VIDEOcheck VVC 120

Test Automation

Automatic testing and sorting machine for the 100 % control of mass-produced parts
VIDEOcheck VVC 120
100 % control of mass-produced parts

The automatic testing and sorting machines of the VIDEOcheck VVC line are universal testing systems with a modular design. Owing to their modern digital camera measuring technology they are the perfect choice where a 100 % control of mass-produced parts is required. Especially with high throughput capacities our testing systems display their strong points, which makes them ideally suitable for use in the mass production of small turned parts or pressings.

In its basic configuration the VIDEOcheck VVC 120 is expandable with up to 4 digital cameras of different resolution. With this modular approach you will be on the safe side even tomorrow! The actual testing procedure is done in a fully contactless manner – either in an inclined prism or flatbed rail. Depending on their size and weight the test parts are fed in via an integrated or separate feeder system.

Owing to the 61 cm (24") touchscreen monitor with a clear menu structure the system operation is very intuitive and thus facilitates your daily work. All test routines are user-programmable. Our specialists will support you with personal trainings, so you will get the most out of our system.
The VVC 120 VIDEOcheck system is housed in a compact and functional machine frame made of AL system profiles, fully encased and noise-damped.

These single components are fully contained:

- 61 cm (24") TFT touchscreen monitor for visualisation and operation
- Telescopic tray with keyboard and trackball
- Precisely adjustable test or transport rail with cam portal fitting (fig. I)
- Good/bad parts sorting divider, driven by step motor with final position monitoring (fig. II)
- Separating device (conveyor belt) with swarf separator
- Vibration feeder with control unit and adjustable chicanes for the parts feed (the optimum nominal feed capacity is set via the menu interface)
- Control cabinet with all necessary modules for the process coupling and control of the overall process

<table>
<thead>
<tr>
<th>Image processing</th>
<th>IPC PCI-Express, WINDOWS 7 operating system, Coake 7 image processing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process control</td>
<td>Beckhoff PC; operation via touch panel</td>
</tr>
<tr>
<td>Cameras</td>
<td>CCD matrix, B/W and/or colour</td>
</tr>
<tr>
<td>Max. resolution</td>
<td>2452 x 2054 pixels</td>
</tr>
<tr>
<td>Measuring accuracy</td>
<td>depending on camera resolution and image field size</td>
</tr>
<tr>
<td>Number of cameras</td>
<td>standard system housing VVC 120: up to 4 cameras, also with varying resolutions</td>
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<tr>
<td>Lenses</td>
<td>telecentric precision lenses (standard)</td>
</tr>
<tr>
<td>Illumination</td>
<td>LED flash illumination, telecentric, coaxial, diffuse, transmitted and reflected light</td>
</tr>
<tr>
<td>Triggering</td>
<td>LASER light barrier</td>
</tr>
<tr>
<td>Test capacity</td>
<td>up to ca. 250 parts/min., depending on part size and feed system</td>
</tr>
<tr>
<td>Connection values</td>
<td>230 VAC; ca. 0.8 kVA; 6 bars</td>
</tr>
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**Accessories and Options**

- Supply bunker and charging systems (fig. 3 to 5)
- Software for the measurement documentation and statistical functions (fig. 6 to 8)
- CAQ linking
- Server/network solutions
- Remote maintenance
- Integrated hardness testing (fig. 9)
- Line scan camera (fig. 10) for feeding or presorting in the correct position
Software

What would the best hardware be without a powerful software? Precisely for this reason we rely on the new Windows-based Vision Software Coake 7. The graphic interface leads the user through the operation and enables him to configure the desired test routines fast and easily. Coake 7 can handle all procedures of image processing measuring technology, contour tracing and surface examination which are common in the industrial environment. And owing to high-performance subpixel algorithms even measuring accuracies in the μ-range can be achieved.

With the statistics add-on package you can evaluate measuring data using a Gaussian distribution curve or an SPC control chart. Of course, a data transmission to external CAQ systems is also possible. Likewise, if you wish an integration of your VIDEOcheck VVC 120 into your own network, this is also very easy to accomplish. Hence external test routines may be programmed at the PC workplace or programme data and measuring values managed centrally.

Statistical Evaluations

- Normal distribution
- XS control chart
- Failure collection chart

Product Categories

- Turned parts and pressings
- Flat formed parts
- Turned parts
Trouble-free and safe production processes are essentially based on the functional safety of technical designs, devices and plants or else their monitoring. The prevention of failures by using control systems – in particular the safe, trouble-free punching and forming process – was the initial basic idea behind the foundation of our company. And it has remained so ever since.

Today we develop and manufacture mechatronic systems which, by using sensors and IT components, become semi-intelligent products for a reliable controlling and monitoring of punching and forming processes to an unprecedented degree.

From this historical background two business areas have developed in our company.

Our classic business division consist of the product lines “Sensor Technology and Process Monitoring”. Here the focus lies on failure prevention by means of sensors, mainly light

**Business Divisions of VESTER Elektronik GmbH**

**Feed control/lateral feeder**
with infrared fork light barrier type PMI-10-10/AS10-U

**4 x Double sheet control**
with infrared fork light barrier type PDI-5-5/P

**“Rivet jam detection”**
with infrared fork light barrier type PMI-10-10/3-P

**“Rivet present”**
with infrared fork light barrier type PE-10-30/S2 & S2-W-4-P2 (amplifier)

**2 x Double sheet control**
with analogue measuring sensor type ISS-20-30-1-A

**Photo: hapema Christmann + Bechtle GmbH, Engelsbrand**
barriers and control systems and in particular the safe and trouble-free punching and forming process.

Thus VESTER sensor technology and process monitoring systems help to detect malfunctions in the punching process in time to avoid tool breakage and expensive consequential damages.

Our new business division of “test automation” includes the product lines of our automated testing systems with image processing as well as laser marking systems.

Apart from the safe, trouble-free production with preventive error proofing, the 100% quality control for a faultless output and also the marking of parts for ensuring the traceability of the production sequence have become compulsory exercises for many industry branches.

Our VESTER VIDEOcheck testing systems control the manufactured products directly in process or in a process-oriented manner and thus ensure the output of faultless parts.

For the marking of continuously manufactured stampings and single parts the VESTER laser marking cells of the VLM product line are designed to meet the requirements of traceability.

For four decades our name has been a guarantor of innovative and well-engineered systems for quality assurance and the monitoring of punching and forming processes.

We offer a highly specialised know-how plus a broad product range in the fields of metrology and sensor technology for safe, transparent production processes and a consistent quality assurance.
VIDEOcheck VVC 120  Automatic testing & sorting machine