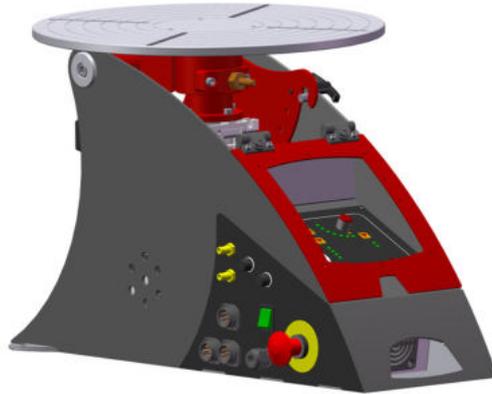


RWP POTTER 400.51



Basic description

- **RWP 400.51 is table positioner with 370 mm working plate height and maximum working load of 50 kg.** It goes about a simple, high - effective machine with specified design, using solely first class constructional equipment.
- The rugged steel construction carries the spindle which allows using the working plate and **universal chuck** comfortably. The control system R2 is integrated into the machine and is protected by the steel door with the hole through the polycarbonate glass against the suppression of the welded metal. The work is easier because of the **foot speed rotation proportional controller** which allows to set the speed of spindle rotation and sensitivity.
- The rotator has a variable tilt features 0 - 110° ensuring the optimal welding position. The elevation is possible to change manually.
- The machine has integrated anchors points for the installation of arm which enables automatic operation of the positioner and can be equipped with the pneumatic system of the arm of the welding torch.
- There is the possibility to deliver the machine with integrated system for setting the forming gas.
- RWP is perfect and suitable for MIG/MAG and TIG welding methods including pulse arc and plasma welding.
- There are three versions of the machine Mk.I, Mk.II, Mk.III. which differs according to speed range which should be reached. Version is written on production label. Mk.I is very quick, Mk.III on the other hand slow.
- To gear ratio torque on spindle shaft is depended. That means that if Mk.I version has wide speed range, torque value will be low, on the other hand version Mk.III has much more higher value of the torque but speed range are low.
- The main advantage of the machine is that is driven by step motor by which steady speed range are kept no matter how loaded the machine is. If the machine is overloaded, motor of the machine is fully stopped because of the fact that pulse synchronization of the motor and driver by which the motor is controlled is stopped. For the machine is this situation not dangerous because of the fact that step motor is not damaged by such a situation and gearbox is proportioned.
- **The machine is suitable for working in light industry and metal workshops and it is possible to use the machine for several hours.** A perfect smoothness and steady speed of rotation is guaranteed by high - quality drive, even by very eccentric loading. The control system R3 provides the basic functions for fully automatization of producing process, the machine has controlled output for clamping the welding machine.

Welded parts:

- It can go about any part that fulfills the dimensional and weight restrictions of machines without limitation of welding methods. The welding process can take place at any angle of inclination of the spindle within the capabilities of the machine. This is completely independent on the eccentric load of the machine by means of digital drive concept.
- The control system is able to control the angle of rotation and the angle of switching the welding machine off independently to each other. There is a possibility to reach the perfect connection of weld bead by the automated welding. Of course, there is a possibility of manual controlling.

Technical parameters of RWP 400.51

WORKING PARAMETERS	Mk.I	Mk.II	Mk.III
Maximal static loading	50,0 Kgs	50,0 Kgs	50,0 Kgs
Torque on shaft	18,4 Nm	38,4 Nm	79,4 Nm
Angle static clearance on shaft of the main spindle	-	-	-
Torque on shaft / elevation of main spindle	Manual axis	Manual axis	Manual axis
Speed range	0,01 - 16,0 rmp	0,01 - 8,0 rmp	0,01 - 4,0 rmp
Working loading **	8/5	8/5	8/5
TECHNICAL PARAMETERS			
	VALUE Mk.I/Mk.II/Mk.III		
Maximal turning diameter (only when there is arm for automatization of welding)(mm) *	540 mm		
Hole through main spindle	-		
Diameter of flange of the main spindle - recommended diameter of universal chuck (mm)	125,0 mm		
Recommended working plate (mm)	400,0 x 11,0 mm		
MOTORIC AXISES			
	VALUE Mk.I/Mk.II/Mk.III		
Rotation of main spindle	Controlled axis		
Elevation of main spindle	0 - 110°, manual axis		
Tilting of arm of the torch *	Full functionality, manual axis		
Adjustment of starting position of arm (3 joints) *	Full functionality, manual axis		
Accuracy of torch position *	Full functionality, manual axis		
Adjustment of precise position of the torch *	+/- 20mm, manual axis		
TECHNOLOGY OF WELDING AND CONTROLLING			
	VALUE Mk.I/Mk.II/Mk.III		
Suitable methods of welding	MIG/MAG TIG, Plasma, Laser		
Electric current for DC transferred by spindle	350A		
Electric current for AC transferred by spindle	270A		
Connection of welding device through START/STOP system	Yes		
Foot switch for regulation of the main spindle and START/STOP function *	Yes		
ELECTRIC POWER AND CONNECTING PARAMETERS			
	VALUE Mk.I/Mk.II/Mk.III		
Electric power supply	1x230V/N/PE/50Hz		
Compressed air (dry, clean) *	0,5 - 0,7MPa		
Protective gases for root protection *	1 independant way		
Description of working place	Table design, recommended to fix		
Level of IP	IP 51C		
Input power for installation ***	-		
DIMENSIONS			
	VALUE Mk.I/Mk.II/Mk.III		
Height ***	370 mm		
Width ***	198 mm		
Depth ***	617 mm		
Net weight (without clamping element) ***	40 Kg		

* Optional item, or more versions are available which differs according to function. Mentioned parameters are valid for maximal options.

** 8/5 = lower loading in one duty period /// 16/6 = industrial loading /// 24/7 = non - stop loading

*** Parameters can not be provided with 100% correctness. Configuration of the machine must be taken into consideration.

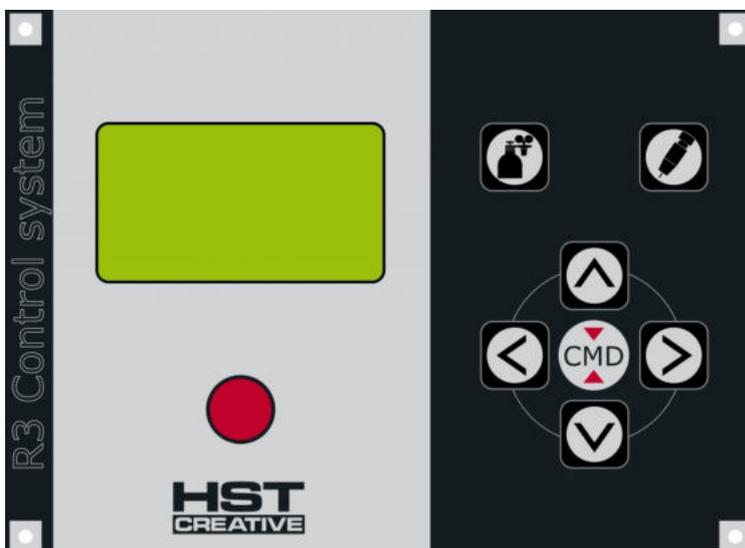
Mentioned parameters are valid for reaching maximal effective value.

Functionality in detail

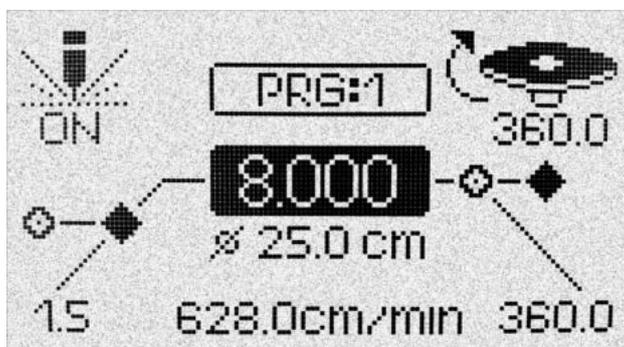
The information given in here are the overview about possibilities of the machine and do not give explanation of individual components because of difficult comprehensibility of more complicated functions and equipment. For more details, please, contact the technical department or management of HST CREATIVE.

R3 Control system

- ✓ Simple controlling adapted for easy understanding by the operator.
- ✓ Large LED display shows all necessary values of key features.
- ✓ Internal MENU is divided into graphic blocks for intuitive orientation.
- ✓ Digitally controlled delay of welding, rotation speed and other features.
- ✓ Rotation speed of the spindle is controlled by the central rotary knob in standby mode for faster response.
- ✓ Division of the values settings for rotation, for controlling the welding source, welding arm, or forming gases.
- ✓ Program controlled and adjustable welding arm and forming gas control.
- ✓ Possibility to save own programs and settings into a memory of the control system using a programmable interface inside of the system.



R3 Control system Standby mode:



Technological functions of R3 Control system

Controls:

- **2 Step.** This function requires the operator to press and constantly hold the foot switch or the button of the hand controller. Working cycle is started and when the foot switch or button of hand controller is released working cycle will stop. This is so-called two-motion mode. It can be active only if the Automatic rotation is not activated. Typical usage of this mode is welding when the operator sits so it is possible to immediately respond to the needs of welding rotation.
- **4 Step.** This function requires the operator to press and release the foot switch or the button of the hand controller. Working cycle is started and when the foot switch or button of the hand controller is pressed and released once again working cycle will stop. This is so-called four-motion mode. It can be active only if the Automatic rotation is not activated. Typical usage of this mode is welding when the operator is standing. That allows the movement at working place of the operator. Spindle is rotated uninterrupted.
- **Automatic rotation.** This is a mode of automatic rotation checking. That means, the spindle is rotating by a predetermined angle from 0 ° to 730 °. By the pressing of the foot switch or the button of the hand controller the working cycle is started which is automatically terminated after reaching the predetermined rotation angle. The angle of rotation can be set in block "**Rotation**" in the MENU of WORKING PROGRAM, see below.
- **Low speed limit.** Specifies the minimum adjustable speed of rotation (RPM) of spindle rotation in STANDBY MODE. I.e. the minimum rotation speed of the spindle from which the speed can be increased. Below this value set in this block the spindle can not be rotated. Therefore, if you want to use a full speed range of the machine, it has to be adjusted to 0.001 rpm. Maximum adjustable value is always equal to the maximum possible speed of the machine, see the production label.

Rotation:

- **Diameter.** Adjusting of welding diameter. Control system R3 will automatically calculate the progressive welding speed - the relative feed rate of the torch. This value will be displayed in the STANDBY MODE on display screen. Settings in centimeters in the range from 0.0 to 300.0.
- **Rotation direction.** Settings of direction in the rotation axis (Choice: **Clockwise**, or **counterclockwise**).
- **Rotat. delay.** The function can be useful for a better material melting before welding. Adjust the delay between switching ON of the welding source and starting of the spindle rotation. Settings in seconds with an accuracy to one-tenth in the range of 0.0 to 15.0 sec.
- **Angle of rotation.** Choose the total angle by which the spindle will turn around its axis. The limit is 730 °. This function is active only when Automatic rotation mode is activated in block "**Controls**", see above.
- **End welding angle.** It defines the point where the control system R3 switches OFF the welding source. Settings in angle degrees. Limit value is 730 ° but the total value can not be higher than the value adjusted in the Angle of rotation. This function is active only when Automatic rotation mode is activated in block "**Controls**", see above.
- **Return to 0.** It defines the returning of the spindle to initial position to find the starting position of welding (=e.g., directionally defined tools), or to unwrap the energy and gas hoses. This function is active only when Automatic rotation mode is activated in block "**Controls**", see above.

Gas:

- Function is active only when the machine is equipped by the valve for the switching of the gas (optional element).
- **Pre-gas.** Serves to fill up the space of weldment root by protected – forming gas. It defines how long the gas valve will be switched ON before the system gives a command to ignition of the welding source. Settings in seconds in the range from 0.0 to 15.0 s. If 0.0 s is adjusted the function is inactive.
- **Pos-gas.** It defines a time how long the valve will be switched ON after the command to switch OFF the welding source has come. Settings in seconds in the range from 0.0 to 15.0 s. If 0.0 s is adjusted the function is inactive.

Torch:

- Function is active only when the machine is equipped with a pneumatic arm for full welding automation (optional element).
- **Before welding.** Choose the type of the movement of the torch to the welded product before welding process. (Choice: Automatically, i.e. torch will be inclined automatically to the product when the working cycle starts, or Manually, i.e. the torch waits for a command via the key on the control panel, before starting of the working cycle)
- **After welding.** Choose the type of the movement of the torch from the welded product after welding process. (Choice: Automatically, i.e. the torch will be moved automatically from the product after the ending of the working cycle, or Manually, i.e. the torch waits for a command via the key on the control panel, after the ending of the working cycle)

Options

- There is a choice between using the **working plate** or **universal chuck**. To each version of the machine a suitable working plate or chuck is recommended.
- There is a possibility of supplying the machine with a **standard switch** (type: start-stop). However, it is also possible to connect a proportional control distance heel (heel feud). This will be controlled by the speed of deflection sensitivity, which can be seen on the control panel.
- There is also the possibility to connect optional **mechanical** or **pneumatical arm** for welding. This is the time when the machine becomes fully automated. With this step the welding on the basis of the primary setup process without professional service can be realized. The suitable connecting cable with the wall plug is delivered with the machine.

Versions:

- HST CREATIVE creates made to order, high-effective working stations used for welding of simple parts by using this machine. More information available in here.
- For first class equipment of the machine the connection with cold wire feeder **HST Creative CW 06** is possible. As an additional equipment of the machine forming gas can be supplied.

Necessary choice

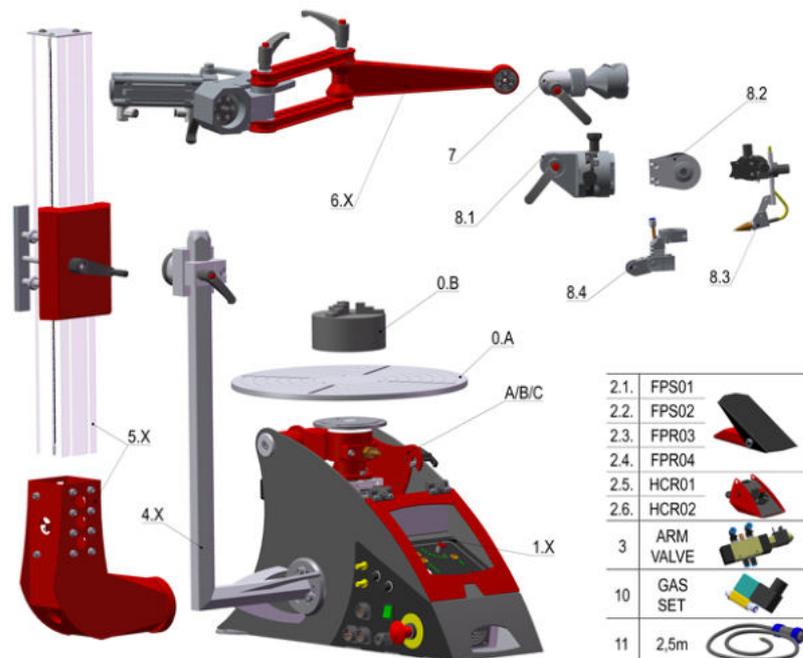
Necessary to be added to the machine. If you have any questions do not hesitate to contact us. Your offer can be successfully finished without these options.

Constructional surcharge

These options must be added to the machine during the production process. Later it can be connected with high costs or it is fully impossible. these options.

Free options

These options can be mounted anytime. Later order of these options does not mean higher costs.



A

RWP POTTER 400.51 Mk.I/Mk.II/Mk.III

Table desk positioner, maximal loading of 50 Kgs, elevation 0 - 110°, height of working plate 370 mm. In the basic delivery is included: machine RWP 400.51 Mk.I, Mk.II, or Mk.III, manual tilting of the spindle and earth cable 2,5m.



B

C

Working plate 400x11

Working plate with concentric circles and grooves, diameter of 400mm, thickness 11mm, four grooves 124x8,5mm
 ✓ Precisely tooled with high flatness, Concentric circles for immediate centering, Four clamping grooves, Surface is made out of cooper or nickel.
 ✓ Weight 10,3 kg



Universal chuck 125mm

0.B

Three - jaw universal chuck with special adjustment for welding, hole 28mm
✓ Standard concentric movement of clamping segments, Inner and outer clamping segments, Clamping tools, Special adjustment reducing wearing of gears caused by electric current.
✓ Weight 4 kg



R3 Control system - without program saving possibility

1.1

The control system R3 provides the complex and fully digital functions with big display and numerically adjustable values for fully automatization of producing process. The machine has controlled output for clasping the welding machine.



R3 Control system - program saving possibility

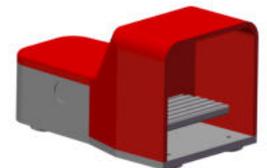
1.2

The control system R3 provides the complex and fully digital functions with big display and numerically adjustable values for fully automatization of producing process. The machine has controlled output for clasping the welding machine.



Foot pedal FPS01. START/STOP

2.1



Foot pedal FPS02. START/STOP>L/P

2.2



Foot pedal FPR03. START/STOP+RPM

2.3



2.4

Foot pedal FPS04. START/STOP>L/P+RPM



2.5

Hand controller HCR01. START/STOP+RPM



2.6

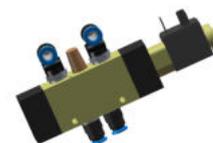
Hand controller HCR02. START/STOP>L/P+RPM



3

ARM VALVE 12VDC

12VDC switchboard and hose 1,0m for controlling of pneumatical cylinders.



4.1

ARM FIX 650

Six - sided manually moveable holder with mechanical fixation, length 650 mm.



4.2

ARM FIX 1000

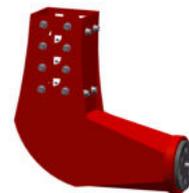
Six - sided manually moveable holder with mechanical fixation, length 1000 mm.



ARM LIFT HOLDER A

5.1

Support of the ARM LIFT system with locking. Maximal turning diameter always depend to the machine type.



ARM LIFT 400

5.2

Holder with vertical movement by gearbox, carriage of 400mm.



ARM LIFT 800

5.3

Holder with vertical movement by gearbox, carriage of 800mm.



ARM FLEXI

6

Assembled arm - four axis adjustment 2x280 mm, pneumatical.



ARM 1 JOINT HOLDER

7

Universal joint segment enabling correct adjustment of the torch position while process of welding, 28 - 42 mm.



ARM 2 SLIDE

8.1

Mechanical head (cross unit) with +/- 20mm movement (axes X/Z).



8.2

ARM 2 TILT TORCH HOLDER

Holder of MIG, or TIG torch with possibility to choose diameter.



8.3

ARM 2 SLIDE MICRO

Precise system of CW cold wire feeding +/- 5mm (axis X/Z).



8.4

ARM 2 GAS COVER

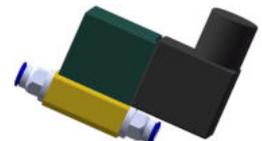
The first part of the gas protection system of welding with the clamp.



9

SET for connecting of protective gas

SET for connecting of protective gas for Potter machines.



10

Cable for welding source connection - 2,5m (without connector on the side of welding source)

