



PRECISION FOR
WELL-BEING



Ginolis EMB™ **Dispensing Pump**



Extremely accurate and maintenance free liquid handling device for sub microliter dispensing

Maintenance free **precision** dispensing.

High precision liquid handling devices

Ginolis EMB™ pumps are extremely accurate and maintenance free liquid handling devices for sub microliter dispensing. The patented Electro Magnetic Bellows (EMB) technology can handle all reagents including cells and beads. All Ginolis EMB™ pumps are non-contact dispensing devices. They provide automatic tip clot detection based on a fluid path integrated pressure sensor.

Firmware

- Programmable aspiration / dispensing speeds
- Programmable overshoot
- Delays and loops
- Programmable HW triggering and handshake diagnostics
- Dispensing commands in volume units
- Clot (blockage) detection
- Pressure measurement during aspiration/dispensing
- Syringe emulation mode
- Save parameters in flash memory

Models

The EMB™ dispensing pumps come in two different configurations that are differentiated only by the size of the bellows. The Ginolis EMB™ 150 can handle fluid aliquots from 100 nanoliters to 140 microliters with 1 nanoliter resolution and CVs that are under 1%. The Ginolis EMB™ 50 is made to aspirate and dispense fluid aliquots from 50 nanoliters to 45 microliters with similar system performance parameters to Ginolis EMB™ 150.

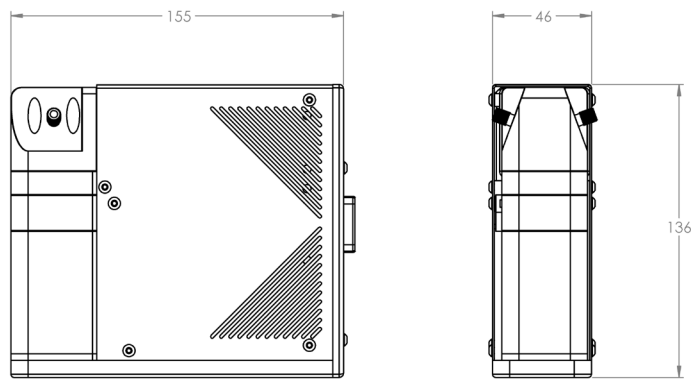


	Range		Precision	Accuracy
	Min.	Max.		
Ginolis EMB 150	100 nl	140 µl	≤1.0% CV (>500 nl) ≤2.0% CV (200 - 500 nl)	<0.5% deviation (>500 nl) <1.0% deviation (200 - 500 nl)
Ginolis EMB 50	50 nl	45 µl	≤1.0% CV (>250 nl) ≤2.0% CV (100 - 250 nl)	<0.5% deviation (>250 nl) <1.0% deviation (100 - 250 nl)



Dimensions and Technology

- Pump Technology Frictionless Electromagnetic Bellows technology (EMB technology), a metallic bellows driven by an electromagnetic actuator
Maintenance free operation, integrated pressure sensor for qualitative feedback
- Dimensions (mm) 127 (H), 44.5 (W), 148.5 (D)
- Power Requirements 24 VDC \pm 10% with peak current of 1.5 Amps
- Valve 2-functions: input and output
Turn time \leq 250 ms between adjacent ports
- Valve Actuation Stepper motor with optical encoder for positioning feedback
- Material Bellows: Coated with Parylene
Bellows housing: PEEK
Valve body: Kel-F (PCTFE)
Valve plug: Teflon (PTFE)



Features and Performance

- Resolution 1.0 nanoliters aspiration/ dispensing rate
- Dosing Speed Max. speed 35 doses / sec
Max. dispensing / aspiration pressure rate 65 ml/ sec (theoretical)
Min. dispensing / aspiration pressure rate 1 ul / sec
- Interface RS-232, RS-485, Baud Rate for RS-232 or RS-485: 9600 or 38400
RS-232 or RS-485: Data Bits; Parity: None; Stop Bit: 1; Half Duplex
- Addressing Up to 15 pumps can be addressed individually
- Communications Data terminal and OEM protocol
- Environmental Requirements 15° - 40°C (59° - 104°F): Operating temperature
20-80% RH at 40°C (104°F), non-condensing

