

StaRRsed Compact

The StaRRsed Compact ESR (Erythrocyte Sedimentation Rate) analyzer produces a true Westergren result and conforms to the recommendations of the International Council for Standardization in Haematology (ICSH). Fast turnaround, immediate results after half or one hour after start of measurement, automated waste control, accepting both open and closed sample tubes, accepting EDTA blood samples and no disposables. Built in barcode reader. Suitable for labs doing > 60 samples per day.



StaRRsed III

The StaRRsed III is a fully automated ESR (Erythrocyte Sedimentation Rate) analyzer that produces a true Westergren result and conforms to the recommendations of the International Council for Standardization in Haematology (ICSH). Built in barcode reader, full walk-away operation for 30 samples, only 1.6 ml sample volume, to be connected to lab computer. Suitable for labs doing > 150 ESR's a day.



StaRRsed Auto Compact

Based on the established StaRRsed Compact, the addition of the StaRRsed Rack now provides what the busy Haematology Lab has been demanding, the StaRRsed Auto Compact. Using existing blood cell counter racks, the operator time is reduced to nearly zero. Results are available in either one-hour or half-hour mode. The StaRRsed Auto Compact takes ESR sampling to new heights. Suitable for labs doing > 150 samples per day.



InterRliner

InterRliner makes continuous production of the ESR analyses available, as stand-alone or as an integrated device within a complete test line. Easy loading of the samples from the racks into the machine. Fully automatic barcode reading for an optimum cooperation with the administration and report software. Fully automated preparation of samples before aspiration. Suitable for labs doing > 300 ESR's a day.



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INTERRLINER

The ultimate automated ESR analyser



Automated Sed Rate Analyzer

InteRRlinier SA is the ultimate Sed Rate analyzing machine, capable of performing big volumes of Erythrocyte Sedimentation Rate analyses in short time fully automated, thus typically suited for automated medical laboratories. Fully equipped for handling racks, with a start pool capacity of 200 blood sample tubes, InteRRlinier does ESR analyses complying with the standardized Westergren method completely unattended.

InteRRlinier SA1 -for stand alone- is Mechatronics' solution. For even more demanding clients a two or three-fold InteRRlinier (SA 2 and 3) has been developed to reach an unsurpassed throughput. It will perfectly fit in your hematology line.

For integration of InteRRlinier into the Sysmex® HST line Mechatronics did develop the HST 1, 2 and 3. Comparable specifications and performance as SA, but dedicatedly modified to Sysmex HST concerning a.o. racks, software integration and outlook.



EDTA blood samples or pre-citrated

The InteRRlinier has an accurate citrate diluter system built into the analyzer, which enables your FBC to use EDTA anti coagulated blood samples as for full blood count. Typical accuracy of the sodium citrate diluter is + 2%. However, pre-citrated blood sample tubes are also accepted but have a disadvantage compared to EDTA blood samples. EDTA blood is very stable and may be used for up to 24 hours after vein puncture rather than the recommended four hours³ for citrated blood. This provides your laboratory with even more logistical flexibility. It cuts down your running costs significantly.

Westergren method

All StaRRsed's, as the InteRRlinier perform ESR analyses fully applying to the standard Westergren method¹, as laid down by the International Committee of Standardization in Hematology. A temperature correction will take care of the influence of changes in ambient temperature on the accuracy of the measurement. That means that results can reliably be interpreted by the physician ordering the test.

InteRRlinier at work

After filling up the start pool of InteRRlinier with blood cell counter racks, InteRRlinier starts with a pre mixing phase before actually drawing the sample from the tube.

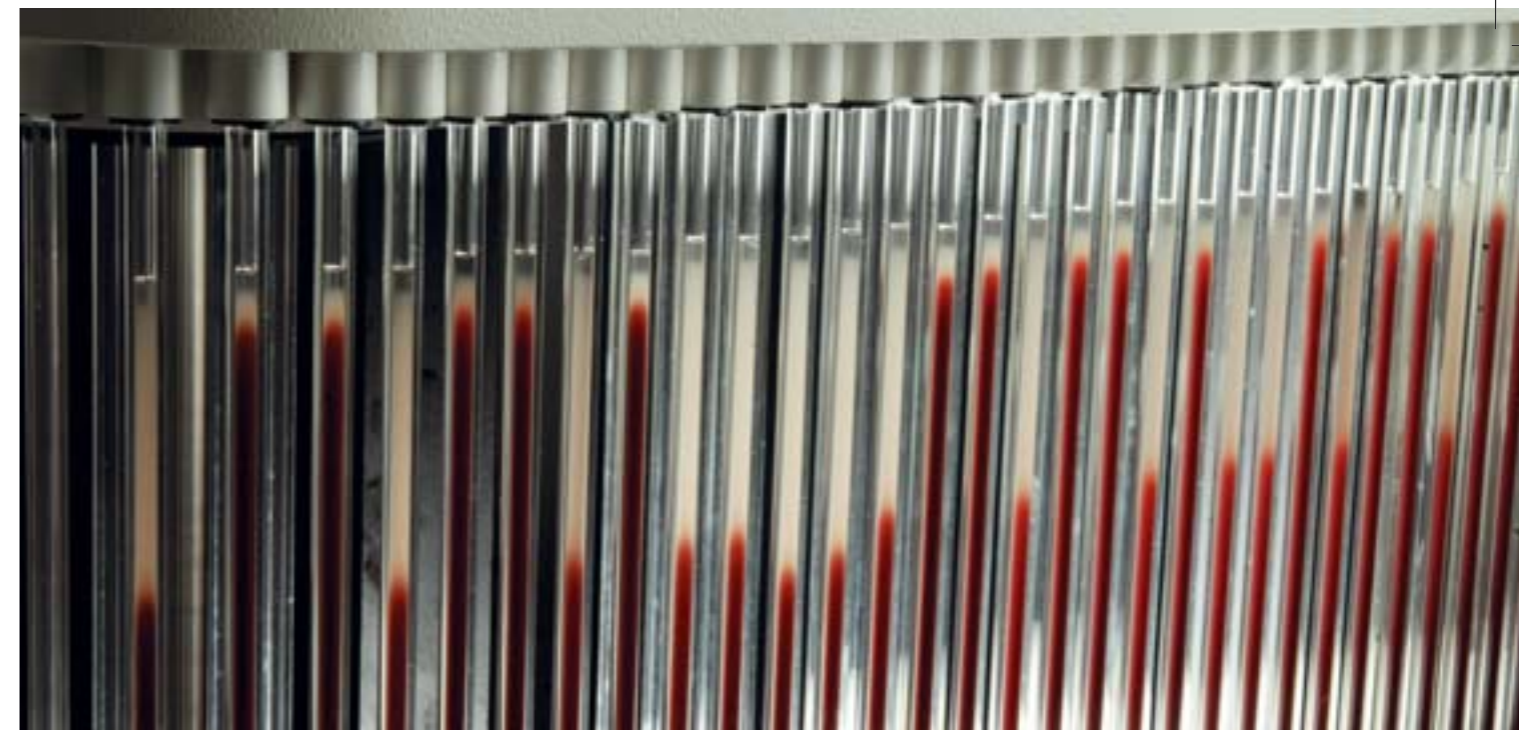
Note that the built in barcode reader identifies which sample tube has to be aspirated for ESR analysis, communicating with the Laboratory Information Management System LIMS. InteRRlinier uses closed sample tubes with that eliminating biohazard exposure. An accurate dilution with citrate is established followed by automated filling of the Westergren pipettes one after another. The finalized rack is then transported to the end pool automatically. After 30 or 60 minutes, depending on whether half hour or one hour mode is selected², InteRRlinier reads the ESR by means of a moving optical sensor along the pipette, measuring the absorption of infrared light. Typical accuracy is .25mm. Through a sophisticated algorithm the blood cell interface is determined and reported to the LIMS. InteRRlinier then performs an automatic purge of the pipette, cleaning and drying it for reuse. A continuous process of aspirating, diluting, mixing, analyzing and cleaning, fully unattended, giving you a rapid turnaround of results with a high level of quality and consistency.

Hazy samples

Even hazy samples are detected by InteRRlinier, using a sophisticated optical IR-reader. Combined with built-in algorithms, the read absorption is related to the darkest (=100%) and lightest (=0%). Even hazy samples are reported to the client through a statistically proven routine.

No disposable tubes and pipettes

InteRRlinier does not use disposable pre-citrated tubes as standard; instead it preferably works directly with EDTA (ethylenediaminetetra-actetic acid) blood samples, already collected for the full blood count.



A drastic reduction in costs of consumables and a decrease in incineration expenses is herewith established. The high accuracy Westergren¹ tubes, each 200 mm in length with 2.5 mm bore, are re-used time after time thus economizing the exploitation costs of the InteRRlinier dramatically. You do not have to buy expensive test pipettes for each test again and again. InteRRlinier takes care of cleaning and vacuum-drying the pipettes, guaranteeing a minimum of disposals and no additional costs. InteRRlinier also contributes to a cleaner environment as no disposable plastics of any sort are used, a truly environmentally sound analyzer.

Reagents

As with all StaRRsed's, InteRRlinier uses a minimal amount of low cost reagents from small built-in containers. Reagents therefore have a negligible effect on the operational costs. Using Mechatronics reagents you have the certainty of a consistent quality, needed for a reliable analysis.

Performance InteRRlinier SA1

Start pool	200 sample tubes
Reported results	mm/hr
Method	True Westergren (ICSH)
Throughput	60 samples per hour (120 for SA2 ; 180 for SA3)
Sample volume	1.0 ml whole EDTA blood (or sodium citrated)
Diluter	sodium citrate 1:4 (+ 2%)
Sample ID	Bar Code Sample Storage
Aspiration	Closed sample aspiration

Connectivity

For communication with the LIMS, InteRRlinier utilizes a serial RS232 connectivity. A parallel port for connecting a standard printer in case a direct output on paper is required is also accommodated.

Overall dimensions InteRRlinier SA1*

Overall dimensions	Dimensions and weight
	1.820 x 1530 x 955 mm
Weight	100 kg
	Power requirements
Power Consumption	115 ~ 230 V
	500 VA@230 V
	50/60Hz
Frequency	Environmental requirements
	Temperature
	10 °C ~ 30 °C
Relative humidity	45% ~ 85%
	Location
	No direct sun exposure, dust, vibration
* Dimensions for SA2 and SA3 at request	

References

1. Stuart, J. International Committee for Standardization in Haematology. Recommendations for measurements of erythrocyte sedimentation rate. J Clin Pathol 1993;46:198-203
2. Rogers, R. The development of 30-minute ESR's on the StaRRsed ESR analyzer. Medical Laboratory World. April 1994
3. Melville ID. The use of a sequestrene-citrate mixture in the estimation of the blood sedimentation rate. J Clin Pathol 1959;12:258-261