

APV-22

SYSTEM INTEGRATION INSTRUCTIONS



Mounting procedure

- The best way to install the APV-22 valve is with the P, T, A and B ports on the top, because there's natural bleeding in that position. However, the APV-22 valve can be installed in every position, but the worst position to ventilate the valve is when the position of the directional spool is vertically.
- Use cylindrical thread for port-fittings. Never use conical thread.
- Use a cutting ring or a usitring for the sealing of the connection fittings. Don't use tape or a liquid sealer, to avoid sticking and failures.
- When mounting the APV-22 valve, don't overtight the valve and the hydraulic pipe to avoid sticking of the spools.
- Check the voltage and current of the solenoids before operation.
- Avoid ingression of contamination during mounting.
- Check if the hydraulic pipes, tank and the oil are clean and demands to the needed requirements (NAS 1638 class 8).

Fluid maintenance

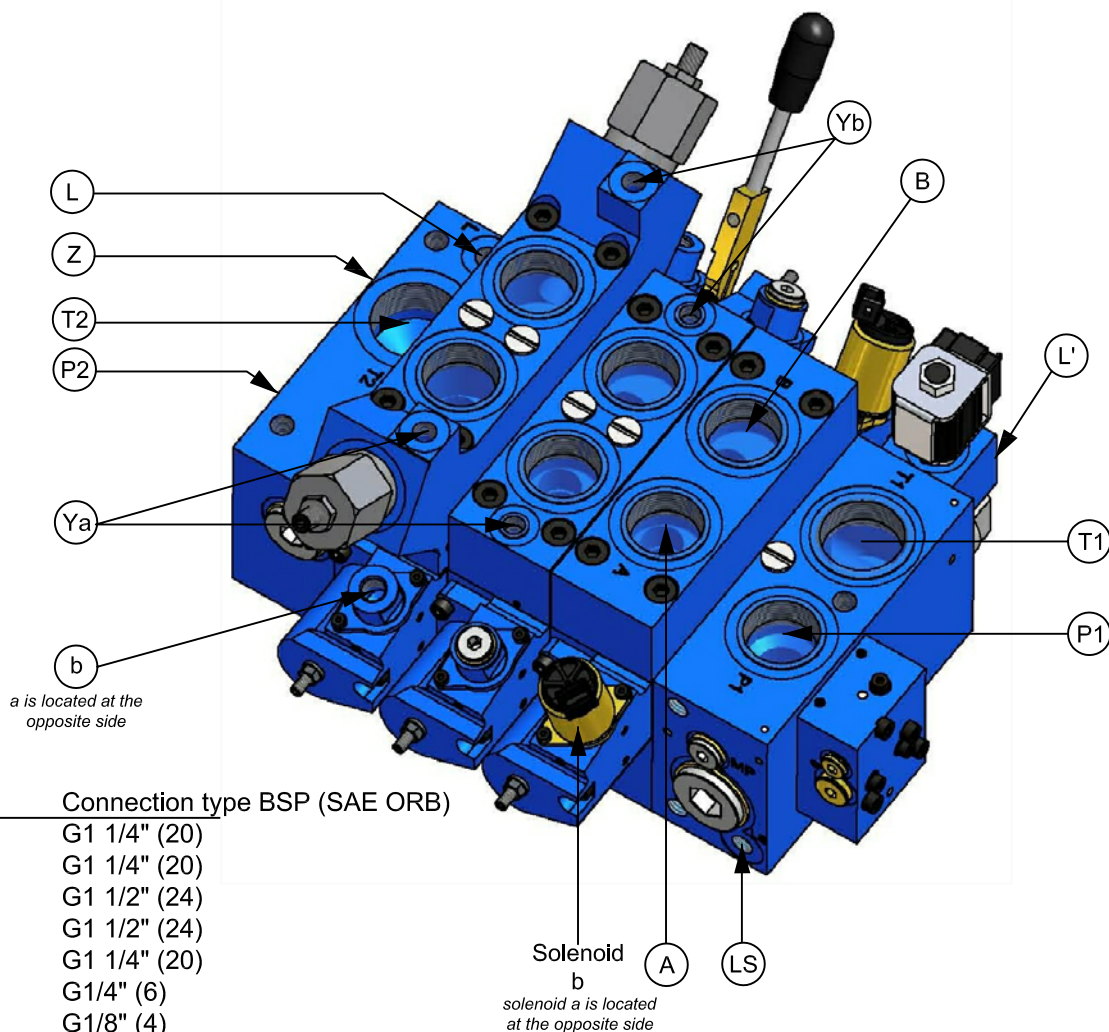
Due to the construction, the APV-valve is not highly susceptible to particulate (silt type) lock, nor to contaminant wear. Therefore the contaminant sensitivity is low.

- Use mineral oil. Other fluids on request.
- Keep de contamination level better or equal to NAS 1638 class 8 or ISO 4406: 18/16/13.

Startup procedure

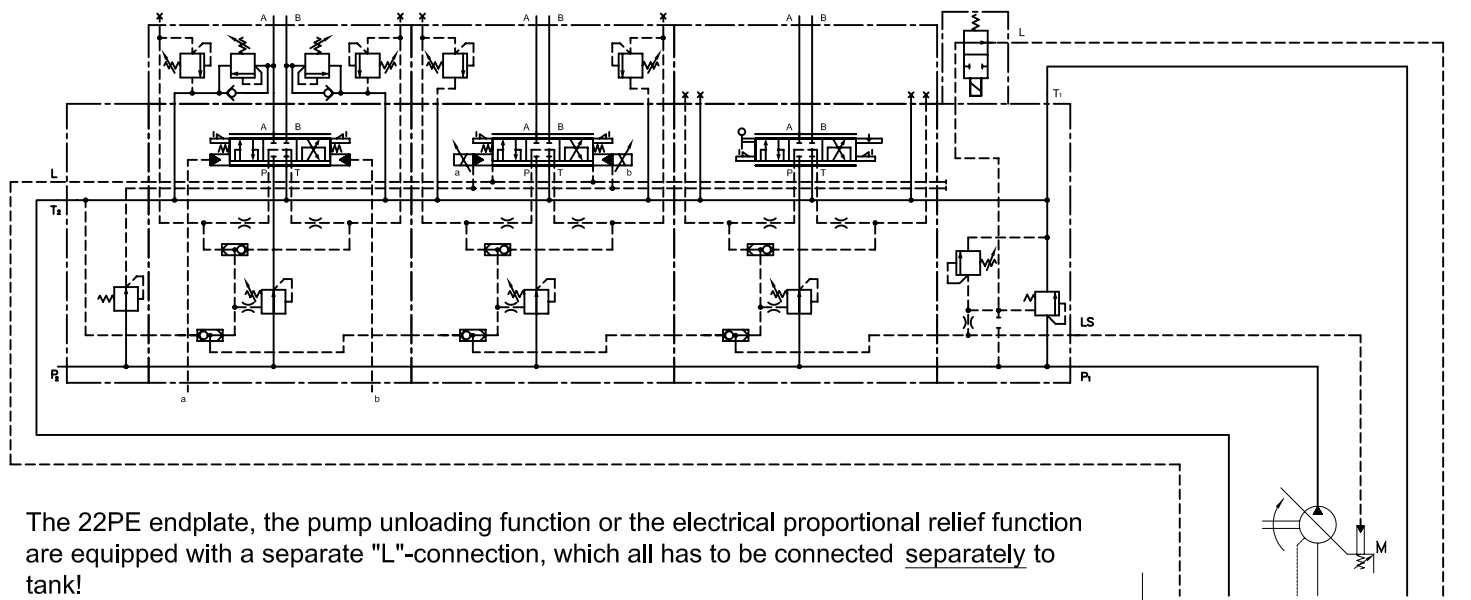
- Check if all of the ports are connected according to the diagram before starting the pump or setting the valve under pressure.
- To further bleeding, we advise to switch the valve under a low pressure. This will satisfy in most cases.
- In most cases, the manufacturer has set, according the order, the flow and pressure of the valve. When these settings have to be changed please see page 3/5 to check the possibilities.

Connection ports



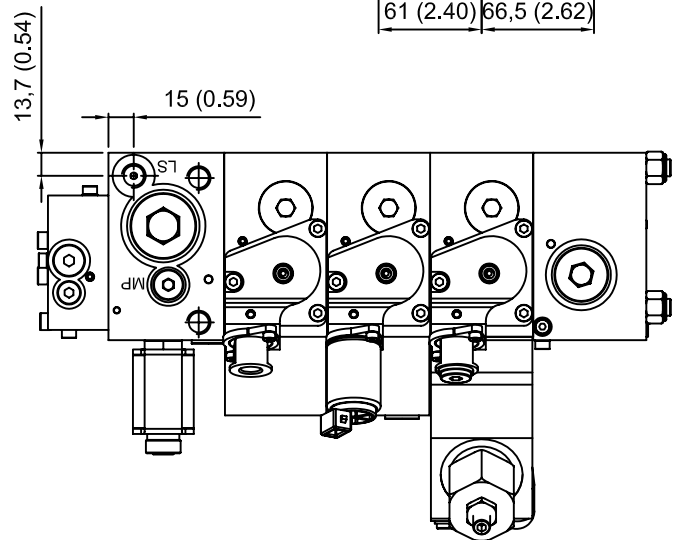
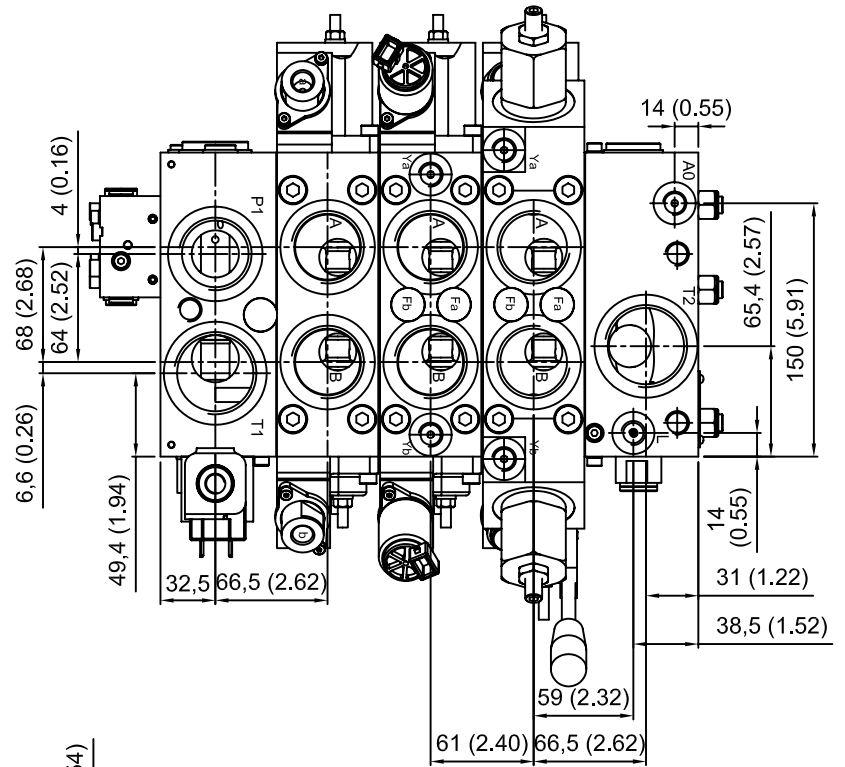
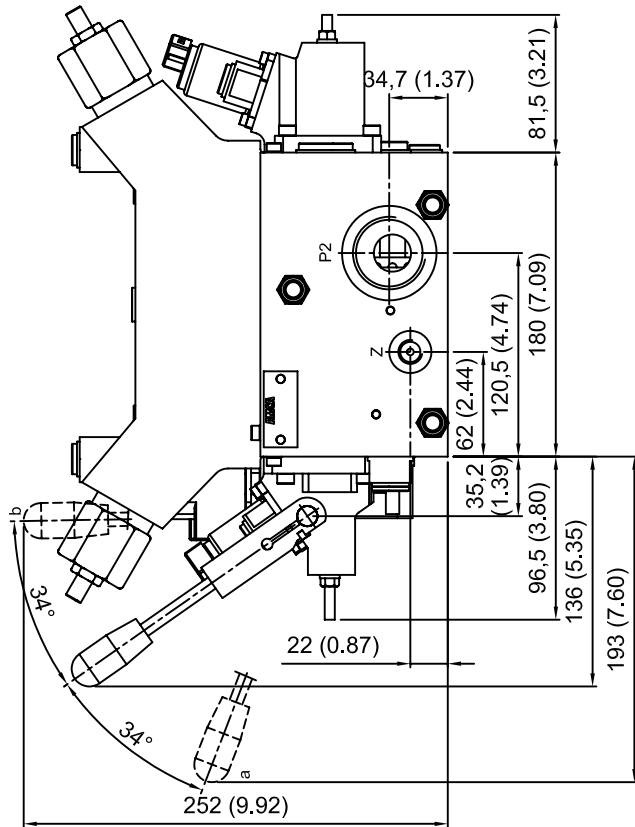
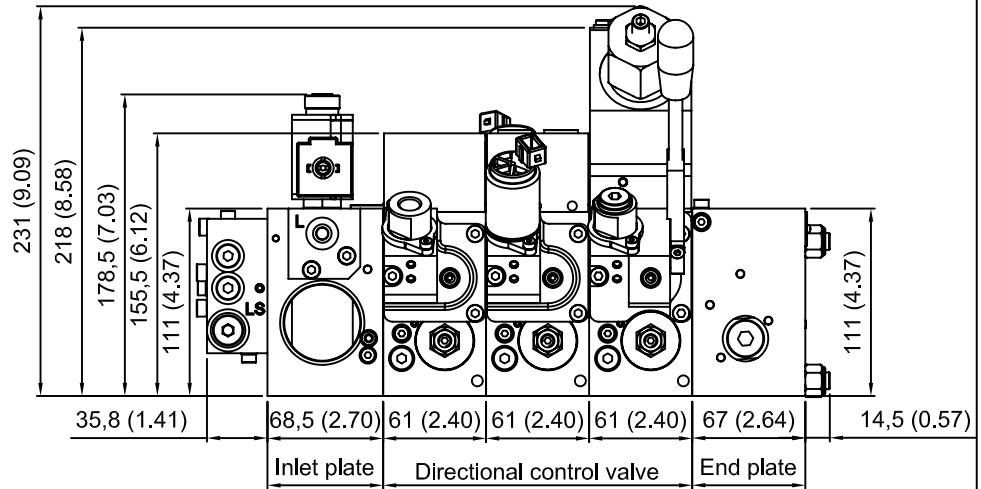
Port	Description	Connection type BSP (SAE ORB)
P1	Pressure port	G1 1/4" (20)
P2	Additional pressure port	G1 1/4" (20)
T1	Tank port	G1 1/2" (24)
T2	2nd tank port	G1 1/2" (24)
A, B	User ports	G1 1/4" (20)
LS	LS signal port	G1/4" (6)
L	Drain port	G1/8" (4)
L'	Drain port	G1/4" (6)
Z	Z-port	G1/4" (6)
Ya, Yb	Remote control connections	G1/4" (6)
a, b	Hydraulic remote control connections for pilot control device	G1/4" (6)

Example diagram (incl. all connection ports)



DIMENSIONS

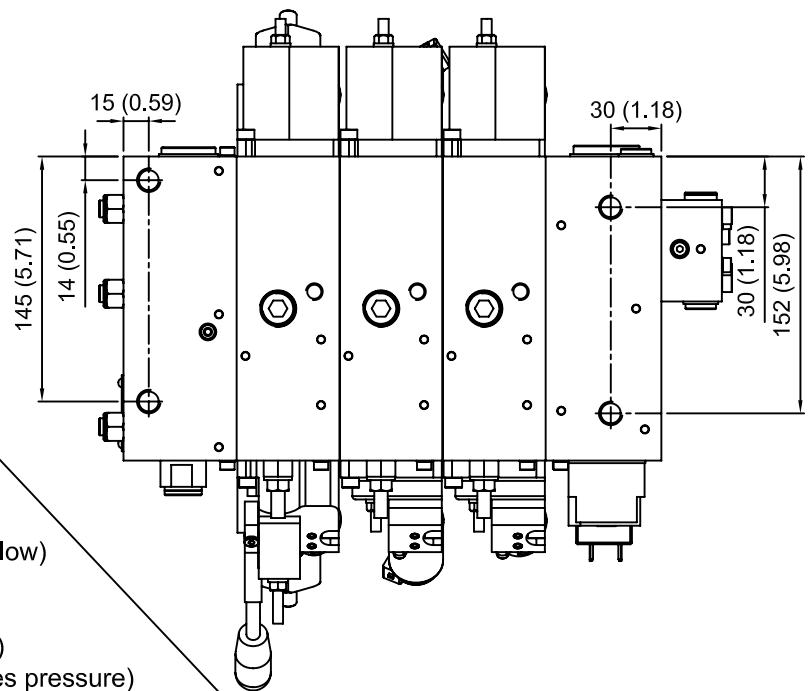
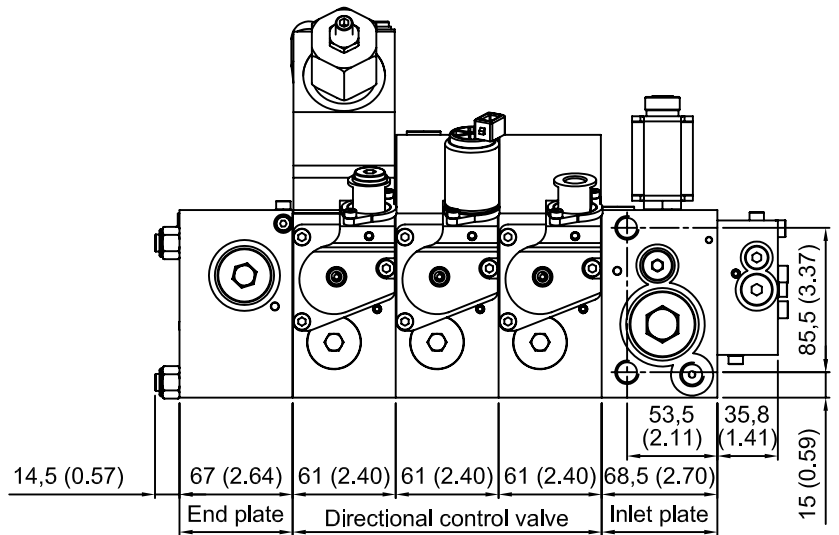
Dimensions in mm (inch)



Mounting holes

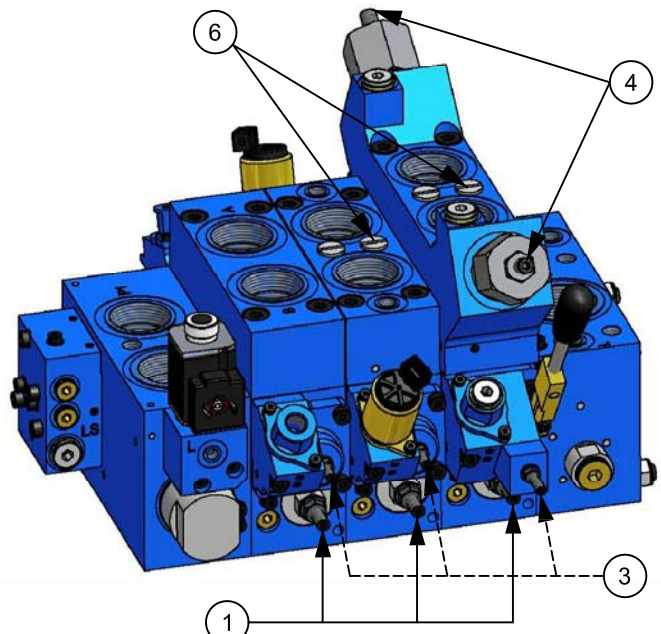
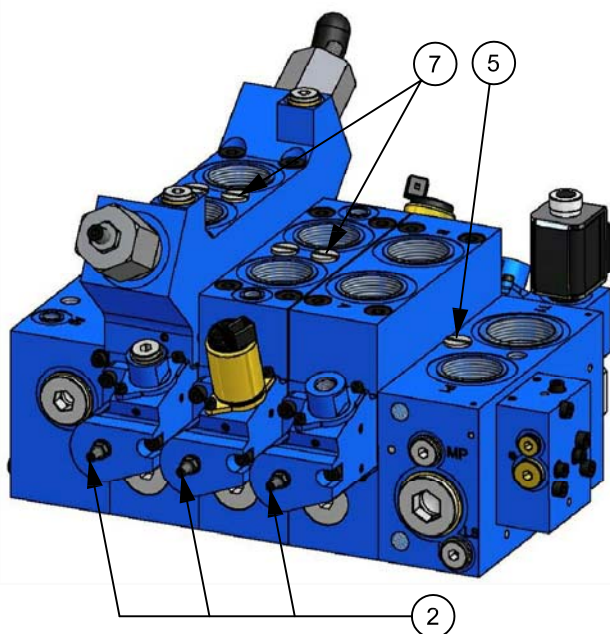
in mm (inch)

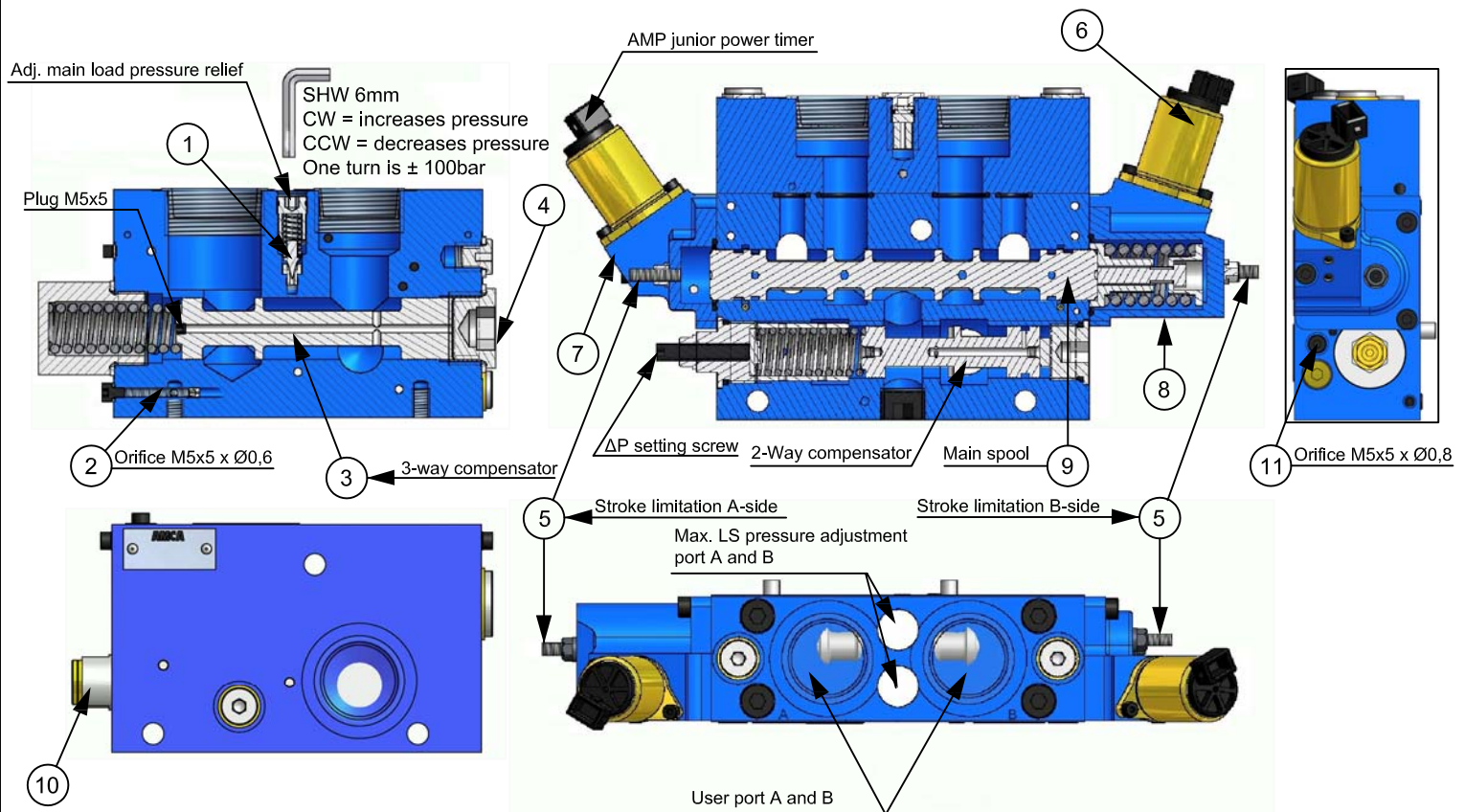
Mounting holes M14 x 17



Adjustments

Pos.	Description
1	Δp -adjustment (turning clockwise(cw): increases flow)
2	Stroke limitation A-side (cw: decreases flow)
3	Stroke limitation B-side (cw: decreases flow)
4	Primary relief adjustment (cw: increases pressure)
5	Adjustable main load pressure relief (cw: increases pressure)
6	Adjustable pressure setting F on port A (cw: increases pressure)
7	Adjustable pressure setting F on port B (cw: increases pressure)





A. SYSTEM PRESSURE AND PRESSURE SETTING TOO LOW

1. Main load pressure relief(1) contaminated

Cause: dirt particles between cone and seat.
Solution: turn adjustment counter clock wise, activate the directional valve several times. If necessary, dismantle the main load pressure relief(1). Check for damages, ifso: replace cone and seat.

Examine the system filter.

2. Damping orifice (2) or (11) blocked (dirt or fouled)

If necessary remove and clean.

3. 3-Way compensator spool(3) jammed open

When removing plug(4), the spring should push out the 3-way compensator(3).

Examine the 3-way compensator and bore for dirt or damages. If necessary, deburr with care. Flush the spool to remove dirt.

4. Faults in other components of the system

Check for a damaged pump, motor, seals etc.

Note: The pressure setting can only be reached if a cylinder is at the end of its stroke or if a hydraulic motor is stalled.

B. USER MOVES ERRATICALLY

1. Air in system

Bleed the end- and springcaps(7);(8)(or the handlemechanisme if installed) with the stroke limiting screws (5).

2. Solenoid faulty

Remove the solenoid(6), and check the pilotspool on dirt.

If possible, swap solenoid(6) to another section to detect faulty unit.

3. Excessive friction of the main spool Remove both end- and springcaps(7);(8);(or the handlemechanisme if installed) and remove the main spool(9). Examine the main spool (9) and bore for dirt or damages. If necessary, deburr with care. Examine system filter.

4. Excessive damping

See B2.

5. Excessive friction in other components of the system

C. USER DOESN'T WORK OR WORKES TOO SLOW

1. Damping orifice(2) or (11) blocked (dirt or fouled)

See A2.

2. Main load pressure setting too low

See A1.

3. Main spool doesn't switch

See B3 or pilot pressure reducing valve (10) is dirty, clean and remount.

4. 3-Way compensator spool(3) jammed open

See A3.

5. There is insufficient user load

D. PUMP DOES NOT UNLOAD

1. 3-Way compensator spool(3) jammed

See A3.

2. Main spool doesn't center

See B3.

Electrical fault. Check the electrical circuit.