



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
MATERIALS MANAGEMENT DIVISION
Powai, Mumbai 400076.

Reference No. 2023-24/3 PR No. 1000031387 (Rfx No. 6100001431)

Detailed Technical Specifications for LN2 Submerged type seal less Pump:

TECHNICAL SPECIFICATIONS LN2 Submerged type seal less Pump		Please give Your Compliance
Description	Tech specifications for Liquid Nitrogen Submersible Type Seal-less pump.	
QTY.	1 No.	
Make/Model	ACD Make TC-34, 1x2x6- 2 Stage or Substantially Equivalent equipment	
Required Data		
Medium	Liquid Nitrogen	
Liquid flow rate	Max:200LPM, Min:150LPM	
Liquid density	809kg/m ³	
Differential Head	126 m	
Differential Pressure	10 bar	
Inlet Pressure head	2.5m	
Inlet pressure	0.2 bar	
Operating Pump Data		
Flow rate	200LPM	
Differential Head	126.2m	
Shaft Power	6KW	
Pump Efficiency	≥56%	
Required NPSH	0.7m	
Pump Speed	4479rpm	
Impeller Diameter	152.40mm	
Shaft Seal	Vertical Seal Less	
Motor Data		
Frequency	50Hz	
Rated Voltage	415 ± 5%	
Nominal Speed	6000rpm	
Number of poles	2	

Motor efficiency	0%	
Rated power	≤13.5KW	
Service factor	1	
Motor type	3 Phase	
Differential Head(LIN)	126 meters	
Site ambient temperature	15°Cto50°C	
Scope of supply	Cryogenic Centrifugal Pump, submerge seal-less type	
Pump dimensional drawing	Vendor to provide in technical bid	
Pump Performance Curve	Vendor to provide technical bid	
Accessories	Pump to be supplied with feed through for cable connection.	
Control & Instrumentation.	1) Vendor to provide Control/Trip/alarm set points in P&ID 2) Motor shall be VFD Driven.	
Documents	1) Vendor to Provide related G.A. and P&ID with all instruments required at offer stage 2) Vendor to provide fabrication drawing of sump in case of order. 3) Motor Data sheet and Name plate details require. 4) Motor terminal box wiring and cable entry details require.	
Installation	Ground mounted for transfer of LN2 from Storage Tank to Flow meter Calibration skid and back to Storage Tank .Pump shall be installed in a vacuum insulated sump. Sump is not in Vendor scope & VFD is not in Vendor scope	
Warranty	One year from the date of successful Installation	
Service and support	Vendor should provide service and support in India (IIT Bombay)	

Pump Performance Curve

