

TIG Welding Machine Specifications		
1	DESCRIPTION	Digital Inverter based water cooled DC-TIG/MMAW Portable Welding Unit
2	BASIC PURPOSE OF THE MACHINE	The Equipment is intended for welding of DC TIG/MMAW welding of Duplex steel and Stainless steel and it is alloy materials.
3	ESSENTIAL REQUIREMENTS	The Equipment's shall be latest commercially proven design and shall confirm to established International standards as per Standards IEC 60 974-1/ IEC 60 974-5 / IEC 60 974-10/ CE / S-E EMC class A, with good performance records established under stringent operating conditions have Marks S symbol for safety
4	TECHNICAL SPECIFICATION - Power Source	
	Welding power source	Digital Inverter based MOSFET Technology DC power Source capable of GTAW (TIG) Welding
	Input Supply	400 ±15% ,3Phase,50HZ
	Duty Cycle 10min/ 40 deg C	a) At 100% Duty Cycle - 310Amp b) At 60% Duty Cycle - 365 Amps C) At 45% Duty cycle – 400amps
	Welding Current Range	3 (Min)- 400 Amps for DC TIG and 10 - 400amp MMAW
	Power Factor	0.99
	Standardised working voltage	10.1 -26.0 V TIG & 20.4 - 36.0 V MMAW
	OCV	86 V
	Degree of Protection	IP23
	Type Of Cooling	Air cooled
	Insulation Class	F
	Weight	Min 58 Kg and max 70 Kg
	Standards	Standards IEC 60 974-1: 2012/ IEC 60 974-5 / IEC 60 974-10
5	TECHNICAL SPECIFICATION - TIG welding torch	
	Length	4mtrs
	Electrode Diameter Size	1.0 mm – 4.00 mm
	Cooling	Liquid cooling
	Welding current	AC: 350 and DC: 400at 60% Duty Cycle
	Weight	Less than 4.0Kg ✓
	Torch Head	Gas nozzle thread type system, Gas lenses, Adjusting device for electrodes
	Torch Hose pack	UV and ozone -resistant corrugated hose

T. CHA

6	TECHNICAL SPECIFICATION - Cooling Unit	
	<p>The Water cooling system specifications is as follows:</p> <ol style="list-style-type: none"> 1. Motor input voltage : 400V, 50/60 Hz. 2. Max pump pressure: 4.2 bar 3. Maximum cooling capacity: 5.5 lt/min] 4. Cooling capacity 40 deg c Q= 1 L/min : 870 Watts 	
7	ESSENTIAL FEATURES	
	Machine should have MOSFET advance technology inverter power source for economic power consumption along with digital signal Micro-processor Controller.	
	Machine should have Display of comfort model with parameter description on the Front panel of machine.	
	Equipment should be portable , & de-compact with plug in PCBS housed with complete protection preventing all possible damages	
	Equipment should have digital error code display in case of malfunctioning making trouble shooting (self-diagnosing) easier	
	Arc break watch dog and Ignition time out as safety features as inbuilt functions.	
	Equipment should have operating TIG cycle like Start current, up-slope time, main current, down slope time, End current settings on front panel of machine	
	Equipment should have 2 menu settings like start current time, End current time, Resistance & Inductance alignment functions.	
	Inbuilt Special programs for TAC welding , Spot welding, pulsing frequency functions.	
	Machine should have Job storage memory of at least 99 locations for storing the welding parameters and access from main menu as when required	
	Machine should be compatible for wire feeder and it should have wire feeder controls to operate the wire of dia 0.8 mm & 1.2mm	
	Protection against abnormal supply conditions like phase failure, short circuit, thermal over load, under voltage, over voltage and over load temperature conditions etc	
	Inbuilt high frequency unit, liquid cooling system integrated along with power source. It should be modular in design and compact so as to fit exactly below the power source without occupying additional space.	
	Equipment shall have compatible for any level of Automation and Robot	
	Equipment should be able to deliver apulsing frequency range of 0.2 to 2Khz, Duty cycle 10-90% , Background current : 0-100% etc	
	Any process change-over shall be possible by simple switch operation.	
	Equipment shall be Sturdy and proven quality construction to withstand the extreme working conditions and environment (15 to 45 deg C , 18-95% RH)	
	Equipment shall have Gas settings like Gas Pre Flow, Gas Post flow, and Automatic gas post flow based on welding current function inbuilt in machine.	
	Equipment should display welding parameters like welding current , welding voltage etc	
	Electrode overheating indication on the main front panel of the machine and Panel lock Indication..	

T. Gupta

I	Scope of supply	Qty (Nos)
1.1	Digital Inverter based DC TIG/MMAW 400 Amp power source	1 no
1.2	Cooling unit for Manual TIG torch cooling exactly with below power source	1no
1.3	Manual TIG welding torch 4mtrs Threaded type/Current adjustment from torch itself and Small neck straight TIG welding torch -4mtrs length	1no
1.4	Carriage trolley facility for mounting Power source and Gas Cylinder.	1 no
1.5	Earth cable with clamp 4mtrs length	1 no
1.6	Argon gas pressure regulator with flowmeter with gas hose	1no
1.7	TIG welding torch consumables	1 set
	Torch cap long L=118,3	5
	Torch cap short L=28	5
	Clamping sleeve 1,6/ø6,35x51,5	5
	Clamping sleeve 2,4/ø6,35x51,5	5
	Clamping sleeve 3,2/ø6,35x51,5	5
	Clamping sleeve 4,0/ø6,35x51,5	5
	Head shield standard ø22/ø15x10	5
	Clamping sleeve case 1,6/ø11,1x46,8	5
	Clamping sleeve case 2,4/ø11,1x46,8	5
	Clamping sleeve case 3,2/ø11,1x46,8	5
	Gas nozzle ceramic ø6,5/ø18x47 thread-type	10
	Gas nozzle ceramic ø9,5/ø18x47 thread-type	10
	Insulating ring ø23/ø12,3x13,6	5
	Gas lens 1,6/ø19x50	5
	Gas lens 2,4/ø19x50	5
	Gas lens 3,2/ø19x50	5
	Gas nozzle ceramic ø6,5/ø24,5x42 thread-type	10
	Gas nozzle ceramic ø12,5/ø24,5x42 thread-type	10
	Gas nozzle ceramic ø9,5/ø24,5x42 thread-type	10
	Tungsten electrode WS2-1,6x175mm	10
	Tungsten electrode WS2-2,4x175mm	10
	Tungsten electrode WS2-3,2x175mm	10

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