

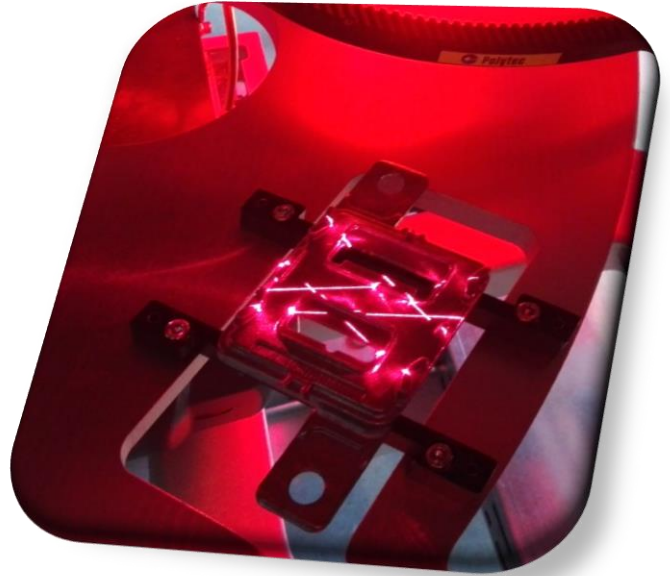


FalconVision

NOx Casting Measuring Machine

Task

The machine is a semi-automatic casting controller. Its task is to check the shape and surface of the inserted working pieces and to pick the inappropriate ones. An integral part of its function is the multi-nest roundtable mechanism, thanks to which it is possible to inspect the working pieces in 7 different measuring positions at the same time. Depending on the result of the evaluation the device separates those pieces which have not met the criteria during the quality control.



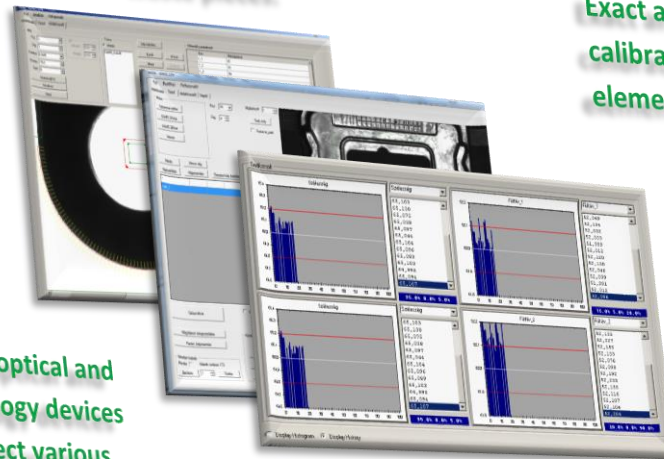
The device designed and produced by our trained professionals provides opportunity for the examination and measurement of 70 different parameters, including the detection of any signs of penetration, cracking, contamination, material surplus, lack of material and porosity. Thanks to 3D measurement even errors of 50 μm are quantifiable.

The cycle time of the measuring machine is 5000 piece per shift.

Entitlements depending on user levels.

Using different optical and lighting technology devices in order to detect various surface defects.

Preparing statistics about waste pieces.



Exact and credible calibration by caliper element application.

Quick and simple tolerance field modification and correction tag adjustment.

Ensuring remote access for instant problem solving

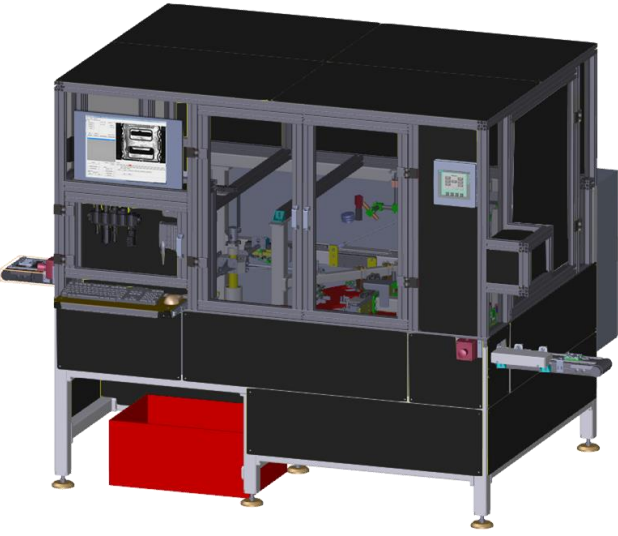
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The operator can start the measuring machine by three consecutive steps including switching on the control, confirming the receipt of messages and starting the measurement programme. Following these the operator manually places the working pieces on the conveyor belt.

The working pieces added by the gating mechanisms enter the machine one by one thus ensuring material flow without congestion. It is the task of the camera placed above the conveyor belt to specify the type and orientation of the product. In case the qualification found the piece appropriate, the gating lets it go on toward the charging mechanisms where the suction head of the manipulator moves it into the nest of the main turret thus loading the measuring spaces.



Each turret step means a single measurement position where special lighting, industrial lasers, megapixel cameras and 3D scanning cameras measure and detect the following parameters:

- Measurement of distances and geometrical dimensions with 0.1 mm precision
- Indication of pressure test and nest number detection.
- Detecting loose and inclined nodules and surplus material
- Detection of crevice corrosion and warm cracks
- Detecting tool traces and surface deformity
- Detection of signs of penetration and porosity
- Detecting outbreaks and surplus material

Insofar as the working piece meets the criteria based on the summary of partial qualifications, the vacuum holder of the assisting turret places the working piece on the conveyor belt. In case of unsatisfactory qualification it places the product in the waste container. The worker can learn about the current state of the machine not only from the tower light but also from the messages on the display of HMI and through the information provided by the PC evaluation programme.

