

Machineries ,Equipments and Hand tools Specification For Mechanics Level III

Item No.	Name of Items	Specifacation/requirement	Unit	Qty
1	Cut off machine	wheel dia.355 mm hole dia 25.4mm, input 2.000w No load speed 3800 rpm Dimension 500mmx600mmx280 mm power supply cord 2.5m With full standard accessories Cutting Capacity Rectangle : 100mm x 196mm Square : 119mm x 119mm L – Profile : 130mm x 130mm	PC	2
2		Primary Side Input Voltage AC Supply, 400Volt $\pm 10\%$, 3-Phase, 50Hz Maximum Connecting Load 18 kVA Plasma Gas Compressed Air Plasma Gas Pressure 5 ± 2 Bar Cutting Side Minimum Cutting Current 30 ± 10 Ampere Maximum Cutting Current 120 ± 20 Ampere Output Current Adjustment Step-less continuous adjustment Duty Cycle – 1 Minimum 35% at 120 Ampere Duty Cycle – 2 100% at 80 Ampere or Higher Recommended Cutting Thickness(Handheld Clean cut) 0.5mm to 40mm Severance Cutting Thickness 50mm Ignition Process Pilot arc ignition by high voltage ignition unit, main arc ignition by pilot arc. Metals to be cut Carbon Steel, Stainless Steel, Cast Iron, Brass,Copper, Aluminum and other electric-conductive material. Application Piercing, Hand Drag Cuttingand Gouging. Physical Data Maximum Weight 30 Kg Maximum Dimensions 750mm (L) x 300mm (B) x 500mm (H)	PC	2

Item No.	Name of Items	Specification/requirement	Unit	Qty
	<p>Plasma cutting machine with full accessories</p>	<p>Other Data Electric Protection Class IP 23 or Higher Cooling of Supply Unit Air cooled by built-in fan Air Filtration Unit Equipped with built-in Air filter and pressure adjustment regulator and pressure gauge. Plasma Hand Torch Torch Cooling Air Cooled Hose Package Length 3meter or more Maximum Cutting Current Rating Maximum Cutting Current of Machine Duty Cycle 100% at Maximum Cutting Current of Machine Features Detachable from machine. b.All connections should be enclosed in single hose package with single central connecting plug. c. Built-in torch switch. d. Should be able to carry out all required applications independently or by replacing consumables of hand torch. Details of Accessory 1. Electric Supply Cable (Length-10meter or more), attached with machine along with plug at other end. after installation the supplies give operational training for college trainers.</p>		

Item No.	Name of Items	Specification/requirement	Unit	Qty
		2. Air Filter and Air Pressure Regulator built-in with machine. 3. Detachable Work Piece Cable (Length- 3meter or more). 4. Plasma Hand Torch (Hose Package Length- 3meter or more). 5. Operating Manual & Technical Literature along with circuit diagrams. 6. Consumable Kit a. This kit should include at-least one spare of each component of torch head, except body of torch head. b. All required consumables for performing required applications, if plasma hand torch is not able to perform these applications independently.		
3	Digital Hardness tester	Digital Model Features: - Easy-to-use digital display - RS232 C serial data port for computer or printer interface - Load selection error safeguard - Automatic minor load set auto-brake system - Automatic electronic scale conversion - Microprocessor control of dwell and recovery time - Thrust needle bearing capstan hand-wheel - Conforms to current versions of ASTM E 18 and ISO 6508 - Plastics mode testing in accordance with ASTM D 785	Pic	2
4	Tensile tester machine	Max capacity 10kN, Measuring range 0-10kN, ranges least count 0.5N, Elongation scale 0.01 mm, grip separation with out grip max 750mm min 25mm, variable speed drive stepless variation 5-300mm/min, HP 1HP, supply 3 phase 450V 50hz AC	Pic	2

Item No.	Name of Items	Specification/requirement	Unit	Qty
5	<p align="center">Charpy Impact Testing Machines</p>	<p>where Impact strength of the material is to be tested. Maximum Capacity : 300 J / 400 J / 450 J Minimum Scale Graduation : 1 J / 2 J Overall size : 1.4 (L) x 0.5 (W) x 1.9 m (H) approximate Net Weight : 550 kg / 570 kg / 580 kg approximate Test methods : ASTM E 23 & ISO 148, IS 1598 : 1997, IS 1757 : 1973, IS 1499 : 1977, IS 3766 : 1977, BS EN 10045 & BS : 131 – part 1, 2, 3 & 4 – 1972</p>	Pic	2

Features of Kaierda Tig Welding machine WS400N:

- Two functions in one machine: Argon arc welding and manual metal welding functions
- Peak current control mode: high reliability of power device
- High frequency arc striking: high success of arc striking, stable welding with small current and good welding bead
- Adjustable push current: guarantee the quality of arc striking and welding and improve the performance of extensive lengthened long-distance welding
- Adjustable delay gas shut switch: protect the weld puddle from oxidation at the moment when welding stops
- Wide scope of application: suitable for j421,j422, acid electrode and j506,j507, basic electrode welding, widely used for nonferrous metal welding including carbon steel, stainless steel and copper

From the three models **WS-400N is preferred**

Technical Specification for TIG Welding machine

Welding machine	WS-275N	WS-315N	WS-400N
Input voltage(V)	3phase,380V 50/60Hz		
Rated input current(A)	13.5	18	26
Max effective input current(A)	8.0	14	20
Rated input power capacity(KVA)	8.9	12	17
O-Load voltage(V)	67		
Output current adjustable range(A)	10-275	10-315	10-400
MMA working voltage(V)	20.4-30	21.2-32.6	22-40
Argon arc welding working voltage(V)	20	10.4-22.6	10.4-30
Rated duty cycle (%)	35%	60%	60%
Efficiency (%)	≥85%		
COS ϕ	≥0.85		
Insulation class	H		
Protection degree of enclosure	IP21S		
Weight(kg)	13		24
Dimension(mm)	420×192×360		465×232×405

The package includes a 4-8M length Water Cooled TIG Torch(Rating 350A DC - 250A AC), Earth Lead, MMA Lead, Gas Hose, Mains Cable, Argon Regulator, Owner's Manual and a Torch Consumables Kit

Argon Regulator

- Maximum inlet pressure 3000 PSI
- Outlet pressure preset 50 PSI
- 2"- 4000 PSI Gauge
- 0-60 Flow meter (SCFH)
- CGA-580 inlet connection
- 5/8" - 18RH (F) outlet connection
- Brass Body
- High Pressure Valve
- Stainless Steel Filter placed inside the Reducer

All parts must fit each other (cylinders, Regulator, Gas hose connection and torches (compatible)

The supplier must be performing Machines assembling, installation according to manufacturer specification at delivery sites and perform the operation (Test the functionality of the machine for immediate use).

English operational manual and Maintenance manual will be supplied with the machine

Specification of Oxy- Acetylene with full Assembly Equipment

Technical Specifications
Acetylene Cylinders
Water Capacity minimum 70 (liters)
Cylinders material made of steel with Valve and Protective cap.
Oxygen Cylinders
Cylinder size minimum 40 liters,
Cylinders material made of steel with Valve and Protective cap.
Welding attachments and cutting attachment
The Welding and cutting attachment kit with oxygen regulator, acetylene regulator, hoses, welding and cutting torches, goggles, tip cleaners, spark lighter , Spanner and Welding and Cutting Nozzles with different size and must fit to Torches in Heavy duty molded storage case.
Hose
Kink proof, double hoses for safety and service. Rugged, flexible hose with neoprene cover. twin hose - Highly resistant to abrasion and the minimum length of hose needed is 5M
Oxygen Regulator
Forged brass body Double stage No soldered joints, Max Inlet Pressure (Bar) 0-315, Delivery Pressure (Bar) 7, Working Pressure (Bar) 0-14
Acetylene Regulator
Max. Inlet pressure 40bar Max. Outlet pressure 1.5 Max. flow lit/min 250
All parts must fit each other (cylinders with Regulator, hose connection torches and tip and compatible)
The supplier must be performing Machines assembling, installation according to manufacturer specification at delivery sites and also perform the operation (Test the functionality of the machine for immediate use).
Tools
All essential standard manufacturers' tools shall be supplied with each Machine
Manual shall be with Hard copy/soft copy in CD. There should be Maintenance and Operational manual (Manual and Catalog should be in English)

Technical Specifications for MIG welding machine

MIG Welding machine Brand: Borte Model: MIG -315c

Digital read adjustment (wire feed rate, gas flow rate, V, Amps and etc)

Main voltage: 400V 50/60 HZ, 3Phase.

Output range 5-400Amps

Maximum current (1040F) : 400A @ 50% duty cycle

Maxi. No of load voltage 41.5V

Absorbed power: 6-11.5KW

Power factor: 0.9cosphi

Mains fuse: 16/10A

Adjustment positions: 12

Wire diameter -steel_ 0.6-1.6mm

Wire diameter Aluminum 0.8-1.6mm

Wire diameter Stainless steel 0.6-1.6mm

Wire diameter_ Brazing: 0.8-1.2mm

Numerous steps for regulation of arc voltage, regulation of spot welding time, two position for reactance, Thermostatic protection. Complete with MIG/MAG welding accessories (Gun and cable assembly work cable with clamp, Argon Flow meter with hose Sample spool of self, shielding flux cored wire, Spare contact tips, Power cord with plug, Instruction Manual)/(incl. operation & maintenance manual)

CO2 cylinder steel material Capacity 47.2 (liters) Pressure @ 200C 153 bar

CO2 Regulator

Maximum inlet pressure 3000 PSI

Outlet pressure preset 50 PSI

2"- 4000 PSI Gauge

0-60 Flow meter (SCFH)

CGA-320 inlet connection

5/8" - 18RH (F) outlet connection

Brass Body

High Pressure Valve

Stainless Steel Filter placed inside the Reducer

- *All parts must fit each other (cylinders, Regulator, Gas hose connection and torches (compatible)*
- *The supplier must be performing Machines assembling, installation according to manufacturer specification at delivery sites and also perform the operation (Test the functionality of the machine for immediate use).*
- *All essential standard manufacturers' tools shall be supplied with each Machine.*
- *English operational manual and Maintenance manual will be supplied with the machine*

1. Plasma Cutting Maschine



2. Cut off Machine



3. TIG Welding Machine



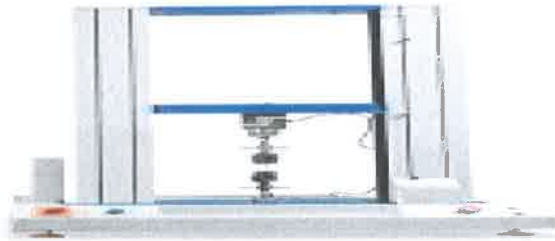
4. MIG Welding machine



5. Digital Hardness Tester Machine



6. Tensile Tester machine



7. Charpy Impact Testing Machine



8. Portable Grinder machine



9. Portable drilling Machine



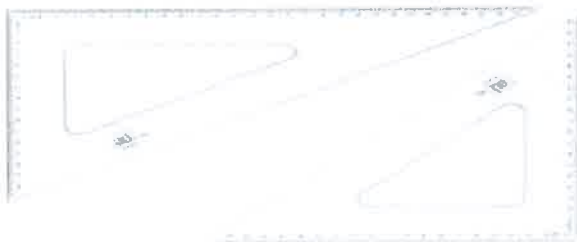
10. Arc Welding Machine



11. Mig Torch Tip



12. Set square



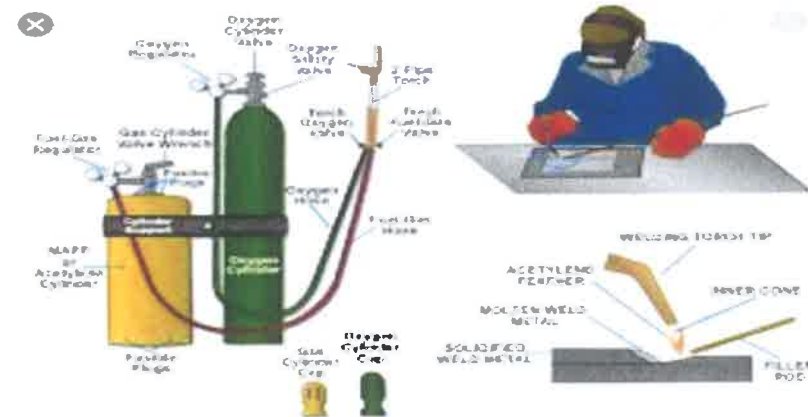
13. Compass



14. TIG Torch tip accessories



15. Oxy-acetylene



16. French Curve



17. Dust Brush (for cleaning drawing paper)



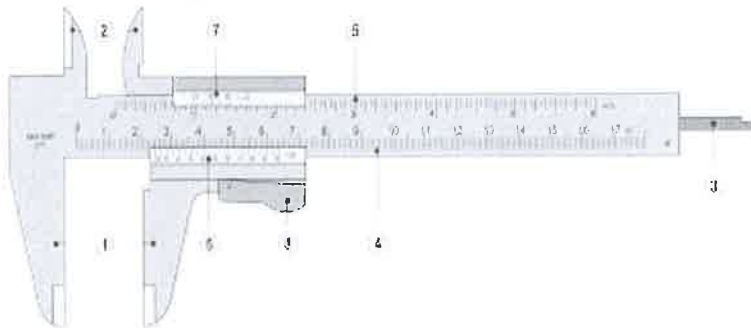
18. T-square



19. Snips



20. Vernier caliper



21. Digital Micro Meter



22. Vibrometer



23. Dial Indicator



24. Precision spirit level



25. Multimeter



26. Hand Glove



27. White Goggle, Normal



28. Nose Mask



29. Ear Muff



30. Apron



31. Safety shoes

