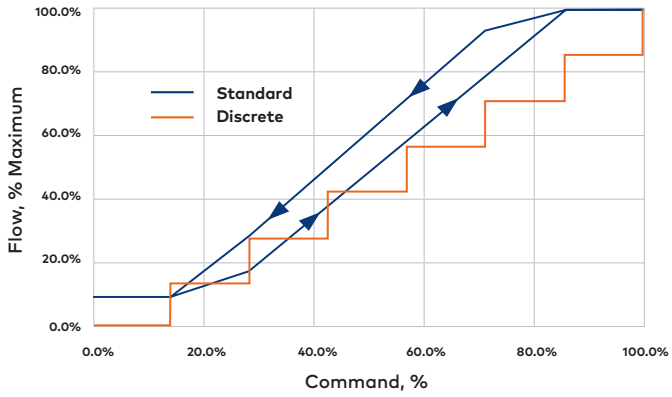
Discrete Proportional v. Standard Proportional Behavior



Discrete proportional valve system and continuous proportional valve performance curves

Discrete Proportional Valve System

The discrete proportional valve system (DPV) uses two or more ON/OFF solenoid valves of differing flow coefficients, housed in a single manifold, to provide stepped-function flow control. The valves are actuated in specific combinations to deliver the desired flow rate, which can include a true zero-flow state. The valves use only a short pulse of power to actuate and do not draw any power to maintain state. The valve system inherently exhibits zero hysteresis because the same valve members are opened or closed in the same combination regardless of whether the flow rate is increasing or decreasing.

Features & Benefits

+ Customizable flow control for 4, 8, or 16 positions
+ Zero hysteresis by design
+ Debris tolerant
+ Does not require constant power to maintain state
+ Coil customizable to almost any DC voltage signal
+ Flow characteristics can be customized
+ Scalable to meet your application requirements

Applications

+ Thermal management
+ Coolant control
+ Flow control
+ Process fluid control
+ Spraying systems

(continued to next page)

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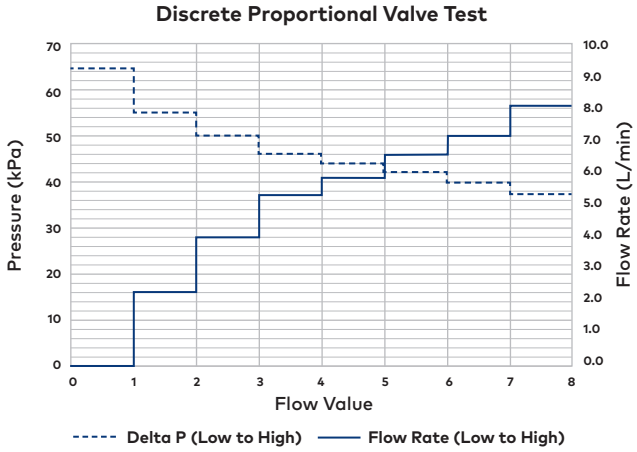
Technical Data (custom configurations available)

Flow Characteristics in a DPV Example

State	Flow Rate GPM	Flow Rate L/min	Delta P psi	Delta P kPa
0	0.0	0.0	9.4	65
1	0.6	2.3	8	55
2	1.1	4.0	7.3	50
3	1.4	5.3	6.7	46
4	1.5	5.8	6.4	44
5	1.7	6.5	6.1	42
6	1.9	7.2	5.8	40
7	2.1	8.1	5.4	37

Flow characteristics in a DPV example with eight discrete positions



+ DC actuated
+ 12 or 24 Vdc
  - Reverse polarity required to operate solenoid in both directions
  - Can be implemented on a local or vehicle control board

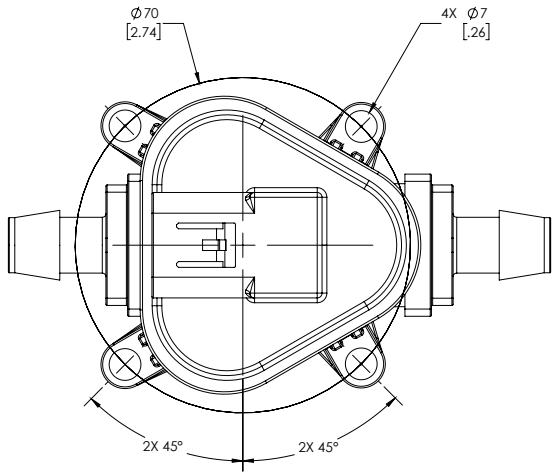
Electrical Specifications

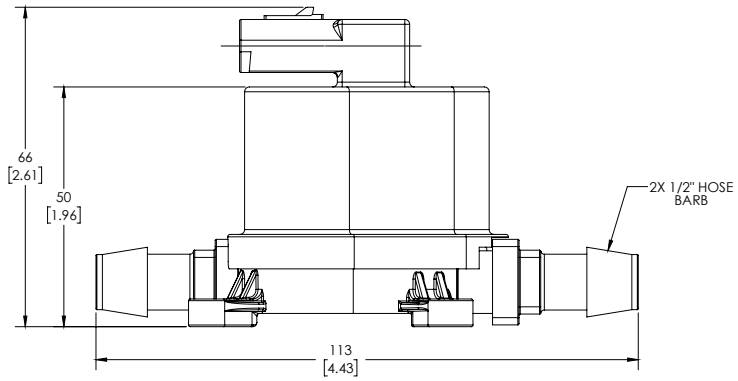
	12 Vdc System	24 Vdc System
Peak Amp Draw	2 A	1 A
Latched Draw	0 A	0 A
Resistance at 20°C	7.38 Ω	28.2 Ω
Peak Power	24 W	24 W

+ ½" hose barb connections
+ See chart and graph for more flow characteristics

All TLX components are customized to fit system requirements, meaning technical specifications are unique to each customer and design. Examples given are for illustration purposes only.

Dimensional Drawings (dimensions in millimeters [inches])





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