

## FIBER RHINO, 2-AXIS SCAN HEAD

# VERSATILE 2-AXIS SCAN HEAD FOR A WIDE VARIETY OF APPLICATIONS

Novanta develops photonics solutions through our globally recognized brands— ARGES, Cambridge Technology, Laser Quantum and Synrad— specializing in cutting-edge components and sub-systems for laser-based diagnostic, analytical, micromachining and fine material processing applications. Powerful lasers, coupled with advanced beam steering and intelligent sub-systems incorporating software and controls, deliver extreme precision and performance, tailored to our customers' demanding applications.

## LARGE APERTURE SIZE

Engineered by ARGES, the Fiber Rhino provides the largest aperture sizes within its portfolio of 2-axis scan heads with 16 to 31 mm, which are essential for vision and measurement systems, multi-kilowatt applications. Our solution also features an option without fiber coupling, the Rhino scan head.

Our scan heads are available with a variety of apertures, mirror coatings and f-theta lenses as complete scan solution for industrial system manufacturers and integrators.

The electronic design in state of the art surface mount technology maximizes thermal stability, static and dynamic optical performance in robust housings.

The compact scan head series can be purchased with various interfaces: standard analog inputs, standard XY2-100 protocol or our proprietary interface implementing new features and Plug & Play operation.



## TAILORED ENGINEERING CAPABILITIES

Through our highly specialized expertise and resources we can provide tailored solutions for your application needs. With a large selection of different laser sources, scan heads and handling systems to choose from, we can develop laser processes that are perfectly tailored to a wide variety of customer-specific products, components and materials.

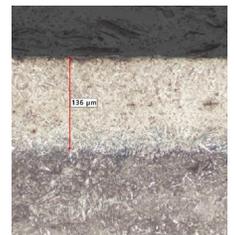
- Laser-specific customization
- Sub-systems that include laser and beam path
- Customer-specific software extensions
- Laser process development
- Sample production



Laser Welding



Laser Cutting



Laser Hardening

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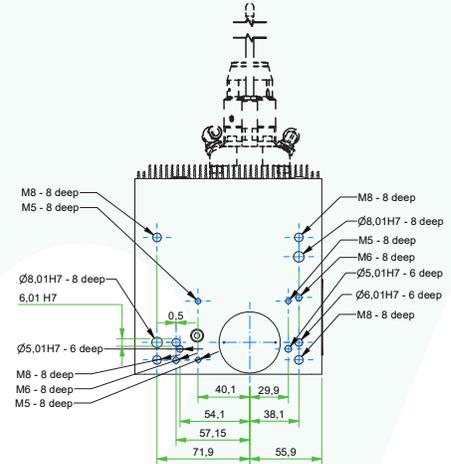
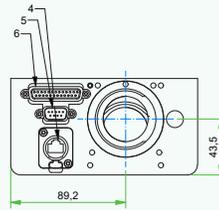
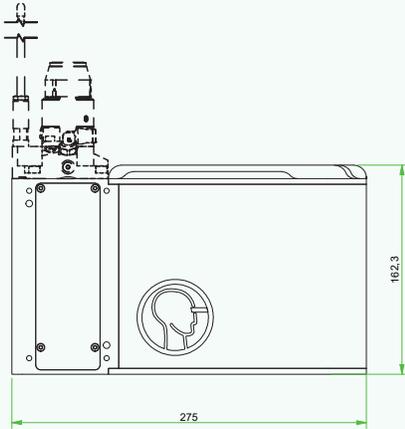
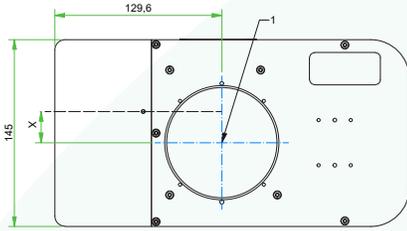
Specifications	16 mm	21 mm	31 mm
Aperture	16 mm	21 mm	31 mm
Beam Displacement	18.4 mm	24.2 mm	35.8 mm
Step Response 1%	0.42 ms	0.65 ms	1.00 ms
Step Response 10%	0.71 ms	1.05 ms	2.50 ms
Step Response 100%	8.40 ms	12 ms	18 ms
Typical Tracking Error	0.30 ms	0.40 ms	0.90 ms
Repeatability	< 20 $\mu$ rad		
Longterm Offset Drift <sup>1</sup>	< 0.3 mrad		
Scan Angle	$\pm 25^\circ$		
Skew	< 1.2 mrad		
Linearity	> 99.9%		
Supply Voltage, DC	+/- 24 V		
Supply Voltage, Tolerance	+/- (13.5 ... 28)		
Max Standby Power Consumption	15 W		
Max Current <sup>2</sup>	4 - 6 A		
Ambient Operating Temperature	10°C ~ 40°C		
Ambient Storage Temperature	0°C ~ 50°C		
Non-condensing Humidity	10% ~ 80%		
Cooling Water	DI-water-proof cooling unit with corrosion resistant types of steel		
Pressure	3 - 5 bar		
Max Inlet Temperature	3 bar ~ 5 bar		
Recommended Tubing Material	30°C		
Tube Diameter and Wall Thickness	Polyether Polyurethane		
Weight (excluding lens)	3.7 kg		
Dimensions ( L x W x H)	200 mm x 145 mm x 182.5 mm		

### References:

1. Under constant load and environment over 8 hours.
2. Depending on model

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## FIBER RHINO

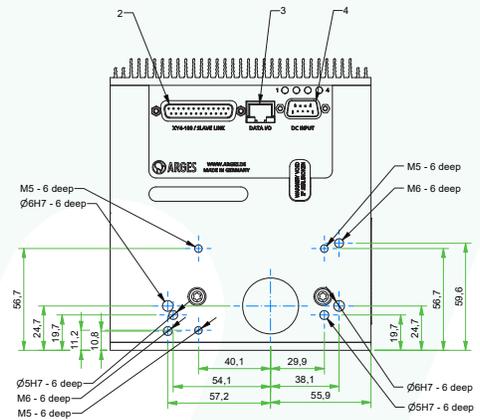
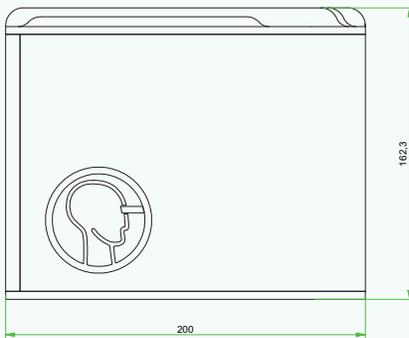
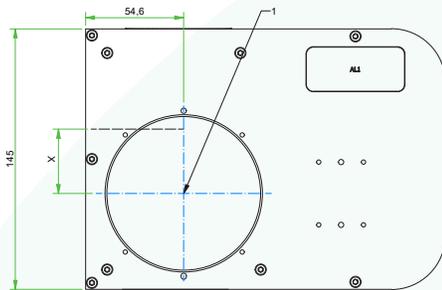


### Notes:

All angles are in optical degrees, unless otherwise noted. Dimensions are in millimeters. All specifications are subject to change without notice.

# FIBER RHINO, 2-AXIS SCAN HEAD

## RHINO



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All angles are in optical degrees, unless otherwise noted. Dimensions are in millimeters. All specifications are subject to change without notice.

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