



# IH-500

## Fully Automated System for ID-Cards

The Complete Solution for Safe Transfusion





# IH-500

## Innovation Driven by Experience

*Bio-Rad is one of the world's most respected suppliers of blood screening systems. We have been serving blood banks and transfusion centers across the world for more than 30 years, consistently developing and delivering high-performance and reliable systems designed to satisfy your needs.*

*We know our future – and that of yours – depends on our ability to search beyond today's solutions. We will continue to invest in innovation that lies at the heart of our commitment: helping you to provide your services as efficiently and effectively as possible.*

This is why we developed together our next generation fully automated system, **IH-500**.

**IH-500** is a highly innovative instrument setting new standards in immunohematology testing.

**IH-500** combines functionality and design to satisfy the changing needs of a modern immunohematology laboratory.

Designed as a compact bench-top system to fit in any laboratory environment, **IH-500** requires minimal workspace whilst providing maximum workflow optimization.

In combination with the optional stand-alone table, **IH-500** becomes a stand-alone system - ultimate flexibility for the modern laboratory environment.

## Innovation Meets Design



6-axis industrial robot

The 6-axis industrial robot provides new possibilities for managing resources. This technology allows a very compact design of the instrument and optimal use of space.

The innovative motor technology inside the arm provides a maintenance free transport component and increases the reliability of the entire instrument.

Bio-Rad is proud to be the first to incorporate this revolutionary technology in immunohematology automation.

## Innovation Led by Expertise

- Fully automated QC Monitoring system
  - ↳ Increased result reliability
- Optimized scheduling of emergency samples (STAT)
  - ↳ Faster time to result
- 7 day on-board reagent stability
  - ↳ 24/7 availability
- Maintenance free transport technology
  - ↳ Higher reliability by reduced manual working steps
- Automated antibody titration
  - ↳ Increased productivity/test panel
- Intelligent reagent identification system
  - ↳ Improved traceability
- Well by well processing of ID-Cards
  - ↳ Wastage reduced/less costs
- Waste management
  - ↳ Operator safety



ID-Diluent piercing

**IH-500**  
**Fully Automated System for ID-Cards**






**IH-500** BIO-RAD

LAST SCREEN
MENU
LOG OUT
User: user\_RM
12/05/2014

State: READY FOR EXPLOITATION
13:07

DMS: Disconnected
v0.8

INSTRUMENT	MAINTENANCE	SAMPLES	LOGS				
	<p>INCUBATOR: 38,3°C</p>	<p>1 2 3 4 5</p> 	<p>12/05/2014 12:54:29 Pipettor Ready</p> <p>12/05/2014 12:54:22 Vision Station Ready</p> <p>12/05/2014 12:54:17 Front Centrifuge Ready</p> <p>12/05/2014 12:54:17 Rear Centrifuge Ready</p> <p>12/05/2014 12:54:14 Shaking Ready</p> <p>12/05/2014 12:54:11 Incubator Ready</p> <p>12/05/2014 12:53:54 Solid waste is present.</p> <p>12/05/2014 12:53:54 Decontamination liquid level is ok.</p> <p>12/05/2014 12:53:54 Liquid waste container #2 is usable.</p> <p>12/05/2014 12:53:54 Liquid waste container #1 is usable.</p>				
		<p>RESOURCES</p> 		<p>SEARCH <input type="text"/></p>			
MISSING RESOURCES	RESOURCES ON BOARD	0 X SAMPLES WITHOUT REQUEST	0 X TESTS WITHOUT RESOURCES	4 X TESTS IN PROGRESS	0 X TESTS TO REPEAT	2 X TESTS COMPLETED	1 X

**BIO**



**IH-500**

## Innovation

- 6-axis industrial robot
- Maintenance free transport technology

## Improved Traceability

- Internal storage for up to 170 ID-Cards
- Single card tracking for flexibility during card loading
- 100% traceability

## Continuous Loading

- Continuous sample and reagent vials loading
- Independent loading and pipetting areas

## Flexibility

- Stand-alone table (optional) with customizable configuration
- Flexible multi-purpose loading dock

## Reduced Hands-on Time

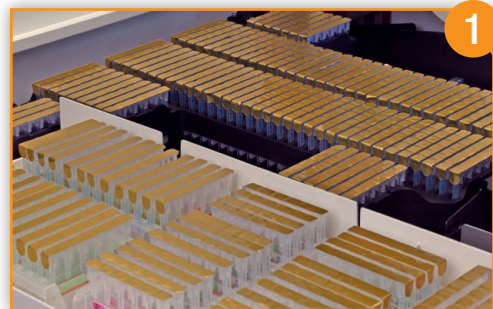
- Automated workflow
- Automatic waste management system

## Safety & Reliability

- Intelligent liquid detection system
- Well by well processing for less ID-Card waste

## Easy to use

- Integrated keyboard for convenient data input
- Integrated PC and 19" touchscreen monitor



Internal storage of ID-Cards



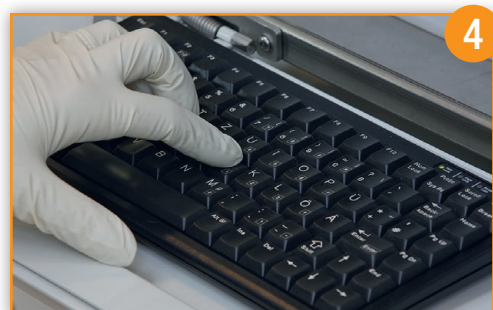
Drawer for flexible loading



Tray for reagent vials



Internal solid waste container



Keyboard for manual data entry





1

7

4

2<sup>a</sup><sub>b</sub>

3

IH-500





5

6

8

1 2 3 4 5

9

1 2 3





4-color status light

## 24/7 Ready to Start Availability

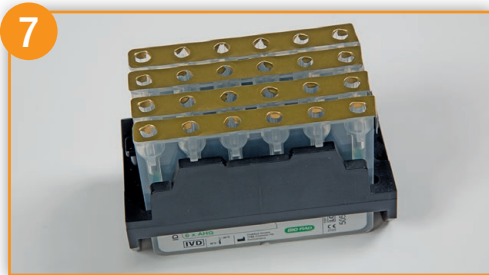
- 4-color status light
- More than 200 tests available



Reagent storage and pipetting area

## 7 Day On-Board Reagent Stability

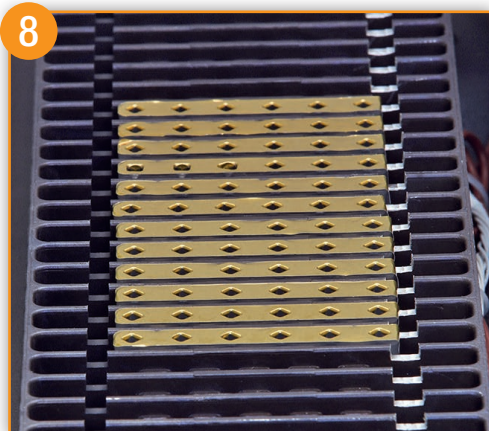
- Temperature controlled storage area
- New active cooling technology



Card transport holder

## Throughput Optimization

- Faster time to result
- Optimized scheduling of emergency samples (STAT)
- On-board priority updates
- Flexible card management for optimized throughput



Incubator at 37°C

## Real Walk-Away

- Loading capacity for 50 samples
- Internal storage for 34 liquid reagent vials
- Management of 4 ID-Diluent racks in parallel



Fluidic area

## Active QC Monitoring

- Automatic check for reagent lot QC status during the loading process
- Automatic check for instrument QC status prior to each sample processing

## Reduced Training & Maintenance

- Easy to learn standardized Bio-Rad user interface
- No daily maintenance (only weekly)
- No-interruption process for refilling system liquid (2 x 2.0 l) and emptying liquid waste (2 x 2.0 l)
- Optional direct connection to laboratory drainage





**BIO-RAD**

**IH-500, The Perfect Move**

## Innovation & Improvement

The development of this most innovative automated system is a result of more than 30 years of experience in immunohematology testing and a close partnership with our customers.

**Single ID-Card Tracking**

**IH-500** tracks every single ID-Card and offers an improved level of traceability.

**Enhanced Pipette Needle Washing Process**

Prevents carry-over from high-titer samples and reagents (greater than 1:32,000).

**7 Day On-Board Reagent Stability**

Through active cooling of the reagent storage area, **IH-500** can ensure a 7 day on-board stability for red blood cells.

**On-Board Reagent Management**

Ensures the correct on-board time even when a reagent is interchanged between different systems.

**Instrument QC**

In addition to the reagent lot QC, **IH-500** (in combination with **IH-Com**) offers the possibility to define system specific QC samples.

**Immediate STAT Handling**

The further segmentation of a pipetting group allows an improved handling of emergency samples and a faster time to result.

**Active QC Monitoring**

The active monitoring of QC status before each processed sample ensures valid results and reduces repeat testing.

**Intelligent Identification System**

A new intelligent technology applied during the identification of samples and liquid reagent vials prevents errors and interruptions caused when insufficient samples or non-suspended test cells are loaded.

**New Test Method**

**IH-500** provides the possibility to perform automated titration of antibodies.

**Well by Well Processing**

**IH-500** is able to handle single wells. This feature reduces the waste from partially used ID-Cards.

**Waste Management**

The intelligent waste management of **IH-500** avoids the time-consuming step of unloading empty reagents.



ID-Card piercing



## Performances\*

A, B, AB, D, CDE, ctl	60 samples/h
A, B, AB, D, CDE, ctl + A <sub>1</sub> , A <sub>2</sub> , B + C, c, E, e, K, ctl + Ab Screening I, II, III	24 samples/h
A, B, DVI-, ctl / A <sub>1</sub> , B + Ab Screening I, II, III	32 samples/h
A, B, DVI-, ctl / A <sub>1</sub> , B	48 samples/h
Ab Screening I, II, III	82 samples/h
Ab Screening I, II, III + Autocontrol (AC)	42 samples/h
Ab Screening with pooled cells	96 samples/h
A, B, DVI-, ctl / A <sub>1</sub> , B + Ab Screening I, II	36 samples/h
A, B, DVI-, ctl / A <sub>1</sub> , B + C, c, E, e, K, ctl	48 samples/h
A, B, AB, DVI+, DVI-, ctl + A <sub>1</sub> , A <sub>2</sub> , B, O + C, c, E, e, K, ctl + Ab Screening I, II, III	24 samples/h

\* Performance data may vary depending from the loading sequences and requested sample profiles.

## Technical Data

### Electrical Data

Voltage	<b>100-240 VAC</b>
Frequency	<b>50/60 Hz</b>
Power consumption	<b>1,550 VA</b>

### Environmental Conditions

Operating temperature	<b>15°C to 27°C</b>
Storage temperature	<b>-20°C to 55°C</b>
Operating humidity	<b>5% to 80% rh</b>
Storage humidity	<b>5% to 80% rh</b>
Altitude max.	<b>2,000 m</b>

### Emissions

Heat emission	<b>1,550 W</b>
Noise level	<b>65 dB(A) max.</b>
Pollution level	<b>2</b>

### Dimensions

Width	<b>115 cm</b>
Height	<b>98 cm</b>
Depth	<b>85 cm</b>
Weight	<b>200 kg</b>
Minimal installation depth	<b>60 cm</b>

## Main Features

- Walk-away
- Continuous loading
- User friendly touchscreen
- Compact bench-top system
- Active QC monitoring
- Waste management
- Random access
- Immediate STAT handling
- 7 day on-board reagent stability
- Stand-alone table (optional)
- Well by well processing
- Intelligent identification system
- CE compliant according to IVD Directive 98/79/EC

## Test Methods

- Blood grouping ABO/D
- Phenotyping Rh/K
- Antibody screening
- Direct AHG test (DAT)
- Antibody titration
- Reverse grouping
- Crossmatching
- Antibody identification
- Single antigen testing

**IH-500**  
**Fully Automated System for ID-Cards**

**IH-500, The Perfect Move**

**Flexibility, Security, Modularity, Innovation**



IH-500 compact bench-top system



IH-500 stand-alone system

**Ordering Information**

Catalog No.	Description
001500	<b>IH-500</b>
0595002	Stand-alone table (optional)
009000	<b>IH-Com Kit Fullversion</b> , Data Management Software
009030	<b>IH-Web</b> , Remote Result Management Software
009980	PC for <b>IH-Com</b>
2000050	BRiCare™, Remote Service and Support Software



**Bio-Rad  
Laboratories**

*Bio-Rad Laboratories is a multinational manufacturer and distributor of clinical diagnostics and life science research products.*

Clinical  
Diagnostics Group

**DiaMed GmbH**  
1785 Cressier FR  
Switzerland  
[www.bio-rad.com/immunohematology](http://www.bio-rad.com/immunohematology)



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