

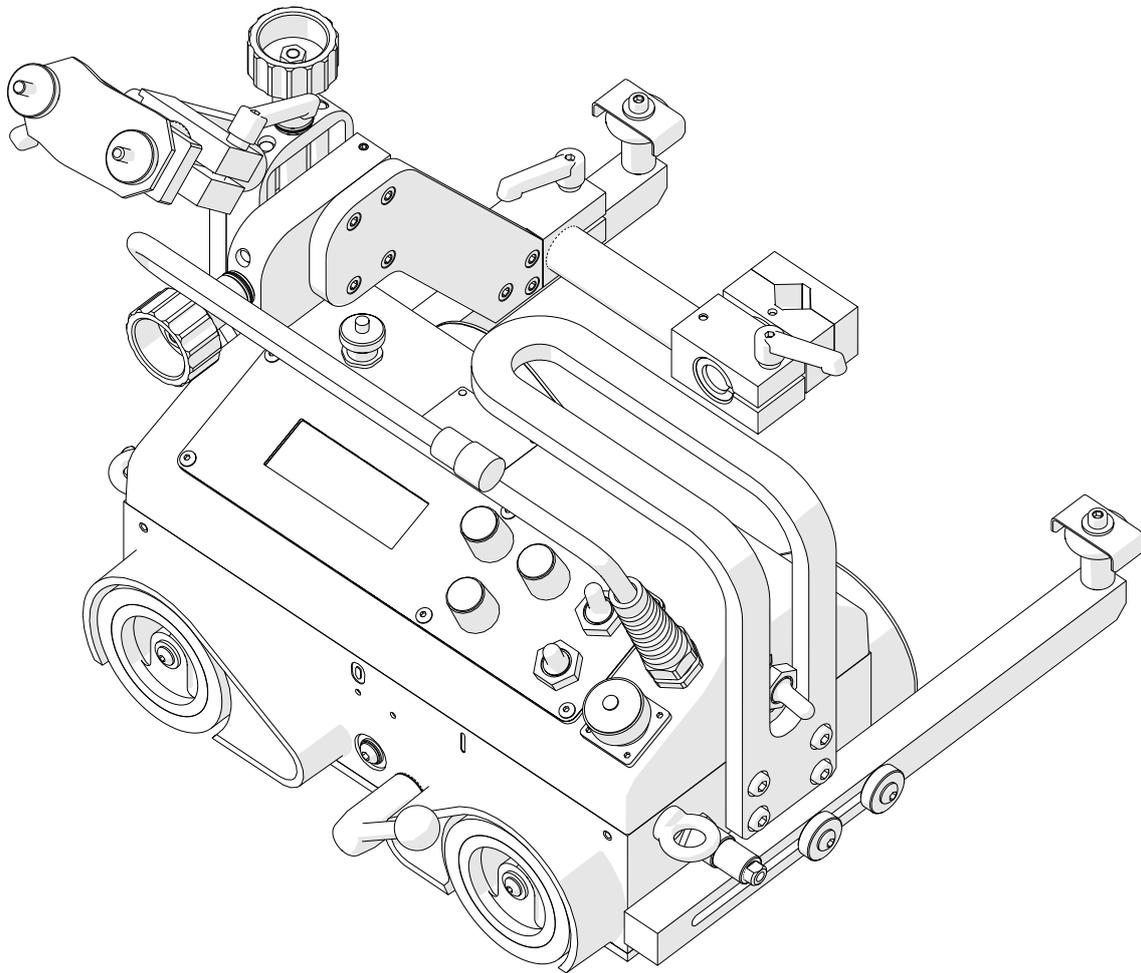


The tools of innovation.

## OPERATOR'S MANUAL

# ARC Runner

## WELDING CARRIAGE



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## 1. GENERAL INFORMATION

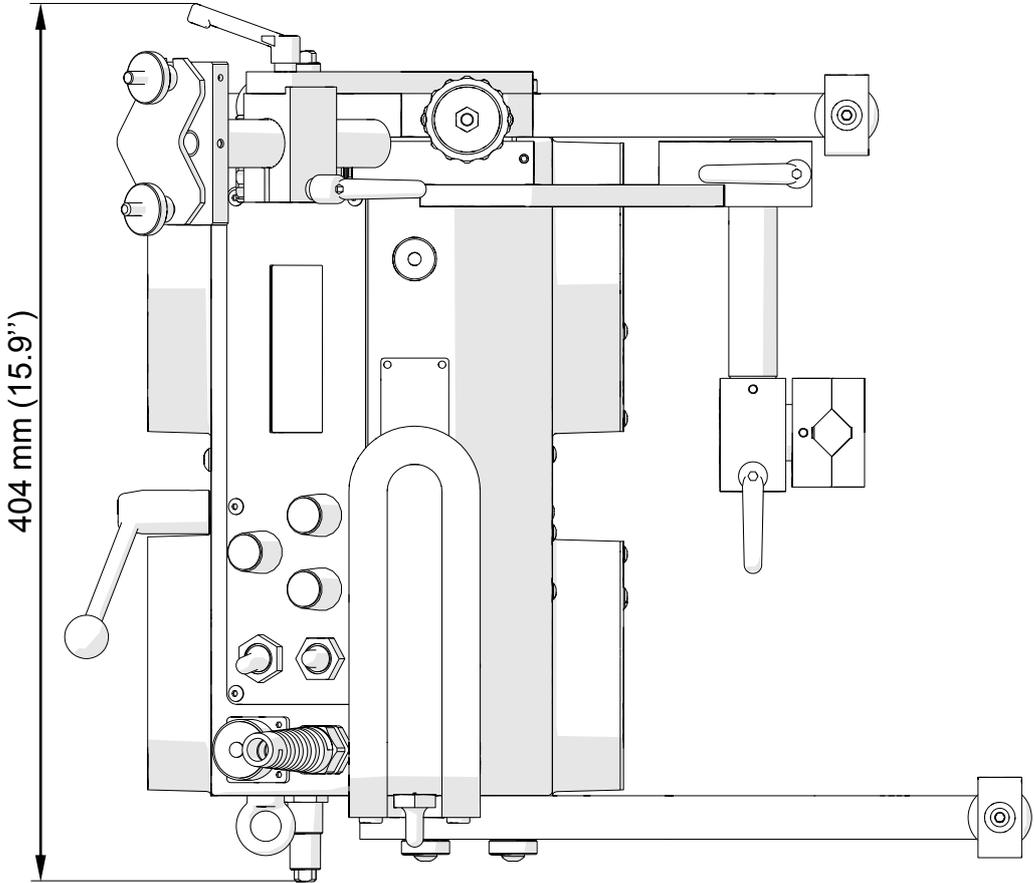
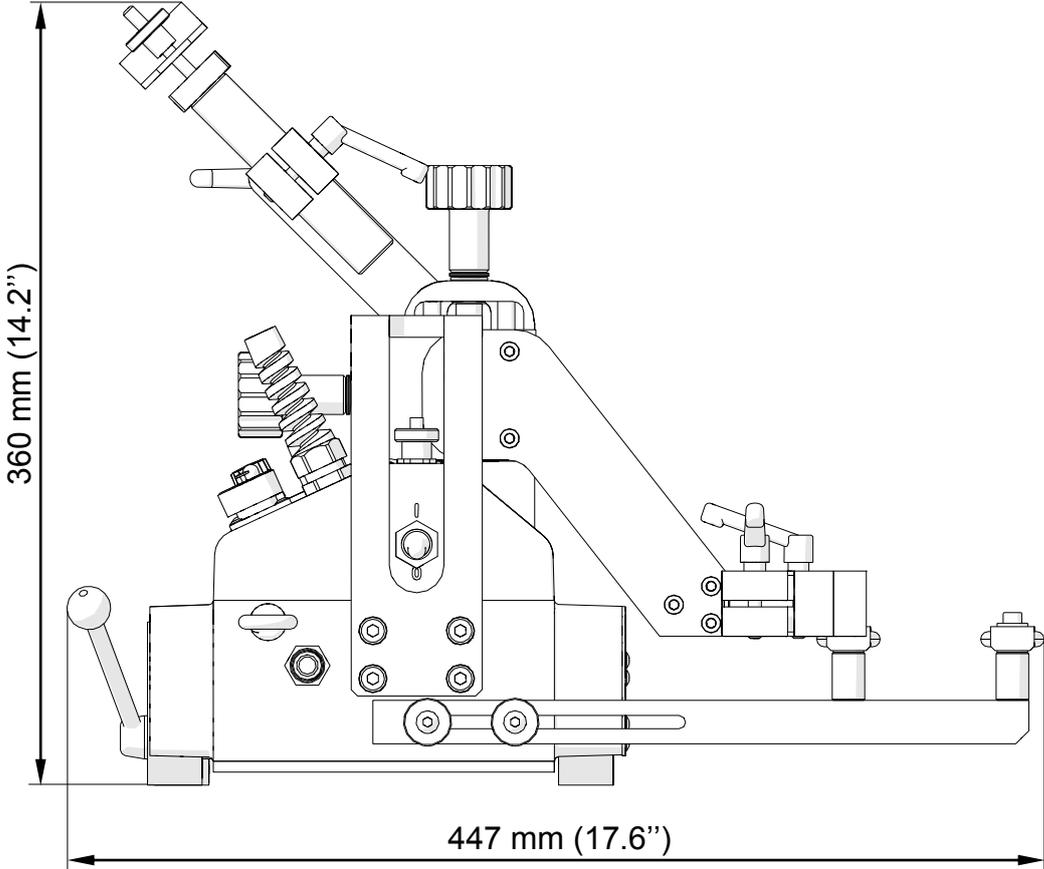
### 1.1. Application

The ARC Runner is a welding carriage designed to produce continuous or intermittent butt and fillet welds using MIG/MAG torches with the handle diameter of 16–22 mm (0.63–0.87"). The carriage is fixed by permanent magnets and can work in the following welding positions: PA (flat), PB (horizontal vertical), PC (horizontal), PF (vertical up), and PG (vertical down).

Accessories allow, for instance, welding with oscillation, using torches with the handle diameter larger than 22 mm, two torches simultaneously, guiding the carriage along outside edges, lap joints and templates, ceilings, as well as on pipes and tanks.

### 1.2. Technical data

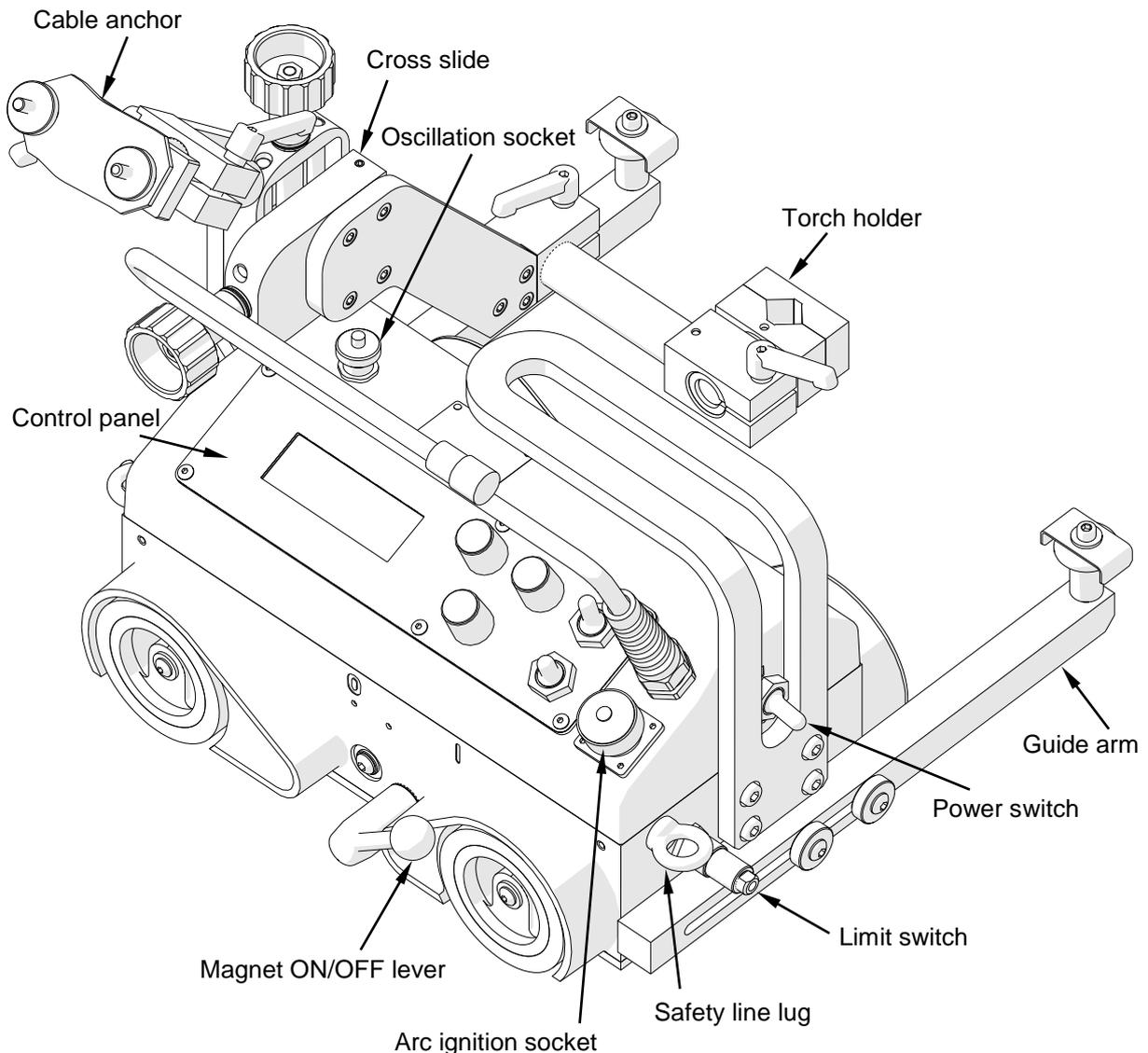
Voltage		1~ 115–230 V, 50–60 Hz
Power		25 W
Welding position	horizontal	PA (flat), PB (horizontal vertical), PC (horizontal)
	vertical	PF (vertical up), PG (vertical down)
Minimum path convex radius		1500 mm (5 ft)
Minimum path concave radius		1500 mm (5 ft)
Torch type		MIG/MAG
Torch diameter		16–22 mm (0.63–0.87")
Maximum torch reach		80 mm (3.15")
Maximum permitted cable weight	horizontal work	12 kg (27 lbs)
	vertical work	8 kg (18 lbs)
Minimum workpiece thickness		5 mm (0.20")
Ground clearance		5 mm (0.20")
Horizontal pulling force		220 N (48 lbs)
Vertical pulling force		150 N (33 lbs)
Cross slide adjustment range		0–35 mm (0–1.38", up-down, left-right)
Guide arm adjustment range		0–75 mm (2.95")
Horizontal speed		0–120 cm/min (0–47.2 in/min)
Vertical speed		0–110 cm/min (0–43.3 in/min)
Noise level		less than 70 dB
Weight		14 kg (31 lbs)



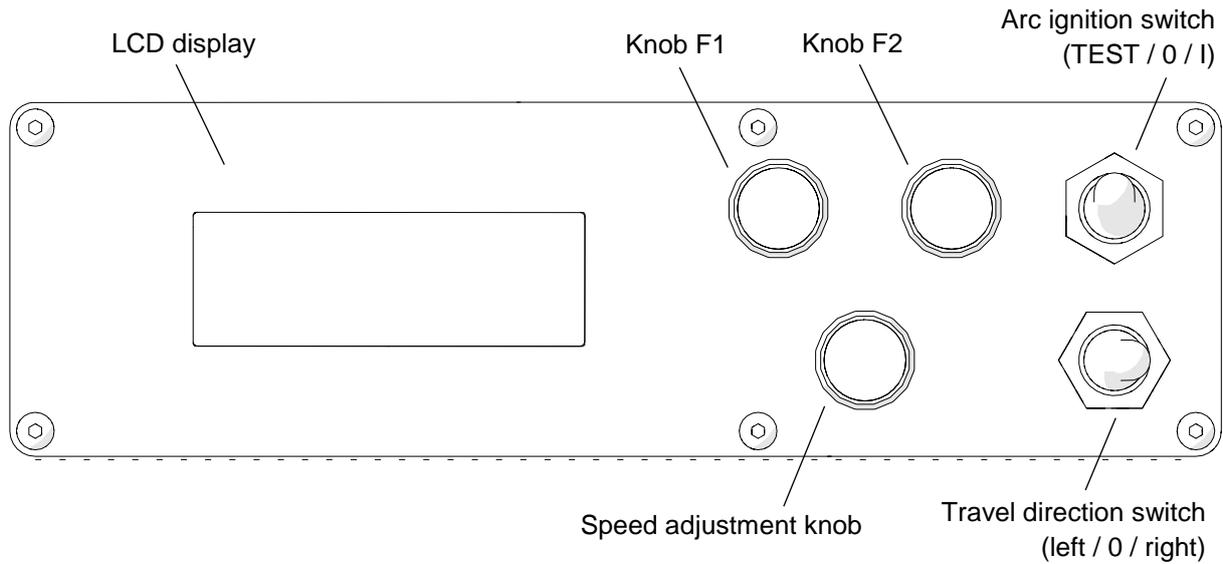
### 1.3. Design

The ARC Runner welding carriage consists of a chassis, drive system, controller, cross slide, two guide arms, cable anchor, and torch holder. The drive system contains a gear-motor that drives four rubber wheels.

Permanent magnets fitted at the carriage bottom ensure proper adhesion to ferromagnetic surfaces. The cross slide allows for precise control of the torch holder position in both the horizontal and vertical axis, while connecting the arc ignition cable will enable the carriage to ignite an arc when selecting a travel direction.



**Fig. 1.** ARC Runner carriage design



**Fig. 2.** Control panel design

### 1.4. Equipment included

The ARC Runner is supplied including the following elements.

Carriage	1 unit
Foam filled cardboard box	1 unit
Cable anchor	1 unit
Short rod torch holder with clip	1 unit
3 m (10 ft) power cord	1 unit
6.5 m (21 ft) arc ignition cable	1 unit
4 mm hex wrench	1 unit
Operator's Manual	1 unit

## **2. SAFETY PRECAUTIONS**

1. Before beginning, read this Operator's Manual and complete proper occupational safety and health training.
2. The carriage must be used only in applications specified in this Operator's Manual.
3. The carriage must be complete and all parts must be genuine and fully operational.
4. The power source specifications must conform to those specified on the rating plate.
5. The carriage must be plugged into a properly grounded power source.
6. Never carry the carriage by the cords or arc ignition cable and never pull them as this may damage them and result in electric shock.
7. Untrained bystanders must not be present near the carriage.
8. Before beginning, check the condition of the carriage and the power source, including the cords, arc ignition cable, plugs, control panel, and wheels.
9. Keep the carriage dry. Exposure to rain, snow, or frost is prohibited.
10. Keep the work area well lit, clean, and free of obstacles.
11. Never use carriage near flammable liquids or gases, or in explosive environments.
12. Make sure that the rubber of the wheels is clean and not damaged.
13. Never disassemble the cover of the wheels.
14. Remove objects attracted to the chassis by the magnet.
15. Transport and position the carriage using the carrying handle, with the magnet ON/OFF lever set to position 'O'.
16. Position the carriage on the ferromagnetic workpiece in such a way that the wheels always touch the surface and there is no contact between the surface and chassis.
17. Do not stay below the carriage placed at heights.
18. Plug the cords and arc ignition cable only when the power switch is set to position 'O'.
19. Keep the sockets clean. Do not use compressed air for cleaning.
20. Install only MIG/MAG torches with the handle diameter corresponding to the torch holder in use.
21. The torch must not be positioned more than 80 mm (3.15") beyond either side of the carriage.
22. Keep the torch cables from touching the surface. They must be suspended to reduce the load of the carriage. Use only cables whose maximum weight is 12 kg (27 lbs) for horizontal work and 8 kg (18 lbs) for vertical work.

23. Operating in PD (horizontal overhead) and PE (overhead) welding positions, as well as on curvatures with convex radius or concave radius lower than 1500 mm (5 ft) is prohibited.
24. When operating at heights, use a safety line to protect the carriage from dropping.
25. Always use eye protection (helmet, shield, and screen), hearing protection, gloves, and protective clothing during operation. Do not wear loose clothing.
26. Before every use, inspect the carriage to ensure it is not damaged. Check whether any part is cracked or improperly fitted. Make sure to maintain proper conditions that may affect the operation of the carriage.
27. Never try to manually stop the motion of the carriage. For this purpose set the travel direction switch to position 'O'.
28. Maintain only when the carriage is unplugged from the power source.
29. Repair only in a service center appointed by the seller.
30. If the carriage falls from any height, is wet, or has any other damage that could affect the technical state of the carriage, stop the operation and immediately send the carriage to the service center for inspection and repair.
31. Never leave the carriage unattended during operation.
32. Remove from the worksite and store in a secure and dry location when not in use.

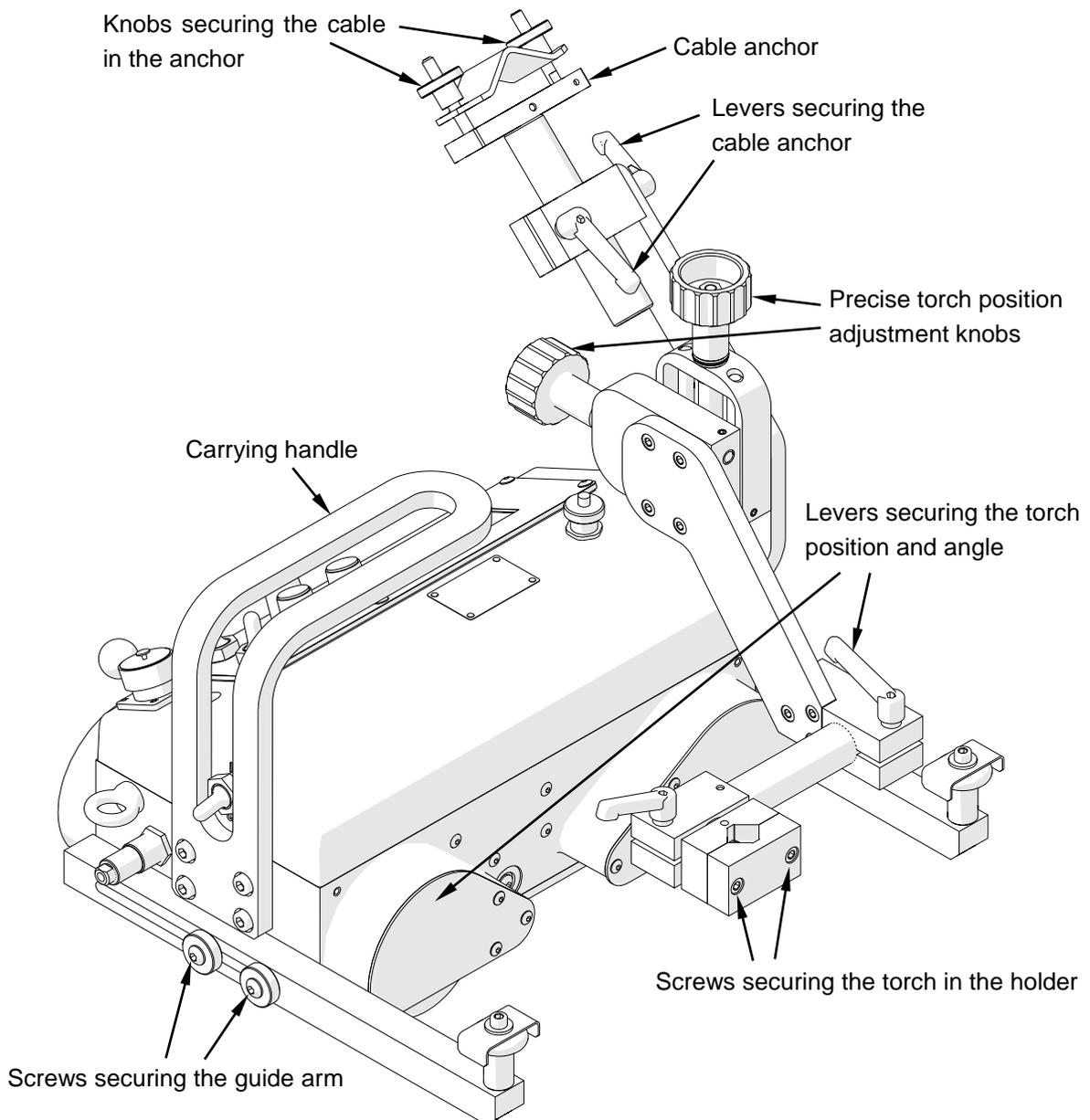
### 3. STARTUP AND OPERATION



**Adhere to all safety precautions.**

#### 3.1. Preparing

Use the carrying handle to transport the carriage to the worksite. Then, set to position 'O' all switches (power, travel direction, and arc ignition) and the magnet lever.

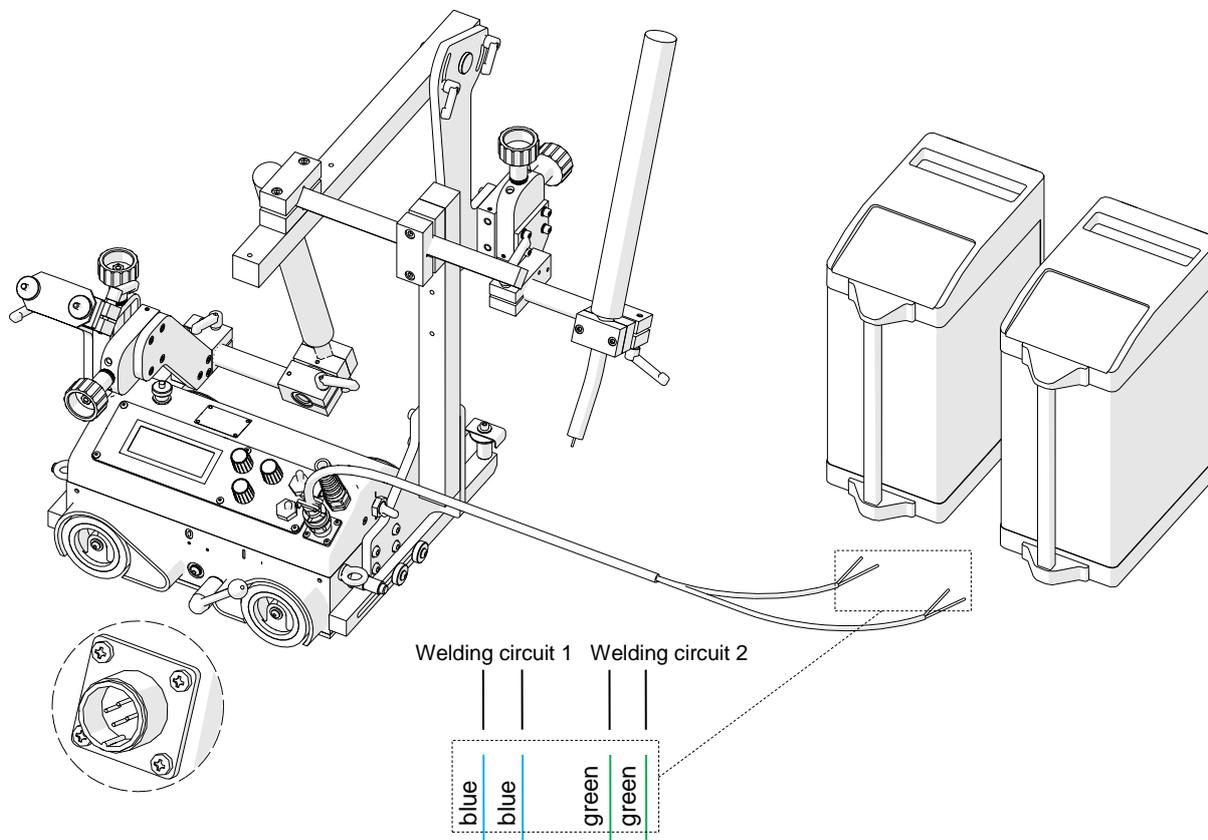


**Fig. 3.** View from the back side

Connect the carriage to the power source, insert the torch into the torch holder, and then secure with the screws using the 4 mm hex wrench. Next, insert the torch cable into the cable anchor and secure with the knobs, and fix the anchor in the required position using levers.

### 3.2. Connecting to welding circuits

The carriage can control two torches using the arc ignition cable plugged into the arc ignition socket. To do this, connect either blue-jacketed wire to either terminal of the welding circuit, while the second blue-jacketed wire to the second terminal of the same circuit, according to the diagram shown in Fig. 4. To control the second torch, connect the green-jacketed wires to the terminals of the second welding circuit.

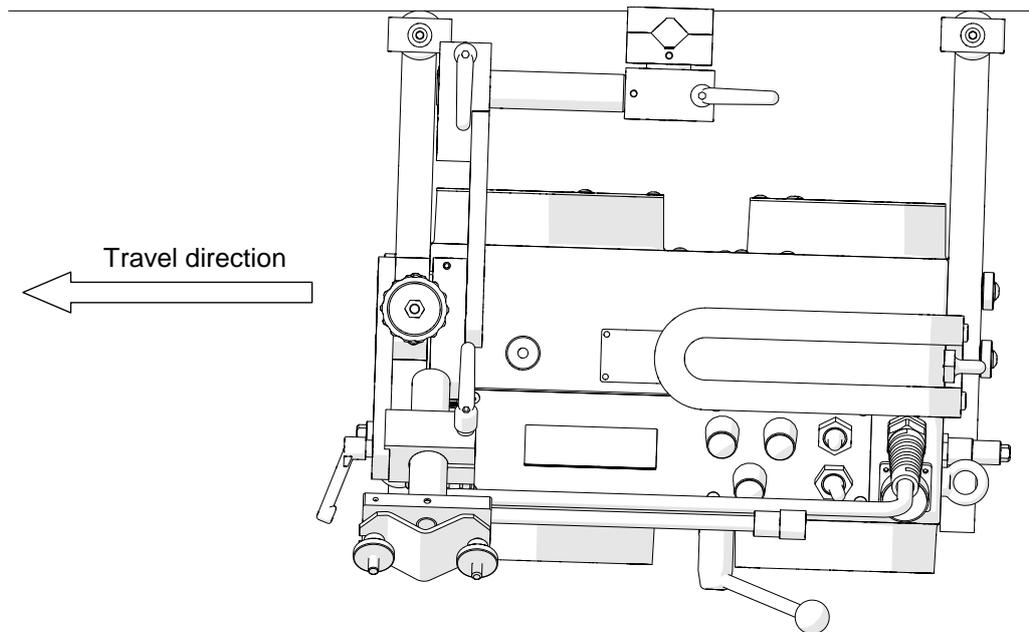


**Fig. 4.** Connecting the arc ignition cable to welding circuits

To check whether the arc ignition cable is connected correctly, power the carriage by toggling the power switch to position 'I', and toggle the arc ignition switch to position TEST, which should enable the arc for a while.

### 3.3. Positioning at the worksite

To continuously track the travel geometry, set the first guide arm 10 mm (0.4") closer to the carriage than the second one (Fig. 5). This will cause the carriage to travel in a crab fashion which will keep it in constant contact with the workpiece. For this purpose, use the 4 mm hex wrench to loosen the screws securing the guide arm and tighten the screws after setting.

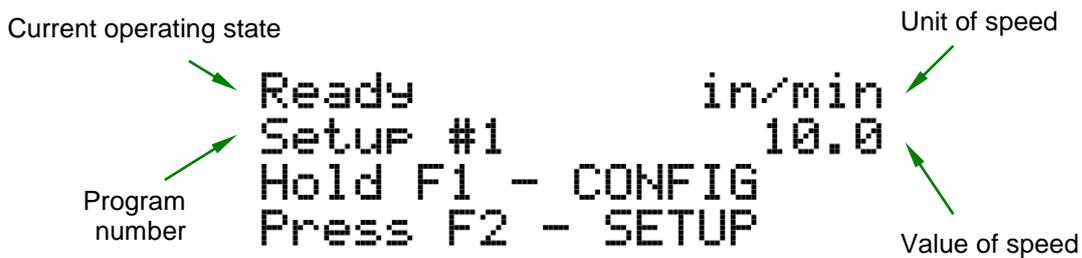


**Fig. 5.** Proper position of the guide arms

Toggle the magnet ON/OFF lever from left ('O') to right position ('I'), which will change the adhesion of the carriage to the workpiece from minimum to maximum. Loosen the levers to adjust the position and angle of the torch, and set the torch position precisely using two knobs located at the cross slide. When operating at heights, attach a safety line to the lug to prevent possible injury if the carriage loses its adhesion. The safety line is not included in standard equipment.

### 3.4. Starting

Plug the power cord into the power source and turn on the power by toggling the power switch to position 'I'. The initial screen with the version number of the current firmware will show on the display, and the carriage will automatically check for an oscillator connected to the oscillation socket. If the oscillator is connected, `Oscillator found` confirmation message will show. After the initialization of the control system, the main menu from Fig. 6 will show on the display.

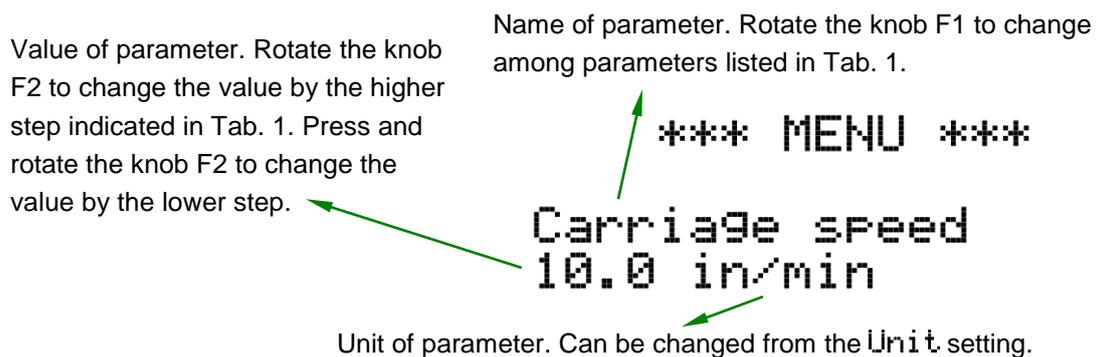


**Fig. 6.** Example of the main menu

Press and hold the knob F1 for about 3 seconds to enter into the configuration menu to set welding parameters.

### 3.5. Programming

The ARC Runner welding carriage is equipped with a programming device that allows defining up to 40 welding programs. After entering into the configuration menu, proceed as described in Fig. 7 to move among the parameters from Tab. 1.



**Fig. 7.** Configuration menu

Parameter	Value	Description
Carriage speed	0–130 cm/min 0–52 in/min [step: 1 or 0.1]	Speed of the carriage.
Weld length	1–250 cm 1–100 in [step: 1 or 0.1]	Length of the single weld.
Skip	0–100 cm 0–40 in [step: 1 or 0.1]	Space between welds. If set to zero, 'crater fill' and 'backweld' are reset and the carriage works in the continuous welding mode.
Crater fill	0–3 s [step: 0.1]	Time of filling the crater. Inactive if 'skip' set to zero, which is indicated by the ( ! ) sign.
Backweld	0–2 cm 0–2 in [step: 0.1]	Length of the backweld. Shorter or equal to 'weld length'. Inactive if 'skip' set to zero, which is indicated by the ( ! ) sign.
Total length	0–1000 cm 0–400 in infinity [step: 10 or 1]	Longer or equal to the sum of 'weld length' and 'skip'. If set to infinity, the program executes until the carriage is stopped manually.
Unit	cm in	Unit used in the menu.
Save setup	1–40	Pressing knob F2 saves the current configuration under the indicated program number.
Load setup	1–40	Pressing knob F2 loads the configuration saved under the indicated program number.
Language	ENGLISH POLISH SPANISH FRENCH PORTUGUESE TURKISH GERMAN RUSSIAN	Language of the menu.

**Tab. 1.** Settings available in basic version of ARC Runner welding carriage

To change the language of the menu, move to `Language` setting by rotating the knob F1 to the right and then rotate the knob F2 to choose among the available languages. After the rest of the parameters from Tab. 1 is set, move to `Save setup`,

choose a program number by rotating the knob F2, and press the knob to save the current values under this number. The action is confirmed by showing Done message for a short period. To load a previously saved program, proceed as described, but from Load setup setting. Then, to move back to the main menu (Fig. 6), press the knob F1 and hold it for 3 seconds. If the chosen parameters are not saved, they will be active only until the current program number is changed in the main menu.

### 3.6. Welding procedure

Fig. 8 shows a graphic description of the welding procedure that starts with the speed value shown in the main menu when selecting a travel direction. The first stage involves producing the weld, after which the carriage fills the crater (stage 2) for the chosen time. Next, the carriage performs the backweld (stage 3) and then moves to the starting point of the next weld (stage 4). This process is repeated until the carriage reaches the value of the total length.

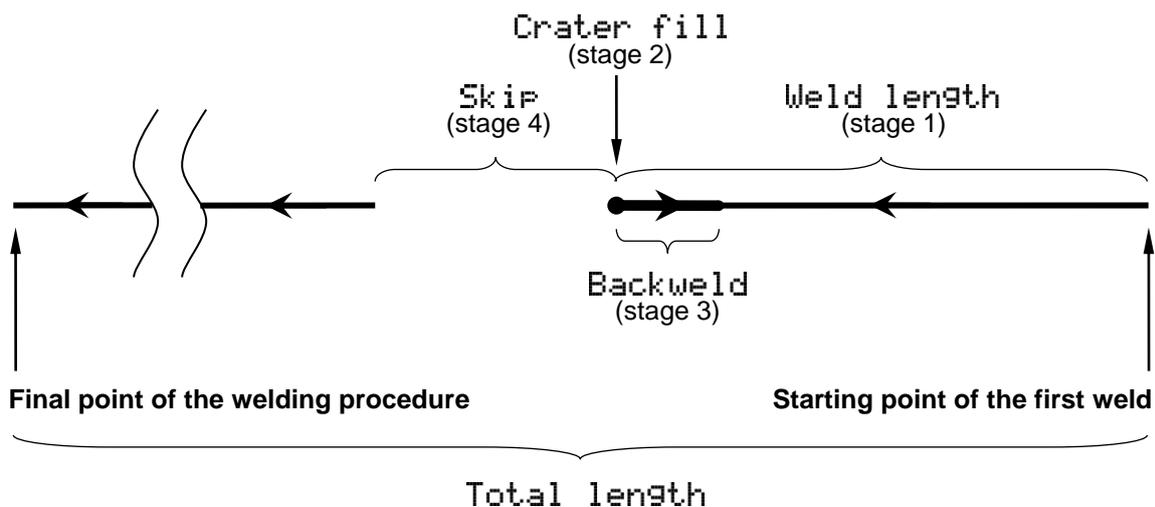


Fig. 8. Visualization of the welding procedure according to parameters from Tab. 1

### 3.7. Operating

After toggling the power switch to position 'I', the carriage will turn on. If the carriage is to control the torch, toggle the arc ignition switch to position 'I'.



**CAUTION! If the arc ignition switch is set to position 'I', the torch will start welding immediately after selecting a travel direction.**

With Ready state shown on the main menu (Fig. 6) the current program Setup #1 can be changed by simultaneously pressing and rotating the knob F2. Use the speed adjustment knob to change the current welding speed. Right rotation increases the speed by the step of 0.1, and left rotation decreases the speed by the same step.

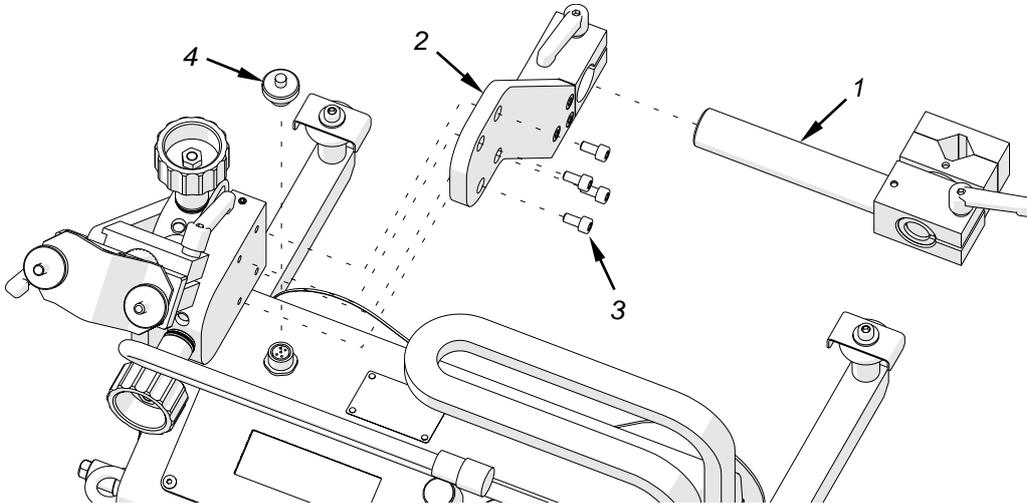
Use the travel direction switch to select a direction of motion. The carriage will start moving according to the chosen program parameters. The indication of the current operating mode will show on the display during program execution. The carriage speed can be adjusted during operation using the speed adjustment knob; however, the new speed will not be saved if the current program changes in the meantime.

The carriage stops after reaching the total length and Job's done confirmation message shows on the display. Then, toggle the travel direction switch to position 'O' to move into the main menu. After the work is finished, turn off the power using the power switch and unplug the carriage from the power source.

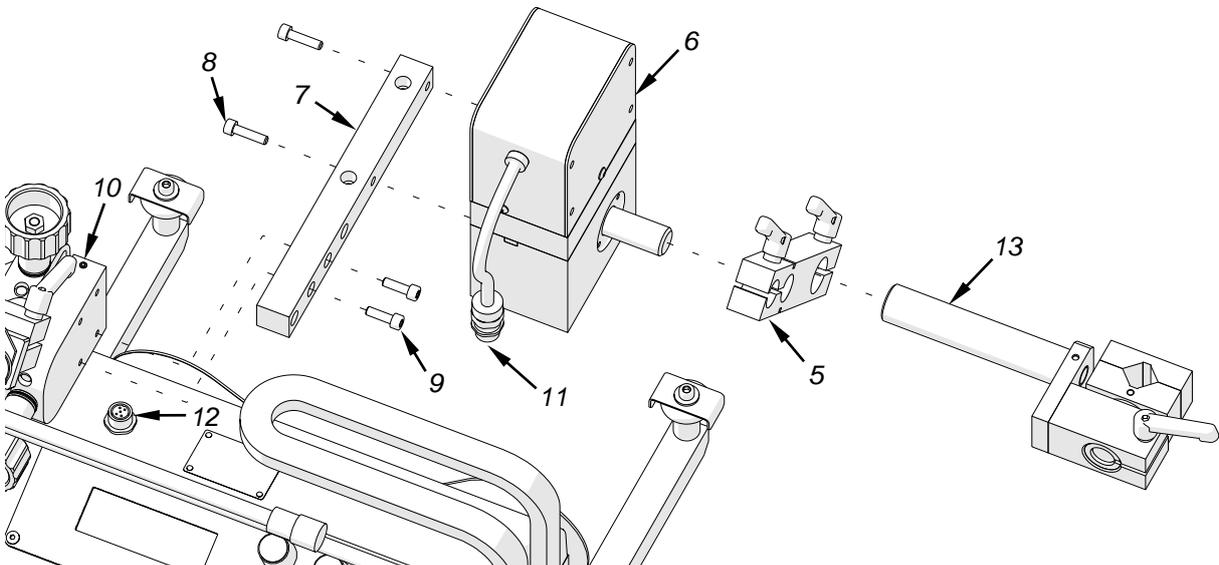
### 3.8. Using oscillator (accessory)

#### 3.8.1. Installing

Install the oscillator according to the following instructions.



- Remove the torch holder 1.
- Remove the torch holder plate 2 by unscrewing screws 3 using 4 mm hex wrench.
- Unscrew the cap 4.



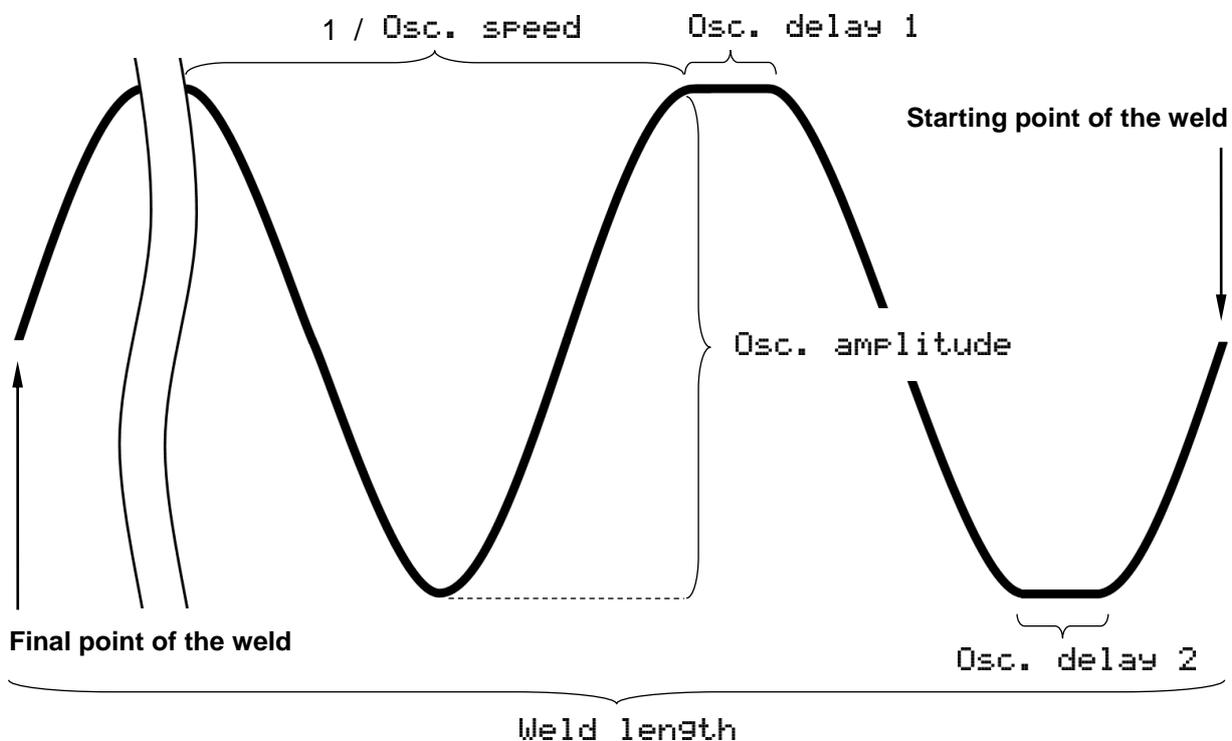
- Fix the arm 5 to the oscillator 6.
- Fix the oscillator 6 to the bracket 7 using two M5x20 screws 8.
- Fix the bracket 7 to the cross slide 10 using two M5x16 screws 9.
- Fix the oscillator plug 11 to the oscillation socket 12.
- Fix the low torch holder 13 to the oscillator arm 5.

### 3.8.2. Welding with oscillation

If the oscillator is connected to the ARC Runner welding carriage, several new settings will appear in the menu (Tab. 2). Welding with oscillation is performed in the standard manner, however, produced welds form a shape similar to the shape shown in Fig. 9 instead of the straight line from Fig. 8.

Parameter	Value	Description
Osc. amplitude	0–100% [step: 10% or 1%]	Relative amplitude of the oscillation.
Osc. speed	0–100% [step: 10% or 1%]	Relative speed of the oscillation. The higher the speed, the shorter the oscillation period.
Osc. delay 1	0–5 s [step: 1 or 0.1]	Delay in the top position of the oscillation.
Osc. delay 2	0–5 s [step: 1 or 0.1]	Delay in the bottom position of the oscillation.
Dwell times lock	YES NO	Choosing YES locks the capability of changing delay times during welding.

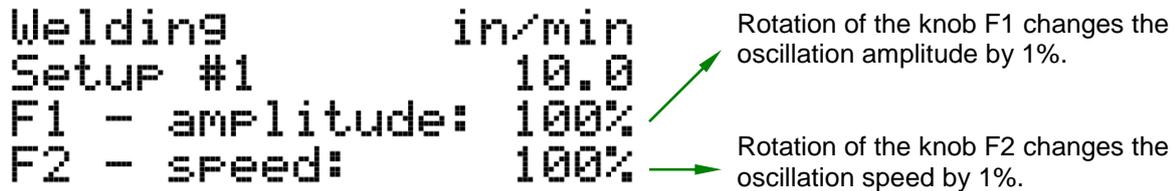
**Tab. 2.** Additional settings available with connected oscillator



**Fig. 9.** Graphic description of the oscillation parameters from Tab. 2

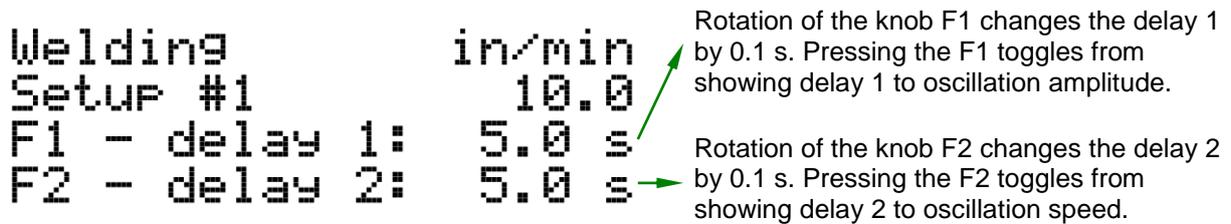
### 3.8.3. Operating

The ARC Runner welding carriage with connected oscillator is operated similarly to operating without the oscillator. During welding with the oscillator, the menu indicated in Fig. 10 is shown on the display.



**Fig. 10.** Menu shown during welding with the oscillator

If Dwell times lock parameter is set to YES, pressing the knob F1 or F2 during operation will not trigger any action. Otherwise, the delay parameters will show on the display and can be adjusted online (Fig. 11).



**Fig. 11.** Menu for changing the oscillator dwell times

### 3.9. Troubleshooting

Problem	Cause	Solution
Dark LCD display after powering.	Malfunction of the power cord, power switch, power supply unit, or controller.	Contact service center for inspection and repair.
Anomalies on the LCD display. Impossible to read the values.	Malfunction of the display or power supply unit.	Contact service center for inspection and repair.
*** FATAL ERROR *** FRONT limit switch activated	Carriage reached the obstacle at the front.	Remove the obstacle blocking the movement of the carriage or choose the opposite travel direction.
*** FATAL ERROR *** REAR limit switch activated	Carriage reached the obstacle at the rear.	Remove the obstacle blocking the movement of the carriage or choose the opposite travel direction.
*** FATAL ERROR *** Travel switch incorrect signal	Too fast switching between left and right travel direction.	Set the travel direction switch to position 'O'.
Set travel switch to zero	<ol style="list-style-type: none"> <li>1. Travel direction switch not in position 'O' when powering.</li> <li>2. Displayed during motion indicates a malfunction of the travel direction switch or travel direction identification circuit of the controller.</li> </ol>	<ol style="list-style-type: none"> <li>1. Set the travel direction switch to position 'O'.</li> <li>2. Contact service center for inspection and repair.</li> </ol>

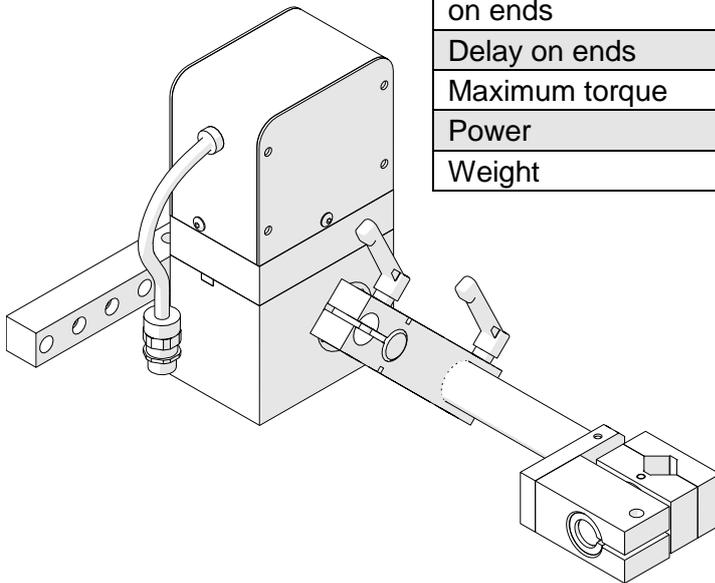
## 4. ACCESSORIES

### 4.1. Oscillator

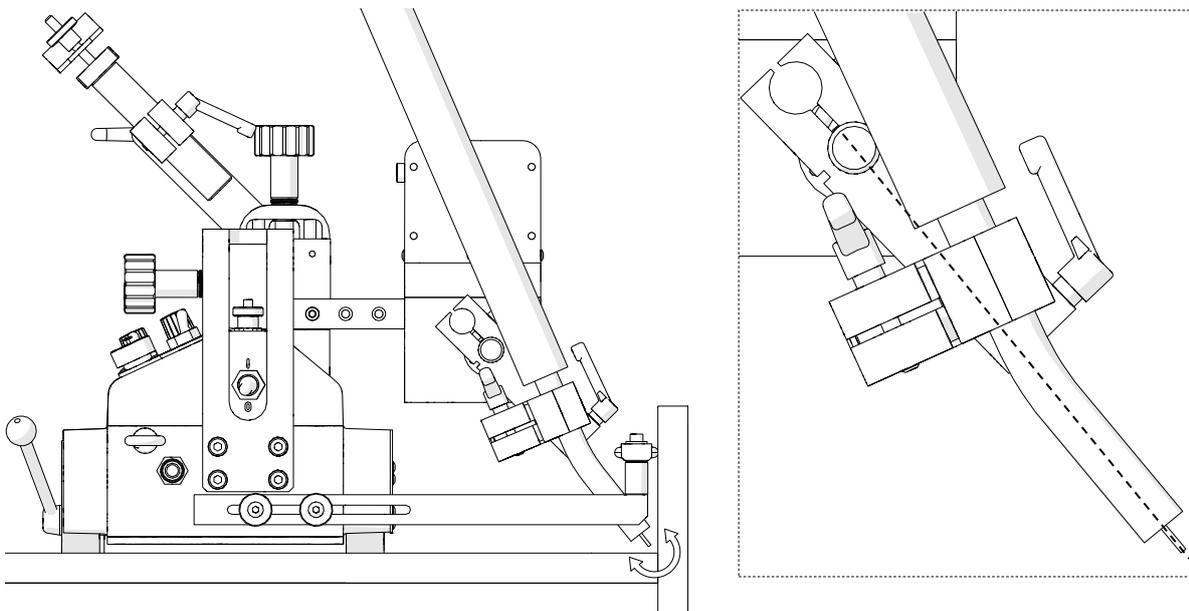
Allows welding with oscillation. Can be installed either vertically to use a short rod low torch holder (included) or horizontally to use a torch holder with clip (in standard).

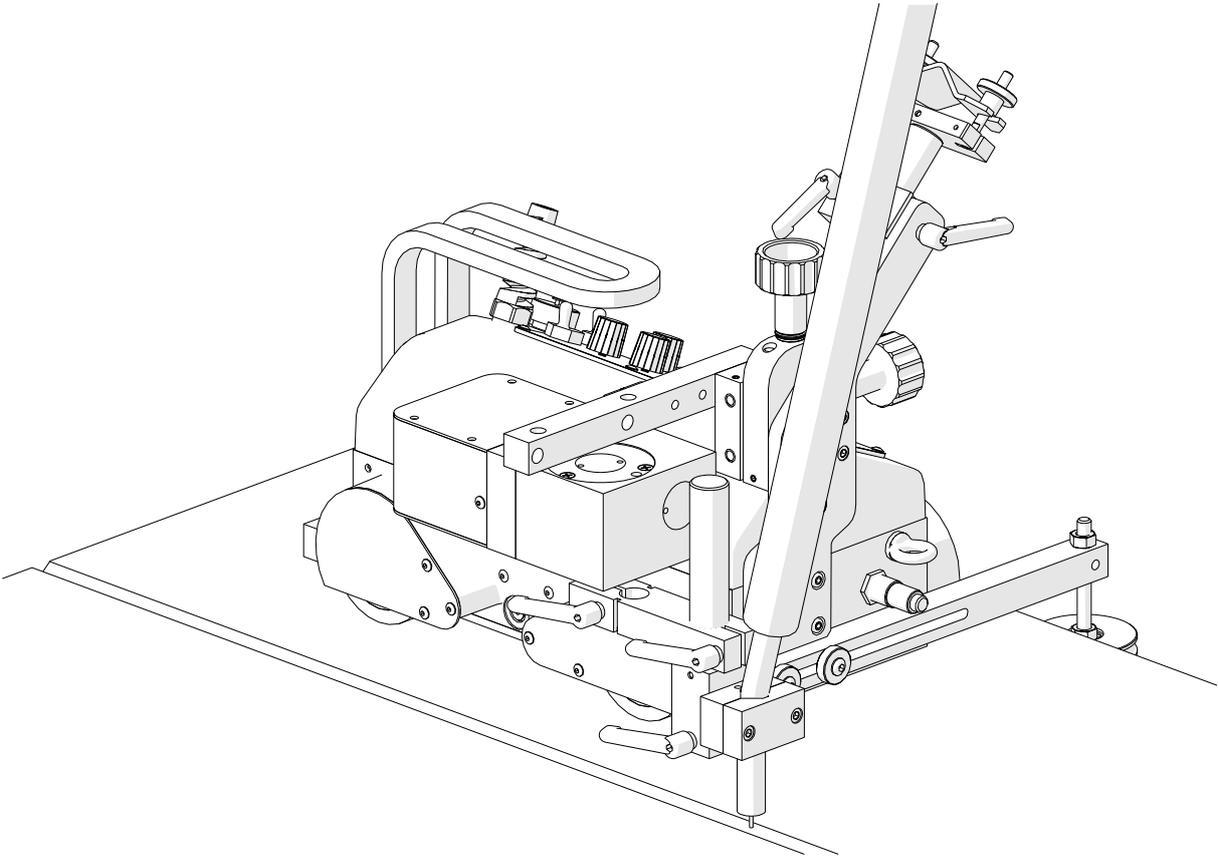
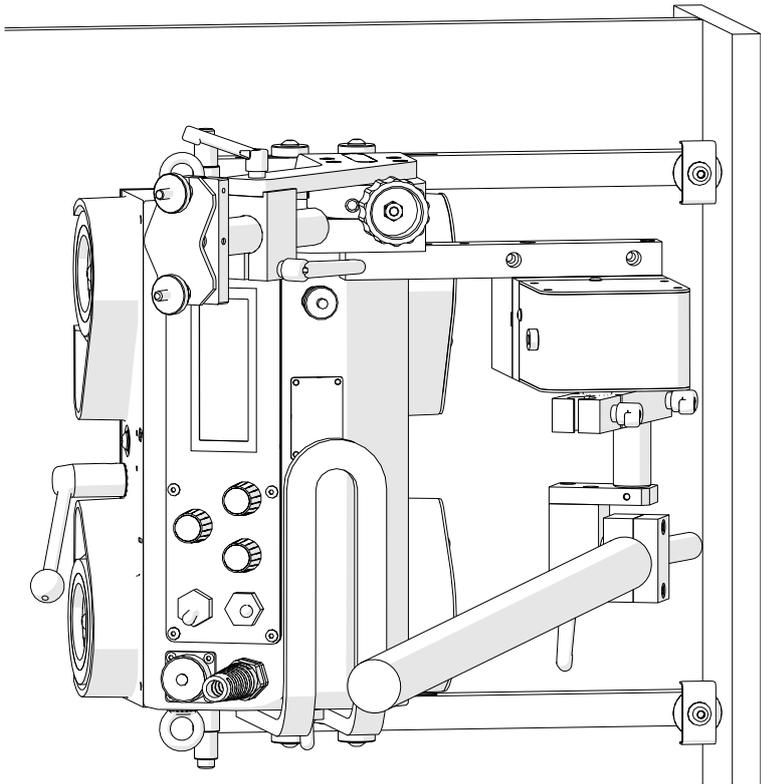
Part number:  
ZSP-0477-24-00-00-0

Oscillation type	pendulum (maximum 11°)
Oscillation amplitude at r=150 mm (5.9")	1–30 mm (1–100%)
Oscillation speed at oscillation amplitude of 10 mm (0.4") and zero delay on ends	7–164 cycles/min (1–100%)
Delay on ends	0–5 s
Maximum torque	5 Nm (3.7 lb-ft)
Power	12 W
Weight	2 kg (4 lbs)



To obtain the proper shape of oscillation, the axis of the oscillator's output shaft must cross with the axis of the torch.

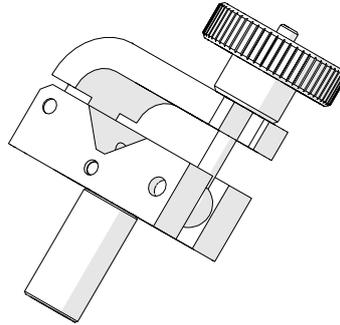




#### 4.2. 16–22 mm torch clamp

Allows using a torch with the handle diameter of 16–22 mm (0.63–0.87”).

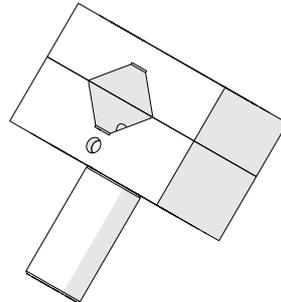
Part number:  
ZRZ-0466-04-01-00-0



#### 4.3. 16–22 mm torch clip

Allows using a torch with the handle diameter of 16–22 mm (0.63–0.87”). Tighten the torch in the clip using the 4 mm hex wrench.

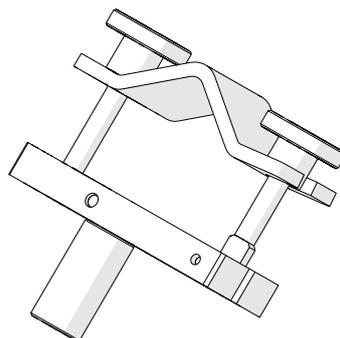
Part number:  
ZCS-0476-06-01-00-0



#### 4.4. 22–35 mm torch clamp

Allows using a torch with the handle diameter of 22–35 mm (0.87–1.38”).

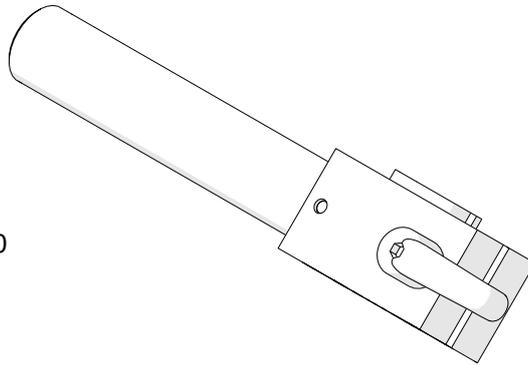
Part number:  
ZRZ-0466-19-00-00-0



#### 4.5. Short rod

Provides a 120 mm (4.72") reach.

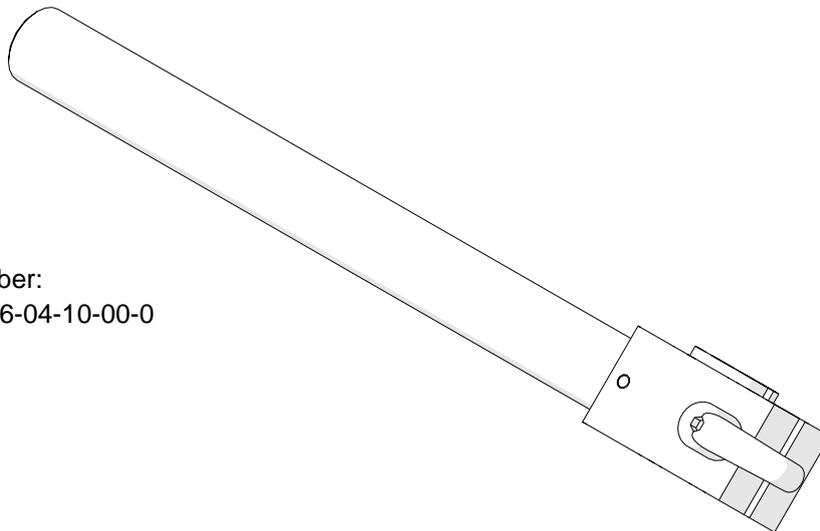
Part number:  
WLK-0476-20-01-00-0



#### 4.6. Long rod

Provides a 240 mm (9.45") reach.

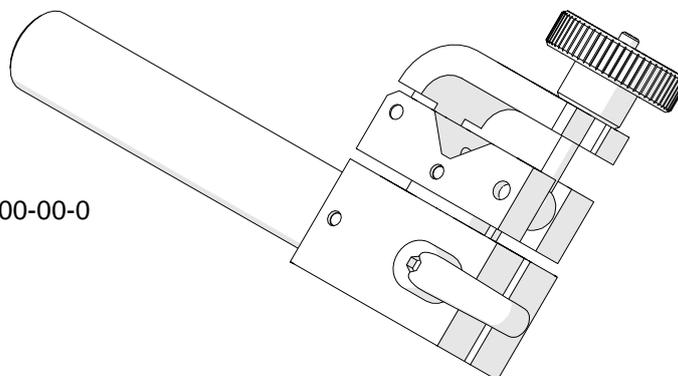
Part number:  
WLK-0466-04-10-00-0



#### 4.7. Short rod torch holder with clamp

Allows using a torch with the handle diameter of 16–22 mm (0.63–0.87").

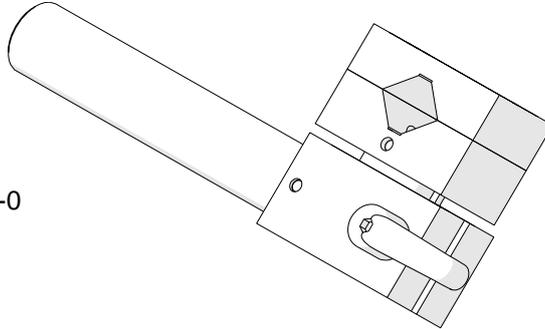
Part number:  
UCW-0476-20-00-00-0



**4.8. Short rod torch holder with clip**

Allows using a torch with the handle diameter of 16–22 mm (0.63–0.87”). Tighten the torch in the clip using the 4 mm hex wrench.

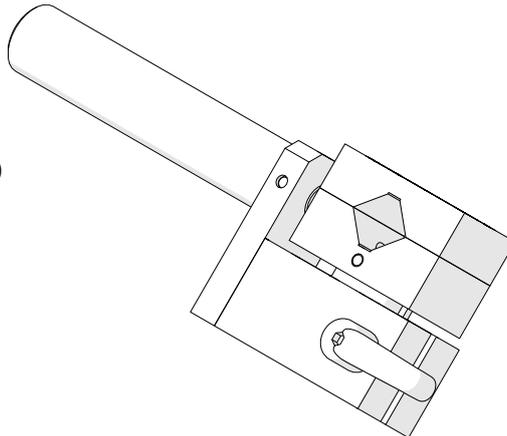
Part number:  
UCW-0476-27-00-00-0



**4.9. Short rod low torch holder with clip**

Allows using a torch with the handle diameter of 16–22 mm (0.63–0.87”). Tighten the torch in the clip using the 4 mm hex wrench.

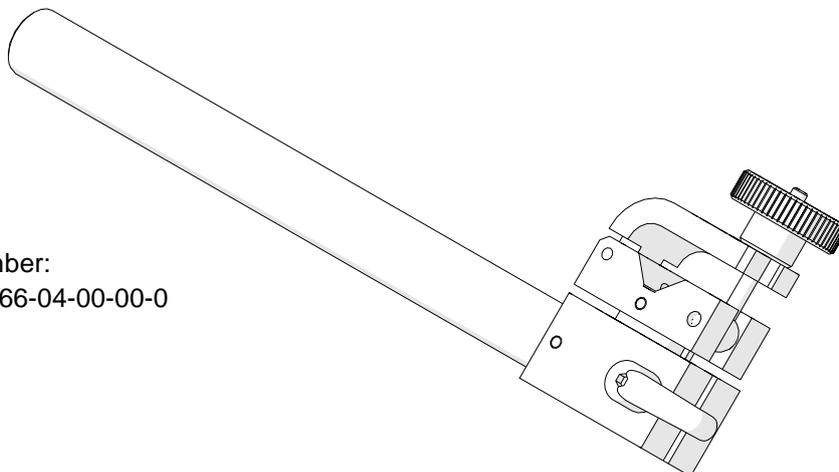
Part number:  
UCW-0476-06-00-00-0



**4.10. Long rod torch holder with clamp**

Allows using a torch with the handle diameter of 16–22 mm (0.63–0.87”).

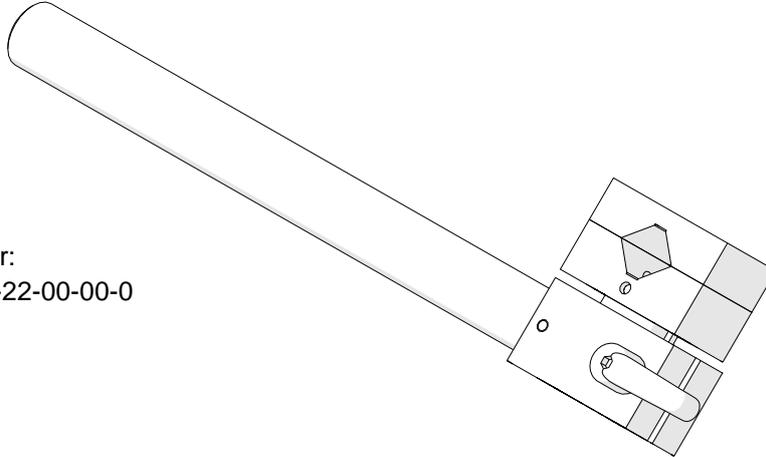
Part number:  
UCW-0466-04-00-00-0



### 4.11. Long rod torch holder with clip

Allows using a torch with the handle diameter of 16–22 mm (0.63–0.87”). Tighten the torch in the clip using the 4 mm hex wrench.

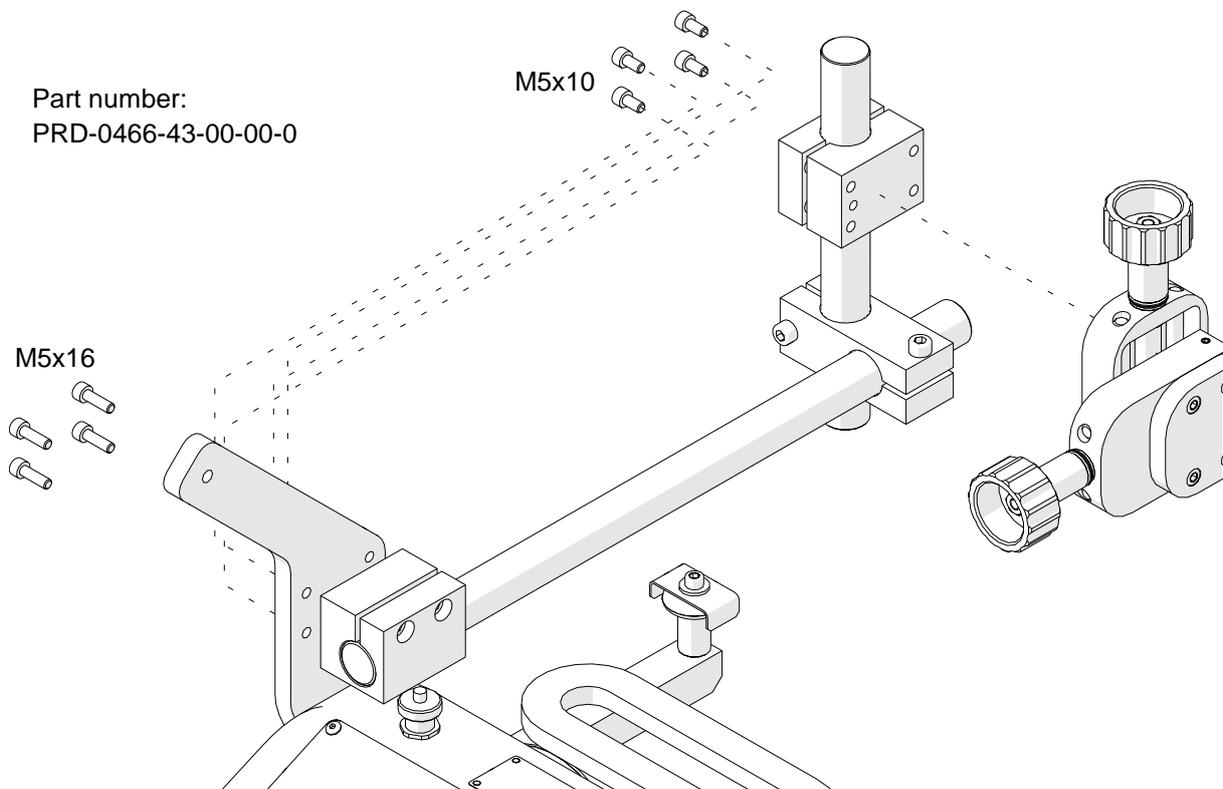
Part number:  
UCW-0466-22-00-00-0



### 4.12. Torch extension arm

Extends the reach of the torch. To install the arm, unscrew the M5x10 screws fixing the cross slide using the 4 mm hex wrench and use the same screws to fix the cross slide at the end of the arm as shown in the figure. Fix the arm to the carriage using M5x16 screws.

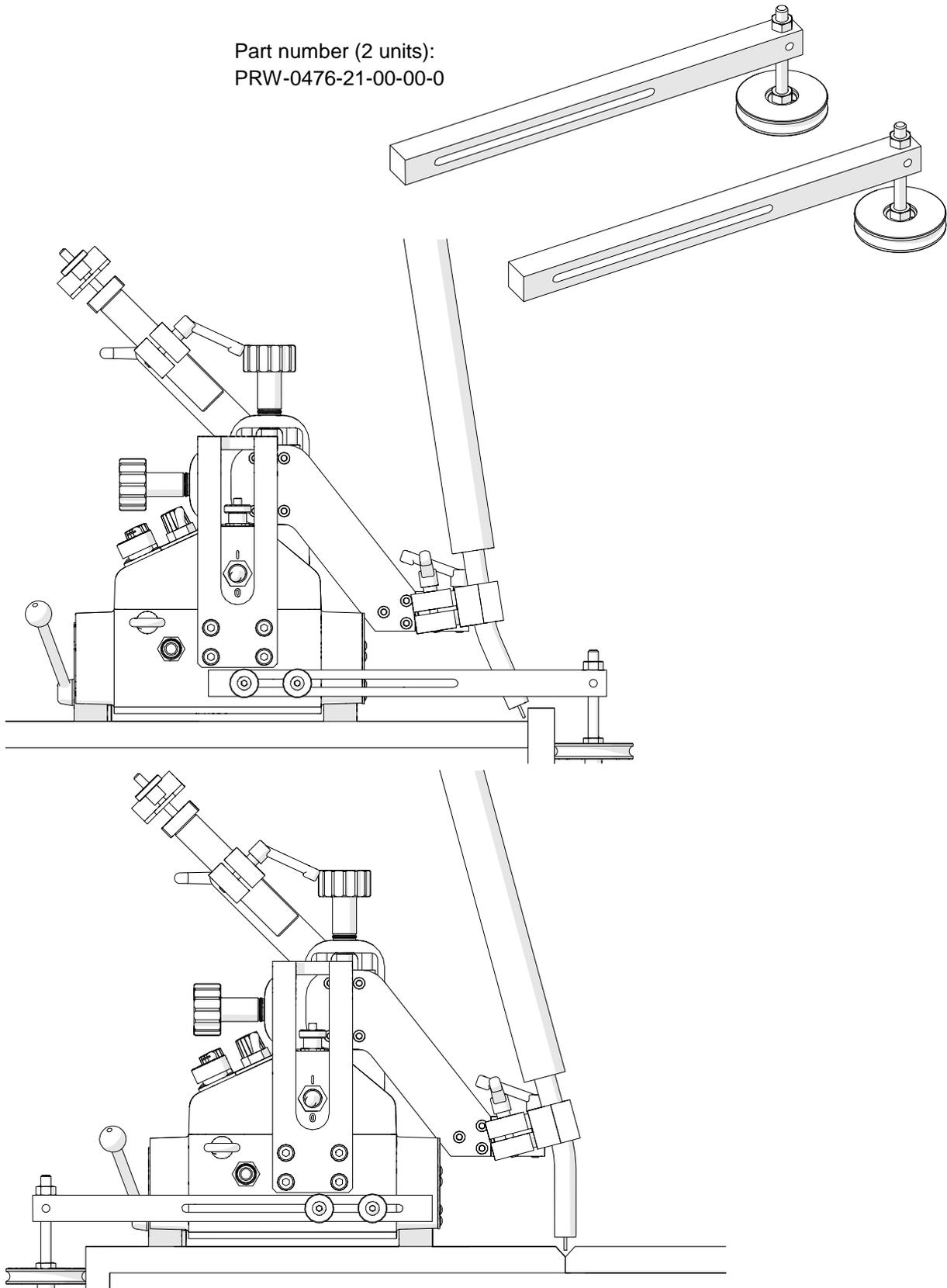
Part number:  
PRD-0466-43-00-00-0



### 4.13. Edge following guide arms

Allow guiding the carriage along outside edges. Install the guide arms after unscrewing the standard guide arms using the 4 mm hex wrench.

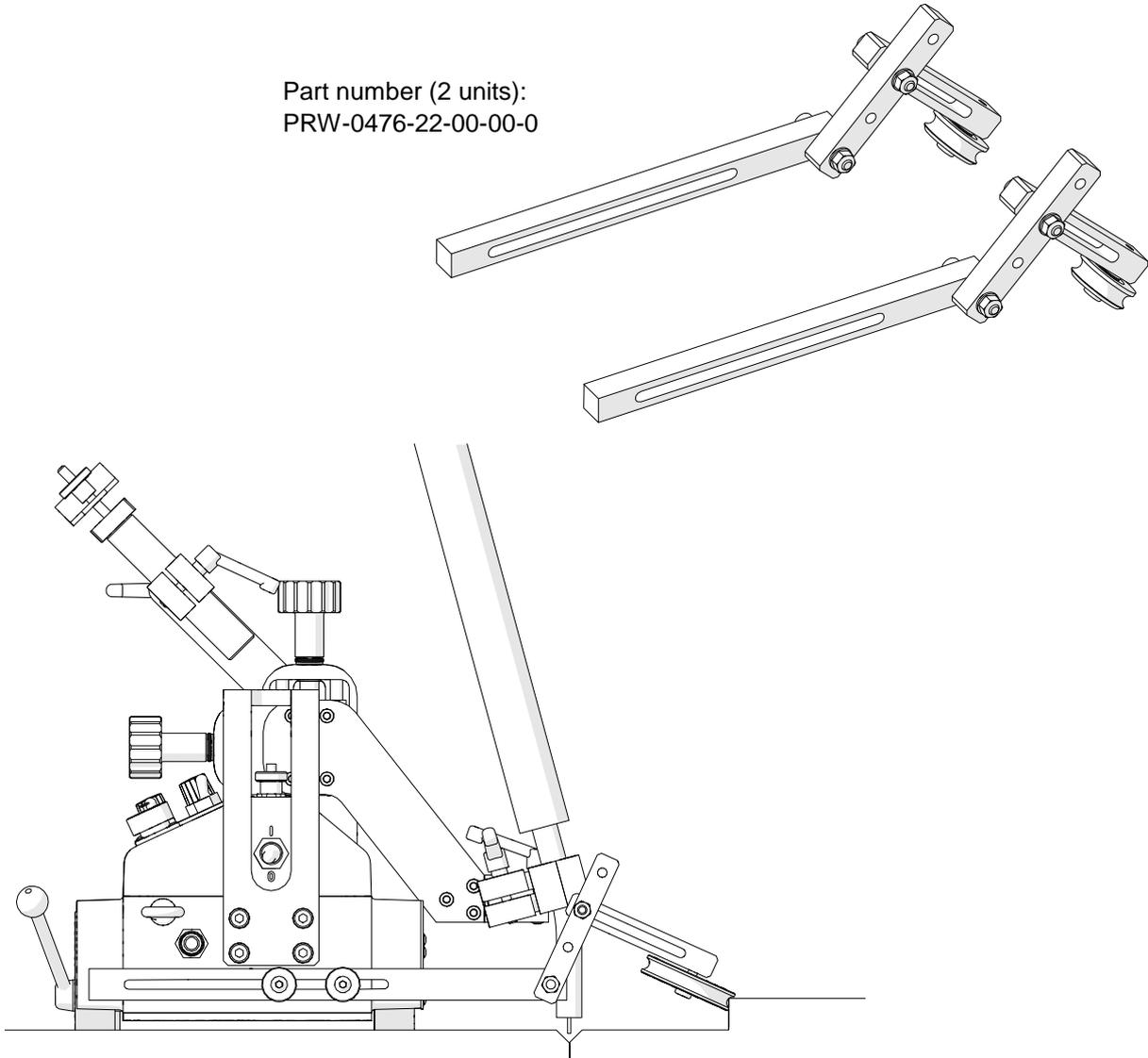
Part number (2 units):  
PRW-0476-21-00-00



#### 4.14. Adjustable guide arms

Allow guiding the carriage along lap joints and templates. Install the guide arms after unscrewing the standard guide arms using the 4 mm hex wrench.

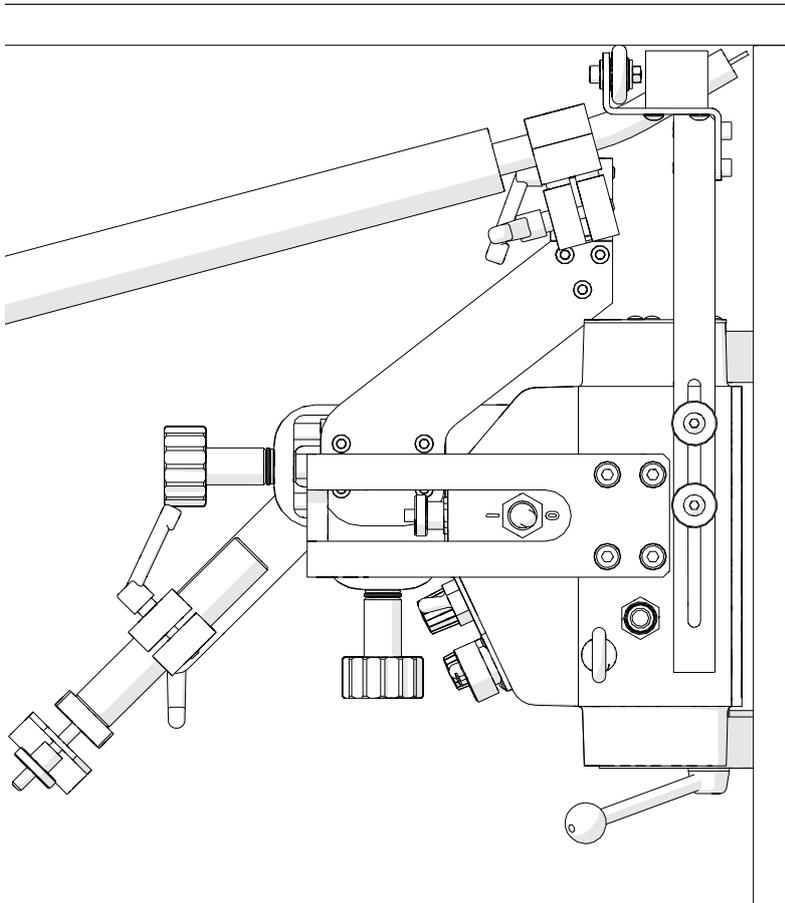
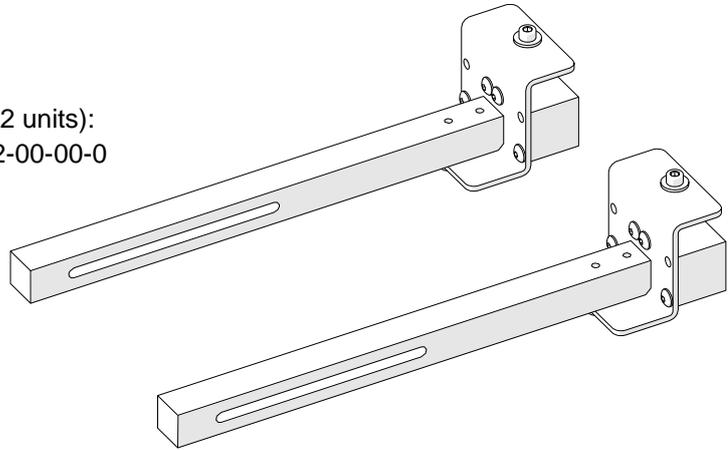
Part number (2 units):  
PRW-0476-22-00-00-0



### 4.15. Magnet guide arms

Allow guiding the carriage along ceilings. Install the guide arms after unscrewing the standard guide arms using the 4 mm hex wrench.

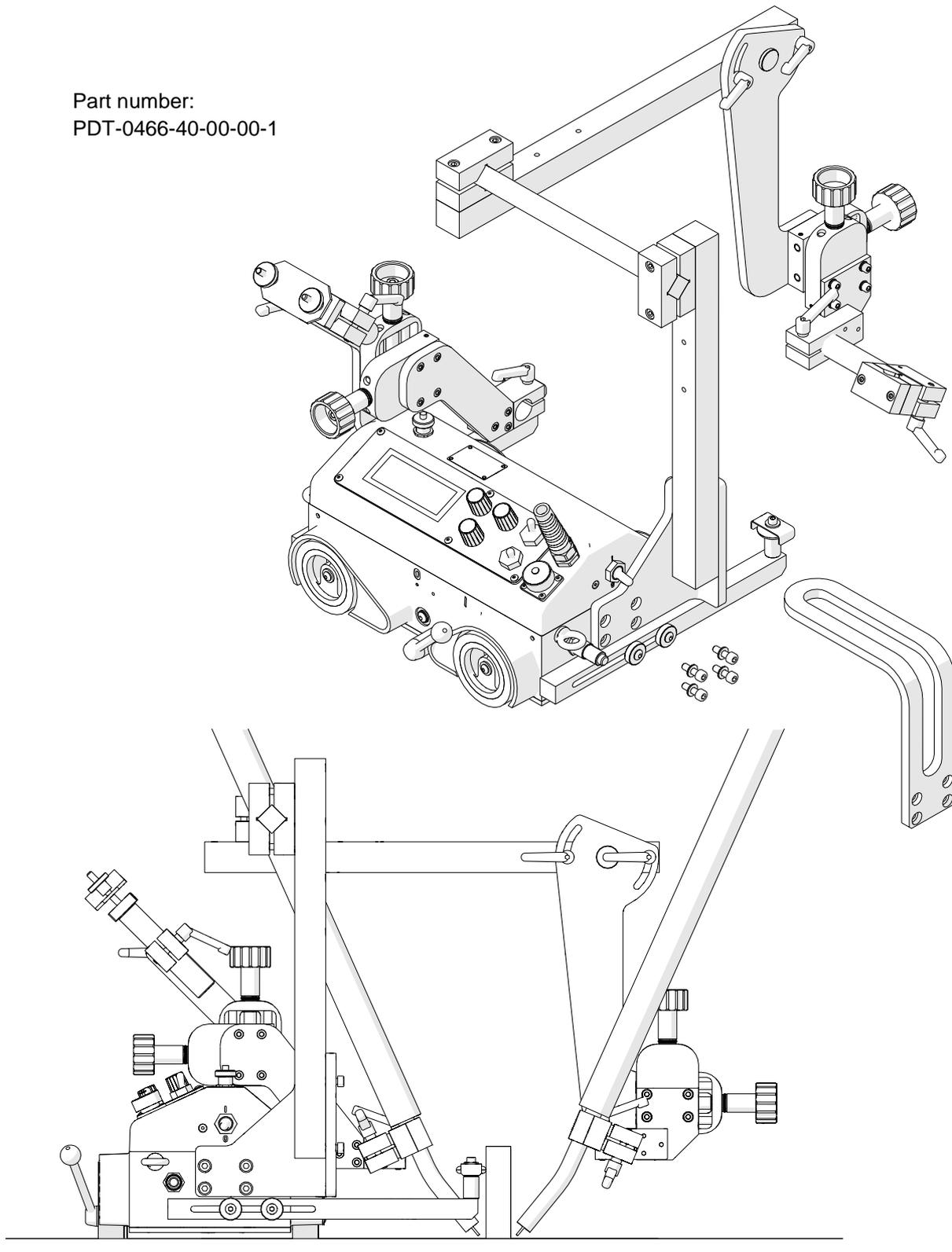
Part number (2 units):  
PRW-0476-52-00-00-0



### 4.16. Dual torch mount

Allows using a second torch. To do this, unscrew the M6x20 screws fixing the carrying handle using the 5 mm hex wrench and use the same screws and washers to fix the mount to the carriage.

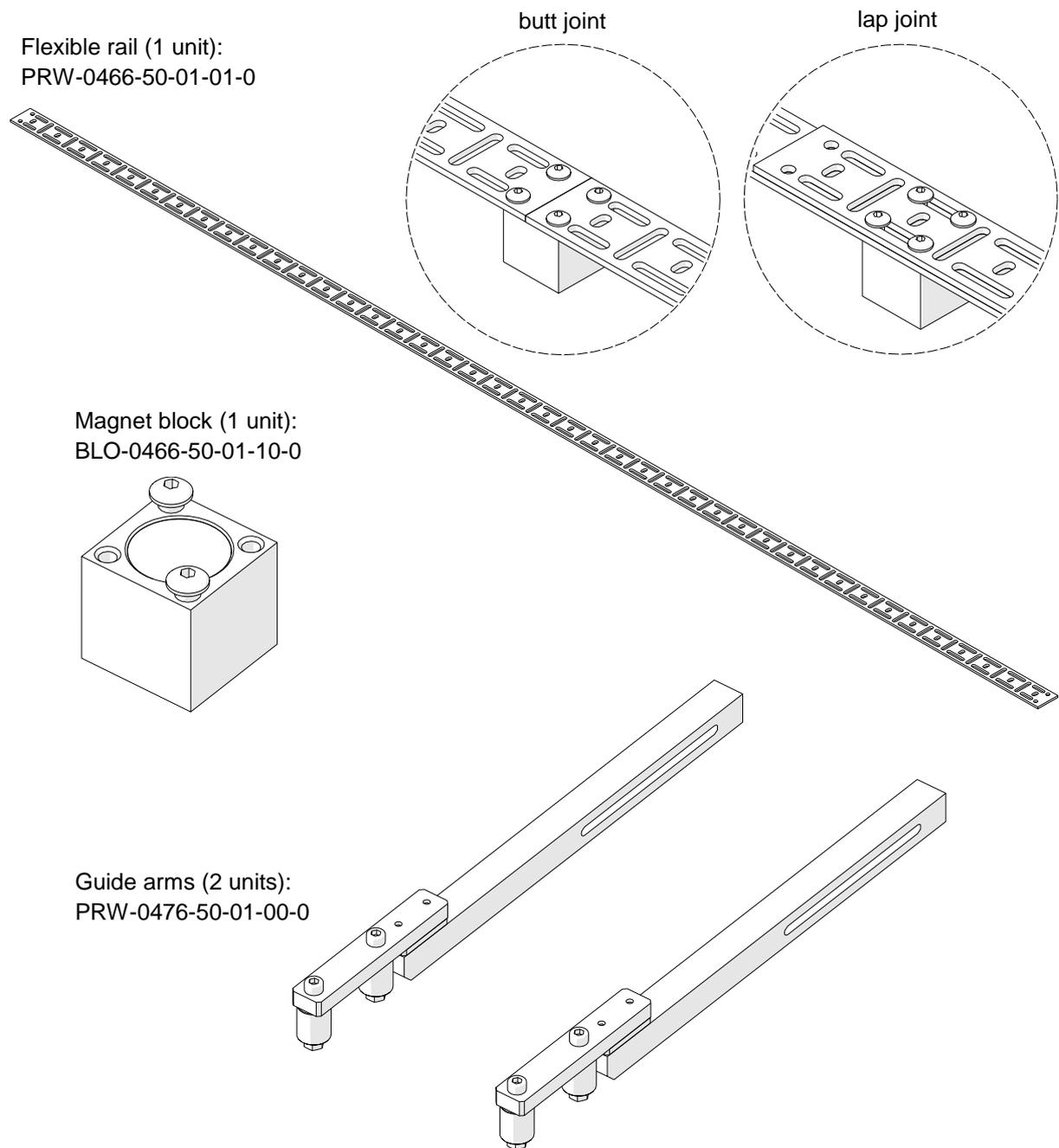
Part number:  
PDT-0466-40-00-00-1

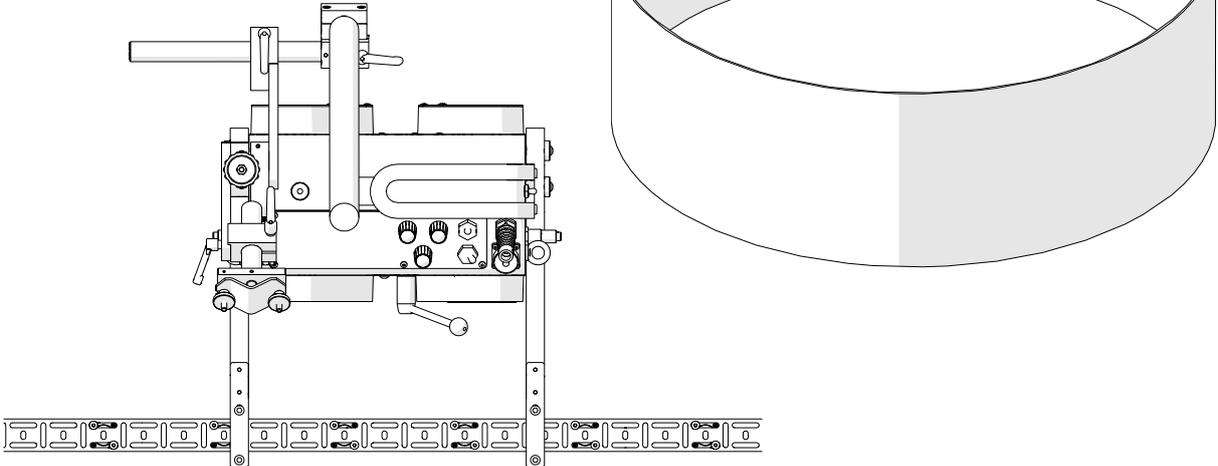
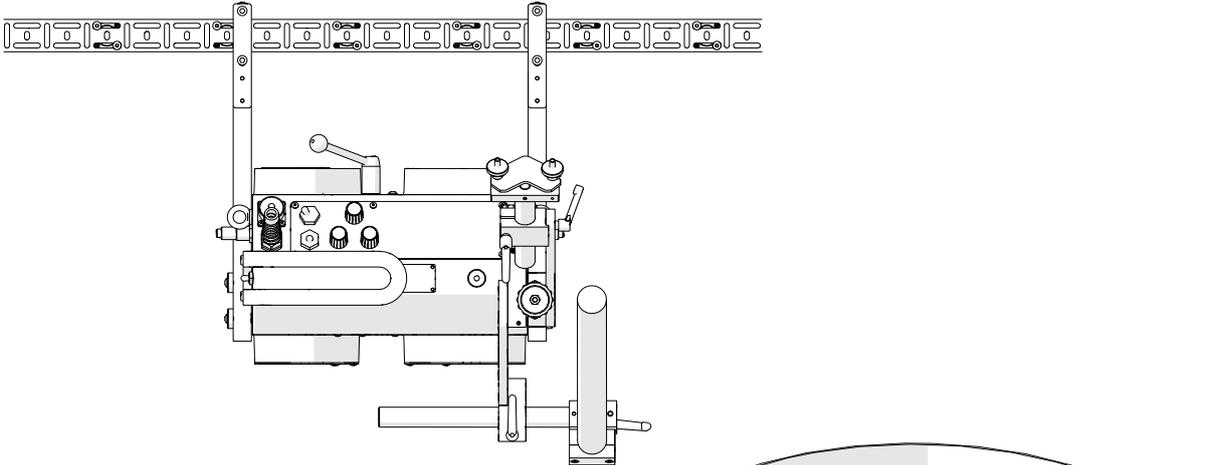
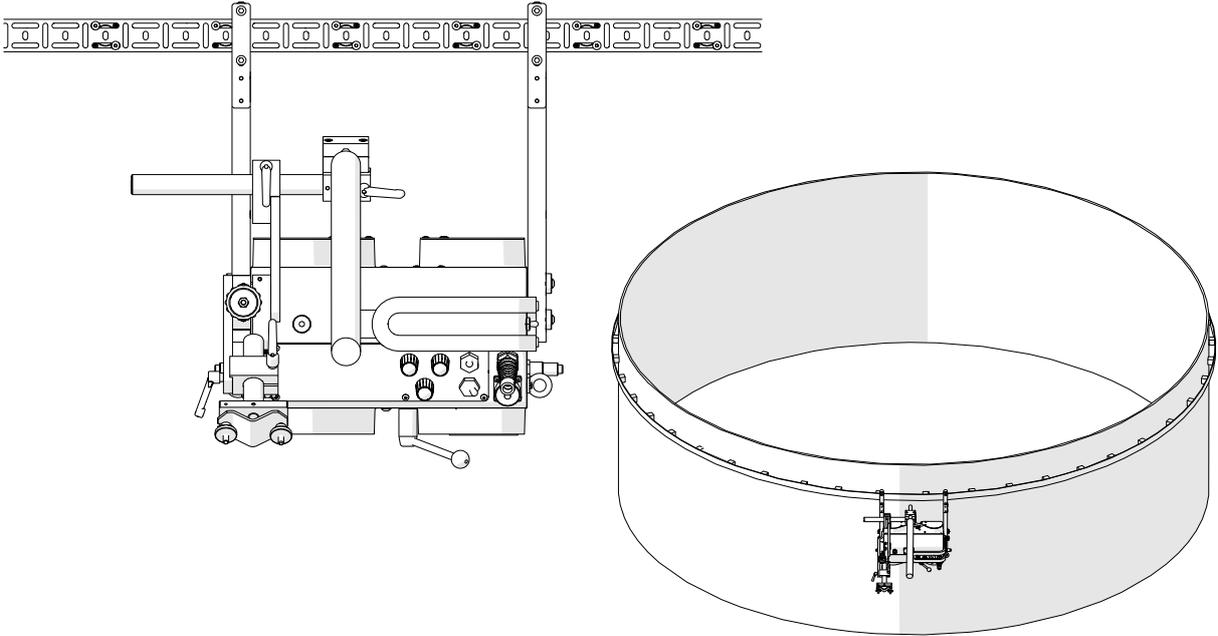


**4.17. Guiding set**

Allows guiding the carriage on planes along a straight line, and on pipes and tanks. Flexible rail is 1.85 m (6 ft) long. The holding force of a magnet block placed on a 5 mm (0.2") thick ferromagnetic surface is 90 N (20 lbs) up to a temperature of 100°C (212°F). At 180°C (356°F) the force decreases to 54 N (12 lbs).

Connect two rails with the M5x16 screws using the 3 mm hex wrench to form a butt joint or lap joint. Install the guide arms after unscrewing the standard guide arms using the 4 mm hex wrench.

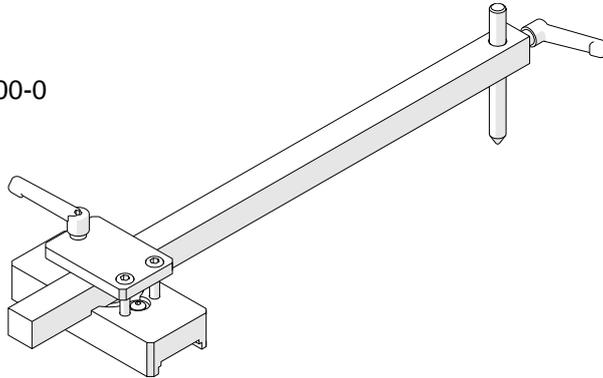




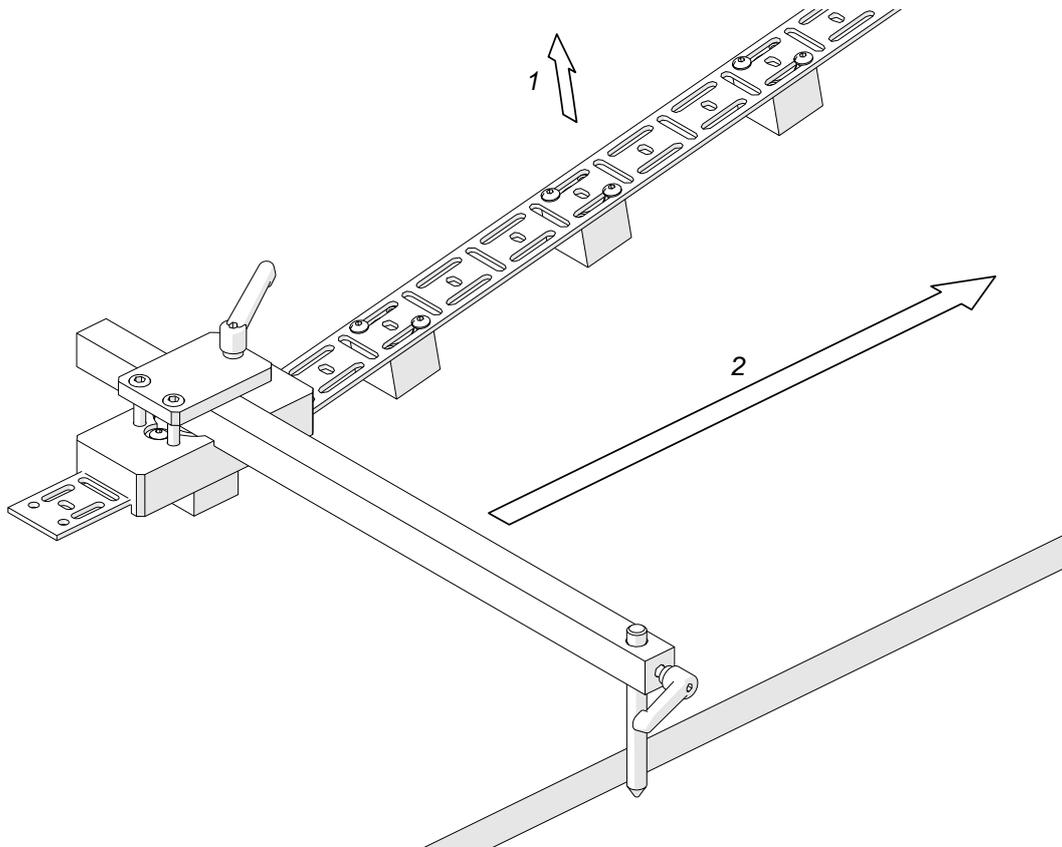
## 4.18. Guide adjustment tool

Allows the guide to be positioned parallel to an outside edge or a groove.

Part number:  
UST-0466-53-00-00-0



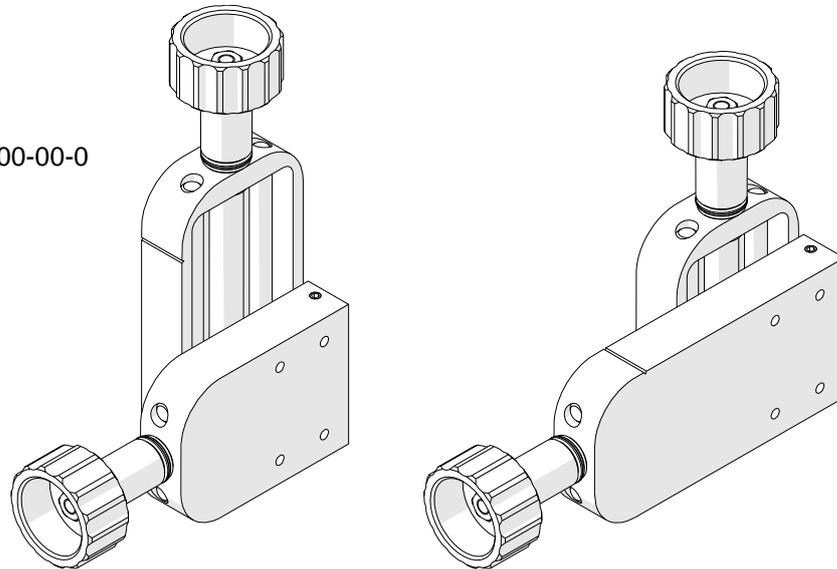
Position the guide with magnets on the workpiece along the direction of welding. Loosen the levers and put the tool onto the first magnet, resting the side of the pilot pin on an outside edge as in the figure below or placing the tip of the pilot pin in a groove. Lock the levers in this position, pull the further part of the guide off the workpiece (1), and begin moving the tool along the guide (2) to clamp the successive magnets to the workpiece.



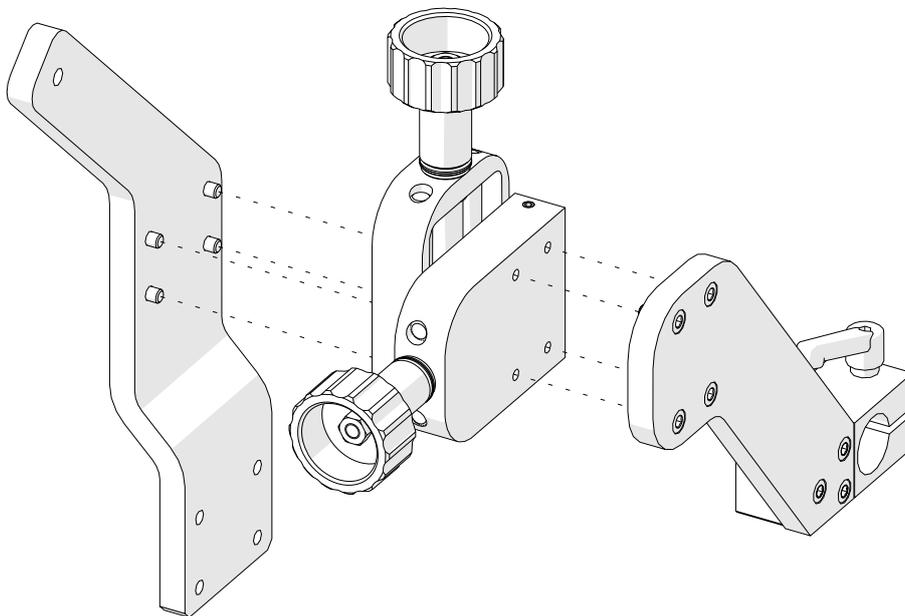
### 4.19. 76 mm cross slide

Extends either up-down or left-right adjustment range from 0–35 mm (0–1.38”) to 0–76 mm (0–3”).

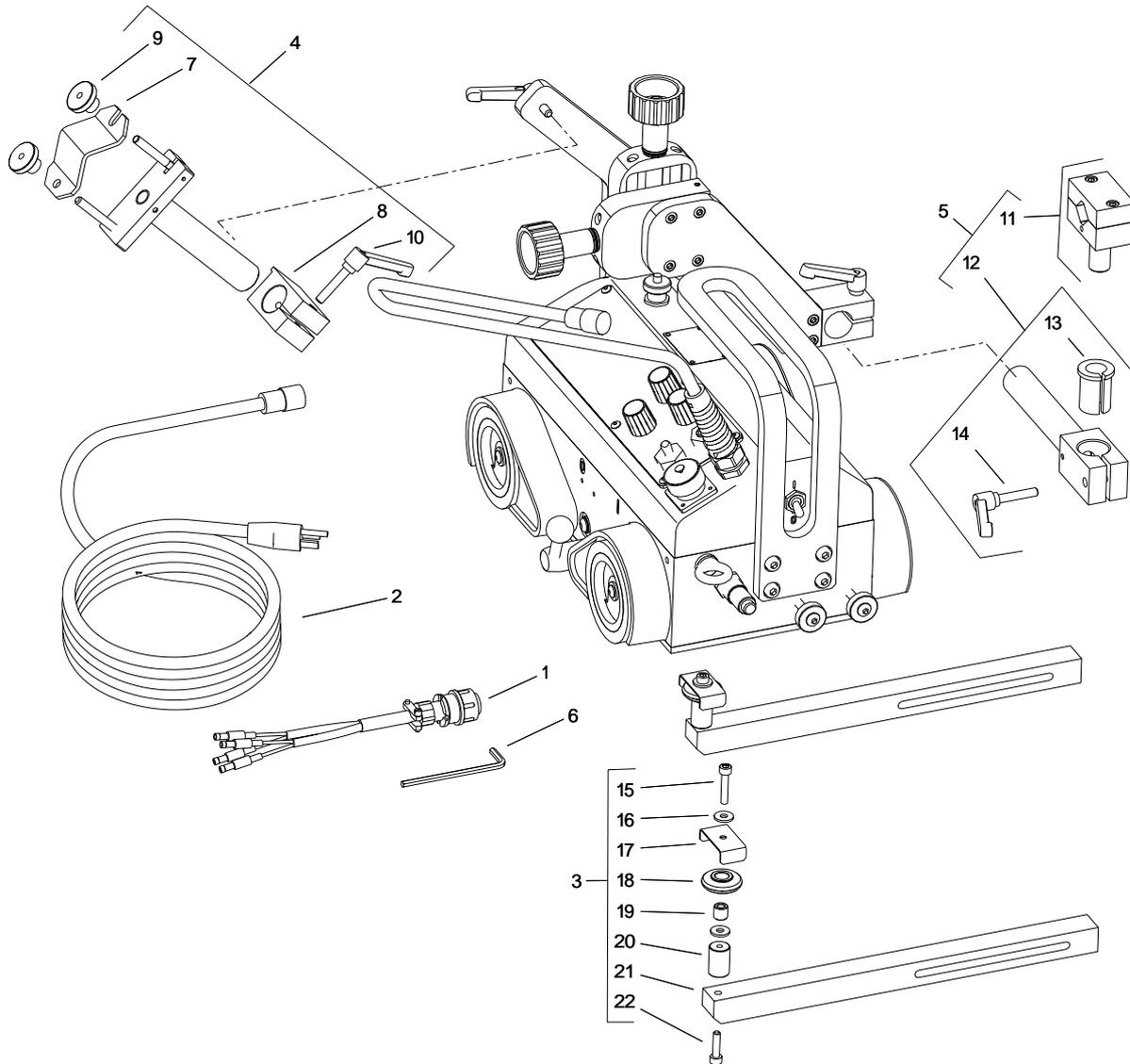
Part number:  
ZSP-0466-46-00-00-0



Install in place of the standard cross slide after unscrewing eight screws using the 4 mm hex wrench.

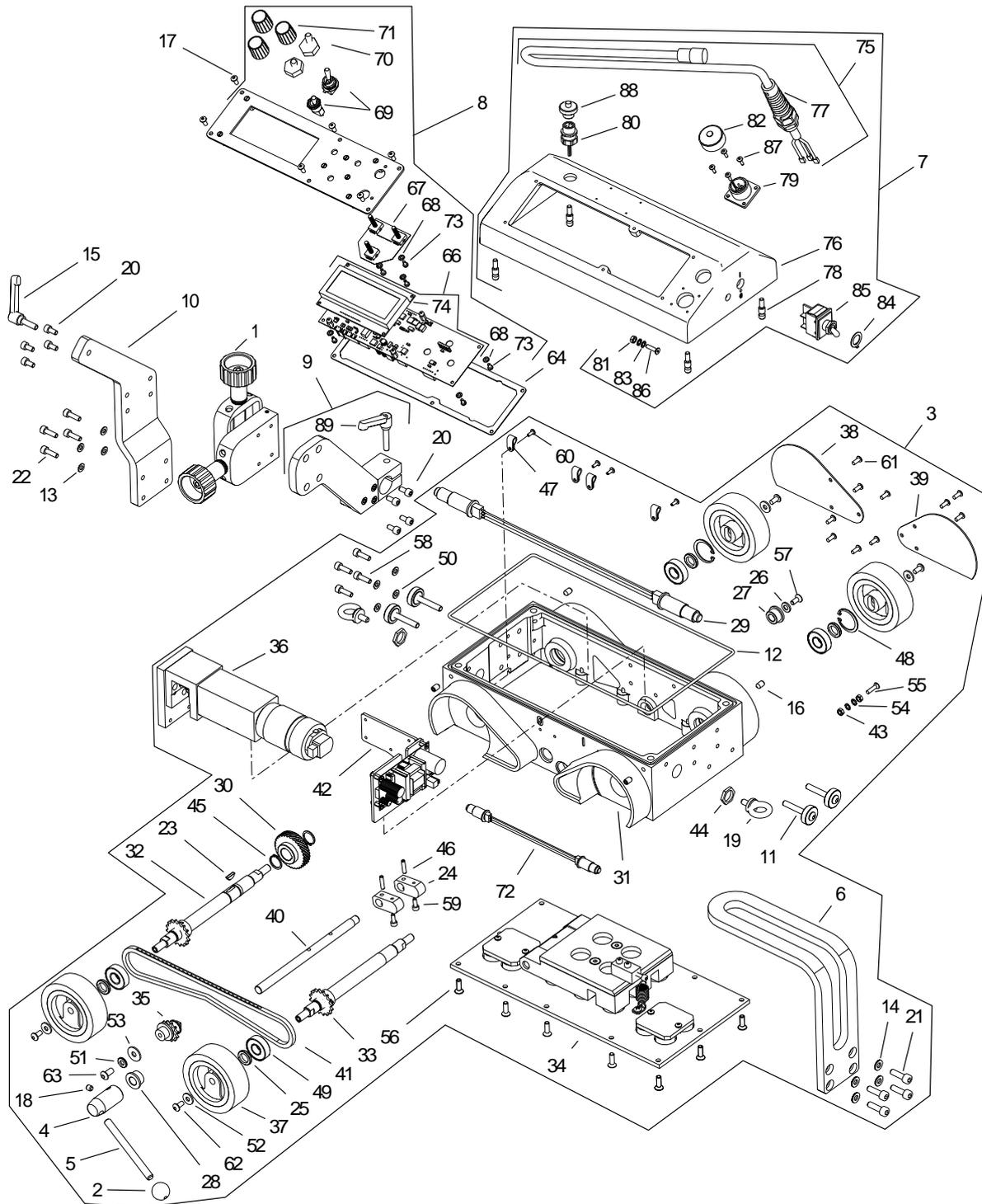


## 5. EXPLODED DRAWINGS AND PARTS LIST



ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	KBL-0466-17-00-00-0	START-STOP CONTROL CABLE	1
2	PWD-0466-18-00-00-0	POWER CORD 230V (CEE)	1
2	PWD-0466-21-00-00-0	POWER CORD 230V (AU)	1
2	PWD-0466-23-00-00-0	POWER CORD 120V (UK type G)	1
2	PWD-0466-16-00-00-0	POWER CORD 120V (USA)	1
2	PWD-0466-24-00-00-0	POWER CORD 3x1.5 – WITHOUT PLUG	1
3	PRW-0476-04-00-00-0	GUIDE ARM	2
4	UCW-0476-07-00-00-0	CABLE ANCHOR ASSY	1
5	UCW-0476-27-00-00-0	SHORT ROD TORCH HOLDER WITH CLIP ASSY	1
6	KLC-000007	4 MM HEX WRENCH	1
7	TRM-0219-06-16-00-0	CLAMP PLATE I	1
8	KST-0476-07-01-00-0	ANCHOR CLAMPING BLOCK	1
9	NKR-000121	KNURLED NUT M6	2
10	RKJ-000036	HANDLEVER M6-32	1
11	ZCS-0476-06-01-00-0	TORCH CLIP ASSY	1
12	WLK-0476-20-01-00-0	SHORT ROD ASSY	1
13	TLJ-0419-04-02-03-0	INSULATION SLEEVE	1
14	RKJ-000036	HANDLEVER M6-32	1

ITEM	PART NUMBER	DESCRIPTION	Q-TY
15	SRB-000087	HEX SOCKET HEAD CAP SCREW M5x25	1
16	PDK-000036	ROUND WASHER 5.5	2
17	OSL-0466-06-02-00-0	ROLLER COVER	1
18	RLK-0221-01-19-00-0	GUIDE ARM ROLLER	1
19	TLJ-0419-06-03-00-0	ROLLER SLEEVE	1
20	TLJ-0476-04-02-00-0	GUIDE ARM SLEEVE	1
21	RAM-0476-04-01-00-0	ARM	1
22	SRB-000086	HEX SOCKET HEAD CAP SCREW M5x20	1

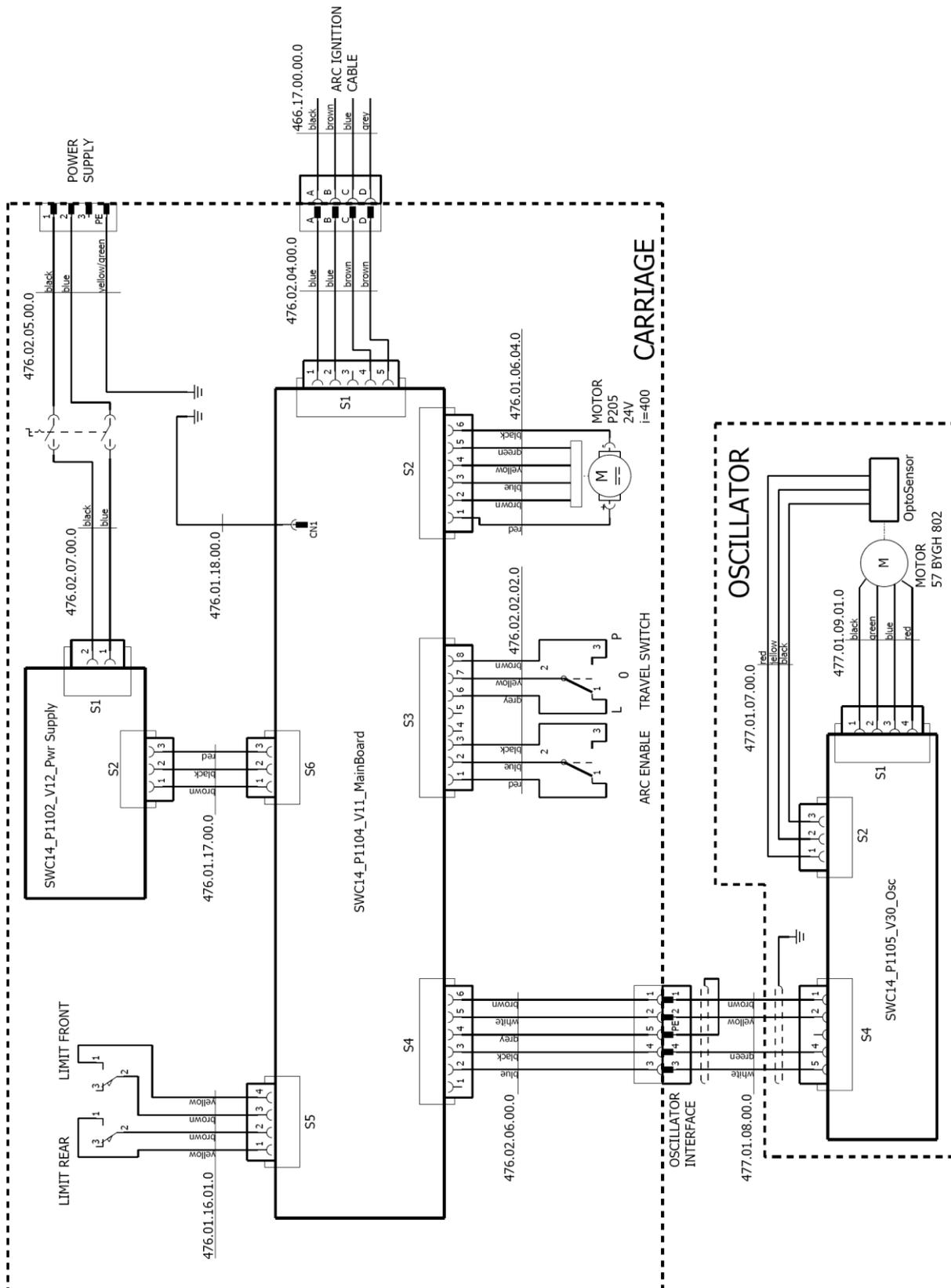


ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	ZSP-0466-03-00-00-0	CROSS SLIDE ASSY	1
2	KUL-0466-13-00-00-0	LEVER BALL	1
3	ZSP-0476-01-00-00-0	DRIVE SYSTEM	1
4	GLK-0476-01-11-00-0	HANDLE KNOB	1
5	DZW-0476-01-12-00-0	LEVER	1
6	RKJ-0476-01-13-00-0	HANDLE	1
7	PKR-0476-02-00-00-0	CONTROLLER HOUSING ASSY	1
8	PNL-0476-02-20-00-0	CONTROL PANEL ASSY	1
9	PLY-0476-03-00-00-0	TORCH HOLDER PLATE	1
10	WSP-0476-05-00-00-0	SLIDE BRACKET	1
11	SRB-0476-08-00-00-0	GUIDE ARM SCREW	4
12	USZ-0476-09-00-00-0	SEAL	1
13	PDK-000017	ROUND WASHER 5.3	4
14	PDK-000021	ROUND WASHER 6.4	4
15	RKJ-000038	HANDLEVER M6-20	1
16	WKR-000066	HEX SOCKET SET SCREW WITH CONE POINT M6x10	4
17	WKR-000092	HEX SOCKET BUTTON HEAD SCREW M4x10	6
18	WKR-000057	HEX SOCKET SET SCREW WITH FLAT POINT M6x6	1
19	SRB-000278	EYE BOLT M6	2
20	SRB-000075	HEX SOCKET HEAD CAP SCREW M5x10	8
21	SRB-000114	HEX SOCKET HEAD CAP SCREW M6x20	4
22	SRB-000083	HEX SOCKET HEAD CAP SCREW M5x16	4
23	WPS-0170-00-22-00-1	KEY 3x5x13	1
24	KRZ-0233-01-16-00-0	CAM	2
25	PDK-0233-01-21-00-0	DISTANCE WASHER 12.1x19x3	4
26	PDK-0233-01-23-00-0	WASHER 6.4x12x1.6	1
27	TLJ-0233-01-27-00-0	SLEEVE BEARING 9x16x10	1
28	TLJ-0233-01-28-00-0	SLEEVE BEARING 12x16x10	1
29	ZSP-0476-01-16-00-0	LIMIT SWITCH ASSY	1
30	KOL-0466-01-08-00-0	BEVEL GEAR z30	1
31	KRP-0476-01-01-00-1	FRAME	1
32	WLK-0476-01-02-00-0	FRONT DRIVE SHAFT ASSY	1
33	WLK-0476-01-03-00-0	BACK DRIVE SHAFT ASSY	1
34	BLO-0476-01-04-00-0	MAGNET BLOCK ASSY	1
35	NPN-0476-01-05-00-0	CHAIN TENSIONER	1
36	RDK-0476-01-06-00-0	GEAR CASE ASSY	1
37	KOL-0476-01-07-00-0	DRIVE WHEEL	4
38	OSL-0476-01-08-00-0	WHEEL GUARD RIGHT	1
39	OSL-0476-01-09-00-0	WHEEL GUARD LEFT	1
40	OSK-0476-01-10-00-0	SHAFT	1
41	LNC-0476-01-14-00-0	ROLLER CHAIN	1
42	ZSL-0476-01-15-00-0	POWER SUPPLY ASSY	1
43	NKR-000013	HEX NUT M4	2
44	NKR-000115	NUT M16x1.5	2
45	PRS-000005	EXTERNAL RETAINING RING 15z	2
46	KLK-000013	SPRING DOWEL PIN 4x16	2
47	OBJ-000002	HOLDER FOR FIXING LEADS 4	4
48	PRS-000018	INTERNAL RETAINING RING 28w	2
49	LOZ-000038	BALL BEARING 12x28x8	4
50	PDK-000017	ROUND WASHER 5.3	4
51	PDK-000021	ROUND WASHER 6.4	1

ITEM	PART NUMBER	DESCRIPTION	Q-TY
52	PDK-000036	ROUND WASHER 5.5	4
53	PDK-000037	ROUND WASHER 6.5	1
54	PDK-000060	EXTERNAL TOOTH LOCK WASHER 4.3	2
55	WKR-000152	CROSS RECESSED COUNTERSUNK HEAD SCREW M4x16	1
56	WKR-000136	HEX SOCKET COUNTERSUNK HEAD SCREW M5x16	18
57	WKR-000097	HEX SOCKET COUNTERSUNK HEAD SCREW M5x12	1
58	SRB-000083	HEX SOCKET HEAD CAP SCREW M5x16	4
59	SRB-000061	HEX SOCKET HEAD CAP SCREW M4x10	2
60	WKR-000313	HEX SOCKET BUTTON HEAD SCREW M3x8	4
61	WKR-000092	HEX SOCKET BUTTON HEAD SCREW M4x10	10
62	WKR-000096	HEX SOCKET BUTTON HEAD SCREW M5x10	4
63	WKR-000290	HEX SOCKET BUTTON HEAD SCREW M6x12	1
64	USZ-0476-02-02-01-0	PANEL PLATE SEAL	1
65	MSK-0476-02-20-10-0	PANEL PLATE ASSY	1
66	MDL-0476-02-02-21-2	ELECTRONIC CONTROLLER ASSY	1
67	MDL-0476-02-02-30-1	ENCODER MODULE	1
68	PDK-000058	EXTERNAL TOOTH LOCK WASHER 3	7
69	WZK-0476-02-02-02-0	TRAVEL DIRECTION AND ARC IGNITION WIRE SET	1
70	OSL-000036	LEVER SWITCH COVER	2
71	PKT-000016	POTENTIOMETER KNOB	3
72	WZK-0476-02-07-00-0	SWITCHED-MODE POWER SUPPLY WIRE SET	1
73	WKR-000181	CROSS RECESSED PAN HEAD SCREW M3x6	7
74	MDL-0476-02-02-22-2	DISPLAY MODULE	1
75	WZK-0466-02-09-00-0	POWER WIRE SET	1
76	PKR-0476-02-01-00-1	CONTROLLER HOUSING	1
77	DLW-000007	CABLE GLAND WITH STRAIN RELIEF PG11	1
78	SZP-0476-02-03-00-0	PIN	4
79	WZK-0476-02-04-00-0	ARC IGNITION SOCKET WIRE SET	1
80	WZK-0476-02-06-00-0	OSCILLATION MODULE WIRE SET	1
81	NKR-000013	HEX NUT M4	1
82	NKR-000120	SAFETY NUT	1
83	PDK-000060	EXTERNAL TOOTH LOCK WASHER 4.3	2
84	PDK-000165	LOCK WASHER 12/19	1
85	PNK-000026	LEVER SWITCH	1
86	WKR-000435	HEX SOCKET COUNTERSUNK HEAD SCREW M4x16	1
87	WKR-000287	HEX SOCKET BUTTON HEAD SCREW M3x10	4
88	ZLP-000025	PLUG M12	1
89	RKJ-000036	HANDLEVER M6-32	1
90*	PWD-0476-10-00-00-0	GROUNDING WIRE	1

\* not shown in the drawing

## 6. WIRING DIAGRAM



## 7. DECLARATION OF CONFORMITY

### *EC Declaration of Conformity*

We

**PROMOTECH sp. z o.o.**  
**ul. Elewatorska 23/1**  
**15-620 Białystok**  
**Poland**

declare with full responsibility that:

### **ARC RUNNER WELDING CARRIAGE**

is manufactured in accordance with the following standards:

- EN 12100
- EN 60745-1
- EN 60974-10

and satisfies safety regulations of the guidelines: 2004/108/EC, 2006/95/EC, 2006/42/EC.

Białystok, 4 March 2015



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Marek Siergiej  
Chair

**8. QUALITY CERTIFICATE**

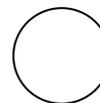
**Machine control card  
ARC RUNNER WELDING CARRIAGE**

Serial number .....

Electric test

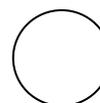
Type of test	Result	Name of tester
Test with sinusoidal voltage (voltage 1000 V, frequency 50 Hz)		..... Date
Resistance of the protective circuit	..... Ω	..... Signature

Quality control .....



**Adjustments, inspections**

Quality control .....



**9. WARRANTY CARD**

**WARRANTY CARD No.....**

..... in the name of Manufacturer warrants the ARC Runner Welding Carriage to be free of defects in material and workmanship under normal use for a period of 12 months from the date of sale.

This warranty does not cover wheels as well as damage or wear that arise from misuse, accident, tempering or any other causes not related to defects in workmanship or material.

Date of production .....

Serial number .....

Date of sale .....

Signature of seller.....

**2.06 / 14 May 2015**

***WE RESERVE THE RIGHT TO MAKE CHANGES IN THIS MANUAL WITHOUT NOTICE***