

WELDERS TO THE NATION SINCE 1951



(Formerly Advani-Oerlikon Ltd.)



Welding Equipments



I N D E X

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SOME BASICS TO KNOW

MOST COMMON TYPES OF INSULATION CLASSES USED IN WELDING EQUIPMENTS

The most common types of Insulation Classes, for which welding equipments are designed, are basically B, F and H. However electrical machines have following range of Insulation classes as per National and International standards. The maximum allowable temperatures are given below for these Insulation classes

- A = Class of Insulation --105 Deg. Centigrade
- E = Class of Insulation --120 Deg. Centigrade
- B = Class of Insulation --130 Deg. Centigrade
- F = Class of Insulation --155 Deg. Centigrade
- H = Class of Insulation --180 Deg. Centigrade
- C = Class of Insulation --220 Deg. Centigrade

MOST COMMON TYPES OF ENCLOSURE PROTECTIONS USED IN WELDING EQUIPMENTS

DEGREE OF INGRESS PROTECTION CLASS USED FOR ENCLOSURES OF WELDING EQUIPMENTS

The most common Ingress Protection classes (IP class) used for the enclosure of the welding equipments are IP 21, IP 23 and IP44. These protections classes of enclosures provide different degree of protection against Ingress of foreign body or particle and vertically falling water to the machines

- IP 21
- IP 23
- IP 44

FIRST DIGIT – Indicates protection against the ingress of foreign body or the particle

- 2 = Protection against ingress of foreign body / particle > 12 mm dia
- 4 = Protection against ingress of foreign body / particle > 1 mm dia

SECOND DIGIT – Indicates protection against the ingress of dripping or vertically falling water

- 1 = Protection against ingress of water i.e.dripping or vertically falling water
- 3 = Protection against ingress of spraying or splashing water up to 60 degrees
- 4 = Protection against the ingress of the splashing water from any direction i.e. all round the machine

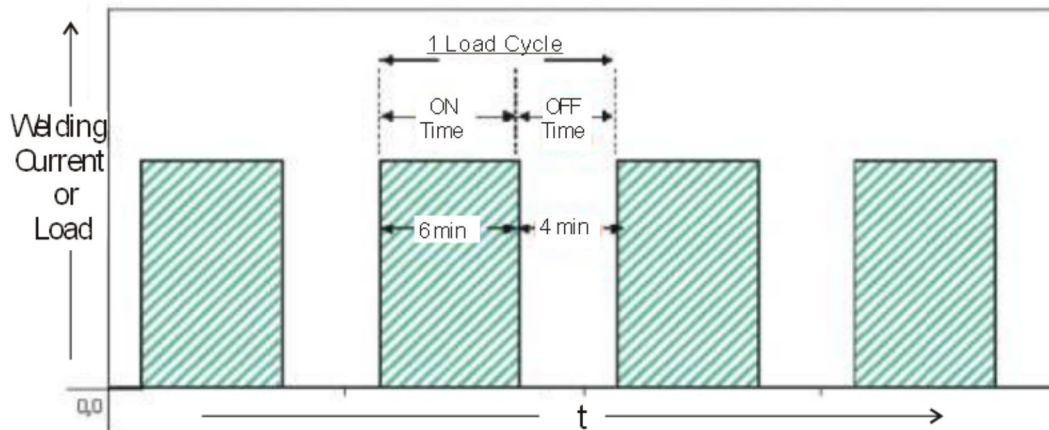
MOST COMMON TYPES OF DUTY CYCLES USED IN WELDING EQUIPMENTS

DUTY CYCLES OF WELDING EQUIPMENTS

Welding equipments are never used continuously for manual or semiautomaticwelding processes. The common duty cycles observed for majority of welding applications are 25%, 35%, 40%, 60%. However all welding equipments are also supposed to be specified for 100% duty cycles. The duty cycle of the machine or application indicates how severely machines will be used to complete the jobs to be welded. A typical duty cycle is explained on next page, which indicate the WELD time and OFF time observed during the welding of job. The total CYCLE TIME consists of one WELD time and one OFF time associated with the respective WELD time. The CYCLE TIMES are 5 minute and 10 minute as per Indian and International standards respectively.

SOME BASICS TO KNOW

DUTY CYCLE



$$\begin{aligned} \% \text{ Duty cycle} &= \frac{(\text{ON Time}) \times 100}{(\text{ON Time} + \text{Off Time})} \\ &= \frac{6 \times 100}{(6 + 4)} = 60\% \end{aligned}$$

FINDING CURRENT FOR THE REQUIRED DUTY CYCLE WHEN CURRENT IS SPECIFIED AT DIFFERENT DUTY CYCLE

Present specs. are 400 A @ 60 % duty cycle

- Follow following steps to find the welding current at 100% duty cycle
- Losses @ d1 = Losses @ d2
- $(I_1)^2 \times r \times t_1 = (I_2)^2 \times r \times t_2$
- $(400 \times 400) \times 6 = (I_2)^2 \times 10$
- $(I_2)^2 = (6/10) \times 400 \times 400$
- $I_2 = \text{sq. root of } (6/10) \times 400$
- $I_2 = \text{sq. root of } 0.6 \times 400$
- $I_2 = 0.7746 \times 400$
- $I_2 = 309.8$
- $I_2 = 310$

Present specs. are 310 A @ 100 % duty cycle

- Follow following steps to find the welding current at 60% duty cycle
- Losses @ d1 = Losses @ d2
- $(I_1)^2 \times r \times t_1 = (I_2)^2 \times r \times t_2$
- $(310 \times 310) \times 10 = (I_2)^2 \times 6$
- $(I_2)^2 = (10/6) \times 310 \times 310$
- $I_2 = \text{sq. root of } (10/6) \times 310$
- $I_2 = \text{sq. root of } 1.66 \times 310$
- $I_2 = 1.29 \times 310$
- $I_2 = 400.2$
- $I_2 = 400$

SOME BASICS TO KNOW

ELECTRODE TYPES / SIZES VS. RECOMMENDED WELDING CURRENTS

SN.	ELECTRODE TYPE	AWS TYPE	WELDING CURRENTS (AMPS) FOR ELECTRODE SIZE (DIA)						
			1.6MM	2.0MM	2.5MM	3.2MM	4.0MM	5.0MM	6.3MM
1.	Superbond	E6013	30-50	55 40-60	80 60-90	125 100-130	170 140-180	220 180-240	275
2.	Superbond-S	E6013	30-50	55 40-60	80 60-90	125 100-140	170 140-180	220 180-250	250-330
3.	Superbond-SS	E6013	30-50	40-60	90 60-90	135 100-140	180 140-190	240 190-250	300 250-330
4.	Supabase	E7018	40-60	50-70	80 60-90	125 100-140	170 150-200	200 200-240	275 270-360
5.	Supabase-X-Plus	E7018	40-60	50-70	80 60-90	125 90-140	170 150-190	225 200-250	300 270-320
6.	Celwel 70G	E7010-G	-	-	55 50-70	100 80-120	130 110-160	180 140-210	-
7.	Celwel 60	E6010	-	-	55 50-70	100 80-120	130 110-160	-	-

GUIDING NOTES :

1. Recommended Polarities

- Superbond, Superbond-S, Superbond-SS = AC, DC (-)
- Supabase, Supabase-X-Plus = AC (70 OCV), DC (+)
- Celwel 60, Celwel 70G = DC(+) (for all passes), DC(-) (for root pass only)

2. Recommended Welding Positions

- Superbond, Superbond-S, Superbond-SS, Celwel 60, Celwel 70G = All including vertical down (Vertical - Top to Bottom)
- Supabase, Supabase-X-Plus = All except vertical down (Vertical - Top to Bottom)

3. Current Selection Generally Adapted

- For Downhand flat, horizontal and overhead positions = Current at middle of the range is used.
- For Vertical up (Bottom to Top) = Current at maximum of the range is used.
- For vertical down (Top to Bottom) = Current at maximum of the range or slightly more than maximum is used.
- For the same diameter, as the thickness of parent material increases, employed current is increased.

SELECTION GUIDE

WELDING & CUTTING EQUIPMENT & PROCESSES



HELP ME CHOOSE

THE BEST WELDING EQUIPMENT FOR DESIRED APPLICATION

STEP 1 METAL JOINING AND CUTTING PROCESS SELECTION

Select a process for a given metal you want to join or cut from the table given below

METAL TYPE	WELDING PROCESS						CUTTING PROCESS		
	STICK	MIG	FCAW	SAW	AC-TIG	DC-TIG	CACA-AC	CACA-DC	PLASMA
STEEL	✓	✓	✓	✓		✓		✓	✓
STAINLESS STEEL	✓	✓	✓	✓		✓		✓	✓
ALUMINIUM		✓			✓			✓	✓
CAST IRON	✓							✓	✓
COPPER, BRASS		✓				✓	✓		✓
TITANIUM						✓			✓
MAGNESIUM ALLOYS					✓				✓
SKILL LEVEL	MODERATE	LOW	LOW	MODERATE	HIGH	HIGH	MODERATE	MODERATE	HIGH

STEP 2 WELDING PROCESS SELECTION

It is possible that more than one welding process can be used for a given requirement.

Hence to facilitate selection, study and understand the advantages of each process as given below.

A	SMAW / MMAW / STICK WELDING	Most suitable for outside/indoor use One of jobs or less volume jobs. Better accessibility for intricate joints Ideal for dirty/rusty surfaces
B	GMAW/MIG/MAG/SEMI-AUTOMATIC/CONTINUOUS WELDING	Suitable for high welding productivity Most suitable for relatively thinner sheets Very neat and clean welding without slag removable Easy to learn for welders
C	FLUX CORED (FCAW) MIG/MAG	Suitable for deep penetration for welding thick sections with less nos. of runs Provides higher welding deposition rates Gives excellent weld bead shape
D	SUBMERGED ARC WELDING (SAW)	Most suitable where excellent mechanical properties are required Ideally suitable for heavy duty longitudinal structures like girders High deposition rates gives higher welding productivity Gives excellent weld bead shape
E	TIG WELDING (GTAW)	Used where highest quality welding required Gives precise welding with very good welding finish Most suitable for thinnest sheets where better heat input controls are required and very minimal distortions allowed
F	AIR PLASMA ARC CUTTING	Used with almost all electrical conducting metals. Distortion free, dross free, burr free, narrow kerf with clean cuts, compared to carbon arc cutting.

HELP ME CHOOSE

THE BEST WELDING EQUIPMENT FOR DESIRED APPLICATION

STEP 3 ADDITIONAL CHECK LIST

Also check for following along with above mentioned process advantages

1.	POWER SUPPLY CONDITIONS*	• Stable / Unstable / Very Low / Very High voltage condition	
2.	ENVIRONMENTAL CONDITIONS*	• Chemical (Acidic) Contamination. Conducting Dust Contamination.	
3.	BUDGET	• Economy	

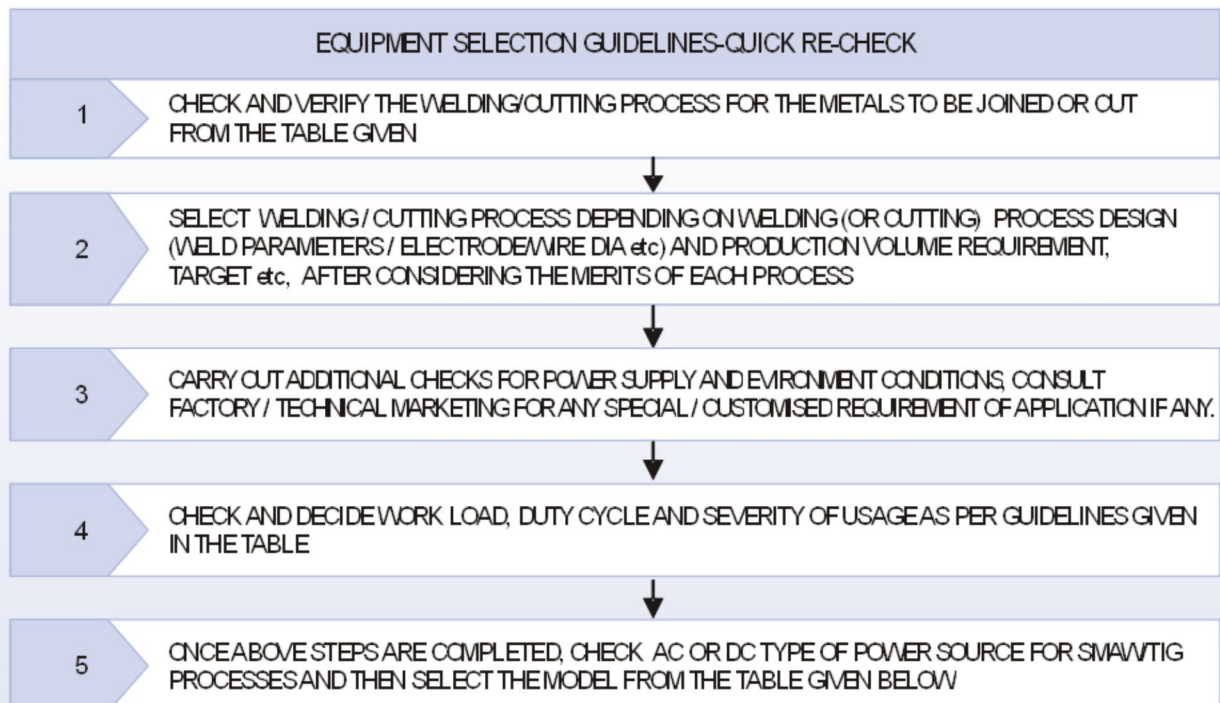
* Consult factory / Technical Marketing Team for extreme supply and environmental conditions

STEP 4 SELECTION OF WORK LOAD AND DUTY CYCLE

Workload/usage/duty	Likely Duty Cycle	Welding Current Range Recommended
Light Duty - Single Shift	20 % to 35 %	Upto 225 Amps
Medium Duty - Single or Two Shift	>35 % to 60 %	225 Amps to 300 Amps
Heavy Duty - Two or Three Shift	>60% to 100 %	More than 300 Amps

STEP 5 MODEL SELECTION TABLE

Thus after selecting the process, duty cycle, and going through the additional checklist, please verify once again the steps completed so far as per following FLOW CHART as a QUICK RE-CHECK and select the model for your welding/cutting need from the model selection table



RED / TPA Series WELDING TRANSFORMERS

A Wide Range of World Class Welding Transformers

1 Phase 3 Phase



RED SERIES

- Single phase (2 lines of 3 phase) Welding Transformers
- Class F Insulation - enhances services life
- User friendly AC ARC Welders
- Easily maneuverable from job to job on the shop-floor
- Stepless, smooth and infinitely variable current regulation
- Forced air cooled transformers - less coil temperature resulting in longer service life



TPA SERIES

- Three phase Welding Transformers
- User friendly AC ARC Welders
- Stepless, smooth and infinitely variable current regulation
- Compact and lightweight
- Convenient and easily maneuverable from job to job on the shop-floor
- 'Open-delta' design enables conversion of three phase input into single phase output
- Forced air cooled transformers - less coil temperature resulting in longer service life












SALIENT FEATURES

- Smooth welding current control by moving core magnetic shunt design
- Stepless, smooth and infinitely variable current regulation
- Adjustment of welding current possible even while welding is in progress
- 1 swivel front wheel and 2 rear wheel arrangement for easy maneuverability
- ON-OFF switch control, current control and current indicator provided on the front panel
- A Special design provides for excellent dynamic characteristic and ensures smooth and optimum metal transfer - RED Series specifically recommended for low hydrogen electrodes



RED / TPA Series WELDING TRANSFORMERS

A Wide Range of World Class Welding Transformers

MODELS	UNIT	RED 403	RED 503	TPA 303	TPA 403
INPUT					
Supply Voltage 	Volts	415	415	380/415	380/415
Phases 	No.	2 Lines of 3 Phase	2 Lines of 3 Phase	3	3
Frequency 	Hz	50	50	50	50
Input KVA @ 100 % Duty Cycle	KVA	19	25	16.5	21.0
Input switch fuse rating	A	80	100	55	80
Recommended Capacitor for P.F. improvement	KVAr	8	10	6	7
OUTPUT					
Output Characteristic 	Type	CC	CC	CC	CC
Operating Arc Voltage 	Volts	22-36	23-40	22-32	22-35
Open circuit voltage	Volts	80	80	66	66
Welding current range	A	60-400	80-500	40-300	60-400
Max. Continuous hand welding current @ 60% Duty Cycle	A	300	400	225	300
current @100% Duty Cycle 	A	230	300	175	230
Max. Intermittent welding current	A	400	500	300	400
Welding Electrode range					
Minimum	mms	2	2.5	2	2
Maximum	mms	6.3	6.3	5	6.3
GENERAL					
Class of Insulation	Class	F	F	A	A
Cooling Type 	Type	Forced Air	Forced Air	Forced Air	Forced Air
Protection class	Class	IP23	IP23	IP23	IP23
Dimensions (mms) L 	mms	720	745	720	720
W	mms	460	500	500	500
H	mms	750	780	800	800
Weight (approx.) 	kgs.	110	132	125	163
ORDERING INFORMATION		PRODUCT CODE	PRODUCT CODE	PRODUCT CODE	PRODUCT CODE
Standard Power Source-AC ARC Welder		F10.35.001.0007	F10.35.001.0008	F10.35.001.0014	F10.35.001.0015
Optional Accessories	Type				
Welding Accessories		S10.64.001.0014	S10.64.001.0014	S10.64.001.0014	S10.64.001.0015

- **Warranty** : One year from the date of commissioning. ADOR WELDING LIMITED warrants that all new equipment sold from Plant/Area Offices / Authorised Distributors are free from defects in materials and workmanship and will perform in full accordance with applicable specifications.
- In view of continuous development, ADOR WELDING LIMITED reserves the right to modify/change the design and /or the specifications without any prior notice.
- Backed by dedicated customer care package.

DOUBLE MUSTANG / DOUBLE RACER DOUBLE HORSE / DOUBLE STALLION

Thoroughbred Series AC ARC Welding Transformers

1
Phase



- Light weight and compact transformers with robust construction - Ideal choice for site usage
- Natural air cooled transformers - coils designed for natural air cooling which eliminates the use of fan and thus risk of coil burning whenever fan fails
- Specially designed transformer coils with minimum joints and better interlayer insulation - eliminates the coil failure and enhances service life of transformer
- Stepless, infinitely variable current adjustment through sturdy and smooth moving core mechanism
- Stepless, smooth and infinitely variable current adjustment possible even while welding is in progress








SALIENT FEATURES

- Ensures the fine control of welding current to minimise the heat input to the job which reduces the HAZ
- Dynamic output characteristics ensures smooth and uninterrupted arc resulting excellent welding performance throughout the entire welding range
- Provided with input power ON-OFF switch
- Welder friendly usage - easy to operate since all controls like ON-OFF switch, welding current controlling handle, current scale on the same side i.e. front side



DOUBLE MUSTANG / DOUBLE RACER DOUBLE HORSE / DOUBLE STALLION

Thoroughbred Series AC ARC Welding Transformers

SPECIFICATIONS	UNIT	DOUBLE MUSTANG	DOUBLE RACER	DOUBLE HORSE	DOUBLE STALLION
INPUT	Volts	230/400	415	415	415
Voltage Supply Phases 	No.	1	1	1	1
		(.....2 Lines of 3 Phase AC.....)			
Frequency	Hz	50	50	50	50
Input KVA @ 100% Duty Cycle	KVA	10.5	16.0	21.0	25.5
Recommended Capacitor for PF improvement	KVAr	5.0	8.0	9.0	11.0
OUTPUT					
Open Circuit Voltage 	V	66	80	80	80
Welding Current Range 	A	35-250	50-300	60-400	80-500
		(.....Single Range Control.....)			
Maximum intermittent welding current at 35% duty cycle	A	250	300	400	500
Maximum continuous welding current at 60% duty cycle 	A	190	225	300	375
Maximum automatic welding current at 100% duty cycle	A	150	175	230	300
GENERAL SPECIFICATIONS					
Type of Cooling 		(.....Natural Air Cooled.....)			
Insulation	Class	H	H	H	H
Recommended electrode size/range	mm	2-5	2-2.6	2-6.3	2.5-6.3
Overall dimensions:					
Length 	mm	590	650	650	650
Width	mm	425	475	500	550
Height	mm	660	700	725	755
Weight (approx.) 	kg	92	120	140	170
ORDERING INFORMATION		PRODUCT CODE	PRODUCT CODE	PRODUCT CODE	PRODUCT CODE
Standard Power Source - AC ARC Welder		F10.35.802.0009	F10.35.802.0006	F10.35.802.0007	F10.35.802.0008

- **Warranty** : One year from the date of commissioning. ADOR WELDING LIMITED warrants that all new equipment sold from Plant/Area Offices / Authorised Distributors are free from defects in materials and workmanship and will perform in full accordance with applicable specifications.
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- Backed by dedicated customer care package.

E-WELMAC 190

E-WELMAC AC ARC Welding Transformers

1
Phase










- Light weight, compact AC arc welding transformer - easy to mobilise at sites
- Single phase, natural air cooled transformer with robust construction
- Most reliable and simple transformer - very convenient and welder friendly to use at sites
- Infinitely variable current adjustment through sturdy and smooth moving core mechanism

SALIENT FEATURES

- Welding current adjustment possible even while welding is in progress
- Provided with input power ON-OFF switch
- Dynamic output characteristics ensures smooth and uninterrupted arc resulting excellent welding performance throughout the entire welding range
- H-class insulation of windings enhances reliability and service life

E-WELMAC 190

E-WELMAC AC ARC Welding Transformers

MODELS	UNIT	E-WELMAC 190
INPUT	Volts	230
Input Supply:	No.	1
Voltage	Hz	50
Phases 		
Frequency	KVA	5.5
Input KVA @ 100% Duty Cycle		
OUTPUT		
Open Circuit Voltage 	Volts	50
Welding Current Range 	Amps	30-150
Current:		
@20% duty cycle 	Amps	200
@60% duty cycle	Amps	115
@100% duty cycle	Amps	90
Welding Electrode range	mm	2.0-4.0
GENERAL		
Cooling 	Type	-----Natural Air Cooled-----
Dimensions (approx.):	Class	H
Length 	mm	340
Width	mm	315
Height	mm	500
Weight (approx.) 	Kg.	39
ORDERING INFORMATION		PRODUCT CODE
Standard Power Source - AC ARC Welder		F10.35.802.0003

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GL Series Welding Rectifiers (Diode Based)

A Wide of World Class Welding Rectifiers

SALIENT FEATURES :

- Transductor controlled rectifier units.
- 600 Amps ideally suited for gouging application
- Welding rectifiers based on most simple, reliable and maintenance free diode based technology.
- These welding rectifiers are built with most robust and rugged mechanical construction which withstand rough handling at construction and project sites.
- Welding current adjustment and regulation through electromagnetic transductor resulting stepless and smooth current control.
- These welding rectifiers are welder friendly - Very easy to use and operate, maintain and service by ordinary electricians.



- Single knob current control from the front panel or remote control unit (provided optionally.)
- Easy parallel connection of these welding rectifiers possible for high current gouging applications.
- These welding rectifiers can be also used for DC TIG welding applications by connecting suitable TIG control units.

APPLICATIONS :

- Most simple, robust and reliable welding rectifiers ideally recommended for heavy duty structural welding of construction equipments like crane, steel foundries, steel and fertiliser plants, shipyards.
- These welding rectifiers are ideally suitable for heavy fabrication shops, project sites with harsh environment, where maintenance staff is not well equipped and qualified.
- GL 601 is most recommended for heavy duty welding and gouging applications in foundries, steel plants, heavy engineering workshops etc.

SPECIFICATIONS :



Technical Specifications	Unit	GL 401	GL 601
Input			
Input Supply :			
Supply Voltage		Volt	400/440
Phase		No	3
Frequency		Hz	50
Input KVA @ 100% duty cycle		KVA	26
Input Current @ 100% duty cycle		A	45
Recommended switch fuse rating		A	TP50
Output			
Output Characteristic	Type	CC	CC
Open circuit voltage		Volts	80
Welding current range		A	50-400

Cont.

GL Series Welding Rectifiers (Diode Based)

A Wide of World Class Welding Rectifiers

Cont.

@ 35% duty cycle		A	NA	NA
@ 60% duty cycle	X%	A	400	600
@ 100% duty cycle		A	310	465
General				
Class of Insulation		Class	B	B
Cooling Type	FS	Type	Fan cooled	
Protection class		Class	IP23	IP23
Dimensions (mm)				
Length		mm	840	907
Height		mm	705	750
Width		mm	905	1005
Weight (approx.)		Kg	275	430

ORDERING INFORMATION:

Standard Power	PRODUCT CODE	PRODUCT CODE		
Source - MMA outfit	F10.34.302.0002	F10.34.302.0004		

OPTIONAL ACCESSORIES

Welding Accessories- WAC 400	S10.64.001.0014			
Welding Accessories- WAC 600		S10.64.001.0014		

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THYROLUXE 401 / THYROLUXE 600

The world class Thyristor based DC welders





THYROLUXE 401











THYROLUXE 600

SALIENT FEATURES

- Choice of heavy duty models to take care of both welding & gouging (for 600 A model only)
- Superior welding performance for the complete welding current range
-  Ideal constant current drooping characteristics
- Stepless control for current adjustments
- Protections against input supply fluctuations i.e Under voltage, Over voltage, Single phasing, over load and short circuit
- Power source provided with built in Hot start, Antistick and self controlled Arc force dynamics
-  Worry-free on maintenance
- Smooth and stable arc with minimum spatters
- Welder friendly Remote controller for easy and convenient setting of current from the workplace or the job
- Easy arc striking, High OCV for ease in arc start / restart

THYROLUXE 401 / THYROLUXE 600

The world class Thyristor based DC welders

SPECIFICATIONS TECHNICAL SPECIFICATIONS	UNIT	THYROLUXE 401	THYROLUXE 600
INPUT			
Input Supply: Voltage 	Volts	415, +10, -15%	415, +10, -15%
Phase	No.	3	3
Frequency	Hz.	50/60	50/60
Input KVA @100% duty cycle 	KVA	19.5	31.5
Input current @100% duty cycle	Amps AC	26.0	44
Recommended switch fuse/rating	Amps AC	TP-35	TP-60
OUTPUT			
Open Circuit Voltage 	Volts DC	100	100
Welding Current Range 	Amps DC	100-400	20-600
Current:			
@40% duty cycle 	Amps DC	-	-
@60% duty cycle	Amps DC	400	600
@100% duty cycle	Amps DC	310	465
GENERAL			
Gouging Carbon Electrode size	mm Ø	-	6 to 9
Current Display	-	Analog	Analog
Ingress Protection	Class	IP23	IP23
Cooling 	Type	Forced Air	Forced Air
Insulation	Class	H	H
Dimensions			
Length 	mm	835	980
Width	mm	495	550
Height	mm	820	960
Weight (approx.) 	Kg.	147	216
ORDERING INFORMATION		PRODUCT CODE	PRODUCT CODE
Standard Power Source - MMA outfit		F.10.34.401.0060	F10.34.401.0072
OPTIONAL ACCESSORIES			
Welding Accessories- WAC 400		S10.64.001.0014	
Welding Accessories- WAC 600		-	S10.64.001.0015

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- Backed by dedicated customer care package.

THYROLUXE 1000 THYROLUXE 1200

The world class Thyristor based DC welders



SALIENT FEATURES

- Thyristor based heavy duty DC Welding and Gouging Rectifiers.
- Stepless control for current adjustments.
- Protections against supply fluctuations i.e Under voltage, Over voltage, Single phasing, over load and short circuit.
- Constant current drooping characteristics – Ideal for Welding and Gouging applications.
- Power source provided with built in Hot start, Antistick and self controlled Arc force dynamics.
- Smooth and stable arc with minimum spatters
- Welder friendly Remote controller for easy and convenient setting of current from the work place or the job



THYROLUXE 1000 THYROLUXE 1200

The world class Thyristor based DC welders

SPECIFICATIONS TECHNICAL SPECIFICATIONS	UNIT	THYROLUXE 1000	THYROLUXE 1200
INPUT			
Input Supply:	Volts	415 , +10%, -10%	415 , +10%, -10%
Voltage	No.	3	3
Phase	Hz	50/60	50/60
Frequency			
Max. rated Input KVA	KVA	81	96.5
OUTPUT			
Open Circuit Voltage	Volts DC	100	100
Welding Current Range	Amps DC	100-1000	100-1200
Current:			
@40% duty cycle	Amps DC	1000	-
@60% duty cycle	Amps DC	850	1200
@100% duty cycle	Amps DC	650	930
GENERAL			
Suitable Gouging Carbon Electrode size	mmØ	6 to 12 mm	6 to 12 mm
Current Display		Analog	Analog
Ingress Protection	Class	IP23	IP23
	Type	Forced Air	Forced Air
Cooling	Class	H	H
Insulation			
Dimensions			
Length	mm	1130	1200
Width	mm	770	770
Height	mm	1080	1175
Weight (approx.)	Kg.	403	450
ORDERING INFORMATION		PRODUCT CODE	PRODUCT CODE
MMA Outfit		F10.34.401.0035	F10.34.401.00 0 1

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Champ 200

The new world class indigenous inverter based DC welder

SALIENT FEATURES :

- Single phase High efficiency DC Welder
- High frequency IGBT based PWM Inverter
- Light weight, compact and portable for easy handling
- Compatible to power generator supply
- Hot start feature available
- Smooth and stable arc with minimum spatter
- TIG welding with scratch/Lift arc start
- Provided with the UV, OV thermal and line Voltage (415V) Protections



SPECIFICATIONS :



Technical Specifications	Unit	Champ 200
Input		
Input Supply :		
Voltage	Volt	240, +10%, -15%
Phase	No	1
Frequency	Hz	50/60
Max input KVA @ 100% duty cycle	KVA	5
Efficiency	%	>84
Output		
Open Circuit Voltage @ 240 Vac	Volt	68 +/-3
Welding Current Range	Amps	10-200
Welding Current (40°C 10 minute cycle)		
@ 35% duty cycle	Amps	200
@ 60% duty cycle	Amps	150
@ 100% duty cycle	Amps	120
General		
Suitable Welding Electrode size	mm Ø	1.6, 2.5, 3.2 and intermittent 4
Hot Start	-	120% of the set current
Antistick	-	Built in
Ingress Protection	Class	IP23
Cooling	Type	Forced Air
Insulation	Class	F
Welding Output Terminals		Stud type / Camlock



Cont.



Champ 200

The new world class indigenous inverter based DC welder

Cont.

Dimensions			
Length		mm	415
Width		mm	155
Height		mm	300
Weight (approx.)		Kg	7
Ordering Information For Machines With Stud Type Output Terminals		Ordering Information For Machines With Stud Type Output Terminals	
Ordering Information	Champ 200	Ordering Information	Champ 200
Power Source with Stud type output terminals inclusive of welding and earthing cables	F10.34.501.0037	Power Source with CAMLOCK type output terminals inclusive of welding & earthing cables	F10.34.501.0042
Optional Accessories		Optional Accessories	
4 meter TIG Torch , MODEL-HIPRO TIG180 TV-4 with LUG type end connection	S15.01.002.0156	4 meter TIG torch , MODEL-HIPRO TIG-180 TV-4 with CAMLOCK type end connection	S15.01.002.0155

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- Backed by dedicated customer care package.

Champ 250

The new world class Inverter based Indigenous DC welder

SALIENT FEATURES :

- Three phase PWM controlled inverter based, high efficiency and high power factor heavy duty DC welder
- Enhanced Reliability due to SMD technology
- High frequency IGBT based Rectifier
- Arc force adjustment on panel
- TIG Welding possible with External HF Unit
- Light weight, compact and portable for easy handling
- High efficiency
- Built in Hot Start
- Smooth and stable arc with minimum Spatter



PROTECTIONS WITH AUTO RESET :

- Input Supply Voltage protections for over and under Voltage
- Over Temperature
- Protection against Single phasing

SPECIFICATIONS :







Technical Specifications	Unit	Champ 250
Input		
Input Supply :		
Voltage	Volt	415, +15%, -10%
Phase	No	3
Frequency	Hz	50/ 60
Input KVA @ 415 Vac		
@ 100% duty cycle	KVA	7.5
@ No Load	KVA	0.15
Power Factor	CosØ	0.94
Efficiency	%	85
Output		
Open Circuit Voltage	Volt	84
Welding Current Range	Amps	10-250
Welding Current (40°C 10 minute cycle)		
@ 60% duty cycle	Amps	250
@ 100% duty cycle	Amps	195

Cont.

Champ 250

The new world class indigenous inverter based DC welder

Cont.

General			
Suitable Welding Electrode size		mm Ø	1.6, 2.5, 3.2, 4 and intermittent 5 mm
Arc force setting		-	Adjustable by Potentiometer
Built in Hot Start		-	25% more than set current for 2 seconds
Current Display (Actual)			3 digit -7 segment digital panel pcb
Ingress Protection		Class	IP23
Cooling		Type	Forced Air
Insulation		Class	H
Insulation			
Dimensions			
Length		mm	520
Width		mm	260
Height (with handle)		mm	450
Height (without handle)		mm	410
Weight (approx.)		Kg	26
Ordering Information		Model	Product Code
Standard Power Source – MMA outfit		Champ 250	F10.34.501.0066
Optional Accessories			
Welding Cable Assembly -5mtr.			S17.01.001.1211
Earthing Cable Assembly -5mtr.			S17.01.001.1095
Remote control unit -10 mtr.			S17.01.002.0301

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- Backed by dedicated customer care package.

Champ T400

The new world class indigenous inverter based DC welder

SALIENT FEATURES :

- Three phase IGBT inverter based, high efficiency and high power factor DC Welder
- High OVC and suitable for Long distance welding and cellulosic electrodes
- Enhanced Reliability due to SMD technology
- Capable of Welding with all types of cellulosic electrodes including 6010, 7010G and 8010G I HF Unit
- High frequency IGBT based Rectifier
- Arc force adjustment on panel
- TIG Welding possible with External HF Unit
- Light weight, compact and portable for easy handling
- Capable of Welding with 100 meter + 100 meter welding and return cables
- Smooth and stable arc with minimum spatter
- Controls provided for adjustments of Arc force
- TIG operation possible with external HF TIG Control unit







PROTECTIONS WITH AUTO RESET :

- Input Supply Voltage protections for over and under Voltage
- Over Temperature
- Protection against Single phasing

SPECIFICATIONS :



Technical Specifications	Unit	Champ T400
Input		
Input Supply :		
Voltage 	Volt	415 , +15%, -10%
Phase	No	3
Frequency	Hz	50/ 60
Input KVA @ 415 Vac 	KVA	14
@ 100% duty cycle	KVA	0.24
Power Factor	CosØ	Upto 0.93
Efficiency	%	≥ 85
Output		
Open Circuit Voltage 	Volt	85 V DC
Welding Current Range 	Amps	10-400
Welding Current (40°C)		





Cont.



Champ T400

The new world class indigenous inverter based DC welder

Cont.

@ 60% duty cycle (10 minute cycle)	Amps	400
@ 100% duty cycle 	Amps	310
General		
Suitable Welding Electrode size	mm Ø	2.5, 3.2, 4, 5 and 6.3 mm
Arc force setting 	-	Adjustable by Potentiometer
Current Display (Set Current & Actual Current)	A	3 digit -7 segment digital panel pcb
Ingress Protection		IP23
Cooling 	Class	Forced Air
Insulation	Type	H
Welding Output Terminals	Class	Stud type for Lug type cable connections
Dimensions L x W x H	mm	660 X 305 X 530
Weight (approx.) 	Kg	40
Ordering Information		
Power Source	Model	Product Code
	Champ T400	F10.34.501.0076
Welding Cable Assembly (Optional).		S17.01.002.0059
Remote control unit (Optional) 10 mtr.		S17.01.002.0049
Earthing Cable Assembly (Optional)		S17.01.002.1305

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Champ 500 / Champ 600

The new world class Inverter based Indigenous DC welders

SALIENT FEATURES :

- Three phase inverter based, high efficiency and high power factor DC Welders
- Enhanced Reliability due to SMD technology
- High frequency IGBT based Rectifier
- Arc force adjustment on panel
- TIG Welding possible with External HF Unit
- Suitable for all electrodes including 6010, 7010G and 8010G
- Latest PWM inverter technology
- Smooth and stable arc with minimum spatter
- Suitable for Gouging Application and long distant welding



- Arc force adjustments provided on the front panel
- TIG operation possible with external HF TIG Control unit.

PROTECTIONS WITH AUTO RESET :

- Input Supply Voltage protections for over and under Voltage
- Over Temperature
- Protection against Single phasing

SPECIFICATIONS :






Technical Specifications	Unit	Champ 500	Champ 600
Input			
Input Supply :			
Voltage	Volt	415 , +15% , -10%	
Phase	No	3	
Frequency	Hz	50/ 60	
Input KVA @ 415 Vac			
@ 100% duty cycle	KVA	17.5	22.0
@ No Load	KVA	0.27	0.31
Power Factor	CosØ	0.93	
Efficiency	%	87	
Output			
Open Circuit Voltage	Volt	89	
Welding Current Range	Amps	20-500	20-600
Welding Current (40°C 10 minute cycle)			
@ 60% duty cycle	Amps	500	600
@ 100% duty cycle	Amps	387	465

Cont.

Champ 500 / Champ 600

The new world class indigenous inverter based DC welder

Cont.

General			
Suitable Welding Electrode size	mm Ø	2.5, 3.2, 4, 5 and 6.3 mm	
Suitable for Gouging Electrode Size	mm Ø	Max. up to 9mm	Max. up to 9 mm 12mm –limited use
Arc force setting		Adjustable by Potentiometer	
Current Display (Actual)		4 digit –7 segment digital panel pcb	
Ingress Protection	 Class	IP23	
Cooling	Type	Forced Air	
Insulation	Class	H	
Welding Output Terminals		Stud type for Lug type cable connections	
Dimensions			
Length	 mm	700	
Width	mm	460	
Height (with handle)	mm	575	
Height (without handle)	mm	630	
Weight (approx.)	 Kg	57	58
Ordering Information	Model	Product Code	
Standard Power Source – MMA outfit	Champ 500 / Champ 600	F10.34.501.0030	F10.34.501.0026
Optional Accessories			
Welding Cable Assembly, 70 sq. mm 5mtr		S17.01.002.0287	
Earthing Cable Assembly, 70 sq.mm 5mtr		S17.01.002.0288	
Gouging Torch (CAG-9)		S15.01.003.0532	

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Champ 1200 - Gougemaster

The new world class indigenous inverter based DC welder with High Current Gouging capability

GENERAL :

- Three phase inverter based, high efficiency and high power factor DC Welder
- Suitable for normal Electrode Welding as well as gouging at high currents
- Enhanced Reliability due to SMD technology



PROTECTIONS WITH AUTO RESET :

- Input Supply Voltage protections for over and under Voltage
- Over Temperature
- Protection against Single phasing

SPECIFICATIONS :



Technical Specifications	Unit	Champ 1200
Input		
Input Supply :		
Voltage	Volt AC	415 , +15%, -10%
Phase	No	3
Frequency	Hz	50/ 60
Max Input KVA @ @ 100% duty cycle	KVA	55
Input Supply Current @ 100% duty cycle (1000 Amps)	Amps, AC	76
Input Supply Current @ 60% duty cycle (1200 Amps)	Amps, AC	92
Power Factor @ 100% duty cycle		0.93
Efficiency @ 100% duty cycle	%	≥ 85
Output		
Open Circuit Voltage	Volt,DC	90
Welding Current Range	Amps,DC	100-1200
Welding Current (40°C 10 minute cycle)		
@ 60% duty cycle	Amps,DC	1200
@ 100% duty cycle	Amps,DC	1000
General		
Suitable Welding Electrode size	mm Ø	3.2, 4, 5 and 6.3 mm
Suitable for Gouging Electrode Size	mm Ø	Up to 12 mm
Remote Control (Optional)		10 meter Remote Control provided as optional for current setting
Ingress Protection	Class	IP23
Cooling	Type	Forced Air
Insulation	Class	H

Cont.



Champ 1200 - Gougemaster

The new world class indigenous inverter based DC welder
with High Current Gouging capability

Cont.

Welding Output Terminals		Stud type for Lug type cable connections
Dimensions		
Length	mm	930
Width	mm	525
Height (with handle)	mm	950
Weight (approx.)	Kg	115
Front Panel Functions		'MAINS ON' - Green LED Indication
		'MMA/GOUGING' - Red LED Indication
		'REMOTE ON' - Red LED Indication
		'TRIP' - Red LED Indication if Machine is under Protection Mode
		Current Adjustment Encoder
		4 Digit Digital Display for Current and Voltage
Protections (Auto - Reset)		Over Voltage, Under Voltage, Single Phasing
		Over Temperature

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SUPERGEN 320

Performance Proven Motor Generator Welding Set
Choose from the finest for superior weld quality and efficiency

SALIENT FEATURES :

- The set consists of three-phase motor as prime mover and DC welding generator of a special patented design
- Excellent high quality welding with big savings in power bills
- Positive protection against overload and single phasing
- Mobile and mounted on rubber-tyred wheels
- Ideal for welding with cellulosic electrodes for cross country pipelines and thermal/nuclear power plants.



QUANTUM LEAP IN WELDING PRODUCTION FEATURE-WISE COMPARISON












Features you want	Brand X	Our new technology break through
Welding with 100 mtr cable length without any current drop	Current drops	Constant current even with longer cable length
Low no load power consumption	3.2 KW	1.1 KW - less than half power consumption and energy cost
Low power consumption at	22.23 KW 320 Amp.welding current	15.5 KW Reduction by 30% in energy bill Saving upto Rs. 46,000 in a year
Low maintenance cost	Periodic wear'n tear of brushes	Brushless' technology eliminates frequent Maintenance and down time costs
Freedom from stator failures	No protection	Built-in protection against single phasing, over voltage and under voltage
Insulation class	"B"	"H"- provides longer service life-more reliable
Suitable for welding in open/dusty sites	S.P.D.P.* Open type design - sucks in dirt and dust	Totally enclosed preventing entry of dirt and dust insidel winding - ideal for site conditions
Ease of mobility	330 kgs in weight	Only 265 kgs in weight i.e.25% lighter-easier to move about
Availability of Spares & service	Spares subject to imports-Limited service network	Easy availability of spares Large network of authorised service centres.

Cont.

SUPERGEN 320

Performance Proven Motor Generator Welding Set
Choose from the finest for superior weld quality and efficiency

Cont.

SPECIFICATIONS :		   	
Technical Specifications	Unit	Champ 200	
Input			
Input Supply :			
Voltage 	Volt	415	
Phase	No	3	
Frequency	Hz	50	
Power 	Kw/HP	15.5/20.78	
Speed (Synchronous)	RPM	3000	
Starting	-	Star / Delta starter	
Recommended switch fuse rating	-	TP40	
Protection to Machine	-	Machine provided with built in Single Phasing, Under voltage (340V), Over voltage (480 V) and thermal protection	
Output			
Open Circuit Voltage 	Volt	100	
Welding Current Range	Amps	35-320	
Welding Current			
@ 60% duty cycle	Amps	320	
@ 100% duty cycle 	Amps	250	
Welding Electrode Range	mm	2.5-6.3	
General			
Insulation	Class	H	
Cooling 	Type	Fan Cooled	
Enclosure	Type	Totally enclosed	
Protection	Class	IP44 (excluding Fan side)	
Dimensions L X W X H	mm	1065 x 540 x 840	
Weight (approx)	Kg	265	
Ordering Information		Product Code	
Standard Power Source - MMA outfit		F10.31.001.0005	
Optional Accessories			
Welding Accessories- WAC 400		S10.64.001.0014	
Ammeter/Voltmeter Box - DPAV 400		S10.64.001.0051	

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Silent Challenger 401

New Generation Diesel Engine Driven Silent Welding Set Conforming to Latest CPCB II Norms

SALIENT FEATURES :

- Conforming to latest CPCB norms for noise & exhaust emission level
- Versatile applications, including cross country, in plant pipe and tube welding
- Ideal for heavy fabrication & site applications
- Highly reliable even in hostile site conditions
- Big savings in fuel and longer runs before next refueling
- Specially proven with Cellulosic (6010, 7010G & 8010G types) and other special types of electrodes.
- Excellent Pre and Post Sales Services.
- Super Silent Operations



SPECIFICATIONS :



Technical Specifications	Unit	Value
Machine Name		Sc401
CPCB compliance	Type	Meets CPCB - II compliance for Exhaust Emission and Noise within 75 dba at 1 mtr
Welding Generator		
Welding Generator	Type	Brushless type, high frequency generator, specially designd for welding applications, constant current (CC) characteristic with winding less, commutator less, magnet less, slipring less and rotating diode less rotor construction for maintenance free and reliable opertaion
Welding process	Type	SMAW (Shielded Metal Arc Welding)
Operators	No	Single
Welding current range	Amps	50 - 400
Max. hand welding current	Amps	400
Max. hand welding current @ 60% DC	Amps	400
Max. hand welding current @ 100% DC	Amps	310
Open circuit voltage (Max. / Min)	Volts	100/45
Diameter of coated electrode	mm	2.5-6.3
Insulation Class	Type	H
Engine Make, Type		SIMPSON, SJ327T CPCB-II Compliant
Cylinder	No.	3
Rated engine Speed	RPM	1800
Engine Colling	Type	Water Cooled
Engine Rating	BHP	38.5 BHP @ 1800 RPM
Conforms to	Standard	IS 10002(BI)
Starting	Type	Electric (Battery 12 V, 75 AH)

Silent Challenger 401

New Generation Diesel Engine Driven Silent Welding Set Conforming to Latest CPCB II Norms

Cont.

Fuel Consumption @ 60% Duty Cycle	Ltrs./Hrs.	4.0 ltrs/hr @ 100% Duty Cycle	
Fuel tank Capacity	Ltrs.	70	
Meters/Gauges/Indications	Type/Detail	Lube oil pressure, Fuel level Indication, Battery charging current, Charging failure warning lamp, Engine speed, Hour Meter etc.	
OPTIONAL Engine Safety Protection	Type	Engine Auto Shut off in the event of low lube oil pressure	
Auxiliary Power Source (Indicates rating with simultaneous welding load)			
Rating	KVA	10	3
Voltage	Volts	415	240
Phases	No	3	1
MCCB Rating	Amps	16	
Output Sockets	No	2	
General (Dimensions & Weight)			
Skid Mounted :			
Length/Width/Height	mm	2000 x 820 x 1460	
Weight (Net)	Kg	1100	
Two Wheel Mounted :			
Length/Width/Height	mm	2900 x 1455 x 1990	
Weight (Net)	Kg	1240	
Four Wheel Mounted :			
Length/Width/Height	mm	2900 x 1555 x 1990	
Weight (Net)	Kg	1340	

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- In view of continuous development, ADOR WELDING LIMITED reserves the right to modify/change the design and /or the specifications without any prior notice.
- Backed by dedicated customer care package.

Silent Challenger 501

New Generation Diesel Engine Driven Silent Welding Set Conforming to Latest CPCB II Norms

SALIENT FEATURES :

- Conforming to latest CPCB norms for noise & exhaust emission level
- Versatile applications, including cross country, in plant pipe and tube welding.
- Ideal for heavy fabrication & site applications
- Highly reliable even in hostile site conditions
- Big savings in fuel and longer runs before next refueling
- Specially proven with Cellulosic (6010, 7010G & 8010G types) and other special types of electrodes.
- Excellent Pre and Post Sales Services.
- Super Silent Operations



SPECIFICATIONS :



Technical Specifications	Unit	Value
Machine Name		SC 501
CPCB compliance	Type	Meets CPCB - II compliance for Exhaust Emission and Noise within 75 dba at 1 mtr
Welding Generator		
Machine Name		SC 501
Welding Generator	Type	Brushless type, high frequency generator, specially designd for welding applications, constant current (CC) characteristic with winding less, commutator less, magnet less, slipring less and rotating diode less rotor construction for maintenance free and reliable opertaion
Welding process	Type	SMAW (Shielded Metal Arc Welding)
Operators	No	Single
Welding current range	Amps	50 - 500
Max. hand welding current	Amps	500
Max. hand welding current @ 60% DC	Amps	500
Max. hand welding current @ 100% DC	Amps	400
Open circuit voltage (Max. / Min)	Volts	100/45
Diameter of coated electrode	mm	2.5-6.3
Insulation Class	Type	H
Engine Make, Type		SIMPSON, SJ327T CPCB-II Compliant
Cylinder	No.	3
Rated engine Speed	RPM	1800
Engine Colling	Type	Water Cooled
Engine Rating	BHP	38.5 BHP @ 1800 RPM
Conforms to	Standard	IS 10002(BI)
Starting	Type	Electric (Battery 12 V, 75 AH)

Cont.

Silent Challenger 501

New Generation Diesel Engine Driven Silent Welding Set Conforming to Latest CPCB II Norms

Cont.

Fuel Consumption @ 60% Duty Cycle	Ltrs./Hrs.	4.0 ltrs/hr @ 100% Duty Cycle	
Fuel tank Capacity	Ltrs.	70	
Meters/Gauges/Indications	Type/Detail	Lube oil pressure, Fuel level Indication, Battery charging current, Charging failure warning lamp, Engine speed, Hour Meter etc.	
OPTIONAL Engine Safety Protection	Type	Engine Auto shut of in the event of low lube oil pressure or High Cylinder Head Temperature	
Auxiliary Power Source (Indicates rating with simultaneous welding load)			
Rating	KVA	10	3
Voltage	Volts	415	240
Phases	No	3	1
MCCB Rating	Amps	16	
Output Sockets	No	2	
General (Dimensions & Weight)			
Skid Mounted :			
Length/Width/Height	mm	1995 X 820 X 1520	
Weight (Net)	Kg	1100	
Two Wheel Mounted :			
Length/Width/Height	mm	2900 x 1455 x 1990	
Weight (Net)	Kg	1240	
Four Wheel Mounted :			
Length/Width/Height	mm	3435 x 1555 x 1990	
Weight (Net)	Kg	1340	

- **Warranty** : One year from the date of commissioning. ADOR WELDING LIMITED warrants that all new equipment sold from Plant/Area Offices / Authorised Distributors are free from defects in materials and workmanship and will perform in full accordance with applicable specifications.
- In view of continuous development, ADOR WELDING LIMITED reserves the right to modify/change the design and /or the specifications without any prior notice.
- Backed by dedicated customer care package.

Cont.

Silent Challenger 2 X 301

The New generation Diesel Engine Driven Silent Welding Set
Conforming To Latest CPCB II norms

SALIENT FEATURES :

- Conforms to latest CPCB norms for noise & exhaust emission level
- Versatile applications, including cross country, in-plant pipe and tube welding.
- Ideal for heavy fabrication & site applications
- Highly reliable even in hostile site conditions
- Big savings in fuel and longer runs before next re- fuelling
- Specially proven with Cellulosic (6010, 7010 G & 8010G types) and other special types of electrodes.
- Excellent Pre and Post Sales Services.
- Super Silent Operations



SPECIFICATIONS :



Technical Specifications	Unit	Value		
		Double Operator Semi Auto (CV)	Double Operator Manual (CC)	Single Operator Manual (CC)
Welding Generator	Type	Double Operator Semi Auto (CV)	Double Operator Manual (CC)	Single Operator Manual (CC)
Welding Current Range	Amps, DC	15x300 A	15x300 A	30-600 Amps
Max. Hand Welding Current @ 40% DC	Amps, DC	2x300 A @32V	2x300 A @29V	600 Amps @30V
Max. Hand Welding Current @ 60% DC	Amps, DC	2x250 A @30V	2x250 A @26.5V	500 Amps @30V
Max. Hand Welding Current @ 100% DC	Amps, DC	2x200 A @28V	2x200 A @24V	400 Amps@36V
Open Circuit Voltage (Max)	Volts, DC	34 VDC	92 VDC	92 VDC
Generally Conforms To	IS	26-35		
Insulation	Type	H		
Engine Make, Type		SIMPSON, SJ327T CPCB-II Compliant		
Cylinder	No.	3		
Engine Colling	Type	Water Cooled		
Engine Rating	BHP	38.5 BHP @ 1800 RPM		
Speed	RPM	1800		
Conforms to	IS	10002/82		
Start (12V)	Type	Electric		
Fuel Consumption	Ltrs./Hrs.	4		
Fuel tank Capacity	Ltrs.	75		
Meters/Gauges/Indications	Type/Detail	Lube oil pressure, Fuel level Indication, Battery charging current, Charging failure warning lamp, Engine speed, Hour Meter etc.		
OPTIONAL Engine Safety Protection	Type	Engine Auto shut of in the event of low lube oil pressure or High Cylinder Head Temperature		

Cont.

Silent Challenger 2 X 301

The New Generation Diesel Engine Driven Silent Welding Set Conforming To Latest Cpcb Ii Norms

Cont.

Auxiliary Power Source (Built In)			
Mode	Amps, DC	Weld Load together with Auxiliary Load	Auxiliary Mode without Weld Load
Rating (3 Phase)	KAV/KW	8	10 & 8 KVA from each socket Respectively (18 KVA Total)
Or			
Rating (Single Phase)		3	3 KVA from each socket Respectively (6 KVA Total)
Votage (3 Phase / 1 Phase)	Volts	415/240	415/240
Phases	No	3-jan	3-jan
MCCB Rating	Amps	10/12.5	27/25
Dimensions, Rate & Mounting Details			
Skid Mounted :			
Length/Width/Height	mm	1995 x 820 x 1520	
Weight (Net)	Kg	1008	
Two Wheel Mounted :			
Length/Width/Height	mm	2905 x 1455 x 2100	
Weight (Net)	Kg	1150	
Four Wheel Mounted :			
Length/Width/Height	mm	3435 x 1555 x 2100	
Weight (Net)	Kg	1250	

Ordering Information	
Description	Product Code
Silent Challenger 2 X 301 For CPCB II Compliant Engine, Skid Mounted	F10.33.103.0069
Silent Challenger 2 X 301 For CPCB II Compliant Engine, Two Wheel Mounted	F10.33.103.0070
Mandatory Maintenance Kit For SIMPSON SJ327 Diesel Engine (for 1000 Hrs Operation)	S12.10.007.0197

- **Warranty** : One year from the date of commissioning. ADOR WELDING LIMITED warrants that all new equipment sold from Plant/Area Offices / Authorised Distributors are free from defects in materials and workmanship and will perform in full accordance with applicable specifications.
- In view of continuous development, ADOR WELDING LIMITED reserves the right to modify/change the design and /or the specifications without any prior notice.
- Backed by dedicated customer care package.

Maximig 251

The Workhorse Diode based Tap controlled
MIG / MAG Welding Rectifier





SALIENT FEATURES ::

- Recommended for All position MIG / MAG welding applications
- Suitable for welding of wide range of metals like Carbon Steel, Stainless Steel and other steel alloys, with appropriate or recommended consumable
- High volume thin sheet metal fabrication welding as in Auto Industries and other engineering industries, maintenance and repair workshops
- Most ideal for Auto Ancillary units - for increased productivity and quality welding applications
- Most reliable and dependable workhorse welding machines with proven economy
- Rugged design, reliable performance and superior arc characteristics
- Diode based power source with traditional tapped transformer, provided with switch on front panel for step control of voltage, enabling welder to obtain the desired arc voltage with ease
- User friendly selection of 2 track / 4track operation for zero defect GMAW welding
- Good and consistent weld quality with low hydrogen content
- Dependable Thyristorized wire-feeder system ensures long, uninterrupted welding
- Quick release wire feed roller mechanism enables operator to change the wire spool quickly, minimising the unproductive time and thus increasing the productivity on the shop floor
- Standard Package comprises of Power Source, Wire feeder (2 Roll Drive) with 5 meter interconnection and Welding Torch only



SPECIFICATIONS :




Technical Specifications	Unit	Maximig 251
Characteristic Control		Tap Controlled Diode Based
Characteristics	Type	Constant Potential
Input 		
Input Supply:		
Voltage	Volts, Ac	380 / 415 , +10%, -10%
Phase 	No	3
Frequency	Hz	50/60
Maximum Input Current	Amps, AC	13
Input Kva @ 100% Duty Cycle 	KVA	10
Input Kva @ 60% Duty Cycle 	KVA	7
No. Of Welding Steps		16

Cont.

Maximig 251

The Workhorse Diode based Tap controlled
MIG / MAG Welding Rectifier

Cont.

Output		
Open Current Voltage	X%	Volts, DC 16-36
Welding Current Range		Amps, DC 50-250
Welding Current @ 100% duty cycle		Amps, DC 195 @ 23.8 V
Welding Current @ 60% duty cycle		Amps, DC 250 @ 26.5 V
General		
		120% of the set current
Cooling	Type	Forced Air
Insulation	Class	F
Welding Output Terminals	S	Type Stud Type For Lug Type Cable Connections
Dimensions (L X W X H)	mm	770 x 400 x 740
Weight (Approx)	Kg	93

Ordering Information				
Model	Power Source	Wirefeeder	Torch	Product Code
MAXIMIG 251 (A)	CVR 251	FEEDLITE 20 (NEL-5)	TW 252 (E)	F10.37.202.0119
MAXIMIG 251 (B)	CVR 251	FEEDLITE 20 (NEL - 5)	MTG 250 (E)	F10.37.202.0120

- **Warranty** : One year from the date of commissioning. ADOR WELDING LIMITED warrants that all new equipment sold from Plant/Area Offices / Authorised Distributors are free from defects in materials and workmanship and will perform in full accordance with applicable specifications.
- In view of continuous development, ADOR WELDING LIMITED reserves the right to modify/change the design and /or the specifications without any prior notice.
- Backed by dedicated customer care package.

Maximig 400

The Workhorse Diode based Tap controlled
MIG / MAG Welding Rectifier




SALIENT FEATURES :

- Most reliable and dependable workhorse MIG / MAG welding machines proven for wide range of applications
- Rugged design, reliable performance and superior arc characteristics – minimum maintenance requirements
- Diode based power source with traditional tapped transformer, provided with switch on front panel for step control of voltage enabling welder to obtain the desired arc voltage with ease
- User friendly selection of 2track / 4track operation for zero defect GMAW welding
- Good and consistent weld quality with low hydrogen content
- Dependable Thyristorized wire feeder system ensures long, uninterrupted welding
- Quick release wire feed roller mechanism enables operator to change the wire spool quickly, minimizing the unproductive time and thus increasing the productivity on the shop floor
- Standard Package comprises of Power Source, Wire feeder (2 Roll Drive) with 5 meter interconnection and Welding Torch only
- Recommended for All position MIG / MAG welding applications
- Suitable for wide range of metals like Carbon Steel, Stainless Steel, with appropriate or recommended consumable
- Ideally recommended for heavy duty MIG / MAG welding applications like crane structure components manufacturing, 3 shift use, rough handling on the shop-floor and fabrication shops where maintenance staff is not very qualified



SPECIFICATIONS :




Technical Specifications	Unit	Maximig 400
Characteristic Control		Tap Controlled Diode Based
Characteristics	Type	Constant Potential
Input 		
Input Supply:		
Input Supply Voltage	Volts, Ac	415 , +10%, -10%
Phase 	No	3
Frequency	Hz	50/60
Input Kva @ 100% Duty Cycle 	KVA	17.5
No. Of Welding Steps		32

Cont.

Maximig 400

The Workhorse Diode based Tap controlled
MIG / MAG Welding Rectifier

Cont.

Output			
Open Circuit Voltage	X%	Volts, DC	18-54
Welding Current Range		Amps, DC	50-400
Welding Current @ 100% duty cycle		Amps, DC	310 @ 29.5 V
Welding Current @ 60% duty cycle		Amps, DC	400 @ 34.0 V
General			
Cooling		Type	Forced Air
Insulation		Class	H
Welding Output Terminals	S	Type	Stud Type
Dimensions (L X W X H)		mm	835 x 435 x 820
Weight (Approx)		Kg	136
Wire Feeder	Model	FEEDLITE 40 NEM(C) - 4 ROLL	
Weight (Without Spool)	Kg	16 KG (Approx)	
Dimensions (LXWXH)	MM	563 X 230 X 410	
Suitable for wire spool capacity	Kg	15 Kg	
Wire Feeder Fitted with rollers	mm	1.2/1.6 for solid wire 2 No.	
Wire Feeder Motor Voltage	Volts DC	42 V DC	
Wire Drive Motor	Type	Permanent Magnet DC Type	
Wire Roll Drive	No	Four	
Wire Feed Speed	Mtr/ min	1.5 to 18	
Suitable for wire sizes	mm	0.8,1,1.2,1.6	
Torch (3 Meter)		ADOR TW 402 (E) / ADOR MTG 400 (E)	

Ordering Information				
MAXIMIG 400 (C)	CVR 400	FEEDLITE 40 (NELC-5)	TW 402 (E)	F10.37.202.0123
MAXIMIG 400 (D)	CVR 400	FEEDLITE 40 (NELC-5)	MTG 400 (E)	F10.37.202.0124

- **Warranty** : One year from the date of commissioning. ADOR WELDING LIMITED warrants that all new equipment sold from Plant/Area Offices / Authorised Distributors are free from defects in materials and workmanship and will perform in full accordance with applicable specifications.
- In view of continuous development, ADOR WELDING LIMITED reserves the right to modify/change the design and /or the specifications without any prior notice.
- Backed by dedicated customer care package.

Ranger 403

Most Reliable and Dependable Thyristor based welding power source, suitable for MIG/MAG Semiautomatic and Automatic welding applications

TYPICAL APPLICATIONS :

The complete system consists of power source, wire feeder, torch and interconnecting cables. Remote control provided along with outfit enable user to set voltage and current while welding. Various combination of complete system (outfits) is given in the Ordering Information.



SALIENT FEATURES :

- Light weight, Compact design of Power source, Wire feeder and Torch
- Crater Voltage and Current control possible with ON/OFF switch
- LED Indications for Mains ON and Trip signal
- Globule Detachment Technique keeps the tip ready without globule formation for next welding cycle
- Protection against overheating and very high secondary short circuit current
- Flux core or solid wire selection switch and Gas check Toggle switch on front panel
- Special construction of transformer-resulting in faster response time and Excellent Arc dynamics
- Analog voltage and current meters on front panel
- Wheels for easy movement of machine on the shop floor

SPECIFICATIONS :



Technical Specifications	Unit	Ranger 403
Input		
Input Supply :		
Voltage	Volts, AC	415, +10%, -10%
Phase	No	3
Frequency	Hz	50
Max input KVA @ 100% duty cycle	KVA	20
Input Current	Amps, AC	34
Output		
Open Circuit Voltage	Volts, DC	62 V +/-3V
Welding Current Range	Amps, DC	60-400
Welding Current		
@ 100% duty cycle	Amps, DC	310
@ 60% duty cycle	Amps, DC	400
Welding Voltage Range	Volts, DC	16-39

Cont.



Ranger 403

Most Reliable and Dependable Thyristor based welding power source, suitable for MIG/MAG Semiautomatic and Automatic welding applications

Cont.

General			
Ingress Protection	Class	IP23	
Cooling	Type	Forced Air	
Insulation	Class	H	
Dimension L×W×H	mm	440 x 705 x 835	
Weight (approx.)	Kg	160	
Wire Feeder	Model	FEEDLITE 20 (PEMR)	FEEDLITE 40 (PEMR)
Drive Unit	Type	2 Roll Print Mointor	4 Roll Print Mointor
Motor Voltage	Volts, DC	18.3	18.3
Second Valve Voltage	mm	1.2-18	1.2-18
Wire Spool Capacity	Kg	15	15
Suitable For Wire Diameter	mm	0.8, 1.0, 1.2 & 1.6	0.8, 1.0, 1.2 & 1.6
Inch Switch		On Wire Feeder	On Wire Feeder
Dimension L×W×H	mm	460 x 200 x 280	460 x 200 x 280
Weight (approx.)	Kg	9	9
Welding Torch	Unit	ADOR TW 402 (E)	ADOR MTG 400 (E)
Rating	Amps, DC	400 A @ 60% DUTY CYCLE FOR CO ₂ , 320 A @ 60% DUTY CYCLE FOR MIXED GAS	400 A @ 60% DUTY CYCLE FOR CO ₂ , 320 A @ 60% DUTY CYCLE FOR MIXED GAS
End Connection With Torch	Type	Euro	Euro
Torch Lenght	Meter	3	3

Ordering Information				
Model	Power Source	Wirefeeder	Torch	Product Code
Ranger 403 (A)	TCVR- 403 (A)	FEEDLITE 20 (PMER)	TW 402 (E)	F10.37.202.0129
Ranger 403 (B)	TCVR- 403 (A)	FEEDLITE 20 (PMER)	MTG 400 (E)	F10.37.202.0130
Ranger 403 (C)	TCVR- 403 (A)	FEEDLITE 40 (PMER)	TW 402 (E)	F10.37.202.0131
Ranger 403 (D)	TCVR- 403 (A)	FEEDLITE 40 (PMER)	MTG 400 (E)	F10.37.202.0132

- **Warranty** : One year from the date of commissioning. ADOR WELDING LIMITED warrants that all new equipment sold from Plant/Area Offices / Authorised Distributors are free from defects in materials and workmanship and will perform in full accordance with applicable specifications.
- In view of continuous development, ADOR WELDING LIMITED reserves the right to modify/change the design and /or the specifications without any prior notice.
- Backed by dedicated customer care package.

Ranger 600

The Heavy Duty Thyristorized MIG/MAG Welding Rectifier

SALIENT FEATURES :

- Most reliable and dependable thyristor based power source for high quality MIG / MAG semi automatic manual and semiautomatic mechanized welding applications
- Hex phase, full wave full control bridge rectification circuit reduces ripple in the welding output - resulting in spatter free welding
- Special design and construction of Transformer - resulting faster response time and excellent Arc dynamics
- Light weight, Compact design of power source, wire feeder and Torch
- Adjustment of Crater Voltage, Crater Current possible with regulating pots provided on the front panel
- Globule detach technique keeps the tip ready for next welding cycle
- Choice of different types of wire feeder motors and welding torches available for different industrial applications
- Quick release wire feed roller mechanism enables operator to change the wire spool quickly, minimizing the unproductive time and thus increasing the productivity on the shop floor
- Power source protected from Over Voltage, Under Voltage supply, Single phasing, Over load / overheating and very high secondary short circuit current
- Suitable for ALL position MIG / MAG welding applications -both within shop-floor as well as at open yards and project sites (with due protection or shield against windy air)
- Suitable for wide range of metals like Carbon Steel, Stainless Steel, Aluminium and its alloys, with appropriate or recommended consumable
- Specifically designed for heavy duty, structural welding, machine building applications



SPECIFICATIONS :



Technical Specifications	Unit	TCVR 600 (Ranger 600)
Characteristics Control		Constant Potential Thyristorized Phase Control
Input		
Input Supply:		
Voltage	Volts, Ac	415 , +10%, -10%
Phase	No	3
Frequency	Hz	50/60

Cont.

Ranger 600

The Heavy Duty Thyristorized MIG/MAG Welding Rectifier

Cont.

Maximum Input Current	Amps, AC	55
Input Kva @ 100% Duty Cycle	KVA	31.7
Input Kva @ 60% Duty Cycle		40
Output		
Open Circuit Voltage	Volts, DC	65 V MAXIMUM
Welding Current Range	Amps, DC	60-600
Welding Current @ 100% duty cycle	Amps, DC	465
Welding Current @ 60% duty cycle	Amps, DC	600
General		120% of the set current
Ingress Protection		IP23
Cooling	Class	Forced Air
Insulation	Type	H
Welding Output Terminals	Class	Stud Type For Lug Type Cable Connections
Dimensions (L X W X H)	mm	980 x 550 x 960
Weight (Approx)	Kg	230
Wire Feeder		120% of the set current
Weight (without spool)	Kg	16 Kg Approx
Dimensions (L X W X H)	mm	563X230X410
Suitable for wire spool capacity	Kg	15 Kg
Wire Feeder Fitted with Rollers	mm	1.2/1.6 for Solid Wire 2 No.
Wire Feeder Motor Voltage	V DC	42 V DC
Wire Driver Motor	Type	Permanent Magnet DC Type
Wire Roll Driver	No	Four
Wire Feed Speed	mtr/min	1.5 to 18
Suitable for Wire sizes	mm	0.8,1,1.2,1.6

Ordering Information

Model	Power Source	Wirefeeder	Torch	Product Code
Ranger 600 (A)	TCVR 601	FEEDLITE 40 (NEH) -C	MT 600 (E)	F10.37.202.0125
Ranger 600 (C)	TCVR 601	FEEDLITE 40 (NEH) -C	ADOR TW 502 (E)	F10.37.202.0156

- **Warranty** : One year from the date of commissioning. ADOR WELDING LIMITED warrants that all new equipment sold from Plant/Area Offices / Authorised Distributors are free from defects in materials and workmanship and will perform in full accordance with applicable specifications.
- In view of continuous development, ADOR WELDING LIMITED reserves the right to modify/change the design and /or the specifications without any prior notice.
- Backed by dedicated customer care package.

Ranger 600 Multi

The Heavy Duty Multipurpose Thyristorized Welding Rectifier for
MMA / MIG / TIG / GOUGING Applications

SALIENT FEATURES :

- Heavy duty Thyristorized Multipurpose Welding Rectifier with Double-star configuration
- Suitable for multi process welding applications like SMAW / GMAW / FCAW / GTAW and GOUGING processes within shop floor as well as at open yards and project sites (with due protection or shield against windy air)
- Suitable for wide range of metals like Carbon Steel, Stainless Steel, Aluminium and its alloys, with appropriate or recommended consumable
- Specifically designed for heavy duty, structural welding, machine building application
- Rugged construction -most reliable and dependable thyristor based power source for high quality welding processes
- Hex- phase, full wave full control bridge rectification circuit reduces ripple in the welding output- resulting spatter-free welding
- Automatic Globule Detachment technique keeps the tip ready for next welding cycle
- Choice of 2 roll and 4 roll wire-feeders and different torches available for different industrial applications
- Quick release wire feed roller mechanism enables operator to change the wire spool quickly, minimising the unproductive time and thus increasing the productivity on the shop floor
- Power source protected from Over Voltage, Under Voltage supply, Single phasing, Over load/ overheating and very high secondary short circuit current



SPECIFICATIONS :



Technical Specifications	Unit	TCCVR 600
Characteristics Control	CC/CV	Constant Potential Thyristorized Phase Control
Input		
Input Supply:		
Voltage	Volts, Ac	415 , +10%, -10%
Phase	No	3
Frequency	Hz	50/60
Maximum Input Current	Amps, AC	55
Recommended Switch Fuse Rating	Amps, AC	60
Input Kva @ 100% Duty Cycle	KVA	31.7
Input Kva @ 60% Duty Cycle		40

Cont.

Ranger 600 Multi

The Heavy Duty Multipurpose Thyristorized Welding Rectifier for
MMA / MIG / TIG / GOUGING Applications

Cont.

Output		
Open Circuit Voltage	Volts, DC	80 V (CC Mode) 65 V MAXIMUM
Welding Current Range	Amps, DC	20-600 (CC Mode) 75-600 (CV Mode)
Welding Current (40°, 10 Min duty cycle)		
@ 60% duty cycle	Amps, DC	600
@ 100% duty cycle	Amps, DC	465
General		
Ingress Protection		IP23
Cooling	Class	Forced Air
Insulation	Type	H
Welding Output Terminals	Class	Stud Type For Lug Type Cable Connections
Dimensions		
Lenght	mm	980
Width	mm	550
Height (With Handel)	mm	960
Weight (Approx)	Kg	227
Wire Feeder		FEEDLITE 40 NEH(C)
Weight (without spool)	Kg	16 Kg Approx
Dimensions (L X W X H)	mm	563X230X410
Suitable for wire spool capacity	Kg	15 Kg
Wire Feeder Fitted with Rollers	mm	1.2/1.6 for Solid Wire 2 No.
Wire Feeder Motor Voltage	V DC	42 V DC
Wire Driver Motor	Type	Permanent Magnet DC Type
Wire Roll Driver	No	Four
Wire Feed Speed	mtr/min	1.5 to 18
Suitable for Wire sizes	mm	0.8,1,1.2,1.6

Ordering Information

Model	Power Source	Wirefeeder	Torch	Product Code
Ranger Multi 600 (A)	TCCCVR 601	FEEDLITE 40 (NEH)-C	MT 600 (E)	F10.37.202.0128
Ranger Multi 600 (B)	TCCCVR 601	FEEDLITE 40 (NEH)-C	ADOR TW 502 (E)	F10.37.202.0158

- **Warranty** : One year from the date of commissioning. ADOR WELDING LIMITED warrants that all new equipment sold from Plant/Area Offices / Authorised Distributors are free from defects in materials and workmanship and will perform in full accordance with applicable specifications.
- In view of continuous development, ADOR WELDING LIMITED reserves the right to modify/change the design and /or the specifications without any prior notice.
- Backed by dedicated customer care package.

Champ MIG 250

The new world class indigenous inverter based GMAW welding outfit

INTRODUCTION :

CHAMP MIG 250 is IGBT inverter based welding outfit suitable for GMAW applications. The IGBT Power module, ferrite core and fast recovery diode are used as key device for power conversion and transmission to assure better efficiency and performance. The complete system consists of power source, wire feeder and MIG torch and interconnecting cables.



DETAILS OF COMPLETE SYSTEM :

Sr. No.	Description	Champ MIG 250 A	Champ MIG 250 B
1	Power Source	ICVR 250	ICVR 250
2	Wire feeder	FEEDLITE 20 (NELR)	FEEDLITE 20 (NELR)
3	Torch	ADOR TW 252 (E)	ADOR MTG 250 (E)

SALIENT FEATURES :

- Inverter based GMAW outfit
- High efficiency and high power factor – resulting energy saving
- Auto “Weld Stop” when welding torch is taken away from weld job
- Compatible to Power Generator Supply
- Enhanced Reliability due to SMD technology
- Digital Panel for adjusting the welding parameters
- 30% more Energy efficient than conventional machines
- Maximum Power factor is 0.93
- Excellent dynamic response enables superior arc characteristics. 2T, 4T operating modes
- Electronic choke adjustment for better arc control
- Crater voltage and Crater current adjustment through digital panel
- Unique feature of Globule Detachment to stop formation of globules at the tip of wire at the end of welding
- Automatic “Weld Stop” facility

PROTECTION :

The equipment is provided with following protections.

- Under Voltage and Over Voltage:** Error message is displayed and the equipment shuts down if the supply voltage exceeds the positive or negative limits specified in the Technical Specifications
- Over Temperature:** Error message is displayed and the equipment shuts down if the temperature of the main power components exceeds the safe limits
- Single Phasing Protection:** Error message is displayed and the equipment shuts down if any one of the three phase supply line is absent (single-phasing prevention / protection)

Champ MIG 250

The new world class indigenous inverter based GMAW welding outfit

SPECIFICATIONS :			
Technical Specifications	Unit	ICVR 250	
Input			
Input Supply :			
Voltage	Volt	415, +15%, -10%	
Phase	No	3	
Frequency	Hz	50/ 60	
Input KVA			
@ 100% duty cycle	KVA	6.5	
@ No Load	KVA	0.19	
Output			
Open Circuit Voltage	Volts +/-5%	65	
Welding Current Range	Amp	50-250	
Welding Current (40°C 10 minutes cycle)			
@ 100% duty cycle	Amp	195	
Welding Voltage Range	Volt	16-34	
Crater Current Range	Amp	50-250	
Crater Voltage Range	Volt	16-34	
Mode of operation		2 track, 4 track, Gas check, OCV check facility	
Remote Control (on wire feeder)		For setting voltage & current	
Power Factor		Max 0.93	
Efficiency	%	83% @ 100% duty cycle	
General			
Compatibility to International standard		As per Std. EN60974-1	
Wire feed speed	m/min	1.5-18	
Suitable Welding Wire Diameter	mm	Steel 0.8,1.0 and 1.2	
Ingress Protection	Class	IP23	
Cooling	Type	Forced Air	
Dimensions (Approx.)			
Length	mm	500	
Width	mm	260	
Height	mm	470	
Weight	Kg	26	
Audio Noise Emission		70	

Cont.

Champ MIG 250

The new world class indigenous inverter based GMAW welding outfit

SPECIFICATIONS :

Technical Specifications	Unit	FEEDLITE 20 (NELR)
Suitable for wire	mm	0.8,1,1.2
Wirefeed speed	mtr/min	1.5 to 18
Wire roll drive	-	TWO
Wire drive motor	Type	Permanent Magnet DC
Wire feeder Motor voltage	V	42
Wire feeder fitted with rollers	-	0.8/1.0/1.2 for sold wire 1no
Suitable for Wire Spool capacity	Kg	15
Dimensions		
Length	mm	460
Width	mm	210
Height	mm	280
Weight (without spool)	Kg	10 (Approx)

TORCH SPECIFICATIONS :

Technical Specifications	Unit	ADOR TW 252 (E)	ADOR MTG 250 (E)
Rating	A	250A @ 60% Duty cycle for CO ₂	250A @ 60% Duty cycle for CO ₂
End Connection to Torch	Type	Euro	Euro
Suitable for Wire Ø	mm	0.8, 1.0, 1.2	0.8, 1.0, 1.2
Torch Length	meter	3	3

ORDERING INFORMATION :

Champ MIG 250 A	Power Source	Wire Feeder	Torch	Product Code
Champ MIG 250 A	ICVR 250	FEEDLITE 20 (NELR)	ADOR TW 252 (E)	F10.37.202.0144
Champ MIG 250 B	ICVR 250	FEEDLITE 20 (NELR)	ADOR MTG 250 (E)	F10.37.202.0146

- **Warranty** : One year from the date of commissioning. ADOR WELDING LIMITED warrants that all new equipment sold from Plant/Area Offices / Authorised Distributors are free from defects in materials and workmanship and will perform in full accordance with applicable specifications.
- In view of continuous development, ADOR WELDING LIMITED reserves the right to modify/change the design and /or the specifications without any prior notice.
- Backed by dedicated customer care package.

Champ MIG 400

The new world class indigenous inverter based GMAW welding outfit

INTRODUCTION :

CHAMP MIG 400 is IGBT inverter based welding outfit suitable for GMAW applications. The IGBT Power module, ferrite core and fast recovery diode are used as key device for power conversion and transmission to assure better efficiency and performance.

The complete system consists of power source, wire feeder, MIG torch and interconnecting cables.



SALIENT FEATURES :

- Inverter based digitally controlled GMAW outfit
- Digital Panel for adjusting the welding parameters
- 25% more Energy efficient than conventional machines
- Maximum Power factor is 0.94
- Excellent dynamic response enables superior arc characteristics
- 2T, 4T operating modes
- Welding dynamic adjustment for better arc control
- Crater voltage and Crater current adjustment through digital panel
- Unique feature of Fresh Tip Transfer (FTT) to avoid globule formation
- Automatic "Weld Stop" facility

DETAILS OF COMPLETE SYSTEM :

Sr. No.	Description	Champ MIG 400	Champ MIG 400
1	Power Source	ICVR 400	ICVR 400
2	Wire feeder	FEEDLITE 40 (NEMRC)	FEEDLITE 40 (NEMRC)
3	Torch	ADOR TW 402 (E)	ADOR MTG 400 (E)

PROTECTION :

The equipment is provided with following protections.

- Under Voltage and Over Voltage:** Error message is displayed and the equipment shuts down if the supply voltage exceeds the positive or negative limits specified in the Technical Specifications
- Over Temperature:** Error message is displayed and the equipment shuts down if the temperature of the main power components exceeds the safe limits
- Single Phasing Protection:** Error message is displayed and the equipment shuts down if any one of the three phase supply line is absent (single-phasing prevention / protection)

Champ MIG 400

The new world class indigenous inverter based GMAW welding outfit

SPECIFICATIONS :			3 Phase	CV	MIG / MAG
Technical Specifications	Unit	ICVR 400			
Input					
Input Supply :					
Voltage	Volt	415 , +15% , -10%			
Phase	No	3 Ø			
Frequency	Hz	50/ 60			
Input KVA					
@ 100% duty cycle	KVA	12			
@ No Load	KVA	0.24			
Output					
Open Circuit Voltage	Volts +/-5%	65			
Welding Current Range	Amp	50-400			
Welding Current (40°C 10 minutes cycle)					
@ 60% duty cycle	Amp	400			
@ 100% duty cycle	Amp	310			
Welding Voltage Range	Volt	16-39			
Crater Current Range	Amp	50-400			
Crater Voltage Range	Volt	16-39			
Mode of operation		2 track, 4 track, Gas check, OCV check facility			
Remote Control		For setting voltage & current			
Power Factor		Max 0.93			
Efficiency	%	87% @ 100% duty cycle			
General					
Compatibility to International standard		As per Std. EN60974-1			
Wire feed speed	m/min	1.5-18			
Suitable Welding Wire Diameter	mm	Aluminum 1.2 – 1.6 Steel 0.8,1.0,1.2 & 1.6			
Ingress Protection	Class	IP23			
Cooling	Type	Forced Air			
Dimensions (Approx.)					
Length	mm	700			
Width	mm	450			
Height	mm	600			
Weight	Kg	44			
Audio Noise Emission	dB	70			

Cont.

Champ MIG 400

The new world class indigenous inverter based GMAW welding outfit

SPECIFICATIONS :

Technical Specifications	Unit	FEEDLITE 40 (NEMRC)
Suitable for wire Ø	mm	0.8,1,1.2,1.6
Wirefeed speed	mtr/min	1.5 to 18
Wire roll drive	-	Four
Wire drive motor	Type	Permanent Magnet DC
Wire feeder Motor voltage	V	42
Wire feeder fitted with rollers	-	1.2/1.6 for sold wire 2 no
Suitable for Wire Spool capacity	Kg	15
Dimensions		
Length	mm	563
Width	mm	230
Height	mm	410
Weight (without spool)	Kg	16 (Approx)

TORCH SPECIFICATIONS

Technical Specifications	Unit	ADOR TW 402 (E)	ADOR MTG 400 (E)
Rating	A	400A @ 60% Duty cycle for CO ₂	400A @ 60% Duty cycle for CO ₂
End Connection to Torch	Type	Euro	Euro
Suitable for Wire Ø	mm	0.8, 1.0, 1.2, 1.6	0.8, 1.0, 1.2, 1.6
Torch Length	meter	3	3

- **Warranty** : One year from the date of commissioning. ADOR WELDING LIMITED warrants that all new equipment sold from Plant/Area Offices / Authorised Distributors are free from defects in materials and workmanship and will perform in full accordance with applicable specifications.
- In view of continuous development, ADOR WELDING LIMITED reserves the right to modify/change the design and /or the specifications without any prior notice.
- Backed by dedicated customer care package.

Champ MIG 600

The new world class indigenous inverter based GMAW welding outfit

INTRODUCTION :

CHAMP MIG 600 is an IGBT inverter based welding power source, suitable for GMAW applications. The IGBT Power module, high frequency transformer and fast recovery diode are used as key device for power conversion and transmission to assure better efficiency and performance.

The complete system consists of power source, wire feeder, water cooled or gas cooled torch, water cooling unit (for water cooled systems) and interconnecting cables.



DETAILS OF COMPLETE SYSTEM :

Sr. No.	Description	Champ MIG 600 A	Champ MIG 600 E
1	Power Source	ICVR 600	ICVR 600
2	Wire feeder	FEEDLITE 40 (NEH-RC)	FEEDLITE 40 (NEH-RC)
3	Torch	ADOR-MTG 600 E.	ADOR TW 502 (E)

SALIENT FEATURES :

- Inverter based digitally controlled GMAW outfit
- Auto "Weld Stop" when welding torch is taken away from weld job
- Digital Panel for adjusting the welding
- 25% more Energy efficient than conventional machines.
- Maximum Power factor is 0.95
- Excellent dynamic response enables superior arc characteristics. 2T, 4T operating modes
- Dynamic Inductance adjustment for better arc control
- Crater voltage and Crater current adjustment through digital panel. Unique feature of Pinch-off pulse to avoid globule formation.
- Automatic "Weld Stop" facility.
- Normal/ Creep feeding selection available on front panel.

PROTECTION :

The equipment is provided with following protections.

- Under Voltage and Over Voltage:** If supply voltage goes lower or higher than set limit, error message is displayed on Display
- Over Temperature:** If the temperature of the main power elements is more than safety limits, error message is displayed
- Single Phasing Protection:** If any one of the three phases (R, Y, and B) is absent, welding will stop. Welding current would not be available in this condition

Champ MIG 600

The new world class indigenous inverter based GMAW welding outfit

SPECIFICATIONS :			3 Phase	CV	MIG / MAG
Technical Specifications	Unit	ICVR 600			
Input					
Input Supply :					
Voltage	Volt	415 , +15% , -10%			
Phase	No	3 Ø			
Frequency	Hz	50/ 60			
Max Input KVA					
@ 100% duty cycle	KVA	21.5			
@ No Load	KVA	0.31			
Output					
Open Circuit Voltage	Volts +/-5%	65			
Welding Current Range	Amp	65-600			
Welding Current (40°C 10 minutes cycle)					
@ 60% duty cycle	Amp	600			
@ 100% duty cycle	Amp	465			
Welding Voltage Range	Volt	16-45			
Crater Current Range	Amp	65-600			
Crater Voltage Range	Volt	16-45			
Mode of operation		2 track, 4 track, Gas check, OCV check facility			
Remote Control		For setting voltage & current			
Power Factor		Max 0.94			
Efficiency	%	89% @ 100% duty cycle			
General					
Compatibility to International standard		As per Std. EN60974-1			
Wire feed speed	m/min	1.5-18			
Suitable Welding Wire Diameter	mm	Aluminum 1.2 – 1.6 Steel 0.8,1.0,1.2 & 1.6			
Ingress Protection	Class	IP23			
Cooling	Type	Forced Air			
Dimensions (Approx.)					
Length	mm	670			
Width	mm	450			
Height	mm	620			
Weight	Kg	56			
Audio Noise Emission	dB	70			

Cont.

Champ MIG 600

The new world class indigenous inverter based GMAW welding outfit

SPECIFICATIONS :

Technical Specifications	Unit	Feedlite 40 (NEHR)C
Suitable for wire Ø	mm	0.8,1,1.2,1.6 mm
Wirefeed speed	mtr/min	1.5 to 18 mtr/min
Wire roll drive	-	Four
Wire drive motor	Type	Permanent Magnet DC
Wire feeder Motor voltage	V	42
Wire feeder fitted with rollers	-	1.2/1.6 for sold wire 2 no
Suitable for Wire Spool capacity	Kg	15
Dimensions		
Length	mm	563
Width	mm	230
Height	mm	410
Weight (without spool)	Kg	16 (Approx)

- **Warranty** : One year from the date of commissioning. ADOR WELDING LIMITED warrants that all new equipment sold from Plant/Area Offices / Authorised Distributors are free from defects in materials and workmanship and will perform in full accordance with applicable specifications.
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- Backed by dedicated customer care package.

Champmulti 400, 600

The new world class indigenous inverter based
Multipurpose DC welders

SALIENT FEATURES :

- CHAMP MULTI- 400 and CHAMP MULTI- 600 are Multi process welding outfits with Inverter based welding power source.
- The IGBT power module, High frequency transformer and fast recovery diode are used as key device for power conversion and transmission to assure better Efficiency and performance.
- The welding power source has both constant current (CC) and constant voltage characteristics (CV), which are suitable for MMA and MIG/MAG and FCAW applications.
- Set output parameters are constant against input supply variations.
- Power source is protected against single phasing, under voltage, over voltage, short circuit and temperature rise.
- Water cooled version available for CHAMP MULTI 600 as option.
- MMA process with this outfit is most suitable for all kinds of electrodes including CELWEL for fabrication work, pipe welding, site construction etc.
- GMAW process is suitable for welding in semiautomatic/ automatic mechanism for welding MS, SS and Al materials with Solid and Flux core wires (FCAW Mode).
- Both the models can operate with single point Synergic control in MIG/MAG mode.
- The complete system consists of Power Source, wire feeder, torch and inter connecting cables and control cables between wire feeder and power source.



- Available with both Gas cooled and Water cooled MIG Torches for 600 Amp model.
- High efficiency (>85%).
- Single point Synergic control in GMAW.
- User friendly Digital front panel and analog remote controller
- Auto "Weld Stop" when welding torch is taken away from work piece.
- 2T, 4T and SPOT and Multi Spot operating modes in MIG Mode as well as FCAW mode
- Dynamic Inductance adjustment in GMAW process and Arc force adjustment in MMA process for better arc control.
- Crater voltage and Crater current adjustment through digital panel.
- Unique feature of Pinch-off pulse to avoid globule formation.

Champmulti 400, 600

The new world class indigenous inverter based
Multipurpose DC welders

PROTECTIONS WITH AUTO RESET :

The Equipment is provided with following protections:

- Under / Over Input supply Voltage :
 1. Red LED glows if input supply voltage goes below 330V AC.
 2. Red LED glows if input supply voltage goes above 480V AC
- Over Temperature Trip :
If the temperature of the Semiconductor Component is increased above safety limits then machine goes in safety mode (Trip Mode). In this condition welding voltage will not be available and welding will stop.
- Single phasing protection :
If any one of three phases of input supply (R, Y, B) is absent, then Machine will Trip and Red LED will glow. In this condition welding voltage will not be available and welding will stop.
- Output Short Circuit Protection :
Welding Output is protected against any Short circuit.
- No Output Voltage will be available in both conditions.

DETAILS OF COMPLETE SYSTEM :

Sr. No.	Description	Model	
		Champ Multi 400	Champ Multi 600/600 (W)
1	Power Source	ICCCVR- 401	ICCCVR- 600
2	Wire Feeder	FEEDLITE 40 (NEM)- C	FEEDLITE 40 (NEH - C) / NEHW
3	Torch	TW 402 (E) / MTG 400 (E)	ADOR-TW 600 WE
4	Gas Pressure Regulator Cum Flow Meter (optional)	ARGON Or CO ₂ Regulator	ARGON Or CO ₂ Regulator
5	Gas Heater (optional)	110V AC, In Case of CO ₂ Regulator	110V AC, In Case of CO ₂ Regulator
6	Water Cooling Unit (optional)		WCU-302 For Water Cooled Version Only

DETAILS OF COMPLETE SYSTEM :

Sr. No.	Error Code	Error
1	ERR 001	Under Voltage Error
2	ERR 002	Over Voltage Error
3	ERR 003	Thermal Trip Error
4	ERR 004	No Current Flow Error
5	ERR 005	Feeder Motor Overloading Error
6	ERR 006	Wire Feeder Error
7	ERR 007	Water Pressure Error
8	ERR 008	Communication Error



Champmulti 400, 600

The new world class indigenous inverter based
Multipurpose DC welders

SPECIFICATIONS :			
		Value	
Parametre	Unit	Champ Multi 400	Champ Multi 600
Nominal Input Voltage	V AC	415 V, 3 PH	
Input Voltage Range	V AC	415 (+15% - 10%)	
Phase	No	3	
Frequency	Hz	50/ 60	
Efficiency @ 100% duty cycle	%	>90	>89
Power Factor @ 100% duty cycle		0.93 Max	
Open Circuit Voltage In MMA Mode @415v, 3 Phase	V DC	84 V	90 V
Open Circuit Voltage In MIG Mode @415v, 3 Phase		55 V	65 V
Open Circuit Voltage In TIG Mode @415v, 3 Phase		84 V	90 V
Welding Current Range In MMA Mode	A DC	50-400 A	50-600
Welding Current Range In TIG Mode		10-400	10-600
Welding Current Range In MIG Mode		40-400	40-600
Welding Current @ 100% duty cycle (10 minute cycle)	A DC	310	465
Welding Current @ 60% duty cycle (10 minute cycle)		400	600
Input Power (In MMA Mode) @ 100% duty cycle	KVA	12.0	22.0
Input Power (In MIG Mode) @ 100% duty cycle		11.0	22.0
Input Power (In TIG Mode) @ 100% duty cycle		9.0	16.5
Crater Current Range In MIG Mode		500-400 A	65-600 A
Crater Current Voltage In MIG Mode	-	14-40 V	14-44 V
Cooling	Type	Forced Air	
Class of Insulation	Class	H	
Degree of Protection	-	IP23	
Protections Auto Resettable	-	Over Voltage, Undervoltage, Single-Phasing, Over Temperature	
Suitable Welding Electrode Size Dia. - In MMA Mode	mm	2.5, 3.2 , 4, 5, 6 MM Diameter	
Suitable Welding Electrode Size Dia. - In MIG Mode	mm	0.8, 1.0, 1.2, 1.6 MM Diameter	
Dimensions L x W x H	mm	650 x 450 x 570	700 x 460 x 650
Auxiliary Outputs On Back Panel	V AC	110 V – Gas Heater, 230 V – Water Cooling Unit	
Front Panel Functions	-	Ø MMA /TIG/ MIG /FCAW Process Selection	
	MIG / FCAW MODE	Ø Separate Switches To Check OCV, Gas Flow & Wire Inch.	
		Ø Selection Switches For Wire Dia, Material & Gas For Synergic Application.	
		Ø Welding Mode 2t / 4t / Spot / Multispot Selection Switch.	
		Ø Auto/manual Selection Switch.	

Cont.

Champmulti 400, 600

The new world class indigenous inverter based Multipurpose DC welders

Cont.

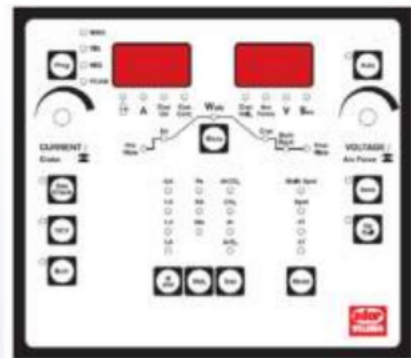
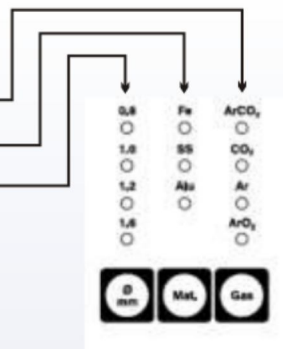
Front Panel Functions	MIG / FCAW Mode	Ø Save & Recall Switches To Save & Recall 10 Programs. Ø Facility To Set Preflow, Post Flow Burnback, Spot & Pause Time Before Welding.	
	-	Ø 3 Digits Digital Display For Voltage and Current.	
	MMA / TIG Mode	Ø Current Setting By Encoder Ø Encoder For Arc Force Setting With On/ Off Facility Switch Only In MMA Mode.	
Remote Control	-	Remote Control With Cable For Setting Voltage and Current	
Mounting Wheels Of The Power Source	-	Wheel Mount	
		Front: Swivel, Rear: Fixed	
Lifting Arrangement		Handle Provided	
Weight (Approx.)	Kg.	52	57

SYNERGIC FUNCTIONS:

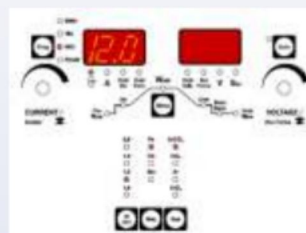
Select the right program

The Synergic Panel shows weld-programs loaded inside the power source

- Shielding Gas selection- ArCO₂ / CO₂ / Ar / Ar O₂
- Weld Material selection- Fe / Al / SS
- Wire Sizes selection- 0.8 / 1.0 / 1.2 / 1.6



Wire Feed Speed is the dominant control parameter for each wire feed speed, a corresponding voltage is programmed into the machine.



Turning the knob, the voltage can be trimmed to suit the best welding if required

Cont.

Champmulti 400, 600

The new world class indigenous inverter based Multipurpose DC welders

Cont.

TECHNICAL SPECIFICATIONS OF WATER COOLING UNIT – TYPE WCU 302:

Sr. No.	Parameter	Unit	Value
1	Input Supply	V AC	240
2	Phase	No.	1
3	Frequency	Hz	50
4	Cooling Capacity	W	750-1000
5	Maximum Motor Power	W	220
6	Maximum Pump Pressure	Bar	2.5
7	Maximum Pump Flow Rate	L/min	10
8	Tank Capacity	L	8
9	Connector Size	In/out	1/4" X 9
10	Dimensions L X W X H	mm	560 X 325 X 285
11	Weight	Kg.	18

TECHNICAL SPECIFICATIONS OF WIRE FEEDER – TYPE FEEDLITE 40 NEM(C) / NEH(C)

Sr. No.	Parameter	Unit	Value
1	Suitable for Wire Sizes	mm	
	Steel		0.8, 1.0, 1.2, 1.6
	FCW		1.2, 1.6
	Aluminium		1.2, 1.6
2	Wire Feed Speed	m / min	0 - 18
3	Wire Roll Drive	Type	4 Roll
4	Wire Drive Motor	Type	PMDC, 42 V, 80 W
5	Dimensions L X W X H	mm	563 X 230 X 410
6	Weight	Kg.	16

- **Warranty** : One year from the date of commissioning. ADOR WELDING LIMITED warrants that all new equipment sold from Plant/Area Offices / Authorised Distributors are free from defects in materials and workmanship and will perform in full accordance with applicable specifications.
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- Backed by dedicated customer care package.

MIG Trolley

The world class Fillet welding MIG Torch Tractor

SALIENT FEATURES :

- Fillet welding Torch carrying trolley for MIG/MAG/ FCAW applications
- Light weight and compact design
- Welder friendly for operations
- Strong magnet inside provides grip while traveling
- Four wheel chain drive provides steady traveling
- Ideal for fillet welding for girder and longitudinal welding applications in ship yards and site structural fabrication – Enhances the welding productivity multifold



SALIENT FEATURES :

- Lightweight, compact and easy to carry any where
- Operates on 230V AC (+15%, -20%), 50Hz, single-phase mains supply
- Strong magnet provides grip while traveling of tractor
- Rubberised four wheel chain drive provides constant speed without slippage of wheel
- Input supply Protection in case of short circuit of input supply cable

SPECIFICATIONS :

Item	Unit	Technical parameters
Input Supply	V (AC)	230
Supply frequency	Hz	60 /50
I/P supply cable	Mtr	5
Motor power	Watts	6
Motor RPM	RPM	Servo motor 1200/1500
Gear reduction ratio	Ratio	100.1
Torch inclination	Size	Longitudinal and transversal 30mm each
Torch adjustment angle	Angle	38°-60°
Traveling speed	mm/min	0-1140
Dimension L×W×H	mm	210×250×280
Weight (approx.)	Kg	6
Ordering Information		Product Code
MIG Trolley	-	F10.37.101.0072

Cont.

MIG Trolley

The world class Fillet welding MIG Torch Tractor

Cont.



Fillet Welding-Horizontal



Fillet Welding -Tractor travelling vertical

- **Warranty** : One year from the date of commissioning. ADOR WELDING LIMITED warrants that all new equipment sold from Plant/Area Offices / Authorised Distributors are free from defects in materials and workmanship and will perform in full accordance with applicable specifications.
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- Backed by dedicated customer care package.

HF 2000 / HF 2000 AD & HF 3000 / HF 3000 AD

The high efficiency, low power consumption World Class DC and AC/DC TIG control units

TYPICAL APPLICATIONS :

- Light Weight, Compact & Portable for greater flexibility in operation
- Suitable for TIG Welding application with SMAW Power Source of any make
- Gas Preflow / Postflow facility
- Gas flow through solenoid valve for Economical consumption of costly Argon gas



SALIENT FEATURES :

- Portable & Light Weight
- Built in high frequency unit for easy arc striking in AC/DC TIG welding process
- HF on/off switch to prevent high frequency interference (In DC mode only)
- Gas flow through solenoid valve for Economical consumption of costly Argon gas
- Auto HF cut off if arc does not strike within 10 seconds
- Built in gas pre-flow / post-flow facility
- In built water cooling unit with HF 3000/ HF 3000AD

SPECIFICATIONS :



Technical Specifications	Unit	HF 2000 Value	HF 2000 AD Value	HF 3000 Value	HF 3000 AD Value
Input					
Input Supply :					
Voltage	Volt	230	230	230	230
Phase	No	1	1	1	1
Frequency	Hz	50	50	50	50
Rating					
Welding Current DC					
@ 60% Duty Cycle	Amps	200	200	300	300
@ 100% Duty Cycle	Amps	150	150	230	230



HF 2000 / HF 2000 AD & HF 3000 / HF 3000 AD

The high efficiency, low power consumption World Class DC and AC/DC TIG control units

Technical Specifications						
Model	Unit	HF 2000	HF 2000 AD	HF 3000	HF 3000 AD	
Input						
I/P Supply Voltage	V	230	230	230	230	
Phase	No	1	1	1	1	
Frequency	Hz	50	50	50	50	
Rating						
Welding Current DC						
@ 60% Duty Cycle	Amps	200	200	300	300	
@ 100% Duty Cycle	Amps	150	150	230	230	
Welding Current AC						
@ 60% Duty Cycle	Amps	-	150	-	250	
@ 100% Duty Cycle	Amps	-	110	-	180	
Gas Preflow Time	Sec.	0.1-5	0.1-5	0.1-5	0.1-5	
Gas Postflow Time	Sec.	1-30	1-30	1-30	1-30	
General						
Water Tank Capacity	Liter	-	-	8	8	
Protection Class	Class	IP23	IP23	IP23	IP23	
Mode of Operation	Type	2T / 4T	2T / 4T	2T / 4T	2T / 4T	
Arc Striking	Type	HF/Touch	HF/Touch(DC)	HF/Touch	HF/Touch(DC)	
Dimensions						
Length	mm	440	560	614	614	
Width	mm	165	290	400	400	
Height	mm	315	438	580	880	
Weight	Kg	10	25	46(Without water)	50	
Torch Model						
Class		IP23	IP23	IP23	IP23	
Max. Current Carrying Capacity		HI-PRO TIG 201-4/201-8		HI-PRO TIG 301-4/301-8		
@ 60% DC	Amps DC/AC	200 / 150		300 / 250		
@ 100 % DC	Amps DC/AC	150 / 115		230 / 180		
Length	Mtrs.	4 / 8		4 / 8		
Cooling	Type	Gas		Water		
Electrode Capacity		1.6, 2.4 & 3.2		1.6, 2.4, 3.2 & 4.0		
Ordering Information						
HF 2000 with HI-PRO TIG 201-4	F10.38.001.0010	HF 3000 with HI-PRO TIG 301-4	F10.38.001.0024			
HF 2000 with HI-PRO TIG 201-8	F10.38.001.0011	HF 3000 with HI-PRO TIG 301-8	F10.38.001.0025			
HF 2000 AD with HI-PRO TIG 201-4	F10.38.001.0012	HF 3000 AD with HI-PRO TIG 301-4	F10.38.001.0019			
HF 2000 AD with HI-PRO TIG 201-8	F10.38.001.0017	HF 3000 AD with HI-PRO TIG 301-8	F10.38.001.0020			

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Champ TIG 220P

The New Indigenous World Class Inverter Based DC TIG and DC Pulsed TIG Welders

SALIENT FEATURES :

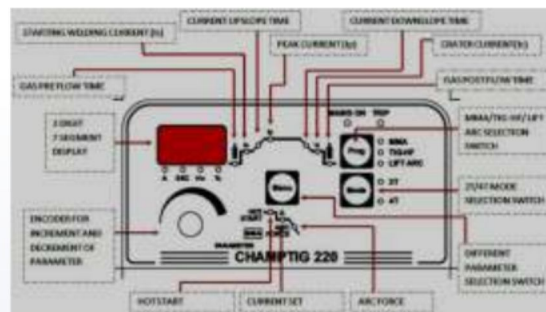
- Single phase (240 V AC) inverter based, high efficiency and high power factor pulse TIG/ MMA DC welder
- Useful for wide variety of material types and thickness.
- Full featured TIG controls possible
- HF ignition
- Intelligent protection: over voltage, line (415V), over Current, temperature
- Latest PWM inverter technology
- High efficiency (Up to 87%)



CONTROL PANEL FEATURES :



Control Panel Features Champ TIG 220 P



Champ TIG 220 P Control Panel Operations

Item	Symbol	Functionality / Description	Mode of Operation
3 Digit Seven Segment Display		A SET CURRENT AND ACTUAL WELDING CURRENT DURING WELDING	MMA-TIG
		SEC DISPLAYS PREFLOW, POST FLOW, UP-SLOPE AND DOWN-SLOPE TIME DURING PARAMETER SETTING WITH MENU KEY	TIG
		HZ Frequency of Pulsing in Hz	TIG
		% DISPLAYS HOT START AND ARC FORCE PERCENTAGE DURING PARAMETER SETTING WITH MENU KEY	MMA

Cont.

Champ TIG 220P

The New Indigenous World Class Inverter Based
DC TIG and DC Pulsed TIG Welders

Cont.

Item	Symbol	Functionality / Description	Mode of Operation
Power Supply On Indicator		MAINS ON MAINS ON	MMA-TIG
Machine Trip Indication		TRIP MACHINE TRIP	MMA-TIG
MMA/TIG HF/LIFT ARC Selection	○ MIMA ○ TIG-HF ○ LIFT ARC	MMA/TIG HF/ LIFT ARC Selection Through Prog Button (Visual Indications Are Provided For The Same)	MMA-TIG
Panel Encoder		Setting The Welding Current 'A' In MMA Mode & Also The Different Parameters In TIG Mode Clockwise Rotation =>Increase, Anticlockwise Rotation =>Decrease	MMA-TIG
Parameter Setting In MMA Mode	Menu HOT START ARC FORCE	MMA Mode Hot Start, Current Set & ARC MMA Force Mode. Visual Indications Are Provided For The Same	MMA-TIG
Parameter Setting In TIG Mode	Menu	TIG Mode Set Pre Flow Time, Starting Current, Unslope Time, Peak Current, Post Flow Time Respectively. Visual Indications Are Provided For The Same	TIG
Self-Hold On-Off Selection in TIG Mode (2 Track/ 4Track Operation)	○ 2T ○ 4T	TIG Mode Set 2T/4T Modes Of Operation. Visual Indications are Provided. Disabled In MMA Mode.	TIG
Menu Key	Menu	Menu Key Is Used to Set the Different Parameters In MMA Mode & TIG Mode of Operation in Different Combinations Of 2T, 4T in TIG Mode & Hot Start & ARC Forced In MMA Mode	MMA-TIG
Normal Pulse Selection	○ PULSE ○ NORMAL	TIG Mode Select The Modes Pulse/ Normal, Visual Indications Are Provided For The Same. Disabled in MMA Mode.	TIG

Cont.

Champ TIG 220P

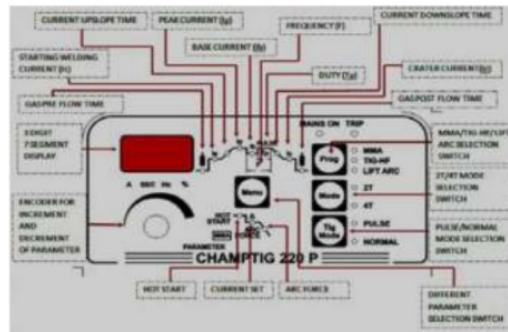
The New Indigenous World Class Inverter Based DC TIG and DC Pulsed TIG Welders

Cont.

CONTROL PANEL FEATURES :



Control Panel Features Champ TIG 220 P



Champ TIG 220P Control Panel Operations

Parameter	Unit	Value		Parameter	Unit	Value	
		MMA Mode	TIG Mode			MMA Mode	TIG Mode
Hot Start	%	0-100% of Set Current	NA	Hot Start	%	0-100% of Set Current	NA
Welding Current Set	A	10-200	NA	Welding Current Set	A	10-200	NA
ARC Force	%	0-100%	NA	ARC Force	%	0-100%	NA
Gas Pre Flow Time	Sec	NA	0-5	Gas Pre Flow Time	Sec	NA	0-5
Start Current (IS)	A	NA	5-220	Start Current (IS)	A	NA	5-220
Current Unslope Time	Sec	NA	0-10	Current Unslope Time	Sec	NA	0-10
Peck Current (IP)	A	NA	5-220	Peck Current (IP)	A	NA	5-220
Current Down Slope Time	Sec	NA	0-10	Base Current (IB)	A	NA	5-220
				Pulse Fervency	Hz	NA	1-200
Crater Current (IC)	A	NA	5-220	Duty Cycle (TP)	%	NA	10-90
				Current Down Slope Time	Sec	NA	0-10
Gas Post Flow Time	Sec	NA	0-20	Crater Current (IC)	A	NA	5-220
				Gas Post Flow Time	Sec	NA	0-20



Champ TIG 220P

The New Indigenous World Class Inverter Based
DC TIG and DC Pulsed TIG Welders

Cont.

TECHNICAL SPECIFICATIONS :			
Parameter	Unit	Champ TIG 220P	
Input			
Supply Voltage, Phase Frequency :	Volts AC	240 V +10%-15%, 1 Phase, 50/60 Hz	
Max output Input KVA @ 240 V Supply	KVA	MMA Mode	TIG Mode
@ 100% duty cycle		5.6	4
@ 60% duty cycle		6.7	5.5
@ 25% duty cycle		9.80	7.80
Efficiency	%	Upto 87	
Output			
Open Circuit Voltage	Volts DC	78 V DC (+/- 5V)	
Welding Current Range	Amps DC	MMA Mode	TIG Mode
		10-200	5-220
Welding Current (40°C 10 minutes cycle)	Amps DC		
@ 100% duty cycle		120	130
@ 60% duty cycle		150	170
@ 25% duty cycle		200	220
General			
Suitable for Welding Electrode Size	mm	2.5,3.2 Intermittent 4	
Ingress Protection	Type	IP23	
Cooling	Type	Forced Air	
Insulation	Class	F	
Front Panel Functions		<ol style="list-style-type: none"> 1. Menu Switch For Selections Like Gas Preplow, Gas Post Flow, Unslope Time, Downslope Time, Welding Current As Per Selected Mode Operation (TIG Mode only) 2. MMA/ TIG HF/ LIFT ARC Mode Selection 3. Menu Switch For Selection of Hot Start, Welding Current & ARC Force (In MMA mode only) 4. Mains On 'Green' Color Indication 5. Trip 'Red' Color LED for indication Machine is Under Protection Mode 6. Encoder for Selected Parameter Vaule Increment/Decrement. 7. 2T/4T Mode Selection (In TIG Mode only) 	

Cont.



Champ TIG 220P

The New Indigenous World Class Inverter Based
DC TIG and DC Pulsed TIG Welders

Cont.

Additional Functions Specific to Champ TIG 220P only		8. Pulse Normal Mode Selection Switch Base Current, Frequency & Duty Cycle Selection By Menu Switch
Protections		Over Voltage, Under Voltage, Single Phasing, Over Temperature
Dimensions L x W x H (Without handle)	mm	480 x 140 x 255
Weight (Approx)	Kg	9
Ordering Information		
Description		Item Code
MMA/ Pulse TIG Welding Power source (Inverter Base) Model: Champ TIG 220(P) with Earthing Cable assembly (3mtr), Gas cooled TIG Torch (Hipro TIG-201-4), Gas Hose with end connector (5 mtr)		F10.38.003.0090
MMA/ Pulse TIG Welding Power source (Inverter Base) Model: Champ TIG 220(P) with Earthing Cable assembly (3mtr), Gas cooled TIG Torch (Hipro TIG-201-8), Gas Hose with end connector (5 mtr)		F10.38.003.0094

- **Warranty** : One year from the date of commissioning. ADOR WELDING LIMITED warrants that all new equipment sold from Plant/Area Offices / Authorised Distributors are free from defects in materials and workmanship and will perform in full accordance with applicable specifications.
- In view of continuous development, ADOR WELDING LIMITED reserves the right to modify/change the design and /or the specifications without any prior notice.
- Backed by dedicated customer care package.

Champ TIG 300P

The new world class inverter based Pulse TIG DC welder

SALIENT FEATURES :

- Three phase inverter based, High efficiency and High Power Factor Pulse TIG/ MMA DC Welder
- Full featured TIG controls possible
- Power source with built in HF ignition
- Intelligent protection: over/under voltage, over current / temperature
- Option of water cooled Torch with water cooling unit available
- Smooth and stable arc with spatter less welding
- HF start ignition
- Pulse TIG for precision welding



Gas Cooled System

Water Cooled System

SPECIFICATIONS :










Technical Specifications	Unit	Champ 200	
Input			
Input Supply :			
Voltage	Volt	415 , +15% , -10%	
Phase	No	3	
Frequency	Hz	50/60	
		MMA Mode	TIG Mode
Efficiency @ 100% duty cycle	%	82	77
Power Factor @ 100% duty cycle	OSØ	0.93	0.93
Input KVA			
@ 100% duty cycle	KVA	7.5	7
@ No Load	KVA	0.19	0.19
Output			
Open Circuit Voltage	Volt	70	
Welding Current Range		MMA Mode	TIG Mode
Welding Current	Amps	50-250	5-300
@ 100% duty cycle	Amps	195	230
@ 60% duty cycle (10 min cycle)	Amps	250	300

Cont.

Champ TIG 300P

The new world class inverter based Pulse TIG DC welder

Cont.

Pulse TIG Parameters			
Duty Ratio		%	10-90
Pulse Frequency		Hz	0.5-10
Base Current		Amps	5 - 90% of Ipulse current
Pulse Current (Ipulse)		Amps	5-300
General			
Start current		Amps	5-300
Current unpslope time		Sec	0-10
Current down slope control		Sec	0-10
Pre-Flow		Sec	0-5
Post-Flow		Sec	1-20
Crater current		Amps	5-300
Current / Voltage Display			7 –Segment LED Display for Current & Other parameters
Ingress Protection		Class	IP23
Cooling		Type	Forced Air
Insulation		Class	H
Welding Output Terminals		-	Cam Lock connections
Dimensions			
Length		mm	610
Width		mm	295
Height		mm	480
Weight (approx.)		Kg	38
Water Cooling Unit			
Input Supply Voltage (AC)		Volts	230
Phase		-	1
Frequency		Hz	50-60
Water Reservoir Capacity		Liters	8
Flow rate		Ltr/min	10
Dimensions			
Length		mm	560
Width		mm	325
Height		mm	285
Weight (approx.)		Kg	18
Trolley			
Dimensions			
Length		mm	660
Width		mm	525
Height		mm	415
Weight (approx.)		Kg	10

Cont.

Champ TIG 300P

The new world class inverter based Pulse TIG DC welder

Cont.

Ordering Information	Product Code
Champ TIG 300P with 4 meter water cooled Torch and water	F10.38.003.0057
Champ TIG 300P with 8 meter water cooled Torch and water	F10.38.003.0058
Champ TIG 300P with 4 meter Gas cooled Torch	F10.38.003.0062
Champ TIG 300P with 8 meter Gas cooled Torch	F10.38.003.0061
Foot Control Switch (Optional)	S17.01.003.1121
Remote control Unit (10 meter, Optional)	S17.01.001.0083
Welding cable Assembly with clamp in MMA mode (Optional)	S17.01.001.2554
Earthing Cable Assembly	S17.01.001.2553
Gas Hose Assembly	S17.01.001.0041
Argon Gas Regulator	S12.08.001.0007

- **Warranty** : One year from the date of commissioning. ADOR WELDING LIMITED warrants that all new equipment sold from Plant/Area Offices / Authorised Distributors are free from defects in materials and workmanship and will perform in full accordance with applicable specifications.
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- Backed by dedicated customer care package.

Champ TIG 400P

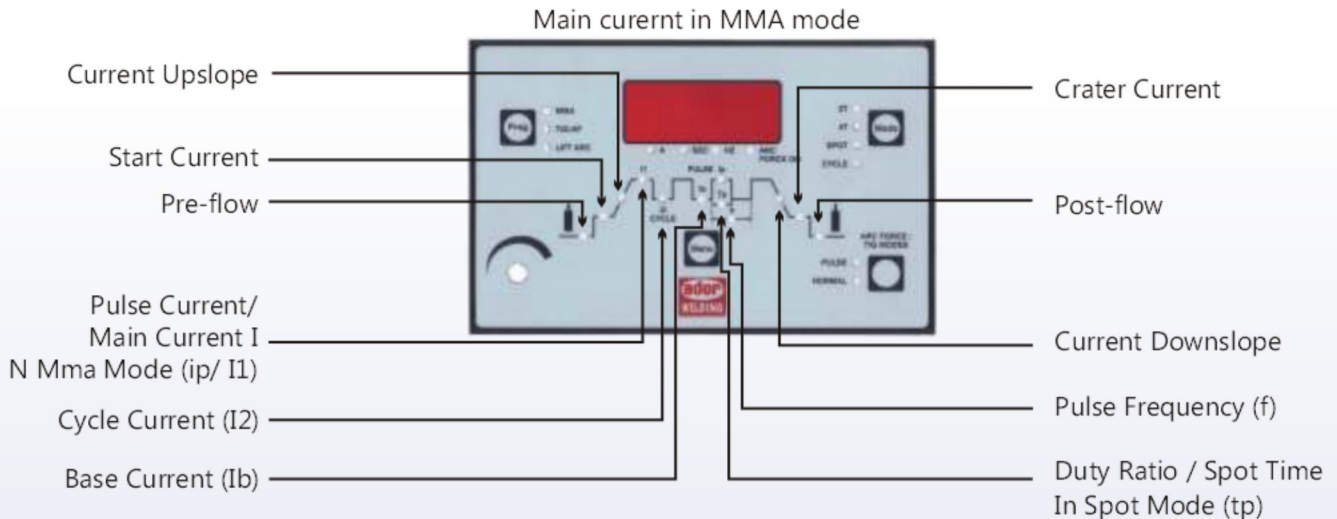
The New Indigenous World Class Inverter Based DC TIG and DC Pulsed TIG Welder

SALIENT FEATURES :

- Three phase inverter based, High efficiency and High Power Factor Pulse TIG/ MMA DC Welder
- Useful for wide variety of material types and thickness.
- Full featured TIG controls possible
- HF ignition
- Intelligent protection: over/under voltage, over current / temperature
- Water cooled Torch with water cooling unit option.
- Latest PWM inverter technology
- High efficiency (>85%)
- Smooth and stable arc with spatter less welding



CONTROL PANEL FUNCTIONS :



SPECIFICATIONS :



Technical Specifications	Unit	Champ TIG 400P
Input		
Input Supply :		
Voltage	Volt	415 , +15%, -10%
Phase	No	3
Frequency	Hz	50/60
Efficiency @ 100% duty cycle	%	85
Power Factor @ 100% duty cycle		0.94 Max

Cont.

Champ TIG 400P

The new world class inverter based Pulse TIG DC welder

Cont.




Input KVA			MMA Mode	TIG Mode
@ 100% duty cycle		KVA	13	10
@ No Load		KVA	0.13	0.13
Output				
Open Circuit Voltage		Volt	70	
Welding Current Range			MMA Mode	TIG Mode
Welding Current		Amps	50-400	10-400
@ 100% duty cycle		Amps	310	
@ 60% duty cycle (10 min cycle)		Amps	400	
Pulse TIG Parameters				
Duty Ratio		%	10-90	
Pulse Frequency		Hz	0.5-10	
Base Current		Amps	10 - 90% of I _{pulse} current	
Pulse Current (I _{pulse})		Amps	10-400	
General				
Start current		Amps	10-400	
Current unsplope time		Sec	0-10	
Current down slope control		Sec	0-10	
Pre-Flow		Sec	0-5	
Post-Flow		Sec	0.1-20	
Crater current		Amps	10-400	
Current / Voltage Display			7-Segment LED Display for Current & Other parameters	
Ingress Protection		Class	IP23	
Cooling		Type	Forced Air	
Insulation		Class	H	
Welding Output Terminals		-	Cam Lock connections	
Dimensions				
Length		mm	660	
Width		mm	315	
Height		mm	485	
Weight (approx.)		Kg	46	
Water Cooling Unit				
Input Supply Voltage (AC)		Volts	230	
Phase		-	1	
Frequency		Hz	50-60	
Water Reservoir Capacity		Liters	8	
Flow rate		Ltr/min	10	
Dimensions				
Length		mm	560	
Width		mm	325	
Height		mm	285	

Cont.

Champ TIG 400P

The new world class inverter based Pulse TIG DC welder

Cont.

Weight (approx.)		Kg	18
Trolley			
Dimensions			
Length		mm	1005
Width		mm	500
Height		mm	109
Weight (approx.)		Kg	35
Ordering Information		Model Name	Product Code
TIG Outfit		-	F10.38.003.0059 (With 4 Mtr Torch)
			F10.38.003.0064 (With 8 Mtr Torch)
Power Source		-	F10.38.003.0060
TIG Torch		HIPRO TIG 401-4	S15.01.003.0586 (4Mtr)
		HIPRO TIG 401-8	S15.01.003.0587 (8Mtr)
Water cooling Unit		WCU - 302	S17.01.005.2598
Trolley For WCU		-	017.01.003.1112
Foot Control Switch (Optional)		-	S17.01.003.1117
Remote control Unit (10 meter, Optional)		-	S17.01.002.0067
Welding cable Assembly with clamp in MMA mode (Optional)		-	S17.01.002.0642
Earthing Cable Assembly		-	S17.01.002.0643
Gas Hose Assembly		-	S17.01.001.0041
Argon Gas Regulator		-	S12.08.001.0007

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Champ TIG 300 AD

Indigenous Inverter Based AC/DC Mixed Pulsed TIG Welding System

SALIENT FEATURES :

- Large input supply voltage range with under/over voltage
- Single phase protection
- Higher efficiency & power factor
- Lower power consumption
- Light weight and compact TIG welding system
- Latest PWM inverter technology
- In built spot TIG welding facility, AC/DC as well as mixed TIG Welding facility. In built pulse TIG welding controls with Independent settings of all parameters from front panel. Optionally welding current variation possible by using remote Control (hand held) or foot control regulator
- Cleaning width control in ac TIG welding enables user to adjust Oxide cleaning as well as penetration of weld puddle according to his choice
- Constant current characteristics irrespective of arc length variation
- High efficiency ($\approx 82\%$)
- Smooth and stable arc with spatter less welding



TECHNICAL SPECIFICATIONS :



Parameter	Unit	Value	
Input			
Supply Voltage, Phase Frequency :	Volts, AC	415 (+15%-10%) 3 Phase, 50/60 Hz	
Max output Input KVA @ 416 V Supply	KVA	MMA Mode	TIG Mode
@ 100% duty cycle		7	7.5
@ 60% duty cycle		10	11
Power Factor		Upto 0.92	
Efficiency	%	Upto 82	
Output			
Open Circuit Voltage @ 416 V Supply	Volts, DC	75 V DC (+/- 3V)	
Welding Current Range		AC TIG Mode 20-300 DC TIG Mode 10-300	MMA Mode 50-250
Welding Current (40°C 10 minutes cycle)	Amps		
@ 60% duty cycle		TIG Mode 300 Amps	MMA Mode 250 Amps
@ 100% duty cycle		TIG Mode 230 Amps	MMA Mode 195 Amps
General			
Remote Controller	10 Meter	Provide as Optional for Current Settings	
Foot Switch Control	10 Meter	Provide as Optional for Current Settings	

Cont.

Champ TIG 300 AD

Indigenous Inverter Based AC/DC Mixed Pulsed TIG Welding System

Cont.

Protections		Over Voltage, Under Voltage, Single Phasing, Over Temperature
Front Panel Functions		MMA TIG Selection Switch
		2T/ 4T / Spot/ Cycle Selection Switch
		DC+/ DC-/ AC Welding Method Selection Switch
		Gas Check Switch
		Pulse/ Normal Mode Selection Switch
		HF On/ HF Off Selection Switch
		Normal/ Foot Selection Switch
		Menu Switch for Selecting All Functions Via Gas Pre Flow, Start Current, Up slope Time, Base Current, Pulse Current, Down Slope Time, Crater Current, Gas Post Flow Time, Cleaning for AC, AC Frequency, AC Offset, Pulse Width/Spot Time, Pulse Frequency, As Per Mode Selection Operation
		Torch Switch Connector
		Foot Switch Connector
		Remote Connector
		Gas Out
		CAMLOCK output Connector
		Mains On 'Green' Color Indication
		Trip 'Red' Color LED for indication Machine is Under Protection Mode
		Water/Gas Cooled Selection Switch
	Encoder for Selected Parameter Vaule Increment/Decrement.	
Cooling	Type	Forced Air
Ambient Temperature Rating	°C	40
Class of Insulation	-	H
Degree of Protection	-	IP23
Dimensions L x W x H (Without handle)	mm	650 x 425 x 515
Weight (Approx)	Kg	50

Cont.

Champ TIG 300 AD

Indigenous Inverter Based AC/DC Mixed Pulsed TIG Welding System

TIG Welding Parameter Setting

SPECIFICATIONS :

Parameter	Unit	Value
Gas Pre Flow Time	Sec	0-5
Start Current	Amp	5-300
Current Unslope Time	Sec	0-10
Base Current	A	5-300
Pulse Current	A	5-300
Pulse Width	%	10-90% of Width of Pulse Current
Pulse Frequency	Hz	0.5 to 500
Current Down Slope Time	Sec	0-10
Crater Current	A	5-300
Gas Post Flow Time	Sec	0.1-20
Spot Time	Sec	1-10
Cleaning Control	%	(-40) - (+40)
AC Frequency Control	Hz	20-100
AC Offset	%	(-50) - (+30)

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Maestro Series 800, 1000, 1200

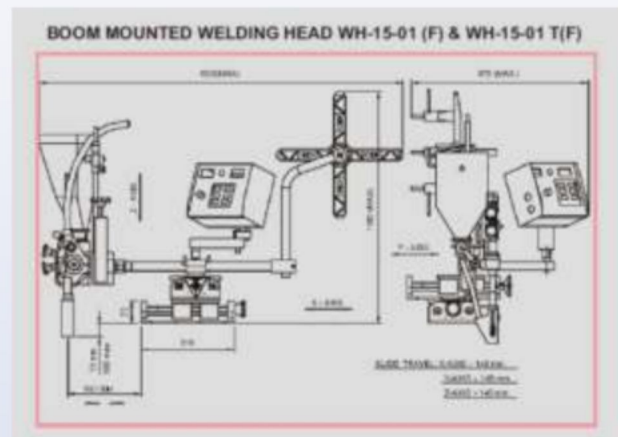
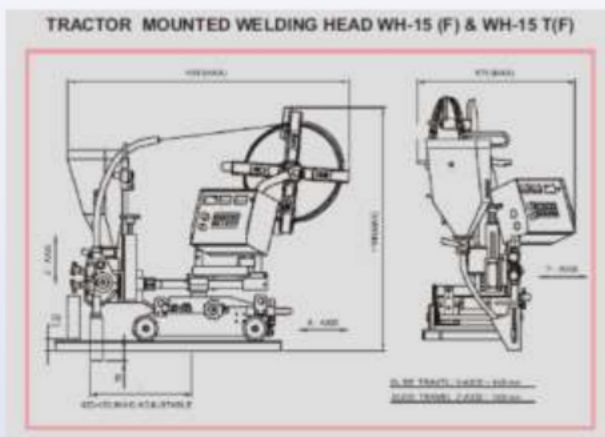
A range of SUBMERGED Arc Welding Equipment to suit a wide range of applications

SALIENT FEATURES :

- Choice of Boom mounted or Tractor mounted Welding head models offered with Diode or Thyristorized Power Source
- Boom mounted head comes with a choice of manual, semi – motorized and fully motorized cross slides
- Programmed sequential operations of Power Source, Wire feed and carriage through built- in solid state circuitry
- **Twin Wire Attachment :** Twin Wire Attachment is available for the Tractor as well as boom mounted welding heads. The arrangement consists of one set of each of wire drive roll and nozzle for 2 and 2.5 mm size wire to feed two wires in tandem and increase the deposition rate substantially. These arrangements is ideal for applications like cladding of hard surfaces as well as for filing weld metal in extra large size preparation grooves. Twin 2.5 mm wires can deliver up to 20% higher deposition rates than a single 5 mm wire at the same welding current and arc voltage parameters.
- **Fillet Welding Attachment :** To enhance the usability of SAW Outfits, a Fillet Welding attachment can be provided to increase shop-floor productivity.
- **Spot Light Projector :** This facility is especially useful for welding operations inside cylindrical jobs where a light source is required to examine the seam



The Welder - friendly tractor or boom mounted welding head with Diode / Thyristorized Power sources perfectly match; Adopted to local conditions; offering a range of models to suits every budget and need











Maestro Series 800, 1000, 1200

A range of SUBMERGED Arc Welding Equipment to suit a wide range of applications

Cont.

TECHNICAL SPECIFICATIONS DOIDE BASED SYSTEMS:				
  				
Power Source	Unit	PS 800 (F)	PS 1000 (F)	PS 1200 (F)
Input				
Input Supply:				
Voltage	Volts, AC	415	415	415
Phase	No	3	3	3
Frequency	Hz	50	50	50
Input Kva @ 100% Duty Cycle	KVA	37	45	54
Recommended Switch Fuse Rating	Amps, AC	TP-60	TP-80	TP-100
Output				
Static Characteristics	Type	CV	CV	CV
Open Circuit Voltage Range (max. With IPT)	Volts, DC	35-63	35-63	35-63
Open Circuit Voltage Range (Actual)		29-54	29-54	29-54
Welding Voltage		21.15-44	24-44	24-44
Welding Current Range	Amps, DC	150-800	200-100	200-1200
Welding current @ 60% duty cycle		800	100	1200
Welding current @ 100% duty cycle		650	800	1000
General				
Insulation	Class	H	H	H
Cooling	Type	Forced Air	Forced Air	Forced Air
Dimensions L x W x H	mm	1225x800x900	1225x800x900	1225x800x900
Weight (Approx)	Kg	350	365	390

TECHNICAL SPECIFICATIONS THYRISTOR BASED SYSTEMS:				
  				
Power Source	Unit	PS 800 T(F)	PS 1000 T(F)	PS 1200 T(F)
Input				
Input Supply:				
Voltage	Volts, AC	415	415	415
Phase	No	3	3	3
Frequency	Hz	50	50	50
Input Kva @ 100% Duty Cycle	KVA	44	50	63
Recommended Switch Fuse Rating	Amps, AC	TP-70	TP-80	TP-100
Output				
Static Characteristics	Type	CV	CV	CV
Open Circuit Voltage Range (max.)	Volts, DC	62	62	62
Open Circuit Voltage Range		150-800	200-1000	200-1200
Welding current @ 60% duty cycle	Amps, DC	800	100	1200
Welding current @ 100% duty cycle		650	800	1000

Cont.



Maestro Series 800, 1000, 1200

A range of SUBMERGED Arc Welding Equipment to suit a wide range of applications

Cont.

General				
Insulation	Class	H	H	H
Cooling	Type	Forced Air	Forced Air	Forced Air
Dimensions L x W x H	mm	1225x800x1060	1225x800x1060	1225x800x1060
Weight (Approx)	Kg	350	365	390

ORDERING INFORMATION OPTIONAL ACCESSORIES :	
Description	Product Code
Set Of Welding Cables SAC 800, For PS 800 (F), 800 T (F)	S10.36.011.0005
Set Of Welding Cables SAC 1000, For PS 800 (F), 1000 T (F)	S10.36.011.0006
Set Of Welding Cables SAC 1200, For PS 800 (F), 1200 T (F)	S10.36.011.0004
Description	Product Code
WAS : Set Of Welders Accessories - All Models	S10.36.041.0001
SLP: Spotlight Projector - All Models	S10.36.031.0001
FWA: Fillet Welding Attachment - All Models	S10.36.021.0001
TWA: Twin Wire Attachment (2 And 2.5 Mm) - All Models	S10.36.021.0003

TECHNICAL SPECIFICATIONS - WELDING HEADS :					
Saw Head	Unit	WH -15(F)	WH -15-01(F)	WH -15-02(F)	WH -15-03(F)
Max. Welding Current @ 60% Duty Cycle	Amps, DC	1500	1500	1500	1500
Max. Welding Current @ 60% Duty Cycle		1250	1250	1250	1250
Recommended Power Source		PS 800 (F) / PS 1000 (F) / PS 1200 (F)			
Recommended Wire Diameter Single Wire	mm	2, 2.5, 3.2 For 800 (F); 2, 2.5, 3.2, 4.5 For 1000 (F) & 1200 (F)			
Recommended Wire Diameter Twin Wire		2, 2.5 (Optional)			
Speed Range Wire Feed	M / Min.	0.5-4	0.5-4	0.5-4	0.5-4
Speed Range Carriage		0.1-1.5	NA	NA	NA
Input To Control Unit	Volts, AC	42 V, 1 PH, 50 Hz From Power Source			
Range Of Adjustment					
Vertical (Z)	mm	140 (Manual)	140 (Manual)	100 (Motorized)	100 (Motorized)
Horizontal (X)-Transverse To Travel Direction		140 (Manual)	140 (Manual)	100 (Motorized)	100 (Motorized)
Horizontal (7)-In Direction Of Travel		-	140 (Manual)	140 (Manual)	100 (Motorized)
Maximum Swivel					
Transverse To Head Travel	Degree	45			
Parallel To Head Travel		30			
Horizontal Swing		270			
Standard Bore For Spool	mm	285 - 315 (Adjustable)			
Weight Of Spool (max.)	Kg	25			
Flux Hopper Capacity (max.)	Kg/Ltrs	10/7			
Dimensions (L X W X H)	mm	1500x1030x580	1500x1030x580	1500x1030x600	1500x1030x600
Weight (without Flux And Wire)	Kg	80	80	110	110



Maestro Series 800, 1000, 1200

A range of SUBMERGED Arc Welding Equipment to suit a wide range of applications

Cont.

ORDERING INFORMATION MAIN OUTFITS							
SUBARC Outfit	Power Source	Welding Head	Product Code	SUBARC OUTFIT	Power Source	WELDING HEAD	PRODUCT CODE
MAESTRO 800 (F)	PS 800 (F)	WH - 15 (F)	F10.36.004.0045	MAESTRO 800 T(F)	PS 800 T(F)	WH - 15 T(F)	F10.36.004.0061
MAESTRO 800-01(F)		WH - 15-01 (F)	F10.36.004.0046	MAESTRO 800 -01 T(F)		WH - 15- 01 T(F)	F10.36.004.0036
MAESTRO 800-02 (F)		WH - 15-02 (F)	F10.36.004.0047	MAESTRO 800 -02 T(F)		WH - 15- 02 T(F)	F10.36.004.0063
MAESTRO 800-03 (F)		WH - 15 -03 (F)	F10.36.004.0048	MAESTRO 800 -03 T(F)		WH - 15- 03 T(F)	F10.36.004.0064
MAESTRO 1000 (F)	PS 1000 (F)	WH - 15 (F)	F10.36.004.0049	MAESTRO 1000 T(F)	PS 1000 T(F)	WH - 15 T(F)	F10.36.004.0068
MAESTRO 1000-01(F)		WH - 15-01 (F)	F10.36.004.0050	MAESTRO 1000 -01 T(F)		WH - 15- 01 T(F)	F10.36.004.0037
MAESTRO 1000-02 (F)		WH - 15-02 (F)	F10.36.004.0051	MAESTRO 1000 -02 T(F)		WH - 15- 02 T(F)	F10.36.004.0059
MAESTRO 1000-03 (F)		WH - 15 -03 (F)	F10.36.004.0052	MAESTRO 1000 -03 T(F)		WH - 15- 03 T(F)	F10.36.004.0070
MAESTRO 1200 (F)	PS 1200 (F)	WH - 15 (F)	F10.36.004.0053	MAESTRO 1200 T(F)	PS 1200 T(F)	WH - 15 T(F)	F10.36.004.0069
MAESTRO 1200-01(F)		WH - 15-01 (F)	F10.36.004.0054	MAESTRO 1200 -01 T(F)		WH - 15- 01 T(F)	F10.36.004.0038
MAESTRO 1200-02 (F)		WH - 15-02 (F)	F10.36.004.0055	MAESTRO 1200 -02 T(F)		WH - 15- 02 T(F)	F10.36.004.0060
MAESTRO 1200-03 (F)		WH - 15 -03 (F)	F10.36.004.0056	MAESTRO 1200 -03 T(F)		WH - 15- 03 T(F)	F10.36.004.0072

- **Warranty** : One year from the date of commissioning. ADOR WELDING LIMITED warrants that all new equipment sold from Plant/Area Offices / Authorised Distributors are free from defects in materials and workmanship and will perform in full accordance with applicable specifications.
- In view of continuous development, ADOR WELDING LIMITED reserves the right to modify/change the design and /or the specifications without any prior notice.
- Backed by dedicated customer care package.

Maestro 1200 (I)

The new world class indigenous inverter based
Submerged Arc Welding Outfit

SALIENT FEATURES :

- Inverter based digitally controlled Welding head and Power source.
- High efficiency and high power factor – resulting in substantial energy saving over conventional SAW outfits
- Enhanced Reliability due to SMD technology.
- Power source is CC-CV type and capable for MMA/GOUGING and SAW processes.
- *****SAW Welding can be done in either CV or CC modes. In the Constant Current mode of SAW welding, advanced Adaptive control technology is utilized to obtain the most stable arc parameters, highest level of penetration, and excellent weld bead finish*****
- The complete system consists of inverter based power source; tractor / boom mounted welding head and interconnecting cables. SAW flux is used for shielding weld metal against external atmosphere.
- Inverter based power source is energy efficient giving almost 30% energy saving over conventional type of machines.
- User can save and recall up to ten programs.
- Better user interface having 128 X 64 character LCD display for selecting various modes and button, LED and indicator lamp, which helps in easy operation of the equipment.
- Automatically selects the MMA or SAW mode based on welding head connections to power source.



FRONT PANEL FUNCTIONS :

- Mains On 'Green' Colour Led Indication
- Operation Mode Indications (MMA / Gouging, Saw, Remote)
- Trip 'Red' Colour Led Indication of machine is Under Protection Mode.
- 4 digit digital displays for Voltage and Current.
- Current adjustment Encoder .



Cont.

Maestro 1200 (I)

The new world class indigenous inverter based
Submerged Arc Welding Outfit

Cont.

WELDING HEAD CONTROL PANEL :

The Welding Head Control panel consists of four encoders for selecting welding parameters selection, welding current selection, welding voltage selection and carriage speed selection respectively.

- 1) Welding parameters can be seen on 128*64 character LCD as
 - MATERIAL: MS/SS
 - DIAMETER: 2-5mm
 - WIRESPEED: 0-4 M/MIN
 - UP TIME: 01-10 sec
 - SAVE: 01-10
 - RECALL: 01-10
- 2) Proper parameters can be selected by rotating the respective encoders.
- 3) A facility has been given for saving the welding parameters settings in at most 10 memory locations. So the same settings can again be recalled even after turning On the machine, by rotating RECALL option.
- 4) Another special feature of UP TIME is given to the user in between 1 second to 10 second, so that after welding is OFF, wire won't stick in to the weld pool. In this case wire feeder motor will rotate in opposite direction to pull out the wire for the specified seconds.
- 5) The Front panel consists of seven tact switches, for selecting various functions such as carriage movement direction (FORWARD / REVERSE) selection, carriage motor ON / OFF command, wire inch UP / DOWN switch and welding ON / OFF switch.
- 6) CC-CV Mode Selection switch for SAW is provided on panel to suit specific SAW Welding requirements



TECHNICAL SPECIFICATIONS WELDING HEAD (WH 15 I) :

Input	Unit	Value
Input Supply:		
Voltage	Volt	42 V (From Power Source)
Output		
Welding Current Range	Amps	100-1200
Duty Cycle 100% Continues	Amps	1000
Welding Voltage Range	Volts, DC	26-44
Welding Carriage Speed	M/Min	0.1-1.6
Wire Feed Speed	M/Min	0-4
General		
Range Of Adjustment Vertical	mm	140
Transverse To Head Travel - Horizontal		140
Parallel To Head Travel - Horizontal		140
Max Swivel :		
Transverse To Hand Travel	Degree	45°

Cont.



Maestro 1200 (I)

The new world class indigenous inverter based
Submerged Arc Welding Outfit

Cont.

Parallel To Head Travel	Degree	30°
Horizontal Open Swing		270°
Standard Bored Spool	mm	285-315 (Adjustable)
Welding Flux-Hooper Capacity	Kg./Ltr.	10/7
Wire Spool Weight	Kg	25
Suitable Welding wire Diameter	mm	2.0,2.5,3.15,4.0,5.0
Dimension (L x W x H)	mm	1500 x 1030 x 580
Total Weight Without Flux & Wire	Kg.	95

TECHNICAL SPECIFICATIONS :



Parameter	Unit	Value
Input		
Supply Voltage, Phase Frequency :	Volts AC	415 V +15% -10%, 1 Phase, 50/60 Hz
Input Power @ 415 VAC @ 100% duty cycle	KVA	55
Input Power @ 415 VAC @ 60% duty cycle		66
Input Supply Current @ 415 VAC @ 100% duty cycle (1000)	Amps DC	76
Input Supply Current @ 415 VAC @ 60% duty cycle (1200)		92
Efficiency	%	≥ 85
Power Factor		Upto 0.93
Output		
Open Circuit Voltage @ 415 V Input Supply	Volts DC	90 V
Welding Current Range (CC-GOUGING Mode)	Amps	100-1200
Welding Voltage Range (CC-SAW Mode)		26-44
Welding Current (40°C) @ 100% duty cycle	Amps DC	1000
Welding Current (40°C) @ 60% duty cycle (10 min DC)		1200
Welding Electrode Sizes (Dia.) In MMA Application	mm	3.2,4,5,6.3 mm
Welding Electrode Sizes (Dia.) In GOUGING Application		Upto 12 mm
SAW Welding Wire Size (Dia.)	mm	2.5,3.2,4,5 mm
Remote Controller Optional (Can be Used In MMA/GOUGING Process only)	10 Meter	Provide as Optional for Remote Current Setting
General		
Front Panel Functions		Mains On 'Green' Colour Indication
		Operation Mode Indications (MMA/GOUGING, SAW, REMOTE)
		Trip 'Red' Colour LED for indication Machine is Under Protection Mode
		4 Digit Display for Voltage & Current Current Adjustment Encoder

Cont.

Maestro 1200 (I)

The new world class indigenous inverter based
Submerged Arc Welding Outfit

Cont.

Protections	-	Over Voltage, Under Voltage, Single Phasing, Over Temperature Over Temperature Protection
Cooling	Type	Forced Air
Class Of Insulation	-	H
Degree Of Protection	-	IP23
Dimensions L x W x H (Without handle)	mm	930 x 525 x 950
Weight (Approx)	Kg	115

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Drying Oven

For Welding Electrodes and Submerged Arc Welding Fluxes

TYPICAL APPLICATIONS :

Reliable Ovens which works hour after hour, day after day the same faithful consistency.

Temperature Control : Provided with thermostat control for precise setting of drying temperature required for various types of electrodes.

Flawless Welds : Totally dry welding consumables yield radiographic quality welds.



SALIENT FEATURES :

- Heavy duty drying ovens for welding electrode & submerged arc welding fluxes.
- Robust constructions.
- Heavy duty metallic body.
- User friendly.
- Uniform heating of charged materials.
- Heavy duty thermostats for accurate temperature controls throughout range.

TECHNICAL SPECIFICATIONS:

Models	ADORPORT	ADORPORT 110V/220V	ADORDRY-I	ADORDRY-II	ADORDRY-III	ADORFLUX
Input						
Voltage	230 V	110V / 220V AC	230V AC	230V AC	230V AC	415V AC
Current (Amps)	2	4/2	7.5	10	20	10
Phase	1 Phase	1 Phase	1 Phase	1 Phase	1 Phase	3 Phase
Frequency	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz
Watts	0.5 KW	0.5 KW	1.75 KW	2.25 KW	4.5 KW	12 KW
Output						
Temperature	50°C - 250°C	50°C - 250°C	50°C - 250°C	50°C - 350°C	50°C - 500°C	50°C - 400°C

Cont.



Drying Oven

For Welding Electrodes and Submerged Arc Welding Fluxes

Cont.

Models	ADORPORT	ADORPORT 110V/220V	ADORDRY-I	ADORDRY-II	ADORDRY-III	ADORDRY-III
General Specifications						
Capacity	About 4 kg. of 450 mm electrodes	About 4 kg. of 450 mm electrodes	About 25 kg. of 450 mm electrodes	About 25 kg. of 450 mm electrodes	About 25 kg. of 450 mm electrodes	About 100 kg. of Flux
Working Space	80 mm dia. X 445 mm depth (Approx.)	80 mm dia. X 445 mm depth (Approx.)	440 x 450 x 490mm(HWD) Height(Approx.)	440 x 450 x 490mm(HWD) Height(Approx.)	440 x 450 x 490mm(HWD) Height(Approx.)	600 x 600 x 750mm(HWD) Height(Approx.)
No.of Shelves	-	-	Five	Five	Five	Six
Air Circulation	Natural Convection	Natural Convection	Natural Convection	Natural Convection	Natural Convection	Forced Air
Temp. Control	THERMOSTAT	THERMOSTAT	THERMOSTAT	THERMOSTAT With Electronic Controller	THERMOSTAT With Electronic Controller & Digital Temperature Indicator	

UNI - MAESTRO RETROFIT UNIT FOR SAW

The customized Retrofit unit (complete with new welding head) for Interfacing new welding head (diode based) with old model of SAW Power Source



**INTERFACE UNIT WITH
INTERCONNECTION CABLE**

**INTERFACE UNIT WITH
INTERCONNECTION CABLE**

- The UNI-MAESTRO retrofit box is a “BORN AGAIN PACKAGE (Rejuvenate)” to upgrade productivity from existing old working power source, Model: CPR-1204 / CPR-1205 / PS-1200, but with welding head which is in non-working condition or the customer is not having welding head.
- Old version of “UP-15-CP / WH-15” series Welding Heads are upgraded with New “Feather-Touch controlled WH-15 (F)” series (Diode based) Welding Heads, as old version of “UP-15-CP / WH-15” are discontinued from AWL production range.
- The complete outfit consists of Retrofit box, tractor mounted or boom mounted submerged arc welding unit, inter-connection control cable between Power source and Retrofit box. These are interfaced with suitable capacity of old power source CPR-1204 / CPR-1205 / PS-1200, which is already available with the customer.

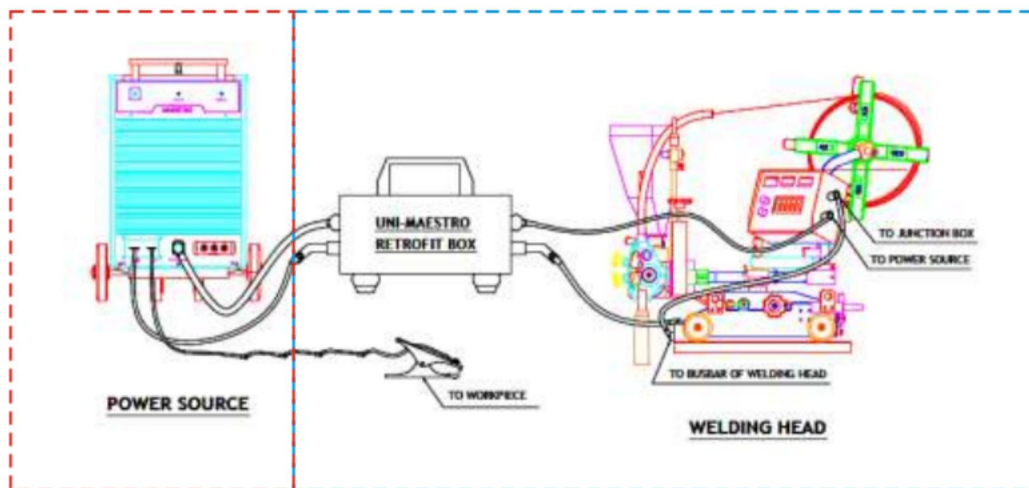
COMPLETE SYSTEM:

The complete system or outfit consists of:

1. Retrofit Box (Interface Box)
2. Welding Head type WH 15 (F) or WH 15-01 (F) => suitable for Diode based systems only
3. Interconnection control cable between power source & Welding Head - 10 meters length

UNI - MAESTRO RETROFIT UNIT FOR SAW

CONNECTION SYSTEM



EXISTING OLD DIODE BASED
SAW POWER SOURCE - CUSTOMER

WELDING HEAD

ORDERING INFORMATION:

UNI - MAESTRO RETROFIT UNIT (Comprising of Interface box, Welding Head Assembly type WH – 15 (F) Tractor mounted, 10 Meter Interconnection cable between Interface Box and Welding Head)	S15.01.001.0601
UNI - MAESTRO RETROFIT UNIT (Comprising of Interface box, Welding Head Assembly type WH – 15 01 (F) Boom mounted, 10 Meter Interconnection cable between Interface Box and Welding Head)	S15.01.001.0602

Combo MS 600

Mechanised Attachment for GMAW / FCAW and SAW processes
Optimizing welding machine utilization and cost
Ideal for medium thickness structural / vessel fabrication jobs

SALIENT FEATURES :

- Optimum use of existing MIG welding machines
- Economical - Minimum investment since there is no need to buy complete SAW outfit
- Flexibility in machine utilization for GMAW/FCAW and SAW welding processes
- Increased welding productivity wherever possible, by using SAW welding process instead of GMAW or FCAW process
- Increase in welding productivity even in GMAW/FCAW welding process by using mechanized MIG torch travel instead of manual MIG torch travel used in semiautomatic GMAW/FCAW welding



INTRODUCTION

SMAW and GMAW welding processes are very common processes used for fabrication jobs. Most small and medium size fabrication and production shops use these processes. The GTAW and SAW welding processes are not that common and hence are not used in every welding fabrication shop. Thus welding equipments used for SMAW and GMAW welding processes are observed in most fabrication shops. When these shops are required to use SAW welding processes to either increase the welding productivity on existing jobs or for some new odd jobs which may not be very regular but SAW welding is mandatory for these jobs, then they have to invest in purchasing SAW welding equipments, just to complete such odd jobs and once these jobs are completed then the new SAW welding equipments purchased may remain unused for quite some period. The power source characteristics required for welding equipments for GMAW and SAW welding processes are the same i.e. constant voltage (CV), hence it is possible to convert GMAW welding equipment for SAW welding process. In SAW process flux is required to shield the arc instead of shielding gas used in GMAW welding process. Thus in such situation instead of purchasing a complete SAW equipment, if only tractor type motorized welding head with flux dispensing arrangement is procured, then this SAW welding head can be used for both SAW and GMAW welding processes (with the existing MIG power source of 600 amps) by mounting GMAW torch head on this tractor as illustrated in the pictures given on next pages.

ADOR WELDING LIMITED has developed the Mechanization attachment (Model – Combo MS 600) mounted on travel carriage for GMAW / FCAW / SAW welding (to be used with standard Co_2 welding machine) which is very useful and handy to complete above mentioned jobs without really purchasing the new SAW welding outfit, Ranger 600 consisting of power source and welding head.

Thus the complete set up including mechanization attachment mentioned above, can be used for the combination of welding processes like GMAW, FCAW and SAW etc.

Cont.

Combo MS 600

Mechanised Attachment for GMAW / FCAW and SAW processes
Optimizing welding machine utilization and cost
Ideal for medium thickness structural / vessel fabrication jobs

Cont

WHAT IS MECHANIZATION ATTACHMENT AND THE COMPLETE SYSTEM?

In this arrangement, existing MIG outfit with power source, wire feeder and torch is used. From this outfit, standard MIG welding torch is mounted on the travel carriage (customized SAW welding head) and the existing wire feeder is used for wire feeding purpose. Using this mechanized set up GMAW/FCAW welding can be done. The SAW welding can be done using the same mechanized set up by connecting flux hopper, flux hose and flux dispenser provided with the attachment. User has the option to carry out normal semiautomatic CO₂ / MIG welding using MIG torch manually or mechanized GMAW / FCAW / SAW welding using the carriage on which above mentioned MIG torch is mounted. The operator/welder has to start shielding gas flow when he needs to use MIG process and use the flux (after stopping shielding gas flow) through flux hopper & dispenser when SAW process is to be used. This mechanization arrangement thus enables the fabricator to carry out manual and semiautomatic GMAW and FCAW welding as well as mechanized GMAW / FCAW / SAW welding of pipes / plates from 7 mm to 20 mm thickness. In case user does not have the MIG or GMAW outfit, then he can also buy a complete new set up consisting of MIG power source, Wire feeder and Torch, apart from the mechanization attachment, Model-Combo MS 600. Thus the total scope of supply will be as follows



Combo MS 600

Mechanised Attachment for GMAW / FCAW and SAW processes
Optimizing welding machine utilization and cost
Ideal for medium thickness structural / vessel fabrication jobs

SCOPE OF SUPPLY:

A. When MIG outfit is not available with the user

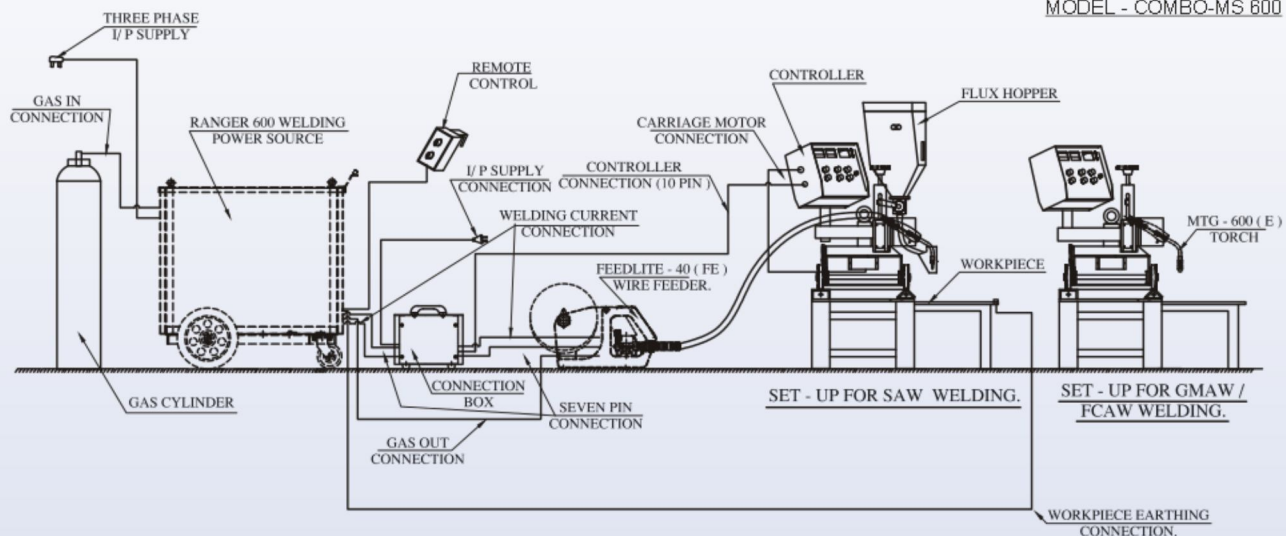
- 1. RANGER-600** consisting of Power source, Model: TCVR-600, Wire feeder, Model: **FEEDLITE- 40 (NEH)** & welding torch, **MTG-600(E)** with standard accessories.
- 2. Mechanized Attachment Model – Combo MS 600** consisting of customized SAW welding carriage trolley with manual horizontal and vertical slides, necessary brackets for mounting the torch, controller having controls for carriage drive, weld controls, wire feed controls, flux hopper with flux hose and flux dispenser, attachments for fillet welding, pointer assembly etc.
- 3. A Connection Box** for connecting RANGER 600 with the trolley assembly Necessary **Inter connection cables** for joining RANGER-600 to connection box and connection box to mechanized trolley.

B. When MIG outfit is available with the user

- 1. Mechanized Attachment Model – Combo MS 600** consisting of customized SAW welding carriage trolley with manual horizontal and vertical slides, necessary brackets for mounting the torch, controller having controls for carriage drive, weld controls, wire feed controls, flux hopper with flux hose and flux dispenser, attachments for fillet welding, pointer assembly etc.
- 2. A Connection Box** for connecting RANGER 600 with the trolley assembly
- 3. Necessary Inter connection cables** for joining RANGER-600 to connection box and connection box to mechanized trolley.

The entire set up and connection arrangements between the power source, connection box and the welding tractor head is shown in the photograph and connections between various components are illustrated below for easy understanding

SET - UP OF MECHANISATION ATTACHMENT
FOR GMAW / FCAW / SAW WELDING.
MODEL - COMBO-MS 600






Note: Power source, wire feeder & welding torch not in the standard scope of supply

Combo MS 600

Mechanised Attachment for GMAW / FCAW and SAW processes
 Optimizing welding machine utilization and cost
 Ideal for medium thickness structural / vessel fabrication jobs

Cont.

SPECIFICATIONS :		
Technical Specifications	Unit	Combo MS 600
Max. Welding current		
@ 60% duty cycle	A	600
@ 100% duty cycle	A	465
Wire diameter	mm	1.2, 1.6, 2.0,
Speed range		
Wirefeed	m/min.	1.2 to 18
Carriage	m/min.	0.1 to 1.5
Input to controller	-	42V from connection box
Range of adjustment		
Vertical (manual)	mm	140
Transverse to head travel		
Horizontal (manual)	mm	140
Max. swivel :		
Transverse to head travel	Degree	45
Parallel to head travel 	Degree	30
Horizontal open swing	Degree	270
Weight of the spool (Max.)	Kg	15
Flux hopper capacity	Kg/Ltr	10/7
Dimensions: 		
Length	mm	1100
Height	mm	810
Width	mm	760
Total weight without flux and wire 	Kg	95

ORDERING INFORMATION:

	Product	Product Code
Mechanised Outfit	COMBO MS-600	F10.36.004.0108

ORDERING INFORMATION:

CO2/MIG Welding Torches	ADOR TW-402(E)	S15.01.002.0117	MTG-600 (BM)-1	S15.01.002.0951
	MTG-600 E	S15.01.002.0083	MTG-600 (BM)-2	S15.01.002.0952
			MTG-600 (BM)-3	S15.01.002.0953

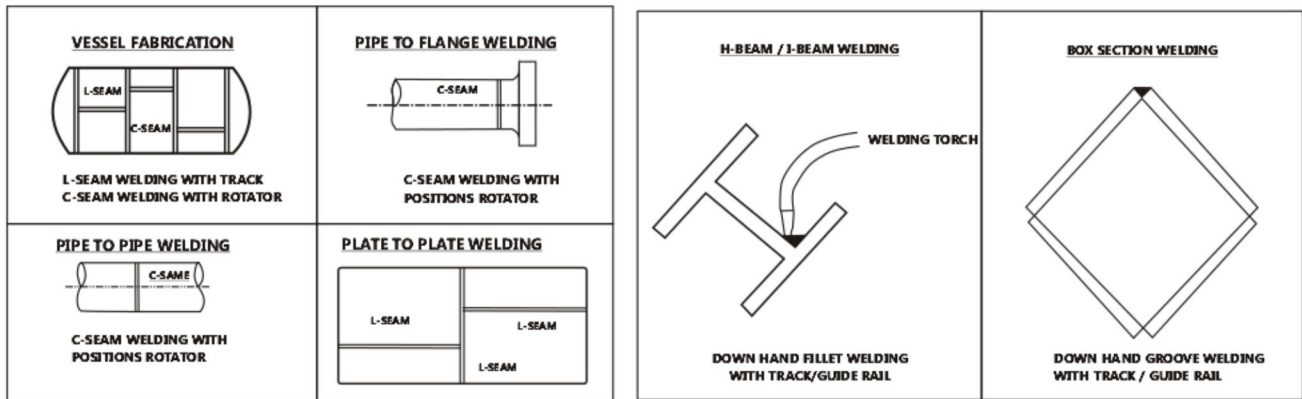
Cont.

Combo MS 600

Mechanised Attachment for GMAW / FCAW and SAW processes
 Optimizing welding machine utilization and cost
 Ideal for medium thickness structural / vessel fabrication jobs

Cont.

SPECIFIC APPLICATION WHERE THIS MECHANIZATION CAN BE IDEALLY USED



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Our Global Footprints



-  Regd. & Corporate Office
-  Manufacturing Facilities
-  Central Marketing Office

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WELDERS TO THE NATION SINCE 1951
ADOR WELDING LIMITED
 (Formerly Advani-Oerlikon Ltd.)



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