Modular Hi-Rise Replacment Series
FAN COIL TECHNICAL CATALOG

IEC International Environmental

A NIBE GROUP MEMBER

MIY – MINI*ReStora*MOD™

MRY – *ReStora*MOD®

Build your reputation on ours

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Portfolio

The Modular Hi-Rise Replacement Series allows for the retrofit of aging hi-rise fan coils without waiting for a complete whole room renovation budget. These products are designed to retrofit old IEC units and most competitive units by sliding into existing cabinets that have had their internal components removed. The fast, minimally disruptive installation eliminates downtime, offers energy savings, as well as features that can enhance indoor environmental quality.

MIY – MINI*ReStora*MOD™ Hi-Rise 380 CFM

The MINI*ReStora*MOD™ fan coil unit comes in one size that is designed to fit into many competitive units where space is tight. The product is available with a standard EC motor to save energy and provide quiet operation.

MRY – *ReStora*MOD® Hi-Rise 300 CFM to 1200 CFM

The *ReStora*MOD® fan coil unit comes in several sizes that are designed to fit into IEC units manufactured after 1980 and many competitive units where more space is available in the existing cabinet. The product is available with an optional EC motor to save energy and provide quiet operation.

Features and Benefits

Versatility in Design and Installation

Modular Hi-Rise replacement fan coil units are designed specifically for replacement or retrofit applications. Since these units are designed to slide into existing, older cabinets their unit arrangements will be somewhat dependent upon the configurations of those existing units. Our Modular Hi-Rise Replacement Units still offer a wide variety of options that can be delivered as a factory-assembled and integrated package. These units provide minimally disruptive installation, while also providing low visual impact in the room. A wide variety of finish options are available to help the product blend with any décor.

MIY – MINI*ReStora*MOD™

Design Features

1. 18 gauge galvanized steel cabinet
2. Double-deflection supply air grille
   - Removable acoustical return air block-off/ access panel (not shown)
3. Tilt-out and removable control box cover (MIY)
4. Powder-coated return air access panel
5. Removable, slide-out motor and blower assembly (MIY)
6. Removable motor and blower assembly with quick-connect plug (MRY)
7. Removable coil draw-through coil*
8. Insulated drain pan with p-trap (not shown)

* Available applications are 2-pipe, 4-pipe, 2-pipe auxiliary electric heat, and 2-pipe total electric heat

MRY – *ReStora*MOD®

Features and Benefits, Cont'd.

Application Fit

- Partially-concealed, slide in replacement cabinets with up to 9 standard airflow configurations (many more optional configurations) provide solutions for multiple retrofit applications
- A variety of aesthetically pleasing grille and finish options will blend with most decor
- Units are designed for quiet operation

Design Flexibility

- Product integrated into IEC's computer rating program for quick performance calculations to aid in unit selection
- Wide variety of coil configurations to match the heating and cooling loads of the space
- Standard EC motor/blower assemblies are available for better energy efficiency are available to meet the needs of applications where ductwork is required
- Wide variety of valve packages factory/field-installed to meet desired control specifications
- Higher efficiency MERV rated filter media available to address IAQ requirements
- Extensive offering of control options available, including 24V and line voltage control schemes
- Variety of insulation material available to address IAQ or sound concerns
- Stainless steel, insulated drain pan with pre-formed rubber p-trap

Ease of Installation

- Units slide into a variety of existing cabinets configurations where internal components have been removed for fast installation
- Quick Finish Wall Panel covers rough opening to eliminate the need for finish work such as carpentry, drywall, painting, etc.
- MIY control box door is at eye level for ease of field wiring
- Proper project coordination allows for finished installation in 4 hours or less with minimal clean-up.

Ease of Service

- Filters are easily accessible by removing return air panel
- Slide-out motor/blower deck is removable for ease of service (MIY Only)
- Flip-down control box door is also removable for faster service (MIY Only)
- Coil assemblies are removable for easier cleaning and maintenance
- All serviceable components and assemblies are designed to be removed in 15 minutes or less

Quality and Safety

- Rigorous multi-point inspection at the factory for trouble-free start-up
- ETL listed for safety compliance to UL 1995, US & Canada
- AHRI certified for performance to AHRI 440
- All hydronic coils are pressure tested to 300 psig

Product Application

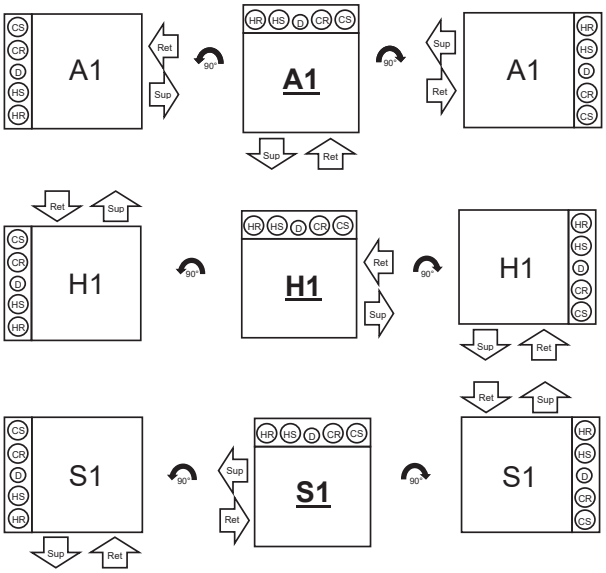
Versatile Standard Unit Arrangement Options

The Modular Hi-Rise Replacement Series is available in a number of different unit configurations to fit most hi-rise retrofit applications. When selecting the best unit design configuration for a specific application, the footprint of the existing cabinet, as well as the stub-out location, will need to be considered to provide the best solution. These units are designed for a minimally disruptive retrofit to keep room downtime to a minimum and save on installation costs.

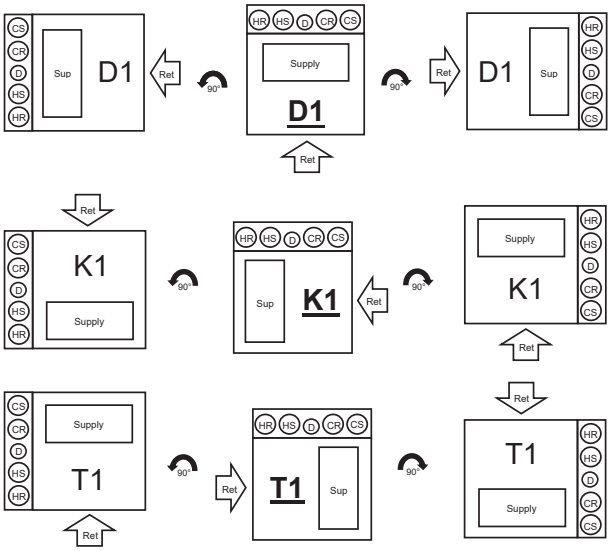
Modular Hi-Rise Replacement fan coils are designed to be unobtrusive in the room and blend with a wide variety of decors. Units can be specified with up to two discharge openings, as well as a top discharge for ducted applications.

Below are examples of the standard unit arrangement possibilities for the Modular Hi-Rise Replacement fan coil series.

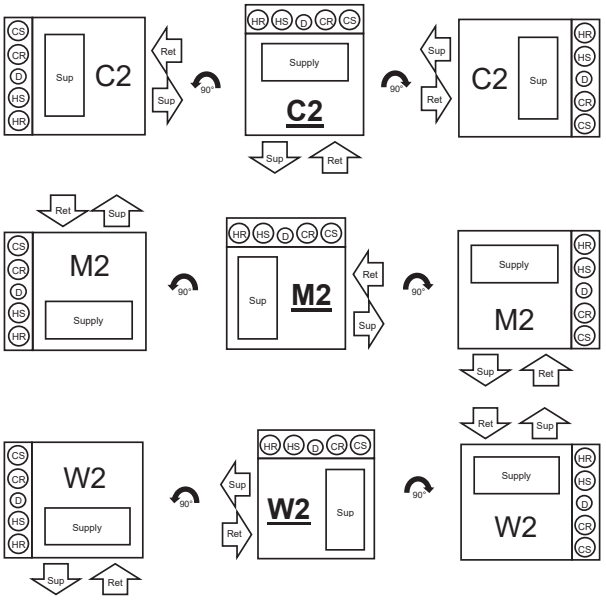
Single-side Supply

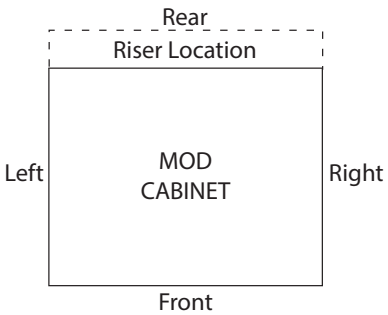


Top Supply Only



Single-side and Top Supply





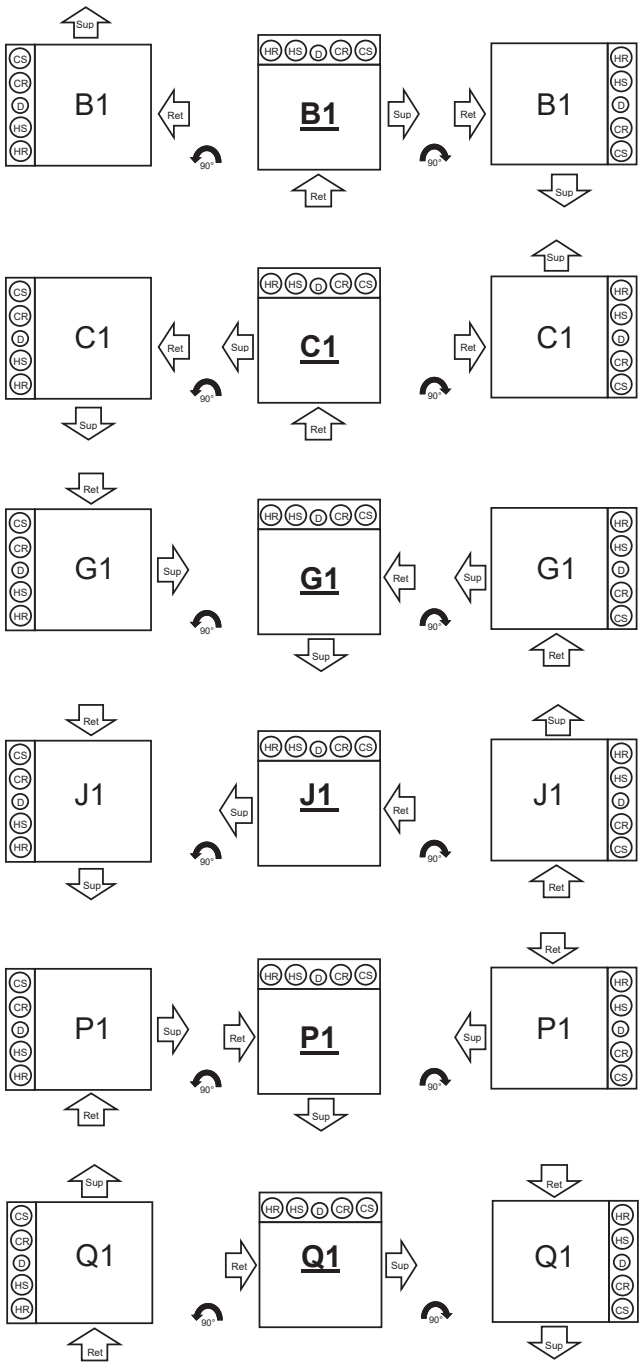
HR = Hot Water Return
HS = Hot Water Supply
D = Drain
CR = Cold Water Return
CS = Cold Water Supply

NOTES:
1. Risers pictured are shown for reference purposes only and adhere to the IEC standard convention.
2. MIY/MRY equipment is designed to use existing risers, so risers are typically not sold with these models.
3. Riser supply-return configurations & temperature should be labeled prior to demolition, and must be verified prior to installation, as they may differ from the IEC standard convention.

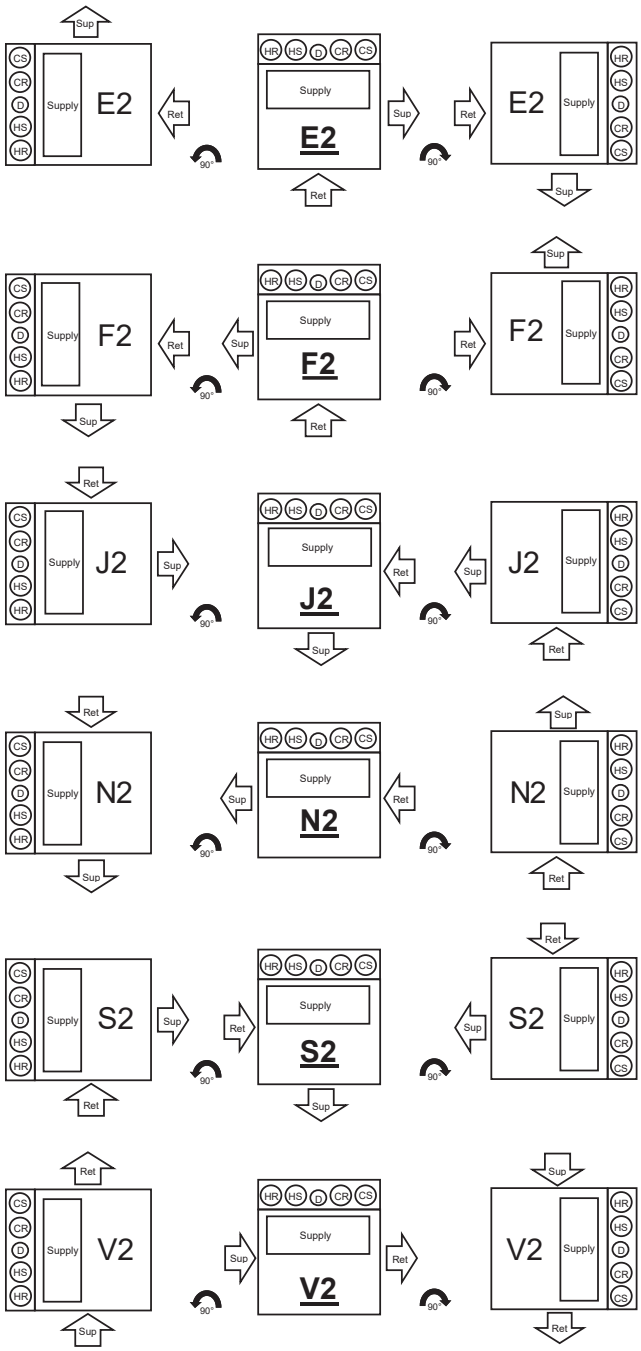
Product Application, Cont'd.

Special Arrangement Options:

Single-side Supply



Single-side and Top Supply

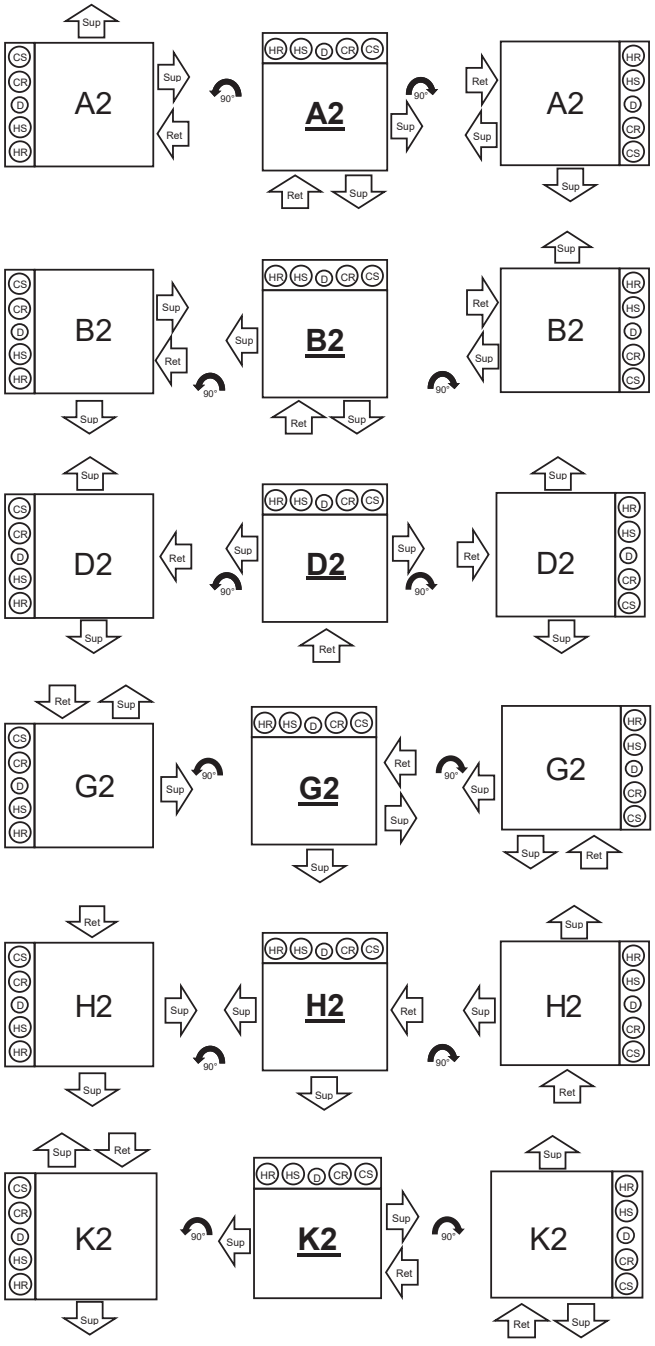


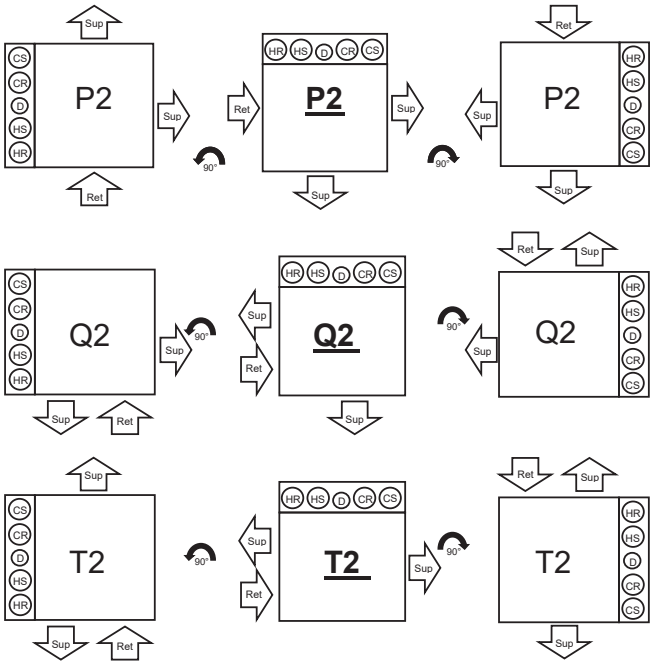
Special Arrangement Options (Cont'd on next page)

Product Application, Cont'd.

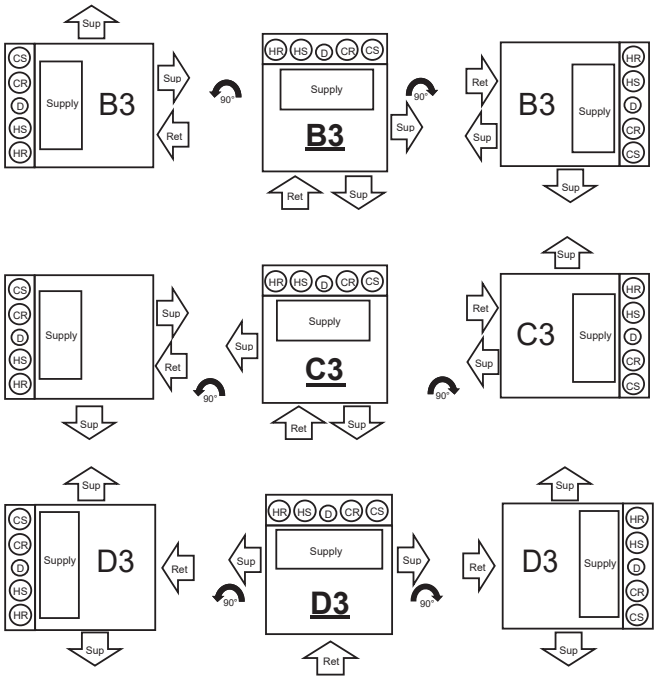
Special Arrangement Options, Cont'd.:

Double-side Supply





Double-side and Top Supply

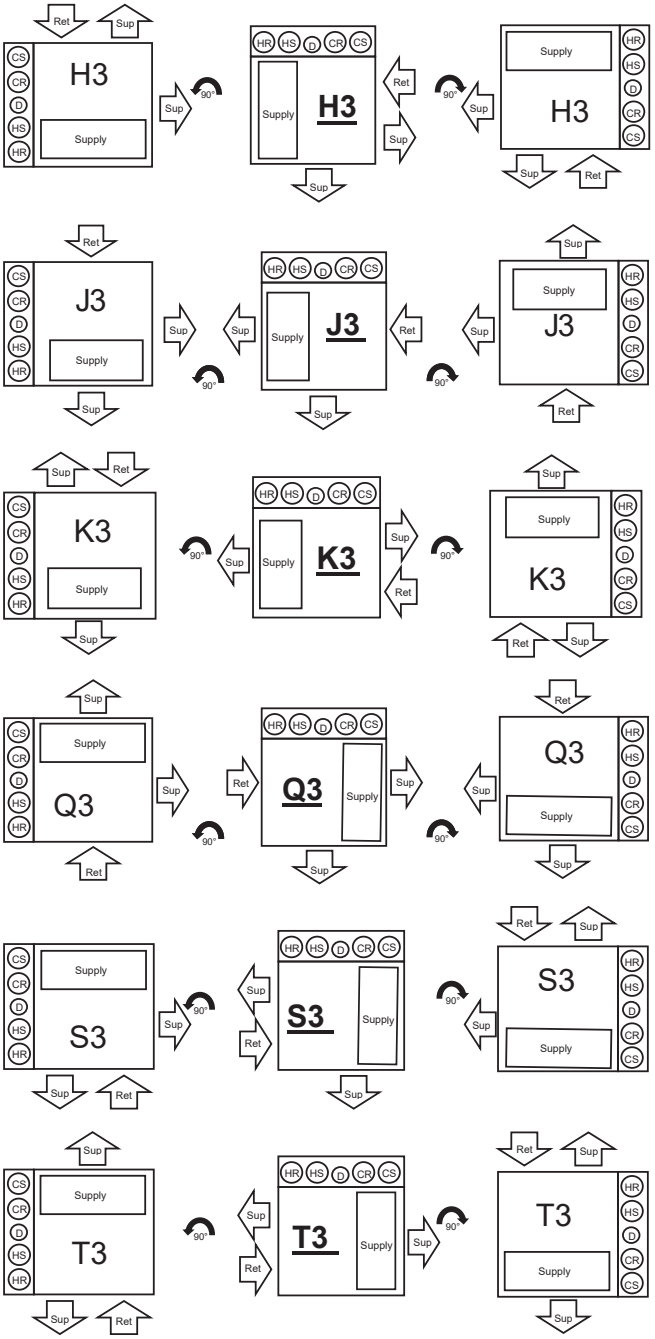


Special Arrangement Options (Cont'd on next page)

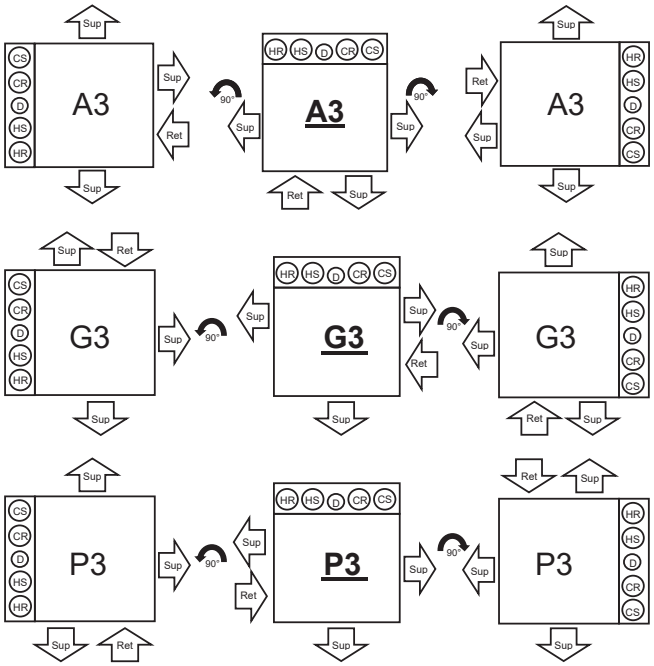
Product Application, Cont'd.

Special Arrangement Options, Cont'd:

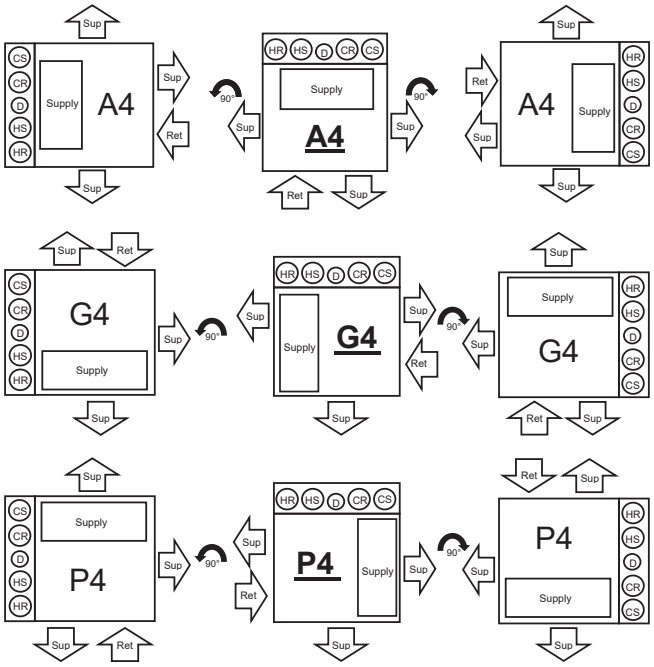
Double-side and Top Supply, Cont'd.



Triple-side Supply



Triple-side and Top Supply (MRY Only)



NOTES:
1. For special supply/return arrangement options, please contact IEC for pricing and availability.
2. Any special supply/return arrangement may affect sound and performance.
3. Risers pictured are shown for reference purposes only and adhere to the IEC standard convention.
4. MIY/MRY equipment is designed to use existing risers, so risers are typically not sold with these models.
5. Riser supply-return configurations and temperatures should be labeled prior to demolition, and must be verified prior to installation, as they may differ from the IEC standard convention.
6. Special arrangements may require special supply grilles, baffling and lab testing to validate actual performance.

Unit Model Key – Small Footprint Cabinet – MIY

Code Items	01	02	03	04	04a	05	06	07
Unit Code	M I	Y	0 4	A Y Y Y	A C D Y	C E	A 1	B P N
	UNIT	VINTAGE	SIZE	COILS	COILS w/ELECTRIC HEAT	MOTOR	ARRANGEMENT	CONTROLS

UNIT

MIY • Modular MINI*ReStora*MOD™ Partially-Concealed

SIZE

04 • 380 CFM

COILS

Two-pipe Cooling and Heating or Four-pipe Cooling

A • 3 Row
B • 4 Row

Four-pipe Heating

Y • None
6 • 1 Row Water Heating
7 • 2 Row Water Heating

Coil Connection

Y • None
S • Same End

Coil Construction

Y • Std (Alum. Fins & Galv. wrapper)
S • Alum. Fins & SS wrapper
C • Copper Fins & SS wrapper

COILS w/ELECTRIC HEAT

Coil

A • 3 Row
B • 4 Row

Voltage

C • 115/1/60
D • 208/1/60
E • 240/1/60
F • 277/1/60

kW*

B • 1.00
D • 2.00
F • 3.00
G • 4.00
Y • No Electric Heat

Coil Construction

Y • Std (Alum. Fins & Galv. wrapper)
S • Alum. Fins & SS wrapper
C • Copper Fins & SS wrapper

MOTOR

Voltage

C • 120/1/60
D • 208/1/60
E • 240/1/60
F • 277/1/60

Type

D • 3-Speed Backward-inclined EC Motor
E • Proportional Backward-inclined EC Motor

ARRANGEMENT

SINGLE SIDE SUPPLY**

ARR Code	Return	Supply
A1	Front	Front
S1	Left	Left
H1	Right	Right

TOP SUPPLY ONLY**

D1	Front	Top
K1	Right	Top
T1	Left	Top

SINGLE-SIDE AND TOP SUPPLY**

C2	Front	Front & Top
M2	Right	Right & Top
W2	Left	Left & Top

CONTROLS

Voltage

B • 24V
C • 120 V
D • 208 V
E • 240 V
F • 277 V

System Operation

Function Control

G • 2-Pipe Heat Only
H • 2-Pipe Cool Only
K • 2-Pipe Heat and Cool
M • 2-Pipe Heat and Cool w/ Aux. Elec. Heat
P • 2-Pipe Cool w/ Total Elec. Heat
R • 4-Pipe Heat and Cool

Thermostat Type & Changeover

A • TB155 Wall Series, ACO, Vertical Mnt.
B • TB155 Wall Series, ACO, Horizontal Mnt.
C • TB156 Unit Mounted Series, ACO
P • Basic 24V Digital Programmable, ACO
N • Basic 24V Digital Non-Programmable, ACO
F • Premium 24V Digital 7-Day Programmable, with Proportional Fan/Valves Option, ACO
G • Premium 24V Digital BACnet with Proportional Fan/Valves Option, ACO

* Note that kWs depend on voltage.
** For additional unit arrangements, please consult the factory for pricing and availability.

Unit Model Key – Standard Footprint Cabinet – MRY

Code Items	01	02	03	04	04a	05	06	07
Unit Code	M R	Y	0 4	A Y Y Y	A C C Y	C 2	A 1	C P N
	UNIT	VINTAGE	SIZE	COILS	COILS w/ELECTRIC HEAT	MOTOR	ARRANGEMENT	CONTROLS

UNIT

MRY • Modular *ReStora*MOD® Partially-Concealed

SIZE

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

COILS

Two-pipe Cooling and Heating or Four-pipe Cooling

A • 3 Row
B • 4 Row

Four-pipe Heating

Y • None
6 • 1 Row Water Heating
7 • 2 Row Water Heating

Coil Connection

Y • None
S • Same End

Coil Construction

Y • Std (Alum. Fins & Galv. wrapper)
S • Alum. Fins & SS wrapper
C • Copper Fins & SS wrapper

COILS w/ELECTRIC HEAT

Coil

A • 3 Row
B • 4 Row

Voltage

C • 115/1/60
D • 208/1/60
E • 240/1/60
F • 277/1/60

kW*

B • 1.00
C • 1.50
D • 2.00
F • 3.00
G • 4.00
H • 5.00
J • 6.00
L • 8.00
N • 10.00
Y • No Electric Heat

Coil Construction

Y • Std (Alum. Fins & Galv. wrapper)
S • Alum. Fins & SS wrapper
C • Copper Fins & SS wrapper

MOTOR

Voltage

C • 115/1/60
D • 208/1/60
E • 230/1/60
F • 277/1/60

Type

A • EC Motor, 3-Spd Relay Brd
B • EC Motor, Proportional Fan (0-10VDC/4-20mA)
C • EC Motor, 4-Spd EVO Brd (SSRs) Board with Ramping

ARRANGEMENT

SINGLE-SIDE SUPPLY**

ARR Code	Return	Supply
A1	Front	Front
S1	Left	Left
H1	Right	Right

TOP SUPPLY ONLY**

D1	Front	Top
K1	Right	Top
T1	Left	Top

SINGLE-SIDE AND TOP SUPPLY**

C2	Front	Front & Top
M2	Right	Right & Top
W2	Left	Left & Top

CONTROLS

Voltage

B • 24V
C • 120 V
D • 208 V
E • 240 V
F • 277 V

System Operation

Manual Fan Operation

A1 • Standard Unit Mount (Switch Only)

Function Control

G • 2-Pipe Heat Only
H • 2-Pipe Cool Only
K • 2-Pipe Heat and Cool
M • 2-Pipe Heat and Cool w/ Aux. Elec. Heat
P • 2-Pipe Cool w/ Total Elec. Heat
R • 4-Pipe Heat and Cool

Thermostat Type & Changeover

P • Basic 24V Digital Programmable, ACO
N • Basic 24V Digital Non-Programmable, ACO
F • Premium 24V Digital 7-Day Programmable, with Proportional Fan/Valves Option, ACO
G • Premium 24V Digital BACnet with Proportional Fan/Valves Option, ACO

* Note that kWs depend on voltage and unit size.
** For additional unit arrangements, please consult the factory for pricing and availability.

Ratings and Listings – MIY

AHRI Certification

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

AHRI CERTIFIED™ www.ahridirectory.org
Room Fan-Coils
AHRI Standard 440

Standard Ratings @AHRI Conditions

Unit Model	Unit Size	Coil Rows	EWT (°F)	ΩT (°F)	Cooling Capacity (MBH)		Nominal Airflow (CFM)	Flow Rate (GPM)	Pressure Drop (ft. wg.)	Power Input (Watts)
					Total	Sensible				
MIY	04	3	45	10	12.4	8.4	394	2.6	8.4	63
	04	4	45	10	14.1	8.9	379	2.9	12.0	60

NOTES: 1. Ratings are based on 80°F DB and 67°F WB EAT, high fan speed of 115/1/60 Motor, under dry coil conditions, with 2-way Taco control valve.
2. Test performed at AHRI-440 conditions WITHOUT filter, supply grille or Quick Finish Wall Panel.
3. For all application ratings, use IEC's Desktop Ratings Program, these catalog ratings or contact your local IEC representative.
4. For additional information, please consult AHRI's website at www.ahrinet.org.

Standard Ratings @Application Conditions

Unit Model	Unit Size	Coil Rows	EWT (°F)	ΩT (°F)	Cooling Capacity (MBH)		Nominal Airflow (CFM)	Flow Rate (GPM)	Pressure Drop (ft. wg.)	Power Input (Watts)
					Total	Sensible				
MIY	04	3	45	10	12.4	8.4	394	2.6	8.4	63
	04	4	45	10	14.1	8.9	379	2.9	12.0	60

NOTES: 1. Ratings are based on 75°F DB and 63°F WB EAT, high fan speed of 115/1/60 Motor, under dry coil conditions, with 2-way Taco control valve.
2. Test performed at AHRI440 conditions WITH filter, supply grille and Quick Finish Wall Panel.
3. For all application ratings, use IEC's Desktop Ratings Program, these catalog ratings or contact your local IEC representative.
4. For additional information, please consult AHRI's website at www.ahrinet.org.

C-ETL-US Listing

IEC's Modular Hi-Rise Replacement 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.

C ETL LISTED US
Intertek
3061627
HEATING AND COOLING EQUIPMENT

Hydronic Heating – Base Capacity

Unit Model	Unit Size	Coil Rows (Pri/Sec)	Heating Rows	EWT (°F)	ΩT (°F)	Total Capacity (MBH)	Nominal Airflow (CFM)	Flow Rate (GPM)	Pressure Drop (ft. wg.)	Power Input (Watts)
MIY	04	3/0	3	140	17	21.0	407	2.6	7.0	21.0
		4/0	4	140	16	22.5	385	2.9	10.0	22.5
		3/1	1	180	40	18.3	388	1.0	1.8	18.3
		3/2	2	180	40	24.4	388	1.3	4.5	24.4

NOTES: 1. Ratings are based on 70°F DB and 58°F WB EAT, high fan speed of 115/1/60 Motor, under dry coil conditions, with 2-way Taco control valve.
2. Heating performance on a 4/1 coil will be the same as the 3/1 coil.
3. For all application ratings, use IEC's Desktop Ratings Program, these catalog ratings or contact your local IEC representative.
3. Tests performed at AHRI440 conditions WITHOUT filter, supply grille or Quick Finish Wall Panel.

Ratings and Listings – MRY

AHRI Certification

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

C-ETL-US Listing

IEC's Modular Hi-Rise Replacement 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.

Intertek 3061627 HEATING AND COOLING EQUIPMENT

Standard Ratings

Unit Type	Rows	Unit Coil Size	Nom. CFM	Cooling Capacity		Water		Power Input Watts PSC
				Total MBH	Sen-sible MBH	Flow Rate (GPM)	WPD (ft. wg.)	
MRY	3-Row	03	300	11.5	7.0	2.7	4.4	85
		04	400	13.6	9.0	2.8	5.0	115
		06	600	21.9	14.0	4.1	4.1	135
		08	800	27.5	17.8	4.4	4.7	250
		10	1000	37.7	24.5	6.3	11.9	325
		12	1200	43.1	28.4	6.7	13.4	440
	4-Row	03	300	12.2	7.3	3.2	8.6	85
		04	400	15.6	9.6	3.5	10.0	115
		06	600	26.0	15.3	5.1	8.3	135
		08	800	31.4	19.5	5.6	9.9	250
		10	1000	42.2	25.6	7.5	9.4	325
		12	1200	46.5	30.5	8.0	10.8	440

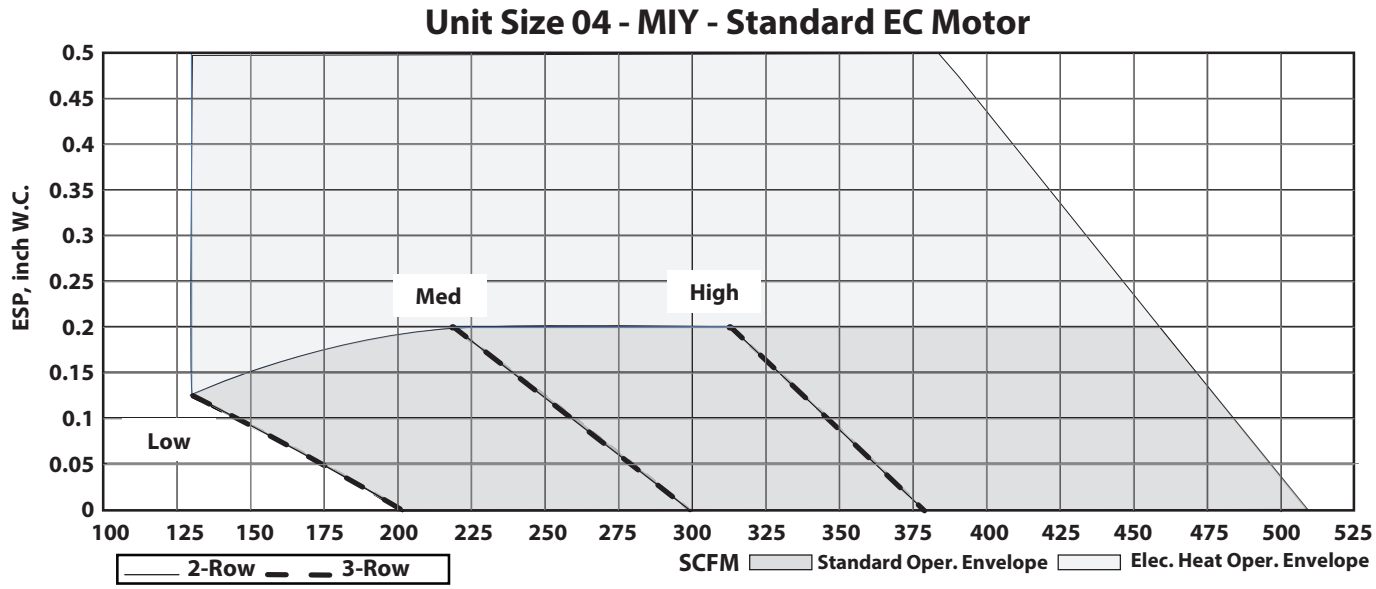
NOTES:
1. Ratings are based on 80°F DB and 67°F WB EAT, 45°F EWT, 10°F water temperature rise, high fan speed, motor voltage 115/1/60, and airflow under dry coil conditions.
2. For all application ratings, use IEC's computer selection program, the quick-selection ratings provided in this catalog, or contact your local IEC representative.
3. For additional information, please consult AHRI's website at www.ahrinet.org.
4. Test performance at AHRI440 conditions WITHOUT filter, supply grilled or Quick Finish Wall Panel.

Hydronic Heating – Base Capacity

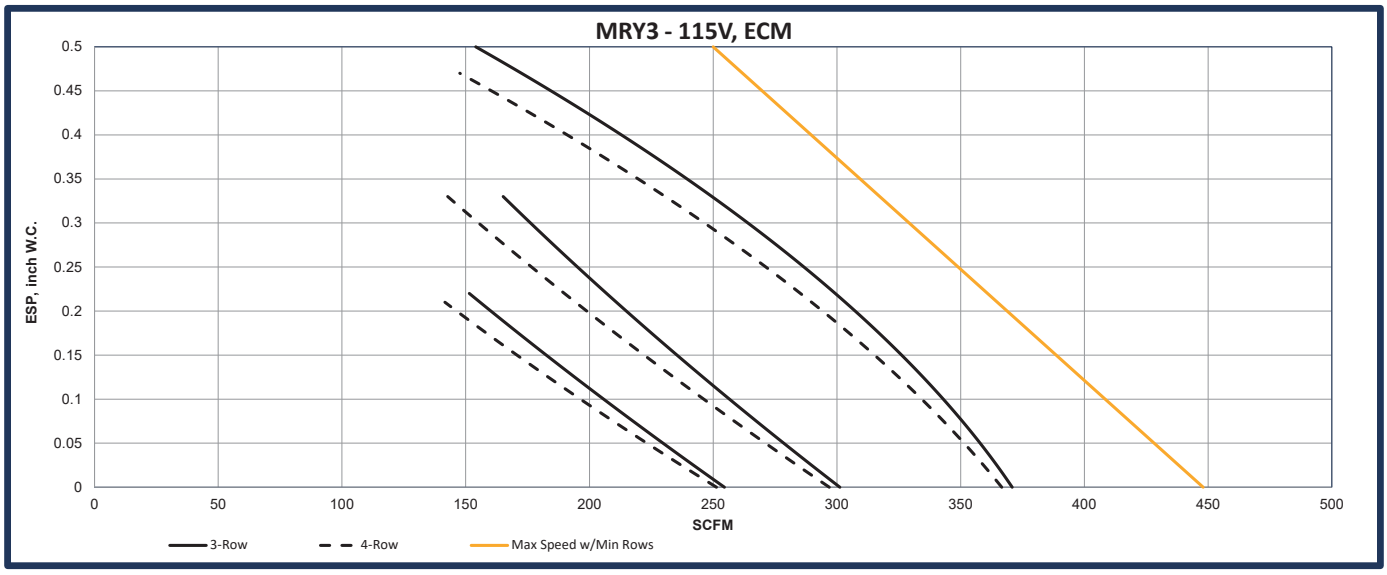
Rows	EWT	Unit Coil Size	GPM						
			0.5	1.0	2.0	3.0	4.0	6.0	8.0
1-Row	160˚F	03	11.3	14.0	15.8	16.5	–	–	–
		04	11.5	14.4	16.3	17.1	–	–	–
		06	–	19.8	23.3	24.7	25.4	–	–
		08	–	20.1	23.9	25.4	26.2	–	–
		10	–	25.2	31.1	33.6	34.9	–	–
		12	–	25.4	31.6	34.1	35.5	–	–
2-Row	160˚F	03	15.9	21.0	24.2	–	–	–	–
		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.
4. Test performance at AHRI440 conditions WITHOUT filter, supply grilled or Quick Finish Wall Panel.

Fan Performance Curves



NOTES: Supply air grille and return air panel static pressure losses are included in all fan performance curves for all sizes.



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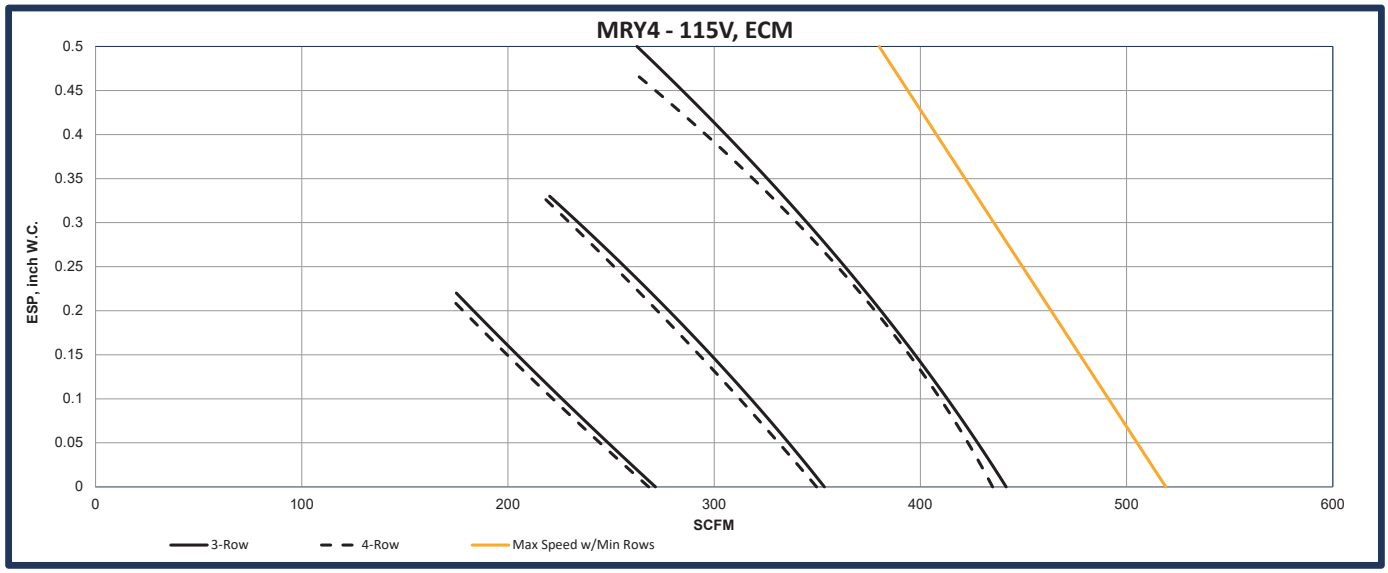

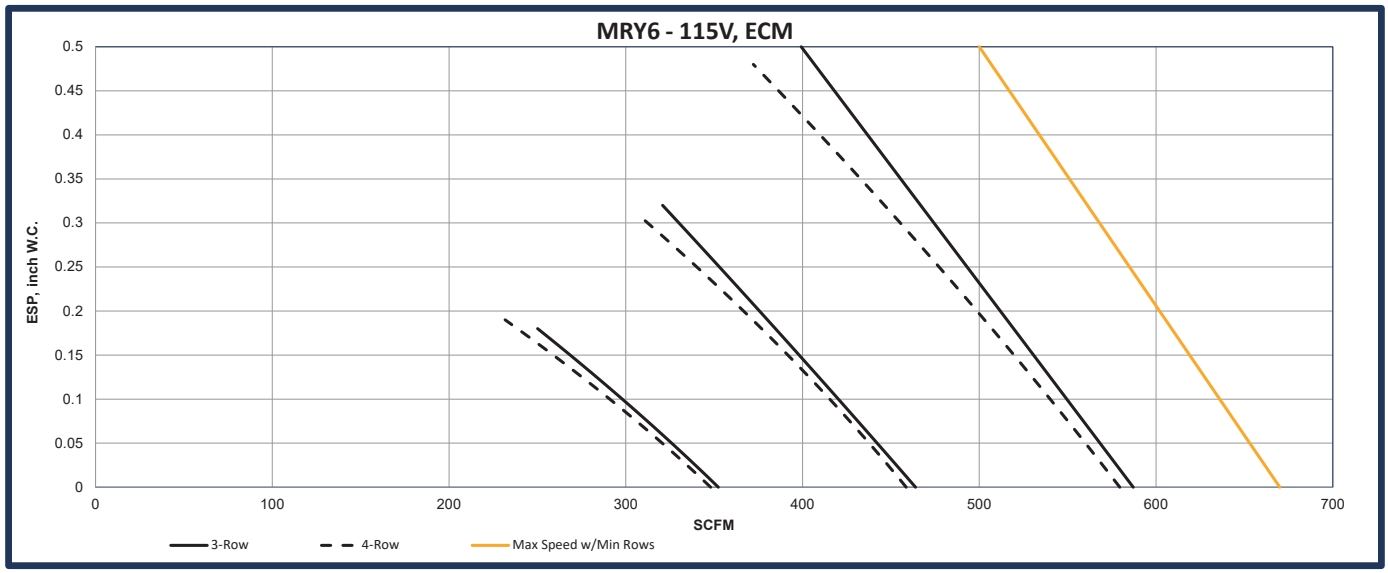

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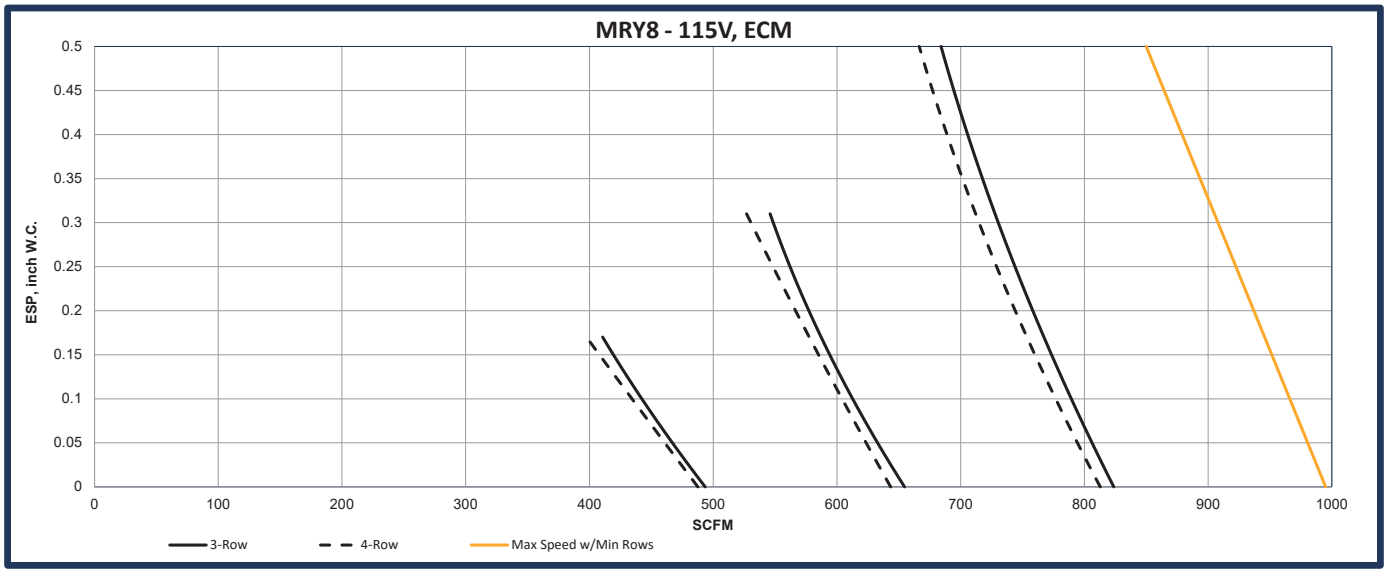

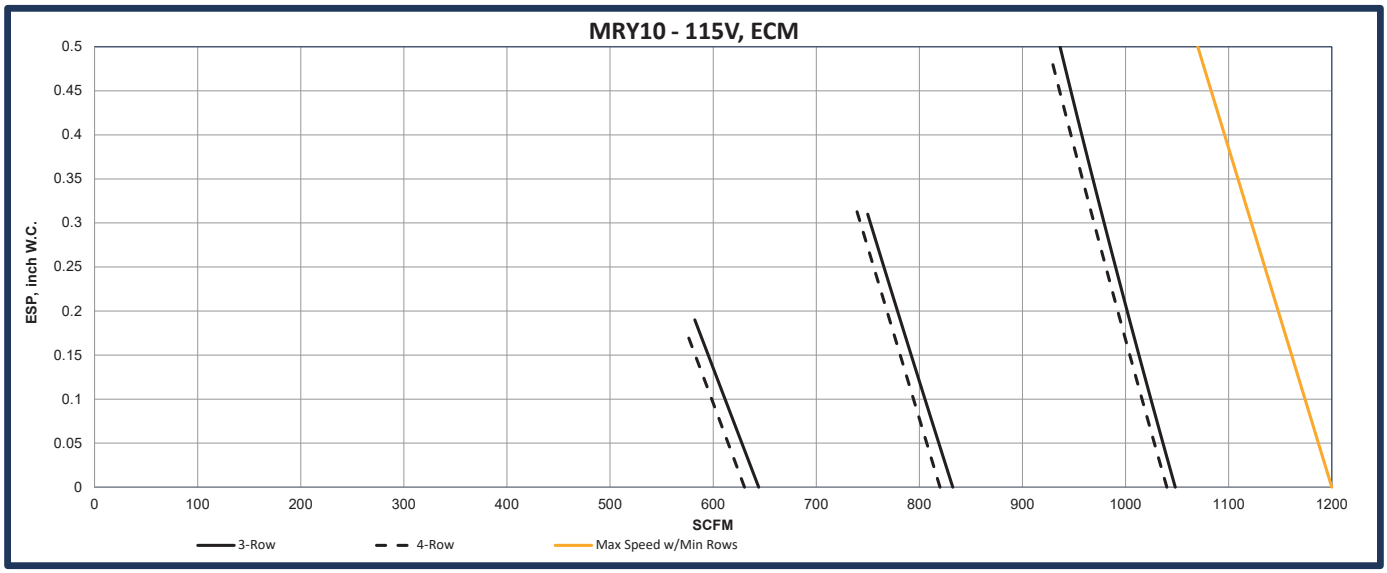

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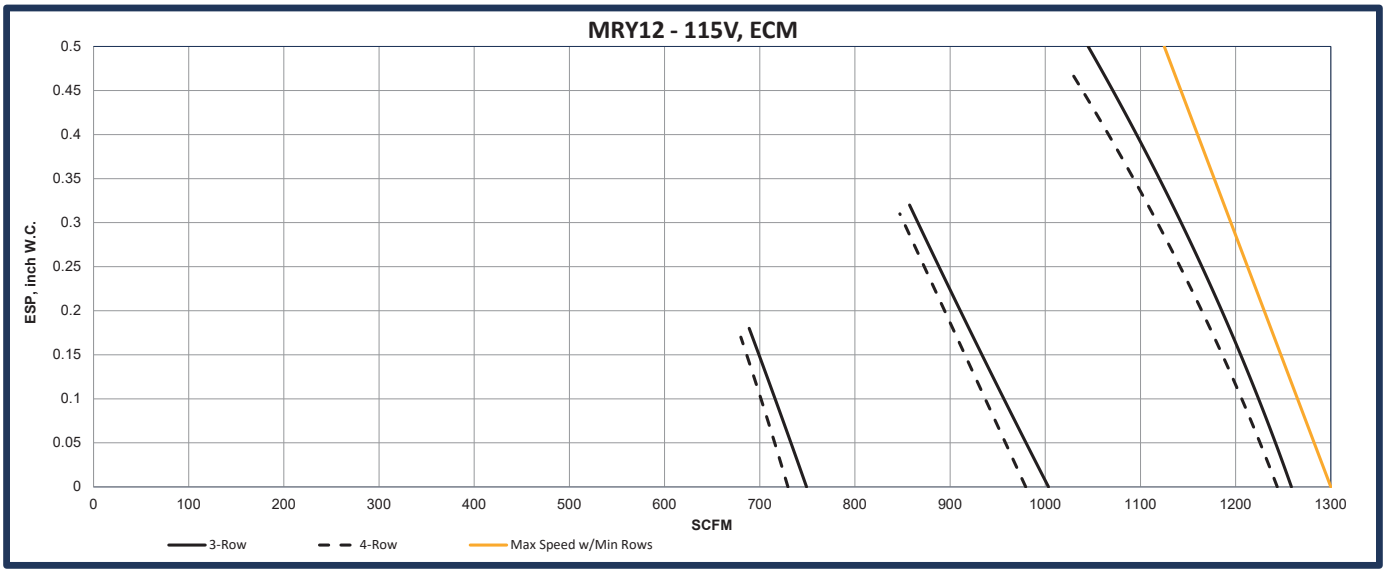


Electric Heating

Electric heaters are available on IEC Modular Hi-Rise Replacement Series fan coil units for the following applications.

Total Electric Heat

Heating and/or cooling may be available on an individual basis throughout the year. Two-pipe chilled water is used for cooling, and the electric heater is used for heating. Individual room controls can be supplied for either manual or automatic changeover.

Auxiliary Electric Heat

Auxiliary electric heat is ideal for tempering room-air between seasons and during the cooling season when chilled water is being circulated. Individual room controls are supplied to provide electric heat only when a low temperature is sensed on the hot water riser lines. When a boiler is supplying hot water during the normal heating season, the hydronic heating coils will provide heat.

Construction

Heater coils of high-grade resistance wire are supported by ceramic insulators on plated steel brackets. These heating elements are located at the discharge area of the motor/blower. High limit thermal cutouts protect the unit in the event of airflow loss. There are many special applications and control sequences for electric heat. For special applications please consult the factory.

Electric Heater Selection – MIY

Voltage	kW	Unit Size 04
120V	1.0	•
	2.0	•
208V 240V	1.0	•
	2.0	•
	3.0	•
	4.0	•
277V	1.0	•
	2.0	•
	3.0	•
	4.0	•

Electric Heater Selection – MRY

Voltage	kW	Unit Size					
		03	04	06	08	10	12
120V	1.0	•	•	•	•	•	•
	1.5	•	•	•	•	•	•
	2.0	•	•	•	•	•	•
	3.0	•	•	•	•	•	•
208V	1.0	•	•	•	•	•	•
	1.5	•	•	•	•	•	•
	2.0	•	•	•	•	•	•
	3.0	•	•	•	•	•	•
	4.0	–	•	•	•	•	•
	5.0	–	–	•	•	•	•
	6.0	–	–	•	•	•	•
	8.0	–	–	–	•	•	•
240V 277V	1.0	•	•	•	•	•	•
	1.5	•	•	•	•	•	•
	2.0	•	•	•	•	•	•
	3.0	•	•	•	•	•	•
	4.0	–	•	•	•	•	•
	5.0	–	–	•	•	•	•
	6.0	–	–	•	•	•	•
	8.0	–	–	–	•	•	•
	10.0	–	–	–	–	•	•

Motor Data

Thermal Overload Protection

The motor is either thermally protected by an internal solid state thermal switch – current sensing device (208V+), or by electronic sensing circuitry (120V). The motor shuts off completely and waits for the temperature to drop back below the set point, at which time the motor powers back up.

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

Underwriters Laboratories Inc. approves the motor and thermal overload combination at locked rotor conditions only.

MIY — EC Motor and Electrical Performance Data

Unit Model	Unit Size	Motor FLA	Unit-Heater Rating (V/Ph/Hz	Elec. Heater Output (kW)	Heater Current (Amps)	MCA	MOCP	Unit Circuit Breaker
MIY	04	2.30	120/1/60	0.00	-	2.88	5.18	5 AMP SP
				1.00	8.33	13.29	13.51	15 AMP SP
				2.00	16.67	23.71	21.84	25 AMP SP
MIY	04	1.30	208/1/60	0.00	-	1.63	2.93	10 AMP DP
				1.00	4.81	7.63	7.73	10 AMP DP
				2.00	9.62	13.64	12.54	15 AMP DP
				3.00	14.42	19.65	17.35	20 AMP DP
				4.00	19.23	25.66	22.16	25 AMP DP
MIY	04	1.30	240/1/60	0.00	-	1.63	2.93	10 AMP DP
				1.00	4.17	6.83	7.09	10 AMP DP
				2.00	8.33	12.04	11.26	15 AMP DP
				3.00	12.50	17.25	15.43	20 AMP DP
				4.00	16.67	22.46	19.59	25 AMP DP
MIY	04	1.30	277/1/60	0.00	-	1.63	2.93	5 AMP SP
				1.00	3.61	6.14	6.54	5 AMP SP
				2.00	7.22	10.65	10.15	10 AMP SP
				3.00	10.83	15.16	13.76	15 AMP SP
				4.00	14.44	19.68	17.37	20 AMP SP

NOTES: Total unit motor Amps and Watts are shown

Motor Data, Cont'd.

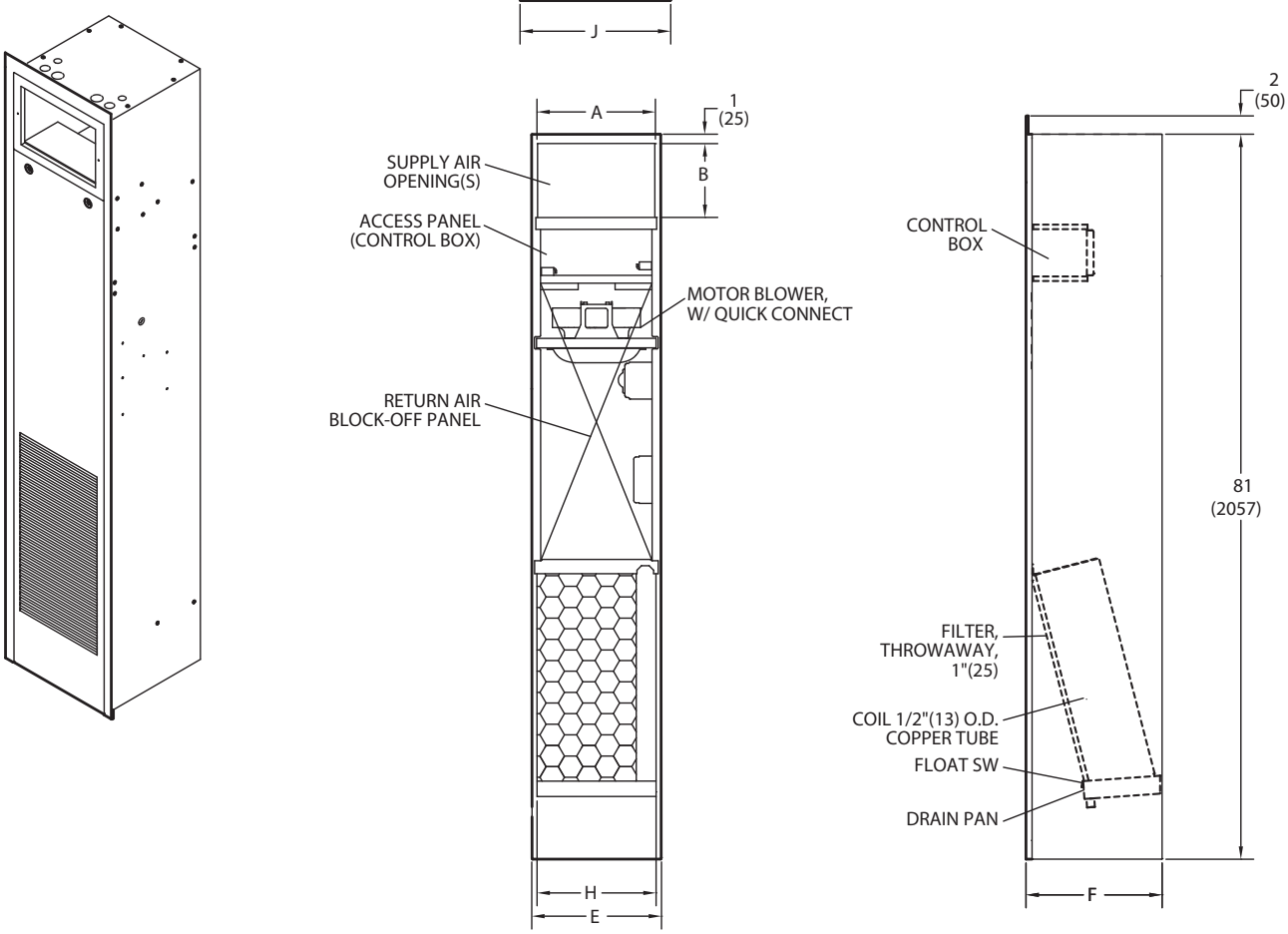
MRY — ECM Performance Data

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 60HZ 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 60HZ 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: All data is based on 3R/14 fpi dry coil with deco, filter and supply grill @ 0.00"ESP.
These values are based on Broad Ocean EC motors.

Submittal Data

MIY – MINI*ReStora*MOD™ 81 inch Partially-Concealed Hi-Rise



Unit Model	Dimension – Inches (Millimeters)									Unit Weight*
	Front Supply		Top Supply		E	F	G	H	J	
	A	B	C	D						
MIY 04	12 (305)	8 (203)	10.75 (273)	8 (203)	14.5 (368)	15.2 (386)	1.88 (48)	13.5 (343)	17 (432)	140 (64)

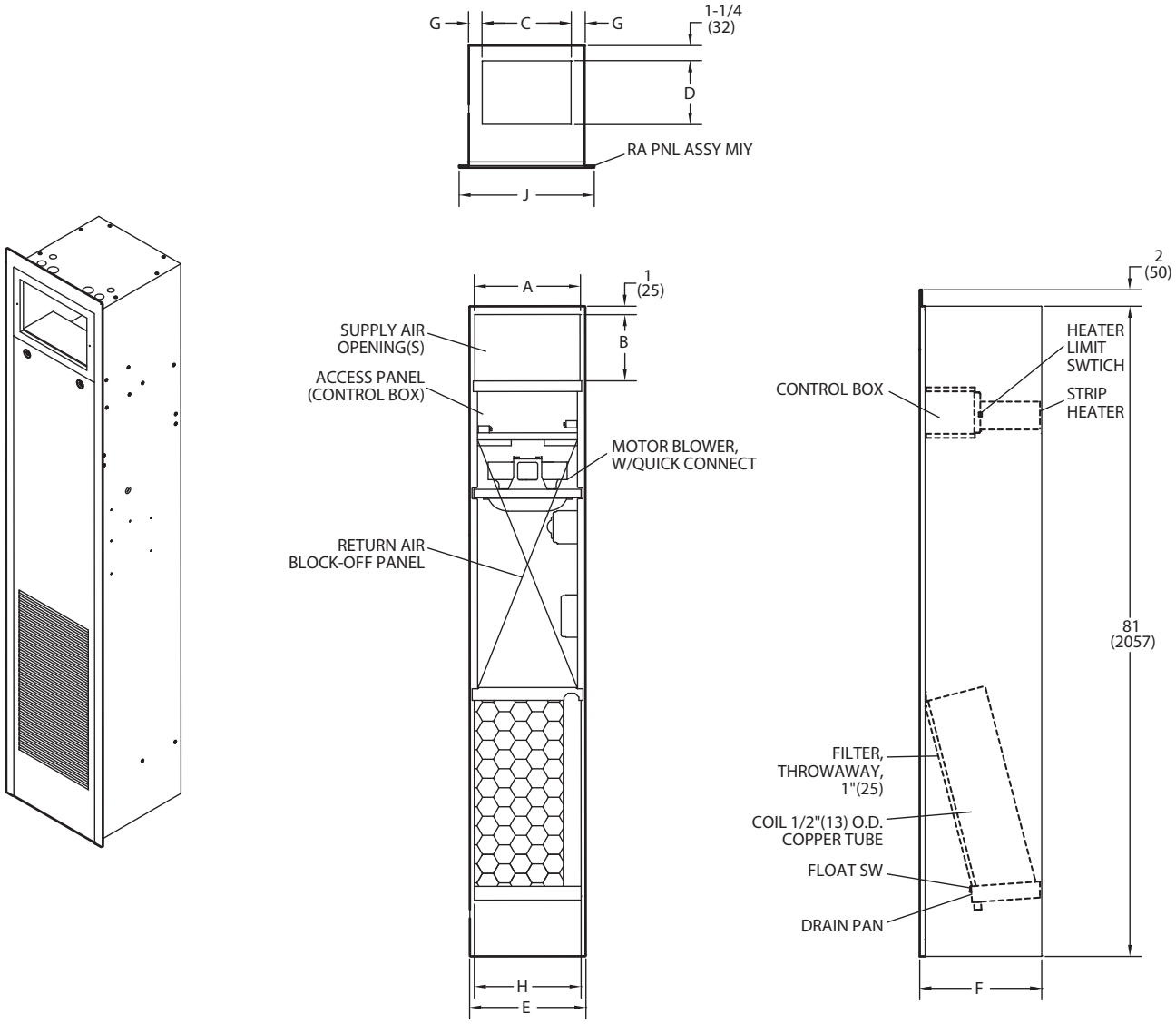
NOTES: * Unit weights are approximate (shown in pounds and kg) and are based on dry coils, minimum rows and exclude packaging, valves or other components.

1. Units are fabricated of galvanized steel with a 16 gauge galvanized fan deck.
2. Thermostats, hoses and isolation/combo valves shipped loose for field connection.
3. Blower-motor, coil and filter are accessible through the return air opening.
4. Unit and control box are insulated with 1/2" (13) coated glass-fiber insulation.
5. Threaded fittings must be field tightened and tested.
6. Unit designed for 39"-55" riser stub-out height.
7. Type "U" return air panel shown.
8. Quick Finish Wall Panel and frame not shown in front view.
9. Dimensions are in inches, dimension in ( ) are in millimeters.

Drawing is provided for reference only. Dimensions may vary with options ordered. Consult IEC website for submittal drawings.

Submittal Data, Cont'd.

MIY – MINI*ReStora*MOD™ 81 inch Partially-Concealed Hi-Rise with Electric Heat



Unit Model	Dimension – Inches (Millimeters)									Unit Weight*
	Front Supply		Top Supply		E	F	G	H	J	
	A	B	C	D						
MIY 04	12 (305)	8 (203)	10.75 (273)	8 (203)	14.5 (368)	15.2 (386)	1.88 (48)	13.5 (343)	17 (432)	140 (64)

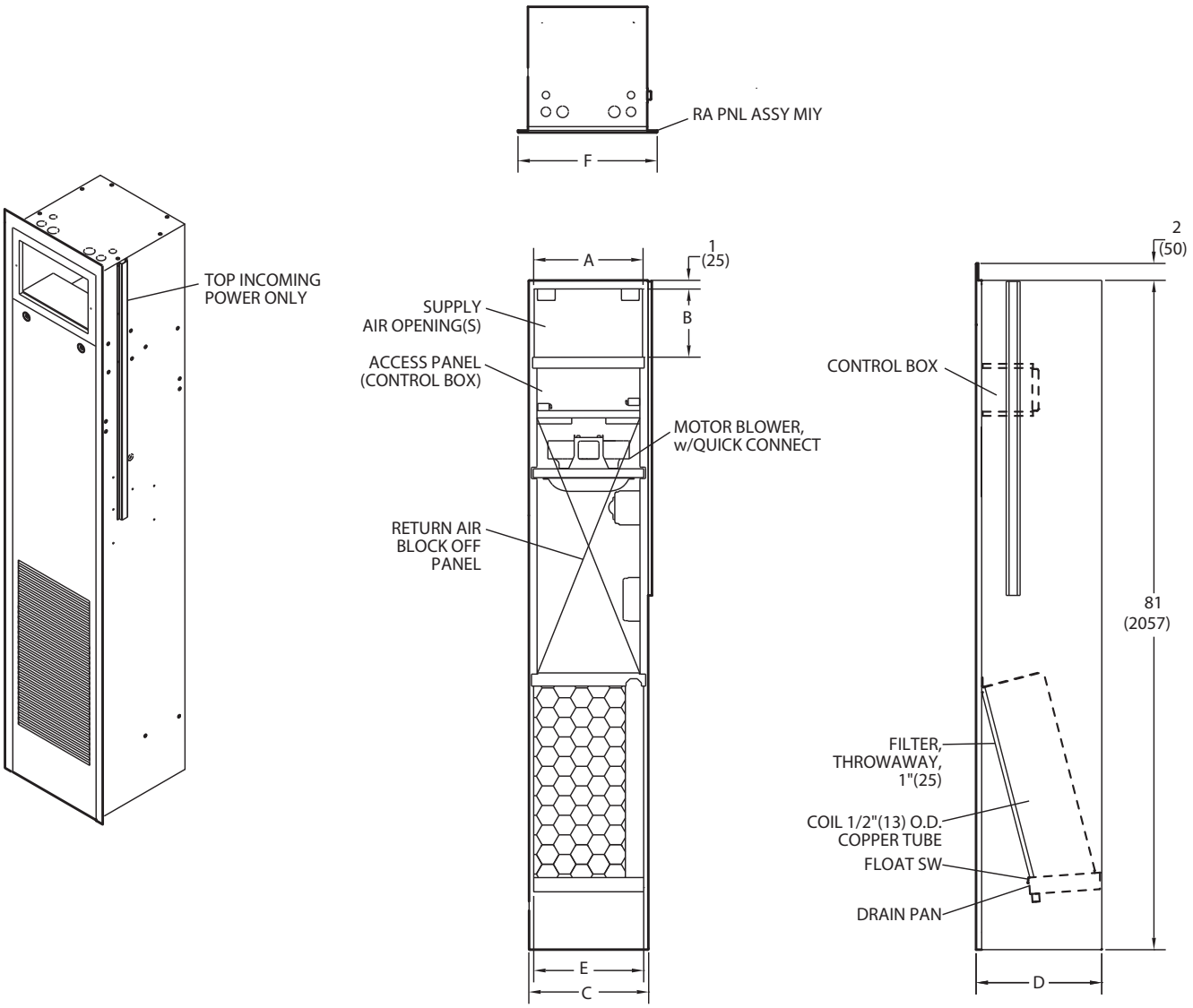
NOTES: * Unit weights are approximate (shown in pounds and kg) and are based on dry coils, minimum rows and exclude packaging, valves or other components.

1. Units are fabricated of galvanized steel with a 16 gauge galvanized fan deck.
2. Thermostats, hoses and isolation/combo valves shipped loose for field connection.
3. Blower-motor, coil and filter are accessible through the return air opening.
4. Unit and control box are insulated with 1/2" (13) coated glass-fiber insulation.
5. Threaded fittings must be field tightened and tested.
6. Unit designed for 39"-55" riser stub-out height.
7. Type "U" return air panel shown.
8. Quick Finish Wall Panel and frame not shown in front view.
9. Dimensions are in inches, dimension in ( ) are in millimeters.

**Drawing is provided for reference only.
Dimensions may vary with options ordered.
Consult IEC website for submittal drawings.**

Submittal Data, Cont'd.

MIY – MINI*ReStora*MOD™ 81 inch Partially-Concealed Hi-Rise with Top Power



Unit Model	Dimension – Inches (Millimeters)						Unit Weight*
	Front Supply		C	D	E	F	
	A	B					
MIY 04	12 (305)	8 (203)	14.5 (368)	15.2 (386)	13.5 (343)	17 (432)	140 (64)

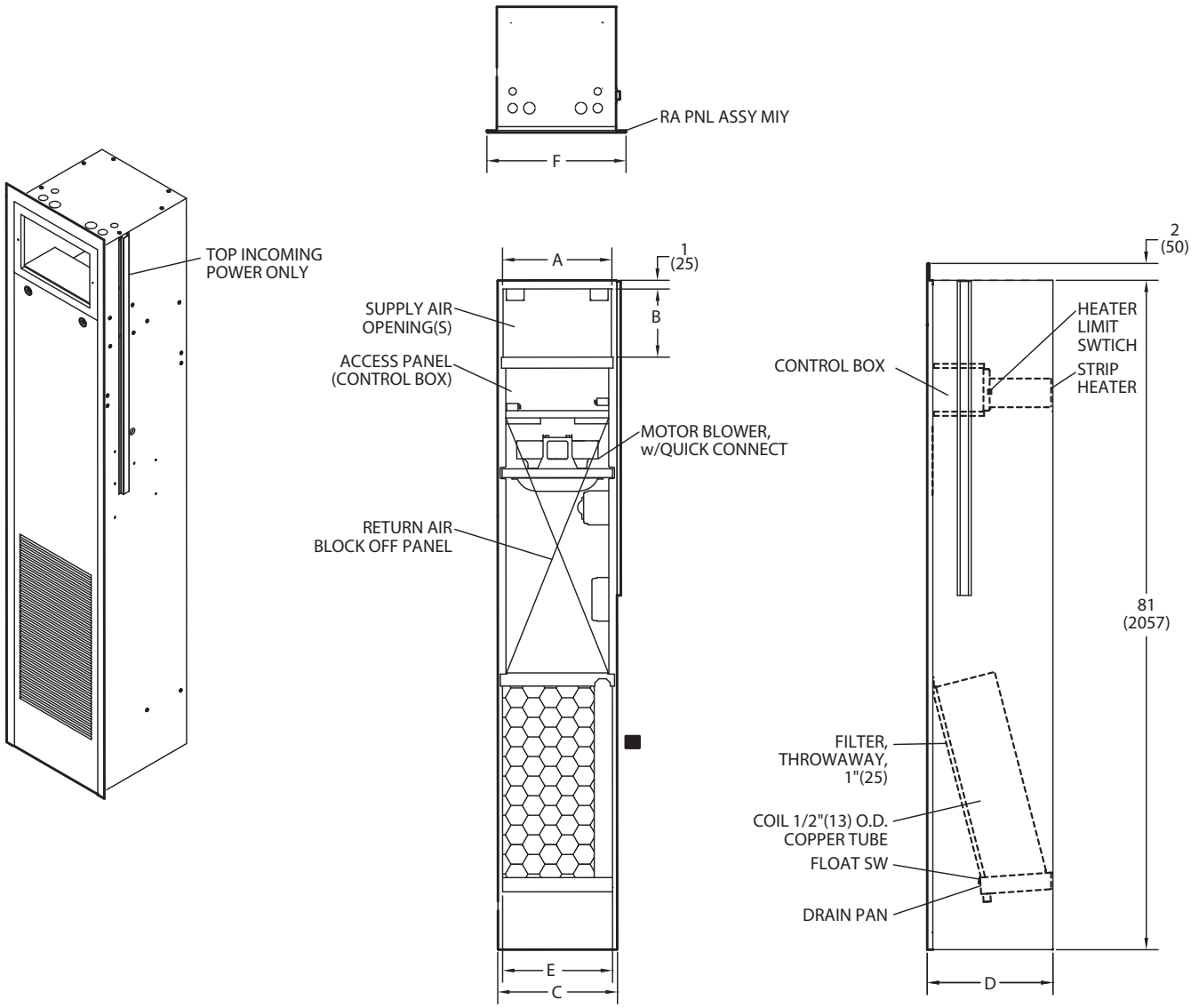
NOTES: * Unit weights are approximate (shown in pounds and kg) and are based on dry coils, minimum rows and exclude packaging, valves or other components.

1. Units are fabricated of galvanized steel with a 16 gauge galvanized fan deck.
2. Thermostats, hoses and isolation/combo valves shipped loose for field connection.
3. Blower-motor, coil and filter are accessible through the return air opening.
4. Unit and control box are insulated with 1/2" (13) coated glass-fiber insulation.
5. Threaded fittings must be field tightened and tested.
6. Unit designed for 39"-55" riser stub-out height.
7. Type "U" return air panel shown.
8. Quick Finish Wall Panel and frame not shown in front view.
9. Dimensions are in inches, dimension in ( ) are in millimeters.

Drawing is provided for reference only. Dimensions may vary with options ordered. Consult IEC website for submittal drawings.

Submittal Data, Cont'd.

MIY – MINI*ReStora*MOD™ 81 inch Partially-Concealed Hi-Rise with Top Power and Electric Heat



Unit Model	Dimension – Inches (Millimeters)						Unit Weight*
	Front Supply		C	D	E	F	
	A	B					
MIY 04	12 (305)	8 (203)	14.5 (368)	15.2 (386)	13.5 (343)	17 (432)	140 (64)

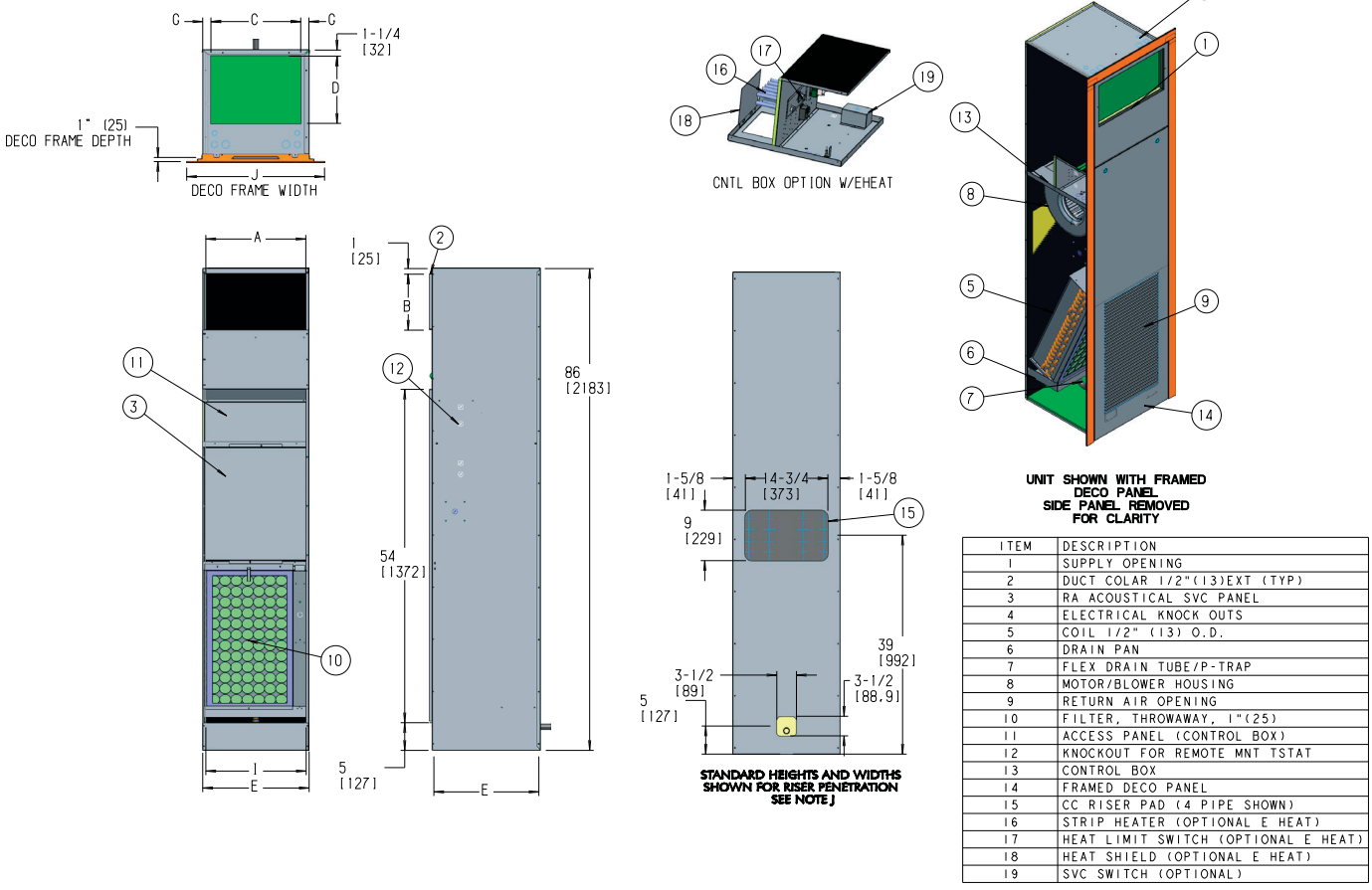
NOTES: * Unit weights are approximate (shown in pounds and kg) and are based on dry coils, minimum rows and exclude packaging, valves or other components.

1. Units are fabricated of galvanized steel with a 16 gauge galvanized fan deck.
2. Thermostats, hoses and isolation/combo valves shipped loose for field connection.
3. Blower-motor, coil and filter are accessible through the return air opening.
4. Unit and control box are insulated with 1/2" (13) coated glass-fiber insulation.
5. Threaded fittings must be field tightened and tested.
6. Unit designed for 39"-55" riser stub-out height.
7. Type "U" return air panel shown.
8. Quick Finish Wall Panel and frame not shown in front view.
9. Dimensions are in inches, dimension in ( ) are in millimeters.

**Drawing is provided for reference only.
Dimensions may vary with options ordered.
Consult IEC website for submittal drawings.**

Submittal Data, Cont'd.

MRY – *ReStora*MOD® 86 inch Partially-Concealed Hi-Rise



ITEM	DESCRIPTION
1	SUPPLY OPENING
2	DUCT COLAR 1/2"(13)EXT (TYP)
3	RA ACOUSTICAL SVC PANEL
4	ELECTRICAL KNOCK OUTS
5	COIL 1/2" (13) O.D.
6	DRAIN PAN
7	FLEX DRAIN TUBE/P-TRAP
8	MOTOR/BLOWER HOUSING
9	RETURN AIR OPENING
10	FILTER, THROWAWAY, 1"(25)
11	ACCESS PANEL (CONTROL BOX)
12	KNOCKOUT FOR REMOTE MNT TSTAT
13	CONTROL BOX
14	FRAMED DECO PANEL
15	CC RISER PAD (4 PIPE SHOWN)
16	STRIP HEATER (OPTIONAL E HEAT)
17	HEAT LIMIT SWITCH (OPTIONAL E HEAT)
18	HEAT SHIELD (OPTIONAL E HEAT)
19	SVC SWITCH (OPTIONAL)

Unit Model	Dimension – Inches (Millimeters)								Unit Weight*
	Single Supply		Top Supply		Dimensions				
	A	B	C	D	E	G	I	J	
MRY 03	14 (356)	8 (203)	14 (356)	10 (254)	16 (406)	1 (25.4)	14 (356)	21-1/2 (546)	180 (82)
MRY 04	14 (356)	12 (305)	14 (356)	10 (254)	16 (406)	1 (25.4)	14 (356)	21-1/2 (546)	225 (102)
MRY 06	18 (457)	10 (254)	16 (406)	12 (305)	19 (483)	1-1/2 (38)	18 (457)	24-1/2 (622)	240 (109)
MRY 08	18 (457)	12 (305)	16 (406)	12 (305)	19 (483)	1-1/2 (38)	18 (457)	24-1/2 (622)	260 (118)
MRY 10	22 (559)	16 (406)	18 (457)	16 (406)	23 (584)	2-1/2 (63.5)	22 (559)	28-1/2 (724)	280 (127)
MRY 12	22 (559)	16 (406)	18 (457)	16 (406)	23 (584)	2-1/2 (63.5)	22 (559)	28-1/2 (724)	305 (138)

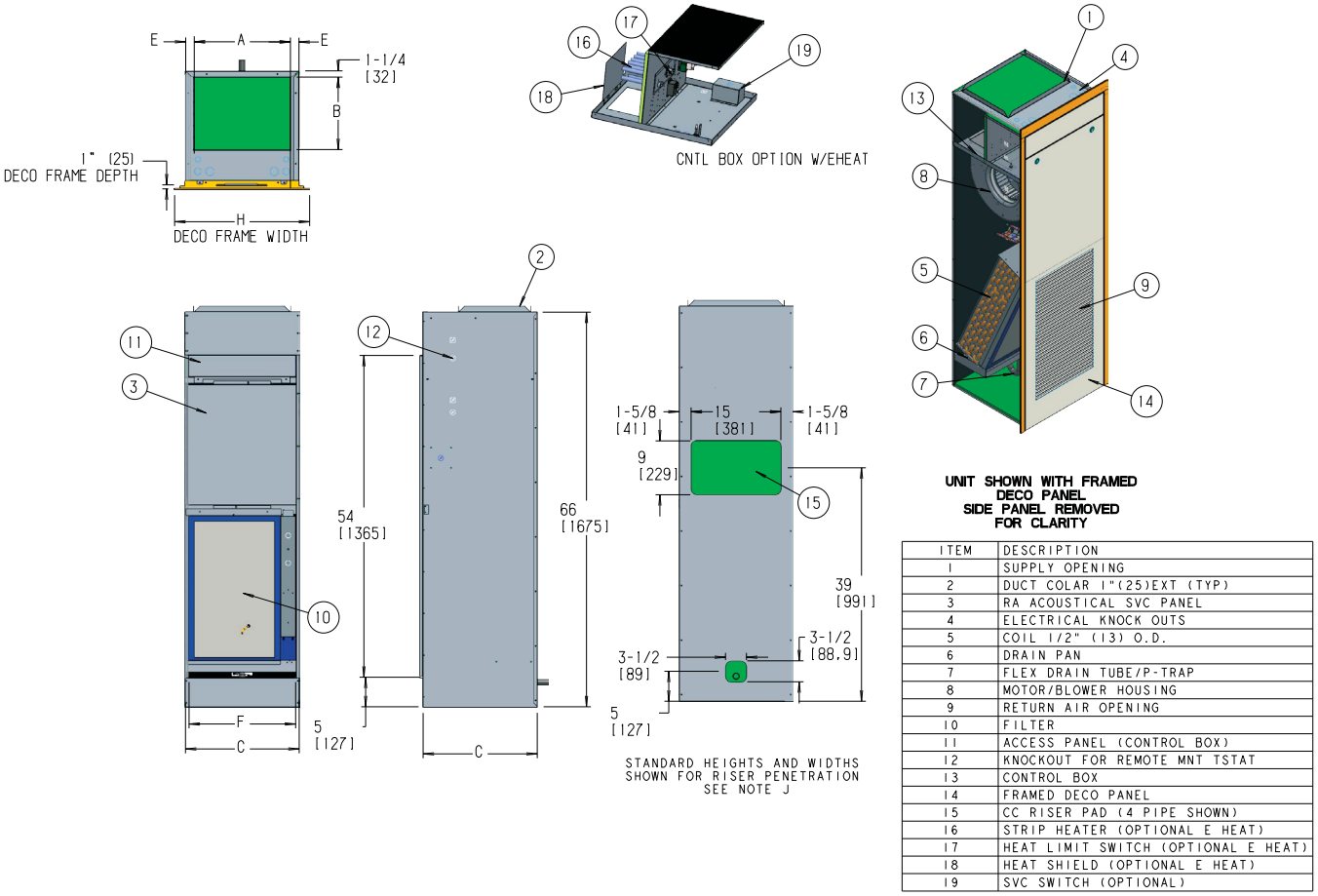
NOTES: * Unit weights are approximate (shown in pounds and kg) and are based on dry coils, minimum rows and exclude packaging, valves or other components.

A. Units are fabricated of galvanized steel with a 16 gauge galvanized fan deck.
B. Threaded fittings must be field tightened.
C. Thermostats shipped loose for field installation.
D. All risers ship separately from unit if ordered.
F. Blower, motor, valves, coil, and filter are accessible through the return air opening.
G. Standard riser penetration height is 39 inches A.F.F. Contact factory for alternate heights.
H. Deco frame not shown in main view unless otherwise noted for dimension values.
I. Hoses ship with unit (not shown).
J. Opening provided in the back panel for coil connection to permit expansion and contraction of risers. Coil connections to be at the center of the slots.
K. See unit arrangements for supply and return air orientation.
L. Dimensions are in inches, dimension in ( ) are in millimeters.

Drawing is provided for reference only. Dimensions may vary with options ordered. Consult IEC website for submittal drawings.

Submittal Data, Cont'd.

MRY – *ReStora*MOD® 66 inch Partially-Concealed Hi-Rise



ITEM	DESCRIPTION
1	SUPPLY OPENING
2	DUCT COLAR 1"(25)EXT (TYP)
3	RA ACOUSTICAL SVC PANEL
4	ELECTRICAL KNOCK OUTS
5	COIL 1/2" (13) O.D.
6	DRAIN PAN
7	FLEX DRAIN TUBE/P-TRAP
8	MOTOR/BLOWER HOUSING
9	RETURN AIR OPENING
10	FILTER
11	ACCESS PANEL (CONTROL BOX)
12	KNOCKOUT FOR REMOTE MNT TSTAT
13	CONTROL BOX
14	FRAMED DECO PANEL
15	CC RISER PAD (4 PIPE SHOWN)
16	STRIP HEATER (OPTIONAL E HEAT)
17	HEAT LIMIT SWITCH (OPTIONAL E HEAT)
18	HEAT SHIELD (OPTIONAL E HEAT)
19	SVC SWITCH (OPTIONAL)

Unit Model	Dimension – Inches (Millimeters)						Unit Weight*
	Top Supply		Dimensions				
	A	B	C	E	F	H	
MRY 03	14 (356)	10 (254)	16 (406)	1 (25.4)	14 (356)	21-1/2 (546)	360 (163)
MRY 04	14 (356)	10 (254)	16 (406)	1 (25.4)	14 (356)	21-1/2 (546)	450 (204)
MRY 06	16 (406)	12 (305)	19 (483)	1-1/2 (38)	18 (457)	24-1/2 (622)	480 (217)
MRY 08	16 (406)	12 (305)	19 (483)	1-1/2 (38)	18 (457)	24-1/2 (622)	520 (236)
MRY 10	18 (457)	16 (406)	23 (584)	2-1/2 (63.5)	22 (559)	28-1/2 (724)	560 (254)
MRY 12	18 (457)	16 (406)	23 (584)	2-1/2 (63.5)	22 (559)	28-1/2 (724)	610 (276)

NOTES: * Unit weights are approximate (shown in pounds and kg) and are based on dry coils, minimum rows and exclude packaging, valves or other components.

A. Units are fabricated of galvanized steel with a 16 gauge galvanized fan deck.
B. Threaded fittings must be field tightened.
C. Thermostats shipped loose for field installation.
D. All risers ship separately from unit if ordered.
E. Blower, motor, valves, coil, and filter are accessible through the return air opening.
F. Unit and control box are insulated.
G. Standard riser penetration height is 39 inches A.F.F. Contact factory for alternate heights.
H. Deco frame not shown in main view unless otherwise noted for dimension values.
I. Hoses ship with unit (not shown).
J. Opening provided in the back panel for coil connection to permit expansion and contraction of risers. Coil connections to be at the center of the slots.
K. See unit arrangements for supply and return air orientation.
L. Dimensions are in inches, dimension in ( ) are in millimeters.

**Drawing is provided for reference only.
Dimensions may vary with options ordered.
Consult IEC website for submittal drawings.**

Standard Features and Options

Factory-Installed Features & Options	Availability		
	Standard	Optional	Special (SFR Required)
Air Flow Arrangement			
See Unit Configurations - A1, H1, S1, D1, C1, T1, C2, M2 & W2	Both	Both	
Other/Special Arrangements			Both
Coils			
3-Rows 2-Pipe	Both		
4-Rows 2-Pipe		Both	
5-Rows 2-Pipe			Both
3/1, 3/2, or 4/1-Rows (CW/HW), 4-Pipe		Both	
Manual Air Vent	Both		
Automatic Air Vent		Both	
Drain Pan			
Stainless Steel Externally Coated with a 2-part closed cell foam	Both		
Antimicrobial Coating		Both	
Coil Construction			
Aluminum Fins with Galvanized Wrapper	Both		
Aluminum Fins with Stainless Steel Wrapper		Both	
Copper Fins with Stainless Steel Wrapper & Bottom Coil Baffle		Both	
Electric Heat			
Nichrome Wire Strip Electric Heater		Both	
Filters			
1” Throwaway non-woven synthetic	Both		
1” Permanent (washable media)		Both	
1” MERV 8 Pleated		Both	
Insulation			
1/2” Standard dual-density fiberglass	Both		
1/2” Premium IAQ Fiberglass, sealed edges			Both
1/2” Foil Face, taped edges		Both	
1/4” Closed Cell		Both	
Other/Special Insulation Types			Both
Motor Type			
EC Motor w/ 3-Speed Fan Potentiometer Board	MRY		
EC Motor w/Proportional Fan	MIY	MRY	
EC Motor w/4-speed EVO Board (Fan Speed SSRs)		MRY	
Motor Voltage			
120/1/60	Both		
208/230/277/1/60		Both	
Cabinet Modifications			
81” Cabinet Height	MIY		
86” Cabinet Height	MRY		
66” Cabinet Height		MRY	
Custom Cabinet Height			Both
Cabinet Footprint Upsize (L x W)		MRY	

table continued on next page

Standard Features and Options, Cont'd.

Factory-Installed Features & Options	Availability		
	Standard	Optional	Special (SFR Required)
Controls			
Service Switch with Lockout Tabs		MRY	
Incoming Power Fusing		MRY	
Integral Circuit Breaker with Lockout Tabs (Service Switch)	MIY		
24V Controls	MIY	MRY	
Line Voltage Controls	MRY	MIY	
Condensate Overflow Switch	MIY	MRY	
Solid State Relays (SSRs) - Electric Heat		MIY	MRY
DDC/Special/Customer Supplied Control			Both
Thermostats			
Unit Mounted (Behind RA Panel)			MRY
Outside Air Dampers			
Manual Controlled Damper			MRY
Motorized Controlled Damper			MRY
Supply Grilles			
Double Deflection, Aluminum Supply Grille		Both	
Double Deflection, Aluminum Supply Grille w/Opposed Blade Dampers		MRY	MIY
Custom Supply Grille			Both
Return Air Panel			
Quick Finish Wall Panel Kit, Type "U" (Front/Side Supply)		Both	
Quick Finish Wall Panel Kit, Type "V" (Top Supply Only)		Both	
Custom Return Air Panel			Both
Paint Options			
Arctic White	Both		
Special Color			Both
Thermostats			
Surface Mounted (with Device Tile Ring on RA Panel Surface)			MRY
Wall or Remote Mounted		Both	

Standard Features and Options

As detailed in the table below, we offer a control for most of our customer's needs. Additional controls and devices are available to meet even the most demanding operating logic.

3-speed Fan Control

All of our basic control schemes utilize a thermostat with a 3-speed switch to modulate the cooling output, to maximize the percentage of latent heat removal, and to further minimize the sound level when maximum cooling or heating performance is not required.

Low Voltage Control (24V)

An optional low voltage control is available with all of our control schemes.

Condensate Overflow Switch

This switch shuts down the unit when the water level in the drain pan reaches an unsafe level. Switch is standard on MIY and optional on MIY. New versions of building codes across the US are constantly being adopted, and may require this type of device.

Service Switches

We offer optional service switches (on MIY) for use by maintenance and service personnel.

Fusing

We offer optional incoming power fusing as well as blower motor and control sub-fusing for units that use electric heat.

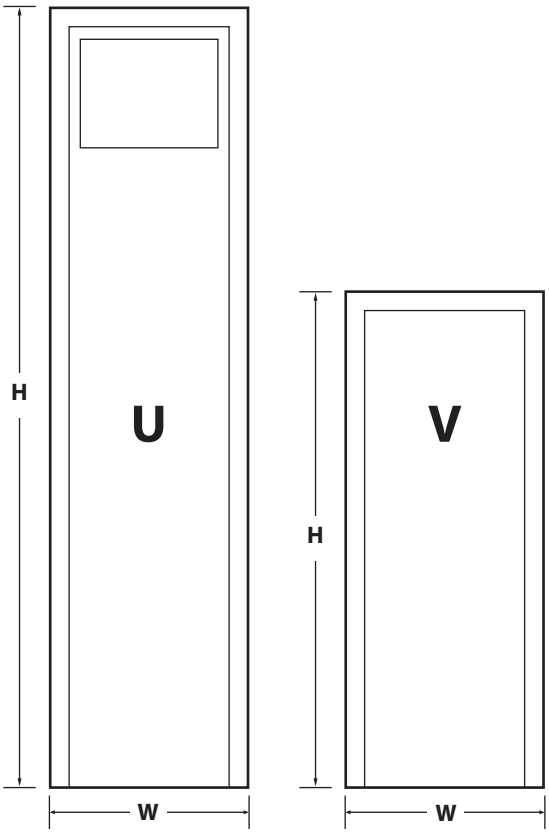
Thermostats

System Compatibility	Thermostat Type*			
	P	N	F	G
2-Pipe, Heat Only	X	X	X	X
2-Pipe, Cool Only	X	X	X	X
2-Pipe, Heat/Cool	X	X	X	X
2-Pipe, Heat/Cool with Auxilary Electric Heat	X	X	X	X
2-Pipe, Cool with Total Electric Heat	X	X	X	X
4-Pipe, Heat & Cool	X	X	X	X
Features				
24VAC	X	X	X	X
Programmable	X		X	
Non-Programmable		X		X
Surface Mount	X	X	X	X
Remote/Wall Mount	X	X	X	X
3-Speed Fan	X	X	X	X
Proportional Fan (0-10VDC)			X	X
Continuous Fan	Opt	Opt	Opt	Opt
Cycling Fan	Opt	Opt	Opt	Opt
Remote Temp Sensor	X	X	X	X
"Adjustable Operating Range (Range Stop Kit)"	SFR	SFR	SFR	SFR
Digital Display & Buttons	X	X	X	X
Local Temp. Set-Back	X	X		
Water Temp. Purge Cycle	X	X		
Changeover Pipe Sensor	X	X	X	X
Aqua Stat				
Proportional Control Valves			X	X
Floating Ctrl. Valves (2P Only)			X	X

NOTE: All manufacturer thermostats are auto-changeover - Thermostat switches between heating and cooling on its own.

***LEGEND:**
P • Basic 24 V Digital Programmable - Venstar
N • Basic 24 V Digital Non-Programmable - Venstar
F • Premium 24 V Digital 7-Day Programmable w/Proportional Options - Neptronic
G • Premium 24 V Digital BACnet with Proportional Options - Neptronic

Standard Features and Options, Cont'd.



Unit Model	Unit Size	Panel Type & Dimensions			
		Type "U" Panel		Type "V" Panel	
		H	W	H	W
MIY	04	83 (2108)	17 (437)	83 (2108)	17 (437)
MRY	03/04	88.5 (2248)	21.5 (546)	68.5 (1740)	21.5 (546)
MRY	06/08	88.5 (2248)	24.5 (622)	68.5 (1740)	24.5 (622)
MRY	10/12	88.5 (2248)	28.5 (724)	68.5 (1740)	28.5 (724)

NOTE: Dimensions shown in inches and millimeters {inches(mm)}.

General Specifications:

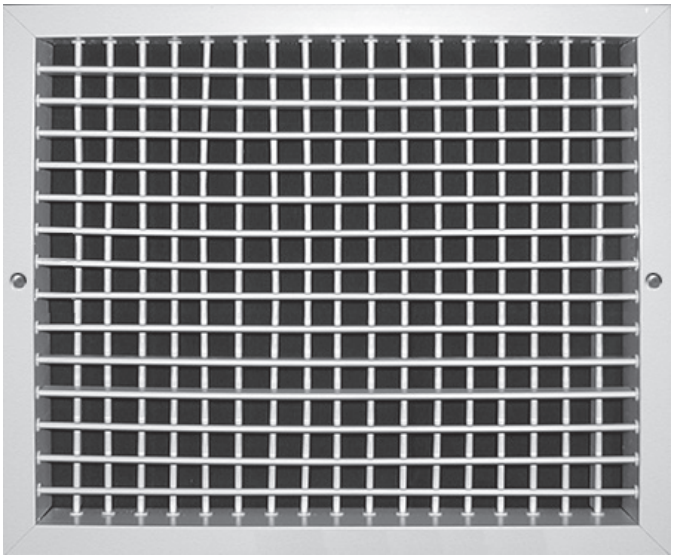
- Heavy gauge galvanized steel with arctic white powder-coated finish (standard color)
- Rear of panel is insulated with 1/2" dual density fiberglass
- Integral stamped steel return air grille
- 1/4 turn tamper-proof fasteners for panel removal
- Removal of return air deco and acoustical RA block-off panels provide service access to all internal components
- Framed panel series requires separate field installation of frame

Return Air/Access Panel Application

Model	Control Mounting Options		Availability
MRY	1.	Surface mounted controls: This requires a tile ring mounted on the return air panel and quick-connect plug wiring on the thermostat. The thermostat plug will be attached to a matching plug in the unit and the thermostat will be fastened to the tile ring.	SFR
MRY	2.	Unit mounted: Thermostat is mounted behind the acoustical RA block-off panel.	SFR
MRY, MIY	3.	Remote wall mounted: Thermostat is mounted on a wall remote from the cabinet and wiring from the unit to thermostat is done in the field.	Option

Standard Features and Options

Supply Air Grilles



NOTE: Standard double-deflection supply air grille shown.

Unit Model	Unit Size	Nom. CFM	Recommended Grille Sizes		
			Single Supply*	Double Supply	Top Supply
MIY	04	380	12 (3 05) x 8 (203)	Consult Factory	10.75 (273) x 8 (203)
MRY	03	300	14 (356) x 8 (203)	14 (356) x 6 (152)	14 (356) x 10 (254)
	04	400	14 (356) x 12 (305)	14 (356) x 6 (152)	14 (356) x 10 (254)
	06	600	18 (457) x 10 (254)	18 (457) x 6 (152)	16 (406) x 12 (305)
	08	800	18 (457) x 12 (305)	18 (457) x 6 (152)	16 (406) x 12 (305)
	10	1000	22 (559) x 16 (406)	22 (559) x 8 (203)	18 (457) x 16 (406)
	12	1200	22 (559) x 16 (406)	22 (559) x 8 (203)	18 (457) x 16 (406)

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

Filters

Unit Model	Unit Size	Cab. Size	Nominal 1" Filter Size
MIY	04	81"	11 (279) x 24-1/2 (622)
MRY	03	86"	12-1/2 (318) x 24-1/4 (616)
	04		12-1/2 (318) x 24-1/4 (616)
	06		15-1/4 (387) x 26-3/4 (679)
	08		15-1/4 (387) x 26-3/4 (679)
	10		19-1/2 (495) x 29-1/4 (743)
	12		19-1/2 (495) x 29-1/4 (743)
MRY	03	66"	12-1/2 (318) x 24-1/4 (616)
	04		12-1/2 (318) x 24-1/4 (616)
	06		15-1/4 (387) x 26-3/4 (679)
	08		15-1/4 (387) x 26-3/4 (679)
	10		19-1/2 (495) x 29-1/4 (743)
	12		19-1/2 (495) x 29-1/4 (743)

NOTE: Sizes shown are nominal ordering sizes.

Filter Static Resistance (in w.c.)

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

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Modular Hi-Rise Replacement Series
FAN COIL TECHNICAL CATALOG

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

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