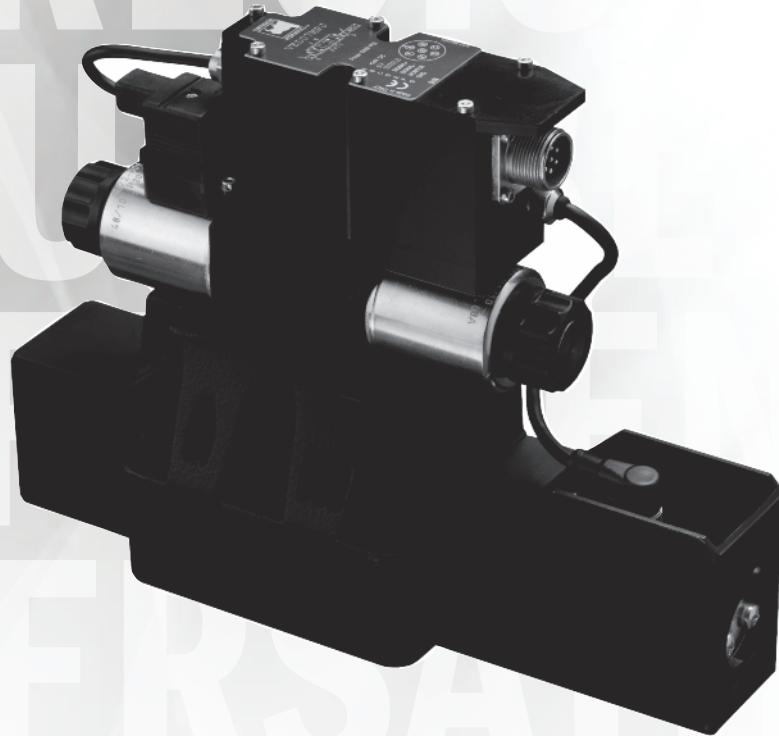




CONTINENTAL HYDRAULICS

# VED\* MJ

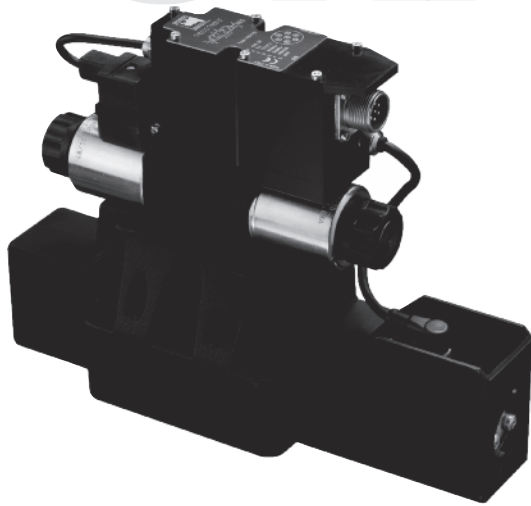
PILOTED PROPORTIONAL DIRECTION CONTROL VALVES WITH OBE & FEEDBACK



VED\* MJ - PILOTED PROPORTIONAL DIRECTION CONTROL VALVES WITH OBE & FEEDBACK

# VED\* MJ

## PILOTED PROPORTIONAL DIRECTION CONTROL VALVES WITH OBE & FEEDBACK



### DESCRIPTION

The VED\* MJ are pilot operated 4-way proportional valves with On-Board Digital Amplifier and Spool Position sensing, conform to NFPA and ISO 4401:2005 (CETOP RP 121H) mounting standards.

### OPERATION

These valves are designed to control the direction and oil flow rate based on the degree of command signal supplied to the On-Board Amplifier. In event of a loss in electrical power, the centering springs will return the valve spool to the center position.

The Spool Position Sensor circuit improves the overall valve performance by reducing hysteresis and improving response times.

The On-Board microprocessor controls all the valve functions and is pre-set to optimal valve performance. In-field adjustments can be performed via software to customize the parameters based on your application. The valves with internal pilot are available also with a pressure reducing valve.

### TYPICAL PERFORMANCE SPECIFICATIONS

<b>MAXIMUM OPERATING PRESSURE</b>	P - A - B Ports	5000 psi	350 bar
	T Port (int. drain)	145 psi	10 bar
	T Port (ext. drain)	3600 psi	250 bar
	X Port (min pressure)	435 psi	30 bar
<b>HYSTERESIS</b>	% of Q max	< 0.5%	
<b>REPEATABILITY</b>	% of Q max	< ± 0.2%	
<b>POWER SUPPLY</b>		24V DC (19V to 35V, ripple max 3V pp)	
	max current	3A	
<b>CONNECTION</b>		7 pin (6+gnd) metal	
<b>PROTECTION</b>	IEC 60529	IP 65/67	

		VED05* MJ		VED07 MJ		VED08 MJ		VED10 MJ	
<b>FLOW CAPACITY WITH ΔP 145 PSI (10 BAR)</b>		21 gpm	80 l/min	26.5 gpm	100 l/min	53 gpm	200 l/min	93 gpm	350 l/min
		21/10.5 gpm	80/40 l/min	40 gpm 40/20 gpm	150 l/min 150/75 l/min	80 gpm 80/40 gpm	300 l/min 300/150 l/min	132 gpm 132/66 gpm	500 l/min 500/250 l/min
<b>MAX FLOW</b>		48 gpm	180 l/min	120 gpm	450 l/min	210 gpm	800 l/min	420 gpm	1600 lpm
<b>MOUNTING SURFACE</b>		NFPA D05 alt. A/alt. B ISO 4401-05-*0-05		NFPA D07 ISO 4401-07-07-0-05		NFPA D08 ISO 4401-08-08-0-05		NFPA D10 ISO 4401-10-09-0-05	
<b>WEIGHT</b>	Single Solenoid	18.7 lbs	8.5 kg	23.2 lbs	10.5 kg	37.5 lbs	17 kg	120 lbs	54.6 kg
	Dual Solenoid	19.8 lbs	9.0 kg	24.3 lbs	11.0 kg	38.4 lbs	17.4 kg	122 lbs	55 kg

# IDENTIFICATION CODE

**VED** [ ] **MJ** - [ ] [ ] - [ ] - [ ] [ ] [ ] - [ ] [ ] **D** - [ ] \_\_\_\_\_ DESIGN LETTER

Position Feedback

SIZE	
<b>05A</b>	NFPA D05 alt. A
<b>05B</b>	NFPA D05 alt. B
<b>07</b>	NFPA D07
<b>08</b>	NFPA D08
<b>10</b>	NFPA D10

SEAL	
<b>A</b>	Buna (STD)
<b>G</b>	Viton

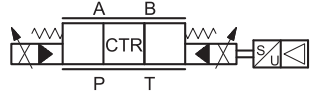
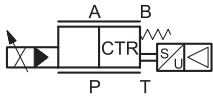
MECHANICAL (omit if not required)	
<b>R</b>	Reverse operator 2 position spring centered solenoid A supplied. <b>Code R available in D08 and D10 sizes only.</b>
<b>Z</b>	Pilot pressure reducer. Mandatory with pilot drain 1 and 3 when pressure is higher than 3000 psi (210 bar).

REFERENCE SIGNAL	
<b>E0</b>	Voltage ± 10V (STD)
<b>E1</b>	Current 4-20 mA

NOMINAL FLOW (with Δp P-T 145 psi)		
<b>05</b>	<b>80</b>	80 l/min (21 gpm)
	<b>80/40</b>	Asymmetrical spool 80 l/min (21 gpm) on P-A 40 l/min (10.5 gpm) on B-T
<b>07</b>	<b>100</b>	100 l/min (26.5 gpm)
	<b>150</b>	150 l/min (40 gpm)
<b>08</b>	<b>150/75</b>	Asymmetrical spool 150 l/min (40 gpm) on P-A 75 l/min (20 gpm) on B-T
	<b>200</b>	200 l/min (53 gpm)
<b>10</b>	<b>300</b>	300 l/min (80 gpm)
	<b>300/150</b>	Asymmetrical spool 300 l/min (80 gpm) on P-A 150 l/min (40 gpm) on B-T
<b>10</b>	<b>350</b>	350 l/min (39 gpm)
	<b>500</b>	500 l/min (132 gpm)
	<b>500/250</b>	Asymmetrical spool 500 l/min (132 gpm) on P-A 250 l/min (66 gpm) on B-T

CONNECTION	
<b>OBW</b>	On board electronics - Internal Enable Monitor signal PIN F to PIN B
<b>OBC</b>	On board electronics - PIN C Enable Monitor signal PIN F to PIN B
<b>OBM</b>	On board electronics - Internal Enable Monitor signal PIN F to PIN C

PILOT / DRAIN	
<b>1</b>	Internal pilot External drain
<b>2</b>	External pilot External drain
<b>3</b>	Internal pilot Internal drain
<b>4</b>	External pilot Internal drain

FUNCTION	
<b>3</b>	 <p>Dual operator 3 Position Spring Centered</p>
<b>5</b>	 <p>Single operator 2 Position Spring Centered</p> <p><b>D05 and D07 are available as code 5 only. D08 and D10 are available as code 5-R only.</b></p>

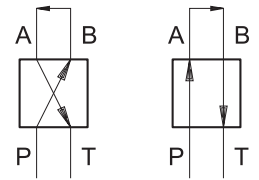
TYPICAL ORDERING CODE:  
**VED07MJ-3AC-100-A3-0BWE0D-D**

SPOOLS					
NAME	SYMBOL	DESCRIPTION	APPLICATION	SIZE	FUNCTION MATCHING
<b>AC</b>		METER IN / METER OUT	MOTION CONTROL	05, 07,	3, 5
<b>FC</b>				08, 10	3, 5R
<b>RL</b>		METER IN / METER OUT (REGEN)		05, 07,	3, 5
<b>RA</b>				08, 10	3, 5R
				07, 08, 10	3
				07, 08, 10	3

VED\* MJ - PILOTTED PROPORTIONAL DIRECTION CONTROL VALVES WITH OBE & FEEDBACK

# PERFORMANCE CURVES - FLOW GAIN

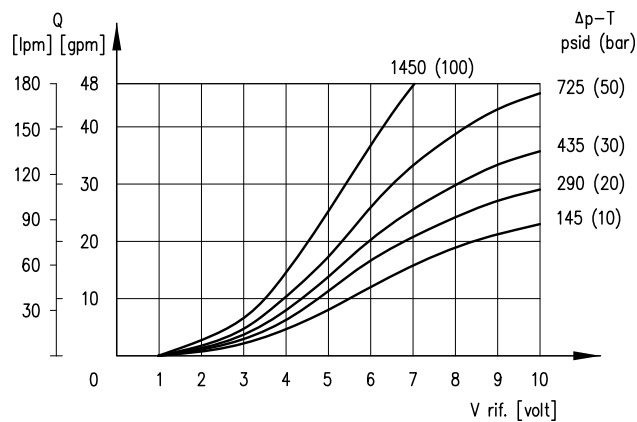
1. Curves obtained with mineral oil viscosity of 170 sus (36 cSt) at 122°F (50°C) and dedicated OBE.
2. The  $\Delta p$  values are measured between P and T (full loop) valve ports.
3. Typical flow rate curves at constant  $\Delta p$  related to the reference signal and measured for the available spools and obtained after linearization in factory of the characteristics curve through the digital amplifier.



VED\*MJ - PILOTED PROPORTIONAL DIRECTION CONTROL VALVES WITH OBE & FEEDBACK

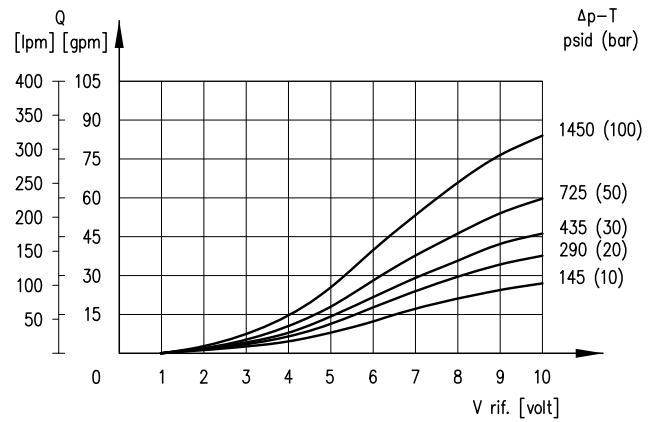
## VED05\*MJ

### AC-80/FC-80

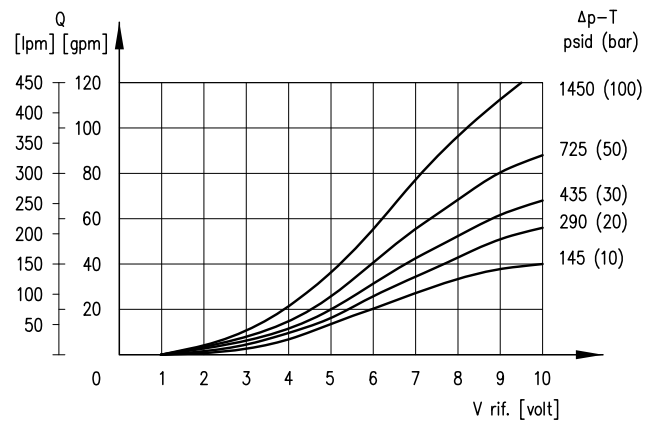


## VED07MJ

### AC-100/FC-100



### AC-150/FC-150



#### RESPONSE TIME VED05\*MJ

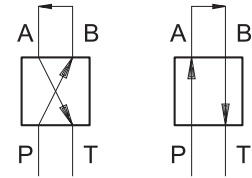
	ENERGIZING	DE-ENERGIZING
	0→100%	100%→0
<b>TIME [ms]</b>	50	45

#### RESPONSE TIME VED07MJ

	ENERGIZING	DE-ENERGIZING
	0→100%	100%→0
<b>TIME [ms]</b>	45	35

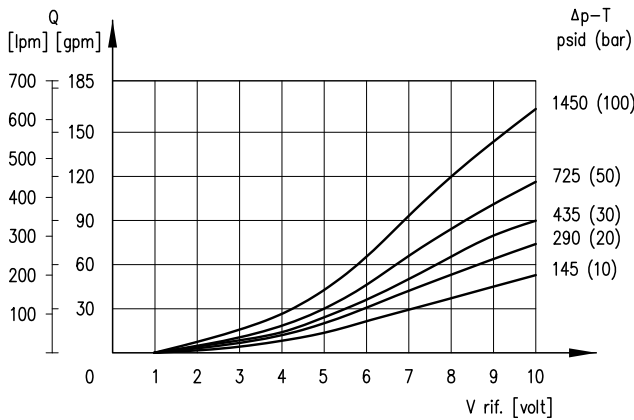
# PERFORMANCE CURVES - FLOW GAIN

1. Curves obtained with mineral oil viscosity of 170 sus (36 cSt) at 122°F (50°C) and dedicated OBE.
2. The  $\Delta p$  values are measured between P and T (full loop) valve ports.
3. Typical flow rate curves at constant  $\Delta p$  related to the reference signal and measured for the available spools and obtained after linearization in factory of the characteristics curve through the digital amplifier.



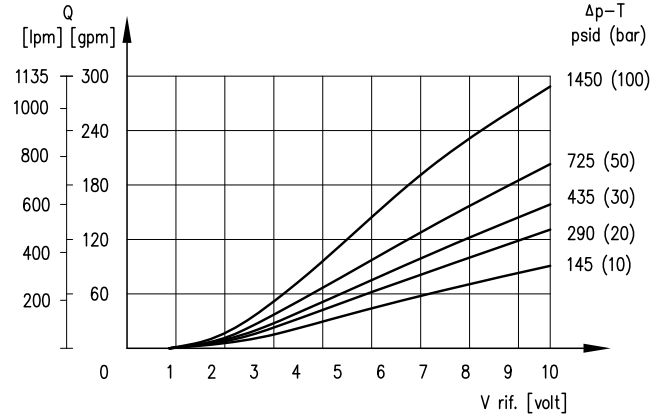
## VED08MJ

### AC-200/FC-200

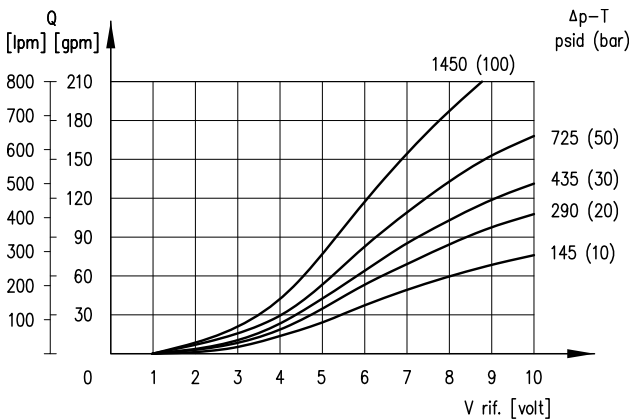


## VED10MJ

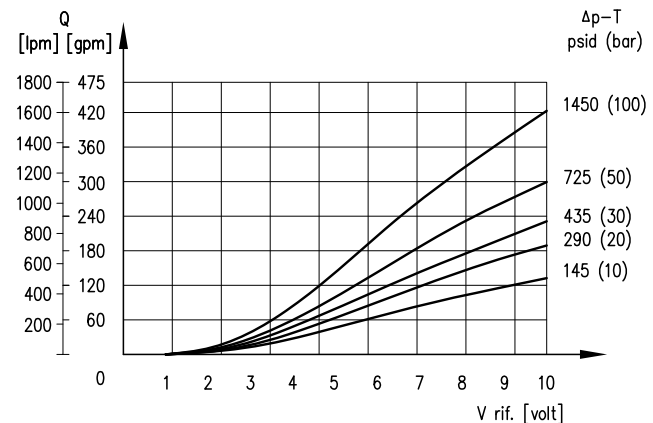
### AC-350/FC-350



### AC-300/FC-300



### AC-500/FC-500



#### RESPONSE TIME VED08MJ

	ENERGIZING	DE-ENERGIZING
	0→100%	100%→0
<b>TIME [ms]</b>	60	35

#### RESPONSE TIME VED10MJ

	ENERGIZING	DE-ENERGIZING
	0→100%	100%→0
<b>TIME [ms]</b>	120	160

# PILOT AND DRAIN CONFIGURATION

The VED\*MJ valves are available with pilot/drain configurations, both internal and/or external.

**The version with internal pilot without pressure reducer is suitable only on systems where the pressure is not higher than 3000 psi (210 bar).**

When the system pressure exceeds 3000 psi (210 bar) the use of the version with external pilot is mandatory, or alternatively, the version with internal pilot and pressure reducer. The pressure reducer has fixed adjustment of 430 psi (30 bar).

The version with external drainage allows a higher back pressure on the unloading.

CODE	PILOT	X PLUG	DRAIN	Y PLUG
1	Internal	□	External	■
2	External	■	External	■
3	Internal	□	Internal	□
4	External	■	Internal	□

■ Plugged □ Unplugged

## PILOTING REQUIREMENTS

Minimum value of piloting pressure on port X: 430 psi (30 bar).

PILOTING FLOW REQUIRED WITH OPERATION 0 → 100%		
VED05*MJ	0.92 gpm	3.5 l/min
VED07MJ	1.7 gpm	6.4 l/min
VED08MJ	4.0 gpm	15.3 l/min
VED10MJ	3.9 gpm	13.7 l/min

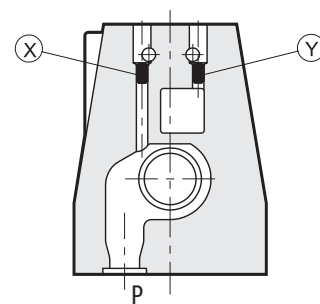
PILOTING VOLUME REQUIRED WITH OPERATION 0 → 100%		
VED05*MJ	0.11 in <sup>3</sup>	1.7 cm <sup>3</sup>
VED07MJ	0.19 in <sup>3</sup>	3.2 cm <sup>3</sup>
VED08MJ	0.61 in <sup>3</sup>	10.0 cm <sup>3</sup>
VED10MJ	1.34 in <sup>3</sup>	22.0 cm <sup>3</sup>

## PLUG SIZE

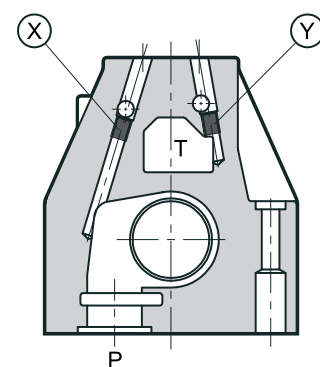
VED05*MJ	M5x6 mm
VED07MJ	M6x8 mm
VED08MJ	M6x8 mm
VED10MJ	M6x8 mm

### PLUG MOUNTING

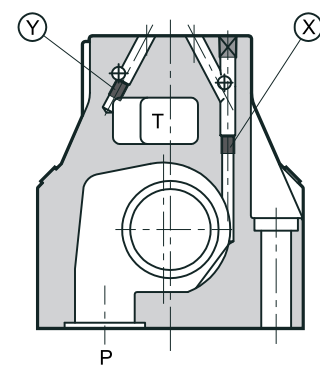
#### VED05\*MJ



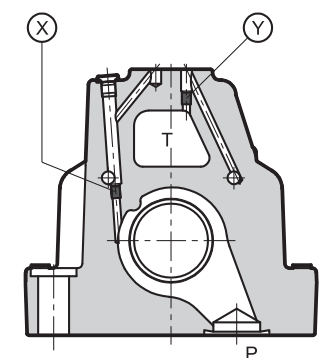
#### VED07MJ



#### VED08MJ



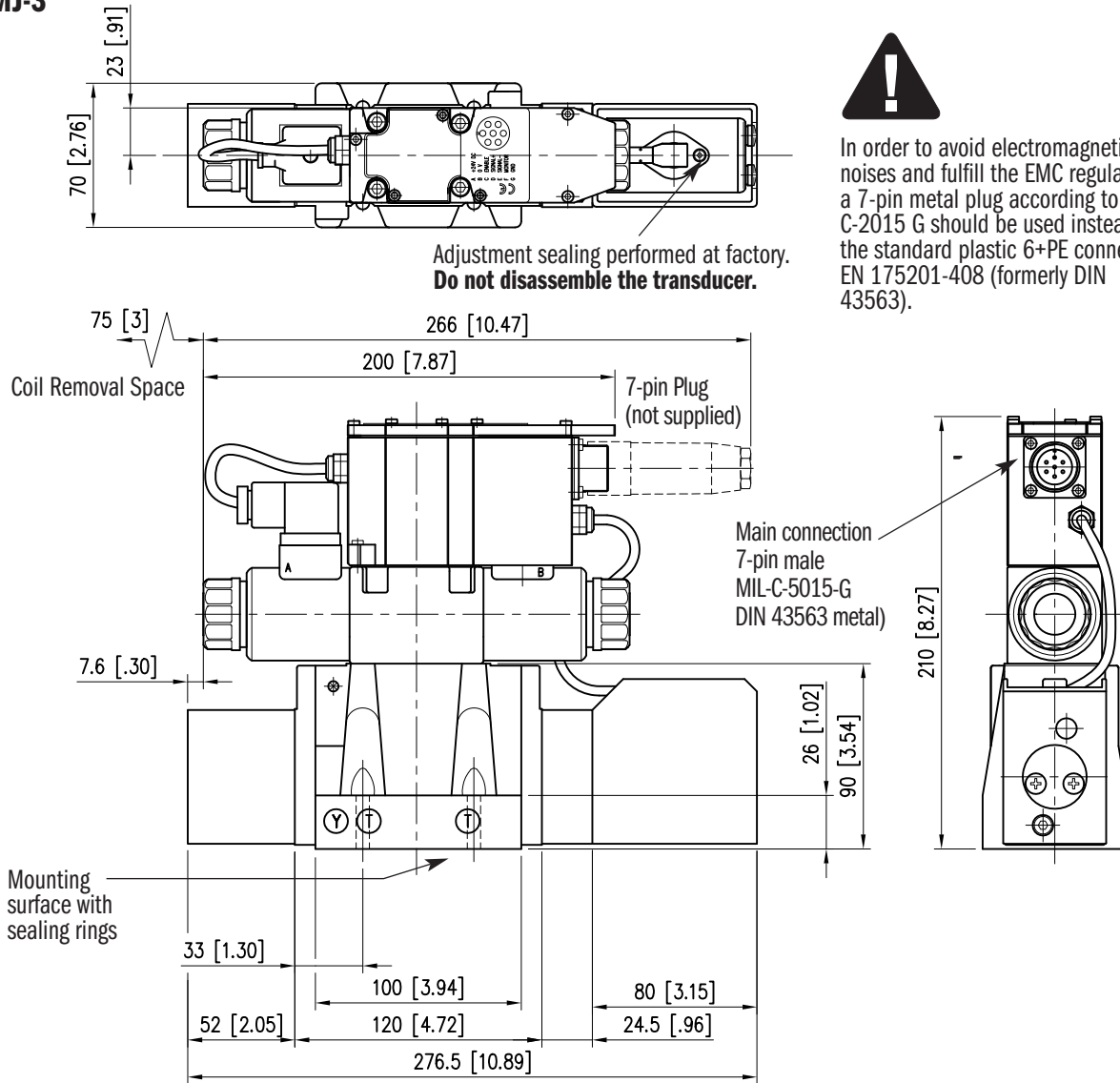
#### VED10MJ



# OVERALL AND MOUNTING DIMENSIONS

Dimensions in mm [IN]

## VED05\*MJ-3



**NOTES:**

For the single solenoid overall dimensions see related drawing. See page 11.

**THREAD OF MOUNTING HOLES**

1/4 - 20 UNC-2B x 0.60

**FASTENING**

4 bolts 1/4 - 20 UNC-2B X 1 1/2

**TIGHTENING TORQUE**

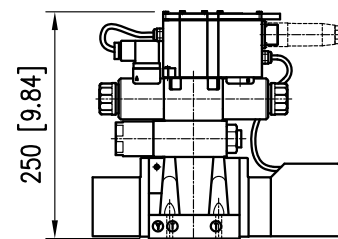
6 lbf-ft (8 Nm)

**SEALING RINGS**

5 O-rings AS568-014 90 Shore A

2 O-rings AS568-012 90 Shore A

## VED05\*MJ\*Z

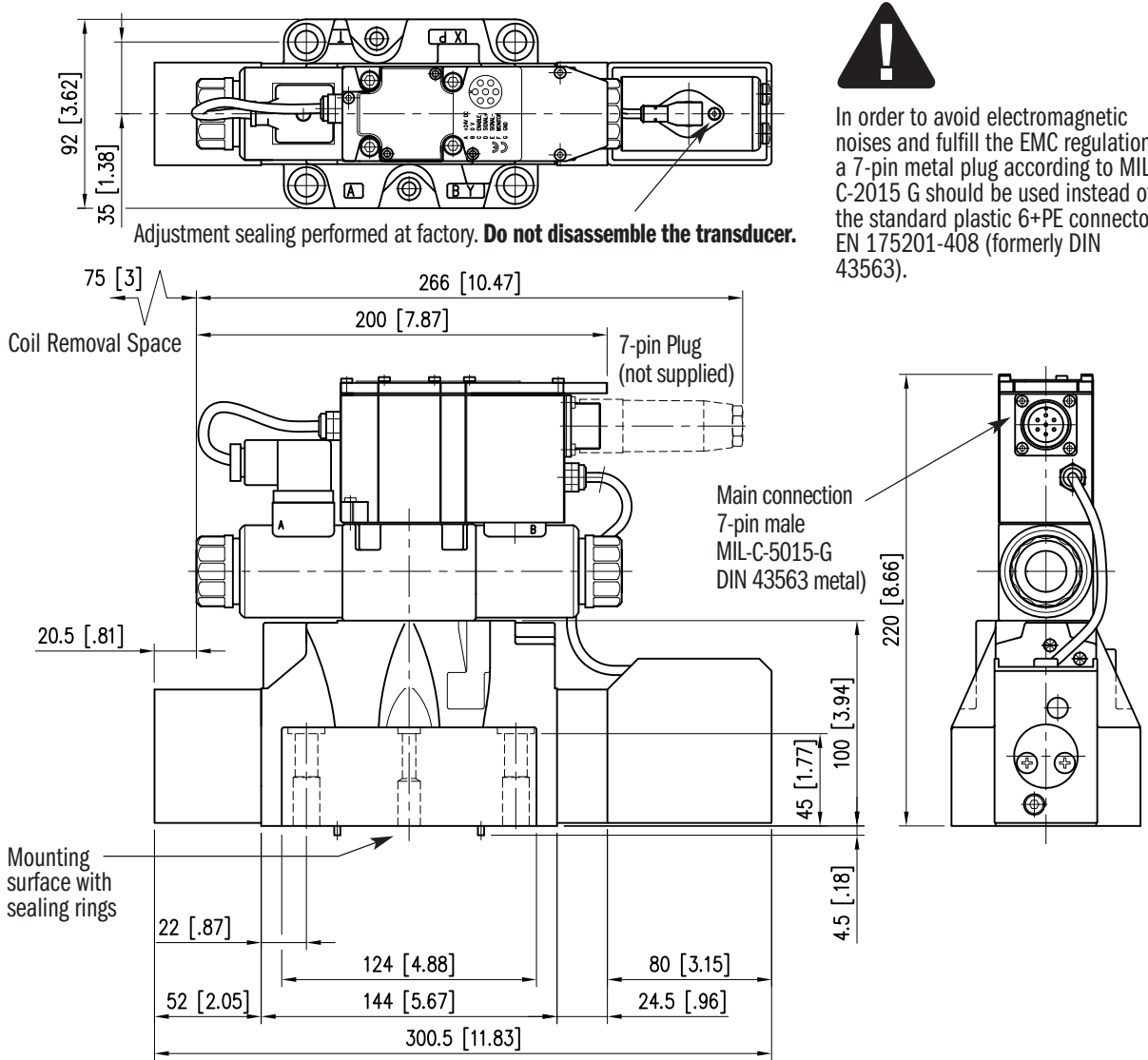




# OVERALL AND MOUNTING DIMENSIONS

## VED07MJ-3

Dimensions in mm [IN]



**NOTES:**

For the single solenoid overall dimensions see related drawing. See page 11.

**THREAD OF MOUNTING HOLES**

- 1/4 - 20 UNC-2B x 0.60
- 3/8 - 16 UNC-2B x 0.90

**FASTENING**

- 2 bolts 1/4 - 20 UNC-2B x 2 (50 mm)
- 4 bolts 3/8 - 16 UNC-2B x 2 1/2 (60 mm)

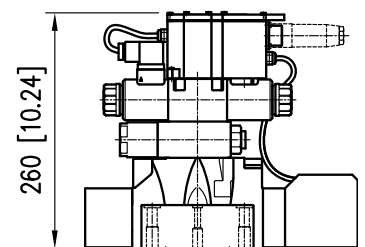
**TIGHTENING TORQUE**

- 1/4 - 20 UNC-2B: 6 lb-ft (8 Nm)
- 3/8 - 16 UNC-2B: 29.5 lb-ft (40 Nm)

**SEALING RINGS**

- 4 O-rings 22.22mm ID x 2.62 CS 90 Shore A
- 2 O-rings AS568-012 90 Shore A

## VED07MJ\*Z

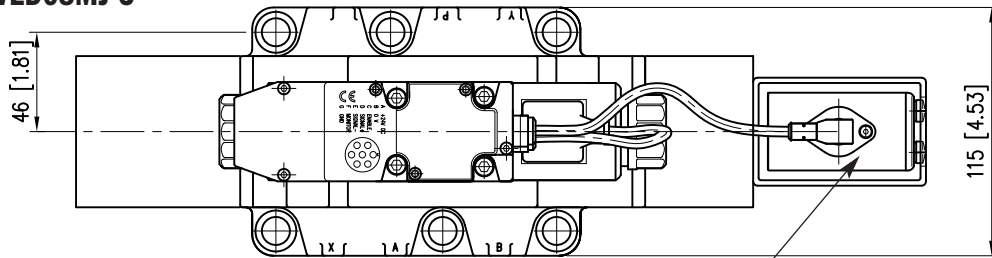




# OVERALL AND MOUNTING DIMENSIONS

## VED08MJ-3

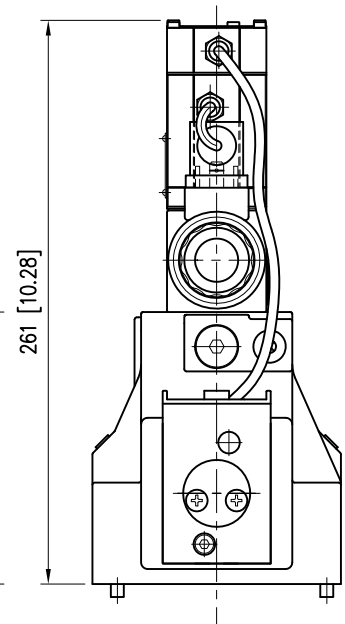
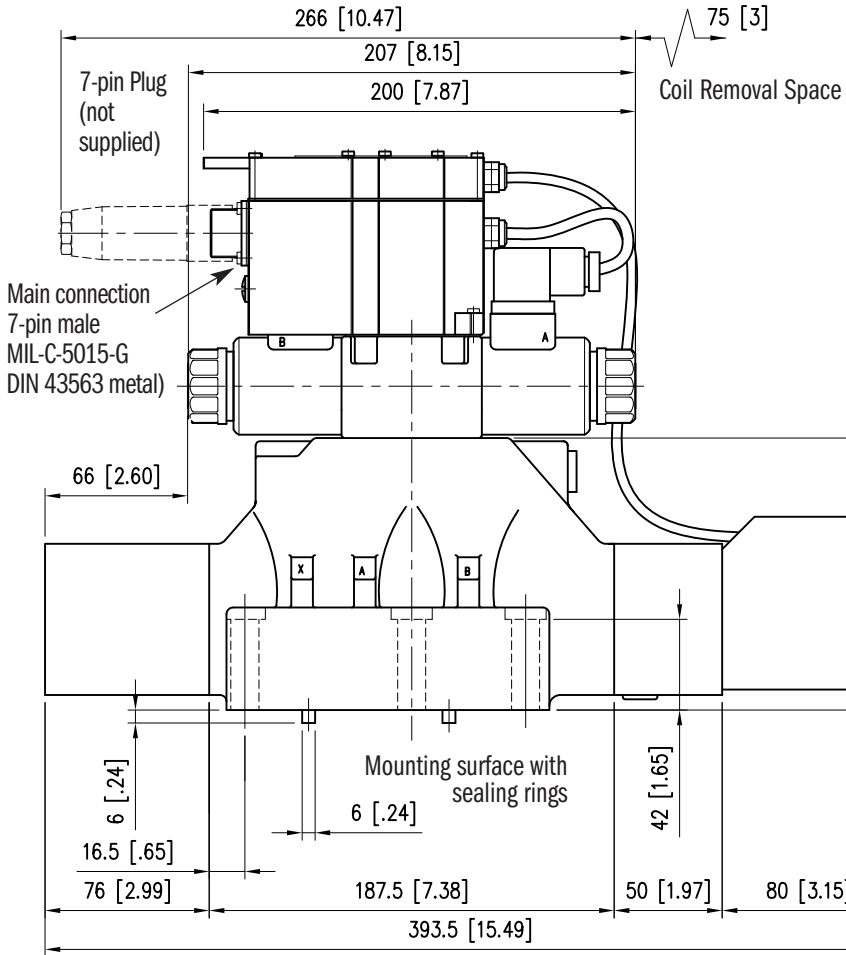
Dimensions in mm [IN]



Adjustment sealing performed at factory. **Do not disassemble the transducer.**



In order to avoid electromagnetic noises and fulfill the EMC regulations, a 7-pin metal plug according to MIL-C-2015 G should be used instead of the standard plastic 6+PE connector EN 175201-408 (formerly DIN 43563).



## VED08MJ-Z

**NOTES:**

For the single solenoid overall dimensions see related drawing. See page 11.

**THREAD OF MOUNTING HOLES**

1/2 - 13 UNC x 0.90

**FASTENING**

6 bolts 1/2 - 13 UNC X 2 1/2 (60 mm)

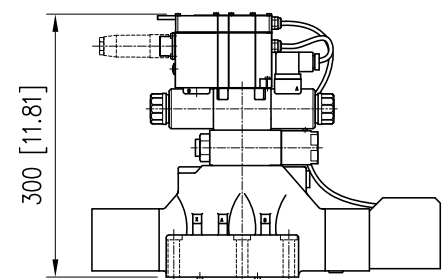
**TIGHTENING TORQUE**

51 lbf-ft (69 Nm)

**SEALING RINGS**

4 O-rings AS568-123 90 Shore A

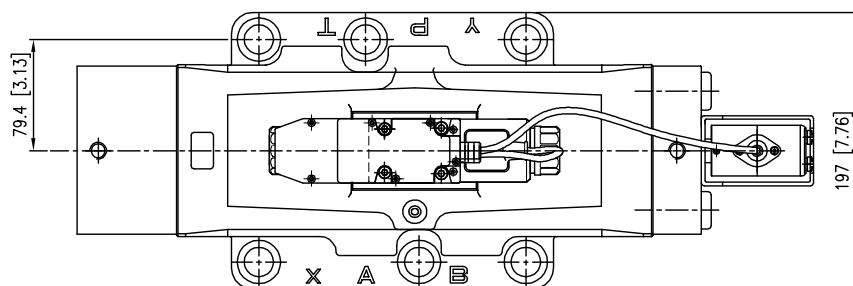
2 O-rings AS568-117 90 Shore A



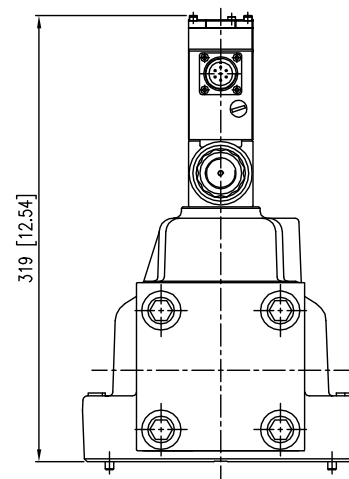
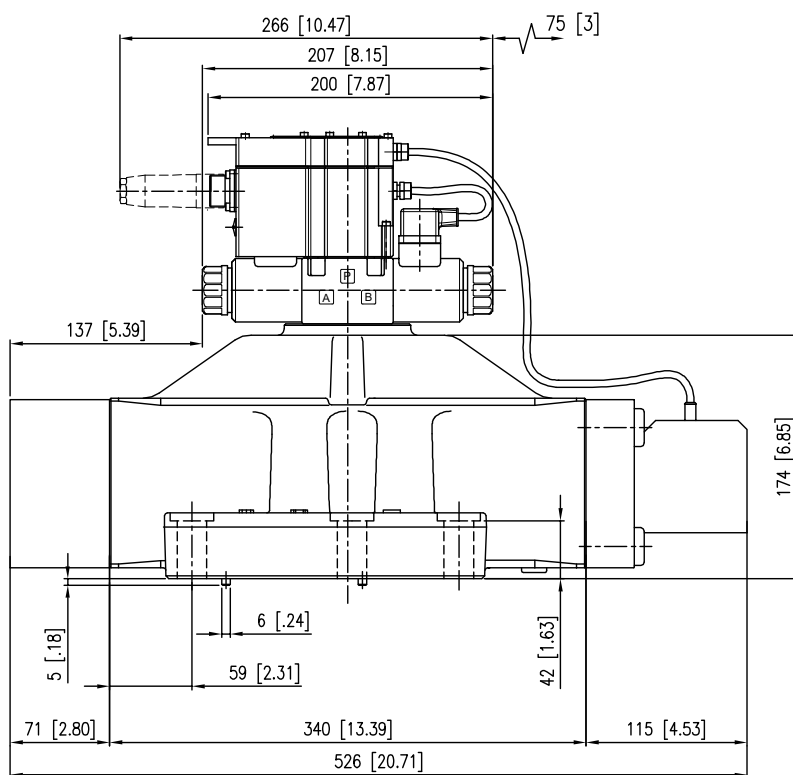
# OVERALL AND MOUNTING DIMENSIONS

## VED10MJ-3

Dimensions in mm [IN]



In order to avoid electromagnetic noises and fulfill the EMC regulations, a 7-pin metal plug according to MIL-C-2015 G should be used instead of the standard plastic 6+PE connector EN 175201-408 (formerly DIN 43563).



## VED10MJ\*Z

**NOTES:**

For the single solenoid overall dimensions see related drawing. See page 11.

**THREAD OF MOUNTING HOLES**

3/4 - 10 UNC-2B x 1.6

**FASTENING**

6 bolts 3/4 - 10 UNC-2B x 2 3/4 (70 mm)

**TIGHTENING TORQUE**

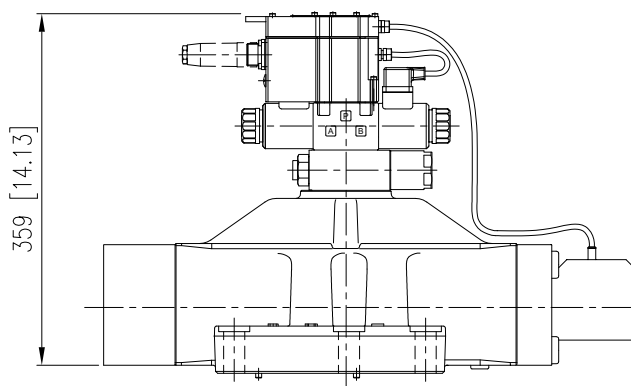
245 lb-ft (332 Nm)

high strength: 415 lb-ft (562 Nm)

**SEALING RINGS**

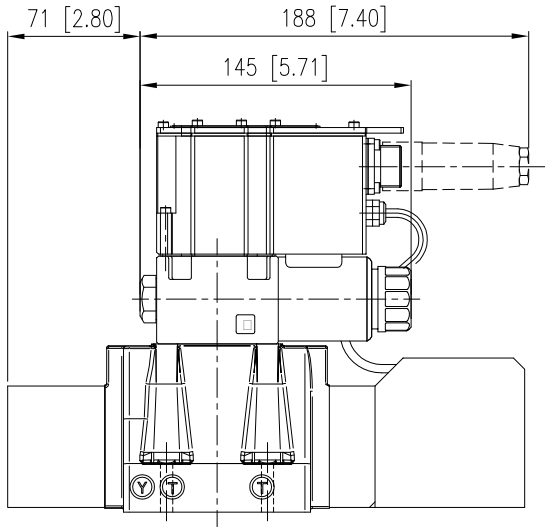
4 O-rings AS568-222 90 Shore A

2 O-rings AS568-117 90 Shore A

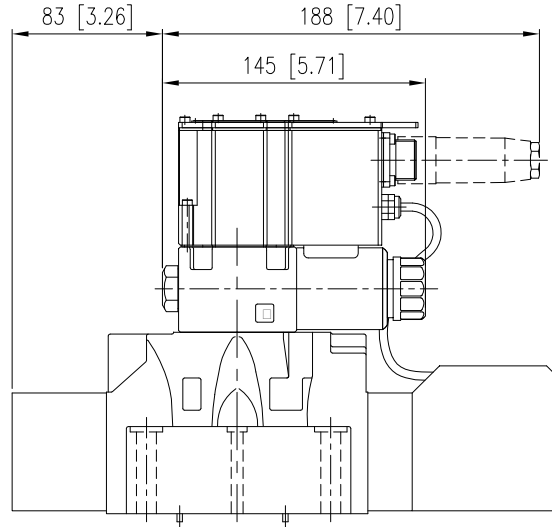


# OVERALL DIMENSIONS FOR SINGLE SOLENOID VERSIONS

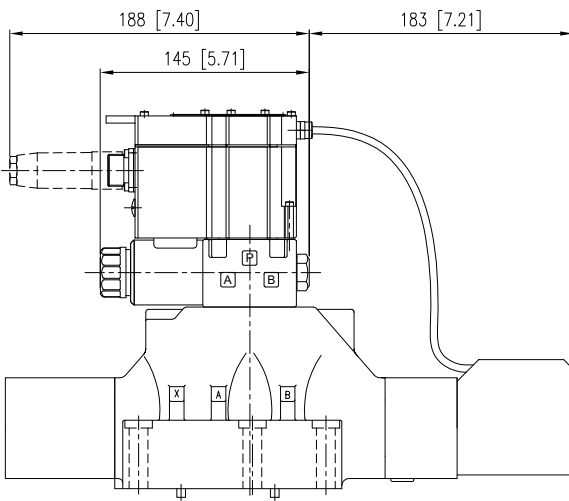
**VED05\*MJ-5**



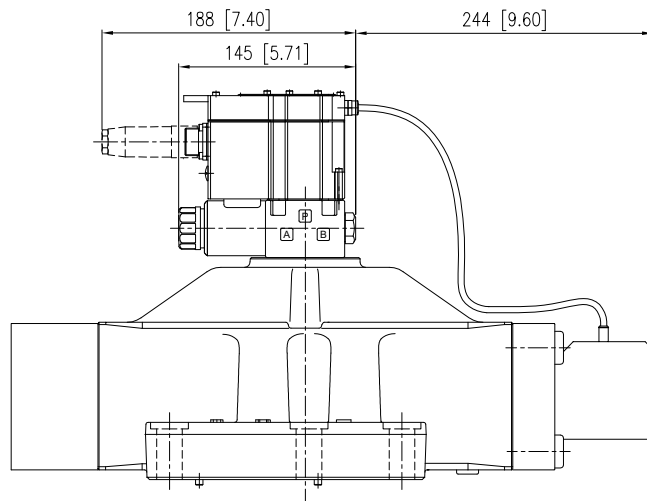
**VED07MJ-5**



**VED08MJ-5**



**VED10MJ-5**



**NOTE:**  
For missing dimensions please refer to the previous drawings.

# ELECTRICAL CHARACTERISTICS

The proportional valve is controlled by a digital amplifier (driver), which incorporates a microprocessor that controls all the valve functions.

## THE STANDARD VALVE IS SET AT THE FACTORY WITH:

- UP/DOWN ramp at zero value
- Deadband compensation preset at factory
- Max valve opening (100% of spool stroke)

It is possible to customize these and others parameters using the optional kit, **VEA-PB7** to be ordered separately (see related literature).

## THE DIGITAL DRIVER ENABLES THE VALVE TO REACH BETTER PERFORMANCE COMPARED TO THE ANALOG VERSION, AND GIVES:

- Reduced response times
- Optimization and reproducibility of the characteristic curve, optimized in factory for each valve
- Complete interchangeability in case of valve replacement
- Opportunity to set, via software, the functional parameters
- Opportunity to perform a diagnostic program by means of the LIN connection
- High immunity to electromagnetic interference

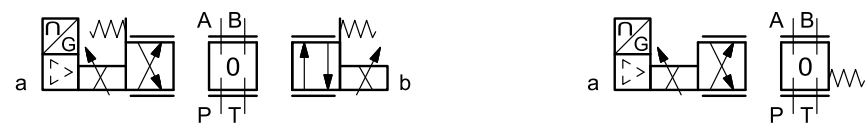
The electronic card is available with (OBC) or without (OBM/OBW) external enabling signal feature.

<b>POWER SUPPLY</b>		24V DC (19V to 35V, ripple max 3Vpp)
<b>ABSORBED POWER</b>		25 VA
<b>MAX CURRENT</b>		1.88 A
<b>DUTY CYCLE</b>		100%
<b>MAIN CONNECTOR</b>		7-pin MIL-C-5015 G (DIN 43563)
<b>ELECTROMAGNETIC COMPATIBILITY (EMC)</b>		Emissions IEC EN 61000-6-4
		Immunity IEC EN 61000-6-2
<b>PROTECTION AGAINST ATMOSPHERIC AGENTS</b>		IEC 60529 IP 67
<b>ELECTRICAL PROTECTION</b>		Overload electronics overheating LVDT sensor error, cable breakdown power failure or < 4 mA

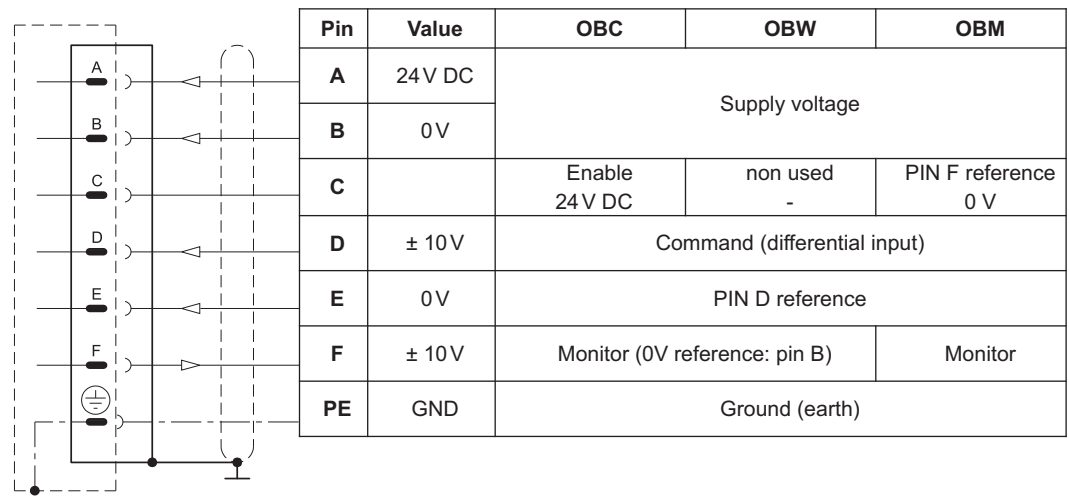
<b>COMMAND SIGNAL</b>	voltage (E0)	V DC	±10 (Impedance Ri > 11 kΩ)
	current (E1)	mA	4-20 (Impedance Ri = 58 Ω)
<b>MONITOR SIGNAL</b>	voltage (E0)	V DC	±10 (Impedance Ro > 1 kΩ)
	current (E1)	mA	4-20 (Impedance Ro = 500 Ω)

## E0 VERSION - VOLTAGE REFERENCE SIGNAL

Reference signal required is  $\pm 10$  volt on dual solenoid valves, and 1-10 volt for single solenoid valves.  
The monitor signal is  $\pm 10$  volt. This signal is available 0.5 sec after card is powered on OBW / OBM.

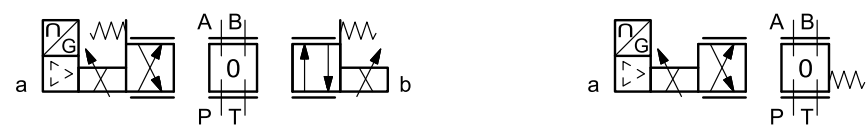


<b>COMMAND</b>	-10V	0V	+10V	<b>COMMAND</b>	+10V	0V
<b>MONITOR</b>	-10V	0V	+10V	<b>MONITOR</b>	+10V	0V

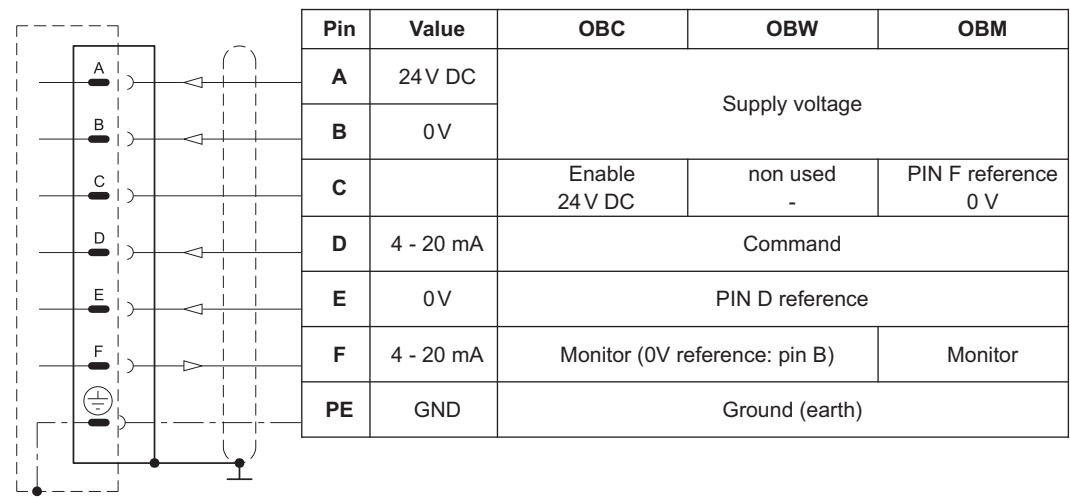


## E1 VERSION - CURRENT REFERENCE SIGNAL

Reference signal required is 4-20 mA. If the current value drops below 4 mA the card shut down until the correct signal has been applied.  
The monitor signal is 4-20 mA. This signal is available 0.5 sec after card is powered on OBW / OBM.



<b>COMMAND</b>	4 mA	12 mA	20 mA	<b>COMMAND</b>	20 mA	4 mA
<b>MONITOR</b>	4 mA	12 mA	20 mA	<b>MONITOR</b>	20 mA	4 mA



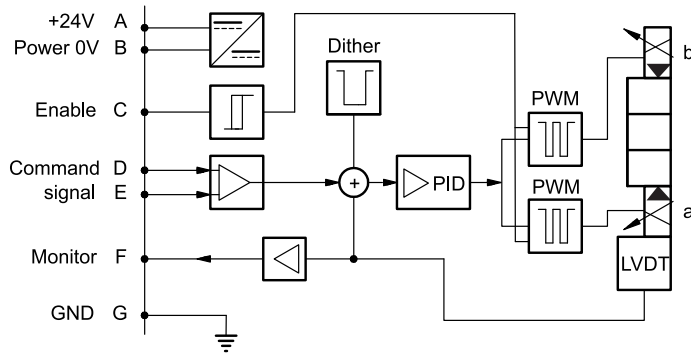
# OBC / OBW / OBM VERSIONS

OBC version is programmed for use of an external 24 volt Enable signal applied at Pin C to allow the valve to function. The Monitor signal output is referenced between Pin F and Pin B.

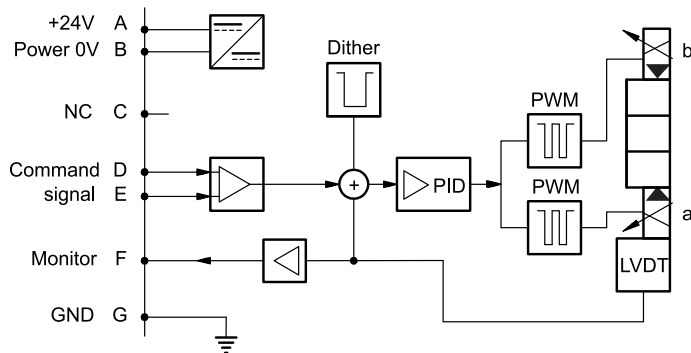
OBW version is programmed for Internal enable, power for enable is taken directly from the power supply. The power to the valve must be turned off to disable the valve. The Monitor signal output is referenced between Pin F and Pin B.

OBM version is programmed for Internal enable, power for enable is taken directly from the power supply. The power to the valve must be turned off to disable the valve. The Monitor signal output is reference between Pin F and Pin C for PIN to PIN interchangeability with other manufacturers.

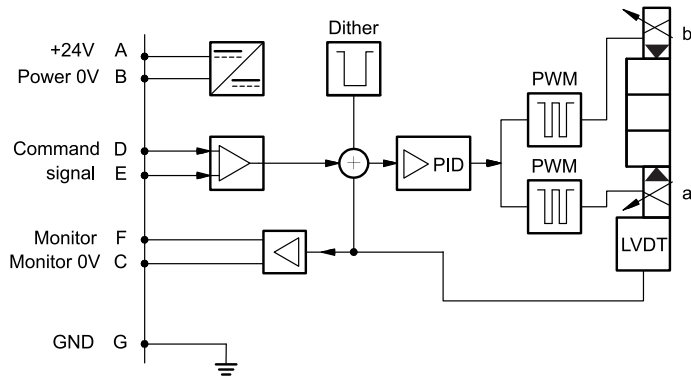
## OBC ON-BOARD FUNCTION



## OBW ON-BOARD FUNCTION



## OBM ON-BOARD FUNCTION



# MOUNTING SURFACES

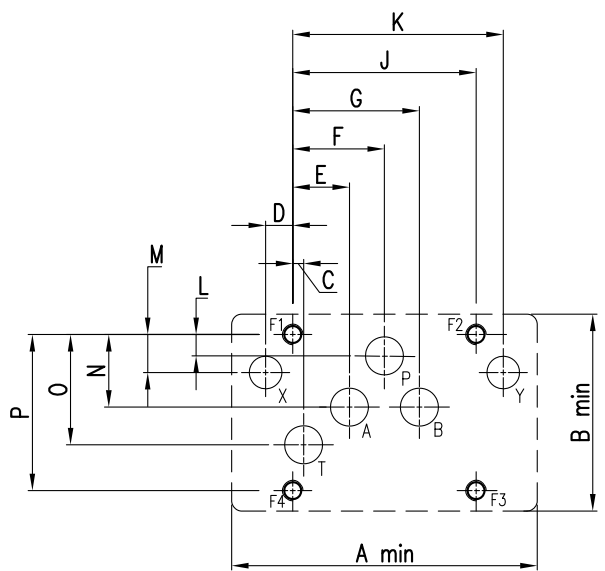
ALL THE MOUNTING SURFACES REFER TO NFPA T3.5.1 R2-2002 AND ISO 4401:2005 STANDARDS.

The mounting surface standards recommends metric coarse threads. However, subplates are commercially available with UNC threads. Select a bolt size that matches the threads in the mounting surface.

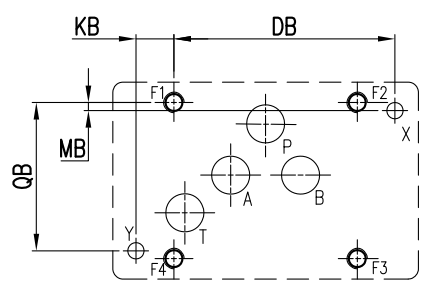
Dimensional tolerances are ± 0.1 mm (0.004") for bolt and pin location; ± 0.2 mm (0.008") for the other quotes.

The minimum depth of the blind hole G where required is 8 mm (0.31 in).

D05 - ALTERNATIVE A



D05 - ALTERNATIVE B



**PORT FUNCTION:**

P = PRESSURE PORT  
T = TANK PORT

A = FIRST CYLINDER PORT  
X = PILOT PORT

B = SECOND CYLINDER PORT  
Y = DRAIN PORT

	MM	INCH
P, A, B, T MAX	∅ 11.2	∅ 0.44
X, Y ALT. A	∅ 6.30	∅ 0.25
X, Y ALT. B	∅ 4.80	∅ 0.19
MOUNTING BOLT THREAD SIZE	M6	1/4 - 20 UNC

	MM	INCH
A	90.0	3.54
B	58.0	2.28
C	3.20	0.126
D	8.00	0.31
E	16.7	0.66
F	27.0	1.06
G	37.3	1.47

	MM	INCH
J	54.0	2.125
K	62.0	2.44
L	6.30	0.25
M	11.2	0.44
N	21.4	0.84
O	32.5	1.28
P	46.0	1.812

	MM	INCH
DB	65.1	2.563
KB	11.2	0.44
MB	2.40	0.09
QB	43.7	1.72

**NOTES:**

NFPA D05 and ISO 4401-05 indicates different diameters for X and Y holes:

NFPA: ∅ 9.6 max in D05 alt A  
 ∅ 4.8 max in D05 alt B  
 ISO: ∅ 6.3 max both

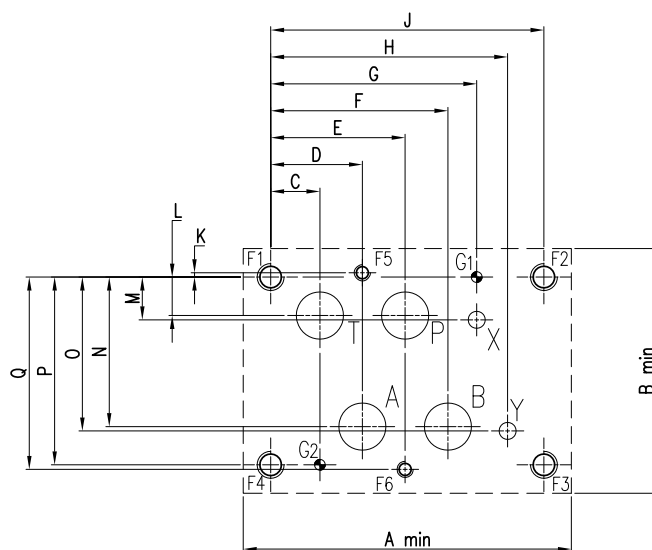


**D07**

	MM	INCH
P, A, B, T MAX	Ø 17.5	Ø 0.69
X, Y MAX	Ø 6.30	Ø 0.25
G MAX	Ø 4.00	Ø 0.16
MOUNTING BOLT THREAD SIZE F1 - F4	M10	3/8 - 16 UNC
MOUNTING BOLT THREAD SIZE F5 - F6	M6	1/4 - 20 UNC

	MM	INCH
A	122.0	4.80
B	91.0	3.58
C	18.3	0.72
D	34.1	1.34
E	50.0	1.97
F	65.9	2.60
G	76.6	3.016
H	88.1	3.47

	MM	INCH
J	101.6	4.00
K	1.60	0.063
L	14.3	0.56
M	15.9	0.626
N	55.6	2.19
O	57.2	2.25
P	69.9	2.75
Q	71.5	2.815

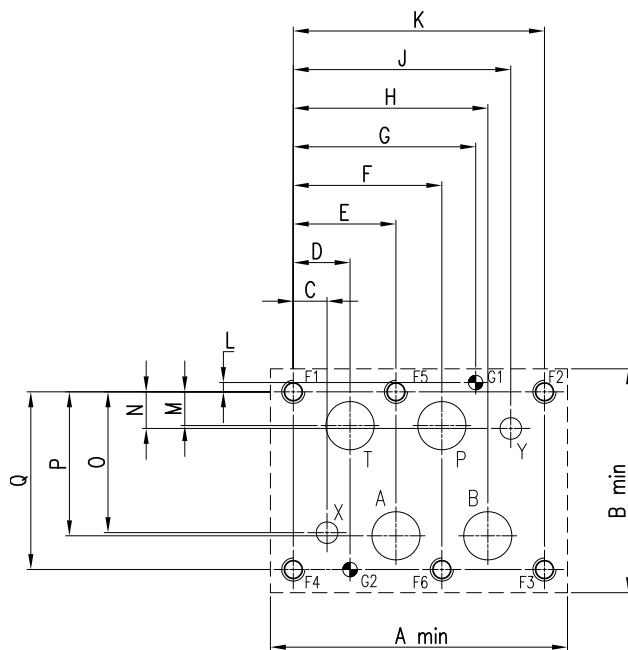


**D08**

	MM	INCH
P, A, B, T MAX	Ø 25.0	Ø 0.98
X, Y MAX	Ø 11.2	Ø 0.44
G MAX	Ø 7.50	Ø 0.30
MOUNTING BOLT THREAD SIZE	M12	1/2 - 13 UNC

	MM	INCH
A	154.0	6.00
B	116.0	4.57
C	17.5	0.69
D	29.4	1.157
E	53.2	2.09
F	77.0	3.03
G	94.5	3.719
H	100.8	3.97

	MM	INCH
J	112.7	4.44
K	130.2	5.125
L	4.80	0.187
M	17.5	0.69
N	19.0	0.75
O	73.0	2.874
P	74.6	2.93
Q	92.1	3.625

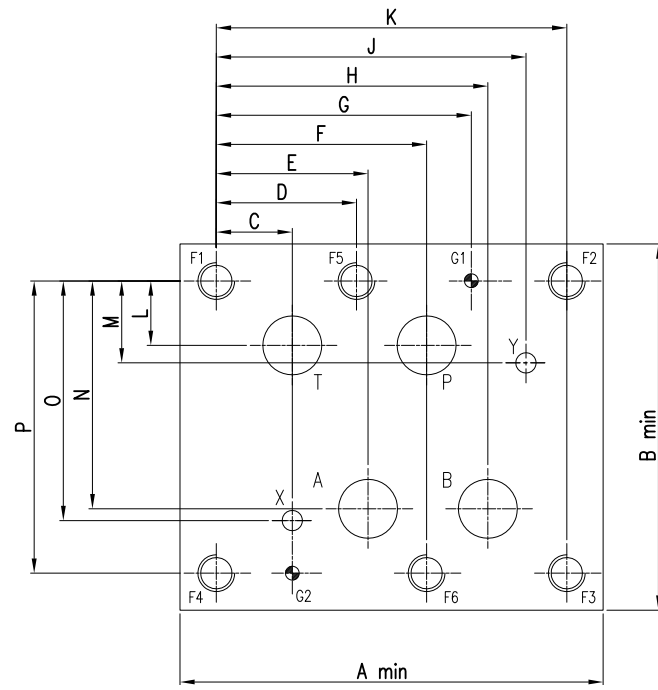


D10

	MM	INCH
P, A, B, T MAX	∅ 32	∅ 1.25
X, Y MAX	∅ 11.2	∅ .44
G MAX	∅ 7.5	∅ .30
MOUNTING BOLT THREAD SIZE	M20	3/4-10 UNC

	MM	INCH
A	230.0	9.06
B	199.0	7.83
C	41.3	1.63
D	76.2	3.00
E	82.5	3.25
F	114.3	4.50
G	138.6	5.457
H	147.6	5.81

	MM	INCH
J	168.3	6.63
K	190.5	7.50
L	35.0	1.38
M	44.5	1.75
N	123.8	4.87
O	130.2	5.13
P	158.8	6.25



VED\* MJ - PILOTTED PROPORTIONAL DIRECTION CONTROL VALVES WITH OBE & FEEDBACK

# APPLICATION DATA

## FLUIDS

All pressure drops shown on these data pages are based on 170 SUS fluid viscosity and 0.87 specific gravity. For any other specific gravity (G1) the pressure drop ( $\Delta P$ ) will be approx.  $\Delta P1 = \Delta P (G1/G)$ . See the chart for other viscosities.

FLUID VISCOSITIES	Cst	10	14.5	32	36	43	54	65	76	86	108	216	324	400
	SUS	60	75	150	170	200	250	300	350	400	500	1000	1500	1900
MULTIPLIER		0.77	0.81	0.97	1.00	1.04	1.10	1.15	1.20	1.24	1.31	1.56	1.72	1.83

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

Using fluids at temperatures higher than 180 degrees F causes the accelerated degradation of seals as well as degradation of the fluids physical and chemical properties.

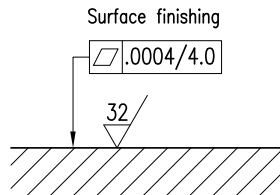
From a safety standpoint, temperatures above 130 degrees F are not recommended.

RANGE TEMPERATURES AMBIENT / FLUID:	A, G version	- 4 to +130°F	-20 to +54°C
	AL version	- 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 18/16/13		

## INSTALLATION

VED\*MJ 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 between the valve and support surface.



## BOLT KITS

<b>D05 SIZE</b>	<b>BD05H-150-B</b>	Valve only	1009397
<b>D07 SIZE</b>	<b>BD07-250</b>	Valve only	1009400
<b>D08 SIZE</b>	<b>BD08-250</b>	Valve only	1009401
<b>D10 SIZE</b>	<b>BD10-275</b>	Valve only	1013038

## 7 PIN PLUGS

<b>VEA-3P7P-A</b>	Straight plug 7 pin plastic housing	264893
<b>VEA-3P7M-A</b>	Straight plug 7 pin metal housing	265947

## SEAL KIT

<b>D05* SIZE</b>	<b>Buna Seal Kit</b>	1013174
	<b>Viton Seal Kit</b>	1013175
<b>D07 SIZE</b>	<b>Buna Seal Kit</b>	1013176
	<b>Viton Seal Kit</b>	1013177
<b>D08 SIZE</b>	<b>Buna Seal Kit</b>	1013178
	<b>Viton Seal Kit</b>	1013179
<b>D10 SIZE</b>	<b>Buna Seal Kit</b>	1013180
	<b>Viton Seal Kit</b>	1013181

## SUBPLATES

<b>D05 alt.A SIZE</b>	<b>AD05JESPS16S</b>	Aluminium	SAE-16	351716AJ
	<b>DD05JESPS16S</b>	Ductile	SAE-16	351716AK
<b>D07 SIZE</b>	<b>AD07JESPS16S</b>	Aluminium	SAE-16	1013039AB
	<b>DD07JESPS16S</b>	Ductile	SAE-16	1013039AC
<b>D08 SIZE</b>	<b>AD08JESPS20S</b>	Aluminium	SAE-20	265803AP
	<b>DD08JESPS20S</b>	Ductile	SAE-20	265803AL
<b>D10 SIZE</b>	<b>AD10JESPS32S</b>	Aluminium	SAE-32	1013040AB
	<b>DD10JESPS32S</b>	Ductile	SAE-32	1013040AC

### NOTES:

1. Max pressure aluminium subplates: 3000 psi (210 bar)
2. Max pressure ductile subplates: 5000 psi (350 bar)
3. Always verify subplate port size is proper for the application

POWERFUL  
ACCURATE  
INNOVATIVE  
PRECISE  
DURABLE  
EFFICIENT  
VERSATILE

## ABOUT CONTINENTAL HYDRAULICS

Rugged, durable, high-performance, efficient—the reason Continental Hydraulics' products are used in some of the most challenging applications across the globe. With a commitment to quality customer support and innovative engineering, Continental's pumps, valves, power units, mobile and custom products deliver what the markets demand. Continental has been serving the food production, brick and block, wood products, automotive and machine tool industries since 1962. Learn how our products survive some of the most harsh environments.

**SALES@CONTHYD.COM**

4895 12th Avenue East, Shakopee, MN 55379 / [continentalhydraulics.com](http://continentalhydraulics.com) / 952-895-6400

CONTINENTAL



HYDRAULICS