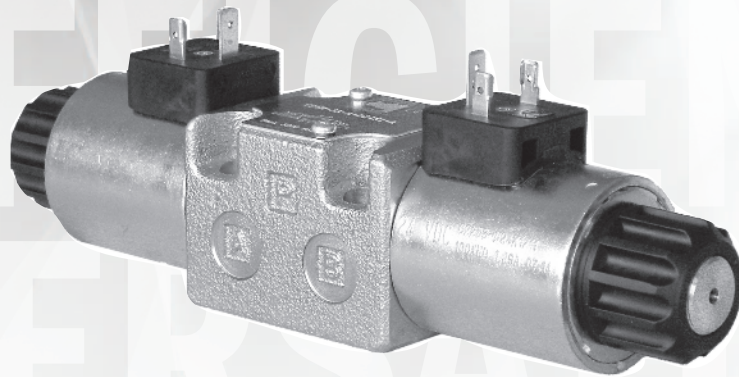




CONTINENTAL HYDRAULICS

VS6M

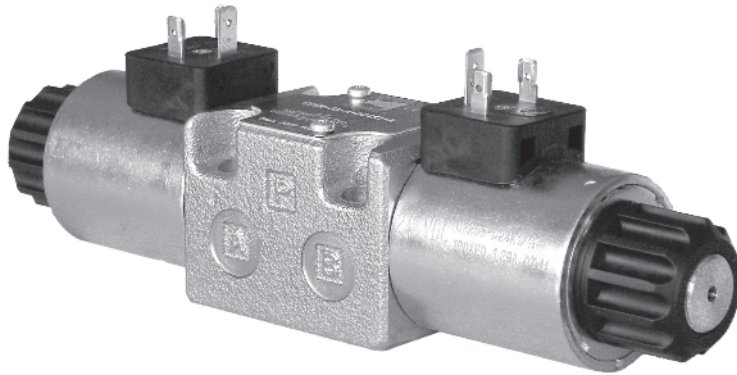
SOLENOID OPERATED DIRECTIONAL VALVES



VS6M - SOLENOID OPERATED DIRECTIONAL VALVES

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

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

| | | | |
|----------------------------|-------------|------------------------------|---------------|
| RANGE TEMPERATURES | Ambient | -4 to +130 °F | -20 to +54 °C |
| | Fluid | -4 to +180 °F | -20 to +82 °C |
| FLUID VISCOSITY | Range | 60 -1900 SUS | 10 - 400 cSt |
| | Recommended | 120 SUS | 25 cSt |
| FLUID CONTAMINATION | | 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 |

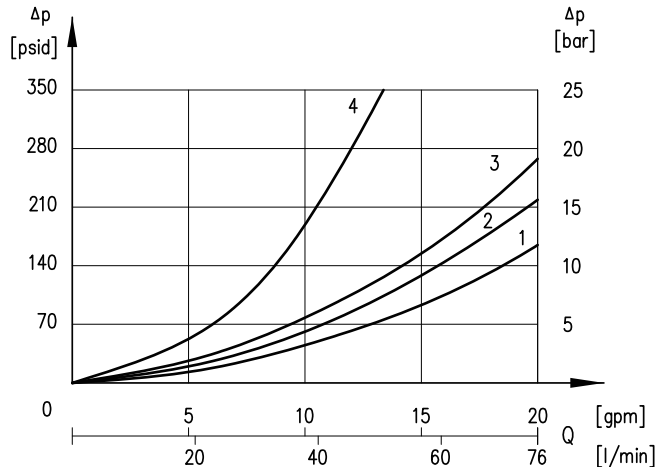
TYPICAL ORDERING CODE:
VS6M-3A-A-D24K1-A

| 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 $\Delta P-Q$

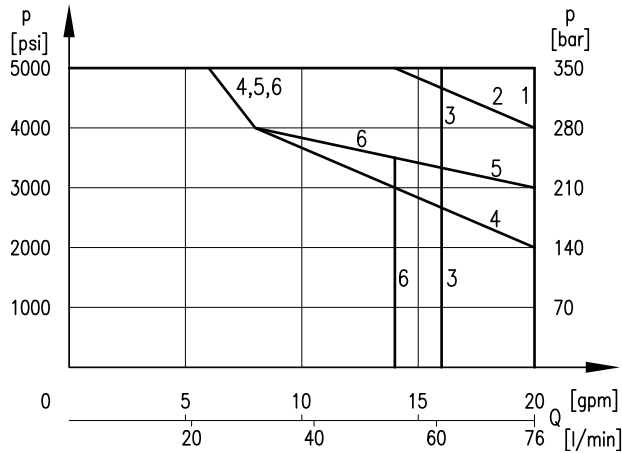
(OBTAINED WITH VISCOSITY OF 170 SUS - 36 CST AT 70°F - 50°C)



| SPOOL | FLOW CURVE NUMBER | | | | |
|-----------------------|-------------------|-----|-----|-----|--------|
| | SHIFTED | | | | CENTER |
| | P→A | P→B | A→T | B→T | P→T |
| 3A, F1 | 2 | 2 | 3 | 3 | |
| B | 1 | 1 | 3 | 3 | 2 |
| F | 3 | 3 | 1 | 1 | |
| L | 4 | 4 | 4 | 4 | 3 |
| 1A, 1B, 2A, 2B | 3 | 3 | 3 | 3 | |

PERFORMANCE CURVE

DC VOLTAGE



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

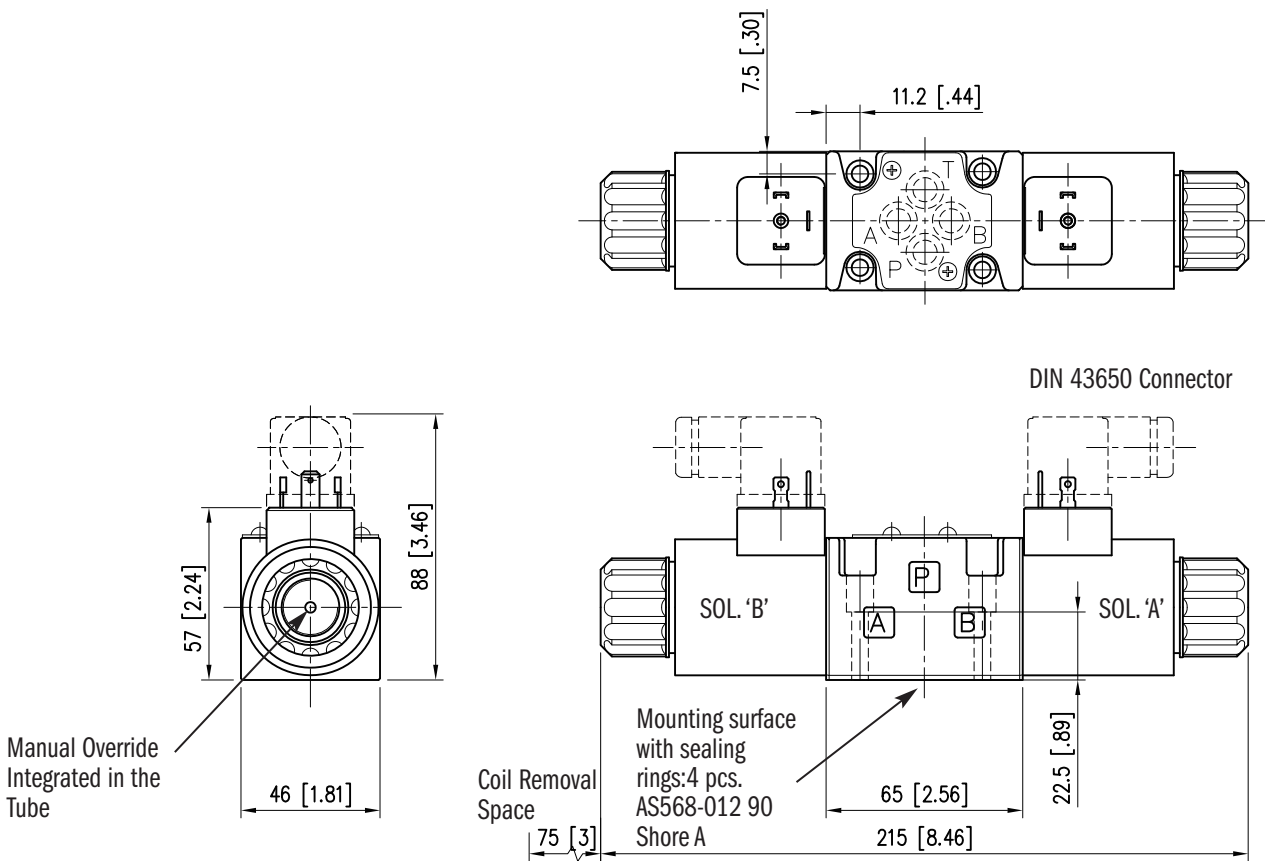
NOTES:

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.

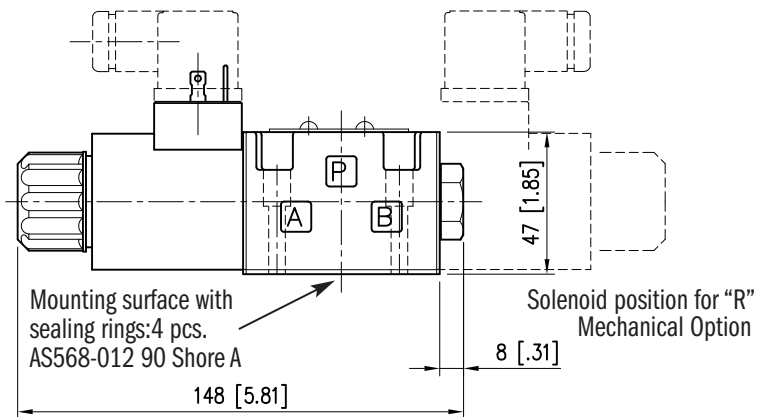
OVERALL AND MOUNTING DIMENSIONS - DIN STYLE VERSION

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°.

| | | |
|-------------------------------------|-----------------|--------------------------|
| SUPPLY VOLTAGE FLUCTUATION | | ± 10% Vnom |
| MAXIMUM SWITCH ON FREQUENCY | | 10,000 cycles/hr |
| DUTY CYCLE | | 100% |
| ELECTROMAGNETIC COMPATIBILITY (EMC) | | According to 2004/108/EC |
| LOW VOLTAGE | | According to 2006/95 EC |
| CLASS OF PROTECTION | 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*

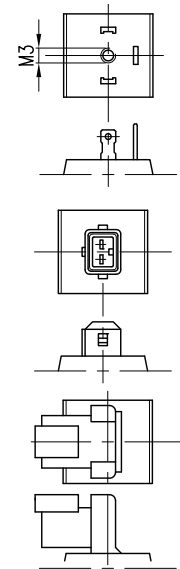
K2 - AMP JUNIOR

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 |
|---------------|---------|

BOLT KIT

| | |
|----------|---------|
| BD03-125 | 1008406 |
|----------|---------|

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
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EFFICIENT
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