

HumaStar 150SR

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System Overview

Cat.No.	16920
Analyzer type	Automatic analyzer
Reagent system	Closed System
Throughput (max. and typical)	Up to 150 tests/hr with mono reagent Typical 110 with 2 reagents (without ISE) plus 90 tests/hr ISE (option)
Operation modes	Random access STAT (immediate access and execution)
Barcode reader	Built-in for reagents, optional for samples
ISE	Optional (Na, K, Cl)
Reaction / reading System	Reaction cuvettes with multicycle cuvette washing station
Languages available	English, others can be translated
Operating software	Window XP

HumaStar 150SR

Closed System Clinical Chemistry Analyzer

Tests	Measuring modes	Mono reagent, Mono D, BiRea, Diff Fix, Diff Var, Post R2, Premix (see User Manual)
	Analysis modes	End Point Fixed Time Kinetic
	Calculation modes	Factor, Standard, Point to point, Linear, Quadratic, Cubic, Cubic spline, Tetric, Lagrange, Log-Logit 4, Log-Logit 5, Exponential, Sigmoid
	Applications	Closed system
	# of programmable profiles	Unlimited
	# of standards per test	up to 10

Sample / Control / Calibrator	Sample type	Serum, plasma, urine
	Sample vessels	Sample cups Primary tubes (max. length 75 x 12.5 mm)
	Sample positions	3 sample sectors with 10 positions each (30 sample positions), 16 positions for control, calibrator, STAT positions
	Sampling volume	3 to 70 µl / test (in increments of 1.0 µl)
	Loading	Continuous
	Pre-Dilution	Automatic predilution for calibrators, controls, blanks and samples to fit any method insert
	Post-Dilution	Automatic post-dilution

Reagent	Reagent positions	40 positions (4 racks)
	Reagent cooling	12°C below room temperatur
	Reagent volume range	3 to 600 µl / test each (in increments of 1 µl)

Reaction Unit / Incubation	Reaction wells / positions for incubation	39 permanent quartz cuvettes
	Reaction volume (minimum)	300 µl
	Cuvette washing system	Yes, 2 stage washing
	Incubation temperature	37°C
	Incubation time	Max. 12 minutes

Liquid Handling

Liquid transportation	Pipetting arm
Liquid level sensors	Yes, capacity
Shock protection for probe	Yes, vertical

Reading

Optical system	Filterwheel
Readings	Single or Double-wavelength simultaneous reading.
Light source	Halogen lamp
Spectral range	340 – 700 nm
Wavelengths pre-installed	340, 380, 405, 510, 546, 578, 620 and 700 nm
Max. # of wavelengths installed	8
Detector	Photodiode
Absorbance range (linearity)	-0.5...2.5 A +/- 1 %

Data Processing

Interfaces	RS232, USB
LIS	ASTM bi-directional, worklist load
Memory for	results up to three month, 360 days QC, 20 calibrations/method
Reports for	QC, calibration, blank, patient, reagent
Quality control module	Levey-Jennings
Max. number of control levels	unlimited
Test statistics	Run tests, used reagent, QC, calibration, blank, test comparison
Warnings	Sample related, low, high, dilution, calibration range, blank range, QC range, intergrity check
Internal PC	Yes, Industrial computer 200 MHz, 265 MB RAM, Hard Disk 80 GB
Supported printers	All Windows XP compatible printers

General

PC min. requirements	Included
Physical dimensions (W x D x H)	Instrument without any components: 76 x 66 x 48 cm
	Space required for routine use: 118 x 76 x 76 cm
	Packaging: 124 x 84 x 84 cm
	Weight: Gross: 113 kg, Net: 64 kg
Electrical requirements	110...220 VAC, 50/60 Hz, 300 VA maximum On-line UPS
Environmental	Operating: 18...35°C, humidity < 85 % non condensing
	Transport: 15...35°C, humidity < 85 % non condensing
Air pump	Included, for cuvette drying.
Wash / waste / incubator tank	Wash 5 liters, waste 5 liters, incubator 1 liters, level sensors

HumaStar 150SR

System Reagents, Consumables, Controls/Calibrators & Accessories

System reagents

Enzymes	Unit/Size	Cat. No.
ACID PHOSPHATASE	3 x 40 tests	10660150
ALKALINE PHOSPHATASE opt. liquicolor	3 x 75 tests	12027150
alpha-AMYLASE liquicolor	3 x 60 tests	12028150
CK-MB liquiUV	2 x 25 tests	12118150
CK NAC activated liquiUV	2 x 25 tests	12015150
gamma-GT liquicolor	2 x 75 tests	12023150
GOT (ASAT) IFCC mod. liquiUV	3 x 130 tests	12021150
GPT (ALAT) IFCC mod. liquiUV	3 x 130 tests	12022150
LDH SCE mod. liquiUV	3 x 30 tests	12014150



Glucose liquicolor

Cat.No. 10260150

Substrates	Unit/Size	Cat. No.
ALBUMIN liquicolor	6 x 50 tests	10560150
AUTO-BILIRUBIN-D liquicolor	3 x 100 tests	10741150
AUTO-BILIRUBIN-T liquicolor	3 x 100 tests	10742150
CHOLESTEROL liquicolor	3 x 90 tests	10028150
auto-CREATININE liquicolor	3 x 130 tests	10052150
GLUCOSE liquicolor	3 x 100 tests	10260150
HbA1c liquidirect*	1 x 75 tests	10770150
HDL CHOLESTEROL liquicolor*	3 x 50 tests	10084150
LDL CHOLESTEROL liquicolor*	2 x 25 tests	10094150
TOTAL PROTEIN liquicolor	3 x 100 tests	10570150
TRIGLYCERIDES liquicolor ^{mono}	3 x 100 tests	10724150
UREA liquiUV	3 x 120 tests	10521150
URIC ACID liquicolor ^{plus}	5 x 110 tests	10694150



auto-Creatinine liquicolor

Cat.No. 10052150

Electrolytes	Unit/Size	Cat. No.
CALCIUM liquicolor	3 x 50 tests	10011150
MAGNESIUM liquicolor	3 x 20 tests	10010150
PHOSPHORUS liquirapid	3 x 60 tests	10027150
IRON TPTZ liquicolor	2 x 60 tests	12290150

Immunoturbidimetry	Unit/Size	Cat. No.
CRP	2 x 75 tests	11241150
CRP STANDARD	2 x 1 ml	11341
RF*	2 x 55 tests	11261150

Consumables

Others	Unit/Size	Cat. No.
DILUENT	4 x 20 ml	16663/10
CHIMNEY	16 pieces	16921/01
CUVETTE CLEAN	3 x 100 ml	16923/20
SAMPLE CUPS	2000 pcs.	18720/31
WASH ADDITIVE	4 x 25 ml	18971

ISE	Unit/Size	Cat. No.
Cleaner	6 x 15 ml	17903/7
Standard A	1 x 500 ml	17903/5
Standard B	1 x 125 ml	17903/6
Urine Diluent	1 x 125 ml	17903/8

Quality control / Calibrator

	Unit/Size	Cat. No.
AUTOCAL	4 x 5 ml	13160
HUMATROL N	6 x 5 ml	13511
HUMATROL P	6 x 5 ml	13512
TURBIDOS	4 x 3 ml	13010
SERODOS [®]	6 x 5 ml	13951



Wash Additive

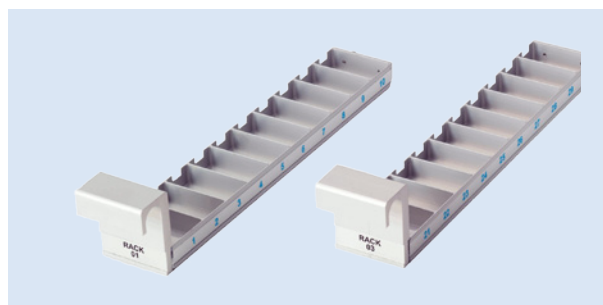
Cat.No. 18971

Standard Accessories (supplied with each instrument)

	Quantity	Cat. No.
ADAPTER FOR SAMPLE CUPS (30 pcs.)	1	17931/1
AIR PUMP	1	16920/56
BOX FOR CONTAINERS	1
CONTAINER FOR INCUB. BATH LIQUID 1 L	1	16920/50
CONTAINER WASH SOLUTION 5 L	1	16920/48
CONTAINER WASTE 5 L	1	16920/49
DILUENT CONTAINER 20 ML (5 pcs.)	1
FUSES (230 V) OR (115 V)	4	179955/1, /2
KEYBOARD	1	16920/5
LIQUID SENSOR FOR WASH SOLUTION CONT.	1	16920/16
LIQUID SENSOR FOR WASTE CONT.	1	16920/15
LIQUID SENSOR FOR INCUBATION BATH CONT.	1	16920/14
MOUSE	1	16920/6
Q.C. CERTIFICATE	1
REAGENT RACK 1, 3 (40 ML BOTTLE)	2	16920/38, /40
REAGENT RACK 2, 4 (10 ML BOTTLE)	2	16920/39, /41
SAMPLE CUPS (250 pcs.)	1	18720/31
SAMPLE RACK 1, 2, 3	3	16920/43, /44, /45
SAMPLE RACK STANDARD & CONTROL	1	16920/42
SUPPLY CABLE PUMP	1
TFT SCREEN	1	17901M
UPS 1 KVA 230V OR UPS 1 KVA 110V	1	18961, 18961/110
USER MANUAL	1	16920/1

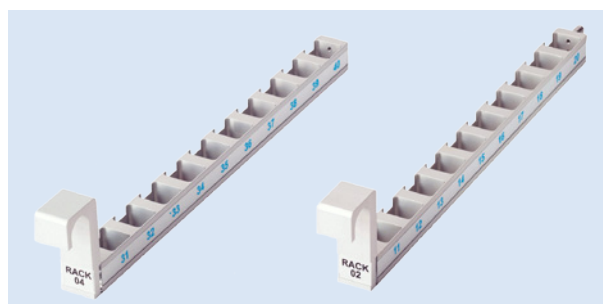
Additional Accessories

	Cat. No
COMPLETE ISE MODULE	16920/3
LASER PRINTER	18993L
USB STAND SCANNER	15000



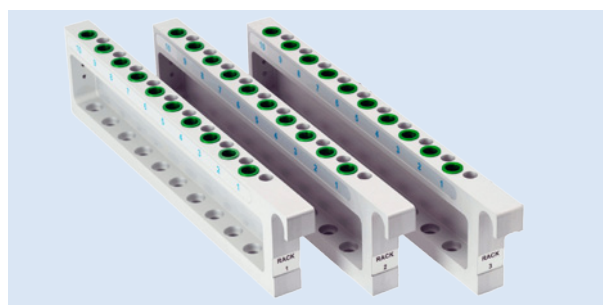
Reagent Rack 1, 3 (40ml Bottle)

Cat.No. 16920/38, 16920/40



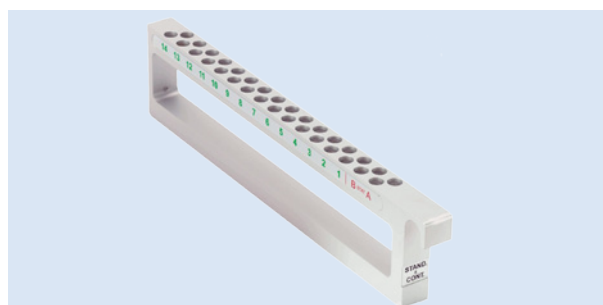
Reagent Rack 2, 4 (10ml Bottle)

Cat.No. 16920/39, 16920/41



Sample Rack 1, 2, 3

Cat.No. 16920/43, 16920/44, 16920/45



Sample Rack Standard & Control

Cat.No. 16920/42

Human

Diagnostics Worldwide

HumaCount 5L

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System Overview

Cat.No.	16430
Analyzer type	Automatic hematology analyzer
Reagent system	Closed
# of Parameters	24, 5-part differential of WBC
Throughput	60 samples / hour
Barcode reader	Built in barcode reader in the auto sampler Optional barcode reader via USB
Reaction / reading system	Impedance method (2 chambers) LED 540 nm for HGB measurement Laser for differentiation
Languages available	UK-English, US-English, Hungarian, Russian, Spanish, French
User interface	Color touch screen LCD 800 x 600 - dots, portrait layout

HumaCount 5L

Automatic laser hematology system incl. UPS

Tests	Parameters	CBC+5DIFF mode (24 parameters): WBC, LYM, MON, NEU, EOS, BAS, LYM%, MON%, NEU%, EOS%, PLT, PCT, MPV, PDWcv, PDWsd, BAS%, RBC, HCT, MCV, RDWcv, RDWsd HGB, MCH, MCHC
	Calibration	3, 5 or 7 - measurement automatic Manual (factors) calibration of WBC, HGB, RBC, PLT, MCV, RDW, and MPV.
	Self check	Yes
	Flags/Messages	Interpretative messages, Flag for ALI, LIC

Sample	Sample type	Whole blood, diluted blood
	Sample vessels	Open or closed tube system with automatic sample rotor Standard EDTA tubes
	Sample positions	1 or 100 with auto sampler
	Sampling volume	110 µl whole blood in closed- and open-mode
	Dilution	Yes, internal

Reagent	Reagent type	Diluent, Lyse, Stop solution

Liquid Handling	Liquid transportation	Dilutor pumps, vacuum
	Liquid level sensors	Yes, internal

Reading	Light source	Green LED for HGB
	Wavelengths pre-installed	540 nm
	Detector	Light to frequency converter
	Aperture diameter	70 µm (RBC/PLT) or 80 µm (WBC)

Data Processing	Memory for	QC, records including flags, scatter- and histograms
	Memory capacity	100.000
	Reports for	Result, QC, self check, calibration
	Quality control module	16- and 64-day Levey-Jennings charts / separate QC database (6 level)
	Max. number of control levels	6
	Warnings	Range, linearity, errors
	Printer	Any Windows™ compatible USB printer
	LIS	HL7 and standard serial protocol

General

Physical dimensions (W x D x H)	Instrument without any components:	54 x 46 x 45 cm (18 x 27 x 32 cm Autosampler)
	Space required for routine use:	120 x 60 x 100 cm (170 x 80 x 100 cm incl. Autosampler)
	Packaging:	56 x 52 x 54 cm (80 x 60 x 28 cm Autosampler)
	Weight:	Gross: 21.5 kg, net: 21 kg (Gross 35.6 kg, net 31 kg incl. Autosampler)
Mains fuse	F 10A H 250V	
Electrical requirements	110...230 VAC, 47...63 Hz, 400 VA max.	
Environmental	Operating: temperature: 5...25°C, humidity: < 80 % non-condensing	
	Storage: temperature: 5...25°C, humidity: < 80 % non-condensing	
Wash / waste tank	Waste Container 20 L	

Characteristics

Parameters	CV	CV Range	Linearity Coefficient of determination	Linearity Range	Carry-over effect	Carry-over Range
WBC	CV ≤ 3%	4.7 * 10 ³ / μl ≤ WBC ≤ 38 * 10 ³ / μl; All 5 part parameters (NEU, LYM, MON, EOS, BAS abs and %) at 4.7 * 10 ³ / μl ≤ WBC ≤ 38 * 10 ³ / μl	r ² ≥ 0.95	1*10 ³ / μl ≤ WBC ≤ 100*10 ³ /μl	0.5% or less	LO ≤ 10*10 ³ /μl; HI ≥ 75*10 ³ /μl
RBC	CV ≤ 1.5%	2.5 * 10 ⁶ / μl ≤ RBC ≤ 5.44 * 10 ⁶ / μl	r ² ≥ 0.95	0.4 * 10 ⁶ / μl ≤ RBC ≤ 7.5 * 10 ⁶ /μl	0.5% or less	LO ≤ 2.3* 10 ⁶ /μl; HI ≥ 7.5* 10 ⁶ /μl
HGB	CV ≤ 1.5%	78.5 g/l ≤ HGB ≤ 184 g/l	r ² ≥ 0.95	13 g/l ≤ HGB ≤ 227 g/l;	0.5% or less	LO ≤ 90 g/l; HI ≥ 270 g/l
PLT	CV ≤ 5%	100 * 10 ³ / μl ≤ PLT ≤ 492 * 10 ³ / μl	r ² ≥ 0.95	10*10 ³ / μl ≤ PLT ≤ 873*10 ³ /μl	0.5% or less	LO ≤ 140 *10 ³ / μl; HI ≥ 730*10 ³ / μl
HCT	CV ≤ 2%	20-49 HCT%				
NEU%	CV ≤ 5%	87.4% ≥ NEU% ≥ 47%				
LYM%	CV ≤ 8%	35.6 % ≥ LYM% ≥ 15%				
MON%	CV ≤ 20%	16.3% ≥ MON% ≥ 5.3%				
EOS%	CV ≤ 25%	11% ≥ EOS% ≥ 1.5%				
BAS%	CV ≤ 40%	2.4 % ≥ BAS% ≥ 1%				
NEU	CV ≤ 5%	NEU% ≥ 30%				
LYM	CV ≤ 8%	LYM% ≥ 15%				
MON	CV ≤ 20%	MON% ≥ 5%				
EOS	CV ≤ 25%	EOS% ≥ 1.5%				
BAS	CV ≤ 40%	BAS% ≥ 1%				
MCV	CV ≤ 1%	65 fl ≤ MCV ≤ 105 fl				

HumaCount 5L

System Reagents, Accessories, Consumables

System Reagents

	Unit/Size	Cat. No
HC5L-Diluent	20 L	16430/20
HC5L-Lyse CF (Cyanid-free reagent)	5 L	16430/30
HC5L-DIFF	1 L	16430/40
CD Diff Control (Multi-parameter)	2 x 3 x 3 ml	3838

Standard Accessories

	Unit/Size	Cat. No
Power Cable	1	18999
Preparing for Shipment Tube Kit	1
Reagent Tubing Kit (with coloured tubes)	1	16430/14
<ul style="list-style-type: none"> 1 x Diluent Tube (green) 1 x Diff Tube (orange) 1 x Lyse Tube (yellow) 2 x Waste Tube (red) 4 x Caps for reagent containers 		
Sample Tube Adapter	1	16430/137
UPS1 KVA / 230V	1	18961
User Manual	1	16430/1
Waste Container 20 L + Box	1

Accessories

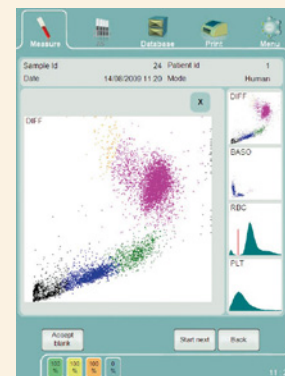
	Cat. No.
Autosampler	16430/10

Consumables

	Cat. No.
Reagent Tubing kit	16430/14



HumaCount 5 L
Main Screen Menu



HumaCount 5 L
Scatter Diagram



Autosampler
Cat.No. 16430/10



HumaCount 5 L
Reagent Lock Key

SPECIFICATIONS & MORE

HumaScope Fluo^{LED}

- > System Specifications
- > Accessories
- > Consumables



Human

Diagnostics Worldwide

HumaScope Fluo^{LED}

Binocular laboratory 2 channel LED fluorescence microscope

Item	Cat.No.	14800 HumaScope Fluo ^{LED} (with blue, green LED´s) 14801 HumaScope Fluo ^{LED} (with ultra-violet, blue, green LED´s) 14802 HumaScope Fluo ^{LED} (with violet, blue, green LED´s) 14803 HumaScope Fluo ^{LED} (with ultra-violet, violet, blue, green LED´s)
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Optical System	Quality	Universal Infinity-corrected optical system, anti fungal treated, parfocal
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Head	Type	Binocular compensation free
	Eye piece	10X / 22 mm
	Tube inclination	30°
	Rotation	360°
	Interpupillary distance adjust. range	53-75 mm
	Diopter Adjustment	Yes

Focusing / Nose Piece	Focusing	Rack and pinion adjustment, height adjustable One finger focusing, full stroke range: 19 mm Focusing stroke per rotation: 0,4 mm Stroke gradation: 2 µm Tension adjustable knob and up-stop knob Coaxial coarse/fine focus gear transmission
	Revolving nose piece	5 position reverse
	Objectives	PL 4 X / 0.10, ∞ / - PL 10X / 0.25, ∞ / - PL 40X / 0.85 Fluo, ∞ / -, springloaded PL 100X / 1.25 oil ∞ / 0.17 springloaded

Stage	Size (W X D)	140 X 210 mm
	Movement range	75mm X-direction X 50mm Y-direction, right hand operation
	Specimen holder	Double slide holder

Condenser	Type	Abbe condenser, with filter holder, daylight (blue) filter, frosted filter
	N.A.	1.25 with oil immersion
	Aperture iris diaphragm	Built-in

Illumination Brightfield	Light source	LED lamp 3.6 V 3 W
	Intensity	Adjustable
	Köhler Illumination	Yes

Illumination Fluorescence	Light source	Blue LED 3.6 V, 3 W Green LED 3.6 V, 3 W Ultraviolet LED 3.6 V, 3 W optional Violett LED 3.6 V, 3 W optional
	Intensity	Not adjustable

General	Physical dimensions (W X D X H)	260 X 470 X 530 mm
	Weight	Approximately 10.32 kg
	Electrical requirements	External power supply 110...230 VAC, 50/60 Hz
	Environmental	Operating temperature: +15 ... 35°C Humidity : 20 ...85 % relative non condensing

Standard Accessories	Quantity	Cat. No.
User Manual	1	14800/1
Hexagon socket tools	2	-----
Trinocular Rotary Head (Type Siedentopf)	1	-----
Ocular 10x /22mm	2	-----
Objectives infinity plan 4x, 10x, 40x FI, 100(oil)x	1	-----
Filter Blue	1	14000/72
Filter Frosted	1	14000/73
Immersion Oil (1 Bottle)	1	14000/75
Power cable	1	-----
Fuse	1	-----
Dust Cover Human	1	-----

Accessories

	Cat. No.
Objektive Plan Infinity 20 X	14000/47
Dark Field Condensor Dry	14000/52
Dark Field Condensor Oil	14000/53
C_mount Adapter. 0.4 x for Trinocular	14000/54
C_mount Adapter. 0.5 x for Trinocular	14000/80
C_mount Adapter. 1x for Trinocular	14000/55
Photography Attachment for Trinocular Head	14000/56
Simple Polarisation Kit	14000/58
Turret Plan Infinity Phase Contrast Kit	14000/62
Digital Camera Adapter for Canon A Series	14000/67
Stage Micrometer 1 mm / 100 Division	14000/68
Blue Filter	14000/72
Frosted Filter	14000/73
Green Filter	14000/74
Yellow Filter	14000/81
Digital Camera (USB) 3 MP for Trinocular Head *	14000/66
Digital Camera (USB) 5 MP incl. Stage Micrometer*	14000/86
Digital Camera (USB) 10 MP incl. Stage Micrometer*	14000/87
HumaScope LCD, 6.4" TFT-LCD Colour Monitor	14000/100

Consumables

Oil (3 ml Cedarwood oil)	14000/75
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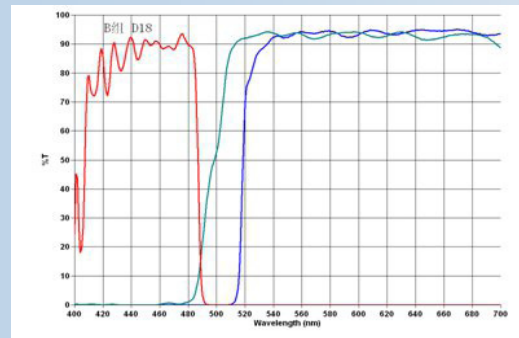
Turret Plan Infin. Phase Contrast Digital Camera (USB)

Cat.No. 14000/62



Cat.No. 14000/66, /86, /87

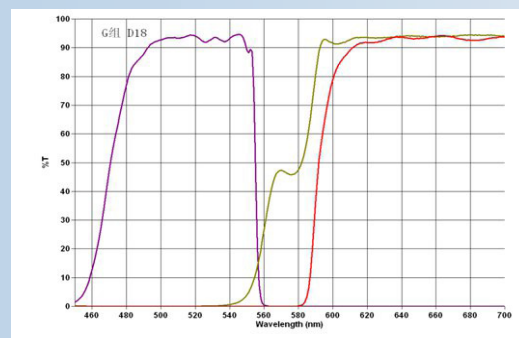
Specification of fluorescence filters



Filter Blue (B)

Exciting spectrum area: 420 - 485 nm

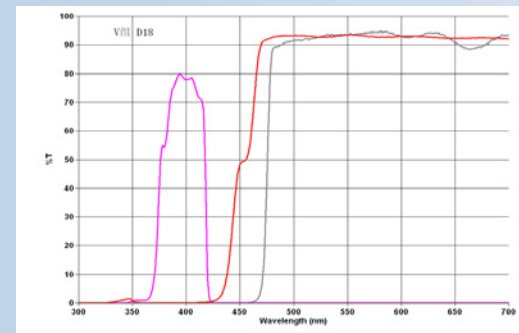
Fluorescence starting spectrum: 515 nm



Filter Green (G)

Exciting spectrum area: 460 - 550 nm

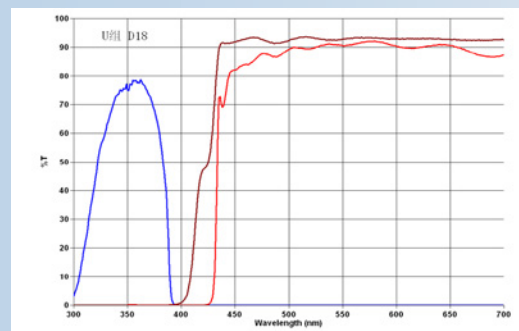
Fluorescence starting spectrum: 590 nm



Filter Violet (V)

Exciting spectrum area: 395 - 415 nm

Fluorescence starting spectrum: 455 nm



Filter Ultra-violet (UV)

Exciting spectrum area: 330 - 415 nm

Fluorescence starting spectrum: 455 nm

* with eyepiece adapter + software and stage micrometer