

Magnetic Drive Pumps

The Pump People[®]



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Gorman-Rupp Industries designs and manufactures pumps and pumping solutions for the Original Equipment Manufacturer (OEM). All series/models shown can be configured to meet specific OEM application requirements. Contact GRI for design points that fall outside of shown parameters.



Product Overview

Magnetic drive centrifugal pump operation is similar to a standard centrifugal pump except the motor shaft seal is eliminated. Magnetic drive pumps are designed to isolate the pump body from the motor by driving an impeller and magnet assembly with a drive magnet attached to the motor shaft. Motor torque is transmitted by a drive magnet through a plastic housing to the impeller assembly. The plastic housing separates the motor drive magnet from the fluid being pumped. Leaks caused by shaft seal failure are eliminated. The end result is a more efficient seal-less centrifugal pump that will not leak and is capable of achieving up to 50 thousand hours of continuous duty operation.

To handle the most aggressive chemicals, GRI's material of construction consists of special combinations of chemically inert plastic. The impeller shaft and bearing system handle the inherent friction and motor heat with built-in cooling passages that are designed to use the pumped liquid as a lubricating coolant. GRI uses ceramic shafts with either Teflon® or ceramic thrust bearings as standard materials for each magnetic drive pump line. These robust features add tremendously to the chemical compatibility and overall life of the pump to make it virtually maintenance free.

Impellers and pump bodies are designed to produce efficient flow and head characteristics required in today's applications. The hydraulic designs, coupled with motors specifically designed for the pump end, means less power consumption for the work performed.

Typical OEM applications include film processors, laser and x-ray cooling systems, medical, scientific, laboratory and silver recovery equipment. Magnetic drive centrifugal pumps must be used where flooded suction conditions exist.

Pump Specifications:

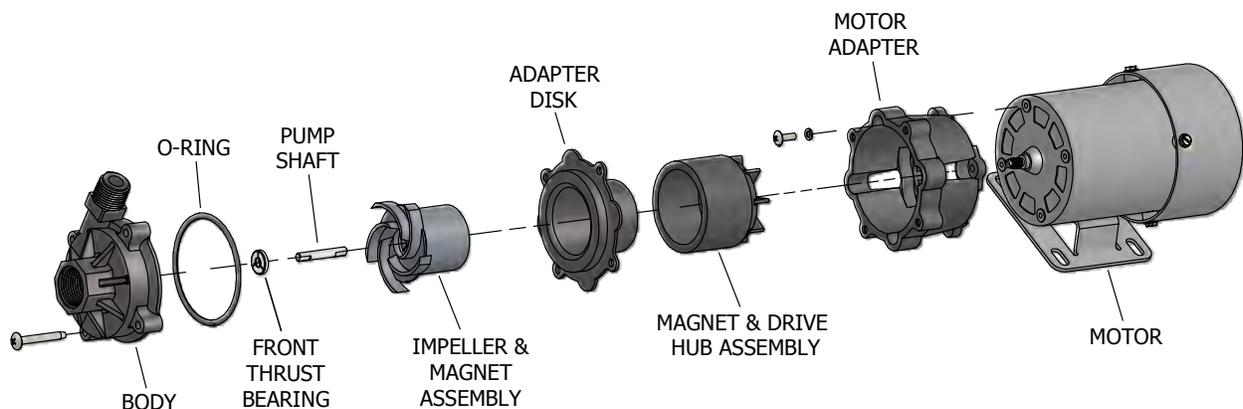
Flow Rates: Range to 35 gpm (132 lpm)

Max. Discharge Head: Range to 53 feet (16 m)

Max. Fluid Temperature: Up to 250°F (121°C)

Motors: All motors, except the 15651 series and 18650 series motors which use sleeve bearings, have sealed electric motor grade ball bearings, are thermally protected, class B insulated, and continuous duty rated. Most pumps available with AC or DC motors.

For proper selection of the wetted materials of construction (pump body, impeller, adapter disc, O-ring, impeller bearing) please visit GRI's website to view [Chemical Resistance Charts](#).



GRI specializes in the custom design and manufacturing of fluid pumps for the OEM market. Please contact us to discuss your project's needs and specifications.



180 Hines Ave. • Bellville, OH 44813 • PH: 419-886-3001 • FAX: 419-886-2338 • www.GRIpumps.com

Features:

- Corrosion resistant
- Limited dry run capability
- Hydraulically efficient
- Quiet operation
- No shaft seals
- Flexible mounting and body discharge positions
- Low current draw and heat rise
- NSF certified models available

OEM Options:

GRI specializes in the custom design and manufacturing of fluid pumps for the OEM market. Please contact us to discuss your project's needs and specifications.

Body

- NSF certified models available
- 3/8" MNPT

Thrust Bearings

- Reinforced Thermoplastic Resin
- Vectra®*

O-Rings (Elastomers)

- Fluorosilicone (14110 & 14518/20 Series only)
- Kel-F®
- Nitrile
- Neoprene
- Silicone
- Viton®/Fluoroelastomer

Motors

- 115V, 50/60 Hz
- 115V/230V, 50/60 Hz Capacitor start, drip-proof, ball bearing, thermally protected
- 115V, 50/60Hz; 230, 50/60 Hz Explosion-proof (14520 Series only)
- 115V, 50/60 Hz; 230V, 50/60 Hz Open, shaded pole
- 115V, 50/60Hz; 230V, 50/60 Hz Open, shaded pole, impedance protected, ball bearing
- 230V, 50/60 Hz
- Brush and brushless DC available
- Drip-proof, shaded pole, thermally protected
- TEFC/PSC, thermally protected



Magnetic Drive Pumps Series Comparison Chart

This chart is just a general overview of the magnetic drive pumps offered. GRI specializes in the custom design and manufacturing of fluid pumps for the OEM market.

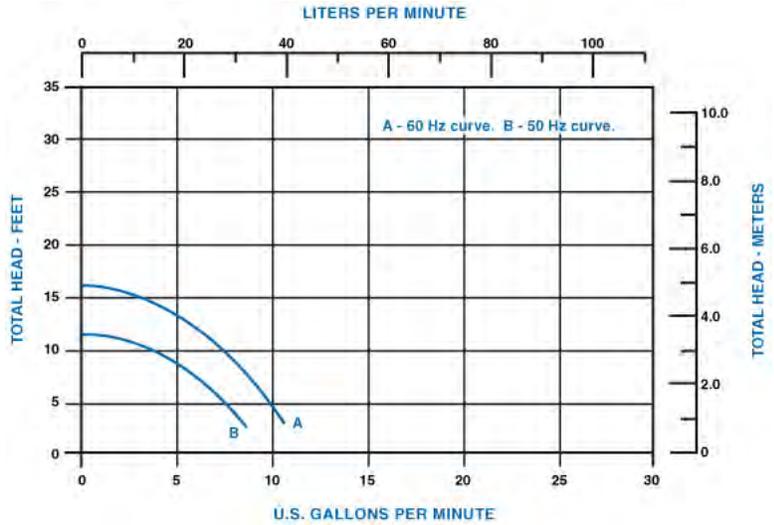
There are many variables that must be considered when specifying a pump for your application. At first glance you may not find a pump that meets your requirements. GRI recommends that you contact our Technical Sales Staff to discuss your project so that the right pump can be specified. Many times we will customize an existing pump to meet your needs or design a new pump from the ground up.

	MAX FLOW	MAX HEAD	MAX SYSTEM PRESSURE	MAX FLUID TEMPERATURE	MOTOR SPECS / VOLTAGES
14110	11 GPM	16 FT	25 PSI	180°F (82°C)	•115, 230, 50/60 Hz
14520	26 GPM	35 FT	75 PSI	203°F (95°C)	•115, 230, 50/60 Hz
15651	3.75 GPM	13 FT	75 PSI	203°F (95°C)	•115, 230, 50/60 Hz
15700	35 GPM	53 FT	75 PSI	203°F (95°C)	•115, 230, 50/60 Hz
17650	10.5 GPM	57 FT	75 PSI	160°F (71°C)	•115, 230, 50/60 Hz •12, 24 DC Brushless
18650	12 GPM	23 FT	25 PSI	180°F (82°C)	•115, 230, 50/60 Hz
INTG1	2 GPM	11.5 FT	75 PSI	203°F (95°C)	•12, 24 DC Integrated Brushless
INTG3	7.93 GPM	45 FT	75 PSI	203°F (95°C)	•9-24 DC Integrated Brushless

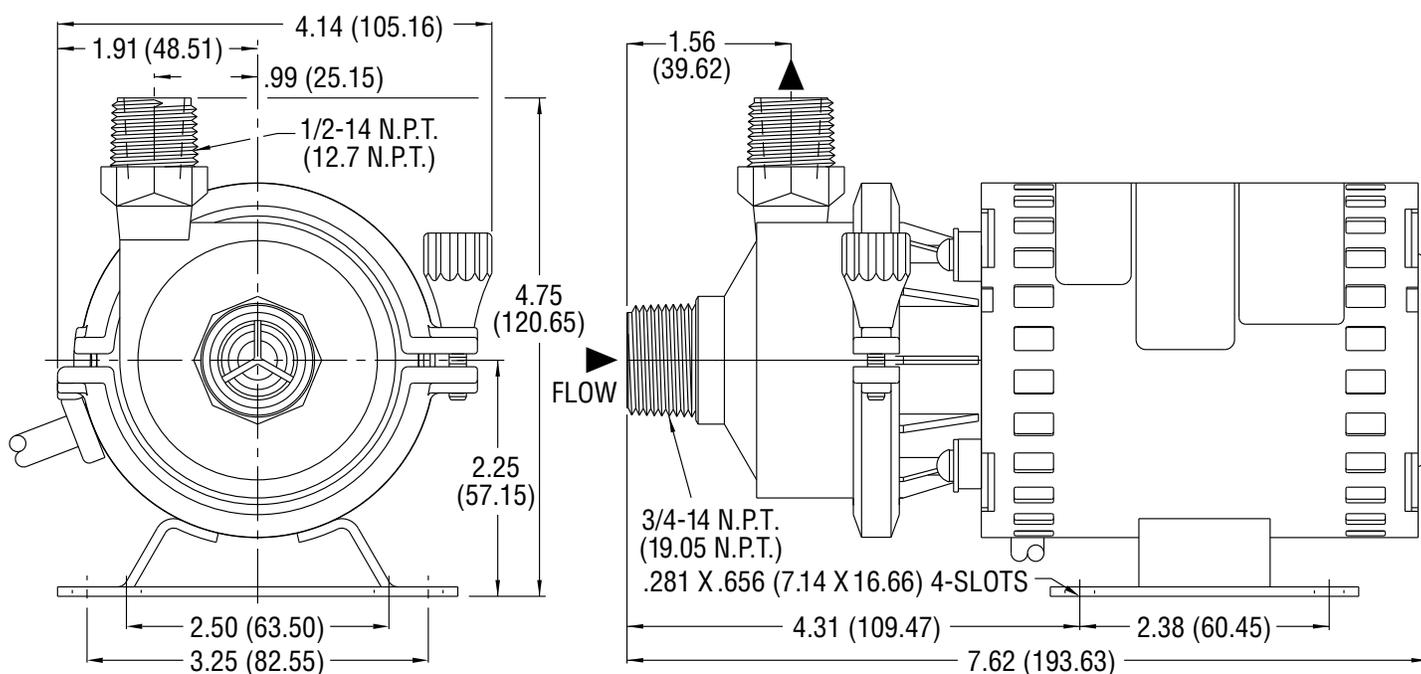


14110 Series Magnetic Drive Pump • Ask us about available OEM options

Specifications	
Flow Rates	Max Range: 11 gpm
	Max Head: 16 ft
	Max Sys. Pressure: 25 psi
Fluid Temp. Max	180°F (82°C)
Materials in contact with solution / OEM options	
Body	Ryton®
Impeller	Ryton® with Epoxy adhesive
Adaptor	Ryton®
Pump Shaft	Ceramic
Impeller Bearings	Resin Impregnated Carbon
Front Thrust Bearings	Glass-Filled Teflon®
Rear Thrust Bearings	Ceramic
O-Rings (Elastomers)	<ul style="list-style-type: none"> • EPT/EPDM • Viton®/Fluoroelastomer • Nitrile • Neoprene • Silicone • Kel-F®
Motor specifications / OEM options	
Motor Specs	<ul style="list-style-type: none"> • 115V, 50/60 hz • 230V, 50/60 hz • Vented • Shaded pole • Thermally protected • Tefc/psa
Features	
Corrosion Resistant	Quiet operation
Hydraulically efficient	Flexible mounting and body discharge positions
No shaft seals	NSF certified models available
Low current draw and heat rise	



14110 Series Magnetic Drive Pump • Ask us about available OEM options

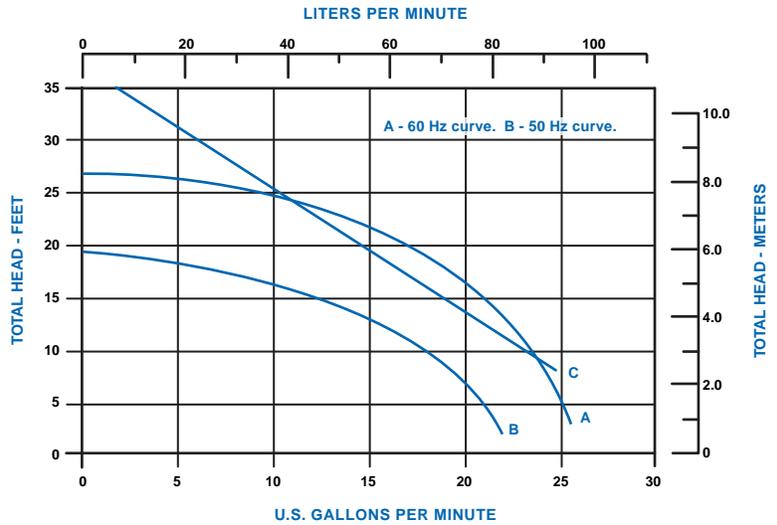


Dimensions in Inches
 (Dimensions in Millimeters)

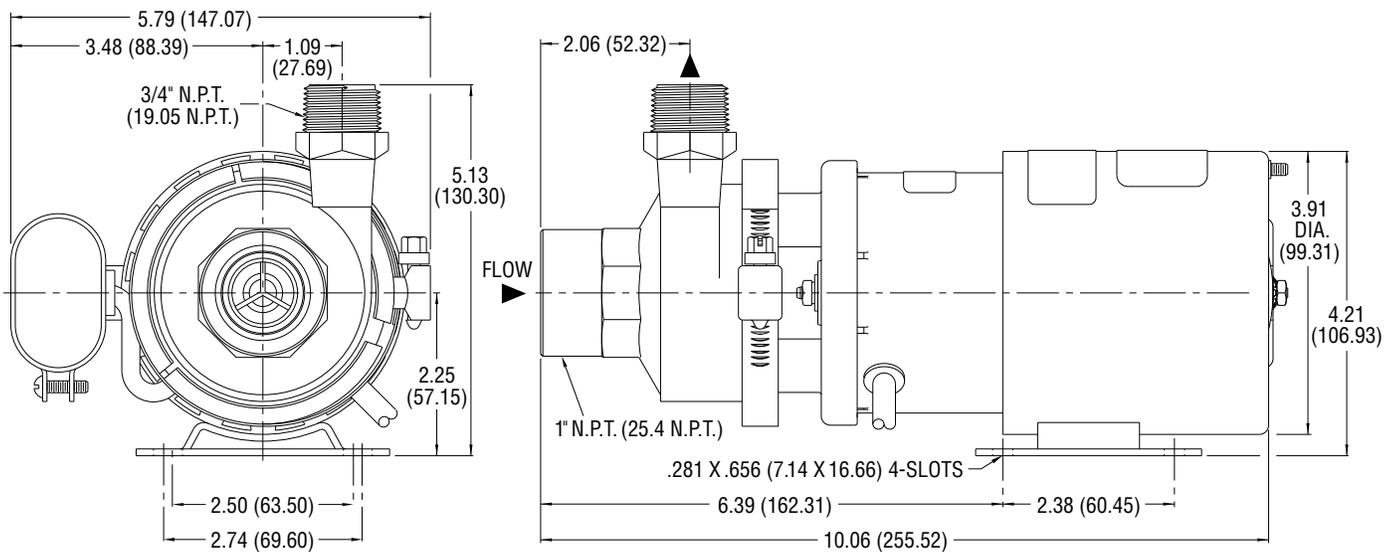


14520 Series Magnetic Drive Pump • Ask us about available OEM options

Specifications	
Flow Rates	Max Range: 26 gpm
	Max Head: 35 ft
	Max Sys. Pressure: 75 psi
Fluid Temp. Max	203°F (95°C)
Materials in contact with solution / OEM options	
Body	Ryton®
Impeller	Ryton® with Epoxy adhesive
Adaptor	Ryton®
Pump Shaft	Ceramic
Impeller Bearings	Resin Impregnated Carbon
Front Thrust Bearings	Glass-Filled Teflon®
Rear Thrust Bearings	Ceramic
O-Rings (Elastomers)	<ul style="list-style-type: none"> • EPT/EPDM • Viton®/Fluoroelastomer • Nitrile • Neoprene • Silicone • Kel-F®
Motor specifications / OEM options	
Motor Specs	<ul style="list-style-type: none"> • 115V, 50/60 hz • 230V, 50/60 hz • Vented • Shaded pole • Thermally protected • Tefc/psa
Features	
Corrosion Resistant	Quiet operation
Hydraulically efficient	Flexible mounting and body discharge positions
No shaft seals	NSF certified models available
Low current draw and heat rise	



14520 Series Magnetic Drive Pump • Ask us about available OEM options

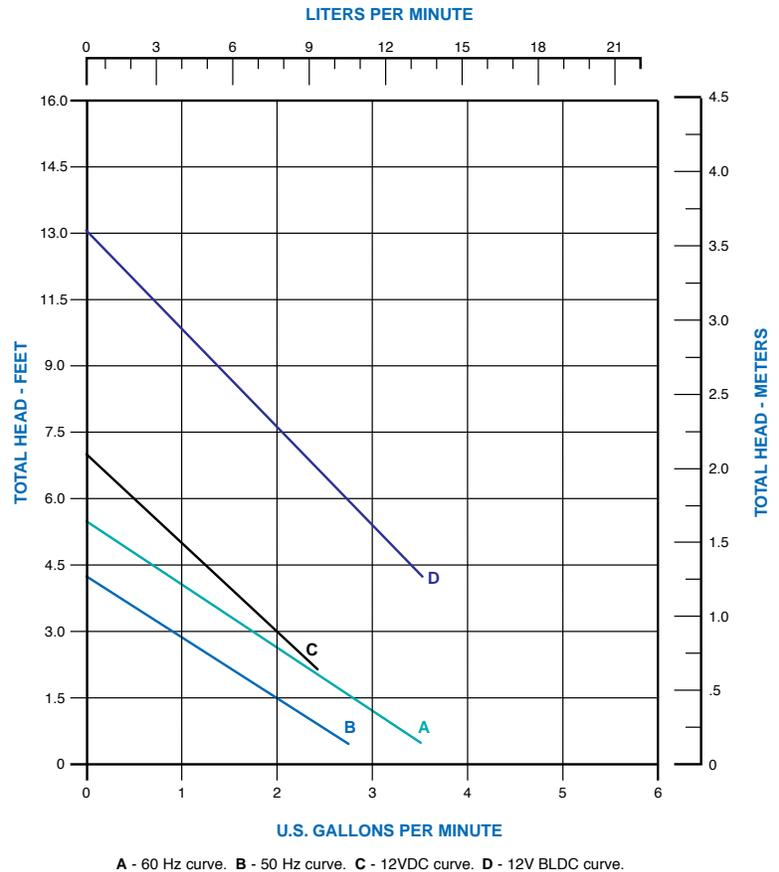


Dimensions in Inches
 (Dimensions in Millimeters)



15651 Series Magnetic Drive Pump • Ask us about available OEM options

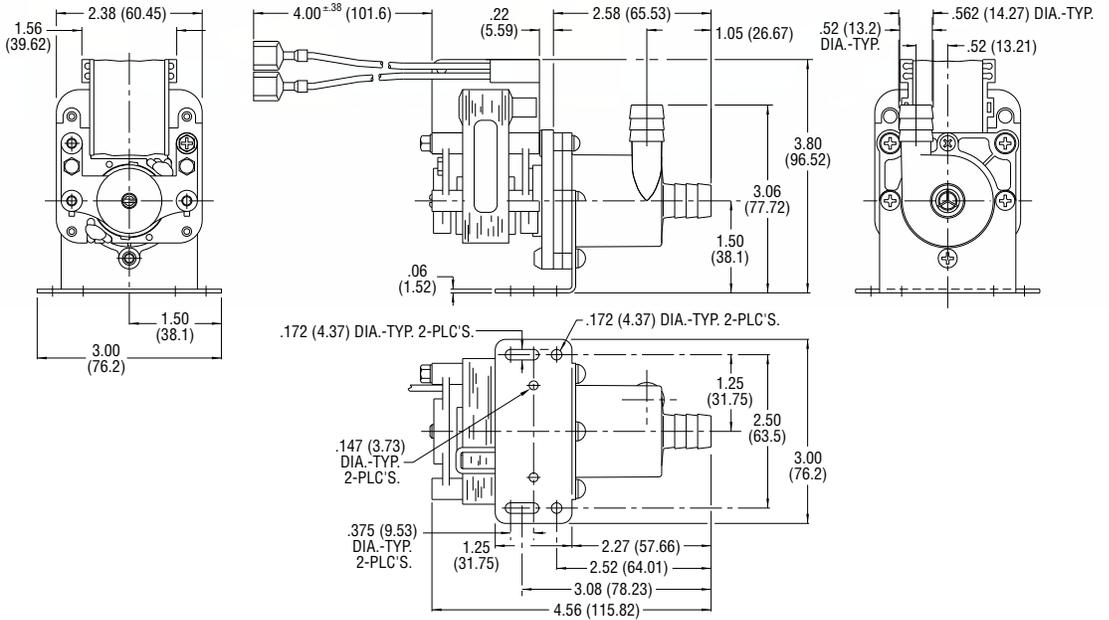
Specifications	
Flow Rates	Max Range: 3.75 gpm
	Max Head: 13 ft
	Max Sys. Pressure: 75 psi
Fluid Temp. Max	203°F (95°C)
Materials in contact with solution / OEM options	
Body	Vectra®, Noryl®
Impeller	Vectra®
Bearings	Vectra®
Pump Shaft	Ceramic
Thrust Bearings	Glass-Filled Teflon®
O-Rings (Elastomers)	<ul style="list-style-type: none"> • EPT/EPDM • Viton®/Fluoroelastomer • Nitrile • Neoprene • Silicone • Kel-F®
Motor specifications / OEM options	
Motor Specs	<ul style="list-style-type: none"> • 115V, 50/60 Hz • 230V, 50/60 Hz • Open, • Shaded Pole, • Impedance Protected, • Sleeve Bearing • 12Vdc
Features	
Corrosion Resistant	Quiet operation
Hydraulically efficient	Flexible mounting and body discharge positions
No shaft seals	NSF certified models available
Low current draw and heat rise	



15651 Series Magnetic Drive Pump • Ask us about available OEM options

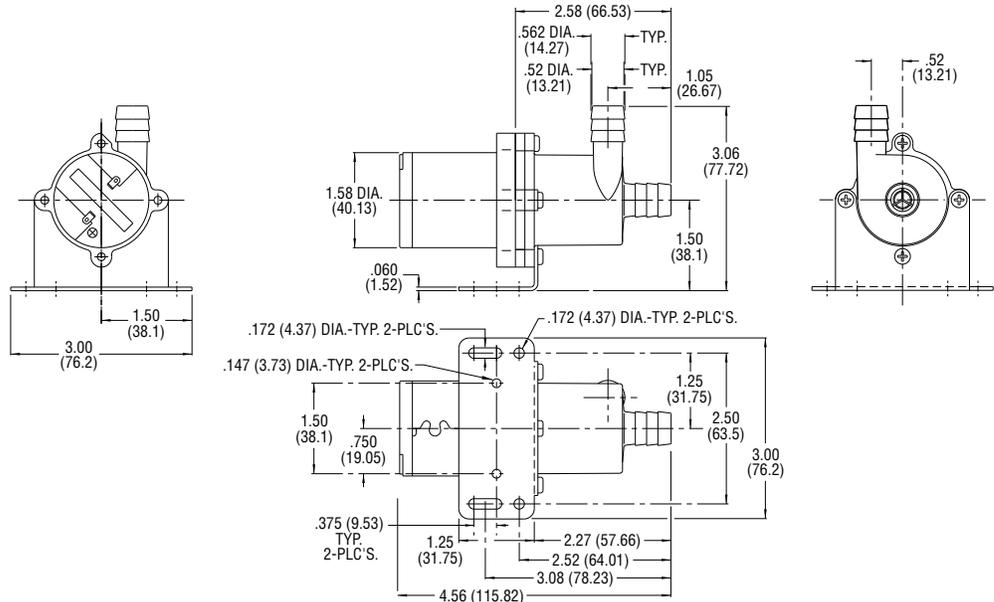
15651 Series AC Models:

- 15651-050
- 15651-051
- 15651-052
- 15651-053
- 15651-054
- 15651-055
- 15651-056
- 15651-057



15651 Series DC Models:

- 15651-058
- 15651-059

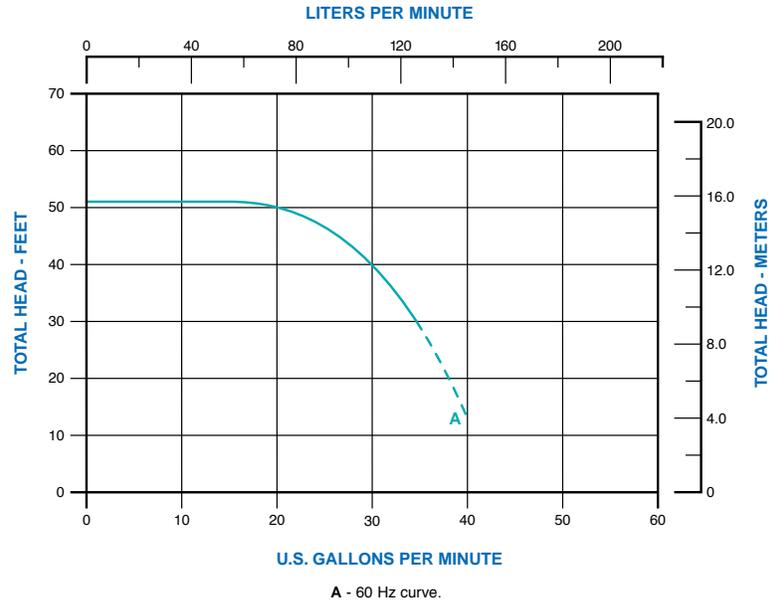


Dimensions in Inches
 (Dimensions in Millimeters)

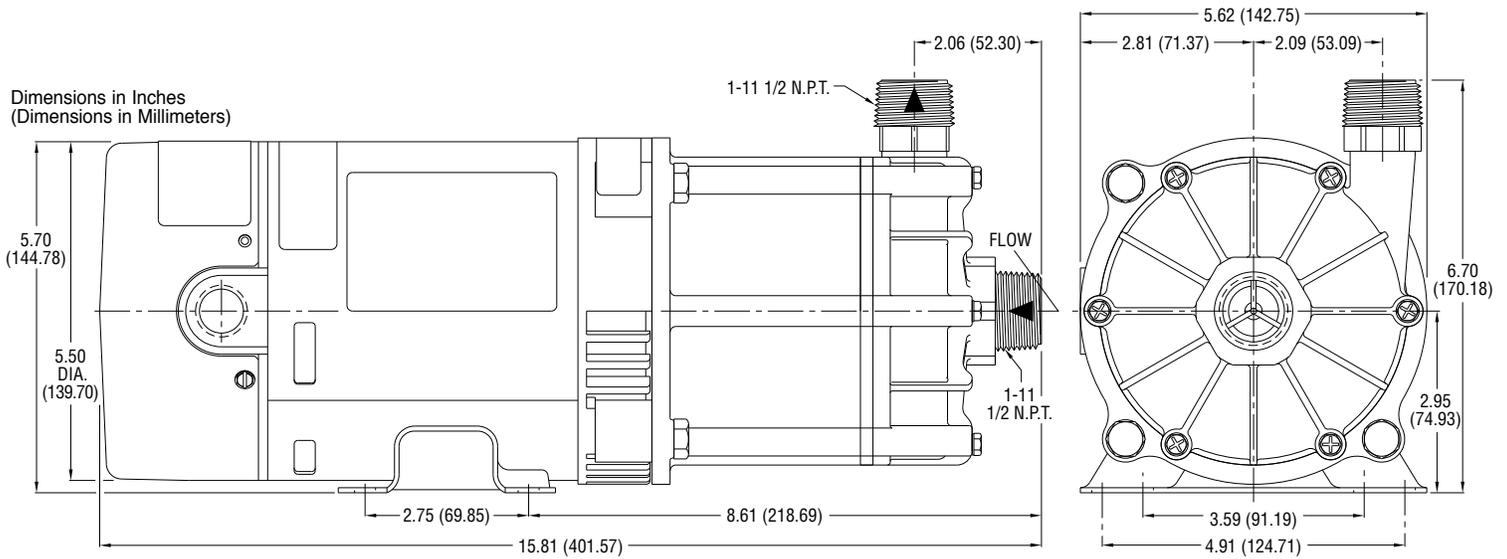


15700 Series Magnetic Drive Pump • Ask us about available OEM options

Specifications	
Flow Rates	Max Range: 35 gpm
	Max Head: 53 ft
	Max Sys. Pressure: 75 psi
Fluid Temp. Max	203°F (95°C)
Materials in contact with solution / OEM options	
Body	Ryton®
Impeller	Ryton®
Impeller Bearings	Resin Impregnated Carbon
Pump Shaft	Ceramic
Thrust Bearings	Ceramic
O-Rings (Elastomers)	<ul style="list-style-type: none"> • EPT/EPDM • Viton®/Fluoroelastomer • Nitrile • Neoprene • Silicone • Kel-F®
Motor specifications / OEM options	
Volts	115/230
Hz	50/60
Amps	6.4/3.2
Motor type	<ul style="list-style-type: none"> • Capacitor Start • Ball Bearing • Thermally Protected
Shell	Open Drip Proof
Approx. weight	18.3 lbs
Features	
Corrosion Resistant	Quiet operation
Hydraulically efficient	Flexible mounting and body discharge positions
No shaft seals	NSF certified models available
Low current draw and heat rise	

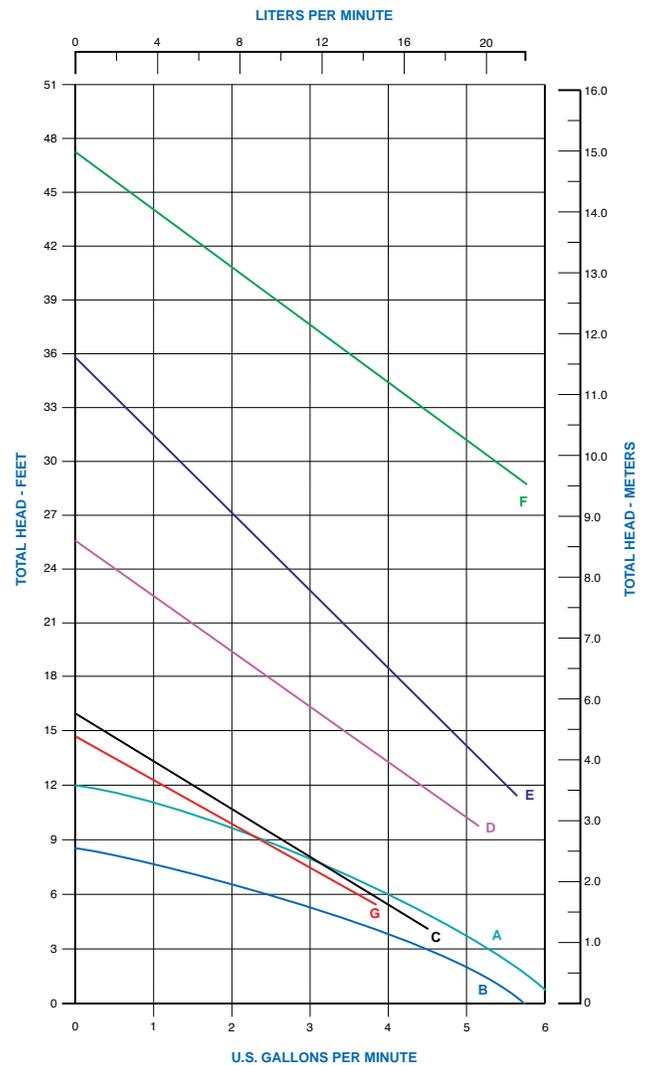


15700 Series Magnetic Drive Pump • Ask us about available OEM options



17650 Series Magnetic Drive Pump • Ask us about available OEM options

Specifications	
Flow Rates	Max Range: 10.5 gpm
	Max Head: 57 ft
	Max Sys. Pressure: 75 psi
Fluid Temp. Max	160°F (71°C)
Materials in contact with solution / OEM options	
Body and Housing	<ul style="list-style-type: none"> • Vectra®* • Noryl® • NSF certified models available • 3/8" MNPT
Impeller	Vectra®
Bearings	Vectra®
Pump Shaft	Ceramic
Thrust Bearings	<ul style="list-style-type: none"> • Glass-Filled Teflon® • Reinforced Thermoplastic Resin • Vectra®
O-Rings (Elastomers)	• EPT/EPDM
Motor specifications / OEM options	
Motor Specs	<ul style="list-style-type: none"> • 115V, 50/60 Hz • 230V, 50/60 Hz • Drip-Proof • Shaded Pole • 12Vdc Brushed-Type & brushless • 24Vdc Brushed-Type & brushless
Features	
Corrosion Resistant	Quiet operation
Hydraulically efficient	Flexible mounting and body discharge positions
No shaft seals	NSF certified models available
Low current draw and heat rise	



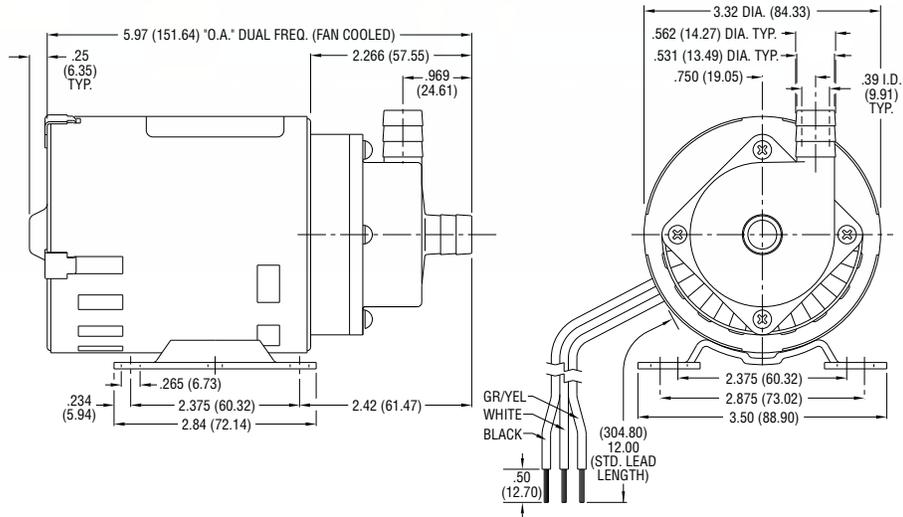
A - 60 Hz curve. B - 50 Hz curve. C - 12VDC curve. D - 12V BLDC curve.
E - 12V & 24V BLDC curve. F - 24V BLDC curve. G - 12VDC curve.



17650 Series Magnetic Drive Pump • Ask us about available OEM options

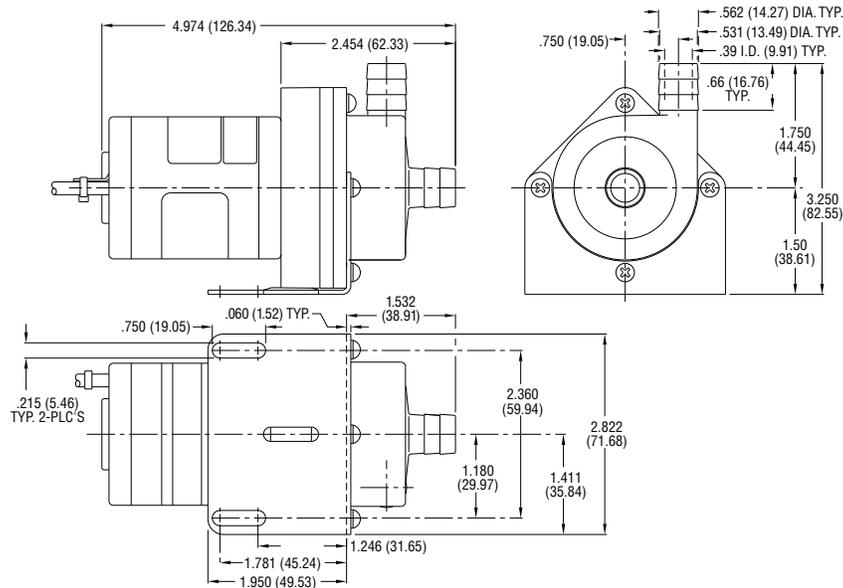
17650 Series AC Models:

- 17651-050
- 17651-051
- 17651-052
- 17651-053
- 17651-054
- 17651-055
- 17651-056
- 17651-057



17650 Series DC Models:

- 17651-058
- 17651-059

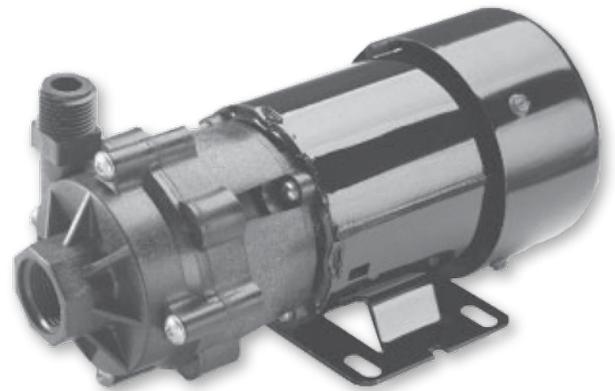
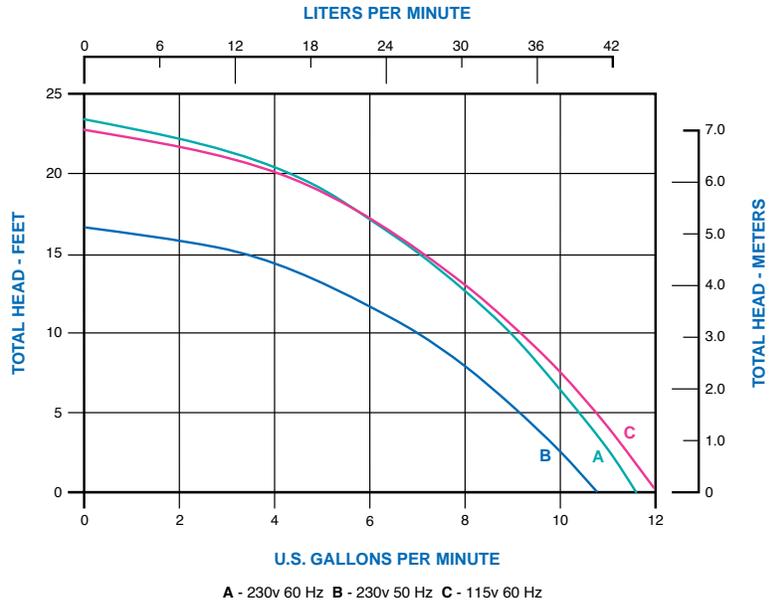


Dimensions in Inches
 (Dimensions in Millimeters)



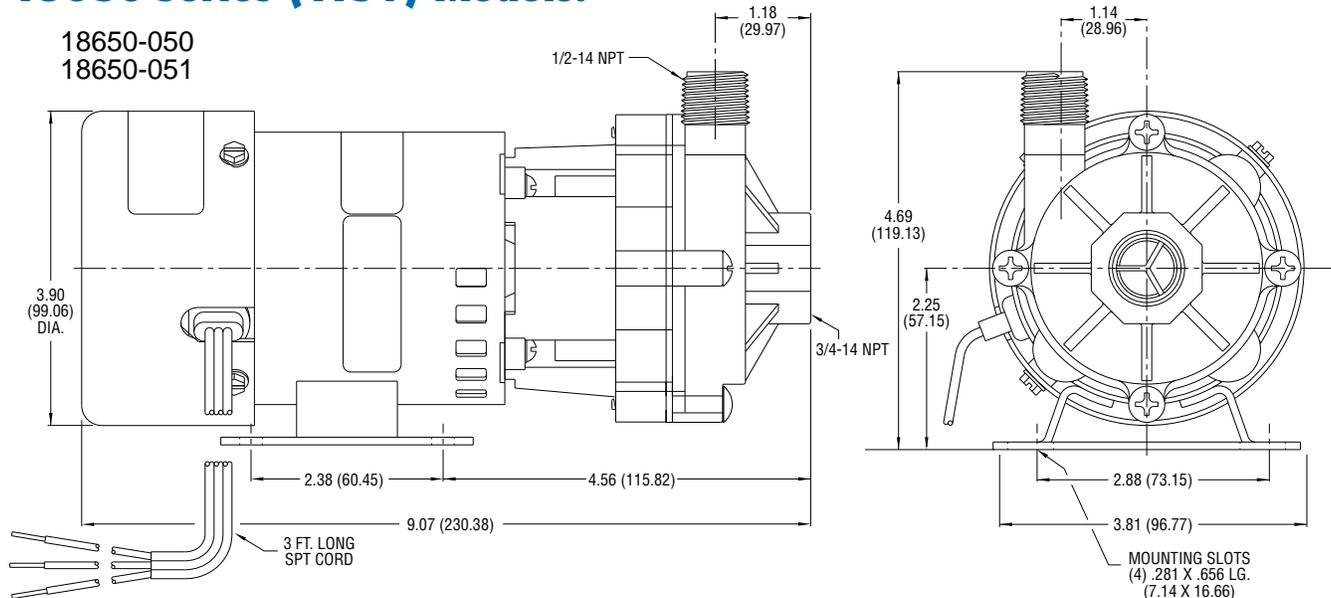
18650 Series Magnetic Drive Pump • Ask us about available OEM options

Specifications	
Flow Rates	Max Range: 12 gpm
	Max Head: 23 ft
	Max Sys. Pressure: 25 psi
Fluid Temp. Max	180°F (82°C)
Materials in contact with solution / OEM options	
Body and Housing	PPR
Impeller	PPS
Pump Shaft	Ceramic
Thrust Bearings	Ceramic
O-Rings (Elastomers)	<ul style="list-style-type: none"> • EPT/EPDM • Viton®/Fluoroelastomer • Nitrile • Neoprene • Silicone • Kel-F®
Motor specifications / OEM options	
Motor Specs	<ul style="list-style-type: none"> • 115V, 50/60 Hz • TEFC/PSC • Thermally protected
Features	
Corrosion Resistant	Quiet operation
Hydraulically efficient	Flexible mounting and body discharge positions
No shaft seals	NSF certified models available
Low current draw and heat rise	

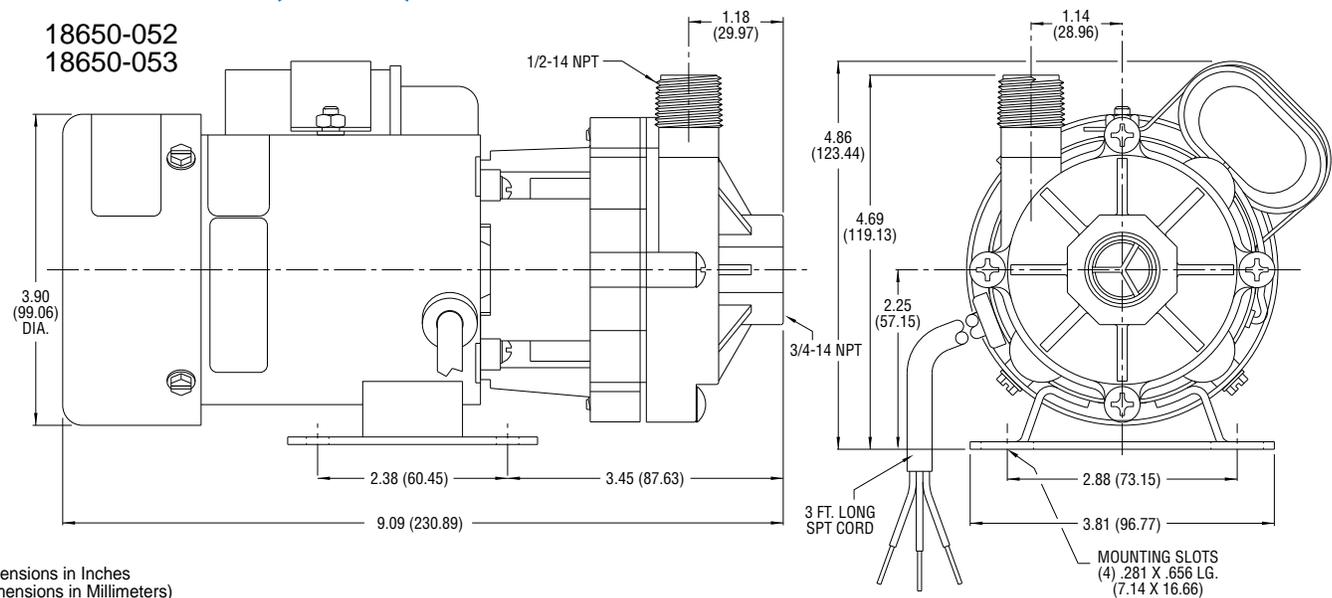


18650 Series Magnetic Drive Pump • Ask us about available OEM options

18650 Series (115V) Models:

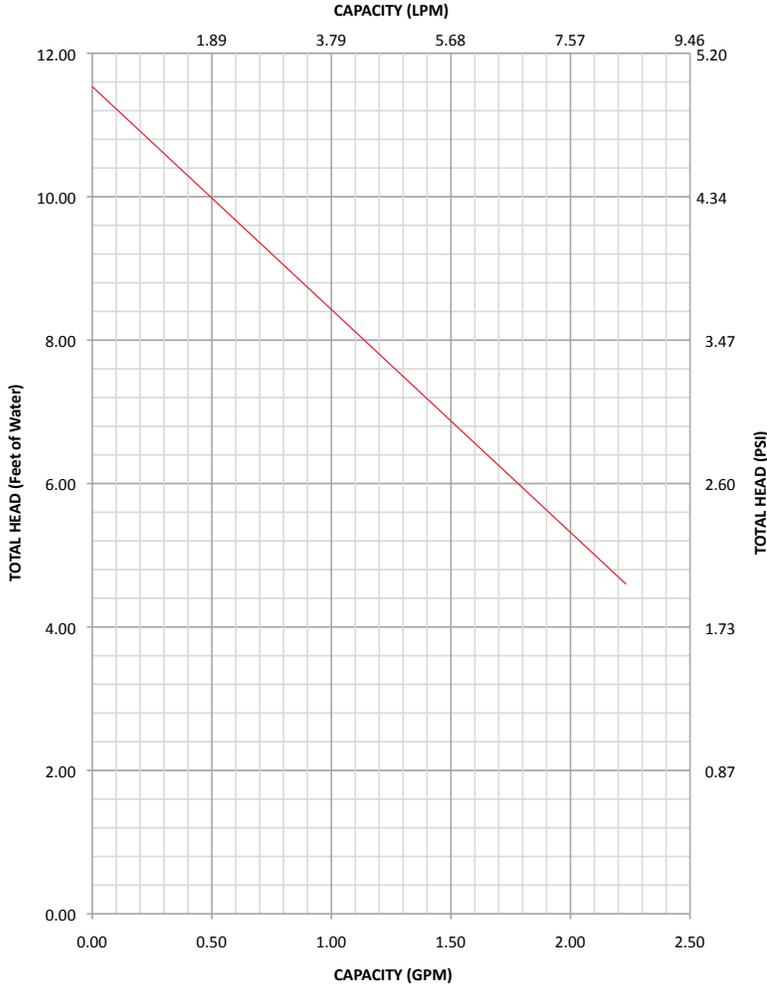


18650 Series (230V) Models:



Dimensions in Inches
 (Dimensions in Millimeters)





Specifications	
Max. Fluid Temp: 203°F (95°C)	Weight: 10 oz (283.5 grams)
Max Sys. Pressure: 75 psi	Connector: 1/2" MHB, 3/8" MPT
Max Flow: 2 GPM	Max Head: 11.5 feet
Dimensions: 2.57"W x 3.29"H x 3.42"L	

Motor specifications
Supply Voltage • Motor Speed Control
<ul style="list-style-type: none"> • 12v BLDC • 24v BLDC w/ 0-5v third wire speed control (optional)
Inrush Current: None.
<ul style="list-style-type: none"> • Ramps up to running current.
Submersible option available

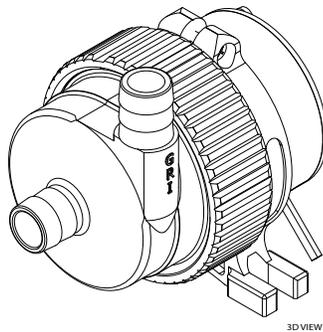
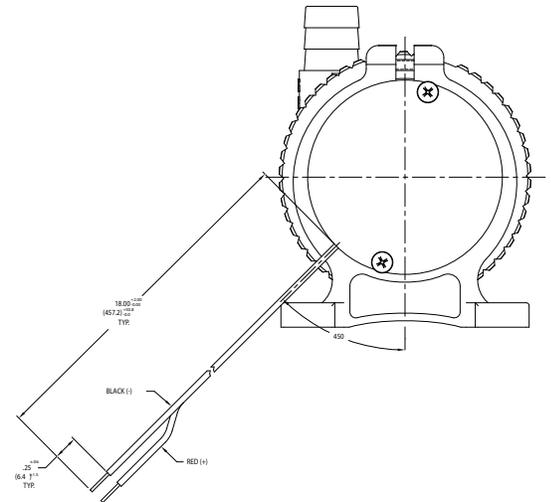
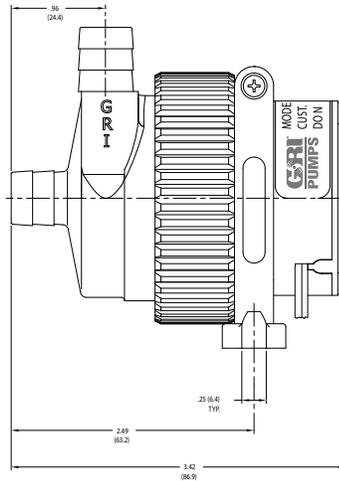
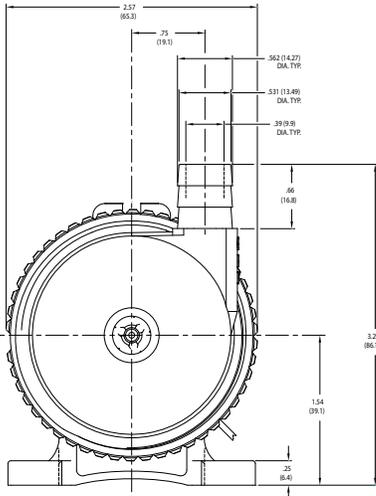
Materials in contact with solution	
Body: PPS (Ryton [®])	Housing: PPS (Ryton [®])
Impeller: PPS (Ryton [®])	Rotor Shell: PPS (Ryton [®])
Impeller Shaft: Ceramic	Static O-Ring: EPDM, FKM
Bearing Plate: PPS (Ryton [®])	

Features	
Lightweight design	Impeller assembly only moving part
No motor bearings	Low power consumption
Quiet operation	Long life
Submersible option	Multiple OEM options



Flow (GPM)	Flow (LPM)	Total Head (Ft)	Total Head (PSI)	Total Head (M)	Watts	Volts	Amps
2.23	8.44	4.62	2.00	1.41	19.62	12.00	1.63
1.96	7.40	5.39	2.34	1.64	19.32	12.00	1.61
1.83	6.92	5.95	2.58	1.81	19.11	12.00	1.59
1.62	6.13	6.33	2.75	1.93	18.87	12.00	1.57
1.42	5.38	6.89	2.99	2.10	18.70	12.00	1.56
1.18	4.46	7.71	3.34	2.35	18.44	12.00	1.54
1.00	3.78	8.31	3.60	2.53	18.17	12.00	1.51
0.81	3.06	8.86	3.84	2.70	17.92	12.00	1.49
0.75	2.82	9.02	3.91	2.75	17.82	12.00	1.48
0.00	0.00	11.52	5.00	3.51	16.99	12.00	1.42

Note: Testing performed in a controlled laboratory environment. Actual performance may vary (+) or (-) 10% from the information shown on this spec sheet.



General Specifications

Max Fluid Temp	203°F (95°C)
Max System Pressure	75 PSI
Weight	10 oz (283.5 grams)

Wetted Materials

Pump Body	PPS (Ryton®)
Housing	PPS (Ryton®)
Impeller	PPS (Ryton®)
Rotor Shell	PPS (Ryton®)
Static O-Ring	EPDM, FKM
Pump Shaft	Ceramic
Bearing Plate	PPS (Ryton®)



Specifications

Max. Fluid Temp: 203°F (95°C)
Max Sys. Pressure: 75 psi
Weight: 12.8 oz (362.9 grams)
Connector: 1/2", 3/4" MHB, 3/8" MPT

FLOW RATES: H2O / 9-24 VDC SUPPLY VOLTAGE

Max Flow: 7.93 GPM, 30.01 LPM
Max Head: 45.00 FT, 19.50 PSI
Flow and pressure dependent on input voltage

Materials in contact with solution

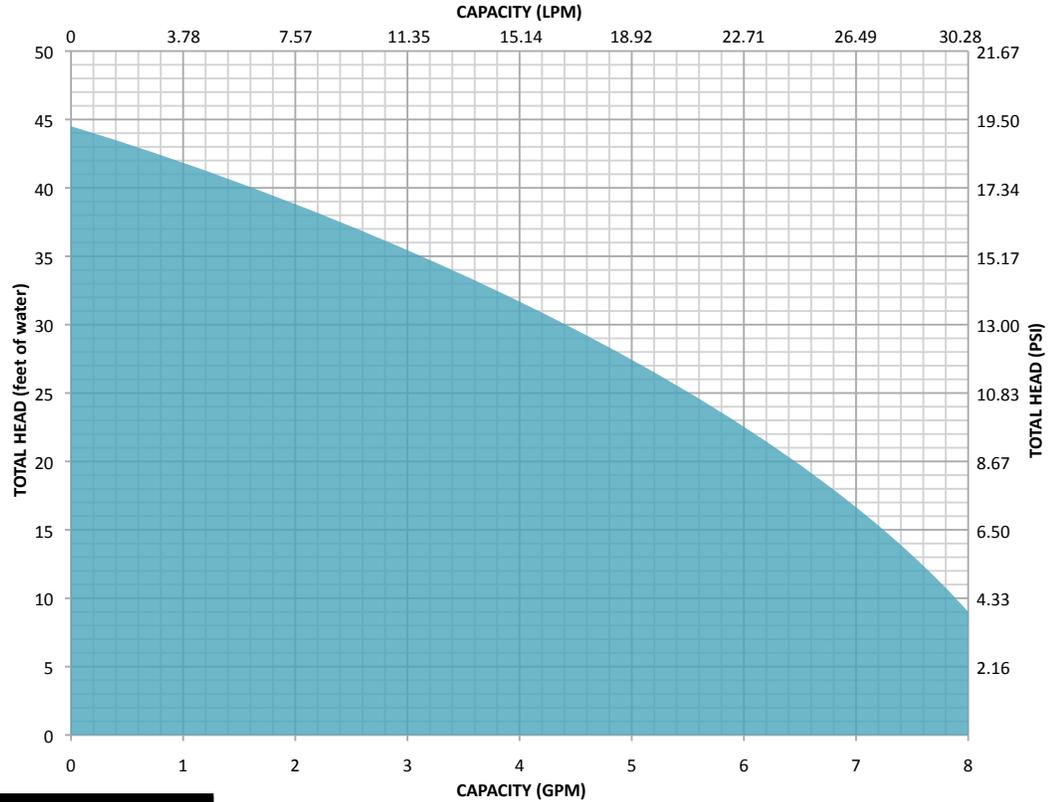
Body: PPS (Ryton®)
Impeller: PPS (Ryton®)
Pump Shaft: Ceramic
Bearing Plate: PPS (Ryton®)
Housing: PPS (Ryton®)
Rotor Shell: PPS (Ryton®)
Static O-Ring: EPDM, FKM (Viton)

Motor specifications / OEM Options

Supply Voltage: 9 - 24 VDC	Reverse Polarity Protection: No
Over Current Protection: No	Thermal Overload: No
Inrush Current: None. • Ramps up to running current.	High Current Limit: No
	Locked Rotor Current Limit: No
Electronics Max Power: 60 watts.	
Remote Speed Control (Optional - Consult Factory)	
• Third Wire	
• 0-5 volts (Reference DC NEG). Speed is controlled by a nominal 0-5 volt DC signal.	

Mounting Base

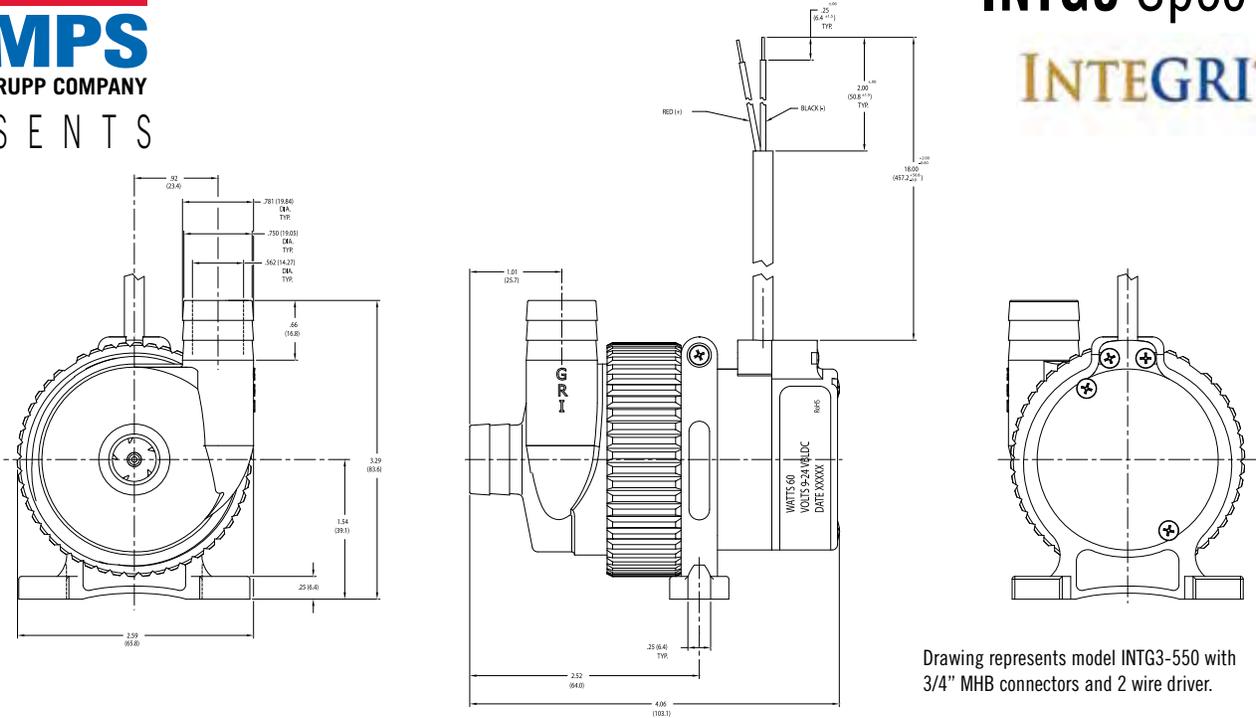
Variable 360° rotation



The above curve is an all inclusive overview of the INTG3 Series catalog models represented on this tech sheet. Gorman-Rupp Industries designs and manufactures pumps and pumping solutions for the Original Equipment Manufacturer (OEM). All models shown can be configured to meet specific OEM application requirements. Contact GRI for design points that fall outside of shown parameters.

Note: Testing performed in a controlled laboratory environment. Actual performance may vary (+) or (-) 10% from the information shown.





Drawing represents model INTG3-550 with 3/4" MHB connectors and 2 wire driver.

Model	Voltage	Max Amps @ Max Flow	Max Flow GPM (LPM)	Max Head Feet (PSI)	Connections Inlet/Outlet (Inches)	O-Ring Material
INTG3-550	9-24 VDC	2.13	7.27 (27.51)	35.67 (15.46)	3/4 MHB	EPDM
INTG3-551	9-24 VDC	2.13	7.27 (27.51)	35.67 (15.46)	3/4 MHB	FKM
INTG3-552	24 VDC, 0-5v controller	2.13	7.27 (27.51)	35.67 (15.46)	3/4 MHB	EPDM
INTG3-553	24 VDC, 0-5v controller	2.13	7.27 (27.51)	35.67 (15.46)	3/4 MHB	FKM
INTG3-560	9-24 VDC	2.27	4.91 (18.58)	37.61 (16.30)	1/2 MHB	EPDM
INTG3-561	9-24 VDC	2.27	4.91 (18.58)	37.61 (16.30)	1/2 MHB	FKM
INTG3-562	24 VDC, 0-5v controller	2.27	4.91 (18.58)	37.61 (16.30)	1/2 MHB	EPDM
INTG3-563	24 VDC, 0-5v controller	2.27	4.91 (18.58)	37.61 (16.30)	1/2 MHB	FKM
INTG3-564	9-24 VDC	2.27	4.91 (18.58)	37.61 (16.30)	3/8 MPT	EPDM
INTG3-565	9-24 VDC	2.27	4.91 (18.58)	37.61 (16.30)	3/8 MPT	FKM
INTG3-566	24 VDC, 0-5v controller	2.27	4.91 (18.58)	37.61 (16.30)	3/8 MPT	EPDM
INTG3-567	24 VDC, 0-5v controller	2.27	4.91 (18.58)	37.61 (16.30)	3/8 MPT	FKM
INTG3-570	9-24 VDC	2.63	6.56 (24.83)	52.94 (22.95)	1/2 MHB	EPDM
INTG3-571	9-24 VDC	2.63	6.56 (24.83)	52.94 (22.95)	1/2 MHB	FKM
INTG3-572	24 VDC, 0-5v controller	2.63	6.56 (24.83)	52.94 (22.95)	1/2 MHB	EPDM
INTG3-573	24 VDC, 0-5v controller	2.63	6.56 (24.83)	52.94 (22.95)	1/2 MHB	FKM
INTG3-574	9-24 VDC	2.63	6.56 (24.83)	52.94 (22.95)	3/8 MPT	EPDM
INTG3-575	9-24 VDC	2.63	6.56 (24.83)	52.94 (22.95)	3/8 MPT	FKM
INTG3-576	24 VDC, 0-5v controller	2.63	6.56 (24.83)	52.94 (22.95)	3/8 MPT	EPDM
INTG3-577	24 VDC, 0-5v controller	2.63	6.56 (24.83)	52.94 (22.95)	3/8 MPT	FKM

• Electronics Maximum power = 60 Watts. • 0-5v Controller requires third wire on driver. • Testing performed in a controlled laboratory environment. Actual performance may vary (+) or (-) 10% from the information shown.

