

Model I-Drive® GA

Electromagnetic Drive Pump

MICROPUMP®

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

Small Package Size / High-Performance

The I-Drive GA 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 6,000 rpm

- ▶ 550 mL/min (0.146 gpm)

Displacement for MS Mount

- ▶ Gear Set X21 V21 T23
- ▶ mL/rev 0.017 0.042 0.092

Maximum Differential Pressure

- ▶ 75 psi (5.2 bar)

Maximum System Pressure

- ▶ 300 psi (21 bar)

Temperature Range

- ▶ -46–80 °C (-50–176 °F)

Viscosity Range

- ▶ 0.2–1,500 cps

Specs

Speed Range

I-Drive IMS

500–6,000 rpm

Torque (@ 3,500 rpm)

8 oz-in (56 mNm)

DC Voltage

20–30 V

Power (@ nominal V)

40 W

Current Input

1.8 A max

DC Speed Control

0–5 V

Tachometer Output

0–5 V square wave (rpm=X30)

Pump/Drive Weight

0.60 kg (1.3 lbs)

Pump Construction

- ▶ Magnetic drive gear pump
- ▶ Suction shoe style
- ▶ Spur gears
- ▶ Stationary shafts
- ▶ PTFE seal or o-ring

Magnets

- ▶ Rare earth
- ▶ Ceramic-ferrite

Wetted Materials

Base material

- ▶ 316 stainless steel

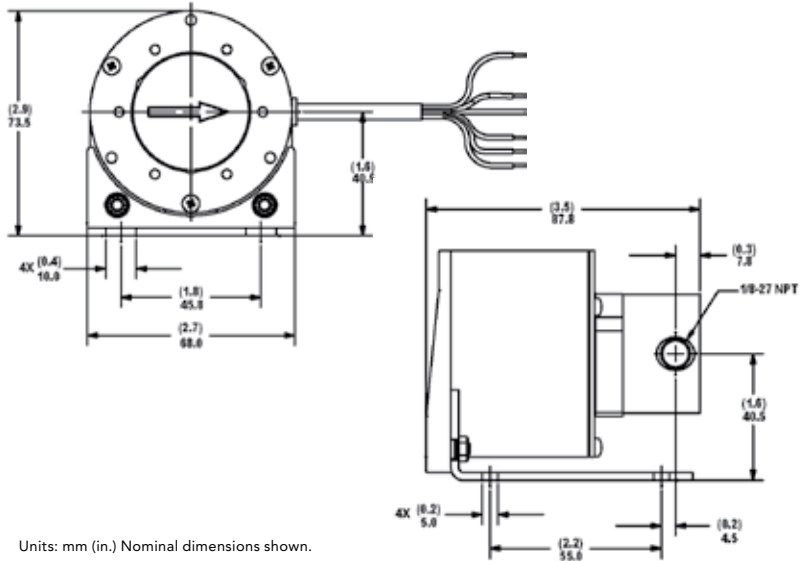
Gears

- ▶ PEEK™
- ▶ PPS

Static Seals

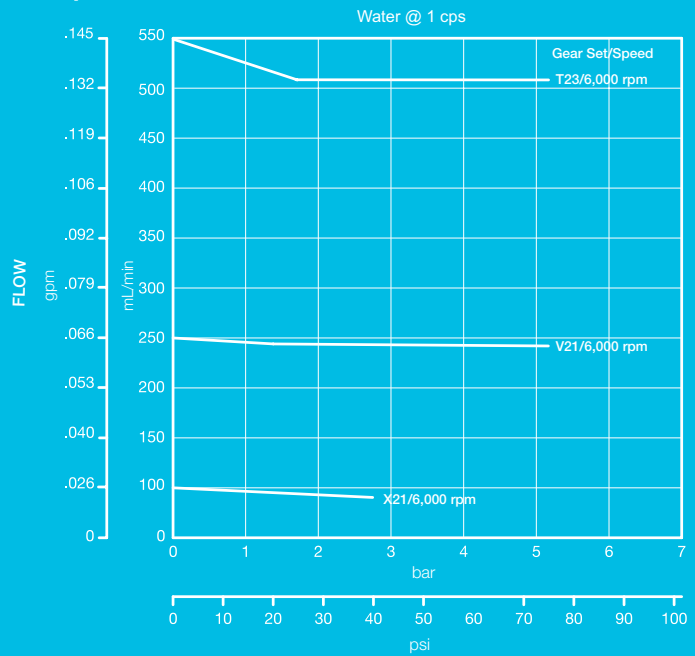
- ▶ PTFE
- ▶ Viton®

Dimensions



Units: mm (in.) Nominal dimensions shown.

Pump Performance



*Higher differential pressures available - consult factory
 *Maximum differential pressure 7 bar (100 psi) with I-Drive option only

ACTUAL PERFORMANCE MAY VARY.

Specifications are subject to change without notice.

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