

## Twin Guard<sup>®</sup> Series -86°C Ultra-Low Freezers



### Innovative 'Dual-Cool' Compressor Technology:

Two independent cooling systems allow the unit to run continuously at ultra-low temperature in the unlikely event of one compressor failure.

### Patented VIP<sup>®</sup> PLUS Vacuum Insulation Panel:

Twin Guard<sup>®</sup> Series provide uniform temperatures with energy and space efficient refrigeration. Ideal for secure storage of high value biological samples, tissue, and rare specimens.

### Intuitive Alphanumeric Control System:

All critical parameters are continuously monitored for optimum performance.



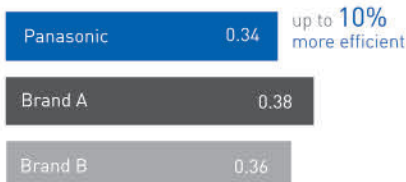
25.7 cu.ft.



### Energy Savings

Twin Guard<sup>®</sup> Series freezers significantly increase ultra-low protection, while **minimizing** energy costs through a unique **EcoMode function**.

Power Consumption by Capacity  
[KW/day/box capacity]

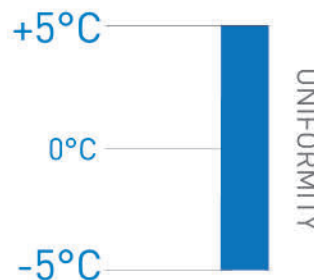


Panasonic freezers provide reduced operational cost yielding highly efficient sample storage.



### Uniformity

Twin Guard<sup>®</sup> Series freezers provide optimum chamber uniformity of +/-5°C over a **wide operating range from -50°C to -86°C**.



Surpasses the customer preference of +/- 5°C.



### Operating Costs

Twin Guard<sup>®</sup> Series freezers offer a large storage capacity of 576 2" boxes, while maintaining a small footprint with reduced energy usage, ultimately leading to **reduced operational costs**.

Total Annual Operating Cost  
by Box Capacity



Cost is an average for operating freezer. The freezers emit heat into the laboratory, minimizing air conditioning costs.



## Twin Guard® Series: -86°C Ultra-Low Freezers With Panasonic -86°C Dual Cool Independent Refrigeration Systems

The industry's most dependable ultra-low storage solution for high value biologicals

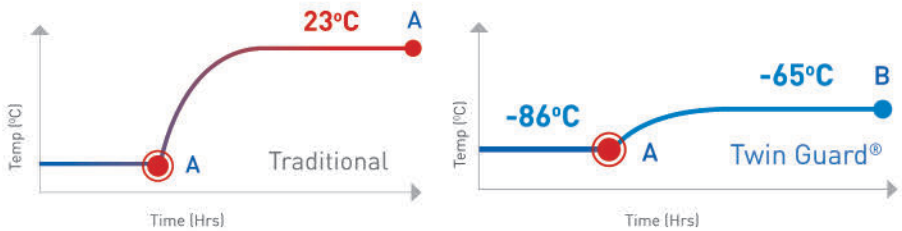
The MDF-U700VXC-PA Twin Guard® Series Freezer includes an integrated alphanumeric LCD performance monitor and digital controller for comprehensive system management, data logging, remote communications, alarms, predictive performance, and validation.

- Panasonic's patented VIP® PLUS vacuum insulation panel provides superior insulation and increased interior volume in the same footprint.
- The VIP® PLUS panel minimizes energy transfer to and from the ultra-low temperature interior. This advanced insulation technology offers structural stability to eliminate distortion, and inhibit moisture accumulation that can lead to icing. Aggregate insulation efficiency minimizes compressor cycle run-time to lower energy costs.
- The Panasonic Twin Guard® Series satisfies the industry demand for safe, long term storage for high-valued materials like *sensitive stem cells, embryos, cell lines, and other rare specimens.*



With Panasonic's patented Twin Guard technology,

Two compressors are completely separated from one another, with no reliance on the other to operate. So if one of them fails, the other remains unaffected and your freezer will stay within the ultra-low temperatures.



MODEL	MDF-U700VXC-PA		
TEMPERATURE SETPOINT RANGE	-50°C to -86°C	AREA FOOTPRINT (NOMINAL)	9.51 sq.ft. [0.88 m <sup>2</sup> ]
-86 DUAL °COOL (BOTH COMPRESSORS)	-86°C (ambient temperature 30°C)	STORAGE	2"/51 mm boxes: 576 3"/76 mm boxes: 384
SINGLE SYSTEM COOLING PERFORMANCE (INDEFINITE)	> -65°C (ambient temperature 30°C)	STORAGE (RACKS) FOR 2" FIBERBOARD BOXES	24 (When each rack is 6 boxes high x 4 boxes deep)
CABINET INSULATION	Patented VIP® PLUS composite wall, energy savings.	STORAGE (RACKS) FOR 3" FIBERBOARD BOXES	24 (When each rack is 3 boxes high x 4 boxes deep)
EXTERIOR DIMENSIONS (W X F-B X H)	39.8" x 34.3" x 79.1" (1010 x 870 x 2010 mm)	ELECTRICAL, 60HZ	208/230V NEMA 6-15
INTERIOR DIMENSIONS (W X F-B X H)	34.3" x 23.6" x 55.1" (870 x 600 x 1400 mm)	DATA MANAGEMENT	Internal data log with log file memory.
ENERGY CONSUMPTION	19.6 kWh/Day [-80°C setpoint, 20°C ambient temperature]	WEIGHT	383 kg
VOLUME	25.7 cu.ft. [728 liters]	ALARMS	High/Low temperature, door ajar, power failure, remote alarm contact, part replacement notification, fan motor lock, individual cooling circuit check, LabAlert - Optional.
SHELVES	3, adjustable, stainless steel (4 compartments)	ACCESS PORT	Diameter = 0.5"/17mm; 3 locations
VACUUM RELEASE PORT	Standard, Manual	CONTROLLER	Panasonic microprocessor-based, door-mounted control with alphanumeric LCD information center