SERION Immunomat

Specifications

Environmental conditions

Positioning:	indoor use
Load capacity table:	200 kg
Altitude:	up to 2000 m
Altitude:	storage as required for air travel
Temperature:	5 °C to 40 °C (storage and transport)
Temperature:	15 °C to 25 °C (operation)
Pollution degree:	2
Sunlight:	no direct sunlight
Dust:	no excessive dust
Humidity:	maximum relative humidity 80% for temperatures up to 31 °C decreasing linearly to 50 % relative humidity at 40 °C
Humidity:	30-80 % non-condensing (operating)
Humidity:	30-85 % non-condensing (storage)
Humidity:	30-85 % non-condensing (transport)
Exhaust heat:	699 BTU/h

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virion\serion

Institut Virion\Serion GmbH Friedrich-Bergius-Ring 19, 97076 Würzburg, Germany
Phone +49 931 3045 0 **Fax** +49 931 3045 100 **Mail** diagnostics@virion-serion.de **Web** www.virion-serion.de

Mains voltage and fuses

Voltage range:	115 V to 230 V AC (universal a.c. input)
Voltage fluctuations:	mains supply voltage fluctuations up to 10 % of the nominal voltage; applicable rated pollution degree.
Amperage:	3.2 A – 1.3 A
Current range:	4 A (115 V) to 2 A (230 V)
Starting current:	<3A
Frequency range:	50 Hz to 60 Hz
Mains fuse/ fuses:	primary T 4 A
Power consumption:	max. 400 VA/ <172 Kcal/h
Power consumption standby:	<100 Kcal/h
Power active:	0.2 kW
Power reactive:	n.a.
Power apparent:	0.26 kVA

Rack system bar code scanner

Class:	class 2 laser product
Barcodes:	2/5 Interleaved, Code 39, 2/5 IATA, 2/5 Industrial, UPCA/UPCE, EAN (8 or 13 digits) Code 128/ EAN 128, Pharmacode, EAN Addendum (2/5 digits), Codabar
Maximal output radiation:	1.3 mW
Pulse duration:	110 µs
Emitted wave length:	650 - 690 nm
Standards:	EN 60825-1: 2014

Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated July 26th, 2001 at the date of manufacture. Fulfills laser safety standard IEC60825-1:14.

Plate bar code scanner

Class:	class 2 laser product
Maximal output radiation:	0.5 mW
Pulse duration:	10 µs
Emitted wave length:	660 - 680 nm

Standards: EN 60825-1: 2014

Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated July 26th, 2001 at the date of manufacture.

Weights and dimensions

System box

Weight: 175 kg

Dimensions: 120 cm x 90 cm x 120 cm (W x D x H)

Accessories and cover box

Weight: approximately 33 kg

Dimensions: 120 cm x 90 cm x 62 cm (W x D x H)

Analyzer with cover (without packaging)

Weight: 130 kg

Dimensions: 114 cm x 156 cm x 100 cm (W x D x H)

(Depth with waste bag and completely opened drawer)

Noise

Noise: 67 dB A (distance 1m (39.37 inch))

Noise in standby: <59 dB A

System Overview

Number of plates: up to 4 plates at once

Number of samples: max. 100 tubes, up to max. 16 mm outer diameter, length up to 100 mm

Rack samples: 5x Rack, Sample (T-Rack) (20x17mm) VT067-005

Number of reagents: special racks for reagents

Reagent rack: 2x Rack, Control (R-Rack) (18x17,8mm) VT067-010

Reagent rack: 1x Rack, Reagent (F-Rack) (10x35mm) VT067-012

Reagent rack: 1x Rack, Reagent (G-Rack) (4x40mm, 6x35mm, 10x17,8mm) VT067-014

Dilution positions: positions for up to 4 dilution plates

Number of tips: up to 5 tip racks for 300 µl or 1100 µl disposable tips

Waste bag for tips:	volume 8L, dimensions: 17 cm x 25 cm x 45 cm
Loading:	continuous loading of plates, samples, reagents and tips

Photometer

Spectral range:	400 - 700 nm
Dynamic range:	0 to 3.000 O.D.
Accuracy:	+/- 0.005 or 2.5 %
Linearity:	0 - 2.000 O.D. +/- 1 %
Detection:	photo diode
Reading time:	< 15 seconds
Read modes:	OD and kinetic mode
Filters:	up to 8 positions
Initial set of filters:	405nm, 450nm, 620nm

Pipetting System

Pipettor:	liquid pipettor for disposable tips
Liquid level detection:	standard
Min.-Max. volumes:	10 µl to 300 µl with 300 µl tips (small Eppendorf tips) or 301 µl to 1000 µl with 1100 µl tips (large Eppendorf tips)
Accuracy:	< -15 % at 25 µl (aqua) < -5 % at 100 µl (aqua)
Precision:	< 5 % CV at 25 µl < 2.5 % CV at 100 µl
System liquid:	distilled water
System liquid container:	volume 10L
Temperature constant:	21 °C +/- 2 °C (including reagents and samples)
Features:	tip detection, mixing, multi-dispensing mode
Dilution:	1:10 <26 min per plate
Dilution:	1:100 <45 min per plate
Patient samples:	100µl/well transferred in <19 min per plate
Reagents:	100µl/well transferred in <6 min per plate

Incubation

Capacity:	4 independent chambers
Temperature range:	minimum temperature = RT + 7 °C
	maximum temperature = 50 °C
Accuracy:	-2 °C/+0 °C (measured in plate, 100 µl aqua)
Uniformity:	-1.5 °C/+1 °C (measured in plate, 100 µl aqua)
Heating time:	37°C in less than 30 minutes

Washing

Capacity:	max. 4 positions (including cleaning solution)
Wash head:	1 x 8
Dispense volume:	200 - 999 µl/well
Precision:	+/- 5 % CV at 300 µl
Residual volume:	< 2.5 µl in u-shaped bottom wells
	< 4 µl in flat bottom wells
Fluid alarms:	low reagent, waste full
Features:	sweep, soak, purge, top and bottom wash, variable pump speeds
Wash buffer:	max. 3x 2L
Water:	1x 1L
Container waste:	volume 10L