

PLASMA TRANSFERRED ARC - PTA



Features:

- CNC based fully automatic operation.
- 12" TFT LCD Touch-Screen Display.
- Pre-Program facility for all parameters like:
Gas Pre-flow / Post-flow time, Powder flow rate. Weld current, Up-slope / Down-slope time.
Rotation speed, Boom step-over, Number of bands / cycle. Oscillation width, Oscillation speed, Dwell time.
- Choice of Positioners / Job Manipulator:
Weight capacity from 100 kg to 2500 kg, Face plate diameter from 250 mm to 2000 mm.
- Choice of Column & Boom: Stroke length from 500 mm to 2000 mm.
- Choice of ID as well as OD Torches.
- Suitable for Circular, Straight, Screw, Ball Valve deposits.

Applications:

- Seat rings, Wedges, Seals, Globe of flow control valves.
- Disc, Nozzle, Inlet of safety valves.
- Valve Base & Seats of Automobiles, Marine Engines.
- Edges of industrial Cutting knives, Extrusion screws.
- Pressure rollers of Pulp & Paper industries.
- Components of Agricultural, Chemical, Nuclear plants.
- Screws of mixing plants like Rubber, Chemical etc.



Nozzle



Seal



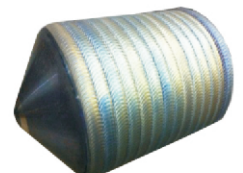
Ball



Engine Valve



Slurry Pipe



Plug

Main Unit

Input Supply	: 415 VAC / 50 - 60 Hz / 3 Phase / 4 Wire
Output OCV	: 75 - 85 VDC
Pilot Arc Current	: 10 - 25 Amps DC
Plasma Gas	: 0 - 5 LPM
Shielding Gas	: 0 - 10 LPM
Carrier (Powder) Gas	: 0 - 15 LPM
Trip Protection	: Water fail / Plasma gas fail
Display	: Digital Ammeter / Volt Meter DC
Test Facility	: Pilot Arc / OCV



Water Chiller – Re-circulator

Flow Rate	: 5 LPM
Outlet Temperature	: 10 – 30 Deg. C
Tank Capacity	: 25 / 50 / 100 Liters



Powder Feeder

Hopper Volume	: 700 CC
Weight Capacity	: 5 Kg
Delivery	: 0.5 – 5 Kg / hr
Type	: Positive Displacement



OD (External) Torch 35 OT

Current Capacity	: 350 Amps
Duty Cycle	: 100%
Electrode (Tungsten) Size	: Dia 4.8 mm ($\frac{3}{16}$ ")
Electrode Length	: Min 175 - Max 300 mm ($6\frac{7}{8}$ - $11\frac{13}{16}$ ")
Torch Grip Dia	: 38 mm ($1\frac{17}{32}$ ")
Cable Length	: 4 meters / 13 feet (Optional 8 / 12 mtrs)



ID (Internal) Torch 45 IT

Min Bore Dia	: 45 mm ($1\frac{25}{32}$ ")
Max Bore Length	: 250 mm (10")
Current Capacity	: 100 Amps
Duty Cycle	: 100%
Electrode (Tungsten) Size	: Dia 2.4 mm ($\frac{3}{32}$ ")
Electrode Length	: Min 20 - Max 25 mm ($\frac{13}{16}$ - 1")
Torch Grip Dia	: 50 mm (2")
Cable Length	: 4 meters / 13 feet (Optional 8 meters)



ID (Internal) Torch 75 IT

Min Bore Dia	: 75 mm (3")
Max Bore Length	: 500 mm (20")
Current Capacity	: 150 Amps
Duty Cycle	: 100%
Electrode (Tungsten) Size	: Dia 2.4 mm ($\frac{3}{32}$ ")
Electrode Length	: Min 45 - Max 60 mm ($1\frac{25}{32}$ - $2\frac{3}{8}$ ")
Torch Grip Dia	: 32 mm ($1\frac{1}{4}$ ")
Cable Length	: 4 meters / 13 feet (Optional 8 meters)



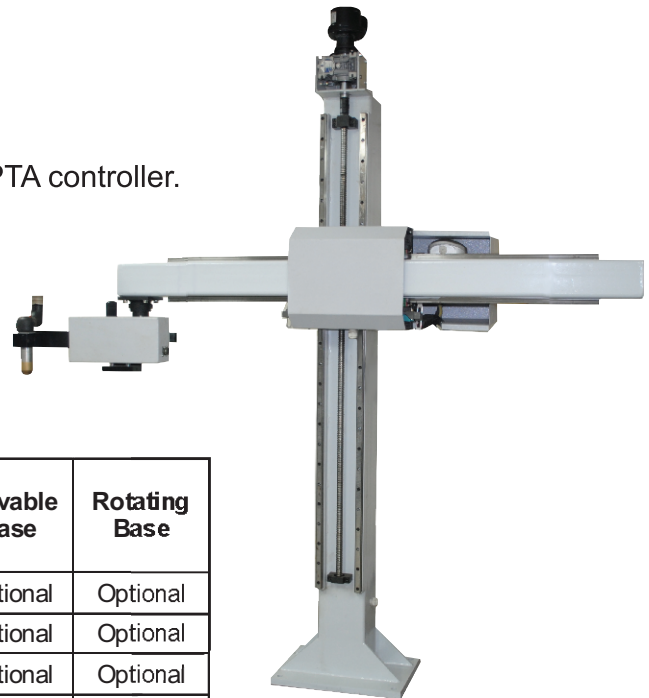
Controller



- INTEL industrial motherboard.
- Dual core high speed processor.
- Embedded operating system with Flash drive.
- Touch screen operation.
- High speed PLC interface control.
- Option of external keypad & mouse.
- Auto Torch Lift (ATL) facility to auto-lift the torch for repetitive jobs.
- Programmable to control six motors (6 Axis) for custom built system.

Manipulators

- Suitable for fully automatic operation with CNC based PTA controller.
- Wide choice of Column & Boom and Positioners
- Option of Moving base for straight line welding.
- Option of Revolving base for multiple Positioners.
- Protective interlocks with limit switches & stoppers to avoid over run.



Column & Boom

Model	Column Lift mm	Boom Stroke mm	Column Speed mm/min	Boom Speed mm/min	Movable base	Rotating Base
APCB 0505	500	500	600	100 to 1000	Optional	Optional
APCB 1010	1000	1000	1200	120 to 1200	Optional	Optional
APCB 1515	1500	1500	1200	120 to 1200	Optional	Optional
APCB 2020	2000	2000	1200	120 to 1200	Optional	Optional
APCB 2525	2500	2500	1200	120 to 1200	Optional	Optional

Other sizes available as per customer's requirement

Positioners

Model	Load Capacity kgs.	Rotation Speed rpm	Tilting Speed rpm	Tilting angle	Faceplate dia. mm	Table Height mm
POS-100	100	0.2 – 2	1	0 – 90	300	500
POS-250	250	0.2 – 2	1	0 - 90	500	500
POS-500	500	0.1 - 1	1	0 - 90	750	750
POS-750	750	0.1 - 1	0.5	0 - 90	1000	750
POS-1000	1000	0.08 - 0.8	0.5	0 – 90	1000	1000
POS-1500	1500	0.08 - 0.8	0.5	0 – 90	1500	1000
POS-2500	2500	0.05 - 0.5	0.5	0 - 90	2000	1250

Other sizes available as per customer's requirement



Specifications are subject to change without notice



Specifications

Model		PTA 400
Input		
Input Supply	VAC	415 / 50 – 60 Hz
Input Phase		3 / 4 Wire
Max Installed Power	Hp	24
Input	KVA	19.4
Output		
OCV	VDC	75 – 85
Current Range	Amps	20 – 400
Duty Cycle	%	100
Pilot Arc Current	Adc	10 – 25
Gas Parameters		
Plasma Gas	LPM	0 – 5
Shielding Gas	LPM	0 – 10
Carrier (Powder) Gas	LPM	0 – 15
Manipulator		
Degree of rotation		0 – 360
Degree of overlap		0 – 90
Boom step over	mm	0 – 999
Numbers of Bands		0 – 999
Rotation speed		✓
Boom travel speed		✓
Moving base		Optional
Rotating base		Optional

Model	PTA 400	
Programmable Parameters		
Welding		
Gas Pre-flow	Seconds	0 – 99.9
Gas Post-flow	Seconds	0 – 99.9
Current Up-Slope	Seconds	0 – 99.9
Current Down-Slope	Seconds	0 – 99.9
Base Current	Adc	20 – 400
Oscillator		
Oscillation width	mm	25
Oscillation per minute		0 – 80
Dwell time left	Seconds	0 – 99.9
Dwell time right	Seconds	0 – 99.9
Powder Feeder		
Powder feed rate		Auto w.r.t. current
Feeder on / off		Auto with arc
Feed slope down		Auto w.r.t. current down slope
Numbers of Programs		999
Auto-Lift Facility (ALF)		✓
Hardware		
Motherboard		Intel Duel Core
Operating system		Embedded Microsoft XP
Flash Drive		✓
PLC		32 I/O

Coating Services :

We undertake specialized surface engineering job work backed by latest technology and skilled team of Engineers and technicians. We ensure quality control with compliance to international standards.

We Offer:

- 1) Coating of new components.
 - 2) Reclamation of older, worn out components.
 - 3) Manufacturing and welding services of new jobs as per drawings and specific customer requirement.
- Whether it is a prototype, single component or a large batch of components. We will do it for you.

Facilities :

- Plasma Transferred Arc (PTA)
- Manual Powder Welding
- MIG / MAG
- SAW (Submerged Arc)
- Spray & Fuse
- TIG (Tungsten Inert Gas)
- Oxy-acetylene
- Wire Spray
- Arcraft offers applications and process development services for automated weld repairs.
- We have experience in testing and installing PTA machine, Hardbanding machine, Precision Welding (Micro TIG, Micro Plasma Welding), Welding Automation with many new systems.
- Weld process development: Optimum selection of process parameter for all jobs. Preparation and qualification of WPS and PQR.

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