

HumaStar 100

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



System Overview

Cat. No.	16890
Analyzer type	Automatic analyzer
Reagent system	Open (Human pre-installed)
Throughput (max. and typical)	100 tests/hr maximum 100 tests/hr typical (applies to most parameters)
Operation modes	Random-access with STAT
Barcode reader	Internal sample barcode reader
ISE	None
Reaction / reading System	Reaction cuvettes with multicycle washing station
Languages available	English, French, Spanish
User interface	External PC, touch screen recommended

HumaStar 100

Random-Access Clinical Chemistry Analyzer

Tests	Measuring modes	Routine chemistry, turbidimetry
	Analysis modes	Endpoint (bichromatic) with self blank
		Differential endpoint with self blank
		Fixed time
		Kinetic (bichromatic)
	Calculation modes	Factor
		Multi standard
		Single standard
Calculation algorithms	Linear (factor, linear, linear regression, average)	
	Non linear (cubic spline, poly-linear, logit-log four parameters)	
# of programmable tests	50 active methods on instrument	
# of programmable profiles	Unlimited	
# of standards per test	Up to 8	

Sample / Control / Calibrator

Sample type	Serum, plasma, urine, CSF
Sample vessels	Primary tubes (12.5 x 100 mm), optional tray (16 x 100 mm)
	Sample cups (10 mm), optional tray (Hitachi 3.5 ml)
Sample positions	Total of 60 positions for samples, optional tray 20 + 20 positions
Sampling volume	2 to 300 µl/test
Loading	Continuous
Pre-Dilution	Automatic (In-needle or reaction cuvette)
Post-Dilution	Automatic (abnormal levels, excessive substrate consumption and/or lack of linearity)

Reagent

Reagent positions	30 reagent positions (20 ml, 50 ml, adapter for tubes and cups, removeable tray)
Reagent cooling	Approx. 9 °C below room temp. at bottom of reagent, independent switch
Reagent 1 - 2 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, 6 needles
	2 bottles: systemic- and special wash solution
Incubation temperature	37°C ± 0.2°C heat transfer by air
Incubation time	792 sec. max. incubation + reading time

Liquid Handling

Liquid transportation	Pipetting arm
Liquid level sensors	Capacitive
Collusion detection for probe	Yes (vertical)

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 (precision)	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

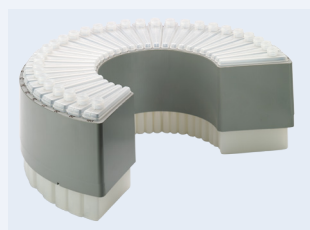
General

PC min. requirements	External PC, Pentium IV 2GHz, CD-ROM, Memory: 512 Mbytes RAM, Hard disk capacity > 20 GBytes, USB 2.0 ports (min. 3, excl. mouse and keyboard) Operating system: Windows 7 or XP (SP3), latest updates installed, no complex chinese, .Net 4.0 Ethernet network adaptor , min. 900 dots vertical resolution Recommended: 17 inch touch screen, 1280 x 1024 resolution
Physical dimensions (W x D x H)	Instrument without any components: 69 x 76 x 52 cm Space required for routine use: 150 x 90 x 100 cm Packaging: 92 x 86 x 79 cm + 58 x 38 x 58 cm Weight: Gross: 90.0 kg, net: 51.0 kg
Mains fuse	T2 A / 250V, 5 x 20 mm
Electrical requirements	110...120, 220...240 VAC; 50/60 Hz; < 200 VA
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 waste, level sensors, water quality min. de-ionized < 10 µs

HumaStar 100

Random-Access Clinical Chemistry Analyzer

Scope of Supply



Reagent Bottles Tray (30 pos.)
Cat.No. 16890/13



Reagent Bottles 20 ml
Reagent Bottles 50 ml
Cat.Nos. 16890/34, 16890/35

	Unit/Size	Cat.No.
HumaStar 100	1	16890
Packlist		
UPS	1	18961
Sample Tray 60 positions (installed on instrument)	1	16890/10
Accessories Kit HumaStar 100 Cat.no. 16890A1 contains the following items:		
Reagent Bottles Tray 30 positions	1	16890/13
Reagent Bottle 50ml 30 pcs.	1	16890/35
Reagent Bottle 20ml 30 pcs.	1	16890/34
Cap for reagent bottles 30 pcs.	2	16890/36
Bottle Adapter 20 ml 15 pcs.	1	16890/14
Closing Lid for empty reagent bottle positions 15 pcs.	1	16890/41
Reagent Adapter for Cup or Tube	1	16890/15
Reaction Cuvettes Starter Kit 20 pcs.	1	16890/40
Sample Tubes 12 mm, 5 ml 50 pcs.	1	16890/30
Sample Cups 1 ml Adapter (for 16890/10) 10 pcs.	1	16890/12
Sample Cups 1 ml (for 16890/10) 50 pcs.	1	16890/31
Waste Tank	1	16890/55
Tank for Systemic Solution 20 l	1	16890/56
Tank for Special Wash Solution 2 l	1	16890/57
Tanks Tubing Group	1	16890/58
Power Cord	1	16890/146
USB Cable 3 m	1	16890/231
Halogen lamp	1	16890/51
Fuses Kit	1	16890/50
HumaStar 100/200 Software Installer CD	1	16890/20
HumaStar 100 Setting CD	1	16890/24
User Manual	1	16890/1

Obligatory Items

Service Kits

Cat.No

Need to be ordered with the first instrument:

Starter Spare Part Kit HumaStar 100 and 200 (Sufficient for up to 5 instruments)

16890/253

Need to be ordered with each instrument:

Yearly Maintenance Kit HumaStar 100 and 200 (Sufficient for one year)

16890/250



Obligatory Items

Consumables



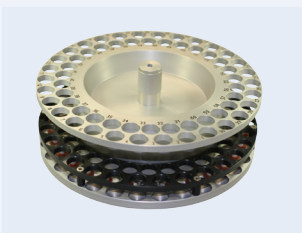
- Wash Additive 4 x 25 ml
- Special Wash Solution 12 x 30 ml
- Cuvette Clean (necessary for turbidimetry) 4 x 100 ml

Cat.No
18971
18974
18973

Accessories

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

Optional Items



Sample Tray (60 pos.)
Cat.No. 16890/10



Sample Tubes 5 ml
Sample Cups 1 ml
Cat.Nos. 16890/30, 16890/31

Accessories

- Personal Computer with Windows 7 (32Bit) incl. Keyboard and Mouse
- Monitor LCD 19 inch
- LCD Touch Screen Monitor
- HP Laser Printer (USB + Parallel)
- Desktop Barcode Reader
- Sample Tray 60 positions (10 mm Cups or 12 - 12.5 x 100 mm Primary Tubes)
- Sample Tray 20 positions (20: 3.5 ml Hitachi Cups + 20: 12 - 16 x 100 mm Primary Tubes)
- Matched Interference Filter 420 nm
- Matched Interference Filter 492 nm
- Matched Interference Filter 520 nm
- Matched Interference Filter 620 nm
- Matched Interference Filter 630 nm
- Matched Interference Filter 670 nm
- Matched Interference Filter 880 nm

Cat.No
18992P
17901M
18991MT
18993L
16890/19
16890/10
16890/11
16890/300
16890/301
16890/302
16890/303
16890/304
16890/305
16890/306

Consumables

- Sample Tubes 5 ml (12 x 85 mm) 1000 pcs.
- Sample Cups 1 ml (10 mm) (for Sample Tray 16890/10 with 16890/12) 1000 pcs.
- Sample Cups 2 ml (for Sample Tray 16890/11) 500 pcs.
- Reaction Cuvettes 200 pcs. (up to 75.000 tests)
- Reagent Bottle 20 ml 30 pcs.
- Reagent Bottle 50 ml 30 pcs.
- Cap for Reagent Bottles 30 pcs.

Cat.No
16890/30
16890/31
17470/59
16890/33
16890/34
16890/35
16890/36

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.



= parts of this item are classified as dangerous goods but are classified as „Limited and Excepted quantities (EQ) of dangerous goods“ and therefore do not fall under restrictions that apply to dangerous goods.