

Observation Port — Technical Data Sheet

LSQ-075-M400 Monel® 400 × Fused Quartz | Extreme High-Temperature Series

★ FLAGSHIP MODEL — Engineered for extreme high-temperature industrial furnaces up to 1832°F (1000°C)

Product Overview

The LUMIGLAS® LSQ-075-M400 Observation Port is our premier high-temperature inline sight glass, purpose-engineered for demanding thermal process environments including industrial kilns, heat-treatment furnaces, and high-temperature reactors. The body is precision-machined from Monel® 400 (UNS N04400) — a nickel-copper alloy renowned for its exceptional resistance to elevated temperatures, oxidising and reducing atmospheres, and corrosive media. The fused quartz lens (≥99.9% SiO₂) delivers uncompromised optical clarity while withstanding rapid thermal cycling without risk of fracture.



LSQ-075-M400 Observation Port (Monel® 400 / Fused Quartz)

Technical Specifications

Parameter	Specification
Model	LSQ-075-M400
Series	LSQ-075 Observation Port
Body Material	Monel® 400 (UNS N04400) Alloy
Sight Glass Material	Fused Quartz (SiO ₂ ≥99.9%)
Pipe Connection (NPT)	3/4"
Max. Outer Diameter	1-1/4" (31.8 mm)
Protrusion Length	5/8" (15.9 mm)
Overall Length	1-1/8" (28.6 mm)
Weight	0.13 kg (0.29 lb)
Max. Operating Pressure	50 PSI (3.45 bar)

Max. Operating Temperature	1832°F / 1000°C
Applicable Standard	Custom engineered — ANSI B16.5 reference
Certifications / Notes	Suitable for high-temp furnace observation

Dimensional Reference

All dimensions in Imperial (inch) with SI equivalents in parentheses.

Pipe Connection	Max. Outer Dia.	Protrusion	Total Length
3/4" NPT	1-1/4" (31.8 mm)	5/8" (15.9 mm)	1-1/8" (28.6 mm)

Typical Applications

- Industrial heat-treatment furnaces and kilns (continuous and batch type)
- Flame observation and combustion monitoring in high-temperature burner systems
- High-temperature chemical reactors, calcination units, and thermal oxidisers
- Sintering furnaces in powder metallurgy and advanced ceramics production
- Glass melting tanks and refractory-lined process vessels

Installation & Safety Notes

- Install without thrust, pressure, or torsional stress on the sight glass lens.
- Ensure proper pipe alignment before tightening; misalignment may cause lens fracture.
- Use high-temperature thread sealant compatible with Monel® 400 alloy.
- Do not exceed rated operating pressure or temperature. Check process conditions against rated values before installation.
- For replacement lenses or custom configurations (ANSI flanged, extended barrel), contact Lumistar technical sales.

LSQ-075 Series — Model Comparison

Model	Body Material	Glass Type	Max. Temp.	Max. Press.	Grade
LSQ-075-B	Brass	Standard Glass	500°F / 260°C	50 PSI	Standard
LSQ-075-S	SS316	Borosilicate (LUMIGLAS®)	1000°F / 538°C	50 PSI	Industrial
LSQ-075-M400	Monel® 400	Fused Quartz	1832°F / 1000°C	50 PSI	★ Flagship

Ordering Note: Please specify model number when ordering. Custom materials, special lengths, and ANSI-flanged configurations are available upon request. Monel® is a registered trademark of Special Metals Corporation.