

Down-streamed individual pressure compensator and flow divider principle

Proportional Directional Valve System Series LVS18

Solutions for mobile hydraulics

Sectional Design

Description

Modular structure for versatile options

The proportional valves in sandwich design – which we have especially developed for mobile applications – control the volumetric flow internal to the actuator. Down-streamed individual pressure compensators (load-sensing principle) ensure the independence of the load. The flexible designed modular system is consisting of one inlet module, actuator modules (up to 8 sections) and one end module. As highlights, we would point out the sections with integrated onboard electronic and fieldbus operation. The flow divider principle represents an efficient system for the prevention of undersupply.

Especially for the ATEX sector, there are deliverable explosion proof components (device classes G and D).

Technical Data

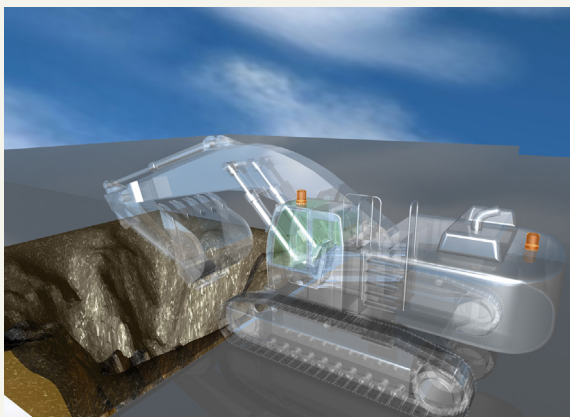
Maximum inlet flow rate	l/min	400
Maximum actuator flow rate	l/min	260
Maximum pump pressure	bar	370
Maximum load pressure	bar	420

Application examples

- Mobile cranes
- Fire fighter vehicles
- Mining machines
- Transshipment units
- Reach stacker
- Earth drilling machines
- Working platforms
- Offshore applications
- Forest machines

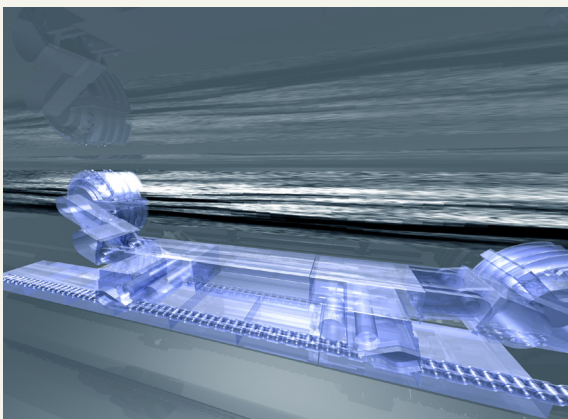
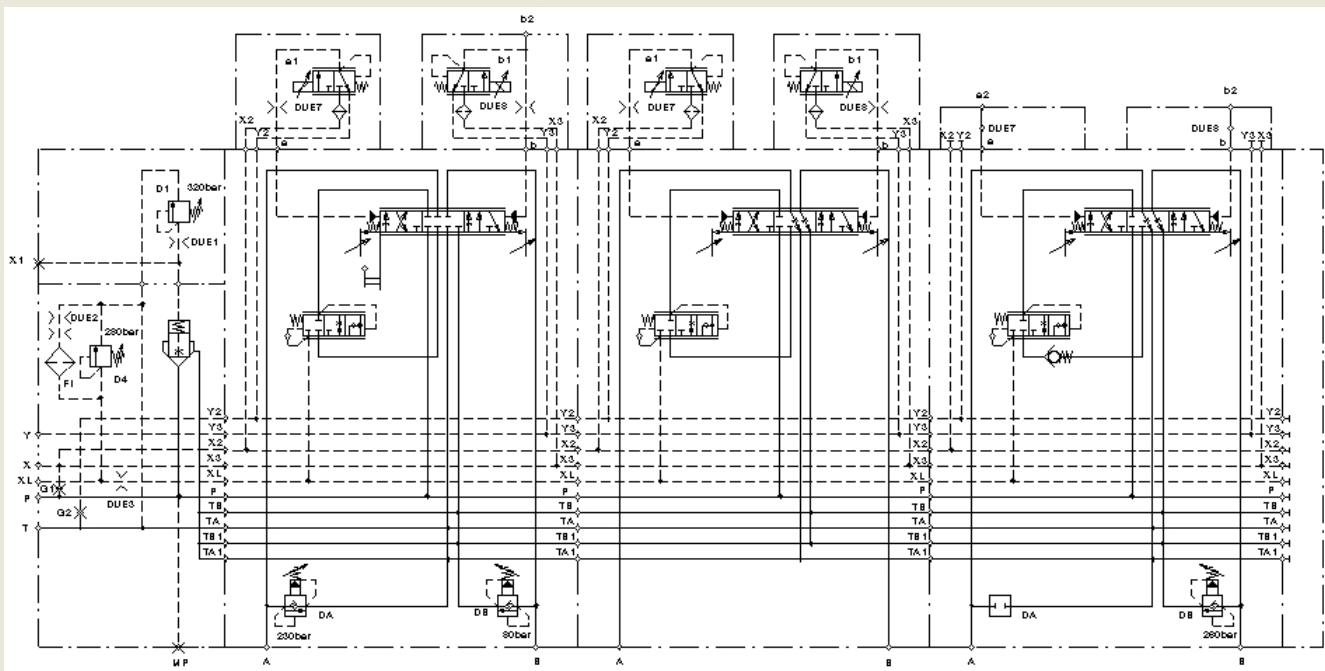
Advantages

- High power spectrum
- Individual adaptation to the application (up to 8 actuator sections)
- ATEX certificated valves: intrinsically safe design for device classes G and D
- Flow divider principle by down-streamed individual pressure compensators
- OBE with CAN Open actuation, position control, characteristic curves adaptation and diagnostic ability. Functional safety according to EN ISO 13849, PL „c“
- Different kinds of operation: electrical, hydraulic, manual and their combinations
- Individual protection of the work connections.
- Sensitive and load-independent control – also at parallel operation



Functions

- Pump pressure protection and pressure relief of the max. load pressure
- Pressure valves, anti-cavitation valves or combined pressure/anti-cavitation valves inside the work connections
- For the usage with variable displacement pump or fixed displacement pump
- With DIN ISO respectively UNF thread connections or with SAE flanges
- Pressure difference (pump pressure - max. load pressure) ca. 12 bar at valve inlet port



„No matter how unusual your client’s requirements, our solutions are just as adaptable“
System solution

Analogue system solution

Hydraulically operated

Hydraulic joystick controller

- actuation of the hydraulically controlled valves via X/Y-axes



Analogue system solution

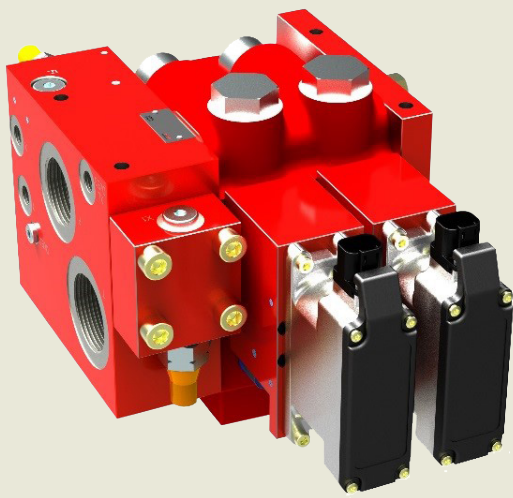
Electro-hydraulically operated

Electrical joystick controller

- Analogue



Fieldbus system solution (CANopen)



Operation system

The Bucher Hydraulics operating system offers these and many other ways, combining electronics and hydraulics to your system solution.

- Visualization
- Data logging
- Parametrization
- Diagnostic
- CANopen interface
- Functional security



Electrical joystick



Graphic terminal

- Operation
- Diagnostic
- Configuration
- Data download
- Parametrization



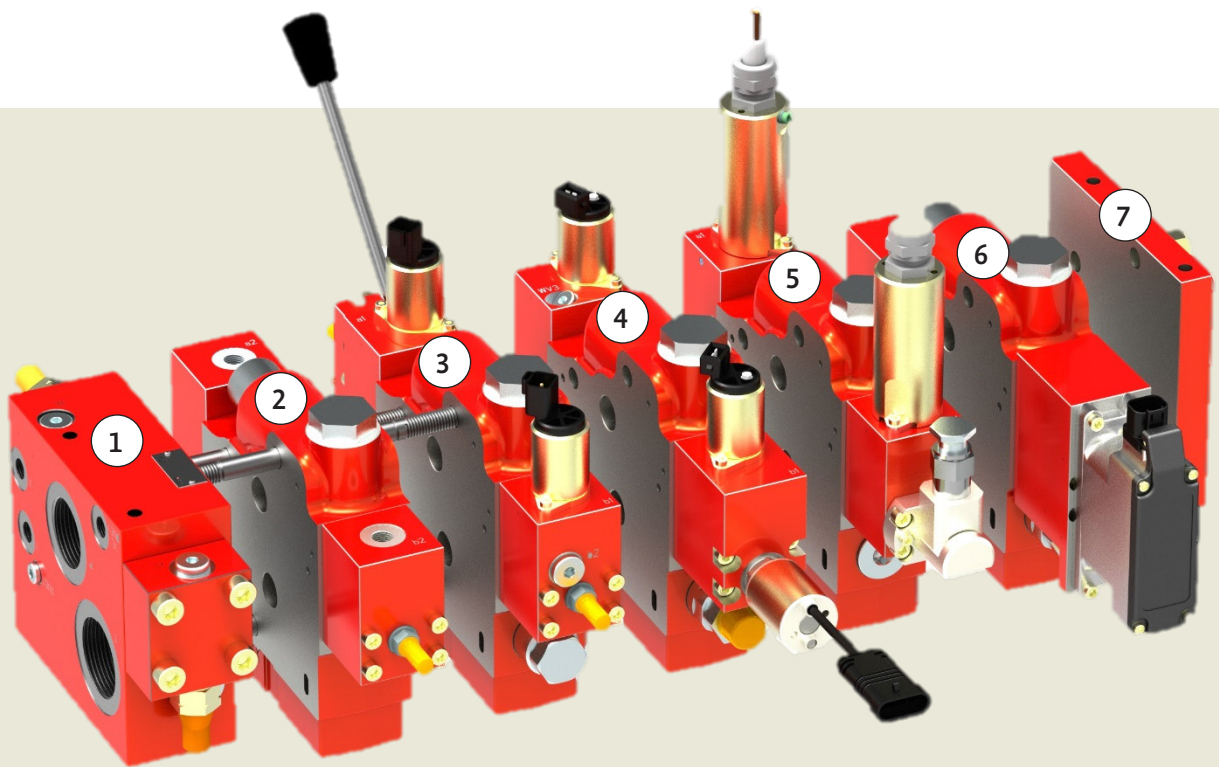
Master board

- Mobile SPS




Sensor

- analogue



Overview modules and functions

- 1 Inlet module with system pressure protection and pressure relief of the max. load pressure
- 2 Actuator module hydraulically controlled
- 3 Actuator module electrically/manually operated with anti-cavitation valves
- 4 Actuator module electrical operated with combined pressure/anti-cavitation valves inside the work connections as well as a displacement transducer for spool stroke control
- 5 Actuator module electrically operated with explosion proof pilot valves and displacement transducer for mining applications or other explosion risk areas (encapsulation/pressure casing), e. g.  II 2G c I T4
- 6 Actuator module electrical operated with OBE and CAN Bus
- 7 End module without any function

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