



## Direct Drive Proportional (DDP)

FEMA Corporation features a number of unique engineering capabilities, innovative products, exceptional production competencies, distinctive cultural philosophies, and attentive services which continually exceed our customers' expectations. We have a rich history, built on the foundation of technical engineering prowess and operational excellence, which has resulted in long-term, stable growth.

### Description:

FEMA's low-frequency valves (LFV) are direct drive proportional valves with two, three and four way pressure, flow, or position control. These LFVs are used for: Transmission, PTO, Brake and SCV controls as well as hydraulic cooling.

The solenoid armature in FEMA's LFVs directly contacts the valve spool, with the spool driven by the force from the armature. LFVs are a small package with an integrated wet coil for heat dissipation, and come with a sealed connector.

### Specifications & Ratings

- ◆ 3 way - 2 position control or 4 way - 2 position control
- ◆ Proportional pressure control , flow control, or position control
- ◆ Temperature rating -40 °C to 100 °C
- ◆ Typical supply pressure: 20-30 bar (High pressure variants available)
- ◆ Max tank pressure: 10 bar
- ◆ Typical flow: ≥18 L/min @ 58 cSt and 5 bar differential pressure
- ◆ Typical leakage: ≤ 0.02 L/min @ 58 cSt and 20 bar differential pressure
- ◆ Actuating voltage range: 9-16 VDC or 19-30 VDC
- ◆ Typical dynamic hysteresis (Stair step test): ≤ 0.50 bar tested at 500 mA

Specification:	SP 28078	DDP Specification Sheet		EN 30007	
Revision:	A	Date:	01/05/2016		



Corporation

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# Circuits and Porting-Examples

Type	Position Control 3w-2p	Pressure Control 4w-3p	Flow Control 2w-2p
Schematic			
Typical Porting			
Envelope	<p>Approximate external dimensions: 37 mm diameter x 70 mm height</p> <p>Approximate cavity dimensions: 22 mm diameter x 37 mm depth</p>	<p>Approximate external dimensions: 37 mm diameter x 70 mm height</p> <p>Approximate cavity dimensions: 24 mm diameter x 58 mm depth</p>	<p>Approximate external dimensions: 37 mm diameter x 70 mm height</p> <p>Approximate cavity dimensions: 24 mm diameter x 42 mm depth</p>



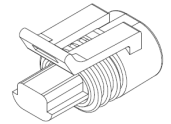
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## Features & Options for Inquiry or Ordering

<b>DDP</b>	<b>3</b>	<b>A</b>	<b>12</b>	<b>NC</b>	<b>STD</b>	<b>M</b>	<b>V</b>	<b>B</b>	<b>N75</b>	<b>050</b>	<b>0</b>
Type	# Ports	Control	Voltage	State	Port Arrangement	Connector Type	Connector Orientation	Connector Color	O-ring type	Filter type	Clamp

- Number of ports: (3) or (4)
- Control:
  - Pressure control (A)
  - Flow control (B)
  - Position control: Contact FEMA for information on position control valves
- Voltage: 12 VDC (12) or 24 VDC (24)
- Control port de-energized state:
  - Normally open (NO)
  - Normally closed (NC)
- Porting arrangement:
  - Standard: Tank at snout end (STD)
  - Reverse port with control at snout end (REV)
- Electrical connector type:
  - Standard: Connect to Metri-Pack® 150 connector Type II (M)
  - Other: Contact FEMA for information on developing other connector types
- Orientation: Vertical (V)
- Color: Black (B), White (W), or Gray (G)
- O-rings material/durometer:
  - Nitrile (N75, N90) or Viton (V75)
- Filter options:
  - 50x50 mesh (050)
  - 40x200 mesh (200)
  - No filter (000)
- Mounting clamp options:
  - Without clamp (0) or With clamp (1) Contact FEMA for high pressure clamp



\*\* Not all combinations are available, yet some additional features are available.  
 Contact FEMA corporation sales or your application engineer for any questions.

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