

# Model I-Drive® GJ

## Electromagnetic Drive Pump

**MICROPUMP®**

The innovative Micropump® I-Drive® electromagnetic drive delivers high-performance in a very small package. The compact, patented design features an innovative brushless DC motor that contains no moving parts for outstanding functionality. These drives, in combination with Series GJ pumpheads, deliver smooth, pulseless flow in standard or custom OEM configurations. With variable speed operation and excellent chemical compatibility, the I-Drive GJ offers design flexibility for any application.

### Small Package Size / High-Performance

The I-Drive GJ features rare earth magnets to increase motor torque capabilities while reducing total package size. Innovative surface mount technology improves reliability and enables higher efficiency motor performance.

### Electromagnetic Drive

The unique, patented design of the electromagnetic drive eliminates all moving parts to increase motor life.

### Electronic Control

The variable speed electronic controller offers a 0-5 VDC input signal, a 4-20 mA current loop, or a manually controlled drive with thermal and overload protection.

### Simple Integration

The simplicity of the built-in speed control and tachometer output allows easy integration into PLC- or PC-controlled machines or end user installations.

### Leak-Free

The electromagnetic drive and static seals keep the fluid securely inside the pump and potential contaminants out.



### Safety Features / Product Approvals

The I-Drive is CE, LVD and EMC approved; the enclosure is IP55 rated.

### Innovative Designs

Micropump uses the latest engineering tools and manufacturing equipment to produce the most innovative pumping solutions available. Products are developed using state-of-the-art CAD, Finite Element Analysis (FEA), and rapid prototyping tools to ensure the highest level of product quality and reliability.

### Enhanced Efficiency

As part of the IDEX Health & Science Group, Micropump now offers fully-integrated liquid subassemblies, gas management systems, and precision components. Products include pumps, valves, manifolds, tubing, fittings, degassing/debubbling systems, air compressors, vacuum generators, and HPLC columns. Additional services are custom fluidic engineering and development, contract manufacturing, extrusion, molding, machining, and diffusion bonding.



Precision Engineered Fluidics™

## Performance Summary

- Flow Rate at 5,500 rpm
  - ▶ 5,000 mL/min (1.32 gpm)
- Displacement for MS Mount
  - ▶ Gear Set N21 N23 N25
  - ▶ mL/rev 0.32 0.64 0.91
- Maximum Differential Pressure
  - ▶ 80 psi (5.6 bar)
- Maximum System Pressure
  - ▶ 300 psi (21 bar)
- Temperature Range
  - ▶ -46–80 °C (-50–176 °F)
- Viscosity Range
  - ▶ 0.2–1,500 cps

## Pump Construction

- ▶ Cavity style
- ▶ Two helical, shafted gears
- ▶ Sleeve bushings
- ▶ PTFE Gaskets and seals

## Magnets

- ▶ Rare Earth
- ▶ Ceramic-ferrite

## Wetted Materials

- |                       |         |
|-----------------------|---------|
| Base material         | Gears   |
| ▶ 316 stainless steel | ▶ PEEK™ |
| Static Seals          | ▶ PPS   |
| ▶ PTFE                | ▶ PTFE  |

## Product Enhancements

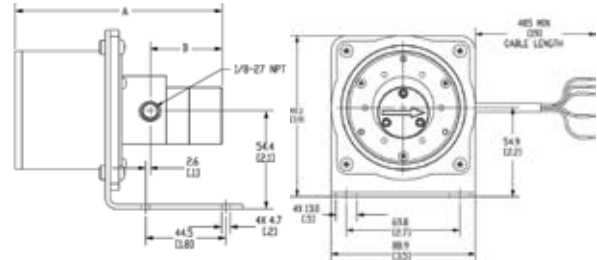
- ▶ Internal Bypass

## Specs

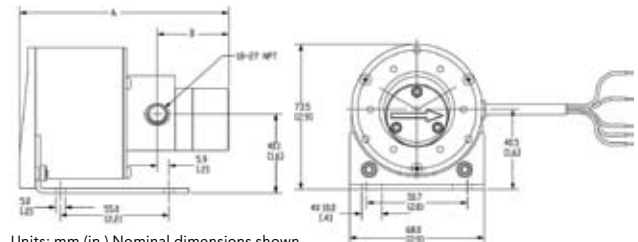
	I-Drive IEG	I-Drive IMS
▶ Speed Range	500–5,500 rpm	500–6,000 rpm
▶ Torque (@ 3,500 rpm)	15 oz-in (106 mNm)	8 oz-in (56 mNm)
▶ DC Voltage	20–30 V	20–30 V
▶ Power (@ nominal V)	70 W	40 W
▶ Current Input	3 A max	1.8 A max
▶ DC Speed Control	0–5 V	0–5 V
▶ Tachometer Output	0–5 V square wave (rpm=X30)	0–5 V square wave (rpm=X30)
▶ Pump/Drive Weight	0.96 kg (2.1lbs)	0.72 kg (1.6 lbs)

## Dimensions

IEG Drive with series GJ  
Pumphead (J Mount)



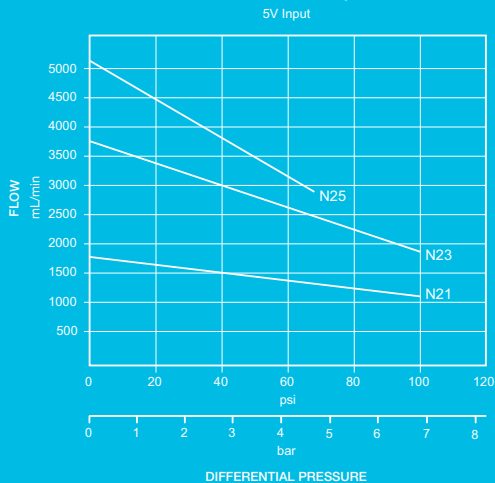
IMS Drive with series GJ  
Pumphead (M Mount)



Units: mm (in.) Nominal dimensions shown.

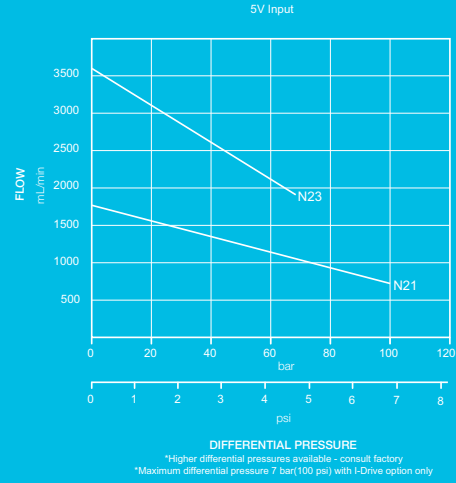
## Pump Performance

I-Drive IEG with Series GJ Pumphead



## Pump Performance

I-Drive IMS with Series GJ Pumphead



ACTUAL PERFORMANCE MAY VARY.

Specifications are subject to change without notice.

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