



Specification Sheet: Electronics Industry



Aluminum Cylinders for Gases in the Electronics Industry

With over 50 years of experience, Luxfer is a recognized global leader in the design and manufacture of high pressure aluminum cylinders.

A Global Leader in High Pressure Aluminum Cylinder Technology

Luxfer cylinders are trusted worldwide in high-performance gas applications where purity, stability, and consistency are critical to process integrity and product quality.

Across electronics, semiconductor, and specialty gas markets, cylinders must support stringent requirements for ultra-high purity gases, contamination control, and repeatable performance.

Luxfer applies the same rigorous engineering discipline and quality standards to these applications, ensuring exceptional gas stability, reliable delivery, and consistent performance in even the most demanding environments.

Engineering Heritage You Can Trust

Luxfer pioneered many of the aluminum cylinder manufacturing techniques used across the industry today, including advanced cold extrusion processes that deliver:

- Consistent mechanical strength
- Uniform internal surface quality
- Excellent dimensional repeatability

Leveraging world-leading manufacturing expertise, Luxfer produces advanced aluminum cylinders engineered to maintain gas stability and purity in the most demanding high-pressure electronic gas applications.

Proven Performance Where Failure Is Not an Option

Luxfer cylinders are relied upon by high technology industries and applications around the world - applications that demand absolute confidence in gas stability, purity, and material integrity. This proven performance directly translates to improved downtime, yield loss and process instability.

Designed for Gas Purity and Process Consistency

Luxfer aluminum cylinders are engineered to protect gas integrity from fill through to point of use, supporting stable and repeatable performance throughout their service life.

Their internal surface finish of $< 1.2 \text{ Ra } \mu\text{m}$ across all internal locations is achieved through cold extrusion and preserved throughout the manufacturing process. This exceptionally smooth surface is optimised for UHP, semiconductor-grade, and specialty gases.

Key benefits include:

- Reduced moisture adsorption and particulate risk
- Fewer sites for contamination or unwanted gas interactions
- Consistent, controlled gas delivery in critical applications

Global Manufacturing and Supply Capability

Luxfer operates globally, supplying aluminum cylinders that meet international standards and regional approvals. This global capability helps gas suppliers and electronics manufacturers maintain consistency across worldwide semiconductor fabrication facilities (fabs) and supply chains. Manufactured to meet global standards, Luxfer cylinders hold key international approvals including UN ISO, TPED, and DOT, supporting safe and compliant use across worldwide markets.



A Long-term Partner to the Electronics Gas Industry

Luxfer is more than a cylinder supplier - it is a long term partner to the electronics and specialty gas markets, supporting:

- Emerging manufacturing technologies
- Increasing purity requirements
- Active collaboration with international industry committees such as BCGA, EIGA/ECMA, and ISO TC 58 to help shape global standards and best practices
- Tightened process control demands
- A strong sustainability focus, including achieving a Bronze EcoVadis rating and alignment with regulatory frameworks such as CBAM

This commitment ensures Luxfer aluminum cylinders continue to meet the evolving needs of advanced electronics and semiconductor production.

Gases Commonly Supplied in Luxfer Aluminum Cylinders

Fluorinated & Etching Gases - Carbon Tetrafluoride (CF₄) - Hexafluoroethane (C₂F₆) - Sulfur Hexafluoride (SF₆) - Nitrogen Trifluoride (NF₃)	Doping Gases & Dilute Hydrides <i>(Typically supplied diluted in H₂ or N₂ - aluminum strongly preferred)</i> - Phosphine (PH₃) - Arsine (AsH₃) - Diborane (B₂H₆)	Calibration & Specialty Gas Mixtures <i>(Almost universally supplied in aluminum cylinders)</i> - Trace hydrocarbons in nitrogen - Trace CO / CO₂ / H₂ mixtures
Reducing & Simple Process Gases - Hydrogen (H₂) - Carbon Monoxide (CO)* - Carbon Dioxide (CO₂)	Inert & Carrier Gases - Nitrogen (N₂) - Argon (Ar) - Helium (He) - Neon (Ne)	Chlorine-Free Silicon & Process Gases - Silane (SiH₄) - Disilane (Si₂H₆) - Germane (GeH₄)

*CO - avoid supply in steel cylinders to avoid concerns of stress corrosion cracking (SCC) of steel cylinders.

Why Choose Luxfer Aluminum Cylinders

Proven Industry Expertise

Luxfer has decades of experience supplying aluminum cylinders to the semiconductor, electronics, and specialty gas markets, with industry recognised performance in high purity and UHP applications. AI technologies are pushing the semiconductor sector beyond the \$1 trillion milestone.

Consistent Internal Quality

- Uniform internal surface finish of Ra < 1.2 µm
- No internal coatings required
- Excellent batch-to-batch consistency

Optimised for Gas Purity

Luxfer cylinders minimise moisture uptake and particulate generation, delivering long term stability for sensitive and reactive gases.

Broad, Global Product Range

All Luxfer L6X® specialty gas, calibration, and international cylinder ranges are suitable for electronic gases, offering flexibility in cylinder size, pressure rating, and global specifications.

Trusted Worldwide

Widely used by industrial gas companies, electronic specialty gas suppliers, and semiconductor fabs, Luxfer is a trusted long term partner for critical gas containment.

Cylinders for gases used in the electronics industry

All Luxfer L6X® specialty gas, calibration and international cylinder ranges are suitable for use in the electronics industry. The table below shows a selection of our largest cylinders that are commonly used for gases supplied for use in electronic and semiconductor applications.

Part Number	Design Standard	Water Capacity		Working Pressure		Diameter		Length		Weight		Thread	Equivalent to
		l	cu in	bar	psi	mm	in	mm	in	kg	lb		
P3347I	ISO 7866	40	2441	200	2901	229	9	1440	56.7	45.3	99.9	25E	
P3283Y	DOT-3AL	40.2	2453	147	2132	250	9.8	1130	44.5	32.8	72.2	0.750" × 14 NGT	N219-P3A
P3293Y	DOT-3AL	40.2	2453	147	2132	250	9.8	1155	44.5	32.8	72.2	1.125" × 12 UNF	N219-J3A
P3343Y	DOT-3AL	40.2	2453	147	2132	250	9.8	1130	44.5	32.8	72.2	JIS V2	N219-AD3A
P3362Y	DOT-3AL	40.2	2453	147	2132	250	9.8	1130	44.5	32.8	72.2	25E	N219-03A
P3364Y	DOT-3AL	42.7	2606	147	2132	250	9.8	1210	47.6	34.4	75.8	JIS V2	
P3280BY	DOT-3AL + TC-3ALM	46.4	2832	153	2216	250	9.8	1305	51.4	38.4	84.7	0.750" × 14 NGT	N265-P3A
P3280Y	DOT-3AL	46.4	2832	153	2216	250	9.8	1305	51.4	38.4	84.7	0.750" × 14 NGT	N265-P3A
P3306BY	DOT-3AL + TC-3ALM	46.4	2832	153	2216	250	9.8	1305	51.4	38.9	85.6	25E	N265-03A
P3312BY	DOT-3AL + TC-3ALM	46.4	2832	153	2216	250	9.8	1305	51.4	38.4	84.7	1.125" × 12 UNF	N265-J3A
P3285Y	DOT-3AL	47.5	2899	153	2216	250	9.8	1350	53.1	42	92.6	JIS V2	N269-AD3A
P3311Y	DOT-3AL	47.5	2899	147	2132	250	9.8	1350	53.1	42	92.6	JIS V2	N260-AD3A
P3315BY	DOT-3AL + TC-3ALM	47.5	2899	153	2216	250	9.8	1350	53.1	41.6	91.7	25E	N269-03A
P3359YI	ISO 7866 + DOT-3AL	47.5	2899	153	2216	250	9.8	1360	53.5	42.9	94.6	25E	N269-03A
P3292BY	DOT-3AL + TC-3ALM	47.5	2899	153	2216	250	9.8	1350	53.1	42	92.6	1.125" × 12 UNF	N269-J3A
P3296BY	DOT-3AL + TC-3ALM	47.5	2899	153	2216	250	9.8	1350	53.1	42	92.6	0.750" × 14 NGT	N269-P3A
P3342I	ISO 7866	50	3051	200	2901	250	9.8	1500	59.1	57.1	125.8	25E	

