

TECHNICAL SPECIFICATIONS-CUM-COMPLIANCE TABLE FOR 60TR WATER CHILLER

NOTE: For each specification, please enter “YES” or “NO” in the second column of this table. **If a cell in the second column is left blank, then it will be assumed that the quotation does not comply with the respective specification/requirement.** Provide catalogues, data sheets and/or other documentation to support the compliance of your equipment to the given specifications.

1	General	Yes / No	Remarks
	Water-chiller of 60 TR capacity to support the MTS Servo Hydraulic Testing Systems. The chiller unit should satisfy the following performance specifications.		
2	Specifications		
2.1	Cooling capacity: 60 TR		
2.2	Floor space: 3 m × 3 m (maximum; including the working/walking space around the periphery)		
2.3	Entire unit will be placed outdoor and must be resistant to degradation due to exposure to sunlight, rain, etc.		
2.4	Exposed surface could be made of stainless steel. If other metals are used, then they must be well protected by appropriate coatings.		
2.5	Noise level during operation: < 60 dBA		
2.6	Maximum ambient temperature during operation: 55 °C		
2.7	Minimum ambient temperature during operation: 10 °C		
2.8	Cooling media: RO purified soft water		
2.9	Temperature of inlet cooling media to chiller: 15-20 °C		
2.10	Temperature of outlet cooling media from chiller: 12-15 °C		
2.11	Operating inlet/outlet flow rate of cooling media: 150 to 175 lpm		
2.12	Operating pressure within the unit: 3 to 4 bar		
2.13	Power requirement for standard condition: 3 Phase AC, 415 Volts, 50 Hz		
2.14	Air exhaust direction from the unit: Top throw (not from sides)		
2.15	Refrigerant fluid should be non-flammable: Must meet ASHRAE Flammability Classification A1		
2.16	Gas disposed by the refrigerant must be non-toxic: Must comply with ASHRAE specifications		
2.17	Unit should be able to run continuously for at least 7 days		
2.18	Controller unit: System-compliant (computer programmable, with fewer or no regular modifications by user)		
2.19	Part load efficiency: Must satisfy ASHRAE Standard 90.1		
3	Design Specifications: Safety Interlocks		
3.1	High pressure trip: To safeguard at the incidence of high pressure		
3.2	Low pressure trip: To safeguard at the incidence of low pressure		
3.3	Single phase prevention trip: To safeguard during phase reversal or phase loss		
3.4	Overload relay trip: To safeguard during current overload		
3.5	Water flow trip: To indicate if water does not reach chiller		
3.6	Water level trip: To indicate the occurrence of dry running of the pump		
4	Manufacturer Experience, Installation and Training		
4.1	Manufacturer/supplier must have at least 15 years of experience in the manufacture, operation and maintenance of the unit		
4.2	The manufacturer/supplier must provide the contact details of other IITs or government agencies where similar unit was supplied		
4.3	The equipment should be installed and commissioned by the supplier at IIT Madras, Chennai at free of cost		
4.4	The manufacturer/supplier must provide in-depth training to selected personnel at IIT Madras, on the operation and maintenance of the unit		
4.5	The manufacturer/supplier must have a qualified technical support team to immediately attend the repair of the unit, if any		

TERMS AND CONDITIONS

1. The quoted price should be inclusive of all taxes/freight/installation charges, etc.
2. The quote should be prepared based on 5% GST considering Educational Institute/Research purpose.
3. Customs/Excise Duty exempted price should also be quoted.
4. The quotation should have at least three months validity.
5. Brand name of the equipment should be mentioned and brochure to be enclosed.
6. Warranty conditions, details of the nearest servicing centers, user reference, necessary supporting catalogues and demonstration should be provided.
7. The right to accept or reject quotes without assigning any reason rests entirely with the undersigned.
8. Authorized dealer certificate should be attached with tender.
9. If the date of receipt and opening of quotation is declared a holiday, the next working day shall be the last day for the purpose.
10. At least two users should be trained by the application engineers during the time of installation, on the mechanism, operation, maintenance and emergency management procedures.
11. The item mentioned in the tender is for research purpose. Any Specification which is above or below the defined values is not compatible for the studies and hence not fit to purpose and will be rejected. Only the specifications which is exactly or most close will be considered for the next stage of the tender process.
12. Manufacturer/Supplier is expected to visit the installation site before submission of quotation.