

AKRA

Monochromatic Optical Monitoring System



TECHNICAL SPECIFICATIONS

Distribution in the UK & Ireland



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**Characterisation,
Measurement &
Analysis**

ESSENT OPTICS

ADVANTAGES

The AKRA Monochromatic Optical Monitoring Systems represent an affordable, reliable and convenient solution addressing the challenges of obtaining the high-quality optical coatings from UV to IR. The proposed systems offer the following important advantages and benefits:

- Significant reduction in material costs and time for testing of new deposition processes and coatings
- Proven successful application of the optical monitoring systems since 2004
- Fast system commissioning and customer training (just 2-3 days), short delivery period
- Two years warranty from the date of commissioning. Full service support and customer supervision, including system upgrade and modification based on customer's new market activities.



For your coatings specialists:

- Real-time visual monitoring of the deposition process
- Real-time process correction using layer-by-layer process supervision without venting of the vacuum chamber
- Easy and convenient system service, long trouble-free service life
- Usability tested interface with adjustable screen design allows the operator to receive accurate and relevant information at any time
- Save and storage of the thin film and process data for subsequent analysis and reproduction of the successful runs

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ESSENT OPTICS

AKRA Monochromatic Optical Monitoring System. Technical Specifications.

Parameter	AKRA 0211	AKRA 0411	AKRA 0217	AKRA 0417	AKRA 0426	AKRA 1550	AKRA 0450
Wavelength range, nm	200-1100	380-1100	200-1700	380-1700	380-2600	1200 – 5000	380 – 5000
Spectral resolution, nm * Diffraction grating 150 l/mm, slit 200 micron						9,6 (3000 - 5000 nm)	9,6 (3700 - 5000 nm)
Spectral resolution, nm * Diffraction grating 300 l/mm, slit 200 micron			4,8 (1050 - 1700 nm)	4,8 (1050 - 1700 nm)	4,8 (1050 - 2600 nm)	4,8 (1500 - 3000 nm)	4,8 (1000 - 3700 nm)
Spectral resolution, nm * Diffraction grating 600 l/mm, slit 200 micron	2,4	2,4	2,4 (200 - 1050 nm)	2,4 (380 - 1050 nm)	2,4 (380 - 1050 nm)		2,4 (380 - 1000 nm)
Reproducibility of wavelength, nm			0,25		0,5	1,0	0,5 (380 - 1000 nm) 1,0 (1000 - 5000 nm)
Accuracy of wavelength setting, nm			0,5		1,0	2,0	1,0 (380 - 1000 nm) 2,0 (1000 - 5000 nm)
Photometric functions	R%, T% **					T%	
Measuring range: T%	0,01 – 120%						
Light source	Deuterium lamp / Halogen lamp	Halogen lamp	Deuterium lamp / Halogen lamp	Halogen lamp		IR source	Halogen lamp, IR source
Measurement accuracy	<0,01 x T ***						
Reproducibility of measurement	0,005 x T ***					0,01 x T***	0,005 x T (380 - 1700 nm) 0,01 x T (1650 - 5000 nm)*
Stability of baseline	0,01 x T/hour						
Scattered light level	0,005 x Tmax					0,01 x Tmax	0,005 x T (380 - 1700 nm) 0,01 x T (1650 - 5000 nm)*
Receiver	PMT, Si	Si-detector	PMT, Si, IGA	Si, IGA	Si, PbS	PbSe	Si, IGA, PbSe
Communication port	RS-232						
Time of measurement: at single wavelength complete range	from 100 ms 60 – 150 sec	from 100 ms 20 – 30 sec		from 100 ms 60 – 150 sec			from 100 ms 150 – 300 sec
Power consumption, Wt	80	50	80	50			
Power supply	100-240 V, 50/60 Hz						
Net weight, kg	20	16	20	17	17	16	17

* Typical configurations of diffraction grating and slit are shown. Final configuration is subject to Customer's specifications.

** Manual change of the light source

*** After 10 min warm-up of the halogen lamp and 30 min warm-up of deuterium lamp.

Other configuration options are always possible based on individual customer requirements.

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