

# MUY Universal Modular Hi-Rise Series

## FAN COIL TECHNICAL CATALOG



A **NIBE** GROUP MEMBER



- **Cost Effective Solution**
- **Easy to Install/Service**
- **Variety of Sizes/Applications**

- Ideal for education, hospitality and multi-family markets
- Designed for concealed applications arrangements made in the field
- Nominal CFM range of 300 to 1,200 CFM

# Universal Modular Hi-Rise Series

## FAN COIL TECHNICAL CATALOG

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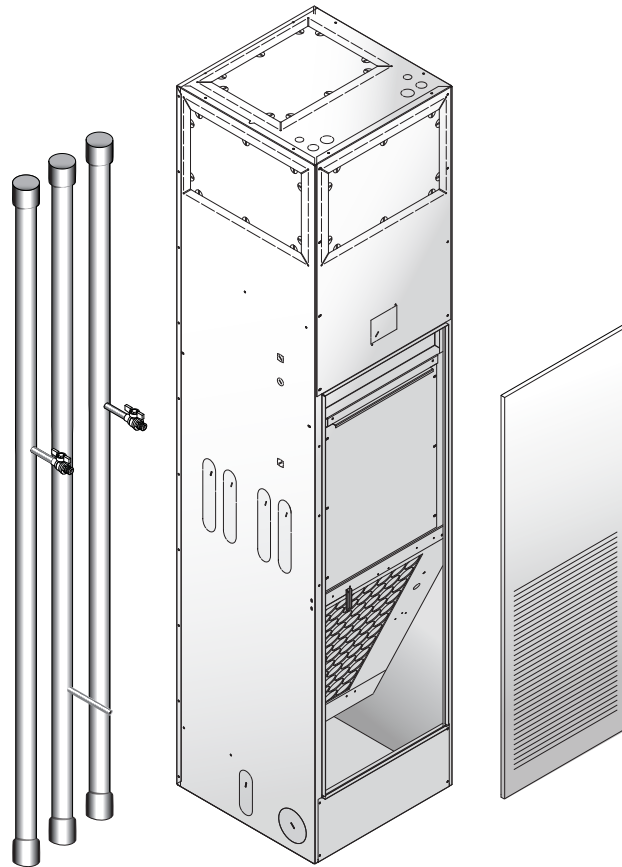
## Table of Contents

4	Universal Modular Hi-Rise Family
5	Features and Benefits
6-8	Product Application
9	Unit Model Key
10	Ratings and Listings
11-13	Fan Performance Curves
14	Motor Information
15-16	Sound Power Data
17	Submittal Data
18	Coil Data
19-24	Standard Features and Options

### Universal Modular Hi-Rise Family

#### Concealed Universal Modular Hi-Rise (MUY) 300 CFM to 1200 CFM

The MUY fan coil unit is designed for concealed applications in corners or along room walls. **International Environmental Corporation's (IEC) unique design utilizes laser cut knock-outs so that installers can easily field configure each unit to the desired configuration.** Once installed, only the thermostat control, supply air grille and decorative return air panel of the unit are visible in the room. Removal of the return air panel provides easy access to all internal components. Standard units are constructed with 18 gauge galvanized steel and are provided with a galvanized finish on the cabinet and a powder-coat paint finish on the return air panel. Optional supply air grilles are provided with arctic white powder coat or anodized aluminum finish.



## Features and Benefits

### Versatility In Design and Installation

IEC's MUY fan coil system offers unit arrangement versatility in a factory-assembled and integrated package. They are designed to be of low visual impact in the room, often positioned in a corner, along the perimeter wall or as part of a partition separating two areas.

The MUY fan coil was designed for the new construction and retrofit-replacement markets. These units can easily be field configured into most conventional applications. Riser and condensate drain knock-outs have been strategically located on three sides of each unit for field configuration. Supply air knock-outs are located on 4 sides of the unit as well as the top of the unit (for ducted applications). Outside air knock-outs are located on the two sides adjacent to the return air opening. All risers ship separately from the units so contractors can pre-install the riser system earlier in the construction cycle and complete riser testing prior to installation of the units.

### Application Fit

- Concealed cabinets with multiple airflow configurations provide solutions for most applications.
- Return air panel will blend with most décors.
- Thermostat is available as surface or wall mounted for ease of interface.
- Units are specifically designed for quiet operation.

### Design Flexibility

- Easy to use computer rating program to speed up project design.
- Wide variety of coil configurations to match the heating and cooling loads of the space.
- Standard motor/blower assemblies will meet most needs of applications where duct work is required. Units should not exceed a maximum of 0.25" external static pressure.
- 1" throwaway non-woven synthetic and 1" pleated MERV 8 filters are available to address IAQ requirements.
- 24V controls are standard.
- 1/2" standard fiberglass unit insulation material.

- Stainless steel drain pan with preformed EPDM (ethylene propylene diene monomer) p-trap.

### Ease of Installation

- Units assembled at the factory in coordination with the jobsite construction schedule.
- Riser length is matched to the job specifications and pre-fabricated with the specified material and insulation. Risers are shipped separately.
- Units are field connected to the risers using factory furnished flex hoses.
- Risers are swaged to reduce field brazing labor and to ensure the integrity of the connections.
- Drywall can be field applied directly to the surface of the concealed unit with factory provided duct collars and drywall stops to ensure a high quality finished appearance.

### Ease of Service

- Filters are easily accessible by removing the return air panel.
- Motor and blower assemblies are removable with quick-connect plug and fasteners.
- Control box at eye level for ease of field wiring and easy access.

### Quality and Safety

- Every unit tested and inspected at the factory for trouble free start-up.
- ETL listed.
- AHRI certified.

### Product Application

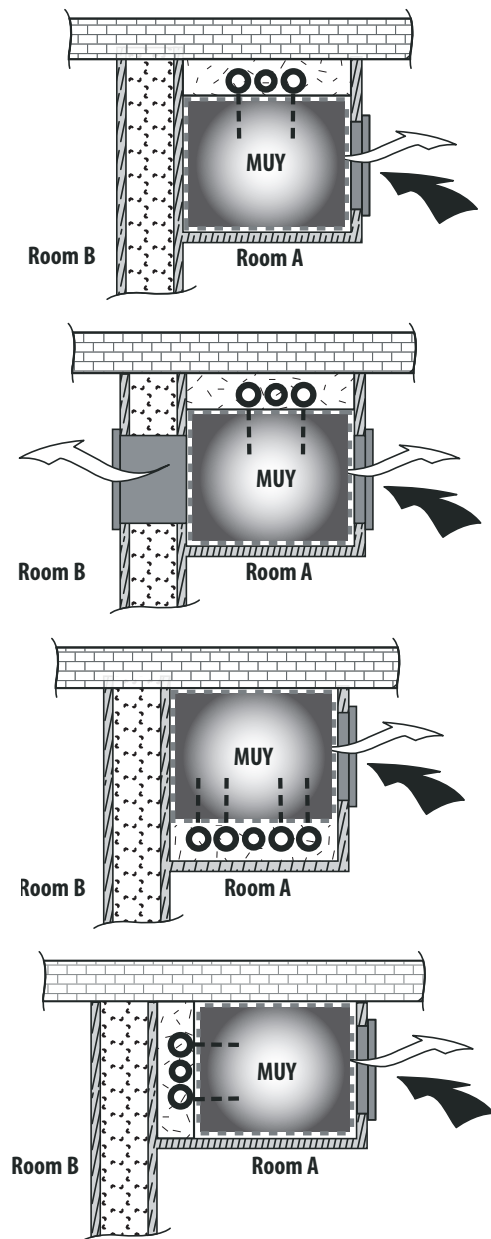
#### Versatile Unit Arrangement Options

One of the unique traits of the MUY fan coil system is the variety of possible unit arrangements. The best unit design configuration for a specific single- or multi-story building, can be selected by choosing from numerous unit arrangement options that utilize knock-out designs while conserving floor space and reducing installation costs.

MUY fan coils are designed to be unobtrusive in the room and, thus, are often positioned in a corner, along a perimeter wall or, as part of a partition separating two areas.

Below are just a few pictorials of the many arrangement possibilities of the MUY fan coil system.

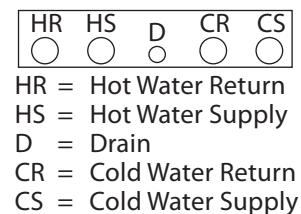
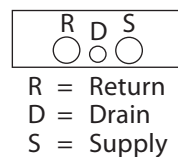
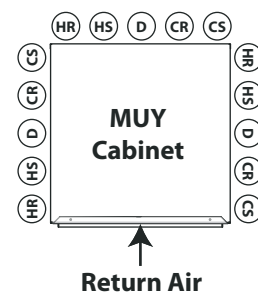
**Note:** Risers ship separately. Units field connected to risers using factory furnished flex hoses.



#### Legend:

- Exterior Wall
- Field Sheetrock
- Separation or Utility Chase
- Modular Hi-Rise Unit
- Partition (or Separation) Wall
- Hoses for Field Installation
- Supply Air
- Return Air

The Supply, Return, and Drain risers (2-pipe or 4-pipe applications) can be oriented on any of three sides of the unit.



2-pipe

4-pipe

### Product Application, Cont'd.

#### Riser Material, Sizing and Insulation

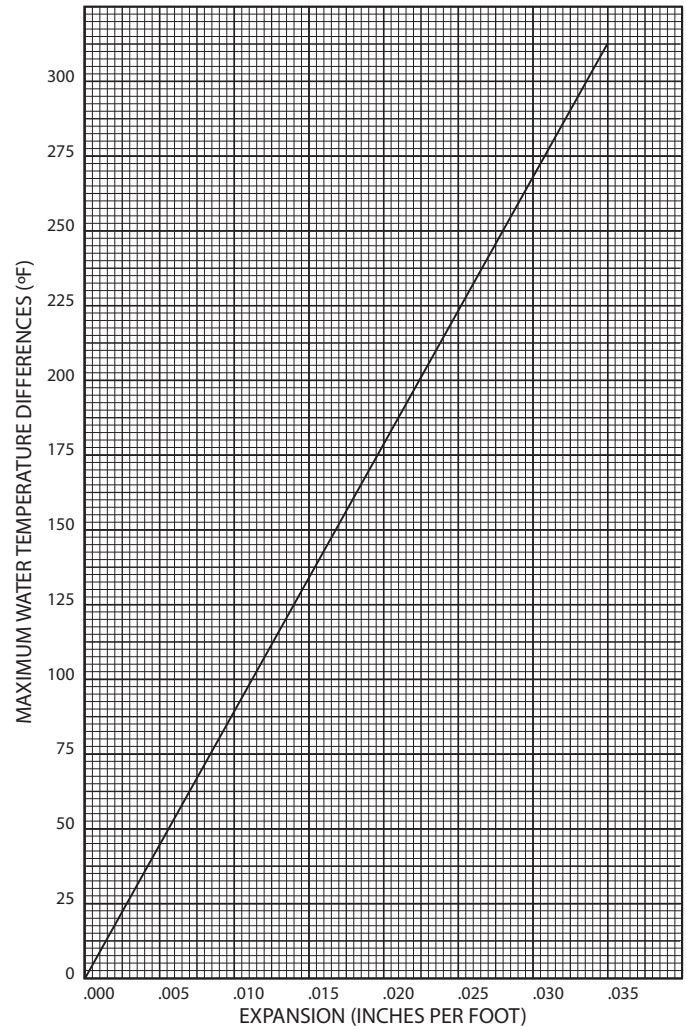
MUY units require risers to operate. Risers are factory fabricated and shipped loose for field installation. The riser type, size and length, and insulation for each unit must be determined based on the position of the unit in the building. The chilled and hot water risers and condensate drain are available in a variety of diameters from 1-1/4" through 2". All risers and riser extensions, including condensate drains, should be insulated for the full riser length. Other materials to accommodate such critical specifications as riser expansion and between-the-floor fire proofing must be field furnished and installed by others. Consult the factory for special applications.

Riser sizing is normally based on the water flow requirements of each unit and the units above and below the unit in the riser column, depending on the type of system being used. A common design technique is to select the risers to limit water velocity at four to seven ft. per second. Using this method, risers may be reduced in size as the water flow reduces from floor to floor.

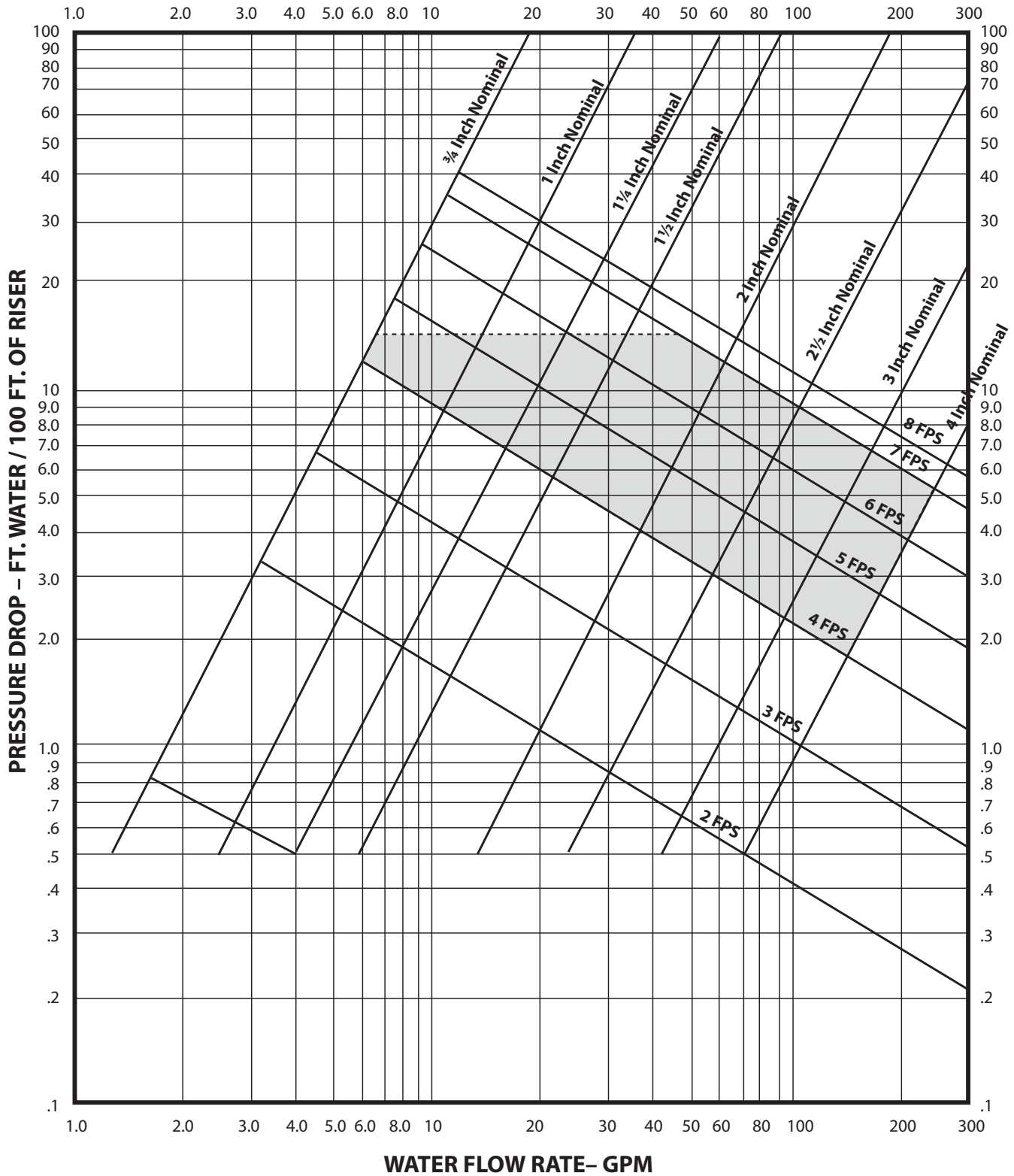
#### Riser Expansion

IEC's Universal Modular Hi-Rise units are designed to be used with flexible hose connections between the coil and risers. This only allows for expansion between the unit and the riser. This allowance for the movement within the unit is not intended to replace necessary riser system expansion compensation devices that the consulting engineer may deem advisable for the external riser system. External riser expansion/contraction compensation and anchoring are the responsibility of the consulting engineer and the installing contractor.

THERMAL EXPANSION OF COPPER RISERS



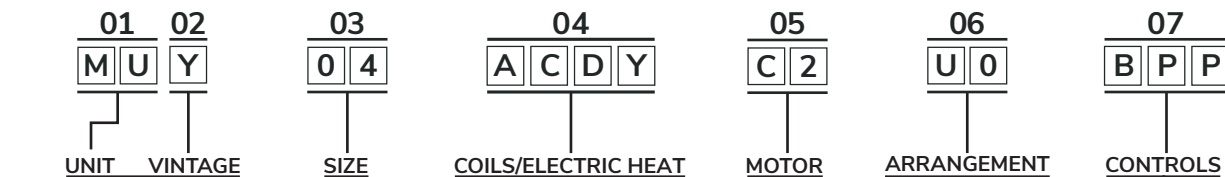
### Product Application, Cont'd.





### Unit Model Key

Code Items  
Unit Code



MUY • Universal Cabinet

03 • 300 CFM  
04 • 400 CFM  
06 • 600 CFM  
08 • 800 CFM  
10 • 1000 CFM  
12 • 1200 CFM

**Voltage**  
C • 115-1-60  
D • 208-1-60  
E • 230-1-60  
F • 277-1-60

**Type**  
A - EC Motor, 3 Discrete Speed Inputs, Pot Field  
B - EC Motor VAR Airflow for 0-10 VDC, 4-20 HA Input

#### 2-Pipe or 4-Pipe Coils

##### Two-pipe Cooling and Heating or Four-pipe Cooling Coil

B • 4 Row

##### Four-pipe Heating Coil

Y • None  
6 • 1 Row Water Heating

##### Connections

Y • No heating  
S • Same end

##### Materials

Y • Std

#### Voltage

B • 24V

#### System / Thermostat

##### Function Control

G • 2-Pipe Heat Only  
H • 2-Pipe Cool Only  
K • 2-Pipe Heat and Cool  
R • 4-Pipe Heat and Cool

##### Thermostat

N • Basic 24V Digital, Non-Programmable, ACO

# Universal Modular Hi-Rise Series

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### Ratings and Listings

#### AHRI Certification

IEC's MUY Modular Hi-Rise Series units are certified in compliance with Air-Conditioning, Heating, and Refrigeration Institute (AHRI) industry standard AHIR-440 for room fan coil units. Approved standard ratings are tabulated below.



#### C-ETL-US Listing

IEC's MUY Modular Hi-Rise Series units are listed by ETL. The C-ETL-US listing signifies that IEC's fan coil units have been examined by ETL and are in compliance with both the U.S. and Canadian applicable standards.



#### EC Motor Standard Ratings

Model	Size	Coil Rows	Air Flow Rating (SCFM)	Water Pressure Drop (ft. water)	Total Cap. (Btuh)	Sensible Cap. (Btuh)	Power Input (Watts)
MUY	03	3	360	6.0	11,500	7,000	75
	03	4	360	12.0	12,200	7,300	85
	04	3	430	10.0	13,600	9,000	105
	04	4	420	15.0	15,600	9,600	105
	06	3	590	15.6	21,900	14,000	70
	06	4	590	20.0	25,400	15,300	90
	08	3	800	17.0	27,500	17,800	165
	08	4	800	28.0	31,400	19,500	175
	10	3	1,050	25.0	37,700	24,500	300
	10	4	1,000	20.0	42,200	25,600	345
	12	3	1,250	32.0	43,100	28,400	400
	12	4	1,240	30.0	46,500	30,500	455

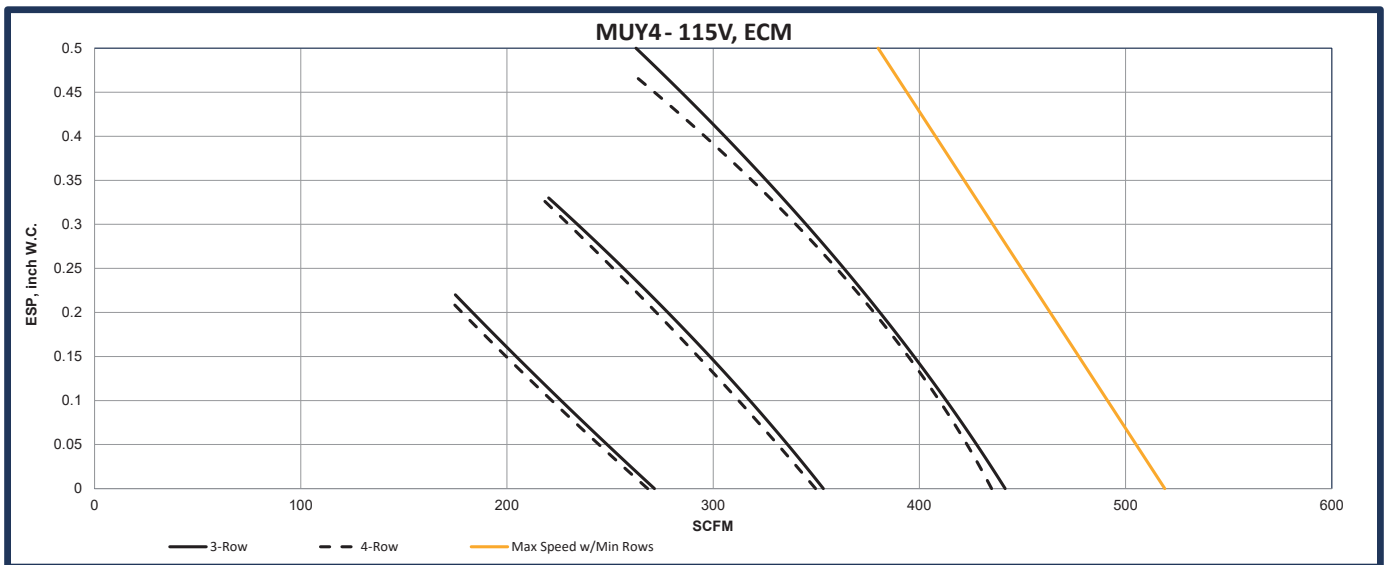
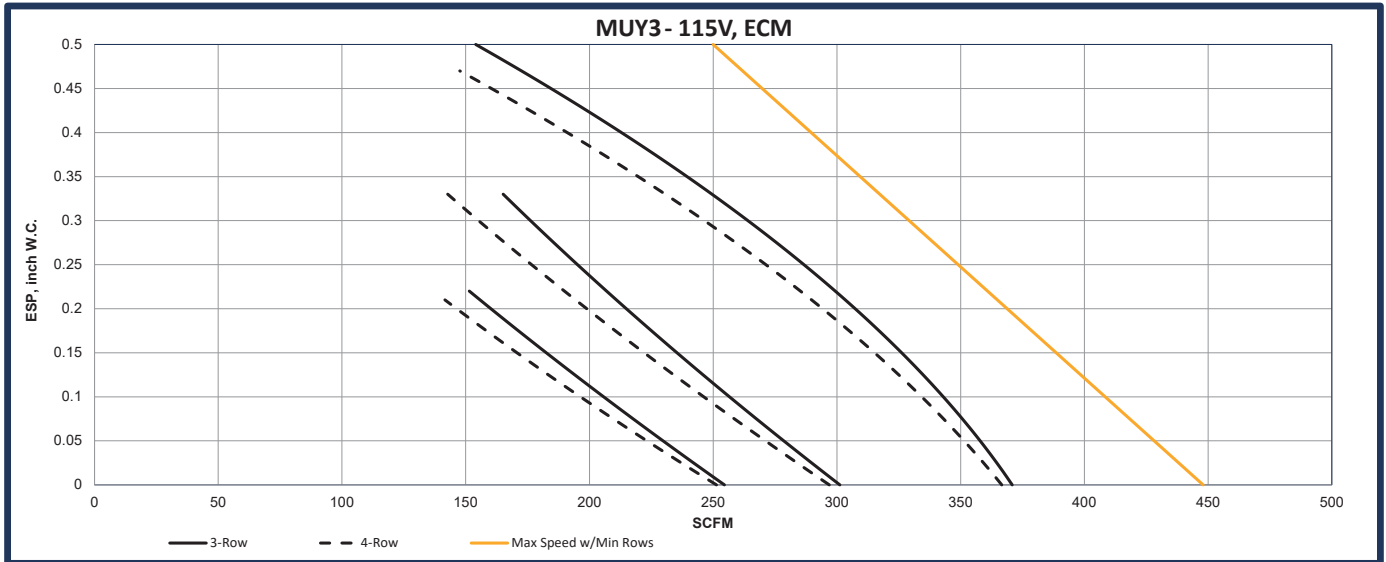
- NOTES: 1. Ratings are based on 80°F DB and 67°F WB EAT, 45°F EWT, 10°F water temperature rise, high fan speed, motor voltage 115/1/60, and airflow under dry coil conditions.  
 2. For all application ratings, use IEC's computer selection program, the quick-selection ratings provided in this catalog, or contact your local IEC representative.  
 3. For additional information, please consult AHRI's website at www.ahrinet.org.  
 4. Test performed at AHRI 440 conditions WITHOUT filter, supply, grille and panel.

#### Hydronic Heating – Base Capacity

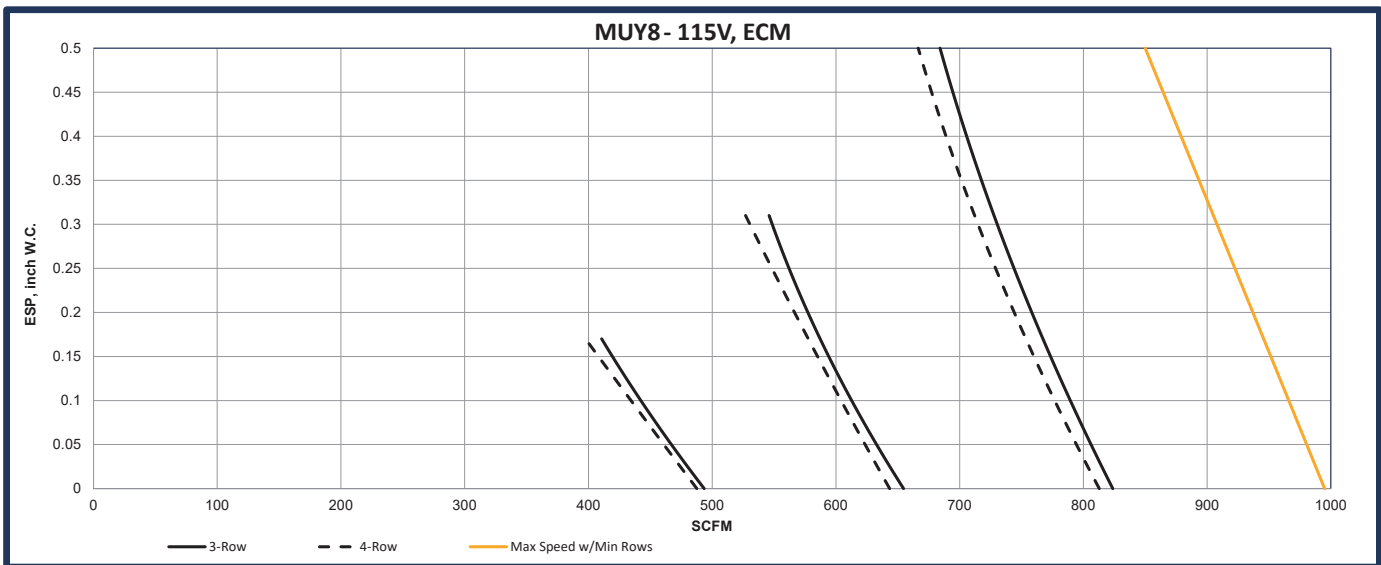
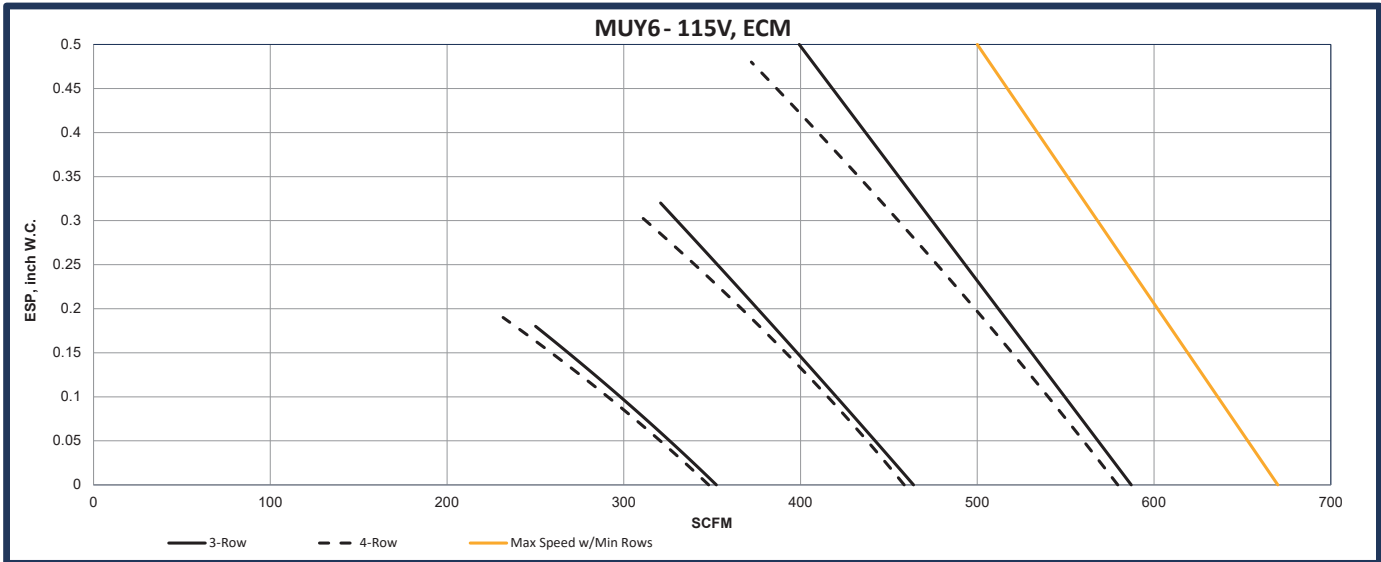
Rows	EWT	Size	GPM						
			0.5	1.0	2.0	3.0	4.0	6.0	8.0
1-Row	160°F	03	11.3	14.0	15.8	16.5	-	-	-
		04	11.5	14.4	16.3	17.1	-	-	-
		06	-	19.8	23.3	24.7	25.4	-	-
		08	-	20.1	23.9	25.4	26.2	-	-
		10	-	25.2	31.1	33.6	34.9	-	-
		12	-	25.4	31.6	34.1	35.5	-	-
2-Row	160°F	03	15.9	21.0	24.2	-	-	-	
		04	16.2	21.8	25.6	27.0	-	-	
		06	-	27.2	35.5	37.4	39.0	-	-
		08	-	28.0	36.1	39.5	41.1	-	-
		10	-	33.2	45.5	50.8	53.8	56.9	-
		12	-	33.7	46.6	52.5	55.8	59.3	61.2
3-Row	140°F	03	14.3	20.0	23.5	24.8	-	-	
		04	14.6	20.8	25.0	26.5	-	-	
		06	-	25.1	32.9	36.0	37.7	-	-
		08	-	25.7	34.6	38.3	40.3	-	-
		10	-	-	41.7	47.8	51.1	54.6	-
		12	-	-	42.9	49.7	53.5	57.7	-
4-Row	140°F	03	-	21.0	25.1	-	-	-	
		04	-	22.0	27.1	28.9	-	-	
		06	-	27.6	36.9	40.4	42.1	-	-
		08	-	28.4	39.3	43.7	46.0	-	-
		10	-	-	-	53.1	57.1	61.2	63.3
		12	-	-	-	55.7	60.5	65.5	68.1

- NOTES: 1. All base hot water capacities are given in thousands of BTUH (MBH).  
 2. Ratings are based on nominal CFM at 70°F EAT and 160°F EWT.  
 3. For information regarding performance at specific conditions, please use the IEC rating program or consult your IEC representative for assistance.

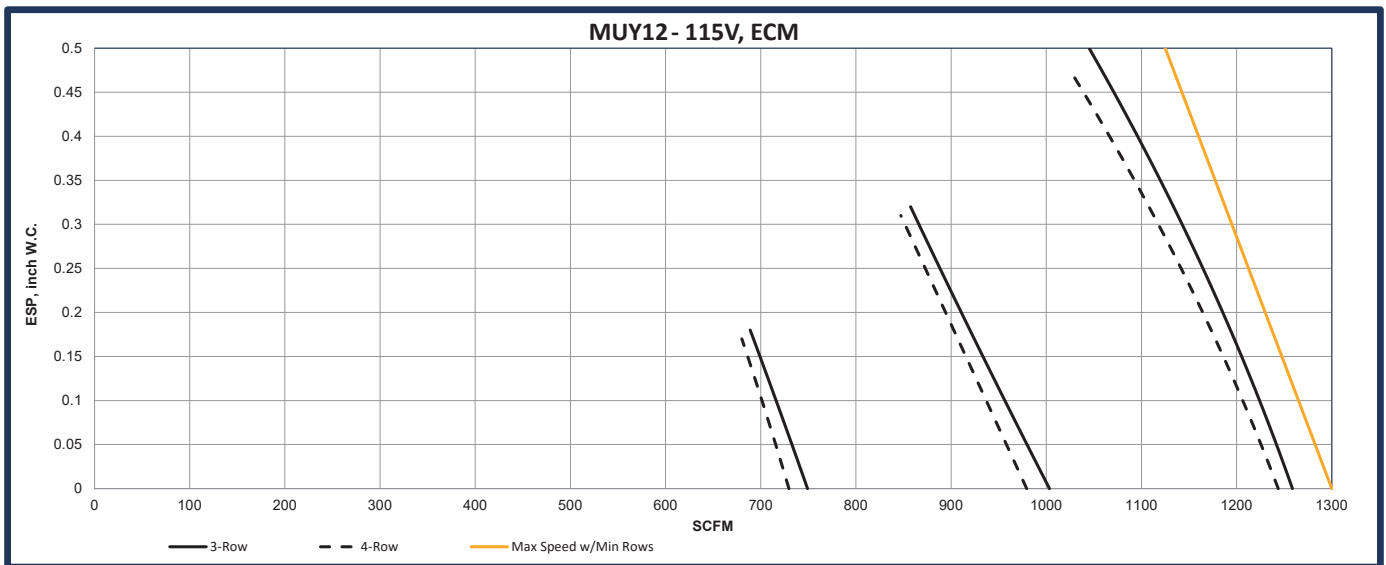
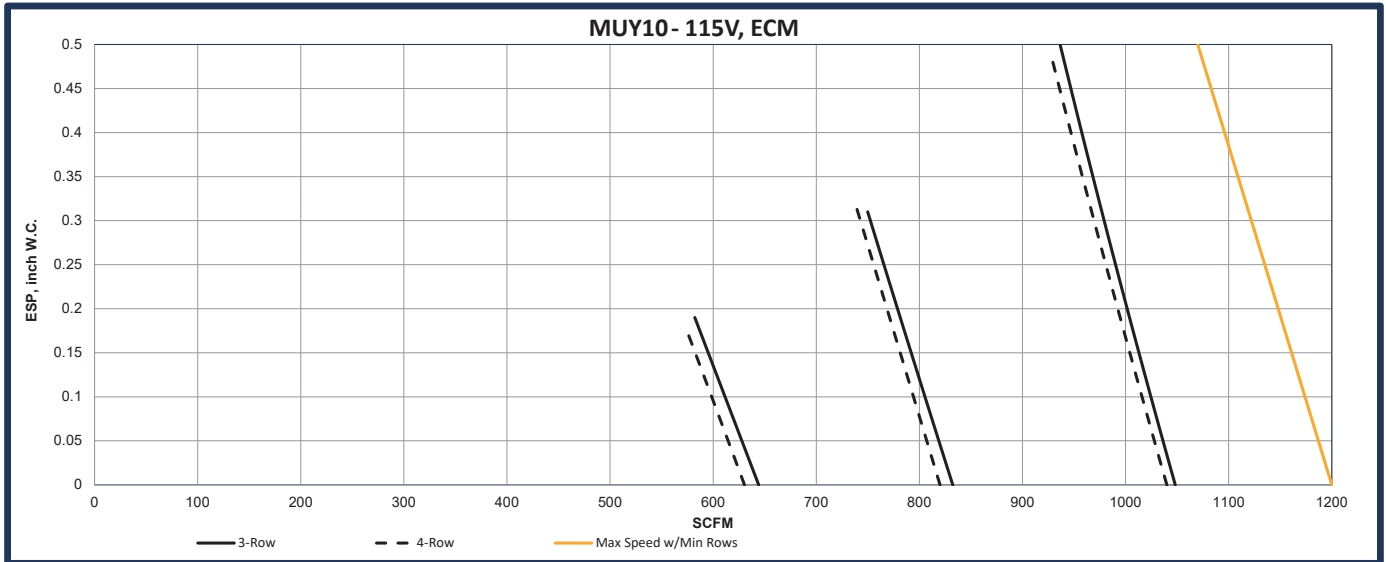
### Fan Performance Curves



### Fan Performance Curves, Cont'd.



### Fan Performance Curves, Cont'd.



# Universal Modular Hi-Rise Series

## FAN COIL TECHNICAL CATALOG

### Motor Information

#### Thermal Overload Protection

All motors furnished by IEC contain internal thermal overload protection. The overload automatically resets when the temperature returns to a safe limit.

#### ECM Motor Performance Data

Voltage	Fan Speed	Unit Size	03	04	06	08	10	12
		Nominal HP	1/4	1/4	1/4	1/2	1/2	1/2
115V 60 Hz 1-Phase	High	Amps	0.64	0.94	1.60	2.00	3.20	5.21
		Watts	44	68	120	159	257	461
	Medium	Amps	0.43	0.58	0.92	1.18	1.78	2.97
		Watts	28	40	64	89	136	259
	Low	Amps	0.32	0.37	0.54	0.61	0.96	1.4
		Watts	19	23	35	42	69	129
208-240V 60HZ 1-Phase	High	Amps	0.41	0.61	1.02	1.32	1.94	3.27
		Watts	40	67	121	168	253	455
	Medium	Amps	0.30	0.38	0.58	0.79	1.11	1.77
		Watts	25	39	63	96	135	245
	Low	Amps	0.25	0.27	0.34	0.43	0.58	0.83
		Watts	19	23	31	48	65	119
277V 60 Hz 1-Phase	High	Amps	0.36	0.51	0.78	1.10	1.57	2.61
		Watts	39	67	116	170	260	447
	Medium	Amps	0.29	0.36	0.49	0.64	0.91	1.42
		Watts	24	39	63	95	143	243
	Low	Amps	0.25	0.27	0.33	0.29	0.45	0.65
		Watts	18	22	34	39	64	110

NOTES: Total motor Amps and Watts are shown.  
All data is based on 3R/14 FPY dry coil with deco, filter and supply grill @ 0.00" ESP.

## Sound Power Data

### MUY (AHRI 260) Sound Power Data

UNIT SIZE	RATING	FAN SPEED	CFM	SOUND POWER LEVEL, L <sub>w</sub> (dB reference one picowatt)							A-wgt (dBA)
				125 Hz	250 Hz	500 Hz	1K Hz	2K Hz	4K Hz	8K Hz	
3	CASING RADIATED w/#1 Style RA Panel & DD Alum. Grille	H	360	61	50	49	40	30	31	37	49
		M	310	57	47	45	36	27	31	37	46
		L	280	55	44	43	33	26	31	37	44
	DUCTED DISCHARGE w/#1 Style RA Panel & DD Alum. Grille	H	360	52	50	42	30	27	31	37	44
		M	310	48	46	38	28	26	31	37	42
		L	280	46	43	36	24	24	30	37	41
4	CASING RADIATED w/#1 Style RA Panel & DD Alum. Grille	H	460	60	53	50	43	35	33	38	51
		M	385	57	50	47	40	31	32	38	48
		L	290	53	46	44	36	28	32	38	45
	DUCTED DISCHARGE w/#1 Style RA Panel & DD Alum. Grille	H	460	54	49	47	40	31	33	37	47
		M	385	52	46	44	37	28	32	37	45
		L	290	49	42	40	33	26	32	38	43
6	CASING RADIATED w/#1 Style RA Panel & DD Alum. Grille	H	580	65	55	50	42	35	33	37	53
		M	500	61	50	47	39	32	32	37	49
		L	400	57	45	43	33	28	31	37	45
	DUCTED DISCHARGE w/#1 Style RA Panel & DD Alum. Grille	H	580	58	55	48	38	33	34	37	50
		M	500	54	51	46	34	30	32	37	47
		L	400	48	44	41	28	26	31	37	42
8	CASING RADIATED w/#1 Style RA Panel & DD Alum. Grille	H	810	70	59	56	51	44	39	38	58
		M	580	63	53	50	44	37	34	38	52
		L	430	56	46	45	37	30	32	38	46
	DUCTED DISCHARGE w/#1 Style RA Panel & DD Alum. Grille	H	810	62	59	54	45	39	37	38	55
		M	580	56	52	47	38	32	33	37	48
		L	430	49	45	41	31	27	31	37	43
10	CASING RADIATED w/#1 Style RA Panel & DD Alum. Grille	H	1045	67	63	59	54	51	46	38	61
		M	930	65	60	57	51	48	42	38	58
		L	670	58	53	50	44	39	33	37	51
	DUCTED DISCHARGE w/#1 Style RA Panel & DD Alum. Grille	H	1045	66	62	57	53	48	44	39	59
		M	930	63	59	55	48	45	41	37	56
		L	670	56	51	47	39	35	32	37	48
12	CASING RADIATED w/#1 Style RA Panel & DD Alum. Grille	H	1145	66	64	59	56	52	47	38	62
		M	950	64	60	57	52	49	42	37	59
		L	805	62	57	55	49	45	38	37	56
	DUCTED DISCHARGE w/#1 Style RA Panel & DD Alum. Grille	H	1095	63	67	57	54	47	44	39	61
		M	950	62	58	55	48	43	40	37	55
		L	805	59	55	51	44	39	36	37	52

- NOTES: 1. Unit Test Configuration: Front Return/ Front Supply, 4 Row, 14 FPI Coil, High Speed, 115VAC Motor, 1" Return Air Panel, DD Aluminum Grille, 1/2" dual density fiberglass insulation.  
2. Casing Radiated Testing per AHRI 260-2001: 4.2.2.3 Casing radiated with free inlet, Sound Rating of Ducted Air Moving and Conditioning Equipment.  
3. Ducted Discharge Testing per AHRI 260-2001: 4.2.2.1 Ducted discharge, Sound Rating of Ducted Air Moving and Conditioning Equipment.  
4. Sound power data is expressed in decibels, dB RE: 1 x 10<sup>-12</sup> w (picowatts).

# Universal Modular Hi-Rise Series

## FAN COIL TECHNICAL CATALOG

### Sound Power Data, Cont'd.

#### MUY (AHRI 350) Sound Power Data

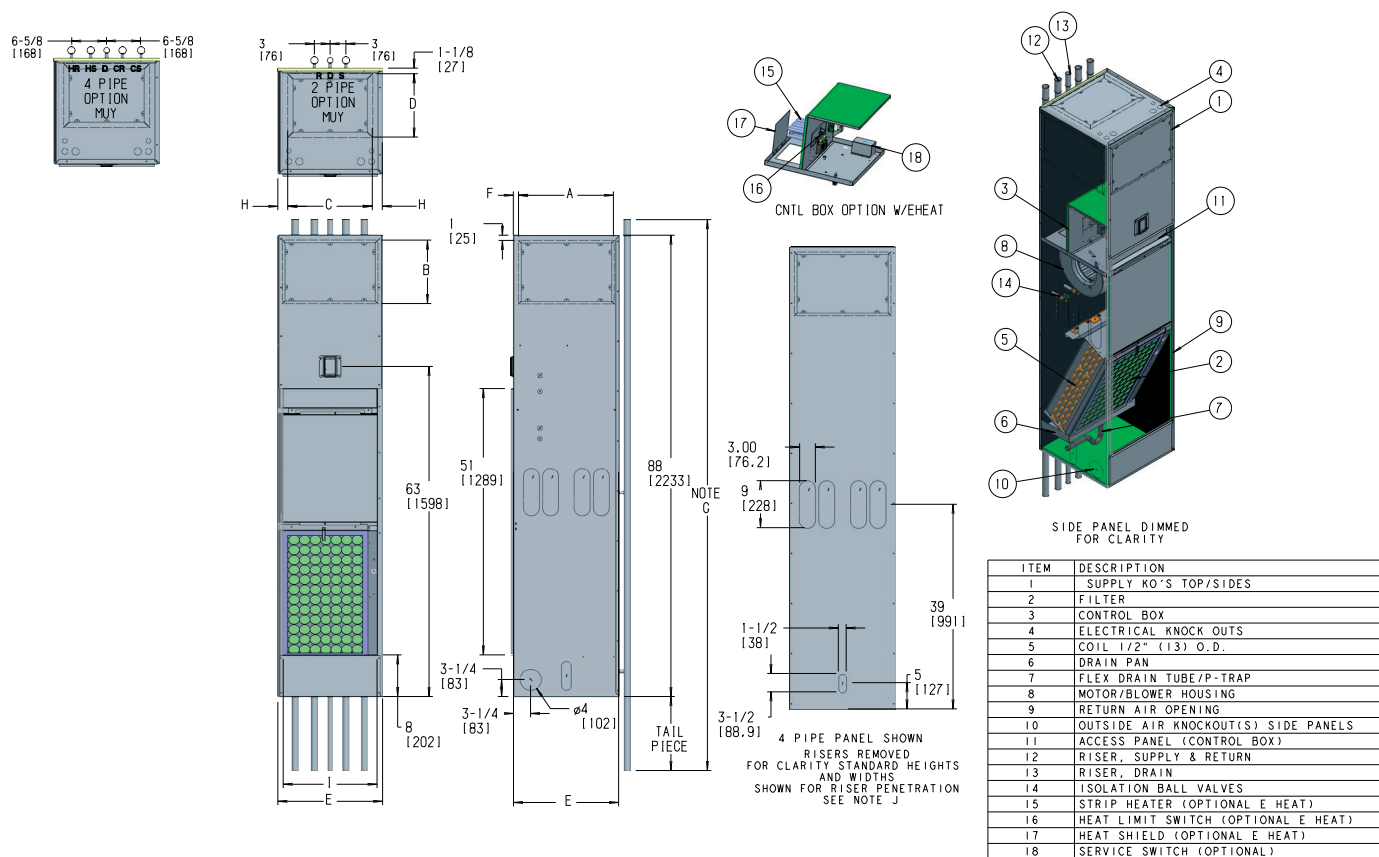
UNIT SIZE	RATING	FAN SPEED	CFM	SOUND POWER LEVEL, L <sub>w</sub> (dB reference one picowatt)						A-wgt (dBA)	
				125 Hz	250 Hz	500 Hz	1K Hz	2K Hz	4K Hz		8K Hz
3	CASING RADIATED w/#1 Style RA Panel & DD Alum. Grille	H	360	63	53	50	42	34	33	38	51
		M	310	59	50	47	38	30	32	38	48
		L	280	56	47	45	35	27	32	38	46
4	CASING RADIATED w/#1 Style RA Panel & DD Alum. Grille	H	460	62	56	53	47	39	36	38	54
		M	385	59	52	50	44	35	33	38	51
		L	290	56	49	47	40	30	32	38	47
6	CASING RADIATED w/#1 Style RA Panel & DD Alum. Grille	H	580	69	58	53	46	41	38	37	56
		M	500	65	54	50	43	37	35	36	53
		L	400	59	48	46	37	30	31	36	47
8	CASING RADIATED w/#1 Style RA Panel & DD Alum. Grille	H	810	72	62	59	53	49	45	40	61
		M	580	65	56	53	47	41	37	36	54
		L	430	60	49	47	39	32	31	36	48
10	CASING RADIATED w/#1 Style RA Panel & DD Alum. Grille	H	1035	72	65	62	58	55	51	42	64
		M	820	67	60	57	52	48	44	36	59
		L	590	61	56	51	44	39	33	34	52
12	CASING RADIATED w/#1 Style RA Panel & DD Alum. Grille	H	1145	71	68	63	60	56	53	43	66
		M	950	68	63	61	55	52	48	39	62
		L	805	65	59	58	52	48	43	37	59

- NOTES: 1. Unit Test Configuration: Front Return/ Front Supply, 4 Row, 14 FPI Coil, 0.0" ESP @ High Speed, 115VAC Motor, 1" Return Air Panel, DD Aluminum Grille, 1/2" dual density fiberglass insulation.  
 2. Casing Radiated Testing per AHRI 350-2001: 4.2.2.3 Casing radiated with free inlet, Sound Rating of Ducted Air Moving and Conditioning Equipment.  
 3. Sound power data is expressed in decibels, dB RE:  $1 \times 10^{-12}$  w (picowatts).



### Submittal Data

#### MUY – Universal Modular Hi-Rise Concealed



Unit Model	Dimension - Inches (Millimeters)								Connections		Unit Weight
	Side/Front Supply		Top Supply Single		Dimensions						
	A	B	C	D	E	F	H	I	Coil	Drain	
MUY 03	14 (356)	12 (305)	14 (356)	10 (254)	17 (432)	1-1/2 (38)	1-1/2 (38)	14 (356)	1/2" (13) SWT x Hose Adapter	7/8" (22) ID EPDM Tube	180 (82)
MUY 04											225 (102)
MUY 06	18 (457)	12 (305)	16 (406)	12 (305)	20 (508)	1 (25)	2 (51)	18 (457)			240 (109)
MUY 08											260 (118)
MUY 10	22 (559)	16 (406)	18 (457)	16 (406)	24 (610)	1 (25)	3 (76)	22 (559)			280 (127)
MUY 12											305 (138)

- NOTES:**
- A. Units are fabricated of galvanized steel with a 16 GA galvanized fan deck.
  - B. All risers are insulated.
  - C. Thermostats shipped loose for field installation.
  - D. Risers are factory piped to coil with valves as specified.
  - E. Blower, motor, valves coil, and filter are accessible through the return air opening.
  - F. Unit and control box are insulated.
  - G. Riser length = [(floor to floor)] + 2 inches (51). Maximum riser length = 119 inches (3023). Consult riser submittals for specifications.
  - H. Maximum riser diameter is 3 inches (76). If larger diameters are required, consult the factory.
  - I. Expansion loops in hot water heating circuits as required.
  - J. Riser slots knock-outs provided on 3 sides of cabinet for coil connection to permit expansion and contraction of risers. Coil connections to be at the center of slots.
  - K. Drain knock-outs on 3 sides of cabinet.
  - L. Dimensions are in inches, dimensions in ( ) are in millimeters.

# Universal Modular Hi-Rise Series

## FAN COIL TECHNICAL CATALOG

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### Coil Data

#### Coil Surface Area

Size	Height (in)	Length (in)
03	25	11
04	25	11
06	27.5	15
08	27.5	15
10	30	19
12	30	19

#### Coil Weight (lbs) (Aluminum fins)

Size	2-Row	3-Row	4-Row	5-Row	6-Row
03/04	17.1	21.5	25.8	30.2	31.6
06/08	23.1	29.6	36.2	42.7	49.3
10/12	27.4	36.2	44.9	53.7	62.4

NOTES: Weights do not include headers or extras.

### Standard Features and Options

Features and Options	Standard	Factory Installed Option	Field Installed Option
<b>Coils</b>			
4 Rows 2-pipe	X		
4/1 Rows CW/HW		X	
Manual Air Vent	X		
<b>Drain Pan</b>			
Stainless Steel Externally Coated with 2 Part Closed Cell Form	X		
Antimicrobial Coating for Drain Pans		X	
<b>Fin Material</b>			
Aluminum with Galvanized End Sheets	X		
<b>Nichrome Wire Strip Electric Heater</b>			
		X	
<b>Indoor Air Quality</b>			
1" Throwaway Non-Woven Synthetic	X		
1" Pleated MERV 8		X	
Bipolar Ionizer		X	
<b>Insulation</b>			
1/2" Standard Fiberglass	X		
<b>Motor Type</b>			
EC Motor	X		
<b>Motor Voltage</b>			
120/1/60	X		
208-240/1/60		X	
277/1/60		X	
<b>Supply Grilles</b>			
Double Deflection, Supply Grille (Aluminum or Arctic White)			X (J, K)
Double Deflection, Supply Grille with Opposed Blade Dampers (Aluminum or Arctic White)			X (L, M, D)
<b>Return Air Panel</b>			
Standard Height with or without Frame			X (F, H)
<b>Paint Options (Return Air Panel, Supply Air Grille)</b>			
Arctic White	X		
Special Color			X
<b>Cabinet Modifications</b>			
Standard Height is 88"	X		
<b>Risers</b>			
Risers Shipped Loose	X		X
<b>Hose Kits</b>			
Flex Hose and Connections	X	X	
<b>Controls</b>			
24V Controls	X		
Thermostats			X
Surface Mounted with Tile Ring			X
Wall/Remote Mounted			X
Service Switch		X	
Condensate Float Switch		X	

## Standard Features and Options, Cont'd.

### Control Packages

#### Controls

IEC offers a control for most customer needs. Additional controls and devices are available to meet even the most demanding operating logic.

#### Low Voltage Control (24V)

The 85 Control Board offers simplified install and service with its plug-in connections and QR code for quick wiring diagram reference. It also offers LED diagnostics and built-in design flexibility for added features such as staged cooling or BAS signal input. The 85 Control board is available with most control schemes.

#### 85 Control Board Standard Features

- Simplified plug connections
- PSC or ECM control
- LED diagnostics (See IOM-051 for detailed LED function and outcome)
- QR code to wire diagram for ease of troubleshooting
- Compatibility with most actuator types (excludes proportional or modulating actuators)
- Removable thermostat connector

#### 85 Control Board Options

- ECM fan speed adjustment
- Staged Cooling: compatible with IEC Venture Wi-Fi Thermostat (E055 - 1520330)
- BAS signal input to interrupt fan and actuators
- Fusing and service switch with electric heat
- Changeover or aquastat sensor
- Condensate switch LED indication
- Damper control

#### Condensate Float Switch

This switch shuts down the motor, actuator and electric heat (if applicable) when the water level in the drain pan reaches an unsafe level.

#### Service Switches

We offer concealed service switches for use by maintenance and service personnel to shut off the power while working on the unit.

#### Fusing

We offer incoming power fusing for all units as well as blower motor and control sub-fusing (single power source wiring).

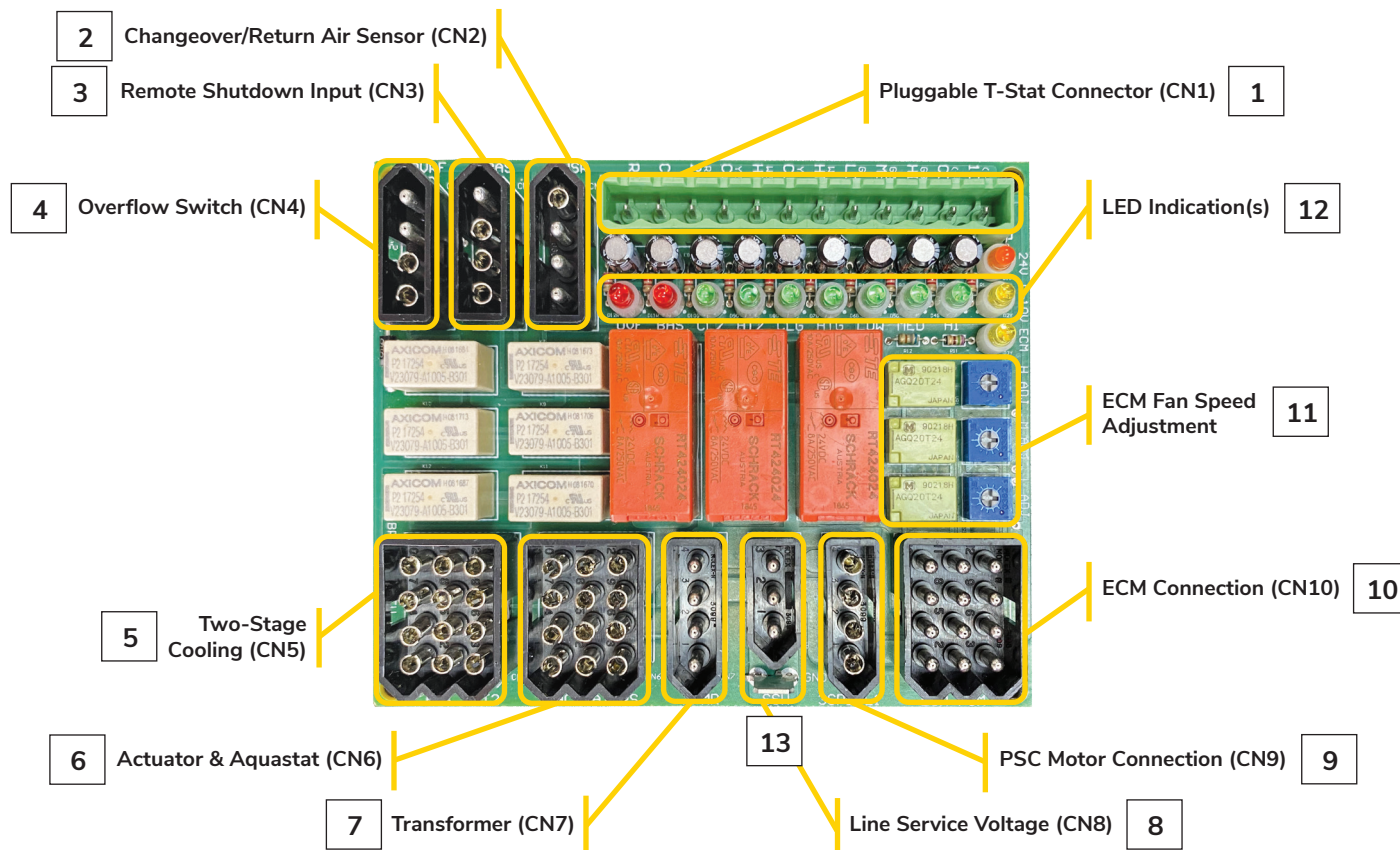
#### Control Options

- 24V control packages
- Service switches
- Minimum room temperature thermostats (Special Quote)

### Standard Features and Options, Cont'd.

#### Controls Packages, Cont'd.

#### 85 Control Board



1	CN1 – 24V Customer Input (Thermostat)
2	CN2 – Changeover/Return Air Sensor
3	CN3 – Remote Shutdown Input
4	CN4 – Condensate Overflow Switch
5	CN5 –Two Stage Cooling
6	CN6 – Actuator & Aquastat
7	CN7 – Transformer
8	CN8 – Line Service Voltage
9	CN9 – PSC Motor Connection
10	CN10 – ECM Connection
11	ECM Fan Speed Adjustment
12	LED Diagnostics
13	Ground Connection

### Standard Features and Options, Cont'd.

#### IEC Digital Non-Programmable Thermostat

- 2- or 4-pipe
- 3-speed fan
- Digital display
- Backlit
- Dry contact NO/NC (Condensate Float)
- Auto changeover
- Auto changeover with sensor (Lockout HT/CL 2-pipe application)
- HT/CL indicator light
- Adjustable deadband
- Setpoint only display
- Celsius or Fahrenheit display
- Remote sensor
- Keypad lockout (optional)

#### Control Mounting Options:

**Surface mounted**—This requires a tile ring mounted above the return air panel and quick-connect plug wiring on the thermostat. After the dry wall has been applied to the cabinet, the thermostat plug will be attached to a matching plug in the unit and the thermostat will be fastened to the tile ring.

**Remote wall mounted**—Thermostat is mounted on a wall away from the cabinet and wiring from the unit to thermostat is done in the field.

#### Thermostat

System Compatibility
2-Pipe, Heat Only
2-Pipe, Cool Only
2-Pipe, Heat/Cool
4-Pipe, Heat & Cool
Features
24VAC
Non-Programmable
Surface Mount
Remote/Wall Mount
3-Speed Fan
Continuous Fan
Cycling Fan
Remote Temp Sensor
Digital Display & Buttons
Local Temp. Set-Back
Water Temp. Purge Cycle
Changeover Pipe Sensor

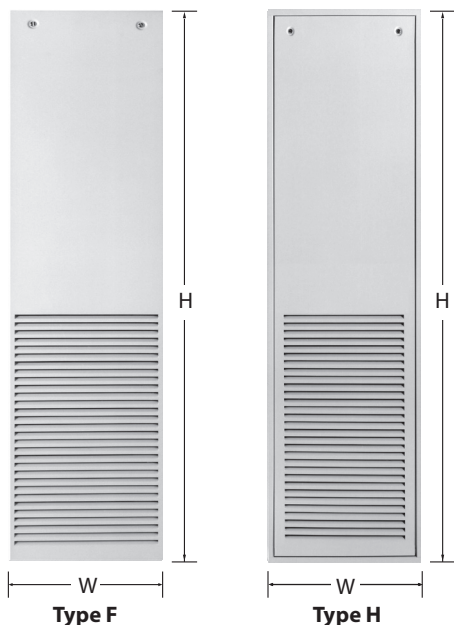
\*LEGEND: N • Basic 24V Digital, Non-Programmable, ACO



Basic 24V Digital Non-Programmable Series

### Standard Features and Options, Cont'd.

#### Return Air Panels



Panel Type	Unit Size and Dimensions					
	03/04		06/08		10/12	
	H	W	H	W	H	W
F	52.5 (1334)	15.5 (394)	52.5 (1334)	19.5 (495)	52.5 (1334)	23.5 (597)
H	51.7 (1313)	15.1 (384)	51.7 (1313)	19.1 (485)	51.7 (1313)	23.1 (587)

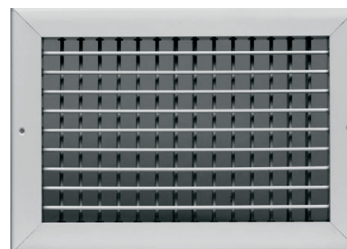
NOTES: Dimensions shown in inches and millimeters.

Return air panels for the Universal Mod units are designed to be applied over a single sheet of drywall. If multiple sheets of drywall are being used or if drywall is extended away from the cabinet, panel style H should be used.

#### General Specifications:

- Heavy gauge galvanized steel with arctic white powder-coat finish
- Rear of panel is insulated with 1/2" dual density fiberglass
- Integral stamped steel return air grille
- 1/4 turn tamper-proof fasteners for panel removal
- Removal of panel provides service access to all internal components

#### Supply Air Grilles



Unit Size	Recommended Grille Sizes		
	Single Supply	Double Supply	Top Supply
03/04	14 (356) x 12 (305)		
06/08	18 (457) x 12 (305)		
10/12	22 (559) x 16 (406)		

#### General Specifications:

Frame and blades are 6063 extruded aluminum alloy with 200-R1 satin anodized finish. The frame has a typical wall thickness of .050" and is separated from the blades with injection-molded nylon bushings. This method of assembly minimizes corrosion and vibration. The frame mounting holes are dimpled, allowing for a counter-sunk fastener head appearance.

All blades are airfoil in design, individually adjustable and spaced 3/4" on center. At the outer edge of the frame is a specially engineered channel which retains an extruded flexible vinyl bulb gasket that produces a positive air seal at the mounting surface, minimizing smudging.

An optional opposed blade damper is screwdriver-operated through the face of the unit and has the same extruded aluminum construction and injection-molded nylon bushings.

The unit achieves an effective area of 80% with the blades set at a 0° pattern, thus eliminating high velocity and pressure drop at the grille face. Wider deflection with reduced throw may be achieved at the 22° and 45° blade settings with slightly increased sound levels.

Suitable for sidewall application. Available in clear anodized, white or a variety of custom colors. Contact the factory for available optional colors and color chart.

### Standard Features and Options, Cont'd.

#### Filters

#### Filter Static Resistance (in w.c.)

Unit Size	Nominal 1" Filter Size <sup>2</sup>
03	12-1/2 (316) X 24-1/4 (616)
04	12-1/2 (316) X 24-1/4 (616)
06	16-1/4 (413) X 26-3/4 (679)
08	16-1/4 (413) X 26-3/4 (679)
10	20-1/2 (521) X 29-1/4 (743)
12	20-1/2 (521) X 29-1/2 (743)

Unit Data			Filter Pressure Drop		
Model	Unit Size	Nominal CFM	1" Throwaway	1" Permanent	1" Merv 8
M*Y	03	300	0.034	0.049	0.11
	04	400	0.045	0.074	0.13
	06	600	0.045	0.074	0.13
	08	800	0.058	0.114	0.16
	10	1000	0.056	0.106	0.15
	12	1200	0.065	0.141	0.17

NOTES: 1. Sizes shown are nominal ordering sizes.  
2. Dimensions shown in inches and millimeters.

#### Bipolar Ionizer Specifications

##### SPECIFICATIONS:

Airflow Capacity: ..... 2,400 CFM  
 Pressure Drop: ..... Less than 0.01 In. WG  
 Housing Material: ..... ABS  
 Weight: ..... 0.2 lbs.  
 Maximum Operating Temperature: ..... 200° F (93°C)  
**Electrical:**  
 Voltage: ..... 24V AC (60Z)  
 Power Consumption: ..... Less than 1 watt  
 Frequency: ..... 50/60 hertz  
 Over Current Protection: . 500mA Glass Cartridge Fuse  
 Lead Wires ..... 50"(L)

##### Ionization Output:

Mode of Operation ..... Needlepoint Type  
 Needle Configuration: ..... Brush Type

##### DIMENSIONS: See Figure 1

##### APPROVALS:

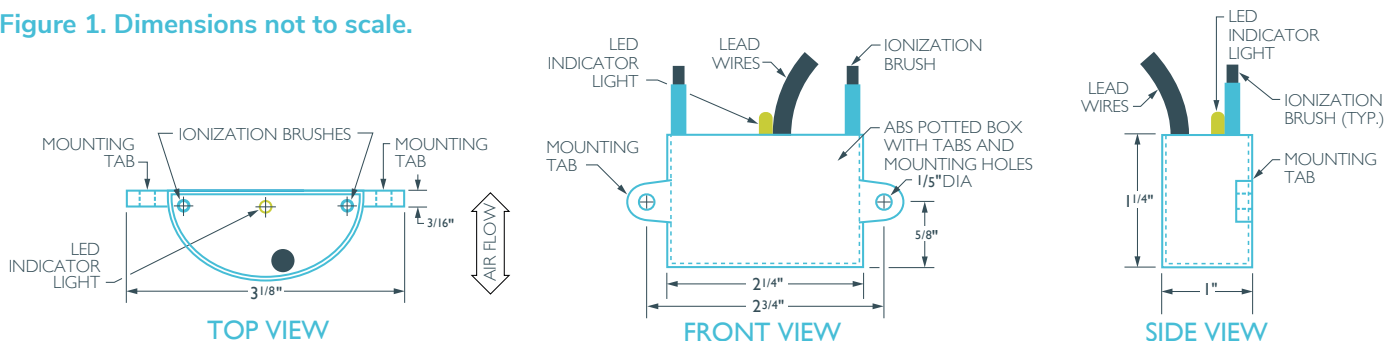
Intertek/ETL tested in accordance with:

- UL 867: Electrostatic Air Cleaners
- UL 2043: Fire Test for Heat and Visible Smoke

##### UL Validated:

- 2998: Zero Ozone Emissions

Figure 1. Dimensions not to scale.





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# Universal Modular Hi-Rise Series

## FAN COIL TECHNICAL CATALOG

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# Universal Modular Hi-Rise Series

## FAN COIL TECHNICAL CATALOG

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Contact your local IEC Sales Representative for further details and pricing applicable to this product. Visit our website ([iec-okc.com](http://iec-okc.com)) to find your local IEC Sales Rep.

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