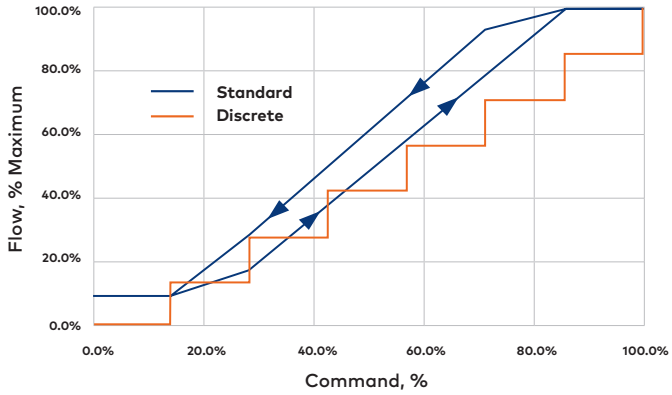
High-Flow Discrete Proportional Valve

The high-flow discrete proportional valve (HDPV) is a two-way pilot valve designed to support applications with high flow rates at pressures up to 60 psi. The valve provides flow control with up to four predefined, discrete positions without requiring constant power to maintain state. Only a short power pulse is needed to change the valve's flow rate. The piloted design allows for the use of small actuators, which reduces energy consumption and keeps the package size small.

Discrete Proportional v. Standard Proportional Behavior



Discrete Proportional Valve and continuous proportional valve performance curves

Features & Benefits

+ Flow control with up to four discrete positions
+ Piloted valve design keeps package size small
+ Does not require constant power to maintain state
+ Only +/- 12 or 24 V pulse needed to change flow
+ Flow characteristics can be customized
+ Scalable to meet application requirements

Applications

+ Thermal management
+ Flow control
+ Processing
+ Spraying systems

(continued to next page)

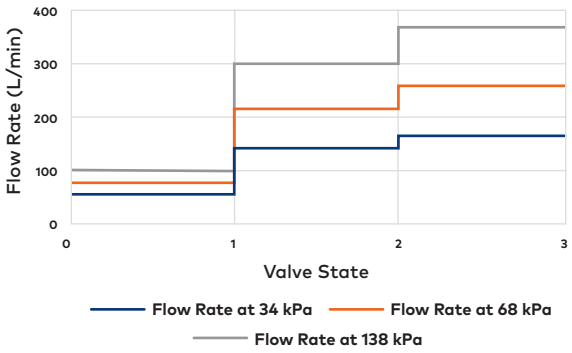
Technical Data (custom configurations available)

Flow Characteristics in a High-Flow DPV Example

State	Flow Rate GPM	Flow Rate L/min	Delta P psi	Delta P kPa
0	0	0	5	34
1	12	53	5	34
2	31	141	5	34
3	36	163	5	34
0	0	0	10	68
1	17	76	10	68
2	47	215	10	68
3	57	258	10	68
0	0	0	20	138
1	22	100	20	138
2	65	296	20	138
3	81	370	20	138

Flow characteristics in a high-flow DPV example with four discrete positions

High-Flow Discrete Proportional Valve Test



+ 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

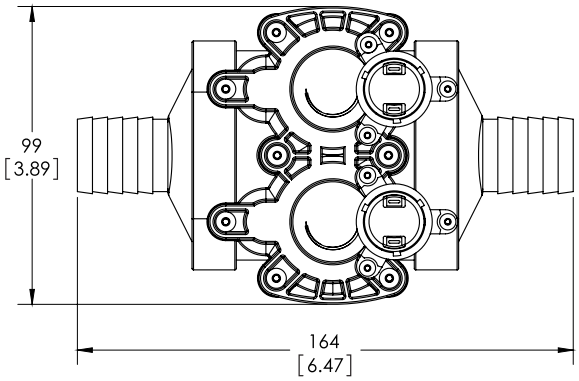
Electrical Specifications

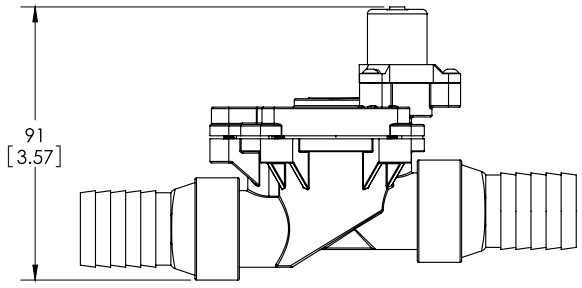
	12 Vdc System	24 Vdc System
Peak Amp Draw	2 A	1 A
Latched Draw	0 A	0 A
Resistance at 20°C	7.38 Ω	28.2 Ω
Peak Power	24 W	24 W

+ 1" hose barb connections (configurable)
+ 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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