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# Your Dependable Liquid Handling Partner

EzMate Automated Pipetting System

»»» *Working Smart*

**Arise**  
BIOTECH

# EzMate 401 / 601

## Your Dependable PCR / qPCR Setup Partner

Arise Biotech's EzMate 401 / 601 is an automated, high-precision pipetting system specifically designed for low-volume PCR / qPCR sample preparation. As lab technicians understand that many challenges are associated with setting up PCR and qPCR reactions: Small volumes of reagents need to be dispensed accurately and consistently for acceptable PCR results, and the manual liquid handling process is tedious and time consuming, with many chances for mistakes.

The EzMate 401 / 601 is designed as a simple instrument to replace the manual process of PCR / qPCR sample prep. Accuracy, precision and consistency are guaranteed, and reagents will not be wasted on mistakes. Unlike complex, multi-purpose robotic systems, our instrument is designed for the researcher without prior robotics experience. Intuitive set up and programming will help your lab saving time and money almost immediately. Choosing EzMate 401 / 601 is a choice of "Working Smart".



### Easy and Convenient to Use

- PC Software: EzStarter can be mastered in one hour. No trained technician is required.
- Built-in PCR / qPCR setup protocols can be quickly modified and transferred via USB memory stick.
- 1 and 8-channel, 50µl or 200µl, Automated Pipetting Modules (APMs) can be exchanged without tools.
- 4 or 6 standard microtiter plate / tip rack areas and 2 reagent areas.
- Wide variety of adapters for different types of labware.
- Import pipetting commands via .csv / .txt format files.
- Other applications:
  - Sequencing setup
  - HLA typing
  - SNP detection
  - DNA/RNA normalization
  - NGS sample preparation
  - Protein normalization

### Easy to Afford

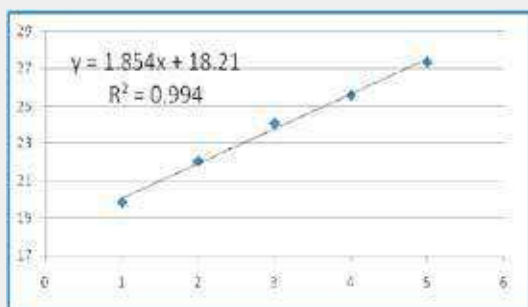
- The most affordable Automated Pipetting System available.
- EzTip robotic tips are compatible with Beckman's® Biomek® 3000 system.
- The passive cooling CoolBlock adapters keep sensitive reagents / samples at 7°C for more than 60 minutes.
- Save reagent costs by reducing human errors and using more dense plates.

### Easy to Service

- The Automated Pipetting Module (APM) is simple to remove and can be mailed-in for service and calibration.
- PC software is upgradable via the Internet.
- The entire system is compact and light-weighted.

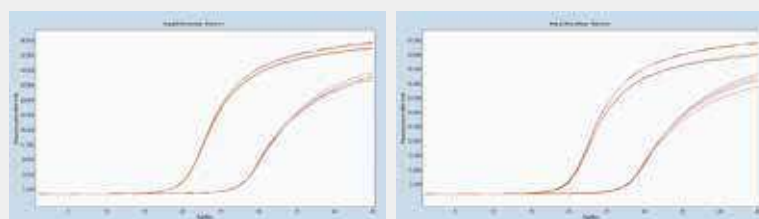
### Accurate and Precise

- Each Automated Pipetting Module (APM) is calibrated following ISO-8655 standards.
- Excellent results for qPCR standard curve and replicates (Figure 1).
- Better precision of pipetting results than manual pipetting (Figure 2).



**Figure 1. Excellent Serial Dilution Results**

7µl NIH3T3 Cell cDNA sample is diluted in 21µl water at 1:4 ratio for 4 times. Roche® LightCycler® 480 real-time PCR thermal cycler and Finnzyme DyNAmo® Flash SYBR® Green qPCR kit (F-415L) were used.



EzMate 401  
C<sub>T</sub> std dev 0.135

Manual Pipetting  
C<sub>T</sub> std dev 0.145

**Figure 2. Better Precision Results than Manual Pipetting**

Target: Human GAPDH (top curve) was amplified in replicates of 18µl (master-mix) and 2µl (cDNA) were pipetting into 20µl reaction volume. Roche® LightCycler® 480 real-time PCR thermal cycler and Invitrogen™ Platinum® Taq DNA Polymerase were used.

### 1 Functional Safety Housing

- Safety door detection for emergency stop
- Light-weighted Acrylic material

### 2 Automated Pipetting Module (APM)

- Easy to exchange
- 1 / 8 channel, 50µl / 200µl models
- Automatic channel and volume identification

### 3 Disposable Used Tip Tray

- Capacity > 400 tips

### 4 2x Reagent Areas

- For 1.5ml or 2ml micro-centrifuge tubes, 8ml reagent bottle, 15ml or 80ml reagent reservoirs and 8-strip PCR tubes
- CoolBlock available for 1.5ml, 2ml micro-centrifuge tubes, 8ml reagent bottle

### 5 4 / 6-position SBS Worktable

- 1 designated tip rack area
- 2 designated SBS format labware areas
- 1 (3 for 601 systems) common areas for both labwares and tip racks
- CoolBlock available for 96 / 384-well PCR plates and 20 well adapter for 1.5ml or 2ml micro-centrifuge tubes

### 6 Compact Design

- Small footprint
- Extremely light-weighted

### 7 15.6" Notebook Computer with EzStarter Software

- PCR / qPCR-oriented software
- Pre-run simulation
- Operating System: Windows® XP / 7 / 8 (32 / 64 bit)



## Performance of Automated Pipetting Module (APM)

	1 / 8 Channel-Volume: 50µl		1 / 8 Channel-Volume: 200µl	
	1µl	50µl	10µl	200µl
<b>Accuracy (Rel.)</b>	± 7%	± 1%	± 3%	± 0.8%
<b>Precision (Rel. CV)</b>	≤ 7.5%	≤ 0.4%	≤ 1%	≤ 0.15%

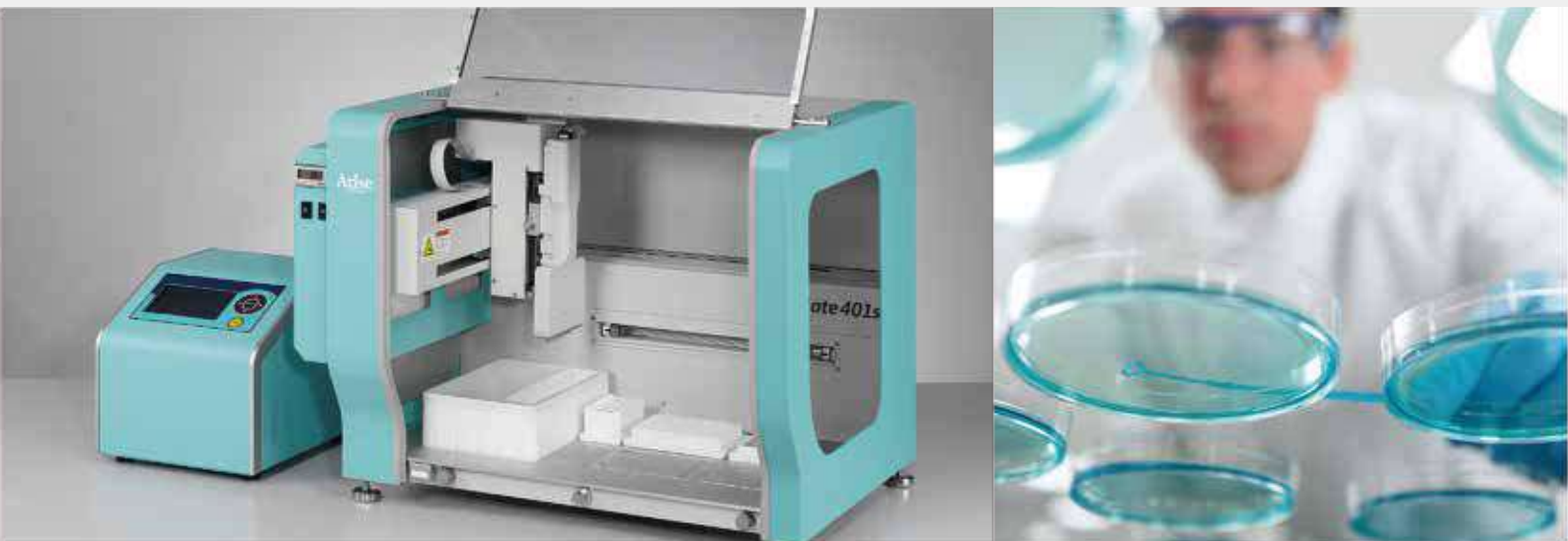
Note: According to ISO-8655 standards (Gravimetric method), APM is calibrated in temperature (21~25°C, ± 0.5°C) and humidity (60~90%) controlled environment. Twice-distilled water, robotic tips and microbalance were used.

# EzMate 401s / 601s

## For High-contamination and Temperature-sensitive Applications

The all new EzMate 401s and 601s use the same platform and software of EzMate 401 / 601, but have more advanced features added, such as UV lamp, HEPA filters and Active Cooling / Heating modules (ACHM).

For high-contamination clinical labs and RNA experiments, the UV lamp and HEPA filter provide a clean working environment. For temperature-sensitive samples and reagents, the Active Cooling / Heating module (ACHM) prevent them from degrading.

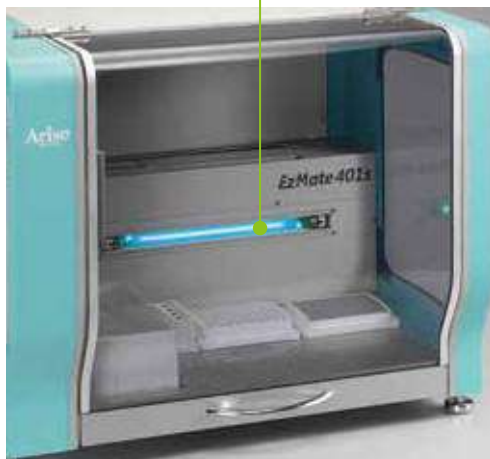


## Exceptional Safety

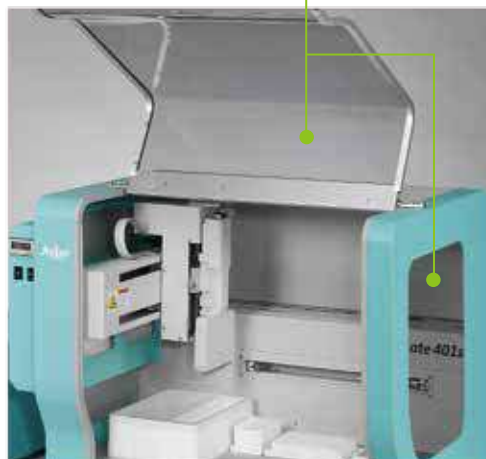
The advanced design of the EzMate 401s / 601s delivers improved process safety, giving you peace of mind.

The standard UV and HEPA modules ensure effective worktable decontamination and provide positive clean air pressure throughout PCR setup. The UV safety shield provides protection to human eyes from UV light.

UV Lamp



UV Safety Shield



HEPA Filters

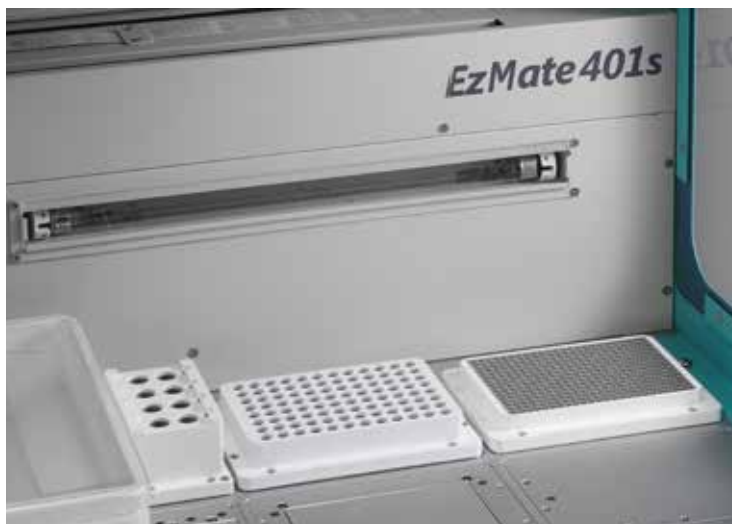


### To heat or to cool, it's up to you!

With optional Active Cooling / Heating Module (ACHM), you can keep your precious samples and reagents cool and fresh during the experiment setup. You can also heat up your experiment mixture to speed up the reaction. Interchangeable cooling / heating adapter allows you to adopt different types of labware.

The Active Cooling / Heating Module (ACHM) includes the Active Cooling / Heating Control Box, which provides the user with an interface, a power supply, and the Active Cooling / Heating Adapters.

### Active Cooling / Heating Module (ACHM)



Active Cooling / Heating Positions: R1 / A / C Areas



384-well PCR plate Active Cooling / Heating Adapter



96-well PCR plate Active Cooling / Heating Adapter



R1 Active Cooling / Heating Adapter



R2 Active Cooling / Heating Adapter



20-well 1.5ml tubes Active Cooling / Heating Adapter



ACHM Control Box

### Technical Specifications

UV Lamp	
Irradiation period per run	15 min
Irradiation capacity	> 40µW/cm <sup>2</sup>
Wavelength	254 nm (UV-C)
HEPA system	
Filter	3M® Air-Mate™ HEPA Filter x 2
Volume flow	> 200 L/min
Active Cooling / Heating Module (ACHM)	
Setting Range	4 ~ 70 °C
Max. Heating Rate	5 °C/min at RT=22 °C
Max. Cooling Rate	2 °C/min at RT=22 °C
Available Position	R1 / A / C Areas

# EzApp – Your Application-Oriented Software

## Easy setup, easy done!

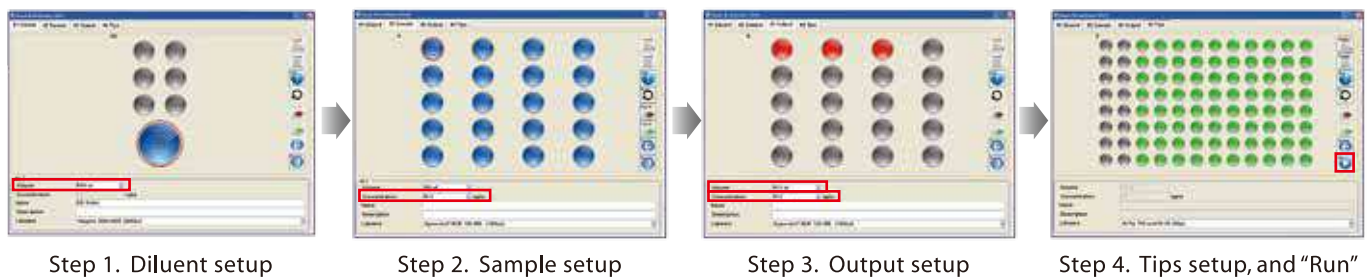
To simplify the programming of EzMate, we have created EzApp. EzApp focuses on specific applications, simplifies the operating procedures and makes the user's operation a breeze. If you want to know how easy EzApp is, please give it a try.

For more information, please visit our website at <http://www.arisebio.com.tw/player-2.html>.

## EzApp DNA/RNA Normalization

Having trouble with sample concentration normalization prior to reverse transcription? Want to make sure that all the samples are loaded equally to reduce internal error? EzApp DNA/RNA Normalization is here for you. No more tedious calculation. No more pipetting error. All you need to do is provide the original concentration of your DNA/RNA samples, the final concentration, and the volume you need, and EzApp will do the rest for you.

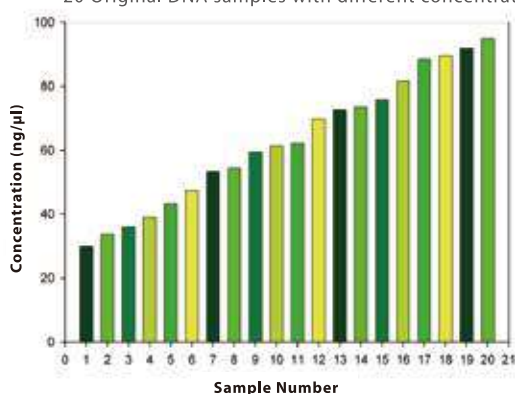
### Sample Normalization Procedure



## DNA Normalization Data

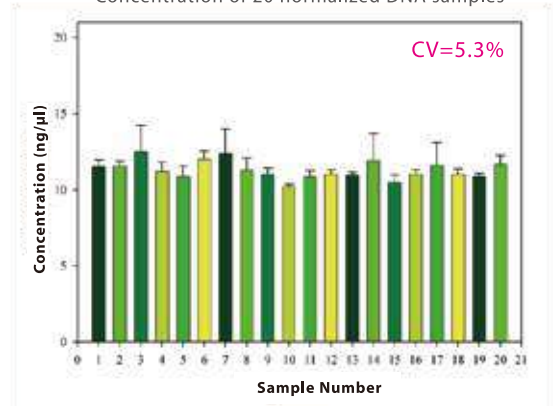
### 20 Different Arabidopsis DNA Samples Normalization Data

20 Original DNA samples with different concentration



DNA Normalization  
by EzApp

Concentration of 20 normalized DNA samples



## More EzApps are Coming Soon!

We provide custom-made EzApp upon request.

PCR and qPCR Preparation	Serial Dilution	Sample Normalization	MasterMix Preparation	Gene Expression	SNP	HLA Typing	Virus Content Test

# Product Specification



	401	601	401s	601s
<b>Worktable Capacity</b>				
SBS Format Area	2 ~ 3	2 ~ 5	2 ~ 3	2 ~ 5
Tip Rack Area	1 ~ 2	1 ~ 4	1 ~ 2	1 ~ 4
Reagent Area	2	2	2	2
<b>Function</b>				
Liquid(Sample / Reagent) Transfer (LT)	v	v	v	v
Multiple Dispense (MD)	v	v	v	v
Serial Dilution (SD)	v	v	v	v
Hold (Pause)	v	v	v	v
Mixing (MIX)	v	v	v	v
Loop	v	v	v	v
<b>UV / HEPA</b>	N/A	N/A	v	v
<b>Active Cooling / Heating Module (ACHM)</b>	N/A	N/A	Optional, up to 3 areas	Optional, up to 3 areas
<b>Automated Pipetting Module</b>	Interchangeable 1 / 8-channel, maximum volume 50µl / 200µl			
<b>Connection</b>	RS-232, USB 3.0 / 2.0			
<b>Power Supply</b>	100~240V, 50/60 Hz, 100W			
<b>Size (W x D x H)</b>	590 x 450 x 470 mm	740 x 450 x 470 mm	660 x 450 x 490 mm	810 x 450 x 490 mm
<b>Weight (N.W.)</b>	25 Kg	29 Kg	31 Kg	35 Kg
<b>ACHM Control Box Size (W x D x H)</b>	N/A	N/A	240 x 300 x 230 mm	240 x 300 x 230 mm
<b>ACHM Control Box Weight (N.W.)</b>	N/A	N/A	2 Kg	2 Kg

## Application Note Highlights

- **Sample Normalizations Performed by EzMate 401 Automated Pipetting System**  
Application Note from National Instrumentation Center for Environmental Management, Korea
- **Amplicon-based Library Construction for Next Generation Sequencing Using the EzMate Automated Pipetting System**  
Application Note from Seeing Bioscience Co., Ltd., Taiwan
- **Avoid Tedious Pipetting and Offer Reliability during Antigen Transfer by Using EzMate 401**  
Application Note from Excelsior Bio-System Incorporation, Taiwan
- **Plant Leafs Genomic DNA Extraction for Genomic Mapping using EzMate 401**
- **Clinical Laboratory Adopting EzMate 401 in Hepatitis B Virus (HBV) Real-time PCR Test**  
Application Note from CurieMed Clinical Laboratory, Taiwan
- **Bone Marrow Registry SBT HLA Typing with EzMate 401 Automated Pipetting System**  
Application Note from Texas BioGene Inc., USA
- **High Throughput Pipetting with EzMate System Aids the Genotyping Analysis on MassARRAY® Platform**  
Application Note from Feng Chi Biotech Corp., Taiwan
- **Analyze Copy Number of Mitochondrial DNA by qPCR with EzMate 401**  
Application Note from Chunghua Christian Hospital, Taiwan
- **High Precision Pipetting with Arise EzMate Automated Pipetting System Help to Improve the Real-time PCR Gene Expression Experiment**  
Application Note from IBMS, Academia Sinica, Taiwan



































Please visit our website at [http://www.arisebio.com.tw/support\\_application.asp](http://www.arisebio.com.tw/support_application.asp) for more information or downloading these application notes above.

# Ordering Information

Catalog No.	Description
<b>EzMate 401</b>	
AREZ401-100000	4-position Automated Pipetting System, 15.6" Notebook Computer and EzStarter control software
<b>EzMate 601</b>	
AREZ601-100000	6-position Automated Pipetting System, 15.6" Notebook Computer and EzStarter control software
<b>EzMate 401s</b>	
EZ45U00-100000	4-position Automated Pipetting System with UV / HEPA, 15.6" Notebook Computer and EzStarter control software
EZ45UA0-100000	4-position Automated Pipetting System with UV / HEPA and 2-position Active Cooling / Heating module, 15.6" Notebook Computer and EzStarter control software
EZ45UAC-100000	4-position Automated Pipetting System with UV / HEPA and 3-position Active Cooling / Heating module, 15.6" Notebook Computer and EzStarter control software
<b>EzMate 601s</b>	
EZ65U00-100000	6-position Automated Pipetting System with UV / HEPA, 15.6" Notebook Computer and EzStarter control software
EZ65UA0-100000	6-position Automated Pipetting System with UV/HEPA and 2-position Active Cooling / Heating module, 15.6" Notebook Computer and EzStarter control software
EZ65UAC-100000	6-position Automated Pipetting System with UV/HEPA and 3-position Active Cooling / Heating module, 15.6" Notebook Computer and EzStarter control software
<b>Interchangeable Automated Pipetting Module</b>	
275-ezar01-01	1-channel, 50 µl Pipetting Module (New Bracket)
275-ezar02-01	8-channel, 50 µl Pipetting Module (New Bracket)
275-ezar02-21	8-channel, 50 ul Pipetting Module for Axygen FX-50-R tips (New Bracket)
275-ezar03-01	1-channel, 200µl Pipetting Module (New Bracket)
275-ezar04-10	8-channel, 200µl Pipetting Module (New Bracket)
<b>Robotic Tips</b>	
T00-ezar00-00	EzTip 50µl, non-sterile, 96 tips/rack; 10 racks/pack
T00-ezar01-00	EzTip 200µl, non-sterile, 96 tips/rack; 10 racks/pack
T00-ezar02-00	EzTip 50µl, sterile, 96 tips/rack; 10 racks/pack
T00-ezar03-00	EzTip 200µl, sterile, 96 tips/rack; 10 racks/pack
<b>Accessories</b>	
275-ezar21-00	96 tips rack adapter
275-ezar21-10	96 tips rack adapter with lock
275-ezar22-00	Elevated 96-well PCR plate adapter
275-ezar23-00	Elevated 384-well PCR plate adapter
275-ezar24-00	Deep well plate adapter
275-ezar26-00	4 x 2 1.5ml tubes adapter
275-ezar27-00	3 x 2 2ml storage tubes & 1 x 5ml bottle adapter
275-ezar30-00	CoolBlock 96 adapter for 96-well PCR plates
275-ezar31-00	CoolBlock 384 adapter for 384-well PCR plates
275-ezar34-00	CoolBlock R10 adapter for 4 x 2 1.5ml tubes
275-ezar35-00	CoolBlock R20 adapter for 3 x 2 2ml storage tubes and 1 x 5ml bottle
275-ezar37-00	CoolBlock 20 adapter for 1.5 / 2ml tubes
275-ezar40-00	20-well 1.5ml tubes adapter
275-ezar47-00	80ml reservoir adapter
275-ezar49-00	Disposable 80ml reservoir x 20 pcs
275-ezar51-00	Disposable used tip tray x 10 sets
275-ezar66-00	HLA typing adapter for 60/72-well
275-ezar67-00	HLA typing adapter for 96-well
275-ezar68-00	0.5ml tube adapter for 20-well adapter
275-ezar72-00	3 x 15ml reservoirs adapter
275-ezar73-00	Disposable 15ml reservoir x 9 pcs
275-ezar74-00	3 x 8-strip tubes adapter
275-ezar75-00	96-well conical bottom adapter
275-ezar76-00	Elevated ELISA / cell culture adapter
275-ezar78-00	PCRmax Eco 48-well qPCR plates Adapter
275-ezar79-00	R1 Active Cooling / Heating Adapter
275-ezar80-00	R2 Active Cooling / Heating Adapter
275-ezar81-00	96-well PCR plate Active Cooling / Heating Adapter
275-ezar82-00	384-well PCR plate Active Cooling / Heating Adapter
275-ezarA4-00	20-well 1.5 ml tubes Active Cooling / Heating Adapter

# Accessories

 1-channel APM	 HLA typing adapter for 60 / 72-well	 CoolBlock 96
 8-channel APM	 HLA typing adapter for 96-well	 CoolBlock 384
 96 tips rack adapter	 PCRmax Eco 48-well qPCR plates Adapter	 CoolBlock 20
 Elevated 96-well PCR plate adapter	 4 x 2 1.5ml tubes adapter	 CoolBlock R10
 96-well conical bottom adapter	 3 x 2 2ml storage tubes and 1 x 5ml bottle adapter	 CoolBlock R20
 Elevated 384-well PCR plate adapter	 3 x 8-strip tubes adapter	 96-well PCR plate Active Cooling / Heating Adapter
 Elevated ELISA / cell culture plate adapter	 80ml reservoir adapter	 384-well PCR plate Active Cooling / Heating Adapter
 Deep well plate adapter	 Disposable 80ml reservoir	 R1 Active Cooling / Heating Adapter
 20-well 1.5ml tubes adapter	 3 x 15ml reservoirs adapter	 R2 Active Cooling / Heating Adapter
 0.5ml tube adapter for 20-well adapter	 Disposable 15ml Reservoir	 Disposable used tip tray set
 96 tips rack adapter with lock	 20-well 1.5 ml tubes Active Cooling / Heating Adapter	

Trademarks: Beckman®, Biomek® 3000 (Beckman Coulter Inc.); Roche®, LightCycler® 480 (Roche Group); DyNAmo™ (Finnzyme Oy); SYBR® (Molecular Probes Inc.); Invitrogen™ Platinum® (Invitrogen Corp.); Axygen® (Corning Inc.); Illumina® (Illumina, Inc.)

Note: Specifications are subjected to change without notice.





# WolfLabs

**Pricing on any accessories shown can be found by keying the part number into the search box on our website.**

The specifications listed in this brochure are subject to change by the manufacturer and therefore cannot be guaranteed to be correct. If there are aspects of the specification that must be guaranteed, please provide these to our sales team so that details can be confirmed.

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Please contact us if this literature doesn't answer all your questions.