ELEN™
THE FUTURE IN A BEAM

El.En S.p.A // HQ Operations

Contacts

✉ sales@elen.it

📞 +39 055 8826807

📠 +39 055 8832884

🏢 Via Baldanzese, 17 - 50041 Calenzano (FI) Italy

🌐 **www.elenlaser.com**

in ▶ 📷

ELEN™
THE FUTURE IN A BEAM

Discover more about
Laser Scan Heads Series

📱 SCAN ME

CE ⚠

AZ SCAN SERIES
FLEXISCAN SERIES

FLEXISCAN M220 / M230

AZSCAN S20 / S35 / HR70 / HRTRIPLE

High-performance
2 & 3-Axis Scan Heads

Experience Rooted in Passion

AZSCAN and FLEXISCAN series are designed, developed, and manufactured in El.En.'s Italian facilities.
For over 40 years, El.En. has passionately committed itself to achieving the highest levels of engineering and reliability, creating devices with advanced technological capabilities.
In addition to scanning heads, El.En. also develops laser sources and galvanometric components for a perfect integration. With more than 4000 industrial installations, El.En. has been chosen to achieve exceptional performance in a wide range of industries.
Embrace the precision, innovation, and expertise of El.En.'s laser solutions, empowering your industrial applications with cutting-edge technology.

Total control for maximum performance

The AZSCAN is a compact and versatile series of integrated 3-axis scanning heads designed for CO_2 laser systems, also suitable for high-power laser applications. The scanning heads are equipped with high-performance mirrors and DSP digital drivers to provide the highest level of accuracy and dynamic performance. The scanning heads incorporate a Z linear motor axis for accurate real-time laser beam focusing, ensuring optimal engraving spot quality. High torque and precision galvanometers provide high acceleration and speed all over the field of view with the highest stability. The spatial alloys mirrors of the scanning heads provide high stiffness while minimizing the moment of inertia, allowing for faster and more accurate mirror movements.

MANCA FOTO AZSCAN S20

Key features

- High performance mirrors
- On-the-fly processing capability
- Small spot
- Fast Z-axis

- High accuracy & high dynamic performances
- Wide selection of working areas
- DSP galvo drivers

Seamless integration

The AZSCAN and FLEXISCAN series versatility enables seamless integration into a wide range of systems, providing flexibility to adapt to different power requirements and diverse operational scenarios.
An additional advantage of the two series is the comprehensive integration of El.En.'s cutting-edge technologies within the same system. This includes laser sources, scanning heads, galvanometric systems, and dedicated software control. By optimizing this technological ecosystem, the series delivers exceptional performance as all components are designed to work together synergistically.
This versatile and harmonized integrability empowers customers or integrators with enhanced efficiency, productivity and performance across various applications and industries.
Moreover, the AZSCAN and FLEXISCAN series ensure compatibility with components other than those from El.En., offering added convenience for integration into existing setups.
Each model has been meticulously engineered to deliver exceptional performance and reliability. Whether it's precision cutting, engraving, or marking, these scanning heads provide the versatility for a wide range of applications.

Introducing the 3-Axis Scan Heads series

AZSCAN S20

MANCA FOTO AZSCAN S20

AZSCAN S20 Lorem Ipsus nam earitatem. Rorerei catibus citaturibus alistruption rent.
Expernam labor aut vellupta volorep udamusciumet laboreicia iun MANCA TESTO S20 lupta ssitist res ut fuga. Parcim eum ute volo maiossu ntorem ut volorior ation re natur, in pe corunte is ex essit mos

AZSCAN S35

AZSCAN S35 with 35mm mirrors, for working areas from 150x150 to 800x800mm, with CO_2 laser powers up to 1000W, is the most versatile, compact and cost effective solution, for paper engraving and cutting, fabrics decoration, flexible packaging and industrial laser cleaning.

AZSCAN HR70

AZSCAN HR70 with 70mm mirrors for working areas up to 1800x1800mm with CO_2 laser powers up to 2500W, for high resolution & dynamics for ultimate control and precision. It is the perfect choice for fast-cutting on thin materials and heavy-duty operations on marble, granite, and similar materials. With its exceptional capabilities, AZSCAN HR70 empowers laser wood marking, cardboard and corrugated board cutting for packaging, fabrics decoration, marble cleaning, and much more.

AZSCAN HRTRIPLE

AZSCAN HRTRIPLE is an integrated modular solution, housing three high-resolution scanning heads with 70mm mirrors. Each scanning head can be individually adjusted to deliver maximum quality across the 800x400mm working area. Compatible with CO_2 lasers up to 2500W per module, it ensures exceptional performance for state of the art digital converting applications. AZSCAN HRTRIPLE is the unique solution on the market for top speed applications in a modular and compact design.

Introducing the 2 and 3-Axis Scan Heads series
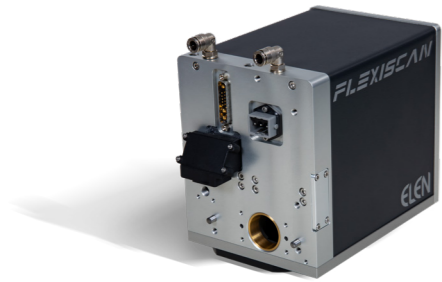
FLEXISCAN M220/M230

The FLEXISCAN Series is the new solution joining a compact 2-axis deflection unit with an optimized Z-axis module add-on.

Available with 20 or 30mm high performance mirrors, with a flat field lens or a new fast Z linear motor with 1" input lens, it is the first choice to ensure seamless integration and optimal performance for every application.

VOYAGER CONTROL UNIT

Voyager Control Unit is a digital device designed to manage galvo-scanning units and laser modulation. The integrated 32-bit controller ensures real-time and highly accurate control of galvo systems during laser processes. The Voyager Control Unit includes Ethernet, Encoder and I/O inputs for direct interfacing with PLC or CNC devices. The full encoder compatibility and the high-performance real-time capability enable an effective and deterministic on-the-fly laser processing for inline production.
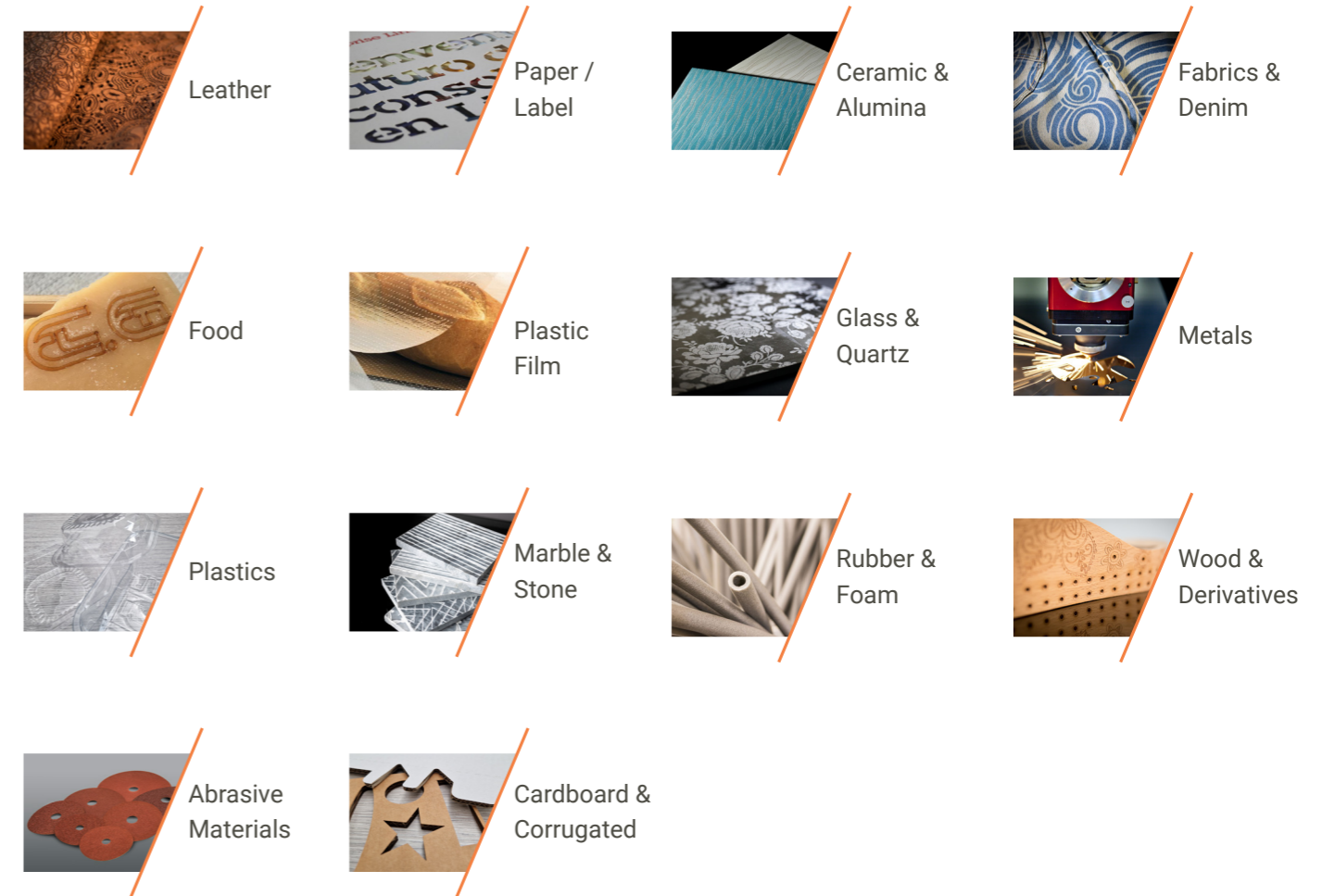
SMART SCANNER

Smart Scanner DLL is the software library interface of the Voyager Control Unit that communicates with it via TCP/IP protocol, making it easily integrable into client's software. With Smart Scanner, users can send system configuration parameters, marking patterns, and dynamic marking process parameters, such as laser speed and power, to the Control Unit. The library is the complete way to control and operate with Voyager Control Unit, managing all the system's potentiality.
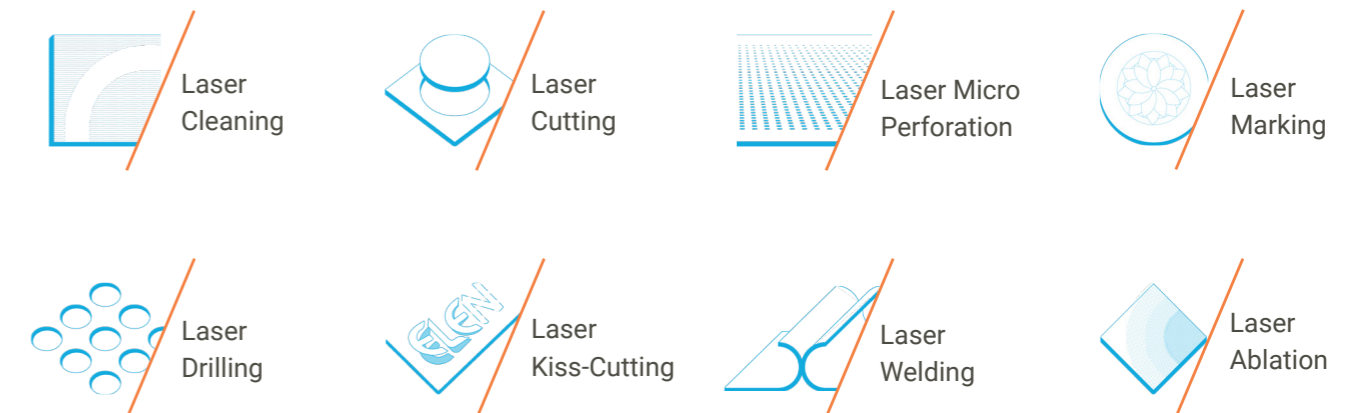
VOYAGER MANAGER

Voyager Manager is the calibration software for El.En. scanning systems with a user friendly interface which allows users to quickly setup all the scanner parameters during system integration.

Voyager Manager includes diagnostic and testing tools and the possibility to engrave simple patterns.
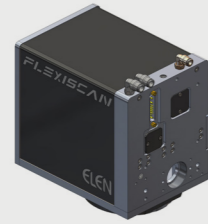
Applications

The AZSCAN and FLEXISCAN series are versatile and can be utilized in various applications, including advanced remote processing, cutting and engraving of plastics, wood, leather, fabrics and many other materials, digital converting for the packaging industry, high-speed cutting of paper and cardboard, label kiss-cutting and laser cleaning for the automotive industry. With their adaptability and capabilities, the two series prove to be a reliable choice for a wide range of industries, enhancing productivity and offering excellent laser processing in diverse applications.
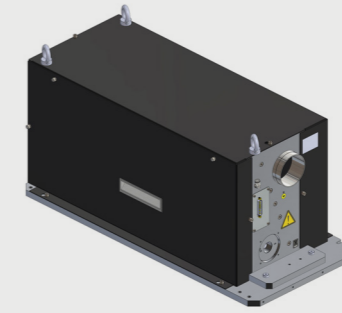
- Leather
- Paper / Label
- Ceramic & Alumina
- Fabrics & Denim
- Food
- Plastic Film
- Glass & Quartz
- Metals
- Plastics
- Marble & Stone
- Rubber & Foam
- Wood & Derivatives
- Abrasive Materials
- Cardboard & Corrugated

Processing

- Laser Cleaning
- Laser Cutting
- Laser Micro Perforation
- Laser Marking
- Laser Drilling
- Laser Kiss-Cutting
- Laser Welding
- Laser Ablation

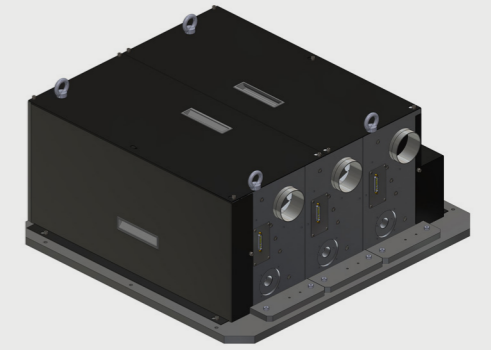**FLEXISCAN M220 / M230**

AZSCAN S20

AZSCAN S35

AZSCAN HR70

AZSCAN HRTRIPLE

Laser Specifications

Model	FLEXISCAN M220	FLEXISCAN M230	AZSCAN S20	AZSCAN S35	AZSCAN HR70	AZSCAN HRTRIPLE
Description	2-axis scanning head	2-axis scanning head	3-axis scanning head	3-axis scanning head	3-axis scanning head	3-axis triple scanning head
Working Area (mm)	available working field from 50x50 to 300x300	available working field from 50x50 to 300x300	from 100x100 to 300x300	300x300 typical, available working field from 150x150 to 800x800	1800x1800 available working field from 500x500 to 1800x1800	770x390
Working distance (mm)	depending on f-theta	depending on f-theta	Depending on working area	412	2473	535
Wavelength (µm)	10.6 ± 0.4	10.6 ± 0.4	10.6 ± 0.4	10.6 ± 0.4	10.6 ± 0.4	10.6 ± 0.4
Dimensions (mm)	220x148x203	220x148x203	418.5x200.5x151.6	382x220x222	750x405x381.5	939x816x372
Weight (kg)	6	6	8,5	10,5	46,5	133

Optical & Electrical specifications

Mirror aperture (mm)	20	30	20	35	66	66
Spot diameter 1/e2 (µm)[1]	depending on f-theta	depending on f-theta	320 depending on working area and distance	320 depending on working area and distance	830 depending on working area and distance	260
Max collimated beam diameter (mm)	20	30	11	19	19	19
Typical scan angle (optical) (rad)	± 0,35	± 0,35	± 0,35	± 0,35	± 0,35	± 0,35
Deflection unit step response time (µs)[2]	370	800	370	550	1400	1400
Deflection unit tracking error (µs)[3]	450	750	450	600	100	100
Max scanning speed (optical) (rad/s)[4]	80	80	80	40	36	36
Max laser power (W)	2500	2500	900	900	2500	2500
Power supply (Vdc)	± 24	± 24	± 24	± 24	± 24	± 24

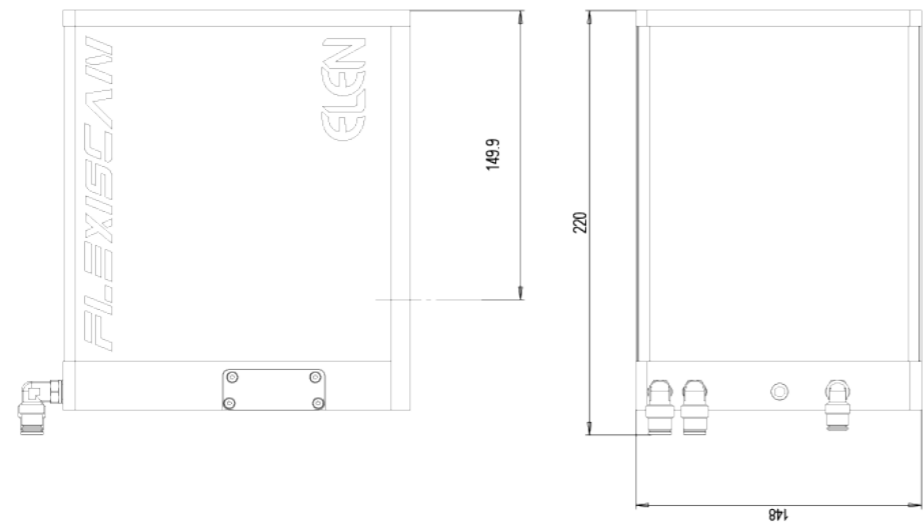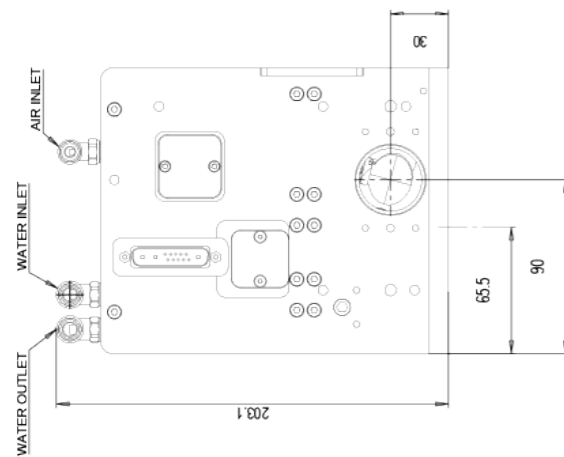(1) Maximum spot diameter over the working field calculated with M2=1 input beam
(2) 10%-90% @1% of full scale
(3) Full scale 20Hz triangle wave
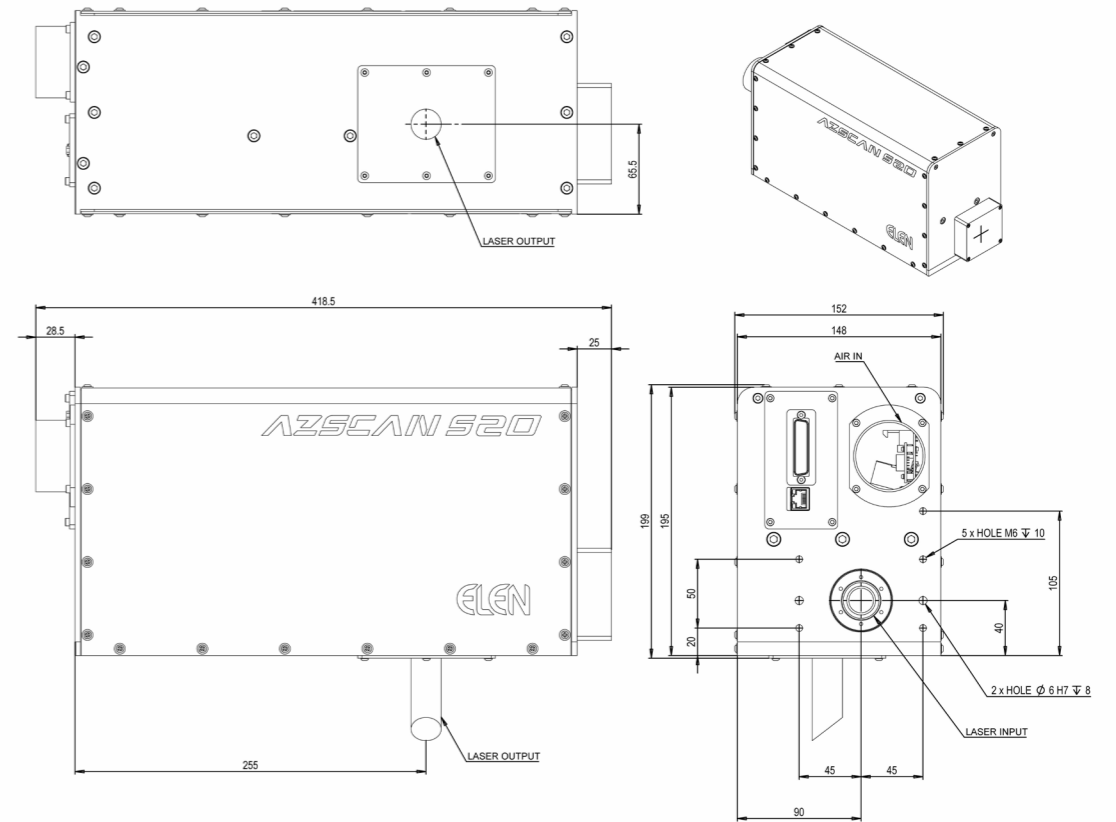(4) Calculated from full scale 0-100% step response time

ELEN

ELEN

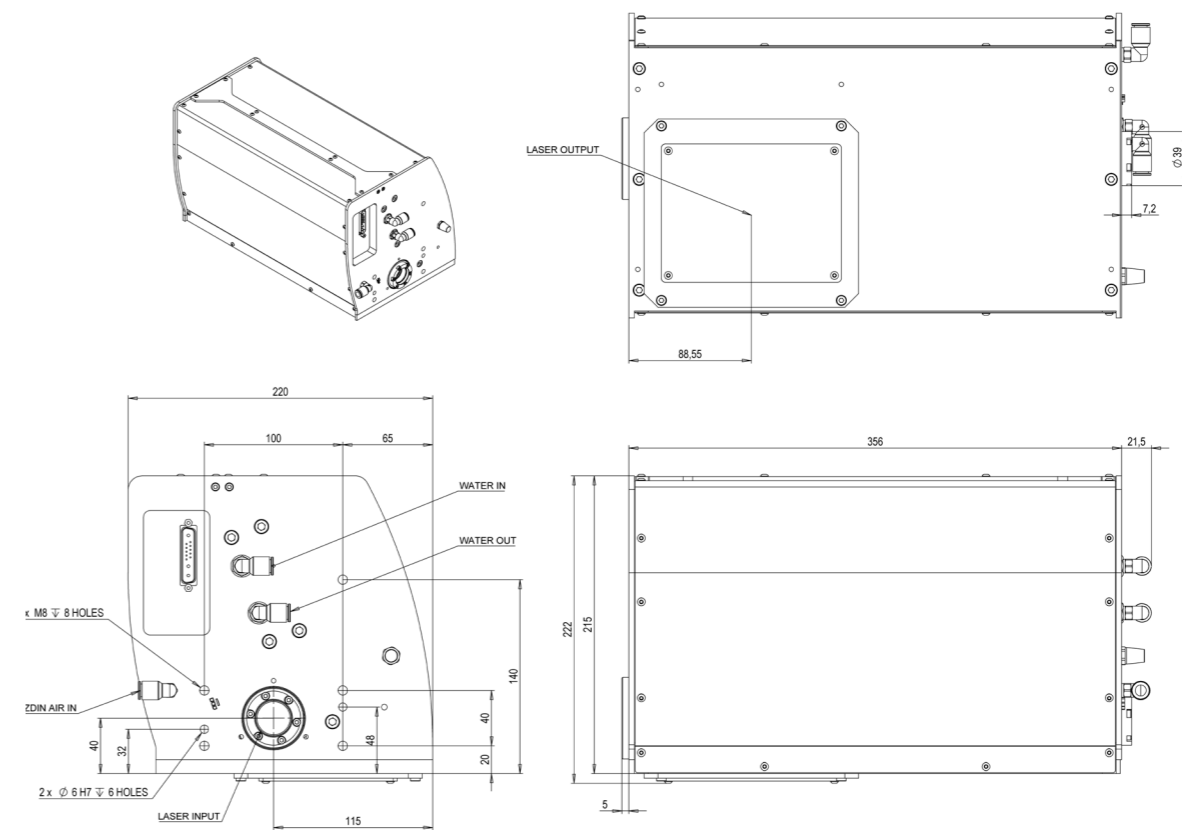# Technical Drawings 2-Axis Scan Heads series*

FLEXISCAN M220 / M230

Technical Drawings 3-Axis Scan Heads series*

AZSCAN S20

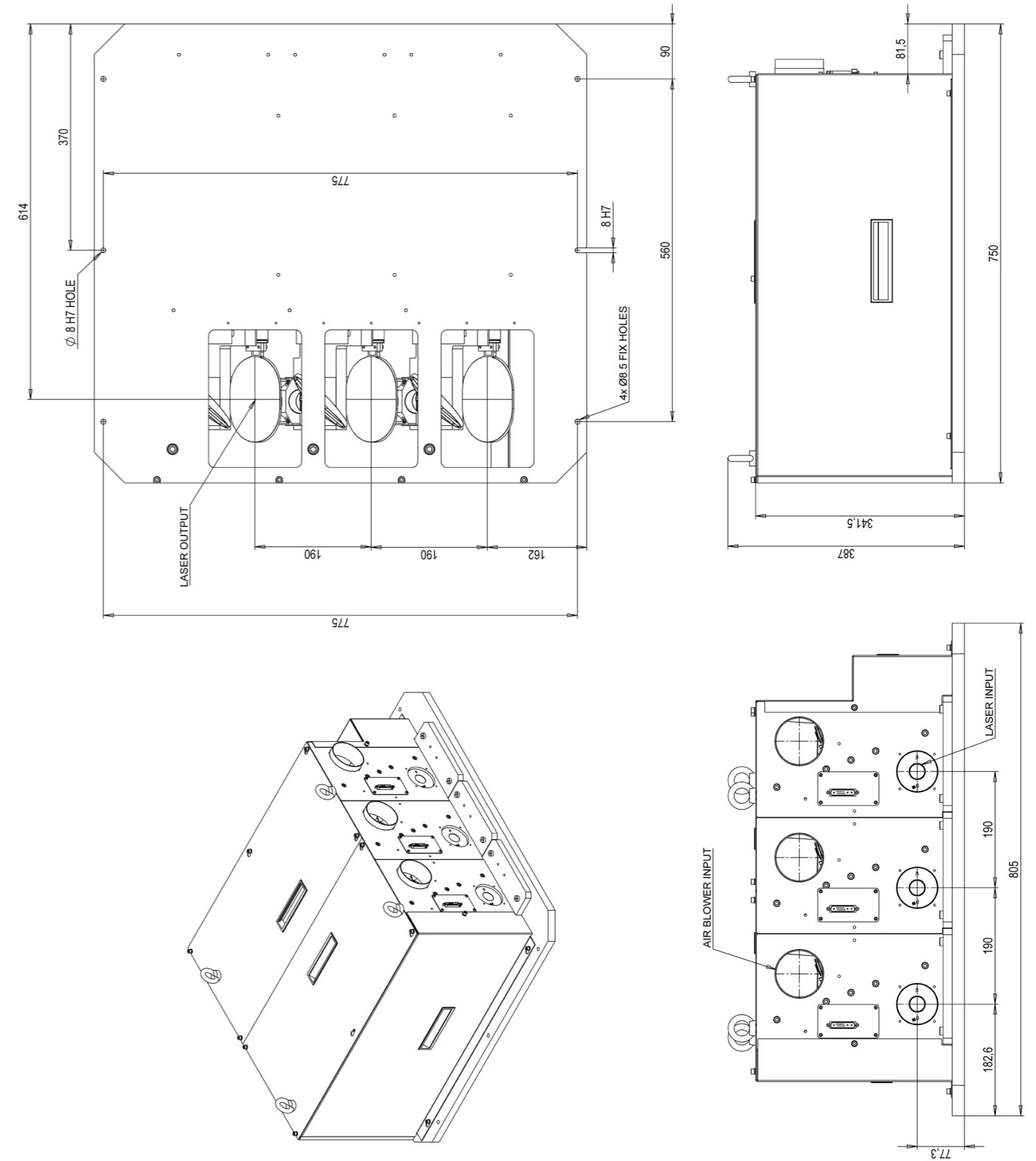## AZSCAN S35

AZSCAN HR70

AZSCAN HRTRIPLE

*Drowings not to scale

*Drowings not to scale