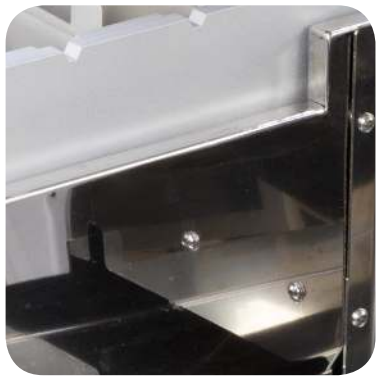




AUTOMATIC
SLIDE
STAINER

AUS2



HISTOLOGY EQUIPMENT

INTELSINT

AUS 2

AUTOMATIC SLIDE STAINER

AUS 2



Automatic slide stainer with XY translator

Completely programmable

Multi-basket-protocol for histology and citology slide staining

The Intelsint AUS is a modern high throughput XY stainer, specifically designed for the operators safety and protection.

A total of 40 stations are available distributed on 3 rows. 28 reagent tanks are allocated in 2 rows (mid and back row), an additional front row contains 5 tanks for flowing water, 2 input and 3 output tanks on a sliding-drawer with baskets sensors, the remaining 2 positions of the front row are fitted with warm air slide dryers.

All the structural internal parts are made in high quality stainless steel. An integrated computer controls all operations and is endowed with a large touch-screen color monitor. The advanced software handles multiple staining protocols and bath schemes, with a graphic representation of the work in progress. The HMI is clear and intuitive. Standard keyboard and mouse can be connected for who does not like touch-screen operations.



AUS 2

Code 920004

Slide Baskets handling:
made by 3 independent axles on an XYZ scheme, with closed loop control

Reagent Stations:
28 reagent tanks are allocated in 2 rows

Fumes Neutralization:
air aspiration system with charcoal filter



Washing Station:
5 tanks, flow adjustment, single solenoid valve control.

IN/OUT Stations:
2 IN and 3 OUT basket stations, allocated on a sliding drawer that can be opened independently from the instrument lid cover

Drying Stations:
2 with air forced ventilation up to 60°C, with electronic control and a precision of 1°C control.
(opt. 920091)

Slide Dryer Module

Code 920091 (Optional)



The slide stainer can be equipped with a 2-station drying system, each station is provided with a heater and fan. The two units are operated simultaneously so to keep temperature constant. Temperature is surveyed by means of a probe (thermocouple) placed on the wall situated at the centre of the heater.

Reagent mixing by mechanical up/down movement of the reagent tanks

Code 920092 (Optional)



The slide stainer can be equipped with an agitation system that sways the tanks and reagents contained.
The 28 reagent tanks are allocated in 4 removable racks with 7 tanks for each rack.
The agitation system consists of 2 motors that control the agitation of the tanks from 1 to 14 and the agitation of tanks from 15 to 28 respectively.

The agitation automatically starts when a basket arrives in one of the tanks.

Reagent mixing by mechanical vibration of the reagent tanks

Code 920093 (Optional)



The slide stainer can be equipped with a micro vibrating tank support provides a perfect agitation/mixing of the 28 reagent tanks.

The agitation automatically starts when a basket arrives in one of the tanks.

Basket Automatic recognition system (H&E/PAP)

Code 920090 (Optional)

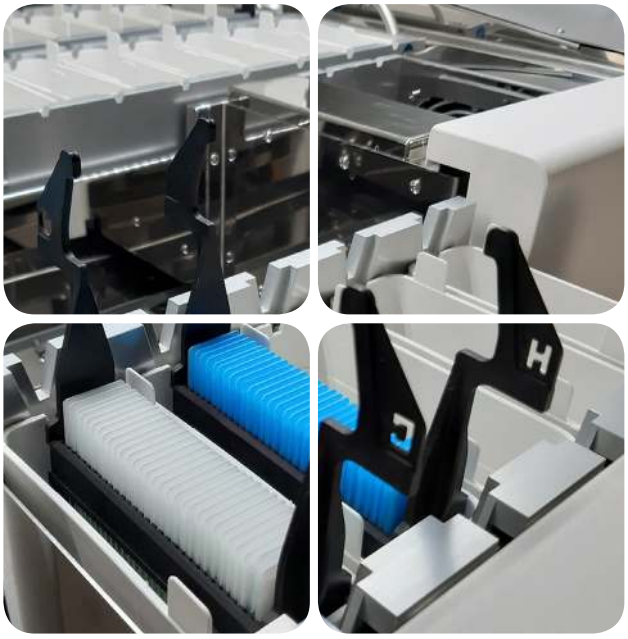
The AUS2 is able, thanks to an optional feature, to recognize if the basket inserted into the loading station is loaded with histologic or cytologic slides.

Between the 18 different protocols present in the stainer it is possible to define a protocol specific for histologic stains and one for cytologic stains.

The instrument will automatically select and launch the corresponding one when he detects the tipe of basket.

This feature allows to reduce any possible error during the loading of the unit and optimizes the loading operation of the user.

For this particular function special basket have been created, and have been marked with the letter "H" for histologic samples, and with the letter "C" for cytologic ones.



Control Features

Staining Protocols:	18 programs with 25 steps
Optional Baths Schemes:	2 alternative bath schemes, for each bath it is possible to define different reagents configuration and staining protocols
Equivalent Tanks:	equivalent tanks can be associate in order to optimize the workflow scheduling
Immersion time:	Programmable from 1" to 99'59". It is possible to define 3 different time priority: OPEN (no limit), FLEX (10% tolerance), EXACT (to be respected exactly)
Selectable dripping time	
HMI Interface:	Touch-screen color Monitor , 15" display. The instrument configuration is graphically reproduced with all the active components in motion. All operating needed data is shown at a glance with simple screen touch operations (mouse/ keyboard operations available)
Languages:	English, Italian, German, French, Spanish, Chinese, Russian (every language can be easily implemented)
Reagent Quality Control:	the RMS (Reagent Management System) assists the operator with a precise scheduling of the reagent substitution allowing high quality staining results; reports on PDF files are available in the long term memory and can be easily downloaded by USB ports
Password:	1 level, with selectable instrument different function protection
Memory data backup:	on external flash memory via USB ports available on the instrument side

Functional Features

Slide throughput:	30 slides baskets continuous loading, up to 10 slide baskets handled/stained at the same time, with the same staining protocols.
Operating procedure:	when a basket is inserted in an input stations the system asks the operator to define the staining protocols required, default protocols are proposed on 3 fast-start buttons.
Total Operative Stations:	40
Reagent Stations:	28 high resistance plastic tanks, 485 ml operating volume (600ml total volume)
Water Washing Stations:	5 tanks (removable), with water flow pressure adjustment and single solenoid valves for individual operation.
Drying Stations:	2 with air forced ventilation up to 60°C, with electronic control and a precision of 1°C (Opt. 920091)
IN/OUT Stations:	2 IN and 3 OUT basket stations, allocated on a sliding drawer that can be opened independently from the instrument lid cover.
Reagent Agitation/Mixing: (optional)	Possibility to configure the instrument with: 1. Standard without agitation 2. Continuous vertical up/down movement 28 tanks and to allow safe and ergonomic reagent substitution/maintenance the reagent tanks are allocated on 4 easily removable and washable racks with handles. (Opt. 920092) 3. Micro-vibration system of the 28 reagent tanks (Opt. 920093)
Fumes Neutralization:	air aspiration system with charcoal filter.
Connection to coverslipper:	this unit has been designed and produced in order to be easily connected to the CVR coverslipper unit.

AUS2 - Optionals

Code	Description
920090	Basket automatic recognition system (H&E/PAP)
920091	Slide Dryer Module
920092	Reagent mixing by mechanical up/down movement of the reagent containers
920093	Reagent mixing by mechanical vibration of the reagent containers
3UPS02	Uninterruptible Power Source, 230V 1980W (2200VA)
920059	Connection with LIS system
920061	Remote Service software Licence
920062	Remote Service Hardware + International SIM connection
920070	Adapter for Sakura slide baskets (20 slides capacity)
920071	Adapter for Medite Coverslipper ASC720 slide baskets
920072	Adapter for Medite Coverslipper RCM (Meisei) slide baskets
920073	Adapter for Thermo CTM6 slide baskets
920079	Collector for external vapout draining (Ø 100mm)





Bath schemes and staining protocols programmaing

It is possible to define 2 different reagent allocation schemes. (pre-defined baths configuration). For each bath it is possible to define up to 18 staining protocols, each one made by 25 steps.
Each step is made by:

- reagent tank number (tank position)
- time in seconds
- time type (Open-Flex-Exact)
- drip time

Optimized Protocols Scheduling

Thanks to complex software alghorithms the protocols/baskets scheduling is optimized in order to achieve the highest possible througput. All basket handling phases are previously scheduled and studied allowing the end-effector time best usage.

Reagent Management System (RMS)

The RMS assists the operator with a precise scheduling of the reagent substitution allowing high quality staining results. When the predefined number of stained baskets is exceeded the related tank is shown in red color, the reagent substitution can be made when the instrument is in stand-by mode and the action can be easily recorded in the RMS system.

Simple protocols monitoring

Through a simple and clear user interface every operation is under total control.
All 40 stations and all actuators with their status (agitation system, water valves, air filtration, dryers, sensors, IN/OUT drawer) are clearly represented on the color screen.
During the operating phases the end-effector in movement is shown (basket translator).
It is possible to check the work in progress of each slide basket simply touching the related basket icon.
Touching the reagent tanks it is possible in any moment to know their situation (contents, baskets processed, last change date).

Selection of the staining protocols

It is possible to define up to 18 different staining protocols.

With the automatic identification of the basket feature the selection is made automatically.
If the stainer recognizes the presence of a Histologic or Cytologic basket will automatically select the corresponding protocol.

If the stainer is connected to his coverslipper CVR will automatically select the correct amount of mounting medium to be used.





AUS2 - Technical Specification

Tipology	Instrument	Automatic slide stainer
	Code	920004
	Slide type	Glass slides DxL 25x75 mm - 1,15 mm thick
Controls Features	Stiaining protocols	18 programs with 25 steps
	Immersione time	Programmabel from 1" to 99'59". Is is possible to define 3 different time prority: OPEN (no limit), FLEX (10% tolerance), EXACT (to be respected exactly)
	Basket dripping	Programmable
	Password	1 livel, with selectable instrument different functions protection
Internal composition	Reagent stations	28 (485 ml capacity)
	Rinse stations	5 (with pressure and flow regulator)
	Loading stations	2
	Unloading stations	3
	Heated stations	2 (60°C ±1°C) (Opt. 920.091)
	Reagent Agitation	Continuous vertical up/down movement 28 tanks (Opt. 920092)
	(Optional)	Micro-vibration system of the 28 reagent tanks (Opt. 920093)
	Reagent management	RMS: complete control on reagent and charcoal filters.
	Reagent vapour treatment	Specific charcoal filter, with
Productivity		10 basket of 30 slides maximum, with the same protocol
Hardware & Software features	Monitor	Monitor LCD TFT Touch screen 15"
	USB port	4 x USB ports (for data transfer, backup, UPS, keyboard)
	Newtwork	2 x Lan Port (Ethernet, LIS system)
	Alarm	Free contact (48V AC/DC max 1A).
	Operative System	Windows 7/10 Embedded
	CPU-UPS	Integrated UPS (only for CPU and Monitor)
	UPS	External dedicated UPS (Opt. 3UPS02)
Working environment	Temperature / Humidity	15 ÷ 30 °C / 70% max
Electrical data	Power supply /Frequence	115/230 VAC 50/60 Hz
	Electrical power	500 W (850 W with Slide Dryer Module - Opt. 920091)
Approvals	CE, cTUVus	UL61010-1:2004 R10.08 – IEC 61010-2-010:2003 IEC 61010-2-101:2002 CAN/CSA-C22.2 NO. 61010-1-04+GI1 (R2009) CAN/CSA-C22.2 NO. 61010-2-010-04 (R2014) CAN/CSA-C22.2 NO. 61010-2-101-04 (R2014)
Dimensions and weight	Dimensions (LxDxH)	1220 x 770 x 780 mm - Monitor (L) + 400 mm
	Worktop (LxD)	1220 x 770 mm
	Weight	155 kg

INTELSINT Srl
Via Rivoli 122 - 10090 Villarbasse (Turin) - Italy
Phone: +39 011 9528015 Email: info@intelsint.com
www.intelsint.it - www.intelsint.com

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