

Clamping module type NSMD

Clamping modules combine a directional spool valve, pressure reducing valve and pressure switch.

The clamping module type NSMD has the standard connection pattern nominal size NG 6. It controls power-driven clamping devices, e.g. hydraulically-driven hollow and solid clamping cylinders for automatic lathes. It regulates the clamping pressure and monitors it. The clamping pressure is adjusted at the downstream pressure switch using a manual, mechanical or electrically-proportional adjustment device. A special safety circuit monitors the switching position of the valve.

Throttling options in the spool end position and/or rapid and creeping movements are possible as an additional function for one or both consumer ports. The clamping module type NSMD can be combined with other valves as a valve bank type BA to form a valve block.

Features and benefits:

- Directional valve, pressure-reducing valve and pressure switch in one device
- Adjustment of pressure-reducing valve and pressure switch with an adjustment device (manual or electro-proportional)
- The controlled pressure is picked up directly at the consumer port
- Valve with connection pattern in accordance with DIN 24340-A6

Intended applications:

- Machine tools (cutting)
- Machine tools (non-cutting) - forming and cutting
- Handling and mounting technology (industrial robots, etc.)



Nomenclature:	Valve combination consisting of: <ul style="list-style-type: none"> ▪ Directional spool valve (4/3-, 4/2-way function) ▪ Pressure reducing valve with tracked pressure switch
Design:	Individual valve for manifold mounting (Valve banks with sub-plates type BA are available)
Actuation:	Solenoid
p_{max}:	120 bar
Q_{max}:	25 l/min

Design and order coding example

NSMD 2 D1 /MDA /GRK - G24

Solenoid voltage 12V DC, 24V DC, 110V AC, 230V AC
Solenoids with various plug versions

Clamping pressure adjustment, pressure range, switching flow rate

- Slotted head screw + hexagon nut
- Wing screw + wing nut
- Lockable turning handle
- Electro-proportional adjustment with/without additional function monitoring

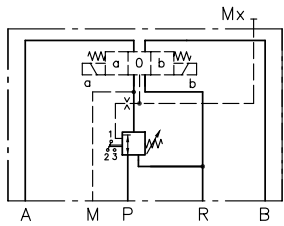
Actuation

- Function**
- With pressure switch
 - With orifice (flow limitation in accumulator mode)

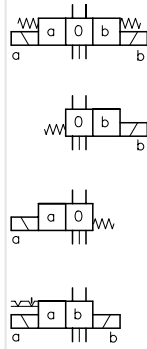
Basic type, size Type NSMD size 2 with connection hole pattern conf. NG 6

Function

Basic symbols



D, E, G, D1, E1, G1



Symbols

D



D1



B, W, K



E



E1



B1, W1, K1



G



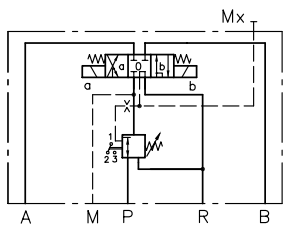
G1



Additional functions:

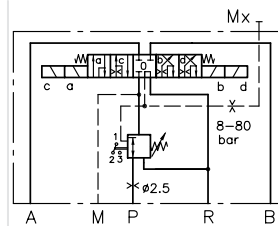
G1/MD

Pressure reducing function and throttle in switching positions a and b



G/MM6

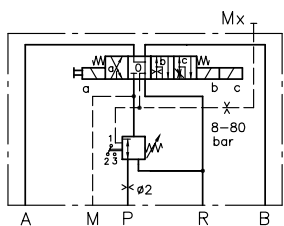
Rapid traverse and creeping in both directions



G/MMDA7

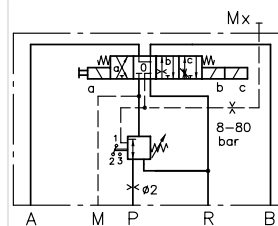
Rapid traverse and creeping in one direction featuring also a limitation for rapid traverse (switching position a, c) rapid traverse in opposing direction (switching position b)

Switching position a, speed limitation is possible by means of a throttle with pressure reduction and pressure monitoring



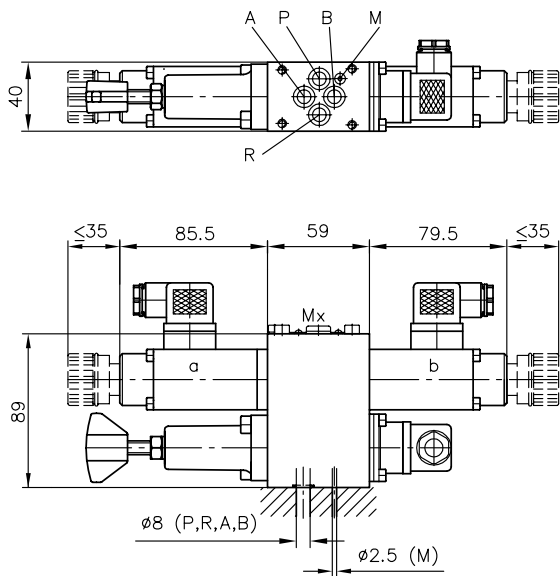
G/MMA7

Switching position with fixed rapid traverse speed without pressure reduction and pressure monitoring.

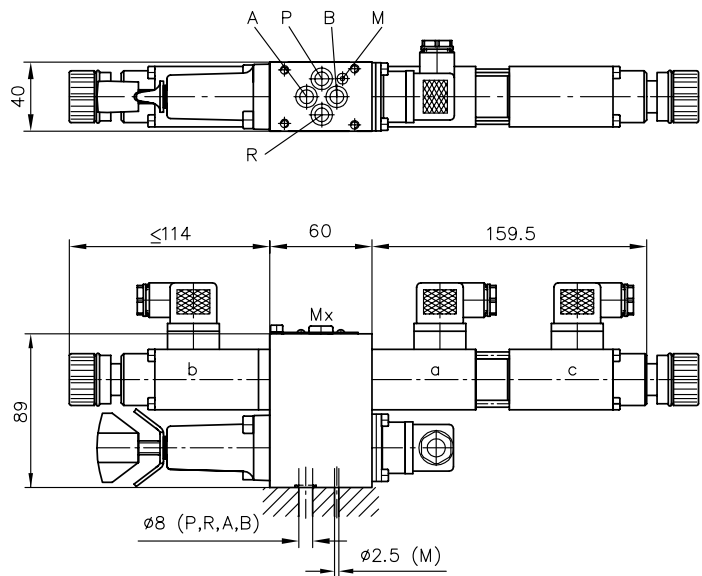


General parameters and dimensions

NSMD2 K...



NSMD2 G...



	Q_{max} [lpm]	p_{max} [bar]	Clamping pressure range [bar]	Trigger flow [lpm]	Connection hole pattern ¹⁾	Dimensions [mm]			m [kg]	Additional function
						H	B	T		
NSMD2	25	120	H: 2 ... 17 A: 4 ... 36 G: 5 ... 50 B: 6 ... 60 E: 8 ... 80	1: 1 ... 3 -: 2 ... 4 3: 3 ... 5 4: 4 ... 6 5: 5 ... 7 6: 6 ... 8 7: 7 ... 9	Hole pattern conf. DIN 24340- A6	see illustration			2.2 ... 3.8	+ 0.6 ... 1.1

1) Mx port: G 1/8

2) Depending on circuit symbol and actuation type

Circuit examples:

NSMD2K/M/GDK/B2.5-G24

Clamping module type NSMD size 2 with standard connection diagram in accordance with DIN 24340-A6, circuit symbol K, detented version, clamping pressure range G, 5-50 bar and min. switching flow rate 2-4 lpm. Clamping pressure adjustment with a tracked pressure switch is actuated using a wing bolt and wing nut.

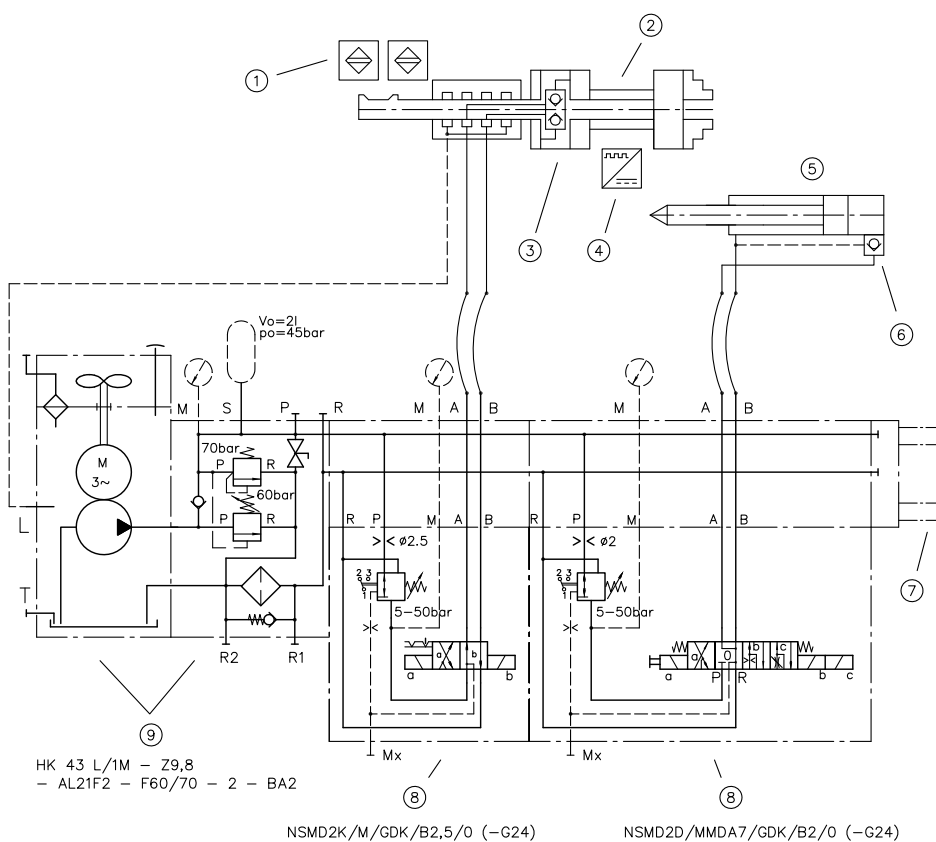
A 2.5 mm \varnothing orifice is present in the P gallery, 24V DC solenoid voltage.

NSMD2G1/MD/E4VK/B1-G12

Clamping module type NSMD size 2 with standard connection diagram, in accordance with DIN 24340-A6, circuit symbol G1 with pressure monitoring at port A, adjustable throttle position for switching position a and b. Valve for clamping pressure range E, 8-80 bar and switching flow rate 4-6 lpm. Clamping pressure adjustment with a tracked pressure switch is actuated using a self-locking turn knob. A 1 mm \varnothing orifice is present in the P gallery, 12V DC solenoid voltage.

Circuit example:

HK 43L/1M-Z 9,8-AL 21F2-F60/70-2-BA 2 - NSMD2K/M/GDK/B2,5/0
- NSMD2D/MMDA7/GDK/B2/0-G24



- 1 End position control
- 2 Clamping device
- 3 Releasable double check valve
- 4 Stand-still controller
- 5 Tailstock spindle
- 6 Releasable check valve
- 7 End plate coding 11
- 8 Clamping module with sub-plate
- 9 Compact hydraulic power pack with connection block

Associated technical data sheets:

- [Clamping module type NSMD: D 7787](#)

Products:

- [Directional spool valve type SW: D 7451](#)
- [Directional seated valve type NBVP 16: D 7765 N](#)

Plates:

- [Valve bank \(nominal size 6\) type BA: D 7788](#)
- [Intermediate plate type NZP: D 7788 Z](#)

Male connectors:

- [Line connector type MSD and others: D 7163](#)
- [With economy circuit: D 7813, D 7833](#)