

# The Unico System Small Duct High Velocity HVAC

Flexible, Efficient, Easy-to-Install Superior Home Climate Control



Why Unico?

Unico is the perfect example of what vision and determination can achieve when coupled with the right environment and culture. Over 35 years ago, Joe and Sharon Intagliata had a successful HVAC contractor business. They had the drive, entrepreneurial spirit, and commitment to their customer base to want to provide a superior HVAC solution. As a result they decided to start a Small Duct High Velocity heating, cooling and ventilation manufacturing business and founded Unico in the spring of 1985.

Along with their 5 sons (and now the 3rd generation of family members), the Intagliatas have evolved their original contracting business into a family-owned innovative, engineering, manufacturing, and distribution business. Unico is recognised as the global leader in small duct HVAC systems.





The Unico System requires about 1/3 the space of traditional ducted air systems and does not compromise on heating, cooling, or ventilation requirements. Because The Unico System®utilises state of the art 50mm or 64mm inner diameter sound attenuated and flexible tubing, it can be designed to fit into your home while delivering superior comfort and virtually silent ventilation and air movement. The Unico System eliminates the need for bulky, space-occupying ductwork and unsightly high wall split system mounted on the wall.

> The Industry-Leading Small Duct HVAC System In the USA & Europe Installed In Over

> > 1 Million

**Homes Globally** 





### Quality

Through product innovation and commitment to ISO standards, Unico continues to deliver category leading products and services both to the trade and end user communities.



### **Technical Support**

With more than 70 years of industry experience, our Technical Support team provides support to international markets through a network of partner distributors. The technical support team guides in-market specialists through hard-to-tackle projects, offering part numbers, pricing, part matchups, installation troubleshooting, warranty processing, and any other technical enquiries one might have.



### **Performance**

The Unico System®is efficient and innovative by design, providing quiet climate control, eliminating drafts and hot/cold spots, removing moisture in humid climates, and delivering unparalleled energy efficiency in a small footprint that preserves the host building's design function and aesthetics.



### **Design Services**

Unico can help design HVAC projects and will lay out the ductwork, outlets, equipment location, and provide a material list.

Simply complete a short enquiry form and send the plans through in AutoCad, PDF, JPG, or hard copy.



### **Training**

Installer knowledge and experience are critical to The Unico System operating at the highest level for years to come. We make it easy to learn about The Unico System® offering in-person and online training courses that are continually updated.



### **Continuous Innovation**

Unico's innovations are known to ease installation challenges, providing years of dependability and worry-free use in applications ranging from new home construction to the retrofitting of historic landmarks. Unico's design and product innovations are trusted by renowned architects and designers when specifying heating, cooling, and ventilation systems for their unique project needs.

Small Duct High Velocity (SDHV) HVAC



What It Is and How It Works

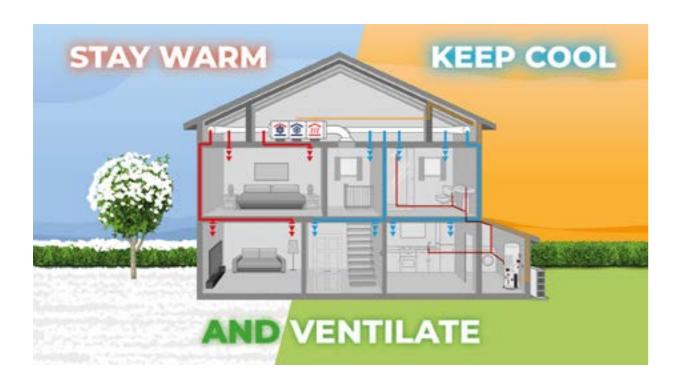
Superior Technology with Flexible Options

Air Handling Units: The Heart of The Unico System

The Unico System is a small duct high velocity air handling and management system for heating, cooling and ventilating homes and commercial premises alike. Its compact size allows it to fit into small spaces without disrupting the interior design or décor of the home. The Unico modular air handling units (AHUs) can be either horizontally or vertically mounted in voids between ceilings, floors, into small utility rooms, wardrobes, or cupboards. The small main duct and even smaller, flexible supply ducts (tubes) can thread through existing voids in open-web ceiling or floor joists and weave in and out of wall stud framing. The Unico System delivers conditioned or fresh air through small, unobtrusive round or slotted outlets, available in a variety of finishes and colours, paintable plastic, or several stainable wood species.

The Unico System is the preferred climate control solution for:

**Homeowners** enjoy that The Unico System virtually disappears into their home's décor, with whisper quiet operation, and draft free air flow. Enjoy the comfort of their preferred temperature with no cold or hot spots and to breathe pure, clean air. And enjoy a truly energy efficient, environmentally friendly indoor climate control system.



**HVAC Installers** appreciate the system's simple yet state-of-the-art design, durability, flexibility, ease-of-installation, and unparalleled technical support.

**Builders** are pleased to offer their customers a technologically advanced HVAC system that satisfies their designer's needs and makes their customers happy and comfortable.

**Architects and Home Designers** value the fact that the system does not intrude on their original design, allowing for vaulted or slanted ceilings, open floor plans, or large glass expanses, etc.

**Renovators** appreciate the fact that they can now add modern comfort amenities to historically significant homes and buildings without impacting their original design function or aesthetics, helping to ensure the conservation of the built heritage.

At the heart of The Unico System is our air handler unit (AHU) containing the fan and heating and cooling coil modules. Quick and easy to install, our AHUs consist of modular components that are easily transported, fit into the tightest of spaces—lofts, utility rooms, voids, or crawlspaces—and latch together on site. Available in horizontal or vertical configurations our 5 model sizes cater to all types and sizes of properties.

Unico is the only small duct system manufacturer to utilise a true variable speed EC motor combined with our S.M.A.R.T (Software Managed Air Rate Technology) control board that allows for exact airflow and temperature control.

Compatible with Air Source Heat Pumps and a host of other energy source technologies to maximise the efficiency of your customer's home climate system.





Perhaps our most noticeable features that really make The Unico System what it is are our small main duct, even smaller flexible supply ducting with built in sound attenuation, and unobtrusive room outlets.



**Unico main ducting** is one-third the size of most traditional ducted air systems and can fit into the voids between ceilings or floors.

**Unico supply ducting** consists of flexible supply ducts (insulated tubes) that snake through existing voids in PosiStrut ceiling or floor joists and weave in and out of wall stud framing.





Unico sound attenuated supply ducting has a built-in sound attenuator material that reduces any noise to a mere whisper, is flexible and insulated.

Unico outlets are available in round (50 or 64mm inner diam./125mm outer diam.) or slotted configurations (25mm by 200mm) in a variety of finishes including black, brass and chrome, and in wood or plastic versions that can be stained or painted to blend into any style of decor. They can even be wall-papered to become virtually invisible in their surroundings.



Small Duct High Velocity (SDHV) HVAC

The Unico System®—Comfort Fit For Your Home

### Virtually Invisible In Their Surroundings











Walnut Outlet



Maple Outlet



Birch Outlet

Pine Outlet



White Oak Outlet



Red Oak Outlet



**Knotty Pine Outlet** 

Poplar Outlet



Slotted outlets are available in a multitude of colors and materials









Both round and slotted outlets are also available in 15° and 25° angles



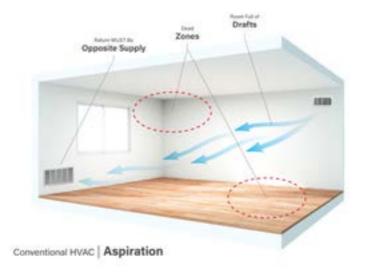


### **Whisper Quiet Operation**

Our supply tubing is designed to be as guiet and efficient as possible, with a nylon inner core and insulation that absorbs sound. Our AHUs are designed to isolate noise and vibration, with closed cell, sound-deadening insulation. Together, these bring decibel levels to the equivalent of a soft whisper, less than 30 decibels.

### **Draft-Free, Even Temperatures**

Most traditional ducted air systems distribute air unevenly by dumping it into rooms, creating drafts and uneven temperatures. By contrast, The Unico System uses a principle called aspiration—an air delivery method in which a lower volume of air is moved at a higher velocity. Aspiration creates a gentle suction around the delivery outlets, drawing the room's air into its stream of conditioned air, providing better comfort to occupants by eliminating drafts and hot/cold spots, and resulting in even temperatures from room to room, floor to floor, and floor to ceiling. The temperature differential is no greater than 1°C throughout the entire space.





### **Better Moisture Removal In Humid Climates**

Due to the unique design of its cooling coils, The Unico System can remove 30% more moisture from the air in cooling mode than traditional air conditioning systems. This also helps with energy efficiency in that occupants feel comfortable at higher thermostat settings when in the cooling months, reducing the overall electrical load on the system.

### **Better Indoor Air Quality (IAQ)**

The unique tightly sealed construction of our ducting, together with the higher velocity air delivery and superior moisture removal, results in Unico conditioned air that is truly clean—devoid of dust, pollen, bacteria, viruses, odours, or harmful gases. The Unico System is also an excellent provider of fresh, outdoor air and is also compatible with a host of air purifying accessories such as HEPA filters and ultra-violet disinfectants.

### **Energy Efficiency**



Traditional ducted air systems lose as much as 40% of their conditioned air—especially when ducting is located in an unconditioned area. However, Unico's smaller, tighter ducts lose virtually none of their conditioned air. Plus, Unico blowers are available with programmable, variable speed Eletronically Commutated Motors (ECMs) that use less electricity than their conventional counterparts. Unico achieves superior energy efficiency performance with 97% of the system's actual energy delivered to the conditioned living space.

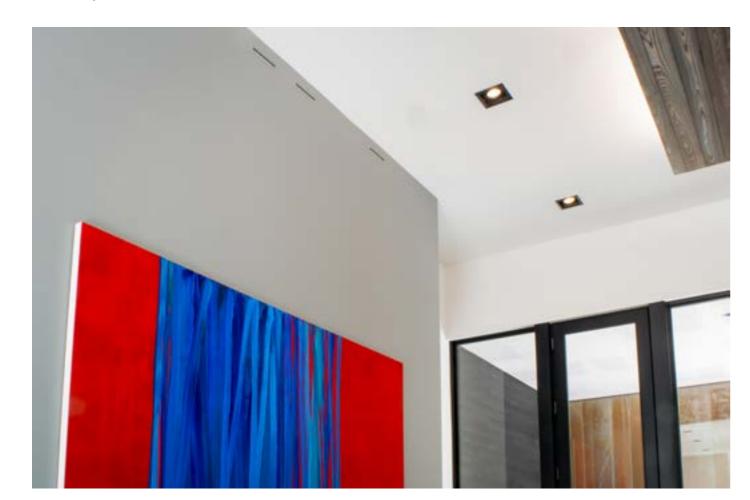
### **Elegant Aesthetics**

Our discreet outlets allow homeowners to make maximum use of their internal space. Outlets can be positioned in ceilings, walls or floors enabling uncompromised interior design potential because there are no unsightly high wall units, air registers or radiators to work around or accommodate. The freedom of design that The Unico Systems enables is loved by architects, self-builders, and interior designers alike.

Small Duct High Velocity (SDHV) HVAC The Unico System®-Comfort Fit For Your Home

## **Marm In Winter, Cool In Summer**

Always Fresh, Filtered Air



**During colder periods,** The Unico System works efficiently to warm your home to your desired pre-set temperature. Rooms receive a steady, warm supply of air via specially located discreet outlets, based on our unique aspiration delivery method. Unico distributes air evenly and consistently—with no hot or cold spots, just an overall feeling of pleasant warmth and comfort.

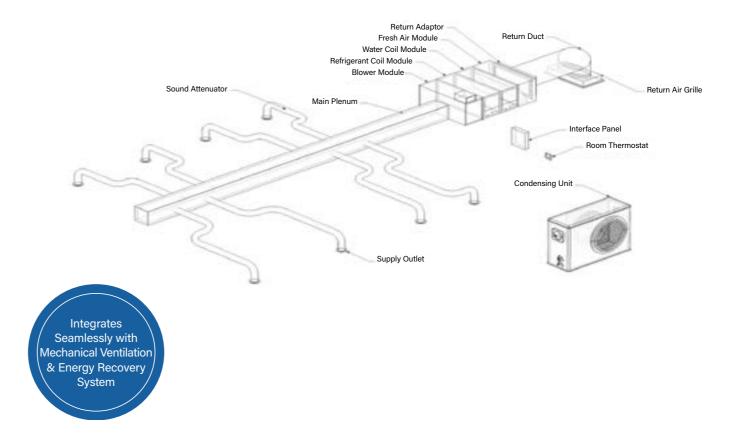
When temperatures rise, The Unico System is the perfect antidote to overwhelming heat and stuffiness. Not only does the system cool your space to the desired level, it also removes humidity and irritants, which adds to uncomfortable living conditions during hotter periods. With Unico, you achieve a fresh, cool home environment, no matter the temperature outside.

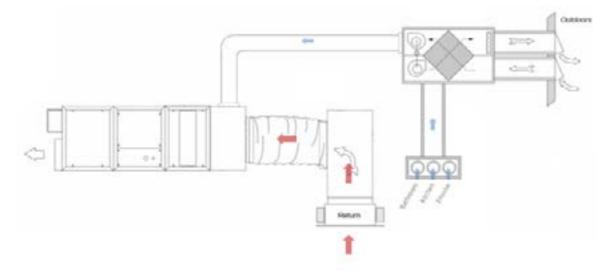
The Unico System dramatically improves **indoor air quality (IAQ)**, which is important for everyone, but especially those with conditions such as asthma, respiratory illness, compromised immune systems, or thermoregulation problems.

## **Superior Home Climate Control**

Excellent
When Paired
with a Reversible
Air Source
Heat Pump

The Unico System is a home climate solution that works efficiently and discreetly to maintain perfect, optimum temperatures and exceptional indoor air quality in homes and light commercial settings. Unico warms in the winter and cools in the summer, whilst removing pollutants and irritants all-year-round to leave occupants with clean, healthy, filtered air. It perfectly creates climate-controlled living spaces to combat our changing and challenging weather conditions. Unico is the best HVAC option for any new build property or self-build project where the system can be designed to fit perfectly within the fabrication of the building. It is also an ideal solution for retrofitting homes and buildings where space is at a premium.





Small Duct High Velocity (SDHV) HVAC

The Unico System\*—Comfort Fit For Your Home





### **Unico and MVHR Compatibility**

Combining The Unico System with fresh air, and: MVHR - ventilation & heat recovery system creates the ultimate system with the added benefit of heating and cooling, by using fewer components & pipework it can reduce the overall installation cost.

The Unico System is a premium high end solution covering heating, cooling and ventilation.



#Poor control. If turned on/off by occupant will not run long enough to dehumidify; if left on continuously will run at warmer temp and not dehumidify. \*With electric heat strip \*\*Only if outdoor temp is less than indoor temp \*\*\*Only if outdoor dewpoint is lower than indoor dewpoint (summer), or vice-versa in the winter.

### **Unico and Ebac MVHR Pairing**

Unico, Inc., the global leader in small-duct indoor comfort systems, and Ebac, Britain's top maker of ventilations systems, have partnered to provide residential HVAC installers and end users with the most efficient, smartest, easiest to install, and best indoor comfort system on the market.

### **The Unico System**

- Modular, easy to install indoor units
- Space-saving plenum and flexible supply ducts
- Removes 30% more humidity than traditional systems
- Quiet, draft-free, even temperatures
- Unobtrusive outlets

### **Ebac MVHR**

- 100% filtered summer bypass and purge settings
- 88% heat exchanger efficiency
- Integrated CO2, humidity, temperature sensors
- 0-10v EC fan motors
- Intelligent automatic frost protection



# **Unico Air Handling Unit**

- Available in 5 sizes (3 KW to 20 KW)
- Compact, modular AHUs
- Smaller than traditional-sized air handlers
- Uses flexible supply ducting (90mm outer diameter; 50mm inner diameter)
- Uses unobtrusive round (127mm outer diameter; 50mm inner diameter) or slotted
   (frame: 230mm x 25mm; opening: 180mm x 12.5mm) outlets
- Fits into the tightest of spaces
- Easy to install
- Quiet operation
- 30dB (comparable to a whisper)
- <5% duct leakage</p>
- <2% thermal loss</li>
- Removes 30% more moisture from the air than traditional ducted systems



# Ebac MVHR Unit

- Available in left and right-hand configurations
- Ventilation capacity at 100Pa= 242 M/H
- Rated Power at 70% of max= 47.4 Watts
- Duct connection= 125mm
- Weight= 35Kg
- Temperature efficiency= 88%
- Summer bypass= 100%
- 3.5" touchscreen controller with:
- Commissioning menu
- 2X 240V custom inputs for remote switch to adjust user mode
- Live sensor readouts for internal/external temperature, CO2, and RH
- IAQ live status indicator
- Summer boost setup & timer

Ebac MVHRs are designed specifically for SAP via Appendix Q

The Unico System®—Comfort Fit For Your Home

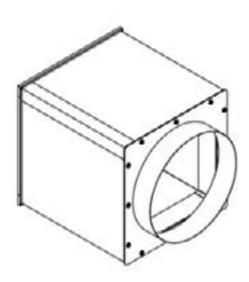
### & Installation Instructions

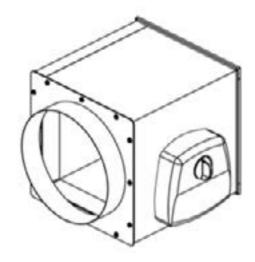
### **UV Light Module Overview**

The Unico System's UV Light Module is a compact cabinet that allows a UV light to be installed in any new or existing installation. It is designed to be attached to the supply side of the blower and includes a 254 mm supply adapter, which can be easily adapted to any size supply plenum.

# Features

- Universal connection to all Unico blower models
- Blank sides allow installation of UV lights from any manufacturer
- Externally insulated to prevent condensation and UV degradation of insulation
- 254mm supply collar can be adapted to any size





### **Applications**

The UV light module is intended for use with a Unico System air-handling unit, providing the option to add UV light. UV lights help reduce disease transmission and can be used in all outdoor spaces, supplementing standard indoor air quality measures like high-efficiency filters and conventional cleaning and disinfection procedures.

### **Optimal Duct Patters**

### Loop (Best)



### H-Pattern (Better)



### Horseshoe (Good)



### Dogleg (Good)



### **Duct Size**

The Unico System can be installed with either round or rectangular duct, either traditional galvanised circular duct or rectangular fibreboard for enhanced system performance and ease of installation. Unico provides adapters for both types. The size of the central duct system will vary according to the required airflow and length required. Please refer to the Duct Layout and Design Manual for more specific information on duct sizing. For rectangular duct sizes, size the duct for equal friction. If using a tee to split the airflow it is acceptable to reduce the duct size immediately after the tee. (Note: Each elbow or tee is equivalent to 5m (15 feet) of straight duct.)

			1218	2430	3036	3642	4860	
Pigid	Max. Plenum Length	m (ft)	45 (150)					
	Min. Length to First Tee/Bend	mm (in)	600 (24)					
	Min. Length Between Fittings	mm (in)	600 (24)					
	Min. Round Duct	mm (in)	180 (7)		230 (9)		250 (10)	
	Min. Rectangular Duct	mm (in)	165 x 165 (6.5 x 6.5)		215 x 215 (8.5 x 8.5)		240 x 240 (9.5 x 9.5)	
			150 x 200 (6 x 8)		200 x 250 (8 x 10)		230 x 300 (8 x 12)	
			100 x 300 (4 x 12)		150 x 300 (6 x 12)		150 x 350 (6 x 14)	
			90 x 350 (3.5 x 14)		100 x 500 (4 x 20)		100 x 600 (4 x 24)	
					90 x 600 (	(3.5 x 24)	100 x 000 (4 x 24)	

### Installation

The duct must be designed for 992 Pa (4" water column) internal pressure. A sheet metal thickness of at least 26-gauge (0.45 mm) is recommended in order to cut the 51mm holes for the branch ducts without collapsing the central duct.

Sealing, It is extremely important to seal all of the duct seams and joints. The method of sealing shall be in accordance with the latest local building regulations.

### Insulation

The Unico System is designed to produce a greater temperature drop across the heat exchanger than a conventional system. To prevent condensation or excessive duct losses to the surrounding air, all main ducting and components must be insulated to the local building codes and regulations.

### **Metal Return Duct**

We recommend the Unico return duct tubing on all installations, however, if the return duct tubing is made of metal, always add an acoustical lining to the inside of the duct. This is in addition to or instead of the wrapped insulation. The duct should be sealed at the seams and be designed for a negative 124 Pa (0.5" water column) static pressure.

### **Sound Attenuator & Supply Tube**

					UPC-226		
-		Corrugated Aluminum		Spun-Bond Nylon			
mm (in)		50.8 (2)	63.5 (2.5)	50.8 (2)	63.5 (2.5)		
mm (in)	RSI-0.58 (R3.3)	89 (3.5)	102 (4.0)	89 (3.5)	102 (4.0)		
	RSI-0.74 (R4.2)	102 (4.0)	114 (4.5)	102 (4.0)	114 (4.5)		
	RSI-1.06 (R6)	127 (5.0)	140 (5.5)	127 (5.0)	140 (5.5)		
	RSI-1.41 (R8)	152 (6.0)	165 (6.5)	152 (6.0)	165 (6.5)		
m (ft)		7.6 (25)		0.9 (3) / 3.6 (12)			
Rated		3.3 / 4.2 / 6 / 8					
Effective		4 / 5.8 / 9.5 / 13.7					
Rated		0.58 / 0.74 / 1.06 / 1.41					
Effective		0.70 / 1.02 / 1.67 / 2.41					
Pa (in. w.c.)		125 (0.5)					
Pa (in. w.c.)		1000 (4.0)					
m/s (ft/min)		25 (5000)					
m (ft)		- 0.9 (3)					
m (ft)		10.7 (35)					
mm (in)		150 (6)					
-		<25					
-		<50					
	mm (in)	RSI-0.58 (R3.3)   RSI-0.74 (R4.2)   RSI-0.74 (R4.2)   RSI-1.06 (R6)   RSI-1.41 (R8)   m (ft)   Rated   Effective   Rated   Effective   Pa (in. w.c.)   Pa (in. w.c.)   m/s (ft/min)   m (ft)   m (ft)   mm (in)   -	mm (in) 50.8 (2)  RSI-0.58 (R3.3) 89 (3.5)  RSI-0.74 (R4.2) 102 (4.0)  RSI-1.06 (R6) 127 (5.0)  RSI-1.41 (R8) 152 (6.0)  m (ft) 7.6 (10)  Rated  Effective  Rated  Effective  Pa (in. w.c.)  Pa (in. w.c.)  m/s (ft/min)  m (ft)  m (ft)  mm (in)  -	- Corrugated Aluminum  mm (in) 50.8 (2) 63.5 (2.5)  RSI-0.58 (R3.3) 89 (3.5) 102 (4.0)  RSI-0.74 (R4.2) 102 (4.0) 114 (4.5)  RSI-1.06 (R6) 127 (5.0) 140 (5.5)  RSI-1.41 (R8) 152 (6.0) 165 (6.5)  m (ft) 7.6 (25)  Rated 3.3 / 4.2  Effective 4 / 5.8 / 9  Rated 0.58 / 0.74 /  Effective 0.70 / 1.02 /  Pa (in. w.c.) 125 (6  m/s (ft/min) 25 (56  m (ft) - (25)	- Corrugated Aluminum Spun-Bot mm (in) 50.8 (2) 63.5 (2.5) 50.8 (2) 89 (3.5) 102 (4.0) 89 (3.5) 81.0-74 (R4.2) 102 (4.0) 114 (4.5) 102 (4.0) RSI-1.06 (R6) 127 (5.0) 140 (5.5) 127 (5.0) 165 (6.5) 152 (6.0) m (ft) 7.6 (25) 0.9 (3) Rated 3.3 / 4.2 / 6 / 8 Effective 4 / 5.8 / 9.5 / 13.7 Rated 0.58 / 0.74 / 1.06 / 1.41 Effective 0.70 / 1.02 / 1.67 / 2.41 Pa (in. w.c.) 125 (0.5) Pa (in. w.c.) 1000 (4.0) m/s (ft/min) 25 (5000) m (ft) - 0.5 m (ft) 10.7 (35) mm (in) 150 (6) - <25		

Small Duct High Velocity (SDHV) HVAC Small Duct High Velocity (SDHV) HVAC Versatility and Performance

### **Unico Modular Air Handlers**

	Model		M1218BL1-EC3 + M1218CL1-C/E + M1218CL1-H	M2430B*1-EC3 + M2430C*1-B/C/E + M2430C*1-H	M3036B*1-EC3 + M3036C*1-B/C/E + M3036C*1-H	M3642B*1-EC3 + M3642C*1-B/C/E + M3642C*1-H	M4860B*1-EC3 + M4860C*1-B/C/E + M4860C*1-H		
	Power Supply	V/Hz/Ph			120/208-240 / 50/60 /	1			
Electrical Data	Motor Size	kW (HP)	0.37 (1/2)		0.75 (1)				
	Motor Minimum Circuit Ampacity	A, 120V/240V	7.0 / 4.0		12.8 / 7.7				
	Max. Overcurrent Protection	A, 120V/240V		5 / 15	20 / 15				
	Motor Full Load Amps	A, 120V/240V	5.0	6 / 3.2		10.2 / 6.1			
	Motor Speed	RPM	400 - 1800 (Variable)						
	Blower Wheel Diameter	mm	241						
	Blower Wheel Width	mm	38	95	127	127	197		
	Nominal Airflow Rate	L/s (CFM)	189 (400)	354 (750)	425 (900)	520 (1100)	614 (1300)		
	Nominal Static Pressure	kPa (in. w.c.)	0.373 (1.5)						
Blower Module,	Sound Pressure Level	dB(A)	52	56	56	56	58		
MxxxxB*1-EC3		NC	40	50	47	47	50		
111100000 1 200	Maximum Air Temperature over Motor	℃			65				
	Minimum Supply Duct Size	mm (in)	178 (7) 229 (9) 254 (10						
	Maximum Elevation of Operation	m (ft)			4572 (15,000)				
	Dimensions, L x W x H	mm	508 x 392 x 305	635 x 349 x 445	762 x 349 x 445	965 x 349 x 445	965 x 349 x 445		
	Net Unit Weight	kg (lb)	15.9 (35)	19.1 (42)	22.7 (50)	24.5 (54)	26.8 (59)		
	Shipping Weight	kg (lb)	22.7 (50)	24.5 (54)	28.6 (63)	30.5 (67)	31.4 (69)		
	Nominal Capacity (Cooling)	kW	3.5 - 5	9	10.5	12.3	17.6		
	Nominal Capacity (Heating @ 7°C ODT)	kW	3.5 - 5	9	10.5	12.3	17.6		
	Compatible ODU Nominal Capacity	kW	3.5 - 5	5 - 9	7 - 10.5	10.5 - 14	14 - 19.3		
	Design Pressure	MPa			3.45				
Indoor Refrigerant	Suction Line OD	mm (in)	15.9 (5/8) 22.2 (7/8)						
Coil	Liquid Line OD	mm (in)	9.5 (3/8)						
MxxxxC*1-B/E	Drain Connection	mm (in)	19 (3/4) FPT						
	Refrigerant Type		R-410A / R-32						
	Expansion Device	-	XV with Internal Check Valve						
	Dimensions, L x W x H	mm	508 x 406 x 305	635 x 349 x 445	762 x 349 x 445	965 x 349 x 445	965 x 349 x 445		
	Net Unit Weight	kg (lb)	16.4 (36)	22.7 (50)	26.4 (58)	31.8 (70)	49.1 (108)		
	Shipping Weight	kg (lb)	18.6 (41)	24.5 (54)	28.2 (62)	35 (77)	54.1 (119)		
	Capacity Range (Cooling @ 4.4°C Entering Water Temp.)	kW	3.3 - 6.1	5.5 - 11.1	6.2 - 12.2	9.6 - 16	11.1 - 20.2		
	Capacity Range (Heating @ 60°C Entering Water Temp.)	kW	5.7 - 11.1	7.9 - 13.7	9.4 - 16.1	14.1 - 20.0	17.0 - 24.9		
	Water Flow Rate Range	L/s	0.13 - 0.38	0.13 - 0.38	0.13 - 0.50	0.25 - 0.50	0.25 - 0.63		
	Entering Water Temp. (Cooling)	°C	4.4 - 12.8						
	Entering Water Temp. (Heating)	°C	35 - 60						
Chilled Water Coil, MxxxxC*1-C	Design Pressure	MPa	2.2						
WIXXXXC I-C	Coil Water Volume	L	2.2	3.4	3.9	5.3	7.6		
	Connection Size	mm (in)	15.9 (5/8) ODF Sweat		22.2 (7/8) ODF Sweat		28.5 (1-1/8) ODF Sweat		
	Dimensions, L x W x H	mm	508 x 406 x 305	635 x 349 x 445	762 x 349 x 445	965 x 349 x 445	965 x 349 x 445		
	Net Unit Weight	kg (lb)	16 (35)	21.8 (48)	26.4 (58)	31.8 (70)	51.4 (113)		
	Shipping Weight	kg (lb)	20 (44)	23.6 (52)	29 (64)	34.5 (76)	55 (121)		
	Capacity Range (Heating @ 60°C Entering Water Temp.)	kW	4.1 - 7.5	7.9 - 11.6	9.1 - 13.9	11.9 - 22.3	11.9 - 22.3		
	Water Flow Rate Range	L/s	0.13 - 0.38	0.25 - 0.50	0.13 - 0.50	0.25 - 0.63	0.25 - 0.63		
	Entering Water Temp.	°C	48.9 - 71.1						
11	Design Pressure	MPa	1.03						
Heating Module, MxxxxC*1-H	Coil Water Volume	L	1.2	3.4	4.2	5.2	5.2		
INIXXXXC. I-LI	Connection Size	mm (in)	15.9 (5/8) ODF Sweat		22.2 (7/8	) ODF Sweat			
	Dimensions, L x W x H	mm	508 x 152 x 305	635 x 305 x 445	762 x 305 x 445	965 x 305 x 445	965 x 305 x 445		
	Net Unit Weight	kg (lb)	7.9 (17.5)	22.7 (50)	29 (64)	31.8 (70)	31.8 (70)		
	Shipping Weight	kg (lb)	11.7 (25.5)	24.1 (53)	31.7 (70)	34.5 (76)	34.5 (76)		

### **Unico Vertical Air Handlers**

	Model		V2430B-1EC3*H	V3036B-1EC3*H	V3642B-1EC3*H			
	Power Supply	V/Hz/Ph						
Electrical Data	Motor Size	kW (HP)	0.37 (1/2)	0.75	(1)			
	Motor Minimum Circuit Ampacity	A, 120V/240V	7.0 / 4.0	12.8 / 7.7				
	Max. Overcurrent Protection	A, 120V/240V	15 / 15	20 / 15				
	Motor Full Load Amps	A, 120V/240V	5.6 / 3.2	10.2 / 6.1				
	Motor Speed	RPM	400 - 1800 (Variable)					
Airflow Specs.	Blower Wheel Diameter	mm	241					
	Blower Wheel Width	mm	95	127	127			
	Nominal Airflow Rate	L/s (CFM)	354 (750)	425 (900)	520 (1100)			
	Nominal Static Pressure	kPa (in. w.c.)		0.373 (1.5)				
Allilow opecs.	Sound Pressure Level	dB(A)	56	56	56			
		NC	50	47	47			
	Maximum Air Temperature over Motor	°C		65				
	Minimum Supply Duct Size	mm (in)	178 (7)	229	(9)			
	Maximum Elevation of Operation	m (ft)		4572 (15,000)				
	Nominal Capacity (Cooling)	kW	9	10.5	12.3			
	Nominal Capacity (Heating @ 7°C ODT)	kW	9	10.5	12.3			
	Compatible ODU Nominal Capacity	kW	5 - 9	7 - 10.5	10.5 - 14			
Refrigerant Cooling/	Design Pressure	MPa		3.45				
Heating Specs.	Suction Line OD	mm (in)	15.9 (5/8) 19 (3/4)					
ricating opeosi	Liquid Line OD	mm (in)	9.5 (3/8)					
	Drain Connection	mm (in)	19 (3/4) FPT					
	Refrigerant Type	-	R-410A					
	Expansion Device	-	TXV with Internal Check Valve					
	Capacity Range (Cooling @ 4.4°C Entering Water Temp.)	kW	4.7 - 9.8	6.2 - 14.2	8.8 - 16.1			
01:11-1.11-1.11	Capacity Range (Heating @ 60°C Entering Water Temp.)	kW	6 - 12.2	9.4 - 15.7	11.7 - 20.8			
Chilled Water Coil Specs. (Cooling/	Water Flow Rate Range	L/s	0.13 - 0.38 0.13 - 0.50					
Heating)	Entering Water Temp.	°C						
	Design Pressure	MPa		2.2				
	Connection Size	mm (in)	22.2 (7/8) ODF Sweat					
Hot Water Coil Specs. (Heating Only)	Capacity Range (Heating @ 60°C Entering Water Temp.)	kW	5.9 - 9	6.7 - 7.8	7.7 - 15.3			
	Water Flow Rate Range	L/s	0.25 - 0.50	0.13 - 0.50	0.25 - 0.63			
	Entering Water Temp.	°C	48.9 - 71.1					
	Design Pressure	MPa	1.03					
	Connection Size	mm (in)	22.2 (7/8) ODF Sweat					
	Dimensions, L x W x H	mm	508 x 508 x 1068	610 x 508 x 1068	636 x 603 x 1068			
Construction Specs.	Net Unit Weight	kg (lb)	53 (117)	63 (138)	74 (163)			
	Shipping Weight	kg (lb)	80 (177)	91 (200)	103 (227)			



# **Unico System Design Services**

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