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PM in the pressroom

Measuring instead of intuition

Many machines are incorrectly adjusted because they are not equipped with any measuring instruments. If the ram of a stamping press is not precisely set-up, the tool can bottom out on the stop blocks without this being noticed. As a result, the machine is unnecessarily subjected to great stresses. BRANKAMP's ProcessMonitoring uses sensors to immediately indicate any irregularities in the power curve. This enables the worker to optimise the settings as quickly as possible, and the machine and tool are thus saved from damage.

Optimised stroke rate: safely increasing production

The worker therefore no longer has to rely on his own intuition, but can optimally adjust the machine based on measurable quantities and facts. In addition to optimising the tool settings, further advantages of the BRANKAMP system include reduced start-up phase and decreased retooling time. Long and cost-intensive downtimes on stamping presses, which arise when relying on intuition to optimise tool settings, can thus be reduced to a minimum.

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BRANKAMP CMS on a MAHO DMU 70VL. The 5-axis machining centre processes high-precision components. The VL features a twin-table and two machining compartments thereby enabling continuously alternating processing.

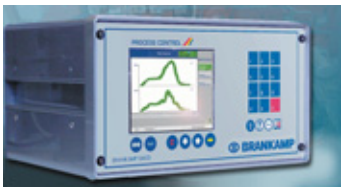
The special issue *page3*

"Punched-offcut recognition with Ultra-Emission"

BRANKAMP B 400

Used in Japan

Toshin Seiki, a Japanese manufacturer of rollers for industrial bearings, continues to trust in BRANKAMP on his double-blow headers.



In future, these presses will be using B-400 systems featuring a special, sensory configuration that is unique to the market. A particularly userfriendly feature is that the ProcessMonitoring systems are supplied complete with software with Japanese characters. BRANKAMP had already presented a Chinese version at the Wire China trade fair.

News

BRANKAMP AGENCY IN CHINA

BRANKAMP has now signed a partnership agreement for the Chinese market with Shanghai Bichen Trading Development Co. Ltd. The new BRANKAMP agency is based in Shanghai and serves the market via various local offices. Contact to Bichen Trading was established at the Wire 2004 trade fair in Shanghai.

STEEL PRICES REMAIN HIGH

According to expert opinion, the steel prices will also remain high for 2005. The buoyant prices are caused by the high demand from Asia and the related high price of raw materials. A relaxation of raw material prices in the short-term is unfortunately not in sight, states Professor Dr. Dieter Ameling, President of the German Steel Trade Organisation (Wirtschaftsvereinigung Stahl).

MERCEDES: EUROPEAN EXPORT EXCEEDS PREVIOUS YEAR

In January 2005, Mercedes sold more vehicles in western Europe than in the same month for the previous year. The car manufacturer supplied 23% more vehicles to Belgium than in January 2004, amounting to 1,700 cars. Sales increased by 11% in Holland with 1,900 cars sold. In Spain, the 2,500 cars sold translated into a five percent increase, while, in France, Mercedes attained the same level as the previous year with 2,400 vehicles.

QUOTE OF THE MONTH:

"Progress is only possible if you break the rules intelligently."

Boleslaw Barlog,
German theatre director

News

CHINA: LARGEST MARKET FOR MACHINE TOOLS

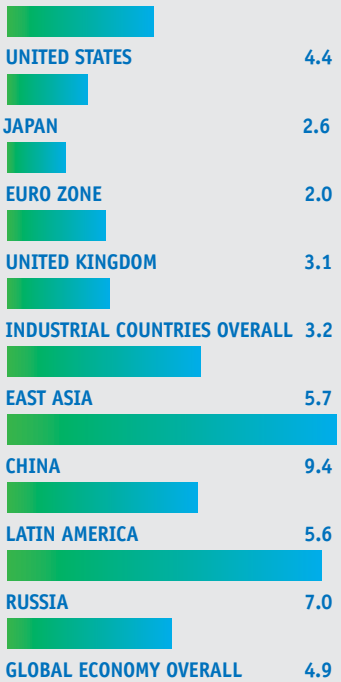
Germany's leading position as the largest market for machine tools has been lost to China. According to a study by KPMG business consultants, Germany is now in second place. Japan occupies third place, followed by America in fourth. The study attributes the loss of the number one slot to stagnation in the traditional key markets.

TOYOTA-TARGET: ONE MILLION HYBRID VEHICLES

Toyota states that “in a few years” it is planning to sell one million cars with diesel-electric hybrid drive. That's according to the president of the company, Fujio Cho, commenting at a press conference for the launch of the hybrid SUVs "Kluger" and "Harrier". Projected sales for 2005, however, lie at only 300,000 hybrid vehicles.

FIGURE OF THE MONTH: INTERNATIONAL BUSINESS BAROMETER

Gross Domestic Product (GDP) 2004* Real gross Domestic Product in selected countries and regions in 2004 (in percent)



*Partially estimated

Source: Kiel Institute for World Economics

Monitored by BRANKAMP

Red Records

The 2004 Formula 1 season was a total success for Scuderia Ferrari: Michael Schumacher became world champion for the seventh time, his team-mate Rubens Barrichello was second and the Ferrari team secured the Constructors World Championship after only 13 races.

The "Reds" dominated the season like hardly any team ever before. Congratulations on this success! Incidentally, Ferrari attaches great value to attaining perfection not only in Formula 1 but also in the manufacture of its production vehicles. That's why BRANKAMP Process-Monitoring systems are also used here in sensitive areas of manufacture.

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Measuring instead of intuition

Measuring instead of intuition: this motto not only applies when optimising the tool settings but also when increasing the stroke rate. And if the stroke rate is optimised, the speed of the machine is simultaneously increased and this increases productivity. Without continuous monitoring, however, this can have serious consequences if any faults occur, because when machine speeds are higher dynamic influences, which the worker cannot recognize without additional equipment, also start to play a role. Although the forces on the tools do not change as the number of strokes increases, the forces on the machine framework do indeed alter. The power curve is accompanied by considerable fluctuations in force. The limit for the maximum attainable stroke rate for production is therefore not solely dictated by the tool alone.

Safely increasing production

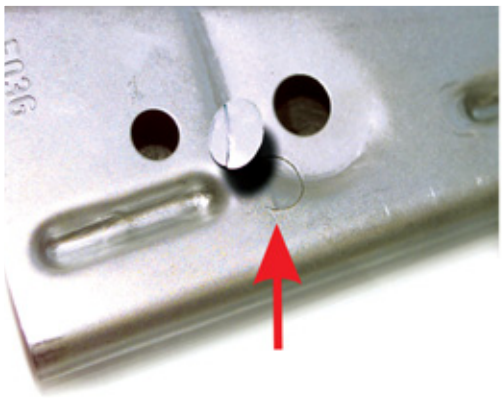
With ProcessMonitoring, malfunctions are immediately visible on the display and the worker can quickly intervene. The BRANKAMP system therefore enables the machine's stroke rate to be increased without problem and without danger, thus increasing productivity. The production phase is continuously monitored using sensors. In this way, Process-Monitoring allows the machine to be protected from costintensive damage should any malfunctions occur.

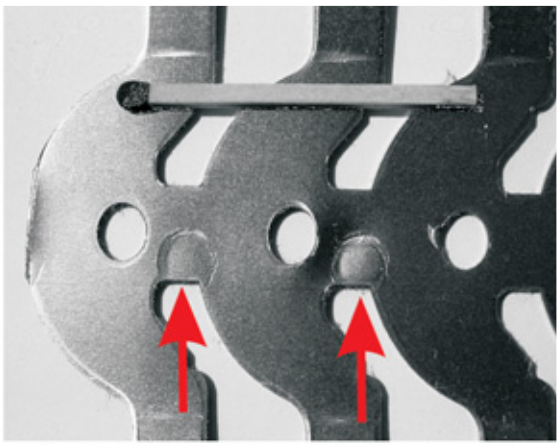
Quality Assurance

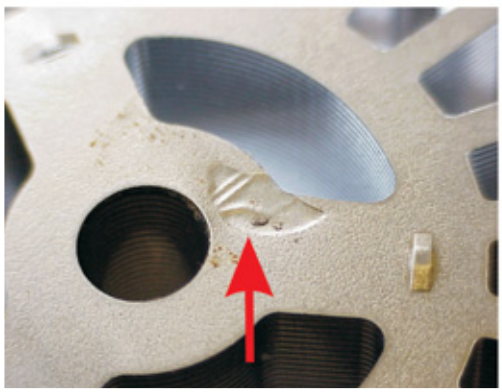
Punched-offcut recognition with Ultra-Emission

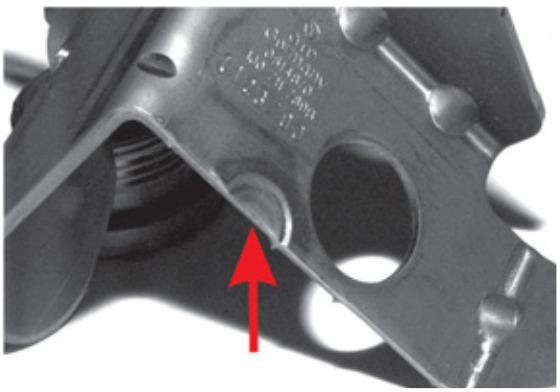
*(Part 1) by Dr. Thomas Terzyk**

Punched offcuts can get picked up from the cuttings channel by the cutting stamp during the punching process. They then stray anywhere into the tool and come to rest between the sheet metal and the tool. They sometimes get stuck in the tool itself, but more often than not, the punched offcuts leave the tool together with the stamped part. In this way, stamped parts with nonpermitted surface markings are produced at unforeseeable moments.





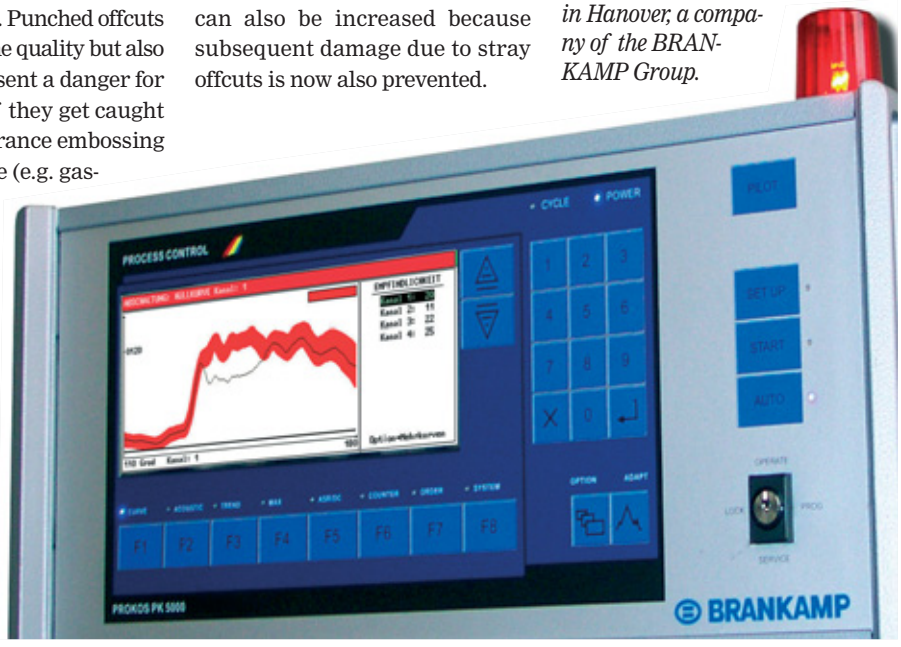




Offcut marks are a problematic process fault for many areas of punching and stamping technology where the visible surface of the stamped parts is viewed as a quality criterion (e.g. in the equipment housings and household appliance industries, for automotive suppliers, gasket manufacturers or in the packaging industry). Conducting quality control on a spot-check basis is insufficient for recognising these kinds of product imperfections since stamped parts with offcut marks usually occur at random and in isolation. Only an item-by-item final inspection subsequent to the production process can prevent an impaired part from being sent out to the customer. The costs in time and money for such a 100% final inspection are often so high that this kind of product can then no longer be offered at competitive prices. The required solution here is provided by an In-Process Quality Control with monitoring equipment from BRANKAMP. By mounting Ultra-Emission Sensors on the holding-down clamp of the punching tool and by using a subsequent signal evaluation with powerful monitoring systems (see fig. 2), the punched offcuts can be recognised in the tool even during manufacture. The machine is immediately halted if a punched offcut comes into contact with the holdingdown clamp. This is a costeffective method for preventing marked parts from being produced and shipped to clients. Punched offcuts not only impair the quality but also sometimes represent a danger for the actual tool. If they get caught up in a close-tolerance embossing stage for instance (e.g. gasket manufacture), then just one punched offcut can cause a tool break-age. The BRANKAMP Ultra Emis-sion monitoring also prevents the breakage of these kinds of tools in addition to providing quality assurance for stamped parts. In such cases, avoiding just a single tool breakage makes using a process monitoring unit pay off. Frequently, after installing a monitoring system, the stroke rate of the automatic punching machines can also be increased because subsequent damage due to stray offcuts is now also prevented.

To be continued in the next BRANKAMP Journal.

** Dr. Thomas Terzyk is Managing Director of Prokos GmbH based in Hanover, a company of the BRANKAMP Group.*



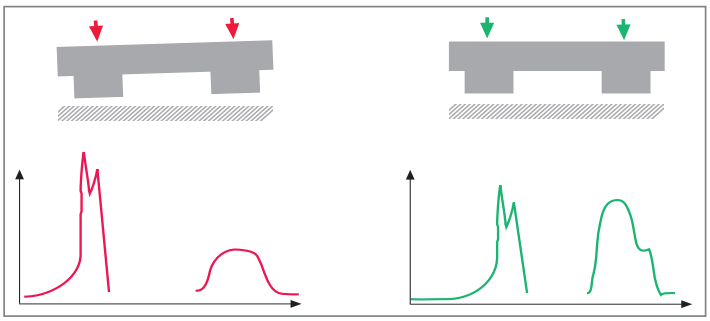
Recognises offcuts immediately: BRANKAMP PK 4U with Ultra-Emission Sensory Technology.

Automatic Adjustment Aid

EasyVision: See more. Understand more. Produce more.

If a punch is not properly adjusted, this can quickly cause unnecessary stresses on the tool and machine. If the tool touches down asymmetrically, the force goes into the connecting rod bearings and the punch guide, and the machine is subjected to unnecessarily large stresses. BRANKAMP has developed a special adjustment aid just for this problem: EasyVision. Using a curve graph, the worker is able to see directly for the first time ever just how the punch is set up. If the setting is not optimal, he can now intervene without delay.

EasyVision does not just optimise the machine setting, however, it also allows the stroke rate to be increased without problem, thus permitting higher productivity. But without the use of measuring instruments, increasing the stroke rate can have severe consequences for both machine and production. The BRANKAMP system prevents such damages to punches because it indicates any kind of change whatsoever, and therefore enables the worker to immediately intervene. The stroke rate can be accelerated without danger and the production increased by up to 30%. To install EasyVision, it is not necessary to buy a complete new unit. The EasyVision New Up Kit facilitates simple retrofitting. The BRANKAMP system fits in the existing Load Monitor and the connection of the electronics is also compatible.



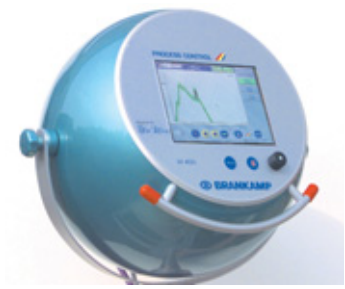
User-friendliness

"Plug 'n' Produce"

As a pioneer of process monitoring for the past 25 years, BRANKAMP has repeatedly understood the need to give the market important impulses via innovative new developments.

User-friendliness has always been a core factor here. Thus, for instance, countless process monitoring systems are equipped with what is known as a "Quick Start Mode." Plug in, press the button and start producing - that's how simple the basic setting of the equipment is.

And yet, the parts would be counted and tool collisions prevented. The parameters can subsequently be adjusted step-by-step to suit the individual circumstances and optimally exploit the extensive functions of the process monitoring systems.



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