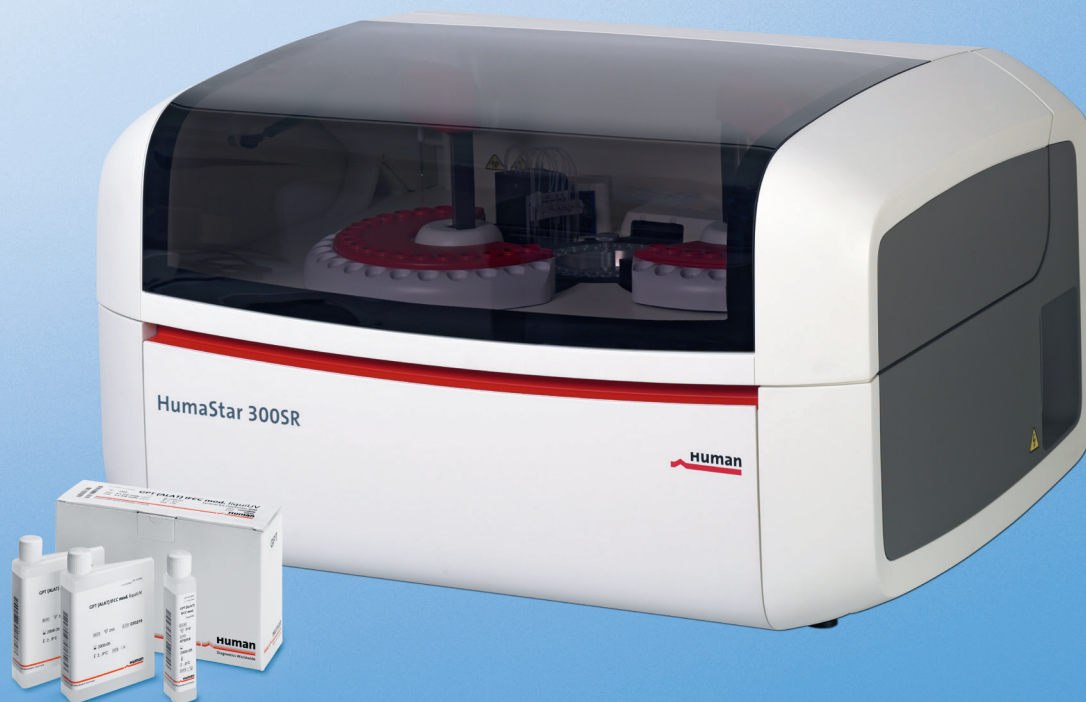


HumaStar 300SR

- > System Specifications
- > Scope of Supply
- > Obligatory Items
- > Optional Items



System Overview

REF	16930
Analyzer type	Automated clinical chemistry system
Reagent system	Barcoded system reagents and 3 open channels
Throughput (max.)	300 tests/hour
Operation modes	Random access Batch STAT
Barcode reader	Internal sample and external reagent barcode reader
Reaction / reading system	Reaction cuvettes with multicycle washing station
Languages	English, French, Spanish Additional languages can be translated by distributor
User interface	External PC, touchscreen recommended

HumaStar 300SR

Random Access Clinical Chemistry System

Tests	Measuring modes	Photometry (colorimetry, UV-tests, turbidimetry)
	Analysis modes	Endpoint (bichromatic) with sample/reagent blank Differential endpoint with sample/reagent blank Fixed time Kinetic (bichromatic)
	Calibration modes	Factor 1-point and multi-point
	Calibration algorithms	Linear (factor, linear, linear regression, average), Non linear (cubic spline, poly-linear, four parameters (sigmoidal), five parameters (sigmoidal), multi-parameters (logit-log)
	# of programmable profiles	Unlimited
	# of standards per test	Up to 8

Sample / Control / Calibrator

Sample type	Serum, plasma, urine, CSF, whole blood, others
Sample vessels	Primary tubes (12.5 x 100 mm), optional tray (16 x 100 mm) Sample cups (10 mm), optional tray (Hitachi 2 ml)
Sample positions	Total of 60 positions for samples and solutions, optional tray 20 + 20 positions
Sampling volume	2 to 300 µl/test
Loading	Continuous
Predilution	Automatic
Post-Dilution	Automatic (abnormal levels, excessive substrate consumption and/or lack of linearity)

Reagent

Reagent positions	40 positions for reagents and solutions (25 ml, 70 ml, removable tray)
Reagent cooling	Approx. 13°C below room temp. at bottom of reagent, independent switch
Reagent 1-3 volume range	5 to 350 µl

Reaction unit

Reaction wells / positions for incubation	80 washable Bionex® cuvettes
Reaction volume (minimum)	210 µl
Reaction volume (maximum)	350 µl
Cuvette washing system	8-step wash station, 8 needles 2 bottles: systemic- and special wash solution
Incubation temperature	37°C ± 0.2°C heat transfer by air
Incubation time	612 sec. max. incubation + reading time

Liquid Handling

Liquid transportation	2 pipetting arms
Liquid level sensors	Capacitive
Shock detection for probe	Yes (vertical)
Water consumption	< 3l/hour
Water quality	< 10 µS filtered, distilled or de-ionized



Reading

Optical system	Interference filters
Readings	Mono- or bichromatic
Light source	Halogen lamp (Phillips, 6 V, 10 W)
Spectral range	340 to 900 nm
Wavelengths pre-installed	340, 405, 505, 546, 578, 600, 650, 700 nm
Max. # of wavelengths installed	9
Wavelength error (accuracy)	± 2 nm on peak wavelength
Wavelength bandwidth	Half bandwidth 10 nm
Detector	Silicon photodiode
Absorbance range (linearity)	0 to 2.5 OD
Resolution	0.0001 OD

Data Processing

Memory for	Sample results, calibration, patient data, QC data, error-log, absorbance curves
Memory capacity	Unlimited (HDD)
Reports for	Patient, single test, complete sample, work sheet, method and QC's, calibration curves, kinetics, continuous printing
Quality control module	Levey-Jennings, Westgard multirules, SD, CV%
Max. number of control levels	Up to 3 levels per test
Test statistics	Number executed, SD, CV%, Mean
Warnings	Analytical limits, reagent and reaction integrity check (blank, linearity, substrate depletion, reaction OD etc.),
Printer	Printer connected to external PC
LIS	ASTM Bi-directional, ethernet of external PC, polling mode on LAN

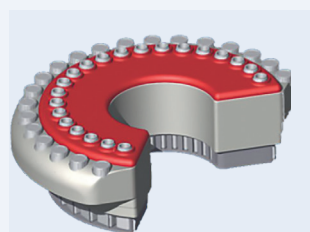
General

PC min. requirements	External PC, Pentium IV 2GHz (Hyper-threading), Memory: 512 Mbytes RAM, Hard disk capacity > 20 GBytes, USB 2.0 ports (min. 3, excl. mouse and keyboard) Operating system: Windows 10, 8, 7, latest updates installed, English, French, Spanish, no complex Chinese, .Net latest update Ethernet network adaptor, min. 900 dots vertical resolution Recommended: 17 inch touchscreen, 1280 x 1024 resolution, 6 USB ports, Core i3, 4GB RAM
Physical dimensions (W x D x H)	Instrument without any components: 93 x 74 x 60 cm Space required for routine use: 170 x 90 x 110 cm Packaging: 117 x 85 x 78 cm +58 x 38 x 58 cm Weight: Gross: 115 kg, net: 70 kg
Mains fuse	T3.15 A / 250V, 5 x 20 mm
Electrical requirements	110...240 VAC; 50/60 Hz; < 300 VA, avg. ~170VA
Environmental	Operating: temperature 16...30 °C, humidity < 80 % rel. non condensing Transport: temperature 0...50°C, humidity < 85% rel. non condensing
Wash / waste tank	20 l systemic, 2 l special wash, 20 l normal waste, 5 l special waste, level sensors

HumaStar 300SR

Random Access Clinical Chemistry System

Scope of Supply



Reagent Bottles Tray (20 pos.)

REF. 16930/13

	Unit/Size	REF
HumaStar 300SR	1	16930
Packlist		
UPS (230 V, 800VA)	1	18961
Adapter EU to US	1	18967
Adapter EU to UK	1	18968
Power Safety Socket	1	18969
Sample Tray 60 positions (installed on instrument)	1	16890/10
Accessories Kit HumaStar 300SR REF 16930AI contains the following items:		
Reagent Bottles Tray 20 positions	2	16930/13
Reaction Cuvettes Starter Kit 20 pcs.	1	16890/40
Sample Tubes 12 mm, 5 ml 50 pcs.	1	16890/42
Sample Cups 1 ml Adapter (for 16890/10) 10 pcs.	1	16890/12
Sample Cups 1 ml (for 16890/10) 50 pcs.	1	16890/43
Waste Tank 20 l	1	16890/55
Special Waste Tank 5 l	1	16930/55
Tank for Systemic Solution 20 l	1	16890/56
Tank for Special Wash Solution 2 l	1	16890/57
Tanks Tubing Group	1	16930/58
Desktop Barcode Reader	1	16890/19
Power Cord	1	16890/146
USB Cable 3 m	1	16890/231
Halogen lamp	1	16890/51
Fuses Kit	1	16930/50
HumaStar 300SR Software and Settings USB Card	1	16930/24
User Manual	1	16930/1

Obligatory Items

Service Kits	REF
Need to be ordered with the <u>first</u> instrument:	
Starter Spare Part Kit HumaStar 300SR (Sufficient for up to 5 instruments)	16930/253
Need to be ordered with <u>each</u> instrument:	
Yearly Maintenance Kit HumaStar 300SR (Sufficient for one year)	16930/250



Obligatory Items

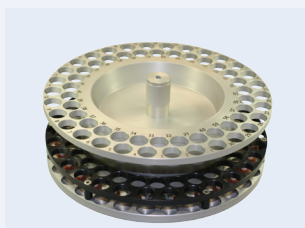
Consumables

	REF
Wash Additive 4 x 25 ml	18971
Special Wash Solution 12 x 30 ml DG	18974
Special Wash Solution-2 6 x 50 ml DG	18974/2
Cuvette Clean (necessary for turbidimetry) 6 x 55 ml DG	16663/20
Diluent 4 x 20 ml	16663/10

Accessories

Personal Computer with monitor and printer is necessary for the operation of this instrument.
HUMAN offers them as optional items below.

Optional Items



Sample Tray (60 pos.)

REF 16890/10

Accessories

	REF
Personal Computer with Windows 7 (32Bit) incl. Keyboard and Mouse	18992P
Monitor LCD 19 inch	17901M
LCD Touch Screen Monitor	18991MT
HP Laser Printer (USB + Parallel)	18993L
Sample Tray 60 Positions (10 mm Cups or 12 - 12.5 x 100 mm Primary Tubes)	16890/10
Sample Tray 40 Positions (20: 3.5 ml Hitachi Cups + 20: 12 - 16 x 100 mm Primary Tubes)	16890/11
Sample Tray 75 mm Tubes (40 positions, 10 mm Cups or 12-12.5 x 75 mm Primary Tubes)	16890/26
Matched Interference Filter 420 nm	16890/300
Matched Interference Filter 492 nm	16890/301
Matched Interference Filter 520 nm	16890/302
Matched Interference Filter 620 nm	16890/303
Matched Interference Filter 630 nm	16890/304
Matched Interference Filter 670 nm	16890/305
Matched Interference Filter 880 nm	16890/306

Consumables

	REF
Sample Tubes 5 ml (12 x 85 mm) 1000 pcs	16890/30
Sample Cups 1 ml (10 mm) (for Sample Tray 16890/10 with 16890/12) 1000 pcs	16890/31
Sample Cups 2 ml (for Sample Tray 16890/11) 1000 pcs	17470/59
Reaction Cuvettes 200 pcs (up to 75,000 tests)	16890/33
Barcoded Reagent Containers 25 ml (1,500 tests credits) 10 pcs	16770/25*
Barcoded Reagent Containers 70 ml (3,500 tests credits) 10 pcs	16770/70*
Chimney 16 pcs	16661/01**
Diluent-2 4 x 20 ml	16663/11**

*must to be used for open channels

**Recommended for specific reagents. For more details please refer to the Quick Reference Guide HumaStar 300SR.

HumaStar 300SR

System Reagents for HumaStar 300SR and HumaStar 600

Description	Tests /Kit	REF	Tests /Kit	REF
Acid PHOSPHATASE	3 x 50 tests	10660600		
ALBUMIN liquicolor	4 x 60 tests	10560300	6 x 150 tests	10560600
ALKALINE PHOSPHATASE liquicolor (IFCC)	2 x 150 tests	12117300	3 x 250 tests	12117600
ALKALINE PHOSPHATASE opt. liquicolor	2 x 150 tests	12027300	3 x 250 tests	12027600
alpha-AMYLASE liquicolor	2 x 100 tests	12028300	3 x 260 tests	12028600
anti-STREPTOLYSIN-O (ASO)	1 x 100 tests	11251300	1 x 210 tests	11251600
APOLIPOPROTEIN A1 (APO A1)	1 x 70 tests	11101600		
APOLIPOPROTEIN B (APO B)	1 x 70 tests	11102600		
auto-BILIRUBIN-D liquicolor DG	2 x 100 tests	10741300	5 x 210 tests	10741600
auto-BILIRUBIN-T liquicolor	2 x 150 tests	10742300	5 x 210 tests	10742600
CALCIUM liquicolor DG	3 x 100 tests	10011300	3 x 430 tests	10011600
CHOLESTEROL liquicolor	2 x 100 tests	10028300	3 x 150 tests	10028600
CHORIDE liquicolor	2 x 50 tests	10115300		
CK-MB liquiUV	2 x 100 tests	12118600		
CK NAC activated liquiUV	2 x 180 tests	12015600		
COMPLEMENT C3	1 x 70 tests	11110600		
COMPLEMENT C4	1 x 70 tests	11113600		
auto-CREATININE liquicolor DG	2 x 150 tests	10052300	5 x 250 tests	10052600
CREATININE (enzym) liquicolor	1 x 95 tests	10053300	1 x 275 tests	10053600
CRP	1 x 100 tests	11241300	1 x 250 tests	11241600
CYSTATIN-C liquidirect	2 x 100 tests	11150600		
FERRITIN	1 x 90 tests	11610600		
gamma-GT liquicolor	2 x 100 tests	12023300	3 x 250 tests	12023600
GLUCOSE liquicolor	2 x 150 tests	10260300	6 x 210 tests	10260600
GOT (ASAT) IFCC mod. liquiUV	2 x 200 tests	12021300	5 x 310 tests	12021600
GPT (ALAT) IFCC mod. liquiUV	2 x 200 tests	12022300	5 x 310 tests	12022600
HbA1c liquidirect	1 x 135 tests	10770600		
HDL CHOLESTEROL liquicolor	2 x 100 tests	10084300	2 x 180 tests	10084600
HOMOCYSTEINE liquiUV	1 x 250 tests	11140600		

DG = this item is classified as dangerous goods



Description	Tests /Kit	REF	Tests /Kit	REF
IMMUNOGLOBULIN direct IgA	1 x 100 tests	11501300	1 x 250 tests	11501600
IMMUNOGLOBULIN direct IgG	1 x 100 tests	11502300	1 x 250 tests	11502600
IMMUNOGLOBULIN direct IgM	1 x 100 tests	11503300	1 x 250 tests	11503600
IRON TPTZ liquicolor DG	2 x 100 tests	12290300	2 x 180 tests	12290600
LDH SCE mod. liquiUV	2 x 100 tests	12014300	2 x 180 tests	12014600
LDL CHOLESTEROL liquicolor	2 x 90 tests	10094600		
LIPASE liquicolor	2 x 100 tests	12006600		
LIPOPROTEIN (a), Lp(a)	1 x 90 tests	11105600		
MAGNESIUM liquicolor	4 x 30 tests	10010300	4 x 60 tests	10010600
MICROALBUMIN	1 x 90 tests	11120600		
PANCREAS-AMYLASE liquicolor	2 x 100 tests	12009600		
PHOSPHORUS liquirapid DG	4 x 30 tests	10027300	4 x 60 tests	10027600
POTASSIUM liquiUV	1 x 120 tests	10120300	1 x 250 tests	10120600
RHEUMATOID FACTORS (RF)	1 x 100 tests	11261300	1 x 210 tests	11261600
SODIUM liquicolor	1 x 120 tests	10113300	1 x 250 tests	10113600
TOTAL PROTEIN liquicolor DG	2 x 150 tests	10570300	6 x 210 tests	10570600
TRIGLYCERIDES liquicolor ^{mono}	3 x 60 tests	10724300	3 x 210 tests	10724600
TRANSFERRIN	1 x 70 tests	11115600		
UREA liquiUV	2 x 150 tests	10521300	5 x 250 tests	10521600
URIC ACID liquicolor ^{plus}	2 x 100 tests	10694300	5 x 250 tests	10694600

HumaStar 300SR

Calibrators / Standards and Controls

Calibrators / Standards	Unit / Size	REF
AUTOCAL , multi calibrator	4 x 5 ml	13160
anti-STREPTOLYSIN O (ASO) Standard	2 x 1 ml	11351
APO A1/B Standard	2 x 1 ml	11104
CK-MB Calibrator	2 x 1 ml	13612
C3/C4/TRF Standard	2 x 1 ml	11117
CRP Standard	2 x 1 ml	11341
CYSTATIN-C Calibrator Set	5 x 1 ml	11155
FERRITIN Calibrator 500	4 x 0.5 ml	13020600
HbA1c Calibrator Set	4 x 0.5 ml	10776
HOMOCYSTEINE Calibrator Set	2 x 3 ml	11145
IgG, IgA, IgM Standard	5 x 2 ml	11504
Lp(a) Standard	2 x 0.5 ml	11107
MICROALBUMIN Standard	2 x 1 ml	11124
POTASSIUM Standard	2 x 3 ml	10126
RF Standard	2 x 3 ml	11361
SODIUM Standard	2 x 3 ml	10114
Controls	Unit / Size	REF
HumaTrol N , multi control	6 x 5 ml	13511
HumaTrol P , multi control	6 x 5 ml	13512
SERODOS® , multi control	6 x 5 ml	13951
SERODOS®plus , multi control	6 x 5 ml	13151
TURBIDOS , multi control	4 x 3 ml	13010
CK-MB Controls , 2 level	2 x 2 ml	13611
CYSTATIN-C Controls , 3 levels	3 x 1 ml	11153
HbA1c Control blood normal/abnormal	4 x 0.5 ml	10775
HOMOCYSTEINE Controls , 3 levels	3 x 1.5 ml	11143



Legal statement

While Human is making every effort to include accurate and up-to-date information, we make no representations or warranties, express or implied, as to the accuracy or completeness of the information provided in this document and disclaim any liability for the use of it.