Fact Sheet

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SIRPA™

Surface Inspection with Rapid Particle Analysis

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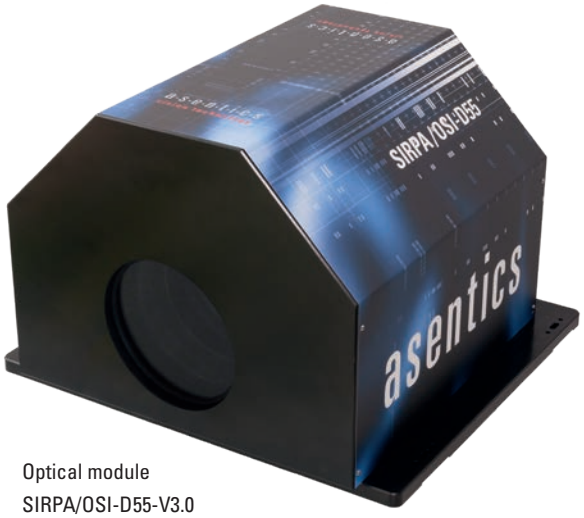
SIRPA™
Surface Inspection with Rapid Particle Analysis

Quality control of dialysis filters

SIRPA™ is the outstanding optical inspection system for 100% quality control of fine-pored cutting interfaces of filters. Especially for dialysis filters (dialyzers) the control of the multifunctional sealing and cutting area is of vital importance. The two cut surfaces of each dialyzer produced are checked for flatness (sealing function), openness, number of filter capillaries and impurities (particles). Despite microscopic resolution, the innovative, patented method features a high level of robustness and enables unattended continuous operation at lowest maintenance.

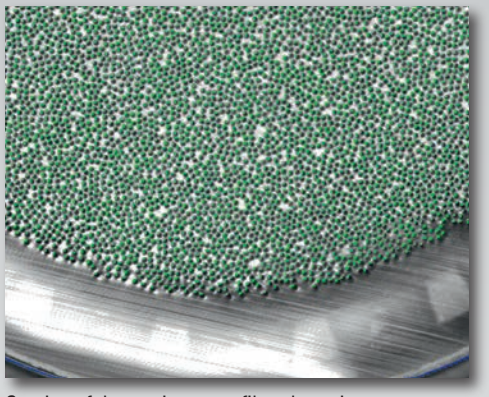
Features and benefits at a glance

- High optical resolution
- Reliable detection of closed (i.e. defective) fibres
- Determination of the total number of fibres and allocation to predefined segments
- Inspection of the fibre geometry (diameter, shape deviation)
- Inspection of the sealing and cutting areas to geometry and dimensional accuracy
- Detection of impurities
- High inspection performance during in-line operation
- Easy set-up of new filter types
- Storage of the results and pictures of all filters in a database
- Connection to a control place for the visual re-inspection of defective filters and the evaluation of the production process
- Comprehensive statistical functions
- Interface for connection to databases and ERP systems
- Compact inspection modules for easy integration into existing production lines
- Integrated interface for remote service

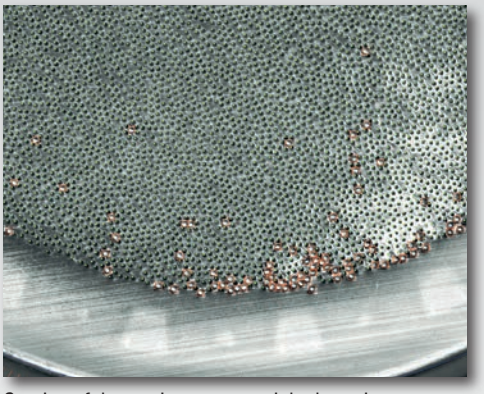


Optical module
SIRPA/OSI-D55-V3.0

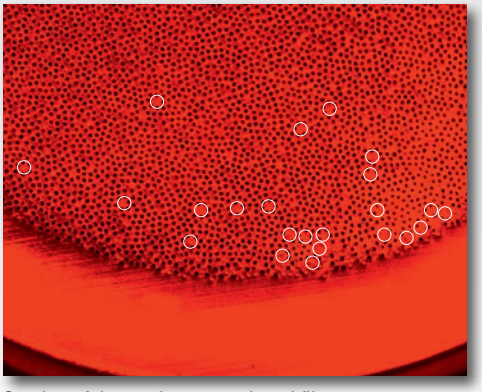
Dialysis filter, view on cutting area



Section of the cutting area, fibre detection

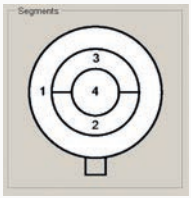


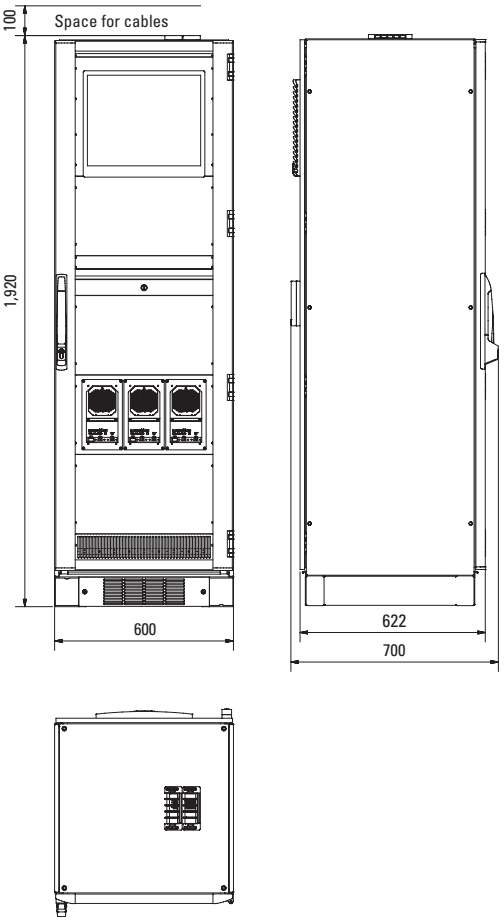
Section of the cutting area, particle detection



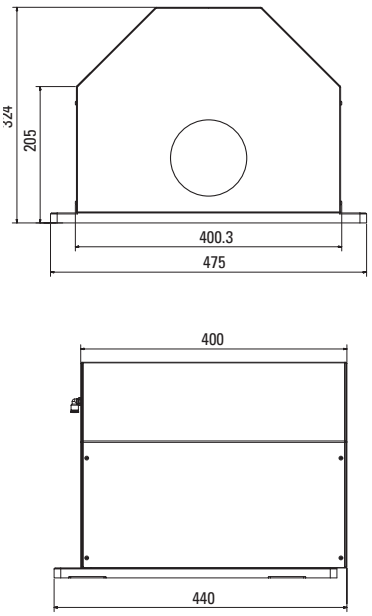
Section of the cutting area, closed fibres

Technical Data

Processing and control unit	System Cabinet SIRPA/SSI-V2.0
Power supply	230 V AC, 50 Hz
Power consumption	max. 500 VA
Operating temperature	+ 5° ... + 40 °C
Protection class	IP20
Dimensions (L x W x H)	600 x 700 x 1,920 mm
Weight	approx. 150 kg
Connections for optical modules	2
Communication to plant control system	Profibus DP (Slave)
Digital inputs	1 - Start image acquisition
Display	LED monitor 48 cm (19“)
Inspection areas 	4 Segments 1 = sealing area 2 = border area, Hansen-side 3 = border area, non-Hansen-side 4 = inner filter area
Inspection features	Counting of fibres, Detection of closed fibres, Detection of cutting grooves (tool abrasion) Enhanced object finding (optional): deformed fibres impurities
Auxillary functions	Autom. illumination control, Autom. Illumination set-up, Storage of all inspection images, Logging (Logfile), Remote service interface (optional)
Processing time (typ.)	approx. 2s to 3.5s (depending on no. of fibres and scope of inspection)



Optical modules	SIRPA/OSI-D47-V3.0	SIRPA/OSI-D55-V3.0
Field of view	46.5 mm	55.0 mm
Max. inspection area	Ø 45.5 mm	Ø 54.0 mm
Min. inner fibre diameter	170 µm	200 µm
Optical resolution	23.1 µm / pixel	25.3 µm / pixel
Air supply	0.5 bar (dust, oil and moisture free)	
Dimensions (L x W x H)	475 x 440 x 324 mm	
Weight	28 kg	
Operating temperature	+ 5° ... + 40 °C	
Protection class	IP20	



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