3.4 Specifications

General information

Description	Value
Material housing	PU
Material chamber	Stainless steal
Material table	Aluminum, anodized
Mounting table	4 x M5x16, hexagon socket
Light chamber	2 x halogen lamp pin socket G4 10 Watts 12 Volts Length 33 mm
Fuses	2 x 20 mm 10 Amperes time-lag
Hose nozzle	
Ø inner diameter nozzle	8 mm
Ø inner diameter hose	10 mm

Temperature

Description	Value
2 cross flow blowers with heating Power consumption	750 W
Air circulation	360 m^3/h
Control	Electronic PID-controller
Sensor	Pt100
Temperature range	4 °C over ambient temperature up to 65 °C
Control accuracy	± 0,2 °C
Measuring accuracy	± 0,15 °C

Technical data

Control accuracy capillary thermostat	± 2,5 °C
Capillary thermostat	Adjustable, standard setting ex works 70 °C
Heating bi-metal control	Approx. at 80 °C
Overheat protection	84 °C, fuse

Temperature range

No cooling	
	6 °C over ambient temperature up to 65 °C

With cooling	
Side cooling	15 °C under ambient temperature up to 65 °C
Top cooling	12 °C under ambient temperature up to 65 °C
External cooling	Depending on temperature of cooling liquid and ambient temperature

Shaking

Description	Value
Drive	External rotor motor
Power consumption	75 W
Current 230V 50 / 60 Hz	0.63 A
Current 115V 60 Hz	1.15 A
Motion	orbital
Control accuracy	1% at maximum speed
Rotation direction	Clockwise
Range	20 – 400 RPM

Throw 25 mm speeds

Description	Value
Single unit	400 rpm
Base 13 cm	
2 units stacked	■ bottom: up to 400 rpm ■ top: up to 350 rpm
3 units stacked	■ bottom: up to 400 rpm ■ middle: up to 350 rpm ■ top: up to 350 rpm
Base 31 cm	
2 units stacked	■ bottom: up to 400 rpm ■ top: up to 250 rpm

Technical data

Throw 50 mm speeds

Description	Value
Single unit	■ 50 mm throw: 400 rpm
2 units stacked	■ bottom: up to 350 rpm ■ top: up to 250 rpm
3 units stacked	■ bottom: up to 350 rpm ■ middle: up to 250 rpm ■ top: up to 250 rpm
Base 31 cm	
2 units stacked	■ bottom: up to 350 rpm ■ top: up to 250 rpm

NOTICE!
For higher speeds contact the supplier!

Side cooling 380 W

Power supply Voltage/Frequency	Power Consumption	Rating
230 V / 50 Hz	1.2 A	220 W
230 V / 60 Hz	1.2 A	220 W
115 V / 60 Hz	2.6 A	200 W

Top and bottom cooling 900 W

Power supply Voltage/Frequency	Power Consumption	Rating
230 V / 50 Hz	2.3 A	540 W
230 V / 60 Hz	3 A	690 W
115 V / 60 Hz	5 A	570 W

Cooling liquid volume

Description	Value
1 unit stacked	9 L
2 units stacked	10 L
3 units stacked	11 L

Top and bottom cooling 1200 W

Power supply Voltage/Frequency	Power Consumption	Rating
230 V / 50 Hz	2.8 A	650 W
230 V / 60 Hz	3.5 A	800 W
115 V / 60 Hz	5 A	800 W

Cooling liquid volume

Description	Value
1 unit stacked	9 L
2 units stacked	10 L
3 units stacked	11 L

External cooling

Description	Value
Pressure inlet	2 - 4 bars
Outer diameter Ø hose nozzle	10 mm

3.5 Operating conditions

Description	Value
Ambient temperature max.	With / without cooling 30 °C
Ambient temperature max.	■ without cooling: 8 °C below required minimum incubation temperature ■ with cooling: side cooling: 15 °C top cooling: 12 °C upon required minimum incubation temperature
Relative humidity max.	With / without cooling: 85% rH

3.6 Emissions

Description	Value	Unit
Noise emission	<70	dB(A)

3.7 Utilities

!

CAUTION!
Risk of loss of property due using of inappropriate utilities!

Using wrong utilities may cause loss of property.

Therefore:

– Only use manufacturer prescribed utilities, listed in the following table.

Description	Valid substances
Cooling liquid Secondary circuit Top cooling External cooling	Permitted for food and pharmaceutical fields Freezing < -40 °C Corrosion copper: < -0.6 g/m^2 Temperature range: -40 °C up to 150 °C
Cleaning agents generally	Mild cleaning agents