



designed for scientists



## IKA Matrix Orbital Delta Plus

/// Data Sheet

The all-rounder Matrix Orbital Delta plus mixes, heats and cools reliably with variable inserts.

Whether blood samples, pharmaceutical agents, DNA/RNA samples or ELISA assays - reaction vials and plates with even the smallest volumes are reliably mixed and tempered in all laboratory applications. No cross-contamination and an optimal mixing result.

In addition, Matrix Orbital Delta plus comes with numerous user-friendly features:



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- Large and clear display with a convenient menu structure allows for an intuitive operation
- Firm quick-release fastener for quick and easy changing of the inserts/attachments as well as an automatic attachment detection
- Quick and effective mixing of liquids with up to 3,000 rpm and 1.5 mm shaker diameter
- Reduced waiting time through fast heating and cooling rates of up to 6 °C/min (heating) or 2.5 °C/min at set-point temperature above the ambient temperature (cooling, 0.5 °C/min at set-point temperature between ambient temperature and 15 °C below ambient temperature)
- Two different speed modes for sample-specific temperature control
- Automatic performance of mixing, heating and cooling tasks through programmable ramps
- Wide range of inserts for reaction vessels and plates
- Intelligent speed adaption to insert, attachment and filling volume
- Aluminum die cast housing ensures secure positioning, excellent stability and everyday robustness

The device is ideally suited for numerous applications in laboratories, such as:

- Tempering / mixing of samples
- Synthesis of cDNA
- Enzyme-catalysed linking of RNA or DNA (ligation)
- Lysis reactions
- Structural change of DNA, RNA and proteins (denaturation)



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## Technical Data

Type of movement	orbital
Shaking stroke [mm]	3
Maximum load [kg]	0.3
Motor rating output [W]	88
Permissible ON time [%]	100
Speed min (adjustable) [rpm]	300
Speed range [rpm]	0 - 3000
Speed display	TFT
Speed deviation [ $\pm$ rpm]	30
Speed control	10 RPM Steps
Timer	yes
Timer display	TFT
Time setting min. [s]	1
Time setting max. [min]	6000
Operating mode	timer, continuous and program operation
Working with microtiter plates	yes
Temperature setting range min. [ $^{\circ}$ C]	1
Heating temperature max. [ $^{\circ}$ C]	100
Heat output [W]	100
Heat control	TFT
Set temperature resolution [ $\pm$ $^{\circ}$ C]	1
Temperature control accuracy [ $\pm$ $^{\circ}$ C]	0.5
Temperature stability [ $^{\circ}$ C]	0.5
Temperature homogeneity [ $\pm$ $^{\circ}$ C]	0.5
Heating rate [ $^{\circ}$ C/min]	6
Temperature display	yes
Cooling Rate [ $^{\circ}$ C/min]	0.8
Cooling Power [W]	72
Number of exchangeable attachments	10
Dimensions (W x H x D) [mm]	216 x 127 x 351
Weight [kg]	9.5
Permissible ambient temperature [ $^{\circ}$ C]	5 - 40
Permissible relative humidity [%]	80
Protection class according to DIN EN 60529	IP 21
RS 232 interface	yes
USB interface	yes
Voltage [V]	100 - 240
Frequency [Hz]	50/60
Power input [W]	230
Power input max. [W]	230

