

# MV CORROVATION

До: „АЕЦ Козлодуй“ ЕАД  
гр. Козлодуй 3321

**Относно:** пазарни консултации № 52083 с предмет „Доставка на тренажор за симулация на заваряване“

**На вниманието на:**

Георги Каменов  
Експерт „Маркетинг“  
E-mail: GSKamenov@npp.bg

## ИНДИКАТИВНО ПРЕДЛОЖЕНИЕ

ОТ

### „МВ КОРПОРЕЙШЪН“ ЕООД

ЕИК: 206475290; ИН по ДДС: BG206475290

седалище и адрес за кореспонденция: гр. София 1612, ж.к.: Лагера“, бл.52, вх. Г, ет. 5  
лице за контакт: инж. Марианна Витанова – Управител, тел.: 0896976769

Уважаеми Г-н Каменов,

Имаме удоволствието да Ви предложим нашето индикативно предложение в два варианта, по гореспоменатата пазарна консултация № 52083:

#### ВАРИАНТ 1:

№	Описание и технически характеристики на Възложителя	Размери, означения	Описание и технически характеристики на предлаганото изделие	М.е.	К-во	Ед. цена без ДДС лв.	Ст-ст без ДДС лв.
1.	Компютърно базирана система за обучение на заварчици в симулирана среда – тренажор за заваряване с пълнен набор от методи, процеси, типове заваръчни съединения, позиции на заваряване и настройка на дебелината на материала. Визуализация на процеса в реално време. Всички позиции на заваряване с възможност за избор. Заваръчни процеси – като минимум РЕДЗ, РАДЗ, МИГ/МАГ с възможност за избор.	Модел: RED-WS100  Размери: 127x85x159 см  Тегло: 90 кг..	Компютърно базирана система за обучение на заварчици в симулирана среда – тренажор за заваряване със следните техн. характеристики: Визуализация на процеса в реално време – VR шлем за виртуална реалност. Всички позиции на заваряване с възможност за избор. Избор на заваръчни процеси – РЕДЗ, РАДЗ, МИГ/МАГ и др.	Бр.	1	29 700,00	29 700,00

# MV CORPORATION

	<p>Заваръчни съединения – челни и ъглови заварени съединения на тръби и листови стомани с възможност за избор.</p>		<p>Избор на материал – въглеродна стомана, неръждаема стомана и алуминий. Избор на дебелина на материала 3-10 мм Избор на типа заваръчни шевове. Избор на горелка, телове, газ, напрежение, ампераж и др. Заваръчни съединения – челни и ъглови заварени съединения на тръби и листови стомани с възможност за избор. Дисплей: 21,5” цветен сензорен. Производител: Redlab Mühendislik Limited Şirketi – Турция.</p>			
--	--	--	--	--	--	--

## ВАРИАНТ 2:

№	Описание и технически характеристики на Възложителя	Размери, означения	Описание и технически характеристики на предлаганото изделие	М.е.	К-во	Ед. цена без ДДС лв.	Ст-ст без ДДС лв.
1.	<p>Компютърно базирана система за обучение на заварчици в симулирана среда – тренажор за заваряване с пълнен набор от методи, процеси, типове заваръчни съединения, позиции на заваряване и настройка на дебелината на материала. Визуализация на процеса в реално време. Всички позиции на заваряване с възможност за избор. Заваръчни процеси – като минимум РЕДЗ, РАДЗ, МИГ/МАГ с възможност за избор. Заваръчни съединения – челни и ъглови заварени съединения на тръби и листови стомани с възможност за избор.</p>	<p>Модел: RED-WS200  Размери: 63x54x63 см  Тегло: 30 кг..</p>	<p>Компактна компютърно базирана система за обучение на заварчици в симулирана среда – тренажор за заваряване със следните техн. характеристики: Визуализация на процеса в реално време – VR шлем за виртуална реалност. Всички позиции на заваряване с възможност за избор. Избор на заваръчни процеси – РЕДЗ, РАДЗ, МИГ/МАГ и др. Избор на материал – въглеродна стомана, неръждаема стомана и алуминий. Избор на дебелина на материала 3-10 мм Избор на типа заваръчни шевове.</p>	Бр.	1	21 550,00	21 550,00





## REDWELD WELDING SIMULATOR RED-WS100 DATA SHEET



**Dimensions:** 127cmx85cmx159cm

**Weight:** 90kg

**Welding processes supported:**

- SMAW
- GMAW-GTAW
- FCAW
- TIG

**Welding positions:** PA, PB, PC, PD, PF/PG, PE, PH/PJ, 2F, 3F, 4F, 1G, 2G, 3G, 4G, 5G, 5F

**Welding joints:** V-butt plate, V butt 6" plate, over lapped plate, T-angle plate, T-angle plate, T-angle 6" pipe to plate.

**Accessories:** Arc welding torch, Gas welding torch, Tig welding torch, VR based welding mask, Stand

**Thickness selection:** 3-10 mm

**Material selection:** Carbon steel, stainless steel, and aluminium

**Power supply:** 100-240 V

**Total power:** 1KW

<b>Voltage selection</b>	Yes
<b>Amperage selection</b>	Yes
<b>Shielding gas selection</b>	Yes
<b>Wire speed selection</b>	Yes
<b>Stitch technic selection</b>	Yes
<b>Direction selection</b>	Yes
<b>Hand selection</b>	Yes. Right or left
<b>Real welding torches</b>	Yes
<b>Remote maintenace</b>	Yes
<b>Helmet</b>	Meta Quest 2
<b>Languages</b>	English, Turkish
<b>Visual Hint</b>	Yes
<b>Area Selection</b>	Yes, welding workshop, construction zone, maintenance center, shipyard
<b>Polarization</b>	Yes

Electrode / wire material selection	Yes
Electrod / wire diameter selection	Yes
User Evaluation System	Yes
Video recording	Yes
Project to Larger Screens	Yes
Display size	21,5" touch screen
Vision technology	Virtual reality
Sound	3D sound
Updates	Yes
Warranty	2 years

Analyzed Parameters:	Analyzed welding errors:
<ul style="list-style-type: none"><li>- Travel speed,</li><li>- Work angle,</li><li>- Travel angle,</li><li>- Arc length,</li><li>- Position,</li><li>- Distance between contact nozzle and workpiece.</li></ul>	<ul style="list-style-type: none"><li>- Insufficient penetration,</li><li>- Slag containment,</li><li>- Undercut,</li><li>- Porosity,</li><li>- Poor bead placement,</li><li>- Convex, Concave</li><li>- Wrong welding size,</li><li>- Excess Spatter,</li><li>- Melt/Blow through.</li></ul>

<p><b>Redlab Mühendislik Limited Şirketi</b></p> <p>Zümrütevler Mah. Lalegül Sok. No: 8A Maltepe Istanbul Turkey</p> <p><a href="http://www.redlab.com.tr">www.redlab.com.tr</a> - <a href="http://www.weldsimulator.com">www.weldsimulator.com</a> - +90 216 599 0036</p>	
--	---

## REDWELD COMPACT WELDING SIMULATOR RED-WS200 DATA SHEET



**Dimensions:** 63cmx54cmx60cm

**Weight:** 30kg

**Welding processes supported:**

- SMAW
- GMAW-GTAW
- FCAW
- TIG

**Welding positions:** PA, PB, PC, PD, PF/PG, PE, PH/PJ, 2F, 3F, 4F, 1G, 2G, 3G, 4G, 5G, 5F

**Welding joints:** V-butt plate, V butt 6" plate, over lapped plate, T-angle plate, T-angle 6" pipe to plate.

**Accessories:** Arc welding torch, Gas welding torch, Tig welding torch, VR based welding mask

**Thickness selection:** 3-10 mm

**Material selection:** Carbon steel, stainless steel, and aluminium

**Power supply:** 100-240 V

**Total power:** 1KW

<b>Voltage selection</b>	Yes
<b>Amperage selection</b>	Yes
<b>Shielding gas selection</b>	Yes
<b>Wire speed selection</b>	Yes
<b>Stitch technic selection</b>	Yes
<b>Direction selection</b>	Yes
<b>Hand selection</b>	Yes. Right or left
<b>Real welding torches</b>	Yes
<b>Remote maintenace</b>	Yes
<b>Helmet</b>	Meta Quest 2
<b>Languages</b>	English, Turkish
<b>Visual Hint</b>	Yes
<b>Area Selection</b>	Yes, welding workshop, construction zone, maintenance center, shipyard
<b>Polarization</b>	Yes

<b>Electrode / wire material selection</b>	Yes
<b>Electrod / wire diameter selection</b>	Yes
<b>User Evaluation System</b>	Yes
<b>Video recording</b>	Yes
<b>Project to Larger Screens</b>	Yes
<b>Display size</b>	15,6" touch screen
<b>Vision technology</b>	Virtual reality
<b>Sound</b>	3D sound
<b>Updates</b>	Yes
<b>Warranty</b>	2 years

<b>Analyzed Parameters:</b>	<b>Analyzed welding errors:</b>
<ul style="list-style-type: none"> <li>- Travel speed,</li> <li>- Work angle,</li> <li>- Travel angle,</li> <li>- Arc length,</li> <li>- Position,</li> <li>- Distance between contact nozzle and workpiece.</li> </ul>	<ul style="list-style-type: none"> <li>- Insufficient penetration,</li> <li>- Slag containment,</li> <li>- Undercut,</li> <li>- Porosity,</li> <li>- Poor bead placement,</li> <li>- Convex, Concave</li> <li>- Wrong welding size,</li> <li>- Excess Spatter,</li> <li>- Melt/Blow through.</li> </ul>

## Technical Specifications

- 1- In the Welding Simulation Training Set based on the virtual reality (VR) system; It consists of welding machine, torches and welding mask.
- 2- It has original gas metal arc and tig torches and specially designed electrode arc welding pliers (SMAW - Electric arc welding).
- 3- Welds according to at least 6 welding positions (V-butt 6" (150 mm) Pipe, V-butt Plates, T-Inner Corner, T-Inner Corner 6" (150 mm) butt pipe with plate and plate overlay) and straight stitching.
- 4- Working angle, feed rate and angle, feed coordinates, weld seam guide lines and arc length distance can be measured accurately and data (numbers and graphics) can be viewed instantly.
- 5- The thickness of the workpiece can be selected between 3 and 10 mm and material selection (Carbon Steel, Stainless Steel and Aluminum) can be made.
- 6- According to welding types, welding torches, gas metal arc and tig torches have original weight and structure (with their real equivalents), different wire thicknesses can be selected with the electrode selection.
- 7- Device; It can perform electric arc welding (SMAW), gas metal arc welding (GMAW-GTAW), cored wire arc welding (FCAW), TIG welding.
- 8- CO<sub>2</sub>, ARGON-CO<sub>2</sub> mixture and ARGON options are available as shielding gas.
- 9- Real-time feedback is provided on the welding technique applied using visual cues.
- 10- Supervision and control of the welding applications and ethernet or wireless access to all data with the teacher's computer.



- 11- Amperes and volts can be adjusted according to welding types and positions.
- 12- In addition to the exercises performed by the users and the analysis results of these exercises, it is possible to store the video of the exercise on the simulator device.
- 13- Scoring can be made by considering how well the student welds according to the welding technique determined by the teacher.
- 14- Student studies or possible welding errors can be analyzed by the system, reported and transferred to the teacher's computer with the simulator screen.
- 15- The welding technique applied by the student is shown with a graph containing lines of different colors, and this graph consists of lines belonging to different parameters.
- 16- There is a scoring system for the evaluation of the user. With the help of this system, users can be tested, and a multiple-choice exam can be applied to users with the teacher software.
- 17- Position of welded joint, distance between contact nozzle and workpiece, working angle, feed angle, feed rate, reaching target, weld porosity, electrode; It simulates the situations where it melts and can be replaced with a new one while using, and splashing slag situations are simulated.
- 18- Overlay welding can be performed from normal and single pass up to 4 passes in the welding simulator.
- 19- It allows manual and automatic trigger options while simulating gas metal, cored wire and tig welds with the simulator.
- 20- There are flat, zig zag, triangular crescent and circular weld seam options.
- 21- With its right-to-left and left-to-right welding feature, the welding apparatus and the software are also suitable for right-handed and left-handed users.
- 22- There is an adjustable virtual work stand in different positions to place the virtual welding parts.
- 23- The welding mask has sufficient inner depth between the screen in the mask and the forehead so that students with glasses can also use it. The apparatus has VR technology.
- 24- In electrode and cored wire welding, there is a shell cleaning feature for observing before and after the removal of the welding shell.
- 25- The welding simulator has licensed teacher software. The software can be updated in accordance with the technological requirement.
- 26- Since the system is a computer simulation, there is a 15,6" monitor and other equipment, internal USB, ethernet, HDMI cable in order to watch the images in the system.

**Redlab Mühendislik Limited Şirketi**

Zümrütevler Mah. Lalegül Sok. No: 8A Maltepe Istanbul Turkey

[www.redlab.com.tr](http://www.redlab.com.tr) - [www.weldsimulator.com](http://www.weldsimulator.com) - +90 216 599 0036





To: Whom it may concern

Date: 13.04.2023

### Manufacturer's Authorization Letter

We, Redlab Mühendislik Ltd. Şti. , as reputable manufacturer of welding simulator, hereby declare that the bellow company has authorization to represent us and has the right to offer, deliver and service our production on the territory of Bulgaria.

Company: MV Corporation Ltd.,  
ID: 206475290, Bulgaria, 1612 Sofia,  
Lagera District, bl. 52, entr. G, fl.5

We herewith guarantee the quality of our product.

This letter is valid until 31.12.2024.

Yours sincerely,

**Yalcin TAS**  
**General Manager**

