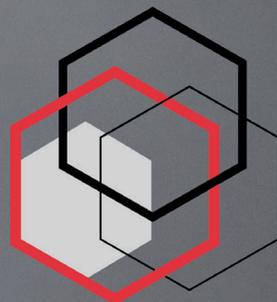


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# Virtual Robot Programming System (VRPS)



*"VRPS offers the ability to program a welding robot by using the already existing Virtual Reality (VR) technology for positioning the weld."*

# Virtual Robot Programming System (VRPS)

VRPS (Virtual Robot Programming System) offers the possibility to program a welding robot by using the already existing Virtual Reality (VR) technique for positioning the weld.

The basic idea of VRPS is that with the handheld remote of a VR set, a movement is made that forms the basis for the welding program. This program is then perfected and executed by the robot. VRPS is therefore the first system in the market to combine the simplicity of positioning through VR with the high-end technology of an industrial welding robot and offers a unique solution within the system for accommodating inaccuracies.

Programming an industrial robot therefore becomes very easy. In addition, the work becomes lighter and cleaner.

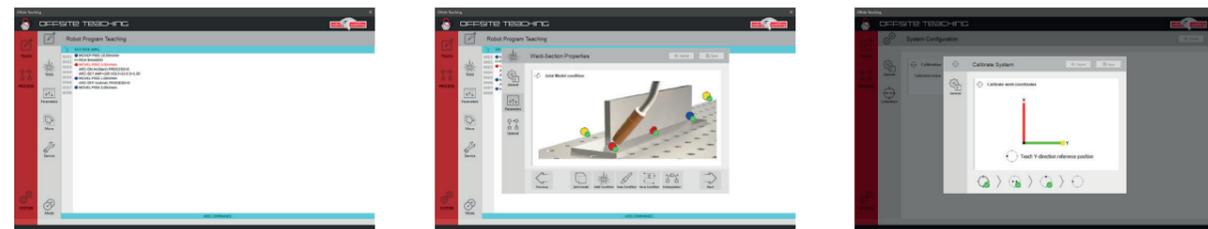


Programming products can be done very quickly, and the user only needs limited knowledge or experience in programming robots.

Because programming with the help of VRPS can be done quickly, the use of VRPS software within production is profitable both when programming a single piece product as well as a large variety of products.

VRPS is the answer to the demand for single-piece-flow and first-time-right production.

Valk Welding has chosen to use standard VR material that is available to everyone. The only addition is the "torch head" that can be clicked into the handheld remote, and the VRPS software module.



## Industrial welding robot programming with VR Technology

The VRPS software bridges the gap between the VR program and Panasonic's offline programming software DTPS. DTPS (Desktop Programming and Simulation Software) is a full-fledged 3D CAD/CAM system for programming and simulating the welding path on Panasonic arc welding robots.

Using the handheld remote, the VR software is used to determine the position and enter the coordinates of the various (welding) points. In the VRPS software, commands such as "welding on" and "welding off" are already given to these points. Next, the VRPS software converts the program into an offline program in the DTPS software. And finally, the DTPS software provides a usable program for the welding robot. The software guides the user through the teach process step by step in an intuitive and graphical way.

### Automatically adding search movements

Positioning has the disadvantage of being inaccurate (2 to 3mm) which increases the risk of welding errors. To fully compensate for this inaccuracy, the VRPS software adds search movements to the program. Using wire searching, the robot corrects the program created up to that point. These search movements are added to the program by a macro, thus enabling the welding robot to weld the product extremely accurately.

An additional advantage of adding these search movements is that small deviations in the position of the various products are automatically caught and corrected.

Watch our videos to see the VRPS software in action:



### Using the VRPS software offers the following advantages:

- Limited knowledge or experience in programming robots is required.
- Easy creation of welding programs.
- Also cost-effective for single piece product programming.
- Automatic addition of search movements to catch inaccuracies.
- No need to optimise programs.
- Can also be used with larger products.



# The strong connection



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