

Plasma Source and Mechanical Specifications

	LB-1501	LB-3001
Plasma Power Range ⁽¹⁾	100 to 1500 W	100 to 3000 W
Feedstock Gas Compatibility	Quartz (SiO ₂) chamber: non-halogen gases (e.g., Ar, O ₂ , H ₂ , N ₂ , H ₂ O) Alumina ceramic (Al ₂ O ₃) chamber: most gases (e.g., Ar, O ₂ , H ₂ , N ₂ , H ₂ O, F ₂ , NF ₃ , SF ₆ , C ₂ F ₄) Contact AE for compatibility with other gases.	
Flange Style	ISO-63	
Dimensions	26.4 cm x 40.4 cm x 27.4 cm (10.4" x 15.9" x 10.8")	
Weight	22.2 kg (49 lb)	
Vacuum Seal Material	Chemraz [®] O-rings	

¹ Maximum power may not be achieved under all conditions, or with all process gases. See *Typical Litmas RPS Operating Ranges* for actual data.

Electrical and Environmental Specifications

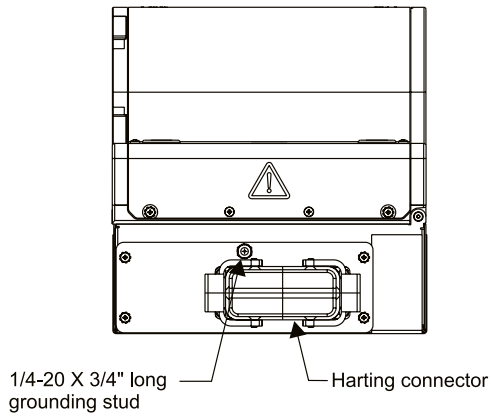
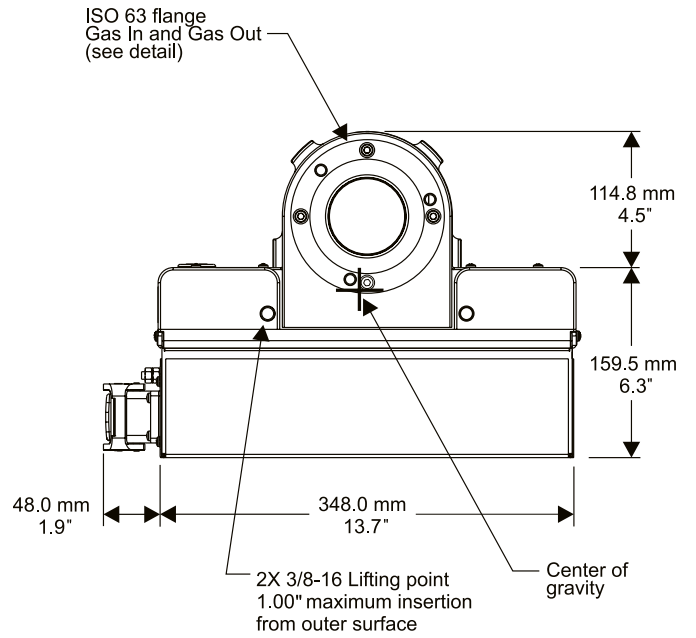
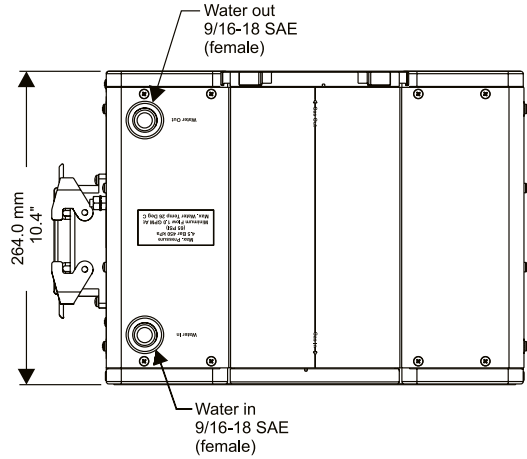
	LB-1501	LB-3001
Input Voltage	180 to 229 VAC, 3 ϕ , 4-wire, 47 to 63 Hz, no neutral required	
Input Current	8 A max per ϕ	16 A maximum per ϕ
Control Interfaces	RS-232 (AE Bus), analog (25-pin) Contact AE for other interface options.	
Cooling Water Flow	3.8 lpm (1.0 gpm)	5.7 lpm (1.5 gpm)
Cooling Water Maximum Inlet Temperature	35°C (95°F)	
Ambient Air Requirements	5 to 40°C (41 to 104°F)	

System Protection Features

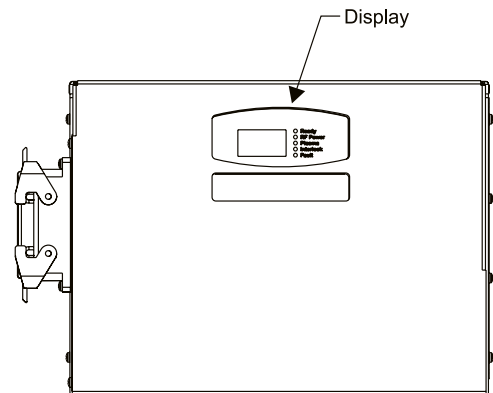
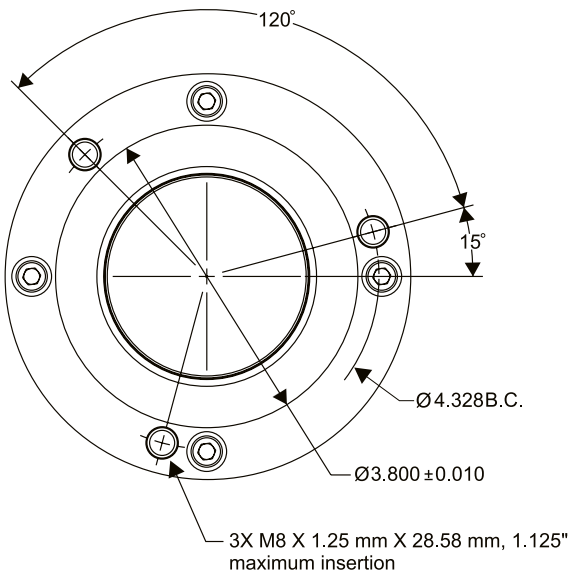
AC Line	
Over- or Under-Voltage	Unit is protected.
Lost ϕ	Unit is protected.
High Ripple	Unit complies with SEMI F47 requirements.
Unit Over-Current	Unit is protected.
Over-Temperature	
Electronics	Power electronics cold-plate temperature
Plasma Source	Plasma source chamber temperature
Ambient Air	Air temperature inside chassis
Water Temperature	Input and output water temperature
Plasma Detection	
Plasma Ignition Failure	Failure to ignite is detected by unit.
Plasma Extinguished	Plasma loss is detected by unit.
Miscellaneous	
Functional Interlock	A hard-wired functional interlock that disables input AC power and RF control is provided.
Communication Loss	In the event of serial communication loss or disruption, the unit shuts off power output within user-specified time. Condition applies only when the unit is controlled through the User Host port and the timeout feature is enabled.
Front Panel Controls	The front panel is passive (i.e., used for display purposes only).

LB Installation Drawing

Note: Drawings are for reference only. Complete dimensional drawings are available from AE.



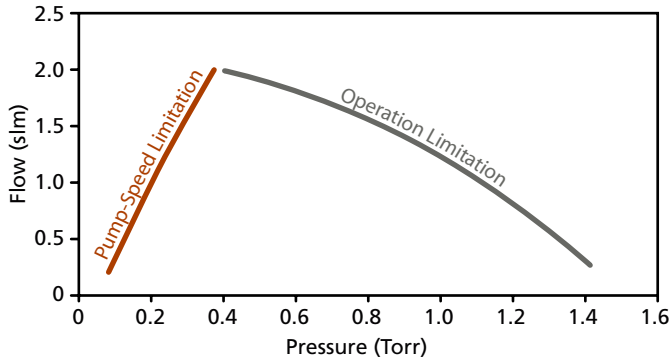
Gas In and Gas Out flange detail



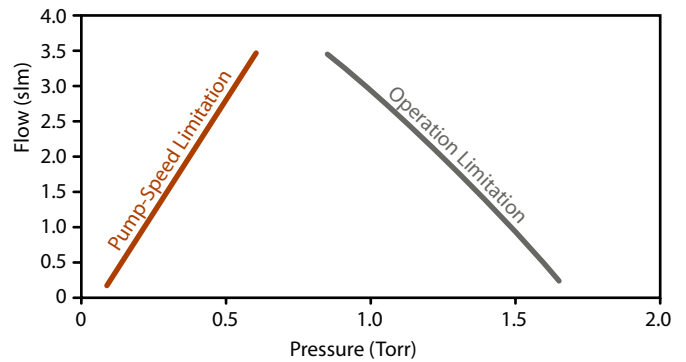
Typical Litmas RPS Operating Ranges

The following figures show typical pressure and flow operating ranges for Litmas RPS units. Actual results may vary depending on the pump speed and configuration of the particular vacuum systems.

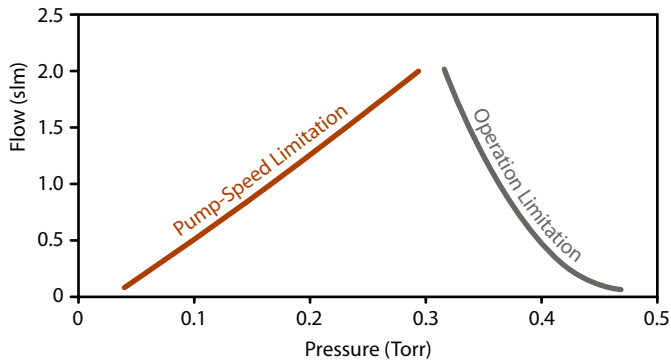
The operating range is the area below the red and gray lines.



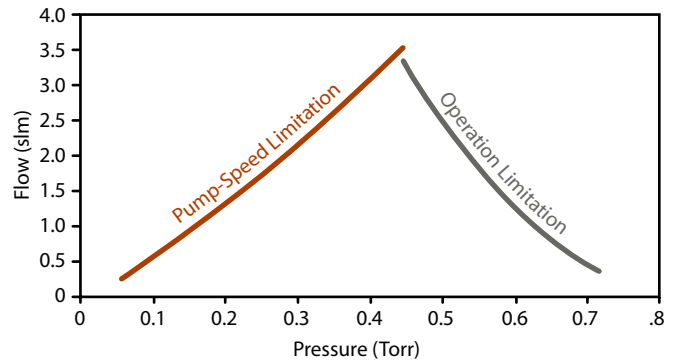
Litmas RPS 1501, Ceramic Chamber, O₂



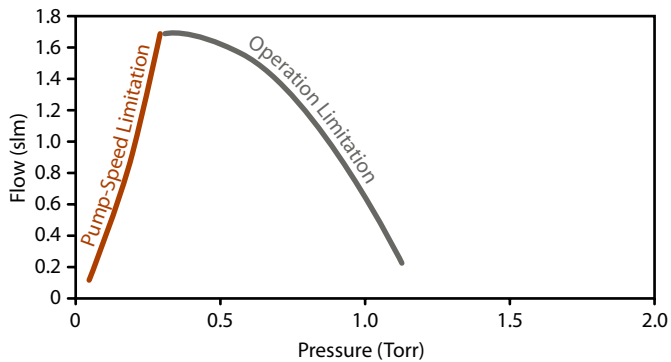
Litmas RPS 3001, Ceramic Chamber, O₂



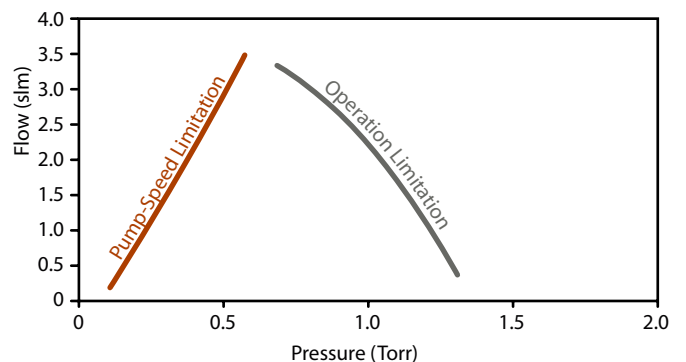
Litmas RPS 1501, Quartz Chamber, H₂



Litmas RPS 3001, Ceramic Chamber, H₂



Litmas RPS 1501, Quartz Chamber, N₂



Litmas RPS 3001, Ceramic Chamber, N₂



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