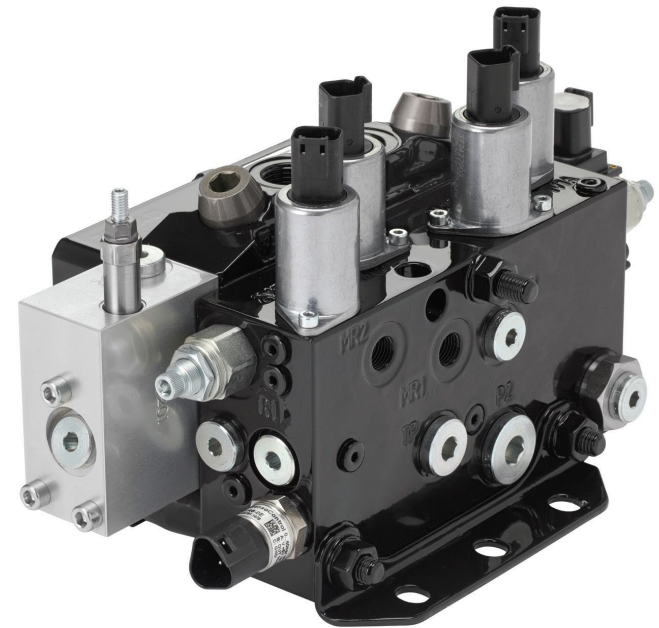


SBW110 Training

Next generation Steering Systems

- SBW110 Product Presentation

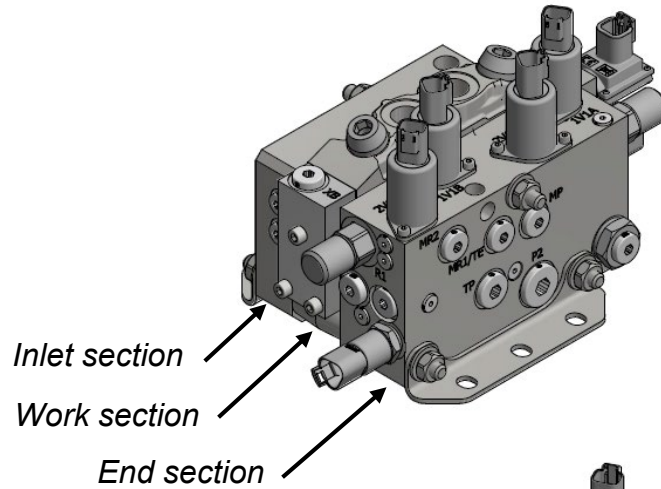


ENGINEERING YOUR SUCCESS.

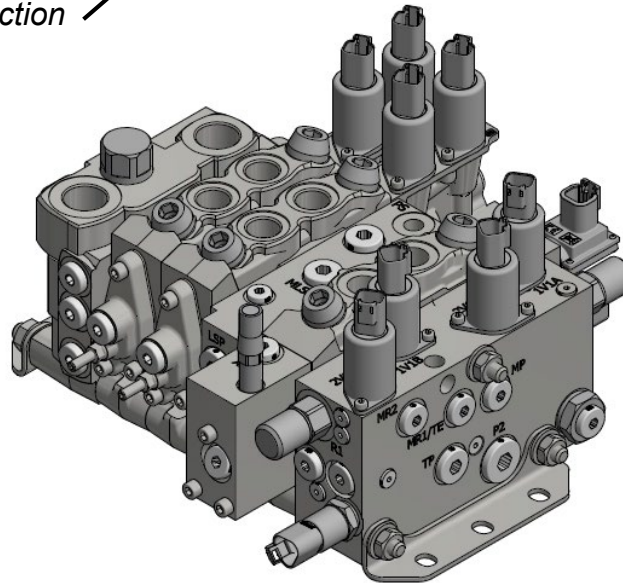
SBW110 Valve Layout

SBW110 is a standalone valve but it could be combined with mobile directional valve L90LS in a FVC valve:

SBW110



FVC
(SBW110+L90LS)
Up to 9 work sections of L90LS



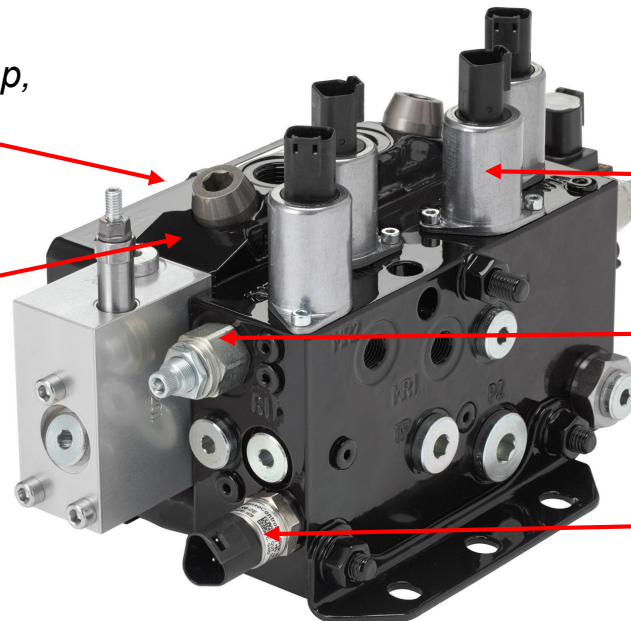
SBW110 Functionality & Component Overview

- Single fault tolerant, could stop or maintain flow from workport in case of single failure:
 - Designed to eliminate high spool hysteresis conditions
 - Dual pilot circuits and pilot valves with fail safe function
- Well-tried component technology, single main spool design valve based on L90LS experience
- Oil circulation to equalize valve temperature vs. oil temperature
- Sensors used for measuring diagnostics

Inlet section for connecting pump, tank and LS

Work section options:

- *Flow adapted spools*
- *Spool position sensor*
- *Pressure compensator*
- *Workport max pressure limitation:*
 - *Port relief valves*
 - *Feed reducer*



End section functions:

Dual pilot valves

Dual pilot supply circuits

Oil circulation valve

Sensors

SBW110 Technical Data

Max Pressure, unlimited number of cycles:

- Pump 330 bar
- Work port 350 bar
- Tank 20 bar

Flow capacity:

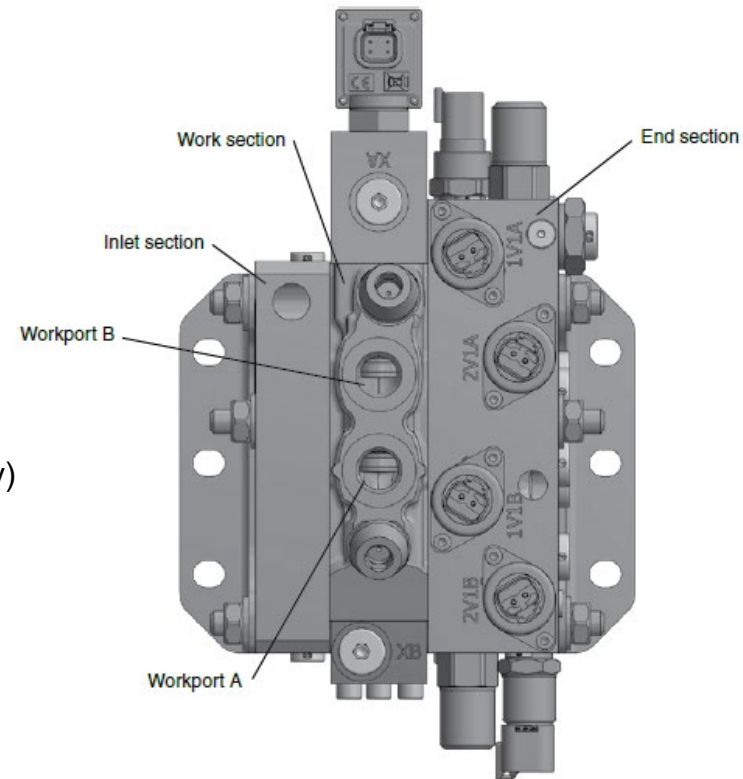
- Flow to work ports with compensator 110 l/min
- Flow to work ports without compensator 145 l/min
 - All flows calculated with delta P 15 bar at the valve (pump supply)

Weight (approxomately)

- [P2010] Inlet section IP1 3.2 kg
- [P3010] End section US1 7.2 kg
- [P5020] PT Work section 5.2 kg

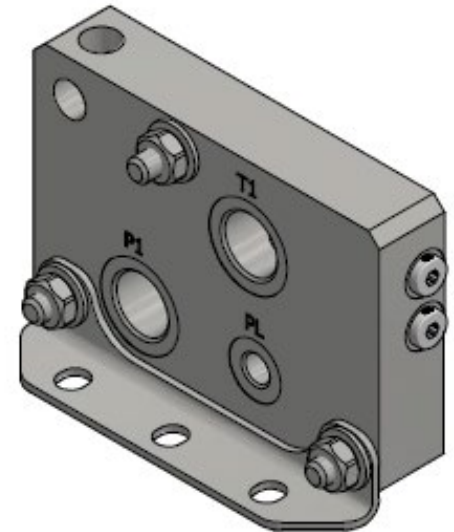
Section width:

- 30 mm
- 53 mm
- 40 mm

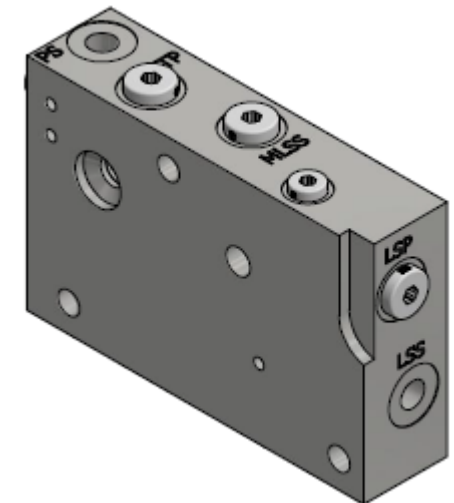


SBW110 Inlet section

- **IP1**, SBW110 inlet for variable pump systems.
Includes connections for pump P1, tank T1 and load-signal PL.



- **MM1**, FVC inlet for combining SBW110 with L90LS in variable pump systems.
Includes connection for:
LSS, Load signal from SBW110 part of the valve
LSP, Load signal from parallel valve to L90LS part of the FVC valve
PS, pilot supply to L90LS part of the valve
TP, pilot tank from L90LS part of the valve



As a safety function the steering function should preferably be separate from other power systems and circuits.

This inlet section separates the SBW110 pump, LS and pilot circuit from the L90LS. The steering pump shall be connected to [P3111] P2 in the end section, and LS from steering in port LSS in the inlet section MM1.

Tank is common between SBW110 and L90LS and shall be connected to the L90LS part of the valve.

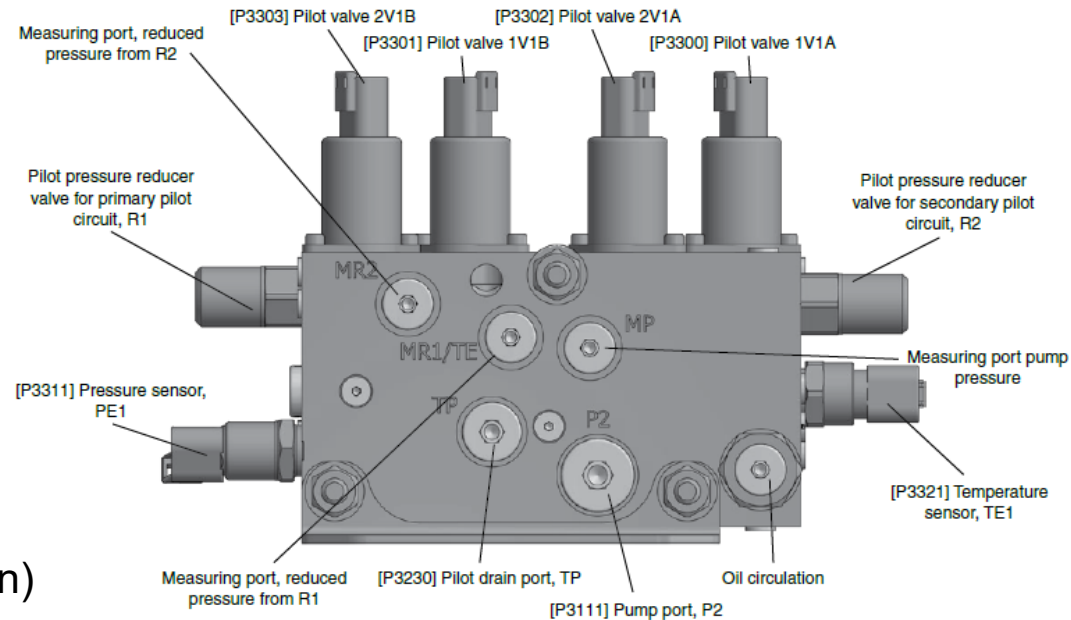
SBW110 End Section

US1 The end section contains the pilot circuit that through internal channels in the valve supplies the spool actuators in the work section with pilot pressure.

To achieve a single fault tolerant pilot circuit the end section contains independent pilot circuits, primary and secondary. If anything would fail in the primary circuit the secondary circuit continues performing the function.

It also contains a temperature equalizing (temperature between valve and the oil) function that circulates oil (approx. 1 l/min) from pump to tank.

There is a temperature sensor and a pressure sensor for measuring the diagnostics.



SBW110 Work Section

- Function adapted spools.
Flow range up to 110 l/min pressure compensated flow.
- Feed-reducing valve, MRC
Sets maximum feed pressure in each work port with low energy loss, consumes ~ 2 l/min.
- Port relief valve, PAU
Protects valve work port and consumer from pressure peaks.
- Pressure compensator, K
Maintains same speed no matter load and pump pressure.
- Spool actuator, SA1
Proportional Electro hydraulic.
Pilot-pressure oil is passed from pilot circuit in the end section to the spool actuators through internal channels in the valve.

