



Solution for Mobile Hydraulics in Sectional Design

Proportional Directional Valve System Series SC18



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Individual supply cut-off

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. Up-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.

Together with our new model kit LVS18 you will alternatively find our design with down-streamed pressure compensator and flow divider principle.

Especially for the ATEX sector, there are deliverable explosion proof components (device classes M2, G and D) - see also SC18Ex-Flyer 301-P-900003.

Technical Data

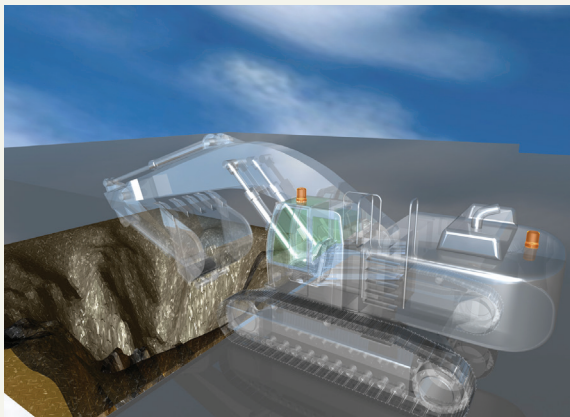
Maximum inlet flow rate	l/min	400
Maximum actuator flow rate	l/min	260
Maximum pump pressure	bar	370
Maximum load pressure	bar	420

Application examples

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

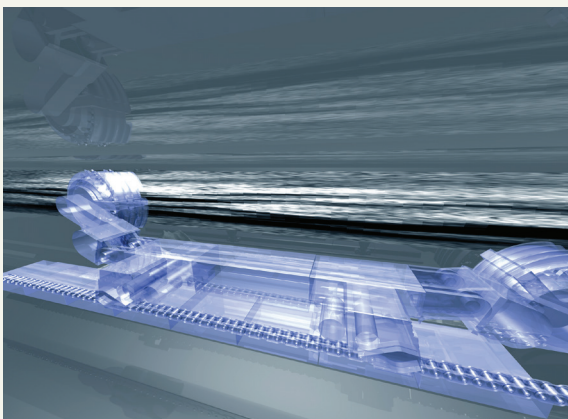
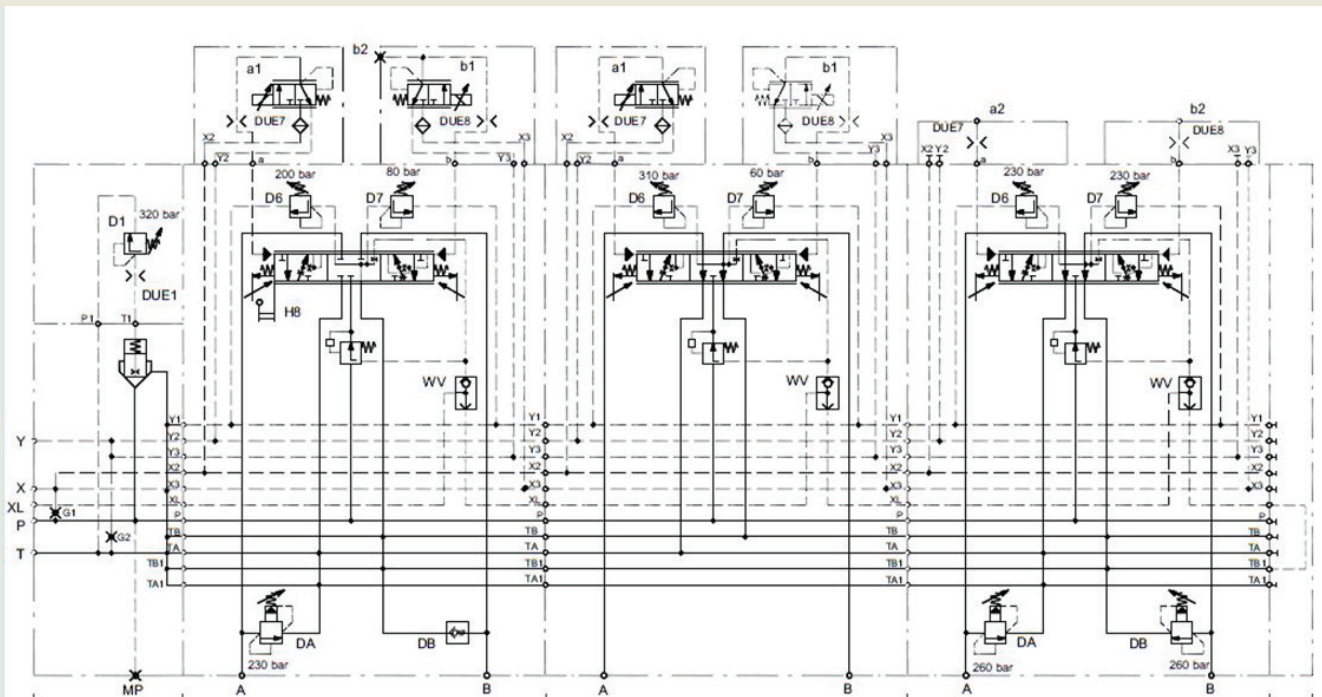
Advantages

- High power spectrum
- Individual adaptation to the application (up to 8 actuator sections)
- ATEX certificated valves: intrinsically safe design for mining applications (device class M2) and Ex-proofed design for the device classes G and D
- 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 load pressure cut-off
- Sensitive and load-independent control – also at parallel operation



Functions

- Pump pressure protection functions
- Pressure relief for A and B side separately (LS pressure cut-off)
- Pressure valves, anti-cavitation valves or combined pressure/anti-cavitation valves inside the work connections.
- Bus operation possible (CAN Open)
- 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. 20 bar at valve inlet port.

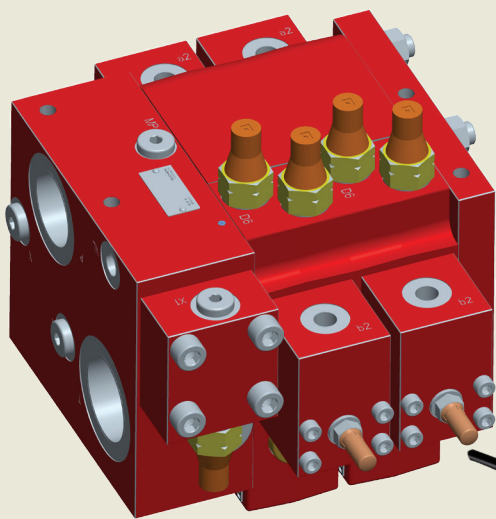


„No matter how unusual your client’s requirements, our solutions are just as adaptable“

System solution

Analogue system solution

Hydraulically operated



Hydraulic joystick controller

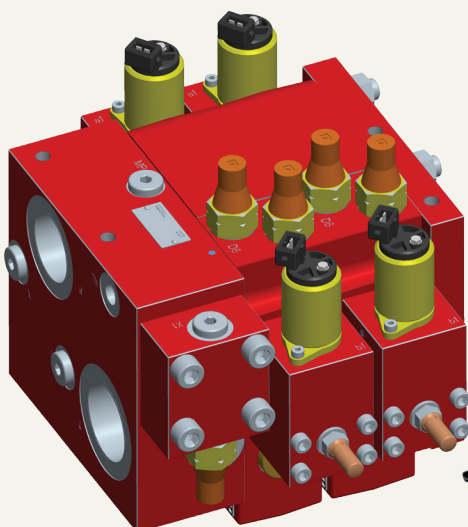
- actuation of the hydraulically controlled valves via X/Y-axes



Pilot pressure flow

Analogue system solution

Electro-hydraulically operated



Electrical joystick controller

- Analogue



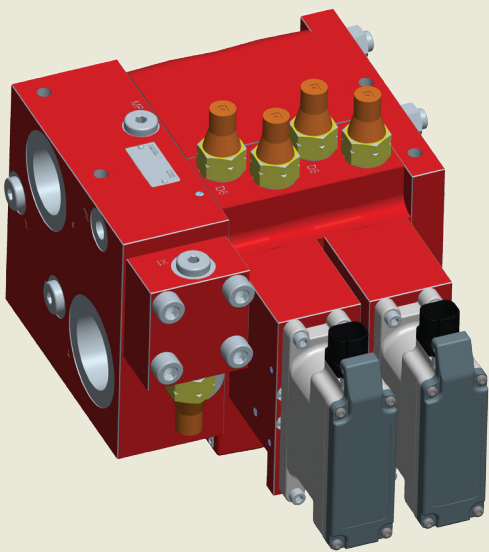
Proportional amplifier

- for 6 proportional solenoids



Power supply

High end, with onboard electronics



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
- CAN interface
- Safety and reliability



Electrical joystick controller

- Based on CAN-open



Graphic terminal

- Operation
- Diagnostic
- Configuration
- Data download



Crane terminal

- For operation and parametrization



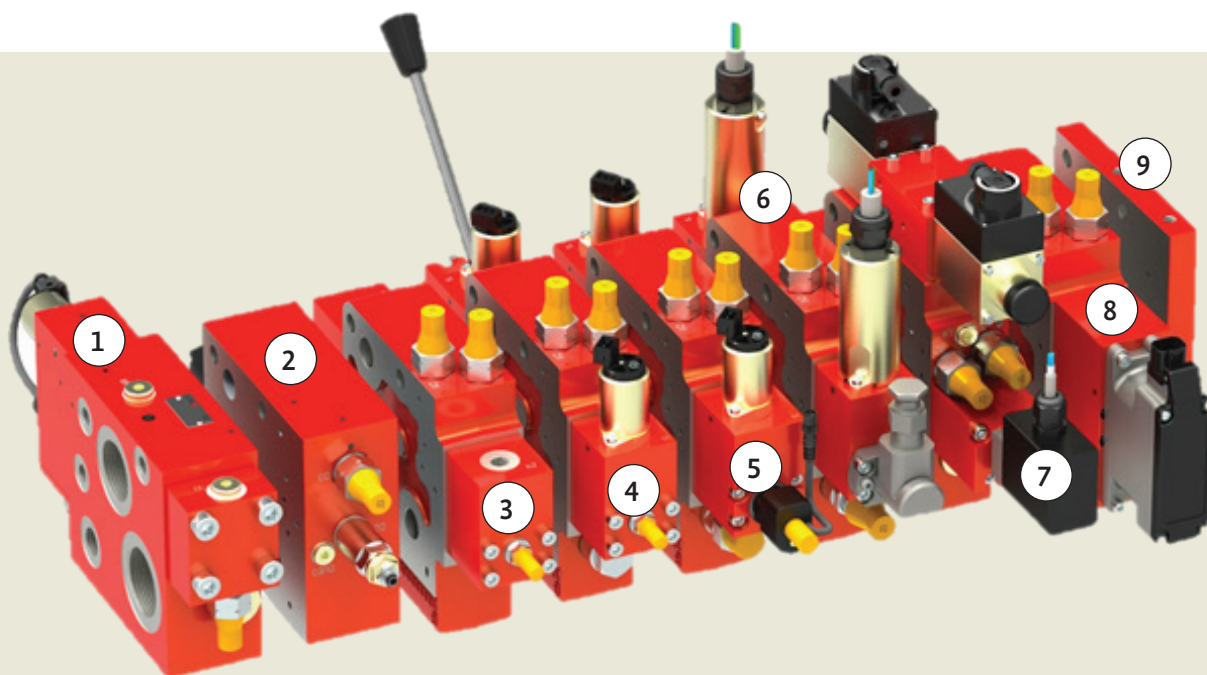
Master board

- Mobile SPS





Sensor

- analogue
- CAN Bus (digital)



Overview modules and functions

- 1 Inlet module with system pressure protection
- 2 Sandwich module with control pressure conditioning and pressure cut-off, alternatively on A- or B-side (optional)
- 3 Actuator module hydraulically controlled with LS-pressure cut-off A/B-side separately
- 4 Actuator module electrically/manually operated with LS-pressure cut-off, A/B-side separately and anti-cavitation valves
- 5 Actuator module electrical operated with LS-pressure cut-off, A/B-side separately and combined pressure-/anti-cavitation valves inside the work connections as well as a displacement transducer for spool stroke control
- 6 Actuator module electrically operated with explosion proof pilot valve and displacement transducer for mining applications or other explosion risk areas (encapsulation/pressure casing), e. g.  II 2G c I T4
- 7 Actuator module electrically operated with explosion proof pilot valve and displacement transducer for mining applications (intrinsic safety), e. g.  II M2 c I T4
- 8 Actuator module electrical operated with OBE and CAN Bus
- 9 End module without any function

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