

Panasonic Robot & Welding and A.I.T. Metallbearbeitung GmbH & Co. KG

Mixed Bouquet of Suppliers Replaced

There are many benefits a mixed bouquet brings to the person receiving it! It includes different colours, fragrances, sorts and longevity of every flower. But are these really advantages? Whilst each flower on its own is splendid, they become difficult to care for and keep when in a bunch. Isn't it more convenient to concern oneself with just one sort of flower? In a completely different context yet which is analogously transferable, A.I.T. Metallbearbeitung GmbH & Co. KG has opted for a single sort of flower - namely Panasonic Robot & Welding.

Investments in up-to-date welding robots equip A.I.T. for tomorrow's world

A.I.T. Metallbearbeitung GmbH & Co. KG was founded in the south of the Black Forest in 1990. Its 200 employees in the German and Czech plants manufacture 400,000 bent components and 16,000 welded wire frame structures every

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Image 1 View of the production hall in Alpirsbach, Germany

day. As a 100% automobile supplier, the company based in Alpirsbach focuses on producing metal frames for seats. "Our wire frame structures lead the way on the European market and this is very much due to our two unique selling points: 1. A fair price and 2. Our function as a development partner for our customers in mechanical & joining technology", states Peter Schwind, Head of Sales at A.I.T. Karl-Heinz Pfau, Managing Director of A.I.T. Metallbearbeitung, adds: "Our shop has over 60 CNC wire bending machines - something hardly ever met with on the international markets. Together with 30 Panasonic welding robots, this also equips us admirably for the future. Bending and welding - now that's something we can do!".

Spot welding has little to do with spot welding on a wire frame



Image 2 Process-reliable and constant joints

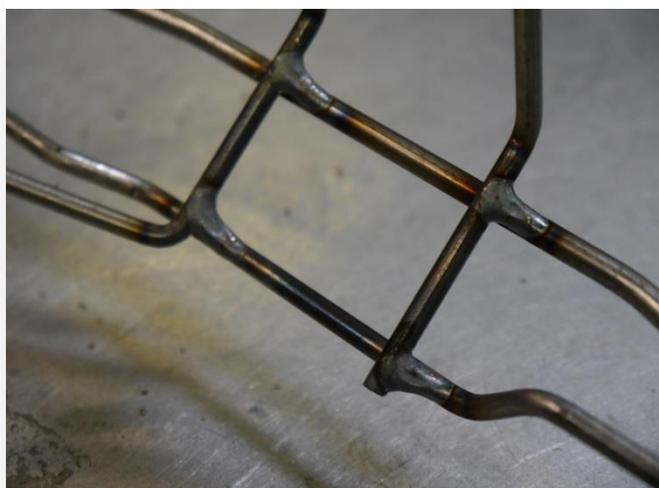


Image 3 A connection for the future

Welding a wire frame is a profound challenge for the welding operation: As the wire to be welded is crooked the welding contact does not always arise at the same place. The requirement is to both come up with an excellent weld on a fusion face of only 10 mm and to ensure simul-

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taneously that robots rapidly get to the welding position. Mr. Pfau on this: "Minor welding spots arise when we weld; no spot welding in this sense. Weld robot manufacturers need to be aware of this. Extensive surfaces of two metal applications permit the welding robot to show what it can do in matters of welding speed and an excellent 150 mm weld. But that is not what we are looking for. And this is what Panasonic has realised!"

In-house welding displays & TAWERS technology impress A.I.T



Image 2 TA 1400 in motion.

A mixed bouquet of suppliers in the production hall amongst industry robot and welding power source manufacturers

has led to reorientation of the Black Forest company's welding division. At a welding exhibition of an electronics entertainment group, which Mr. Schwind was all too well aware of, he was won over by their welding skills "I must say, Panasonic favourably surprised me! My interest was aroused that much more at the exhibition when I saw Panasonic undertaking high-grade welding simultaneously on a normal and a bent metal sheet. That was something I needed to know more about!". A.I.T. was won over by welding tests and demonstrations at Panasonic's Technical Welding Centre in Neuss. Here 30 wire seat frames for a premium automobile customer were welded one after the other without any flaws. The outcome: filigree spot welds. The innovative TAWERS technology merging robot, welding power source and robot control provided A.I.T. with a novel solution in its production range.

30 welding cells, 30 robots and just one person to contact



Image 3 Easy programming. Panasonic Teach Pendant.

tions in its own production hall and an in-house efficient deployment of resources. The "Everything-from-one-manufacturer" Panasonic Robot & Welding package means that A.I.T only needs to deal with one contact and a service technician – challenges facing cells and robots are jointly discussed: "The communication involved with various suppliers has always been time-consuming. Thanks to just one contact at Panasonic, we can now use this time for other company operations", admits Mr. Pfau. TAWERS technology and the Panasonic all-in-one package have also gone down well with the company's staff. A very much simplified user interface of the manual programming device allows for rapid, easy set-up of the welding programme. "Our staff is satisfied! Programme and correction times have gone down significantly", resumes Mr. Schwind.

A.I.T.'s customers expect no faults at all. To do justice to this requirement, the company both banks on innovative B2B solu-

Explanation of Panasonic short arc welding process SP-MAG

In the detailed analysis of the criteria which have to be fulfilled during the welding process the SP-MAG method in conjunction with an appropriate plant technology was selected as the best solution. The SP-MAG method is characterized by a good controllability at high arc stability and low input power. The reduced heat input [compared to other short- arc processes] rounds off the result. Unnecessary spatter during the welding are significantly reduced and consequently has avoided a downstream, cost- and time- intensive rework on the material.

Panasonic Robot & Welding replaces that bouquet of suppliers

In its initial investments for 2010, A.I.T. opted for a Panasonic TA series robot type. The TA-1400 robots cover the company's required range for the application fixtures. Increasingly larger fixtures are being included in the production



Image 4 Right, Sales Director Mr. Peter Schwind with the next coming generation of management.

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chain - something that resulted in a welding robot with a 1600 mm range from the TM family being purchased. In so doing, the company opted for an integrated hose package with which wire and power cable feed are fed through the robot's arm. This hose package more than meets the requirements of the absolutely needed rapid robot movement due to the welding assignment on hand. On no account are the feeds, for instance, to hinder or even interrupt the rapid welding of the spots. The fact that all feed lines are located within means that the TM torch comes up with an operating radius close on 360°.

Through its welding systems, Panasonic wishes to provide the customer with a maximum of weld quality and service: "Quality in order, of course, to support A.I.T. in its own quality aspirations vis-a-vis its customers. Service in order to provide maximum support for A.I.T. in its welding operation", explains Frank Niemert, Panasonic Account Manager Southern Germany. It has again been shown that the customer can benefit from a bouquet of identical flowers in terms of tending and keeping them.

About Panasonic Robot & Welding

Panasonic develops welding technology products since 1957 and is worldwide present in the field of MIG/MAG/TIG and robot welding. Panasonic Robot & Welding is the European supplier for products and solutions all about welding. The headquarter and the technical center are located in Neuss near Düsseldorf and offer a big training area, a welding test area and the center of excellence for robot and welding systems. With our system distributors Panasonic is almost represented in every European country.