ENGLISH

VALK MAILING

a publication of Valk Welding

20th year - 2020 nr. 1

valk welding
The strong connection

COLOFON

'Valk Mailing' is a six-monthly publication of Valk Welding that is sent free of charge to all of our contacts. Would you prefer to receive a hard copy of this publication? If so, send an email to: info@valkwelding.com

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Valk Welding works further on growth scenario

In order to meet the growing market demand for welding robot installations, Valk Welding redesigned its organization and expansion of its business facilities last year. In doing so, Valk Welding wants to increase the number of welding robot installations to be assembled, shorten delivery times, create more space for hardware & software development and continue to offer its customers the same service quality.

- In the meantime, 2500 m^2 of new construction has been put into use in the Czech town of Paskov.
- One neighbouring building in Alblasserdam has been purchased and is being rebuilt to make room for the service and R&D department.
- A second adjacent building will be used as European headquarters for Techman Robots.
- Valk Welding has started the in-house production of the VWPR robot torches. Production and delivery are thus guaranteed for the future.
- Expansion of the activities also requires extra hands and brains. Therefore, 10 new employees joined the company at the beginning of this year.
- Deployment on software developments is intensified to enable a new revolutionary development in the field of automatic programming.

VALK WELDING WANTS TO REMAIN A FAMILY BUSINESS WITH A LONG-TERM VISION

As previously reported in the media, Valk Welding is not for sale. Not for Chinese, private equity or other investors. Valk Welding wants to continue to serve its clients as a family business.
Owner and CEO Remco H. Valk: "The continuity of our customers is paramount. As a family business, we stay behind the steering wheel ourselves and do not have to account to external shareholders. With a transfer of shares we have entered the transition phase to generation 3. Together with the board of directors we are ready for the next growth phase. Myself,I will remain very active as CEO in the coming years".

From left to right: Daughter Meike and sons Reinoud and Mattijs together with Remco H. Valk, signing the shareholders transfer to the next generation.

20th Annual Valk Mailing edition

What started 20 years ago as a modest marketing tool in addition to communication via professional media, trade show presentations and later social media, has now grown into a fully- respected medium, which is distributed in a two-yearly edition of 29,000 issues in 8 languages throughout Europe and even beyond.

Since then, the Valk Mailing has proven to be an indispensable marketing tool, in which customers share their experiences with Valk Welding welding robot systems with other customers and other interested parties. Content and scope have grown along with the technological and commercial development of Valk Welding as a robot integrator for the European manufacturing industry. In this latest edition we will inform you about our latest innovations and inform how customers approached their requirements and wishes in the field of welding automation together with Valk Welding.

- **34 editions Valk Mailing**
- **400+ pages**
- **177 customer stories**
- **132 articles about products**
- **Total more than 650 thousand copies**
- **Current circulation: 29,000**
- **8 languages: NL, ENG, FR, CZ, DK, PL, DE, SE**

CONTENT

NETHERLANDS

We live and do business in a world which get's smaller every day. A world in which we can be on the other side within 24 hours, perhaps against our better judgement. Borders, especially in Europe, have hardly been a problem for the last 20 years.

The pressure is increasing to deliver high quality products in the most efficient way and at the lowest possible cost price. In addition, the ecological effects of, among other things, travel behavior and our way of producing are becoming more and more a point of attention. Companies are expected to assume their responsibilities and take action to anticipate these effects on people and the environment. It is therefore very important to do as much as possible in-house or to work with reliable partners.

This year we experience that closed borders, also within Europe, are possible. And that the availability of parts and components is compromised by production stops at suppliers. Our vulnerability has become very clear in a short period of time

But it can also be done differently.

Closed borders do not have to be a problem

LEADING THE WAY THROUGH TECHNOLOGY
The Research and Development department is an important pillar in creating a stable basis for our customers. Because we can develop parts for our robot installations ourselves, we can turn practical challenges into new developments. We can often improve the parts and therefore also improve the results of our robot installations. In addition, an enormous amount of technical knowledge is created which ensures that customers can always go for service and support locally.

Besides hardware, Valk Welding also develops software. The company's own developments in the field of software now transcend the possibilities of factory software and ensure an even more efficient production process.

For example, the production process can be controlled and supervised remotely (across international borders) by developments such as the Management Information System (MIS 2.0). The further developed DTPS offline programming software makes programming just using a computer possible without interrupting production and without moving between different sites. We even automated the programming more with Quick Programming Tools (QPT). In addition, the Valk Welding Arc-Eye CSS laser camera automatically removes overcomes the latest last product tolerances. We also automate production across multiple workstations or welding robot installations with our Shop Floor Control (SFC) solution. Valk Welding is much more than just a system integrator, we are a technology partner for our customers.

FOOTPRINT IN LOCAL SOCIETY
Since 1961, Valk Welding has used the strategy to build an footprint within the local industry in Europe. Travelling between different branches worldwide is no longer so easy. The main difference on a global scale to produce somewhere else is in labour costs. To eliminate this difference, there is one solution: smart automation, up to and including single piece production. And as a partner in Europe, we are committed to this. The robot installation in itself is just one means, it is the whole complementary package of technological solutions around the installation that makes the difference. If in this profitable way we can do more in-house, or with local partners, we also contribute strongly to reducing our ecological footprint and strengthening our own social system. This is an important part of our responsibility. Moreover, we are building a strong industry that is less subject to takeovers outside Europe.

Our own growth within Europe has also started with this vision. Since the opening of our first foreign department in 1965, we have always worked on local resources. At the various Valk Welding branches, for example, we mainly employ local people from the country in question who speak the language and know the culture. This enables (potential) customers to contact us in their own language and we can quickly be on location for the necessary service and support. Even though the borders are closed.

STRONG CONNECTION WITH PARTNERS AND SUPPLIERS
So "The Strong Connection" is not just a pay-off for Valk Welding but is what we stand for. A strong connection with our customers, of course, but also with partners and suppliers. In order to be able to realize the strong connection with our customers, we must be able to rely on our partners and suppliers through good agreements.

A good example of this strong connection is the cooperation with our welding wire suppliers. Even in times when everything seems to come to a standstill, we can rely on our partners. Now that the economic engine is picking up again, we need plenty of consumables. The availability and quality of our products as a supplier will be an important factor in this.

A good logistics process, a large stock and a strong direct relationship with manufacturers is then essential. As a reliable supplier, we are able to relieve you, our customers, of maximum worries, a verb that today, more than ever, has a great deal of meaning. So do not hesitate to contact us.

INTERNAL ORGANIZATION WITHIN THE VALK WELDING GROUP

Internally, too, Valk Welding has been reducing its dependence on specific colleagues and/or borders for several years through our own Valk Welding Portal. This VaWeP system guarantees continuity both for us internally and for the customer. The possible absence of a colleague or borders that are closed does not endanger any project. Everyone within Valk Welding is informed in real time about the state of affairs for each project. This ensures a very strong communication between the more than 170 employees who are active in 8 different countries.

WE ARE HERE FOR YOU!

In short, all these points form a very strong basis for us to continue working with you on the future in changing times. Whether it concerns service, unique technological developments or reliable supply, we can help you. With the current operational management we are there and we are there for you!

So “The Strong Connection” is not just a pay-off for Valk Welding but is what we stand for.

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Panasonic robot provided 32 years of loyal service

DROSTE BEJAH
we! can bend it

Recently one of our Dutch customers, DROSTE BEJAH, said goodbye after 32 years to one of the last working Panasonic AW7000 welding robots. The AW7000 has been in production with this supplier all that time. The last 7 years as a handling robot. Meanwhile, the company has several welding robot installations of later generations of Panasonic welding robots, including offline programming.

The AW7000 is from the Panasonic welding robot series, of which Valk Welding started selling in 1988. DROSTE BEJAH, now specialized in tube bending, bought at that time two at a time for welding assemblies. "Since then, partly due to investment in several new types of Panasonic welding robots, the welding activities have grown into a 2nd core business. We use the welding robots for welding various products in small to medium-sized series, including suspension systems for bus doors. We make 15,000 to 20,000 of these on an annual basis, in 300 different variants. Furthermore, one of the Panasonic welding robots is used for the MIG/MAG welding of aluminium fall protection systems for roofs," says DROSTE BEJAH director Albert Overweg.

DROSTE BEJAH specializes in tube bending and welded assemblies for a wide customer base. For this purpose the supplier has certified professional welders and various Panasonic robot welding systems.
www.drostebejah.com

Direct contact with the responsible department

Up to now, customers have been communicating directly with our employees. We want to replace that by emailing the relevant department. If an employee is not present, your question or message can be picked up by one of the colleagues. In this way we can serve you optimally. We have therefore created the following e-mail addresses for the various departments.

The strong connection

General	: info@valkwelding.com
Software	: dtps@valkwelding.com
Sales	: sales@valkwelding.com
Reception	: reception@valkwelding.com
Finance	: administration@valkwelding.com
Service	: service@valkwelding.com
Office	: secretary@valkwelding.com
Marketing	: marketing@valkwelding.com

DANMARK

Danish trainer starts a 4-year training course for welding robot operator

The Danish technical training institute EUC Nordvest has started a 4-year training for all-round welding robot operators. In this way, the training institute responds to the demand from the market for training qualified employees who master the entire process of welding robot automation. "We want to train a group of 8 to 10 students every year," says teacher Christian Dam Madsen. EUC Nordvest uses Panasonic welding robots in their training courses.

euc nordvest
Center for Uddannelse og Erhverv

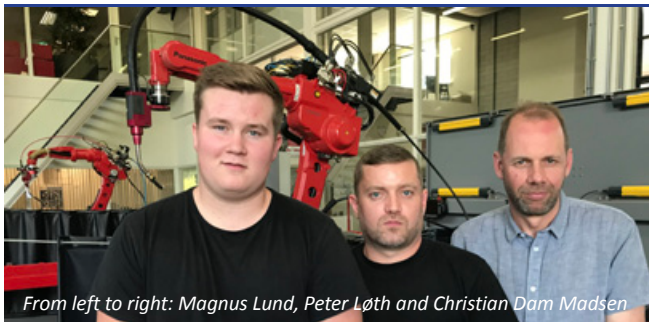
"Due to a shortage of employees who can take full responsibility for welding robot automation, companies has asked us to provide extensive practical training for welding robot automation. We have drawn up a programme for this purpose spread over 4 blocks of 10 weeks," explains Christian Dam Madsen. Two teachers have been specially trained by Valk Welding. www.eucnordvest.dk

ØRUM-SMEDEN FIRST CUSTOMER

The Danish company Ørum-smeden is one of the first to make use of this possibility. Ørum-smeden makes equipment for the agricultural sector and uses 2 welding robots. "All products are now programmed online at the robot. At that time, we cannot use the robot for production and, in order not to lose too much time, we still weld a lot of products by hand. New employees who can work independently with a welding robot are hard to find. That is why we have decided to invest in the training of employees", according to the management.

LEARNING HOW TO WORK WITH A WELDING ROBOT

Magnus Lund and Peter Løth from Ørum-smeden started in summer 2019: "We are learning how the robot works, how to program it offline, how to make clamping systems and how to take into account accessibility for the robot torch already in the design. Valk Welding had invited us to visit the head office in Alblasserdam. There we saw what is possible. There's no doubt this is the future. We must have the Valk Welding robotsystems in our company."
www.oerum-smeden.dk


From left to right: Magnus Lund, Peter Løth and Christian Dam Madsen

Why choose Copper ChromeZirco (CuCrZr) contact tips?

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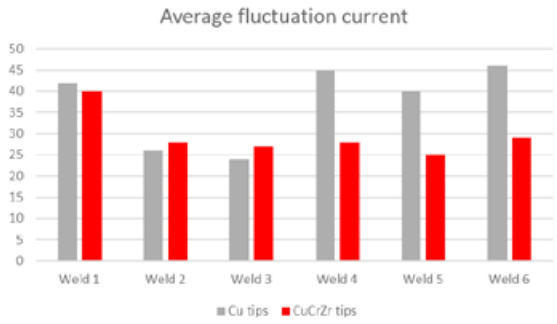
Valk Welding supplies for MIG/MAG welding not only the standard (copper) contact tips, but also tips made of copper chrome zirconium (CuCrZr). Despite a surcharge, customers increasingly use these high-quality contact tips, because in practice it appears that the wear is lower then common copper tips. As a result, the current transfer to the welding wire remains optimal and the arc stability is higher than with the standard Cu tips. For the customer, this is an important advantage due to the constant welding quality over a longer period of time. In addition, it results in significant savings: the installation remains available for longer and fewer contact tips are consumed. sales@valkwelding.com

With standard Cu tips the welding current decreases after each weld due to wear, reducing both arc stability and deposition.
- less deposition
- decreasing arc stability
- more projections, lower weld quality

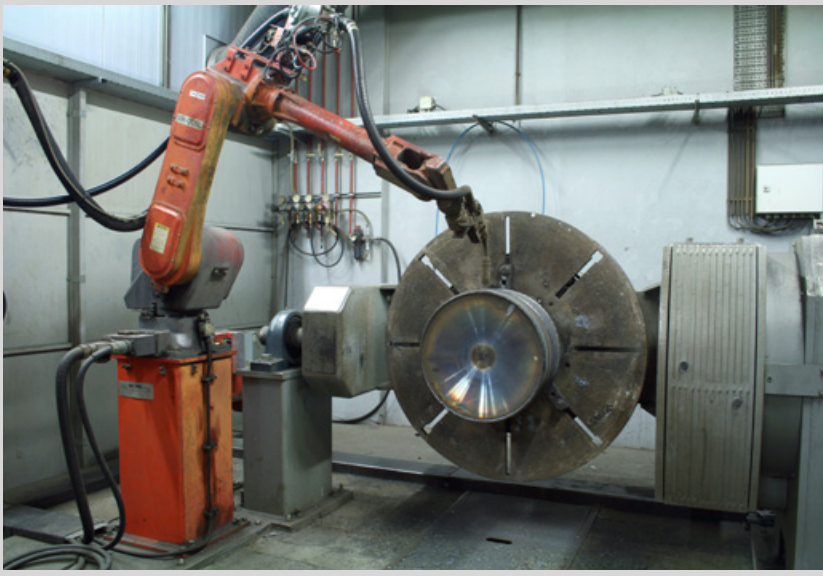


This graph shows that the welding currents with CuCrZr tips fluctuate less after each weld than with standard CuCrZr tips.
- longer tip life
- higher arc stability
- less projections, higher weld quality

Two robots operates more than 100,000 welding hours

NETHERLANDS

Over seventeen years, QuantiServ Kruiningen has operated more than 100,000 welding hours their 2 Panasonic VR-006 welding robots, and consumed more than 700 tonnes of welding wire. An almost unrivalled number of welding hours that is rare in the robotic welding world. "In view of the age of both welding robots, and because spare parts becoming rare, we keep together with Valk Welding for a separate stock of spare parts. It means we can keep going for a little while longer, but the critical moment is approaching faster by the day," explained Jaap Weber, Head of the Welding Department.



QuantiServ Kruiningen specialises in reconditioning pistons for the maritime and energy sectors. Each year, they repair around five hundred pistons by machining, overlay welding and machining again. Overlay welding of such large pistons is a labour-intensive and a time-consuming process. Welding cycles of more than thirty hours are no exception. More than seventeen years ago, QuantiServ Kruiningen opted to work with MIG welding with welding robots from Valk Welding alongside Submerged Arc Welding. "Despite the lower deposition, we achieve a higher duty cycle with MIG welding and we can work without operators during the evening and night shift" explained Jaap Weber.

"Besides the necessary replacement of wear parts, such as cable assemblies, contact tips etc, the welding robots require virtually no maintenance. All those years we carried out preventive maintenance. That says something about the reliability of these Panasonic welding robots and Valk Welding systems," continued Jaap Weber.

Depending on the level of usage of the pistons, some 4 to 8 mm of material is machined off in phases. The pre-machining programmes are linked to the welding programmes, so that it is known immediately how many mm of material needs to be overlay welded. The welding robots perform pendulum movements and change position a few mm after every round. For every diameter, that is preset in a separate programme for the top and the bottom of the pistons. QuantiServ Kruiningen uses offline programming software DTPS with an additional add-on software created by Valk Welding for this purpose.
www.quantiserv.com

Duotank welds beer tanks error free thanks to Arc-Eye seam tracking system

In places that sell a lot of draught beer, a large beer tank is often a good alternative to casks or kegs. Duotank is a global player in that market, and in Waalre in Brabant (NL) it produces more than 1,500 beer tanks of varying dimensions per year. Besides semi-automated welding of lids and bottoms on the tank, the manufacturer has been using a welding robot for some time. Mark Cox, Manager of internal projects and aftersales, talks about what that did for production.

First time right

Duotank builds stainless steel and copper beer tanks with a content of 250, 500 or 1,000 litres. The beer tanks consist of an internal and an external tank with cooling pipes in between. Both tank parts consist of a lid, shell and a bottom. The shell part is rolled in-house to the required diameter, the lid and bottom that are supplied by third parties are welded onto it. The internal and the external tank are welded on both sides at the same time with a semi-automated TIG welding process.

THE CHALLENGE IS TRACKING THE WELD SEAMS IN THE FORMER WELDING SEQUENCE

The lid and the bottom elements are both pressed parts and are never cut 100% centred. For welding that means dealing with a welding trajectory that is not consistent and with a risk of gaps between shell and lid. As only one side is controlled digitally, the communication between both sides is a restricting factor. “The operators needed to observe the weld-seam tracking system painstakingly with a screen. For that reason, the seam-tracking system on the semi-automatic is not quite what we expected,” explained Mark Cox.

WELDING ROBOT WITH SEAM-TRACKING SYSTEM SOLUTION

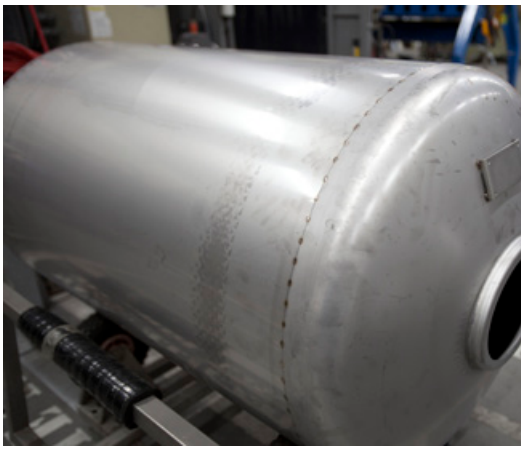
So, Duotank started looking for a different system with a camera that tracks the weld seam exactly and in real-time, that is user-friendly in operation and requires minimum setting time. An investigation of the market produced three potential suppliers where Duotank had tests performed. Mark Cox continued “We had a good feeling about the results achieved by Valk Welding with the Arc-Eye seam-tracking system. That system has been developed much further than the other systems that are available in the market. It gave us confidence in the success of the entire project.”

REAL-TIME WELD-SEAM TRACKING WITH ARC-EYE

The Arc-Eye weld-seam tracking system consists of software and a rotating scanning laser sensor camera that is fitted in front of the welding torch. Laser sensors are the only systems that can track the weld seams in real time during the welding process, without adverse effects of reflections on stainless steel, aluminium or copper. This laser sensor scans the weld seam at a high frequency and the software corrects every deviation in the position of the weld seam. The Arc-Eye laser sensor produces an exact offset and that makes it the most accurate weld-tracking system, whilst facilitating greater accuracy and higher welding quality.

INTERNAL TANK NEXT PHASE

The external tanks are now welded by the Panasonic TL-1800WGIII welding robot in quantities of 60 tanks per week. Those quantities are also achieved, because the system is fitted with 2 workstations on a torsion-free H-frame, to ensure the welding robot is not idle when the workpiece is



NETHERLANDS

changed over. Now welding the external tank has been fully automated successfully with the new welding-robot system, the first tests for welding the internal tank with the welding robot are now being realised.

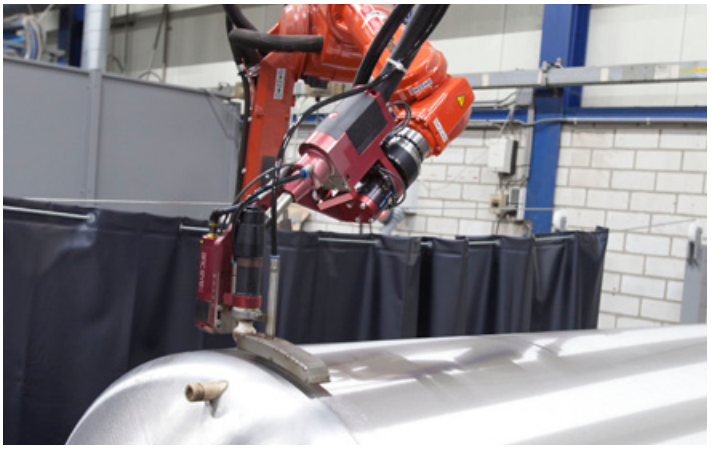
FIRST TIME RIGHT

The speed at which the tank rotates during welding is crucial to the quality. “Where the semi-automatic welds with high Amperes and speed, the welding robot welds at 80% of the Amperes and about half the speed. This greatly reduces the risk of errors, so it is better to have a slower process and good quality than the other way around. With the new welding-robot system the products are first time right, and final processing is no longer required,” concluded Mark Cox.

ENSURE PROPER WELDING PREPARATION

Mark Cox commented “The robotised welding process requires accurate preparation. Bottoms and lids need to be of the same height anyway. Furthermore, the tack welds need to be kept as small as possible. The stainless steel external tanks are TIG welded without wire. It is essential to change the TIG electrode on time.”
www.duotank.nl

Mark Cox: “Better to have a slower process and good quality than the other way around.”



Wieneke

By doubling turnover in nearly 10 years, the German supplier Wieneke has become a System Supplier for OEM companies from various sectors. Continuous investment in the latest technology, optimising internal logistics, a high delivery reliability and a 100% focus on quality are the underlying reasons. With the investment in a welding robot on an H frame, with a drop centre on both workstations, Wieneke is adding a growth accelerator. Alexander Wieneke said "When you pass on the efficiency benefits to the client, that produces more work in the end."

Continuous investments in the latest technology

The brothers Alexander and Tobias Wieneke are the third generation and expanded the family business to its current position. With 124 employees, 2 sites and 6,000 m2 of business premises, the company achieves a turnover of 13 million Euro. In 2009, the two brothers took the step to built a sheet-metal factory with the highest efficiency, quality and logistics workflow. Sheet-metal machining, finishing, coating and assembly are the main activities, ensuring that Wieneke can carry out all processes in house and unburden its clients completely. "The more you do for the client, the greater the added value and the stronger the relationship with the client," explained Alexander Wieneke. "We have built up a long-term relationship with most of our clients."

WHY MOVE TO ROBOTISED WELDING?

"First of all, it is becoming more difficult for us to find professional welders. It is also obvious to use automated welding for complex products with a longer welding time. Alongside the 8 welding stations, the welding robot is the perfect complement. Both workstations, each with a drop centre, can be changed over relatively quickly and means they can be used for simple and complex products. Offline programming with DTPS was pretty much an essential aspect for us. We are welding a product on the welding robot with 163 welding seams and that can't be programmed online easily," says Alexander Wieneke.

Alexander and Tobias Wieneke: "Investments in the latest technology is the growth engine."

FASTER AND CHEAPER DELIVERIES

"With the automation benefit, we are able to offer those products at a more favourable price with quicker delivery times to boot. It means we can continue to supply top-quality products at a competitive price. The result is more work from our clients. Investments in the latest technology is the growth engine," explained Tobias Wieneke, who is responsible for sales.

NO CONCESSIONS ON QUALITY

Alexander and Tobias Wieneke are convinced that clients expect quality and lead times to comply with the agreements. "In practice many companies don't comply. To us that is actually the most important guarantee we offer our clients. We don't want to compromise lead times or product quality to save on costs. So all punching and laser work is deburred again just to be sure." At Wieneke, punching and laser cutting are carried out with Trumpf laser and punch/laser combinations, linked to a sheet-steel warehouse with 600 pallet positions and they are bent with top-quality Amada pressbrakes. "With the extreme accuracy of the preparations, robotised welding requires little to no corrections in the welding programme."

64,000 PRODUCT NUMBERS

Wieneke delivers many products on call. "With the quantities we have to deliver on call, maximum sheet-steel use is decisive for us. We don't want to have any left-over sheet that needs to be buffered again. We

GERMANY

often manufacture more than we supply, and we keep those products in stock until the next call. That is why we have a large warehouse. Of the 64,000 product numbers part is repeat or is changed in the interim."

NOT ALL MACHINES AT FULL CAPACITY

Although the punching and laser cutting systems operate pretty much 24/7, a number of machines are not in full use. Tobias Wieneke commented "You need plenty of machinery when you want to carry out every process in house, without depending on third parties. The fact that we have them is important to us, not the occupancy of the machine. The same applies to the welding robot at the moment, but the welding robot provides us with the opportunity to provide a competitive response to new requests."

www.wieneke.de

NETHERLANDS

Service and reliability decisive for Dörr Kampen

As a manufacturer of stainless steel pre-cleaning systems for hospitals, a consistent and high welding quality are crucially important to Dörr Kampen BV. The welding robot system the company has purchased for this purpose several years ago, did not produce the required result. Reason for the company to ask Valk Welding to supply a solution with a reliable weld-seam tracking system and offline programming functionality. Co-owner Gerard van Dijk said: " The Valk Welding robot system provides us with products that we simply could not achieve with the previous system."

Dörr Kampen is a well-known supplier of bedpan rinsers, bed bottle heaters, ultrasonic cleaning equipment and warming cabinets for hospitals in the Netherlands, Belgium and Scandinavia. "Our high quality stands out and we are able to deal flexibly with client requirements, as every hospital applies its own cleaning procedure," explained Gerard van Dijk.

Thanks to the perfect integration of the power source into the Panasonic robot control, the operator can tune the welding parameters with the teach pendant during a safe "Arc test" mode.

Welded with TIG without wire supply

TIG WITHOUT WIRE SUPPLY

Nearly all products are TIG welded without wire supply. Gerard Van Dijk continued "That produces the most beautiful weld appearance for our stainless steel products without requiring finishing. Without reliable weld-seam tracking, it is not possible to achieve the same weld appearance on all products. Before getting rid of the existing system, we wanted to be sure that the new welding robot would solve the problem. The system also needed to be suitable for pulse MIG welding."

TEST PHASE AT VALK WELDING

Dörr Kampen embarked on a thorough process before changing its welding-robot system. Following a comprehensive test phase at Valk Welding, Gerard van Dijk performed a reference study of the systems, the solution capacity and the service provided by Valk Welding. "First we had tests

Gerard van Dijk: “The Valk Welding robot system provides us with products that we simply could not achieve with the previous system.”

performed on a workpiece that consisted of 2-plane bent tube material that required MIG welding. Valk programmed that first in DTPS offline and showed how you use their Quick Touch wire search system to move from point to point, following which the robot welds exactly on the weld seam. We were immediately impressed by the know-how, expertise and the drive with which employees tried to get things sorted out,” continued Gerard van Dijk.

WELDING ROBOT ON A FRAME-C

Last summer Valk Welding supplied a welding robot on a torsion free C-shape frame with a 250 kilogram positioner. Besides the curved workpieces, the first frames, water tanks and warming cabinets could be welded immediately on the system, as the existing jigs could be used. Gerard Van Dijk said “The main challenge was using Quick Touch to correct every deviation of the product in respect of the offline welding program. With the calibration of the welding robot and the total system that worked perfect.”

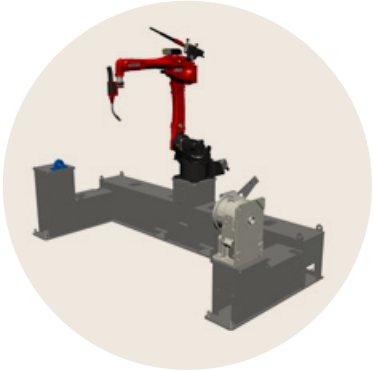
STOCK-CONTROLLED PRODUCTION

For its products, the company processes 60-70 tonnes of stainless steel per year, and all the sheet-metal- and welding-work is carried out in house. The control systems and software are also produced internally and the equipment is assembled in a separate department. “It is not economical for us to produce single pieces on an order basis, and therefore we manufacture most of our products in small series, with the added benefit that we can deliver quickly from stock.

GET GOING QUICKLY

“For the training, 2 employees had been trained at Valk Welding in Alblasserdam to be able to operate the robot and work with the offline software DTPS. “After the training a Valk Welding service engineer solved some problems in half a day and helped us through the start-up phase. The programmes of the next products are now being modified so they too can be welded on the welding robot. That involves plenty of preparatory work, but we expect the welding robot to be working to capacity for the entire week in a few months time,” concluded Gerard van Dijk.
www.dorrkampen.nl

"Only a reliable welding seam search system makes it possible to achieve an constant and high-quality welding pattern on all products.”

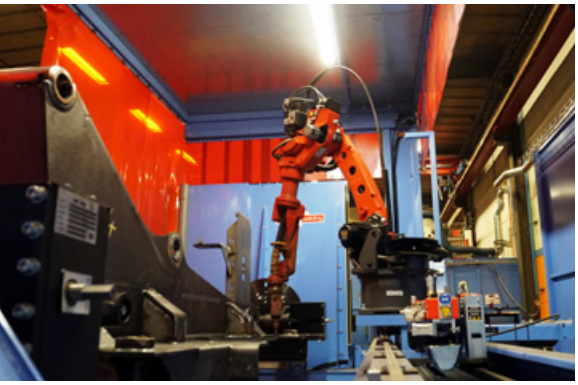


FRAME-C

SWEDEN

Swedish company Hammar Maskin AB, global market leader in the area of side-loaders, started looking for a robot integrator with proven experience in robot welding large trailers. A search on the internet brought Hammar into contact with Valk Welding. The first visit to Valk Welding in Alblasserdam and their customer Van Hool were enough to convince Hammar. By now Hammar is welding 17-metre long trailer frames to which side-loaders are fitted, on a Valk Welding 2-axis TRACK YX-RL-FHNM welding-robot system. Bengt Olof Hammar says: "Now we can weld the trailer frames faster and with lower costs."

Robot welds complete trailer frames for Hammar



Sideloaders are self-loading trailers where a container can be loaded and unloaded from a trailer. The first model that was developed by Bengt Olof Hammar in 1974 became a success in the defence and for offshore and onshore industry. "One driver was able to load and unload a container without needing a crane. By now we are exporting our Hammar lift to 115 countries, with Australia as our most important foreign sales market. By focusing on one product, the Hammer lift, we aim to be the best in the world", is how the enthusiastic founder explained his business.

PRODUCTION OF TRAILER FRAMES TO SWEDEN

Project Leader Andreas Larsson, who supervised the robot project said "Up to now, we only welded the smaller components for the crane system with welding robots. That worked well and we wanted to take this a step further. Until recently, the trailer frames were finished in Australia, our largest sales market. Our wish was to weld those in Sweden, but faster and cheaper. It meant that we needed to be able to weld the trailer frames completely with a welding robot in one flow."

WHICH ROBOT INTEGRATOR HAS THAT CAPABILITY?

"We asked a number of robot integrators, including our existing suppliers, for references in the area of robotised trailer welding. None of them were able to provide references for completed products. So we started researching ourselves and read on the Valk Welding website that they had supplied welding robots to several European trailer builders, including Van Hool, Wielton, Stas, Alutrailer, Faymonville, System Trailers, Panav and much more. I called them immediately for an appointment in Alblasserdam," said Bengt Olof Hammar.

CONVINCING DEMO AND REFERENCE

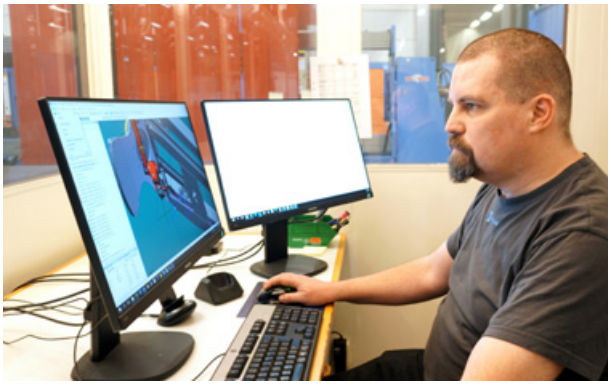
Andreas Larsson continued "Valk Welding showed us how the welding-robot systems are built and took us to Van Hool, one of the largest manufacturers of buses and industrial vehicles with 24 Valk Welding

Andreas Larsson: “Programming with DTPS is much easier and quicker than what we were used to.”

welding-robot systems in operation. Everything demonstrated Valk's competency in this field, in terms of size, material thickness, programming, welding process and weld-seam tracking and tracing. Furthermore, Valk is the only robot integrator that is 100% focused on welding.”

OFFLINE PROGRAMMING QUICKER AND EASIER

Offline programming with DTPS was new to the people of Hammar. “Programming with this system is much easier and quicker than what we were used to. Valk needs more time for weld-seam touch-sensing (Quick-Touch), but that ensures that the welding program is corrected if necessary and that the welding robot follows the weld seam exactly,” explained Andreas Larsson. In the first year, we achieved production of 300 units with a maximum capacity of 400 trailer frames.
www.hammarlift.com



Marcus Lundberg makes all the programs and is responsible for the robot.
“From the beginning Marcus was new to welding and robot welding, by the help of a good education and good support from Valk Welding in Denmark he is now our main robot expert.”

TRACK YX-RL-FHNM

NETHERLANDS

KONTENT STRUCTURES METAL WORKS

Besides renting out tents for events, tents are used increasingly often as a semi-permanent alternative to new-builds of storage areas and business premises. Kontent Structures Group in Alphen aan de Rijn has operated in this market since 2000. Earlier this year, the Group set up a new production facility, KS Metal Works, and that makes it the first production company in the Netherlands for the commercial sale of tent accommodation. The welding-robot system already requires expansion in order to comply with the strongly growing demand in the Netherlands and abroad.

Unique tent supplier with in-house production

Arno Regtvoort: "By using the welding robot, we are saving time, costs and space."

In the area of rental, leasing and sales of tents, Kontent Structures Group provides a wide programme, ranging from pagoda tents and aluminium halls to polygonal tents and semi-permanent spaces. A large number of those products require tent flooring and frame structures with the necessary couplers. Owner Arno Regtvoort of KS Metal Works said "In the new factory we only make the steel floor frames and components such as couplers and base plates. This process is dominated by sawing and cutting sections, composing complete frames and couplers and welding those pieces."

USE OF A WELDING ROBOT

"As we were not new to metal working and as this concerned standard products, we were able to optimise production to best effect," continued Arno Regtvoort. "It was clear from the start that manufacturing the anticipated numbers would mean that the floor frames would have to be welded with a robot and that the tubular sections would be cut with a tube laser. For the welding-robot part we started talking to welding-robot integrators. The reach of the welding robot for the 5.0 x 2.5 m large floor frames required a robot in a suspended construction. Valk Welding came up with a concept where this could be solved with a Panasonic welding robot with a reach of more than 3 m without requiring a suspended construction. After everything had been worked out on 'paper', we were able to set up the production area by the end of 2018, install the machinery and the welding-robot system and start up production within just 2 months."

WELDING ROBOT WITH EXCEPTIONAL REACH

Cees Wieringa of Valk Welding said "Panasonic developed a welding robot with an exceptional reach of 3281 mm. This model, the HH-020L, has been developed specifically as a cost-saving alternative for set-ups that previously required 2 welding robots or a welding robot on a suspended construction. As KS Metal Works wanted to weld floor frames and small components on the robot, we put this welding robot on a 13-metre long Track-YX-RL-FSNM system. Over this length, the welding robot moves along 2 workstations with the option to expand with workstations on the other side of the track."

The Panasonic HH-020L welding robot has an exceptional reach of 3281 mm

"With the welding robot, we can weld a complete frame of 5 x 2.5 m in 43 minutes"

CAPACITY QUICKLY EXPANDED

Arno Regtvoort explained "We had set up production with a forecast of 700 floor frames in the first year. We had already exceeded that number after six months. We were already talking to clients about orders for several hundred units, and we needed to expand our capacity quickly. So we had a workstation positioned on the other side of the welding-robot's track where we can weld floor frames of twice the size with dimensions of 10 x 2.5 m. With the welding robot, we can weld a complete frame of 5 x 2.5 m in 43 minutes. After a little fine-tuning of the programme we can cut that time even further. If you included the changeover times, the welding robot provides a complete floor frame every hour. Manually this would take us much longer and we would need more welding stations and welders. By using the welding robot, we are saving time, costs and space."

TREND CONTINUES

Arno Regtvoort expects that the demand for semi-permanent accommodation for business and industrial purposes will continue to grow. "We are seeing a rising trend in Germany and Poland and steadily in the Netherlands too. Our strength is that we can provide engineering, production and assembly in house and that we have 13,000 m^2 of storage, so we can deliver quickly. We would be able to sort out an insulated hall as a temporary solution for a metal company within a month."
www.kontent-structures.com

A semi-permanent accommodation for industrial purposes, made by KS Metal Works

VIP-pavilions

Applications for construction and infrastructure

BELGIUM

JONCKHEERE subcontracting

JONCKHEERE improves welding process

With more than 30 years of experience in the area of robot welding, the Belgian supplier JONCKHEERE subcontracting knows better than anyone else how optimising the welding process can create gains. By investing in a welding robot with the latest generation offline-programming system, JONCKHEERE subcontracting took a significant step last year.

Rik Adriaen: "Thanks to wire-search (Quick Touch), the robot now produces maximum welding quality with a higher process accuracy."

JONCKHEERE subcontracting produces complete loading systems for lorries, tubular components for elevated work platforms and telescopic handlers and frames for textile machinery and compressors. Its clients are top manufacturers in that field. "Our aim is to provide the highest possible added value to the supply chain of an OEM, for example by using our welding expertise. We achieve this with 130 FTE's in Roeselare, 50 in Poperinge, Belgium and 60 employees at our site in Slovakia," explained General Manager Diederik Schodts.

RESTRICTIONS IN WELD-SEAM SEARCHING

Despite using a large number of welding robots, most of which are at the head office in Roeselare, the company never applied offline programming. "Until recently the welding robots were programmed only with the teach pendant. However, we were coming up against restrictions in finding seams with the gas nozzle, particularly in difficult to reach area's. So we started talking with Valk Welding, which has supplied us various welding-robot systems since 1986," explained Purchase & Planning Manager Filip Clarysse.

IMPROVED WELDING QUALITY DUE TO WIRE SEARCHING

Rik Adriaen, who is responsible for the welding robots, had been exchanging experiences with the welding department of CNH (Case New-Holland). "Their positive experiences with Valk Welding's Quick Touch wire-search system in combination with Arc Sensing, were part of the reason why the new welding-robot system was equipped with these options. The robot now produces maximum welding quality with a higher process accuracy," commented Rik Adriaen.

WORKPIECES ON THE ROBOT WITHOUT CORRECTIONS

Investing in the new welding robot also inspired JONCKHEERE to start working with offline programming. "At that point we had little knowledge in house, so we started by completing the DTPS training at Valk Welding in Alblasserdam. After that it took not long before we programmed the first products ourselves and welded them with the robot. We were struck by the fact that the programs could be used immediately without corrections, partly due to the Quick Touch wire searching system from Valk Welding," said Rik Adriaen. "It automatically corrects small irregularities in the position of the weld seam and caused due to deformation."

PROOF OF SUCCESS

The good experiences with Quick Touch and offline programming with DTPS contributed to JONCKHEERE's decision to order an identical

system for the Slovak site. “At the moment we are extremely satisfied with this platform and will expand the use of offline programming with DTPS further within the group. The welding quality and high reliability of the welding process have been increased significantly with this weld-seam searching method and automatic correction in the offline programs”, concluded Rik.

RESPOND TO MARKET TRENDS

The investment in welding robots was also inspired by a shortage of manual welders, whilst clients increasingly demand robot quality because of the consistent, high welding quality. “ In addition to the above, it is also a fact that the investment attracts new orders.”

COOPERATION

Diederik Schodts emphasised that the success is ultimately determined by close cooperation between designers, engineers, heads of production, the client and the supplier. “Service from the suppliers plays an important role too. We are extremely satisfied with Valk Welding's quick response. Not to mention the fact that they consider all the options together with the client and are presenting solutions during the early explorations. You can see that they have considered every aspect of the welding process. It means that Valk provides a total solution that enables us to strengthen our competitive position.”

www.jonckheeresub.com

From left to right: Michel Devos (Valk Welding), Rik Adriaen en Filip Clarysse

Application P-MIX at ASC Group

P-MIX pushes boundaries in aluminium welding

Valk Welding continues to work on the development of digital welding processes in close cooperation with Panasonic. Thanks to the unique TAWERS concept of the Panasonic welding robots, in which the power source and robot control are controlled by a single super processor, several ground-breaking welding processes have been developed in recent years. The TAWERS technology makes it possible to combine different welding processes. This has led to the development of the P-MIX (Pulse Mix) process for the MIG welding of thin aluminium workpieces.

Panasonic and Valk Welding still have a great future in the field of MIG welding of aluminium because the application of aluminium continues to increase. Aluminium is abundant as a raw material. And the ratio of stiffness to weight is favourable where energy consumption needs to be reduced. Based on the success of Super Active Wire for steel and stainless steel, Panasonic has also developed that process for aluminium. The Super Active Wire Alu process allows thin-walled aluminium to be welded faster than TIG and without spatter formation. For this purpose, the welding wire makes high-frequency retracting movements during welding, resulting in a very stable droplet transition without spatter formation and with much less heat input.

PROCESSES COMBINED

The Super Active Wire Alu process is less suitable for concave welds where joining is also important. Panasonic TAWERS deploys the Alu Pulse process for this purpose. In this process, the waveform ensures a better penetration and flow of the weld pool. The 100 kHz inverter of the TAWERS technology makes it possible to combine different welding processes with each other to create a completely new process: P-MIX. P-MIX ensures optimal alternation of both welding processes with a continuous arc.

WHAT DOES P-MIX OFFER?

P-MIX means that with Super Active Wire Alu a drop is first melted under a low temperature and then the advanced pulse arc of TAWERS Alu Pulse is used for optimal penetration and flow. Due to the better flux, the strength of the weld increases, allowing a higher dynamic load on the construction. The more stable welding arc also enables higher welding speeds.

Watch the video from ASC Group

VWPR QE SERVO
PULL II Alu robottorch

Integrated servo driven wire motor

Valk Welding has developed the VWPR QE SERVO PULL II Alu specifically for the Super Active Wire Alu process. In this robot torch, the servo-controlled wire feeder unit is integrated into the torch and the wire feeder motor is controlled as an external driven axis of the robot. The distance between the drive motor and the actual arc has been reduced to the absolute minimum, ensuring optimum wire feeding.

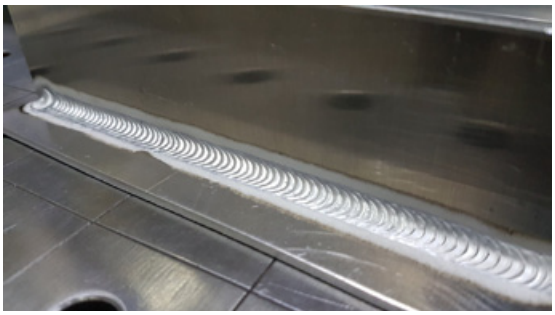
Welding of aluminium parts

Panasonic has very good solutions for aluminium welding with its TAWERS platform, where everything is controlled by one CPU:

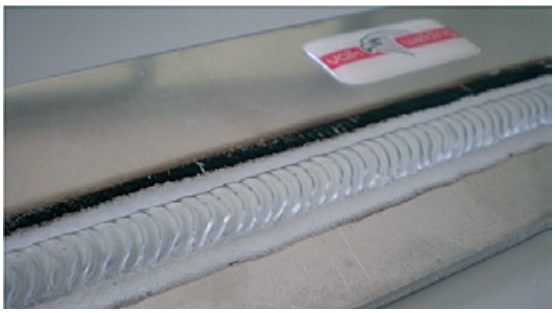
- A servo-controlled wire drive motor for optimal wire feeding, both in a "*push*" and a "*pull*" version.
- Real-time control of the various welding parameters thanks to fast communication between power source and robot controller.
- Each WG robot has astandard option for welding aluminium.
- The "*Low pulse*" and "*Stitch pulse*" functions are also available as standard for MIG welding aluminium with the so-called "scales".

Optional possibility to:

- "*Spiral weaving*" in which the weld pool is degassed better with a twist and different welding parameters can be used during the movement.
- "*Synchronized low pulse*" and "*Synchronized stitch pulse*" where at the moment the arc is active, the robot also makes an additional movement for an optimal build-up of the weld.



Tawers Alu MIG



Spiral weaving

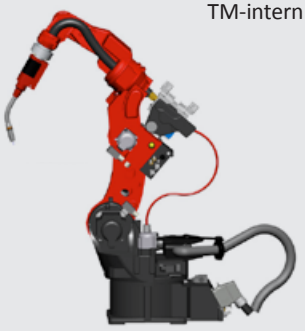
JAPAN NETHERLANDS

Panasonic

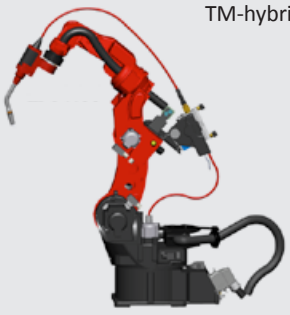
The All-in One Arc Welding Robot Solution:

Panasonic welding robot & Valk Welding equipment

Valk Welding is always looking for the best solution for every application. From this perspective, Valk Welding, together with Panasonic Welding Solutions in, works continuously on improving its hardware and software. The TAWERS TA and TL series welding robots introduced by Panasonic in mid-2006 and the additional TAWERS TM series of welding robots form the basis. For this platform, Valk Welding developed its own robot torch with pneumatic shock sensor, its own cable assembly and the Arc-Eye welding seam tracking system. In this way, Valk Welding provides all-in-one solutions, with all components coming from a single source. For each specific application, an optimal solution can now be offered. The programme now includes several robot models with different concepts for cable management. Time for an overview.



TM-intern



TM-hybrid

With the TAWERS welding robot, Panasonic was the first manufacturer to integrate robot and welding machine control into a single 64-bit controller, opening the way to the development of new digital welding processes. The TAWERS welding robot was therefore also the first robot to be developed as a complete system specifically for the arc welding process. This means the TAWERS welding robot is still unique.

LONGLIFE CABLE ASSEMBLY VWPR-QE (QUICK EXCHANGE)

The Panasonic TAWERS welding robots are among the fastest on the market with a high traverse speed of 180 m/min. The many often complex movements, day in and day out, and the high speed of movement put high demands on the protection of the cable assembly. Therefore, the cable assembly on the TA and TL series runs as standard through the lower hollow arm of the welding robot and from the cable motor to the robot torch outside. Valk Welding has its own longlife cable assembly for this purpose VWPR-QE (Quick Exchange) developed with a QE quick-change connection to the robot torch. The entire cable assembly can be replaced quickly and easily, without risk of deviation from the Tool Centre Point. In practice, this means less work, fewer costs, and assurance of keeping the TCP without reprogramming.

TM SERIES

To complement the TL series, Panasonic introduced the TM series in 2015, a new series of state-of-the-art welding robots with an even higher speed, acceleration and deceleration. Even the motion speed of the robot's three main axes is 22% higher. Thus performance was improved a bit more. Of course, this places even higher demands on the way in which the cable assembly is led to the robot torch.
The TM series welding robots are therefore available in three different versions, allowing Panasonic to meet the various customer requirements in the field of cable management.

TM SERIES WITH INTERNAL CABLE ASSEMBLY

In this model, the entire cable assembly runs through the arm of the robot to provide optimum protection for the protective gas, current cable, compressed air, cooling water and welding wire. Offline it can be said with certainty that the cable assembly does not touch any products.

The entire cable assembly can be replaced easily and quickly, without risk of deviation from the Tool Centre Point.

valk welding
The strong connection

TM-serie

- State-of-the-art welding robot
- Same high performace as the TL-series
- Suitable for Super Active Wire Process
- Compatible with external, internal and hybrid VWPR cable assembly

TM-extern

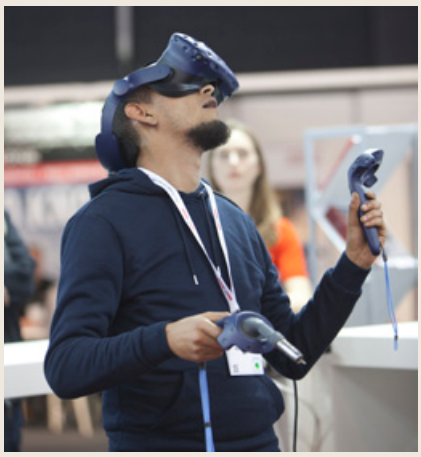
TM SERIES WITH HYBRID CABLE ASSEMBLY
Panasonic has also developed a hybrid model because it offers the best external access, guarantees a better wire feeding and avoids the risk of twisting the wire with an internal cable assembly. In the hybrid model, only the wire cable runs outside and the rest of the cable assembly runs internally.
In addition, the upper robotic arm needs to move less weight, so that the high speed of movement can be optimally utilised. This also leads to a longer service life of the cable assembly and an optimal supply of the welding wire.

TM SERIES WITH EXTERNAL CABLE ASSEMBLY
Hybrid or internal is the standard, if the customer prefers external, Valk Welding applies this as an exception to a TM robot, because TL is not available in every arm length. With an external version, the complete cable assembly runs from the wire feeder externally to the robot torch.

Valk Welding continuous development VR-Programming technology

Programming a workpiece for the welding robot with VR glasses on your head. Valk Welding visitors can get to know this themselves at national and international trade shows. The robot integrator invests in the development of this technology in order to be able to use it as an additional programming method for robot programming. "We are not quite there yet, but the system is already being used for other applications, such as virtual testing of the fixtures," says Michel Devos, director Valk Welding France.

Welding robots are increasingly being programmed offline with DTPS, of which Valk Welding has already supplied more than 1,000 licenses. "Experience shows that professionals with a lot of welding knowledge and years of experience sometimes have difficulty making programs behind the screen in a 3D environment. And therefore prefer to hold a welding torch. This is why we started developing offsite teaching at an earlier stage, where the operator uses a handheld tool, in the form of a welding torch, to click on the welding positions in a physical workpiece. With the use of VR-technology we have now extended this to a virtual environment," says Michel Devos.



MORE SENSITIVE THAN FROM A SCREEN
"The beauty of a virtual situation is that the environment moves virtually with you when you change position. Everyone who steps into the virtual world has the feeling and more insight into the workpiece than from behind a screen. Virtual is faster, simpler and more sensitive," is the experience of Michel Devos. "The points and the position of the torch are converted into a program for the robot and further optimized in the offline software (DTPS)".

VIRTUAL TESTING
VR teaching can also be used for other applications, such as the virtual testing of fixtures for accessibility for the robot torch, but also for the ergonomic loading of parts, the opening and closing of clamps, etc. It also provides quick insight into cycle times and can be used to introduce future installations to new customers.
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Cobots are loading welding robots

In response to the shortage of personnel in the metal industry, Valk Welding has developed an automated concept, in which the loading of a welding robot cell is done by a cobot. Valk Welding uses the cobots of Techman Robot, the world's first cobots standardly equipped with integrated vision as standard.

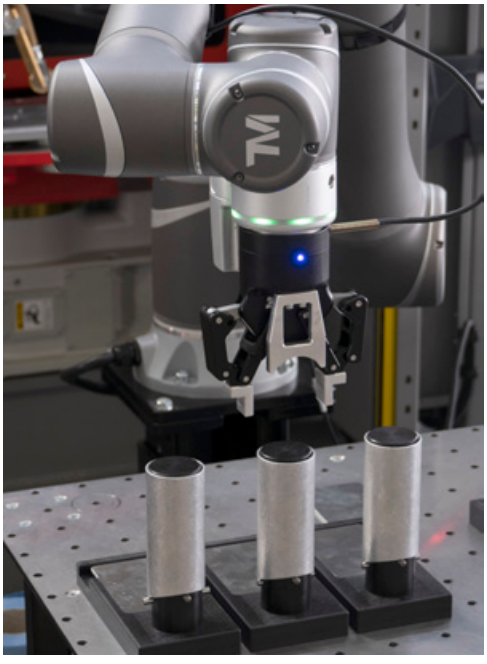
The cobots of Techman Robot (TM cobot) are supplied in the Benelux by VWCO (Part of the Valk Welding Group) and are now used by several integrators for a wide range of applications. For these cobots, VWCO mainly sees a high added value when loading welding robot installations. Valk Welding has therefore built a small welding robot cell, complete with Panasonic technology, of which the loading is done by a TM cobot. "With this, we offer a compact production cell with Panasonic technology, in which we have also automated the loading of the workpieces. With the integrated vision, the TM cobots can pick up the parts randomly from a 2D surface," explains Manager Software department Elbert Vonk. "With this we offer the market a solution where the cobot takes over monotone work from the operator.

INTEGRATED VISION

With the integrated vision the TM cobots distinguish themselves strongly within the current market supply. Programs for the cobot are recorded in a landmark or barcode, which the cobot can read with its own vision system. This allows TM cobots to change jobs quickly and easily.

Since its introduction 2 years ago, many applications have been developed by specialized integrators. In this way, VWCO provides regional support in various industries.

Since the 12th of March, Techman Robot Taiwan has its European headquarters in a neighboring building next to VWCO/Valk Welding in Alblasserdam. With this, Techman Robot also gives substance to the Strong Connection with the Valk Welding Group.
www.vwco.eu



Tradeshows

Check here the actual tradeshow calendar