


SECTION-IV

 BHARAT HEAVY ELECTRICAL LIMITED Fabrication Plant Bharat Heavy Electricals Limited Industrial Area Jagdishpur, District: Amethi, Uttar Pradesh-227817 (India) Ph: +91-5361-271378 Fax: +91-5361-271382		Enquiry No. : Due Date : Vendor Qtn. No.: Date :
Specification No: BHEL/FP/TS_FWAS_R0 SPECIFICATION CUM COMPLIANCE CERTIFICATE FOR COMPLETE SYSTEM OF FILLET WELDING AUTOMATION SYSTEM		
NOTE:- 1. Vendor must submit complete information against Qualification Criteria mentioned against clause no. 12.1 of this technical specification. The offer meeting this clause would only be processed. 2. The "Offered" Column and where applicable, the "Deviations" & "Remarks" Column of this format shall be filled in by the Vendor and submitted along with the offer. Inadequate / incomplete, ambiguous, or unsustainable information against any of the clauses of the specifications/requirements shall be treated as non-compliance. 3. The offer and all documents enclosed with offer should be in English language only. 4. Before quoting for below, vendor can visit our unit to understand the requirement of the facility and quote accordingly.		
NAME & ADDRESS OF THE VENDOR :		NAME & ADDRESS OF THE INDIAN AGENTS(if any) :
TELEPHONE NOS.:		TELEPHONE NOS.:
FAX NOS.:		FAX NOS.:
E-MAIL ADDRESS :		E-MAIL ADDRESS :
DUNS NO. (Of Duns & Bradstreet of USA)		

SCOPE: DESIGN, ENGINEERING, SUPPLY, ERECTION & COMMISSIONING AND PROVING AT BHEL SITE OF COMPLETE SYSTEM OF COMPLETE SYSTEM OF FILLET WELDING AUTOMATION SYSTEM					
TECHNICAL SPECIFICATIONS OF COMPLETE SYSTEM OF FILLET WELDING AUTOMATION SYSTEM FOR BHEL FP JAGDISHPUR					
Sr. No.	Description for BHEL requirement	Specified/ to be confirmed by	Offered	Deviation	Remarks
1.0	PURPOSE-				
1.1	The portable, light weight, non-magnetic, four wheel friction drive welding carriage system, designed to perform automatic horizontal fillet welding, lap welding and butt welding, suitable for use with or without the track to automate welding operations, having microprocessor controls for various parameters	vendor to confirm			
2.0	TECHNICAL SPECIFICATION				
2.1	the system should be lightweight, portable, non-magnetic four-wheel friction drive travel carriage that can be used, with or without track, to automate welding operations.	vendor to confirm			
2.2	the system should be mounted with Dual gun holder assembly, enabling positioning of 2 guns and activation of two wire feed signals for welding up to 900 mm apart. Should have horizontal torch movement 450 mm for each torch & vertical torch movement 150 mm.	vendor to confirm			
2.3	the system should have adjustable roller guides, designed to run on a horizontal path against a vertical surface with a min.50 mm to max. height of 400 mm to perform simultaneous both side horizontal fillet (ideal for welding girders, beams, crane girders, stiffeners etc.).	vendor to confirm			
2.4	the system should have stitch weld program - weld selection and non weld selection (by unit of distance).	vendor to confirm			
2.5	the system should have 2 Nos. semi automatic torch holder with 360 degrees Torch tilt device for positioning the torch at any angle, and position on the fly.	vendor to confirm			
2.6	the system should have switching for Forward/Neutral/Reverse, Run/Stop, Manual/Auto and programmable variable increment/decrement (wherever applicable) as well as a rotary encoder for speed control.	vendor to confirm			
2.7	the system should have Travel motion delay, Crater fill delay, Post weld delay	vendor to confirm			
2.8		vendor to confirm			
3.0	OTHER TECHNICAL REQUIREMENTS				
3.1	the system should be guided by work pieces and should be able to run on a 6" wide 'V' groove track.	vendor to confirm			
3.2	the system should have silicon rubber wheels to with stand continuous contact temperature of 177°C and intermittent contact temperature of 232°C.	vendor to confirm			
3.3	Low voltage programmable microprocessor based controls with tachometer feedback system providing the following features:	vendor to confirm			
3.3.1	Infinite speed control with LED read out in IPM or CM/MIN.	vendor to confirm			
3.3.2	Weld enable, Weld disable option.	vendor to confirm			
3.3.3	Adjustable arc start and stop delay.	vendor to confirm			
3.3.4	Travel motion delay.	vendor to confirm			
3.3.5	Crater fill delay.	vendor to confirm			
3.3.6	Post weld delay.	vendor to confirm			
3.4	the system should be suitable for gas cutting operations.	vendor to confirm			
3.5	the system should be suitable for lap, fillet, or butt welds.	vendor to confirm			

TECHNICAL SPECIFICATIONS OF COMPLETE SYSTEM OF FILLET WELDING AUTOMATION SYSTEM FOR BHEL FP JAGDISHPUR					
Sr. No.	Description for BHEL requirement	Specified/ to be confirmed by	Offered	Deviation	Remarks
3.6	the system should have adjustable roller guides for welding of lap joints by way of tracking from side instated of vertical member.	vendor to confirm			
3.7	the system should be suitable for smooth continuous and stitch welding applications, or without the stitch-welding program.	vendor to confirm			
3.8	the system should have travel limit switches on either ends of the carriage.	vendor to confirm			
3.9	the system should have horizontal torch movement 450 mm for each torch & vertical torch movement 150 mm.	vendor to confirm			
3.10	The carriage should be suitable for travel on a maximum incline of 15 degrees.	vendor to confirm			
3.11	Optional Accessories should be available for converting the standard fillet welder to a magnetic base fillet welder.	vendor to confirm			
3.12	Speed Range: 150 to 2900 mm / min.	vendor to confirm			
3.13	Weight: 16.00 Kg. (Max.)	vendor to confirm			
3.14	Input Supply: 230 V AC, single phase, 50Hz.	vendor to confirm			
3.15	Power Consumption: 200W.	vendor to confirm			
4.0	Scope of supply: each set of Fillet welding automation system shall comprise following items:				
4.1	Dual Torch carriage with control for stitch weld or continuous travel : 01 No.	vendor to confirm			
4.2	Adjustible lap guide wheel assembly : 02 Nos.	vendor to confirm			
4.3	12 " long heavy duty 1 -1/8 " square rack arm: 01 No.	vendor to confirm			
4.4	24 " long heavy duty 1-1/8" square rack arm: 01 No.	vendor to confirm			
4.5	Heavy Duty Rack Box: 02 Nos.	vendor to confirm			
4.6	Semi automatic Gun Holder Assembly: 01 No.	vendor to confirm			
4.7	Torch Tilt Assembly: 02 Nos.	vendor to confirm			
5.0	Spares				
5.1	Vendor to offer spares for 1 years of trouble free and smooth operations of the system	vendor to confirm			
6.0	Accessories:				
6.1	Any other accessories that are required for trouble free and smooth operations of machine shall be offered by vendor.	vendor to confirm			
7.0	Intallation & Commissioning and training				
7.1	Complete Installation and commissioning is in Vendor's scope.vendor to arrange all types of commissioning tools & tackles, cranes, helping personels etc. on their behalf. After I&C vendor has to prove out the performance of the system to the satisfaction of BHEL	vendor to confirm			
7.2	Vendor to provide training during I&C of complete system for operation and maintenance to BHEL personel for 5 working days .	vendor to confirm			
8.0	Proving and Acceptance of BHEL				
8.1	Vendor to demonstrate the system and prove the complet system at BHEL works for various horizontal fillet welding, lap welding, butt welding, circular tracking etc.	vendor to confirm			
8.2	Working of accessories, systems and items supplied shall be cheked by BHEL	vendor to confirm			

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Sr. No.	Description for BHEL requirement	Specified/ to be confirmed by	Offered	Deviation	Remarks
8.3	Checking of the system as per specification.	vendor to confirm			
8.4	Proving of complete system to the satisfaction of BHEL	vendor to confirm			
8.5	vendor to prepare test piece if required. The material shall be provided by BHEL.	vendor to confirm			
9.0	Documents to be submitted along with offer				
9.1	Complete Specification filled in BHEL format	vendor to confirm			
9.2	layout drawing of system, assemblies and sub assemblies in standard formats	vendor to confirm			
9.3	General technical literature of systems and its parts.	vendor to confirm			
9.4	Bill of quantities with the breakup of each item	vendor to confirm			
10.0	Documents to be submitted along with supply				
10.1	Layout drawing of system, assemblies and sub assemblies in standard formats	vendor to confirm			
10.2	installtion diagram.	vendor to confirm			
10.3	installation drawings and documents	vendor to confirm			
10.4	operation and maintenance manual	vendor to confirm			
10.5	Technical Data sheet	vendor to confirm			
10.6	Bill of quantities with the breakup of each item	vendor to confirm			
11.0	Guarantee				
11.1	Vendor to provide guarantee of 01 years for complete System after acceptance of BHEL	vendor to confirm			
12.0	Qualification Requirement				
12.1	Only those vendors who have supplied and installed similar type of systems in past 05 years and such system is working satisfactorily till date (as on date of opening of Tender) after one years of its commissioning shall quote.Vendor to submit a performance certificate from the customer where they have supplied similar type of compressed air distribution system for its satisfactory performance since its commissioning.	vendor to provide			
12.2	Vendor to provide name , address, email, phone no., fax No. of the above customer	vendor to provide			