



WELDING ROBOTS PART OF THE LESSON PROGRAM

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In spite of the declining economies in most of the European countries, the implementation of robots is steadily growing. Every year there is a 5% increase in robot sales and supposedly, this is not a short term trend. However, the industry also faces a shortage of technical experts, a decreasing number of students choosing a technical education, and training courses that do not meet the current trade practice. In the future, the (Dutch) manufacturing industry will probably show a shortage of 15,000 to 30,000 engineers at level 4. This is why businesses, educational institutes and governments stimulate numerous initiatives for the promotion of technical courses, and encourage taking educational courses to a superior level. A key priority is to use more and more robots for educational purposes. More frequently, educational entities are introducing robotics in their programs. In the past two years, Valk Welding has supplied welding robots to seven national and international training centers.



WELDING ROBOTS PART OF THE LESSON PROGRAM

For years Valk Welding has strived to inform both schools and companies about the possibilities offered by the advanced welding robot technology; which is currently used in the manufacturing industry. With this purpose in mind, Valk Welding gives lectures at regional business meetings, shows its own Technical Centre to students and teachers, organizes guest lectures at colleges and offers employment to trainees. Wim den Boef, a Valk Welding employee, who spends a lot of time and energy on this asserts, "We want to do everything we can in order to match education with the company environment in the field of robot (welding). We adopt proactive policies which are also very attractive to the teachers, because they would like to implement the welding robot technology in their schools too. With the support of regional knowledge centers, the province and

Panasonic Japan, Valk Welding has enabled the installation of welding robots at several schools."

Academic DTPS licenses

Valk Welding does not offer a standard system for schools in general, but always provides a customized solution per individual school. Adriaan Broere, Technical Director, says "One school requires a robot both for welding and cutting purposes, while another school would like to integrate also handling work into the automation. In collaboration with Panasonic Japan, we try to find a solution for each school. Yet, every school can obtain the academic licenses for the DTPS offline programming system. Often, several licenses per school are required, enabling several students to work with the software simultaneously."

Corporate Social Responsibility

Next to the Dutch training centers, Valk Welding has also supplied welding robots to the Danish EUC training institute, the French ENSTA Ecole Nationale Supérieure de Techniques, and the Karel de Grote Hogeschool in Antwerp. Adriaan Broere explains, "It is clear that the welding robot will definitely be integrated into education. So far this was only possible thanks to the collaboration between the several interested parties. As a welding robot integrator we are pleased to contribute to the same, by providing an extended support for robotics on the long term. Thanks to the implementation of welding robots a solution can be found for the aging and reducing inflow of engineers. One well-trained robot programmer is sufficient to do the work for three."



ALBEDA COLLEGE: WELDING ROBOTS BELONG TO TECHNICAL EDUCATION

Valk Welding, the province of Zuid Holland, KMR, Hogeschool Rotterdam, and Albeda College were convinced of the need for welding robots in technical education. Due to their excellent collaboration a welding/cutting robot was installed last year. Now, the Albeda College and the Hogeschool Rotterdam each have a Panasonic welding robot at their disposal on the RDM Campus in Rotterdam. The robot at the Albeda College is also equipped with a plasma cutting torch.

Eric de Bruin teaches welding practice and is responsible for the robot project at Albeda. "Now that welding robots can no longer be left out in the manufacturing process, we should also apply welding automation to other purposes. With the aid of instructive films from Techwise we introduce the

ERIC DE BRUIN, ALBEDA COLLEGE:
"WE SHOULD INCLUDE WELDING ROBOTS INTO EDUCATION."

students to all tasks which can be performed with a robot. Then we teach them how to program a workpiece and weld it on the robot. Students may also expand their knowledge to offline programming with DTSP. One of our students, after finishing his training, has started working at a company which also uses the Panasonic welding robots and has introduced DTSP there."

More budget thanks to contractual education

ROC educational training faces the problem of the reduced financial means for such

investments from the government. That's why the Albeda College also offers customized training in order to obtain additional revenue as a regional business school. Michel van 't Hof, Account Manager of Albeda explains that "This enables us to include our modern product technology into the educational package. Next to the standard careers in welding, turning, milling etc. we can now offer an extra robot welding module. We even consider the possibility to organize one-day welding and cutting workshops with our robot for interested companies. And there is also the need for retraining courses. We further develop customized training to meet market requirements."

www.albeda.nl



BUSINESS COMMUNITY FACILITATES A SOLUTION FOR COLLABORATION WITH SCHOOLS

Next summer, Valk Welding will install a welding robot at the Schoonhovens College. The supply of the robot is attributable to a long collaboration between the local business community and the Schoonhovens College. Due to the business outflow of people older than 55, steel companies are in search of new staff possessing the adequate technical skills and experience. "This should be mostly provided by the technical courses," explains Robert Lock, one of the initiators of the welding robot project at the Schoonhovens College. Mr. Lock works at the welding and manufacturing company, Vlot Staal.

"This trade-related secondary school already disposes of a teach-in lathe and a CNC milling-machine. The welding robot allows them to teach their students state-of-the-art technology, just like this is implemented for industrial purposes."

Valk Welding, jointly with Vlot Staal, will install a used welding robot at the Schoonhovens College. This welding robot will include the required welding fume extraction and the necessary training and support provided to both the teachers and students

www.schoonhovenscollege.nl



Last year, the Regional Electrical and Metal Schools REMO West-Twente also received a Valk Welding welding robot for teaching purposes. REMO West-Twente is a corporation of several companies in the region of Rijssen, where younger people receive training in trades such as metal engineering, mechatronics and electrical or installation engineering. The school offers training for the welding engineering diploma recognized by the Dutch Institute for welding technology (NIL), levels 1 through 4. The supply of the welding robot was made possible thanks to the efforts from partner companies such as Voortman Automatisering and Aebi Schmidt, which are both Valk Welding clients.

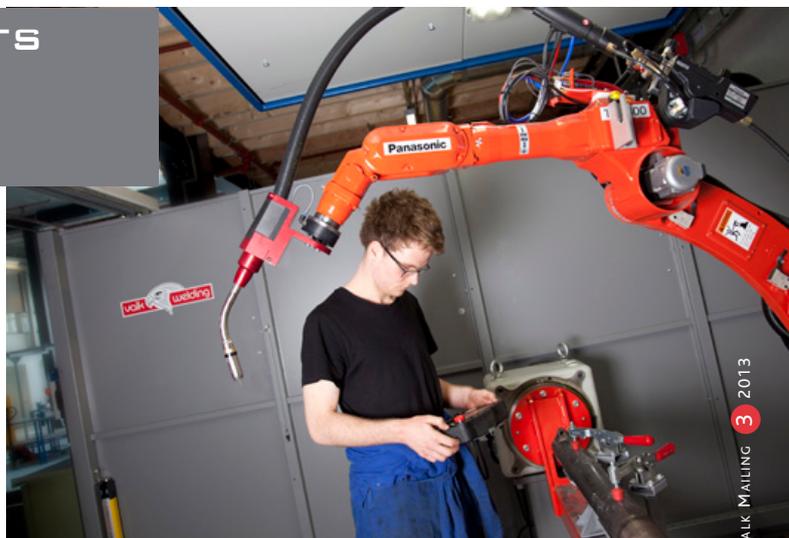
www.remo-wt.nl



MANUFACTURING BY STUDENTS ON THEIR OWN IN DA VINCI SUSTAINABILITY FACTORY

Also companies in the Drecht region require the inflow of young technicians trained in advanced manufacturing technologies. A few years ago, the Da Vinci College, ROC educational training in Dordrecht, took the initiative to start a career in which businesses play an important role. This has led to the Da Vinci Sustainability Factory, a combination of sustainability and technology where students receive actual orders from companies. These companies rent rooms in the 5300 m² engineering hall occupying a place for their own factory. This unique concept for the Netherlands enables young students to work with the modern manufacturing technologies implemented by most of the regional metal companies.

Valk Welding has also supplied two welding robots to the Da Vinci College; one of them is for training purposes. Jasper Kooops, Project manager, has been involved in the Da Vinci Sustainability Factory since its foundation. He says, "Next to manufacturing technologies in the field of machining and sheet-metal working, now we have also robot-welding at our disposal. These manufacturing technologies enable companies to manufacture in a more innovative and efficient manner than with the traditional means. This fits fully into the concept



VALK MAILING 3 2013

of sustainable production. The new technology hall is an open and visible invitation for both the students and the outside world. This way we want to show that technology has a clean and high ICT ratio. A nice surplus is the fact that companies become related on the work floor and show interest in the technologies of other companies." The building of the technology hall in the Da Vinci Sustainability Factory will be completed at the end of this year.



EUC NORDVEST ROBOT CENTER



Last autumn, Valk Welding DK installed a handling robot in the Danish EUC Nordvest training center. This new training center aims at supporting the know-how of industrial robots in the region through training in state-of-the-art robot technology, so that companies can become more competitive within the industry. In the Jutland region, a potential number of over 80 companies already participate in robot automation, or intend to do so. The selection of Valk Welding as the sup-

plier of welding and handling robots was based on the advice from LT Automation, an independent consulting agency for welding automation. Valk Welding has a market share in Denmark of more than 25% for welding robots; therefore, the management at EUC Nordvest was fully confident in a successful collaboration with Valk Welding. Several clients from Valk Welding DK have already had their employees trained at EUC Nordvest.

EUC Nordvest also provides Academic licenses for the DTPS programming system which they consider an excellent educational software tool.

www.eucnordvest.dk



INNOVATIVE AND SUCCESSFUL ENTREPRENEURSHIP

RECEIVES ENTREPRENEUR AWARD



For Valk Welding, the New Year started out very well; in January of this year the company received the "Entrepreneurship Award Drecht Region 2012". This prestigious award was granted to a company with a highly successful performance on the international market.

Remco Valk, CEO, and Adriaan Broere, Technical Director, receive the "Entrepreneur Award Drecht region 2012"

REMCO VALK: WE DELIVER OUR PRODUCTS ACROSS THE GLOBE, BUT ALSO THE LOCAL SMALLER AND MEDIUM-SIZED COMPANIES ARE IMPORTANT TO US.

Innovative entrepreneurship

To qualify for the Entrepreneurship Award, Valk Welding had to pass three selection rounds and enter a final round. Due to its innovative entrepreneurship, the company was chosen as the winner of the final round. The award was handed out at a New Year's reception in the Chamber of Commerce in Papendrecht, which was attended by over 600 people. The yearly entrepreneurship award is organized to highlight and honor entrepreneurship within the region; this year the competition was in the spirit of 'innovative and successful entrepreneurship'.

Jury full of praise

After granting the Entrepreneurship Award, the expert jury praised Valk Welding's organization, their know-how; and superior service level. The jury commented that they were "impressed by the growth and results achieved by this company. Also in times of economic downfall, the company has demonstrated its clear concept by innovating product development in the welding industry. This way Valk Welding has become a market leader in the Benelux, with successful businesses in the international market. As this prize is granted for innovative and successful entrepreneurship, we consider it appropriate to designate Valk Welding as the justified winner of the Entrepreneur Award Drecht Region 2012."

Proud winners

This award is for Valk Welding the recognition of its entrepreneurial strategy. "We have participated in the entrepreneur award because this was a unique occasion for us to introduce our business to our

colleague-entrepreneurs from diverse branches in the region. Winning this award is, for us, the confirmation to continue unabated what we are good at: to provide service to our clients (nationally and internationally) with high quality products and services so that they can stand out in their own trade area," discloses Remco Valk.

Steady growth of business area

Outside the Benelux, the supply of the welding robot installations has undergone a steady growth. The support from international clients at offices abroad has led Valk Welding to expand its own offices in Denmark, the Czech Republic, and France. Remco Valk states, "This means an excellent leverage between both the local market and the surrounding markets. We now supply to international clients, e.g., Bosal, Dhollandia, Voortman and Huisman, also outside Europe."

Local small and medium-sized business client not less important

The implementation of welding robots should not be restricted to large companies alone. "More and more small and medium-sized companies turn to robot welding. On the one hand, they are forced to do this by the lack of specialists and, on the other hand, they feel attracted by the superior and continued quality as well as the higher efficiency. We deliver our products across the globe, but also the local smaller and medium-sized companies are important to us. The number of clients with less than ten employees has grown enormously in the past years" explains Remco Valk



SILO MANUFACTURER SWITCHES TO WELDING ROBOTS

For the welding of aluminium silo segments, Jansens & Dieperink in Zaandam, a worldwide leader in aluminium silos, has switched to welding robots. For years, Jansens & Dieperink used the semi-automatic longitudinal seam welding machines for full length welding in linear movement. Due to the disturbance sensitiveness this process is less reliable, leading to further delays in the manufacturing process. The Valk Welding supply consists in two welding robot cells, one of which is provided with an Arc-Eye seam following system. Ronald van Halderen, Manager, states, "As a market leader we want to be at the forefront. These high-end welding robot installations are an important step towards automation, with the benefits of continuity, higher and constant quality, so that less manual labor is required."



Experience with new process

The single welding of the four segments is performed in the first cell. Ronald van Halderen explains, "This first cell has taught us what can happen when you orientate your process in a different way. Jointly with Valk Welding we have struggled with the wire feeding and there was a time that we found tolerance issues.

Once this was under control, the advantages of the constant output became evident in the further processes. That is when you start looking for other parts in the welding process where semi-automatic welding is used."

Search with laser sensor

"Shortly after, we replaced the longitudinal seam welding machine for the large segment length with a welding robot installation. The cell supplied by Valk Welding consists of two above-pending welding robots, which in a 19 m longitudinal movement operate on two worktables. Jointly, these **Panasonic** TA 1600WGH3 welding robots are able to weld segments with a maximum length of 7 m simultaneously." Jansens & Dieperink has also decided to equip the new robot installation with a lasersensor welding seam monitoring

system, although this was not necessary for the straight welding seams. Jansens & Dieperink is planning to continue the automated welding work by implementing welding robots. For this particular process mostly round and conical molds are involved, for which this kind of welding seam monitoring system is required. "The experience we have acquired with this system will be very useful for the future."

High-end welding robot technology

The **Panasonic** TA arc welding robots with last generation G3 robot control provide Jansens & Dieperink with advanced robot technology. **Panasonic** offers a complete system, developed for the arc welding process, in which all components, such as the robot, control, laser camera, wire feeding, and software are manufactured in-house. The advantage to this is that these components will form a perfect match. Ronald van Halderen asserts, "Valk Welding has also the expertise to integrate these seamlessly into a customized installation."



The silos supplied by Jansens & Dieperink worldwide, are manufactured in segments in Zaandam, the mounting of which is performed on-site. The length, width, and plate thickness differ according to the size of the silo, with maximum segment sizes of 7 x 2m. All planes of the segments are welded through an extruded profile on a flat plate and rolled according to the required radius. The segments are then ready for on-site assembly into an integrated silo.
www.jansensanddieperink.com

MECHANIZATION OR ROBOTICS?

VALK WELDING AND ADK TECHNIEK CHOOSE THE BEST SOLUTION

Valk Welding purchased ADK Techniek, a company that specializes in the engineering and building of special machines, specifically for welding and cutting processes, at the beginning of last year. This new acquisition brought Valk Welding a wealth of experience and expertise in this area. The mechanized systems developed and built by ADK provide Valk Welding with a solution for any automation issues within the welding and cutting field, with regard to both flexible robotics and fixed mechanization.



Special machines for welding automation

In the beginning of 2012 ADK Techniek merged with Valk Welding bringing with it its specialization in the engineering and building of special machines for welding and cutting processes.

ADK Techniek develops customized automation solutions for applications in which frequent welding and positioning is performed, through the implementation of manipulators, roller blocks, welding columns, welding clamping tables, lathes, or a combination hereof. These are systems for the mechanization and automation of welding and cutting processes.

Currently, ADK Techniek is building for a complete production line for the mechanic welding of RVS liquid tanks for Hazeleger Metal Processing. The production line consists of two customized machine constructions for longitudinal and rounded seam welding, as well as two positioning machines used in rotating the tanks. The applied welding processes are the Plasma Keyhole and Puls-Mig welding process. This order for Hazeleger Metal Processing can be considered one of the most important projects for ADK representing its growth since the company merged with Valk Welding. Since ADK now reaches a larger target group through Valk Welding's international offices it has become a more interesting partner for larger companies.

Advantages of a large company

Since the acquisition last year, Henry van Schenkhof, Technical Consultant, and Arie Stam, Manager, are the first ADK employees to work for Valk Welding. In addition, former ADK employees René Post and Hasan Copur are also employed at Valk Welding, alongside two engineers that are exclusively working

on ADK products. This means that within Valk Welding a highly skilled set of five people is exclusively working with the special ADK machines. Henry van Schenkhof underpins the advantages of the integration and says, "In the past we would have not been able to realize such far-reaching projects as we are doing now for Hazeleger. The merging with the Valk Welding organization provides us with a large engineering department and a comfortable assembling room. Valk Welding's experience throughout the years in the field of arc welding offers us an enormous advantage because we can rely on their know-how."

Arie de Kuiper, founder of ADK Techniek

Arie Kuiper, as the founder of ADK Techniek, is well-known in the welding community. At the time, the company was the leader in the engineering, building, and supply of standard manipulation and welding equipment. Once the market had become exhausted, the company readily converted to special machines, in which ADK Techniek, again, achieved great success.

Arie de Kuiper left the company in 2004, but

during his visit to Alblasterdam, he could see with due pride that the business he once started still continues in his name. Unfortunately, Arie de Kuiper passed away in January 2013.

WHEN CLIENTS DO NOT FIND A SOLUTION IN STANDARD MACHINERY, WE OFFER THEM A CUSTOMIZED SOLUTION

Custom-built

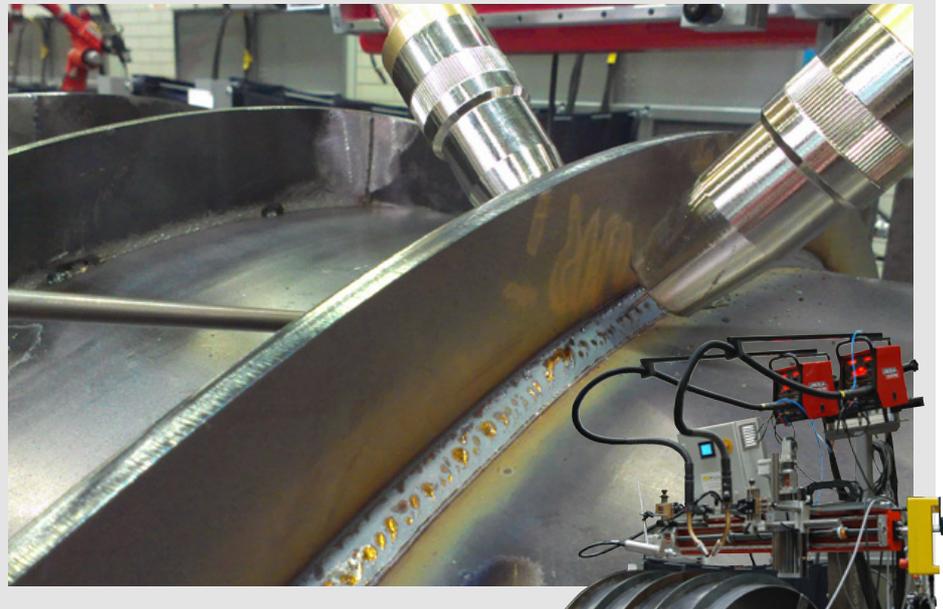
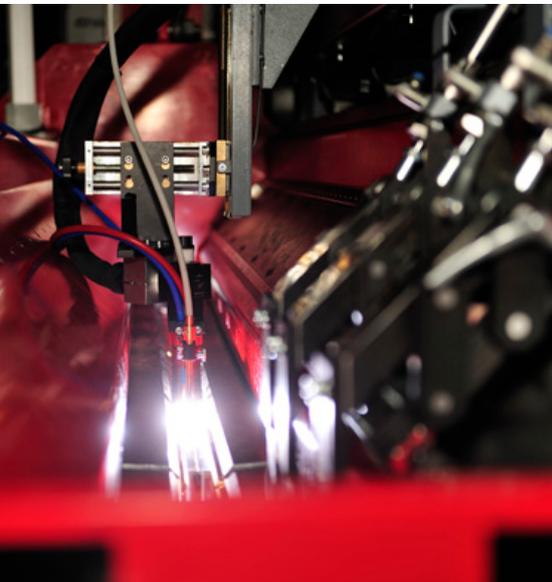
Over 85% of ADK's supplied machinery is custom-built and often offers automation solutions for specific product groups, where mostly positioning and welding is performed. Arie Stam stated "That is where the strength of ADK Techniek comes in. When clients do not find a solution in standard machinery, we develop a customized solution in tandem with the product situation and requirements from the client. Traditionally, ADK has been renowned for its excellent quality and solid finishing, guaranteeing the durability of the

MECHANIC WELDING OF "HALF COILS"



*Arie Stam,
Manager and
Henry van
Schenkhof,
technical
consultant*

ADK Techniek has recently delivered a state-of-the-art support system for the mechanic welding of "half coils" in tanks; this welding system consists of a horizontal support (work scope of 300 mm). Both supports are provided with servo-units for the placement of the two welding torches. For the mounting and adjustment of the welding torches, a double adjustment system is mounted onto the vertical support. This modern support system is installed by ADK Techniek at the end user and integrated onto an existing welding column. The control of the support system is also coupled to the roller blocks and manipulator in the twisting of the "half coils".



machines. This is still the basis behind our approach. So we do not give up on quality, even when it seems more attractive to use cheaper components."

www.adktechniek.nl



The RVS liquid tanks which are welded through automation by Hazeleger with the longitudinal and round-seam welding machine from ADK Techniek.

The support system is provided with an automatic seam monitoring system, that will correct the welding torches during the welding process in both the horizontal and vertical direction, in case of eventual product deviations. This allows for a steady welding position of both welding torches, and results in a higher welding quality. In addition, a regular welding outlook is obtained while the finishing work is kept to a minimum. Due to the large tank dimensions, the welding length for the "half coils" reaches approximately 480 meters. With essential consumption in mind, a selection of welding wire from 250 kg drums is placed along the factory wall. In order to avoid wire feeding issues over the long distance, a Wire Wizard wire feed system has been installed. This system is equipped with the PFA-unit on the welding wire drum and provides a nearly frictionless transport of the welding wire throughout larger distances.

The electrical cabinet mounted onto the base frame of the horizontal support is

provided with a Touch screen operation terminal that is linked to a PLC. During the manufacturing process, the operator is able to correct certain pre-programmed parameters through the use of a remote control.

ADK has spent a large amount of time attending to the protection of vulnerable components as well as to safety matters within this process. The wire spindles in the supports are mounted with protective resorts and an emergency stop on the electric cabinet was set in place for the remote control.

"Now that we have seen the operability of the complete system jointly with its excellent application in the manufacturing, it is impossible to imagine that only some weeks ago we were doing this manually. This is an enormous advance both in time and quality", according to Peruweld, Management.

More information:
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BETTER MANUFACTURING QUALITY ACHIEVED WITH ROBOT WELDING



MASCHINENBAU KARL HUGO AG WELDS PRESSURE VESSELS USING WELDING ROBOT



Following an intensive, multiple-year partnership and plenty of testing, machine building company KARL HUGO AG and Valk Welding have succeeded in designing a robotized solution for welding stainless steel pressure vessels. The application for these products is viewed as a huge achievement for the industry, considering the level of complexity, the extremely

close tolerances, and the high demand set on the density of the welding joints. The small quantities were initially seen as a negative parameter; but, Valk Welding found a solution for that as well. The switch to the robotized welding system means that the machine building company can produce better quality pressure vessels with a much shorter operation cycle.

Welding this type of pressure vessel (autoclaves), used for sterilization purposes in hospitals, etc. is very labour-intensive; the welding seams must be one 100% secure. Director Bernd Hugo explains, "We want to set a new benchmark in quality for the market with the introduction of these sterilisation systems. However, we kept running into difficulties due to the limits of the manual welding process. You can only fine-tune the welding process well enough to achieve, and maintain, the highest standards of quality by means of robotized welding."

This solution required a system supplier with a constructive approach to the problem Brothers, Bernd and Stephan Hugo, first met Valk Welding in 2009, after which both parties came together to discuss solutions for welding stainless steel pressure vessels. This meeting resulted in an intensive course of action that led to the success of the project. Bernd Hugo adds, "An automation problem of this level of complexity requires a robot supplier who can deliver a complete system solution, not just a robot. Most welding robot integrators only sell machines, but Valk Welding could offer us a solution that guaranteed success. We realized that Valk Welding was a flexible company with the necessary know-how on arc welding and who appreciated the project as an interesting challenge."

The switch to robot welding

Welding and machining operations are KARL HUGO AG Maschinenbau's two core competencies; the machine building company has a hall specifically designed for these operations. Due to its high precision machining operations on large pieces weighing as much as twenty tons, KARL HUGO AG is a level above its rivals on the market. The competitive advantage of the company can also be linked to its ability to hermetically seal, by welding, larger pieces on pressure and vacuum vessels for the power industry, the health-care sector, the chemical industry, "raw materials", etc. Bernd Hugo continues, "Welding large pieces, particularly those made of stainless steel, is very detrimental to the health of the welder, and the work is both strenuous and monotonous. Consequently, a welding robot can make the work easier for the manual welder

in certain applications. The change from using a welding torch to a teach-pendant is an interesting and informative move for a skilled worker, just like the previous transition from conventional machining operations to CNC operations."

Getting to know the process

KARL HUGO AG's welders learned, step-by-step, about robot welding by using a rented welding robot; which allowed them to weld and test the first pressure vessel prototypes internally. The test phase is essential since the welding seams shall be according to the requirements of DIN EN ISO 5817 B. The finished product may only be delivered after our own quality control department has examined them following the guidelines of the 97/23/EC Pressure Equipment Directive, Module H,H1. The company always discussed



ARC-EYE NOW ALSO IN SPOT SENSOR PRESENTATION

Not only have Valk Welding engineers developed the Arc-Eye laser sensor for the monitoring of the welding seams in real time, they have also implemented a version on the basis of a spot sensor. The Arc-Eye DSS (Distance Spot Sensor) is meant for applications in which the robot searches the product for I- or V-seams.

The Arc-Eye DSS laser sensor works with the

aid of the Distance Spot principle, in which the projection of the laser spot is measured by a linear camera. The Arc-Eye DSS searches with a speed of 5m a minute with a repetition accuracy of 0.1 mm.

Although the Arc-Eye DSS is quick, it provides a reflection-poor data image and is not subject to contrast differences.



Applications

Location determination

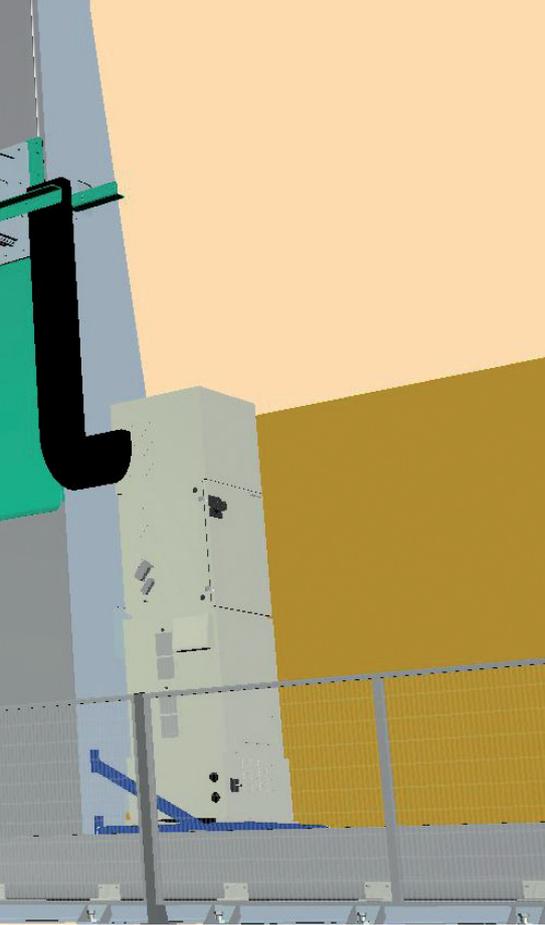
- Plate-edge
- Inner angle
- I-seam
- V-seam

Geometry determination

- I-seam
- V-seam

Intersection determination

- T-joint conduct/tube
- X-joint tube/tube



the results with Valk Welding during the test stage so that we could develop the process from the angle of the supplier as well. The order for the construction and delivery of the welding robot equipment in its definite form was placed in late 2011.

A welding robot on a portal system

The robot welding installation had to be suitable for welding pressure vessels that varied between 1.3 and 12 metres in length. Accordingly, the Panasonic TA 1800 welding robot is suspended from a five meter-high moveable construction that can be driven along an eight-meter track.

To prepare for the delivery in 2012, three welders attended a programming course at Valk Welding's offices in Alblasterdam. Bernd Hugo articulates that "We spent a lot of time during the first six months getting to know the new equipment, the process and the programming, but now we are working at our top manufacturing capacity and we can weld high-grade, double-walled pressure vessels in series. Both the welding process and the finished products are 'TüV geprüft'. In addition to saving a considerable amount of welding time, we have managed to reduce the target time to minimum."

Ready for more expansion

Currently, KARL HUGO AG delivers one pressure vessel per week, but expects that these numbers will multiply in the coming years. According to Bernd Hugo, "The changes have created more capacity, and we're looking ahead to the anticipated growth. Besides, we want to weld other products in small batches using the robot welding equipment, and this welding robot means that we hold a competitive position, allowing us to explore new markets."

www.karlhugo.com

100 TONS OF HIGH NICKEL ALLOY WELDING WIRE FOR B&W VØLUND

Valk Welding, as the supplier of welding wire, is one of the few companies specialized in the delivery of high nickel alloy welding wire. This is applied in the welding of steel elements for making them resistant to chemical and heat elements. Valk Welding has recently received an order from the Danish company B&W Vølund, for the supply of more than 100 tons of NiCrMo-3 high nickel alloy welding wire.

B&W Vølund plans to use a high nickel alloy welding wire for the cooling water panels in the Scandinavian building of a waste incineration plant (waste-to-energy). The cooling water panels are assembled from steel conducts, which are unilaterally welded with NiCrMo-3 aided by an automate. This then makes the steel conducts resistant to the high temperatures and aggressive environment within the boiler. Lastly, the welded steel conducts are assembled into complete cooling water panels at the B&W Vølund plant in Esbjerg (DK). Once the panels are aligned, they are ready for their mounting on-site.

The welding wires supplied by Valk Welding will be used under the auspices of B&W Vølund and for onsite mounting works. The 3 million Euro order will be delivered in installations over an 11 month period. In the past, Valk Welding has also delivered high nickel alloy welding wire to B&W Vølund. The superior quality and delivery, as well as the strict delivery terms, were the basis for the Danish company to reorder this special welding wire from Valk Welding.

www.volund.dk





FRANCE



VALK WELDING STARTS OWN OFFICE NORTH OF PARIS

Valk Welding is expanding its activities throughout France; an office north of Paris is now for operation. The new workplace includes a surface area of 400m², a sales office, a demonstration room, and a storehouse for filler material and spare parts for after-sales service. In the Paris demonstration room, a number of demo-ready Panasonic welding robots have been installed. However, welding robots are still located in the head office of Alblasserdam.

For years, Valk Welding has sold and installed welding robot systems for the French market. Valk Welding has operated with Valk Welding France Atlantique in Pays de la Loire since 2008. Valk Welding owns over 2,000 installations in Europe and abroad, of which over one hundred are found in France.

According to Remco Valk, CEO, the further expansion in France is based on the strong growth and sustained demand from the French market. The in-depth expertise of welding robots has led to Valk Welding holding the competitive advantage in various other European countries; France is the next target market.

With its own office in France, Valk Welding is now able to focus its activities on demonstrations, program training, and the sale of robots and filler material. French employees have already received training at the head office in the Netherlands. The official inauguration of Valk Welding France in Compiègne is planned for the third quarter of 2013.

www.valkwelding.fr

“TOUCH AND CREATE” A NEW AND QUICKER METHOD FOR WELDING ROBOT PROGRAMMING

VALK MAILING 10 2013

Valk Welding is currently developing a tool for the creation of a quick program for a work piece outside the welding robot, even when a three-dimensional drawing is not available.

In practice, the implementation of a welding robot program based on a teach pendant, is still a time-consuming experience. The operator manipulates the welding torch on the welding robot covering the whole welding trajectory while adjusting the welding parameters and settings, so that a program can be generated. In addition to being very time-consuming, the online programming also leads to a temporary production down-time for the robot. Because of the implementation of a tool specifically developed for 3D reverse engineering, a change has occurred. This tool, marketed by a German manufacturer last year, consists of a 3D optical sensor system as well as a lens for sensing the positions on a work piece that are recorded with a camera. The 3D optical sensor functions, in this case, as a 'touch pendant.' By coupling this data to welding parameters in a database, a welding program is automatically generated. This tool has the great advantage that apart from the welding robot, a quick program can be created for a work piece, even if a 3D drawing is not available.

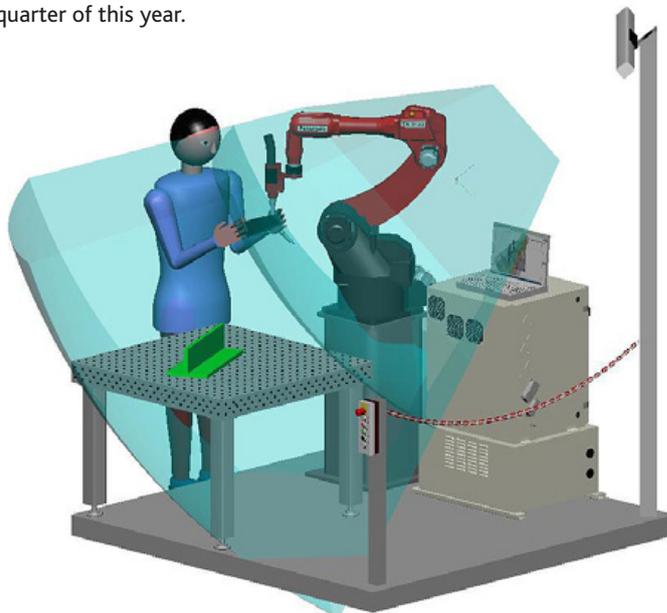
At Valk Welding, engineers are currently working on the software needed to translate this data to a customized robot program. In conjunction with the existing offline programming, Valk Welding wishes to develop and offer a new programming method that uses 3D reverse engineering.

The touch pendant is manually conducted in the right position along the longitudinal seams in the work piece. The correct welding direction is immediately found and recorded through one click. Once the desired points are introduced, a robot program is automatically generated. This program can be directly sent to the welding robot or further processed

for DTSP simulation (**Panasonic** offline programming software).

The touch pendant enables touching instead of teaching. Some advantages it has are no down-time, and free programming based on the various possibilities. The specific touch protocols allow for the simple and consistent teaching of repeated weldings. Other options that the touch pendant includes are the insertion of program blocks (macro's), which bring the number of teach points to a minimum, and three-dimensional template or product drawings.. These options allow for a combined reverse engineering during the programming.

The presentation of the new "Touch and Create" systems is planned during the Vision & Robotics and will be operational in the third quarter of this year.



WELDING ROBOTS WITH OFFLINE PROGRAMMING FIT IN CIMBRIA'S GROWTH STRATEGY



With the collaboration from Michael Peis, Tekovation



Cimbria's expertise in welding robots dates back to its foundation more than 25 years ago. The welding robots have specifically been implemented for the welding of silo elements and were partly worn-out and not suitable for offline programming. Niels Ulrik Bliksted, Cimbria Plant Manager states, "We wanted to program our robots offline, so that the product no longer had to be stopped for programming, and workpieces can be exchanged between the robots in order to avoid any bottlenecks during the manufacturing. Valk Welding and its Panasonic welding robots, jointly with the DTPS offline programming system, was exactly what we were looking for. In the beginning we wanted to purchase only one welding robot, but once we had seen all the possibilities, we directly decided to invest in three systems."

Growth through automation

Through automation and a digital order-based manufacturing, Cimbria has nearly doubled its revenue in the past four years. "We aim at a yearly growth of ten percent with the same number of employees. We wish to do this through further automation. The core competence is held in Denmark, while the more labor-intensive production is performed in our factory in the Czech republic," explains Cimbria Plant Manager, Niels Ulrik Bliksted.

Greater flexibility

Last year, the Valk Welding's Danish office installed three welding robots at Cimbria, each oriented at specific components. The largest welding robot system has been installed on a trajectory for the operation of 2 worktables, each with a size of 4.5 m, for the welding manufacturing of silo elements. A second welding robot installation was supplied on an E-frame complete with a drop center on station 1 and a worktable with a 4m length on station 2, for the welding of cycle fans.

The third welding robot system processes various products simultaneously. Therefore, Valk Welding has provided the welding robot installation with two worktables of 4 m, for the stageless rotation of workpieces in the manipulators. This system has the advantage that the operator can take the workpieces in and out at one station, while the robot is welding at the other station.

The welding robot installations are built at the Valk Welding's head office in the Netherlands. For its welding robot installations, Valk Welding applies unique Panasonic technology with the integration of a robot control and a welding machine into one unique system (CPU). Components such as robots, controls, manipulators,

wire supplies and software are developed and manufactured in-house by Panasonic, which allow for the fine-tuning of all mechanisms.

Offline programming

For its offline programming, Valk Welding implements the Panasonic DTPS offline programming system. DTPS has more than four hundred users and is the most used programming system application for Panasonic arc welding robots. DTPS can be seamlessly integrated into 2D and 3D CAD systems, and converts this data directly into programs for the welding robot. The preparation is fully performed on an external PC instead of on a teach pendant on the robot; therefore, the manufacturing at the welding robot is not interrupted. Offline programming offers many more advantages such as 3D simulation, allowing for the recognition and prevention of collisions already in the work preparation stage.

Employees following training at EUC

Cimbria uses the new robot centre at EUC Nordvest, where training is provided on Panasonic welding robots. The first employees at Cimbria have already been trained at EUC Nordvest.

"We consider it an important advantage that we can send employees for training in offline programming at EUC, where they use the same robots as we do here in the factory," says Niels Ulrik Bliksted. He concludes, "A short time ago, we nearly did not use any robots for the manufacturing of silo components. Thanks to our switch to Valk Welding's robots and offline programming, already 30 percent of all the welding work is performed on the robots. This meets exactly our strategy to achieve growth by means of automation."

www.cimbria.com



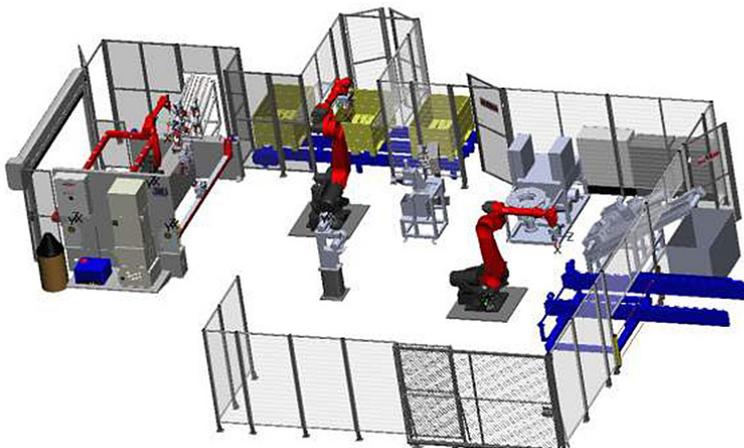
A GROWING NUMBER OF INTERNATIONAL EMPLOYEES



In order to comply with the growing demand for welding robot systems, last year Valk Welding invested in the recruitment of new personnel. Due to the expansion of personnel, Valk Welding is now home to 100 employees. Ali Fuat is one of the new employees who has recently arrived to help support the

team in Alblasterdam. He is an industrial engineer and speaks fluently English, Turkish and Russian; bringing international projects to clients, e.g., Bosal, in Turkey and Russia. Ali Fuat has also provided training to the first robot operators at the Bosal office in Russia through their native language.

PANASONIC HANDLING ROBOTS FOR JIG-LESS-WELDING APPLICATIONS



Panasonic has marketed a new series of 6-axis handling robots, built on the G3 robot control platform of the latest generation. With the new handling robots, **Panasonic** offers extra application possibilities within the current robot program.

The HS-165G3 has a maximum load capacity of 165 kg and a maximum operating scope of 2.66m. **Panasonic** also offers the reduced YS-080G3 with a 2.24m operating scope and a maximum load capacity of 80 kg. Both handling robots are especially suitable for managing applications in combination with **Panasonic** welding robots. Therefore, the G3 robot control is provided

with the "Harmonizer Function," for the full synchronization of the movements of both robots. This way, the integration of handling and welding is possible without tensioning and clamping systems; no additional software development is required.

The programming and operation is performed with the aid of the G3-controller (teach-pendant) similar to how it is performed in the **Panasonic** welding robots with a G3 robot control. The G3 controller is 6 times quicker than its G2 predecessor, allowing for a 10% increase in acceleration and deceleration in the robots.

TRADESHOWS AND EVENTS

VISION&ROBOTICS 2013
Veldhoven, The Netherlands
22, 23 May 2013

NITRA
Slovakia
21-24 May 2013

OUEST INDUSTRIES
Rennes, France
4-6 June 2013

METAVAK HARDENBERG 2013
Hardenberg, The Netherlands
3-5 September 2013

SCHWEISSEN UND SCHNEIDEN
Essen, Germany
6-21 September 2013

MSV BRNO 2013
Brno, Czech Republic
7-11 October 2013

METAVAK GORINCHEM 2013
Gorinchem, The Netherlands
5-7 November 2013

TIV VENRAY 2013
Venray, The Netherlands
19-21 November 2013

TOLEXPO 2013
Paris, France
19-22 November 2013

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