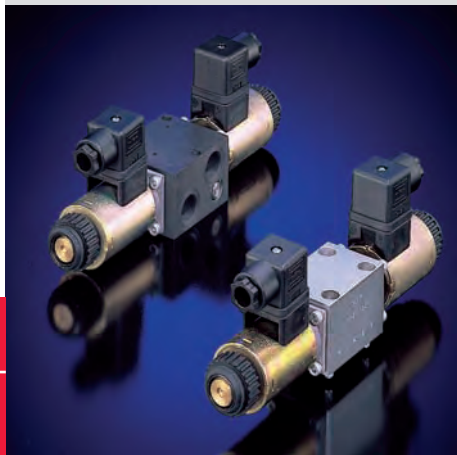


Directional spool valve type SW, SWP, and NSWP

These directional spool valves are designed as individual valves either for pipe connection (type SW) or for manifold mounting (type SWP, NSWP) or as valve bank (type SWP, NSWP). Actuation is via directly acting pressure resistant single stroke solenoids (wet armature); type NSWP may feature twin solenoids enabling two speed rates or prop. solenoids which may be combined also with a stroke limitation.

Versions with ATEX-approval are available as well.

The individual manifold mounting valves can be combined with sub-plates enabling pipe connection plus an optional pressure limiting valve. The valve sections type NSWP can be combined with various options either on the pump side e.g. check valves, throttles, or orifices plus orifices or restrictor check valves on the consumer side.



Nomenclature:	Directional spool valve
Design:	Individual valve for pipe connection Individual manifold mounting valve Valve bank with sub-plates Combination with hydraulic power packs
Actuation:	Solenoid
P_{max}:	315 bar
Q_{max}:	12 ... 25 lpm

Basic types and general parameters

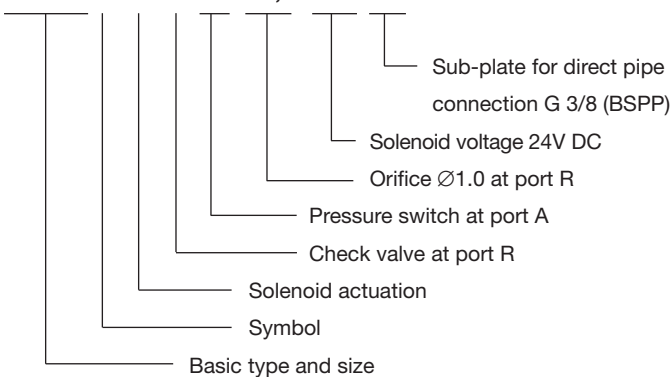
Basic type and size

Individual valve

Pipe connection	Manifold mounting ¹⁾	Flow Q _{max} (lpm)	Oper. pressure p _{max} (bar)	Tapped ports ²⁾
SW 1	SWP 1	12	315	G 1/4
SW 2	SWP 2	25	315	G 3/8, G 1/4
	NSWP 2	25	315	NG 6

Individual valve

NSWP 2 G / M / R / 50 / B1,0 - G24 - 3/8



Sub-plate for pipe connection

Basic type	Brief description	Symbol
- 1/4 S(R)	Sub-plate with pressure limiting valve ³⁾ Ports G 1/4	
- 3/8	Sub-plate ⁴⁾ Ports G 3/8	

G = BSPP

1) Individual manifold mounting valves or valve bank with sub-plates
2) Only with type SW
3) Only with type SWP 1
4) Only with type NSWP and SWP 2

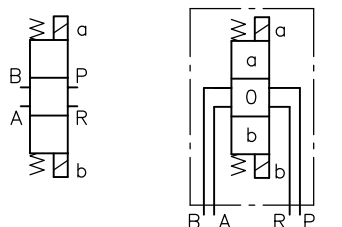
Additional versions

- Valve banks as combination of several valve sections connected via the sub-plates (type SWP 1)
- Valve bank type BA as combination of several valve sections with connection hole pattern NG6 (type NSWP 2)

Symbols

Basic symbols

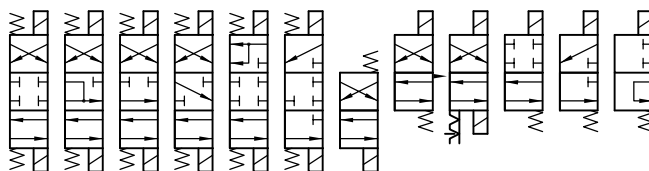
Individual valve SW



Symbol

May be connected either in parallel or in series within a valve bank

G D E O C⁵⁾ N B W K Q R U⁵⁾

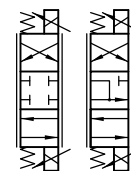
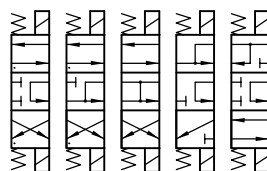


Only connected in series within a valve bank ⁵⁾

Spool valves suited for prop. actuation

L F H S Y

G D



⁵⁾ Only size 1

Additional versions (valve sections)

- Sub-plates without/with pressure limiting valve, manually or tool adjustable (type SWP 1)
- Individual valve with check valve or orifice in port P and/or check valve in port R (type SWP)
- Individual valve with 6/2-way function
- Type NSWP 2 with pressure switch type DG 3 or pressure gauge
- Type NSWP2 with check valve and/or orifice in port P and/or orifice/restrictor check valve at consumer side A, B as well as return pressure stop in R (see also "Additional information")

Directional spool valves

Actuation solenoid (NSWP 2)

- On/off solenoid ($p_{max} = 315$ bar)
- Solenoid with detent
- Prop. solenoid

- Solenoid with stroke limitation (limiting Q_{max})
- Double solenoid (two speed rates)
- Solenoid conforming ATEX ($p_{max} = 210$ bar)

Solenoid voltage

- 12V DC, 24V DC, 230V AC 50/60 Hz
- Other voltage on request

- Plugs with LED, improving EMC or with economy circuit (see also "Additional informations")

Order examples

SWP1 G - 1/4SR - G24 - 150

Indiv. manifold mounting directional spool valve, size 1, flow pattern G, mounted on indiv. connection block with manually adjustable pressure limiting valve (factory set to 150 bar) and tapped ports G 1/4 (BSPP), solenoid voltage 24V DC

SW1 G - G24

Indiv. directional spool valve for pipe connection, size 1, flow pattern G, solenoid voltage 24V DC

Example circuit for valve banks

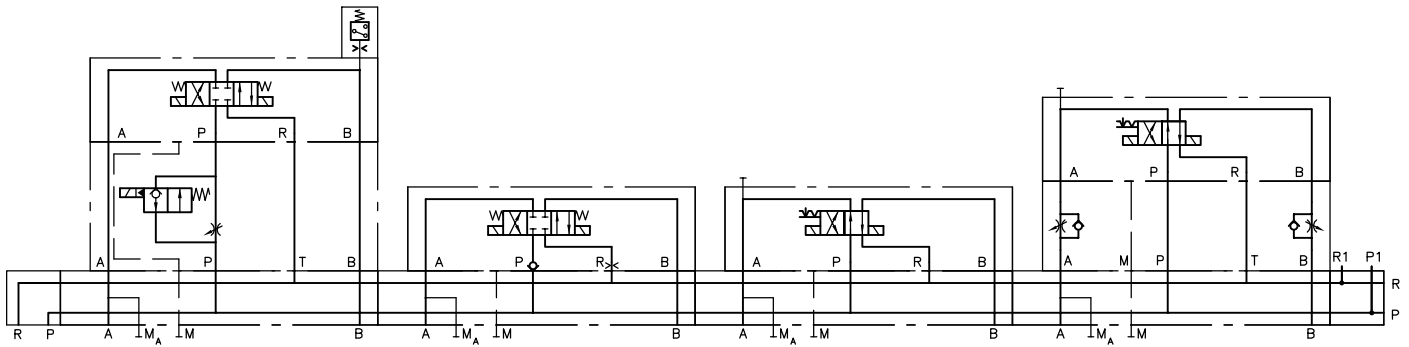
BA2-A5 -NSWP2G/M/03/NZP16V/PQ20/0

-NSWP2G/M/R/B1,0

-NSWP2K/M/20/0

-NSWP2K/M/20/NZP16Q33/0

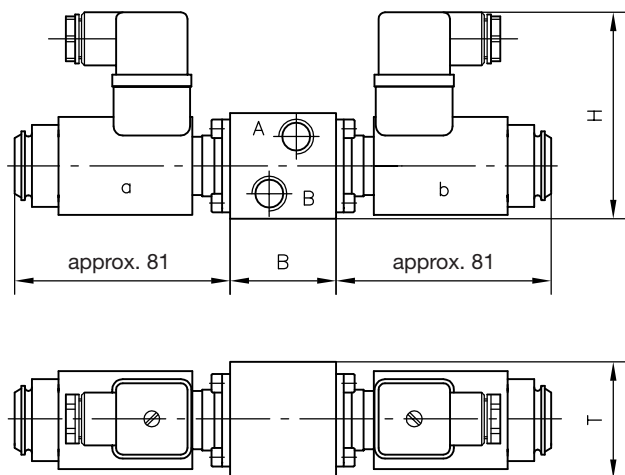
-2-L24



Dimensions

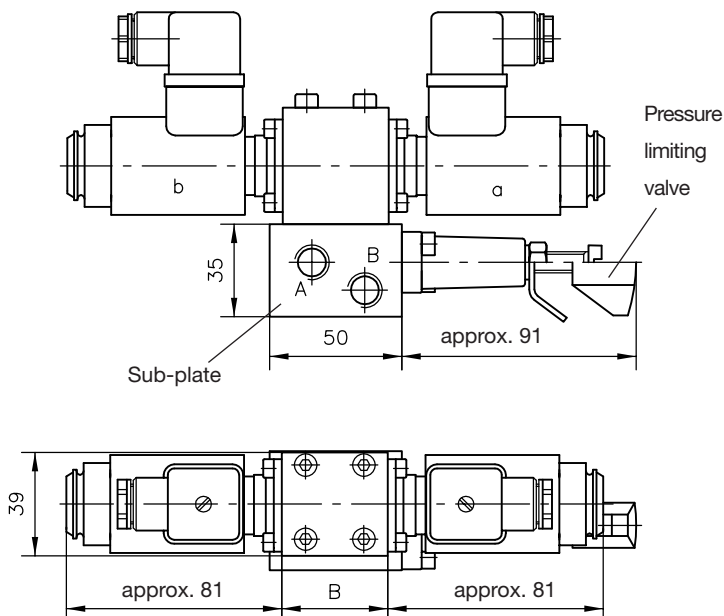
Type SW

Indiv. valve section, see order example



Type SWP, NSWP 2

Manifold mounting valve, see order example



All dimensions in mm, subject to change without notice!

Basic type	H	B	T	m (kg)	
				Indiv. directional spool valve	Sub-plate
SW1, SWP1	77...90	40	40...44	1.1...1.5	0.6...0.7
SW2, SWP2, NSWP2	78...82.5	60...70	40...45	1.1...2.4	approx. 0.8

Additional information

- Directional valve type SW.1 D 7450
- Directional valve type SW.2, NSWP 2 D 7451, D 7451 N
- Plugs with LED etc. D 7163
- Plugs with economy circuit D 7813, D 7833
- Pressure switches type DG3., DG5.E D 5440, D 5440 E/1
- Valve bank type BA D 7788
- Intermediate plate type NZP D 7788 Z
- 6/2-way directional valve Sk 7951-J-6/2

- See also "Turn-key solutions out of the modular system"
- See also section "Devices for special applications" (Industrial trucks)
- See also section "Devices for special applications" (Devices for explosion hazardous areas, conforming ATEX; Prop. valves)

For page and section of the devices additionally listed, see type index