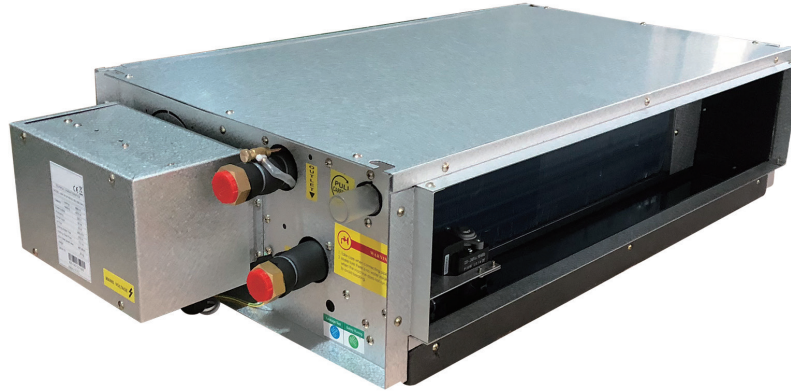


# Horizontal Ultra Thin with Plenum Chilled Water / Hot Water



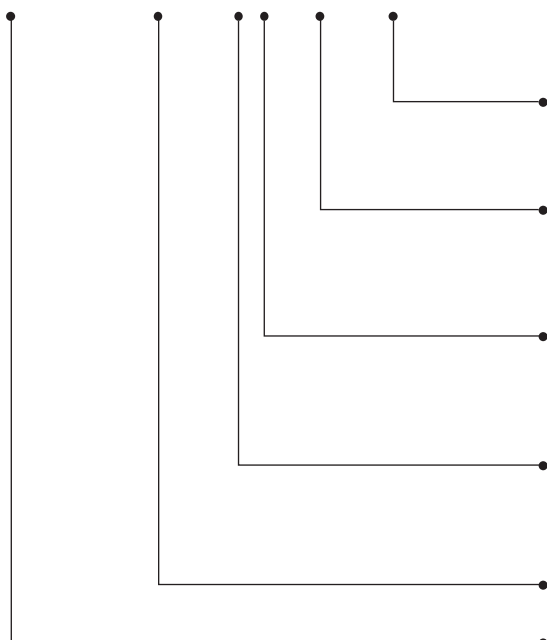
## MFCHU-AECM



The slim, space-saving MFCHU unit is designed specifically for under-ceiling mounting. This flexibility allows the unit to be customized to meet a variety of job requirements.

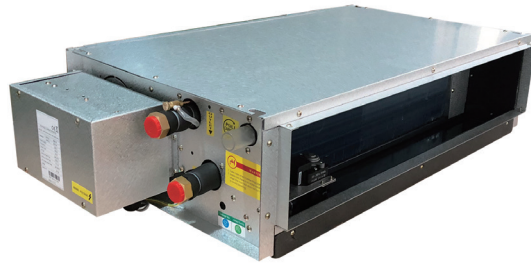
- » Cabinet height is less than 8"
- » Performance in accordance to Standard AHRI 440
- » Sound Performance tested as per AHRI Standard 350-2000 (non-ducted equipment)
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard
- » High-efficiency Variable speed EC motor available for higher energy efficiency
- » Completed controller with VAV & VWV control logic
- » Drainage condensate water pump with 28 inch head
- » Merv 8 class filter & External drain pan as standard
- » Plenum is field reversible for either rear or bottom return without the need for special adapters and tools
- » Special grade GI steel with Al + Zn coating known as 'Galvalume'
- » 2-way / 3-way modulating valve kit with Isolation ball valves & strainer is optional
- » 6-way valve is optional

### MFCHU - 400 - V X - S - AECM



AECM	EC motor configuration
S	Complete controller with VAV&VWV control logic
W	EC motor driver suitable for connection to AC or EC modulating thermostat
X	220V/1P/60Hz EC motor
Y	115V/1P/60Hz EC motor
P	Chilled/Hot Water, 4-Pipe
V	Chilled/Hot Water, 2-Pipe
VEH	Chilled Water, 2-Pipe with Electric Heater
400~800	Unit Sizes
MFCHU	Horizontal Ultra Thin with Plenum & filter

# Technical Data



## MFCHU(3R)-V-AECM

Horizontal Ultra Thin Unit 3-Row Coil 2-Pipe with EC motor

MFCHU(3R)-[Size]-V-AECM					400	600	800						
<b>Unit Configuration</b>					Configuration			2-pipe					
					Number Of Fan Blowers			2	3	4			
					Power Supply		(V/Ph/Hz)	115/ 1 / 60 or 220/ 1 / 60					
					Operation Control			~S: Complete controller with VAV&VWV control logic ~W: EC motor driver suitable for connection to AC or EC modulating thermostat					
<b>Performance Data</b>	Air	Air Flow	H	3	CFM	351	539	726					
			M	2		254	379	506					
			L	1		101	155	225					
		ESP	H	3	in.wg	0.05	0.05	0.05					
			M	2									
			L	1									
	Cooling	Cooling Capacity	H	3	BTU/Hr	10150	16124	21426					
			M	2		7807	12174	16178					
			L	1		3667	5921	8407					
		Sensible Cooling Capacity	H	3		6812	10778	14340					
			M	2		5186	8045	10704					
			L	1		2425	3900	5559					
	Heating	Heating Capacity	H	3	BTU/Hr	15779	25066	33308					
			M	2		12137	18926	25149					
			L	1		5701	9205	13069					
		Max. Electric Heater Capacity				1	2	3					
	Sound	Sound Pressure Level ( Outlet )			dB(A)	43/37/19	45/40/25	46/41/26					
		Sound Pressure Level( Inlet + Radiated )				46/40/25	48/43/28	49/44/29					
		Sound Power Level ( Outlet )				52/46/31	54/49/34	55/50/35					
		Sound Power Level( Inlet + Radiated )				55/49/34	57/52/37	58/53/38					
	Electrical	Fan Motor Power	H	3	W	42	70	84					
			M	2		23	40	43					
			L	1		11	15	17					
	Hydraulic	Cooling Water Flow Rate		3	GPM	2	3.18	4.23					
			2	1.54		2.4	3.19						
			1	0.72		1.17	1.66						
Cooling Pressure Drop			3	ft WG	7.91	8.5	7.87						
			2		5.06	5.27	4.88						
			1		1.4	1.55	1.6						
Heating Water Flow Rate			3	GPM	2	3.18	4.23						
			2		1.54	2.4	3.19						
			1		0.72	1.17	1.66						
Heating Pressure Drop			3	ft WG	7.12	7.65	7.08						
			2		4.56	4.74	4.39						
			1		1.26	1.39	1.44						
Water Content				US gal	0.208	0.35	0.475						
<b>Construction and Packing Data</b>					Water			Type			Socket(Threaded Female)		
					Connections		In		in	3/4"			
							Out						
					Condensate Drainage Connection					1"			
					Dimensions		L		inch	31 1/2	48 5/8	61 13/16	
							W			18 1/2			
H		7 7/8											
Net Weight				lbs	44	62	77						

a. Cooling mode (2-pipe):

~Return air temperature: 80F DB/ 67F WB.

~Inlet/ outlet water temperature: 45F/ 55F.

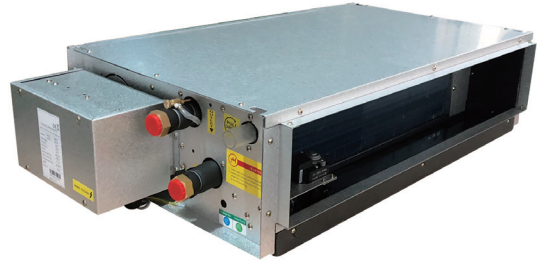
b. Heating mode (2-pipe):

~ Return air temperature: 70F.

~ Inlet water temperature: 140F

~ Water flow same to cooling mode

# Technical Data



## MFCHU(3R+1)-P-AECM

MFCHU(3R+1)-PY/PX~AECM Horizontal Ultra Thin Unit 3-Row cooling coil and 1-Row heating coil 4-Pipe with EC motor

MFCHU(3R+1)-[Size]-P-AECM					400	600	800	
<b>Unit Configuration</b>		Configuration			4-pipe			
		Number Of Fan Blowers			2	3	4	
		Power Supply		(V/Ph/Hz)	115/ 1 / 60 or 220/ 1 / 60			
		Operation Control			~S: Complete controller with VAV&VWV control logic ~W: EC motor driver suitable for connection to AC or EC modulating thermostat			
<b>Performance Data</b>	Air	Air Flow	H	3	CFM	403	611	812
			M	2		311	469	622
			L	1		165	252	337
		ESP	H	3	in.wg	0	0	0
			M	2				
			L	1				
	Cooling	Cooling Capacity	H	3	BTU/Hr	11274	17722	23362
			M	2		9259	14438	19185
			L	1		5583	8901	11828
		Sensible Cooling Capacity	H	3		7631	11943	15749
			M	2		6198	9614	12791
			L	1		3658	5792	7706
	Heating	Heating Capacity	H	3	BTU/Hr	10498	16411	21781
			M	2		8621	13370	17887
			L	1		5198	8243	11028
		Max. Electric Heater Capacity				1	2	3
	Sound	Sound Pressure Level ( Outlet )			dB(A)	43/37/19	45/40/25	46/41/26
		Sound Pressure Level( Inlet + Radiated )				46/40/25	48/43/28	49/44/29
		Sound Power Level ( Outlet )				52/46/31	54/49/34	55/50/35
		Sound Power Level( Inlet + Radiated )				55/49/34	57/52/37	58/53/38
	Electrical	Fan Motor Power	H	3	W	42	70	84
			M	2		23	40	43
			L	1		11	15	17
	Hydraulic	Cooling Water Flow Rate		3	GPM	2.23	3.5	4.61
2				1.83		2.85	3.79	
1				1.1		1.76	2.34	
Cooling Pressure Drop		3	ft WG	9.46	9.98	9.11		
		2		6.77	7.04	6.52		
		1		2.86	3.1	2.86		
Heating Water Flow Rate		3	GPM	0.52	0.82	1.08		
		2		0.43	0.67	0.89		
		1		0.26	0.41	0.55		
Heating Pressure Drop		3	ft. wg	1.26	0.59	1.24		
		2		0.9	0.42	0.89		
		1		0.38	0.18	0.39		
Cooling coil Water Content			US gal	0.208	0.35	0.475		
Heating coil Water Content				0.069	0.117	0.158		
<b>Construction and Packing Data</b>		Water Connections		Type	Socket(Threaded Female)			
				In	in	3/4"		
		Out		1"				
		Condensate Drainage Connection		1"				
		Dimensions		L	inch	31 1/2	48 5/8	61 13/16
				W		18 1/2		
H	7 7/8							
Net Weight			lbs	44	62	77		

a. Cooling mode (4-pipe):

b. Heating mode (4-pipe):

~Return air temperature: 80F DB/ 67F WB.

~ Return air temperature: 70F.

~Inlet/ outlet water temperature: 45F/ 55F.

~ Inlet/Outlet water temperature: 180F/140F

# Blower Performance

## MFCHU(3R)-V-AECM

Horizontal Ultra Thin Soffit Mount Ducted 2-pipe Unit with 3-row Coil and EC motor

MFCHU-V-AECM (120V or 240V) 3 row (2-pipe)								
Model Size	Power Input (W)	Max RPM	Apparent Amps (120V)	Fan Speed	External Static Pressure (Inches of WC)			
					0.00	0.05	0.10	0.12
400-3	45	1300	0.75	High	396	351	304	285
	25	1000	0.42	Medium	308	254	198	175
	10	600	0.17	Low	153	101	47	
600-3	70	1300	1.2	High	604	539	471	443
	45	1000	0.75	Medium	465	379	290	254
	15	600	0.25	Low	235	155	73	39
800-3	85	1300	1.45	High	812	726	637	601
	45	1000	0.75	Medium	624	506	384	335
	35	600	0.6	Low	334	225	113	68

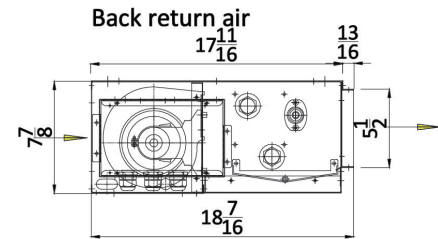
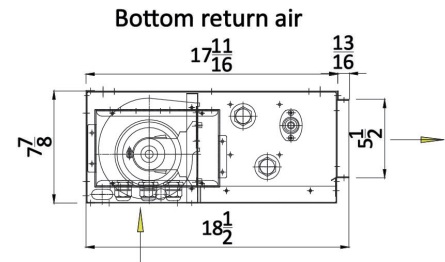
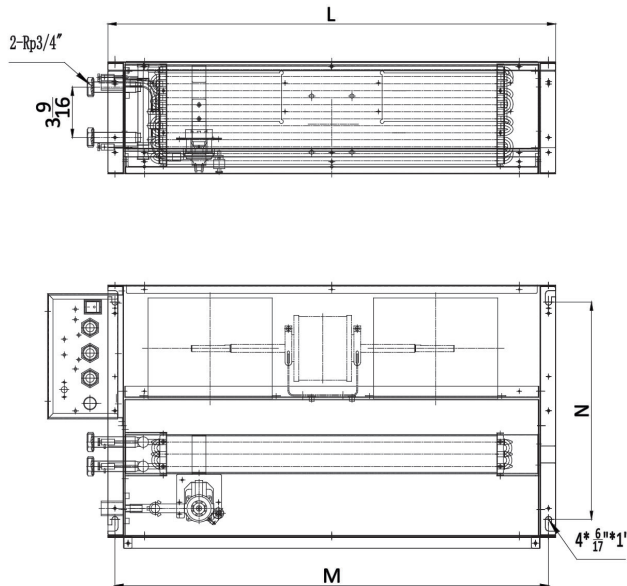
## MFCHU(3R+1)-P-AECM

Horizontal Ultra Thin Soffit Mount Ducted 4-pipe Unit with 3-row Chilled Water Coil 1-row Hot Water Coil and EC motor

MFCHC-V-AECM (120V) 3 row chilled water / 1 row hot water (4-pipe)								
Model Size	Power Input (W)	Max RPM	Apparent Amps (120V)	Fan Speed	External Static Pressure (Inches of WC)			
					0.00	0.05	0.10	0.12
400-31	45	1300	0.75	High	403	364	325	308
	25	1000	0.42	Medium	311	266	220	202
	10	600	0.17	Low	165	103	39	
600-31	70	1300	1.25	High	611	553	493	468
	45	1000	0.83	Medium	469	397	323	292
	15	600	0.33	Low	252	143	30	
800-31	85	1300	1.5	High	812	735	656	623
	45	1000	0.83	Medium	622	523	422	380
	35	600	0.66	Low	337	181		

# Technical Data

## Dimensional drawings



Model	L	M	N
MFCHU-400	31 1/2"	30 1/2"	15 1/4"
MFCHU-600	48 5/8"	47 5/8"	15 1/4"
MFCHU-800	61 13/16"	60 13/16"	15 1/4"

All dimensions are approximate and within 1/16 of an inch of those indicated.

## Accessories / Options

Accessories	photo	Code	Description
Drain pans		BCP-SSDP-MFCHU-001	Stainless steel drain-pan for MFCHU-01
		BCP-SSDP-MFCHU-002	Stainless steel drain-pan for MFCHU-02
		BCP-SSDP-MFCHU-003	Stainless steel drain-pan for MFCHU-03
E-heater kits		BCP18-EH-MFCHU-001	Electrical heater module maximum 1.5kw for MFCHU-01
		BCP18-EH-MFCHU-002	Electrical heater module maximum 2kw for MFCHU-02
		BCP18-EH-MFCHU-003	Electrical heater module maximum 3kw for MFCHU-03
Merv8 filters		BCP18-FILTER-MFCHU-G4-001	Merv 8 or G4 filter for MFCHU-01
		BCP18-FILTER-MFCHU-G4-002	Merv 8 or G4 filter for MFCHU-02
		BCP18-FILTER-MFCHU-G4-003	Merv 8 or G4 filter for MFCHU-03
Case material		BCP18-CASE-MFCHU-001	special grade GI steel with Al + Zn coating known as 'Galvalume'
		BCP18-CASE-MFCHU-001	special grade GI steel with Al + Zn coating known as 'Galvalume'
		BCP18-CASE-MFCHU-001	special grade GI steel with Al + Zn coating known as 'Galvalume'
Valve kits		BCP18-RCS-VALVE-MFCHU-001	115~240VAC 3/4" 2-way on/off thermal valve kit
		BCP18-RCS-VALVE-MFCHU-002	115~240VAC 3/4" 3-way on/off thermal valve kit
		BCP18-RCS-VALVE-MFCHU-003	24VAC 3/4" Modulating 2-way thermal valve kit
		BCP18-RCS-VALVE-MFCHU-004	24VAC 3/4" Modulating 3-way thermal valve kit



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