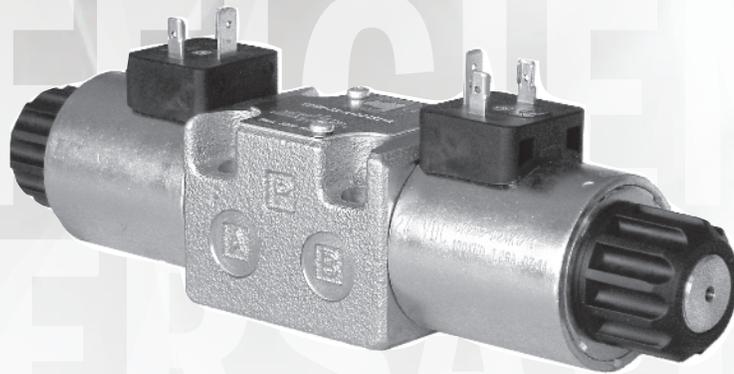




CONTINENTAL HYDRAULICS

# VS6M

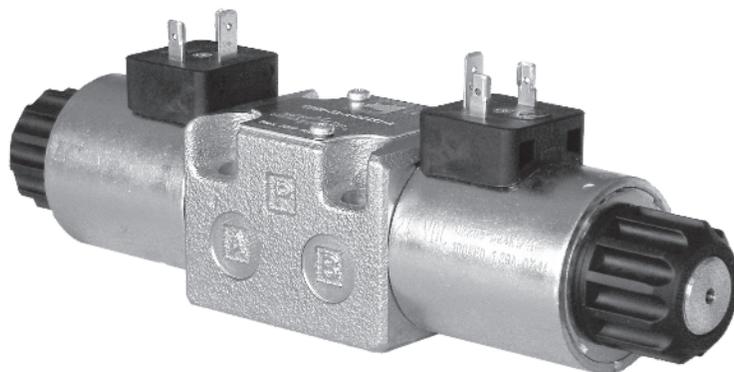
SOLENOID OPERATED DIRECTIONAL VALVES



VS6M - SOLENOID OPERATED DIRECTIONAL VALVES

# POWERFUL

## VS6M SOLENOID OPERATED DIRECTIONAL VALVES



### DESCRIPTION

These valves are supplied with a ZINC-NICKEL PLATING making them the perfect choice for mobile and environmental applications that require better protection.

Direct acting, subplate mounted directional control valve, with mounting surface according to NFPA D03 ISO 4401-03. The valve body is made with high strength iron castings with internal passages designed to minimize pressure drop.

### OPERATIONS

The valve can be supplied for valve functions requiring 2 positions or 3 positions, as well as 3 way or 4 way flow functions.

DIN 43650, AMP junior, DEUTSCH DT04-2P coil connections.

Salt spray resistance up to 600h (test according to UNI EN ISO 9227 and UNI EN ISO 10289 tests and standards).

### TYPICAL PERFORMANCE SPECIFICATIONS

<b>MAXIMUM OPERATING PRESSURE</b>	P - A - B Ports	5000 psi	350 bar
	T Port	3000 psi	210 bar
<b>FLOW RATE</b>		20 gpm	76 l/min
<b>MOUNTING SURFACE</b>		NFPA D03 ISO 4401-03-02-0-03	
<b>WEIGHT</b>	Single Solenoid	3.3 lbs	1.5 kg
	Dual Solenoid	4.4 lbs	2.0 kg

<b>RANGE TEMPERATURES</b>	Ambient	-4 to +130 °F	-20 to +54 °C
	Fluid	-4 to +180 °F	-20 to +82 °C
<b>FLUID VISCOSITY</b>	Range	60 -1900 SUS	10 - 400 cSt
	Recommended	120 SUS	25 cSt
<b>FLUID CONTAMINATION</b>		ISO 4406:1999 Class 20/18/15	

# IDENTIFICATION CODE

**VS6M** - [ ] [ ] - [ ] [ ] - [ ] [ ] - [ ] [ ] \_\_\_\_\_ DESIGN LETTER

FUNCTION	
1	
	Single Solenoid 2 Position Spring Offset
2	
	Dual Solenoid 2 Position Detented (No Spring)
3	
	Dual Solenoid 3 Position Spring Centered
5	
	Single Solenoid 2 Position Spring Centered

SEAL	
A	Buna

MECHANICAL OMIT IF NOT REQUIRED	
R	Single Solenoid Operator At 'B' Port End
U	Manual override boot

CONNECTION	
K1	DIN 43650 - IP65
K2	AMP JUNIOR - IP67
K7	DEUTSCH DT04 male - IP69K

VOLTAGE	
D12	12V DC
D24	24V DC

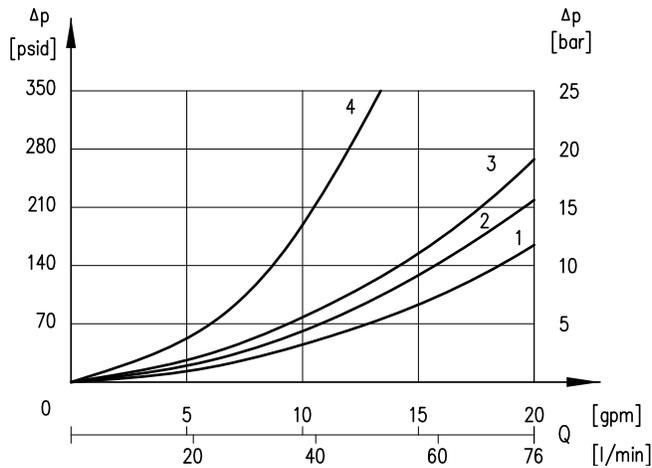
TYPICAL ORDERING CODE:  
**VS6M-3A-A-D24K1-A**

SPOOLS					
NAME	SYMBOL	FUNCTION	CENTER POSITION	CROSSOVER	FUNCTION MATCHING
A			All ports blocked	P→B or P→A T blocked	1, 2, 3, 5
B			All ports open	All ports open	
F			P blocked, A→T and B→T	P blocked and A→T or B→T	3, 5
F1			P blocked, A and B restricted to T	P blocked, A or B restricted to T	
L			P→T, A and B blocked	All ports open, restricted	

Other spool functions are available upon request.

# PRESSURE DROPS $\Delta P-Q$

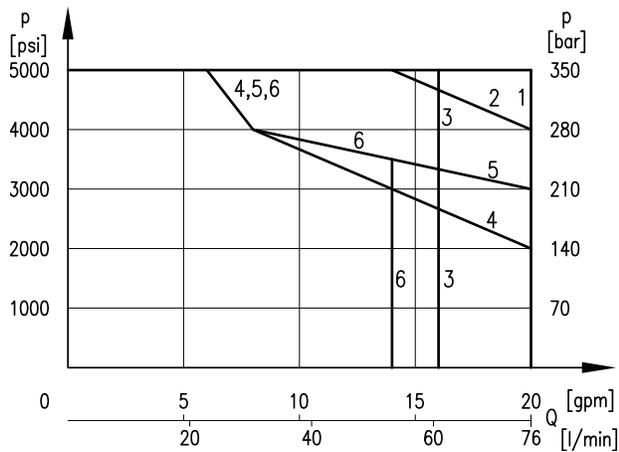
(OBTAINED WITH VISCOSITY OF 170 SUS - 36 CST AT 70°F - 50°C)



SPOOL	FLOW CURVE NUMBER				
	SHIFTED				CENTER
	P→A	P→B	A→T	B→T	P→T
<b>3A, F1</b>	2	2	3	3	
<b>B</b>	1	1	3	3	2
<b>F</b>	3	3	1	1	
<b>L</b>	4	4	4	4	3
<b>1A, 1B, 2A, 2B</b>	3	3	3	3	

# PERFORMANCE CURVE

DC VOLTAGE



CURVE	SPOOL
1	A, 2A
2	F1
3	L, B
4	F
5	1A
6	1B

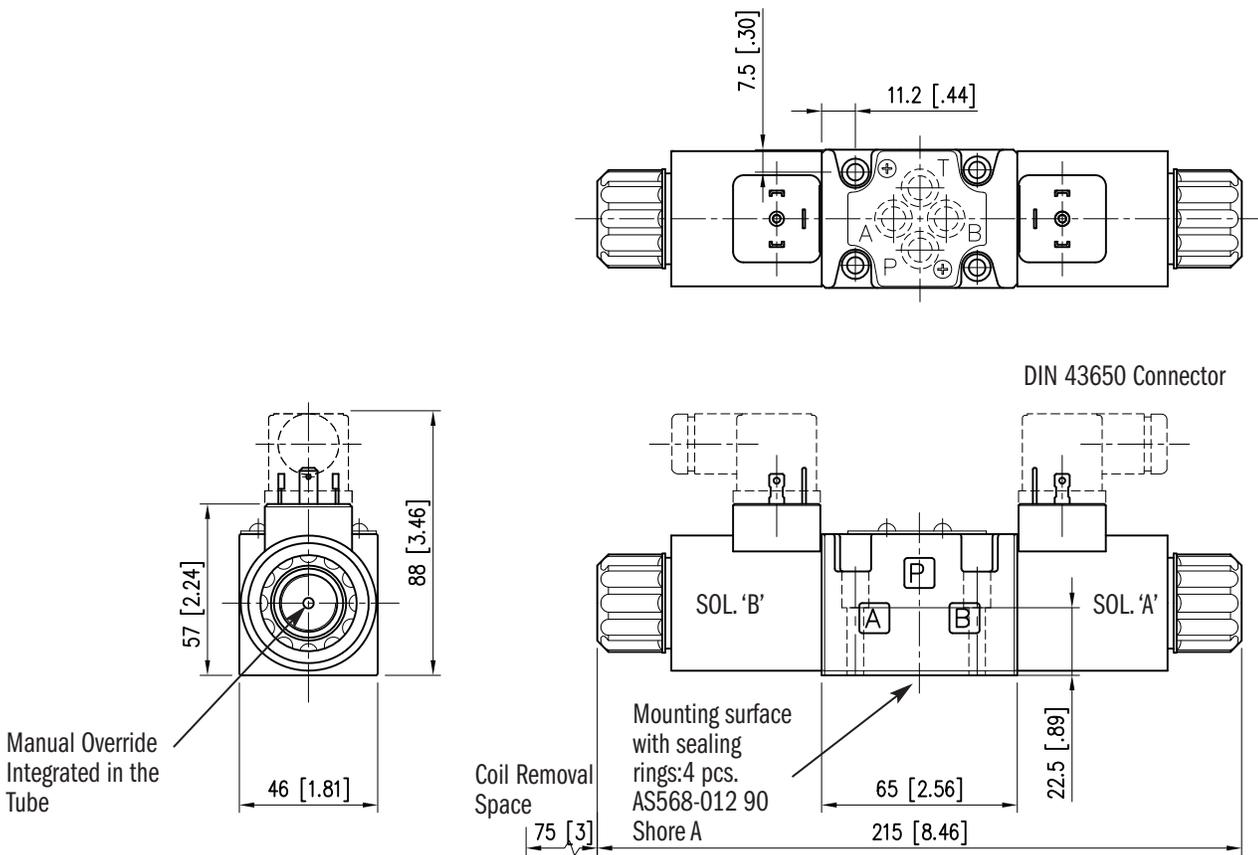
**NOTES:**

1. The values indicated in the graphs are relevant to the standard solenoid valve, with D24 coils.
2. Valve performance was tested in a four way circuit (full loop). Performances may be reduced from that shown when used in a three-way circuit (half circuit), i.e. A or B port plugged.
3. The values have been obtained according to ISO 6403 norm with solenoids at rated temperature and supplied with voltage equal to 90% of the nominal voltage. The value have been obtained with filtration according to ISO 4406:1999 class 18/16/13.

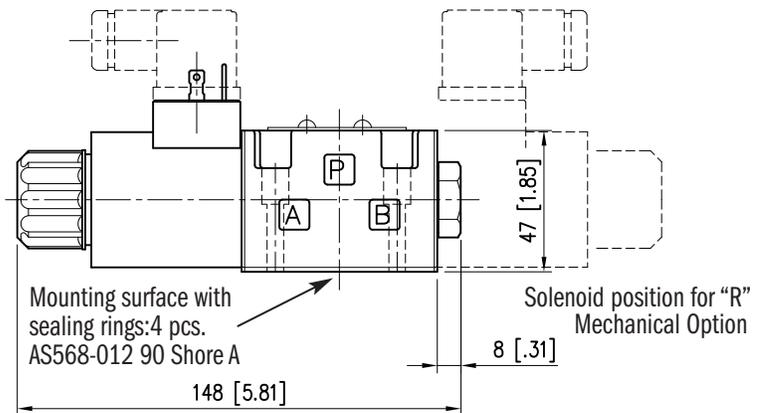
# OVERALL AND MOUNTING DIMENSIONS - DIN STYLE VERSION

VS6M-2\*, 3\*

Dimensions in mm [IN]



VS6M-1\*, 5\*



## COIL FEATURES

CODE	VOLTAGE [VOLT]	RESISTANCE AT 68°F [Ω] (±1%)	CURRENT CONSUMPTION [A] (±5%)	POWER CONSUMPTION (±5%) [W]
D12	12 V DC	4.4	2.72	32.7
D24	24 V DC	18.6	1.29	31

The coils are fastened to the tube by a threaded nut and can be rotated 360°.

<b>SUPPLY VOLTAGE FLUCTUATION</b>		± 10% Vnom
<b>MAXIMUM SWITCH ON FREQUENCY</b>		10,000 cycles/hr
<b>DUTY CYCLE</b>		100%
<b>ELECTROMAGNETIC COMPATIBILITY (EMC)</b>		According to 2004/108/EC
<b>LOW VOLTAGE</b>		According to 2006/95 EC
<b>CLASS OF PROTECTION</b>	Coil Insulation	Class H
	Impregnation	Class F

## COIL CONNECTION

### K1 - DIN 43650

This solenoid has three terminal posts. Use bi-polar connectors that meet ISO 4400 / DIN 43650 (EN 175301-803). Protection against atmospheric agent: IP 65\*

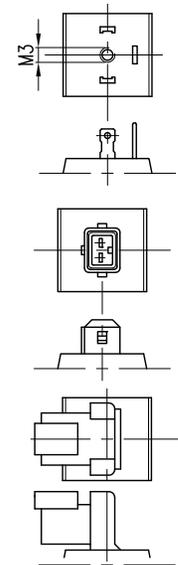
### K2 - AMP JUNIOR

Plug for this type of connector. Protection against atmospheric agent: IP 67\*

### K7 - DEUTSCH DT04 MALE

Protection against atmospheric agent: IP 69\*  
Connectors must be ordered separately.

\*NOTE: The protection degree is guaranteed only with the connector correctly connected and installed.



### SEAL KIT

Buna Seal Kit	1019393
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### BOLT KIT

BD03-125	1008406
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#### NOTES:

1. Bolt kit consists of: qty. 4 10-24 NC screws / qty. 4 #10 Lock washer
2. The recommended torque value for fasteners is: 4 lb.ft (5.4 Nm)



POWERFUL  
CURATE  
OVATIVE  
PRECISE  
URABLE  
EFFICIENT  
ERCATTLE

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