

DATASHEET

Analysis of the part in the robot gripper **immediately after removal from the press**
Integrity check of the casting with 3D technology based on stereovision
Thermal monitoring of the die at each shot **through the analysis of the part**

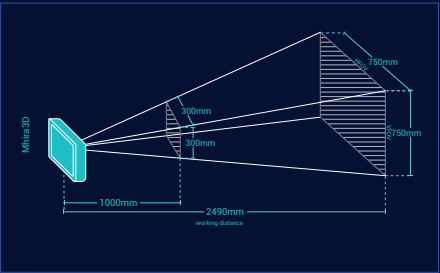
Technical specifications

Device	Electrical panel
Casing material: stainless steel, temperate glass, ABS.	Panel size with monitor: 580 mm x 780 mm x 300 mm
IP Rating: IP 65 frontal	Power supply: 24V-480V
Weight: < 6kg	Power supply system: TT, TN-C, TN-S
Dimensions: 386 x 335 x 204 mm	Uninterruptible Power Supply (UPS)
Power consumption: < 100W	Vision-PC
Illumination: Led color Red 635 nm	Industrial touch screen monitor mounted on the panel door
Painted iron pole	Communication protocol: 0-24V digital IO & Profinet
Cameras and thermal imaging camera	Remote control: OPC

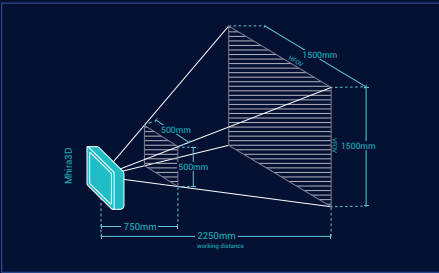
	Integrity check cameras		Thermal analysis camera	
	Configuration A	Configuration B	Configuration A	Configuration B
Resolution	1292 (H) x 964 (V)	1280 (H) x 1024 (V)	320 (H) x 256 (V)	320 (H) x 256 (V)
FOV	23° x 17°	46° x 37°	25° x 19°	45° x 35°
Focal length	12 mm	8 mm	13 mm	7.5 mm

Two types of configuration based on the size of your dies and working distance

Configuration A



Configuration B



VFOV: Vertical Field of View
HFOV: Horizontal Field of View

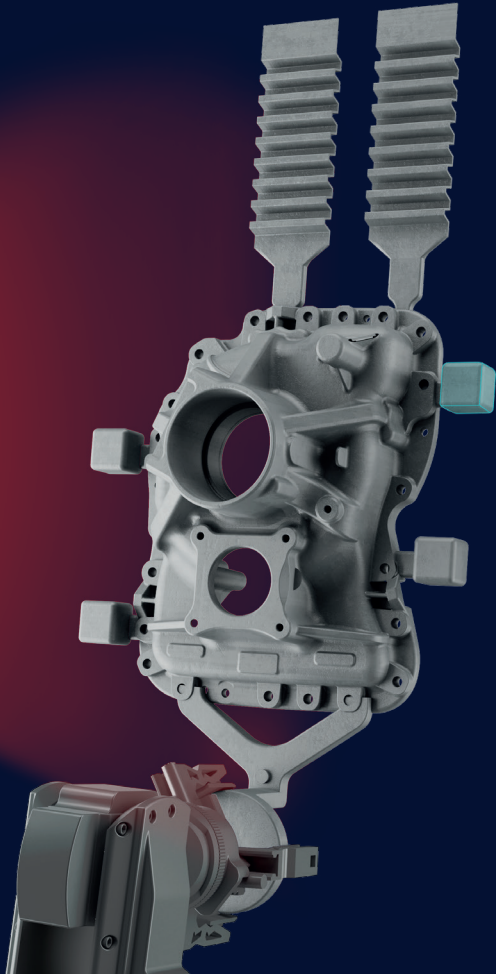
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Mhira3D

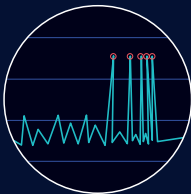


Thermal process monitoring:
smart control at every shot

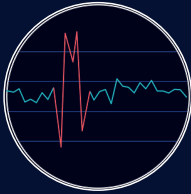
Mhira3D
Vision system for die casting

THERMOGRAPHIC ANALYSIS

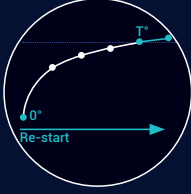
Monitoring of the die thermal variations at each shot through the part analysis



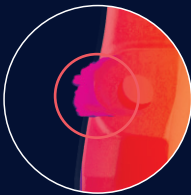
▶ 01
Lubrication nozzles clogging
 Interception of any clogging of the lubrication nozzles thanks to specifically developed algorithms



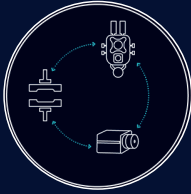
▶ 02
Anomaly and drift reporting
 Real-time reporting of anomalies and thermal drifts in the most critical areas of the die thanks to artificial intelligence algorithms



▶ 03
Re-start rejects
 Automatic re-start management to optimize initial rejects



▶ 04
Burrs
 Signaling of burr formation due to die closure problems



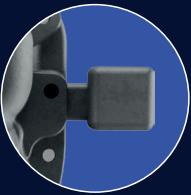
▶ 05
Lubrication and thermoregulation
 Possibility of automatic interaction with the lubrication and thermoregulation systems

Broken spins

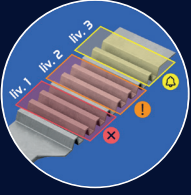
Thanks to the thermal analysis it is possible to identify the presence of broken spins in real time. (Recently registered patent)

3D ANALYSIS

Verification of integrity and completeness of the casting.



01 ◀
Overflows
 Checking the presence of all Overflows by an easy and intuitive configuration



02 ◀
Chill-vent
 Measurement of the chill-vent completeness according to the expected criticality levels



03 ◀
Part deformation
 Detection of any deformations of the part for the subsequent deposition in the trim



04 ◀
Casting completeness
 Checking the presence of all the figures of the casting for Multi-cavity dies

Main features of the system:

- No false positives
- Automatic adaptation to ambient light conditions
- Outcome provided in a few tenths of a second
- Objective and tracked checks for each individual part

- Visual feedback
- Easy and intuitive setup
- Multiple views of the part (up to 8)
- Unlimited inspection areas for each view

- 3 levels of scrap for each inspected area
- IOT 4.0 compatible
- Immediate and automatable format change
- Guided calibration procedure

- Image archiving
- Graphs and reports viewable at any time
- Multilingual graphic and web interfaces
- Remote assistance

Notifications and Signaling:

- ▶ 01 Signals
- ▶ 02 On-screen and email notification
- ▶ 03 Light indicator