

A large, complex industrial machine with a prominent red-painted metal frame and various mechanical components, including pipes and valves, set against a background of a factory floor.

Innovative BRANKAMP Technology

创新的BRANKAMP技术

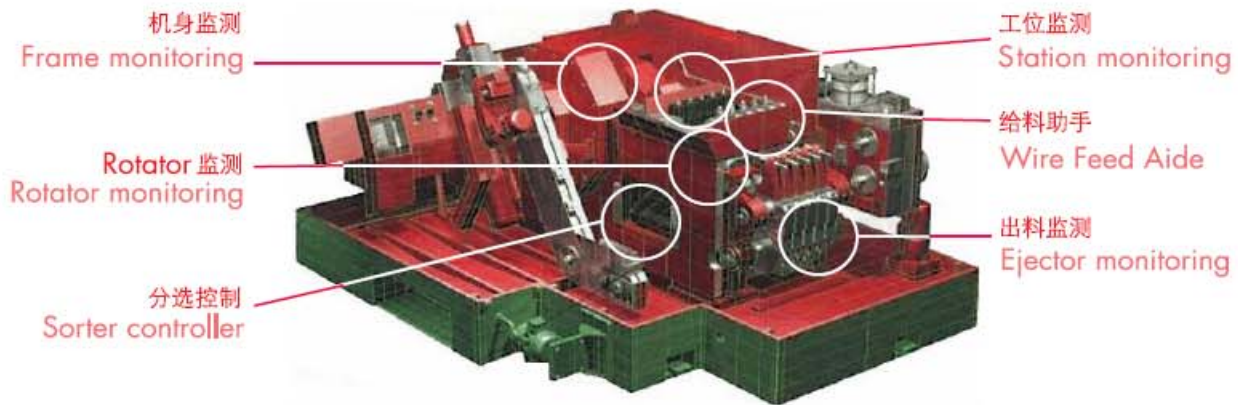
A large, white industrial machine with a complex internal structure, possibly a header or boltmaker, shown in a close-up view.

螺栓成型机和打头机过程监控

Progressive Header and Boltmaker

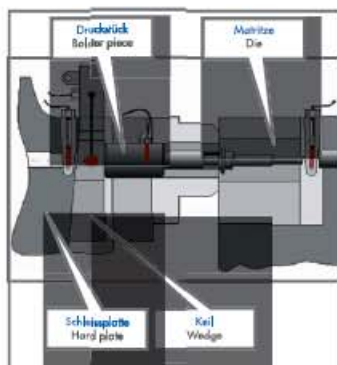


创新的 BRANKAMP 技术



监测功能 过程监控原理

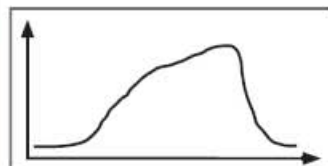
METHOD OF FUNCTION the principle of process monitoring



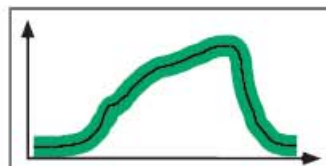
每一个周期，传感器测量到的过程数据都会被记录下来。例如：压力数据

监测系统自动学习压力信号数据，并且自动建立包络曲线作为生产监测标准。

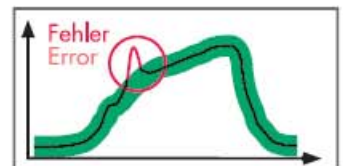
测试信号在某点超出包络曲线，成型后的部件将作为次品被分选掉或者机械设备被停机。



With each cycle, a sensor measures the process values being applied, i.e. force.



The device studies the force signal and automatically establishes envelope curves for monitoring purposes.



Where the measured signal moves outside an envelope curve, the formed part is sorted as a reject or the press is stopped.

传感器的位置 要通过生产任务来决定。

SENSOR POSITION is determined by the production task

在身上的总成型压力能够被有效的记录下来，主成型工位所受压力决定了压力曲线。每个成型工位的载荷通过在冷墩机滑块和耐磨垫板上的传感器被记录下来。每个成型工位的垫板是最佳测量位置，因为这里不会有工位之间的干扰。模具或退料冲头上的碎屑，线材的损伤可以在顶出装置上被发现。

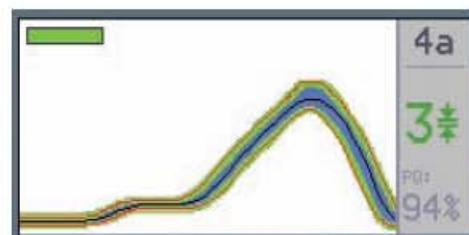


The total forming force can be advantageously recorded in the machine frame. Here the forces of the main forming stations determine the force curve. The load of each forming station is recorded with sensors in the press ram/wearing plate. The bolster pieces of each forming station are the best measuring location because there is no crosstalk between the stations. Chipping on the die or a backwards extrusion punch and damages of the wire can be recorded on the ejector.

自动调节功能 自动调节包络曲线轮廓

AUTOPROFILER automatic adjustment of envelope curve profile

根据压力曲线的每一点可自动分析计算最佳包络曲线的宽度。以这种方式：十字冲头冲压成型通过窄的包络曲线进行自动监测，而头部成型过程曲线自动扩大。如果包络曲线超出，自动停机。



The Autoprofiler automatically calculates the optimal envelope curve width for each point on the force curve. In such a way, the penetration of the punch cross is automatically monitored with narrower envelope curves than head pressing with greater process variation. If the envelope curve is exceeded, the machine stops.

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停机曲线的存储

精确的错误分析

每次机械设备的停机，详细的错误日志记录下日期、停机原因和错误曲线。



Every time the machine shuts down, a detailed error log is recorded with date, shutdown reason and error curve.

曲线的存储

记录所有的曲线

所有过程曲线的获取图像就像拍照一样，在任何时间和任何数据，你可以把这些照片和其他过程曲线做对比，或者作为文件打印出来。

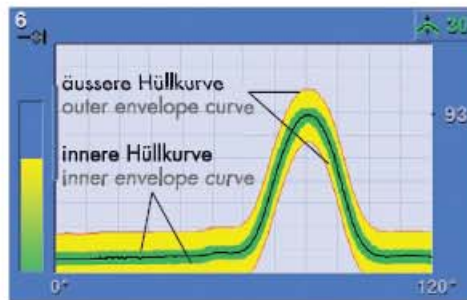


Take snapshots of any process curves similarly to a camera phone. At any time and any number. You may compare these screens with other process curves or make prints for documentation purposes.

自动化

最高的品质和生产力

内部包络曲线鉴别出小的错误，并且分选出错误的部件。在发生严重的错误时，例如：模具脱落，通过外包络曲线控制停机，另外，屏幕显示出操作者设置最佳包络曲线范围。

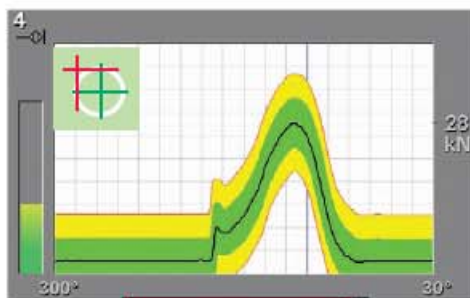


The inner envelope curve identifies small defects and sorts out faulty parts. The outer envelope curve stops the machine in the event of more serious defects, e.g. ricochets. In addition, the display shows the operator the optimum setting for the envelope curve range.

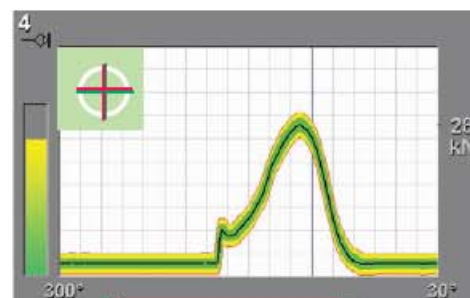
优化功能

自动调整包络曲线的范围

优化系统功能可以自动生成最合理的灵敏度曲线，利用信号偏差来确保包络曲线一直处于最佳的设置。



Ohne/Without
OPTIMIZER



Mit/With
OPTIMIZER

OPTIMIZER for automatic

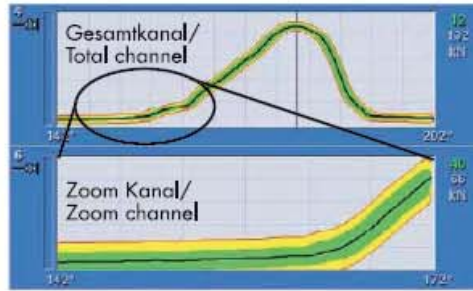
setting of the envelope curve range

The Optimizer automatically generates the optimum limits of sensitivity, using the signal deviation – this ensures the ideal setting for the envelope curves at all times.

放大功能

局部过程的放大

BRANKAMP 装置可以特殊检测一个单独的信号范围及该信号曲线的详细变化, 极大的提高了识别程度。



One individual signal range can be monitored specially and changes in the signal curve recorded in greater detail. The degree of recognition is significantly increased.

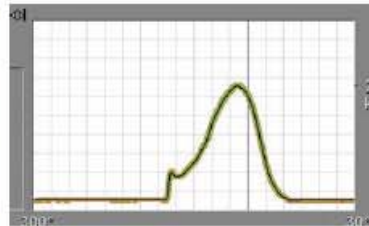
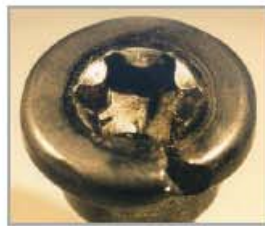
ZOOM

the magnifying glass of the process

自控系统

更加仔细的监测系统错误

自控系统功能是一种识别系统过程错误的特殊程序, 应用这个特殊测量程序, 可以鉴别出冲头的破损, 模具的损坏, 爆头, 线材的损伤。



SYSTEMATIC

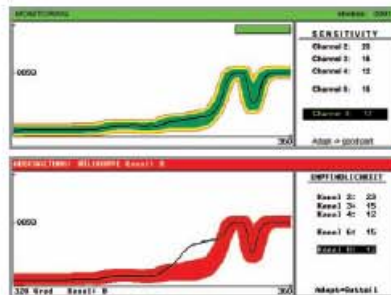
finest-detail monitoring of systematic defects

SYSTEMATIC is a special program for identifying systematic (permanent) process faults. Using the special measuring procedure, it is possible to identify chipping on the punch, the die, cracked screw-heads and damages on the wire.

ROTATOR 技术

监测法兰部分

在高速的冲程条件下, 部件传递易发生错误。Rotator 技术确保法兰部分得到检测。高效率的Kombiflex传感器记录下传递错误, 因此后续最终检测不再需要。



ROTATOR

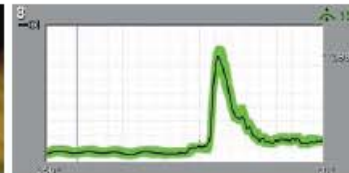
detects turned parts

The transfer of parts in the correct positional arrangement is prone to errors particularly in the case of high stroke rates. Rotator technology ensures that turned parts are detected. The high-performance Kombiflex Sensor registers transfer errors so that subsequent final inspections do not have to be carried out.

顶出装置监测

发现断针和避免后续错误

模具或退料冲头上的错误可以在顶出装置上被发现。这样后续工位将避免受到损伤。



Defects on the die or a backwards extrusion punch can be recorded on the ejector. The subsequent station is protected from damage.

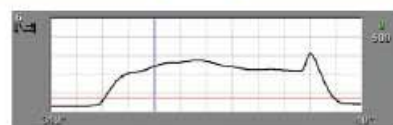
EJECTOR MONITORING

detects disruption and avoids subsequent errors

线材给料助手

精确的调整

线材给料助手利用绝对力的测量提供短料监控, 可以显示出实际发生的停机压力。多余给料和送料轮的异常可以被精确的鉴别, 线材给料助手可以在给料机构上提供最适合的设定。



WIRE FEED AIDE

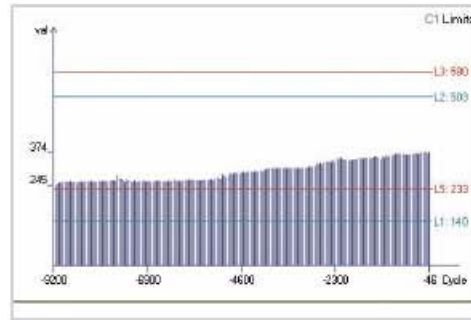
for accurate adjustment

Wire Feed Aide offers wire stop monitoring with absolute force metering. It displays the stop force which is actually being generated. Unnecessary feed and draw-in rollers which are out of shape can be identified accurately. Wire Feed Aide offers an optimum setting on the feeding mechanism.

趋势功能

监测长期的过程变化

“趋势”功能监测长期的过程变化，例如：模具的磨损和破裂等。生产周期性情况会被记录并且被描绘显示出来。如果预先设置的极限值被超出，机械设备停机。生产周期的数字显示能随机形成趋势。



The „Trend“ function detects long-term process changes, for example, tool wear and tear. The production cycle is recorded and displayed graphically. If pre-set limits are exceeded, the machine shuts down. The number of production cycles displayed can be flexibly configured.

TREND

detects long-term process changes

数据统计

当前生产的描述

全面的数据统计功能：例如预设产量统计（如图），轮班统计，保养维护统计，总统计，统计屏幕上提供当前生产情况下最新的数据概况。



Comprehensive counter functions, such as order counter (see illustration), shift counter, maintenance counter and overall counter, come as standard. The counter screens provide a constant up-to-date overview of current production status.

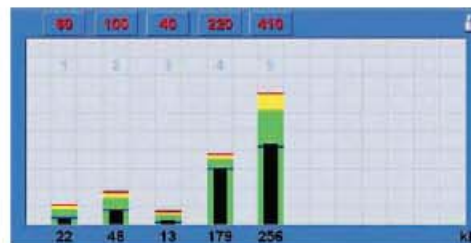
COUNTER

Overview of current production

负载轮廓图

显示滑块上负载的分配

负载轮廓图显示滑块上负载的分配。导致导向装置增加磨损的不均衡负载能够被检测到并且降低到最小。



The load profile shows load distribution over the ram. Unbalanced loads that could lead to increased wear of the guides can be detected and minimised.

LOAD PROFILE

shows load distribution on the ram

分选/计量给料

提高质量和生产率

Brankamp ScrewScout® 软件可以分选出好坏的零部件，提高生产率。

BRANKAMP软件提供定量给料装置：Dosomat®



Separate good and bad parts with the Brankamp ScrewScout®. Ideal with the software plug-in „Sorting“ and a wide range of sorting settings. Productivity is increased.

An easy-to-use option for controlling a dosing unit. Sub-division of an order batch into part batches. Additional to this software Brankamp offers the dosing device: Dosomat®

SORTING/DOSING

for enhanced quality and productivity

Screw Scout®, Dosomat® = Option

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停机-运行曲线

运行情况的记录档案

运行情况档案是机械设备24小时数据文件运行情况，直至90天内生产数据可以清楚的提供。

绿色=设备运行

红色=设备停机

黄色=安装调试



STOP & GO CURVE

documents run-time behaviour

Documents run-time behavior constant 24-hour documentation of the machine's run-time behavior for up to 90 days provides for transparency in manufacturing.

Green = Machine running

Red = Machine stopped

Yellow = Set up

FCX

便捷的交流信息

您也可以使用检测装置作为生产数据信息终端。直接检测命令的输入、输出，或者输入停机和运行编码。图表和照片可以通过网络存储并显示出来。

BRANKAMP STOP-CODES MASCHINE		
Arbeitsplatz-Nr. 13	Status STOP	
0 ohne Eingabe	1 Auftrag	2 Qualität
3 Werkzeug	4 Maschine	5 Material
6 Personal	7 Pause/Schicht	weitere Stopcodes

FCX

Flexible Communication eXchange

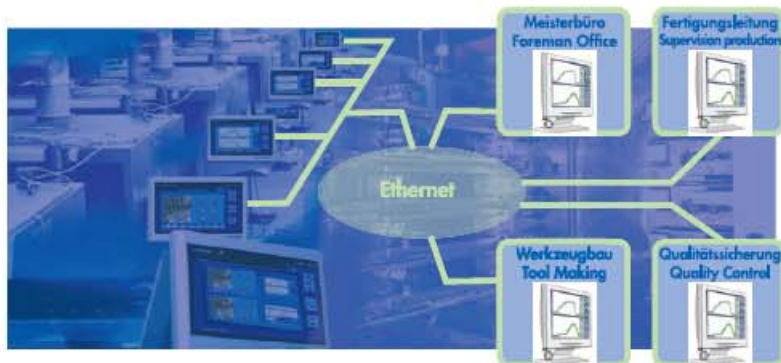
You can also use the device as a terminal for production data: check orders in and out directly, or enter stop and activity codes. Drawings and photos can be accessed and displayed via network.

网络化工厂

详细的观察生产操作的情况

在生产和其他商业领域中智能连接仍然还有很大开发潜力。

BRANKAMP 网络化工厂使生产更加清晰化，更加快捷，更有利于降低成本。



FactoryNet®

for a detailed insight into production operations

There is still plenty of untapped potential in the intelligent link-up between production and all other areas of a business. BRANKAMP FactoryNet® makes production processes more transparent, considerably quicker and more cost-favourable.

其他监控应用:

- 打头机
- 搓丝机
- 切割机
- 冲压机
- 装配总成

Other monitoring applications:

- Single/Double Blow Header
- Thread Roller
- Cutting
- Stamping
- Assembly

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