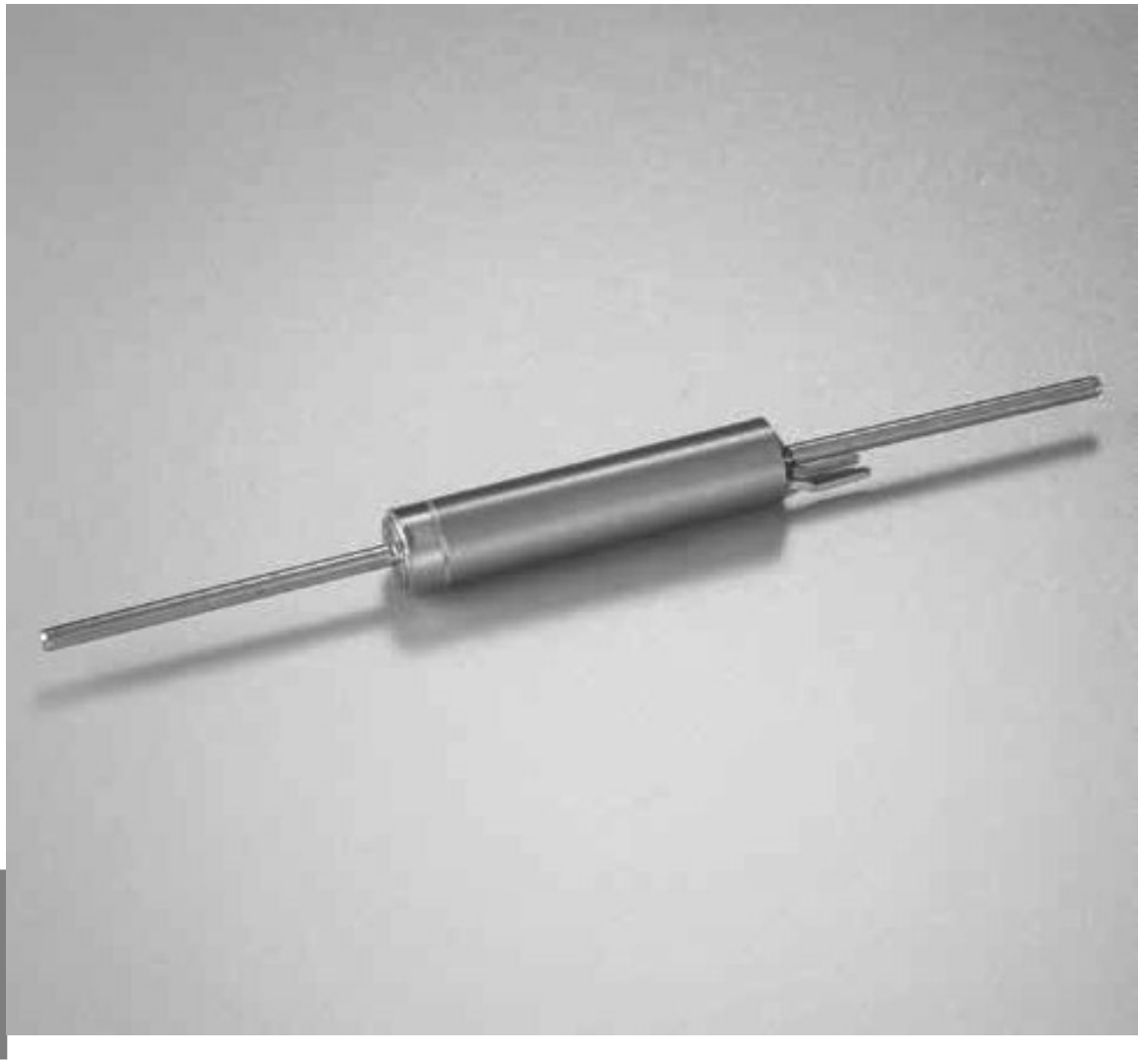
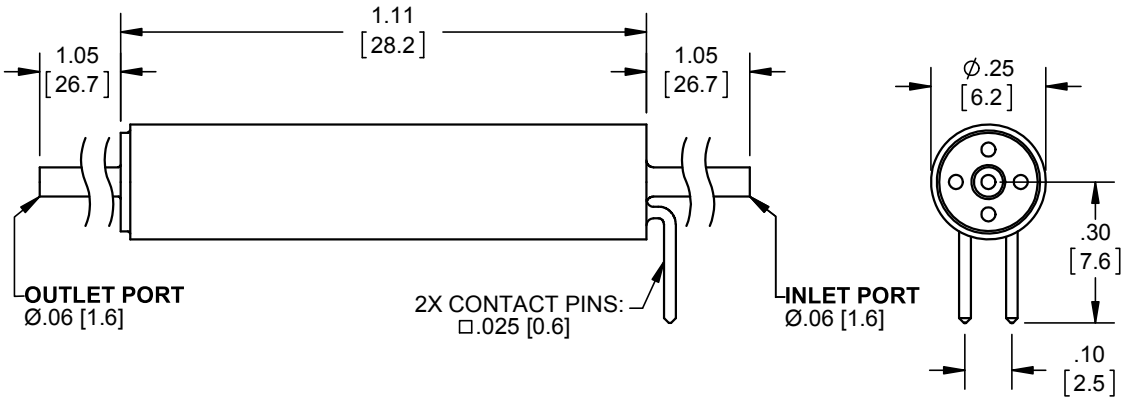
IEP Series



The IEP Series solenoid valves are designed for applications requiring extended performance. Available in a 2-way normally closed design, these compact valves are capable of operating across a wide range of pressure and temperature in applications such as scanning electron microscopes, CubeSat propulsion, precision combustion systems, oil well analyzers and cryogenic surgery devices. The following general performance characteristics are offered in this product platform:

- Low Internal Volume
- Operating Pressures up to 800 psig
- Operating Temperatures up to 275°F (135°C)
- Response Time as Fast as 0.5 ms
- Spike and Hold Drive Required
- Lohm Rate: 4100
- Available Elastomers: EPDM, FKM and FFKM

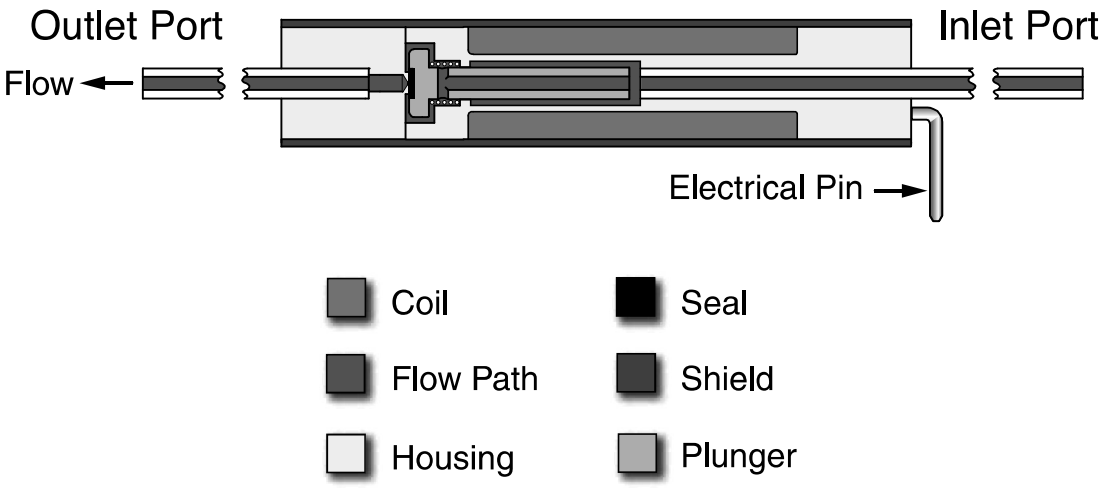
Each valve is 100% functionally tested for performance, and designed using materials that ensure consistent long-term performance. The Lee Company can customize valve performance to meet specific application requirements. Please contact your local Lee Sales Engineer for additional technical assistance and application information.



Unless otherwise specified, dimensions are in inches [*mm*]. *Drawings are not to scale.*

PART NUMBER	SPIKE VOLTAGE (Vdc)	MAX. SPIKE DURATION [1] (ms)	HOLD VOLTAGE (Vdc)	POWER AT HOLDING VOLTAGE (mW)	
IEPA1211541H	12	3.8	1.6	250	
IEPA2411541H	24	3.8	3.0	250	
IEPA1221541H	12	3.8	1.6	250	
IEPA2421541H	24	3.8	3.0	250	
IEPA1211241H	12	3.8	1.6	250	
IEPA2411241H	24	3.8	3.0	250	

NOTES: (1) Spike duration is based on max. operating pressure at 70°F (21°C).
Lower operating pressures will allow for shorter spike durations.
Higher operating temperatures will require longer spike durations.



	OPERATING PRESSURE RANGE (psig)	AMBIENT TEMPERATURE RANGE	MAXIMUM COIL TEMPERATURE	LOHM RATE[2]	SEAL MATERIAL[3]
	0-300	40°F to 120°F (4°C to 49°C)	250°F (121°C)	4100 (Ref. Cv = .005)	FFKM
	0-300		250°F (121°C)		FFKM
	0-300	40°F to 275°F (4°C to 135°C)	350°F (177°C)		FFKM
	0-300		350°F (177°C)		FFKM
	0-800	-20°F to 120°F (-29°C to 49°C)	250°F (121°C)		EPDM
	0-800		250°F (121°C)		EPDM

(2) Refer to Engineering Reference (Section R), for a full description of the Lohm Laws.

(3) Wetted materials: 316 SS, FeCr alloy and seal material. Refer to Engineering Reference Section, pages R53-54, for material information and abbreviations.

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GENERAL SPECIFICATIONS

The following specifications apply to all IEP Series solenoid valves, unless otherwise noted.

Weight

4.7 grams

Internal Volume

62 µL

Operating Pressure

The valves will operate within the specified pressure range when supplied with the rated voltage ± 5%.

Valve Proof Pressure: 2x Normal Rated Pressure
Valve Burst Pressure: 3x Normal Rated Pressure

Operating Temperature

- Refer to part number table on pages O3-4.
- Increasing the operating temperature tends to limit coil performance. The valve duty cycle and energized time must be evaluated for conformance with the maximum rated operating and coil temperatures.

Storage Conditions

- Temperature: -40°F to 175°F (-40°C to 80°C)
- Relative humidity: 85% (max); non-condensing

Electrical Characteristics

- The IEP Series valves require the use of a spike and hold drive to safely operate. Driving these valves any other way may result in damage to the valve. Refer to Engineering Reference Section, pages R35-36, for recommended electrical drive schematics.
- The Lee Company offers a Spike and Hold Driver (Reference Lee Company Part Number IECX0501350A or IECX0501500A) for development use.

SPIKE VOLTAGE (Vdc)	RESISTANCE (ohms)	ENERGIZED INDUCTANCE (mH)	DE-ENERGIZED INDUCTANCE (mH)
12	10.6	22.2	5
24	37	16.5	4.2

Electrical Connection

These valves are designed with axial 0.025" sq. pins that are spaced 0.100" center to center. The Lee Company offers a lead wire connector assembly as a separate accessory that is compatible with this pin spacing.

- Lee Company Part Number IHWX0248010A – Length, 8 inches
- Lee Company Part Number IHWX0248120A – Length, 24 inches

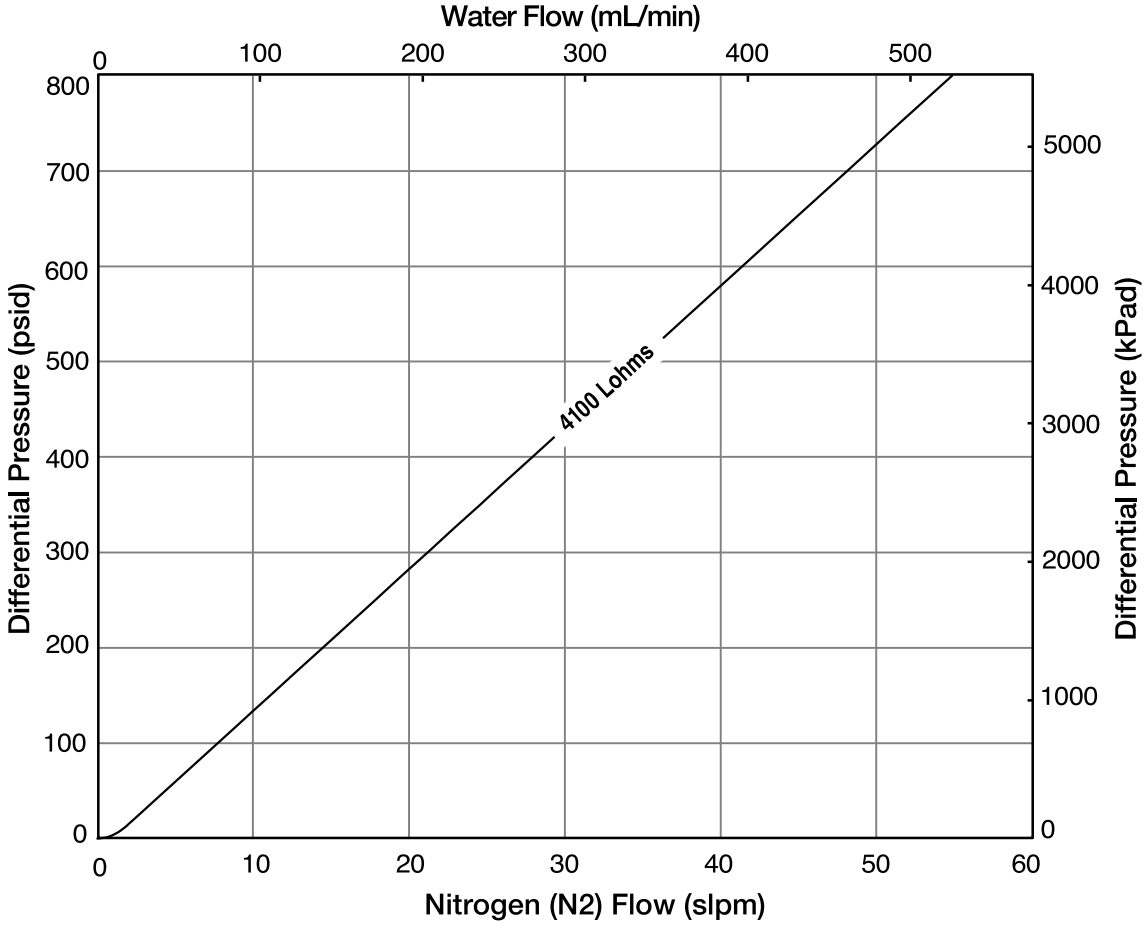
Response Time

- The typical response time is 0.5 ms on air at 10 psig based on the spike and hold drive parameter.
- Response times are dependent upon system conditions, power, environment, etc. The response will typically increase as the ambient operating temperature decreases. Extended periods of valve inactivity may also have an impact on the initial response time of the valve.

Filtration

Filtration of 10 microns or finer is recommended.

Typical Flow Characteristics
IEP Series Valves



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