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VALK MAILING

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VALK WELDING CONTINUES ITS GROWTH AMBITIONS

Despite the negative market sentiment Valk Welding expects to continue to expand this year both within and outside of Europe through takeovers and acquisitions. Valk Welding expects to achieve this growth through a rise in the number of orders for welding robot systems and welding consumables in Germany, France and Eastern Europe. To meet that increasing demand Valk Welding has strengthened its organisation by taking over ADK Techniek. With this company, which specialises in the design and construction of special automatons for welding and cutting processes, Valk Welding is gaining specific knowledge in the area of process automation.

Valk Welding has also taken over the exclusive rights to the CSS sensor technology of Oxford Sensor Technology (OST) in order to build its own laser cameras for welding seam tracking in its welding robot systems under the name ARC-EYE. As a result of this Valk Welding no longer relies on third-parties for the production and delivery of vision systems and will be one of the few system integrators holding all of the know-how itself.

Valk Welding shortly has more takeovers in the pipeline, on which basis it intends to continue to strengthen its market position both at home and abroad.

The office service in the Czech Republic was recently strengthened and the German project engineer Jörn Lota will be in charge of the project follow-up for the German market. There are also plans to augment the staffing level of Valk Welding DK.

Valk Welding has strengthened its organisation with the takeover of ADK Techniek. Foto: (l > r) Arie Stam (manager ADK Techniek division), Remco H. Valk (CEO Valk Welding group), Henry van Schenkhof (sales manager ADK Techniek division) and Adriaan Broere (technical Director Valk Welding group)

ALSO IN THIS ISSUE:

Specific knowledge of ADK Techniek

By taking over ADK Techniek Valk Welding is gaining knowledge in the area of mechanical construction and the accompanying engineering, which makes it less dependent on third-party expertise. Valk Welding also regards the specific knowledge of ADK Techniek in the area of process automation with special automatons. These are a valuable addition to its own activities and a return to the sales market in which Valk Welding was the market leader in the Benelux until 1989 (termination of Cloos distribution).
With this takeover Valk Welding is also extending its delivery programme with roller trestles, welding columns, welding benches and welding lathes. The two companies have jointly completed projects for customers in the Benelux during the past few years. Employees of ADK Techniek have since relocated to the head office of Valk Welding in Ablasserdam. The name ADK Techniek will remain unchanged for the time being.

Growth outside of the Benelux

Last year Valk Welding, together with all of the national establishments, delivered no fewer than a hundred welding robot systems and over 6500 tons of welding wire. Valk Welding has thus further extended its position as a welding robot integrator and independent supplier of welding wire in Europe. Some of these welding robots have been delivered to German and French customers. That confirms that Valk Welding has now also definitively penetrated the markets in these countries as well as the regions in its own countries of establishment. CEO Remco H. Valk therefore believes that the possibility of an establishment in Germany has come a step closer. Next on the list are Ukraine, as a base for Russia/Eastern Europe, and the strongest growing economy Turkey.

Although the effects of the euro crisis have not left Valk Welding unscathed, Remco H. Valk regards the current climate as being a good reason for many companies to invest in welding robotisation: "The savings on wage costs and the improved weld quality make a welding robot a sound investment which usually quickly earns itself back. Also, it is becoming increasingly difficult for companies to find expert manual welders."

Simplicity in programming

Many of the welding robot systems that have been delivered are advanced systems, in which an important role is played by the development of customer-specific software. Remco H. Valk: "With our specialist field based on more than 750 man-years of experience in welding robotisation, our engineers and software specialists are able to continuously extend the options for the flexible automation of small series production. We are the first welding robot integrator to succeed in generating welding programmes for 3D curved products from CAD data completely automatically. This represents huge savings for our clients. For this 3D Free Shape Welding Solution we have been nominated for the Techni-Show Award 2012. Last year we also introduced G3 Weld Navigation, which has simplified the programming process so much that even technicians without specific welding knowledge are able to programme a welding robot. That makes welding robotisation accessible to a broader market."

Valk Welding v exhibitions

G3 Active Wire, MIG wi thin-walled plating

Butt weld of thin-walled stainless steel plate sections with Active Wire

A number of manufacturers of welding power sources and welding robots are working intensively on the development of software controlled welding processes to improve the quality and speed of welding thin-walled materials. In 2005 Panasonic Welding Systems introduced for that purpose its new Tawers welding robot in which the power source and robot control are integrated in a single CPU: the SP-MAG welding process. This process variant reduces spattering, delivers outstanding welding quality, good gap bridging, improved flowing of the fuse bath and an attractive weld appearance. With the introduction of the new robot control Global 3, Panasonic is now completely bridging the gap between MIG and TIG with Active Wire, a combination of SP-MAG and wire feed control. Although welding thin-walled stainless steel with the TIG process is more sensitive and slower than MIG, with Active Wire Panasonic is making it possible to welding thin-walled materials faster and without any spattering. Valk Welding demonstrated the advantages of the Active Wire process based on the butt welding of 0.5 mm stainless steel plates during the Techni-Show and subsequent trade exhibitions.

6 times faster
The main CPU of the new robot control Global 3 is 6 times faster than the previous generation. This means that robot instructions, path movements and wire feed can be regulated even more finely, quickly and accurately, while the options of specific software features can be further extended. Active Wire is one of the new software functionalities that could be developed as a result of this. Active Wire is a combination of the Panasonic SP-MAG welding process and active wire feed control, in which the welding wire makes high frequency reverse pull movements during the MIG welding process. This results in a highly stable drip transfer without spattering and with much less heat transfer. The latter point is also important to higher wall strengths in which a higher deposition at higher speeds and less deformation of the work piece is required.

WITH INNOVATIONS AT EUROPEAN

See backcover for exhibitions and events

ELDING AND

Standard cell with Active Wire for the thin-walled pipe and plate industry

SP-MAG is a short circuit arc process made possible by a secondary switching circuit and a high speed 100 kHz inverter power source with a regulatory cycle of 10 µs. The very high short circuit frequency leads to a lower heat transfer at the same current strength level, which greatly reduces deformation and spattering. The idea of combining SP-MAG with Active Wire feed control is a response to the wishes of the car industry to weld stainless steel and steel materials in thickness of 0.5 – 0.7 mm quickly and with high strength and minimal spattering. Active Wire thus offers new options for applications in other sectors where thin-walled stainless steel and steel are used.

> Active Wire is a combination of the Panasonic SP-MAG welding process and active wire feed control.

ACTIVE WIRE in automotive cell

Valk Welding has incorporated the Active Wire process in a compact standard cell for companies that supply the automotive industry. This cell, which was also available for view at the recent trade exhibitions, is specifically designed for welding thin-walled materials. For that purpose, a special Panasonic welding robot was used, with the hose set going through the 4th, 5th and 6th axes. The welding robot is also equipped with a combination torch incorporating the wire feed motor. Integrating the motor makes it possible to have the wire make high frequency pull back movements briefly on the work piece. The welding process that creates the weld with a low heat transfer is comparable to processes of other manufacturers that have already been on the market for some time. But what makes this system stand out is that the Panasonic Active Wire is regulated from the robot control and there is no need for two separate systems for the welding machine and the robot.

3D Free Shape Welding Solution automates the 3D welding process

Following on from the specific software solutions that Valk Welding develops to facilitate small and single item manufacturing, the company has now developed the 3D Free Shape Welding Solution. This makes it possible to fully automate the welding process for single item three-dimensionally curved products. Valk Welding is thus responding to market demand for the ability to automatically manufacture products in various dimensions from series size 1 upwards. 3D Free Shape Welding Solution has been nominated from 36 entries for the Techni-Show Award 2012.

Software solution

The 3D Free Shape Welding Solution is a software solution that makes it possible to automatically generate programs for 3D products for the welding robot from CAD and ERP databases. This means robot automation can be used for single item production without needing a programmer and client-specific products can be produced in a serialized manner in accordance with the principle of Mass Customization.

Used at Thyssen Krupp Encasa

3D Free Shape Welding Solution has since last year been successfully applied at Thyssen Krupp Encasa, a stairlift manufacturer. This manufacturer uses the 3D Free Shape Welding Solution for the fully automated production of three-dimensionally curved rail parts to the client's specification in a series size of 1. Valk Welding has developed the software for this, including CMRS (Custom made Robot Software) that combines the output of the customer's IT systems with the functionality of the DTPS programming system. CMRS ensures that all geometric data from the CAD files are converted by an Automatic Program Generator (APG) into programs for the welding robots.

The software also recognizes which type of product is concerned and calculates the relevant optimum routing for it. Should the free-form shaping process still produce a collision in the calculated programmes, this is detected by the software and it automatically generates a solution that is collision-free..

Advantages of the 3D Free Shape Welding Solution

- No offline / online programming time loss by specialist.
- Minimum machinery breakdown due to automatic programme control.
- Minimum machine change-over with a multifunctional jig and programme selection during production.
- A single robot replaces 3 manual welders, and delivers a more constant quality.

Valk Welding has already produced software solutions that facilitate small series and single item manufacture with the welding robot for clients with 2D products.
With the introduction of 3D Free Shape Welding Solution Valk Welding has now also made this possible for 3D products. The 3D Free Shape Welding Solution is ideal for clients with a wide range of products that require a short machine change-over time. With this solution, Valk Welding has taken the next step to flexible product automation that can offer a solution for a wide range of applications.

Easy teaching, easy programming

The introduction of G3 Weld Navigation to the new generation of robot control Global 3 has made it possible to programme welding robots from a teach pendant much more easily and quickly than before. Based on the entered material type and thickness and the type of joint required, the G3 Weld Navigation software recommends the right parameter settings for current intensity, voltage and welding speed. This not only saves a lot of time in the work preparation, but also makes it possible for employees without specific welding-technical knowledge to programme a Panasonic welding robot.
G3 Weld Navigation is a standard software module on the new Panasonic WG3 and WGH3 robot control.

Try yourself at Techni-Show, Utrecht, Industri Paris, Eurowelding, Nitra and MSV, Brno

G3 WELD NAVIGATION: THE ULTIMATE TOOL FOR QUICKLY AND EASILY PROGRAMMING WELDING ROBOTS FROM THE TEACH PENDANT.

Teaching reduces production time
Companies still programming the older generation of welding robots with a teach pendant know from experience that writing a programme for the welding robot often takes several hours to a few days in some cases. The programmer has to 'demonstrate' everything to the robot, and it is not until all of the positions have been covered and the right welding parameters and torch angle have been configured that the programme can be finalised. As well as being a time-consuming process, this approach also has the disadvantage that the welding robot cannot be used for production during programming. This disadvantage also applies to teaching with G3 Weld Navigation, albeit with a considerably shorter downtime.

Offline provides full control
Offline programming is therefore a better solution for companies wishing to weld complex products in small series on the robot. With the Panasonic DTPS system Valk Welding offers a perfect solution for this, which has developed into the most frequently used offline programming system for welding robots. DTPS connects up seamlessly with the 2D and 3D CAD platform, which can be used to directly convert the data into programs for the welding robot. The work preparation in DTPS can therefore be done from the PC, doing away with the need to interrupt the welding production. But offline programming with DTPS offers many more advantages and options. One of the most important of these is the 3D simulation of programs to check them for their range and the possibility of collisions. But also to calculate current cycle times.

Toolkit for automatic programming
Although offline programming with DTPS offers the ultimate tool for welding robot programming, simulation and planning, it does call for well-trained employees with in-depth knowledge of the welding process. But the demand for technicians at that level outstrips the supply on the labour market. With a view to the future the software engineers of Valk Welding have therefore worked hard on producing a toolkit with open source software that makes it possible to automate a large part of that programming. The toolkit is now being put to good use by a number of customers under the name APG (Automatic Path Generator). APG uses data from ERP, Excel sheets and CAD systems to automatically generate complete programmes for the welding robot.

CMRS for automatic single item production
Valk Welding's software engineers develop CMRS (Custom Made Robot Software) specifically for manufacturers that produce their own products on order by customer-specification. The welding programmes are automatically adapted to the customer-specific dimensions, the logistics around the welding cell are controlled and the welding jigs are automatically configured. This also makes it possible to integrate the robotised welding process in a 'mass customization' production setting. Valk Welding is currently the only party offering the development of advanced software of this nature on the market. The CMRS product has already been in use for more than six years and has been delivered to many customers throughout Europe.

Valk Welding to build vision systems itself

Valk Welding has taken over the exclusive rights from Oxford Sensor Technology (OST) for the integration of the CSS sensor technology. From now on, Valk Welding, which has been using the CSS laser sensor technology as vision systems for weld seam tracking in its welding robot systems for some years, will be building these systems itself. Valk Welding will be placing the laser sensor technology on the market under the name Arc-Eye.

The software for an interface with the Panasonic welding robots will be written by Valk Welding's own software engineers. The team of software developers has now been extended for that purpose by specialists in this field. Valk Welding will be integrating the laser camera in its own torch switching system to guarantee the perfect calibration of the camera system in relation to the TCP.

As a result of this Valk Welding is no longer dependent on third-parties for the production and delivery of vision systems and is now able to deliver the systems with a Panasonic interface as a plug-and-play system to Panasonic dealers all over the world.

The first system in this design is already under production at Stork Marel, where a new robot system was recently delivered with the laser scanner integrated in the torch switching system. Valk Welding has even proved able to equip the laser head with a connector system that makes it possible to disconnect the camera if necessary in order to retain maximum reach for the robot system in products that are difficult to access.

As a result of this Valk Welding is no longer dependent on third-parties for the production and delivery of vision systems and is now able to deliver the systems with a Panasonic interface as a plug-and-play system to Panasonic dealers all over the world.

lecturers of the ROC Albeda

1st and 2nd year students of the ROC Albeda

Students trained with welding robot of Valk Welding

Valk Welding has supplied a Panasonic welding robot with a plasma cutting torch, plasma generator and software to the RDM Campus in Rotterdam, where both teachers and students of the Intermediate and Higher Professional Education programmes will be trained to use the latest welding and cutting robot equipment in the years to come. Valk Welding is also providing the lesson materials for the teaching and offline programming of the welding robot.

In addition to the Panasonic welding and cutting robot, the delivery includes 20 academic licences for the programming software DTPS. This gives technology students the opportunity to learn how welding robots can programmed offline and how welding programmes can be fully simulated in 3D. Technical director Adriaan Broere of Valk Welding regards the delivery of the robot technology to the RDM Campus as being a step in the right direction to encourage students to opt for technology. "That way they can see that technology also means technically challenging work. Today's students are our clients or colleagues of the future. Also, owing to the declining number of employees in the metal sector caused by the ageing population, we will be forced to have the work of 3 people done by 1. That will only be possible if they are able to use machines that make this leverage effect of 1 to 3 possible, and robot technology has an important role to play in this."

Valk Welding will also be making existing lesson materials available and training the teaching staff in robot controls and offline programming. The welding robot is the latest generation and is designed for MIG/MAG/TIG welding from one control unit. Valk Welding has already delivered five other robot systems to training institutes in Europe. Valk Welding has also for some time organised guided tours for Intermediate and Higher Professional Education students around its robot assembly and technology centre in Alblasserdam.

Long-term deployment

The Panasonic welding robot, which is also equipped with a plasma cutting torch and a Kjellberg plasma generator for the cutting operations, will be used during the next six months to train about 200 students of technology to use the new robot equipment. After that the use of this equipment will form part of the education programmes of both technological departments. integration in the education programme during the next few years will be a matter for the two institutes themselves.

20% cycle time reduction at Petersime

Global market leader in egg incubators

At the beginning of this year Valk Welding NV delivered a robot welding system to Petersime NV, global market leader in industrial egg incubators. Valk Welding built a welding cell for the series production of rack systems for pre-hatching trolleys for Petersime. The internal production capacity was no longer sufficient owing to the sharp rise in sales in recent years, as a result of which some of the pre-hatching trolleys had already been issued. Although the manufacturer of these products already had a Cloos welding robot system, they asked whether Valk Welding would be able to meet their requirement to reduce the cycle time, and that requirement was duly met.

the jig in which Petersime's rack system is clamped

Valk Welding's Michel Devos, who managed this project: "When the new system was bought Valk Welding undertook to reduce the cycle time by 15%. With the very short start/stop time and the high movement and communication speed of the Panasonic Tawers welding robot and the experience with other projects we knew what we were getting into. We built a new cell with a pneumatically driven clamp based on the existing concept. With the new cell we ultimate managed to reduce the cycle time by 20%, and also improved the weld quality while we were at it. For a larger series product, a reduction percentage of this magnitude represents a substantial saving in actual hours a week." www.petersime.com

Goma, big success on a small scale

The fact that it is not always big companies or systems that are the most successful is underlined by the Goma project in Lommel. This relatively small supplier of steel structures carefully considered whether to use a welding robot or an 'almost impossible to find' manual welder.
Peter Pittomvils: "Their first idea was to buy a young second-hand robot, but in view of the risk-free proposal and the clearly higher performance of the Panasonic welding robots they decided to take the step to buy a complete new system that perfectly met their requirements. No more, and no less. With this smart investment the company has ultimately succeeded in attracting more work, and is delivering higher and consistent quality and is no longer looking for manual welders.

Belgium is among the oldest foreign markets in which Valk Welding operated for the sale and delivery of welding equipment and - later - welding robot systems. It will therefore come as no surprise that Valk Welding has built up a large installed base of robot systems there, both in the Flemish and French section. Customers include manufacturers such as Van Hool, Case New Holland, Dhollandia, Joskin, Victor Buyck and Faymonville as well as smaller suppliers.

Peter Pittomvils, sales manager at Valk Welding NV is also seeing smaller companies taking the step to welding robots. Of the larger systems, the welding robot systems delivered to Petersime are a good example of where customers have greatly improved their returns in welding production by using top quality welding robot technology and automating the programming.

France: important growth market for Valk Welding

Together with Valk Welding France Atlantique, in Saint Nazaire (Bretagne), Valk Welding has already been selling welding robot systems and welding consumables on the French market for some years. With the annual delivery of 15 to 20 robot systems, turnover in France is now accounting for about 20% of Valk Welding's turnover. And that percentage look set to grow since the completion of a number of projects among leading manufacturers and suppliers, each and every one of which yields favourable references. Sales leader for France, Michel Devos: "We make sure that prospects can always make contact with those references free of obligation, and that leads in many cases to new projects. The technology and functionalities we are able to offer with the Panasonic Tawers are especially appealing to the French market. That is demonstrated by the delivery of a Panasonic Tawers Welding robot to the French research institute Ensta (comparable with TNO in the Netherlands, Fraunhofer in Germany and the University of Leuven in Belgium).

Valk Welding France Atlantique forms an important support centre for customers in the north-west of France. Michel Devos: "From Saint Nazaire we offer service support, provide training and deliver welding wire from stock. With our turnkey delivery we take responsibility for the complete welding robot system, including the jigs and the software. We are able to provide the service support for this direction from the region with Valk Welding France Atlantique." The order placed by Groupe OTS is a good example of this. Valk Welding recently supplied them with a welding robot system, bringing to an end the exclusive use of Air-Liquide Welding robots.

Single item steel structures on the welding robot

With the delivery of a welding robot system to Dugué, manufacturer of prefabricated industrial buildings in South Bretagne, the company welds parts for steel structures as single items. The system is able to weld both uprights and crossbeams of maximum IPE 500 up to a length of 15 m on the welding robot system. Top plates and gusset plates are fastened manually beforehand. For this purpose Valk Welding's software engineers have developed customised software (CMRS), as a result of which it is sufficient to enter the geometric data into the programme to run the system. The software automatically generates the programs for the welding robot, which are then checked in DTPS for potential collisions. With a work preparation time of less than one minute Dugué is thus able to carry out the robotised welding of single items highly efficiently. Valk Welding anticipates the large-scale use of this concept among a large group of hall buildings and steel structure manufacturers. www.dugue.fr

ETT now welding aluminium frames entirely with MIG

As well a number of standard cells, including H and E frames, Valk Welding last year delivered a welding robot system to ETT, one of France's biggest manufacturers of air conditioning systems for utility construction. The cell includes a Panasonic Tawers welding robot that services three work stations on a 20-metre track. ETT welds aluminium base frames measuring 4 x 2.5 m with the new cell. Using aluminium for the frames is important to ETT because its resistance to corrosion, low weight and recyclability. These frames used to be welded alternately with MIG and TIG, but with the new Panasonic Tawers welding robot the frames can be welded completely in MIG owing to the functionalities Spiral Weaving and Synchro Pulse.
www.energie-transfert-thermique.fr

More business at Valk Welding CZ calls for extension

Valk Welding's national establishment in the Czech Republic has in recent years seen a sharp rise in its clientele with many dozens of satisfied users in the Czech, Slovakian and Polish metal industries. Twenty-four welding robots have been delivered to a wide range of sectors: automotive (Bosal), large and small suppliers (Alba), large manufacturers (Vendula, DHollandia), and specifically TIG and Thick plate applications (Huisman). The language and the location of Ostrava close to the border results in a spin-off to the southern Polish and Slovakian industries.

As well as the sale and installation of welding robot systems, the people in Ostrava also provide the training courses, services and sale of welding consumables.
Last year Valk Welding CZ delivered over 50% more steel and stainless steel welding wire. That called for a drastic increase in the storage capacity. Valk Welding CZ therefore extended its facility with 600 m^2 of extra storage space at the beginning of this year.

Valk Welding CZ has a surface area in Ostrava of 1200 m2 for sales, service, technical centre and warehouse for spare parts, welding consumables and welding wire.

Strengthened office service

To provide current and future customers with a good and efficient service Zuzana Axmannová has strengthened the Valk Welding CZ office service since October of last year. Zuzana is responsible for the day-to-day activities concerning logistics, warehouse, administration and order processing.

Branch manager Jakub Vavrecka: "Zuzana's background in the logistics and transport sector gives us every confidence in continuing to extend our growing activities. Now that Zuzana has joined the team we will be able to continue improving our service for all current and future customers.

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Huisman Konstrukce takes step towards welding robotisation

Valk Welding has delivered a welding robot system to the Czech establishment of the globally operating Huisman group. Huisman develops and builds heavy construction equipment for the onshore and offshore market. The Czech establishment of Huisman mainly builds sub-assemblies for pipe leg systems and complete cranes, which are mounted on ships at Huisman in Schiedam. Most of the large construction parts are welded manually or semi-automatically in Sviadnov, Czech Republic. With its investment in a Panasonic TA 1900 welding robot with two turntables the group has taken its first step towards welding robotisation.

Valk Welding was no stranger to the Dutch-speaking production manager Mat Pustjens, who previously worked at Huisman/Vekoma in the Netherlands. In the Czech Republic he placed a package of requirements with five suppliers and took advice on which parts lent themselves best for welding robotisation. "Valk Welding was the closest to our package of requirements and gave us an outstanding service in the preliminary process. The system had to be delivered within a month, and Valk Welding was able to do that, too", explains Mat Pustjens.

Huisman uses the welding robot for the smaller and more complex sub-assemblies made of high-tensile steel. Many of the compositions involve work pieces weighing up to 2 tons, in plate thicknesses of 4 to 120 mm. Mat Pustjens: "An important benefit is that the welding robot gives us closer control of the heat input and the high weld quality does away with the need to carry out grinding afterwards because of the reduces start-/stoppositions. That saves a lot of post-processing.

Huisman programmed the first work pieces online, but will shortly be doing this offline. "For that purpose we followed a short training course for the offline programming system DTPS with Valk Welding in Mosnov. DTPS was specifically developed for arc welding with Panasonic robots, which makes it one of the most frequently used programming systems for weld robotisation in Europe. Now that we are able to work with this system the company will be looking for more products that we can weld with the welding robot", explains Mat Pustjens.

Alsrode achieves high accuracy with seam tracking system

A good example of a project involving highly qualified work is the use of a welding robot system at Ålsrode Smede & Maskinfabrik in Grenaa. Ålsrode supplies sectors including the windmill industry. For the welding of bearing housings with a diameter of ø 2.5 m Valk Welding delivered a Panasonic TA 1900 welding robot on a 3 m track with a drop centre (two-axis manipulator) and a 6 m station with a 3 ton manipulator. This challenge faced by this project was the ability to completely track the welding seam without using a vision system. This level of precision can only be achieved with an extremely stable seam tracking system. Marcel Dingemanse succeeded in convincing the people at Ålsrode with a practical demo of the Valk Welding wire search system Quick Touch. That demo was the decisive factor in Ålsrode's choice of a Valk Welding system, which has now proved its worth in practice without any doubt. The system uses the QuickTouch wire search system in combination with the renewed Arc sensor software, which makes a seam search speed of 1.34 m/min possible.
www.aalsrode.dk

Valk Welding DK convinces with knowledge and demo

With its high wage costs Danish industry is barely able to compete on the basis of relatively 'simple' products with less expensive neighbouring countries, such as Poland. Most suppliers in the Danish metal industry therefore concentrate on specialised and highly-qualified work for the agriculture, windmill construction and offshore sectors amongst others. The high wage cost level also leads to the intensive use of handling and welding robots. Marcel Dingemanse, branch manager responsible for the sale and installation of welding robot systems at Valk Welding DK A/S in Denmark: "Despite the high robot density, not all robot projects that have been delivered by others in the past have been as successful as they might have been. People are therefore very wary about investing in new welding robot technology. For that reason we always give customers a demo at our technical & training centre in Nørre Aaby. Showing that what you recommend also works creates confidence and has clearly proved its worth."
This market approach has paid dividends for Valk Welding. Valk Welding's market share has grown sharply in recent years. Its customers include major Danish manufacturers including Ribe, Kverneland, Bosal, Dinex, Alsrode and small metal companies such as Gramm Slotschmiedde and Rustek.

Three automotive cells for Dinex

Valk Welding has also supplied three welding robot cells to Dinex, manufacturer of exhaust & emission systems for lorries, buses, vans and industrial vehicles. These are automotive cells with fast speed door protection, a Panasonic TA-1900 welding robot with the latest G3 robot control and two clamping stations equipped with manipulators with an 1800 mm clamping length.
Dinex uses the cells for the welding of complex parts for noise damping exhaust systems for tractors. Dinex will be producing 20,000 systems a year.

The welding robot cells are delivered on a turnkey basis by Valk Welding DK A/S, including welding jigs, installation and programming. Dinex already had experience with the robotised welding of similar products and wanted to increase its output with the welding robot cells of Valk Welding. With that aim in mind both parties worked intensively together on optimising the welding strategy, the programming and the structure of the welding jigs. Company manager Palle Kluver regards the most important arguments for cooperation as Valk Welding's knowledge and experience of welding and robotisation, its willingness to collaborate, its local presence and the support of the Valk Welding headquarters in the Netherlands. "You should never leave the development of a configuration for such a product completely in the hands of third-parties: they do not know enough about your own products. The Danish crew of Valk Welding proved willing to cooperate from the very beginning and the process gradually revealed all the ins-and outs, which led to a more than satisfactory result, explains Palle Kluver.
www.dinex.dk

Valk Welding clicks with the German market

The number of projects completed has sharply risen since Valk Welding intensified its sales activities on the German market at the end of 2009. Following the delivery of fourteen welding robot systems in 2010 and 2011, Valk Welding received orders for yet another six systems from German companies last year. The customers include manufacturers of agricultural machinery, fences, machines, lorries, trailers and steel structures.

Remco H. Valk, who personally oversees the sales in Germany, has noticed that German customers have confidence in the fact that Valk Welding has already completed projects for similar companies in other European countries. "The customer bases his choice not on the robot make but on the added value the robot integrator is able to provide. Once you have delivered and the system is meeting expectations, word soon goes around. That has resulted in several spontaneous applications in the same region, mainly in the west of Germany. It is notable that we are receiving orders from precisely the companies that have already been using welding robots for a long time but are not making progress in terms of simplifying and shortening the programming."

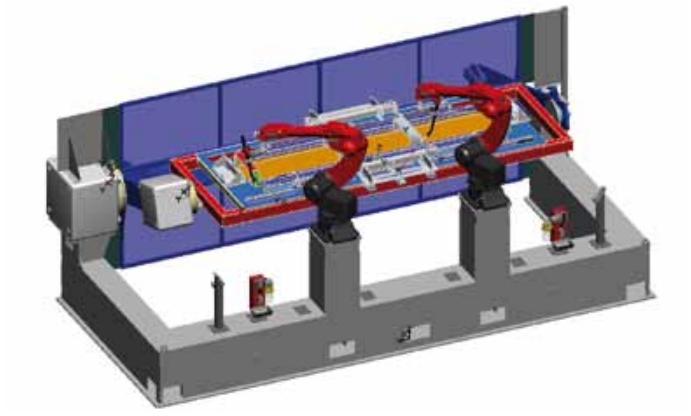
System Trailers

Valk Welding recently delivered a welding robot system to the Germany trailer builder System Trailers Fahrzeugbau GmbH. The company builds trailers for various European clients in series of 75-85 trailers a week. For this purpose they have several welding robots of another manufacturer, both for girders and complete chassis and smaller components. System Trailers was looking for a way of increasing the programming flexibility to meet the needs when working with series sizes of just one. This company decided to opt for the technical solution offered by Valk Welding in view of the experience it had already gained with comparable systems and the fact that this gives System Trailers a solution in which a programme is generated directly from a CAD model.
System Trailers has now also switched to Valk Welding's welding wire because the existing welding equipment was also equipped with the Wire Wizard wire feed systems, which led to a clear improvement in productivity over a welding system of the competition.

Valk Welding is very active in Germany include the trailer construction industry

Lorry superstructure systems

With ten of Valk Welding's welding robot systems, BRÜGGEN Oberflächen- und Systemlieferant GmbH in the German Herzlake is the biggest Germany customer. The company is one of the biggest suppliers of lorry superstructure systems. Brüggen has also decided to use Valk Welding's welding wire, which assures the company of breakdown-free production. This combination of wire feed and Valk Welding's robot systems gives the customer a single point of contact in the event of any problems occurring. Valk Welding technicians living in the border region (Rhine and Dusseldorf region) can be on site within two hours to provide technical and welding support.
www.brueggen-gmbh.de



Project follow-up from Germany

Valk Welding therefore regards the German market as a potential growth market and expects to open a branch of its own there in 2013. As in other countries where it is established, Valk Welding will be setting out to employ local specialists. A first step in that direction was taken when the Germany project engineer Jörn Lota joined the company at the beginning of this year. Jörn Lota, who will initially be overseeing the project follow-up from Germany, is a European welding engineer with 10 years' experience with Panasonic welding robots. Remco H. Valk: "I will be carrying on with the sales myself for the time being, but this work will eventually be passed over to Jörn, depending on the increase in the number of systems sold and developments on the German market."

AUTOMATIC MIG/TIG TORCH CHANGE

If you want to use a welding robot for both a MIG and a TIG welding process, you will generally need a separate welding machine for each process. One welding machine for MIG welding with the plus alternating current and one for TIG welding in the minus direction. Marel Stork Poultry Processing in Boxmeer, manufacturer of advanced poultry processing systems, asked Valk Welding to supply a welding robot system with automatic MIG and TIG torch changing based on a single welding machine.

Although the development and execution of such a system calls for a lot of engineering work, Marel Stork's requirement was a perfect match for Valk Welding's strategy to apply its specialised knowledge and experience to the development of customer-specific solutions. Valk Welding's engineers have developed an automatic torch change system in which only the neck of the welding pistol is automatically changed. That retains the slim construction form of the front of the welding robot, so that reach over the products remains optimum. The engineers also solved the polarity problem with a 500 amp relay which switches from plus to minus and vice versa.

The welding robot cell supplied by Valk Welding consists of a Panasonic Tawers welding robot on an E-frame setup with a trace displacement of 13 m and 3 work stations. Two work stations are equipped with a single axis freely-programmable work piece manipulator and a third with a double axis freely-programmable work piece manipulator. For TIG welding it is possible to work both with and without cold wire feed. Other welding robot suppliers have also changed welding torches this way in the past, but not between MIG and TIG welds with our without cold wire feed but between various torches for MIG welding.

Finally, Valk Welding also extended the system with a laser sensor that can be automatically connected to the torch switching system. This extensive integration guarantees 100% accurate positioning of the TCP, and it is also possible to disconnect the torch for products that are difficult to access.

Marel Stork Poultry Processing in Boxmeer is among the pioneers in the field of welding robotisation. The manufacturer previously invested in a welding robot system in 1996 and is among the first users of the offline programming package Desktop Programming & Simulation (DTPS) in de Benelux region. Marel Stork Poultry Processing also uses Panasonic robots for other processes such as the glass pearling of products.

WELDING HELMETS FOR TRAINING WELDING ENGINEERS

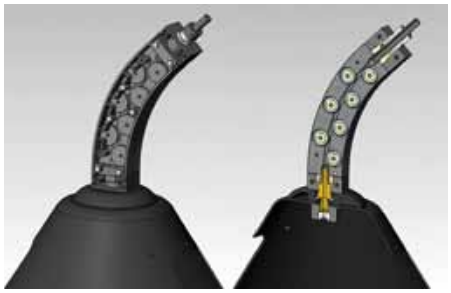
Students at the Belgian training institute 'De Nayer' have been able to do a good deal with Valk Welding for the purchase of welding helmets. The students are being trained as welding engineers.

WELDING WIRE THROUGH THE BEND WITH WIRE WIZARD

Wire Wizard, the manufacturer of wire feed systems distributed by Valk Welding throughout Europe, has developed a new system to lead the wire more easily around bends. The system consists of a basic Wire Guide Module of 45°, in which the wire is lead along rollers on bearings. This prevents friction from being generated in the wire feed system in bends of 45°, 90° or more.

The application of rollers on bearings in the Wire Guide Module makes it possible to convey the wire with the same force over greater lengths from the drum to the welding robot or other welding applications. That offers ways of placing the drum of welding wire at a location that is easily accessible to a forklift truck.
A standard Wire Guide Module is 45° and can be adjusted to bends of 90°, 135° and 180°. The module is mounted directly on the cone of the drum or on a mounting bracket.

Advantages
- Eliminates friction on the wire in bends and corners during wire transport
- Makes it possible to bridge long distances of 30 metres or more
- Extends the cable's life



- Better/cheaper alternative to existing systems on the market
- 3-year guarantee.

Contact: Peter Haspels
info@wire-wizard.eu
www.wire-wizard.eu

WIRE WIZARD
WELD WIRE DISPENSING SYSTEM

25th cutting robot for Voortman beam coping systems

Following the delivery of a number of success ful cutting applications with a Panasonic robot and an autogenic or plasma unit, Valk Welding received an order for the delivery of cutting robots for its beam coping systems three years ago. The integration of these originally 6-axis but now mainly 8-axis cutting robots in Voortman's drilling/sawing lines makes it possible to efficiently cut all possible shapes in steel profiles. The launch of this system in the steel market has since resulted in an international sales success.

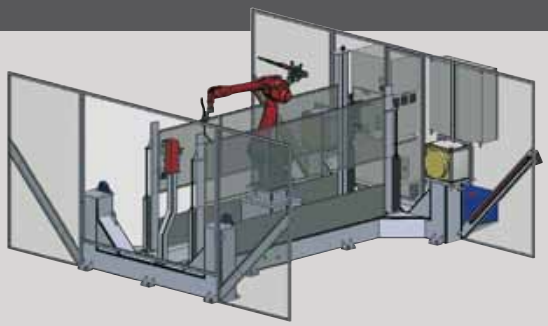
Voortman's beam coping systems are the world's only beam coping systems with an industrial cutting robot combined with a measurement roll positioning system. The high production output, the considering freedom of shaping and the high process reliability has been for many Voortman customers a good reason to investment in a beam coping system.

Valk Welding recently delivered the 25th cutting robot to Voortman Automatisering. Follow-up orders for another ten systems have since been placed.

bekijk het filmpje op:
http://www.valkwelding.cz/videos/video_en_41.html

Cutting without post-processing
Whereas cut-outs, slots and other shapes had to be cut by hand autogenously or with plasma systems in thick-walled tubes and steel frames and then had to be deburred, the plasma robot does this at a fast rate without the need for post-processing. Complex beam coping shapes, square holes, slanted welding edges and complete drilling and sawing operations can now be taken over by the plasma cutting robot.

Temporarily rent a welding robot system?



For companies needing to absorb a peak in production Valk Welding offers the option of renting welding robot systems. Since last year's introduction of this concept Valk Welding has already rented out dozens of systems for a period of a few months to companies in the Netherlands, Belgium, France, the Czech Republic and Germany. By renting out welding robots Valk Welding is setting out to absorb the sharply fluctuating demand for production capacity in the manufacturing industry.

Exhibitions and events

techni-show 2012
Utrecht, the Netherlands
13 - 16 March 2012

industrie paris
Paris, France
26 - 30 March 2012

eurowelding
Slovakia
22 -25 May 2012

vision & robotics
Veldhoven, the Netherlands
5 and 6 June 2012

msv
Brno, Czech Republic
10 to 14 Sept 2012

expowelding 2012
Sosnowiec, Poland
16 -18 Oct 2012

Video Archive

Video clips of current robot project are available at **www.valkwelding.com/videos**

Colophon

'Valk Mailing' is a twice-yearly publication of Valk Welding B.V. and is sent free to all business relations. If you want to receive this publication in the future, please send an email to info@valkwelding.com

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