

The Way To Unsurpassed Purity!



No Seals, No Bearings, No Particle Contamination!

BPS-300

2.5 bar (36.2 psi)

58 liters/min (15.3 gallons/min)

Levitronix® MagLev Pump Technology We Make Ultrapure Fluid Handling Easy For You!



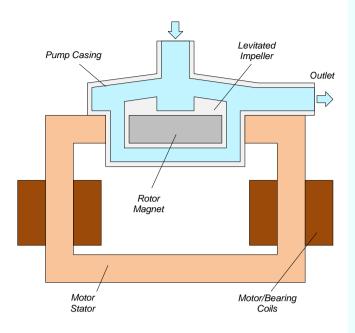


Figure 1: Schematic of the main elements of the MagLev centrifugal pump.



Figure 2: MagLev pump motor with pump head.

REVOLUTIONARY MAGNETICALLY LEVITATED CENTRIFUGAL PUMP

The *BPS-300* 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 and together with the rotor magnet they make up the pump head. Fluid flow rate and pressure are precisely controlled by electronically regulating the rotor speed.

The system (see *Figure 4*) consists of a controller with an integrated user panel to set the speed manually and a PLC to set the speed with an analog signal.

SYSTEM BENEFITS

- Extremely low particle generation due to the absence of mechanically contacting parts.
- Increased equipment uptime.
- Lower maintenance costs by eliminating valves, bearings, rotating seals and costly rebuilds.
- Reduced risk of contamination due to the selfcontained design with magnetic bearings.
- Very gentle to sensitive fluids due to low-shear design.
- No narrow gaps and fissures where particles or microorganisms could be become entrapped.
- Smooth, continuous flow without pressure pulsation.
- Electronic speed control.
- Compact design compared to pneumatic and magdrive pumps.
- Proven technology in medical and semiconductor industry (MTBF > 30 years).

APPLICATIONS

- Semiconductor wet processing.
- Flip chip and advanced packaging.
- Solar cell production.
- Flat panel display manufacturing.
- Hard-disk fabrication.
- Printer ink handling.
- Pharmaceutical production.



Bearingless Pump System BPS-300 MagLev Pumps for Ultrapure Fluid Handling

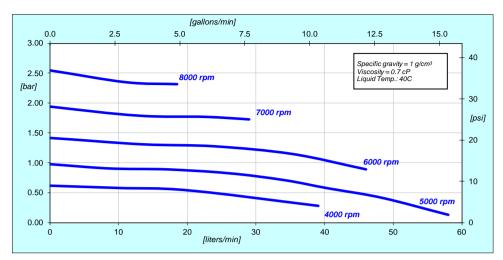


Figure 3: Pressure/flow curves

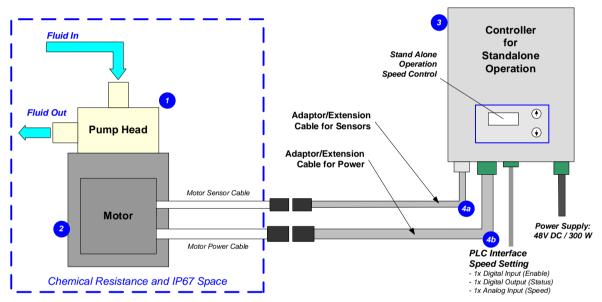


Figure 4: System configuration (speed setting with integrated user panel)

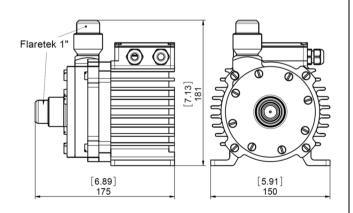


Figure 5: Basic dimensions of motor LPM-600.2 with pump head LPP-300.1

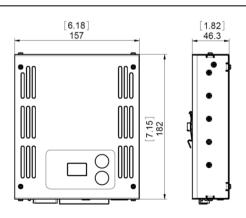


Figure 6: Basic dimensions of controller LPC-300.1



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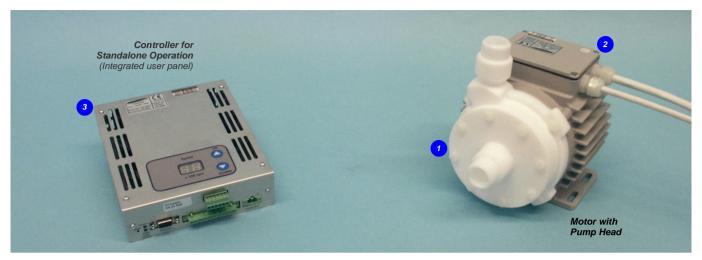


Figure 7: Pump system BPS-300 with components

Pos.	Component	Article Name	Article #	Characteristics	Value / Feature	
1	Pump Head	LPP-300.1	100-90246	Impeller / Pump Casing Sealing Ring	PFA / PTFE FFKM (FFPM) perfluoroelastomer	
				Fittings	Flaretek 1"	
				Max. Flow Max. DiffPressure Max. Viscosity	58 liters/min / 15.3 gallons/min 2.5 bar / 36.2 psi 50 cP	
				Max. Liquid Temp.	70°C / 158°F	
2	Motor	LPM-600.2	100-10025	Mechanical Power	300 W	
				Housing	ETFE coated Aluminum, waterproofed (IP67 without connectors)	
				Cable	2 cables, 3m, FEP jacket	
				Connector	2x circular (AMP types)	
3	Standalone Controller (User Panel)	LPC-300.1	100-30007 (Controller with power supply cable and Enable connector incl. in 10090317)	Supply Power / Voltage	300 W / 48V DC	
				Housing Rating	IP20	
				Interfaces for Standalone Controller	Panel to set speed (automatic storage on internal EEPROM)	
					PLC 1x analog input ("Speed") 4 - 20 mA 1x digital input ("Enable") 0 - 24 V (optocoupler) 1x digital output ("Status") 0 - 24 V (relais)	
4a	Extension Adaptor Cable for Sensors	MCAS-600.1-05 (0.5m) MCAS-600.1-30 (3m) MCAS-600.1-50 (5m) MCAS-600.1-70 (7m) MCAS-600.1-100 (10m)	190-10122 190-10123 190-10124 190-10101 190-10125	Jacket and Connectors Cable Length	PVC-jacket and circular AMP to D-SUB connector	
4b	Extension Adaptor Cable for Power	MCAP-600.1-05 (0.5m) MCAP-600.1-30 (3m) MCAP-600.1-50 (5m) MCAP-600.1-70 (7m) MCAP-600.1-100 (10m)	190-10118 190-10119 190-10120 190-10102 190-10121	Jacket and Connectors Cable Length	PVC-jacket and circular AMP to COMBICON connector	

Table 1: Specification of components

System Name	Article #	Pump Head	Motor	Controller	Note	
BPS-300.1	100-90175	LPP-300.1	LPM-600.2	LPC-300.1	Adaptor/Extension (0.5 - 10m) cables according to Table 1 are included in the system package but have to be ordered as separate article with specified length. Certifications: CE, IECEE CB scheme, ETL (NRTL). 1	

Table 2: Standard system configurations (1: Certified components available on request.)

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First Release: 25-May-2007 PL-4005-00, Rev08, DCO#24-013 Last Update: 02-Feb-2024

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