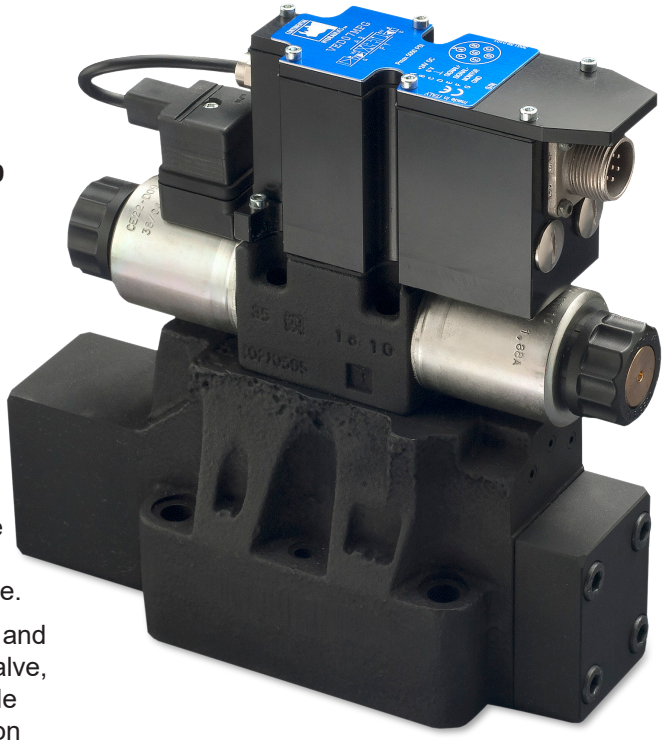
VED G Series

Proportional Directional Valves, Pilot Operated with Integrated Electronics

VED

P max **5000 PSI 350 bar**
Q max **See Characteristic Curves**



DESCRIPTION

Continental's pilot operated proportional directional valves, with integrated electronics for subplate mounting. Available in sizes from ISO 4401-05 to ISO 4401-10 with oversized ports, they are used to control the position and speed of hydraulic actuators. Open center and closed center sliders are available for each size.

Spools for regenerative circuits are available for VED07, VED08 and VED10 Piloting can be internal, with built-in pressure reducing valve, or external. Internal or external drainage. The valves are available with different types of integrated electronics for open loop: Version MG is our standard electronics with analog interface with current or voltage reference signal with 6 pin + PE connection. The GL version is a compact box version with IO-Link, Can-Open or analogue interface, with 5-pin M12 connection. The GH version has an interface for fieldbus communication such as PROFIBUS DP, EtherCAT, Ethernet/IP, Profinet, PowerLink or Can-Open, with an 11-pin M12 connection.

Key Features:

- Proportional directional control valves, pilot operated, with integrated electronics and mounting interface in compliance with ISO 4401 standards.
- They control direction and flow of the fluid.
- Valves are available with different types of electronics, with analogue or fieldbus interfaces.
- Valves are easy to install. Preset driver directly manages digital settings.
- VED GL style uses a compact connections box with 5 pin M12.
- VED MG style uses industry standard 7 pin connectors.
- VED GH style use fieldbus connectors

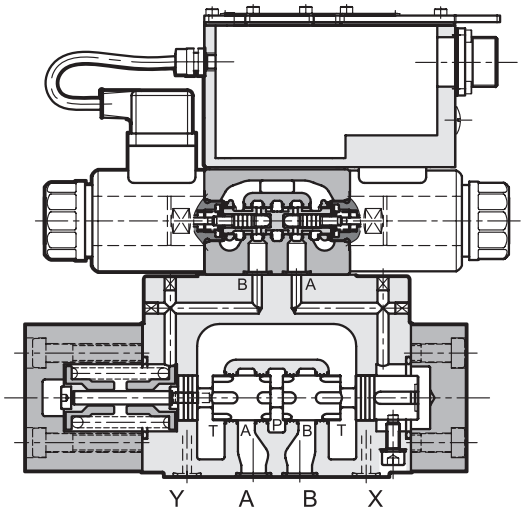
PERFORMANCE (Obtained with mineral oil with viscosity of 36 cSt at 50°C and electronic control card)

		VED05*	VED07	VED08	VED10	VED11
Max operating pressure: P - A - B ports / T port	PSI (bar)	5000 (350) see page 13				
Rated flow with Δp 10 bar P-T	(l/mi)	180	450	800	1800	2000
Hysteresis (with PWM 100 Hz)	% Q max	< 2%				
Repeatability	% Q max	< ±1%				
Electrical characteristics		see page 6				
Ambient temperature range	°F (°C)	-4 / 140 (-20 / +60)				
Fluid temperature range	°F (°C)	-4 / 176 (-20 / +80)				
Fluid viscosity range	cSt	10 ÷ 400				
Fluid contamination degree		According to ISO 4406:1999 class 18/16/13				
Recommended viscosity	cSt	25				
Mass: single solenoid valve / double solenoid valve	lbs (kg)	16.75 (7.9)	18.5 (8.2)	36 (16.4)	96 (44.1)	90 (41.3)

SUBPLATE MOUNTING

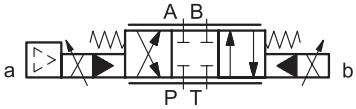
VED05A	ISO 4401-05
VED05B	CETOP P05
VED07	ISO 4401-07
VED08	ISO 4401-08
VED10	ISO 4401-10
VED11	ISO 4401-10 oversize ports

OPERATION PRINCIPLE



HYDRAULIC SYMBOLS (typical)

VEDG

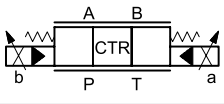
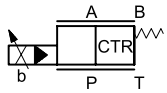


VED G Series

IDENTIFICATION CODE:

VED ☐ GL - ☐ ☐ - ☐ - ☐ ☐ ☐ - ☐ K12 - ☐ — DESIGN LETTER

SIZE	
CODE	**DESCRIPTION**
05A	NFPA D05 alt. A
05B	NFPA D05 alt. B
07	NFPA D07
08	NFPA D08
10	NFPA D10
11	NFPA D10 oversized ports

FUNCTION	
3	 Dual operated 3 position spring centered
5	 Single operator 2 position spring centered

SEALS	
CODE	**DESCRIPTION**
A	BUNA (STD)
G	VITON

NOMINAL FLOW with ΔP P-T 143 psi (10 bar)		
SIZE	**CODE**	**FLOW RATE**
05	**80**	80 l/min (21 gpm)
	80/40	Asymmetrical Spool: 80 l/min (21 gpm) on P-A 40 l/min (10.5 gpm) on B-T
07	**100**	100 l/min (26.5 gpm)
	150	150 l/min (40 gpm)
	150/75	Asymmetrical Spool: 150 l/min (40 gpm) on P-A 75 l/min (20 gpm) on B-T
08	**200**	200 l/min (53 gpm)
	300	300 l/min (80 gpm)
	300/150	Asymmetrical Spool: 300 l/min (80 gpm) on P-A 150 l/min (40 gpm) on B-T
10	**350**	350 l/min (53 gpm)
	500	500 l/min (80 gpm)
	500/250	Asymmetrical Spool: 500 l/min (132 gpm) on P-A 250 l/min (66 gpm) on B-T
	800	800 l/min (210 gpm)
11	**1000**	1000 l/min (264 gpm)

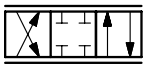
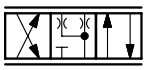
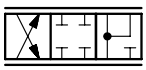
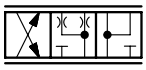
CONTROL INTERFACE	
CODE	**DESCRIPTION**
E0	Analog Voltage (±10V)
E1	Analog Current (4-20mA)
IOL	IO-Link Interface
CA	CANopen Interface

Low Profile Connection Box with M12 A 5 Pin (Male)

PILOT / DRAIN	
CODE	**DESCRIPTION**
1	Internal pilot External drain
2	External pilot External drain
3	Internal pilot Internal drain
4	External pilot Internal drain

MECHANICAL (Omit if not required)	
CODE	**DESCRIPTION**
R	Reverse operator 2 position spring centered solenoid A supplied
Z	Pilot pressure reducer. Mandatory with pilot drain 1 and 3 when pressure is higher than 3000 psi (210 bar)

TYPICAL ORDERING CODE:
VED07M-3AC-100-A1-K1-24D-C

SPOOLS					
NAME	**SYMBOLS**	**DESCRIPTION**	**APPLICATION**	**SIZE**	**FUNCTION MATCHING**
AC		METER IN / METER OUT	MOTION CONTROL	05, 07, 08, 10	3, 5
FC		METER IN / METER OUT		05, 07, 08, 10	3, 5
RL		METER IN / METER OUT (REGEN)		07, 08, 10	3
RA		METER IN / METER OUT (REGEN)		07, 08, 10	3

VED03GL - COMPACT ELECTRONICS

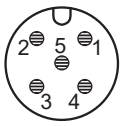
In versions 'IOL' and 'CA' pin 3 and pin 5 are galvanic isolated up to 100 V to avoid earth loops.
In IO-Link networks, the length of the connecting cable is limited to 20 meters.

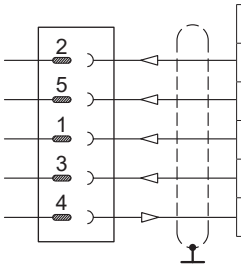
VED03GL Electrical Characteristics

Command signal: voltage (E0) **current (E1)**	V DC mA	±10 (Impedance Ri = 11 kOhm) 4 - 20 (Impedance Ri = 58 Ohm)
Monitor signal: voltage (E0) **current (E1)**	V DC mA	0 - 5 (Impedance Ro > 1 kOhm) 4 - 20 (Impedance Ro = 500 Ohm)
IO-Link communication (IOL): Data rate	kBaud	IO-Link Port Class B 230.4
Can Open communication (CA): Data rate	kbit	10 - 1000
Data register (IOL and CA versions only)		Solenoid voltage supply, solenoid faults (short circuit, bad config, internal), box temperature, switch-on time, vibrations
Connection		5-pin M12 code A (IEC 61076-2-101)

Pin tables

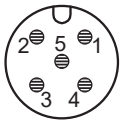
'E0' connection

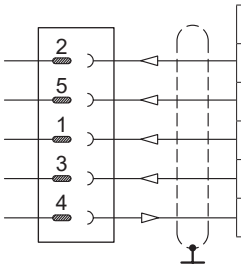




Pin	Values	Function
2	24V DC	Supply voltage (solenoid and logic)
5	0V	
1	± 10V	Command
3	0V	Command reference
4	0 - 5V	Monitor (0V reference: pin 5)

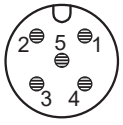
'E1' connection

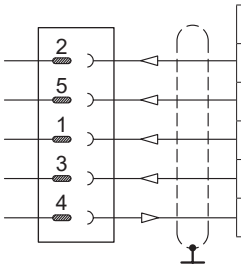




Pin	Values	Function
2	24V DC	Supply voltage (solenoid and logic)
5	0V	
1	4 - 20 mA	Command
3	0V	Command reference
4	4 - 20 mA	Monitor (0V reference: pin 5)

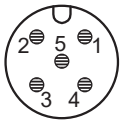
'IOL' connection

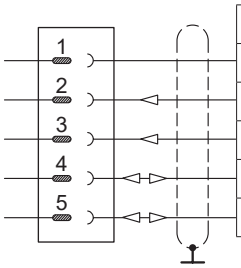




Pin	Values	Function
2	2L+ 24V DC	Supply of the power stage
5	2L- 0V (GND)	Internal galvanic isolation from PIN 3
1	1L+ +24V DC	IO-Link supply voltage
3	1L- 0V (GND)	
4	C/Q	IO-Link Communication

'CA' connection





Pin	Values	Function
1	CAN_SH	Shield
2	24V DC	Supply voltage
3	0V (GND)	
4	CAN H	Bus line (high)
5	CAN_L	Bus line (low)

VED G Series

IDENTIFICATION CODE:

VED ☐ MG - ☐ ☐ - ☐ - ☐ ☐ ☐ - ☐ ☐ D - ☐ — DESIGN LETTER

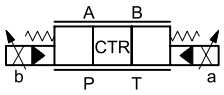
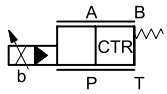
SIZE	
CODE	**DESCRIPTION**
05A	NFPA D05 alt. A
05B	NFPA D05 alt. B
07	NFPA D07
08	NFPA D08
10	NFPA D10
11	NFPA D10 oversized ports

SEALS	
CODE	**DESCRIPTION**
A	BUNA (STD)
G	VITON

CONNECTION	
CODE	**DESCRIPTION**
OBW	On board electronics - Internal Enable Monitors signal PIN F to PIN B
OBC	On board electronics - PIN C Enable Monitor signal PIN F to PIN B
OBM	On board electronics - Internal Enable Monitors signal PIN F to PIN C

REFERENCE SIGNAL	
CODE	**DESCRIPTION**
E0	Voltage ± 10V (STD)
E1	Current 4-20 mA

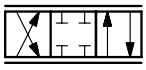
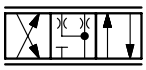
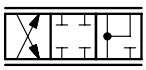
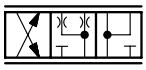
NOMINAL FLOW with ΔP P-T 143 psi (10 bar)		
SIZE	**CODE**	**FLOW RATE**
05	**80**	80 l/min (21 gpm)
	80/40	Asymmetrical Spool: 80 l/min (21 gpm) on P-A 40 l/min (10.5 gpm) on B-T
07	**100**	100 l/min (26.5 gpm)
	150	150 l/min (40 gpm)
	150/75	Asymmetrical Spool: 150 l/min (40 gpm) on P-A 75 l/min (20 gpm) on B-T
08	**200**	200 l/min (53 gpm)
	300	300 l/min (80 gpm)
	300/150	Asymmetrical Spool: 300 l/min (80 gpm) on P-A 150 l/min (40 gpm) on B-T
10	**350**	350 l/min (53 gpm)
	500	500 l/min (80 gpm)
	500/250	Asymmetrical Spool: 500 l/min (132 gpm) on P-A 250 l/min (66 gpm) on B-T
	800	800 l/min (210 gpm)
11	**1000**	1000 l/min (264 gpm)

FUNCTION	
3	
	Dual operated 3 position spring centered
5	
	Single operator 2 position spring centered

PILOT / DRAIN	
CODE	**DESCRIPTION**
1	Internal pilot External drain
2	External pilot External drain
3	Internal pilot Internal drain
4	External pilot Internal drain

MECHANICAL (Omit if not required)	
CODE	**DESCRIPTION**
R	Reverse operator 2 position spring centered solenoid A supplied
Z	Pilot pressure reducer. Mandatory with pilot drain 1 and 3 when pressure is higher than 3000 psi (210 bar)

TYPICAL ORDERING CODE:
VED07M-3AC-100-A1-K1-24D-C

SPOOLS					
NAME	**SYMBOLS**	**DESCRIPTION**	**APPLICATION**	**SIZE**	**FUNCTION MATCHING**
AC		METER IN / METER OUT	MOTION CONTROL	05, 07, 08, 10	3, 5
FC		METER IN / METER OUT		05, 07, 08, 10	3, 5
RL		METER IN / METER OUT (REGEN)		07, 08, 10	3
RA		METER IN / METER OUT (REGEN)		07, 08, 10	3

VED MG ELECTRONICS COMMON DATA

Duty cycle		100% (continuous operation)
Protection class according to EN 60529 (Note:) **VED*GL/MG/GH**		IP65 / IP67 IP65
Supply voltage	V DC	24 (from 19 to 30 VDC), ripple max 3 Vpp
Power consumption	VA	25
Maximum solenoid current	A	1.88
Fuse protection, external	A	3
Managed breakdowns		Overload and electronics overheating, cable breakdown, supply voltage failures
Electromagnetic compatibility (EMC) **emissions EN 61000-6-4, immunity EN 61000-6-2**		According to 2014/30/EU standards

NOTE: The IP degree is guaranteed only with mating connector of equivalent IP degree, installed and tightened correctly. Moreover, on the GH versions it is necessary to protect any unused connections with caps.

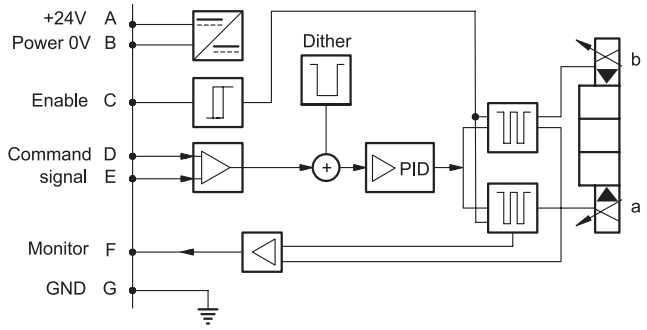
VED MG - STANDARD ELECTRONICS

3.1 - Electrical characteristics

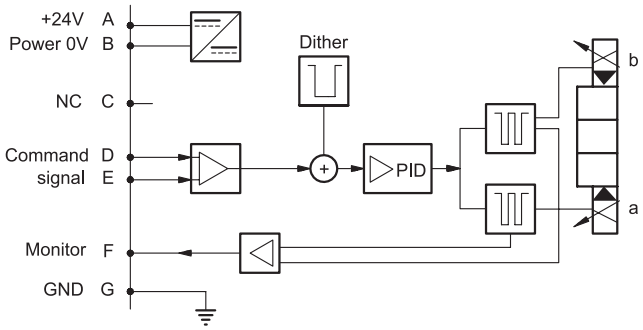
Command signal: voltage (E0) **current (E1)**	V DC mA	±10 (Impedance Ri = 11 kOhm) 4 - 20 (Impedance Ri = 58 Ohm)
Monitor signal: voltage (E0) **current (E1)**	V DC mA	0 - 5 (Impedance Ro > 1 kOhm) 4 - 20 (Impedance Ro = 500 Ohm)
Communication for diagnostic		LIN-bus Interface (by means of the Programming Box)
Connection		6 pin + PE (MIL-C-5015-G - DIN EN 175201-804)

ON-BOARD ELECTONICS DIAGRAMS

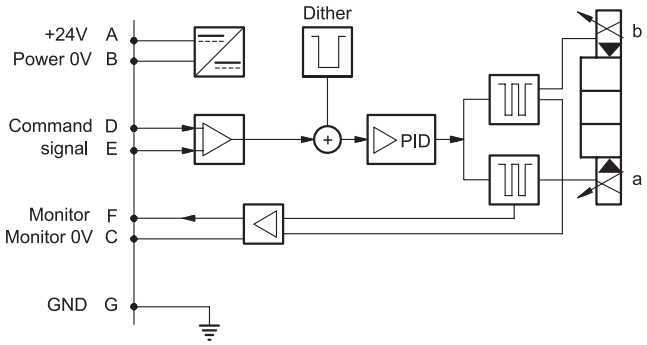
Version OBC - External Enable



Version OBW - Internal Enable

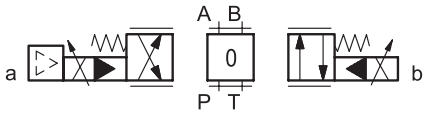


Version OBM - 0V Monitor

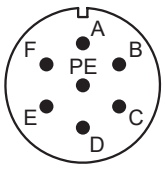


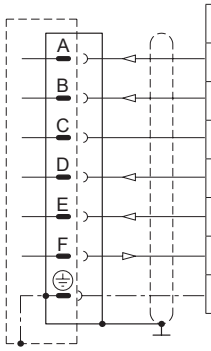
VED MG Versions with voltage command (E0)

The reference signal is between -10V and +10V.
The monitor feature of versions B and C becomes available with a delay of 0,5 sec from the power-on of the card.



COMMAND	**-10V**	**0V**	**+10v**
MONITOR	**-10V**	**0V**	**+10v**



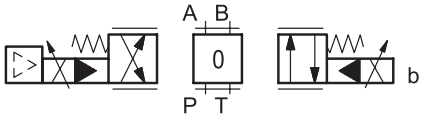


Pin	Values	version OBC	version OBW	version OBM
A	24V DC	Supply voltage		
B	0V			
C		Enable 24V DC	do not connect -	PIN F reference 0 V
D	± 10V	Command		
E	0 V	Command reference		
F	± 10V	Monitor (0V reference: pin B)		Monitor
PE	GND	Ground (Earth)		

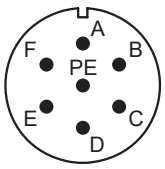
VDD03MG Versions with current command (E1)

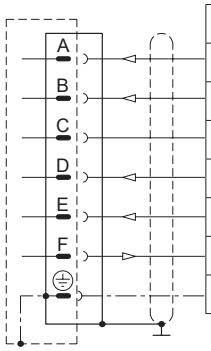
The reference signal is supplied in current 4 ÷ 20 mA. If the current for command is lower the card shows a breakdown cable error. To reset the error is sufficient to restore the signal.

The monitor feature of versions B and C becomes available with a delay of 0,5 sec from the power-on of the card.



COMMAND	**4 mA**	**12 mA**	**20 mA**
MONITOR	**4 mA**	**12 mA**	**20 mA**





Pin	Values	version OBC	version OBW	version OBM
A	24V DC	Supply voltage		
B	0V			
C		Enable 24V DC	do not connect -	PIN F reference 0 V
D	4 - 20 mA	Command		
E	0 V	Command reference		
F	4 - 20 mA	Monitor (0V reference: pin B)		Monitor
PE	GND	Ground (Earth)		

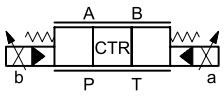
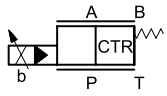
IDENTIFICATION CODE:

VED ☐ GH - ☐ ☐ - ☐ - ☐ ☐ ☐ - ☐ K16 ☐ - ☐ — DESIGN LETTER

SIZE	
CODE	**DESCRIPTION**
05A	NFPA D05 alt. A
05B	NFPA D05 alt. B
07	NFPA D07
08	NFPA D08
10	NFPA D10
11	NFPA D10 oversized ports

SEALS	
CODE	**DESCRIPTION**
A	BUNA (STD)
G	VITON

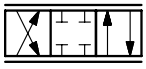
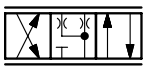
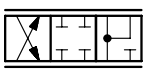
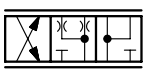
CONNECTIONS (Select one for each X connection)		
	CODE	**DESCRIPTION**
X1 Main Connector Configuration (Select One)	**D1**	One Command
	D0	Full Digital (on request - available for reference signal FD type Only)
X2, X3 Fieldbus type (Select One)	**EC**	EtherCAT
	EN	Ethernet / IP
	PN	Profinet
	PL	PowerLink
X7 Digital Transducer (Select One)	**0**	None
	1	SSI Type
	2	Encoder Type
X4 Analog transducer (Select One)	**0**	None
	1	Single / Double Transducer

FUNCTION	
3	
	Dual operated 3 position spring centered
5	
	Single operator 2 position spring centered

NOMINAL FLOW with ΔP P-T 143 psi (10 bar)		
SIZE	**CODE**	**FLOW RATE**
05	**80**	80 l/min (21 gpm)
	80/40	Asymmetrical Spool: 80 l/min (21 gpm) on P-A 40 l/min (10.5 gpm) on B-T
07	**100**	100 l/min (26.5 gpm)
	150	150 l/min (40 gpm)
	150/75	Asymmetrical Spool: 150 l/min (40 gpm) on P-A 75 l/min (20 gpm) on B-T
08	**200**	200 l/min (53 gpm)
	300	300 l/min (80 gpm)
	300/150	Asymmetrical Spool: 300 l/min (80 gpm) on P-A 150 l/min (40 gpm) on B-T
10	**350**	350 l/min (53 gpm)
	500	500 l/min (80 gpm)
	500/250	Asymmetrical Spool: 500 l/min (132 gpm) on P-A 250 l/min (66 gpm) on B-T
	800	800 l/min (210 gpm)
11	**1000**	1000 l/min (264 gpm)

PILOT / DRAIN	
CODE	**DESCRIPTION**
1	Internal pilot External drain
2	External pilot External drain
3	Internal pilot Internal drain
4	External pilot Internal drain

CONTROL INTERFACE	
CODE	**DESCRIPTION**
E0	Analog Voltage (±10V)
E1	Analog current (4-20MA)
FD	Full Digital Version (on Request)

SPOOLS					
NAME	**SYMBOLS**	**DESCRIPTION**	**APPLICATION**	**SIZE**	**FUNCTION MATCHING**
AC		METER IN / METER OUT	MOTION CONTROL	05, 07, 08, 10	3, 5
FC		METER IN / METER OUT		05, 07, 08, 10	3, 5
RL		METER IN / METER OUT (REGEN)		07, 08, 10	3
RA		METER IN / METER OUT (REGEN)		07, 08, 10	3

MECHANICAL (Omit if not required)	
CODE	**DESCRIPTION**
R	Reverse operator 2 position spring centered solenoid A supplied
Z	Pilot pressure reducer. Mandatory with pilot drain 1 and 3 when pressure is higher than 3000 psi (210 bar)

TYPICAL ORDERING CODE:
VED07M-3AC-100-A1-K1-24D-C

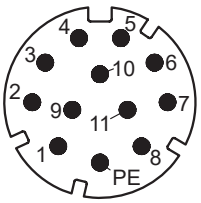
VED GH - FIELDBUS ELECTRONICS

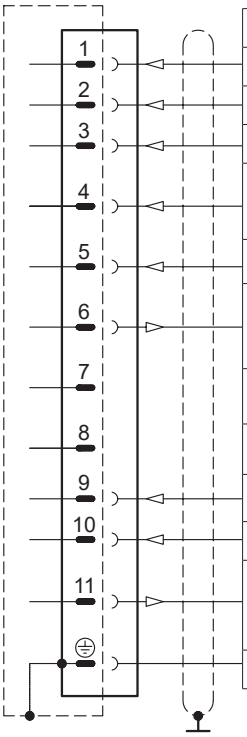
The 11 + PE pin connection allows separate supply voltage for electronics and solenoids.
Command - valve position schemes as for the standard electronics. Please refer to pictures in p. 5.3 and 5.4.

VED03GH Electrical characteristics

Command signal: voltage (E0) **current (E1)** **digital (FD)**	V DC mA	±10 (Impedance Ri = 11 kOhm) 4 - 20 (Impedance Ri = 58 Ohm) via fieldbus
Monitor signal: voltage (E0) **current (E1)**	V DC mA	±10 (Impedance Ro > 1 kOhm) 4 - 20 (Impedance Ro = 500 Ohm)
Communication / diagnostic		via Bus register
Communication interface standards		IEC 61158
Communication physical layer		fast ethernet, insulated 100 Base TX
Power connection		11 pin + PE (DIN 43651)

X1 Main connection pin table





D1: one command

Pin	Values	Function
1	24V DC	Main supply voltage
2	0 V	
3	24V DC	Enable
4	± 10V (E0) 4 - 20 (E1)	Command
5	0V	Command reference signal
6	± 10V (E0) 4 - 20 (E1)	Monitor (0V reference pin 10)
7	NC	do not connect
8	NC	do not connect
9	24V DC	Logic and control supply
10	0 V	
11	24V DC	Fault (0V DC) or normal working (24V DC) (0V reference pin 2)
12	GND	Ground (Earth)

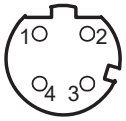
D0: full digital

Pin	Values	Function
1	24V DC	Main supply voltage
2	0 V	
3	24V DC	Enable
4	NC	do not connect
5	NC	do not connect
6	NC	do not connect
7	NC	do not connect
8	NC	do not connect
9	24V DC	Logic and control supply
10	0 V	
11	24V DC	Fault (0V DC) or normal working (24V DC) (0V reference pin 2)
12	GND	Ground (Earth)

FIELDBUS CONNECTIONS

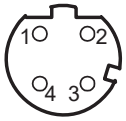
Please wire following guidelines provided by the related standards communication protocol. Any connections present and not used must be protected with special caps so as not to nullify the protection against atmospheric agents.

X2 (IN) connection M12 D 4 pin female



Pin	Values	Function
1	TX+	Transmitter
2	RX+	Receiver
3	TX-	Transmitter
4	RX-	Receiver
HOUSING	SHIELD	

X3 (OUT) connection: M12 D 4 pin female



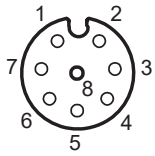
Pin	Values	Function
1	TX+	Transmitter
2	RX+	Receiver
3	TX-	Transmitter
4	RX-	Receiver
HOUSING	SHIELD	

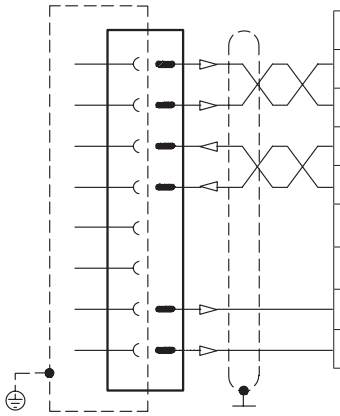
Note: Shield connection on connector housing is recommended.

DIGITAL TRANSDUCER CONNECTION

X7 connection: M12 A 8 pin female)

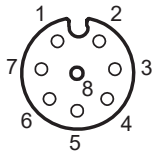
VERSION 1: SSI type

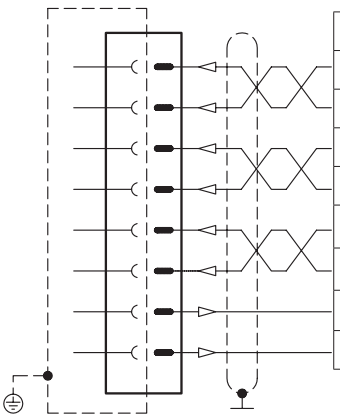




Pin	SSI Values	Function	Notes
1	CLK+	Serial synchronous clock (+)	Input - digital signal
2	CLK-	Serial synchronous clock (-)	
3	MISO+	Serial position data (+)	
4	MISO-	Serial position data (-)	
5	NC	-	do not connect
6	NC	-	
7	+24 V	transducer power supply	Output power supply
8	0 V	-	Common GND

VERSION 2: ENCODER type

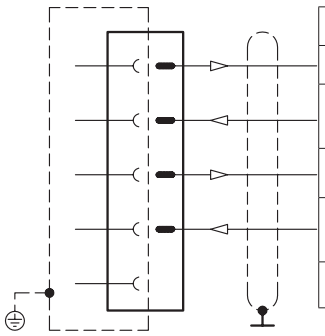




Pin	SSI Values	Function	Notes
1	ENC_Z+	input channel Z+	Input - digital signal
2	ENC_Z-	input channel Z-	
3	ENC_A+	input channel A+	
4	ENC_A-	input channel A-	
5	ENC_B+	input channel B+	
6	ENC_B-	input channel B-	
7	+5 V	transducer power supply	Output power supply
8	0 V	-	Common GND

Analogue transducer connection X4 connection: M12 A 4 pin female

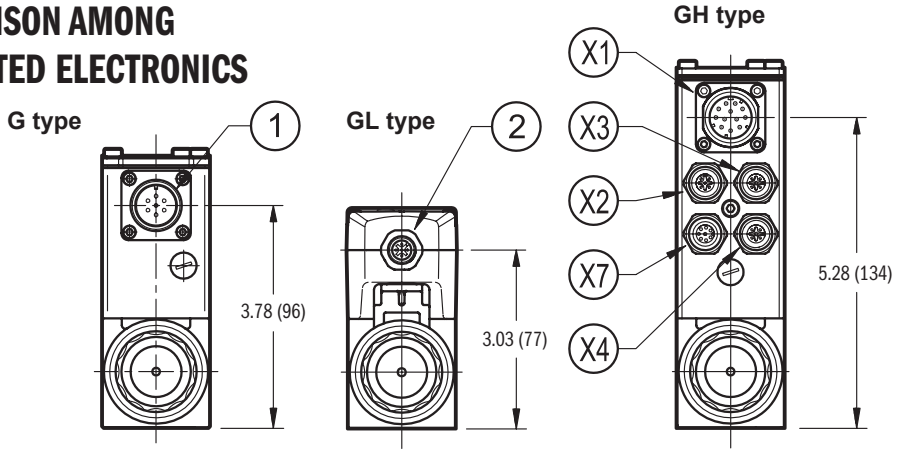
VERSION 1: single / double transducer (single or double is a software-selectable option)



Pin	Values	Notes
1	+24V	Remote transducer power supply (out) 100 mA
2	±10 V 4 ÷20 mA	Input signal of transducer 1 (range software selectable)
3	0V	Common reference signal for transducer power and signals
4	±10 V 4 ÷20 mA	Input signal of transducer 2 (range software selectable)
5	-	

COMPARISON AMONG INTEGRATED ELECTRONICS

Dimensions inch (mm)



1	Connection 6 pin + PE
2	Connection M12 5 pin, code A, male
X1	Main connection 11 pin + PEe
X2	Fieldbus communication (IN)
X3	Fieldbus communication (OUT)
X4	Connection for analogue transducer
X7	Connection for digital transducer

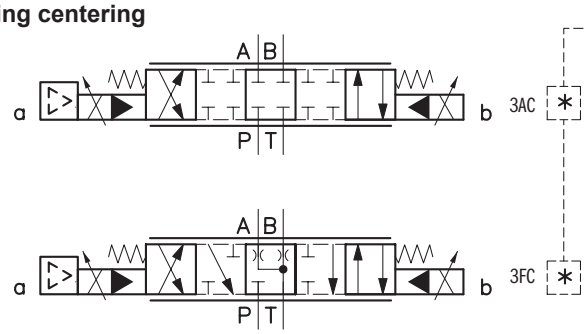
NOTE 1: Depending on the chosen version, X4 and X7 connections may not be present. Please refer to section 7 for connections descriptions and pinouts.

NOTE 2: Related mating connectors have to be ordered separately. See connector catalog.

AVAILABLE CONFIGURATIONS

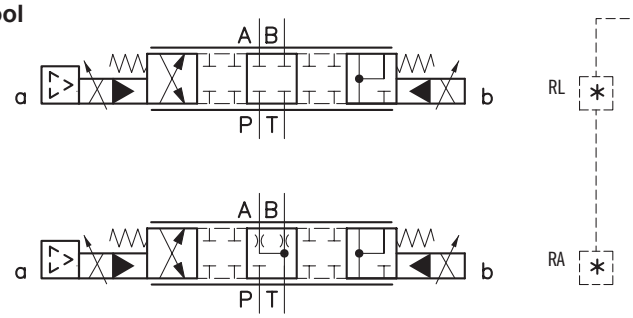
The valve configuration depends on the combination of spool type and rated flow.

3 Positions with spring centering



Type of valve	*	NOMINAL FLOW with ΔP P-T 143 PSID
VED05*	**80**	80 l/min (21 gpm)
	80/40	80 l/min (21 gpm) on P-A 40 l/min (10.5 gpm) on B-T
VED07	**100**	100 l/min (26.5 gpm)
	150	150 l/min (40 gpm)
	150/75	150 l/min (40 gpm) on P-A 75 l/min (20 gpm) on B-T
VED08	**200**	200 l/min (53 gpm)
	300	300 l/min (80 gpm)
	300/150	300 l/min (80 gpm) on P-A 150 l/min (40 gpm) on B-T
VED10	**350**	350 l/min (53 gpm)
	500	500 l/min (80 gpm)
	500/250	500 l/min (132 gpm) on P-A 250 l/min (66 gpm) on B-T
	800	800 l/min (210 gpm)
VED11	**1000**	1000 l/min (264 gpm)

Regenerative spool

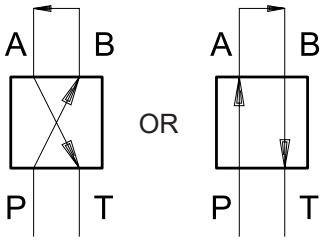


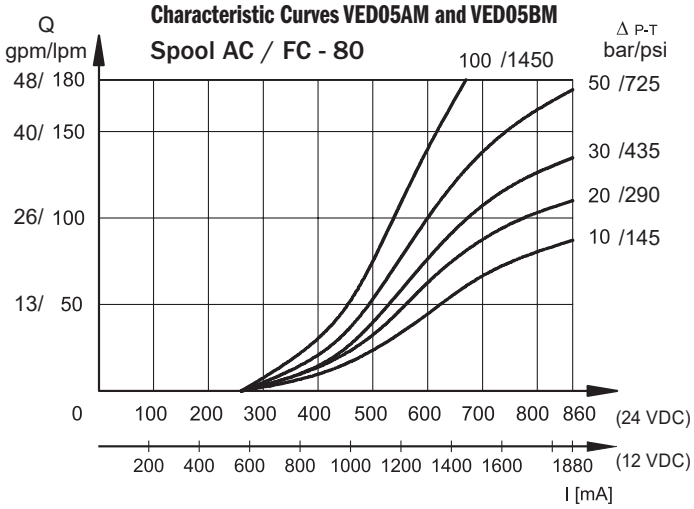
Type of valve	*	NOMINAL FLOW with ΔP P-T 151 PSID
D07	**150/75**	150 (P-A, A-T) / 75 (P-B, B-P) l/min
D08	**300/150**	300 (P-A, A-T) / 150 (P-B, B-P) l/min
D10	**500/250**	500 (P-A, A-T) / 250 (P-B, B-P) l/min

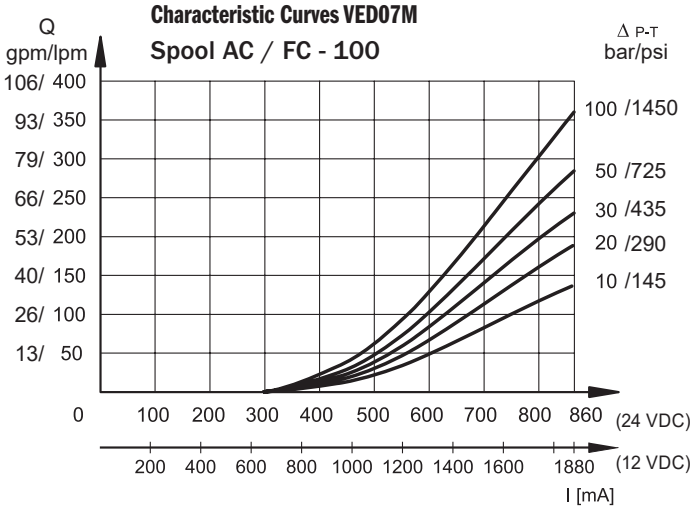
CHARACTERISTIC CURVES

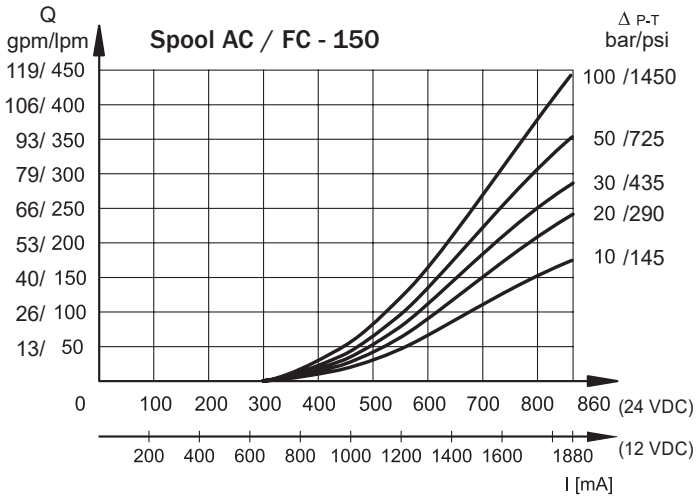
(Obtained with mineral oil with viscosity of 36 cSt at 50°C and electronic control card)

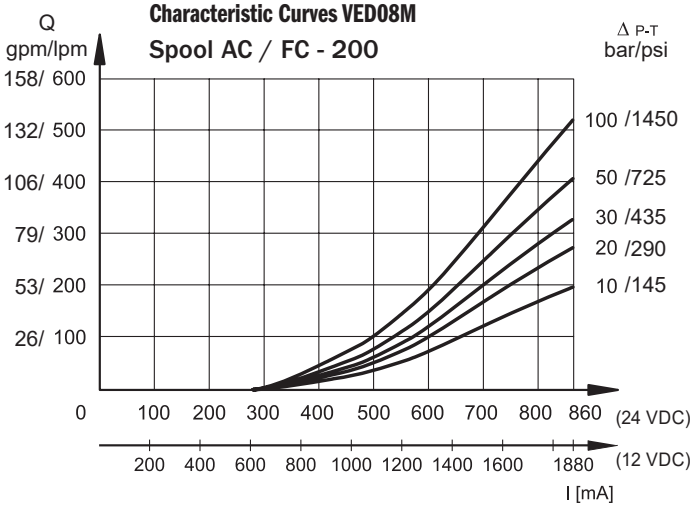
Typical flow rate control curves according to the current supply to solenoid. The reference Δp values are measured between ports P and T on the valve.

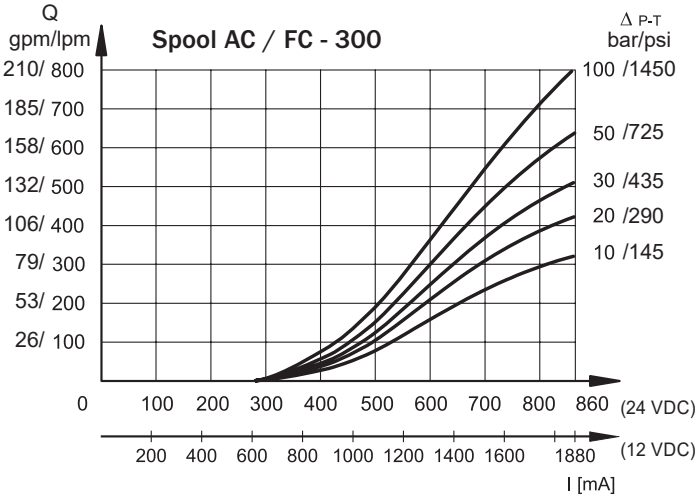




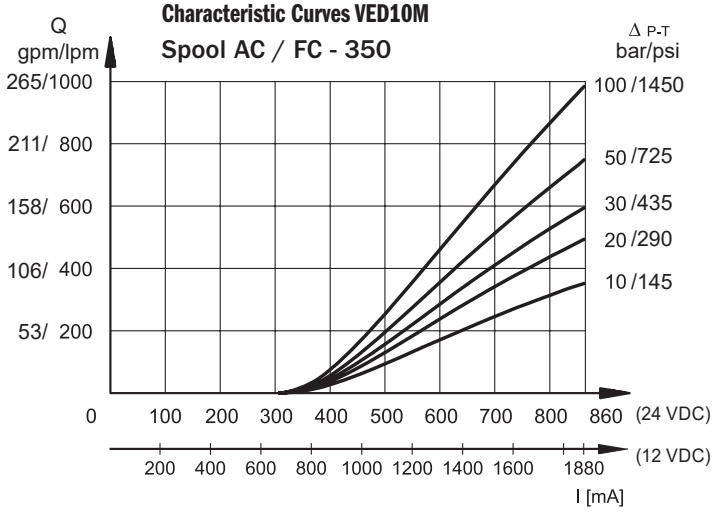


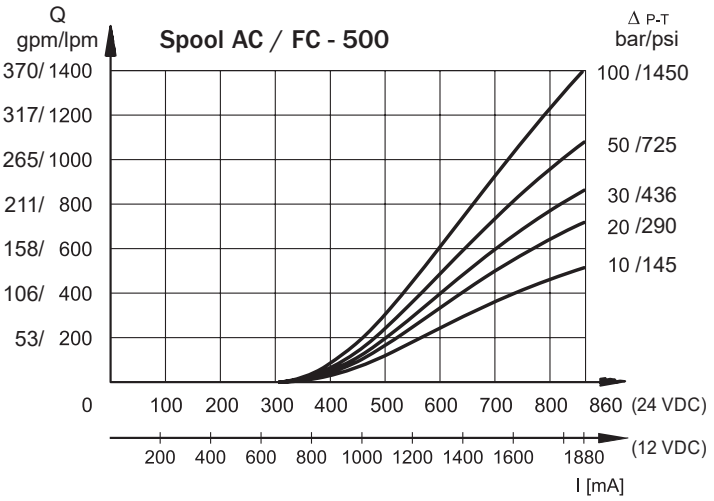


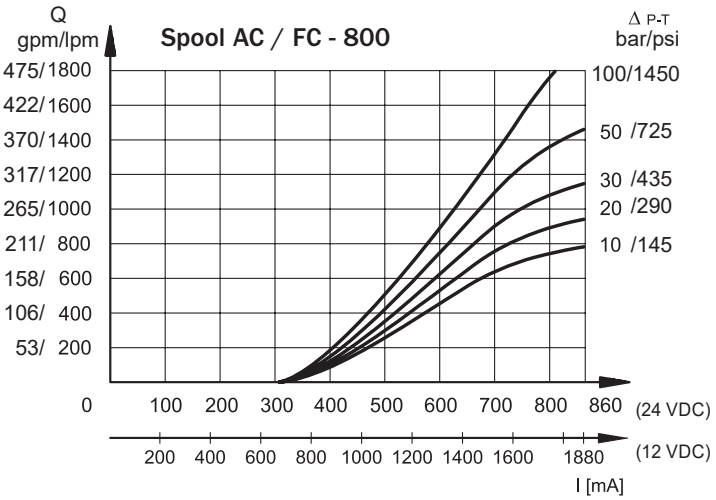




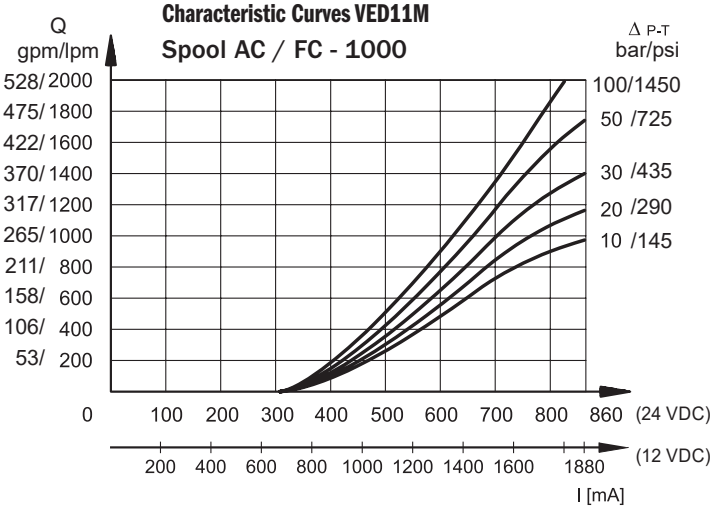
Characteristic Curves VED10M





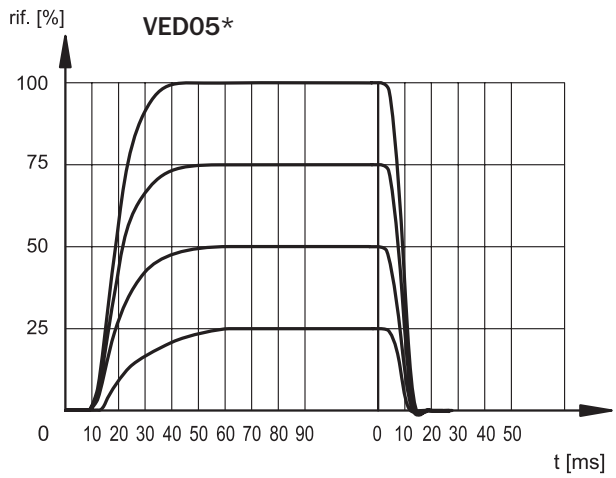


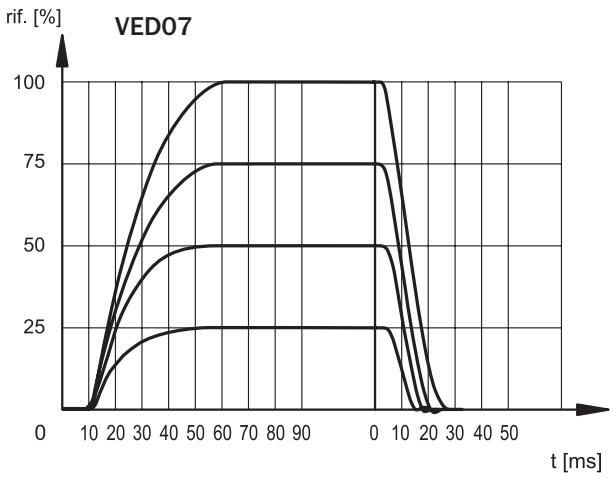
Characteristic Curves VED11M

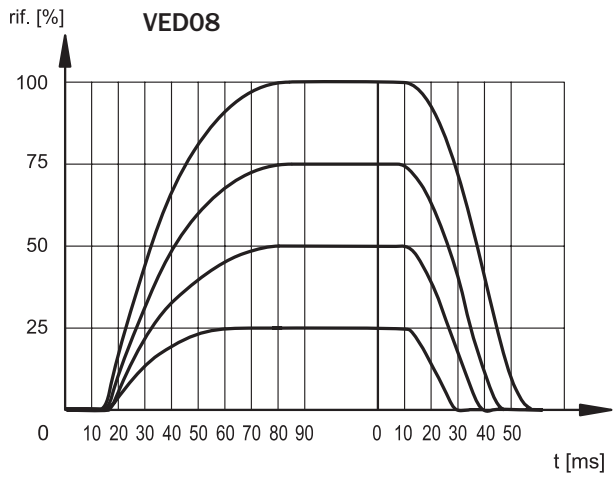


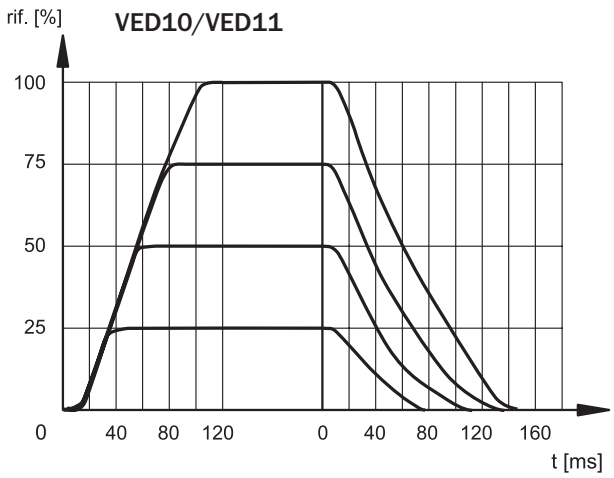
STEP RESPONSE

(obtained with mineral oil with viscosity of 36 cSt at 50°C and static pressure = 100 bar)









HYDRAULIC CHARACTERISTICS

(with mineral oil with viscosity of 36 cSt at 50°C and static pressure = 100 bar)

REFERENCE SIGNAL		VED05*	VED07	VED08	VED10	VED11
Max flow rate	GPM (l/min)	47 (180)	118 (450)	211 (800)	475 (1800)	528 (2000)
Pilot supply flow requested with operation 0 ⟶ 100%	GPM (l/min)	1 (2.1)	61 (2.4)	2.4 (5.5)	3.8 (6.5)	3.8 (6.5)
Pilot supply volume requested with operation 0 ⟶ 100%	in^3 (cm^3)	0.1 (1.7)	0.19 (3.2)	0.56 (9.2)	1.32 (21.6)	1.32 (21.6)

PRESSURES (bar)/psi	Min	Max
Piloting pressure on X port	(30) 435	(210) 3000 (note)
Pressure on T port with interal drain	-	(10) 145
Pressure on T port with external drain	-	(250) 3600

NOTE: If the valve operates at higher pressures it is necessary to use the version with external pilot supply with reduced pressure.

Otherwise, the valve with internal pilot and pressure reducing valve with 30 bar fixed adjustment can be ordered (mechanical code option Z).

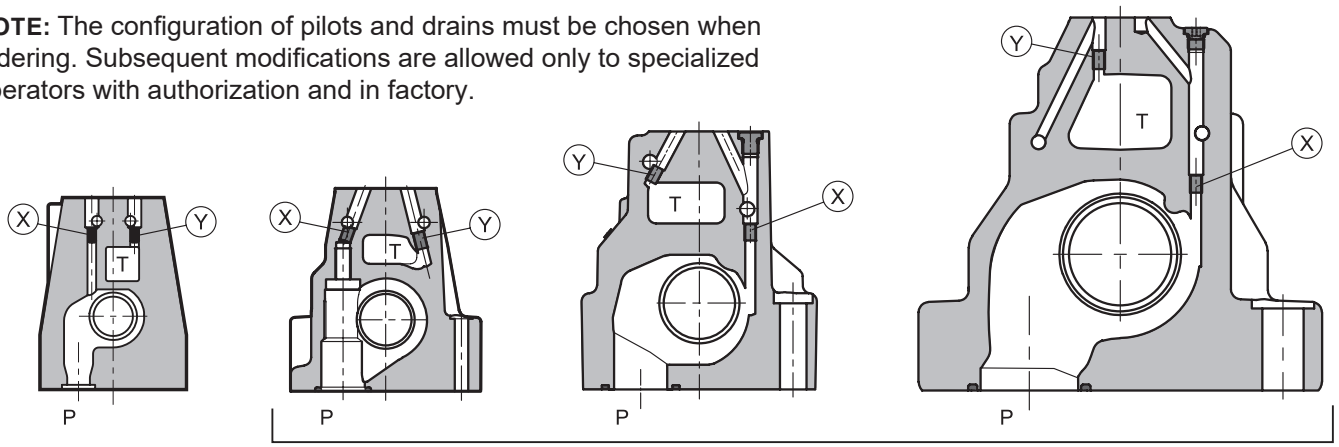
HYDRAULIC CHARACTERISTICS - Pilot and Drain

G Series Valves are available with pilot and drain both internal or external. The version with external drain allows a higher back pressure on the unloading. The version with external pilot with reduced pressure must be used when higher pressures are needed.

The pilot supply Z type consists of an arrangement with internal piloting and 30 bar supply pressure for the pilot stage by means of a fixed adjustment pressure reducing valve.

NOTE: The configuration of pilots and drains must be chosen when ordering. Subsequent modifications are allowed only to specialized operators with authorization and in factory.

TYPE OF VALVE		Plug Assembly	
		X	Y
IE	Internal pilot and external drain	NO	YES
II	External pilot and external drain	YES	YES
EE	Internal pilot and internal drain	NO	NO
EI	External pilot and internal drain	YES	NO



VED05*

X: plug M5x6 for external pilot
Y: plug M5x6 for external drain

VED07, VED08, VED10, VED11

X: plug M6x8 for external pilot
Y: plug M6x8 for external drain

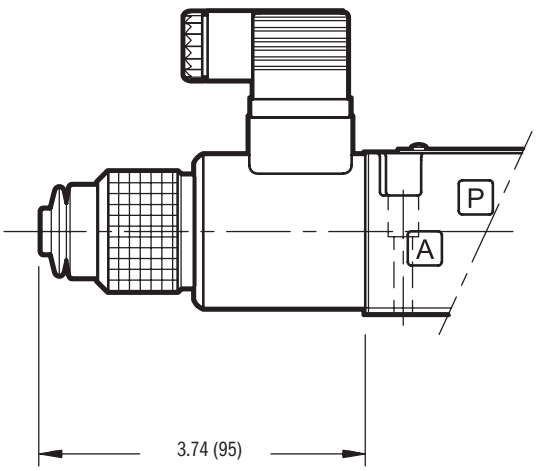
MANUAL OVERRIDE

These valves have solenoids whose pin for manual operation is integrated in the tube. Actuate this override by pushing it with a suitable tool, minding not to damage the sliding surface.

Two other types of manual overrides can fit the DSPE*GL valve:

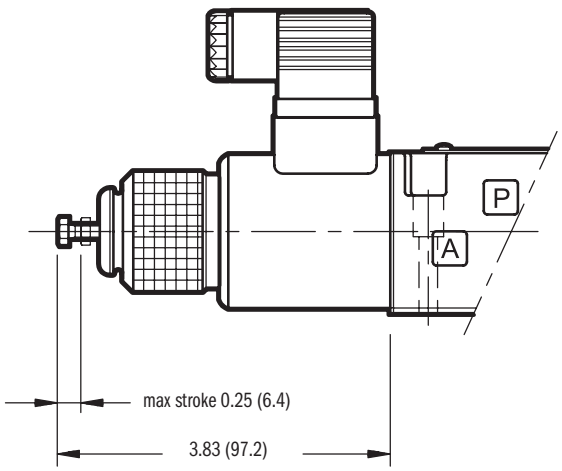
- CM version, manual override belt protected
- CS version, with metal ring nut provided with a M4 screw and a blocking locknut

CM version



Code: M3803210003 VND

CS version

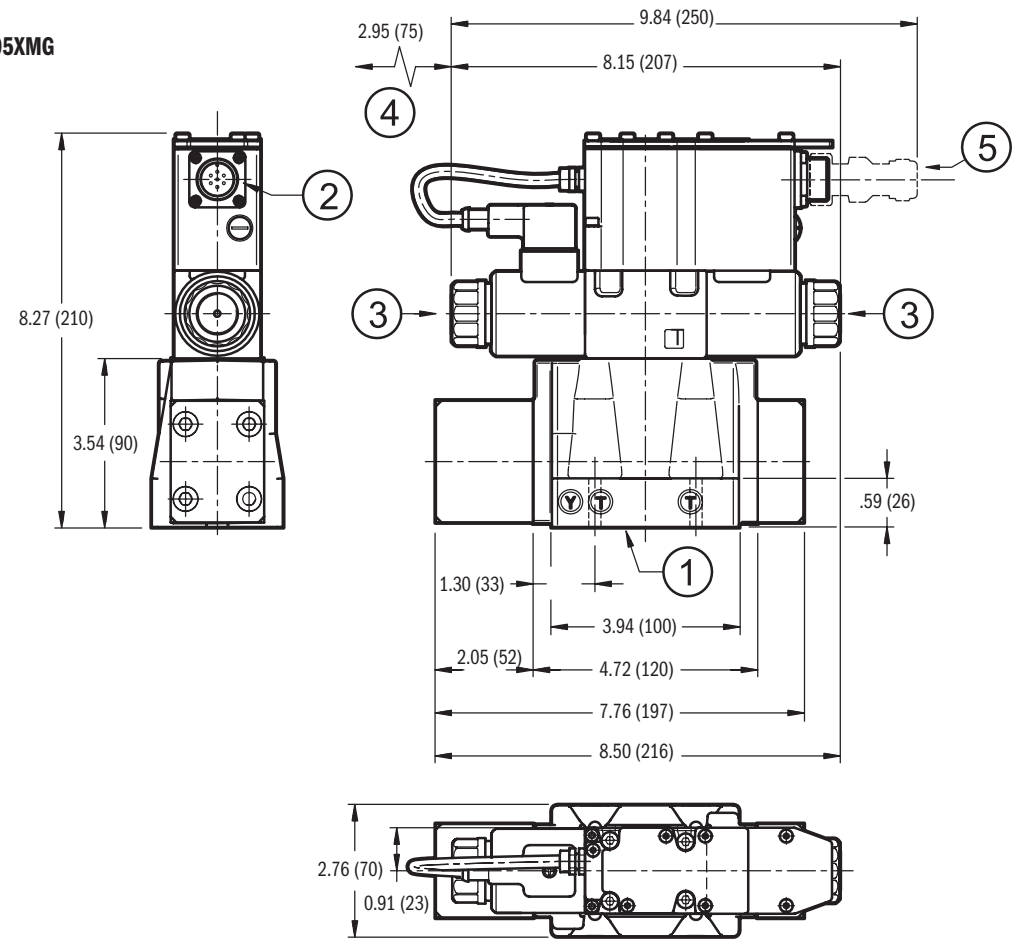


Code: M3803210004

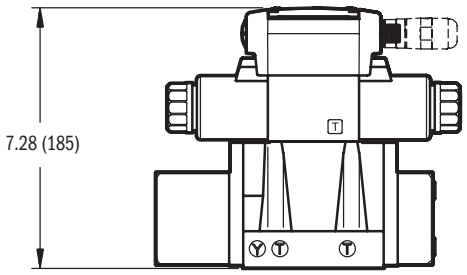
OVERALL AND MOUNTING DIMENSIONS VED05*

Dimensions inch (mm)

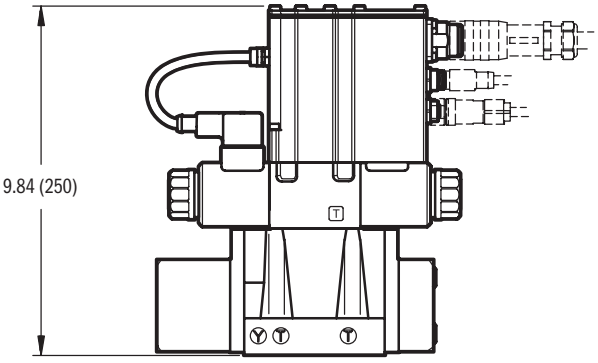
VED05XMG



VED05*GL



VED05*GH



NOTE: - Mounting surface at par. 17.

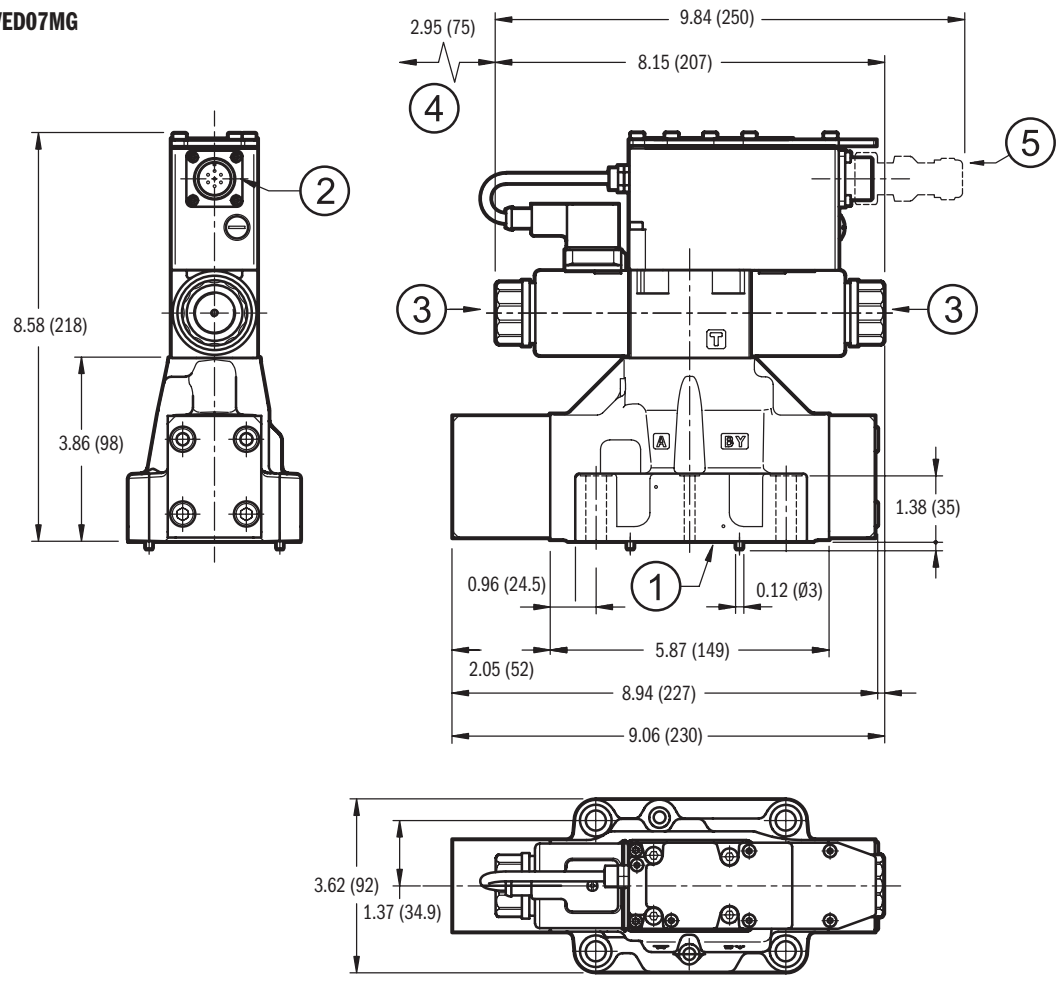
Valve fastening: 4 SHC screws ISO 4762
Tightening torque: 8 Nm (A8.8 screws)
Threads of mounting holes: M6x10

1	Mounting surface with sealing rings: N. 5 OR type AS569-014 - 90 Shore A N. 2 OR type AS568-012 - 90 Shore A
2	Main connection 6 pin + PE
3	Manual override embedded in the solenoid tube
4	Coil removal space
5	Mating connector. To be ordered separately.

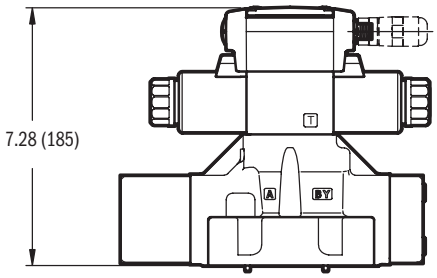
OVERALL AND MOUNTING DIMENSIONS VED07

Dimensions inch (mm)

VED07MG



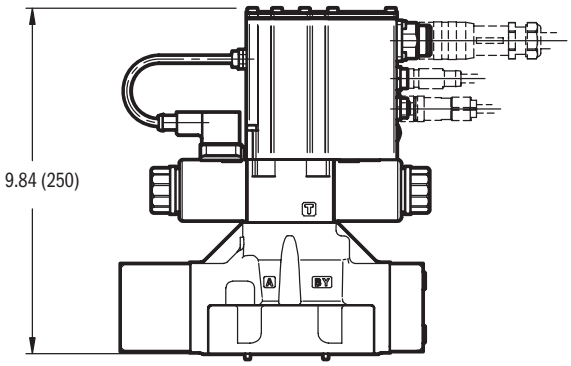
VED07GL



NOTE: - Mounting surface at par. 17.

Valve fastening: 4 SHC screws M10x50 - ISO 4762 2 SHC screws M6x50 - ISO 4762
Tightening torque: M10x50: 40 Nm (A8.8 screws) M6x50: 8 Nm (A8.8 screws)
Threads of mounting holes: M6x18; M10x18

VED07GH

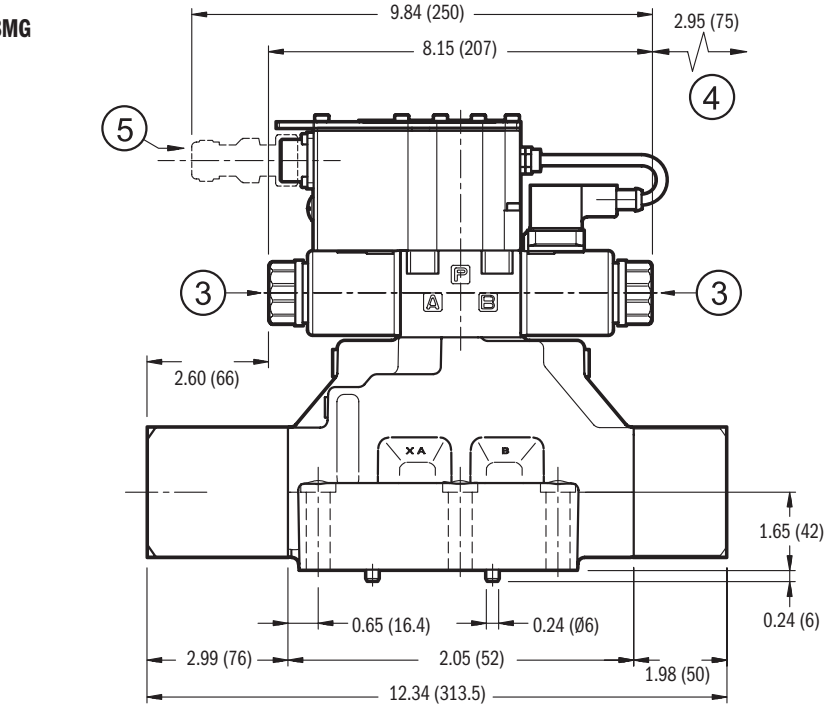


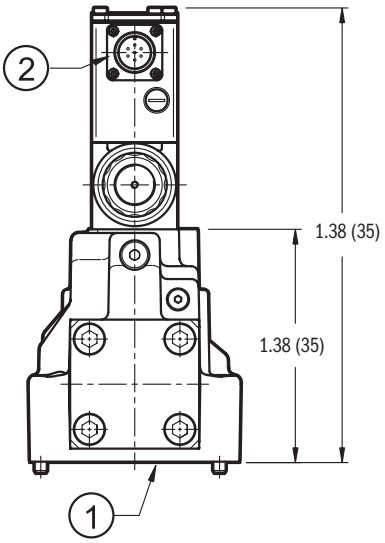
1	Mounting surface with sealing rings: N. 5 OR type AS569-014 - 90 Shore A N. 2 OR type AS568-012 - 90 Shore A
2	Main connection 6 pin + PE
3	Manual override embedded in the solenoid tube
4	Coil removal space
5	Mating connector. To be ordered separately.

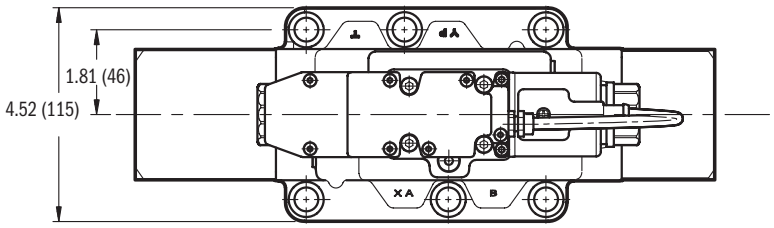
OVERALL AND MOUNTING DIMENSIONS VED08

Dimensions inch (mm)

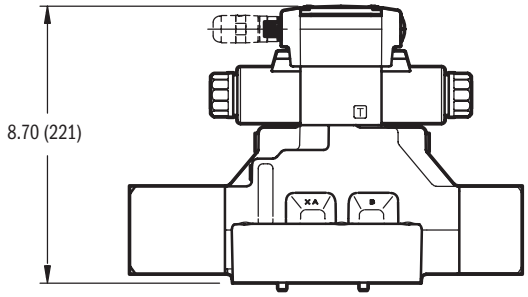
VED08MG



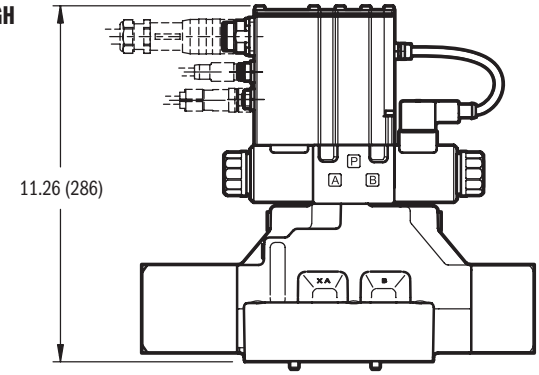




VED08GL



VED08GH



NOTE: - Mounting surface at par. 17.

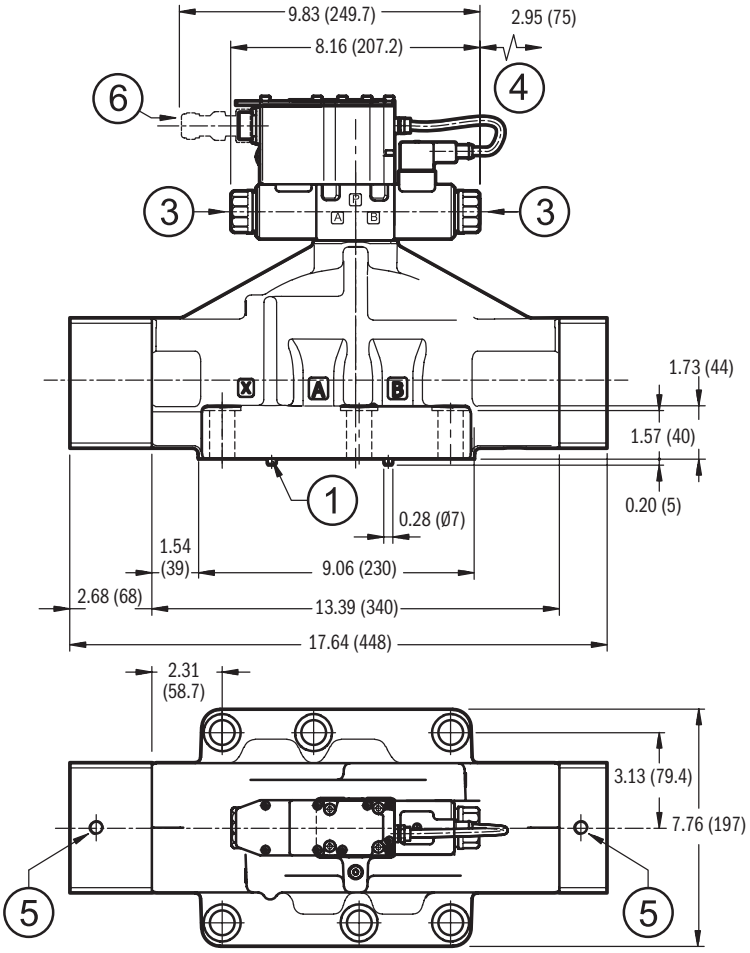
Valve fastening: 6 SHC screws M12x60 - ISO 4762
Tightening torque: 69 Nm (A8.8 screws)
Threads of mounting holes: M12x20

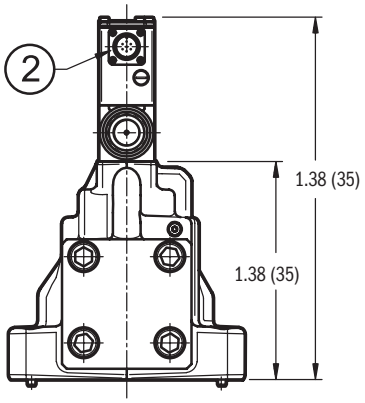
1	Mounting surface with sealing rings: N. 5 OR type AS569-014 - 90 Shore A N. 2 OR type AS568-012 - 90 Shore A
2	Main connection 6 pin + PE
3	Manual override embedded in the solenoid tube
4	Coil removal space
5	Mating connector. To be ordered separately.

OVERALL AND MOUNTING DIMENSIONS VED10/VED11

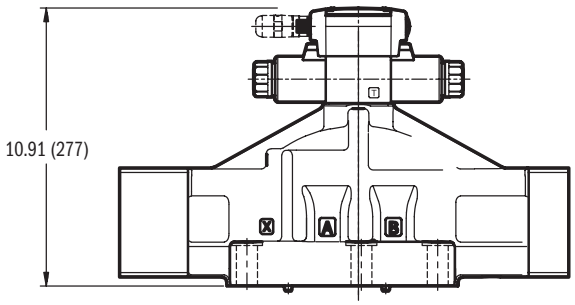
Dimensions inch (mm)

VED1*MG

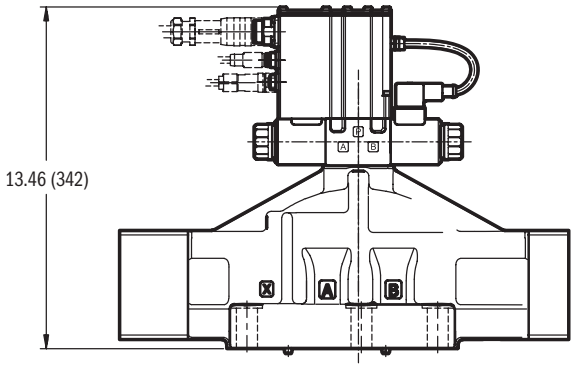




VED1*GL



VED1*GH



NOTE: - Mounting surface at par. 17.

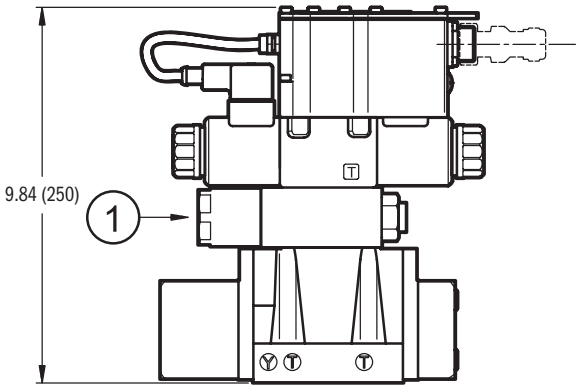
Valve fastening: 6 SHC screws M20x70 - ISO 4762
Tightening torque: 330 Nm (A8.8 screws)
Threads of mounting holes: M20x40

1	Mounting surface with sealing rings: N. 5 OR type AS569-014 - 90 Shore A N. 2 OR type AS568-012 - 90 Shore A
2	Main connection 6 pin + PE
3	Manual override embedded in the solenoid tube
4	Coil removal space
5	M12 eyebolt seat for safe lift
6	Mating connector. To be ordered separately.

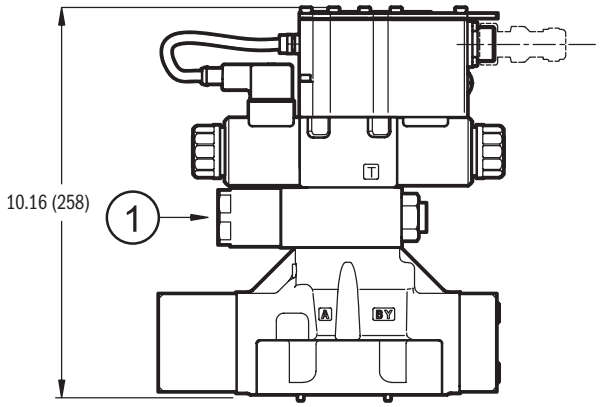
OVERALL AND MOUNTING DIMENSIONS - PILOT SUPPLY TYPE Z

Dimensions inch (mm)

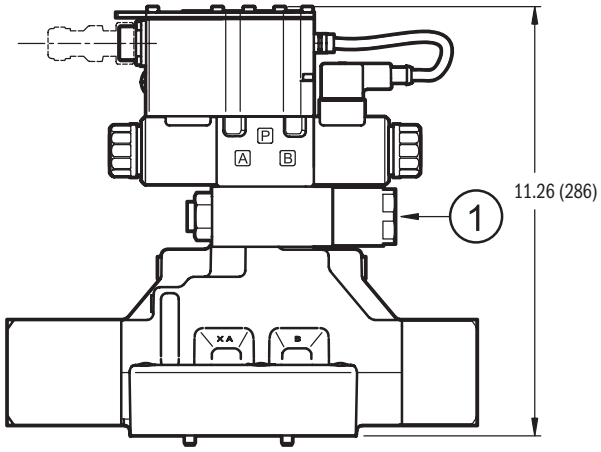
VED05*MG



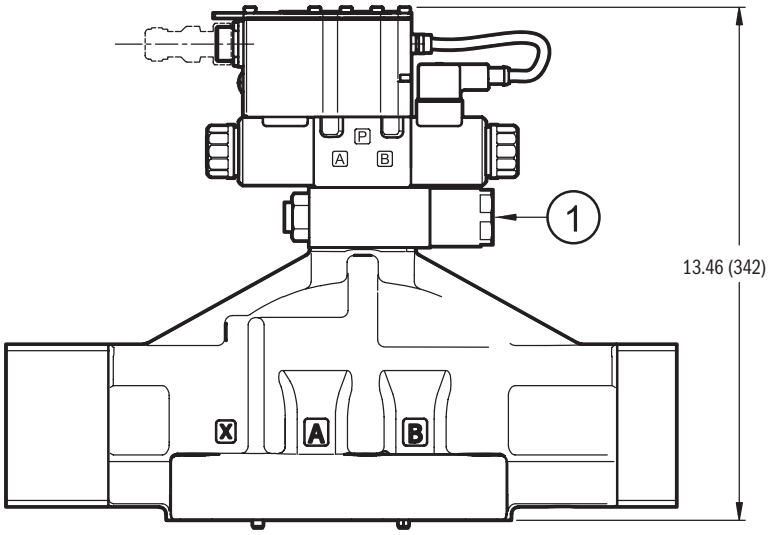
VED07MG



VED08MG



VED1*MG

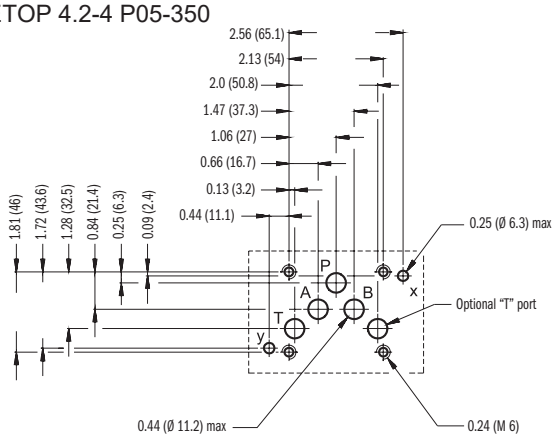


P03MSV-PDRP-F43-AC

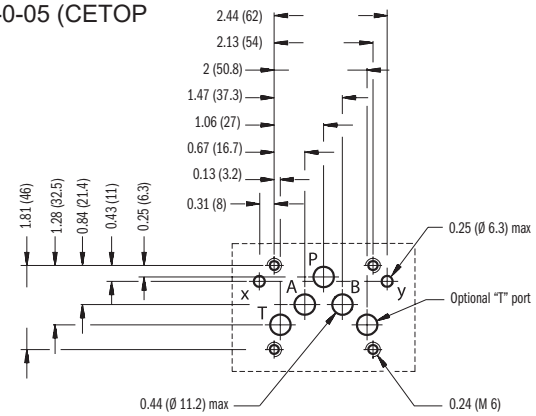
1	30 bar fixed adjustment pressure reducing valve

OVERALL AND MOUNTING DIMENSIONS Dimensions inch [mm]

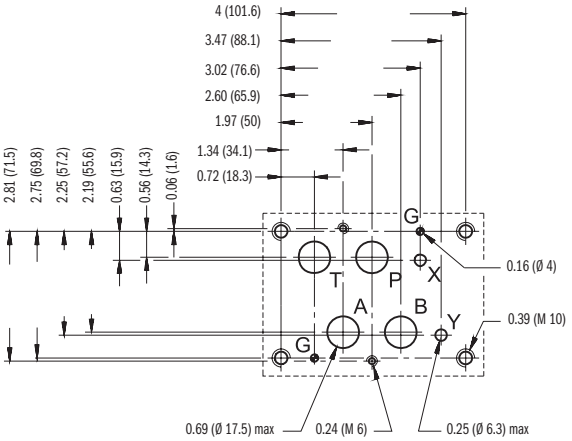
VED05BM
CETOP 4.2-4 P05-350



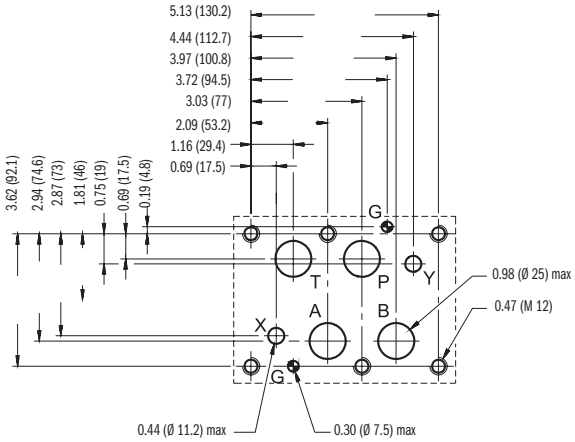
VED05AM
ISO 4401-05-05-0-05 (CETOP 4.2-4 R05-350)



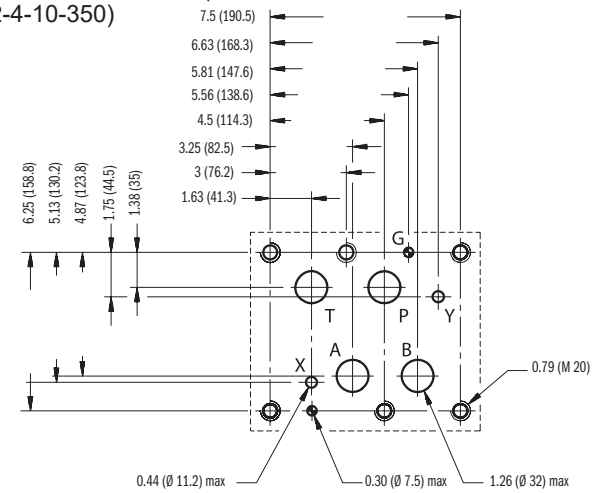
VED07M
ISO 4401-07-07-0-05 (CETOP 4.2-4-07-350)



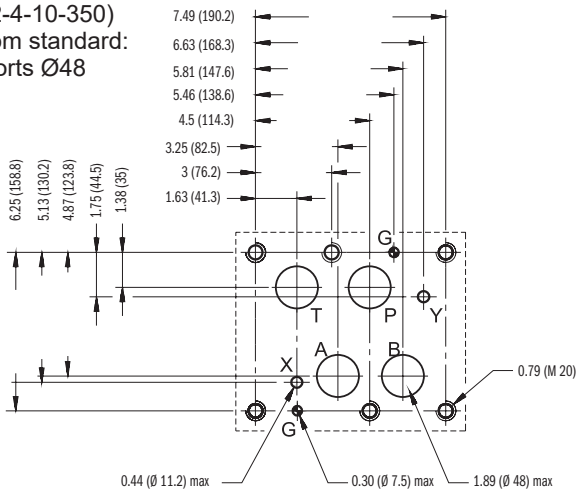
VED08M
ISO 4401-08-08-0-05 (CETOP 4.2-4-08-350)



VED10M
ISO 4401-10-09-0-05 (CETOP 4.2-4-10-350)



VED11M
ISO 4401-10-09-0-05 (CETOP 4.2-4-10-350) deviating from standard: P, T, A, B ports Ø48



HYDRUALIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals (code N). For fluids HFDR type (phosphate esters) use FPM seals (code V). For the use of other fluid types such as HFA, HFB, HFC, please consult our technical department.

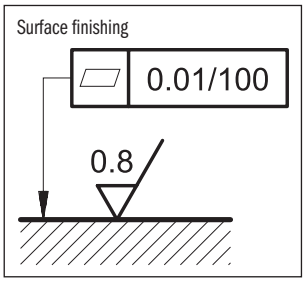
Using fluids at temperatures higher than 80 °C causes a faster degradation of the fluid and of the seals characteristics. The fluid must be preserved in its physical and chemical characteristics.

INSTALLATION

The valves can be installed in any position without impairing correct operation.

Ensure that there is no air in the hydraulic circuit.

Valves are fixed by means of screws or tie rods on a flat surface with planarity and roughness equal to or better than those indicated in the relative symbols. If minimum values are not observed, fluid can easily leak from the mounting surface.



ACCESSORIES

(to be ordered separately

Mating connectors: Mating connectors must be ordered separately. See catalogue 89 000)

For K11 and K16 versions we recommend the choice of a metal connector to avoid electromagnetic disturbances and to comply with EMC regulations on electromagnetic compatibility. If you opt for a plastic connector, make sure that it guarantees and maintains the IP and EMC protection characteristics of the valve.

Mating connectors and caps for fieldbus communication and for sensors.
Duplomatic offers spare parts to be wired and also ready-to-use cord sets. Please refer to cat. 89 000.

Connection cable
The optimal wiring provides for 7 isolated conductors, with separate screen for the signal wires (command, monitor) and an overall screen.

Cross section for power supply:

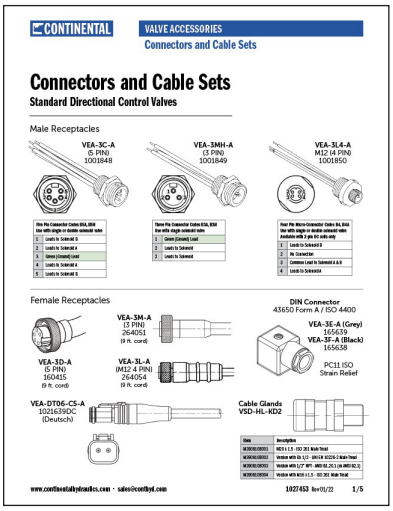
- up to 20 m cable length : 1,0 mm^2
- up to 40 m cable length : 1,5 mm^2 (IO-Link excluded)

Cross section for signals (command, monitor):

- 0,50 mm^2

Kit for start-up LINPC-USB: Device for service start-up and diagnostic. See catalogue 89 850.

ACCESSORIES CATALOGS



Connectors and Cables Sets
Form #1027453

Programming and Test Devices
Form #1027454

CONTINENTAL HYDRAULICS INC. / HYDRECO HYDRAULICS INC.

4895 12th Avenue East, Shakopee, Minnesota 55379

952.895.6400 • sales@conthyd.com • **www.continentalhydraulics.com**

704.295.7575 • sales-us@hydreco.com • **www.hydreco.com**

© 2023-2024 CONTINENTAL HYDRAULICS Inc., All Rights Reserved. Specifications/appearance are subject to change without notice.