



RAJIV GANDHI UNIVERSITY OF KNOWLEDGE TECHNOLOGIES

(Act 18 of 2008)

Ground Floor, Vindhya C4 Building,

IIIT-H, Gachibowli,

Hyderabad – 500 032

E-mail: registrar@rgukt.in

Visit us at: www.rgukt.in

Rc. No: RGUKT/Proc/Mech.Engg/MP/T12/2013, date:21.12.2013

Sub: RGUKT-Hyderabad-Invitation of Tender for supply and installation of equipment to the **Manufacturing Process Lab of Mechanical Engineering Department** to the three campuses of RGUKT- Modification to the tender schedule-Reg..

Ref: 1) This office Tender Notification No: RGUKT/Proc/Mech.Engg/MP/T12/E-2013,
Dated: 07.12.2013
2) Modifications, dated.11.12.2013 and 12.12.2013
3) Minutes of the Pre Bid conference held on 18.12.2013

* * *

It is to inform that, based on the minutes of the pre-bid conference held on 18.12.2013 the following modifications/amendments were issued to the tender for supply and installation of equipment to the **Manufacturing Process Lab of Mechanical Engineering Department** to the three campuses of RGUKT.

I. Tender Schedule

Description	Existing Schedule	Revised Schedule
Bid Document Downloading End Date	30.12.2013 till 04:00PM	06.01.2014 till 02:00PM
Last date for uploading documents online	30.12.2013 @05:00 PM	06.01.2014 @05:00 PM
Last date for Submission of documents (Hard Copies)	31.12.2013 @04.00PM	07.01.2014 @04.00PM
Technical Bid opening date/time	02.01.2014 @03.00PM	08.01.2014 @03.00PM
Price Bid opening date/time	04.01.2014 @02.00PM onwards	10.01.2014 @02.00PM onwards

II. Technical Specifications

The following amendments may please be noted in the Manufacturing Processes Lab in Item No.3 and 4.

3. Automated MIG Welding System

Metal Inert Gas(MIG) welding system should consists of

1. One tractor mounted MIG welding torch. With Variable speed the tractor should move during welding.
2. One clamping arrangement for job with motorized slide to travel the job with variable speed.
3. Control panel to adjust the travel speed of tractor & motorized slide, speed display, welding On/Off.
4. MIG welding power source, MIG welding torch mounted on tractor, MIG wire feeder.

TECHNICAL SPECIFICATIONS FOR MIG WELDING MACHINE

Processes	MIG(GMAW),Pulsed MIG(GMAW-P), FLUX-CORED(FCAW)
Mains Voltage,	Ph x V, 3x400, 50Hz
Fuse slow,	A 25
Setting range, MIG/MAG,	Amps / Volts: 16-400 A / 8-60 V
Setting range, MMA DC,	A 16-400
Setting range, TIG DC,	A 4-400
at 35% duty cycle MMA,	A/V 400/36
at 60% duty cycle MMA,	A/V 320/33
at 100% duty cycle MMA,	A/V 250/30
Open circuit voltage,	V 55-90
Energy save mode	(400V), W 60 50
Apparent power,	kVA 18.6
Power factor at maximum current	0.9
Efficiency at maximum current,	%86
Control voltage	42v, 50/60 Hz
Dimensions l x w x h, mm	625x394x496
Enclosure class	IP23
Insulation class:	H
Operating temperature, °C	-10 to +40
Weight, kg	63.5
Application class S Standards	IEC/EN 60974 -1,

SPECIFICATIONS OF WIRE FEEDER

Technical Data

Mains supply,	Ph x V, Hz 1 x 42
Drive system	4- Roll Drive
Max. Diameter of wire spool,	Mm 330 / 440
Wire feed speed, m/min	0.8 to 25m/min
Wire type	MS / Al / FC
Wire diameter	0.6 to 1.6mm
Enclosure class	IP23
Standards of compliance	IEC/EN 60974 -5/-10
Weight, Kg	Optional
Cooling System	Forced air cooling/Water cooling

SPECIFICATIONS OF MIG TORCH

Torch Type	GMAW Welding
Type of Cooling	Air/gas Cooling
Torch Cable length	4 meters
Tool Kit consisting of Nozzle Cleaner, Alley keys, Plier for cutting wire	

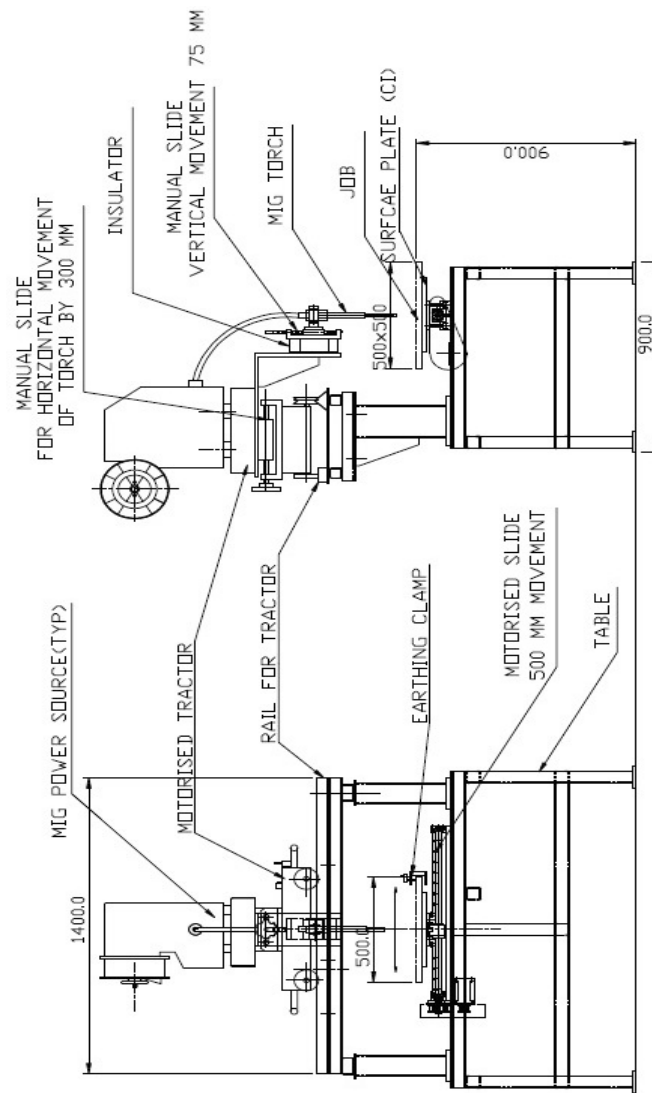
SPARES AND ACCESSORIES

ITEM

QUANTITY

Feed Roll	2 (0.6/0.8 mm hard & 0.9/1.2 mm hard)
Drive Rolls for Mig	1 set
Drive Rolls for FCAW	1 Set
Drive Rolls for Al	1 Set
Contact Tips of 0.9 mm & 1.2 mm	10 no's
Liners of Each size	1 Set
Argon Flow Meter Regulator	1
Argon Gas Cylinder (Optional)	2
Wire Brush	5
Chipping Hammer	5
Hand Gloves	5
Apron	5
Auto darkening helmet DIN 9213	1
Ordinary welding helmet	5
Welding Cable with Holder, 3m	1
Cylinder Key	2
Spanners	2
Filler wire for MS welding, 2sizes	15 Kg Spools
Filler wire for SS welding, 2sizes	15 Kg Spools
Filler wire for Al welding	7 Kg Spools

CONCEPTUAL DESIGN OF THE AUTOMATED MIG WELDING SYSTEM



NOTE: Dimensions are approximate

1. Welding can be done in two modes, either by moving of the tractor, job remains stationary
2. Movement of job by motorized slide, torch on tractor remaining stationary.

4. Automated TIG Welding System

Tungsten Inert Gas(TIG) welding system should consists of

1. One tractor mounted TIG welding torch. With Variable speed the tractor should move during welding.
2. One clamping arrangement for job with motorized slide to travel the job with variable speed.
3. Control panel to adjust the travel speed of tractor & motorized slide, speed display, welding On/Off.
4. TIG welding power source, TIG welding torch mounted on tractor, TIG wire feeder.

Note: The TIG machine should also join Aluminum alloys by varying the AC power.

TECHNICAL SPECIFICATION FOR TIG WELDING MACHINE

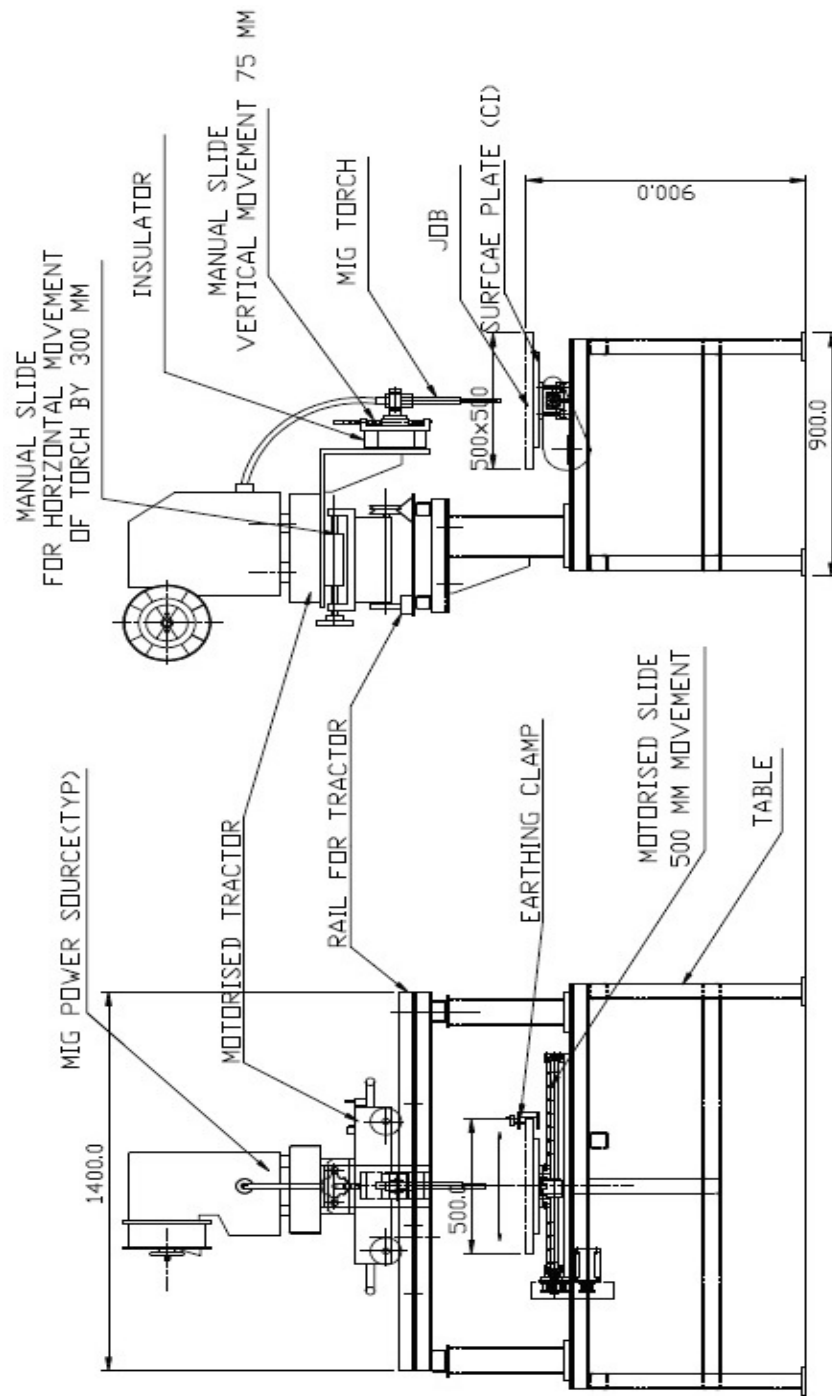
Welding Machine Type	Digital & Programmable Inverter Based Pulsed AC/DC TIG welding Machine
Processes	TIG(GTAW), Pulsed TIG(GTAW-P), SMAW, Air Carbon Arc (CAC-A)
Display and welding parameter settings	All welding parameters to be displayed in Digital high resolution graphical display/monitor inbuilt in machine
Program memory	Microprocessor controlled, programmed storage capacity with quick choice buttons
Input Supply	400V, 3phase, 50Hz
Mains Cable	4x1.5Sq.mm
Fuse	20A (Slow)
Power in No - load	30 Watt
Open Circuit Voltage	54-64 Volts
Power Factor at 100% in TIG mode	0.72
Operating Temperature	-10 to +40 degree C
Enclosure Class	IP23C
Standards	IEC/EN 60974 – 1, 3,-10
Insulation Class	H
Dimensions in mm LxWxH	652x412x423
Weight	Optional
Cooling System	Forced air cooling/Water cooling
Current setting range	
MMA	16-350Amps
TIG	4-350Amps
Maximum output in AC/DC TIG	
At 35% duty Cycle	300A/22V
At 60% duty cycle	240A/19.6V
At 100% duty cycle	200A/18V
Slope UP	0-10sec
Slope DOWN	0-10sec
Gas Post Flow	0-25sec
Pulse frequency DC	0.5Hz to 10 Hz
	Advanced variable HF pulse 15Khz or Higher Automatic Frequency control according to welding current

Frequency AC	10-150Hz
AC Balance	50-98%
TIG TORCHES – SPECIFICATION	
Type of Cooling	Water Cooled
Type of Connection	OKC – Quick Connector
Size of TIG rod,	1 - 4mm
Rating	A @ 35% 200
Length	4M
TIG torches conform to international standard	IEC/EN 60974-7
Foot Switch and Hand switch	Remote foot switch Remote hand control Hand switch on torch

SPARES AND ACCESSORIES

ITEM	QUANTITY
Tungsten electrode Grinder	1
Fume extraction system with necessary bellows and hood	1
Collet Body 2.4mm	5
Collet Body 3.2mm	5
Collet 2.4mm	5
Collet 3.2mm	5
Gas Nozzle Standard, 9.8mm	10
Gas Nozzle Standard, 11.2mm	10
Gas Nozzle Standard, 12.7mm	10
Tungsten Electrode 2.4mm	10
Tungsten Electrode 3.2mm	10
Back Cap Long	5
Back Cap short	5
Argon Flow Meter Regulator	1
Argon Gas Cylinder (Optional)	2
Wire Brush	10
Chipping Hammer	5
Hand Gloves 1 pair Apron	5
Auto darkening helmet DIN 9213	2
Ordinary welding helmet	5
Welding Cable with Holder, 3m	1
Cylinder Key	2
Spanners	2
Filler wire for MS welding, 2 sizes	2kgs (1kg each)
Filler wire for SS welding, 2 sizes	2kgs (1kg each)
Filler wire for Al welding	1kg
Cold Wire Feeder	Suitable for 0.8, 1.0, 1.2, 1.4 mm

CONCEPTUAL DESIGN OF THE AUTOMATED TIG WELDING SYSTEM



NOTE: Dimensions are approximate

1. Welding can be done in two modes, either by moving of the tractor, job remains stationary
2. Movement of job by motorized slide, torch on tractor remaining stationary.

**Sd/-
Registrar**