

Product Data Sheet

SD 4501-2E01

April 2009

Damcos® Solenoid operated directional control valves



Damcos®

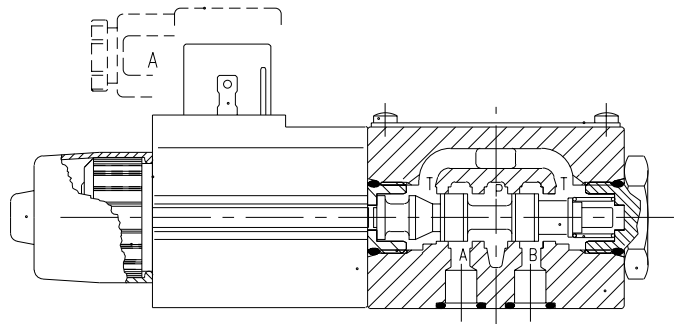

EMERSON™
Process Management

Damcos® Solenoid valve

General description and application advantages

Basically, these solenoid operated directional control valves are for directing and stopping flow at any point in a hydraulic system.

- Efficient control of greater hydraulic powers without increasing solenoid power consumption.
- installed cost and space savings from higher power/ weight-and-size ratios.
- Reduced internal leakage reduces power losses, increases system efficiency: the result of improved manufacture of spools and bores.
- Installation flexibility resulting from choice of numerous combinations of solenoid connectors and locations.
- Multi-fluid capability without need to change seals.
- Higher sustained machine productivity and higher up-time because of proven fatigue life and endurance, tested over 20 million cycles.



Construction of a typical single solenoid model.

Versions

Type TA/TC:

4-way, 2-position directional valve, with one solenoid; spool position at rest is obtained with a return spring.

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Performance ratings

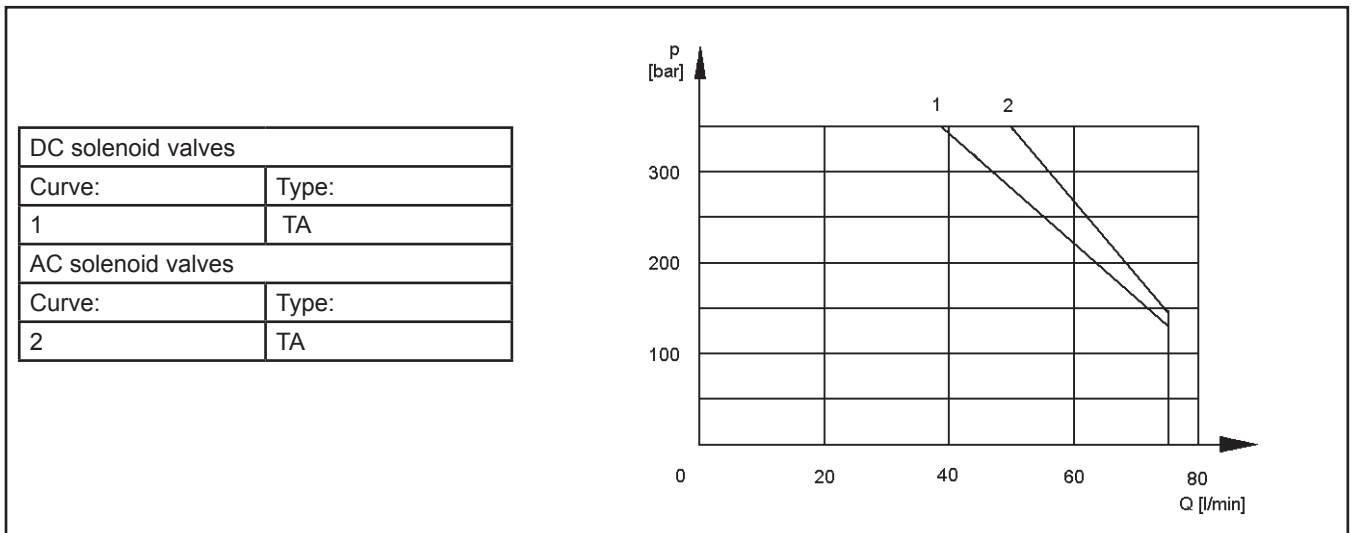
(Working with mineral oil of viscosity of 36 cSt at 50°C)

Max. working pressure	
Ports P A B	350 bar
Port T	140 bar
Max. flow rate	
From port P to A or B	75 l/min.
From port A or B to T	85 l/min.
Ambient temperature range:	-20°C to +60°C
Fluid temperature range:	-20°C to +70°C
Fluid viscosity range:	2,8 to 380 cSt
Recommended filtration:	≤ 25 µm absolute
Burst pressure:	680 bar
Mass	1.5 kg

Operating limits

The curves define the flow rate operating fields according to the solenoid valve pressure with DC and AC solenoids. The values have been obtained with

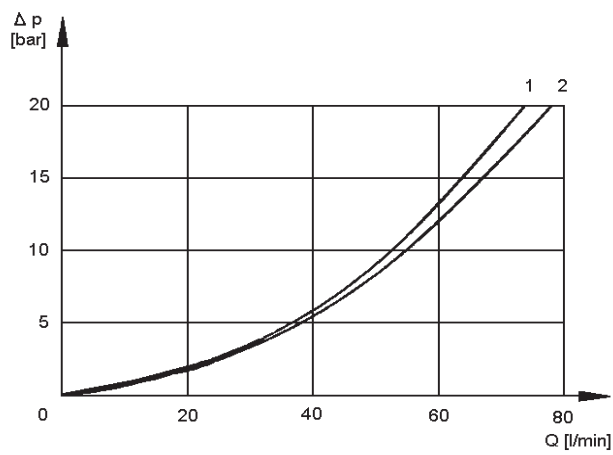
36 cSt, temperature 50° C, filtration 25µm and with solenoids at rated temperature and supplied with voltage equal to 90% of the nominal voltage.



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Pressure drops Δp -Q

Spool type:	Spool position:	Connections:			
		P→A	P→B	A→T	B→T
		Curves on the graph:			
TA	De-energized Energized	1	1	2	2



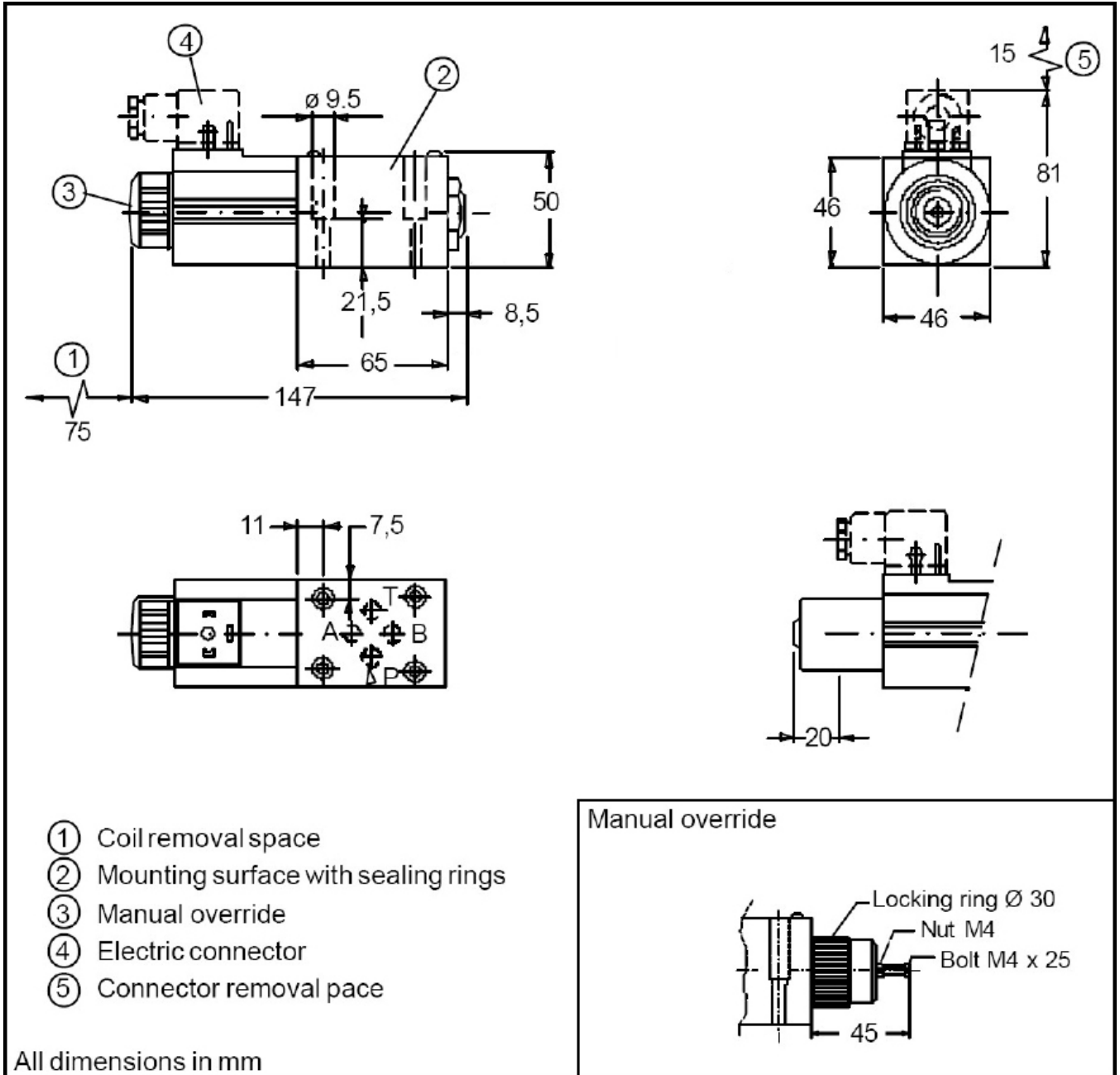
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Dimensions



Optional

- Manual override. It is used when mechanical blocking is required in case of service or electrical failure.

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Mounting interface

ISO 4401 size 03
ANSI/B93.7M size D03
CETOP RP65H size 3
DIN 24340 NG6
IEC 144 - IP65

Electrical specifications

Supply voltage fluctuation: +5% - 10% Vnom
Max. switch on frequency: 10.000 ins/hr
Duty cycle: 100%
Electromagnetic compatibility (EMC):
- Emissions: EN 50081-1
- Immunities: EN 50082-2

Low voltage (in compliance with): 73/23/CEE
96/68/CEE

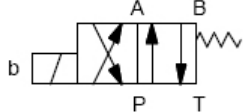
Class of protection acc. to IEC 144:

- Atmospheric agents: IP 65
- Coil insulation: Class H
- Impregnation: Class F

Nominal voltage and frequency		Power consumption at inrush	Power consumption at holding	Consumed current	Power
V	HZ	VA (± 5%)		A (± 5%)	W (± 5%)
220	50	176	50.6	-	-
220	60	198	61.6	-	-

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Ordering

Coil rating:	DMS order no.:	Type:	Symbol:
220 V 50 Hz - 230 V 50 Hz - 240 V 60 Hz	160L8015	MD1D-TA/59N-A/DMS	

Accessories

Order no.:	Type:	Description:
160L8020	C/EM47-50/R/10	Manual override

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