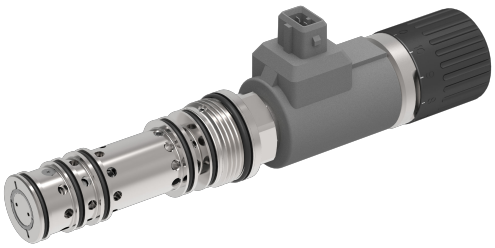
Flow valve
Flow control valve

Q_{max} = 60 l/min, p_{max} = 250 bar
direct acting, load-compensated, proportional solenoid with emergency override
Type series: SRCA-ST-3



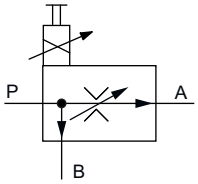
- Screw-in cartridge valve
- ZnNi plating (720h DIN EN ISO 9227 NSS)
- 3-way flow control valve
- Reduced Δp
- Flow rates are unaffected by changes in temperature and load
- Compact construction
- The slip-on coil can be rotated, and it can be replaced without opening the hydraulic envelope
- Various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

Description

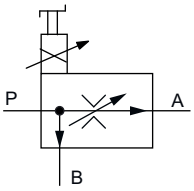
The flow control valve, series SRCA-ST-3... is a direct acting, load compensated screw-in valve with an M33x1.5 mounting thread. This valve is used to set the working speed of hydraulic actuators, the setting being load-independent. The higher pressure can be at either the constant flow (port P) or surplus flow port (port B). When used as a 2-way flow control, omit the surplus-flow drilling, or plug it. 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

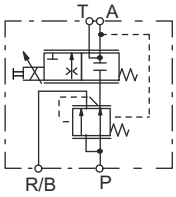
SRCA-S-3



SRCA-T-3



Schematic representation



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	de-energized, closed orifice
MTTFd value	150 years
Thread size	M33×1,5
Mounting attitude	unrestricted (preferably vertical, coil down)
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	NBR (nitril-butadien-rubber / BUNA)

Hydraulic characteristics	Description, value, unit
Maximum operating pressure	250 bar
Maximum flow rate	60 l/min
Control flow range	10, 16, 25, 32, 40, 50 l/min
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)	4 ... 7 bar
Control accuracy (related to the nominal flow rate)	Load-dependency when under pressure: max. ± 2.5 % Hysteresis when operated: max. ± 3.5 %
Internal leakage flow rate	max. 60 cm^3/min at 100 bar (or virtually zero if the priority flow discharges to tank)

NOTE!
Values refer to an oil viscosity of 35mm^2/ [cSt].

NOTE!
The control accuracy depends on the respective value of the adjustment range.

NOTE!
For other values please contact Bucher Hydraulics.

Electric characteristics	Description, value, unit
Solenoid coils type	D36
Features solenoid coil	pressure-tight, switching in oil
Supply voltage DC	12/24 V DC
Control current	12 V = 275...1250 mA / 24 V = 125...625 mA

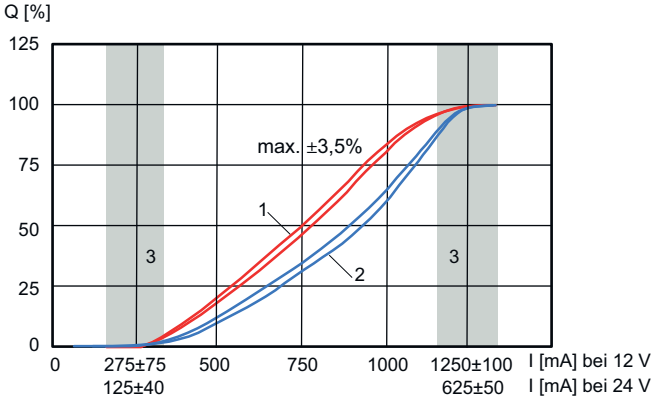
Electric characteristics	Description, value, unit
Nominal power consumption	Proportional operation at 12 V with Imax 1.3 A = 16 W at 24 V with Imax 0.67 A = 16 W on/off operation: at 12/24 V = 27 W
Relative duty cycle	100 %
Recommended PWM frequency	100 Hz
Electrical connection coil	several connection 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

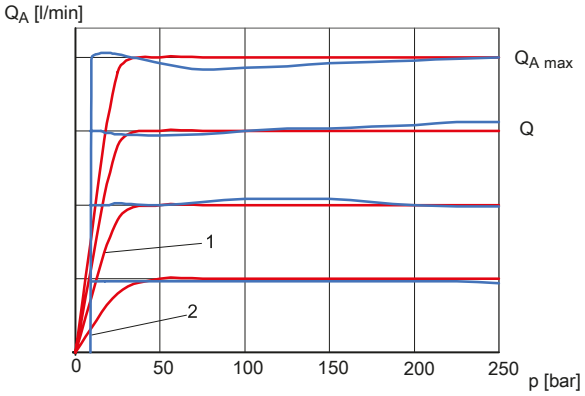
measured with oil viscosity 35.0 mm²/s (cSt)

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



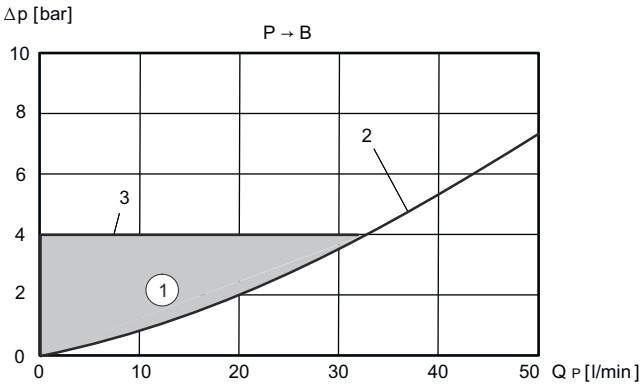
1 = Q - I characteristic curve at 50 l
2 = Q - I characteristic curve at 25 l
3 = Fine control range

Q = f (pl) Flow rate load-pressure



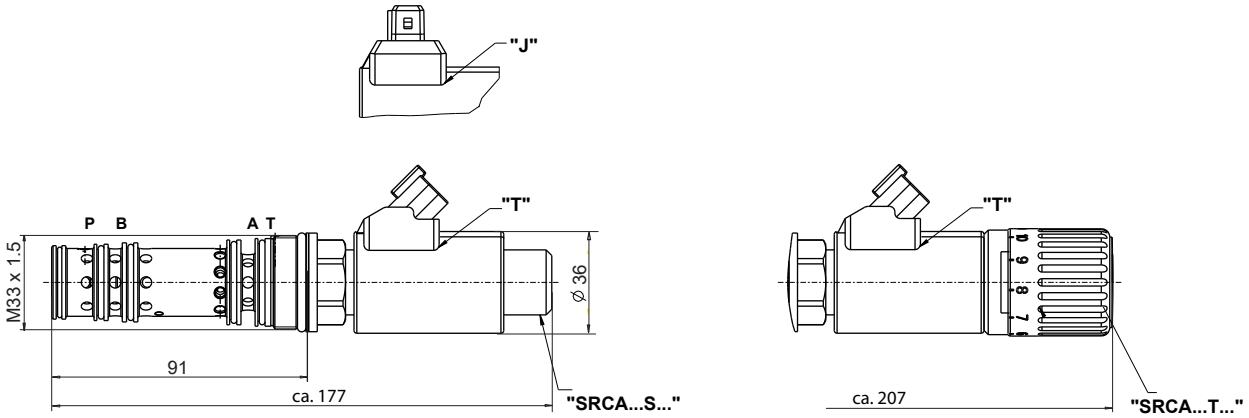
1) QA = constant flow pressurised
2) QA = surplus flow pressurised

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 throtting curve (dependent on cavity body)
3) Control - Δp - characteristic 4 bar

Dimensions and sectional view



A = Priority flow (controllled)
B = Surplus flow (3-way)
P = Inlet
T = Priority flow discharge with closed orifice

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).

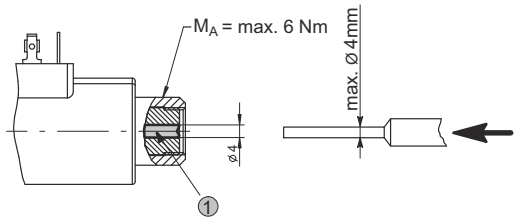
ATTENTION!
Only qualified personnel with mechanical skills may carry out any maintenance work. Generally, the only work that should ever be undertaken is to check, and possibly replace, the seals. When changing seals, oil or grease the new seals thoroughly before fitting them.

NOTE!
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: T2031 (Id No.: 100608916).

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

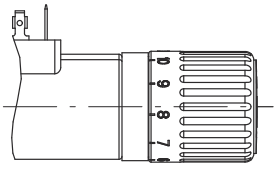
Models of the emergency override

Emergency pin SRCA …S…



By pressing the solenoid pin (1) you operate the valve ON/OFF.

Basic manual override SRCA … T..



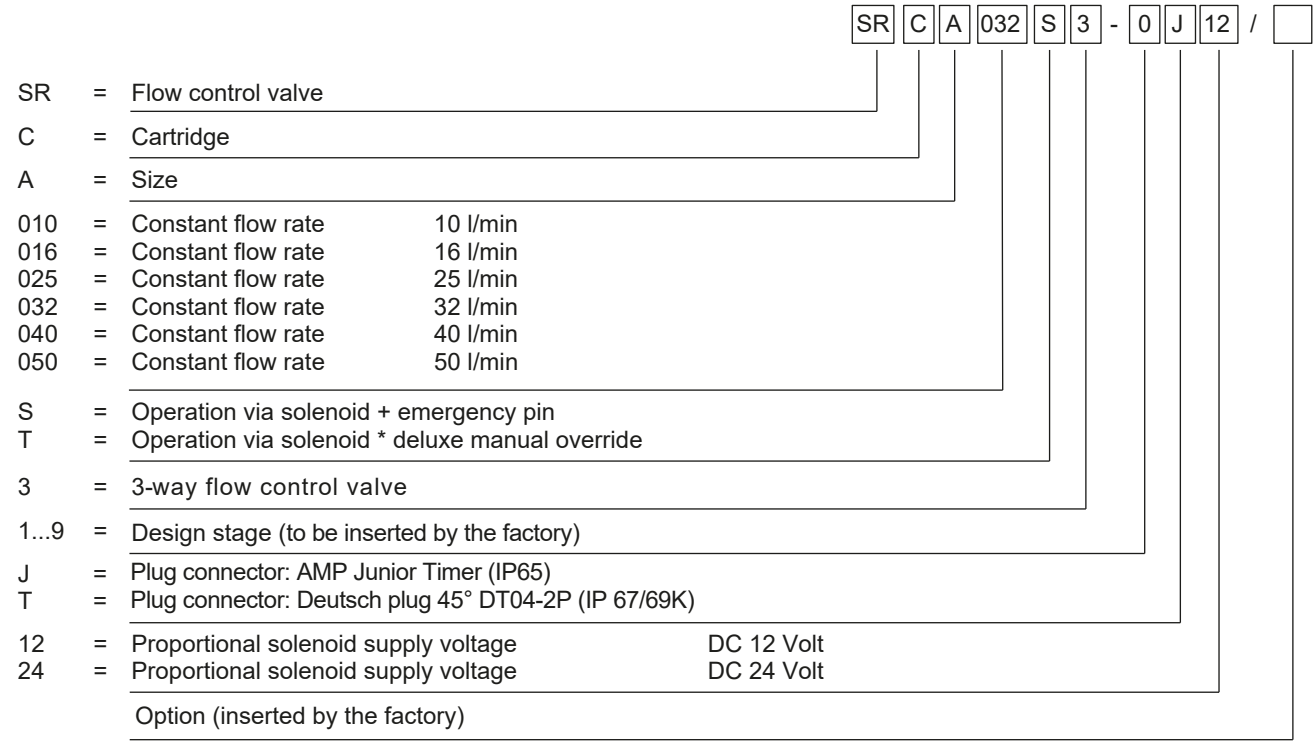
Q_0 bis $Q_{max.}$ = about one turn of the handle

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-P-408781	Cavity GB3WM33

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