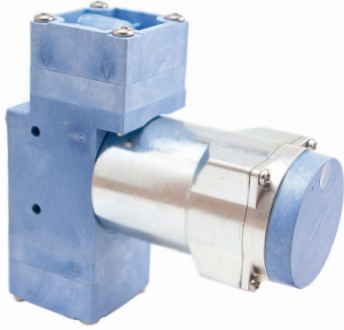



# LTC-IIS Series Miniature Diaphragm Pumps (liquid)

Up to 1.5 LPM Free Flow



Parker's LTC-IIS Miniature Diaphragm Pumps are offered in brushless DC motor drives that can be configured for your specific performance requirements and handle a wide range of liquid media over a range of pressures. LTC-IIS patented Fluid-Blok™ Advanced Sealing Technology provides redundant sealing capabilities to eliminate potential leaks. Monolithic diaphragm design enables maximum suction, priming, and continuous dry operation. Ideal for waste, transfer and bulk movement of liquids.

## Features

- LTC-IIS Series Pumps set the highest benchmark for service free life expectancy with our advanced proprietary diaphragm elastomer.
- Port design allows for top or bottom face seal and is molded for 1/4-28 UNF threaded fittings.
- Overmolded diaphragm eliminates metal components in the wetted path resulting in a design that is inert to variety of media.
- Incorporating the lightweight EZ Mount Accessory facilitates simple system assembly while dampening vibration and reducing noise levels.
- Our 100% oil and grease-free pump and compressor design maintains the purity of your system and are commonly used in FDA-approved systems.
- RoHS Compliant 

## Typical Markets

- Clinical Diagnostics
- Analytical Chemistry
- Printing

## Typical Applications

- Clinical Chemistry
- Wash and Waste Circuits
- Urinalysis
- Liquid Chromatography
- Large Format Printers
- Photo Processing Printers

## Product Specifications\*

### Physical Properties

**Operating Environment<sup>1</sup>:**

41 to 122°F (5 to 50°C)

**Storage Environment:**

41 to 122°F (5 to 50°C)

**Media:**

Most Liquids and Gases

**Humidity:**

0 – 95% Relative Humidity

**Pump Assembly Rated Life<sup>2</sup>:**

Brushless Slotted - 10,000 hrs

**Weight:**

11.7 oz. (333 g) Brushless Slotted

### Electrical

**Motor Type (DC):**

Brushless Slotted

**Nominal Motor Voltages<sup>3</sup>:**

12, or 24 VDC

*Other voltages available upon request*

**Electrical Termination:**

Brushless Slotted Motor: 22 AWG

Wire Leads, Length 20" (508 mm)

**Current Range<sup>4</sup>:**

350 - 1025 mA

### Wetted Materials

**Diaphragm:**

EPDM, AEPDM, FKM, Teflon/

EPDM Laminate

**Valves:**

EPDM, AEPDM, FKM, FFKM

**Pump Head:**

Vectra (Liquid Crystal Polymer)

### Pneumatic

**Head Configuration:**

Dual

**Maximum Unrestricted Flow:**

1.5 LPM

**Pressure Range (Liquid):**

0 - 30 psig (0 - 2.07 bar)

**Vacuum Range (Air):**

0 - 11.5 in Hg (0 - 292 mm Hg)

**Filtration:**

40 microns - recommended

**Efficiency at Free Flow<sup>5</sup>:**

Brushless Slotted:

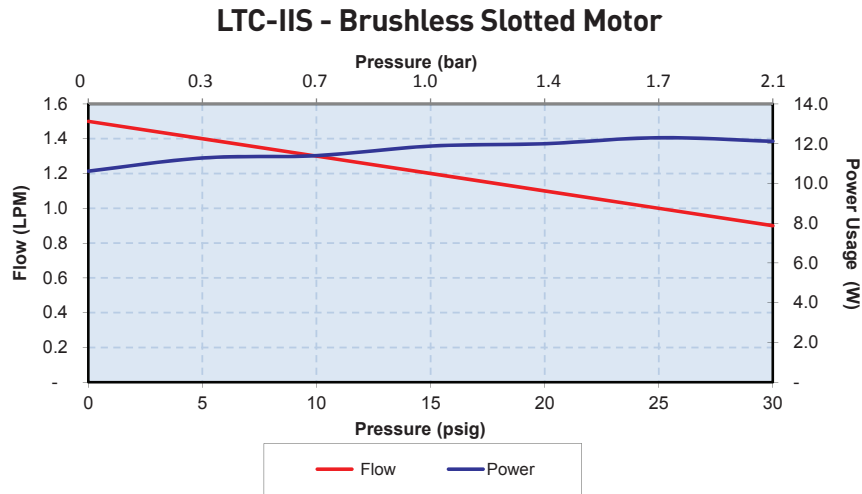
0.1 LPM/Watt (PN: V015-11)

\* See Appendix A for details.

## LTC-IIS Series

## Miniature Diaphragm Pumps (liquid)

### Performance Specifications

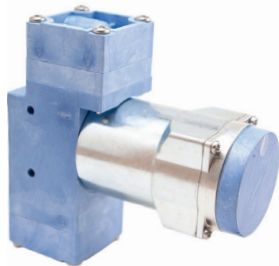


The above graph represents an example of performance for the pump series handling water at 800 feet (244 m) above sea level at 75 degree F (24 C). Performance will vary depending on barometric pressure and media temperature. A variety of configurations can be accommodated to meet application requirements.

Please contact Parker Precision Fluidics Applications Engineering for other considerations.

### Sizing and Selection

**LTC-IIS Series** Brushless Slotted (High Torque) Motor



**Brushless Slotted (High torque) Motor**

<b>Efficiency<sup>1</sup></b>	High Efficiency at high loads
<b>Life<sup>2</sup></b>	10,000 hrs

#### Mounting Guidelines:

- Bracket options available for mounting consideration (See *EZ Mount catalog pages*).
- Hole in the center of the bottom of housing is for manufacturing only—not to be used for mounting.
- Mounting holes are drilled for #6-20 self-tapping screws with 1/4" thread engagement (torque to 4 in-lbs).

#### Port Connections:

- Ports are sized for 1/4-28 UNF threaded fittings. The design allows for top or bottom face seal.
- Flow direction is marked on the pump head with arrows.

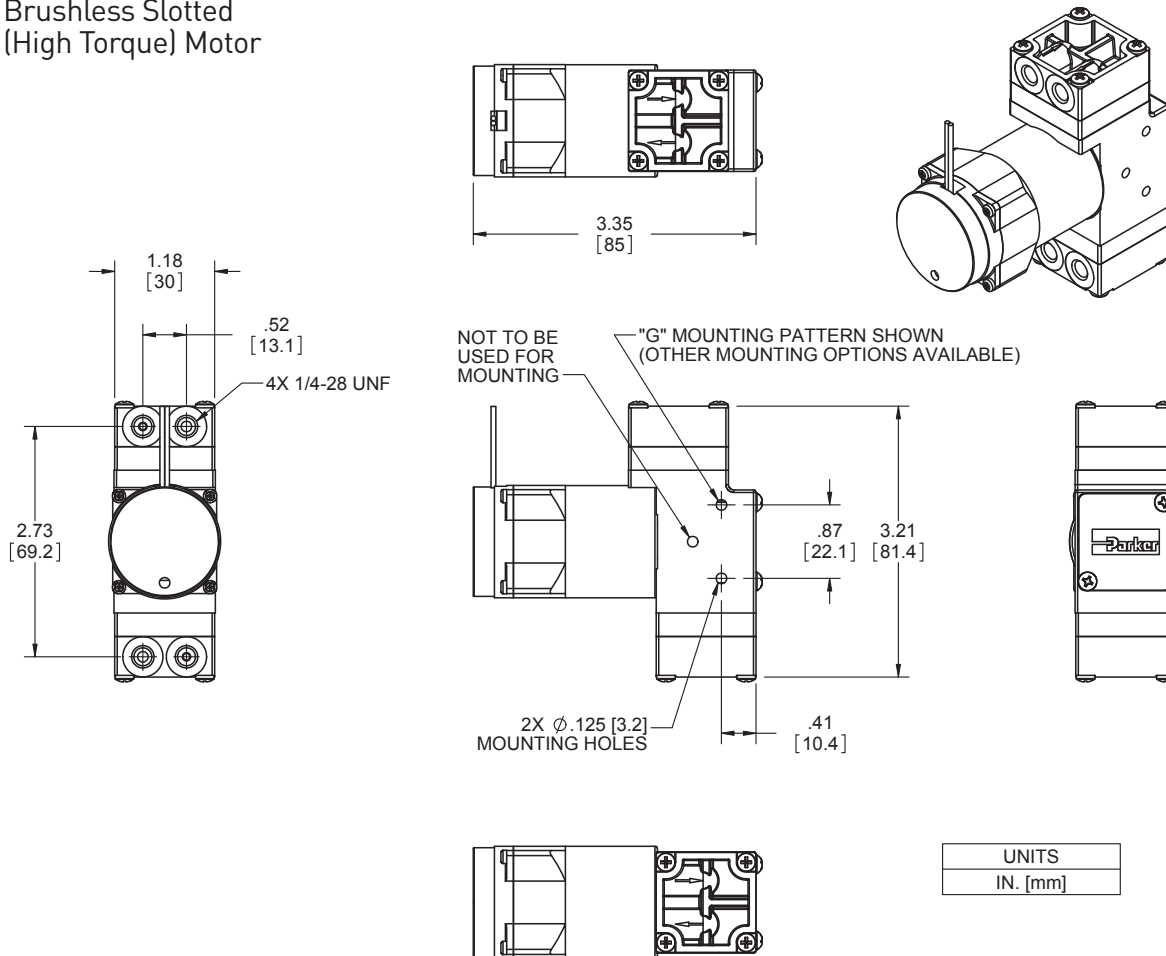
# LTC-IIS Series

## Miniature Diaphragm Pumps (air/gas)

### Mechanical Integration

#### Dimensions

Brushless Slotted  
(High Torque) Motor



## LTC-IIS Series

### Miniature Diaphragm Pumps (air/gas)

## Electrical Integration and Motor Control

### Brushless Motor Control Options

2 Wire	Red (+), Black (-)
Wire specification	22AWG, Insulation OD 0.051 in (1.30 mm)

### Other Motor Control Considerations

The drive electronics for the BLDC motors are integrated into the motor itself, all that is needed is a power supply with the sufficient voltage and current.

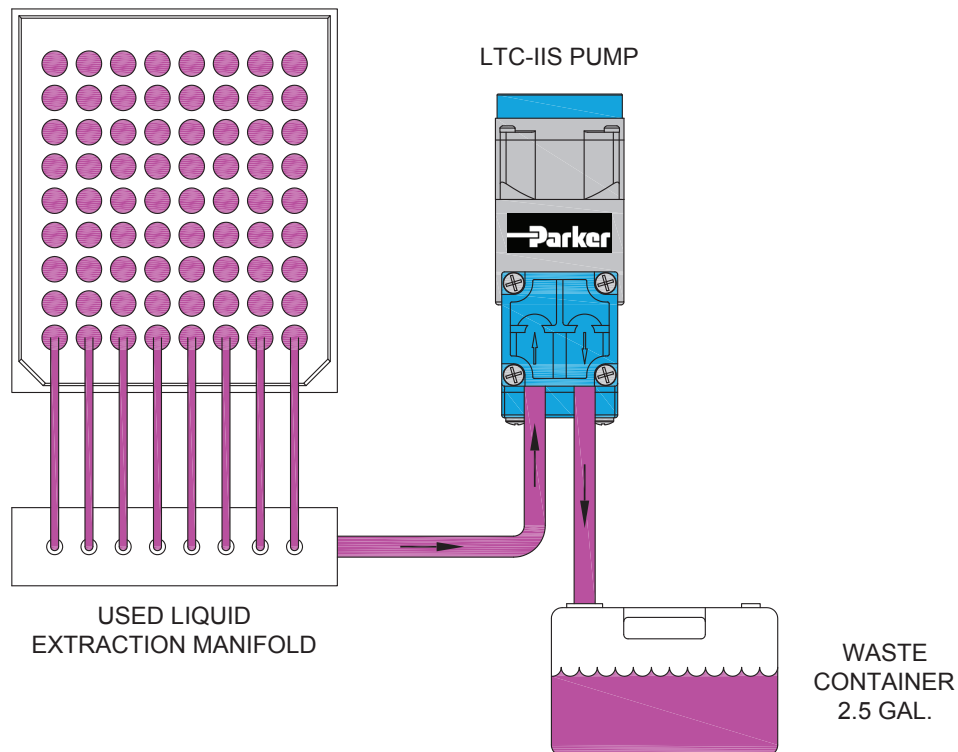
### Key Things to Remember

The pump is not a pressure holding device. An external check valve is recommended, if there is a pressure holding requirement.

Pump orientation does not affect performance or life.

## Typical Flow Diagram

### LTC-IIS Waste Pump

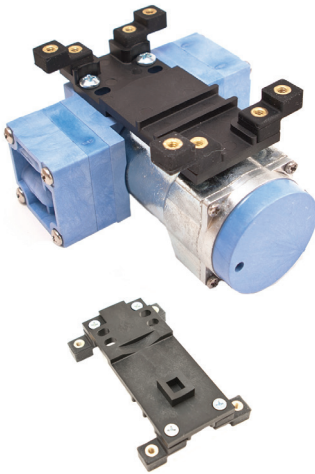


## LTC-IIS Series

## Miniature Diaphragm Pumps (air/gas)

### Accessory Information

EZ Mount available



EZ Mount provides ease of installation and effective control of vibration transfer. EZ Mount was designed to mount easily to the Precision Fluidic LTC-IIS Family of diaphragm pumps.

#### Features

- Isolation feet on the EZ mount can be rotated in any one of three ninety-degree planes and is designed for top-down or bottom-up mounting providing simple installation.
- EZ Mount was designed to minimize weight added to the pump assembly. Approximate weights is: Style B - 0.71 oz [20 g].
- Effectively absorbs vibration to minimize most vibration-induced noise and vibration transfer into an instrument.
- Designed to keep height and size to a minimum.
- Engineered for Parker LTC-IIS pumps to ease integration into your system.

### Physical Properties

#### Operating Environment:

41 - 158°F (5 - 70°C)

#### Humidity:

0 - 95% Relative Humidity

#### Base Plate:

Noryl GTX830

#### Feet:

Silicone

#### Feet Insert:

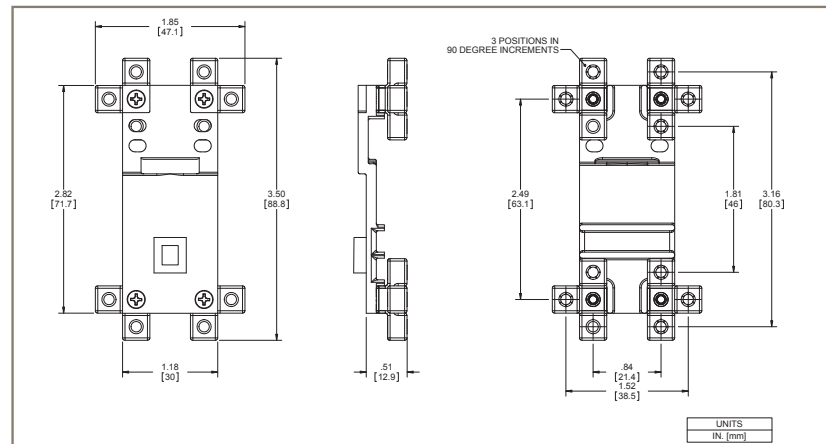
Brass

#### Hardware:

Zinc-Plated Steel

### Dimensions

#### Style B - Brushless Slotted Motor



EZ Mount kits include all necessary hardware and detailed instructions.

Isolation Feet are available in either threaded or thru-hole clearance for standard #4-40 (M3.5 for clearance hole only) or #6-32 hardware and can be mounted in any of three ninety-degree planes.

# LTC-IIS Series Miniature Diaphragm Pumps (air/gas)

## Ordering Information

### LTC-IIS Liquid Dual Head Pumps

Configuration	Liquid Flow (Water) mLPM @ Load							FF	Max	Motor Type	PCD*		Wetted Materials
	0 psig	5 psig	10 psig	15 psig	20 psig	25 psig	30 psig				Vac in Hg	Continuous psig [Liquid]	
	0 mbar	345 mbar	689 mbar	1034 mbar	1379 mbar	1724 mbar	350 mbar						Diaphragm, Valves, Gasket
<b>V015-11</b>	<b>1,500</b>	1,400	1,300	1,200	1,100	1,000	900	11.5	30.0	BLDC Slotted	12	1025	EPDM, AEPDM, EPDM
<b>V016-11</b>	<b>1,500</b>	1,400	1,300	1,200	1,100	1,000	900	11.5	30.0	BLDC Slotted	24	505	EPDM, AEPDM, EPDM

Note: The Ordering Information Section includes a few selected part numbers for the product line. Other performances and configurations are available. Please contact your Sales Representative or an Application Engineer to discuss your application needs.

\*PCD: Peak Current Draw

### EZ Mount for LTC-IIS Dual Head Pump with Brushless Slotted (High Torque) Motor

Part Number	Style	Description
00331-10-A45S	B	#4-40 Threaded
00331-10-B45S	B	#4 / M3.5 Clearance
00331-10-D45S	B	#6-32 Threaded
00331-10-C45S	B	#6 Clearance

Please click on the Order On-line button below (or go to [www.parker.com/precisionfluidics/ltciiis](http://www.parker.com/precisionfluidics/ltciiis)) to configure the LTC-IIS miniature liquid diaphragm pump for your application.

Serviceable – PPF products are designed for use through the rated life and Parker does not sell replacement parts, nor is it recommended to service these in the field

Note: In addition to Parker’s innovative and flexible pump designs, we offer applications engineering expertise to our customers in order to configure and recommend the optimal pump for the application. Contact Parker Applications Engineering to discuss and configure alternate pump configurations to meet your specific application requirements. Providing information on the following requirements will assist us in developing an optimal solution for your application:

- Noise
- Operating Pressure / Vacuum
- Power Consumption
- Life Requirement
- Description of pump function in the application
- Size
- Motor Control
- Media
- Voltage



## LTC-IIS Series

## Miniature Diaphragm Pumps (air/gas)

### Appendix A

All performance data is typical based on standard conditions: 70°F and 14.7 psia (21°C and 1 bar).

1. Duty Dependent. For operation above 122°F (50°C) consult factory
2. Life rating can vary depending on application and operating conditions.
3. Custom motor options available. Custom motors may require a significant application potential. The standard motors can be configured with a special winding to meet a particular operation point at a specified voltage
4. Current range is dependent on motor type, voltage, pressure/vacuum and flow requirement. Lower levels possible depending on application.
5. Pump efficiency is a measure of the flow rate generated per unit of power consumed. Efficiency may change dependent on application and operating condition at free flow.



