Technical Specifications for MIG/MAG Welding system

S.No.	Feature	Requirements	Specifications of the quoted product
1	Description	● Complete and ready to use welding setup including welding power source, welding torch for MIG/MAG/ Standard Synergic & Pulse Synergic welding. ● Appropriate fixture, safety equipment, accessories / optional attachments. ● Accessories required for system to be in ready to use condition at our end without any other purchase. ● In future, MIG/MAG welding system is able to interface with robots (Robot Models: KUKA, ABB and UR robots). ● The System should be easily carried around without the need for specialized equipment. Desirable: AMC and spare parts	
2	Welding power source	● Equipment: Power source to facilitate MIG, MAG, Standard Synergic & Pulse Synergic welding. ● Material: Steel, SS and Aluminium and their alloys. ● Type: preferably CC and CV. ● Output Current (DC/AC) up to 350- 400A or better. ● Output voltage DC: 15-35 V or better. ● Duty cycle: Specify. + **General** ● Maximum Power: >10 kVA ● Mains fuse Protection: >30A ● Welding Current range preferred: 10 to 300 A ● Welding Current @ 40% Duty Cycle: > 230A ● Output Voltage range: 15 to 29V ● Degree of Protection desired: IP 23 **Specific to MIG Welding** ● Maximum Shielding Gas Pressure: >4 Bar ● Wire Feed Speed range: 1 to 25 m/min ● Coolant: Suitable Air or Water Cooled ● Wheel drive preferred: 4 Wheel Drive ● Wire Diameter range: 0.8 to 1.6 mm ● Efficiency of Power source: ~85% ● Possible Metals: MS, SS, Ni-based alloys, Aluminium etc. ● Welding Data Collection: Record of Current, Voltage, Wire Feed speed and all the required parameters during the welding process in the form of CSV or Excel data ● Control and Display: The system should have control and digital display facility for the parameters like Welding current (set and actual value), Welding voltage (set and actual value), Wire feed speed, Arc length, Pulse parameters (type, pulse duration, peak current, base current etc.), Gas post-flow time, Gas pre-flow time etc. ● USB port for data exchange and upgrade. ● Input power: AC 400V, 3phase. ● The machine should be capable of connecting with other devices via Bluetooth, Wireless LAN and NFC such as	

		welding helmets, remote controls and also mobilephones. ● Power source should be compatible for the Industry 4.0needs	
3	Wire feeder andwelding torch	● Wire feeder should support maximum wire feed rate forthe specified range of process parameters. ● Low friction wire conduit.	
4	Software compatible	Compatible for any kind of automation (CNC, Robot)	
5	Accessories	Trolley with handle for portability of the unit, Tool kits. Any other accessories for better efficiency and maximum utilization,to be proposed by Bidder	
6	Additional/optio nalfeatures	Remote control unit etc.	
7	Warranty and AMC	Warranty for two years from the date of installation and commissioning Offer for 3 years AMC after the warranty period clearly indicating the scope of AMC	
8	Packaging, insuranceand transport	As per standard terms (seaworthy packing etc.)	
9	Inspection, installation, commissioning and training	● All the essential requirements ensuring ready to use set upat IIT Dharwad. ● All relevant equipment operating instructions, service manuals and handbooks must be provided in duplicate. Maintenance tool kits relevant to the System must be provided. ● The vendors must provide training and familiarization of the System to IIT Dharwad staff for at least two (2) days on site. ● One set of maintenance and operating manuals in English ● Manuals of third party items such as controller (if any) etc.	
10	Other desirable conditions	● The bidder must be OEM or representative of the foreignconcern in India and should have ISO certification for quality standards. ● List of clients in last five years (IITs, NITs, national laboratories, government organizations) in addition toclients nearby Dharwad to be provided. ● Provision for pre-dispatch inspection if required. ● Separate prices should be shown for (a) basic equipment (b) essential accessories (c) optional accessories (d) normal spares particularly of the items which are likelyto sustain damage or failure in use.	

We M/s _____do hereby comply with all above mentioned specifications.

Authorized Signatory