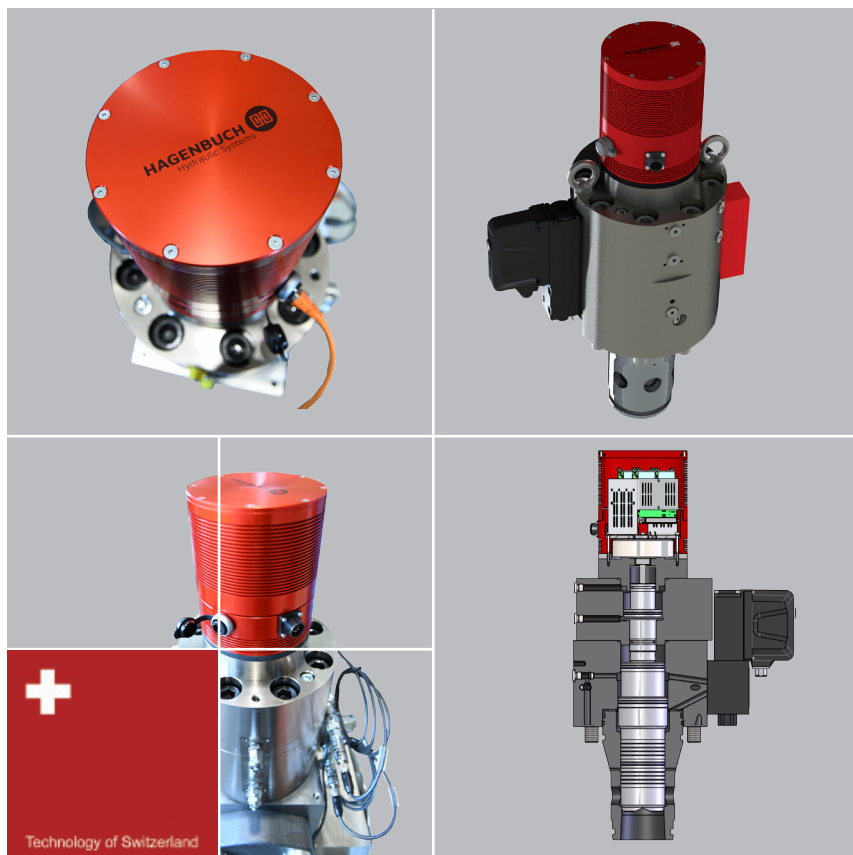


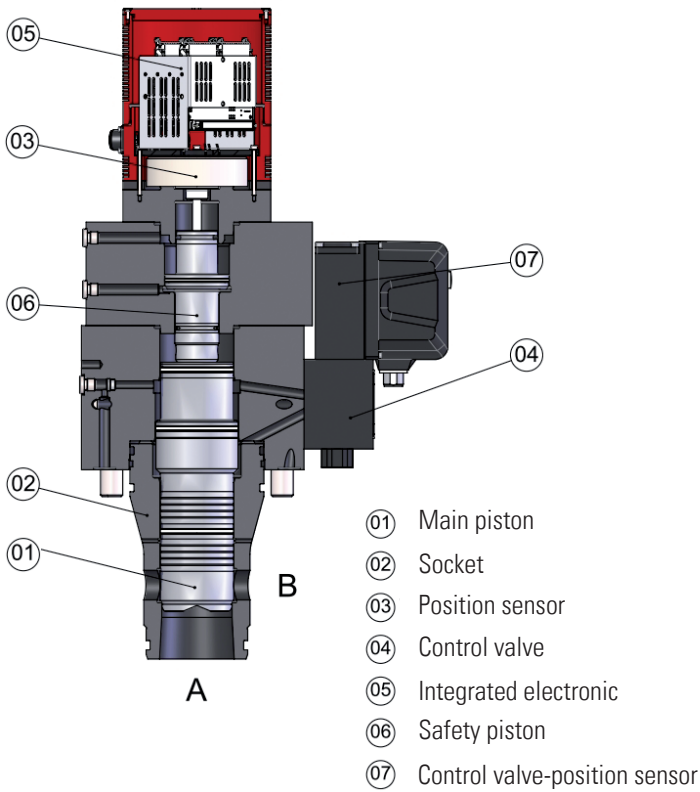
# Servo cartridge NG-80

*with safety function*



- Redundant closing function (safety function)
- Integrated electronic
- Flow- or pressure-controlled function possible
- Connection diagram according ISO 7368
- Bus connection

# Description

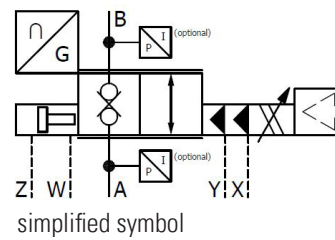
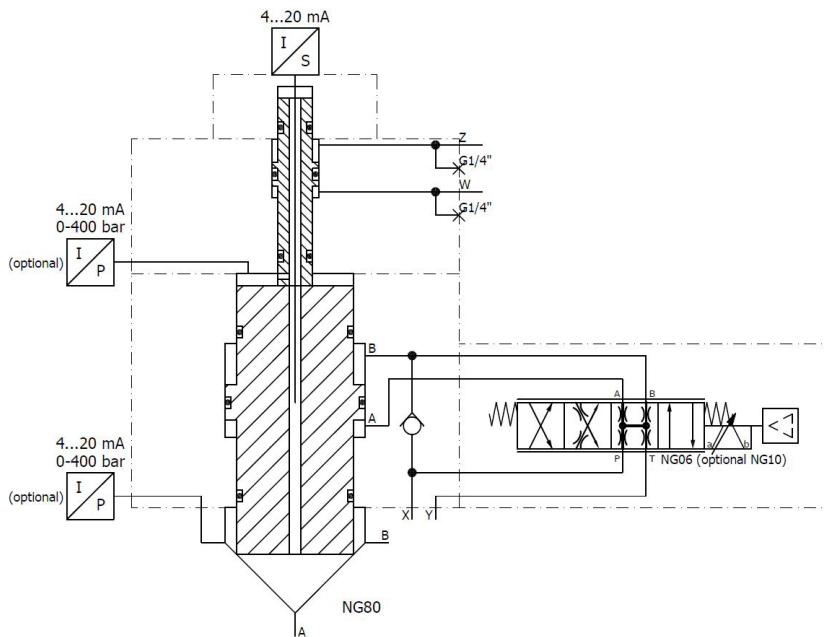


The 2-way servo cartridge valves can be used for flow or pressure control. The required electronics for signal processing and the controller are completely integrated into the valve. The setpoint specification can be fed into the valve via an analog signal or via a fieldbus interface.

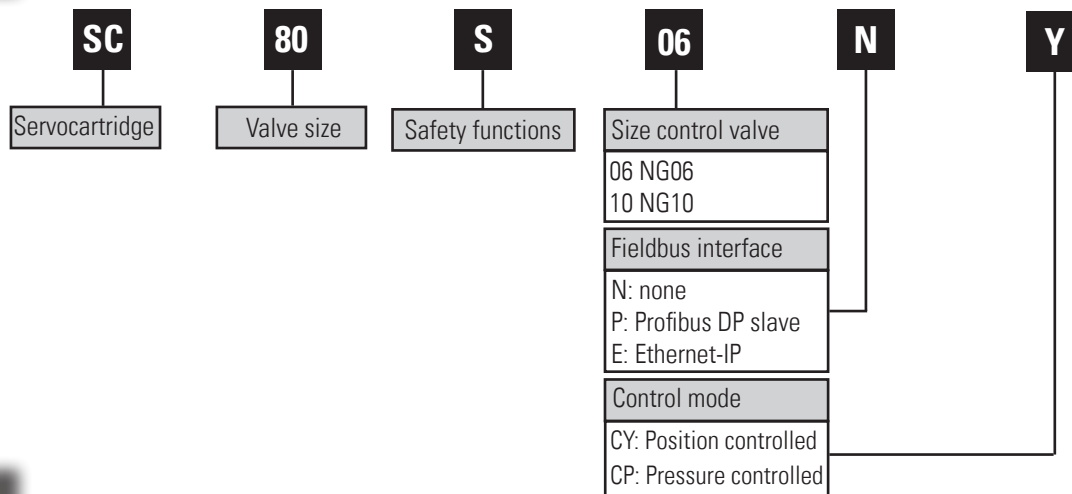
The SC80 valves are equipped with a magnetostrictive displacement transducer. A secondary displacement encoder (LVDT) is located in the control valve. Due to the external control ports Z and W, the closing function of these valves is redundant. If the external control pressure is correctly designed, the safety spool can override the control valve at any time to close the valve.

The built-in valve version for mounting in hydraulic blocks is ideally suited for high flow rates with minimal pressure loss.

# Hydraulic symbol



## Type code



## Technical data

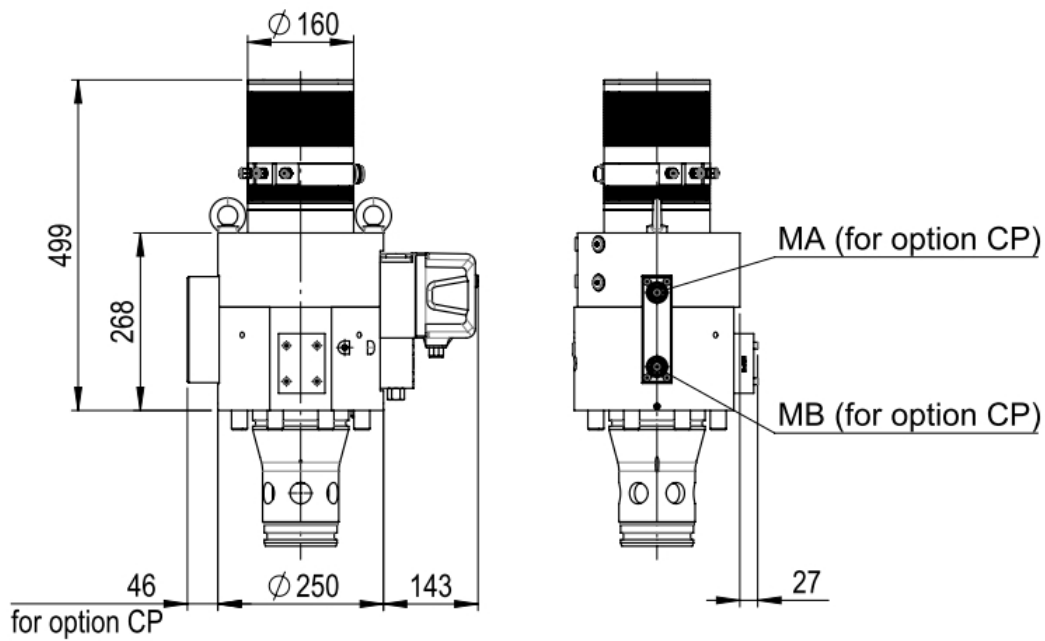
General	
Nominal size [NG]	80
Weight [kg]	112
Size of pilot valve [NG]	6
Assembly position	any
Subplate surface finishing to ISO 4401	Ra 0.4, flatness ratio 0.01 / 100 (ISO 1101)
Storage temperature [°C]	-20 to +80
Ambient temperature [°C]	-20 to +50
Hydraulic (measured with HLP46, Töl = 40°C +/- 5°C)	
Fluid specification	Mineral oil (HL, HLP) according DIN 51524, other fluids please contact Hagenbuch
Fluid temperature [°C]	-20 to 60
Viscosity range [cSt]" / [mm2/s]	permitted 20 to 380, recommended 30 to 80
Permissible cleanliness level	ISO 4406 class 18/16/13 (NAS 1638 class 6-7), recommended 16/14/11 (NAS 1638 class 5)
Maximum operating pressure main stage [bar]	350
Maximum pressure pilot valve supply, port X [bar]	350
Minimum pressure pilot valve supply, port X [bar]	100
Maximum pressure pilot valve drain, port Y [bar]	< 10
Volume pilot stage [cm³]	44.3
Minimum pilot pressure Safety Piston [bar]	70% of pilot pressure X, maximum 350
Safety piston close	external, port Z
Safety piston open	external, port W
Volume Safety Piston [cm³]	75.0
Zero flow pilot valve port X at 100 bar [ml/min]	< 400

## Technical data

<b>Hydraulic (measured with HLP46, Töl = 40°C 1/- 5°C)</b>	
<b>Nominal flow <math>q_{vnom}</math>:</b>	
$\Delta p$ 5 bar [l/min]	4500
$\Delta p$ 10 bar [l/min]	6350
maximum [l/min]	10000
Flow direction	A $\longrightarrow$ B, B $\longrightarrow$ A
Leakage main stage [drops/min]	30
Hystereses (pilot pressure 300 bar, $v=5\%/s$ ) [%]	< 0.02
Sensitivity [%]	< 0.1
Repeatability [% FS]	< 0.01
<b>Measuring system main stage:</b>	
Resolution [-]	infinite
Linearity [% FS]	< 0.2
Repeatability [% FS]	< 0.01
<b>Dynamics</b>	
Step response time pX 200 bar 0-50% [ms]	25
Step response time pX 200 bar 0-90% [ms]	39
Step response time pX 300 bar 0-50% [ms]	22
Step response time pX 300 bar 0-90% [ms]	33
Pilot flow step function pX 200 bar 0-90 % [l/min]	58
Pilot flow step function pX 300 bar 0-90 % [l/min]	68
<b>Frequency response +/- 5% Amplitude, px 300 bar:</b>	
Amplitude -3dB [Hz]	52
Phase - 90° [Hz]	63
<b>Electrical</b>	
Protection classe	IP65 in accordance with EN 60529 (with correctly installed mounted plug-in connectors and with close ethernet socket)
Duty cycle	100% ED
Supply voltage / ripple [VDC]	24 (-15% +20%) / $\leq 0.28pp$
Max input current [A]	4
Pre fusing [A]	6, medium lag
<b>Input signal:</b>	
voltage [V]	0 to 10, ripple < 0.01%, surge free
impedance [M $\Omega$ ]	10
Current [mA]	0(4) to 20
Impedance [ $\Omega$ ]	470
Max differential input signal [V]	12
Enable signal [V]	24 (+/- 30%)
Diagnostic signal [V]	0 to 10
EMC	EN 61000-6-2, EN 61000-6-4
Electrical connection	6 + PE at EN 175201-804
Wire size min [mm <sup>2</sup> ]	1 (AWG 16) common shield
Cable length max [m]	50

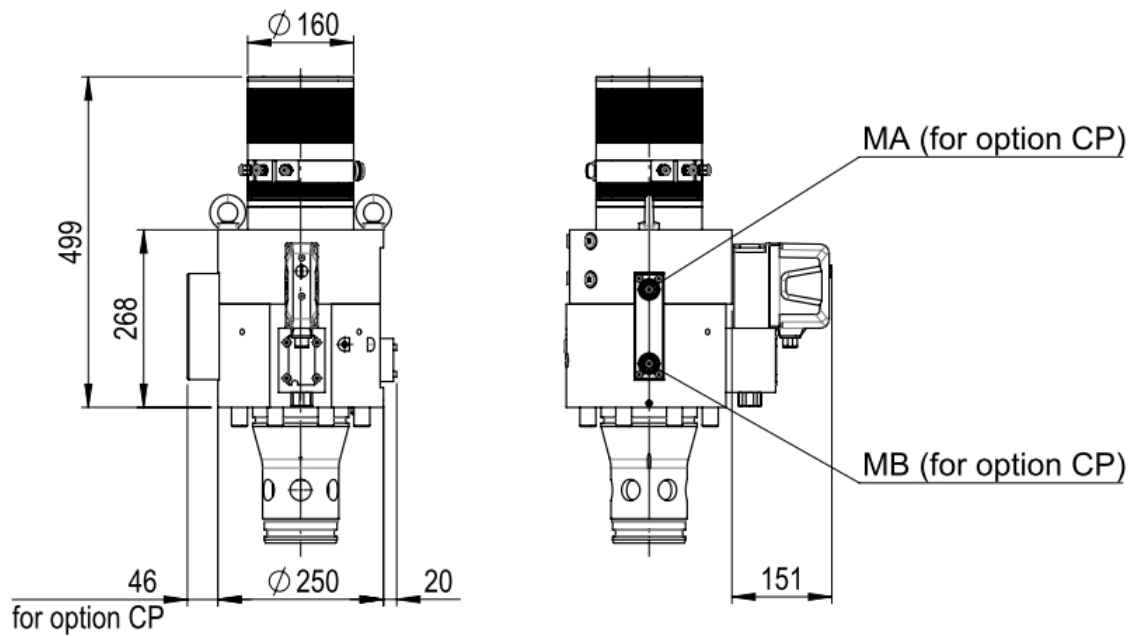
# Installation dimensions

## SC80-S-06



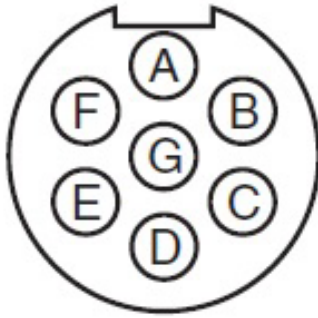
Mounting screws 8 x M24 x 260 Quality 8.8, tightening torque 612 Nm

## SC80-S-10



Mounting screws 8 x M24 x 260 Quality 8.8, tightening torque 612 Nm

## Electric / Controller



- A) +24 VDC (22...30)
- B) 0 VDC
- C) 0 VDC Diagnostic/Monitoring
- D) 0 VDC Command-Signal
- E) +/- 10 VDC Command-Signal
- F) +/- 10 VDC Diagnostic/Monitoring-Signal
- G) PE



## Ethernet-Port

The controller of the Servo-Cartridge can be connected to your computer via an Ethernet connection. The IP-Address (V4) is set to a fixed address which you predefined at the order or to the default address 192.168.168.251. However, of course the address can be modified any time. Connecting the Servo-Cartridge will allow you to use powerful tools for maintenance and parameter configuration. The provided SCSERVICETool software will connect to the controller automatically. The tool then offers functions such as configuring the controller for special applications, using self-diagnostic functions or to switch to modes like openloop. The tool also offers oscilloscope-functions and logging.



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202004/V02/E