

PLATE MASTER – 3D In-line Surface Inspection for Reduced Rework



Saving Costs In Each Process Step



Advanced 3D Inspection for Optical Defect Detection and Measurement of Hot and Cold Plates

Only fully monitored processes are capable of ensuring that the required surface quality is within customer tolerance ranges. This is where the PLATE MASTER helps open up new possibilities in process optimization and quality evaluation. A reliable quality assessment of each heavy plate is generated for process monitoring and improvement and, if necessary, definition of maintenance actions.

With more than 600 installed systems ISRA has extensive experience in surface inspection. The new PLATE MASTER again sets new standards in the metal industry with the fastest start up times, an intuitive and fully automatic detection tuning tool for fast and continuous improvement of the detection performance, a hierarchical classifier with intuitive training tool for fast and continuous improvement of classification performance and a customer specific fine tuning of the detection algorithms.

Application

- In-line surface quality inspection for plate mills
- 3D defect measuring including defect depth
- Size measuring
- Top and bottom side inspection of plates

Benefits

- Correct quality decisions based on high inspection performance (Precise depth information/ Sharp images/ Class Specialists)
- Best detection performance with outstanding image processing power/ Scaled computing power
- Improved roll mark detection with new high focused LED illumination
- Pay back begins after one month due to fast startup (Experience by more than 10 installations/ Instant Classifier and pre-settings)
- Yield optimization based on precise process and product analysis (Interactive Live View/ Quality statistic/ Width measurement/ Camber measurement)
- Improved process control with earliest possible inspection positions

Immediate Feedback: Existence of Rolling Defect

Immediate feedback on the appearance of rolling defects allows for direct roll exchange in order to avoid scrap. Due to the exact knowledge of the defect type and its location, customer claims can be minimized with targeted repair action such as optimal trimming and defect removal by grinding.

Fastest startup with ISRA InstantClassifier

Compared with competitors, ISRA InstantClassifier™ knows 80 % of the typical defects right from the start. Only line specific defect appearances have to be programmed with the highly efficient programming tool, ClassifierBuildEnvironment. It is Easy-to-Use and supports all relevant tasks in one tool.

NEW: Outstanding Classification

The new PLATE MASTER sensor is unique in the world of metal surface inspection and defect measurement. The accurate scanning of the metal surface including depth and color enables highly precise product grading and process monitoring.

- Multi-step classification for higher classification rates
- Reduced training effort
- No interference between classification specialists

Optional Performance Enhancement by Expert Modules:

EXPERTSM Decision Support

■ EXPERTSM PlateDecision

Release or block plates according to a definable rule set for surface quality

■ EXPERTSM ManualInspectionInput

Complete the quality information with all values that are not yet available in the systems, e.g. manually measured dimensions, result of visual surface inspection, ...

■ EXPERTSM PlateReassignment

Look for alternative customer order according to actual quality level

■ EXPERTSM DefectTracking

Understand how defects will change their appearance from slab to plate

■ EXPERTSM ProcessAnalysis

Visual correlation between surface quality and process parameters in real-time

■ EXPERTSM DefectTrend

Long-term statistic of defect type occurrence to generate quality alarms etc.

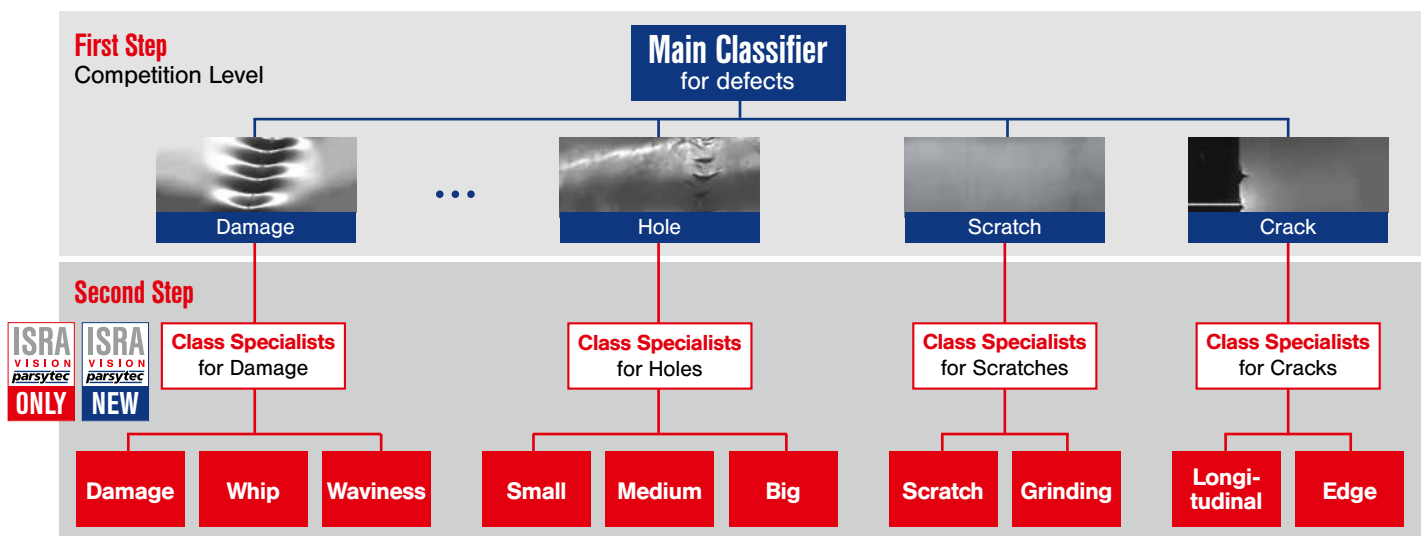


PLATE MASTER Multi-step Classification for higher Classification Rates and Reduced Training Effort

ISRA VISION PARSYTEC

Germany
Tel.: +49 (2408) 927 00 0

Belgium
Tel.: +49 (2366) 930 00

Spain
Tel.: +34 (93) 839 70 32

France
Tel.: +33 (0) 155 681 250

Italy
Tel.: +39 (0464) 490 603

UK
Tel.: +44 (1442) 261 202

USA
Tel.: +1 (770) 449 77 76

Brazil
Tel.: +55 (11) 347 611 32

Turkey
Tel.: +90 (212) 285 97 45

Russia
Tel.: +7 (921) 055 63 30

P.R. China
Tel.: +86 (21) 685 002 88

Japan
Tel.: +81 (45) 534 99 11

Korea
Tel.: +82 (31) 806 973 00

Taiwan (R.O.C.)
Tel.: +886 (3) 250 01 48

India
Tel.: +91 98 23 16 24 55

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info@isravision.com www.isravision.com