

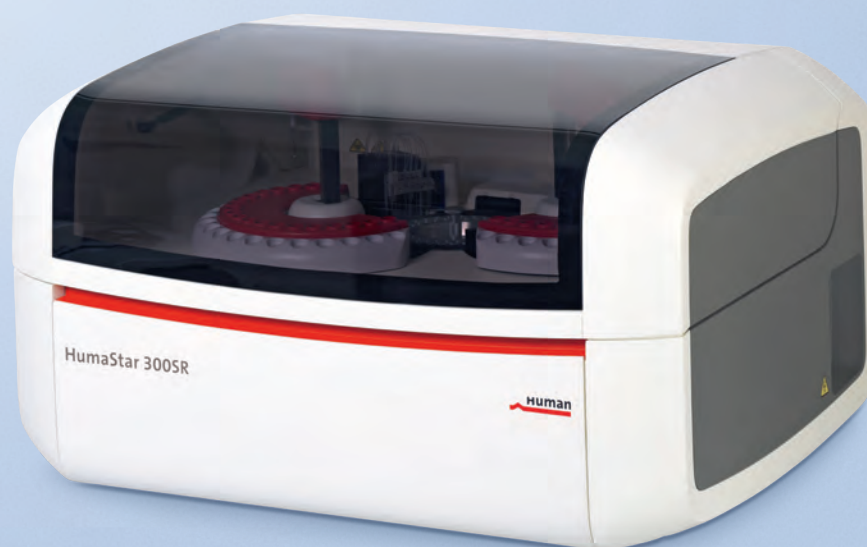
Clinical Chemistry Line

Almost 50 Years of Experience Make the Difference

- > Intelligent solutions for small to large laboratories
- > Broad product range from one source
- > Validated applications and settings for HUMAN reagents

Clinical Chemistry

CoreLab DX

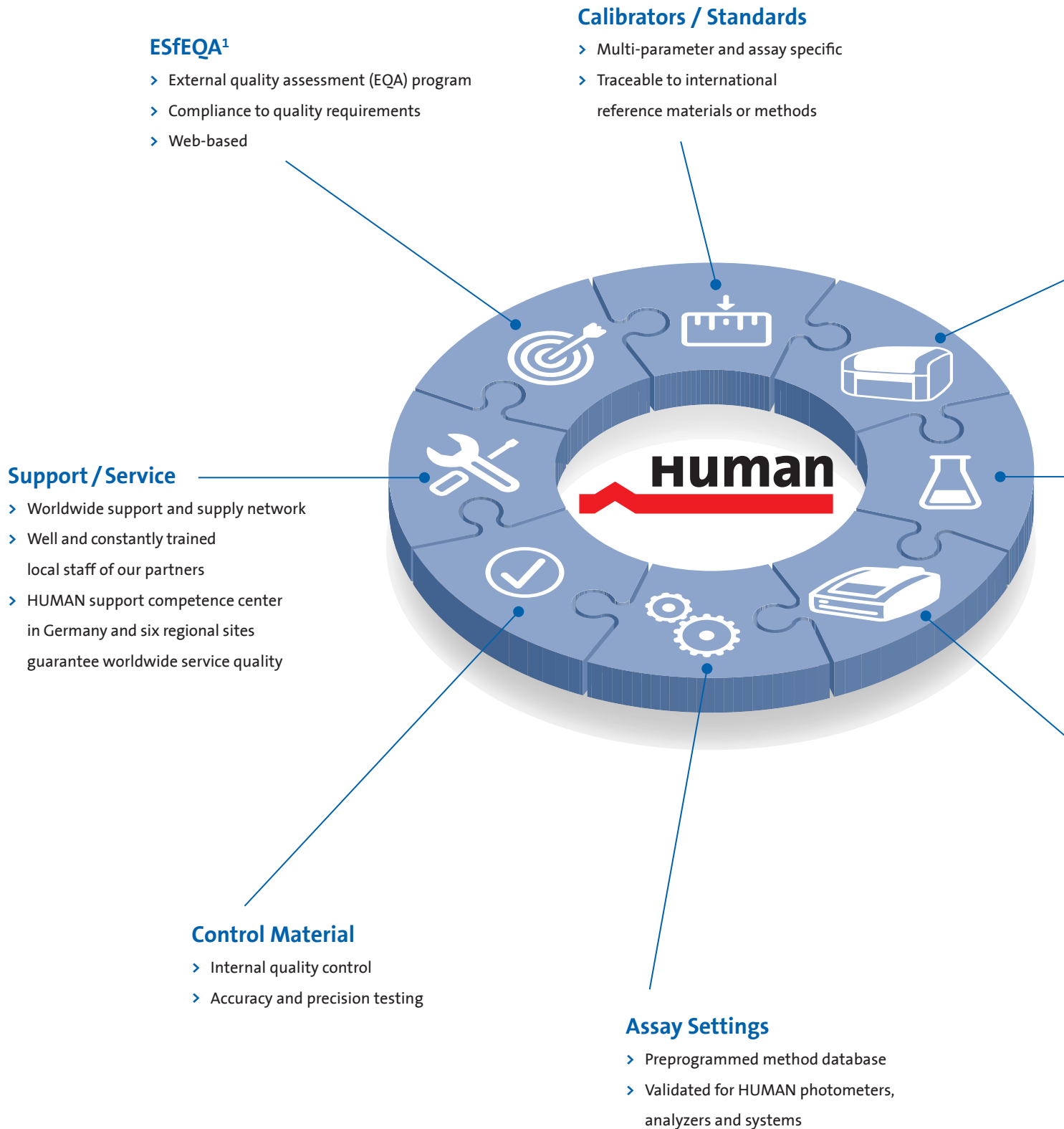


Human

Diagnostics Worldwide

Clinical Chemistry Line

Perfect Matching of all Components for Quality and Efficiency



¹ ESfEQA is a global EQA service offered from the German ESfEQA GmbH provided in cooperation with HUMAN. The ESfEQA program is accredited according to DIN EN ISO /IEC 17043:2010 by the German accreditation.

² The number of tests/day are based on an eight-hour shift with a typical throughput of 2 - 5 hours.

Range of Instruments

Suitable solutions for a wide range of laboratories

HumaStar Automated analyzers and systems

- > For entry level up to high throughput demands

Reagents

- > Multipurpose and system reagents
- > Multiple kit sizes
- > Ready to use
- > Excellent stability

Humalyzer Semi-automatic photometers

- > Small laboratories
- > Backup solution

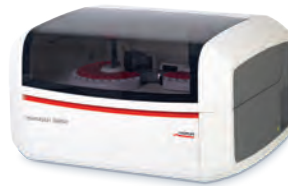
Humalyzer 4000 Humalyzer Primus

HumaStar 600



900 to 2250 tests / day

HumaStar 300SR



440 to 1100 tests / day

HumaStar 200



260 to 650 tests / day

HumaStar 100



200 to 500 tests / day

HumaStar 80



80 to 200 tests / day



Up to 100 tests / day

Systems²

Analyzers²

Photometers

Clinical Chemistry Assay Panel

Multipurpose and System Reagents from A-Z



Multipurpose Reagents for manual procedures and use on automated analyzers

- > Multiple kit sizes
- > Ready to use
- > Liquid stable
- > Validated applications and settings for HUMAN analyzers and photometers

For more information

www.human.de



	Multipurpose Reagents	System Reagents
Acid Phosphatase (ACP)	■	■
Albumin (ALB)	■	■
Alkaline Phosphatase (ALP, AP)	■	■
alpha-Amylase (AMY, AMS)	■	■
anti-Streptolysin-O (ASL, ASO)	■	■
Apolipoprotein A1 (Apo A1)	■	■
Apolipoprotein B (Apo B)	■	■
Bilirubin direct (DBIL)	■	■
Bilirubin total (TBIL)	■	■
Calcium (Ca)	■	■
Chloride (Cl)	■	■
Cholesterol (CHOL)	■	■
Cholinesterase (CHE)	■	■
CK-MB (CK-MB)	■	■
Complement C3 (C3)	■	■
Complement C4 (C4)	■	■
C-reactive Protein (CRP)	■	■
Creatin Kinase (CK)	■	■
Creatinine (CREA)	■	■
Cystatin-C (CYSTC)	■	■
Ferritin (FER)	■	■
gamma-GT (GGT)	■	■
Glucose (GLUC)	■	■
GOT/ASAT (AST, SGOT)	■	■
GPT/ALAT (ALT, SGPT)	■	■

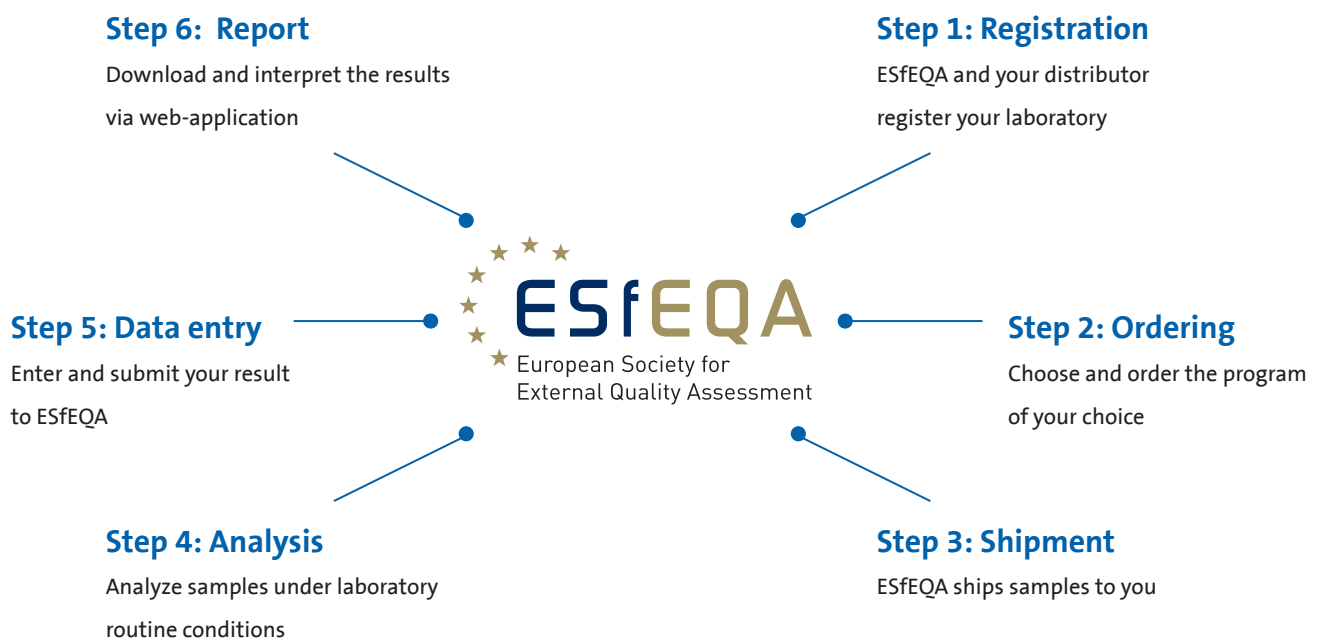
Quality Control

External Quality Assessment Service

ESfEQA is HUMAN's recommendation for web-based, international External Quality Assessment (EQA) program. It helps laboratories to ensure precise, reliable and comparable results, irrespective of where in the world they are obtained. ESfEQA is unique due to its powerful HUMAN peer group. It is the only accredited EQA program which supports the HUMAN peer group in order to guarantee and increase the statistical security of result with HUMAN products.

Steps to participate

Taking control of your laboratory results.



Quality

- > Accreditation according to ISO/IEC 17043:2010 by the German accreditation board DAkkS.
- > Truly independent of IVD manufacturer

SIGN UP NOW

www.esfeqa.eu



Portfolio

- Flexible: Various schedules for one program, option to enroll at several times of the year.
- Comprehensive: Various of programs for different areas
- > **Clinical Chemistry** more than 30 parameters
 - > Immunology
 - > Microbiology / Virology
 - > Hematology
- For more details please visit www.esfeqa.eu

Internal Quality Control

Control Material

Quality assurance of your laboratory results

Multi-parameter controls:

- > **HumaTrol N / HumaTrol P**, lyophilized bovine serum.
Applicable for enzymes, substrates/metabolites, electrolytes and trace elements.
- > **SERODOS®/ SERODOS®plus**, lyophilized human serum.
Applicable for enzymes, substrates/metabolites, electrolytes and trace elements.
- > **TURBIDOS 2-level**, liquid human serum.
Applicable for most of the protein assays.

Assay specific controls:

- > CK-MB control, 2-level
- > Cystatin-C control, 2-level
- > HbA1c control blood, 2-level
- > Homocysteine control, 2-level



Reference Material

Calibrators / Standards

Prerequisite for accurate testing

HUMAN offers multi- and assay specific calibrators or standards for clinical chemistry reagents.

AUTOCAL, multi-calibrator, lyophilized human serum.

Applicable for HUMAN clinical chemistry reagents.

Assay specific calibrators / standards:

- > anti-Streptolysin-O standard
- > Apolipoprotein A1/B standard
- > CK-MB calibrator
- > Complement C3/C4 & Transferrin standard
- > C-reactive protein standard
- > Cystatin-C calibrator set
- > Ferritin calibrator set
- > HbA1c calibrator set
- > Homocysteine calibrator set
- > Immunoglobulins A/G/M calibrator set
- > Lipoprotein (a) standard
- > Microalbumin standard
- > Potassium standard
- > Rheumatoid factors standard
- > Sodium standard



HumaLyzer Semi-automatic Photometers

Perfectly Suited for Small Laboratories or as a Backup Solution

- > HUMAN settings preprogrammed and validated
- > Further settings user-programmable
- > Readings in flow cell or cuvette
- > Multiple types of reaction and calibration (incl. multipoint)



REF

HumaLyzer Primus

18200

The compact semi-automatic allrounder

- > Wavelengths: 340, 405, 500, 546, 620 nm and free positions
- > Total of 60 programmable settings
- > Software: English, Spanish, French, Russian
- > Memory for 2,200 results, QC, calibration
- > LCD display 240 x 64 pixels
- > Comprehensive QC statistics module
- > Incubation at 25°C, 30°C or 37°C
- > HumaCube incubator available (optional)

Accessories

REF

HumaCube incubator 220 VAC

17050

HumaCube incubator 110 VAC

17070



REF

HumaLyzer 4000

18250

Top-class semi-automatic photometer

- > Wavelengths: 340, 405, 505, 546, 578, 620, 700, 750 nm
- > Total of 144 programmable settings
- > Software: English, Spanish, French
- > 8 GB memory for results, QC, calibration (SD-Card, expandable)
- > Color touchscreen 640 x 480 pixels
- > Remote access for support
- > Low energy consumption
- > Extremely quiet
- > LIS (ethernet, unidirectional)
- > Integrated incubator with 10 round and 2 square positions



HumaLyzer PRIMUS



HumaLyzer 4000

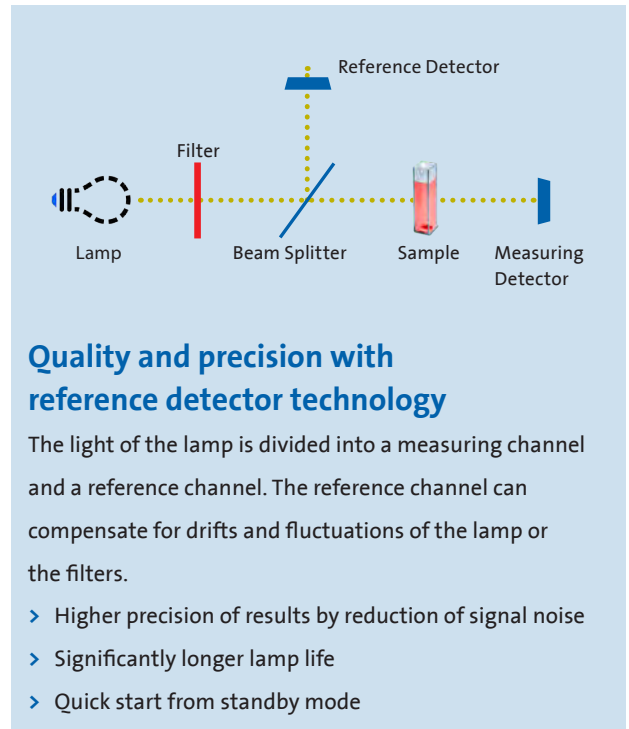


Powerful and easy to use

- > Large color touchscreen, intuitive user interface with HUMAN icon-based software
- > User guided workflows and applications
- > Workflow optimization by using a worklist for sample input
- > Searchable result database with option to print patient report
- > Graphic charts for QC, reaction and calibration

Designed for tough conditions and use in remote areas

- > Photometer unit completely sealed protected by dust filter at air inlet
- > Internal metal coating against electro-magnetic disturbance
- > Temperature regulation for minimum aspiration of dust
- > Remote use possibilities with optional battery pack* and solar panel*
- > Reflector lamp for low energy consumption and long battery life



Quality and precision with reference detector technology

The light of the lamp is divided into a measuring channel and a reference channel. The reference channel can compensate for drifts and fluctuations of the lamp or the filters.

- > Higher precision of results by reduction of signal noise
- > Significantly longer lamp life
- > Quick start from standby mode

Remote support and simple maintenance

- > Secure remote control via internet enables fast service and support
- > Support backup with detailed information to facilitate trouble shooting
- > Easy update of software / methods via USB or network
- > Removable side panel enables easy access to user-replaceable lamp

HumaStar Analyzers

For Small to Medium Size Laboratories

- > Automated analyzers
- > Robust technology
- > HUMAN settings preprogrammed



REF

16880

HumaStar 80

Automated clinical chemistry batch analyzer

- > Up to 80 tests per hour



REF

16890

HumaStar 100

Random access benchtop analyzer for low throughput

- > 100 tests per hour constant

Proven technology

- > Optimized batch analyzer
- > 20 positions for reagents
- > 54 positions for samples
- > Flow cell measurement
- > Needle shock detector
- > Disposable cuvettes
- > Capacity to load 144 reaction cuvettes
- > Programmable washing cycles between samples & tests minimizes carry-over
- > Auto-rerun with predilution
- > Level sensor for wash and waste bottles
- > LIS: Bi-directional
- > Multi-language software:
English, French, Italian, Spanish
- > PC included in standard delivery

One concept – two instruments

- > Random access analyzer
- > 30 cooled positions for reagents and solutions
- > 60 positions for samples
- > Direct cuvette measurement
- > Needle shock detector
- > Multi-step cuvette wash station (8 steps)
- > Internal sample barcode reader
- > Reagent cooling independent from main power switch
- > Primary tubes up to 16x100 mm and sample cups
- > LIS: Bi-directional, via ethernet, ASTM
- > Multi-language software:
English, French, Italian, Spanish



HumaStar 80



HumaStar 100|200



Movie



REF

HumaStar 200

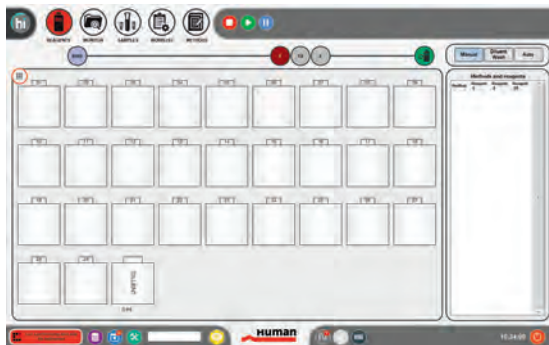
16895

Random access benchtop analyzer for medium throughput

- > Up to 200 tests per hour

Quality first

- > Routine check and blank for each individual cuvette
- > Validity limits for settings and reactions
- > Reagent integrity check
- > UPS 230V included in standard delivery



Intuitive User Interface



Easy and efficient

- > Automatic pre-dilution and post-dilution
- > Continuous loading of samples and reagents
- > Software designed for touchscreen
- > Capacitive liquid level detector
- > Large liquid containers with level sensors
- > Less than 1l/h (HS 100) and 2l/h (HS 200) water consumption

Accessories

Personal computer with Windows® 7

TFT screen

LCD touchscreen monitor

Laser printer

REF

18992P

17901M

18991MT

18993L

HumaStar Systems

Your Choice for System Solutions

- > Ready to use system reagents available in two kit sizes
- > Preprogrammed and validated settings for HUMAN system reagents
- > Low water consumption



REF

16930

HumaStar 300SR

Medium throughput random access system

- > Up to 300 tests per hour
- > 3 open channels for user defined method
- > Barcode reader for samples and reagents
- > 60 positions for samples and solutions
- > 40 cooled positions for reagents and solutions
- > Continuous programming and loading
- > LIS: Bi-directional
- > Multi-language software: English, French, Spanish
- > UPS 230V included in standard delivery



**ProClean 2.0
Technology**

Eco-friendly

- > Minimal carry-over – dual solution wash station
- > Low water consumption – less than 3 l/h
- > Separation and reduction of biohazard waste

Rock-solid and reliable

- > Proven hardware and software quality of HumaStar 100 and 200

Efficient operation

- > Multi-step cuvette wash station
- > Up to 56 days reagent onboard stability
- > Intuitive software designed for touchscreen
- > Huge variety of primary and secondary sample tubes usable

Intuitive and powerful software

- > Full traceability to reagents, calibrations and settings
- > Searchable result database
- > Automatic outlier detection and unit conversion
- > Method specific wash options

Accessories

Personal computer with Windows® 7	REF 18992P
TFT screen	17901M
LCD touchscreen monitor	18991MT
Laser printer	18993L



HumaStar 300SR



REF

HumaStar 600

16660

High throughput random access system

- > Up to 600 tests per hour
- > Up to 780 tests per hour with ISE (Na, K, Cl, Li)

- > 5 open channels for user defined settings
- > Barcode reader for samples and reagents
- > 95 positions for samples
- > 48 cooled positions for reagents
- > Continuous programming and loading
- > LIS: Bi-directional, host query
- > Multi-language software: English, Spanish, Russian, Chinese, Portuguese
- > UPS 230V included in standard delivery



Convenient Loading of Reagents

Workflow-optimized handling

- > Easy-to-use software
- > Convenient loading of reagents, samples & consumables
- > STAT rack for immediate measurement
- > Liquid level sensor

Efficient operation

- > Two independent reaction carousels
- > Up to 60 days reagent onboard stability
- > Clot detection
- > Optional ISE module (Na, K, Cl, Li)
- > Less than 5 l/h water consumption

Accessories

ISE module field installation kit for Na,K, Cl	REF 16663-03
Personal computer with Windows® 7	18992P
TFT screen	17901M
Laser printer	18993L



HumaStar 600



Movie

HumaLyte ISE Systems

For Small to Mid-Sized Labs



REF

HumaLyte Plus³

17470/10

Direct ISE for 3 parameters

Na⁺ | K⁺ | Cl⁻



REF

HumaLyte Plus⁵

17470/20

Direct ISE for 5 parameters

Na⁺ | K⁺ | Cl⁻ | pH^{-*} | iCa⁺⁺

One concept – two instruments

- > Analysis time < 60 sec per sample
- > For testing serum, whole blood (heparin), plasma (heparin) or diluted urine
- > Dedicated HumaLyte reagents
- > Refillable electrodes
- > Optional autosampler for 20 samples and STAT
- > LCD touchscreen
- > Internal thermal printer
- > Memory for 200 samples, QC
- > Quality control database

Reagents

REF

Reagent pack HumaLyte Plus³

17470/82

Reagent pack HumaLyte Plus⁵

17470/83



Accessories

REF

HumaLyte Autosampler

17470/30

- > Walk-away-capability on demand
- > Easy add-on
- > 20 sample cup positions + 2 STAT



HumaLyte Plus

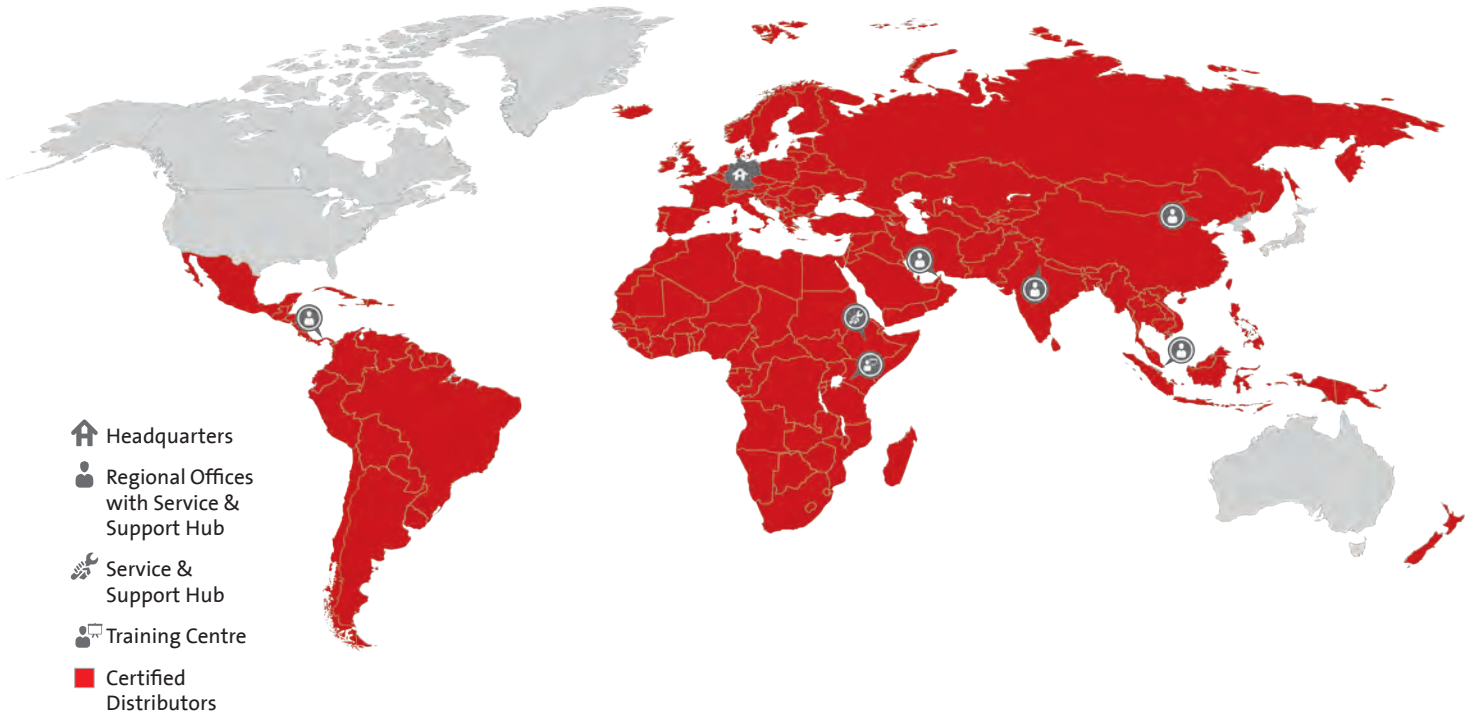


Movie

* Used for correction of iCa results only!

Service and Support

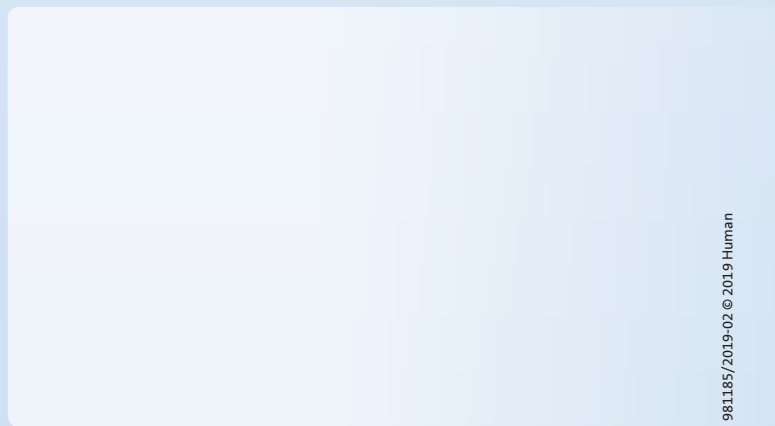
Impressive Global Availability, Reliability and Service Quality



HUMAN carefully selects and supports local sales partners. Local engineers are constantly trained and are in close contact with our regional sites and our competence centre in Wiesbaden.

Together we will ensure that you not only get great products, but also great support.

Your local distribution partner



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