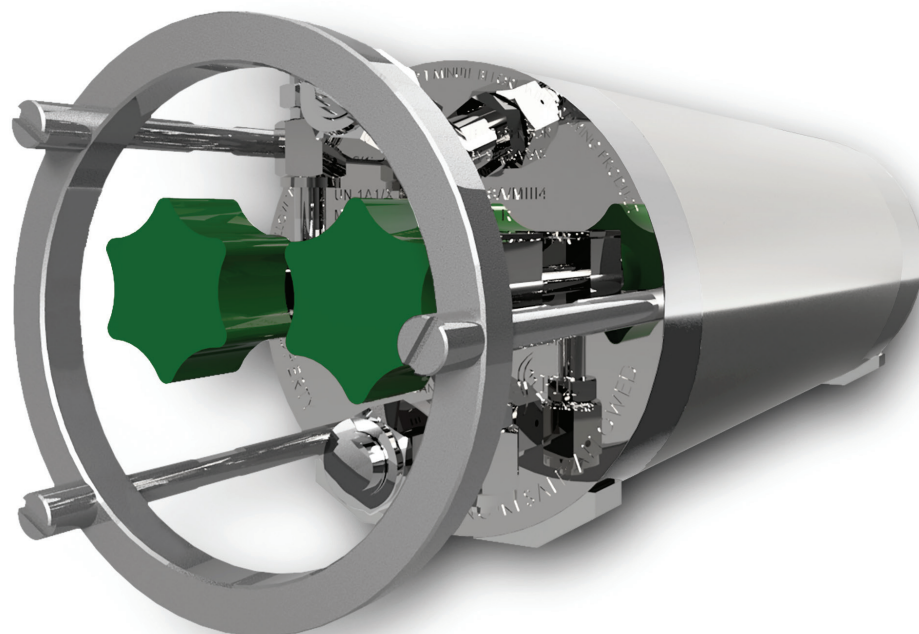




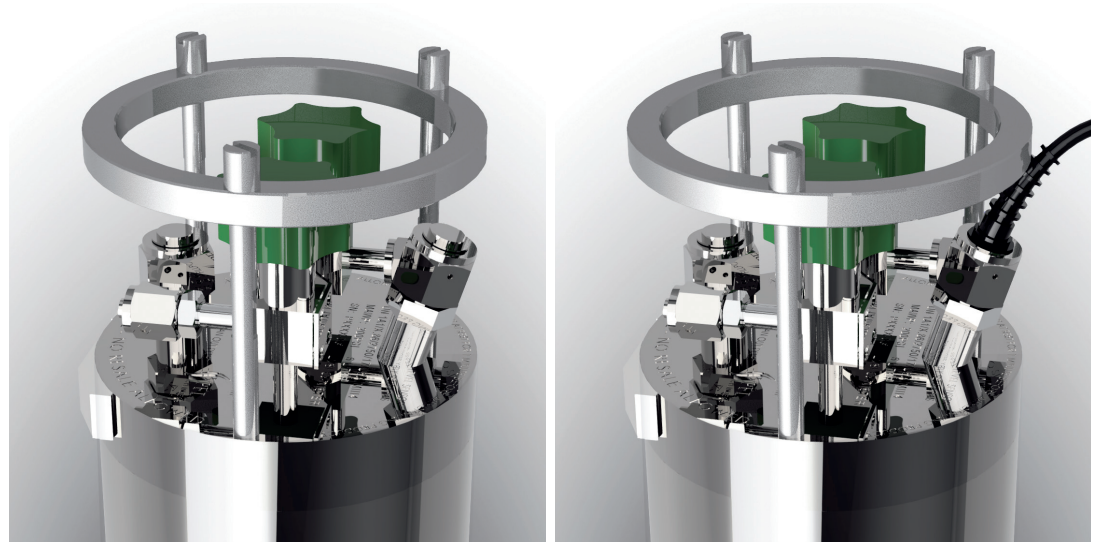
## LSVI. Liquid Source Vapor Implant. Linde's canister to deliver liquid precursors for ion implantation in semiconductor manufacturing.



**Description** In semiconductor manufacturing, gaseous precursors can facilitate ion implantation. New process requirements are increasingly calling for advanced implant methods. Although convenient gaseous precursors are not always available for these applications, liquid precursor sources may exist. The use of such liquid precursors in the ion implant process requires a different precursor package and delivery system design.

Working with ion implant OEMs and end users, Linde has developed a package and technology specific to liquid precursor sources called Liquid Source Vapor Implant (LSVI). Currently, we are offering liquid precursor sources in (patent-pending) Linde LSVI canisters for carbon-based molecular ions and heavier dopant element precursors such as gallium and antimony.

- Benefits**
- Designed to integrate into the gas cabinet of the ion implant process tool.
  - Risk of liquid leaks during transportation and handling is eliminated – regardless of how the canister is positioned or what angle is it lying at.
  - On-board level measurement with 4 indicators for remaining liquid at the points of most interest.
  - Valves are braced to avoid distortion of the outlet tubes and valves during handling and when connecting VCR® fittings.
  - Clear laser-etched markings for handling instructions and port labels.
  - Product fill and withdrawal valves have different VCR fittings to prevent incorrect connections.
  - UN certification for use worldwide.

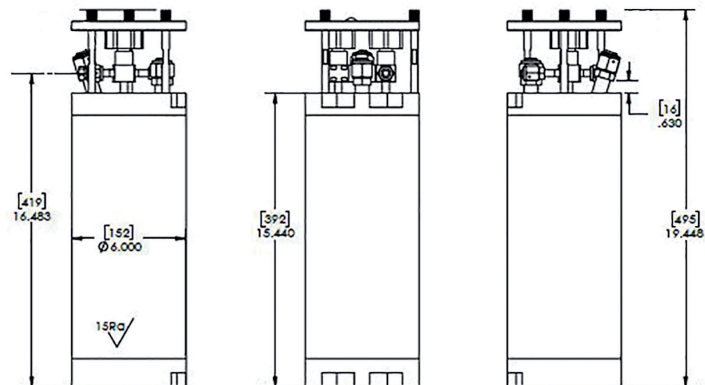


LSVI as delivered

LSVI with Data Sensor attached

Specifications

Canister model	Linde LSVI canister
Canister diameter	6 in (153 mm)
Height with halo guard installed	19.25 in (489 mm)
Canister volume	6.2 ltr
Useable product volume	2.5 ltr
Canister tare weight	15 kg (33 lb) +/- 1 kg (2.2 lb)
Design pressure	2,750 KPA (400 PSIG)
Design temperature	2150 °F/2500 °F (handle removed) (1000 °C/1200 °C)
Design-specific gravity	0.86
Internal finish 15RA, EP	15RA, electropolished
External finish 15RA	15RA, electropolished
Level sensor port	1/2" MVCR®
Fill port valve	1/4" FVCR®
Outlet / product valve	1/4" MVCR
Clean-out port	1/2" MVCR
Construction material	316L SS
Test pressure	300 PSI
Certification standard	UN 1A1



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 Please contact [lindeercd@linde.com](mailto:lindeercd@linde.com) for further information.  
[www.linde-gas.com/electronics](http://www.linde-gas.com/electronics)