

	Bharat Heavy Electricals Ltd Boiler Auxiliaries Plant Ranipet-632 406	EDC/GATES & DAMPERS TECHNICAL SPECIFICATION
SPECIFICATION NO: GDRS018		REV NO:03
PAGE NO 01 OF 06		

SI No	Item	Blower and motor	Vendor Acceptance /Comments
01	Scope of supply	Blower and motor along with Inlet Silencer/Acoustic Hood, base frame, mounting bolt, anti-vibrating pad and inlet bird guard	
02	Design	Mono-block type, centrifugal, free air delivery, discharge bottom horizontal viewing from the motor side .	
03	Housing	Fabricated from IS 2062 with sufficient stiffeners with provision for removal of impeller for easy maintenance. Flow direction arrow plate to be mounted on casing. Casing thickness shall not be less than 2mm. Provision for greasing and lubricating the bearing shall be provided	
04	Anti-Vibrating Pads	Anti-vibrating pad shall be provided wherever necessary (min. 20mm thickness), Material vendor to specify.	
05	Impeller	The impeller shall withstand the stress developed centrifugal force of operation. Front plate, Back plate and blade thickness depends upon the operating condition and it should not be less than 2mm. The impeller suitably aligned and balanced dynamically. The impeller mounted on the keyed shaft which shall be directly mounted to the motor shaft to prevent axial movement	
06	Impeller construction	Vendor to specify Impeller construction (like Backward Curved impeller/Backward Curved aero foiled impeller/inclined blade impeller, etc)	
07	Seal	Suitable seals shall be provided between shaft and casing. Vendor to specify	
08	Blower Efficiency	Vendor to indicate during offer	
09	Expansion Joint	If anywhere Expansion Joint is used for connecting Parts of Blower, it should be Metallic. (Fabric/Rubber Not Permitted)	

03	21-11-18	Sl.no.10, 13 corrected	M. Suresh	Ashwin Dhinakar
02	01-02-18	Sl.nos 10 & 22 Noise level detail revised	M. Suresh	V. Kesavan
01	04-04-17	Scope of supply revised	M. Suresh	V. Kesavan
00	21.03.17	Fresh Release	M. Suresh	V. Kesavan
REV	DATE	DESCRIPTION	PREPARED	APPROVED

SPECIFICATION NO:GDRS :018		REV NO:03	PAGE NO 02 OF 03
SI No	Item	Detailed description	Vendor / Acceptance / Comments
10	Acoustic hood/Inlet Silencer	To maintain 85 dB noise level, Acoustic hood/Vertical Inlet Silencer (along with supports) should be provided.	
11	Noise level	a) As per Purchase order pressure and flow condition the sound pressure level shall be less than or equal to 85 dB at any point with radial distance of 1 meter. (Qualification criteria of offer consideration)	
		b) During Enquiry stage, if Vendor quoted noise level is more than 85 dB, Offer is LIABLE TO REJECTION .	
		c) With Inlet Silencer, during Drawing approval/Inspection stage, if the noise level is greater than 85 dB, Risk Purchase will be initiated on L2 Vendor. (OR)	
		d) With Inlet Silencer + Acoustic Hood, during Drawing approval/Inspection stage, if the noise level is greater than 85 dB, LD of 2% Deduction in PO value for each 1dB increase in noise level, subjected to Maximum 10%, will be levied.	
12	Motor sizing	SHP & motor HP to be specified during offer for each head and flow	
13	Reference standard	BS 848 part 1 (or) IS 4894 for inspection and testing	
		IP 55 as per IS 4691-68 for enclosure protection	
		ISO 1940 grade 6.3 for dynamic balancing	
		BS 848 part 1 (or) IS 4894 Tolerance on pressure, capacity and power absorbed	
14	Inspection and testing	In line with test bed environment prevailing at the time of testing in their respective works spot of the vendor, one in each type of blower shall be tested for performance by BHEL or its authorized inspection agency	
		Pressure Vs Discharge curves to be furnished for each model	
		Power Vs Discharge curves to be furnished for each model	
		Detailed Test setup & Procedure of Testing to be submitted during GA Drawing approval stage. (In case of New Vendor, it should be submitted along with Technical Offer)	
		Test Setup GA drawing	
		The assembly shall be run supplier works for trouble free, smooth running for continuous 8 hours	
		Both Head developed with corresponding CFM to be demonstrated at test bed	
		Inspection of Blower will be by BHEL/Ranipet (OR) its Authorized Agency.	
15	Documents submitted during offer	Point wise confirmation/deviation of Specification.	
		GA drawing with important items.	
		Power consumption of each Blower Motor to be given.	
		GD ² value to be submitted for each blower.	

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16	Documents along with supply	Type test certificate, Routine test report, Characteristic curve O&M manual in PDF format.																										
17	Name plate detail	Head, CFM, Frame size, blade configuration, direction of rotation mounting orientation, weight to be indicated.																										
18	Motor Identification details	Frame size, enclosure, insulation class, RPM, starting current, full load current, voltage, bearing type and number, weight to be indicated.																										
19	Painting	Machined surface shall be applied with one coat of rust preventive fluid. Galvanized and aluminum need not be painted. Other surfaces, power tool cleaning, one coat of zinc rich red oxide primer as per IS 2074 (Dft 30 microns). followed by two coat of synthetic enamel paint as per IS 2932 of DFT 20 micron per coat (totally min 60 micron) of shade 692 of IS 5.																										
20	Packing and Forwarding	The complete assembly covered with water proof sheet (polythene) and should be packed in wooden boxes. The suction and delivery opening to be covered so as to avoid water entry during storage. All components shall be identified with packing list. ONE copy of Necessary erection and instruction manual shall be sent along with supplies in the box itself.																										
21	Guarantee	The equipment shall be guaranteed for trouble free operation for a period of 18 months from the date of dispatch.																										
22	Expected Noise Levels	<table><tr><th>Sl.no.</th><th>Blower CFM</th><th>Blower Pressure, Inch WC</th><th>Noise Level With Silencer, dB</th><th>Noise Level Without Silencer, dB</th></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table> Vendor to fill this table during Enquiry stage.		Sl.no.	Blower CFM	Blower Pressure, Inch WC	Noise Level With Silencer, dB	Noise Level Without Silencer, dB																				
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