Flow valve
Flow control valve

Q_{max} = 100 l/min, p_{max} = 315 bar
direct acting, load-compensated, proportional solenoid with emergency override
Type series: SRCB-SNT-3

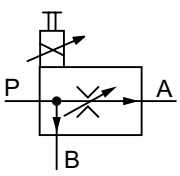
- Screw-in cartridge valve
- ZnNi plating (720h DIN EN ISO 9227 NSS)
- The slip-on coil can be rotated, and it can be replaced without opening the hydraulic envelope
- 3-way flow control valve
- Flow rates are unaffected by changes in temperature and load
- Compact construction
- Various plug-connector systems and voltages are available

Description

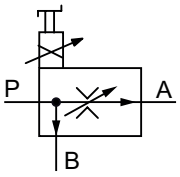
The flow control valve, series SRCB-SNT-3 is a direct acting, load compensated screw-in valve with an M42x1.5 mounting thread. This valve is used to set the working speed of hydraulic actuators, the setting being load-independent. The higher pressure can be at either the constant flow (port A) or surplus flow port (port B). The special orifice design ensures that the flow setting is largely independent of the viscosity of the fluid. The cartridge design allows the valve to be installed in any customized control block. All external parts of the screw-in valve are zinc-nickel plated and are thus suitable for use in the harshest operating environments. The slip-on coil can be replaced without opening the hydraulic envelope and can be positioned at any angle through 360°.

Symbol

SRCB-S-3



SRCB-N-3
SRCB-T-3



Technical data

General characteristics	Description, value, unit
Function group	Flow valve
Function	Flow control valve
Design	Screw-in cartridge valve
Controls	proportional solenoid with emergency override
Characteristic	direct acting, load-compensated
Neutral position	closed orifice
MTTFd value	150 years
Thread size	M42×1,5
Mounting attitude	unrestricted, preferably vertical, coil down (automatic air bleed)
Tightening torque aluminium	50 Nm
Minimum ambient temperature	- 30 °C
Maximum ambient temperature	+ 50 °C
Surface protection	ZnNi plating (720h DIN EN ISO 9227 NSS)
Sealing material	FKM (fluorocarbon rubber / VITON) seals

Hydraulic characteristics	Description, value, unit
Maximum operating pressure	315 bar
Maximum flow rate	100 l/min [1)]
Control flow range	10, 16, 25, 32, 40, 50, 63, 80 l/min [1)]
Flow direction	see symbol
Hydraulic fluid	HL and HLP mineral oil according to DIN 51 524; other fluids on request!
Minimum fluid temperature	- 20 °C
Maximum fluid temperature	+ 80 °C
Viscosity range	10 ... 300 mm^2/s (cSt)
Minimum fluid cleanliness (cleanlineless class according to ISO 4406:1999)	class 20/18/15
Min. pressure difference (pressure compensator)	7 bar
Control accuracy (as a % of the nominal flow)	Load-dependency when under pressure: max. ± 2.5 % [2)] Hysteresis when operated: max. ± 3.5 % [2)]
Internal leakage flow rate	max. 100 cm^3/min at 100 bar [1)]

NOTE!
1) Values refer to an oil viscosity of 35 mm^2/s (cSt).
2) Values refer to the selected flow range.

NOTE!
For other values please contact Bucher Hydraulics.

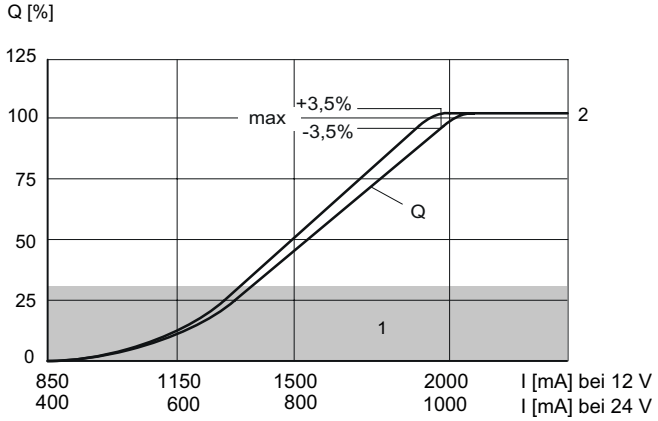
Electric characteristics	Description, value, unit
Solenoid coils type	D45/22
Features solenoid coil	pressure-tight, switching in oil
Supply voltage DC	12/24 V DC (from an electronic controller)
Nominal power consumption	21 W with 12 V coil and Imax = 2,3 A 21 W with 24 V coil and Imax = 1,15 A
Relative duty cycle (ED)	100 % bei Imax
Recommended PWM frequency	100 Hz (observe Imax)
Electrical connection coil	several connection types available, see ordering code
Protection class solenoid coil to ISO 20 653 / EN 60 529	several classes of protection available, see ordering code (with appropriate mating connector and proper fitting and sealing)

NOTE!
For other values please contact
Bucher Hydraulics.

Performance graphs

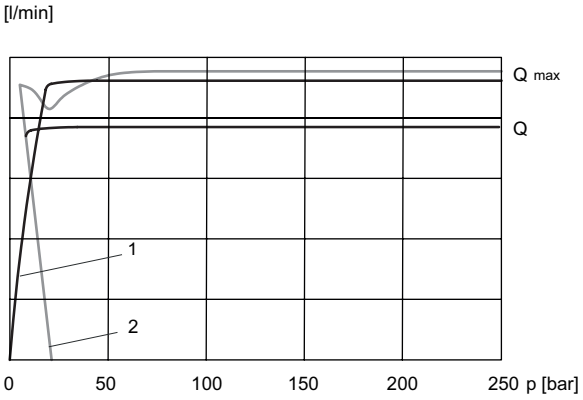
measured with oil viscosity 35.0 mm²/s (cSt)

Q = f (%; mA) Flow rate adjustment characteristic



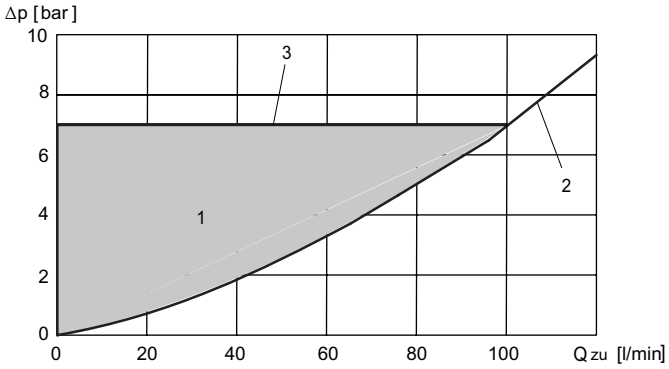
1 = Fine control range
2 = 100% = 2000 ± 200 mA bei 12 V DC
1000 ± 100 mA bei 24 V DC
(100%- values vary with nominal flow rate)

Q = f (pl) Flow rate load-pressure



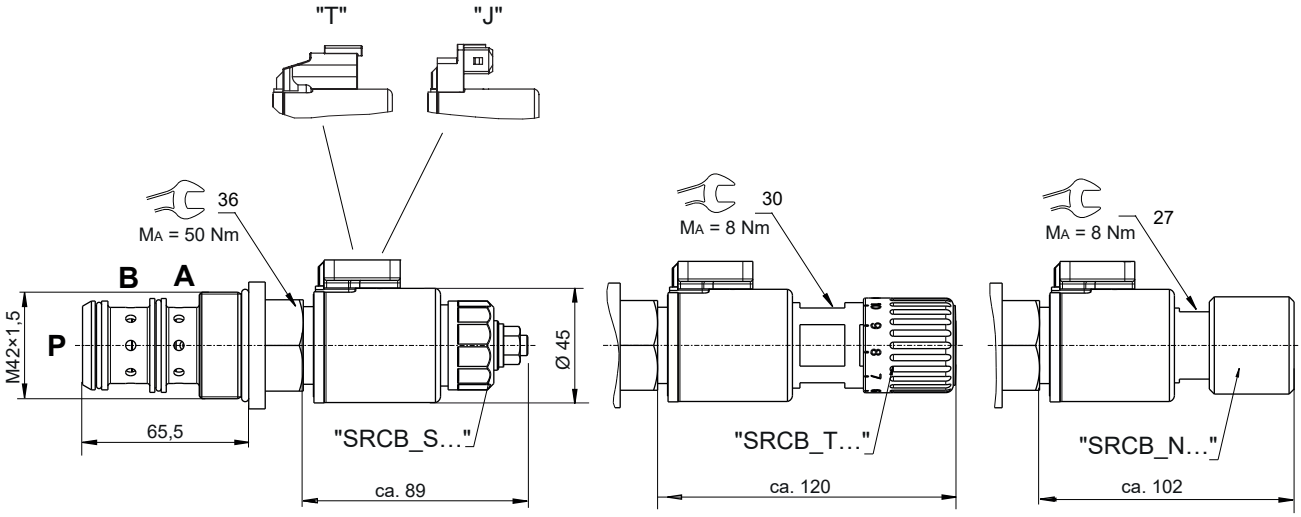
1 = Q_A - Constant flow pressurised
2 = Q_B - Surplus flow pressurised

Δp = f (Q) Pressure drop-flow rate characteristic



1 = Pressure loss area (The actual pressure-loss characteristic is dependent on the tank pressure at port B)
2 = Control valve throttlingcurve (Dependent on applied body)
3 = Control Δp - characteristic 7 bar

Dimensions and sectional view



Installation information

ATTENTION!
Expert and product knowledge is required for the layout of this valve type. Use exclusively for the intended purpose within the indicated values. The valve manufacturer must be consulted for use of the appliance outside the specifications. All applications must be verified by sufficient tests to ensure safety in the application. The ultimate responsibility for safety during installation and use resides with the end appliance manufacturer. All limit values listed in the data sheet apply to typical mobile hydraulic applications with a max. rate of pressure rise of 4000 bar (higher values after consultation).

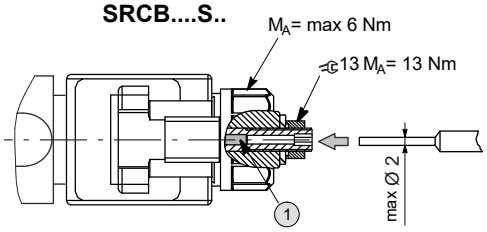
NOTE!
When fitting the screw-in cartridge valve, use the specified tightening torque. The value can be found in the chapter "Technical data". We offer form tool sets for sale or hire. Description: 1835 A D32 (Id. No.: 100603875).

ATTENTION!
Only qualified personnel with mechanical skills may carry out any maintenance work. Generally, the only work that should ever be undertaken is to check, and possibly replace, the seals. When changing seals, oil or grease the new seals thoroughly before fitting them.

NOTE!
Bleed all air from the system (if possible, operate valve several times without load).

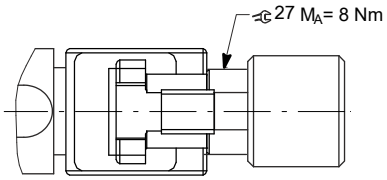
Models of the emergency override

Emergency pin
SRCB....S..



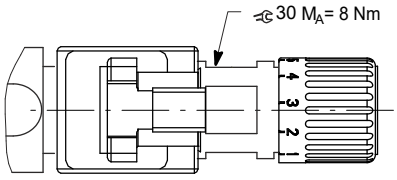
By pressing the solenoid pin (1) you operate the valve On/Off.

Basic manual override
SRCB....N..



Q_0 to Q_{max} = approx. 3,5 turns at the handle

Basic manual override
SRCB....T..

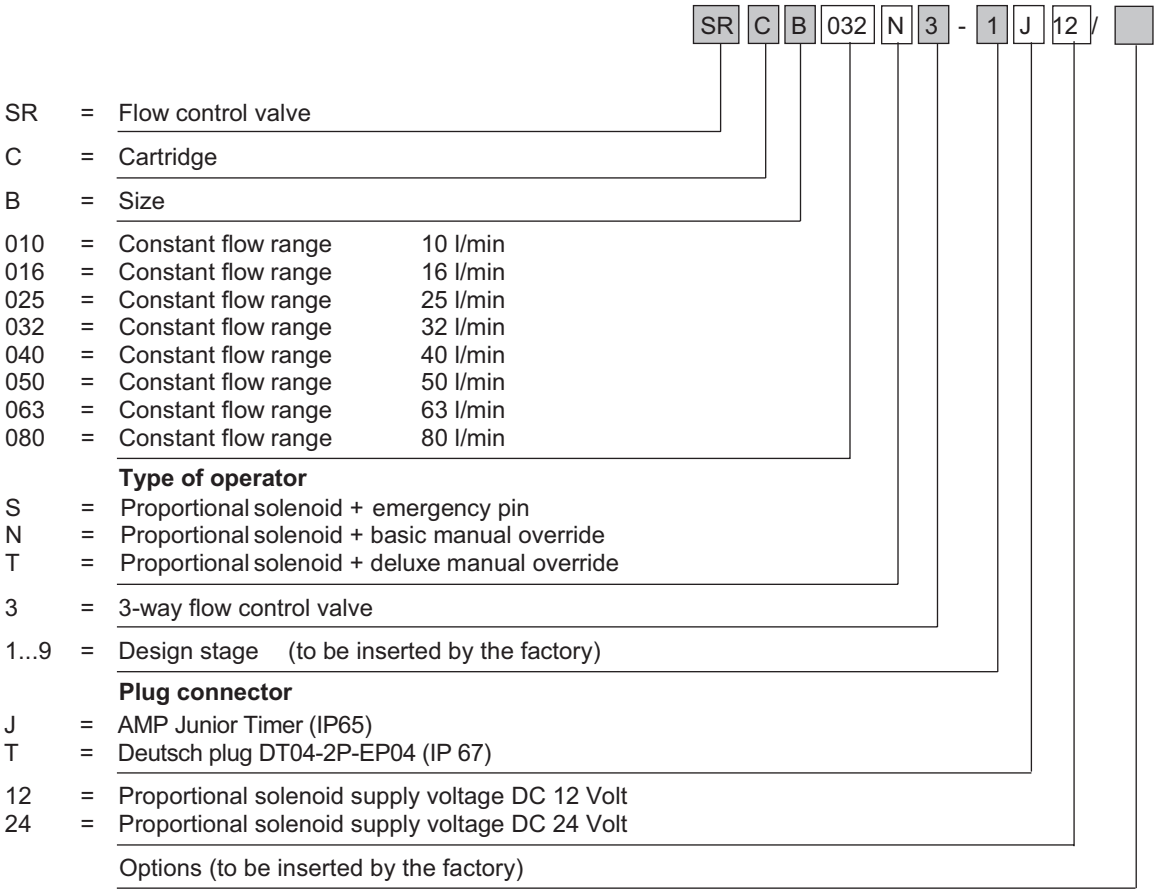


Q_0 to Q_{max} = approx. 1 turn at the handle

Application examples

Possible applications can be:
- Belt drives- Spinner
- Plate drives
- Auger drives
- Brush drives
- Reel drives
- Pump drives for other liquids
- Fans, blowers
- ...

Ordering code



Related data sheets

Reference	Description
100-D-400971	Cavity GB3NM42

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