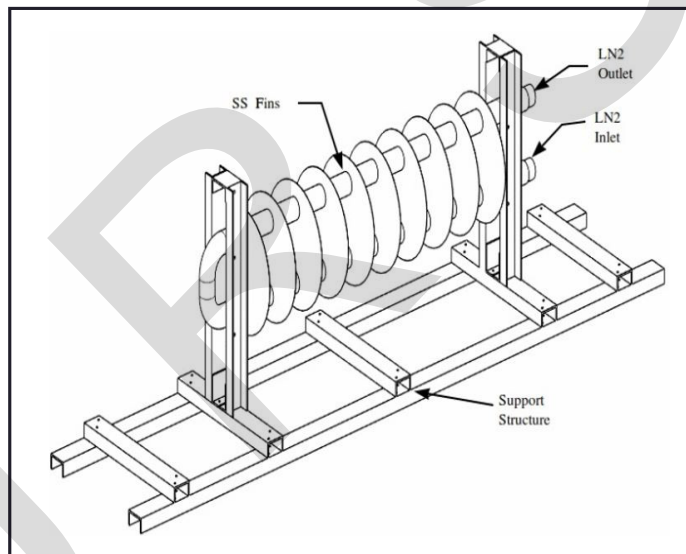


Cryogenic Capture Pump

U R Rao Satellite Centre (URSC) of Indian Space Research Organisation (ISRO) has developed Cryogenic Capture Pump for

- ✦ A pumping surface inside the chamber for capturing water vapors which forms a major portion of the gas content at ultimate pressure of turbo-molecular pumps.
- ✦ To include additional pumping capacity to the chamber which is not sensitive to power failures or exhibit ringing behavior in vacuum due to filling cycle.
- ✦ The pump was able to achieve a vacuum improvement of more than an order indicating that GM cycle based Cryo-pump which is the last stage of pumping was pumping water vapors heavily.



Major Specifications and Salient features

- ✦ Helps in avoiding sudden fall of vacuum in event of power failure when other pumps like TMPs and Cryo-pumps trip.
- ✦ Functioning does not require power supply, only periodic filling of LN2 is required.
- ✦ This pump helps in achieving high vacuum faster unlike other high vacuum pumps like TMPs and Cryo-pumps which require speed build-up and long cool-down period respectively before exposure to chamber.

- ✦ Does not have any moving parts and hence, high reliability and maintenance-free operation.
- ✦ Enhances cleanliness level of the chamber.
- ✦ It provides an overall pumping surface area of about 2.8 sq.m with a small footprint inside the chamber.
- ✦ Completely TIG welded points with vacuum leak tightness better than 10^{-9} Std cc/sec for helium.
- ✦ Portable and can be interfaced with standard conflat flange joints using OFHC copper gaskets.

Technology Transfer

URSC-ISRO offers to transfer of technology of Cryogenic Capture pump developed by URSC to Industries in India with adequate experience and facilities. Industries interested in obtaining knowhow may write giving details of their present activities, infrastructure and facilities.

Technology Transfer & Industry Coordination Division (TTID),
Programme Planning and Evaluation Group (PPEG),

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🌐 <https://www.ursc.gov.in/industry/index.jsp>