

Rotator

Ultra Emission Technology for bolt head defect detection

Brankamp Process Automation based its new rotator monitoring system on ultra-emission technology to detect transfer failures and avoid their costly consequences.

In bolt production, correct transfer orientation into the last forming station is critical, specially when producing hexagon bolts at high speed. Any part rotation will cause a failure, forming so-called "ears" or "wings" on the bolt. Ultra-emission technology uses powerful sensors and software to detect a fault within the production process-generating double force curves for detection and process limits. These double curves from dynamic envelopes, with the inner envelopes serving as



BRANKAMP Rotator monitoring system; screws with "ears" in inset at top right

intervention thresholds and the outer envelopes serving as process limits. If the cold forming process exceeds these limits, the bolt machine is immediately shut down.

This combination of control, safety and tool protection results in optimal machine productivity and a drastic reduction in downstream costs from defective bolt production.

BRANKAMP success brands

Dr. Quality® RM

With Dr. Quality® RM, a complaint processing program, BRANKAMP has once again proven its innovative skills, for in 1995, the program was the first computer-aided application of its kind. The Erkrath-based company placed its focus on comprehensive quality assurance.



The name is program – and that in the true sense of the word. For

Dr. Quality® RM stands for a computer program that facilitates a quick and clear handling of the entire complaints process. As the first program of its kind, it not only makes work considerably much easier. It also increases the level of quality. Its simple operation was revolutionary even back then. Since then, no questions have been left open in the complaints department.

Metal sector looks to Düsseldorf

wire® wire 2004 about to start



In less than two months, Düsseldorf will become the mecca of the metal industry. From 29 March to 2 April 2004, it will be the place where the leading international trade fair of the metal sector, the wire, will be held.

BRANKAMP will, of course, be in on it – in hall 16, stand C 58. In addition, there will be exhibitors from 41 countries, mostly from Germany, followed by Italy, Switzerland, and the USA. Further information is available at <http://www.wire.de>.

News

VW INVESTS IN MEXICO

From 2004, Volkswagen AG will assemble heavy commercial vehicles and buses in Mexico. The group announced that it was building a new assembly line there in which a workforce of initially 50 was to undertake the production.



TORNOS OPERATING ACCORDING TO PLAN

The incoming orders situation in the Tornos group currently records an increase of 11.7 per cent as against the previous year. In the current financial year, the Swiss lathe manufacturer has so far sold machines worth 97.3 million Francs. In the previous year, sales amounted to 87.1 million Francs. Thus the company is well within the scope of its expectations.



MERCEDES LEADS IN MID-RANGE SEGMENT

As regards new registrations in the mid-range car segment, the C class of Mercedes-Benz has overtaken the BMW 3-series (p. 933) with 11,585 new registrations. However, according to the Federal Office for Motor Traffic, BMW is still maintaining its leading position for the first nine months.



MORE ORDERS IN MACHINE AND PLANT CONSTRUCTION

Compared with July 2003, the inflow of orders in the machine and plant construction sector has increased by ten per cent. The domestic business has risen by nine per cent, the foreign demand by ten per cent.

QUOTE OF THE MONTH:

»He that will not apply new remedies must expect new evils, for time is the greatest innovator«

Francis Bacon (1561 – 1626), English statesman and philosopher

The special issue

page3

»Screws without ears—15 per cent faster (part 2)«

News

PEUGEOT SEES SIGNS OF INCREASE IN DEMAND

The French automobile manufacturer PSA Peugeot Citroen is expecting an increase in demand for automobiles in Western Europe. According to the group, this development can already be seen in Spain and Great Britain.

TECHNICAL KNOW-HOW IN SALES

BRANKAMP has trained its representatives on a Kaiser press at SKF CR – Lastomere in Opladen. In the one-day seminar, the BRANKAMP agents were given opportunity to increase their knowledge of mat-



ters relating to presentations to customers.

Our photo shows Dr. Thomas Terzyk (Prokos), Luigi Greco-Spiegel (Gebr. Spiegel, Switzerland), Gert Graefe (Ing.-Büro Graefe), and Bernd Tapaß (BRANKAMP).

FIGURE OF THE MONTH: What does work cost?

Labour costs per hour in the European industry in 2002

NORWAY	28,50
GERMANY/WEST	26,63
DENMARK	25,73
USA	22,44
AUSTRIA	21,64
JAPAN (2001)	20,18
GREAT BRITAIN	19,89
FRANCE	19,50
ITALY	16,60
GREECE	9,47

Source: Institute of the German economy Cologne, OECD.

In Norway, an industrial working hour costs 28.52 Euro, the dearest in Europe. Germany follows in second place, where it costs 2.16 Euro less. The cheapest labour costs are found in Greece, where a working hour is worth only 9.47 Euro.

Portrait

The fast thinker



Hans-Peter Schneider

Thinking fast is the be-all and end-all. And speaking even more so. At least for Hans Peter Schneider. Naturally, this has also always meant a terrific pace at work: the qualified engineer started his career by training as a physics laboratory technician, followed by

studies in communication engineering and the development of measuring technology. In his twenties, Schneider was responsible for the setup of the process monitoring system of Krupp Widia, before changing to Brankamp, together with Widatronic. That was on 1 September 1988. Today, among other things, the 50-year-old holder of general power of attorney is the man for new developments. "The art is to reconcile speed and quality—without making cuts!" As part of the Management, he is also responsible for the domestic and

foreign activities of BRANKAMP System-Prozessautomation. An all that at lightning speed—naturally. Thus, he is rarely found in his office as most of the time he is out and about in the various departments of the company or in a meeting. Rest for the 50-year-old, at best, is found under water. In his spare time, Schneider enjoys diving, having long since tackled all the diving areas in Europe, so that his sights are now set on new destinations. At the end of last year, he celebrated his 15th anniversary in the company. Congratulations!

EUROSTAMPI 2004



BRANKAMP will exhibit its new products in the die forming sector from march, 25th-27th, 2004 at the EUROS-TAMPI trade-fair in Parma. This is one of the most important fairs in Italy representing the tool—and the die forming industry. By means of new technologies and new products designed for this industry, BRANKAMP would like to

meet the highest quality demands coming from the automotive sector. Force monitoring is for example matched with the newest Ultra-Emission standard, in order to recognize the slightest off-cuts and to set up tools and machines at the best. We're at the fair to give you detailed information. You're kindly invited to visit us in touch under the following e-mail address: bpi@brankamp.com

Simodec 2004



Brankamp will show its new products at SIMODEC 2004, an international trade fair which will take place at the Parc des Expositions (march, 2nd—6th 2004) in La Rochesur-Foron France. The main attraction will be a new way to carry out production monitoring, using for example the "Factory Net" system (based on data transmission by broadcasting) and the Internet based Production Monitoring "eR5".

BRANKAMP INNOVATION

Full documentation of clinch and punch riveting processes

Previously, companies have used the possibility of documenting the joining quality first and foremost to



BRANKAMP documentation of clinch and punch riveting processes

optimise their production. With the change in the product liability law, however, the documentation has now been given another, crucial role. It helps companies verify that their products were without fault.

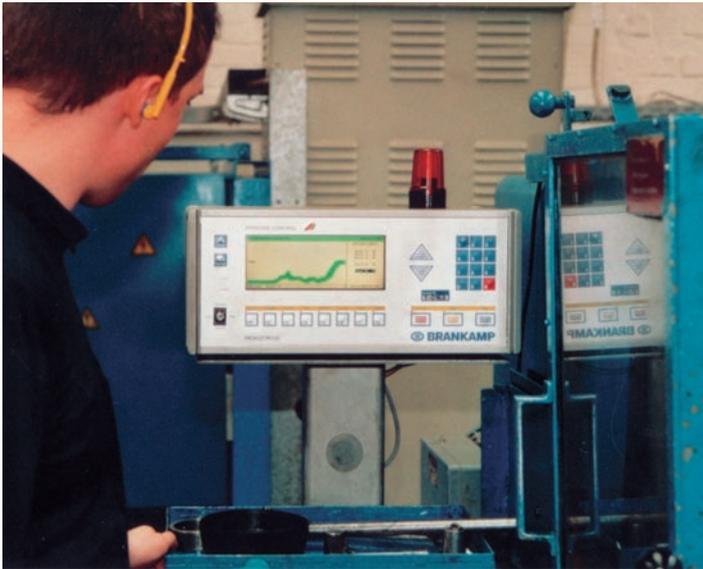
Therefore, via an interface, the BRANKAMP PK range of process monitoring systems is able to communicate the recorded data of each individual stroke to a computer. The development of force and path and the envelope

curve are then saved on the hard disk, together with the equipment settings and the dates and times. These data can easily be imported into Excel and then processed.

The PK systems from BRANKAMP are available as different versions with up to 24 channels. Their user interfaces can even be integrated into an already existing PC using Windows (XP, 2000, or NT). This allows training times to be minimised while still maintaining a high degree of user comfort.

New “Brankamp Rotator” prevents hexagon rotation:

Screws without ears— 15 per cent faster (part 2)



BRANKAMP rotator with PK 550

Developed from practice: the BRANKAMP Rotator

With its “Rotator” (the name is indicative of the typical rotation), BRANKAMP is the only manufacturer so far to provide a special monitoring process here. The first module consists of an ultra-emission measuring chain with a new combiflex sensor specially developed for this case, which is fitted in a particular place in the set of tools of the press. The second module is a specialised software for recording and evaluating these typical signals—in connection with one of the conventional BRANKAMP process monitoring systems (PK range).

BRANKAMP Rotator: Screws with ears are chucked out!

Part of this software, which analyses the process development, is what is called the Quattromatic envelope curve technology that

visualises the process signal from the machine for the operator and allows certain tolerances. Correctly produced parts are found to be within the envelope curve, slight errors only violate the inner envelope curve but are an important indicator of factors such as deteriorating quality—caused by a loosening position retention device on the press, for example. If the errors are of a more serious nature, such as the typical “ears” of hexagon screws, the signal is found to be outside the envelope curve.

The reaction to each signal deviation can then be determined on a case-by-case basis. Thus, in the event of serious errors, the machine can be stopped immediately. However, in both cases, it is also possible to sift out any scrap parts by way of the “Open hook finger” function or a sorting device. The great advantage here is that production can continue without a hitch.

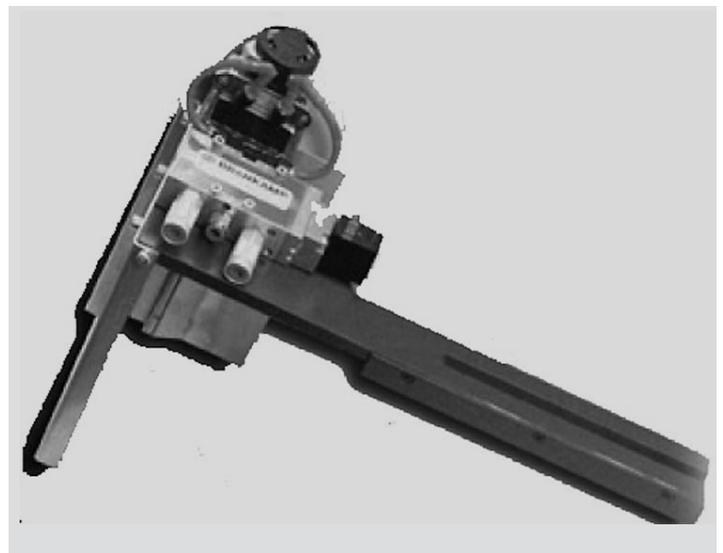
Increase in production speed, extraction of scrap parts

In practice, this procedure has already been proven to be extremely worthwhile – at ESKA, for example. However, the first jobs at the Saxon company using this new technology were still subjected to a time-consuming final piece-by-piece inspection, just to be absolutely on the safe side. When ESKA took stock though, the result was complete satisfaction. “For one, we were able to increase the number of strokes of our Hatebur press from 85 to 100 per minute,” confirms ESKA staff member Jörg Klawikowski. On the other hand, the order consisting of a volume of 150,000 parts was processed without any faults at all. And yet, here, too, three of the screws were pressed with ears again and another 393 parts had scraped key areas due to the high machine speed. “Thanks to using the Rotator and a sorting flap, however, all the scrap parts were in fact detected and separated perfectly,” says Klawikowski.



Screws have ears

Indeed, the internal final report stated concisely, “Error detection is feasible, ensuring a reliable process.” This assessment has now been fully confirmed in a continuous operating process. Of particular importance here is that the Rotator does not cost the machine operator any extra time, as the system is set only once upon installation, after which no other input is necessary. By now, the Rotator technology is all but part of the routine at the Saxon company; however, possibly being 15 per cent more productive than before.



BRANKAMP-Screwsout



CMS GT ensures transparency in production

Process monitoring for machine tools

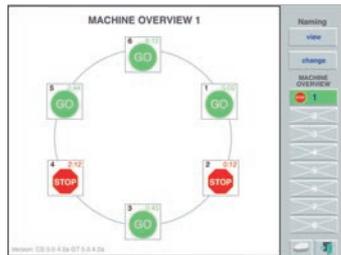
CMS GT—the airbag in production

The metal crunches, the windscreen breaks, and the car ends up in the ditch. The driver escapes unharmed—thanks to the airbag. For shortly before the accident, a sensor had registered the imminent collision and given a signal to the electronics that blew up the airbag in a matter of seconds. A very similar sensor technology is also used for the BRANKAMP CMS GT system: here, the time between collision and machine stop are a mere 0.2 milliseconds.

In the CMS GT system, BRANKAMP combined two components that have long since proven their worth in practice: the collision monitoring system, CMS, and the robust GT ter-

signal that stops the machine. This not only prevents consequential damage. It also reduces the costs for repair and downtimes to a minimum. At the same time, it increases the life of the machinery. Even property insurance companies acknowledge this system as a precautionary measure.

The GT terminal also contains another service mask in which any maintenance work with the respective target and actual hours are registered. Due to the possibility of

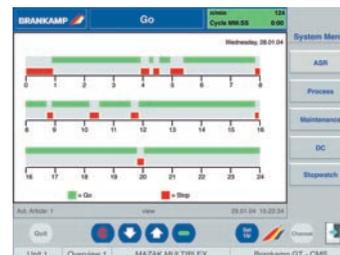


Overview of the connected machinery

minals. The CMS system protects the machine tools from the consequences of cost-intensive collisions. If it comes to it, it immediately intervenes in the control circuits and within 0.2 milliseconds sends a fault

Robust touch screen technology

The other production data can then conveniently be retrieved on the GT terminal. It first provides an overview of the connected machinery and their current operating states. However, any information from the production can also be called up in individual masks and evaluated down to the last detail.



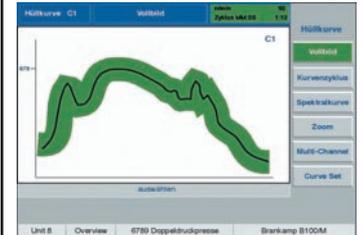
Stop-and-go diagram

switching the “Stop active” counter, the machine is stopped at just the right time. All masks are also shown in colour so that the operator can see the machine status even from afar.

User-friendliness

Interactive curve monitoring

At BRANKAMP, ‘interactive’ does not simply mean actions between man and program. Rather, the company focuses on actually facilitating the operation for the user.



The best example for the implementation of this thought is the curve display of the Process-Monitoring systems. After all, the graphic display of the current measured quantity is not just there to be looked at. Rather, the operator already has the possibility of adjusting the tolerance limits. There are special masks in which these tolerance limits can be entered individually. But owing to the possibility of changing the degree of sensitivity as early as in the diagram, the user is saved a time-consuming changing back and forth between the individual masks. Thus, instead of changing from the curve display to the previous mask in which the values can be adjusted individually, the operator can stay in the curve view where he can shift the tolerance limits directly.



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