

IPR Tender Note No & Date: IPR/TPT/TN/ET/F/18-19/14 Dated 5th July, 2019 for Supply of 4K GM type Cryo-Cooler System consisting of Cryo-Cooler Cold Head, Helium Compressor suitable for above Cryo-Cooler Cold Head, Interconnecting Gas Lines and Cables for Compressor to Cold Head, Temperature Sensor for 1st Stage, Temperature Sensor for 2nd Stage, Cryogenic Compatible Heater for 2nd Stage with spares and standard accessories as per the details mentioned in technical specification sheets of our tender documents – 1 System

SECTION - C

TECHNICAL SPECIFICATIONS OF STORES AND DRAWINGS.

Technical Specifications for Supply of 4K GM type Cryo-Cooler System



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Technical Specifications / Compliance Statement for Supply of 4K GM type Cryo-Cooler System

Bidder must submit compliance statement dully filled with exact technical values of each specifications (Not with OK, CONFIRM, COMPLY, ACCEPTABLE) alongwith official seal and signature with their offer.

[1]. Cryo-cooler-Cold head:		Quantity: 1 no	Compliance
Cooling cycle:	Gifford-McMahon (2 stage)		
Cooling capacity at the 2 nd stage at 50Hz:	≥ 1.5W @ 4.2K		
Cooling capacity at the 1 st stage at 50Hz:	≥ 30W @ 50K		
Maintenance interval:	≥ 10,000 hrs		
Orientation:	ANY: With cooling capacity degradation < 15%		
Cooldown time (300K to 4.2K, 2 nd stage):	≤ 90 min		
[2]. Helium compressors suitable for Item [1]: Quantity: 1 no			
Compressor type:	Compact water-cooled helium compressor		
Cooling system:	Water-cooled		
Electrical power:	AC 415V (±10 %) 3-phase, 50Hz (Indian Standard)		
Power requirement	≤ 12 kVA		
Noise Level (1 meter distance):	≤ 70 dB at 1meter (approx.)		
Maintenance interval:	> 20,000 hours		
[3]. Compressor to cold head interconnecting gas lines and Cables:			
Length of flexible metallic gas lines (supply & return) connecting compressor and cold head	20 m		
Input power cable	5 m		
Cold head power cable	20 m		
[4]. Measurement and test components:			
Temperature sensor, suitable to operating temperature	2 Nos. (1 No. at 1 st Stage and 1 No. at 2 nd stage)		
Cryogenic compatible heater:	~ 50W. Mounted/mountable with a copper block on cold head (2 nd stage)		
[5]. Accessories & Spares:			
The supplier should provide spares and standard accessories, which include tool kit (gas charge valves, required wrenches etc.), manuals and technical instructions for cold head and compressor unit, compressor hoses, O-rings for cold head assembly etc.			
[6]. Dispatch clearance or Factory acceptance test report			
Test reports as mentioned below are needed from manufacturer before dispatch:			
<ul style="list-style-type: none"> • Minimum achievable temperature and Cooling capacity of the cryo head (as specified above) • Cool down time (required < 90 minutes) to achieve specified temperature 			
[7]. Installation and commissioning:			
Installation and commissioning have to carried out at IPR and following acceptance tests have to be performed by the vendor/vendor representative.			
Acceptance tests/Criteria			

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<ul style="list-style-type: none">• Minimum achievable temp at 2nd stage: ≤ 4.2 K and cooldown time to achieve this temperature : ≤ 90 min	
[8]. Warranty: Warranty for all the supplied materials: At least 1 year after final acceptance.	
Note for the vendor: Part quotation is not acceptable. Provide single quotation for all the items The supplier should have technical support team in India for post sales and service	

Authorised Signatory

Official Seal

Date :-