

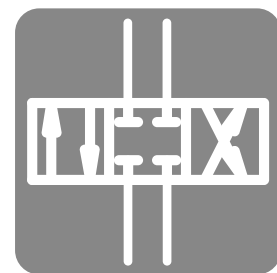
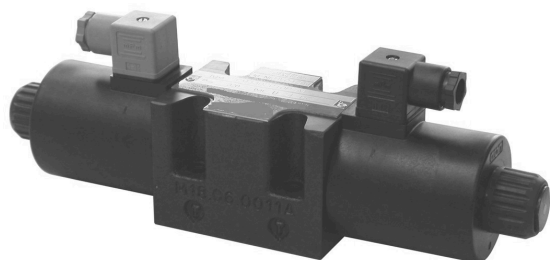
# 4/2- & 4/3-way directional spool valve type SAM, SBM, SCM (size 10)

operating pressure  $p_{\max}$

320 bar

volume flow  $V_{\max}$

100 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

weight	4.0 kg	with 1 DC-solenoid
	5.1 kg	with 2 DC-solenoids
	3.5 kg	with 1 AC-solenoids
	4.3 kg	with 2 AC-solenoids
ambient temperature	-30 to +50 °C	
mounting position	arbitrary (preferably horizontal)	
max. permissible switching frequency	10,800/h	

### Hydraulic parameters

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	

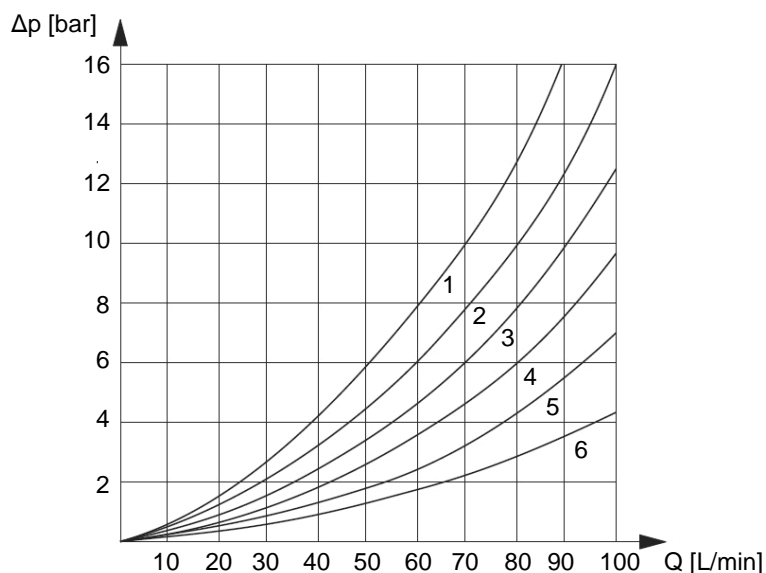
### Actuation

actuation	electromagnetic
voltage	DC; AC see order information
nominal voltage	see order information
power consumption	see order information
duty cycle	continuous operation
protection class according DIN 40050	IP65 with plug
connection type	connector DIN43650-AF2-PG9

## Characteristic lines

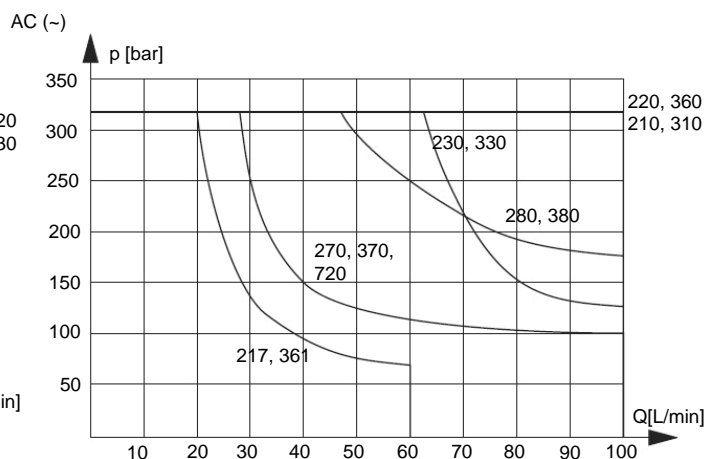
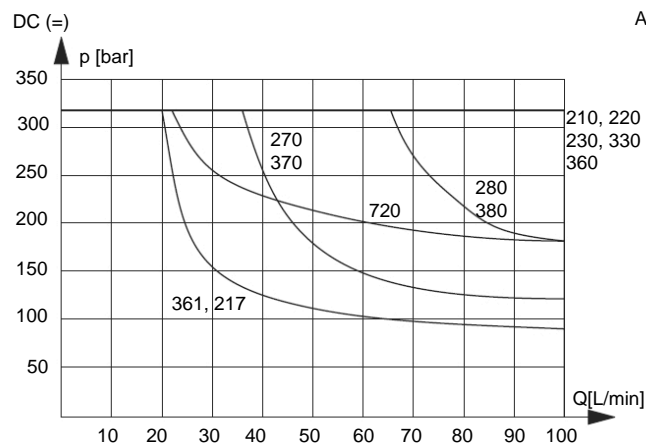
measured at 50 °C temperature of hydraulic fluid, viscosity 35 mm<sup>2</sup>/s, tolerance ±5 %

symbol	flow from:				
	P→A	P→B	A→T	B→T	P→T
210 310	3	3	6	6	3
217	3	3			
360	3	3	5	5	
720 220	2	2	4	5	
361		4	5		
230 330	2	2	5	5	
270 370	3	3	4	4	1
280 380	2	2	6	6	



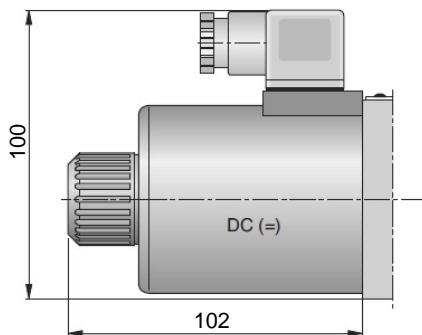
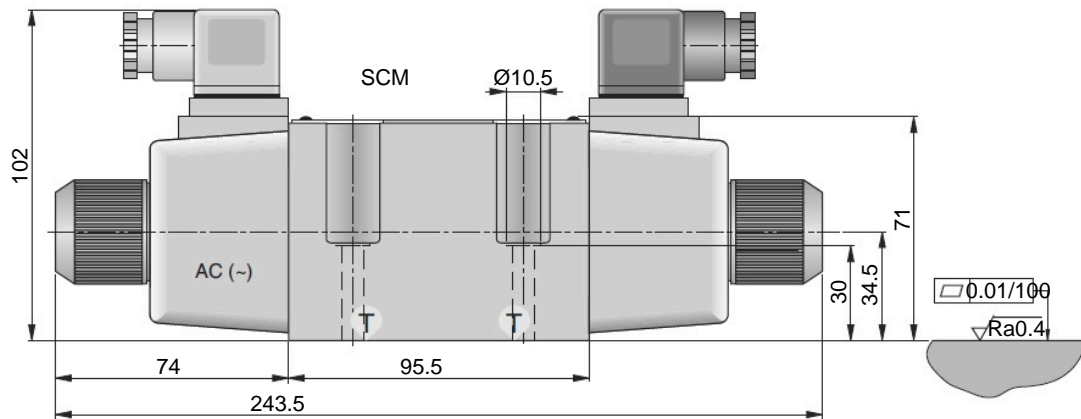
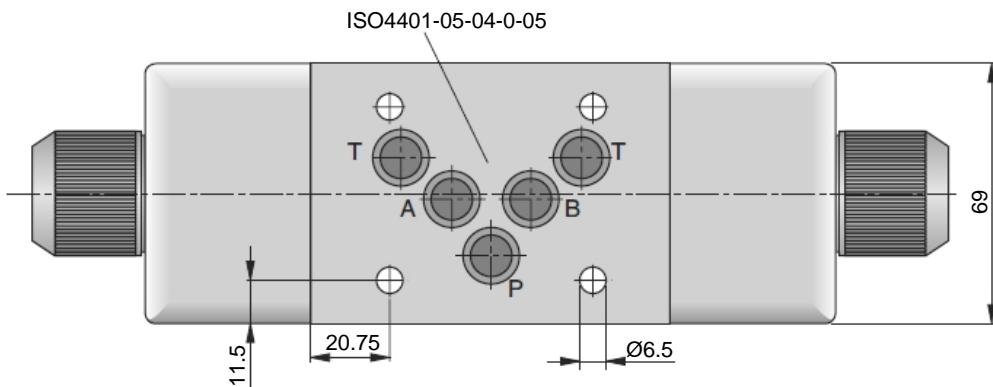
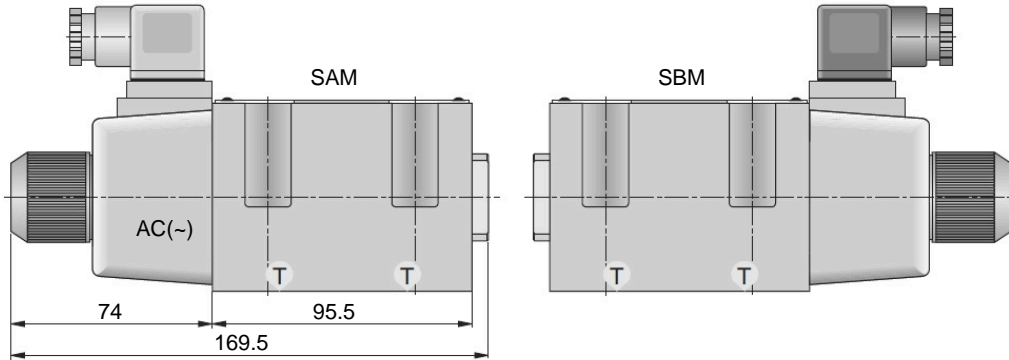
### Switching power limits

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

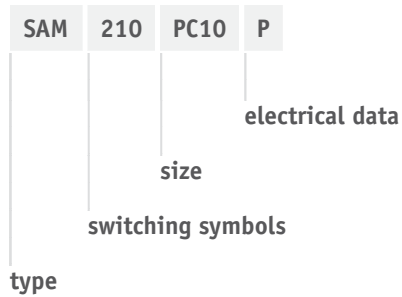
Dimensions are given in mm.



Four O-rings 12.42 x 1.78 are included in the delivery. Recommended are screws of property class 10.9 (14±10 % Nm), others on request.

## Order information

### Type code



### type

SAM	solenoid on side A
SBM	solenoid on side B
SCM	2 solenoids

### switching symbols

	SAM	overlap	SBM	overlap		SCM	overlap
210					220		
217					310		
220					330		
230					360		
270					361		
280					370		
720					380		

**size**

PC10 | size 10

**electrical data**

N	12 V (DC) 45 W
P	24 V (DC) 45 W
A	115 V 50/60 Hz (AC) switching power: 475 VA holding capacity: 113 VA
B	230 V 50/60 Hz (AC) switching power: 480 VA holding capacity: 110 VA

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