

ROTA300-600 Series Positioner

Operating Manual



ROTA Series Positioner

Summary:

The ROTA series is medium size semi-automatic type of welding equipment designed for rotating work pieces during the welding process. The ROTA machines are compatible with MIG/ MAG, CO₂ and TIG welding processes. ROTA machines are suitable for automobile, motorcycle accessory, hardware manufacture and in fields that require to weld circumferences of objects.

Positioner Features:

1. The headstock can be rotated between 0° and 90° .
2. The drive motor is driven by a DC PWM signal .
3. An inbuilt pulse counter is used to control rotational angle and stop at set intervals.
4. May be interfaced to welding equipment for autonomous operation.
5. Emergency stop fitted to front panel for operator safety.
6. Can be interfaced to all welding machines.
7. Foot pedal is supplied for control via foot movement leaving the operator's hands free to weld.

Technical Parameters:

	ROTA300	ROTA350	ROTA400	ROTA450	ROTA500	ROTA600
Input Voltage	AC240V	AC240V	AC240V	AC240V	AC240V	AC240V
Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Input Power	0.1KVA	0.2KVA	0.25KVA	0.3KVA	1.5KVA	2KVA
Turntable Diameter(mm)	4>300	4>350	4>400	4>450	4>450	4>600
Rotate Speed	1.0-12rpm	0.2-2rpm	0.2-2rpm	0.2-2rpm	0.1-1rpm	0.1-1rpm
Horizontal Loading Capacity	50KG	100KG	200 KG	300 KG	500 KG	1000 KG
Vertical Loading Capacity	25KG	50KG	100KG	150KG	250KG	500KG
Size(L x W x H)mm	490x440x460	540x440x475	620x460x500	720x480x530	1000x730x800	1330x850x820
Weight	36KG	55KG	65KG	78KG	250KG	300KG
Tilt Mode	Manual	Manual	Manual	Manual	Electric	Electric
Max. Amp.	250A	250A	400A	400A	800A	800A
Protect Rank	IP21S	IP21S	IP21S	IP21S	IP21S	IP21S
Center Bore Diameter (mm)	4>30	4>45	4>45	4>45	4>65	4>195

Front Panel Operation



1. Activate power by pressing the main on/off switch to the on position.
2. Select the rotational direction of the positioner via the rotation switch.
3. Select either auto mode or manual mode.

AUTO - Auto mode uses either the green start button or foot control to activate the rotational motor and the digital counter to switch off the rotational motor after the set angular rotation is complete. (See Digital Control Setup)

MANUAL - Manual mode allows the rotational motor to keep turning whilst ever the foot control or front panel green start button are depressed.

4. Set the desired rotational speed by turning the speed knob.
5. Emergency Stop – Press to activate , turn and pull to reset.

Digital Control Setup

1. White Digits 1-6: Press and hold any of the white digits for several seconds until the corresponding digit on the 7 segment display starts to flash. Moving from right to left set the value in degrees that is required for the positioner to rotate until the next stop.

Position 1 = Units

Position 2 = Tens

Position 3 = Hundreds

Position 4 = Thousands

Position 5 = Ten Thousands

Position 6 = Hundred Thousands

To set 45 degrees make position 1 = 5 and position 2 = 4.

2. Time Delay: Green button labeled time is used to set the mandatory time delay between rotational operation. This setting may be set from 0.1 seconds to 9 seconds. Press and hold the green time button until the corresponding digit flashes with a decimal next to it. Press to increment by 1 digit and so on until you cycle right through.

Digital Control Operation

Once the digital control is set, for example to 45 degrees with a 0.5 second time delay the typical operation of the ROTA Positioner is as follows. In Auto mode either the foot control can trigger operation with one click or the front panel green start button can trigger operation with one press.

Upon triggering the start function the positioner will rotate until 45 degrees have been measured and then it will stop and prevent being retriggered for 0.5 seconds. The time delay is not important except when interfacing to automatic processes and controls.

Connecting To The ROTA Positioner

Use the supplied 35-50 dinse plug to connect the welding job clamp to the negative terminal on the rear of the ROTA positioner. Inside the positioner a pair of 500 amp brushes transfer the welding current to the welding table and allow the work piece to rotate whilst being welded.

Connect the supplied foot control to the green socket labeled CTRL IN (Control In)

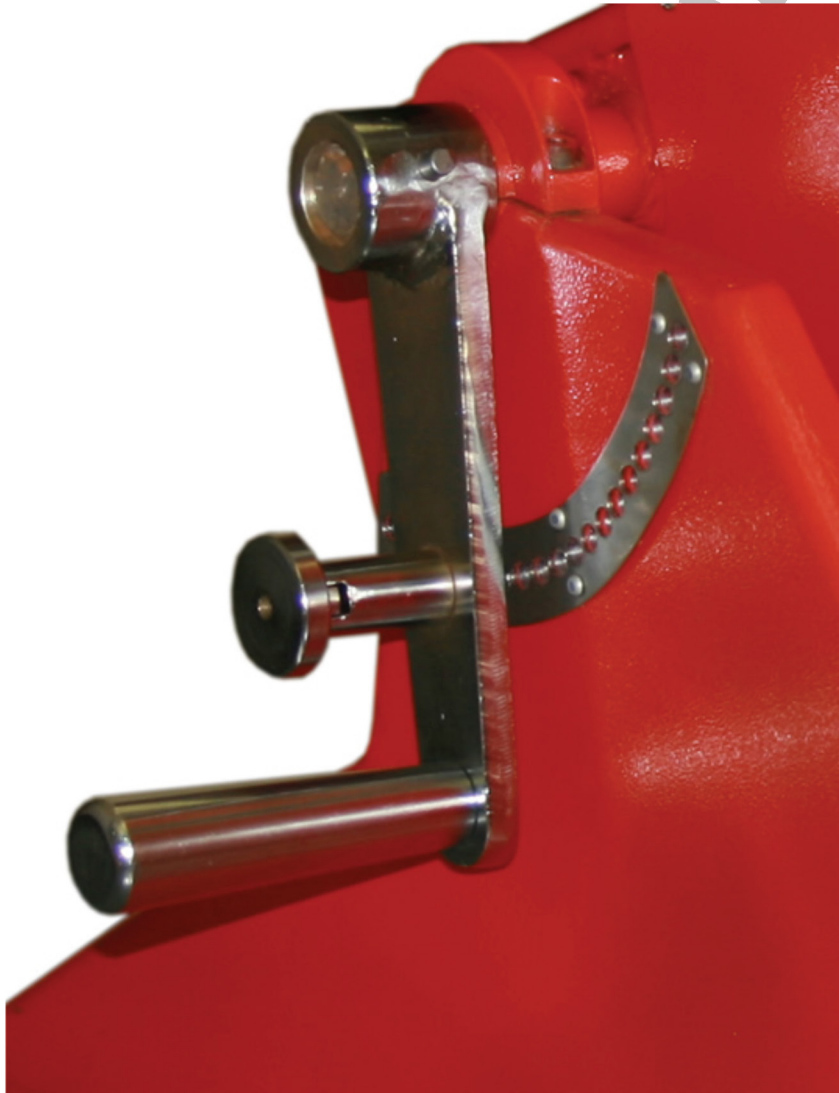
If you want to trigger external welding equipment to power up, a set of dry contacts are provided that close when the positioner rotational motor is activated. You may connect the silver two pin plug labeled CTRL OUT (Control Out) to your TIG or MIG welder torch switch.

Example: Use the foot trigger to activate the ROTA positioner. The positioner activates the dry contact and the welder starts to weld and after 45 degrees of rotation the digital controller stops the rotation and the dry contact also opens stopping the welding machine power.



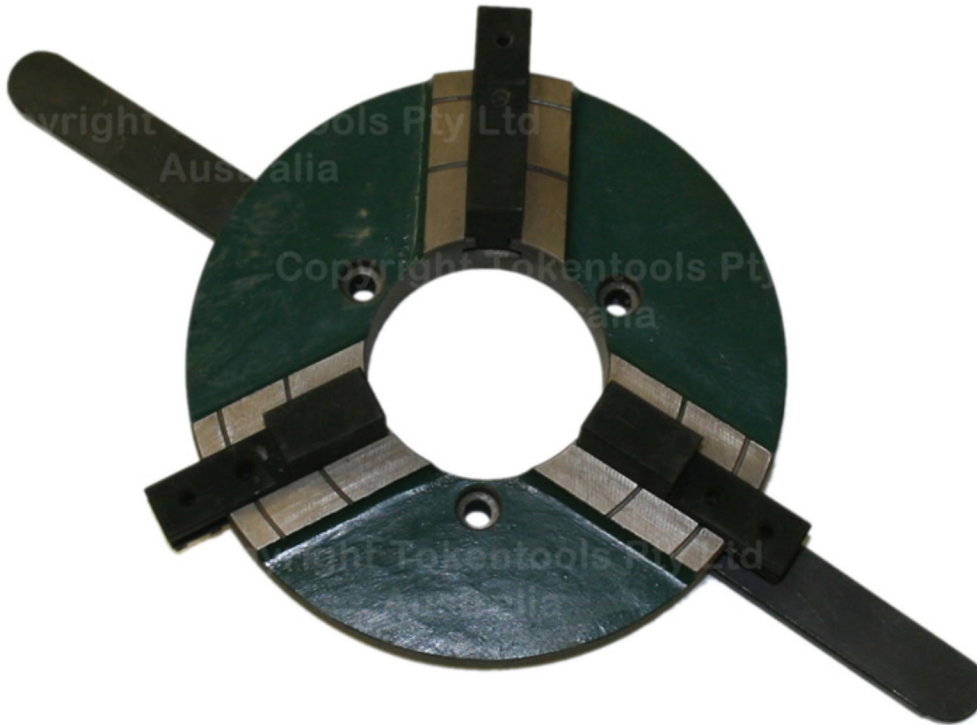
Adjusting Tilt Angle of Headstock

With the positioner unloaded hold the handle firmly whilst pulling the spring loaded locking pin. Rotate the positioner headstock to the desired position then release the locking pin to secure into place. Do not rotate the headstock whilst it is loaded with a workpiece.



Welding Positioner Chuck (Optional)

Mount the welding positioner chuck to the positioner table using the three supplied bolts. To open the chuck rotate the chuck handles counter clockwise. To close it rotate the handles clockwise.



Operating Voltage

The ROTA series positioner machines operate at 240V AC 50Hz. Please use a suitable step up / down transformer rated at 1000W if using on a supply the is not 240V AC.