



Electronic Design System

Electronic Design System S.r.l. EDS
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Since 1984 on the market...

PINHOLE DETECTION SYSTEMS

ALUMINIUM FOIL, ALL OTHER SINGLE OR LAMINATED
MATERIALS, FOIL CONTAINERS ETC.

BENEFITS FOR FOIL MANUFACTURERS

- Compliance with highest food and pharmaceutical requirements
- High standards for competition with world's leading foil producers
- Foil deliveries accompanied by the relevant certificates of quality and of actual product condition
- Best product prices
- Real-time hole quality control and mapping
- Correlation with production data for identification of upstream process faults
- Information systems data integration
- Historical analysis

TECHNOLOGY

- Laser or LED technology
- On-line foil inspection
- Simultaneous detection at both webs in aluminium foil separators
- High performances with multi strips, single web, separated webs and alternate-coil processing
- Mechanical customization for enabling integration in any machine type
- Manual or automatic retraction from on-line, working position for carrying out set-up and periodic maintenance operations
- Standard or customized detection configuration
- On-line foil container and food-tray inspection systems

Holes down to 5 μ m

Installations successfully proven through 27
years of dedicated experience

EDS is proud to be supplier of:

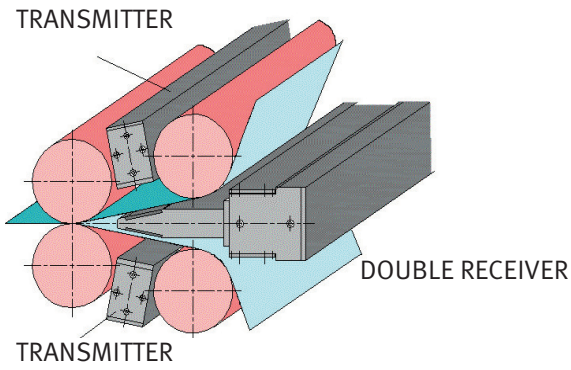




SAME TECHNOLOGY FOR SINGLE OR DOUBLE FOIL

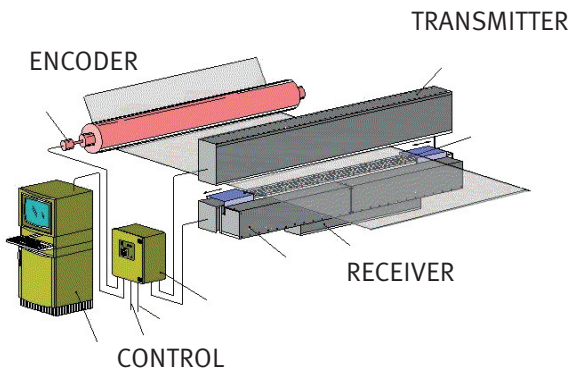
SINGLE FOIL TECHNOLOGY

TECHNOLOGY	LASER diode or LED array
MINIMUM HOLE SIZE	10 µm LASER / 15 µm LED
FOIL THICKNESS	No restrictions
WEB SPEED	Maximum 2000 m./min.
DETECTABLE WEB WIDTH	No restrictions
CROSS-WEB RESOLUTION	±5mm. with cell = 10 mm
SYSTEM STATUS MONITORING	Real-time display on PC screen
SELF-DIAGNOSIS	Continuous transmitter and receiver self-diagnosis. Off-line tests on request
REPORT	Full report graphics and analytic tables
WORKING TEMPERATURE	+ 5°C to + 50°C
HUMIDITY	~95% RH



DOUBLE FOIL TECHNOLOGY

TECHNOLOGY	LASER diode or LED array
MINIMUM HOLE SIZE	10 µm (5 µm as optional)
FOIL THICKNESS	No restrictions
WEB SPEED	Maximum 2000 m./min.
DETECTABLE WEB WIDTH	No restrictions
CROSS-WEB RESOLUTION	±5mm. with cell = 10 mm
SYSTEM STATUS MONITORING	Real-time display on PC screen
SELF-DIAGNOSIS	Continuous transmitter and receiver self-diagnosis. Off-line tests on request
REPORT	Full report graphics and analytic tables
WORKING TEMPERATURE	+ 5°C to + 50°C
HUMIDITY	~95% RH



Full report with graphics & analytic data

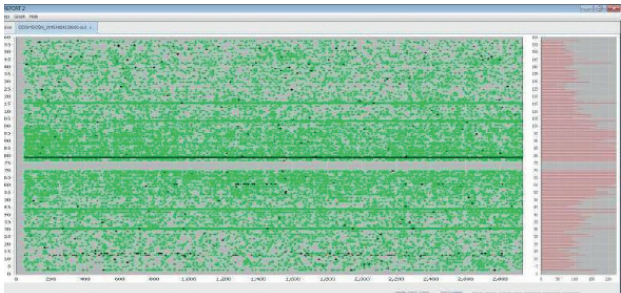
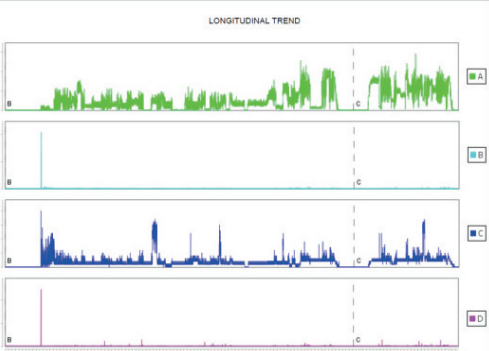
Automatic generation of detailed quality control reports for each product coil as, for example:

- Reports for each mother coil
- Reports for each rewind coil
- Reports for each strip

Each report contains:

- Down-Web defective trend
- Cross-Web defective trend

- Compression map
- Position details are given for each hole
- Density for each class
- Repetitive defects
- Statistical defective summary in max. 20 user-definable intervals
- Detailed defective alarms occurrences
- Detailed system alarms occurrences
- Detailed inspection pause events

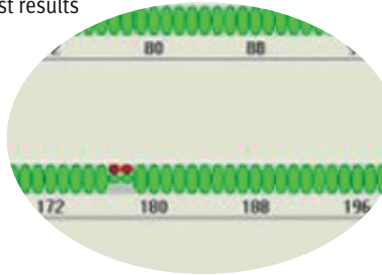
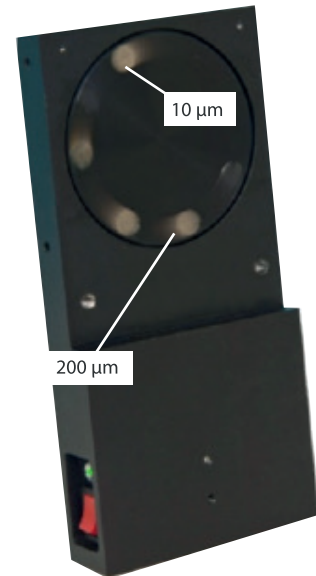


Line	Interval	Start	End	Defects	Rate	Interval	Start	End	Defects	Rate
001	1	0000	0005	10	2000	0005	0010	15	3000	6000
002	1	0010	0015	12	2400	0015	0020	18	3600	7200
003	1	0020	0025	14	2800	0025	0030	20	4000	8000
004	1	0030	0035	16	3200	0035	0040	22	4400	8800
005	1	0040	0045	18	3600	0045	0050	24	4800	9600
006	1	0050	0055	20	4000	0055	0100	26	5200	10400
007	1	0060	0065	22	4400	0065	0070	28	5600	11200
008	1	0070	0075	24	4800	0075	0080	30	6000	12000
009	1	0080	0085	26	5200	0085	0090	32	6400	12800
010	1	0090	0095	28	5600	0095	0100	34	6800	13600

SENSITIVITY TEST

OFF-LINE TEST ROTATING DISK WITH A CALIBRATED AND CERTIFIED PINHOLE

- This test is aimed to evaluate inspection system global performance under test conditions very close to standard operation ones.
- Calibration test device (HDL) can be easily mounted on its special frame before test start.
- When "off-line test" is started from auto test sub-menu, the special frame travels for scanning the inspection head. As a result of wheel and special frame movement, all cells are controlled in sequence. This enables an accurate sensitivity test of all cells considering the data relevant to both line speed and hole size.
- Off-line test device provides high sensitivity test on the basis of real web speed and the size of the holes to be detected
- All cells are checked in sequence by means of a rotating disk with a calibrated and certified pin hole
- System validation in accordance with ISO9000 Standard
- Alarm bar shows off-line test results



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Quality Statement

Edmund Optics is a leader in providing high quality optical components to the marketplace. Our aim is to continually improve quality levels, processing efficiency, and all related services to ensure customer satisfaction 100% of the time.

Certificate of Compliance

Edmund Optics certifies that all articles included in this shipment are in compliance with the term and conditions of this purchase order. The company also certifies that the articles included in this shipment are in accordance to the specifications as listed in Edmund Optics Worldwide catalog. Please call +44(0)1904 788600 should any questions arise from this shipment.

Shipper No.: 119988
 Company: HD ELECTRONIC DESIGN
 Address: SYSTEM 381
 LOCAL FORNACE VECCHIA

City: GARCARE SV
 Country: ITALY
 Date: 20160312
 Purchase Order No.: 8125
 Stock No.: 2860 Rev. 000

Postal Code: 12063

Lot No.:

Quantity: 1
 Description: PISC.PINHOLE APERTURE 20.02A

Additional Comments / Requirements:

CERTIFIED MICRO HOLE SAMPLE

OFF-LINE TEST REPORT

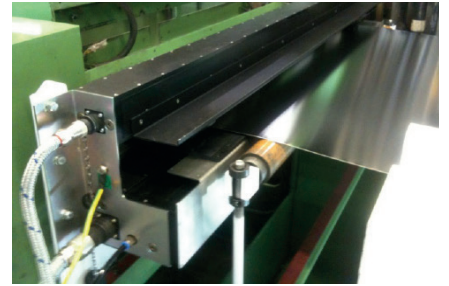
Pinhole Detector EDS srl

27-05-2015 16:25

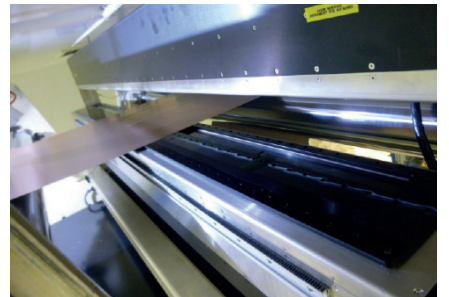
OFFLINE TEST REPORT	
Head #1 Left : OK	
Total Cells	14 Cells failure
83	
Head #1 Right : OK	
Total Cells	14 Cells failure
83	
Head #2 Left : Fail	
Total Cells	14 Cells failure
83	18
Head #2 Right : OK	
Total Cells	14 Cells failure
83	

TECHNICAL DATA SHEET OF CSM FAMILY FOIL PINHOLE DETECTORS

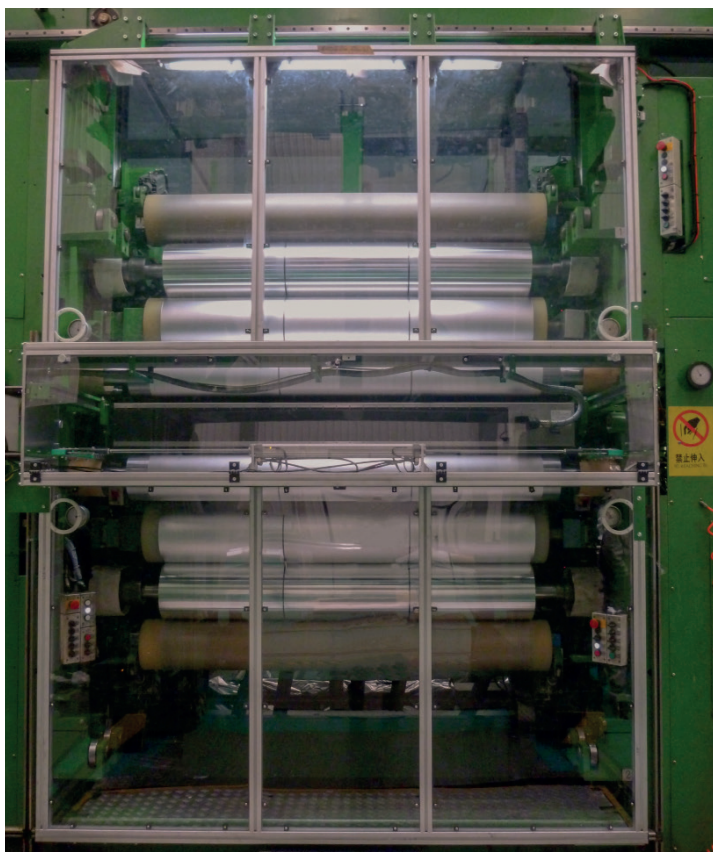
- CSM10
CUT TO LENGTH LINE **LITTELL**
TINPLATE
ALUMINIUM FOIL



- CSM20
SLITTING LINE
COPPER FOIL
ALUMINIUM FOIL
STEEL WEB
POLYMERIC WEB



- CSM20D
SEPARATOR LINE
ALUMINIUM FOIL
TECHNOLOGY



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SCAN ME