

# Hemo-type+

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## BLOOD GROUPING AUTOMATION

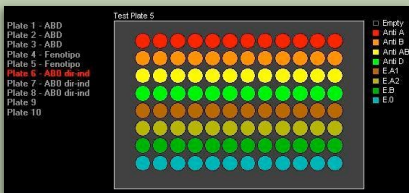
*the best Walk.Away system for Immuno Hematology tests in microtiter plate*

### THE REFERENCE POINT OF MICROPLATE IMMUNO HEMATOLOGY TESTS

**Hemo-type<sup>+</sup>** is the best robotic workstation for the complete automation of the blood typing in the standard microtiter plate (**ABO, Rh, Phenotype and Kell**).

Based on the Sias Xantus platform, **Hemo-type<sup>+</sup>** is a successful example of GSG RobotiX experience to develop customized solutions for **OEM Applications**.

**Hemo-type<sup>+</sup>** has been developed as **Open System**, able to be configured for almost every agglutination tests, combining any reagent and red cell.



*Innovative solutions make this system compact, powerful and fast. Available in two sizes: 1m processing 10MTP and 1,5m processing 40MTP.*



## COMPLETE AUTOMATION

**Hemo-type<sup>+</sup>** is a Walk-Away Analyzer for Blood Grouping protocols, from sample pre-dilution, reagents multi-pipetting, through incubation, centrifugation, shaking, reading and results printout.

Featuring bar code reading of samples,

00:00:00	1	Distribute	Test	
00:01:56	1	Move and Execute	Test	
00:02:20	1	Centrifuge	Test	
00:04:27	1	Shaker	Test	
00:05:01	1	Move and Execute	Test	
00:05:25	1	Shaker	Test	
00:06:09	1	Read	Test	

plates and reagents, comprehensive software requires a very **minimal interaction**.

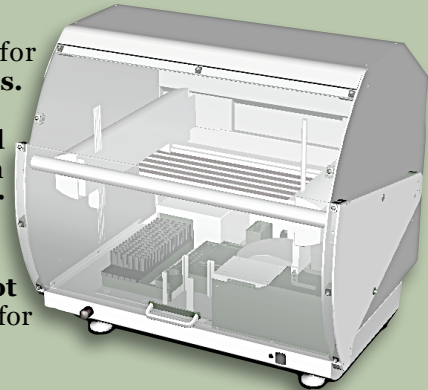
Methods	Barcode	Run	Restart	Clear list	Import	Results	Read	Service	Return	
Tube	BarCode	Name	ACA type	ANA	Jc-1	SEL 70	SM	SM Rng	SSA	SSB
0001	6934534	DM001								
0002	6934534	DM002								
0003	6495456	DM003								
0004	6845756	DM004								
0005	7287756	DM005								
0006	727567	DM006								
0007	7689898	DM007								
0008	7990763	DM008								
0009	6786788	DM009								

## SAFE

**Barcode** identification for samples, reagents, plates.

**Active Safety Shield** pauses the system when open. Optional **Top Cover** available.

**Liquid, bubbles and clot detection** independent for each probe.

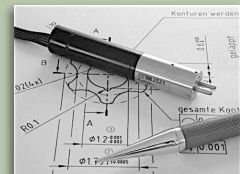


Safe **tips decontamination** to prevent samples and reagents carry-over (washable tips).

## RELIABLE

**Hemo-type<sup>+</sup>** is the most reliable solution in the automation of Immuno Hematology tests.

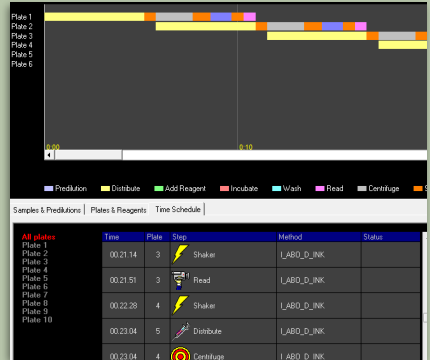
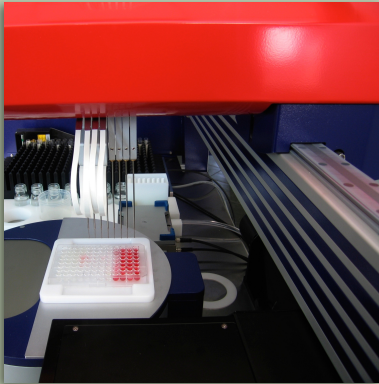
**Maintenance** is extremely **minimal** and the **costs** are the **lowest** for a liquid handling system (no syringes to be replaced).



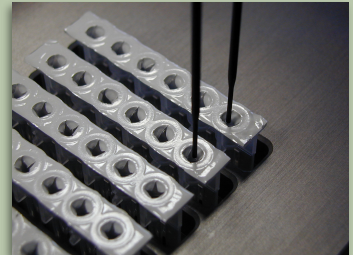
## FAST AND VERSATILE

**Hemo-type<sup>+</sup>** is available with up to 8 pipetting channels (washable tips) plus a robotic handler arm for plate transportation.

Tips are fully **independent** on Y and Z axis movement.



The **Hemo-type<sup>+</sup>** can distribute samples and reagents on Gel Cards, and connected to an external Gel Card reader can offer semi-automated protocols



Any combination of reagents layout is possible. **Different methods in the same plate** and assay run Batch and work-list mode execution.

**TPHA, VDRL** and other **agglutination** tests processing can be automated.

**No limitation** in the software to the maximum number of parameters which can be executed in the same run.

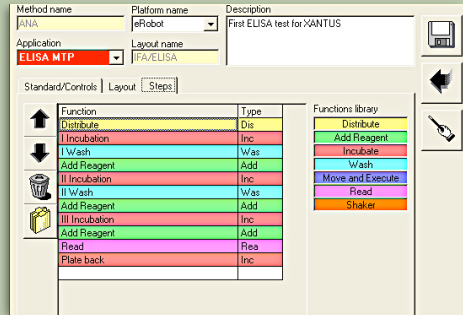


The **Hemo-type<sup>+</sup>** supports different **user profiles**, setting up different level of features for different figures in the lab.

## USER FRIENDLY

**Hemo-type<sup>+</sup>** user-friendly application software has been designed to make the **user interaction** easier.

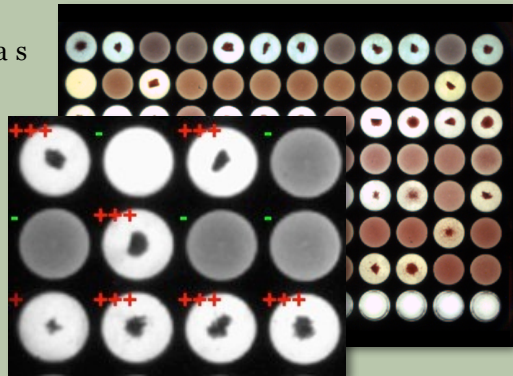
**Application-Oriented** programming interface simplifies the test method implementation, instrument preparation and assay execution follow-up.



## RESULTS

**Hemo-type<sup>+</sup>** software has sophisticated tools for agglutination interpretation, fully programmable for different operating conditions.

A complete **Result Report** is available, if connected with an external Gel Card reader it's possible to manage Microplate and Gel Card results with the same PC.



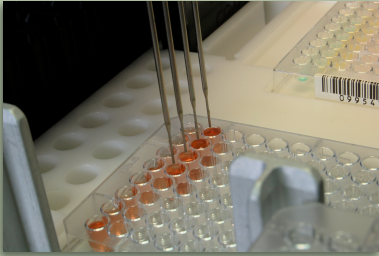
## IMPORT - EXPORT

**Hemo-type<sup>+</sup>** software further offers **bi-directional** connection to Host PC (LIS) by *file transfer* in **ASCII or XML** format file for downloading *Worklists* and uploading Results.

A *host-query* interface using **HL7** communication format is available as **optional** (**HL7 Manager** application program).

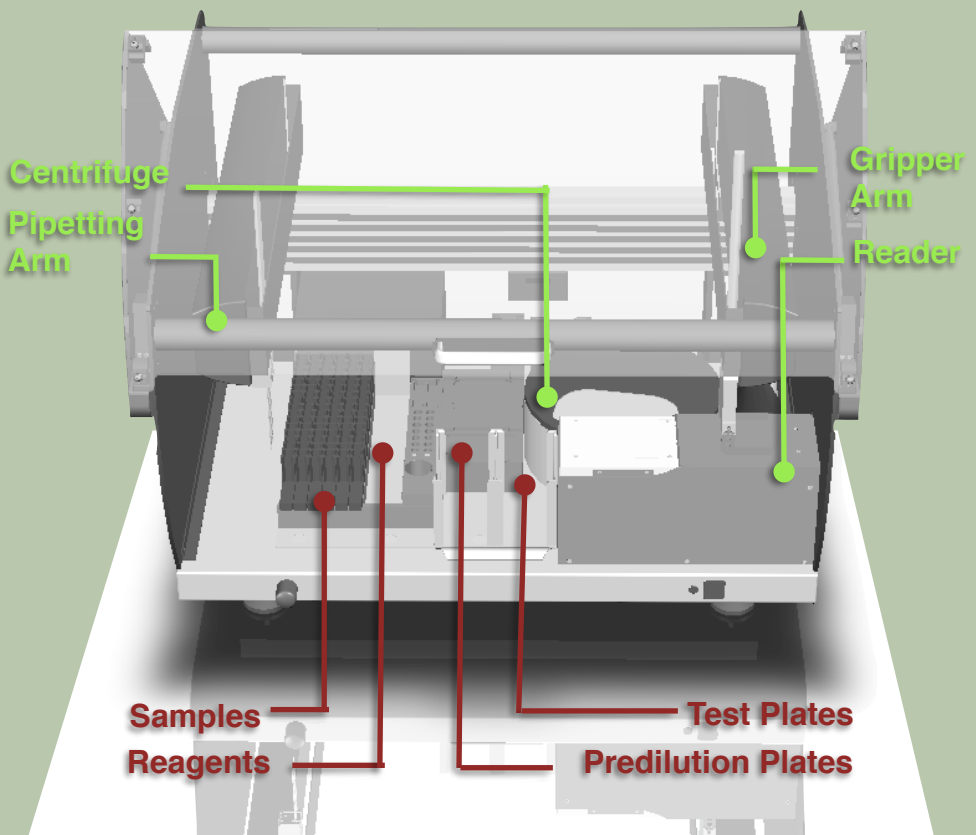


## HEMO-TYPE+ 10MTP



The **10MTP** is the solution for small-medium labs where it's necessary to process a high number of sample batches, eventually using the **continuous loading** feature.

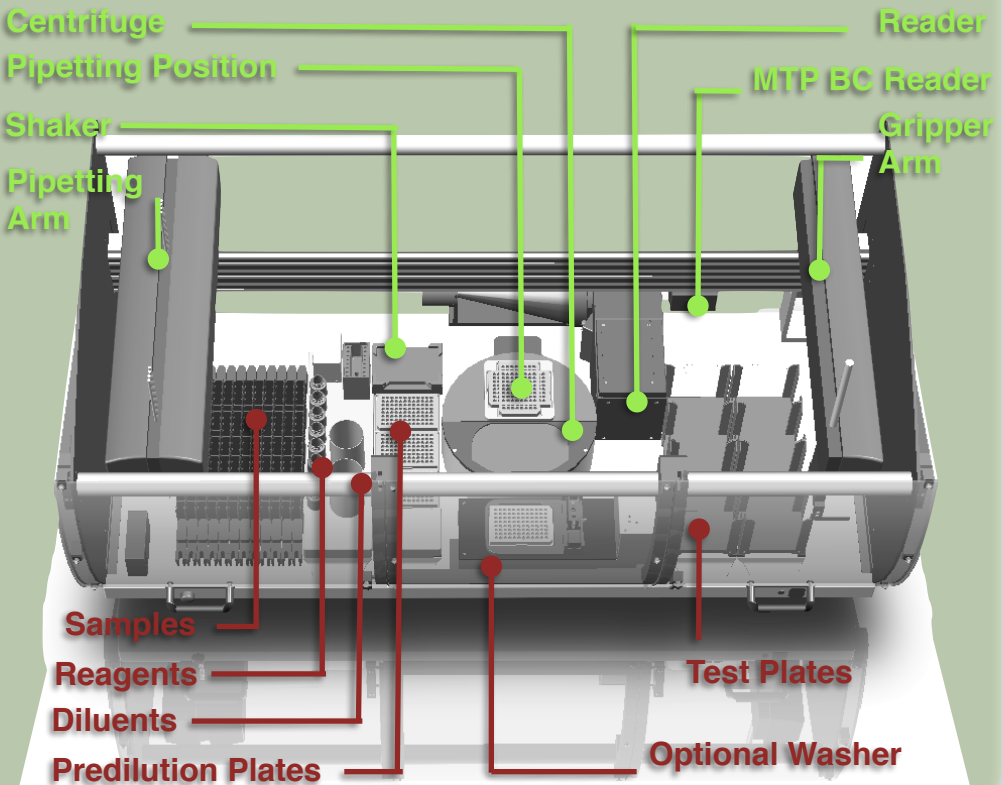
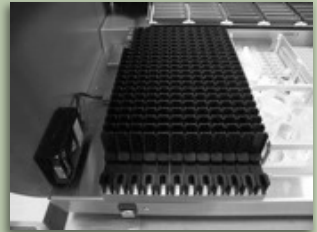
The Software can perform different tests while the user can check and validate results, minimizing dead times.



## HEMO-TYPE+ 40MTP

**Hemo-type<sup>+</sup>** The **40MTP** is the solution for

big labs where it's necessary to process big batches of samples: 240 samples can be managed easily by the high number of sample probes (up to 8) that works simultaneously reducing the operating time.



## HEMO-TYPE+ 10MTP

<b>BAR CODE</b>	Automatic system for Bar Code identification. Most popular Bar Code can be read. Bar Code reader for sample tubes and reagent containers. Max number of digits: 20.
<b>SAMPLES</b>	Up to 96 samples tubes position (primary tubes) in linear racks with 16 tubes each. Tubes size between 10 to 16 mm OD.
<b>PREDILUTION/TEST PLATES</b>	1 prediltuion Plate, 10 test plates.
<b>TIPS</b>	Up to 4 Washable Tips. Tips are fully independent on Y and Z axis. Variable Tips Spacing from 9 to 350 mm.
<b>LIQUID DETECTOR</b>	Capacitance, independent detector for each tip. Liquid, bubble and clot detection.
<b>CARRY-OVER</b>	Up to 10-6 depending on the washing cycles and the reagents characteristics.
<b>LIQUID DISPLACEMENT</b>	High precision micro-anular gear pump for precise and accurate liquid handling.
<b>VOLUMES</b>	Minimum sample/reagent volume 5ul. Maximum sample/reagent volume 1ml.
<b>SHAKER</b>	Plate Shaker with different shaking mode (orbital, linear, etc.).
<b>PLATE READER</b>	Image reading based on 1/5 MPx CCD camera and telecentric lenses.
<b>HEATED INCUBATOR</b>	Single position incubator (optional). Controlled temperature from 5 C° above Room Temperature to 49°C. Precision at 37°C +/- 0.5°C
<b>WASHER</b>	8 channels with 4 software selectable buffer lines (optional).
<b>PC REQUIREMENTS</b>	Not recommended <i>Intel Atom</i> and <i>Celeron</i> processor. Not recommended NetBook and its processor. Display Resolution 1280x1024. Software is fully compatible with <i>Microsoft Windows XP/Seven</i> operating system.
<b>INTERFACE to PC</b>	CAN Bus on USB 2.0 port
<b>OPERATING CONDITIONS</b>	Temperature: 15°C to 30°C/60°F to 85°F Relative humidity: 10 – 85% at 30°C/85°F or below.
<b>WEIGHTS</b>	Weight approx. 150 Kg, depending on the configuration
<b>DIMENSIONS mm</b>	Width 1000, Depth 850 ,Height 850.                      NOTE: PC not included
<b>CE mark</b>	Instrument bears CE mark



<b>BAR CODE</b>	Semi-Automatic system for Bar Code identification. Most popular Bar Code can be read. Bar Code reader for sample tubes and reagent containers. Max number of digits: 20.	
<b>SAMPLES</b>	240 samples tubes position (primary tubes) in linear racks with 20 tubes each. Tubes size between 10 to 13 mm OD.	
<b>PREDILUTION/TEST PLATES</b>	3 Prediltuion Plates, 40 test plates.	
<b>TIPS</b>	Up to 8 Washable Tips. Tips are fully independent on Y and Z axis. Variable Tips Spacing from 9 to 350 mm.	
<b>LIQUID DETECTOR</b>	Capacitance, independent detector for each tip. Liquid, bubble and clot detection.	
<b>CARRY-OVER</b>	Up to 10-6 depending on the washing cycles and the reagents characteristics.	
<b>LIQUID DISPLACEMENT</b>	High precision micro-anular gear pump for precise and accurate liquid handling.	
<b>VOLUMES</b>	Minimum sample/reagent volume 5ul. Maximum sample/reagent volume 1ml.	
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<b>INTERFACE to PC</b>	CAN Bus on USB 2.0 port	
<b>OPERATING CONDITIONS</b>	Temperature: 15°C to 30°C/60°F to 85°F Relative humidity: 10 – 85% at 30°C/85°F or below.	
<b>WEIGHTS</b>	Weight approx. 180 Kg, depending on the configuration	
<b>DIMENSIONS mm</b>	Width 1500, Depth 850 ,Height 850.	NOTE: PC not included
<b>CE mark</b>	Instrument bears CE mark	



*GSG Robotix is an Italian company with years of experience in the field of laboratory automation.*

*Where procedures and analytical methods need to be automated, GSG Robotix is able to respond with a turnkey solution, skillfully combining expertise with hardware and software appropriately chosen and ad-hoc developed.*

*In addition to development and fine tuning of new procedures GSG Robotix has got solutions ready for use in the diagnostic field.*

*The application areas range from the preparation of slides for IFA methods to the complete automation for ELISA, and their simultaneous execution.*

*From the interpretation of agglutination reactions to full automation in blood grouping tests, in microplate and Gel Card.*

*For further information contact [info@gsgrobotix.it](mailto:info@gsgrobotix.it)*



*GSG RobotiX è un' azienda italiana con anni di esperienza nel settore dell'automazione da laboratorio.*

*Laddove vi siano procedure e metodi analitici da automatizzare, GSG RobotiX è in grado di rispondere con soluzioni chiavi in mano, combinando sapientemente know-how con hardware e software opportunamente scelti e sviluppati ad-hoc.*

*Oltre allo sviluppo e alla messa a punto di nuove procedure GSG RobotiX dispone di soluzioni pronte all'uso in campo diagnostico.*

*I campi applicativi spaziano dalla preparazione dei vetrini per metodiche IFA alla completa automazione per metodiche ELISA, nonché alla loro esecuzione simultanea.*

*Dalla interpretazione di reazioni di agglutinazione alla completa automazione nella determinazione gruppi sanguigni, su micropiastra e Gel Card.*

*Per maggiori informazioni contattare [info@gsgrobotix.it](mailto:info@gsgrobotix.it)*



A NEW EXPERIENCE  
IN LAB AUTOMATION

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