

HumaSRate 24^{PT}

Set new standards in erythrocyte sedimentation rate measurement

- > Convenient and cost-efficient testing with EDTA tubes
- > Results you can rely on with real sedimentation and quality control
- > Diagnosis in 20 minutes with excellent correlation to the gold standard Westergren

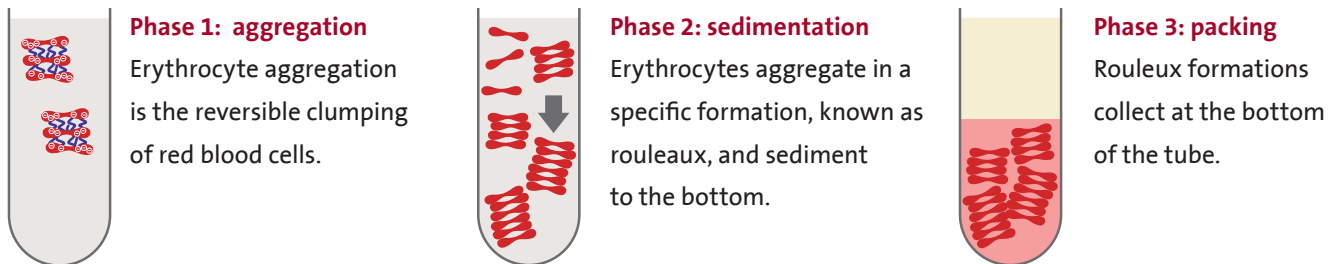


Erythrocyte Sedimentation Rate (ESR)

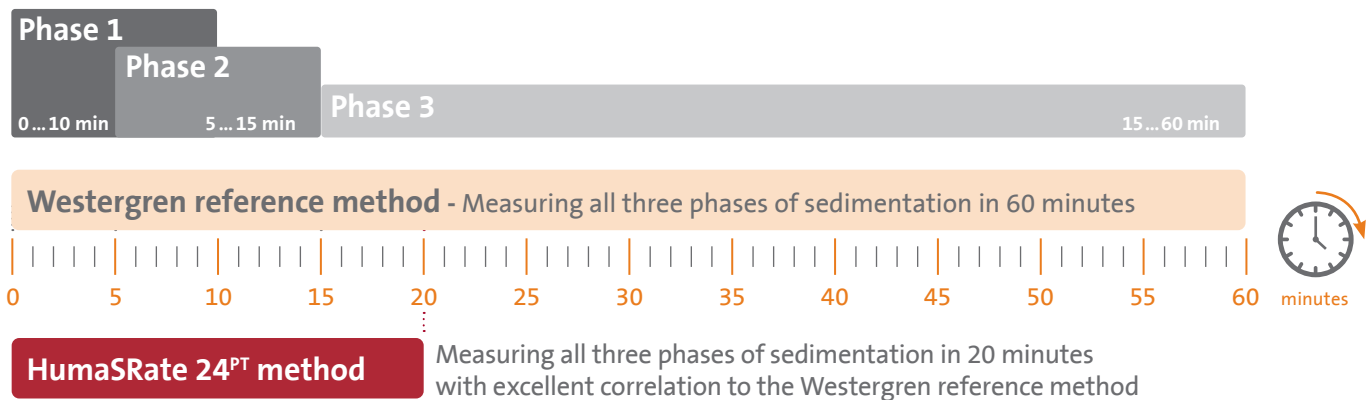
The value of real RBC sedimentation rate

Erythrocyte sedimentation occurs in three phases¹

RBC (red blood cells) sedimentation is defined by the balance between plasma protein fibrinogen and the negative charge of the erythrocytes.



Method comparison against gold standard



Agglutination methods based on capillary photometry technology

Measuring a value which cannot reflect all three phases in 20 seconds and has low correlation to Westergren²

«Only ESR methods measuring all sedimentation phases align well with the Westergren method. Those assessing just the initial 20-second aggregation phase show low Westergren correlation, as a comprehensive sedimentation profile better reflects blood properties.²»

Advantages of the HumaSRate 24^{PT} method

The HumaSRate 24^{PT} method outperforms traditional ESR measurement techniques like the Westergren and agglutination methods in several key areas:

- > Revolutionizes laboratory efficiency with a fully automated process, dramatically cutting staff workload, and delivers precise ESR readings that closely match the trusted Westergren method
- > Faster reporting: Utilizes digital data processing for quick results and includes temperature correction
- > Intuitive menu guidance with clear structured screens

ESR testing with EDTA tubes

Convenient, fast and cost-efficient

Cost-efficient and convenient sample handling

- › EDTA tubes are standard in hematology for Complete Blood Count (CBC) testing
- › ESR testing is frequently requested alongside CBC, allowing for streamlined sample collection
- › Eliminates the need for special ESR tubes



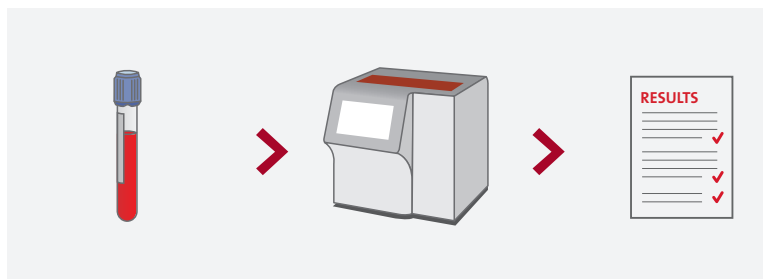
Reduced demand on staff time

- › Simply insert the primary EDTA tubes into the analyzer and proceed with other tasks, no additional blood collection necessary.
- › Streamlines the workflow by eliminating manual steps like cap removal and transfer of blood to secondary tubes
- › Reduced risk of infection, as staff are not exposed to blood

Enhanced flexibility

- › Possibility of a combined report for both CBC and ESR in about 20 min
- › The ESR value can be determined anytime from a standard EDTA blood sample without the need for an additional blood draw

HumaSRate 24^{PT}: improved workflow efficiency with EDTA tubes



EDTA sample

HumaSRate 24^{PT}

Reporting
in 20 minutes

«EDTA, not citrate is now recommended by ICSH as an anticoagulant!»
(International Council for Standardization in Haematology)⁵

Conventional ESR analyzers: the inefficiency of manual processes



EDTA sample

Sample transfer

Mixing

ESR analyzer

Manual reporting,
no printout / storage

HumaSRate 24^{PT}

Sets new standards in ESR automation



Walk away to focus on other tasks

- › Batch mode – up to 8 samples
- › STAT mode capability
- › Up to 24 samples / hour
- › Time to result in 20 minutes
- › Identification of patient ID and QC target values via integrated barcode reader
- › Storage capacity of 5,000 results
- › Integrated mixer and printer
- › Bidirectional LIS connectivity

Ensure high-quality patient care

- › Excellent correlation to Westergren
- › Integrated QC software module with quality control
- › Temperature correction according to Manley
- › Correction of unclear sedimentation levels caused by blood smears
- › Correction for anemic samples according to Fabry's formula

Save money and time on staff

- › Quality control for daily use without consumption, allows reuse during the entire 6-month shelf life
- › Eliminate the need for ESR tubes and reduce staff workload, especially as the ESR is often requested in conjunction with CBC tests that already use an EDTA tube
- › Minimal training required for an easy start by intuitive menu guidance with clearly structured workflows



“ The HumaSRate 24^{PT} has solved manual problems by eliminating the need to remove the caps from the tubes, which has sped up the work. The ability to use primary tubes allows cost and time savings as well as risk-free operation. The instrument provides accurate and repeatable data.”

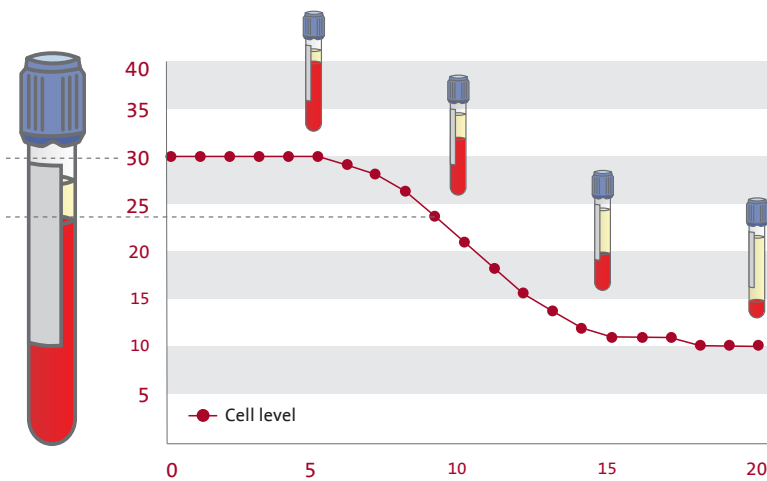
**Gruppo Aima Societa' Consortile A Responsabilita' Limitata
Capaci, Palermo, Italy**

Real sedimentation with quality control

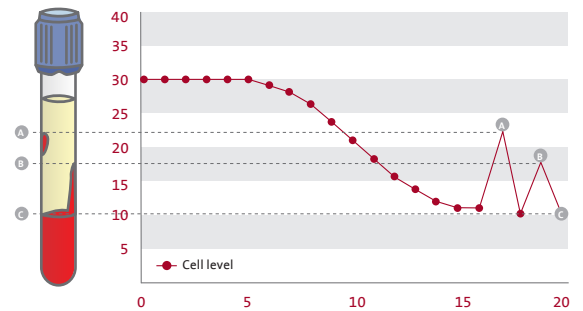
Results you can rely on

Unique sedimentation curve with continuous scan technology for high accuracy and precision

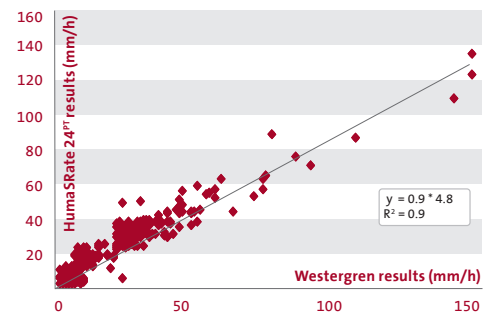
- An ESR curve with continuous recording every 10 seconds offers more information than only an ESR reading after 20 minutes
- Continuous scan technology includes all 3 phases of real sedimentation measurement with an excellent correlation to Westergren. Physicians get the results they are used to, for a profound diagnosis
- Errors by blood smears on the tube wall are eliminated by sedimentation curve algorithm. Unclear levels are automatically corrected
- Up to two overlapping labels on the EDTA tube do not affect reading



Unique sedimentation curve with continuous scan technology

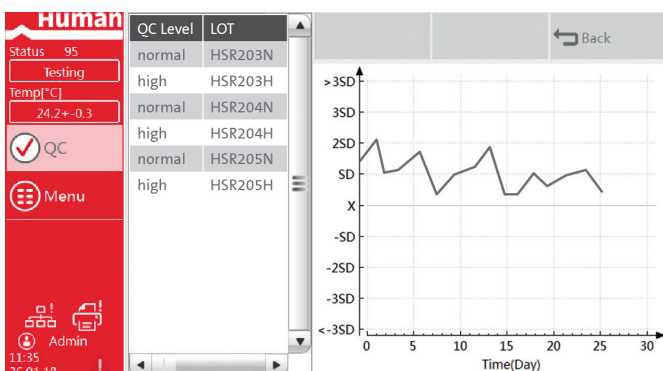


Errors from blood smears on the tube wall are eliminated



Excellent correlation to Westergren reference method

Integrated QC software module



Based on ready to use controls, the QC software module with Levey-Jennings diagram guarantees full control over correct ESR readings

Daily quality control without consumption

- No consumption of the control material, even at daily use, allows reuse during the entire 6-month shelf life
- Control can be applied anytime in batch mode together with patient samples, and no extra run is necessary

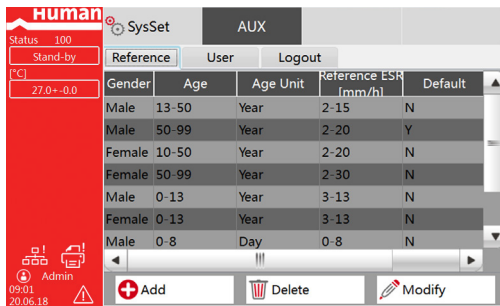


HumaSRate 24^{PT}

Intuitive software for effortless interpretation

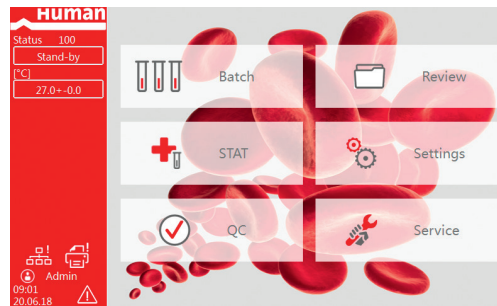
Enhanced accuracy with result flagging and reference values

- › HumaSRate 24^{PT} provides reference values for different age and gender groups
- › The flagging of abnormal samples by the analyzer is a novelty in ESR diagnostics
- › Intuitive menu guidance with clear structured screens



Reference	User	Logout		
Gender	Age	Age Unit	Reference ESR (mm/h)	Default
Male	13-50	Year	2-15	N
Male	50-99	Year	2-20	Y
Female	10-50	Year	2-20	N
Female	50-99	Year	2-30	N
Male	0-13	Year	3-13	N
Female	0-13	Year	3-13	N
Male	0-8	Day	0-8	N

Choose from age- and gender-specific reference values



ICON based intuitive user interface

Ordering information

HumaSRate 24 ^{PT}	REF
› ESR analyzer incl. 3 Smart Cards a 1,200 tests	15024
Smart Card for HumaSRate 24 ^{PT}	15024/12
› 1200 tests	
HSRate-Control	15024/40
› Normal and high level 2 x 2 ml	
Printer Paper	15024/100
› 57 x 30 mm (5 rolls)	



References

- 1) Erythrocyte sedimentation rate (ESR). National Institute of Open Schooling, India. Retrieved 8 April 2018.
- 2) Hüseyin Yaman, Comparisons of Two Different Autoanalyzers for Erythrocyte Sedimentation Rate According to Westergren M. Faculty of Medicine Medical Biochemistry Department of Education, Trabzon/Turkey, Lab Expo 2017 [PS-054].
- 3) Kellner C, Erythrocyte Sedimentation Rate, Medscape Reference. Aug 1, 2014.
- 4) Caylor T, Recognition and Management of Polymyalgia Rheumatica and Giant Cell Arteritis, Am Fam Physician. 2013 Nov 15; 88(10) : 676–684.
- 5) ICSH recommendations for measurement of erythrocyte sedimentation rate. International Council for Standardization in Haematology (Expert Panel on Blood Rheology). J.Clin.Pathol 1993; 46 : 198–203
- 6) Design verification report on HumaSRate 24^{PT}, data on file at HUMAN

