



Bearingless Pump System DuraLev® R49S
MagLev Pumps for Pure Fluid Handling

Reduce Downtime & Maintenance with DuraLev® Bearingless Pumps!



No Seals, No Bearings, No Problems!

DuraLev® R49S

2.5 bar (36 psi)
60 liters/min (16 gallons/min)

DuraLev® MagLev Pump Technology
Your Solution for Trouble-Free Pumping!

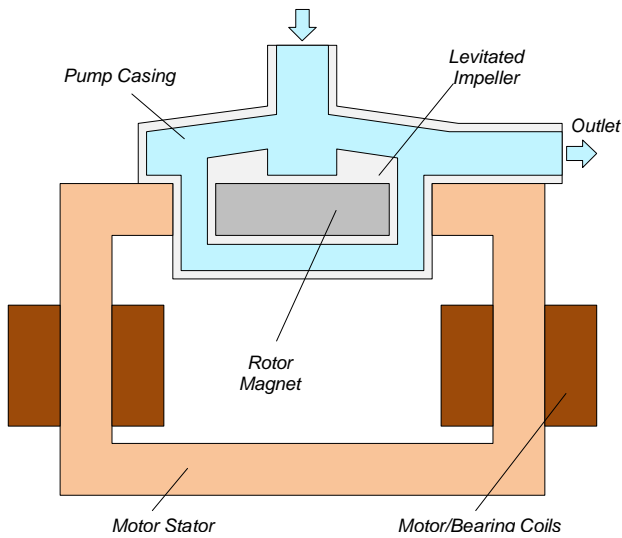


Figure 1: Schematic of the main elements of the maglev centrifugal pump

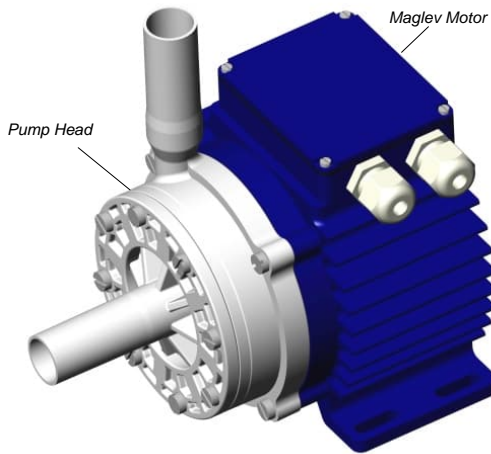


Figure 2: Maglev motor with pump head

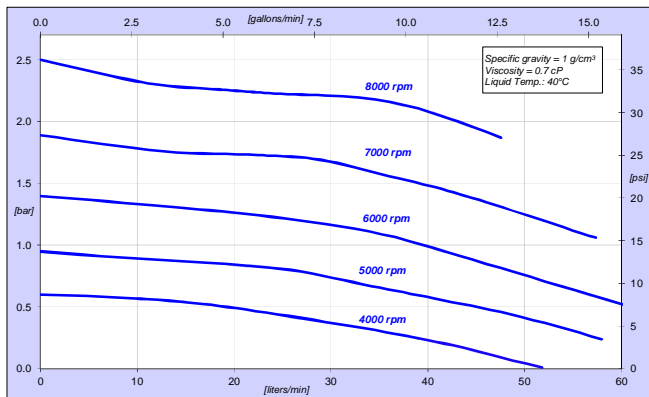


Figure 3: Pressure/flow curves

REVOLUTIONARY MAGNETICALLY LEVITATED CENTRIFUGAL PUMP

The DuraLev® R49S pump system is a revolutionary centrifugal pump that has no bearings to wear out or seals to break down and fail. Based on the principles of magnetic levitation, the pump's impeller is suspended, contact-free, inside a sealed casing and is driven by the magnetic field of the motor (Figure 1). The impeller and casing are both fabricated from chemical-resistant high purity fluorocarbon resins. Together with the rotor magnet they make up the pump head. Fluid flow rate and pressure are precisely controlled by electronically regulating the impeller speed and eliminating pulsation.

The pump system consists of a controller with an integrated user panel allowing the operator to set the speed manually (see Figure 4). The speed is automatically stored in the internal EEPROM of the controller. As an option, the speed can also be set with an analog signal (see specification for Position 3 in Table 2).

SYSTEM BENEFITS

- Low particle generation due to the absence of mechanically contacting parts.
- Increases equipment uptime.
- Lower maintenance costs by eliminating valves, bearings, rotating seals and costly rebuilds.
- Reduced risk of contamination due to the self-contained design with magnetic bearings.
- Very gentle to sensitive fluids due to low-shear design.
- Smooth, continuous flow without pressure pulsation.
- Electronic speed control.
- Compact design compared to pneumatic and magdrive pumps. Saves valuable space in process tools by having a smaller footprint.
- Proven technology in medical and semiconductor industry (MTBF > 30 years).

APPLICATIONS

- Semiconductor wet processing.
- Solar cell production.
- Metal plating
- Flat panel display manufacturing.
- Hard-disk fabrication.
- Printer ink handling.

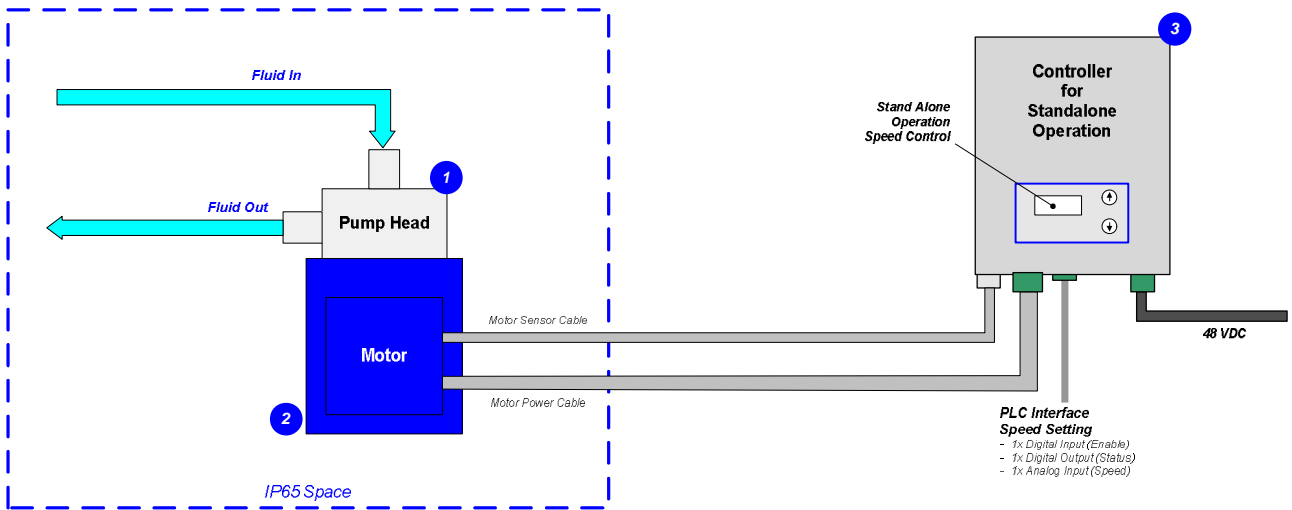


Figure 4: System configuration

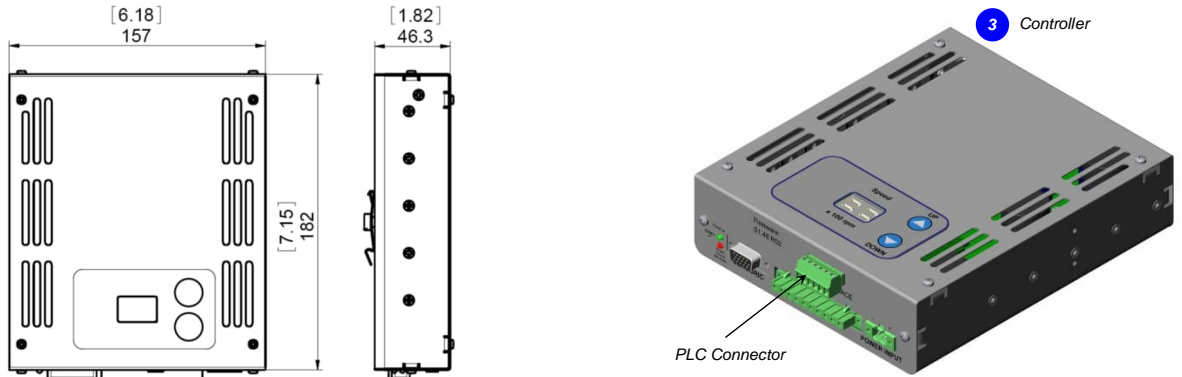


Figure 5: Basic dimensions of controller LPC-600.1-04

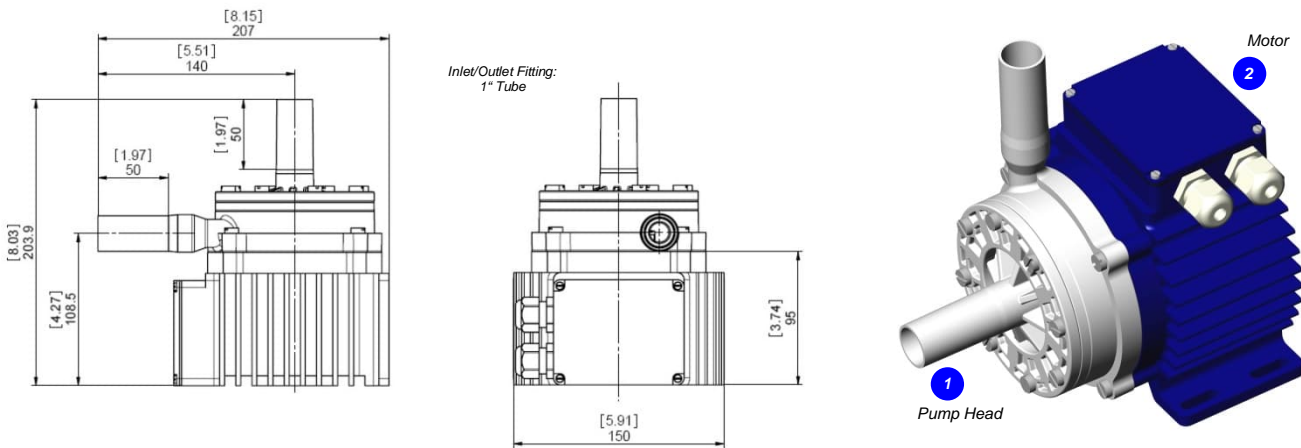


Figure 6: Basic dimensions of motor LPM-600.10 with pump head LPP-600.24



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ORDER INFORMATION

System Name	Article #	Pump Head	Controller	Motor	Note
DuraLev-R49S.1	100-91093	LPP-600.1-24	LPC-600.1-04	LPM-600.10	Certifications: CE

Table 1: Standard system configuration

Pos.	Component	Article Name	Article #	Characteristics	Value / Feature	
1	Pump Head	LPP-600.24	100-91057	Impeller / Pump Housing Reinforcing Lid Sealing Ring / Fittings	PPA / PFA (wet parts) PP + GF30 FFKM (=FFPM) (perfluoroelastomer) / Tube 1"	
				Max. Flow Max. Diff. Pressure Max. Viscosity Max. Liquid Temperature	60 liters/min / 16 gallons/min 2.5 bar / 36 psi 30 cP 80°C / 176°F	
2	Motor	LPM-600.10	100-10103	Housing	Epoxy coated Aluminum, IP65 without connectors	
				Cable / Connectors	2x 6m cables with PVC jacket and connectors for direct connection to the controller.	
3	Standalone Controller (User Panel)	LPC-600.1-04	100-30076 (Supply and PLC connector included)	Voltage / Current / Power Housing Rating	48 VDC, 600W IP20	
					Panel to set speed (automatic storage on internal EEPROM)	
				Interfaces for Standalone Controller	PLC with 1x analog input ("Speed") 1x digital input ("Enable") 1x digital output ("Status")	4 - 20 mA 0 - 24 V (optocoupler) 0 - 24 V (relais)
				Standard Firmware	D0.25	

Table 2: Specification of standard components



Figure 7: Pump system with standard components

LEVITRONIX® THE COMPANY

Levitronix® is the world-wide leader in magnetically levitated bearingless motor technology. Levitronix® was the first company to introduce bearingless motor technology to the Semiconductor, Medical and Life Science markets. The company is ISO 9001 certified. Production and quality control facilities are located in Switzerland.

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