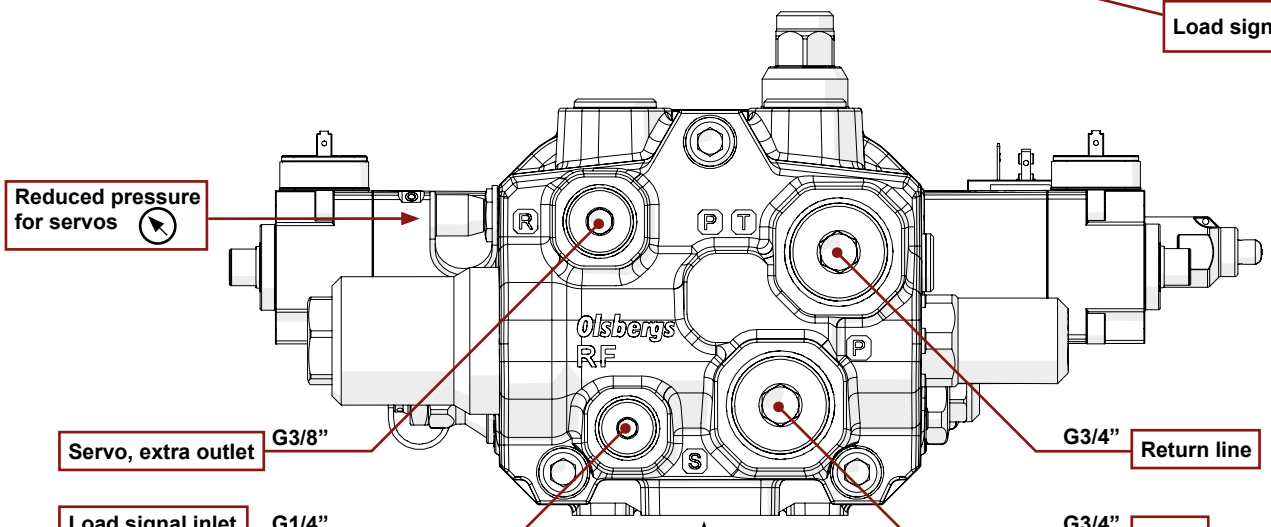
Measurement nipple standard:
TEMA system 100



Inlet section VFU-F



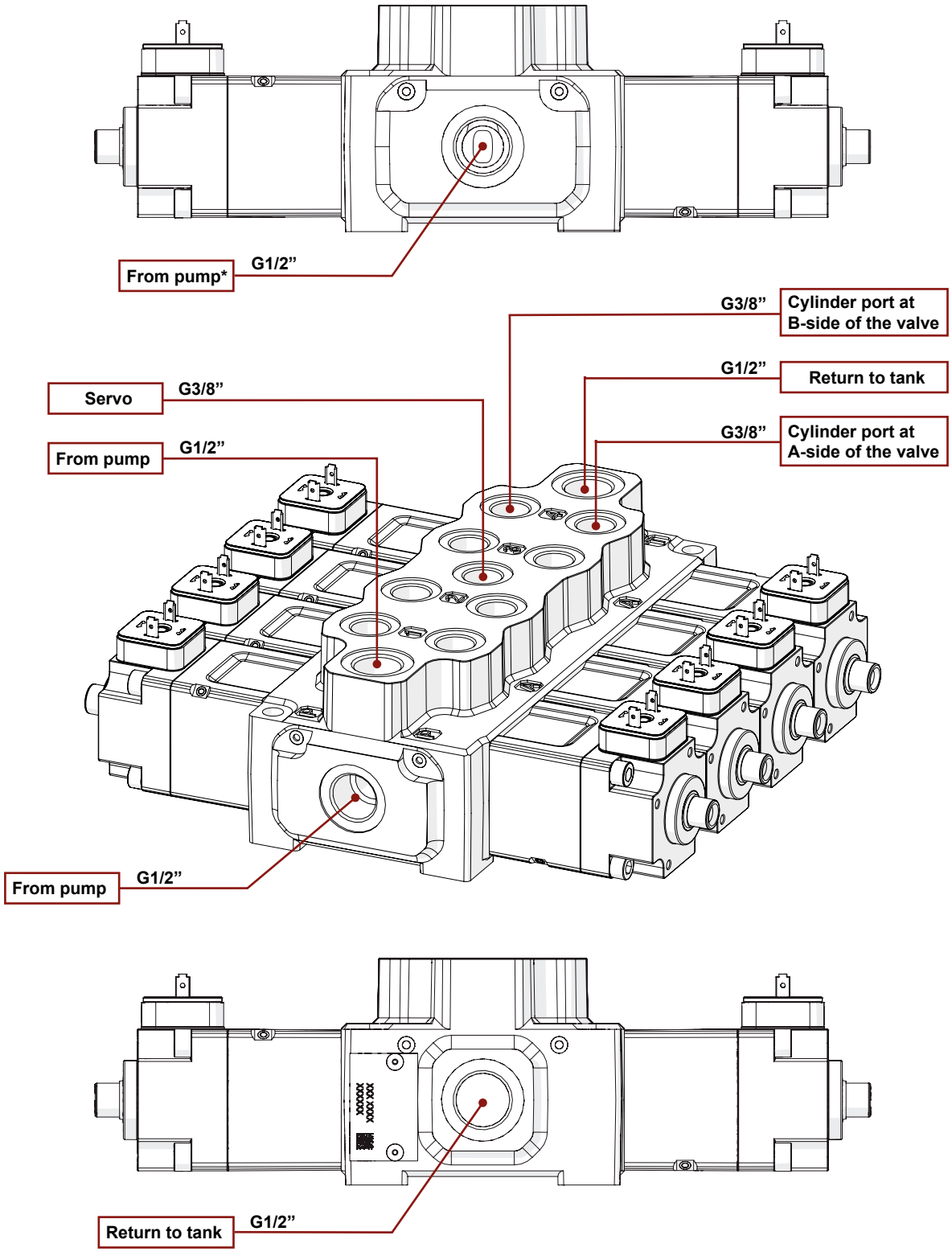
Inlet section VFU-V



Outlet section RF

Instruction - Valve Pv98 El-P8

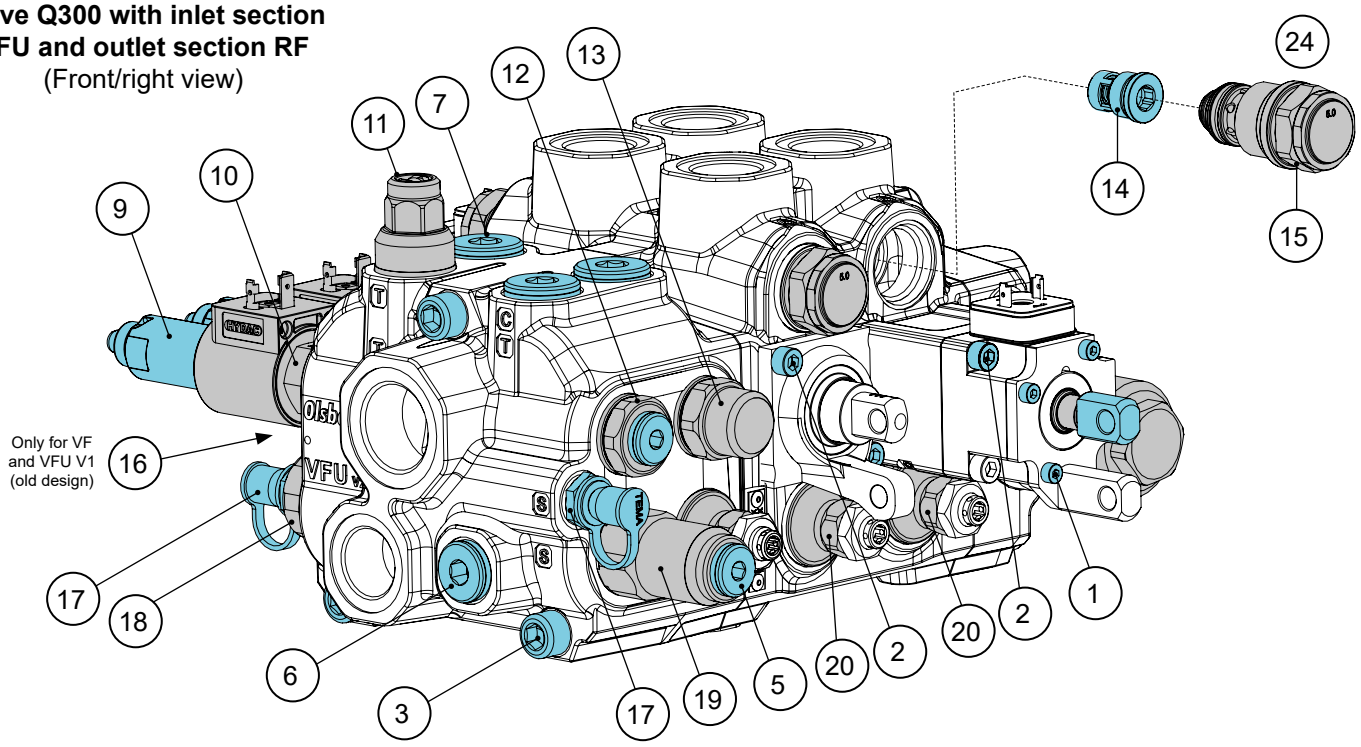
Technical data and connection points



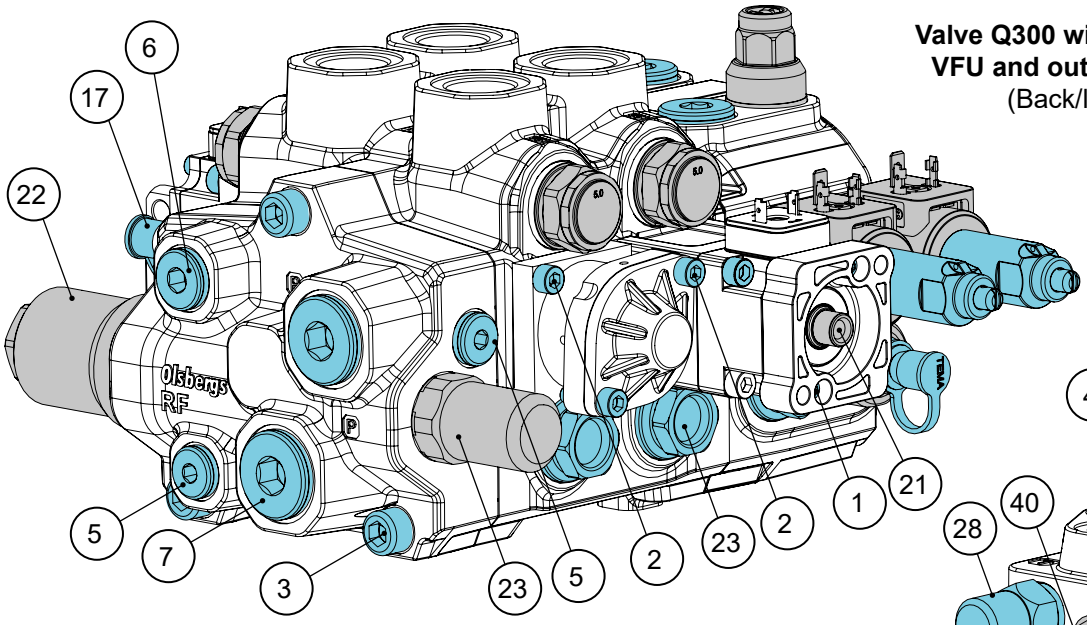
Technical data	
Valve function	Constant perssure valve
Type	“Closed center”
Design	Monoblock valve, 2- or 4-section
Flow (from Pump)	Max 100 l/min
Flow (to cylinder port)	Max 50 l/min
Servo pressure	3,0 MPa

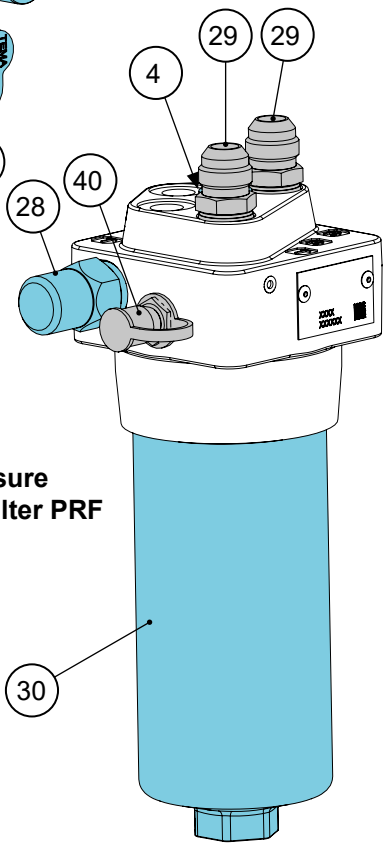
Torque specification (Page 1/2)

Valve Q300 with inlet section VFU and outlet section RF
(Front/right view)

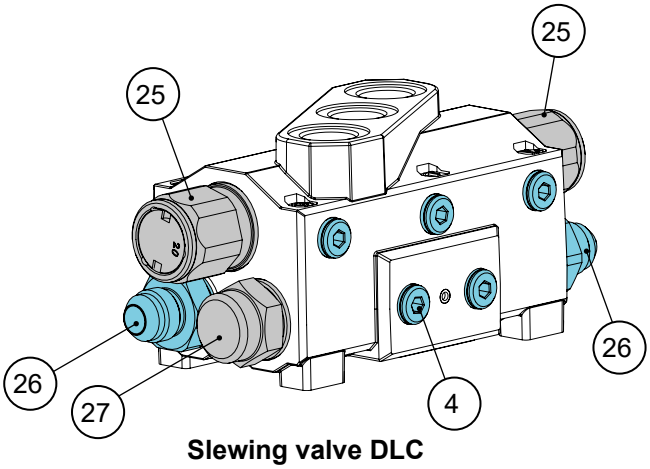


Valve Q300 with inlet section VFU and outlet section RF
(Back/left view)





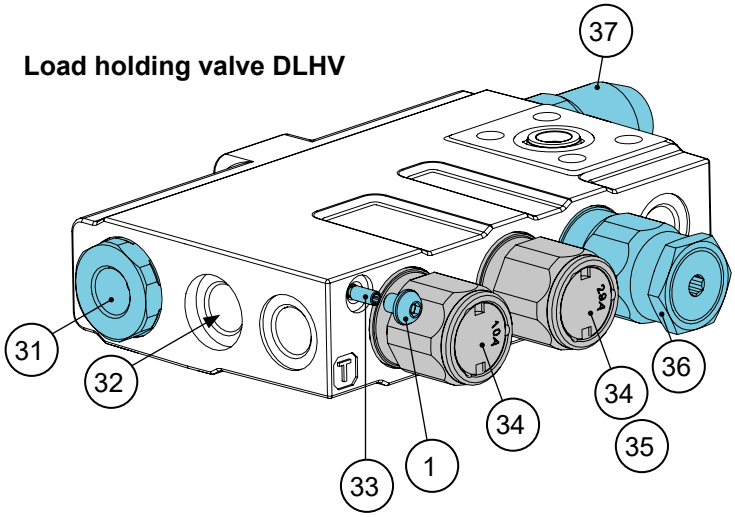
Pressure reducer/filter PRF

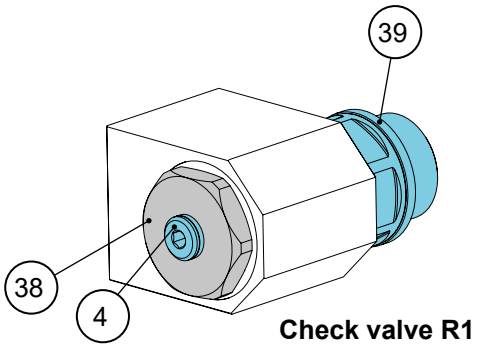


Slewing valve DLC

Instruction - Q-series spare parts

Torque specification (Page 2/2)



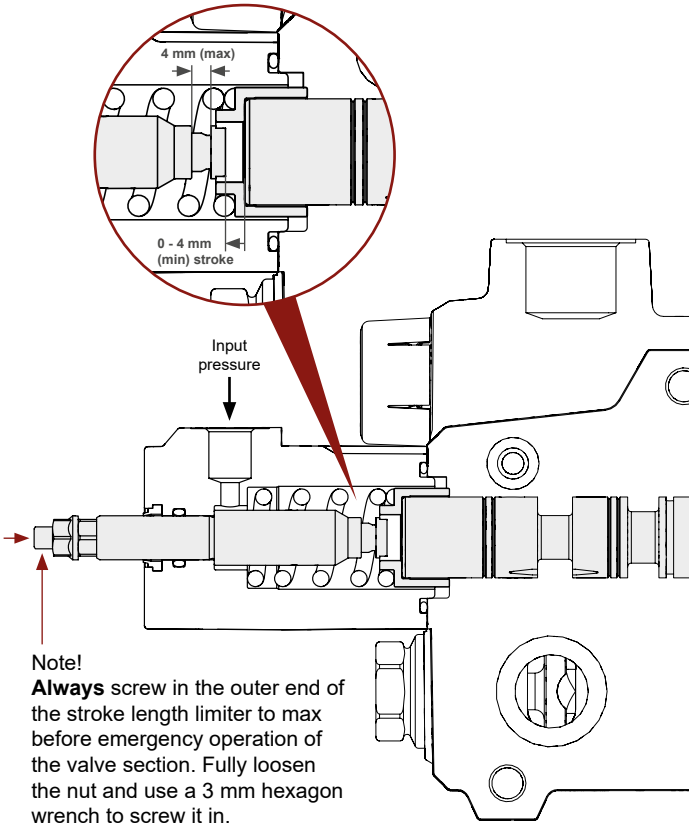


General tightening torques:

Pos.	Type	Description	Torque
1	Screw	M4	3 ±0,3 Nm
2	Screw	M6	8 ±1 Nm
3	Screw	M10 (in or outlet section)	55 ±5 Nm
4	Plug	Steel plug (oil plug), G 1/8”	15 ±2 Nm
5	Plug	Steel plug (oil plug), G 1/4”	5 ±2 Nm
6	Plug	Steel plug (oil plug), G 3/8”	55 ±5 Nm
7	Plug	Steel plug (oil plug), G 1/2”	85 ±5 Nm
8	Plug	Steel plug (oil plug), G 3/4”	115 ±5 Nm

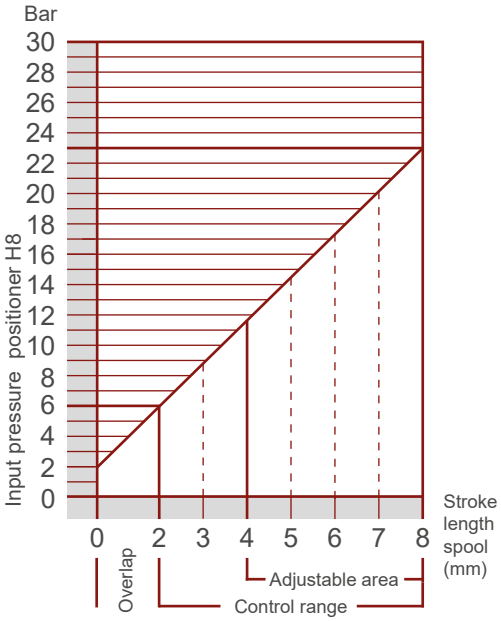
Tightening torque for each part number:

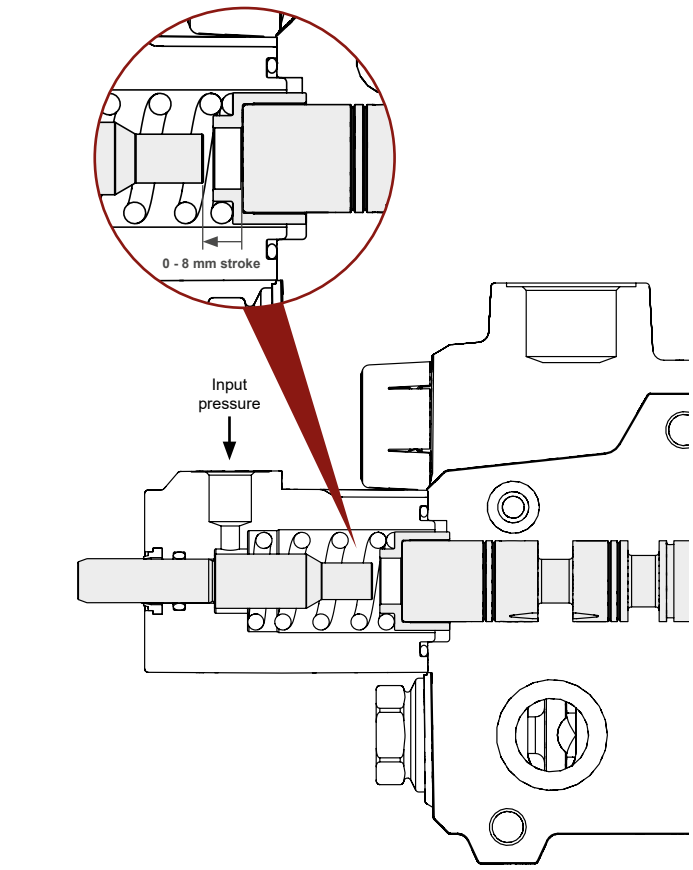
Pos.	Part no.	Description	Torque
9	V2149-1	Sealing nut solenoid	6 +1 Nm
10	V2418	Solenoid V 28V (Cartridge)	25 +5 Nm
11	V4xxx	Pressure restr. MP	85 ±5 Nm
12	V2324	Plug G 1/2” P VFU/VF	
	V2459	Plug G 1/2” T VFU/VF	85 ±5 Nm
13	V2323	Spring housing outlet VFU	85 ±5 Nm
14	V2436	Check valve Q300	
	V2438	Plug BV	55 ±5 Nm
15	V2456	Plug P	
	V2455	Plug E	
	V5xxxC	Shock valve model C	55 ±5 Nm
	V5xxxD	Shock valve model D	
16	V2326	Reduction VFU-15	85 ±5 Nm
17	S1546	Measuring point G 1/4”	25 ±2 Nm
18	V2325	Plug shunt FP (VFU-F)	
	V2321	Spring housing VP (VFU-V)	115 ±5 Nm
19	V2322	Spring housing shunt 13	85 ±5 Nm
20	V0750	Signal relief v. with shuttl.	
	V0751	Signal relief v. without shut.	85 ±5 Nm
21	P0236	Piston P8	6 ±1 Nm
22	V2327	Filter housing RF	85 ±5 Nm
23	V2328	Spring housing RF	85 ±5 Nm
24	V0741	Plug TK G 3/4”	115 ±5 Nm
25	V1xxx	Shock valve xx MPa	85 ±5 Nm
26	V2279	Adapter straight DLC	85 ±5 Nm
27	V2084	Spring housing	85 ±5 Nm
28	V2289	Spring housing PRF	25 ±2 Nm
29	S1828	Nipple G 1/4” Jic 3/4”	25 ±2 Nm
30	P0204	Filter housing PRF	25 ±2 Nm
31	V2291	Adapter R 3/4” - R 3/8”	
	V2343	Ad. R 3/4”- R 3/8” type S	85 ±5 Nm
32	V2267	Adapter R 3/8” - UNF 7/8”	
	V2282	Adapter R 3/8” - UNF 3/4”	85 ±5 Nm
	V2299	Adapter R 3/8” - R 3/8”	
33	V0956	Restriction orifice	2,2 ±0,2 Nm
34	V1xxxA	Shock valve Type A	85 ±5 Nm
35	V1xxxZ	Shock valve A Type NLZ	85 ±5 Nm
36	V0951	Adj. screw pressure red.	85 ±5 Nm
37	V2078	Spring housing	85 ±5 Nm
38	V2423	Cover, check valve R1	85 ±5 Nm
39	V2424	Banjo bolt, check valve R1	85 ±5 Nm
40	S2250	Measuring point G 1/8”	25 ±2 Nm



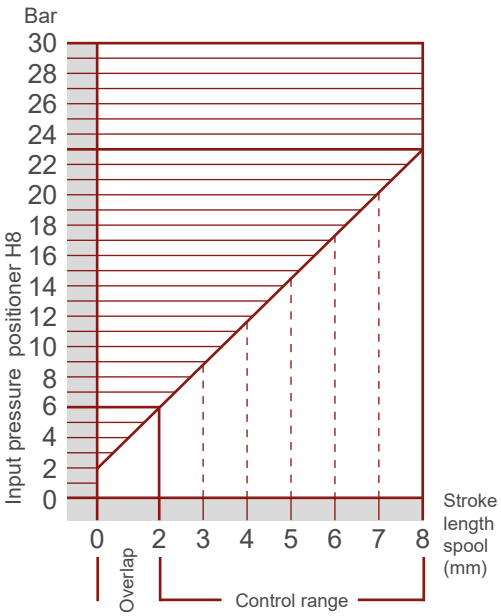
Note!
Always screw in the outer end of the stroke length limiter to max before emergency operation of the valve section. Fully loosen the nut and use a 3 mm hexagon wrench to screw it in.

With adjustable stroke length limiter
(Part no. P0290)





With stroke length limiter
(Part no. P0291)

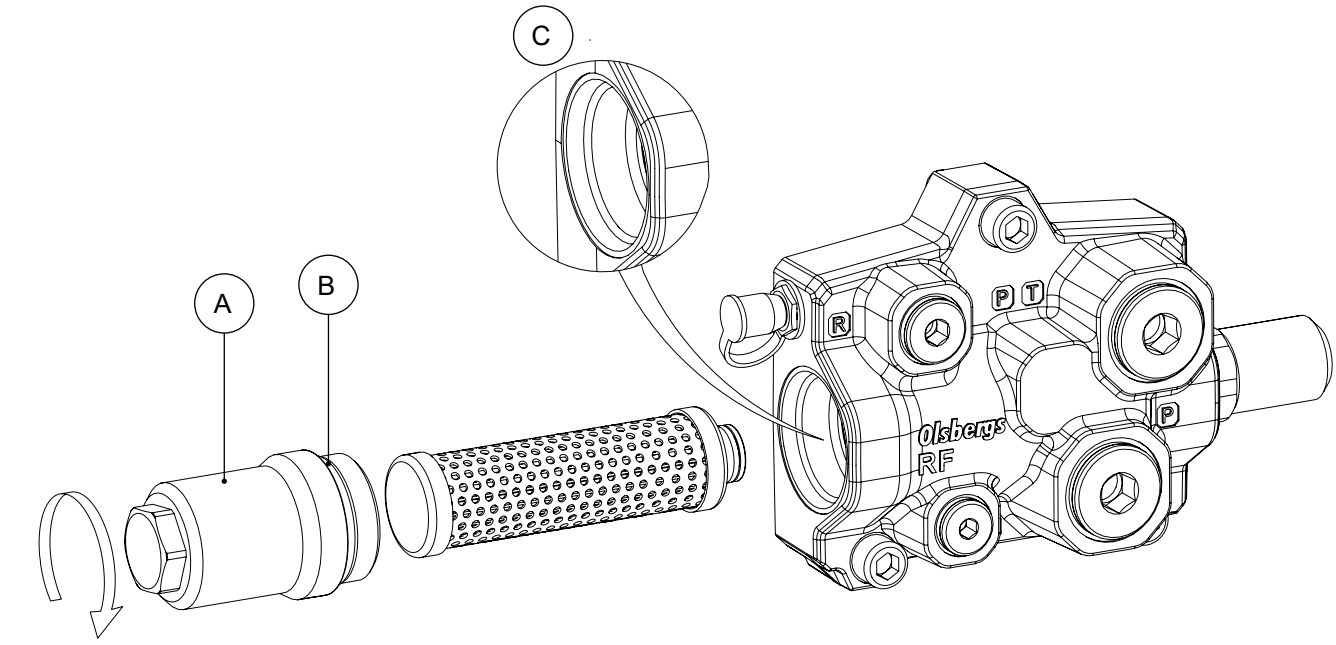


Instructions - Outlet section RF

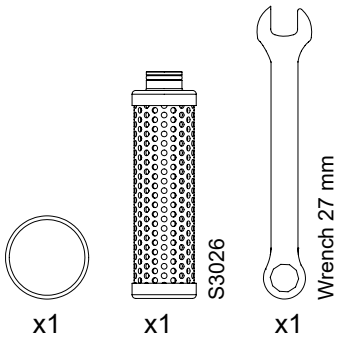
Replacement of filter cartridge, article no. **S3026**

To prevent dirt from entering the unit.

Do not unpack the filter cartridge until you are ready to mount it.



85 ±5 Nm



Instructions

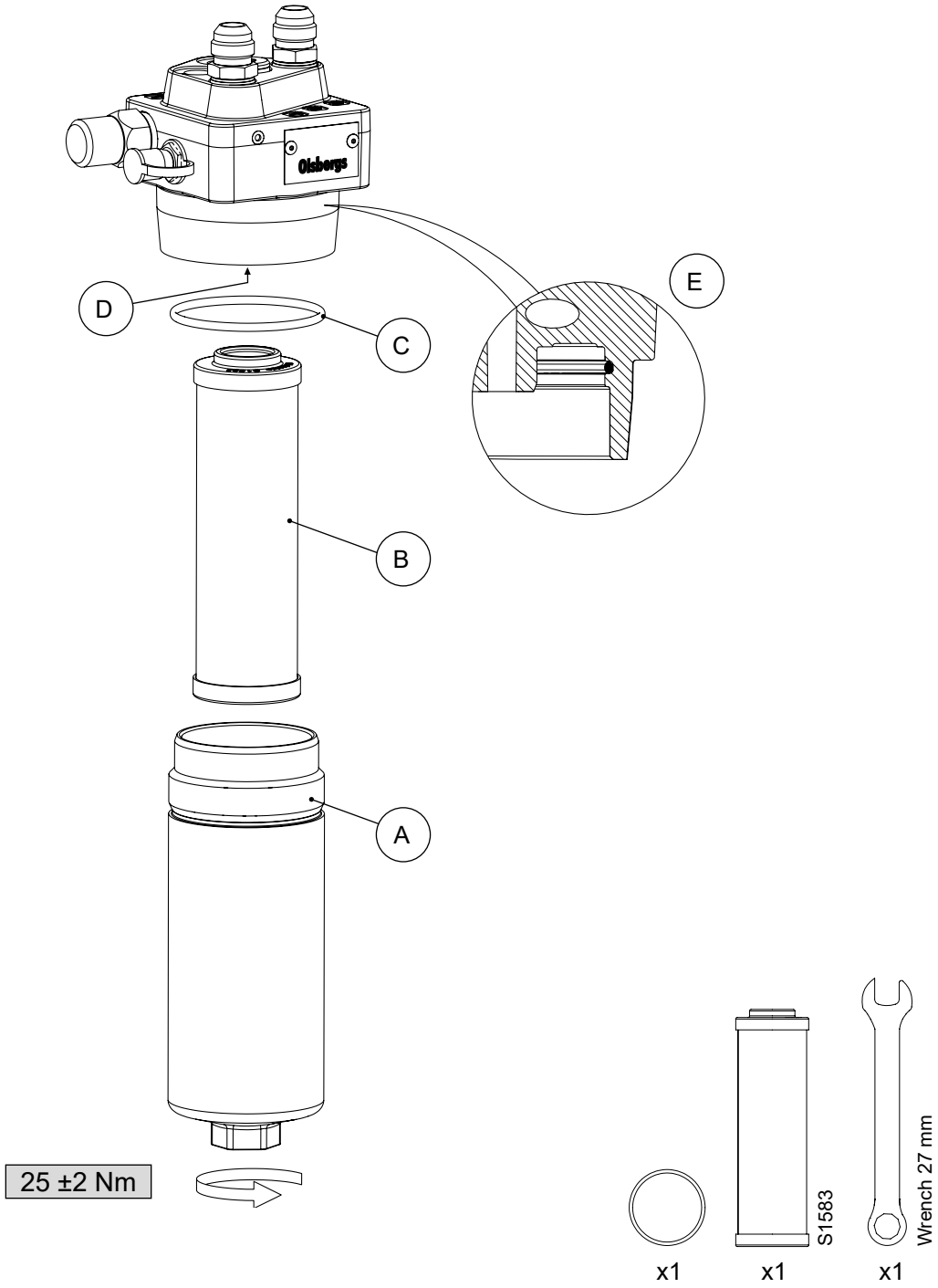
1. Carefully clean the filter cover (A) and the area (C) on the housing.
2. Remove the filter cover (A) using a 27 mm wrench.
3. Remove the old O-ring (B) and replace it with the supplied one (oil it before assembly).
3. Remove the old filter cartridge.
4. Unpack the new filter cartridge (art.S3026), make sure it's clean and mount it.
5. Remount the filter cover and tighten it, torque 85 ±5 Nm.

Instructions - Pressure reducer / filter PRF

Replacement of filter cartridge, article no. **S1583**

To prevent dirt from entering the unit.

Do not unpack the filter cartridge until you are ready to mount it.

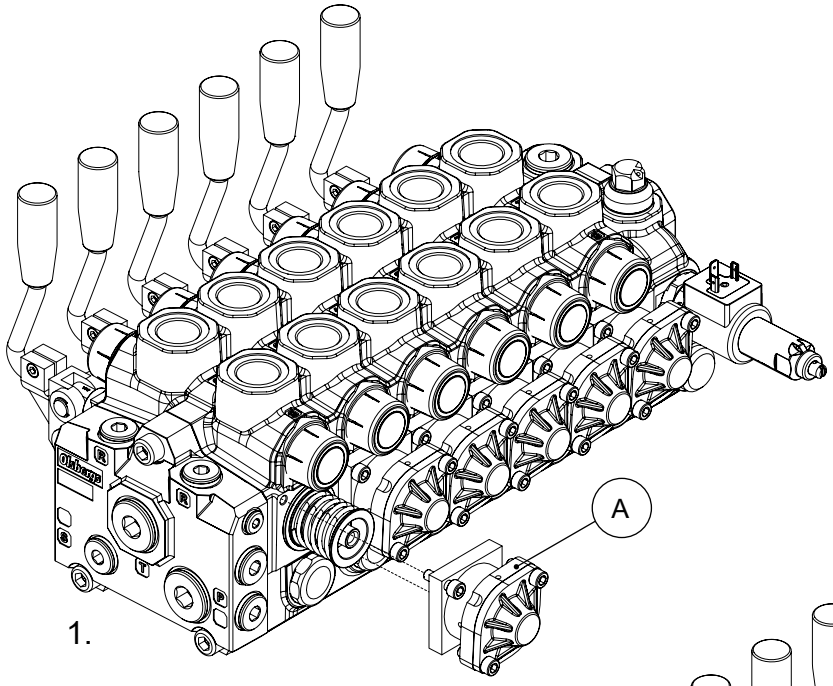


Instructions

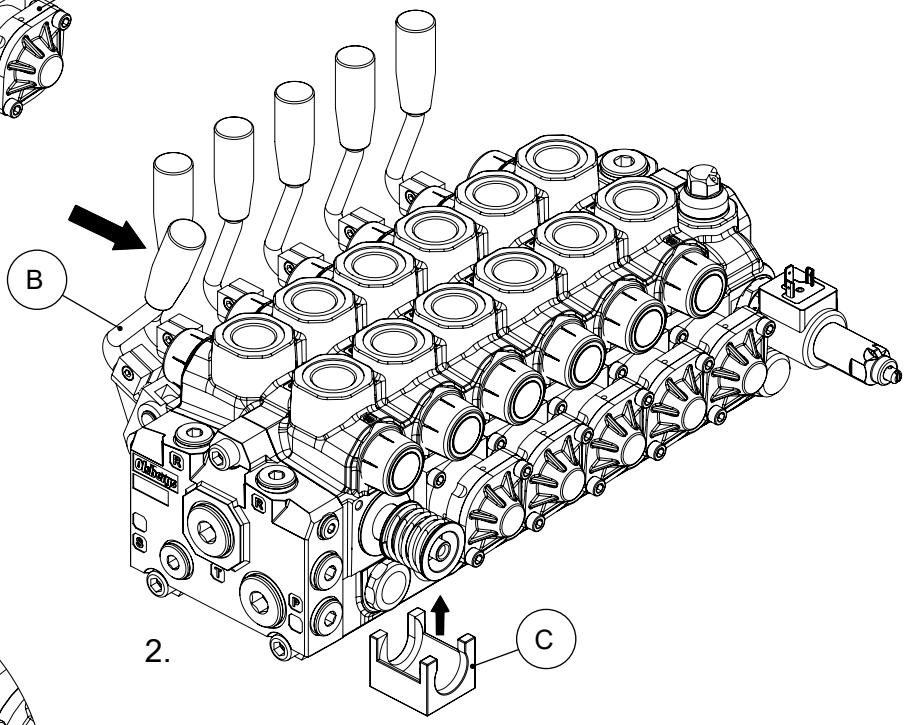
1. Carefully clean the filter cover (A) and the area (D) on the housing.
2. Remove the filter cover (A) using a 27 mm wrench.
3. Remove the old filter cartridge.
4. Remove the old O-ring (C) (E) and replace it with the supplied one (oil it before assembly).
5. Add new grease to the threads of the filter cover. (A)
6. Unpack the new filter cartridge (art.S1583), make sure it's clean and mount it.
7. Remount the filter cover and tighten it, torque 25 ±2 Nm.

Instructions - Spool seals

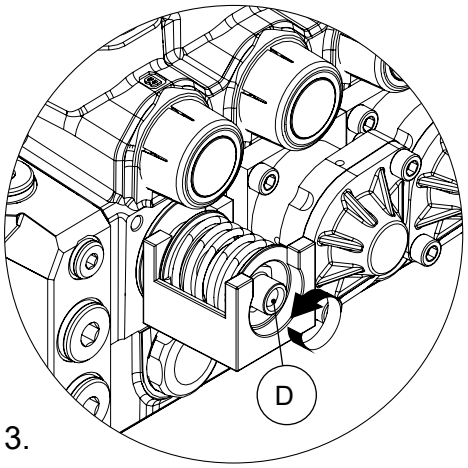
Changing of spool seals, kit article no. **V2468** (Page 1/4)



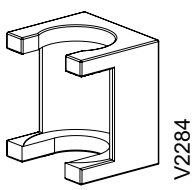
1.

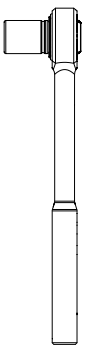


2.



3.



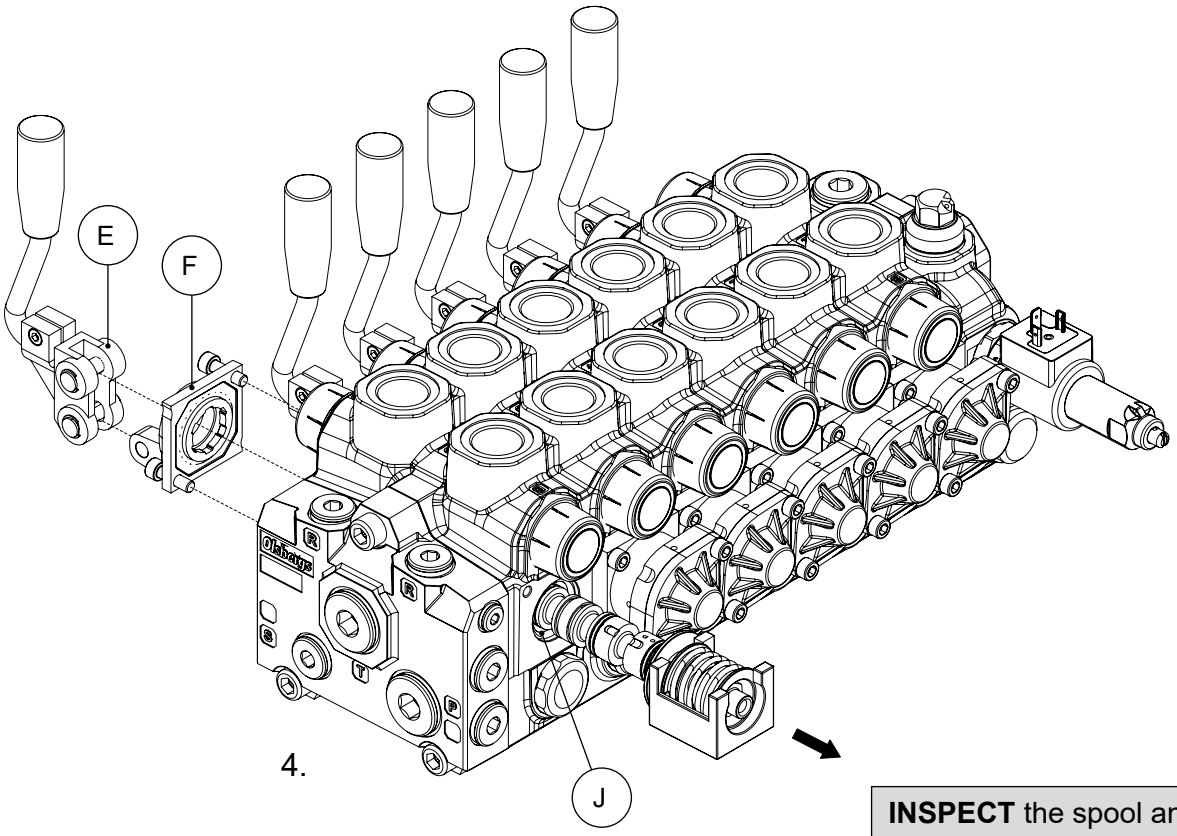


Instructions

1. Dismount the cover (A) on the spring side of the spool using the 5 mm hexagon wrench.
2. Press the lever (B) to push the spool into it's end position and mount the spring holder (C) (V2284) over the centering spring.
3. Use the 17 mm socket wrench to loosen the spring bolt (D).

Instructions - Spool seals

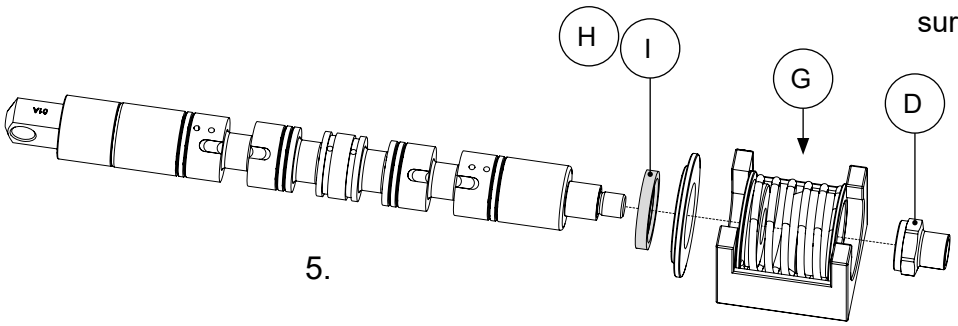
Changing of spool seals, kit article no. **V2468** (Page 2/4)



4.

INSPECT the spool and make sure that the surface is not affected by dirt or corrosion.

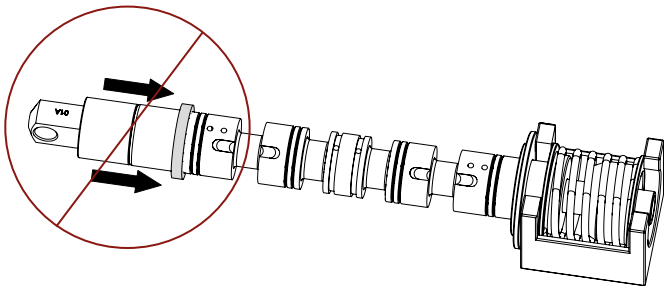
A new spool is produced within a tolerance of 0,001 mm and the smooth surface is a basic condition for the function of the seals.



5.

Do **NOT** attempt to mount the seal from the lever side of the spool.

The glide ring will be severely damaged when it passes all the sharp edges on the spool.

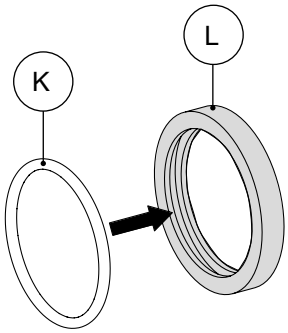


Instructions

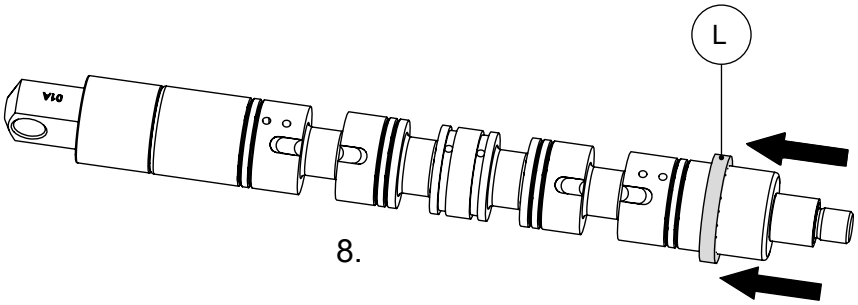
4. Remove the lever link (E) and dismount the console (F), then carefully pull the spool out from the valve body.
5. Unscrew the spring bolt (D) and separate the spring package (G) from the spool.
6. Dispose the old seals and O-rings (on both sides of the valve). (H) (I) (J)

Instructions - Spool seals

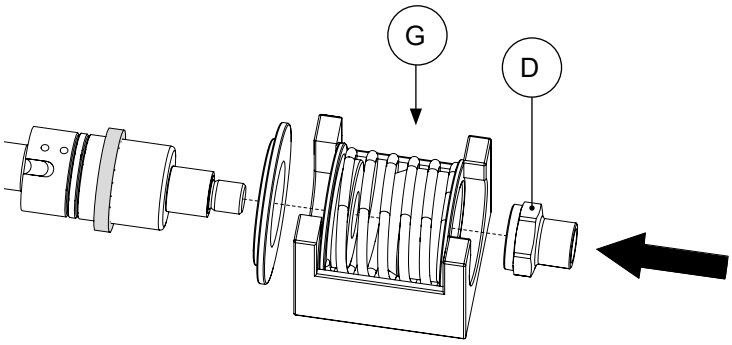
Changing of spool seals, kit article no. **V2468** (Page 3/4)



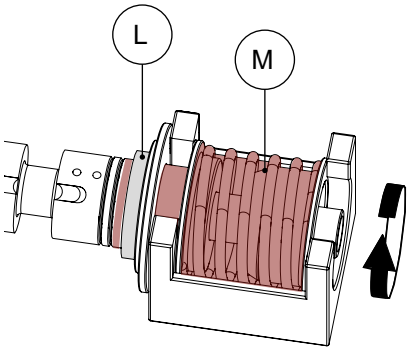
7.



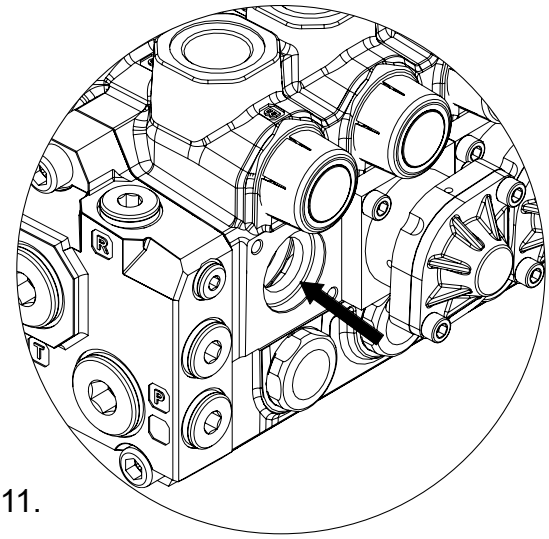
8.



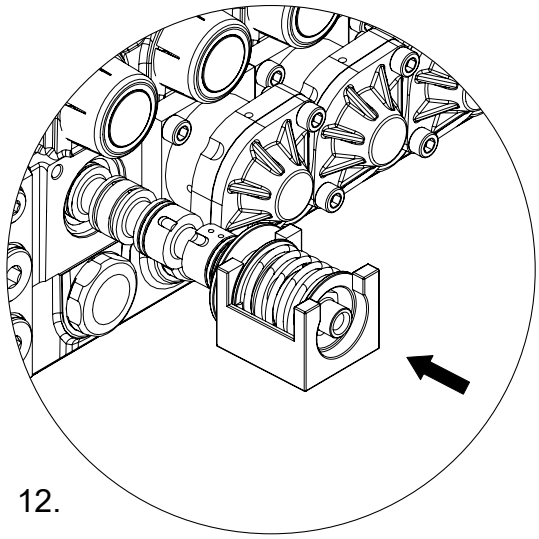
9.



10.



11.



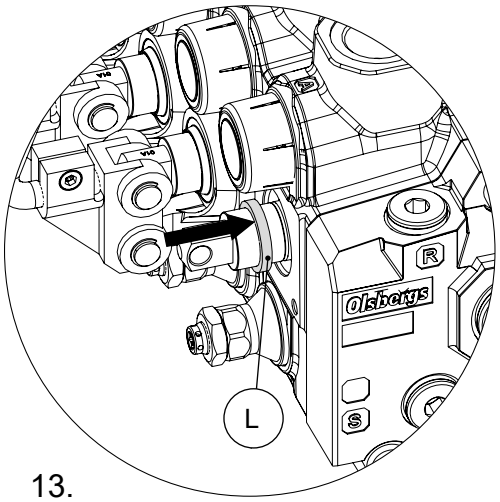
12.

Instructions

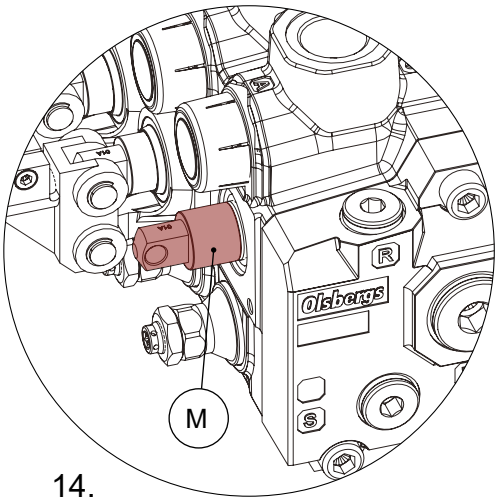
7. Mount the small supplied O-ring (K) inside the new seal. (L)
8. Mount the new seal (L) on the spring side of the spool.
9. Remount the spring package (G) and tighten the spring bolt (D) by hand.
10. Place the supplied grease (SHELL GADUS S3 A1300C 2 (SRS 4000)) (M) on the spring package and around the spool on both sides of the seal.
11. Place the supplied large O-ring in the cavity on both sides of the valve.
12. Gently push the spool back into the valve.

Instructions - Spool seals

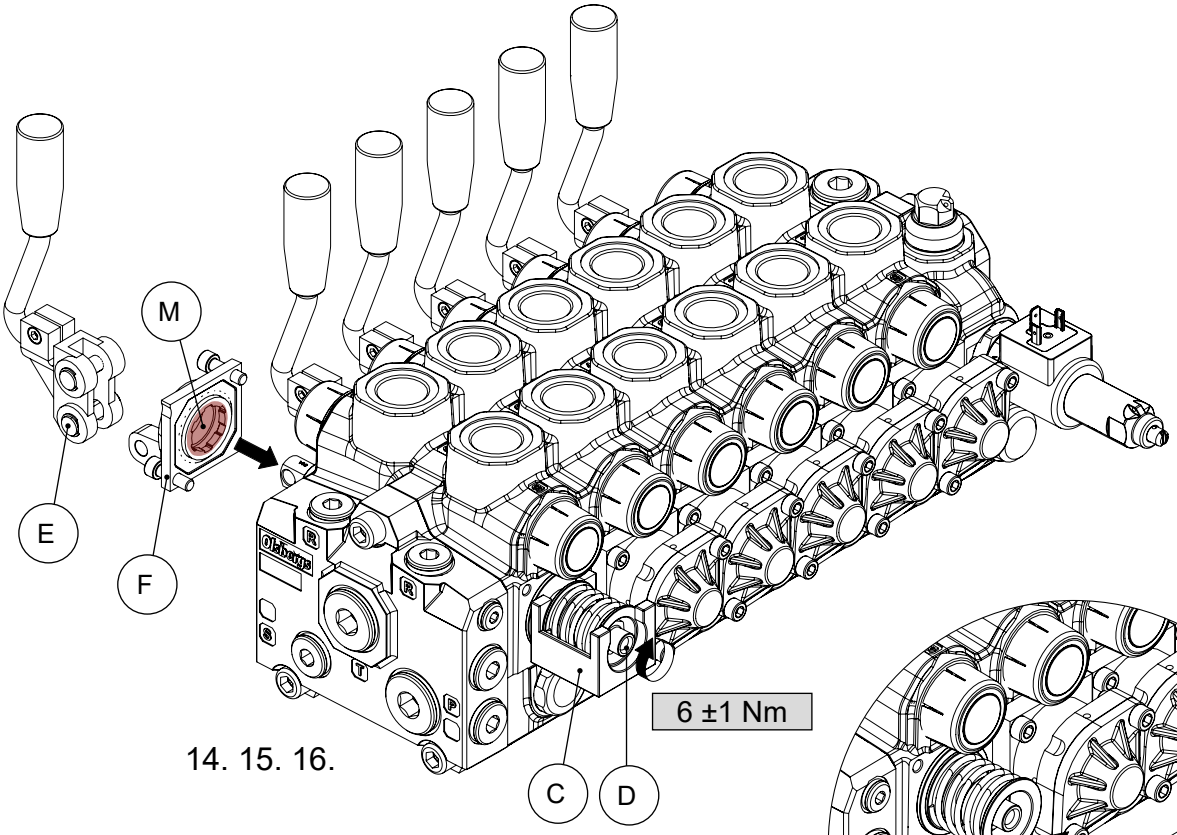
Changing of spool seals, kit article no. **V2468** (Page 4/4)



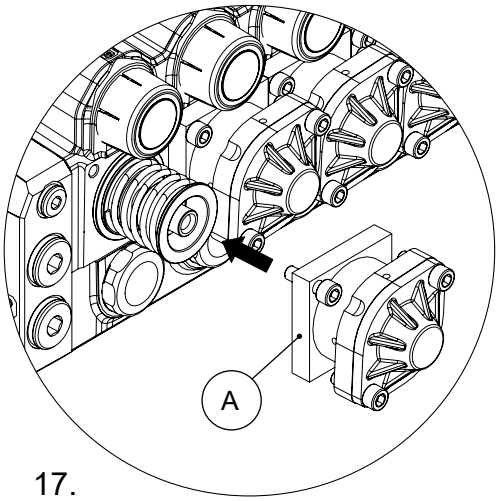
13.



14.



14. 15. 16.



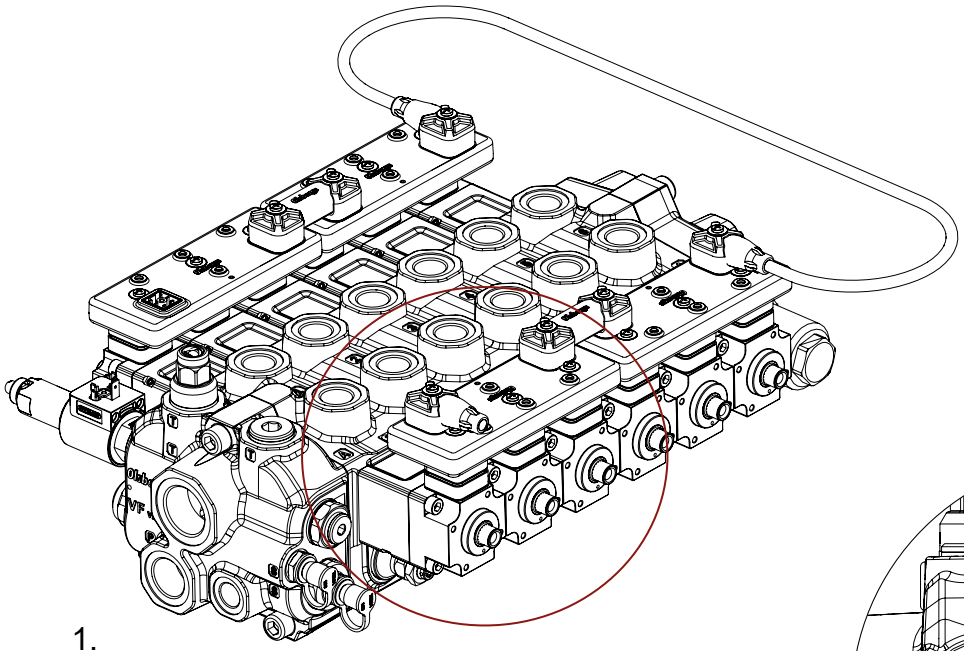
17.

Instructions

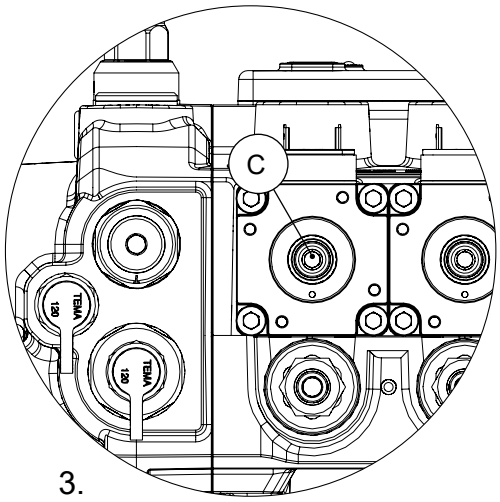
13. Repeat step 7 and push the new seal (L) onto the spool end.
14. Place the supplied grease (SHELL GADUS S3 A1300C 2 (SRS 4000)) (M) around the spool on both sides of the seal and on the console.
15. Remount the console (F) and the lever link. (E)
16. Tighten the spring bolt (D) with torque 6 ±1 Nm, before taking away the spring holder. (C)
17. Remount the spring cover. (A)

Instruction - Positioner and spool

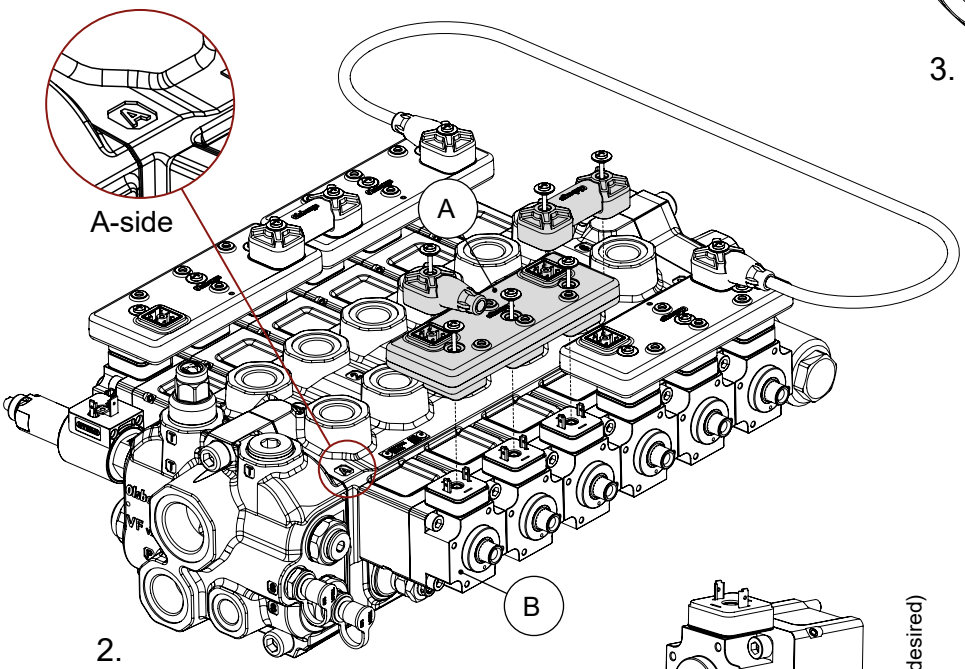
Changing of positioner and/or spool (Page 1/7)



1.

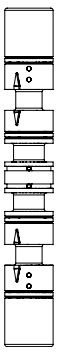


3.



2.

x1

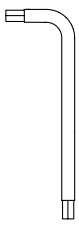


0423 (if desired)

x1

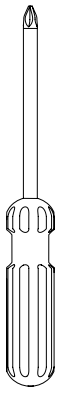
Vxxxxx (if desired)

x1



Hexagon wrench 5 mm

x1



Philips PH2 Screwdriver

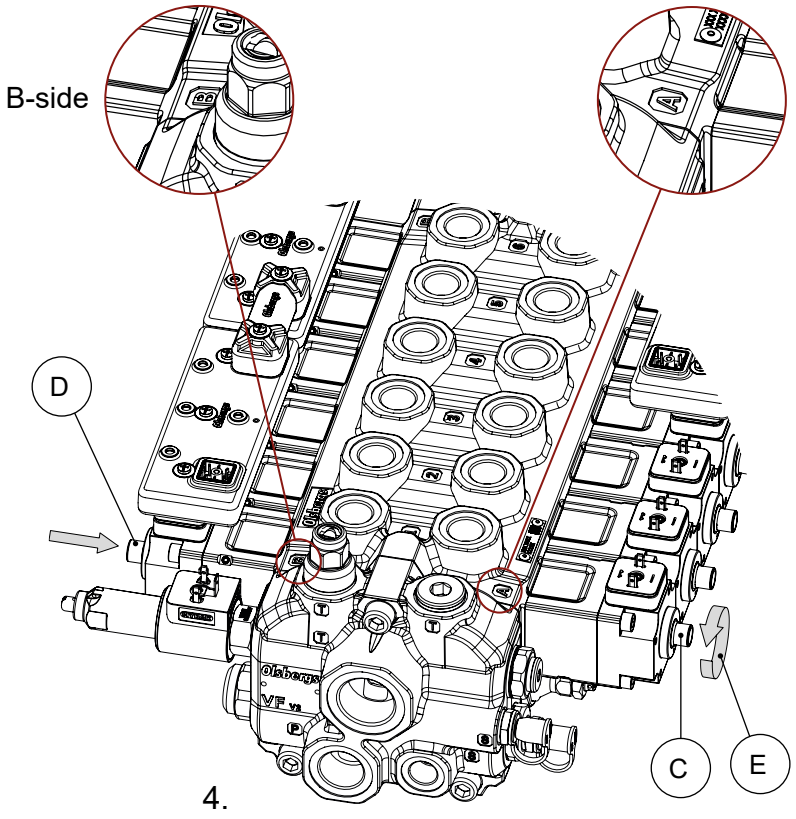
x1

Instructions

1. Clean around the area you will be working to avoid dirt in sensitive components.
2. Dismount the DA-module (A) that is located on the positioner (B) you need to access using a Philips PH2 screwdriver or equivalent.
3. Insert the 5 mm hexagon wrench in the piston rod (C) on the positioner. Do the same on the positioner on the opposite side of the valve (in this case the B-side).

Instruction - Positioner and spool

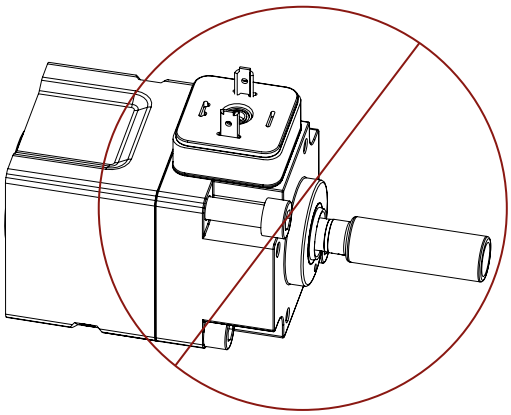
Changing of positioner and/or spool (Page 2/7)



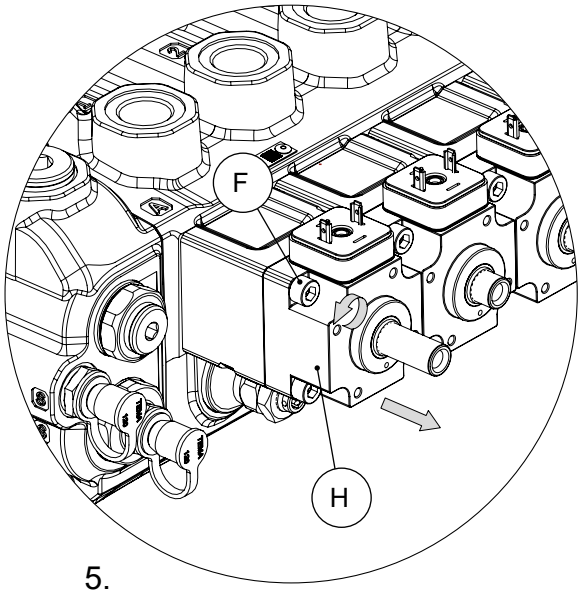
4.

Always **prevent** the spool from turning in the valve house due to the risk of damage on the spool.

Remember that both piston rods are threaded in the same direction and if the piston rod on the B-side would loosen, **skip to step 9.**



Do not pull the piston rod too far out from the positioner because of the risk of dirt entering the positioner house.

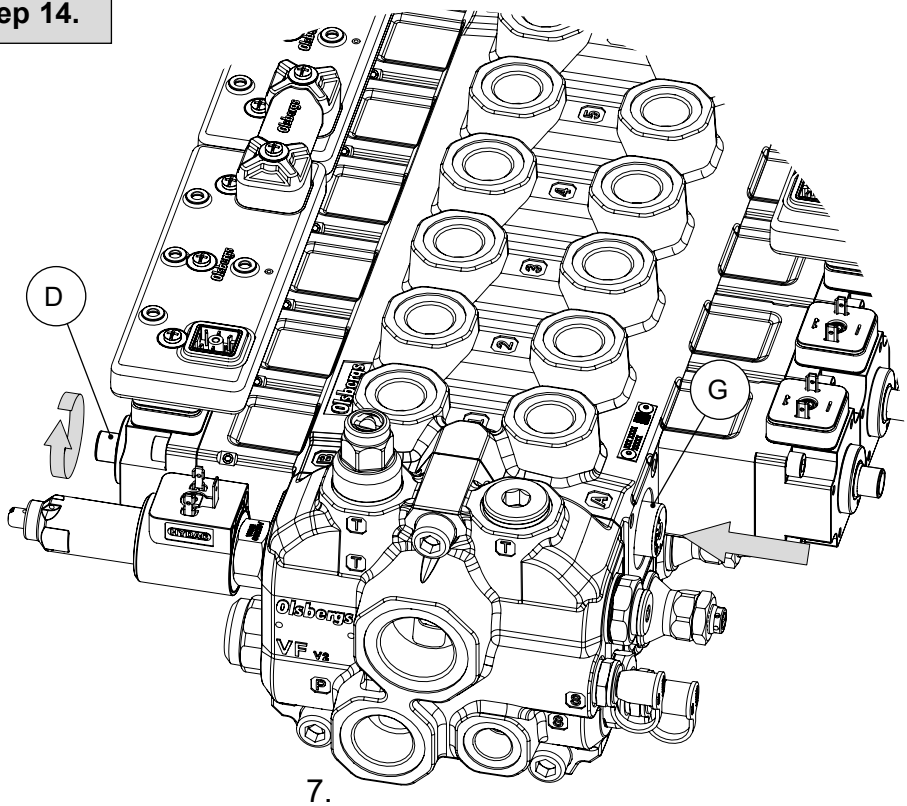


5.

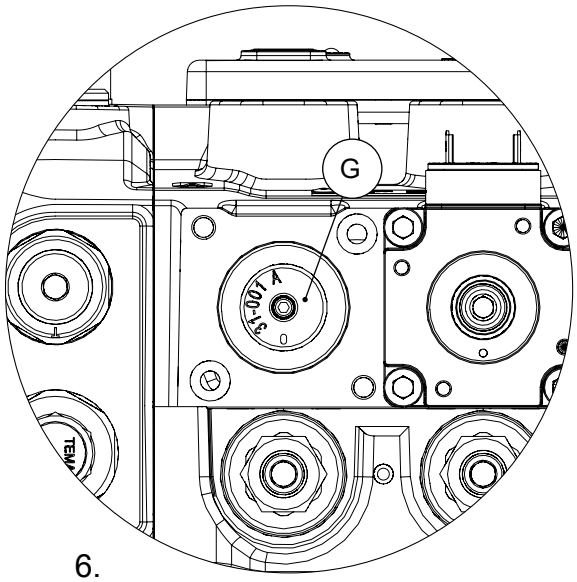
Instructions

4. In this case, we want to loosen the piston rod (C) on the A-side of the valve. So hold the piston rod (D) on the B-side steady and try with a rapid jerking motion in the direction of the arrow (E) to loosen the piston rod (C) on the A-side.
5. Unscrew the two M6 bolts (F) mounted diagonally opposite each other using the 5 mm hexagon wrench. Pull out the positioner (H) with the piston rod left inside the positioner.

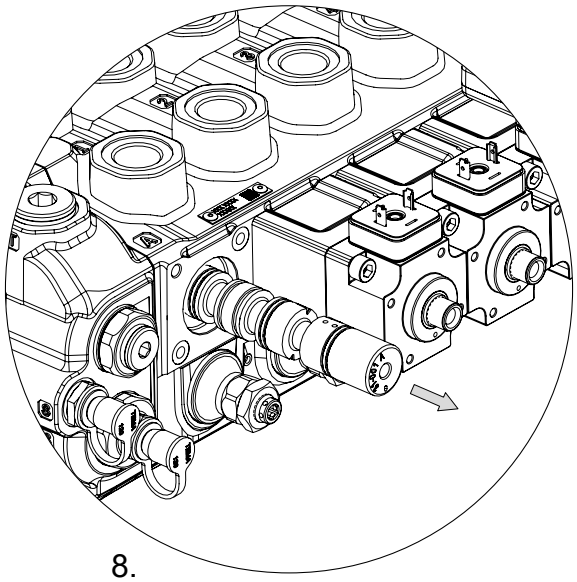
To just change the positioner skip to step 14.



7.



6.



8.

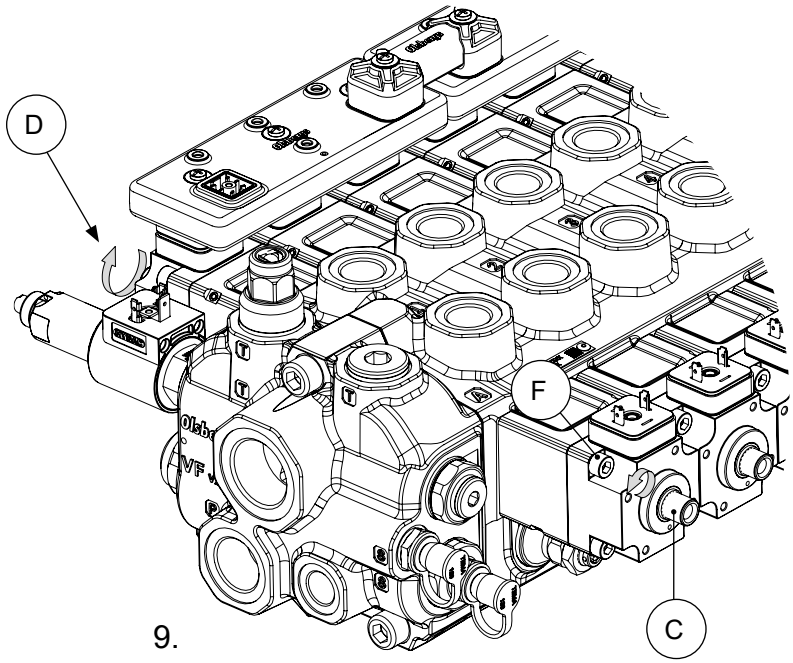
Instructions

6. Insert a 5 mm hexagon wrench in the spool end (G) on the A-side and one in the piston rod (D) on the B-side.
7. Hold the spool (G) steady (prevent it from turning) and loosen the piston rod. (D)
8. Carefully pull out the spool from the valve.

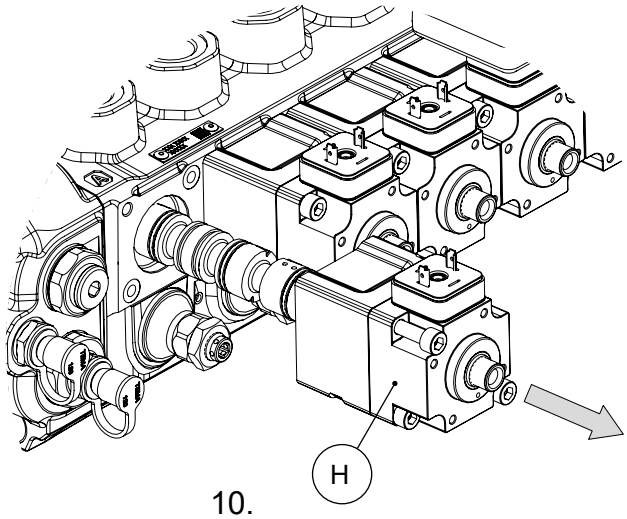
Instruction - Positioner and spool

Changing of positioner and/or spool (Page 4/7)

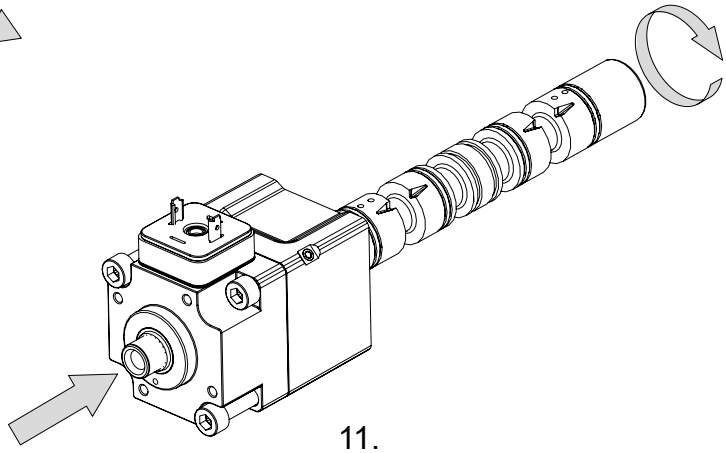
Always **prevent** the spool from turning in the valve house due to the risk of damage on the spool.



9.



10.



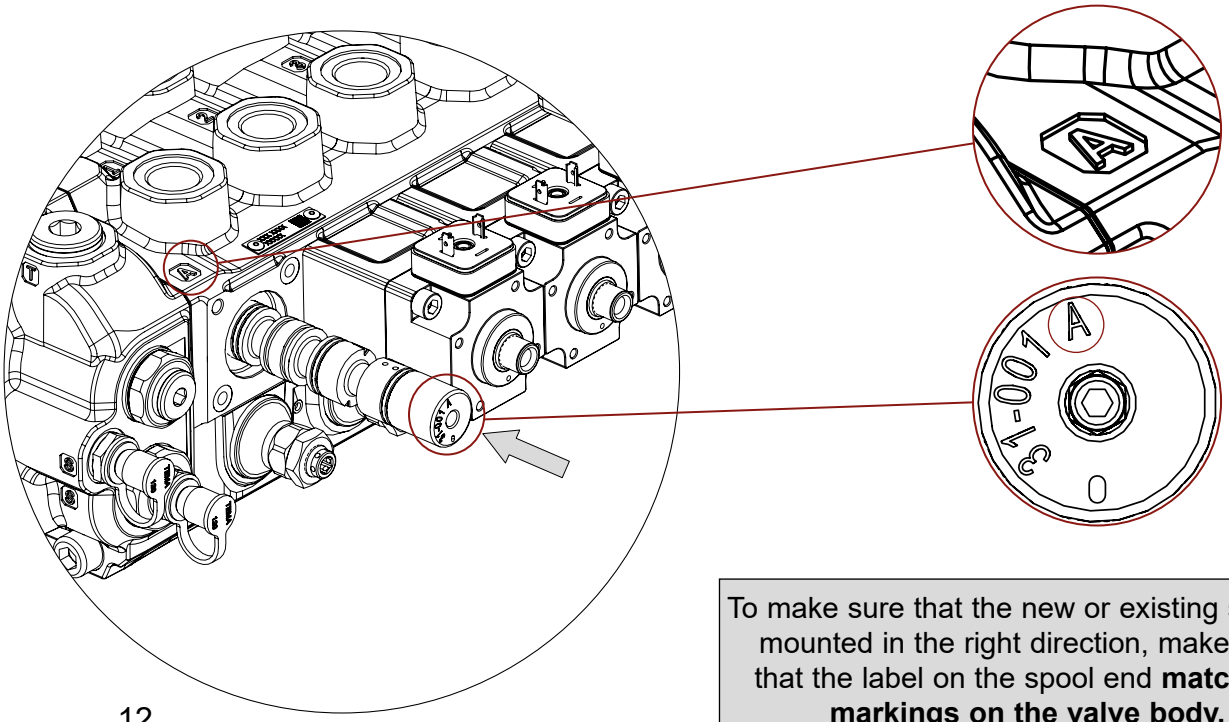
11.

Instructions

9. In that case the wrong piston rod (D) has come loose from the spool, first loosen that piston rod (D) completely by clutching the piston rod (C) on the opposite side. Then unscrew the two M6 bolts (F) mounted diagonally opposite each other using the 5 mm hexagon wrench.
10. Pull out the whole positioner (H) with the spool attached to it.
11. Loosen the spool using two 5 mm hexagon wrenches.

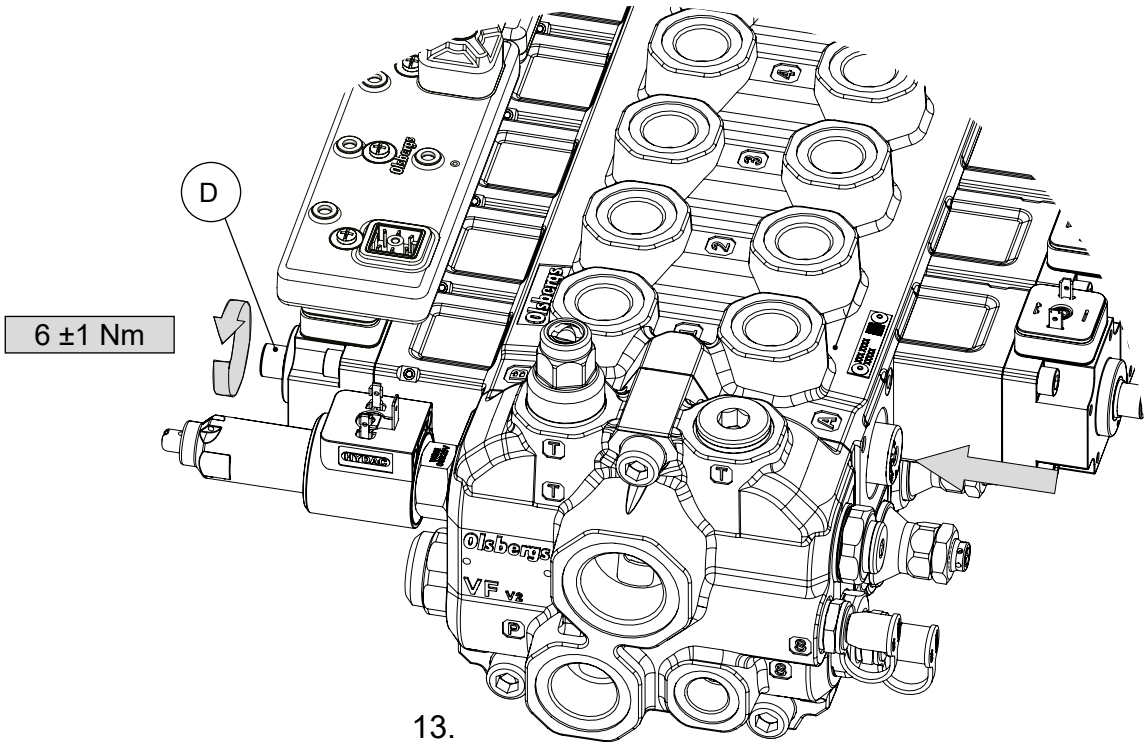
Instruction - Positioner and spool

Changing of positioner and/or spool (Page 5/7)



12.

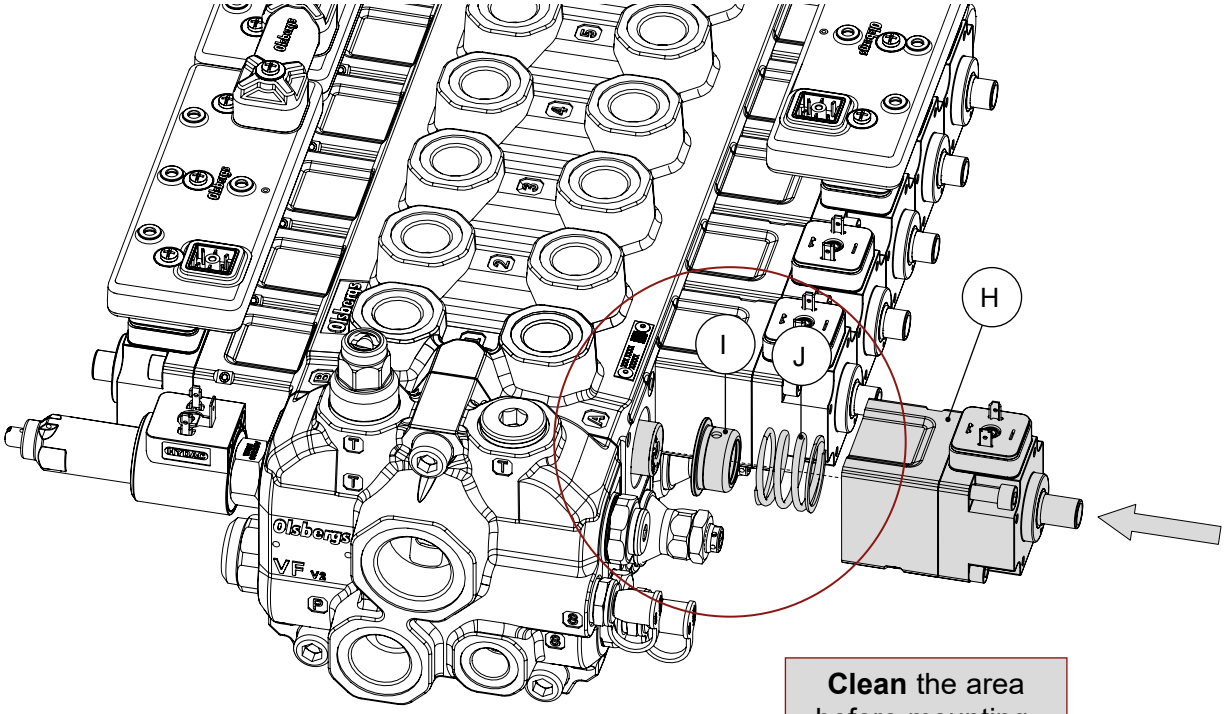
To make sure that the new or existing spool is mounted in the right direction, make sure that the label on the spool end **match the markings on the valve body.**



13.

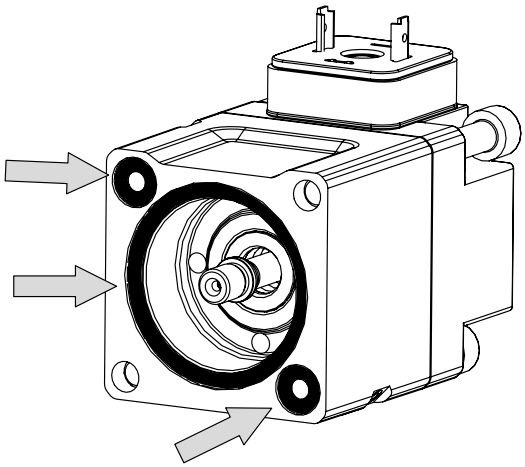
Instructions

12. Push the new or existing spool back into the valve and make sure that the label on the spool end matches the label on the valve when it's in position.
13. Use the 5 mm hexagon wrench to hold the spool (G) steady (prevent it from turning) and tighten the piston rod (D) with torque 6 ±1 Nm using the other 5 mm hexagon wrench .

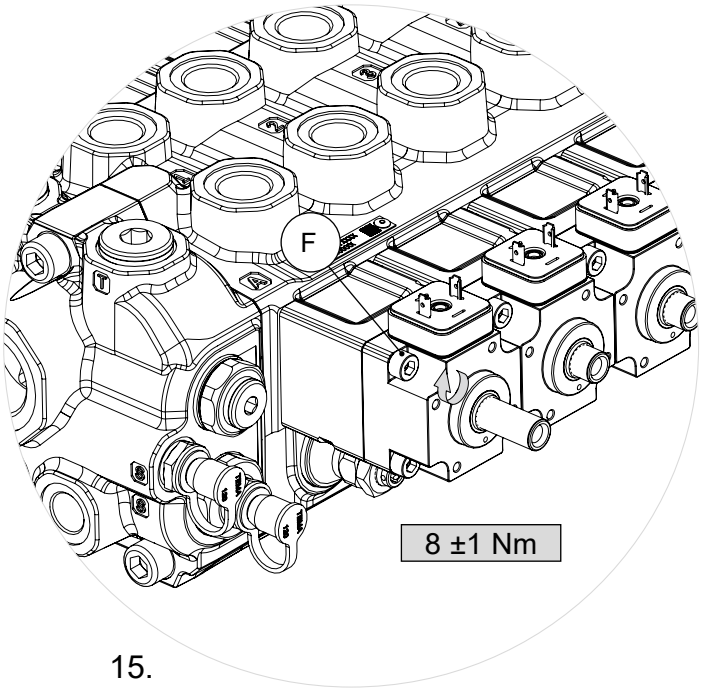


14.

Clean the area before mounting.



Before mounting the positioner, make sure that the three O-rings are fitted correctly.



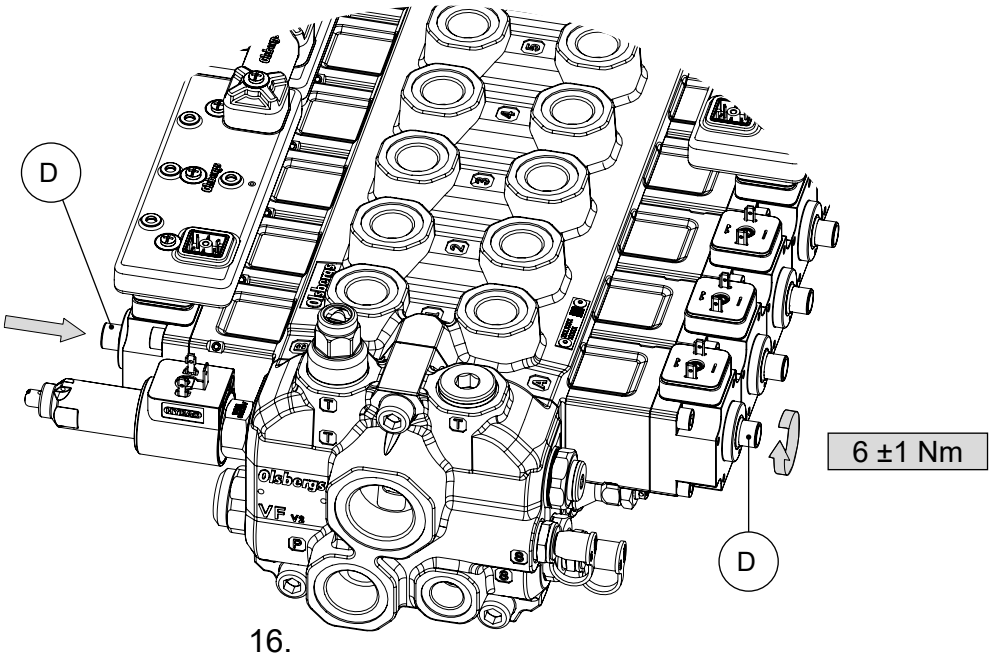
15.

Instructions

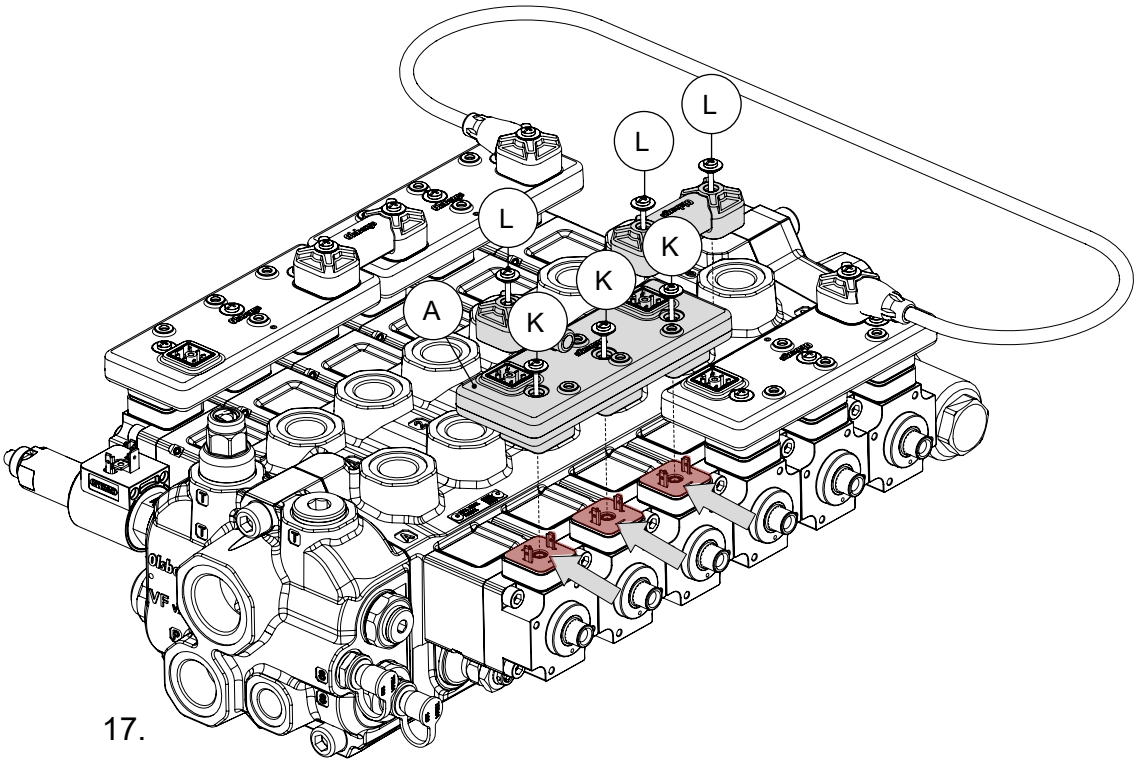
14. Mount the new or existing positioner (H), make sure that the spring holder (I) and the spring (J) inside the positioner are mounted correctly against the spool. (G)
15. Tighten the two M6 bolts (F) mounted diagonally opposite each other on the positioner with torque 8 ±1 Nm using the 5 mm hexagon wrench.

Instruction - Positioner and spool

Changing of positioner and/or spool (Page 7/7)



16.



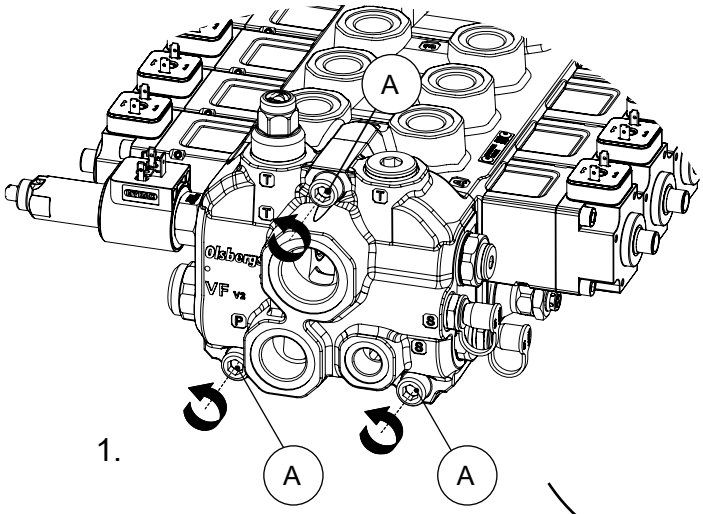
17.

Instructions

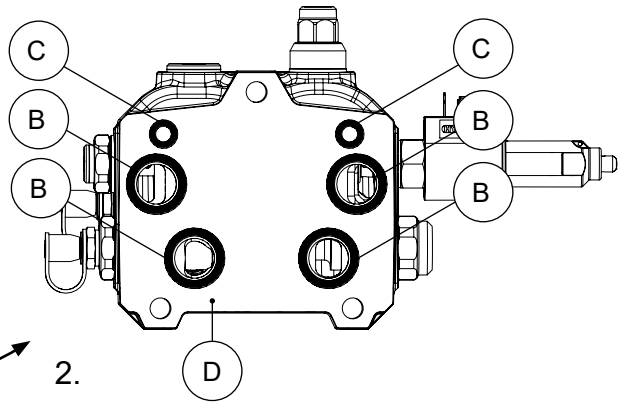
16. Hold the piston rod (D) steady by using a 5 mm hexagon wrench to prevent the spool from turning inside the valve. Push in the piston rod (C) and tighten it with torque 6 ±1 Nm using the 5 mm hexagon wrench.
17. Before remounting DA-module (A), check the contact pins on the positioners and grease the contacts. Remount the DA-module and tighten the M3 bolts (K) very gently, using a manual screwdriver (**Do not use power tool**). Stop tightening when the resistance increases and the DA-module are tight together against the gasket on the positioner.
    Grease the cable contacts / termination plugs and connector bridges before remounting. Remount the cables / termination plugs and connector bridges and tighten the M3 bolts (L) very gently, using a manual screwdriver (**Do not use power tool**). Stop tightening when the resistance increases and the cable contact / termination plug or connector bridge are tight together against the DA-module.

Instruction - Inlet and outlet sections

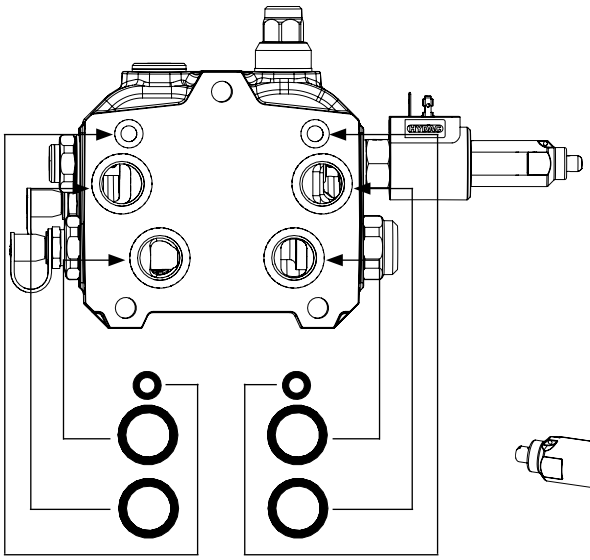
Replacing the inlet or outlet section incl. seal kit **V2454**



1.

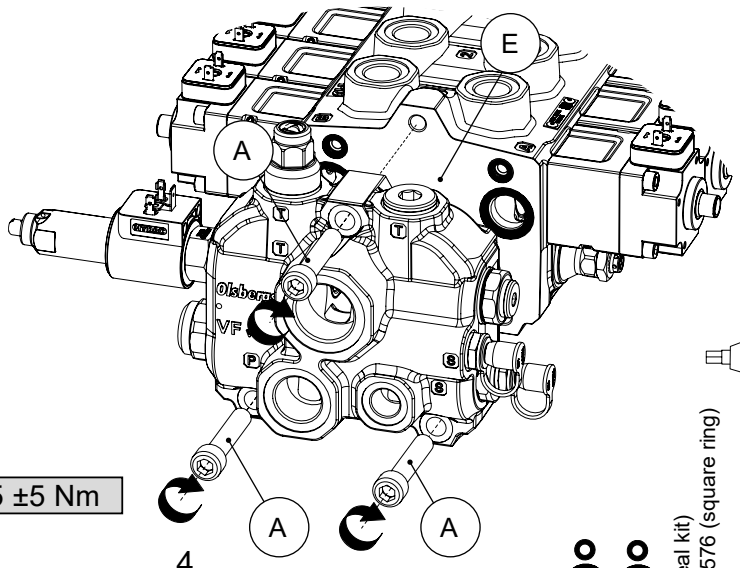


2.



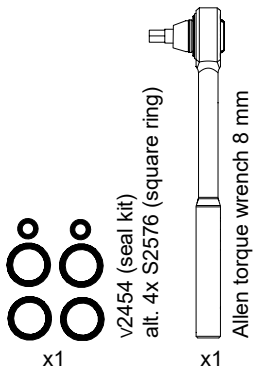
3.

Always change the seals
when removing or replacing an inlet or outlet section, to prevent oil-leakage.



55 ±5 Nm

4.



Note!
This information applies only to inlet and outlet sections on the Q-series and Pv91M.
If you have ordered the inlet section I (V2051) or the outlet section U (V2053), you will only get 4 pcs of square rings (B) (S2576).

Instructions

1. Clean up around the area you will be working in to avoid dirt in the components. Unscrew the three M10 bolts (A) using a 8 mm hexagon wrench or equivalent.
2. Remove the old seals (B) (C) and clean the contact area (D), **make sure that there is no dirt or burrs left before reassembling.**
3. Insert the new seals that comes with the seal kit V2454 alt. the 4 pcs of square rings.
4. Clean the contact area on the valve (E) **make sure that there is no dirt or burrs left**. Mount a new or existing inlet- or outlet section and tighten all three M10 bolts (A) easily before tightening them with 55 ±5 Nm using the 8 mm Allen torque wrench.

Notes

Olsbergs Hydraulics AB, Eksjö

Olsbergs Electronics AB, Vallentuna

Olsbergs
Group

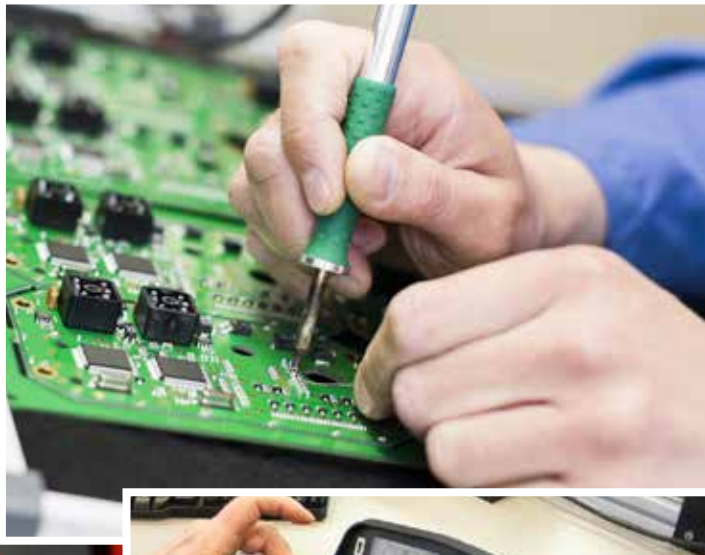
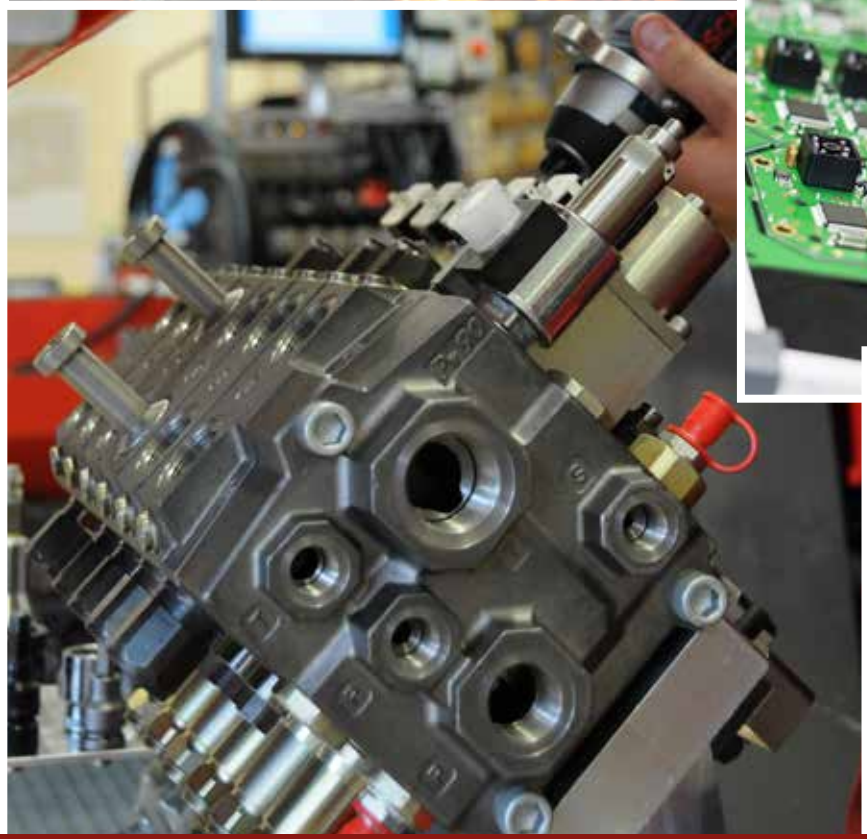
Olsbergs Hydraulics AB, Eksjö
Olsbergs Electronics AB, Vallentuna

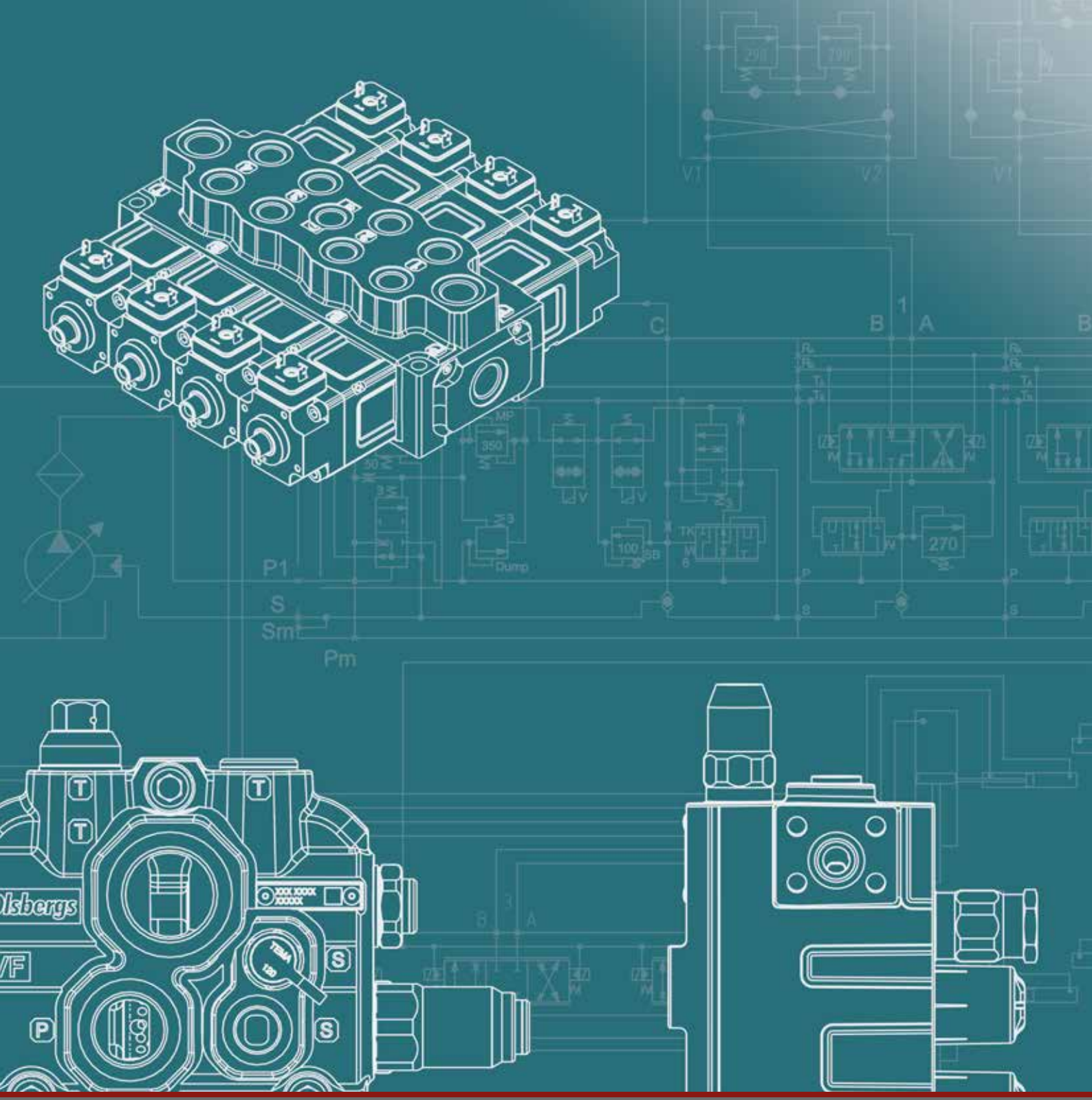








Hydraulics

Olsbergs Hydraulics AB
Box 17
SE-575 21 Eksjö
Sweden

Phone: +46 (0)381 15075
E-mail: hydraulics@olsbergs.se

Olsbergs Electronics AB
Box 267
SE-186 24 Vallentuna
Sweden

Phone: +46 (0)8 511 858 50
E-mail: electronics@olsbergs.se

140522018 Edition 3 - 2019-01-17