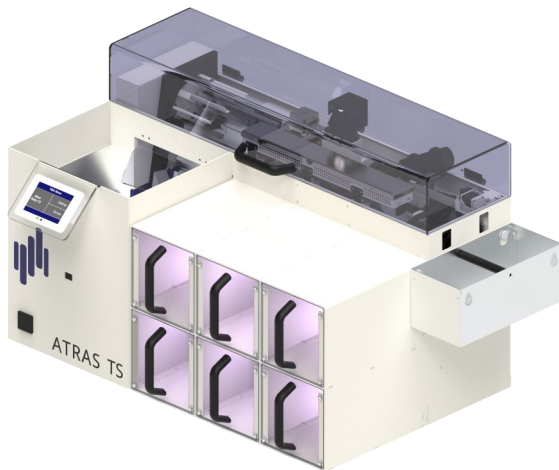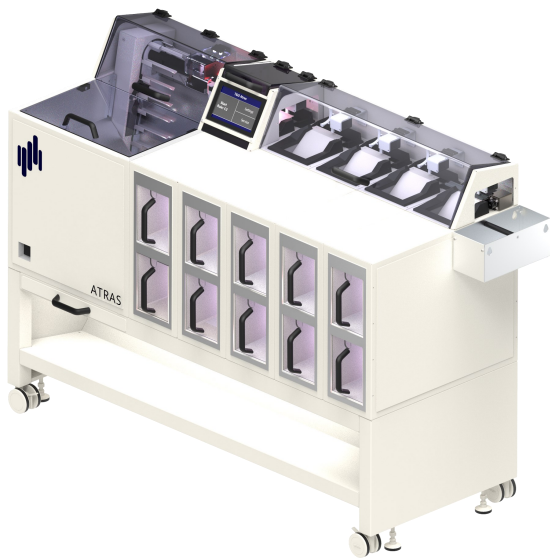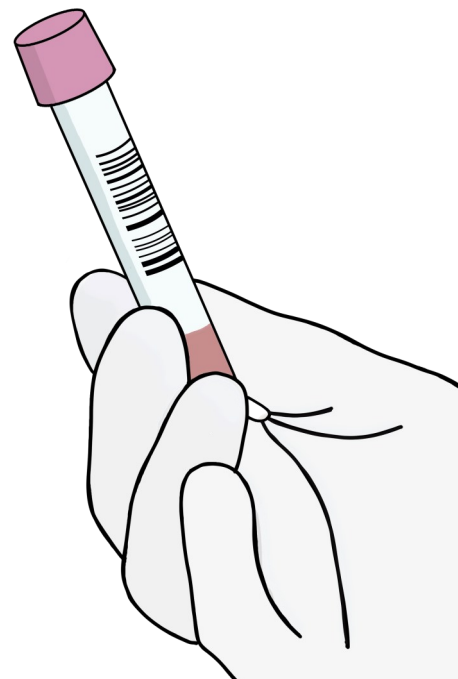# ATRAS

Bulk Loader and Sorter:

Cost-effective optimization of the sample reception area

Benefits

ATRAS optimizes the sample reception area efficiently and cost-effective

- Early registration of sample tubes

- Employees can focus on value adding activities

ATRAS improves process quality and reduces turn-around time

- Early identification and separation of samples in question

- Fast and reliable

ATRAS organizes pre-analytical sorting of hematology samples

- Direct sorting of hematology samples in bulk or racks (ATRAS RS)

- Significant reduction of samples for further pre-analytical processing

System description

ATRAS is characterized by a **clear structure**, **intuitive handling** and **low maintenance. High quality** and almost **wear-free parts** ensure the device's **reliability** and **durability**. Due to its **modular design** ATRAS provides an ideal **solution for diverse** and **interchangable laboratory requirements**.

Cap-color identification
A unique spectrometer, developed in-house, identifies the cap-color of every single tube enabling a plausibility check between tube type and corresponding barcode.

Sample registration
Sample tubes are registered via a high performance barcode scanner for fast and reliable sample tube identification.

Sorting rules
Sorting of tubes occurs through customer-defined rules based on cap-color and/or barcode information or by LIS-transmitted rules.

Tube separation
A conveyor chain separates the sample tubes smoothly and reliable.

SIQ-bin
External bin for samples in question.

Bulk loader
Easy and continuous sample loading in bulk, with a capacity of up to 600 tubes.

Rack sorter
One double rack target module sorts into three different racks.

Sorting to target bins
The illuminated target bins can be removed at any time during the sorting process. The process then continues until a tube is supposed to be sorted into the removed bin. Thus, the performance continuously remains at the highest level in real operations.

User interface
Intuitive and simple operation via colored touchscreen.
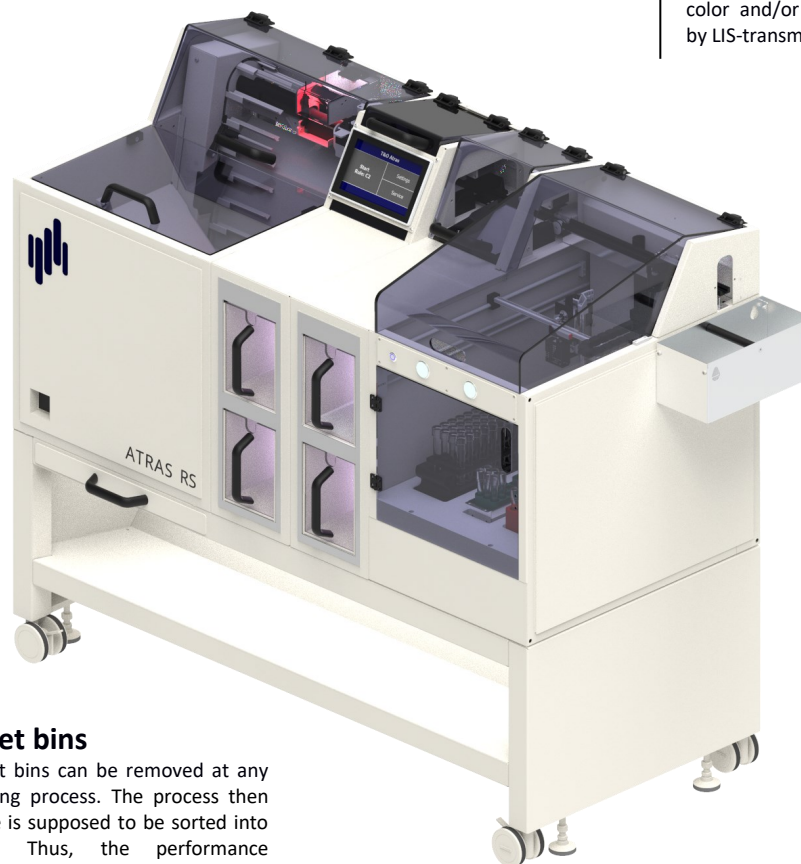
ATRAS RS with 4 + 1 bulk and 3 rack targets

ATRAS

bulk-to-bulk registration and sorting

Sample tubes are inserted in bulk, registered and sorted based on barcode and/or cap-color information. Registration is done by a high performance barcode reader ensuring reliable specimen identification at high throughput. An adaptive and uniquely precise, in-house developed spectrometer enables the verification of a sample tubes cap-color and its corresponding barcode, detecting and sorting out false or un-labelled specimen at the earliest possible stage. Sorting rules can be set-up as required and adjusted easily, so ATRAS can communicate directly with the LIS or work independently as a stand-alone device. The continuous tracking of all sample tubes during the entire process from registration to sorting guarantees safe and reliable handling of all specimen to increase overall process quality.

- Througput: 2350 tubes/h

- All common sample tubes

- 6-10 target bins*

- External SIQ-bin

- Expandable by rack target modules

- Works with/ without LIS-connection
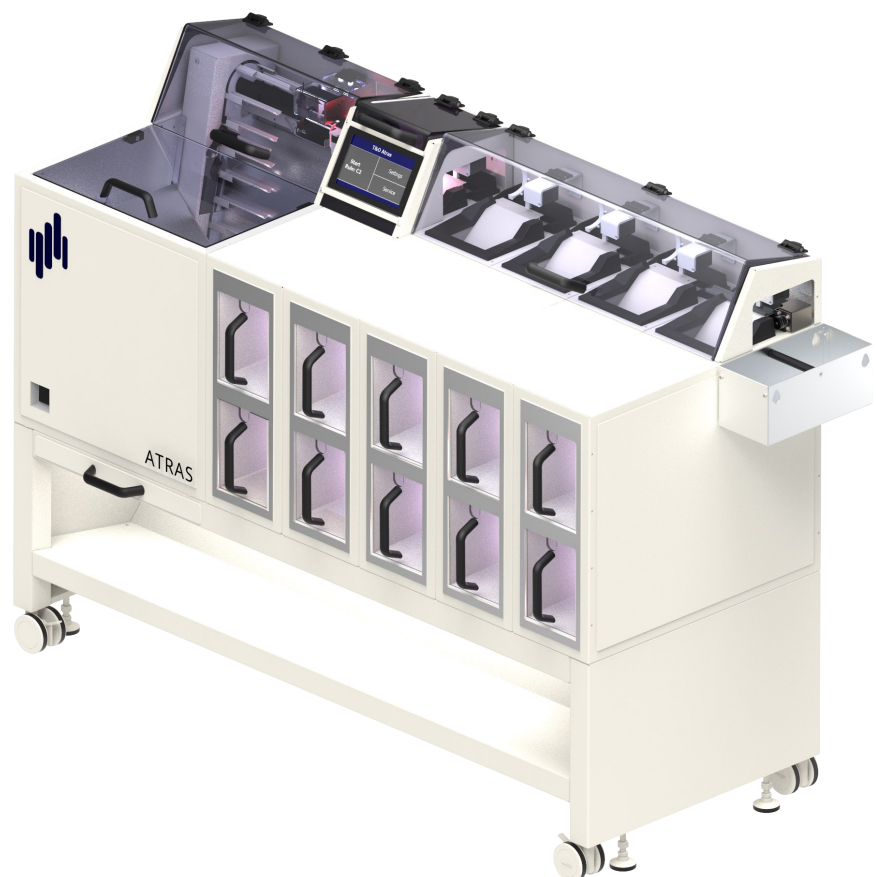
ATRAS with 10 + 1 bulk targets

*The number of target bins can be increased almost indefinitely through expansion modules.

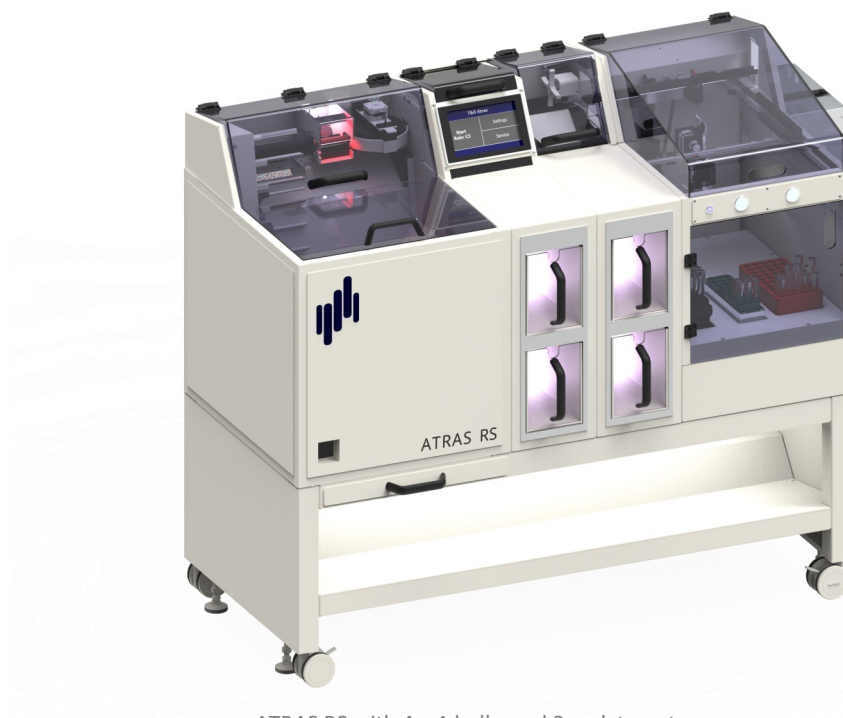# ATRAS RS *bulk-to-rack registration and sorting*

Expanding the bulk-to-bulk sorting by bulk-to-rack sorting the ATRAS RS goes one step further in the direction of full laboratory automation, therefore being particulary suited for highly automated laboratories with a high sample-throughput.

Thanks to an intelligent software control and a buffer inside every rack target module, ATRAS RS operates highly efficient achieving a throughput of 500 - 700 tubes/h per rack target module.

- 2 options available:
a) The tubes are sorted into one rack per rack target module
   — Ideal for a high throughput
b) The tubes are sorted into 3 different racks **per** rack target module
   — Ideal for detailed sub-sorting
- Arbitrary combination of rack and bulk target modules
- Intelligent software control for efficient processing
- Throughput: 500-700 tubes/h per rack target module
   — Throughput depending on rack type
- Separate test tray
- Plausibility control
- Works with/ without LIS-connection

The modular design allows any combination of bulk and rack target modules.

ATRAS RS with 4 + 1 bulks and 3 rack targets

ATRAS TS *bench-top device for registration and sorting*

ATRAS TS is a small and compact benchtop version of ATRAS providing the same functionality at lower investment costs.

Due to its small size the device is the perfect automation solution for smaller laboratories with low to medium throughput requirements. ATRAS TS can be used for recursive sorting to further optimize sample workflow in the laboratory.

- Compact design, small footprint

- Throughput: up to 1200 tubes/h

- Intuitive and simple handling

- All common sample tubes

- Bulk input capacity: 400 tubes
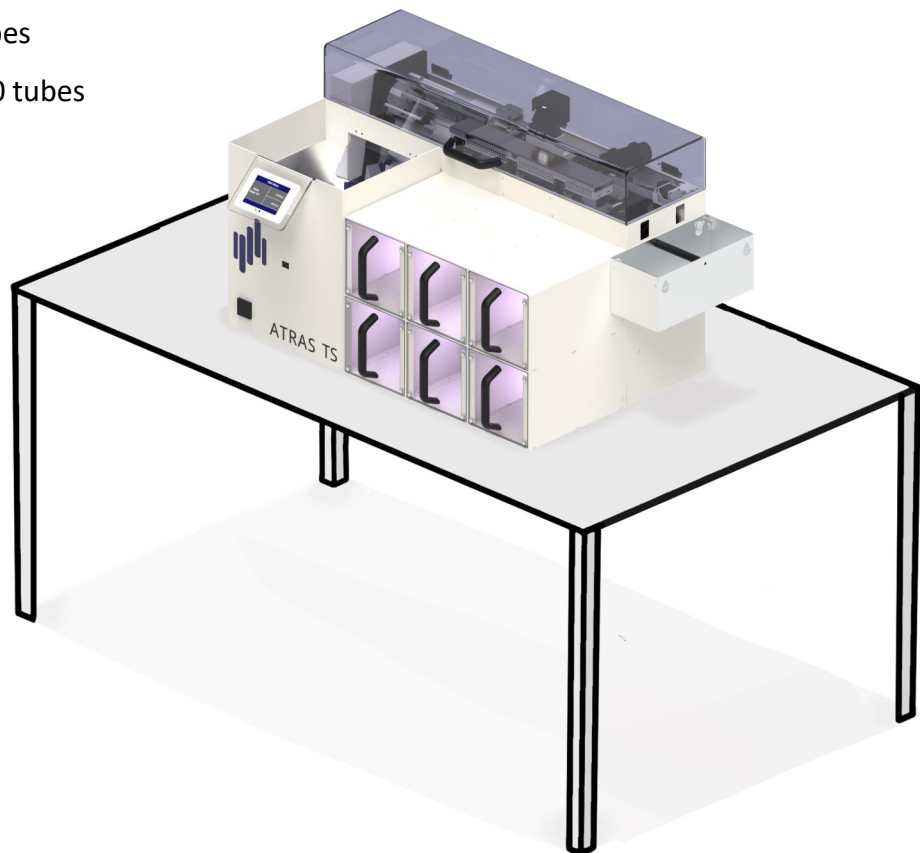
ATRAS TS with 6 + 1 bulk targets

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Service

You have a question? Give us a call. Spare parts? Already on their way. We care for our customers!

The ATRAS series by T&O - low maintenance , simple service, unbureaucratic help.

Our service concept focuses on fast local customer support and aftersales service. We support all customers in the best possible way and offer a first-line-user training for your in-house technicians. In order to perform the tasks, all required information and help is provided by T&O LabSystems.
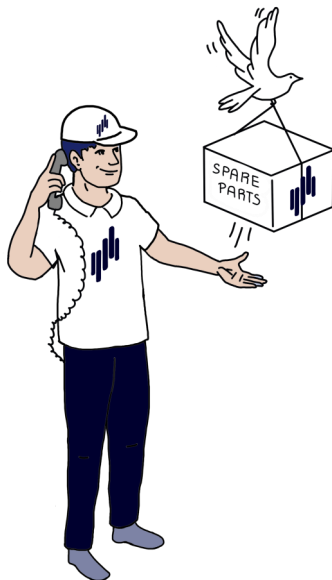
Our customer service includes:

- **A personal contact person**
- **Instant support via telephone**
- **On-site service**
- **First-line-user training for your in-house technicians**

Also we give an extensive briefing and training session in how to use the ATRAS, with every installation.

Contact

Nils Beran, *Service Engineer*

Mail: nb@to-labsystems.com
Phone: +49 (0) 4191 9913987
Mobile: +49 (0) 176 43686269

T&O

Who we are

We are a family-operated developer and manufacturer of laboratory automation solutions located in Hamburg, Germany. T&O was founded by our Managing Director Tom Lorenzen in 2009, who runs the company together with his sons Dave, who supports in the general management and Dennis, who is responsible for the software development. Engineers, technicians, and economists complete the young interdisciplinary team at T&O. Our team is highly motivated, driven by innovation, striving to improve the pre-analytical processes within clinical laboratories.

Status quo

Our corporate culture is team-oriented, operating through flat hierachical structures. This has been a key factor in our constant and sustainable growth to date. With more than 300 installed systems globally, T&O can look back at successful market penetration through subsidaries and in close co-operation with business partners. We consider ourselves a reliable pro-active business partner aiming to build long-term relationships with all our partners.

Moving foward

Although we have experienced strong growth we are continually striving for further expansion. This is being done through new distribution partnerships, expansion and development of our product portfolio and entry to new markets.

Contact

Christian Schatz, *Head of Sales*

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Technical specification: ATRAS, ATRAS RS

Construction

Dimensions (W x H x D)	1100-1500 (3-5 modules) x 1140 x 600 mm
User interface	Touchscreen, colored
Barcodes	All common 1D-barcode types
Cap-color detection	Cap-color identification via spectrometer (CapID)
Sorting modes	Stand-alone or via LIS communication
Sorting basis	Barcode, cap-color, tube dimension
Target bins	10+1 target bins, expandable indefinetely by extension modules
Capacity	Input module: 400-600 tubes, target bins: 100-200 tubes
Throughput	2350 tubes/h under normal conditions
Weight	App. 140 kg. / 310 lbs.
BTU (maximum version)	approx. 392 BTU

Electricial/Connections

Supply voltage	AC 100-240 V / 50-60 Hz
Consumption	App. 200 VA
LIS connection	Ethernet, RJ45
PC connection	Ethernet, RJ45

Rack target module

Consumption	Additionally 50 VA per rack module
Throughput	App. 500 tubes/h per rack target module with alignment of the barcode App. 600 tubes/h per rack target module without alignment of the barcode
Racks	Common rack systems, max. size: 350 x 400 mm (W x D)
Features	Barcode alignment
BTU (additionally)	approx. 239 BTU

Technical specification: ATRAS TS

Construction

Dimensions (W x H x D)	820 x 500 x 500 mm
User interface	Touchscreen, colored
Barcodes	All common 1D-barcode types
Cap-color detection	Cap-color identification via spectrometer
Sorting modes	Stand-alone or via LIS communication
Sorting basis	Barcode, cap-color
Target bins	6 target bins, 1 external bin for samples in question
Capacity	Input module: app. 400 tubes, target bins: 100-120 tubes
Throughput	1200 tubes/h under normal conditions
Weight	App. 50 kg. / 110 lbs.
BTU (maximum version)	approx. 392 BTU

Electricial/Connections

Supply voltage	AC 100-240 V / 50-60 Hz
Consumption	App. 200 VA
LIS connection	Ethernet, RJ45
PC connection	Ethernet, RJ45

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