

# ARYELLE<sup>150</sup> Spectrometers

Interaction of light and matter –  
induced and analyzed with lasers  
and measuring systems of LTB

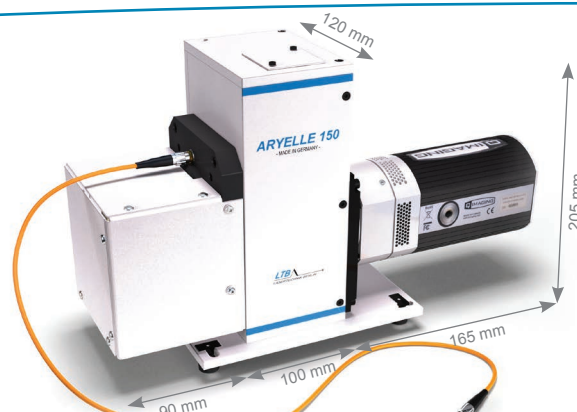
## ARYELLE 150\* ARraY EchELLE Spectrograph

- Very compact and stable
- High resolution (5,000-11,000)
- Large simultaneous wavelength range
- Can be combined with different detectors (CCD, EMCCD)
- Up to 30 spectra per second
- Cost-efficient
- Easily configurable dispersion unit

ARYELLE 150 is a very compact and cost-efficient high-resolution spectrometer for the material /elemental analysis in industry by means of LIBS and Raman spectroscopy.

ARYELLE 150 is an inexpensive echelle spectrometer with fibre coupling for different CCD and EMCCD image detectors. It is characterized by a high sensitivity and a high imaging quality. The dispersion unit with grating and prism can be easily configured for different applications.

Application fields of the ARYELLE 150 are the material and elemental analysis by means of laser-induced breakdown or Raman spectroscopy. Due to its compact and rugged design it is well suited for the industrial process control, e.g. in the steel, glass and ceramics industry or in pharmaceuticals, chemistry and environmental analytics.

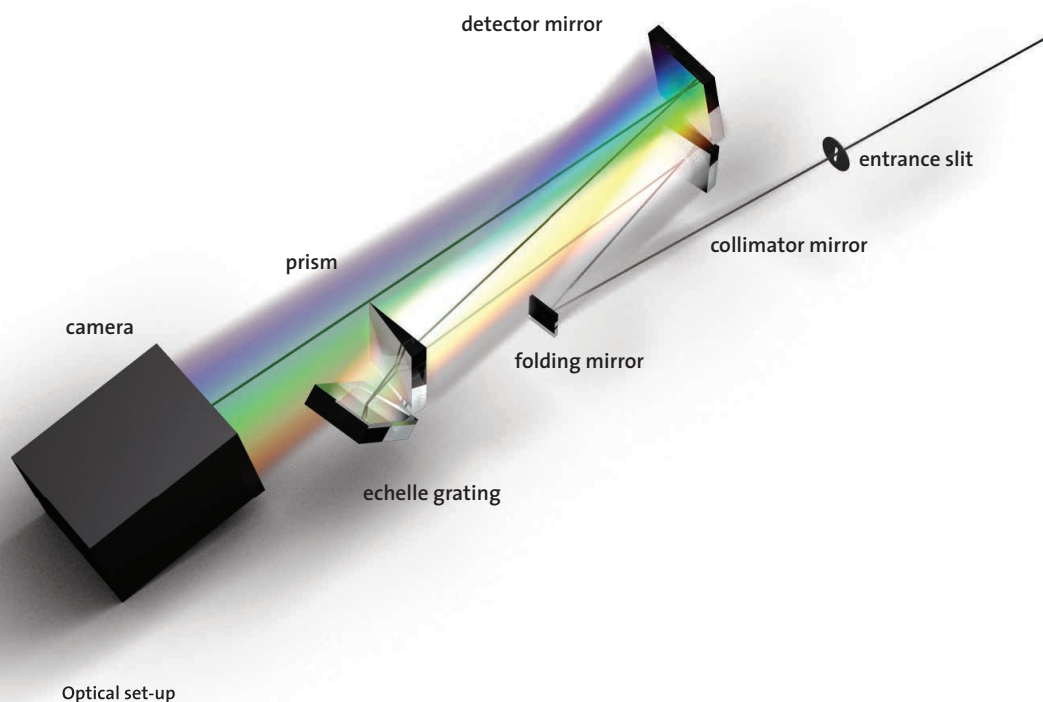


The small size of 170 x 120 x 205 mm<sup>3</sup> and the low weight of 2 kg (without detector) make it particularly suitable for portable devices and industrial use.

In combination with the MA 300 you get a complete LIBS system. Other customized system setups can be realized according to your requirements.

### Spectrometer concept

The ARYELLE 150 has a focal length of 150 mm and an aperture of f/7. Depending on the required simultaneously detectable wavelength range, it is possible to measure spectra from the UV up to the NIR with a spectral resolving power of 5,000 up to maximum 11,000 (at a slit width of 35 µm).





# Spectrometers

## Specifications ARYELLE 150, typ.

Aperture	f/7
Focal length	150 mm
Slit width	35 $\mu$ m
Wavelength range	220 - 800 nm
Spectral resolving power	6,000
Spectral resolution FWHM	36 - 133 pm
Order crosstalk	$5 \times 10^{-3}$
Stray light	$1 \times 10^{-5}$
Detector	CCD (USB), 8 x 8 mm <sup>2</sup> image area
Dynamic range	14 bit, AD conversion
Light coupling	SMA-fiber coupling
Wavelength calibration	With mercury lamp
Absolute accuracy	Spectral resolution/4
Computer	PC or laptop with Windows
Software	Sophi
Dimensions without detector (L x W x H)	(170 x 120 x 205) mm, (6.69 x 4.72 x 8.07) in
Weight without detector	2 kg (4.41 lbs)

other spectral resolutions and wavelength ranges are possible