



Ultra-Low Temperature Freezer **FEATURE LINEUP**

FrostLess

VIP[®]ECO

VIP[®]ECO SMART

TwinGuard[®]



Dependable Performance
From -40°C to -86°C

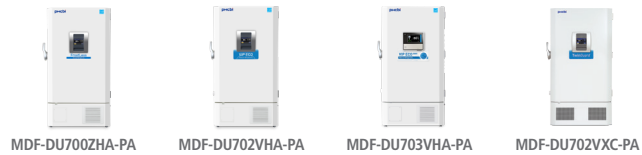
Features Designed to Suit Your Needs

Our -86°C ultra-low temperature (ULT) freezers are engineered from the inside out to create, maintain, and restore precise temperatures. PHCbi brand ULTs harness decades of innovation to bring performance, reliability, and energy efficiency. Compare key features between our leading ULT lines to select the best models for your specific requirements.

	FrostLess	VIP®ECO	VIP®ECO <small>SMART</small>	TwinGuard®
CONSTRUCTION	MDF-DU700ZHA-PA	MDF-DU702VH(A)-PA	MDF-DU703VH(A)-PA	MDF-DU702VXC-PA
EZlatch™ Handle	•	•	•	•
3 Shelves Stainless Steel	•	•	•	•
VIP Insulation Cabinet	•	•	•	•
Seismic Anchors	•	•	•	•
Interior Painted Steel	•	•	•	•
Exterior Painted Steel	•	•	•	•
Casters with Leveling Legs	•	•	•	•
Robust Hinges	•	•	•	•
Insulated Stainless Steel Inner Doors		•	•	•
Convex Outer Door		•	•	•
Automatic Vacuum Relief		•	•	•
Manual Vacuum Relief	•	•		•
Filterless Design				•
FrostLess Thermal Insulated Inner Doors	•			
ELECTRICAL	MDF-DU700ZHA-PA	MDF-DU702VH(A)-PA	MDF-DU703VH(A)-PA	MDF-DU702VXC-PA
Available in 220V 15 Amp (NEMA 6-15P)		•	•	•
Available in 115V 15 Amp (NEMA 5-15P)	•		•	
Available in 115V 20 Amp (NEMA 5-20P)		•		
Available in dual voltage 115V 220V 15 Amp			•	
STORAGE SOLUTIONS (RACKS)	MDF-DU700ZHA-PA	MDF-DU702VH(A)-PA	MDF-DU703VH(A)-PA	MDF-DU702VXC-PA
2" Fiberboard Boxes	528	576	576	576
Racks for 2" Fiberboard Boxes	24(MIX)	24	24	24
2" Plastic Boxes	528	576	576	576
Racks for 2" Plastic Boxes	24(MIX)	24	24	24
3" Fiberboard Boxes	336	384	384	384
Racks for 3" Fiberboard Boxes	24(MIX)	24	24	24
CONTROLLER-SECURITY-IOT	MDF-DU700ZHA-PA	MDF-DU702VH(A)-PA	MDF-DU703VH(A)-PA	MDF-DU702VXC-PA
Key Lock Outer Door	•	•	•	•
Padlock Provision Outer Door	•	•	•	•
Password Protect Controller	•	•	•	•
Track Time Door is Open	•	•	•	•
USB Log Download	•	•	•	•
Electric Lock Outer Door			•	
Password Unlock Outer Door			•	
Facial Recognition Unlock Outer Door			•	
NFC Card Unlock Outer Door (Optional)			•	
LabSVIFT Generation	Gen2	Gen2	Gen3	Gen2
CERTIFICATIONS	MDF-DU700ZHA-PA	MDF-DU702VH(A)-PA	MDF-DU703VH(A)-PA	MDF-DU702VXC-PA
ENERGY STAR® Certified	•	•	•	

Rigorously Tested Reliability and Uniformity

PHCbi brand ultra low freezers are tested to ensure high performance, uniformity, energy efficiency, and reliability.

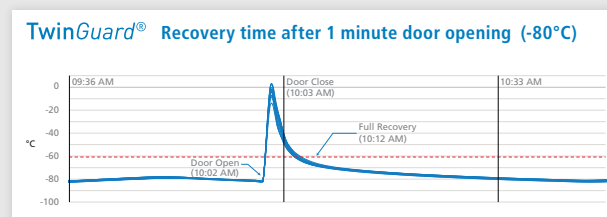
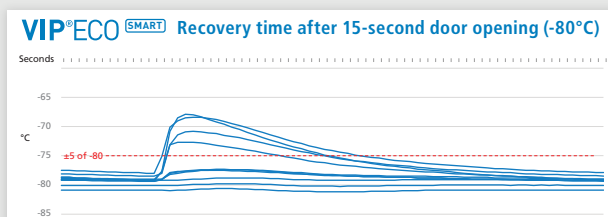
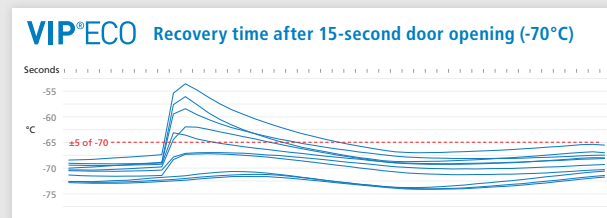
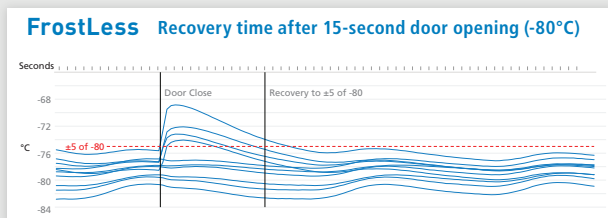


	Steady State Energy Consumption kWh/Day	-80°C	7.9	8.2	5.4	15+
		-70°C	6.2	5.91	4.5	15+
	Interior Uniformity, Average Steady State	-80°C	±3°C	±3°C	±3°C	±3°C
		-70°C	±3°C	±3°C	±3°C	±3°C
	Setpoint Range	°C	-40 / -86	-50 / -86	-40 / -86	-50 / -86
	Noise level	dB(A)	52	46	46	52
	Redundant Refrigeration Systems					✓
	Output, Nominal	BTU/Hr	1118	1109	768	4393
	Frost Mitigation (Heated By Refrigeration System)	Door Frame	✓	✓	✓	✓
		Center Bar	✓			
	Recovery Time After 15-Second Door Opening ¹ ENERGY STAR Method	-80°C	8 min	8 min	8 min	NA
		-70°C	8 min	8 min	10 min	NA
	Recovery Time After 1-Minute Door Opening ¹ - Internal Test	-80°C	5 min	18 min	18 min	10 min

¹ Recovery defined as majority of temperature points returning within 5 of setpoint.

Rapid Temperature Recovery

Temperature recovery time is key to keeping a laboratory moving forward. PHCbi brand ULTs deliver the recovery performance today's workflows require.



The data reflects performance metrics rather than official product specifications. Results from technical data sheet tests should not be used to establish regulatory parameters for specific customer applications. The performance of the freezer will depend on factors such as the volume of customer products, storage format, selected options, operating conditions, test methods, and adherence to recommended maintenance practices. Ongoing product improvements may lead to changes or omissions in this technical data sheet without prior notice. PHC Corporation of North America disclaims responsibility for any damage, injury, loss, or expenses arising from the misuse of the information provided.



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PHC Corporation of North America
1300 Michael Drive, Suite A, Wood Dale, IL 60191
Toll Free USA (800) 858-8442, Fax (630) 238-0074
www.phcd.com/us/biomedical