

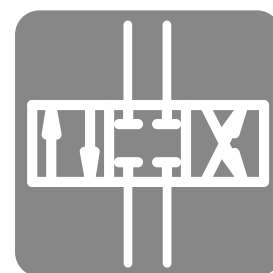
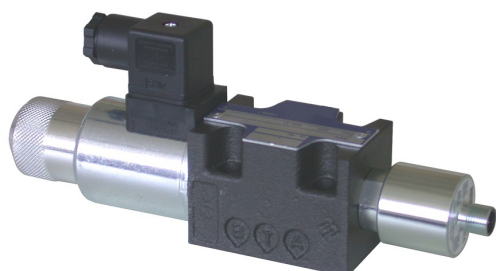
# 4/2- & 4/3-way directional spool valve type SAM, SBM, SCM (size 6)

operating pressure  $p_{max}$

320 bar

volume flow  $V_{max}$

60 L/min



## Product characteristics

Spool valves belong to the group of directional control valves. They control the direction of movement and the speed of single and double-acting hydraulic consumers.

The 4/2 and 4/3 directional spool valves type SAM, SBM, SCM and SAL are available as manifold mounting valves. They are available with nominal size 6 and 10 hole pattern (NG-6, NG-10).

### Features and benefits:

- low pressure loss
- high power density
- directly controlled
- solenoid easily interchangeable
- inductive position monitoring of the neutral position

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## Technical data

### General

type	spool valve
design	manifold mounting valve
weight	1.6 kg
ambient temperature	-30 to +50 °C
mounting position	arbitrary (preferably horizontal)
connection size	hole pattern according to ISO4401-03-02-0-05 (NG06)

### Hydraulic parameters

Hydraulic fluid: mineral oil according to DIN 51524, other media on request

operating pressure	P, A, B : 320 bar T: 160 bar
hydraulic fluid temperature	-25 to +70 °C
viscosity	10-600 mm <sup>2</sup> /s
permissible degree of pollution	max. class 22/19/16 according ISO 4406
filter recommendation	filter retention rate $\beta_{25} > 75$
overlap	see switching symbols

### Actuation

#### Actuation

actuation	voltage	nominal voltage [V]	power consumption	duty cycle	protection class according DIN40050	connection type
electromagnetic	DC	see order information	see order information	continuous operation	IP65 with plug	connector DIN43650-AF2-PG9

## Electrical parameters

### Sensor electronics

power supply $U_B$	24 V, $\pm 10$ %, regulated, residual ripple < 10 %
reverse polarity protection	integrated, max. 60 VDC
current $I_B$	< 50 mA (without external switching load)

### Output port

max. output current $I_S$	< 150 mA
residual voltage of the switch output	< 2.5 V
contact type	break contact / closing switch, plus-switching, overload-proof
min. load resistant	200 $\Omega$

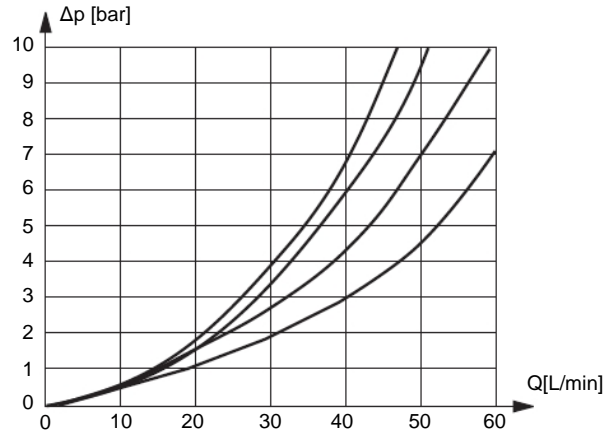
### Electrical connection

sensor plug M12x1, 4 pins

## Characteristic lines

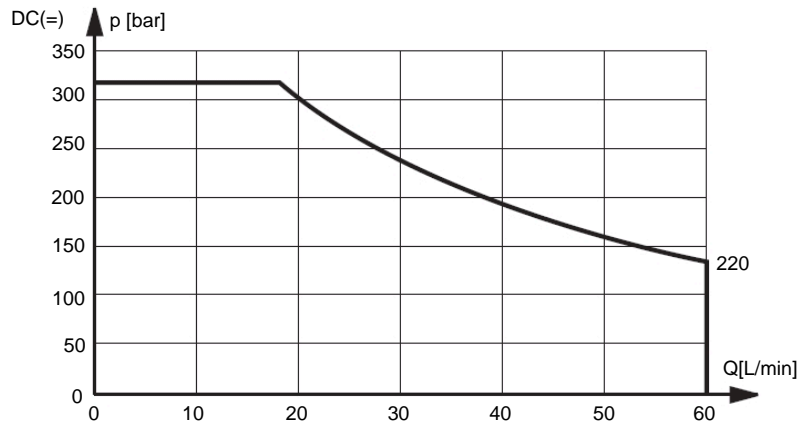
measured at +40 °C temperature of hydraulic fluid, viscosity 46 mm<sup>2</sup>/s, tolerance ±5 %

	flow from:				
	P→A	P→B	A→T	B→T	P→T
	curve				
203	4	-	-	3	-
220	2	2	1	1	-



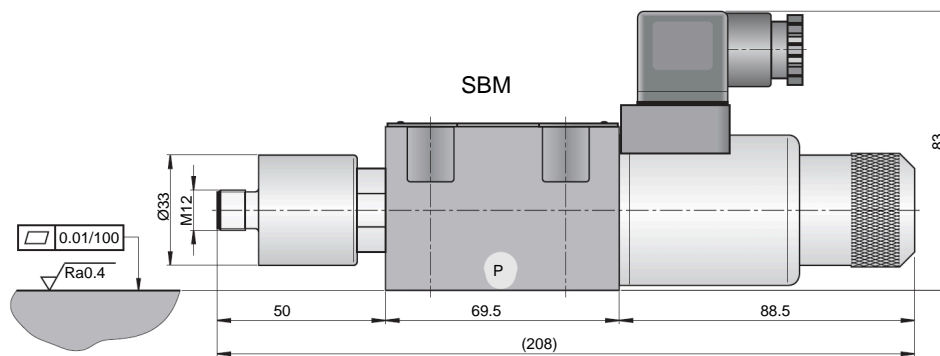
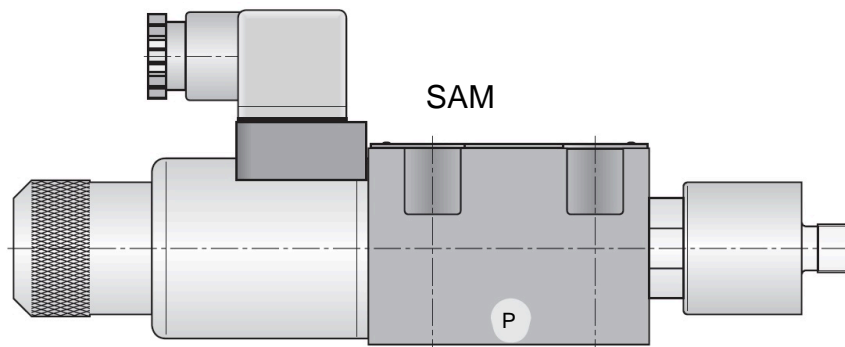
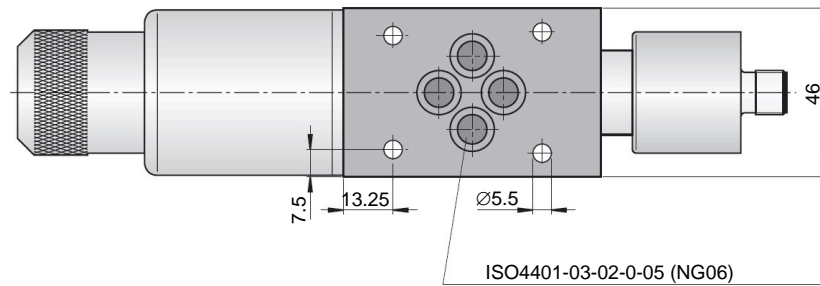
## Switching power limits

The diagrams show the switching power limits of the valves in applications where all 4 ports are in use. If there is flow through the valve in only one direction, the operating limits are modified. The results could thus be less advantageous for individual cases.



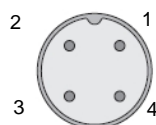
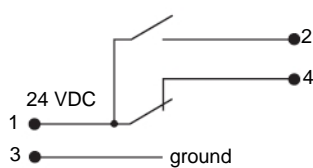
## Dimensions and connections

Dimensions are given in mm.



Four O-rings 9.25 x 1.78 are included in the delivery. Screws of property class 10.9 (6+2 Nm) are recommended, others on request.

## Circuit diagram



pin	connection
1	power supply 24 VDC
2	closing switch +
3	ground
4	break contact +

## Order information

### Type code

<b>SAM</b>	<b>220</b>	<b>PC06</b>	<b>P</b>	<b>GS0973</b>
				special design
			electrical data	P 24 V (DC) 30 W
		size 06		size 6
<b>switching symbols</b>				
			<b>SAM</b>	<b>SBM</b>
			<b>type</b>	<b>overlap</b>
	203			
	220			
<b>type</b>	SAM	solenoid on page A		
	SBM	solenoid on page B		

**HAWE Hydraulik SE**

Einsteinring 17 | 85609 Aschheim/München | Postfach 11 55 | 85605 Aschheim |  
Germany Tel +49 89 379100-1000 | Fax +49 89 379100-91000 | [info@hawe.de](mailto:info@hawe.de) | [www.hawe.com](http://www.hawe.com)