

## LYRA (Proportional Pilot Valves)

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 high-frequency valves are frictionless hydraulic pressure modulation pilot valves often used to control a spool element. These pilot valves provide high-spool driving forces and maintain excellent function in heavily contaminated systems. The frictionless pilot design allows for exceptionally low hysteresis and simplified high frequency. FEMA's high-frequency valves, often used in transmission clutch and PTO control, offer high reliability, low cost and precision proportionality while maintaining a small size and weight

### Specifications & Ratings

- ◆ 3 way - 2 position proportional layout
- ◆ Proportional pressure control
- ◆ Available in normally low or normally high configurations
- ◆ Temperature rating -40 °C to 100 °C
- ◆ Typical supply pressure: 20 to 30 bar
- ◆ Pilot tank pressure: 0.1 bar steady state, 1 bar max transient.
- ◆ Typical (two-stage) valve resolution: 0.5 to 1.0 mA
- ◆ Typical control pressure: 20 to 30 bar
- ◆ Typical flow: <1.0 L/min @ 27cSt and 20 bar differential pressure
- ◆ Typical pilot leakage @ 27cSt and 20 bar differential pressure:
  - ◆ De-actuated: <1.0 L/min
  - ◆ Actuated: <0.3 L/min

Specification:	SP 28081	LYRA PRODUCT SPECIFICATION		EN 30190	
Revision:	A	Date:	05/04/2016	Compiled By:	MG
				Approved By:	S. PRIDE 5/17/2016, K. LAPPLANDER 5/9/2016, L. PARKER 5/26/2016, M. PERRINE 5/4/2016, J. SCHUTTER 5/26/2016



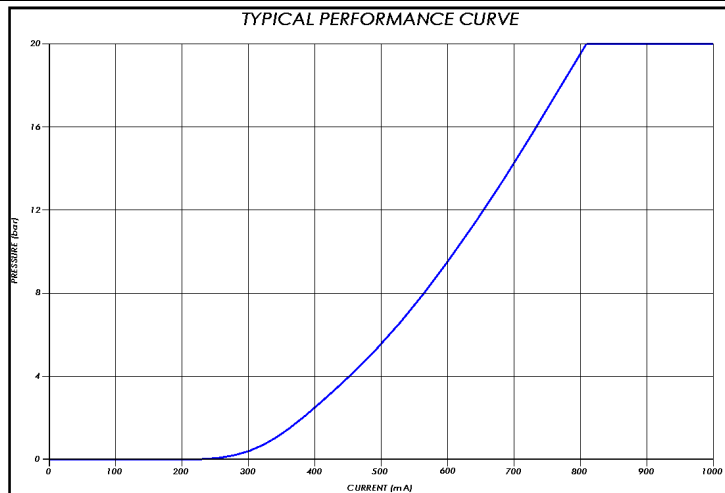
Corporation

1716 Vanderbilt Ave. • Portage, MI 49024  
 PH. (269) 323-1369 • FAX (269) 323-0108

Sales@Fema-Corp.com

# Circuits and Porting-Examples

Type	Pressure Control-Normally Low 3w-2p	Pressure Control-Normally High 3w-2p
Schematic		
Typical Porting		
Envelope	<p>Approximate external dimensions: 35 mm diameter x 63 mm height</p> <p>Approximate cavity dimensions: 22 mm diameter x 32 mm depth</p>	<p>Approximate external dimensions: 35 mm diameter x 63 mm height</p> <p>Approximate cavity dimensions: 22 mm diameter x 32 mm depth</p>



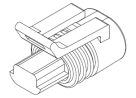
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## Features & Options for Inquiry or Ordering

<b>PPV</b>	<b>3</b>	<b>A</b>	<b>12</b>	<b>NL</b>	<b>STD</b>	<b>M</b>	<b>V</b>	<b>B</b>	<b>N75</b>	<b>STD</b>	<b>20</b>
Type	# Ports	Control	Voltage	State	Port Arrangement	Connector Type	Connector Orientation	Connector Color	O-ring type	Filter type	Supply Pressure

- Number of ports: (3)
- Control: Pressure control (A).
- Voltage:
  - 12 VDC (12)
- Control port de-energized state:
  - Normally Low (NL)
  - Normally High (NH)
- Porting arrangement:
  - Standard: Control at snout end (STD)
- Electrical connector type:
  - Standard: Connect to P/N 12162193 Metri-Pack® 150 connector type II (M)
  - Leadwire: (L)
  - Other: Contact FEMA for information on developing other connector types
- Orientation: Inverted (I)
- Color: Black (B), White (W), or Gray (G)
- O-rings Material/durometer:
  - Nitrile (N75, N90) or Viton (V75)
- Filters :
  - Standard: 100 micron supply filter (STD)
  - Add-on: 50x50 mesh control filter (50)
  - Add-on: 80x80 mesh tank filter (TNK)
- Supply pressure: 20 bar (20) or 30 bar (30)



\*\* 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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