Eaton SBX advanced steering valve

Introducing Eaton's newest steering solution, the SBX advanced steering valve

SBX steering valves are available in three configurations:

Option 1:
Steer-by-wire (mounted to secondary EH valve)

Option 2:
Mounted to Series 10 steering control unit

Option 3:
Mounted to XCEL45 steering control unit

Since 1961, Eaton has been the leader in steering solutions. Now, Eaton is proud to announce the newest addition to its portfolio, the SBX advanced steering valve. The SBX valve is designed to meet the demanding requirements of mobile equipment in both an electrohydraulic (EH) and steer-by-wire (SbW) configuration.

Design flexibility

With the most compact design on the market, the SBX advanced steering valve increases flexibility and functionality when working with limited engine compartment space or when adopting electrical inputs into today's steering solutions.

When used as a steer-by-wire solution, the SBX valve allows machine designers to remove the steering column and replace with smaller, precise steering mechanisms such as a joystick or wheel with tactile feedback device.

For applications where an orbitrol steering unit is still desired, the SBX valve may be coupled with an Eaton Series 10 or XCEL45 steering control unit, providing multiple steering input options.

Ergonomics & safety

An isolation spool provides redundant EH shut-off capability, giving the orbitrol steering unit absolute priority at all times – a critical feature needed to ensure functional safety requirements are met. This configurability lends itself to use with GPS-driven automatic navigation systems.

Eaton steer-by-wire solutions are designed to pair easily with your machine's control system or, if you prefer, connect our SFX programmable safety controller to streamline your path to meeting functional safety requirements.

Open architecture

Flow demand is communicated to the valve by way of CAN protocol. The onboard electronic controller and redundant spool position sensor make precise flow control possible while also enhancing diagnostic coverage and, hence, overall functional safety. The SBX valve will also work with Eaton's HFX controller as well as most other CAN controllers.

Functionally safe steering solutions

Looking to develop a functionally safe electrohydraulic steering system or fail-operational steer-by-wire system? Pair the SBX steering valve with Eaton's SFX programmable safety controller plus backup valve or manifold for a complete solution.

Powering Business Worldwide

The compact SBX advanced steering valve increases flexibility and functionality when working with limited space

SBX advanced steering valve benefits

- Pre-configured with J1939 communication
  - Allows customization of steering parameters
  - Vary steering rate with speed, on demand or any other parameter
- Allows traditional EH steering with an orbitrol and steer-by-wire capability
- No need for traditional steering unit near cab with steer-by-wire solution
  - Reduces hose
  - Increases design flexibility
  - Reduces in-cab noise
- Easy auto-steer integration
- Optional load reaction capability

Applications

- Telehandlers
- Backhoe loaders
- Forestry equipment
- Compact wheel loaders
- Heavy-duty material handling machinery
- Harvesters
- Tractors

Specifications

Maximum system pressure	210 bar
Maximum back pressure	21 bar (300 psi)
Maximum flow	60 L/min (15.8 gal/min)
Operating temperature range	-20 °C to 93 °C (-4 °F to 200 °F)
Fluid	Petroleum-based fluids
Recommended filtration	ISO 18/16/14 cleanliness level
Communication protocols	PWM driven or CANJ1939
Environmental protection	IP69K
Coil/connector type	12 or 24 VDC, Deutsch
Port sizes	P, R, L, T – M18 x 1.5, ¾-16 SAE, ½ BSP

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