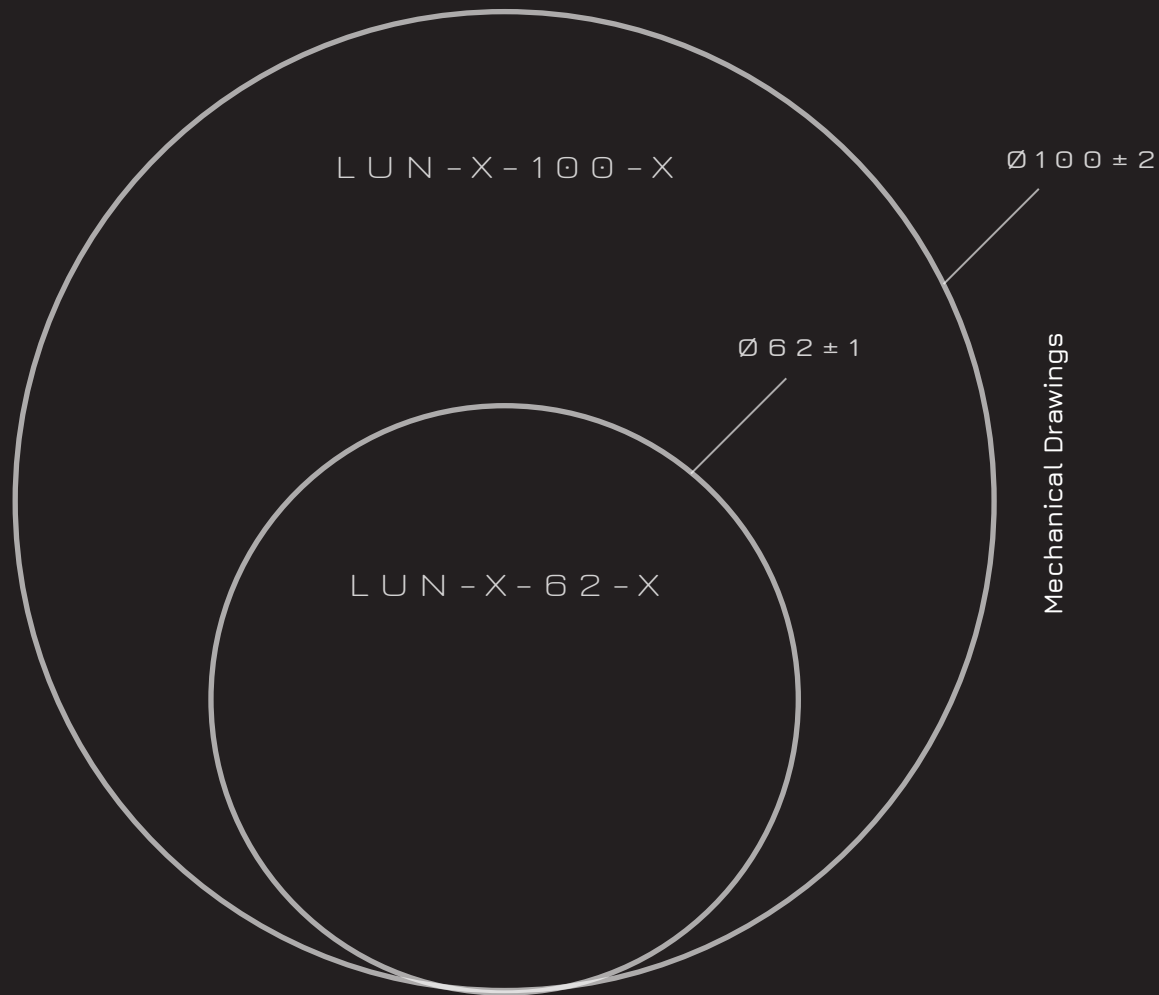


INKBIT DIGITAL FACTORY

Luneburg Lens Specifications





Luneburg Lens Specifications

Parameter	LUN-D-62-2	LUN-D-100-2	LUN-G-62-5	LUN-G-100-5
Diameter (mm) ¹	62 ± 1 mm	100 ± 2 mm	62 ± 1 mm	100 ± 2 mm
Lattice Type ²	Diamond	Diamond	Gyroid	Gyroid
Unit Cell Size	2 mm	2 mm	5 mm	5 mm
Effective Permittivity Range	1.15 – 2	1.15 – 2	1.15 – 2	1.15 – 2
Weight	47 g	207 g	51 g	212 g
Gain & Sidelobe Performance	G_o (RSSL)	G_o (RSSL)	G_o (RSSL)	G_o (RSSL)
30 GHz ⁵	24.9 dBi (-20.5 dB)	29 dBi (-18.9 dB)	24.4 dBi (-17.6 dB)	28 dBi (-15 dB) ⁵
60 GHz ⁵	28.8 dBi (-22.4 dB)	30.5 dBi (-15.7 dB)	4 dBi (-6 dB)	4 dBi (-6 dB) ⁵
90 GHz ⁵	31.2 dBi (-14.0 dB)	32.4 dBi (-8.8 dB)	N/A	N/A
Material	Cyclic Olefin Thermoset (COT) Polymer			
Max Operating Frequency (GHz)	100	100	40	40
7-Day Moisture Absorption (ASTM D570)	0.04%			
Operating Temperature Range ³	-40 to 105 °C			
Chemical Compatibility ⁴	Excellent against most common solvents, oils, and water			

1. Custom size configurations may be available upon request.

2. Gyroid lattices are favored for lower frequencies due to their superior mechanical robustness, while diamond lattices are preferred for higher frequencies where minimizing unit cell size is critical.

3. Over time, and accelerated by elevated temperatures, the lens material undergoes oxidation, resulting in degraded mechanical properties — specifically, reduced strength and ductility — and discoloration. The material transitions from a light amber to a dark amber hue. Notably, while these physical changes occur, no RF performance changes have been observed.

4. Detailed chemical compatibility data is available upon request.

5. Estimated value ranges.