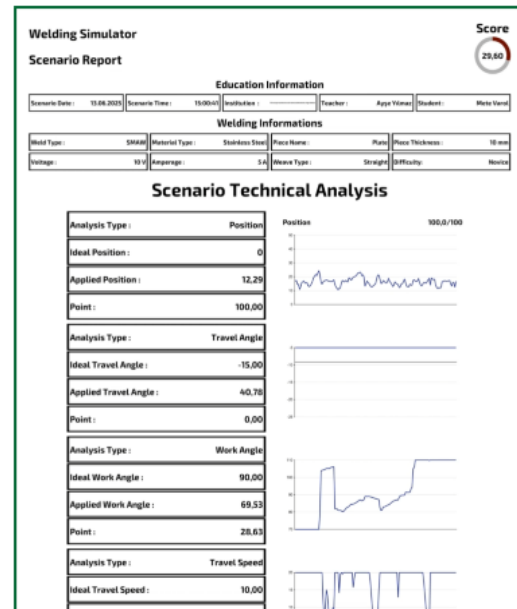


WELDING SIMULATOR

VR-AR Based Simulator

WELDSIM All-in-one Welding Simulator provides realistic training environment powered by VR and AR technologies, offering realistic training with a highly precise mask and torch motion tracking system. Designed to support skill development in SMAW, GMAW-GTAW, TIG, and FCAW welding processes.



DIMENSIONS:	
Overall Dimensions (L-W-H)	0.78 m - 2.37 m - 2.00 m
Net Weight (product only)	140 kg
Shipping Dimensions (L-W-H)	2.30 m - 2.30 m - 1.30 m
Crate Weight	190 kg
Packaging Type	Wooden crate

SYSTEM SPECIFICATIONS:	
Display System	21.5" Touch Screen
Audio System	3D Sound
Power Supply	220V AC, 50Hz
Power	1kW
Minimum System Requirements	Intel(R) Core (TM) i7 - 16 GB Ram - 500 GB SSD NVidia GeForce RTX 3060 - Windows 11 Wireless Combo Keyboard Mouse

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WELDING SIMULATOR SPECIFICATIONS:	
Supported Welding Processes	SMAW, GMAW-GTAW, TIG, FCAW
Welding Positions	PA, PB, PC, PD, PF/PG, PE, PH/PJ, 1F, 2F, 3F, 4F, 5F, 1G, 2G, 3G, 4G, 5G, 6G
Worktable	3 Adjustable height levels
Welding Mask	VR & AR supported headset
Accessories	Arc welding torch, TIG welding torch, VR based welding mask, Gas welding torch, Stand
Materials	Stainless Steel, Carbon Steel, Aluminium, Copper
Work Pieces	T-angle plate, T-angle 6" pipe to plate, V-butt plate, V butt 6" plate, over lapped plate
Thickness Selection	3-10 mm
Shielding gas selection	Yes
Stitch technique selection	Yes
Weld Direction Selection	Left-to-right, Right-to-left
Hand Selection	Right/Left hand selection
Voltage Selection	Yes
Ampere Selection	Yes
Wire speed selection	Yes
Real welding torches	Yes
Visual Hint	Yes
Helmet	Meta Quest 3
Languages	English, Turkish
Area Selection	Yes, Welding workshop, Construction zone, Maintenance center, Shipyard
Polarization	Yes
Electrode/Wire material selection	Yes
Electrode/Wire diameter selection	Yes

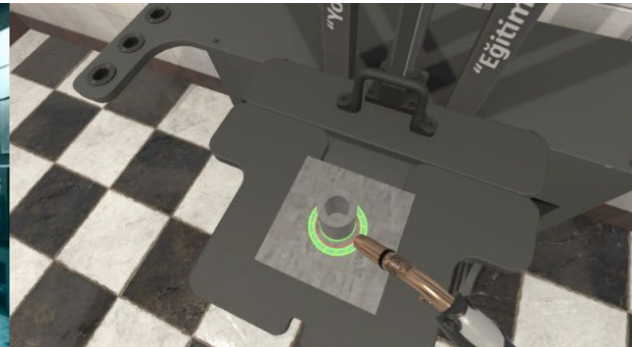


Welding Simulator



Welding Simulator

WELDING SIMULATOR SPECIFICATIONS:	
User Evaluation System	Yes
Project to Larger Screens	Yes
Adjustable Parameters	Amperage, Voltage, Material thickness, Wire thickness
Analyzed Parameters	Distance between contact nozzle and work piece, Work angle, Travel angle, Position, Travel speed, Arc length
Analyzed welding errors	Insufficient penetration, Undercut, Poor bead placement, Slag containment, Excess Spatter, Melt/Blow through, Porosity, Wrong welding size, Convex, Concave
Reports	Visual analysis and reporting of position, angle and speed parameters
Video Recording	Yes
Data Storage	Student-based data storage and training history tracking
Scoring	Customizable scoring parameters with advanced management interface
Environment	Real welding environment and High graphics quality
Vision technology	Virtual reality
Updates	Yes
Remote Support	Safe, Cost-effective and Measurable welding training



WELDING SIMULATOR

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WELDING SIMULATOR SPECIFICATIONS:

- The Welding Simulation Training System consists of welding machine, welding types and position plates, welding mask, welding table.
- 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
- 6 welding positions (V-butt 6" Pipe, T-Inner Corner, T-Inner Corner 6" butt pipe with plate and plate overlay, V-butt Plates) and straight stitching.
- 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.
- Work piece thickness can be selected between 3 and 15 mm
- Different materials can be selected (Carbon Steel, Stainless Steel, Aluminum and Copper)
- It has original gas metal arc and TIG torches and specially designed electrode arc welding pliers (SMAW - Electric arc welding).
- Electric arc welding (SMAW), Gas metal arc welding (GMAW-GTAW), Cored wire arc welding (FCAW), TIG welding can be performed
- Available shielding gas: CO₂, Argon-CO₂ mixture and Argon
- Real-time feedback is provided on the welding technique applied using visual cues.
- Supervision and control of the welding applications and Ethernet or wireless access to all data with the teacher's computer.
- 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.
- According to welding types and positions, Amperes and Volts can be adjusted
- Position of welded joint, distance between contact nozzle and work piece, 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.
- Overlay welding can be performed from normal and single pass up to 4 passes in the welding simulator.
- Scoring can be made by considering how well the student welds according to the welding technique determined by the teacher.
- Student studies or possible welding errors can be analyzed by the system, reported and transferred to the teacher's computer with the simulator screen.
- 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.
- 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.
- It allows manual and automatic trigger options while simulating Gas metal, cored wire and TIG welds with the simulator.

WELDING SIMULATOR

VR-AR Based Simulator

- 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.
- There are flat, zig zag, triangular crescent and circular weld seam options.
- In electrode and cored wire welding, there is a shell cleaning feature for observing before and after the removal of the welding shell.
- 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.
- There is an adjustable work stand in different positions to place the welding parts.
- The welding simulator has licensed teacher software. The software can be updated in accordance with the technological requirement.
- Simulator computer specifications: Intel(R) Core(TM) i7 - 16 GB Ram - 500 GB SSD, NVidia GeForce RTX 3060 - Windows 11, Wireless Combo Keyboard Mouse
- VR Helmet: Capacity 128 GB, Screen Type: LCD, Resolution Per Eye: 2064 x 2208, Refresh Rate: 120Hz., Viewing Angle: 110°
- Since the system is a computer simulation, there is a 21.5" monitor and other equipment, internal USB, Ethernet, HDMI cable in order to watch the images in the system.

