Let's weld the future

### **WELDING POSITIONERS**

- MINI-15
- MAK-50N
- MAK-100N
- MAK-200N
- MAK-300N
- MAK-500N
- MAK-800RP

### **WELDING CARRIAGES**

- KC-1
- KC-2
- . KC
- KC-4
- KC-5

### **SUBMERGED ARC WELDING (SAW)**

WELDING TRACTOR ADFG-502

# WELDING AUTOMATION AND ROBOTIZATION

ROBOTIC WELDING CELL

## **Since 1995**



The SHTORM company is a professional in the field of technologies and industrial equipment for welding and cutting metals.

Since 1995, we have been manufacturing welding equipment, solving complex industrial tasks of automation and robotization of welding production, supplying various welding equipment, providing after-sales service, warranty and postwarranty repairs.

# Own production and warehouse with ready equipment





# Representatives at the CIS and Middle East markets





### International certification CE, ISO 9001





### More than 6 000 customers since 1995

We are proud of our customers. There are very large enterprises among them, and smaller enterprises. We hope that our participation in their work and in solving production tasks makes them and us stronger. As Michael Lebof, author of How to Get Customers and Keep Them Forever, said: "A satisfied customer is the best business strategy." We strive to make our customers happy. Working together on mutually beneficial terms gives an impetus to the development of the entire industry and each enterprise individually. We will be glad to see you among our clients.

# **POSITIONERS**

Welding positioners manufactured by SHTORM LTD., Russia; allow you to install the product in the required position and rotate it at a given speed during the welding process. The welding positioner can be mounted on a concrete base, stationary stands or rail trolley.

According to the use of positioners, welding in hard-to-reach places becomes possible, which is especially valuable when working with large and heavy pipe structures, improving the quality of welded joints and increasing production speed.

# WELDING POSITIONER MINI-15, WITH 15 KG LOAD CAPACITY

Manufacturer - SHTORM LTD., Russia



#### **Description**

Welding positioner MINI-15 with 15 kg (33 lbs) load capacity is designed for holding and positioning of workpieces during welding.

- Digital speed indicator in control box;
- Simple and intuitive operation;
- Modular design provides a convenient location at the workplace;
- Faceplate with 6 T-slots is suitable for the installation of various types of chucks or special fixtures into which a welded component can be placed and fixed;
- Tilting of the faceplate is carried out manually with the help of the clamping lever.

#### **Specifications**

Power input	220 V / 50 - 60 Hz
Tilt Range	0-180 degrees.
Rotation Speed	1-9 rpm.
Reverse faceplate rotation	yes
Load Capacity	15 kg.
Positioner height	360 mm.
Height to rotation axis in horizontal position	205 mm.
Faceplate Diameter	180 mm.
Slots for the installation of different types of chucks	6 шт.
Base width	145 mm.
The length of the base is	320 mm.
Weight: welding positioner	15,6 kg.
Control box	3,4 kg.
foot control pedal	1,2 kg.

#### **Equipment**

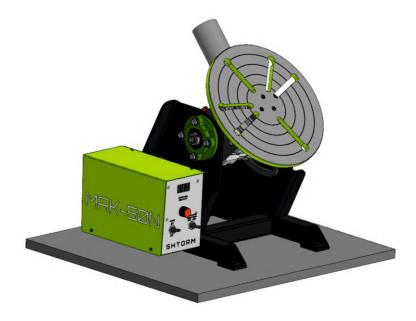
- Welding positioner MINI-15 1 pc.
- Control unit with 3 m. network cable 1 pc.
- Foot control pedal 1 pc.
- Set of operational documentation 1 pc.

In addition, we recommend that you purchase:

Chuck - 1 pc. (not included)

# WELDING POSITIONER MAK-50N, load capacity up to 50 kg

Manufacturer - SHTORM LTD., Russia

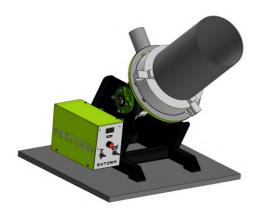


#### **Description**

The MAK-50N welding positioner is designed to hold and position workpieces weighing up to 50 kg during manual welding:

- Digital indication of faceplate rotation speed (in rpm);
- Faceplate with 6 grooves, which allows installation on it cartridges of all types and various accessories;
- Operating mode: 2-stroke, 4-stroke;
- · Changing the direction of rotation;
- Start and stop rotation using a pedal;
- Manual tilt with locking lever.

#### **Specifications**



Power supply	AC-230 V, frequency 50/60 Hz
The angle of inclination of the faceplate	0-180 degrees
The speed of rotation of the faceplate	1-9 rpm.
Reverse rotation	yes
Maximum load capacity	50 kg.
Positioner height	360 mm.
Height to the axis of rotation in a horizontal position	205 mm.
The diameter of the faceplate	180 mm.
The number of slots in the faceplate	6 pcs.
Base width	145 mm.
The length of the base	320 mm.
Weight: Positioner	15,6 kg.
The control unit	3,4 kg.
The pedal	1,2 kg.

#### **Equipment**

- Welding positioner MAK-50N 1 pc.
- Control unit with 3 m. network cable 1 pc.
- Foot control pedal 1 pc.

### WELDING POSITIONER MAK-100N, LOAD CAPACITY UP TO 100 KG

Manufacturer - SHTORM LTD., Russia





#### **Description**

The MAK-100N welding positioner with 100 kg load capacity is designed to hold and position workpieces during welding. Rotation and tilting are performed by the original Russian geared motor, providing stepless adjustment and stable rotation speed.

A sliding contact (copper-bronze) with a load of 500 A is used to connect the ground cable. All electrical parts are located inside the welding positioner. Adjustment of the rotation, tilt and welding parameters are carried out on the integrated control panel.

#### **Specifications**



The maximum load capacity	100 kg.
Maximum bending moment	-
Maximum torque	25 kg.*m.
The diameter of the faceplate	420 mm.
Rotation speed	0,5-8,45 rpm.
Angle of inclination	0-90 degrees
Supply voltage	1x220 V (50 Hz)
Weight	73 kg.
Overall dimensions (HxDxH)	835x420x670 mm.

#### **Equipment**

- Welding positioner MAK-100N 1 pc.
- Foot control pedal 1 pc.
- Set of operational documentation 1 pc.

### WELDING POSITIONER MAK-200N, LOAD CAPACITY UP TO 200 KG

Manufacturer - SHTORM LTD., Russia



#### **Description**

Distinctive features of the positioner (manipulator) MAK-200N:

- Durable welded frame, which ensures the workpiece stable rotation condition without elastic vibration given its different weight and configuration;
- Motorized rotation and tilting (on request) of the faceplate in a wide speed range;
- Faceplate with 6 T-slots is suitable for the installation of various types of chucks or special fixtures into which a welded component can be placed and fixed;
- Manual and automatic working modes;
- Installation of one or more pneumatic torch holders;
- Additional tails tock (on request), sliding along the added base for clamping longer work pieces (up to 2000 mm).

#### **Specifications**



Maximum load capacity	200 kg.
Maximum bending moment	80 kg.*m.
The maximum torque	38 kg.*m.
The diameter of the faceplate	650 mm.
The rotation speed	0,4-4,0 rpm.
Angle of inclination	0-105 degrees
Supply voltage	1x220 V (50 Hz)
Weight	295 kg.
Overall dimensions (HxDxH)	1050x850x730 mm.

<sup>\*</sup> The load capacity is indicated in the horizontal position of the faceplate

#### **Equipment**

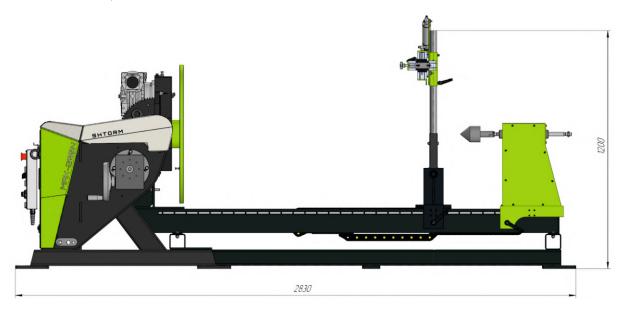
- Welding positioner MAK-200N 1 pc.
- Set of operational documentation 1 pc.
- Foot pedal 1 pc.

It is additionally equipped with:

- Pneumatic console to hold the welding torch.
- Tailstock for parts up to 2000 mm. long.

### WELDING POSITIONER MAK-300N, LOAD CAPACITY UP TO 300 KG

Manufacturer - SHTORM LTD., Russia



#### **Description**

The MAK-300N welding positioner with 300 kg (661 lbs) load capacity is designed to hold and position workpieces during welding rotation and tilting are performed by the original Russian geared motor, providing stepless adjustment and stable rotation speed. A sliding contact (copper-bronze) with a load of 500 A is used to connect the ground cable. All electrical parts are located inside the welding positioner. Adjustment and adjustment of the rotation, tilt and welding parameters are carried out on the integrated control panel.

#### **Specifications**



The maximum load capacity	300 kg.
Maximum bending moment	95 kg.*m.
Maximum torque	42 kg.*m.
The diameter of the faceplate	650 mm.
The rotation speed	0,3-3,0 rpm.
Angle of inclination	0-105 degrees
Supply voltage	1x220 V (50 Hz)
Weight	308 kg.
Overall dimensions (HxDxH)	1050x850x730 mm.

<sup>\*</sup> The load capacity is indicated in the horizontal position of the faceplate

#### **Equipment**

- Welding positioner MAK-300N 1 pc.
- Set of operational documentation 1 pc.
- Foot pedal 1 pc.

It is additionally equipped with:

- Pneumatic console to hold the welding torch.
- Tailstock for parts up to 2000 mm long.

# Welding positioner MAK-500N, load capacity up to 500 kg

Manufacturer - SHTORM LTD., Russia



#### **Description**

Distinctive features of the positioner (manipulator) MAK-500N:

- Durable welded frame, which ensures the workpiece stable rotation condition without elastic vibration given its different weight and configuration;
- Motorized rotation and tilting (on request) of the faceplate in a wide speed range;
- Faceplate with 6 T-slots is suitable for the installation of various types of chucks or special fixtures into which a welded component can be placed and fixed;
- Manual and automatic working modes;
- Installation of one or more pneumatic torch holders;
- Additional tails tock (on request), sliding along the added base for clamping longer work pieces (up to 2000 mm).

#### **Specifications**



The maximum load capacity	500 kg.
Maximum bending moment	120 kg.*m.
The maximum torque	90 kg.*m.
The diameter of the faceplate	700 mm.
The rotation speed	0,1-1,0 rpm.
Angle of inclination	0-105 degrees
Supply voltage	3x380 V (50 Hz)
Weight	398 kg.
Overall dimensions (HxDxH)	1090x840x825 mm.

 $<sup>^{\</sup>ast}$  The load capacity is indicated in the horizontal position of the faceplate

#### **Equipment**

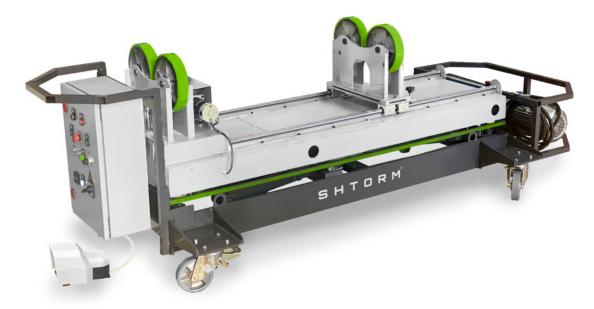
- Welding positioner MAK-500N 1 pc.
- Set of operational documentation 1 pc.
- Foot pedal 1 pc.

It is additionally equipped with:

- Pneumatic console to hold the welding torch.
- Tailstock for parts up to 2000 mm. long.

### ROLLER POSITIONER MAK-800RP, LOAD CAPACITY UP TO 800 KG

Manufacturer - SHTORM LTD., Russia



#### **Description**

The lifting roller rotator MAK-800RP is designed for positioning and rotation of cylindrical workpieces at welding speed when welding circumferential seams.

MAK-800RP is designed to operate in the following conditions:

- Temperature from +5°C to +40°C;
- Relative humidity less than 70%.

#### **Specifications**

The maximum load capacity	800 kg.
Lifting height	1000 mm.
Rotation speed	80-1600 mm/min.
Management method	Remote control/pedal
Supply voltage	1x220 V (50 Hz)
Diameter of the rotating shell	20-800 mm.
The length of the shell to be installed	450-2200 mm.
Diameter of the rollers	250 mm.
The stroke of the non-drive part of the rollers	1480 мм.
Overall dimensions (LxWxH)*	2910x1100x940 mm.

 $<sup>^{\</sup>ast}$  Overall dimensions are indicated with the table lowered

#### **Equipment**

- Rollerrotator MAK-800RP-1pc.
- Set of operational documentation 1 pc.
- Foot pedal 1 pc.

# WELDING CARRIAGES

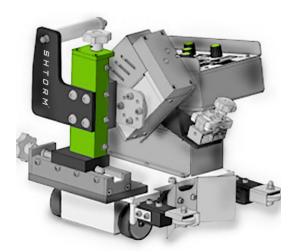
SHTORM welding carriages are a modern means of mechanization and automation of welding processes, which allows to qualitatively improve welded joints, facilitate the work of the welder and significantly increase productivity.

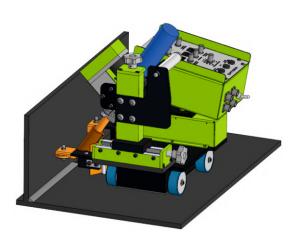
Welding carriages are a self-propelled torch positioning mechanism for MIG/MAG welding, which moves along the trajectory of the weld joint at a predetermined speed.

The role of the welder-operator is reduced to controlling the welding quality, adjusting the parameters of the welding current and the speed of movement of the torch.

Depending on the model, the SHTORM welding carriages are equipped with linear oscillation and interval welding functions and are designed for welding angular and buttwelded joints.

Manufacturer - SHTORM LTD., Russia





#### **Description**

Automatic welding carriage KC-1 is suitable for MIG/MAG welding of horizontal and vertical fillet welds with linear torch weaving across the joint. The small dimensions of the carriage allow it to be used in a limited space and hard-to-reach places.

#### Advantages:

- · Robust metal frame;
- Aluminum wheels coated with special heat-resistant rubber, which ensures the operation on surfaces heated up to 250° C and long-term durability;
- Powerful magnet ensures free movement on inclined and vertical surfaces;
- All-wheel drive system guarantees to maintain a constant speed even on rough surfaces;
- · Ability to work with almost any welding machines;
- Manual torch clamping device provides easy positioning of the torch in two directions;
- Ensuring the constancy of the position of the carriage relative to the joint during welding due to the adjustable guide arm, which consists of two support rollers mounted on an adjustable axis;
- Convenient handle;
- · Low weight and compact.

#### **Specifications**

Welding position	Horizontal and vertical corner seam
Weight	9 kg.
Overall dimensions (LxWxH)	285x295x290 mm.
Supply voltage	AC 1 ~ 100-240 V (frequency 50-60 Hz)
Ground clearance	6,5 mm (fixed)
Number of driving wheels	4 - on a fixed axis
Number of support rollers	2 - on an adjustable axis (adjustment angle ± 1°40")
Ensuring constant movement relative to the joint	Due to two thrust

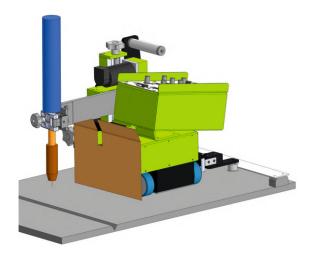
Torch stroke, horizontal/vertical	50/50 mm.
The angle of inclination of the burner, X-axis/Y-axis	45 ± 10/90 ± 10 deg.
The width of the burner oscillations	30 mm.
The rate of oscillation	200-2000 mm/min.
Delay at the edges of the oscillation	yes
The delay in the center of the oscillation	yes
The speed of the trolley	5 to 60 cm/min.
Fastening device	Magnetic
Clamping force	25 kg.

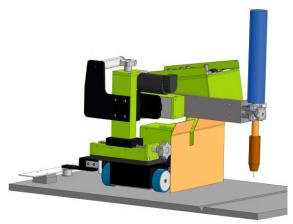
#### **Equipment**

- Welding carriage KC-1 with power cable 6 m.
- · Documentation set.

• \* Welding torch is not included in the package.

Manufacturer - SHTORM LTD., Russia





#### **Description**

Automatic welding carriage KC-2 is suitable for MIG/MAG welding of horizontal and vertical butt welds with linear torch weaving across the joint. The small dimensions of the carriage allow it to be used in a limited space and hard-to-reach places.

#### Advantages:

- Robust metal frame;
- Aluminum wheels coated with special heat-resistant rubber, which ensures the operation on surfaces heated up to 250° C and long-term durability;
- Powerful magnet ensures free movement on inclined and verticalsurfaces;
- All-wheel drive system guarantees to maintain a constant speed even on rough surfaces;
- · Ability to work with almost any welding machines;
- Manual torch clamping device provides easy positioning of the torch in two directions;
- Ensuring the constancy of the position of the carriage relative to the joint during welding due to the adjustable guide arm, which consists of two support rollers mounted on an adjustable axis;
- Convenient handle;
- · Low weight and compact.

#### **Specifications**

Welding position	Horizontal and vertical butt joint
Weight	9 kg.
Overall dimensions (LxWxH)	297x475x285 mm.
Supply voltage	AC 1 ~ 100-240 V (frequency 50-60 Hz)
Ground clearance	6,5 mm (fixed)
Number of driving wheels	4 - on a fixed axis
Number of support rollers	2 - on an adjustable axis (adjustment angle ± 1°40")
Ensuring constant movement relative to the joint	Due to the flexible guide rail

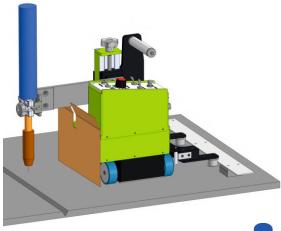
Torch stroke, horizontal/vertical	50/50 mm.
The angle of inclination of the burner, X-axis/Y-axis	$45 \pm 10/90 \pm 10$ deg.
The width of the burner oscillations	30 mm.
The rate of oscillation	200-2000 mm/min.
Delay at the edges of the oscillation	yes
The delay in the center of the oscillation	yes
The speed of the trolley	5 to 60 cm/min.
Fastening device	Magnetic
Clamping force	25 kg.

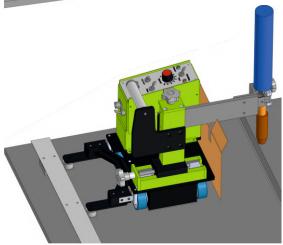
#### **Equipment**

- Welding carriage KC-2 with power cable 6 m.
- · Documentation set.

\* Welding torch is not included in the package.

Manufacturer - SHTORM LTD., Russia





#### **Description**

Automatic welding carriage KC-3 is suitable for MIG/MAG welding of horizontal and vertical butt welds across the joint. The small dimensions of the carriage allow it to be used in a limited space and hard-to-reach places..

#### Advantages:

- · Robust metal frame;
- Aluminum wheels coated with special heat-resistant rubber, which ensures the operation on surfaces heated up to 250° C and long-term durability;
- Powerful magnet ensures free movement on inclined and vertical surfaces;
- All-wheel drive system guarantees to maintain a constant speed even on rough surfaces;
- Ability to work with almost any welding machines;
- Manual torch clamping device provides easy positioning of the torch in two directions;
- Ensuring the constancy of the position of the carriage relative to the joint during welding due to the adjustable guide arm, which consists of two support rollers mounted on an adjustable axis;
- Convenient handle;
- · Low weight and compact.

#### **Specifications**

Welding position	Horizontal butt joint
Weight	8 kg.
Overall dimensions (HxWxD)	300x210x260 mm.
Supply voltage	AC 1 ~ 100-240 V (frequency 50-60 Hz)
Ground clearance	6,5 mm (fixed)
Number of driving wheels	4 - on a fixed axis
Number of support rollers	2 - on an adjustable axis (adjustment angle ± 1°40")

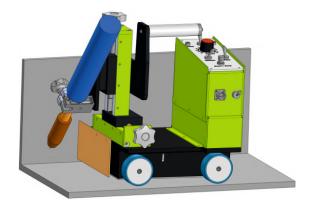
Torch stroke, horizontal/vertical	50/50 мм.
The angle of inclination of the burner, X-axis/Y-axis	45 ± 10/90 ± 10 deg.
The speed of the trolley	5 to 60 cm/min.
Fastening device	Magnetic
Clamping force	25 kg.
Welding torch	With a straight or curved gander, 350 A (500 A), 3 m (4.5 m)

#### **Equipment**

- Welding carriage KC-3 with power cable 6 m.
- · Documentation set.

 $^{*}$  Welding torch is not included in the package.

Manufacturer - SHTORM LTD., Russia





#### **Description**

Automatic welding carriage KC-4 is suitable for MIG/MAG welding of horizontal and vertical fillet and butt welds with linear torch weaving across the joint. The small dimensions of the carriage allow it to be used in a limited space and hard-to-reach places.

#### Advantages:

- · Robust metal frame;
- Aluminum wheels coated with special heat-resistant rubber, which ensures the operation on surfaces heated up to 250°C and long-term durability;
- Powerful magnet ensures free movement on inclined and verticalsurfaces;
- All-wheel drive system guarantees to maintain a constant speed even on rough surfaces;
- Ability to work with almost any welding machines;
- Manual torch clamping device provides easy positioning of the torch in two directions;
- Ensuring the constancy of the position of the carriage relative to the joint during welding due to: butt welds by means due to the use of a magnetic guide rail;
- Fillet welds by means two support rollers mounted on an adjustable axis;
- · Convenient handle;
- · Low weight and compact.

#### **Specifications**

Welding position	Horizontal butt and horizontal corner seam
Weight	8 kg.
Overall dimensions (HxWxD)	300x210x260 mm.
Supply voltage	AC 1 ~ 100-240 V (frequency 50-60 Hz)
Ground clearance	6,5 mm (fixed)
Number of driving wheels	4 - on a fixed axis
Number of support rollers	2 - on an adjustable axis (adjustment angle ± 1°40")

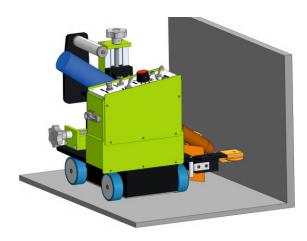
Torch stroke, horizontal/vertical	50/50 mm.
The angle of inclination of the burner, X-axis/Y-axis	45 ± 10/90 ± 10 deg.
The speed of the trolley	5 to 60 cm/min.
Fastening device	Magnetic
Clamping force	25 kg.
Welding torch	With straight or curved gander, 350 A (500 A), 3 m (4.5 m)

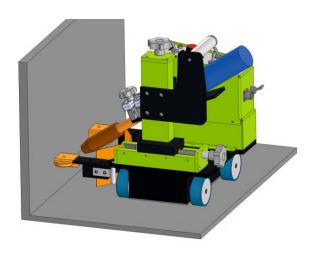
#### **Equipment**

- Welding carriage KC-4 with power cable 6 m.
- · Documentation set.

\* Welding torch is not included in the package.

Manufacturer - SHTORM LTD., Russia





#### **Description**

MAutomatic welding carriage KC-5 is suitable for MIG/MAG welding of horizontal and vertical fillet weld across the joint. The small dimensions of the carriage allow it to be used in a limited space and hard-to-reach places.

#### Advantages:

- · Robust metal frame;
- Aluminum wheels coated with special heat-resistant rubber, which ensures the operation on surfaces heated up to 250° C and long-term durability;
- Powerful magnet ensures free movement on inclined and vertical surfaces;
- All-wheel drive system guarantees to maintain a constant speed even on rough surfaces;
- Ability to work with almost any welding machines;
- Manual torch clamping device provides easy positioning of the torch in two directions;
- Ensuring the constancy of the position of the carriage relative to the joint during welding due to the adjustable guide arm, which consists of two support rollers mounted on an adjustable axis;
- Convenient handle;
- · Low weight and compact.

#### **Specifications**

Welding position	Horizontal corner seam
Weight	8 kg.
Overall dimensions (HxWxD)	300x210x260 mm.
Supply voltage	AC 1 ~ 100-240 V (frequency 50-60 Hz)
Ground clearance	6,5 mm (fixed)
Number of driving wheels	4 - on a fixed axis
Number of support rollers	2 - on an adjustable axis (adjustment angle ± 1°40")

Torch stroke, horizontal/vertical	50/50 mm.
The angle of inclination of the burner, X-axis/Y-axis	45 ± 10/90 ± 10 deg.
The speed of the trolley	5 to 60 cm/min.
Fastening device	Magnetic
Clamping force	25 kg.
Welding torch	With straight or curved gander, 350 A (500 A), 3 m (4.5 m)

#### **Equipment**

- Welding carriage KC-5 with power cable 6 m.
- · Documentation set.

 $^{*}$  Welding torch is not included in the package.

# SUBMERGED ARC WELDING

The ADFG-502 welding machine manufactured by SHTORM LTD, Russia for submerged welding (SAW) is a self-propelled device that moves along the weld along the product or guide ruler and delivers welding wire and flux to the welding zone. The use of a welding tractor increases the speed of arc welding tenfold, and the cost of one meter of seam is reduced by 2-3 times.

Automated submerged arc welding SAW is mainly used in production, where large amounts of work need to be performed. The use of a tractor is advisable for long seams and unprofitable for short ones.

SHTORM LTD. has a patent for the invention of the ADFG welding machine No.2430821 dated 10.10.2011.

#### **WELDING TRACTOR ADFG-502**

Manufacturer - SHTORM LTD., Russia



#### **Description**

Welding tractor ADFG-502 is suitable for SAW welding of fillet and butt welds. Using this equipment, it is possible to weld both one and two seams at the same time. The welding tractor moves directly along the product or the guide profile rail during operation. The accuracy of the motion trajectory is provided by the tracking device. The accuracy of the movement of the torch relative to the joint is provided by a tracking system to position of the torch. The tracking system is mechanical. The tractor is designed to work together with welding power source DC, such as welding rectifiers or other similar power sources (as agreed).

#### Advantages:

- Independent smooth adjustment of the wire feed speed of each torch;
- Smooth adjustment of welding speed;
- Two synchronized trolleys for moving the tractor (all wheels are driven). The stability of the tractor movement on a rough sheet is ensured;
- Coupling for disconnecting the drive motor of movement;
- Possibility of move reversing of the tractor;
- Rotation and tilt adjustment of the control unit that make easier the work of the welder-operator;
- Typical water-cooled torches with Duty Cycle up to 100% upon welding in protective gases (using with a cooling unit and coolant circulation - optional);
- Ability to connect to welding sources that the customer already has.

#### **Specifications**

Rated welding current	PV = 100%, 500 A*
Rated voltage of the supply network (from the power supply)	24/36 V
The diameter of the solid/powder electrode wire	1,2 2,0 mm./1,6 3,2 mm.
Welding speed control range	10 60 m/h
The range of regulation angle of inclination of the welding torch	130 degrees

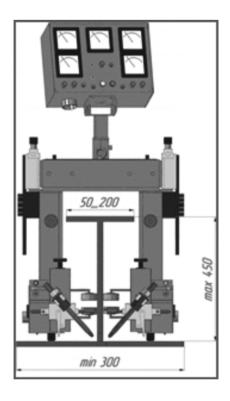
The maximum mass of the electrode wire in the cassettes is K300	2 x 18 kg.
Capacity of the flux hopper	5,7 dm³
The track width	140 215 mm.
Overall dimensions (LxWxH)	940x440 695x950 mm.
The weight of the machine without electrode wire, flux and power sources	95 kg.

<sup>\*</sup> Data for one burner

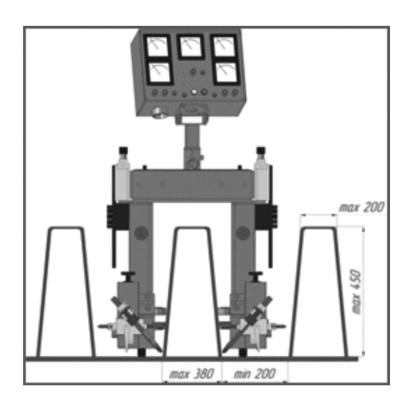
#### **Equipment**

It has many components, which are determined depending on the purpose after consultation with our engineer.

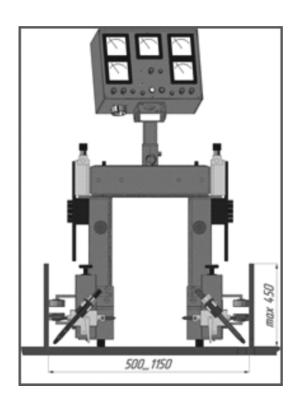
#### **APPLICATION OF THE MACHINE FOR WELDING VARIOUS PRODUCTS**



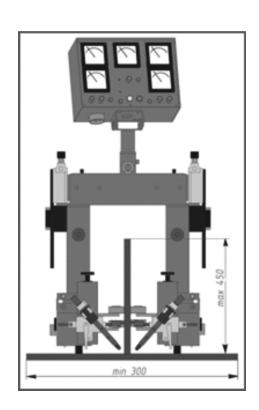
Welding of I-beams with vertical wall arrangement



Welding of sheet metal panels

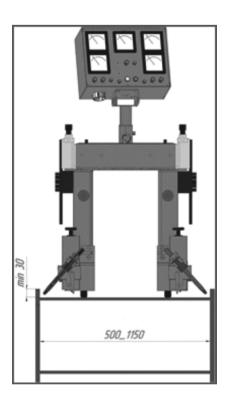


Welding of stiffeners

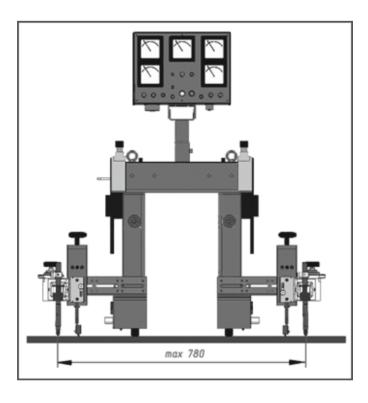


Welding of T-beams

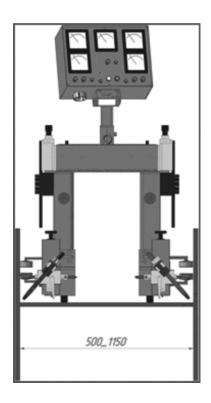
 $<sup>^{\</sup>ast}$  It is possible for the tractor to weld two adjacent seams, I-beams and T-beams simultaneously



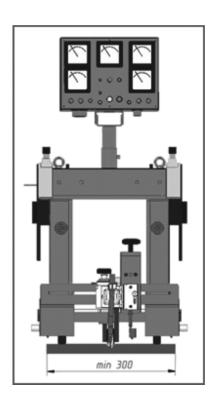
Welding of box-section beams



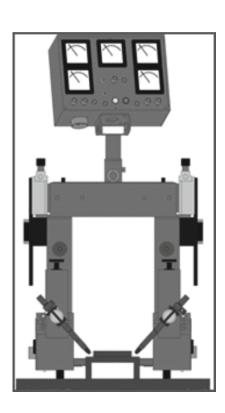
Welding of two butt joints at the same time



Welding of I-beams «into the corner» with a horizontal wall arrangement



Butt welding



Welding of overlapping seams

# WELDING AUTOMATION AND ROBOTIZATION

It is difficult to imagine the production process of any type of product today without the use of industrial robots. Their versatility, production flexibility and wide technological capabilities make them an indispensable tool in modern production. Currently, the everincreasing demands for increased productivity, improved product quality, saving materials and electricity, as well as the development of new technologies and materials, lead to the creation and improvement of universal robotic complexes and the expansion of their application.

If we consider robotics as a tool to reduce the cost of a unit of production, then the most effective area of application of robots in serial and small-scale production will be.

For its thirty years of experience, SHTORM LTD has extensive experience in implementing projects in the field of automation and robotization of welding processes, here are just some of them:

- Robotic welding of large-sized structures in the oil and gas industry;
- Robotic welding of the conveyor equipment frame;
- Robotic welding of mounted hydraulic equipment for special equipment;
- Robotic welding of the front console of the Daewoo car;
- Surfacing of the internal surfaces of fountain fittings using the TIG method;
- Robotic welding of TIG containers for radioactive substances;
- Robotic welding of the collector of LADA cars;
- Robotic welding of spatial structures of irregular pyramid shape designed by Norman Foster;
- Robotic welding of the gearbox casing;
- Robotic welding of the car hub;
- Robotic welding by MIG/MAG method of armored frames for mines;
- Robotic welding of the headlight housing for railway locomotives.









#### ROBOTIC WELDING CELL



#### **Description**

The ARCMETEOR SR-2.0 industrial welding robot does not have a hollow arm.

The well-thought-out design of the robot allows you to achieve an optimal ratio between the radius of reach and the possibilities of spatial movement. The ARCMETEOR SR-2.0 model is characterized by high axial movement speed and accuracy. This versatile arc welding robot, made specifically for installation in a confined space, can work with relatively large parts due to its large reach.

#### Features:

- Hand reach 2001 mm;
- Touch search function;
- · Arcjointtrackingfunction;
- DeviceNet communication protocol.

#### **Specifications**

The controller	ARCMETEOR
Software	ARCMETEOR Development
Supply voltage	3 phases + grounding, 380V (±10%)
Full power	6,2 kVA
Active power	3,8 kW
Operating conditions: Temperature Relative humidity, % Degree of protection	0 – 45 °C 20 – 80% (non-condensing) Ip21
Location of the control panel	On the controller
Programming device	Remote control with a color touch screen
Security system	Emergency stop button, automatic stop, remote stop
Input/Output	16 digital inputs, 16 digital outputs, 4 analog outputs

#### **Equipment**

- ARCMETEOR 6 axis welding robot with welding torch 1 pc. Two axis positioner with a load capacity of up to 500 kg. 1 pc.
- ARC METEOR MIG-500 ROBO welding current source -1 pc. Burner cleaning station -1 pc.