



# VariCool EZ-Fit®



- 12 to 90 Tons
- Variable Air Volume
- Water-Cooled
- Water Source Heat Pump
- Chilled Water
- DOAS (Dedicated Outdoor Air System)
- Air-Cooled with Remote Condenser

Unique Solutions for All-Indoor HVAC Projects

## Modular Floor-by-Floor Air Conditioning Systems

The VariCool EZ-Fit is a self-contained, modular air conditioning system for use with floor-by-floor variable air volume applications. It is engineered and manufactured specifically for installation in renovation and retrofit projects and provides the ultimate **All-Indoor Solution** for challenging HVAC applications.

The VariCool EZ-Fit design consists of three distinct sections that easily mate to form a system module. The module consists of a fan section, evaporator coil section and condensing section. Single modules are available in 12-15 ton, 20-25 ton, 30-35 ton and 40-45 ton sizes. Dual modules together form systems as large as 90 tons of cooling.

Sections are assembled during manufacturing and evacuated, charged, tested, and then separated for shipment of individual sections. The use of resealable refrigerant fittings allow the unit to be shipped split without losing the charge. All module sections are joined together using innovative 3D-Intelliclamp connectors which ensure perfect component alignment. The result is a lower installed cost without any sacrifice of system reliability.



### FEATURES

- 12 to 90 tons
- Water-Cooled
- Chilled Water
- Dual Scroll Compressors/Module
- Interlaced Evaporator Coils
- Premium Efficiency Motors
- Double Sloped Stainless Steel Drain Pan
- Hot Gas Bypass (each circuit)
- Lift Off Hinged Panels
- Belt Drive Airfoil DWDI Blower with Backward Inclined Blades (12-25 Ton Modules)
- Direct-Drive Parallel Fans (30-35 & 40-45 Ton Modules)
- Factory Mounted VFD Controllers
- Microprocessor Control
- 3D-Intelliclamp Cabinet Section Connectors

Individual sections fit through standard 3-0 doors or smaller and into most elevators. They can also be maneuvered down narrow hallways which means no modifications or alterations to the building are needed and installation time is quicker and less costly to accomplish.

As with all United CoolAir systems, a wide variety of features are standard and a host of options allow every system to be tailored to the specific project at hand.

## Avoid Requirements that Lead to Extra Expense

### Expensive Equipment, Rigging or Permits

- Equipment can be shipped in sections
- Fits easily through standard doors, hallways, and into elevators
- Minimizes the need for crane rentals, rigging crews, and municipal permits

### Roofcurbs or Roof Penetration

- Eliminates expensive curb equipment cost
- Reduces installation labor
- Eliminates possible roof water damage

### Field Piping, Brazing, Evacuation or Charging

- Factory charged and utilizes
- Resealable Refrigerant Fittings
- Reduces installation labor
- Faster installation and commissioning

### Excessive Downtime when Replacing Old Systems

- Sectional shipments accelerate installation
- Can be installed off-hours and on weekends
- Shipment can be made to coincide with installation schedules

### Architectural Damage to Building

- Eliminates expenses for code approvals
- Requires no rigging holes through building walls
- Minimizes any type of building alteration

### Compromise in Performance With Built-to-Order Design

- Units are built to exact requirements
- Avoids purchase of excess capacity from standard product offerings
- Extensive list of configurations and options

### Equipment Damage Due to Weather

- All equipment is installed indoors
- Avoids premature replacement costs due to weather wear and/or damage
- Eliminates downtime due to severe storms

### Possibility of Theft or Vandalism

- Eliminates expensive repairs and replacements due to theft and vandalism
- Enhances building security by eliminating interruption to service
- Eliminates extra cost for cages and special alarms

### Field Testing of Installed Product

- Minimizes field testing as units are functionally tested prior to shipment
- Reduces labor and speeds installation
- Assures trouble-free start-ups

### Outdoor Servicing of Product

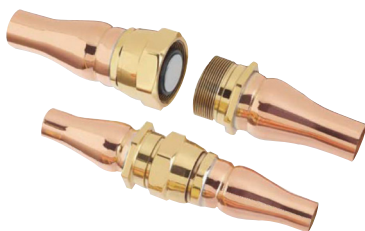
- Outdoor/premium service expense in extreme weather completely eliminated
- Improves reliability
- Eliminates roof safety issues

### Major Ductwork or Electrical Modifications

- Units ordered to closely match existing duct and utility locations
- Major installation, labor and time savings

### Exterior Condensing System

- Eliminates rooftop and pad installation space and cost
- Water-Cooled and Chilled Water configurations eliminate unsightly equipment outdoors



### Resealable Refrigerant Fittings

Most models feature Resealable Refrigerant Fittings. Unit sections can be shipped split or split in the field without losing the factory charge resulting in no field brazing and a total installed cost advantage.

## Ideal for Renovation and Replacement Projects

The basic VariCool EZ-Fit modular design and standard features provide the ideal retrofit and replacement design for many projects. However, it does not always provide the ideal product solution and that is why United CoolAir offers an extensive list of options to further match each VariCool EZ-Fit unit to the specific application requirements. These options are designed to optimize performance while minimizing installation complexity, time and expense.

### POPULAR OPTIONS

- More than 25 cabinet sizes available
- ECM Fans
- Variable Speed Compressor
- BMS Interface
- High Efficiency Filters
- Double Wall Construction
- Water Side Economizer
- Hot Water, Steam, or Electric Heat
- Lead Circuit Digital Scroll Compressors
- Internally Isolated DDP Fan Systems
- Direct Drive Parallel Fan Systems
- Painted Cabinets



### TYPICAL APPLICATIONS

- Healthcare Facilities
- Universities/Schools
- High Rise Buildings
- Office Buildings
- Commercial/Retail Centers
- Laboratories
- Lobbies
- Conference Rooms
- Churches

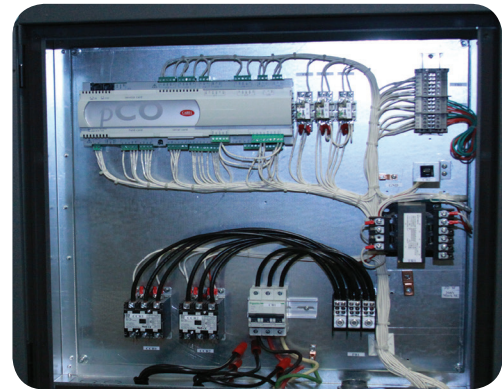
## Your Choice for Building Management System Interface Options

The VariCool EZ-Fit system is designed to operate using the full-featured Marvel Plus microprocessor control system. The Marvel Plus control system incorporates a Marvel Plus Microprocessor Control and a Marvel Plus Wall Mount display.

The power of the Marvel Plus control system can be put to good use through integration with an existing Building Management System. The system is compatible with most protocols including BACnet™ over MS/TP (RS485 Serial), BACnet over IP (Ethernet/EIA485), ModBus™ RS485 Serial Connection, ModBus™ TCP over IP, Lon-Works™ FTT10 (RS485 Serial), or other systems using a Serial interface card.

A large number of analog and digital inputs and outputs come standard which allows most single and multiple-unit projects to control and communicate the most important aspects of operation and alarm status. In addition, up to 16 controllers can be networked to a single wall display.

IoT allows for remote connectivity to provide support from United CoolAir.



*Marvel Plus Microprocessor Control System in unit*



*Marvel Plus Wall Display*

WATER-COOLED PERFORMANCE DATA					
	Nominal Tons	Total MBH	Sensible MBH	CFM	GPM
Single	12	165.8	117.1	4800	36
	15	202.0	143.5	6000	45
	20	260.2	187.7	8000	60
	25	300.9	213.0	9000	72
	30	382.2	283.5	12000	90
	35	451.6	330.7	14000	105
	40	480.1	364.5	15000	120
	45	600.2	415.6	15000	136
Dual	24	331.6	234.2	9600	72
	30	404.0	287.0	12000	90
	40	520.4	375.4	16000	120
	50	601.8	426.0	18000	144
	60	764.4	567.0	24000	180
	70	903.2	661.4	28000	210
	80	960.2	729.0	30000	240
	90	1200.4	831.2	30000	272

Contact the factory for Chilled Water and Water Source Heat Pump models

## Case Study

EMBLEMHEALTH FACILITY

MANHATTAN, NY

### EmblemHealth Chose the VariCool EZ-Fit System for a Successful Replacement Project

United CoolAir was hired for a project at an EmblemHealth facility located in Manhattan, NY. The building was erected in the early 1970's and the mechanical systems have been running for over 25 years. The air conditioning system had to be replaced quickly with the least amount of disruption to the patients, service providers and staff.



**T**he EmblemHealth building had four existing units spread out from the basement, main floor and at an upper level. Sizes ranged up to 45 tons and the replacement units would need to be the same size. Many of the systems were installed during the building construction when access was not an issue. It is generally not a problem to remove the old air conditioning system because the units are disassembled and scrapped, but installing the new units can be tricky. This is where we came in to help.

Our distributor, MWSK Equipment, was hired for this project and Fredi Taruc, Sales Engineer at MWSK, immediately thought of United CoolAir's VariCool EZ-Fit system as the best option for the replacement.



**The Dual-Module VariCool EZ-Fit unit that was installed**

Regardless of the entry method, the installation cost can easily exceed the equipment cost when you measure man hours, permits and special equipment necessary to complete the job. There's the additional time needed for demolition, installation and final commissioning.

"Often the HVAC contractor has to do a lot of preparation work in order to fit a system through small passageways. Larger units may have to be raised by crane to upper floors and require rigging, permits and building modification. If they take it through the building, the unit may have to be delivered partially disassemble and reassembled on site, or walls and doorways opened to allow access," said Taruc.

EmblemHealth needed to get the replacement units in quickly and with as little building modification as possible.

Unlike most commercial buildings, healthcare facilities are generally active 24 hours each day. The retrofit was scheduled for two weekends with two units replaced each weekend. John McBride, Design Engineer for JFK & M Consulting Group made sure the replacement work would not interrupt the facility's busy weekend schedule.



**Left: Joe Ptak, Chief Engineer for EmblemHealth. Right: Fredi Taruc, Sales Engineer at MWSK**

"The old equipment was removed on a Friday and the replacement units were brought in with minimal interference with the hospital's operations. The modular sections were quickly reassembled and connected to the existing hookups. Since the units were pre-charged at the factory, brazing, evacuation and charging in the field were eliminated saving many hours of valuable labor. The units were operational by Monday morning at the start of the new week," said McBride.

This came as no surprise to Joe Ptak, Chief Building Engineer for EmblemHealth, who was first introduced to United CoolAir air conditioning systems. The initial units were installed in his building and he has been very satisfied.

"I was very pleased with the performance of their units then and I recommend using United CoolAir systems for all the other EmblemHealth mechanical system replacements," said Ptak.





# Basic Model Designation



## EXAMPLE:

$\frac{VZ}{a}$     $\frac{W}{b}$     $\frac{R}{c}$     $\frac{20}{d}$     $\frac{G}{e}$     $\frac{3}{f}$     $\frac{A}{g}$     $\frac{T}{h}$     $\frac{A}{i}$     $\frac{A}{j}$     $\frac{30}{k}$    -    $\frac{A}{l}$    -    $\frac{X}{m}$

a.	"VZ" = VariCool EZ-Fit																																																																	
b.	"W", "CW" or A" "W" = Water-Cooled "CW" = Chilled Water Air Handler "A" = Air Cooled w/ Remote Air Cooled Condenser																																																																	
c.	"R", "L" or "D"      Module Quantity/ Style "R" = Right Hand Single Module "L" = Left Hand Single Module "D" = Dual Module																																																																	
d.	"12", "15", "20", "25", "30", "35", "40" or "45" Nominal Cooling Capacity in Tons (Single Module) "24", "30", "40", "50", "60", "70", "80" or "90" Nominal Cooling Capacity in Tons (Dual Module)																																																																	
e.	"G"      Common to all																																																																	
f.	"3", "4" or "5"      Indicates Power Supply "3" = 208/230-3-60 "4" = 460-3-60 "5" = 575-3-60																																																																	
g.	<div>"AF", "AD", "ADF", "AVF", "AV", "BF", "BD", "BDF", "AVF", "BV" or Compressors</div> <table><tr><td>Single Module</td><td>Arrangement</td><td>Dual Module</td><td>Arrangement</td><td>Dual/Module</td><td>Arrangement</td></tr><tr><td>Single/Dual</td><td></td><td>Dual/Triple Circuit</td><td></td><td>Four Circuit</td><td></td></tr><tr><td>Circuit</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>"AF"</td><td>Two Fixed</td><td>"BF"</td><td>Three Fixed</td><td>"DF"</td><td>Four Fixed</td></tr><tr><td>"AD"</td><td>2 Digital</td><td>"BD"</td><td>3 Digital</td><td>"DD"</td><td>1 Digital - 3 Fixed</td></tr><tr><td>"ADF"</td><td>1 Digital - 1 fixed</td><td>"BDF"</td><td>1 Digital - 2 fixed</td><td>"DDF"</td><td>2 Digital - 2 fixed</td></tr><tr><td>"AVF"</td><td>1 Variable Speed</td><td>"BVF"</td><td>1 Variable Speed</td><td>"DVF"</td><td>1 Variable Speed</td></tr><tr><td></td><td>1 Fixed</td><td></td><td>2 Fixed</td><td></td><td>3 Fixed</td></tr><tr><td>"AV"</td><td>1 Variable Speed</td><td>"BV"</td><td>2 Variable Speed</td><td>"DV"</td><td>2 Variable – 2 Fixed</td></tr><tr><td colspan="6">"- " = No Compressors / Chilled Water Unit</td></tr></table>						Single Module	Arrangement	Dual Module	Arrangement	Dual/Module	Arrangement	Single/Dual		Dual/Triple Circuit		Four Circuit		Circuit						"AF"	Two Fixed	"BF"	Three Fixed	"DF"	Four Fixed	"AD"	2 Digital	"BD"	3 Digital	"DD"	1 Digital - 3 Fixed	"ADF"	1 Digital - 1 fixed	"BDF"	1 Digital - 2 fixed	"DDF"	2 Digital - 2 fixed	"AVF"	1 Variable Speed	"BVF"	1 Variable Speed	"DVF"	1 Variable Speed		1 Fixed		2 Fixed		3 Fixed	"AV"	1 Variable Speed	"BV"	2 Variable Speed	"DV"	2 Variable – 2 Fixed	"- " = No Compressors / Chilled Water Unit					
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h.	"T"      Traditional Cabinet "C"      Custom Cabinet																																																																	
i.	"A" or "- "      Refrigerant "A" = R410a Refrigerant "- " = No Refrigerant / Chilled Water Unit																																																																	
j.	<div>"A", "B", "C"      Blower Type "A" = DWDI Blower "B" = Parallel Direct Drive Fan "C" = ECM Fans</div> <table><tr><th colspan="5">EVAPORATOR AIR PATHS</th></tr><tr><th>Blower Type</th><th>Front</th><th>Top (Standard)</th><th>Rear</th><th>Side</th></tr><tr><td>DWDI Blower</td><td>"C"</td><td>"A"</td><td>"R"</td><td>NA</td></tr><tr><td>Direct Drive Parallel Fans</td><td>Not Available</td><td>"A"</td><td>"R"</td><td>S</td></tr><tr><td>ECM Fans</td><td>"C"</td><td>"A"</td><td>"R"</td><td>S</td></tr></table>						EVAPORATOR AIR PATHS					Blower Type	Front	Top (Standard)	Rear	Side	DWDI Blower	"C"	"A"	"R"	NA	Direct Drive Parallel Fans	Not Available	"A"	"R"	S	ECM Fans	"C"	"A"	"R"	S																																			
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m.	"X" = Special Configuration																																																																	

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ECM Fans	"C"	"A"	"R"	S

Not all combinations of Basic Model Designations are valid. Check with the factory for correct model identification.



# Unique Solutions for All-Indoor HVAC Projects



**VertiCool Classic**  
Vertical, 3 - 30 Ton



**VertiCool Aurora**  
Vertical, 3 - 35 Tons



**VariCool®**  
VAV, 9 - 70 Tons



**VariCool® EZ-Fit**  
VAV, 12 - 90 Tons



**Alpha Aire**  
100 - 500 CFM



**Portable Cooling and Heating Units**  
3-30 Tons



**C13-Series Horizontal**  
2 - 10 Tons



**C-Series Horizontal**  
1 - 15 Tons  
Special Configuration  
Engineered to Order



**OmegaAir Horizontal and Vertical**  
100% Outside Air  
150 - 3000 CFM

Authorized Distributor:



## LIMITED WARRANTY

United CoolAir Units are backed by a 1 year limited warranty on parts and a 5 year limited warranty on the compressor (labor not included). Maintenance items such as filters and belts are excluded under this limited warranty.

## FACTORY TESTED

All units are functionally run tested before shipment to ensure a trouble-free start-up and unit commissioning. Industry proven components are used throughout to enhance system reliability and peace of mind.



Scan to learn more  
about all of our  
products!



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