

PR no. 89898052

Part - A (Pre - Qualification Criteria)

Only those vendors who satisfies the following conditions will get qualified to participate in the tendering process.

S.No	Qualification Criteria	Vendor's confirmation
1	The Vendor / Bidder should submit following details which are necessary for qualifying their offer.	
2	The Vendor / Bidder should submit atleast one Purchase Order reference towards the supply of atleast 1 no. of Water chiller of minimum 1 TR capacity in the last 3 years to BHEL (or) any-other Organisation. The Purchase order should be in the name of the Bidder.	
3	BHEL reserves the right to visit the vendor's works for verifying the manufacturing facilities and any other credential furnished by the vendor. In case the information furnished with the offers found to be false / incorrect, the offer shall be rejected.	

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Technical specification -Part-B

Design, Supply, Installation & Commissioning of Water Chiller of 1 TR (3000 kcal/hr) and 2 TR (6000 kcal/hr) for welding machines as per the following specification

Sl.No	Description	Specification	Specified/To be confirmed by vendor	DEVIATIONS / REMARKS
1	Application:			
1.1	Cooling the Welding torch head for the welding machines			
1.2	Water Chiller - TR capacity & Details:	Vendor to note down		
1.3	1 TR (3000 kcal/hr), Qty : 3 Nos.	Vendor to note down		
1.4	2 TR (6000 kcal/hr), Qty: 1 no.	Vendor to note down		
2	Parameters:			
2.1	Ambient Temperature : 45 deg.C			
3	Chiller Design:	Vendor to note down		
3.1	Cooling water temperature required at Chiller outlet: 18 deg.C to 20 deg.C	Vendor to confirm		
3.2	1 outlet & 1 inlet terminals to be brought out from the chiller unit Inlet : 1" BSP Female thread & Outlet : 1" BSP Female thread preferable	Vendor to specify		
3.3	Water Bypass line with manual control valve to be provided for water flow regulation	Vendor to confirm		
4	Power supply			
4.1	415V +/- 10%, 50 Hz., 3 Phase	Vendor to confirm		
5	Compressor:			
5.1	Compressor : Hermetically sealed reciprocating type compressor (3 Phase, 415 V)	Vendor to confirm		
5.2	Compressor make: Copeland / Danfoss	Vendor to confirm & specify the make		
5.3	Condenser Coil : Air cooled Top air throw.	Vendor to confirm		
5.4	Evaporator : the evaporator should be made up of Copper/SS coil and should be immersed in the water tank.	Vendor to confirm		
6	Water Tank Details:			

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6.1	The water tank should be of Stainless steel material with Grade 304 with minimum thickness 1.6mm.	Vendor to confirm		
6.2	For 1 TR (3000 kcal/hr) Water chiller: the water tank capacity should be minimum 30 Litres.	Vendor to confirm		
6.3	For 2 TR (6000 kcal/hr) Water chiller: the water tank capacity should be minimum 35 Litres.	Vendor to confirm		
6.4	Provisions to be made for visually monitoring the Water level of the tank externally.	Vendor to confirm		
7	Water pump & Flow Rate:			
7.1	Water pump make : Kirloskar / Tecmo / Grundfoss	Vendor to confirm & specify the pump type		
7.2	Required Flow rate for 1 TR (3000 kcal/hr) Water chiller : Min. 20 lpm @ 2 bar	Vendor to confirm		
7.3	Required Flow rate for 2 TR (6000 kcal/hr) Water chiller : Min. 40 lpm @ 2 bar	Vendor to confirm		
7.4	Pressure gauge to be provided for visually monitoring the water pressure.	Vendor to confirm		
7.5	Separate Ball valve to be provided in between the pump suction side & water tank.	Vendor to confirm		
7.6	Refrigerant: R134A / R407C	Vendor to confirm & specify the refrigerant type		
7.7	Filter drier Make : Emerson/Danfoss/Sporlan	Vendor to confirm & specify the make		
7.8	Expansion device shall be Copper capillary tube.	Vendor to confirm		
7.9	Expansion valve to be provided. Expansion valve Make : Emerson/Danfoss/Sporlan	Vendor to confirm & specify the make		
8	Dimensions:	Vendor to confirm and specify the dimension		

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8.1	1 TR (3000 kcal/hr) Water chiller & 2 TR (6000 kcal/hr) Water chiller : available site area is 1000 mm X 1000 mm. The chiller has to be accommodated in this available area.	Vendor to confirm		
9	Control Accessories to be provided:			
9.1	Hand Shut off valve (Both suction & Discharge end of the compressor	Vendor to confirm		
9.2	L.P/H.P Switch (with resetting provisions)	Vendor to confirm		
9.3	Digital Temperature Controller : Preferred make: Dixell / Sub - Zero / Carel	Vendor to confirm & specify the make		
9.4	The control circuit should be operated by Single phase 230 V AC, 50 HZ.	Vendor to confirm		
10	Safety Provisions:			
10.1	The following safety provision should be provided:	Vendor to confirm		
10.2	Compressor Overload	Vendor to confirm		
10.3	Pump Over Load	Vendor to confirm		
10.4	Single Phase Preventer	Vendor to confirm		
10.5	AFT Anti freeze	Vendor to confirm		
10.6	Water level sensor	Vendor to confirm		
10.7	H.P / L.P protection	Vendor to confirm		
10.8	Flow switch Safety interlock.	Vendor to confirm		
11	Spares			
11.1	Vendor has to supply 1 set of Condensor fan assembly (Fan blade + Motor assembly) for each of the 4 supplied Water chillers separately as spare. The condenser fan assembly should be the same as the one originally provided in the equipment.	Vendor to confirm		
12	Documentation:			
12.1	Water chiller shall be supplied with 3 set of manual. The Manual shall contain the details of a) Refrigeration Circuit diagrams b) Complete wiring diagram with Ferrule no. 4) Operation manual with Maintenance details.	Vendor to confirm		

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13	NOTE:			
13.1	Erection and Commissioning shall be done by the supplier at BHEL Works and prove the performance.	Vendor to confirm		
13.2	Initial charge of refrigerant shall be provided by the supplier.	Vendor to confirm		
13.3	All accessories shall be reputed make. Suppliers shall quote the make of each item in their offer.	Vendor to confirm		
13.4	General arrangement diagram with detailed refrigeration system shall be supplied along with offer.	Vendor to confirm		
13.5	Point to point confirmation of technical data shall be offered by the supplier other wise the offer may be rejected.	Vendor to confirm		

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