

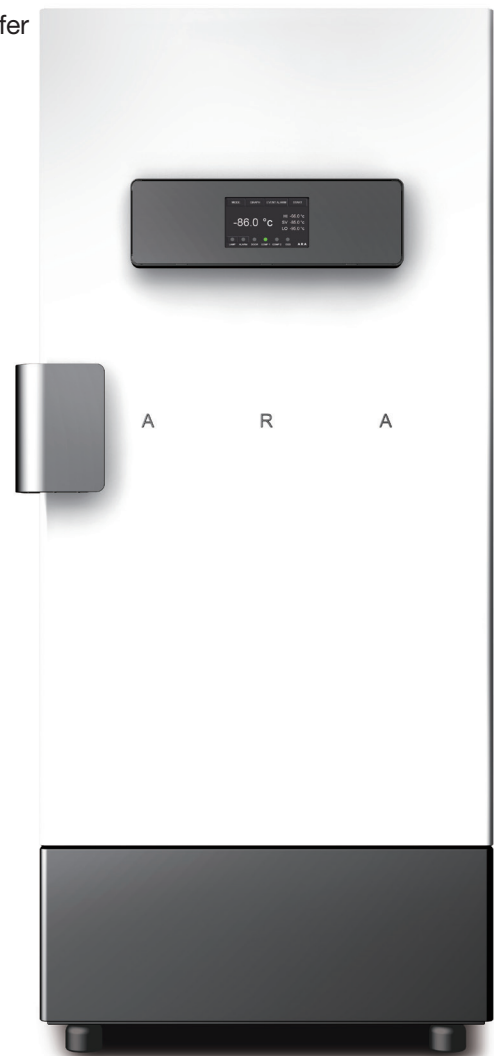
Deep Freezers

Upright Type - ARA M/MD Series

Upright Type Deep Freezers

ARA M/MD Series

- Fast pull-down and recovery to optimal storage temperature (500L Dual / -95°C, 700 L Dual / -90°C)
- Unique pin-less Block Condenser and Independent Compressor (single or dual selectable) structures
- Failure free Dual Brain PCB and dual Independent Compressor systems
- Effortless Auto-Door with safe lock& unlock function (optional manual door is available)
- Controllable ECO mode of dual compressor model for energy saving operation
- Informative 7" display and touch screen control
- Data tracking and storage to chart recorder or through USB transfer
- Alarm warning of text message transfer to max. 5 users
- No need of dust cleaning by very simple compressor and condenser structure
- LCO2 or LN2 backup system is available



Deep Freezers

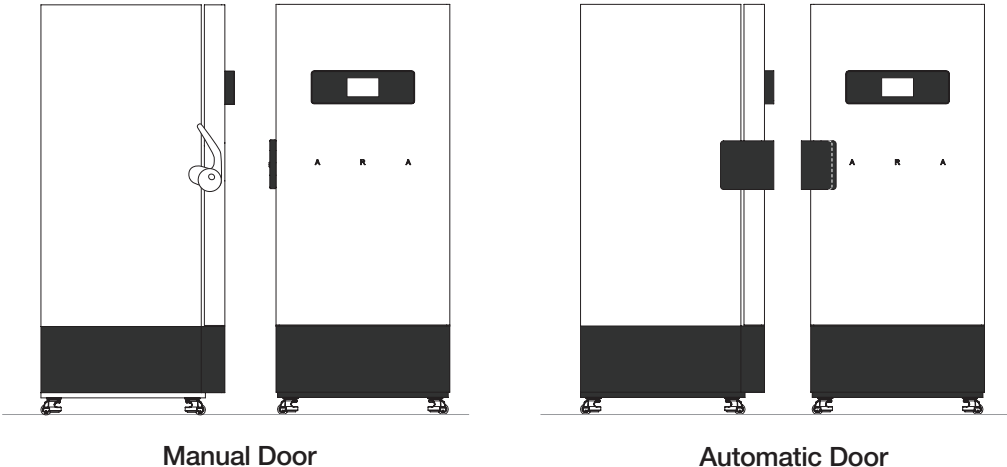
Upright Type - ARA M/MD Series

Technical Specifications

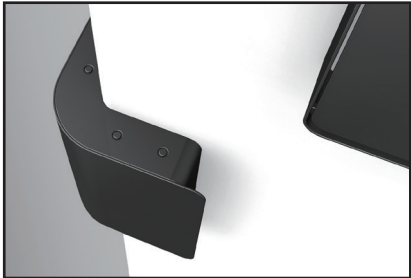
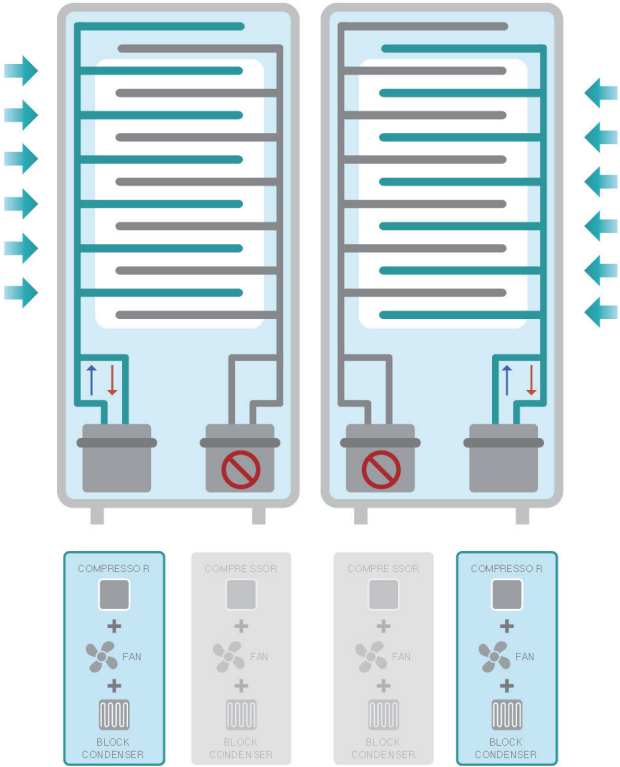
	Upright Type Deep Freezer
Capacity	85, 317, 404, 514, 732, 876 Lit.
Temperature range	-86°C/-80°C ~ -65°C/-60°C or -95°C/-90°C ~ -65°C/-60°C
Compressor	Hermetic Type, Single or Independent Dual Compressor (Eco mode of Dual type for economic operation)
Condenser Type	Block Condenser, No pin, Filter Free Mechanism
Refrigerant	Natural (CFC Free Refrigerant System)
Controller & Display	Failure free Dual Controller and 7" Touch Screen TFT LCD
Door	Door opening and closing by pressing a touch button on control screen (Manual Door is Optional)
Material	Internal Stainless Steel / External Powder Coated Steel Plate
Power supply	Single Phase, AC 230V, 50/60Hz (Optional AC 120V, 60Hz)



Robust and Flexible Design of Door Handle

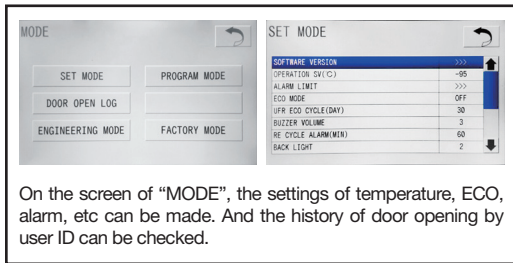


Independent Dual Compressor System

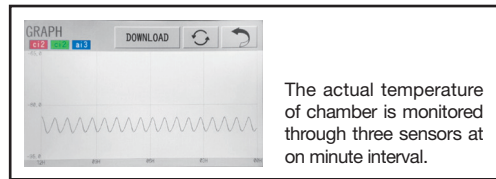


SMART Freezing System with Block Condenser

ARA M Deep freezers advanced functionality with intuitive display and control panel



On the screen of "MODE", the settings of temperature, ECO, alarm, etc can be made. And the history of door opening by user ID can be checked.



The actual temperature of chamber is monitored through three sensors at on minute interval.

NO.	DATE	TIME	EVENT	ON/OFF
8	2017.06.01	15:21	POWER FAILURE	ON
9	2017.06.01	15:21	VOLTAGE EXCESSION	ON
10	2017.05.31	10:43	VOLTAGE EXCESSION	ON
11	2017.05.31	10:25	COMPRESSOR1	ON
12	2017.05.30	18:14	COMPRESSOR2	ON
13	2017.05.30	16:40	TEMP HIGH LIMIT	ON
14	2017.05.30	16:40	POWER FAILURE	ON

The "ALARM" events are recorded by time and can be downloaded through USB.



The actual temperature inside the chamber is displayed in the center of the screen and the set values with high and low limit range in the right side.

The opened edge of the black panel and the inner hole behind support the automatic vacuum release during the door opening and closing actions.

The "Dual" compressor model displays which compressor is working and could be controlled with energy-saving "ECO" management.

This optional function of LCO₂ back can be used by manually or activated under the freezing system error condition.

The color of "ALARM" turns to RED at the situations of abnormal temperature and compressor, door open status, improper voltage, battery shortage, power failure, etc.

The opening of the door is simply accomplished by one touch click of the "DOOR" button followed by ID and password input. The ID can be managed up to 100.

The USB port for downloading temperature graph, maximum for 300 days and ALRAM event history.

ARA M Deep Freezers scheme shortens the pull-down time of ultra-low temperature.

Model	ARA MD300	ARA MD500	ARA MD700	ARA MD870
Time to -80°C	120 min	180 min	210 min	170 min
Time to -90°C	180 min	280 min	380 min	260 min
Time to -95°C	220 min	330 min	-	-

Ordering Information

		ARA M80	ARA M300	ARA MD300	ARA M400	ARA MD400	ARA M500	ARA MD500
Capacity		85 Lit.	317 Lit.		404 Lit.		514 Lit.	
Temperature Range		-86°C ~ -65°C	-86°C ~ -65°C	-95°C ~ -65°C	-86°C ~ -65°C	-95°C ~ -65°C	-86°C ~ -65°C	-95°C ~ -65°C
Compressor		Single	Single	Dual, Independent	Single	Dual, Independent	Single	Dual, Independent
Rack Capacity		2 x 2 tray for freezer box	3 x 4 tray for freezer box		4 x 4 tray for freezer box			
Chamber Dimension (W x D x H, mm)	Internal	340 x 485 x 520	470 x 515 x 1,310		600 x 515 x 1,310		600 x 655 x 1,310	
	External	572 x 830 x 1,147	800 x 892 x 1,990		930 x 892 x 1,990		930 x 1,032 x 1,990	
Net Weight		102 kg	190 kg	220 kg	220 kg	260 kg	245 kg	284 kg
Power consumption	Eco Mode	321 W/h	364 W/h	364 W/h	386 W/h	386 W/h	469 W/h	469 W/h
	Dual Mode			415 W/h		461 W/h		526 W/h
Cat. No.	Auto Door	-	AMUS300	AMUD300	AMUS400	AMUD400	AMUS500	AMUD500
	Manual Door	AMUS080-M	AMUS300-M	AMUD300-M	AMUS400-M	AMUD400-M	AMUS500-M	AMUD500-M

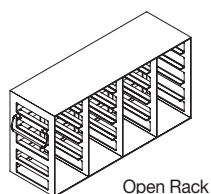
		ARA M700	ARA MD700	ARA M870	ARA MD870
Capacity		732 Lit.		876 Lit.	
Temperature Range		-80°C ~ -65°C	-90°C ~ -65°C	-80°C ~ -60°C	-90°C ~ -60°C
Compressor		Single	Dual, Independent	Single	Dual, Independent
Rack Capacity		6 x 4 tray for freezer box			
Chamber Dimension (W x D x H, mm)	Internal	880 x 635 x 1,310		880 x 760 x 1,310	
	External	1,210 x 1,012 x 1,990		1,210 x 1,137 x 1,990	
Net Weight		285 kg	327 kg	335 kg	385 kg
Power consumption	Eco Mode	508 W/h	508 W/h	547 W/h	547 W/h
	Dual Mode		576 W/h		613 W/h
Cat. No.	Auto Door	AMUS700	AMUD700	AMUS870	AMUD870
	Manual Door	AMUS700-M	AMUD700-M	AMUS870-M	AMUD870-M



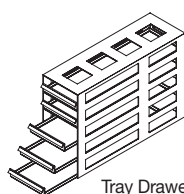
Rack System for Freezer

Stainless Steel Rack for Upright Type Freezer

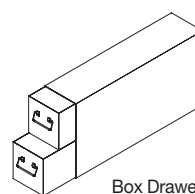
Rack Type	Small Size Rack			Medium Size Rack			Large Size Rack			X-Large Size Rack		
	Open Rack	Tray Drawer	Box Drawer	Open Rack	Tray Drawer	Box Drawer	Open Rack	Tray Drawer	Box Drawer	Open Rack	Tray Drawer	Box Drawer
Dimension (W x D x H, mm)	140 x 430 x 220		140 x 410 x 220	140 x 430 x 290		140 x 425 x 290	140 x 570 x 290			140 x 710 x 290		
Applicable Freezer	ARA M80			ARA M(D)300/400			ARA M(D)500/700			ARA M(D)870		
Quantity of Available Boxes	12 ea (3 x 4)			15 ea (3 x 5)		12 ea (3 x 4)	20 ea (4 x 5)		16 ea (4 x 4)	25 ea (5 x 5)		
Material	Stainless Steel											
Cat. No.	AMA-ORS	AMA-TDS	AMA-BDS	AMA-ORM	AMA-TDM	AMA-BDM	AMA-ORL	AMA-TDL	AMA-BDL	AMA-ORX	AMA-TDX	AMA-BDX



Open Rack



Tray Drawer



Box Drawer

Freezer Box

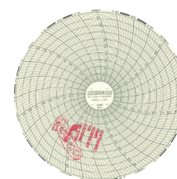
Cat. No.	Description
AMA-B001	Freezer box, Paper with dividers for 9 x 9 holes, 127 (W) x 127 (D) x 52 (H) mm
AMA-B002	Freezer box, PP with dividers for 9 x 9 holes, 127 (W) x 127 (D) x 52 (H) mm



Optional Common Accessories

Temperature Chart Recorder

- Continuously monitor and record freezer temperature
- Easy to check the operation of the equipment
- 1 chart records 7days (included 60 charts)
- Recorder records temperatures from -100°C to 0°C
- Min/Max Temperature can be checked on digital display



Remote Alarm System

- Remote warnings for overtemperature (above -65°C)
- Alarm system is connected to the regulator and activates when the temperature rises
- Alarm is sent via phone or text
- Multiple phone numbers can be registered to receive alarm at the same time



LCO₂ Backup System (LCO₂ Gas Tank is optional)

- Protect samples of the freezer in case of power failure
- Liquid Carbon Dioxide(freezing point is -78°C) is injected into the chamber to keep the internal temperature below -65°C
- The operating time depends on the gas tank capacity.



Ordering Information

Cat. No.	Description
AMA-TR622	Temperature Chart Recorder
AMA-CP657	Chart Paper, 60 Charts per one box for 420 days recording in AMA-TR622
AMA-P222	Chart Recorder Replacement Pens, 6ea Red color, for AMA-TR622
AMA-RAS	Remote Wire/Wireless Alarm System
AMA-LCO	LCO ₂ Backup System