2/2 Hand Operated Directional Control Valves Poppet Type

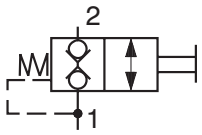
SD1M-A2/S

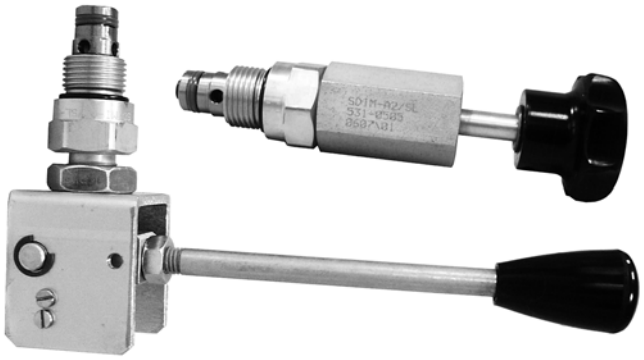
3/4-16 UNF • p_{max} 250 bar (3626 PSI) • Q_{max} 20 L/min (5.3 GPM)

HA 4051
7/2012

Replaces
HA 4060 10/2007

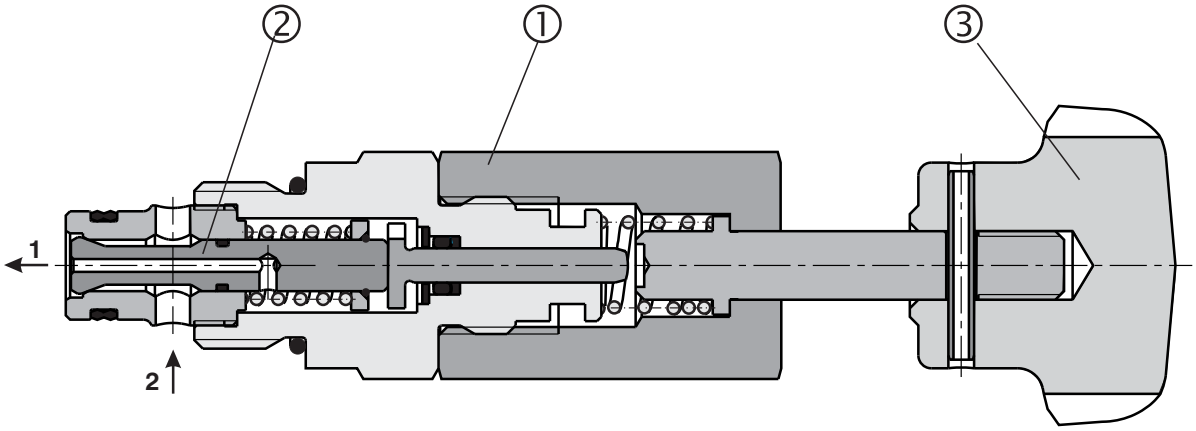
- ❑ **Poppet design - leakfree closure**
- ❑ **Simple design**
- ❑ **2 models**





Functional Description

The 2/2 poppet type directional control valves are designed to check and open flow of the hydraulic fluid. Additionally, they can also provide flow throttling.
The valve consists of the housing (1), the poppet (2) and the actuating section (3).
Opening and closing of the valve is handled by a poppet. The poppet is pushed onto the seat by a spring, thus providing leakfree closure of the valve. The poppet can be operated by a push hand knob or a hand lever. The model with the hand knob (3) has 2 operating positions. After releasing the hand knob, the spring returns the valve into its closed position. The model with a hand lever in fact also has only two operating positions, but the hand lever can be set to 3. position. These are as follows:
Position **0** , middle hand lever position - the valve is closed by means of the return spring.
Position **I.** opens the valve against the return spring.
Position **II.** actuates a contact (with the model with micro switch), e.g. in order to turn on the pump motor by means of a switching relay. With the model without microswitch, this position also exists, but it does not have any function.
Caution! The preferential flow direction is 2 → 1 because of smaller operating forces.
The basic surface treatment of the valve is zinc coating.



Ordering Code

SD1M-A2/SL □ □

2 Way Poppet Type Valve
Hand Operated - 3/4-16 UNF

Description
Normally closed

Seals
no designation Standard (NBR)
V Viton (FPM)

Model
1 with hand knob
2 with hand lever without microswitch
3 with hand lever with microswitch

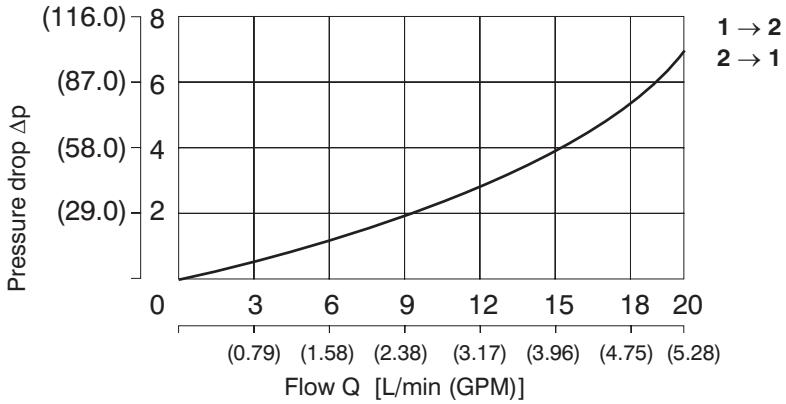
Technical Data

Valve size		A2
Nominal size	mm (US)	3/4-16 UNF-2A (according to ISO 17209)
Maximum flow	L/min (GPM)	20 (5.28)
Max. operating pressure	bar (PSI)	250 (3625.9)
Pressure drop	bar (PSI)	see Δp characteristics
Hydraulic fluid		Hydraulic oils of power classes (HL, HLP) to DIN 51524
Fluid temperature range - NBR	°C (°F)	-30 ... +100 (-22... +212)
Fluid temperature range - Viton	°C (°F)	-20 ... +120 (-4 ... +248)
Viscosity range	mm^2/s (SUS)	10 ... 500 (49 ... 2450)
Maximum degree of fluid contamination		Class 21/18/15 to ISO 4406
Weight - model 1 model 2 model 3	kg (lbs)	0.274 (0.604) 0.381 (0.840) 0.383 (0.844)
Service life	cycles	10^6
Mounting position		unrestricted
Valve body (data sheet HA 0018)		SB-A2
Microswitch		D2SW-3D
Enclosure type of microswitch to EN 60529		IP 67
Microswitch data		2A - 250 V ~ 0,1A - 30 V =

Δp-Q Characteristics

Measured at ν = 32 mm^2/s (156 SUS)

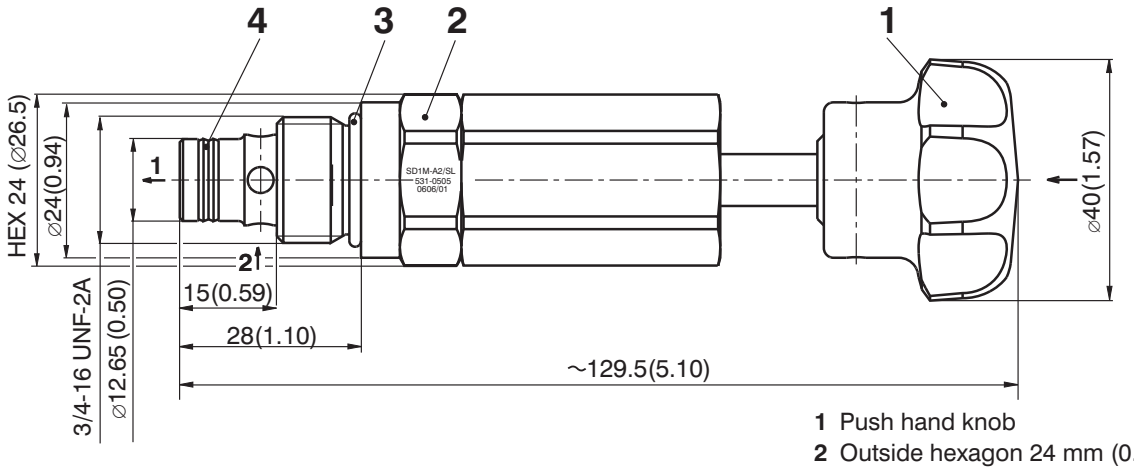
Pressure drop Δp related to flow rate.



Valve Dimensions

Dimensions in millimeters (inches)

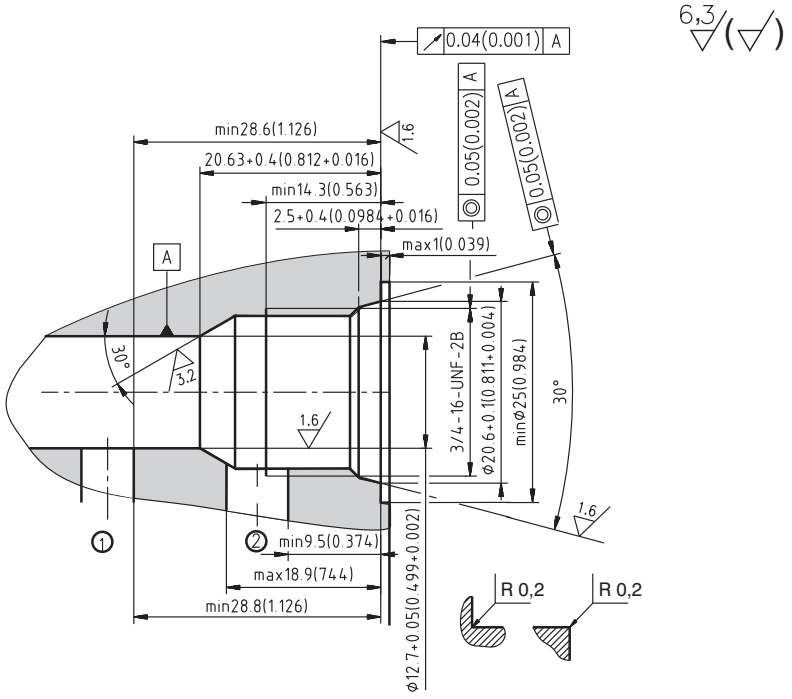
Typ: SD1M-A2/SL1



1 Push hand knob
2 Outside hexagon 24 mm (0.94 inch)
Tightening torque 30 Nm (22.1 lbs)
3 Seal: O-ring 17 x 1,8
(supplied with valve)
4 Seal:
Dualseal 10,3 x 12,7 x 3,1
(supplied with valve)

Cavity

Dimensions in millimeters (inches)



Spare Parts

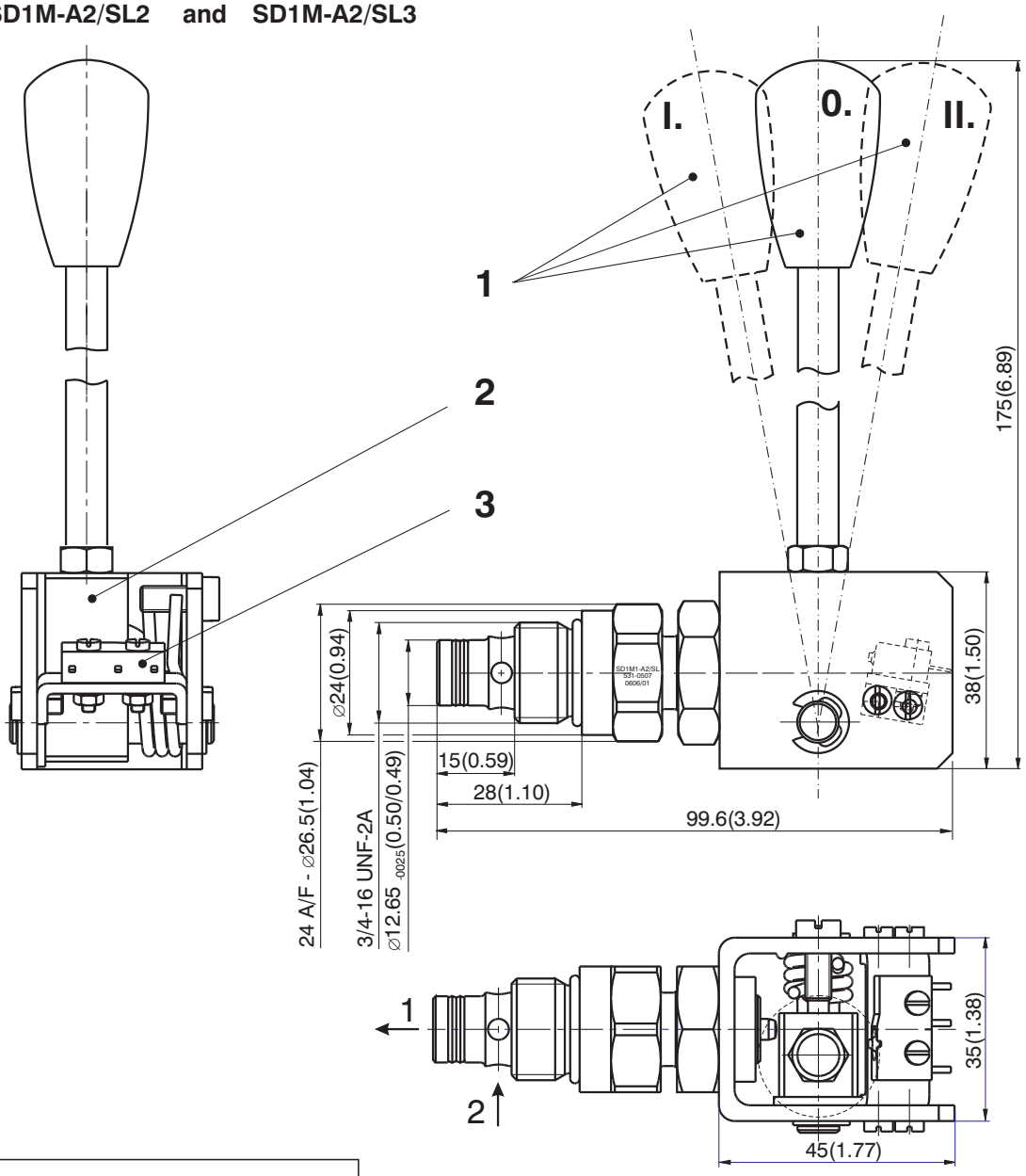
Seal kit

Type	Dimensions, quantity		Ordering number
	O-Ring	Dualseal - PU	
Standard - NBR	17 x 1,8 (1ks)	10,3 x 12,7 x 3,1 (1ks)	22752500
Viton	17,17x1,78 (1ks)	10,3 x 12,7 x 3,1 (1ks)	22752600

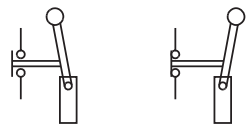
Valve Dimensions

Dimensions in millimeters (inches)

Typ: SD1M-A2/SL2 and SD1M-A2/SL3



Electric circuit



Position 0, I. Position II.

1 Hand lever
- **0** middle arrested position
- **I.** first position - opens the valve
- **II.** second position - closes the contact of the microswitch

2 Segment of the hand lever

3 Microswitch -only with SD1M-A2/SL3

Caution!

- The packing foil is recyclable.
- The technical information regarding the product presented in this catalogue is for descriptive purposes only. It should not be construed in any case as a guaranteed representation of the product properties in the sense of the law.

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