



**CHW BLOW THROUGH
FAN COIL UNIT
(MBF)**

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PRODUCT INTRODUCTION



In order to meet the space constraint, the chilled water blow through fan coil unit (MBF) has a lightweight and compact design. The 430mm height makes it can meet the applications requiring significant air flow while keeping space savings. Through advanced design, manufacturing equipment, and methods, high-quality copper pipes with slit profile aluminium fins are being used as high-efficiency heat exchangers.

Superb low noise performance is attained by means of rigorous static and dynamic balancing tests of motors in conjunction with superior thermal and acoustic insulation within the unit. There are several ESP options available.

DESIGN

- Slim and compact design
- High Efficiency of heat exchange
- Acoustic design
- Multiple ESP Options
- Easy Installation and maintenance
- No leakage design

NOMENCLATURE



ENGINEERING SPECIFICATION

GENERAL DATA - CEILING CONCEALED FCU (3 ROWS COIL) 50/60HZ

Model		MBF	300E	400E	500E	600E	800E	1000E	1200E	1400E
Air Flow	High	CFM	306	400	500	606	812	1006	1200	1412
	Medium	CFM	224	300	376	459	606	759	906	1160
	Low	CFM	165	200	265	329	435	524	612	738
Total Cooling Capacity	High	W	3180	4050	4920	5830	8115	9300	11800	13000
	Medium	W	2765	3480	4130	4895	6895	8185	10265	11700
	Low	W	2290	2875	3245	4255	5760	6325	7905	7560
Sensible Cooling Capacity	High	W	2080	2920	3535	4320	5660	6695	7480	9360
	Medium	W	1750	2455	2900	3675	4695	5760	6280	7950
	Low	W	1415	1960	2190	2980	3790	4285	4635	5710
External Static Pressure	High	Pa	60							
	Low		30							
Filter	Type		Washable Type							
	Material		Nylon							
	Thickness		8mm							
Fan	Type		Centrifugal Forward Curved Blades							
	Quantity		2	2	2	2	3	4	4	4
	Material		Galvanized Steel							
	Drive		Direct-Drive							
Motor	Type		Permanent Split Capacitor with Thermal Overload Protection							
	Insulation Class		Class B							
	Power Supply	V/Ph/Hz	220~240/1/50~60							
	Quantity		1	1	1	1	2	2	2	2
Rated Power Input	at ESP: 60Pa	W	75	90	110	150	178	228	270	340
	at ESP: 30Pa	W	55	65	82	105	148	171	212	253
Cooling Coil	Type		Seamless Copper Tubes Mechanically Bonded To Aluminium Hydrophilic Fins And Collars							
	Max. Working Pressure	MPa	2							
	Pipe Connection	mm(in)	DN20 (3/4") - Female Threaded							
	Water Flow Rate	l/s	0.15	0.20	0.25	0.28	0.39	0.44	0.56	0.62
	Water Pressure Drop	kPa	25	18	21	30	30	39	28	49
Net Weight		kg	17	17	18	20	27	31	34	39
Dimension	Length	mm	805	895	995	1105	1435	1635	1765	1765
	Width	mm	470	470	470	470	470	470	490	490
	Height	mm	240	240	240	240	240	240	250	300
Sound Pressure Level	at ESP: 60Pa	dB (A)	44	47	47	50	52	54	54	56
	at ESP: 30Pa	dB (A)	41	43	44	46	47	49	51	52
Condensate Drain Size		mm(in)	DN20 (3/4") - Male Threaded							

Note:

- Nominal cooling capacity is based on the following condition:
 - Water temperature: 7.0°C (inlet) / 12.0°C (outlet)
 - Air entering condition: 27.0°C DB / 19.5°C WB
- Air volume is tested under entering air condition of 20.0°C DB and dry coil condition.
- All the units' airflow value stated is at high speed.
- Sound pressure level is based on 11.5 dB(A) anechoic room background noise.
- The manufacturer reserves the rights to make changes to the above specification without prior notice.

ENGINEERING SPECIFICATION

GENERAL DATA - LOW NOISE CEILING CONCEALED FCU 50/60HZ

Model		MBF	400B	500B	600B	800B
Air Flow	High	CFM	400	500	600	800
	Medium	CFM	300	380	460	600
	Low	CFM	200	270	330	440
Total Cooling Capacity	High	W	4020	4850	6010	7950
	Medium	W	3540	4070	5050	6670
	Low	W	2925	3200	4385	5570
Sensible Cooling Capacity	High	W	2970	3485	4455	5475
	Medium	W	2500	2860	3790	4540
	Low	W	1995	2160	3070	3665
External Static Pressure		Pa	30			
Filter	Type		Washable Type			
	Material		Nylon			
	Thickness		8mm			
Fan	Type		Centrifugal Forward Curved Blades			
	Quantity		2	2	2	3
	Material		Galvanized Steel			
	Drive		Direct-Drive			
Motor	Type		Permanent Split Capacitor with Thermal Overload Protection			
	Insulation Class		Class B			
	Power Supply	V/Ph/Hz	220~240/1/50~60			
	Quantity		1	1	1	2
Rated Power Input	at ESP: 30 Pa	W	65	105	171	253
Cooling Coil	Type		Seamless Copper Tubes Mechanically Bonded To Aluminium Hydrophilic Fins And Collars			
	Max. Working Pressure	MPa	1.6			
	Pipe Connection	mm(in)	DN20 (3/4") - Female Threaded			
	Water Flow Rate	l/s	0.20	0.24	0.30	0.40
	Water Pressure Drop	kPa	30	30	40	35
Net Weight		kg	17	18	20	26
Dimension	Length	mm	905	985	1185	1465
	Width	mm	490	490	515	515
	Height	mm	250	250	275	275
High Sound Pressure Level	at ESP: 30 Pa (H)	dB (A)	41	43	43	46
Medium Sound Pressure Level	at ESP: 30 Pa (M)	dB (A)	32	35	39	37
Low Sound Pressure Level	at ESP: 30 Pa (L)	dB (A)	23	26	30	28
Condensate Drain Size		mm(in)	DN20 (3/4") - Male Threaded			

Note:

- Nominal cooling capacity is based on the following condition:
 - Water temperature: 7.0°C (inlet) / 12.0°C (outlet)
 - Air entering condition: 27.0°C DB / 19.5°C WB
- Air volume is tested under entering air condition of 20.0°C DB and dry coil condition.
- All the units' airflow value stated is at high speed.
- Sound pressure level is based on 11.5 dB(A) anechoic room background noise.
- Extended drain pan is optional upon request
- The manufacturer reserves the rights to make changes to the above specification without prior notice.

ENGINEERING SPECIFICATION

GENERAL DATA - HIGH DELTA-T CEILING CONCEALED FCU (4 ROWS COIL) 50/60HZ

Model		MBF	300H	400H	500H	600H
Air Flow	High	CFM	360	450	530	680
	Medium	CFM	310	420	510	660
	Low	CFM	190	290	370	450
Total Cooling Capacity	High	W	3392	4238	5637	6511
	Medium	W	3200	4100	5500	6400
	Low	W	2532	3475	4722	5353
Sensible Cooling Capacity	High	W	2474	2908	3798	4675
	Medium	W	2300	2800	3700	4600
	Low	W	1708	2262	3036	3657
External Static Pressure		Pa	75			
Filter	Type		Washable Type			
	Material		Nylon			
	Thickness		8mm			
Fan	Type		Centrifugal Forward Curved Blades			
	Quantity		2			
	Material		Galvanized Steel			
	Drive		Direct-Drive			
Motor	Type		Permanent Split Capacitor with Thermal Overload Protection			
	Insulation Class		Class B			
	Power Supply	V/Ph/Hz	220~240/1/50~60			
	Quantity		1			
Rated Power Input		W	95	115	133	190
Cooling Coil	Type		Seamless Copper Tubes Mechanically Bonded To Aluminium Hydrophilic Fins And Collars			
	Max. Working Pressure	MPa	2			
	Pipe Connection	mm(in)	DN20 (3/4") - Female Threaded			
	Water Flow Rate	l/s	0.35	0.43	0.52	0.67
	Water Pressure Drop	kPa	20	26	13	14
Net Weight		kg	26	30	32	34
Dimension	Length	mm	880	960	1060	1160
	Width	mm	553	553	553	553
	Height	mm	256	256	256	256
Sound Pressure Level	at ESP: 75 Pa	dB (A)	47	50	50	51
Condensate Drain Size		mm(in)	DN20 (3/4") - Male Threaded			

Note:

- Nominal cooling capacity is based on the following condition:
 - Water temperature: 5.5°C (inlet) / 14.5°C (outlet)
 - Air entering condition: 27.0°C DB / 19.5°C WB
- Air volume is tested under entering air condition of 20.0°C DB and dry coil condition.
- All the units' airflow value stated is at high speed.
- Sound pressure level is based on 11.5 dB(A) anechoic room background noise.
- Extended drain pan is optional upon request
- The manufacturer reserves the rights to make changes to the above specification without prior notice.

ENGINEERING SPECIFICATION

GENERAL DATA - HIGH DELTA-T CEILING CONCEALED FCU (4 ROWS COIL) 50/60HZ

Model		MBF	800H	900H	1000H	1200H	1400H
Air Flow	High	CFM	850	950	1240	1440	1620
	Medium	CFM	830	910	1170	1300	1520
	Low	CFM	650	710	870	920	1100
Total Cooling Capacity	High	W	8042	10372	11361	12949	13726
	Medium	W	7900	10100	11000	12400	13300
	Low	W	7072	9036	9593	10534	11450
Sensible Cooling Capacity	High	W	5798	7205	8091	9796	10155
	Medium	W	5700	7000	7800	9300	9800
	Low	W	4925	6043	6525	7534	8070
External Static Pressure		Pa	75				
Filter	Type		Washable Type				
	Material		Nylon				
	Thickness		8mm				
Fan	Type		Centrifugal Forward Curved Blades				
	Quantity		3	4	3		
	Material		Galvanized Steel				
	Drive		Direct-Drive				
Motor	Type		Permanent Split Capacitor with Thermal Overload Protection				
	Insulation Class		Class B				
	Power Supply	V/Ph/Hz	220~240/1/50~60				
	Quantity		2				
Rated Power Input		W	240	270	370	575	615
Cooling Coil	Type		Seamless Copper Tubes Mechanically Bonded To Aluminium Hydrophilic Fins And Collars				
	Max. Working Pressure	MPa	2				
	Pipe Connection	mm(in)	DN20 (3/4") - Female Threaded				
	Water Flow Rate	l/s	0.83	1.07	1.17	1.32	1.36
	Water Pressure Drop	kPa	22	27	15	29	18
Net Weight		kg	46	48	51	55	60
Dimension	Length	mm	1460	1560	1660	1460	1660
	Width	mm	553	553	553	609	609
	Height	mm	256	256	256	300	300
Sound Pressure Level	at ESP: 75 Pa	dB (A)	51	53	55	60	61
Condensate Drain Size		mm(in)	DN20 (3/4") - Male Threaded				

Note:

- Nominal cooling capacity is based on the following condition:
 - Water temperature: 5.5°C (inlet) / 14.5°C (outlet)
 - Air entering condition: 27.0°C DB / 19.5°C WB
- Air volume is tested under entering air condition of 20.0°C DB and dry coil condition.
- All the units' airflow value stated is at high speed.
- Sound pressure level is based on 11.5 dB(A) anechoic room background noise.
- Extended drain pan is optional upon request
- The manufacturer reserves the rights to make changes to the above specification without prior notice.

ENGINEERING SPECIFICATION

GENERAL DATA - HIGH AIR VOLUME FCU (4 ROWS COIL) 50/60HZ

Model			MBF	800BH			1000BH		
				HIGH	MED	LOW	HIGH	MED	LOW
Air Flow	High ESP (H)	130 Pa	CFM	800	600	480	900	720	570
Total Cooling Capacity	High ESP (H)	130 Pa	W	8290	6640	5300	9870	7900	6310
Sensible Cooling Capacity	High ESP (H)	130 Pa	W	6110	4890	3920	7390	5910	4730
External Static Pressure	High	Pa	130						
	Low	Pa	40						
Filter	Type		Washable Type						
	Material		Nylon						
	Thickness		8mm						
Fan	Type		Centrifugal Forward Curved Blades						
	Quantity		1				1		
	Material		Galvanized Steel						
	Drive		Direct-Drive						
Motor	Type		Permanent Split Capacitor with Thermal Overload Protection						
	Insulation Class		Class B						
	Power Supply	V/Ph/Hz	220~240/1/50~60						
	Quantity		1				1		
Rated Power Input	at ESP: 130 Pa	W	280				370		
Cooling Coil	Type		Seamless Copper Tubes Mechanically Bonded To Aluminium Hydrophilic Fins And Collars						
	Pipe Connection	mm(in)	DN25 (1") - Male Threaded						
	Water Flow Rate	l/s	0.44				0.50		
	Water Pressure Drop	kPa	6				14		
Net Weight		kg	55				55		
Dimension	Length	mm	860				860		
	Width	mm	770				770		
	Height	mm	430				430		
Sound Pressure Level		dB (A)	58				58		
Condensate Drain Size		mm(in)	DN25 (1") - Male Threaded						

Note:

- Nominal cooling capacity is based on the following condition:
 - Water temperature: 7.0°C (inlet) / 12.0°C (outlet)
 - Air entering condition: 27.0°C DB / 19.5°C WB
- Air volume is tested under entering air condition of 20.0°C DB and dry coil condition.
- All the units' airflow value stated is at high speed.
- Sound pressure level is based on 11.5 dB(A) anechoic room background noise.
- Extended drain pan is optional upon request
- The manufacturer reserves the rights to make changes to the above specification without prior notice.

ENGINEERING SPECIFICATION

GENERAL DATA - HIGH AIR VOLUME FCU (4 ROWS COIL) 50/60HZ

Model			MBF	1200BH			1600BH		
				HIGH	MED	LOW	HIGH	MED	LOW
Air Flow	High ESP (H)	130 Pa	CFM	1130	910	720	1470	1170	940
Total Cooling Capacity	High ESP (H)	130 Pa	W	12040	9630	7700	15930	12750	10200
Sensible Cooling Capacity	High ESP (H)	130 Pa	W	8750	6990	5600	11870	9510	7610
External Static Pressure	High		Pa	130					
	Low		Pa	40					
Filter	Type		Washable Type						
	Material		Nylon						
	Thickness		8mm						
Fan	Type		Centrifugal Forward Curved Blades						
	Quantity		1				2		
	Material		Galvanized Steel						
	Drive		Direct-Drive						
Motor	Type		Permanent Split Capacitor with Thermal Overload Protection						
	Insulation Class		Class B						
	Power Supply	V/Ph/Hz	220~240/1/50~60						
	Quantity		1				1		
Rated Power Input	at ESP: 130 Pa		W	600			700		
Cooling Coil	Type		Seamless Copper Tubes Mechanically Bonded To Aluminium Hydrophilic Fins And Collars						
	Pipe Connection	mm(in)	DN25 (1") - Male Threaded						
	Water Flow Rate	l/s	0.66				0.86		
	Water Pressure Drop	kPa	25				20		
Net Weight			kg	61			74		
Dimension	Length	mm	960			1110			
	Width	mm	770			770			
	Height	mm	430			430			
Sound Pressure Level			dB (A)	59			61		
Condensate Drain Size			mm(in)	DN25 (1") - Male Threaded					

Note:

- Nominal cooling capacity is based on the following condition:
 - Water temperature: 7.0°C (inlet) / 12.0°C (outlet)
 - Air entering condition: 27.0°C DB / 19.5°C WB
- Air volume is tested under entering air condition of 20.0°C DB and dry coil condition.
- All the units' airflow value stated is at high speed.
- Sound pressure level is based on 11.5 dB(A) anechoic room background noise.
- Extended drain pan is optional upon request
- The manufacturer reserves the rights to make changes to the above specification without prior notice.

ENGINEERING SPECIFICATION

GENERAL DATA - HIGH AIR VOLUME FCU (4 ROWS COIL) 50/60HZ

Model			MBF	1800BH			2000BH		
				HIGH	MED	LOW	HIGH	MED	LOW
Air Flow	High ESP (H)	130 Pa	CFM	1730	1390	1110	2280	1820	1460
Total Cooling Capacity	High ESP (H)	130 Pa	W	19110	15290	12220	24260	19390	15530
Sensible Cooling Capacity	High ESP (H)	130 Pa	W	14280	11420	9140	17620	14090	11290
External Static Pressure	High	Pa	130						
	Low		40						
Filter	Type		Washable Type						
	Material		Nylon						
	Thickness		8mm						
Fan	Type		Centrifugal Forward Curved Blades						
	Quantity		2				2		
	Material		Galvanized Steel						
	Drive		Direct-Drive						
Motor	Type		Permanent Split Capacitor with Thermal Overload Protection						
	Insulation Class		Class B						
	Power Supply	V/Ph/Hz	220~240/1/50~60						
	Quantity (H)/(S)		2				2		
Rated Power Input	at ESP: 130 Pa		W	750			1200		
Cooling Coil	Type		Seamless Copper Tubes Mechanically Bonded To Aluminium Hydrophilic Fins And Collars						
	Pipe Connection	mm(in)	DN25 (1") - Male Threaded				DN40 (1 1/2") - Male Threaded		
	Water Flow Rate	l/s	1.01				1.25		
	Water Pressure Drop	kPa	25				35		
Net Weight			kg	93			107		
Dimension	Length		mm	1260			1560		
	Width		mm	770			770		
	Height		mm	430			430		
Sound Pressure Level			dB (A)	62			64		
Condensate Drain Size			mm(in)	DN25 (1") - Male Threaded					

Note:

- Nominal cooling capacity is based on the following condition:
 - Water temperature: 7.0°C (inlet) / 12.0°C (outlet)
 - Air entering condition: 27.0°C DB / 19.5°C WB
- Air volume is tested under entering air condition of 20.0°C DB and dry coil condition.
- All the units' airflow value stated is at high speed.
- Sound pressure level is based on 11.5 dB(A) anechoic room background noise.
- Extended drain pan is optional upon request
- The manufacturer reserves the rights to make changes to the above specification without prior notice.

ENGINEERING SPECIFICATION

GENERAL DATA - HIGH AIR VOLUME FCU (4 ROWS COIL) 50/60HZ

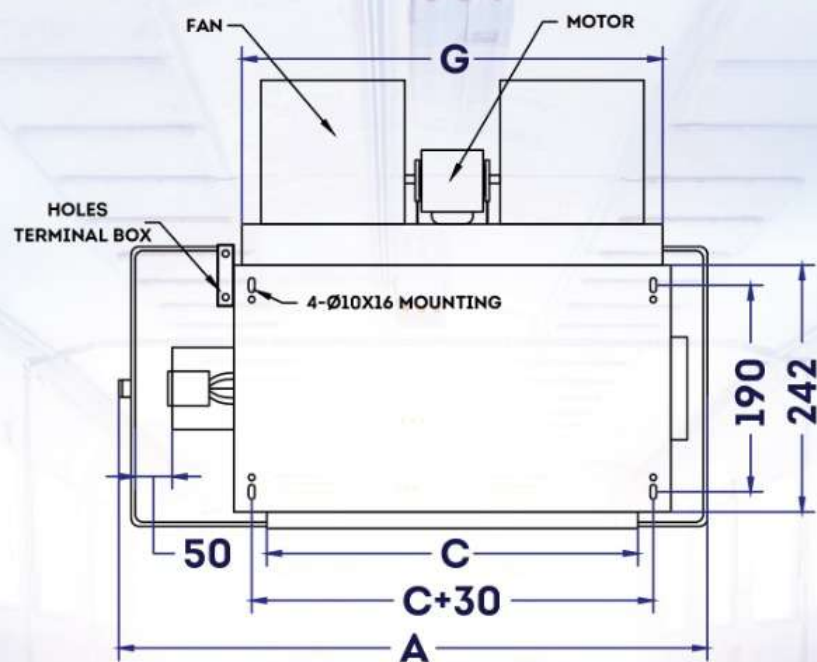
Model			MBF	3000BH		
				HIGH	MED	LOW
Air Flow	High ESP (H)	130 Pa	CFM	3240	2590	2070
Total Cooling Capacity	High ESP (H)	130 Pa	W	34410	27510	22010
Sensible Cooling Capacity	High ESP (H)	130 Pa	W	25000	19980	15990
External Static Pressure	High	Pa	130			
	Low		40			
Filter	Type		Washable Type			
	Material		Nylon			
	Thickness		8mm			
Fan	Type		Centrifugal Forward Curved Blades			
	Quantity		3			
	Material		Galvanized Steel			
	Drive		Direct-Drive			
Motor	Type		Permanent Split Capacitor with Thermal Overload Protection			
	Insulation Class		Class B			
	Power Supply	V/Ph/Hz	220~240/1/50~60			
	Quantity (H)/(S)		3			
Rated Power Input	at ESP: 130 Pa	W	1800			
Cooling Coil	Type		Seamless Copper Tubes Mechanically Bonded To Aluminium Hydrophilic Fins And Collars			
	Pipe Connection	mm(in)	DN40 (1 1/2") - Male Threaded			
	Water Flow Rate	l/s	1.71			
	Water Pressure Drop	kPa	45			
Net Weight		kg	140			
Dimension	Length	mm	2010			
	Width	mm	770			
	Height	mm	430			
Sound Pressure Level		dB (A)	66			
Condensate Drain Size		mm(in)	DN25 (1") - Male Threaded			

Note:

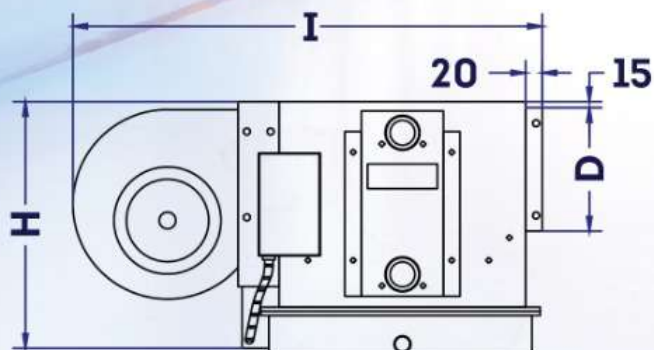
- Nominal cooling capacity is based on the following condition:
 - Water temperature: 7.0°C (inlet) / 12.0°C (outlet)
 - Air entering condition: 27.0°C DB / 19.5°C WB
- Air volume is tested under entering air condition of 20.0°C DB and dry coil condition.
- All the units' airflow value stated is at high speed.
- Sound pressure level is based on 11.5 dB(A) anechoic room background noise.
- Extended drain pan is optional upon request
- The manufacturer reserves the rights to make changes to the above specification without prior notice.

MODEL DIAGRAM

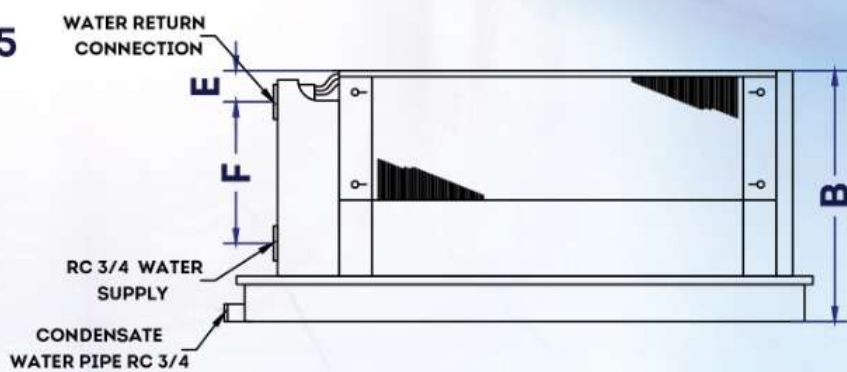
MODEL : MBF 200E - 1400E



TOP VIEW



FRONT VIEW

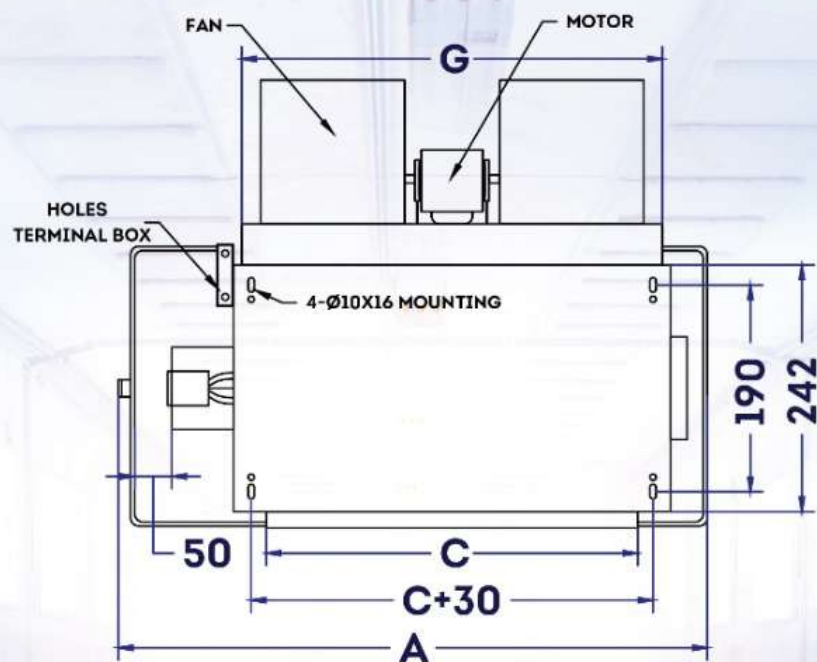


SIDE VIEW

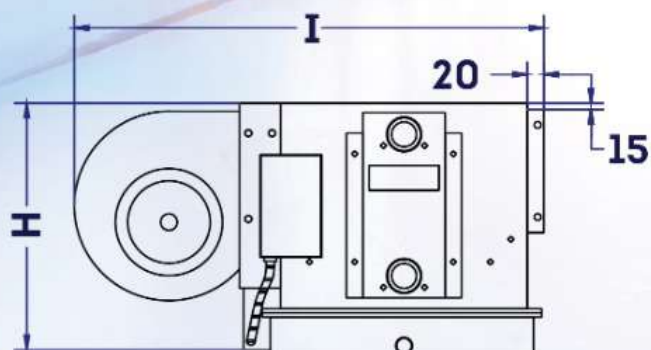
MBF	A	B	C	D	E	F	G	H	I	MOTOR NO.	FAN NO.
200E	705	240	409	135	20	145	532	235	470	1	1
300E	805	240	590	135	20	145	632	235	470	1	2
400E	895	240	680	135	20	145	722	235	470	1	2
500E	995	240	780	135	20	145	822	235	470	1	2
600E	1105	240	890	135	20	145	932	235	470	1	2
800E	1435	240	1185	135	60	88	1227	235	470	2	3
1000E	1635	240	1380	135	20	145	1422	235	470	2	4
1200E	1765	250	1510	135	60	88	1522	245	490	2	4
1400E	1765	300	1510	177	42	192	1630	300	490	2	4

MODEL DIAGRAM

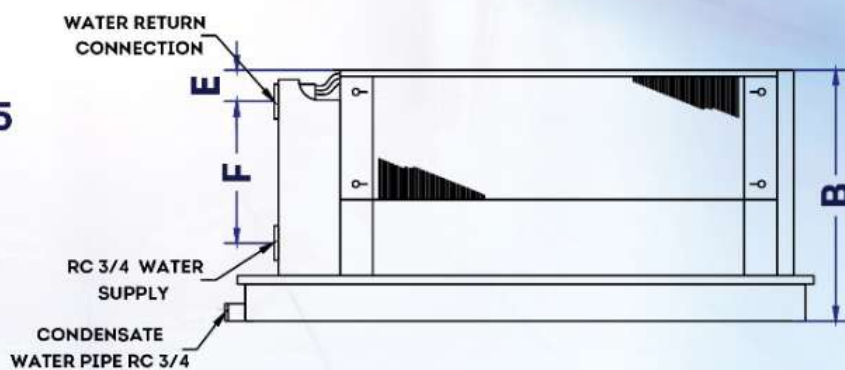
MODEL : MBF 400B - 800B (LOW NOISE CEILING CONCEALED)



TOP VIEW



FRONT VIEW

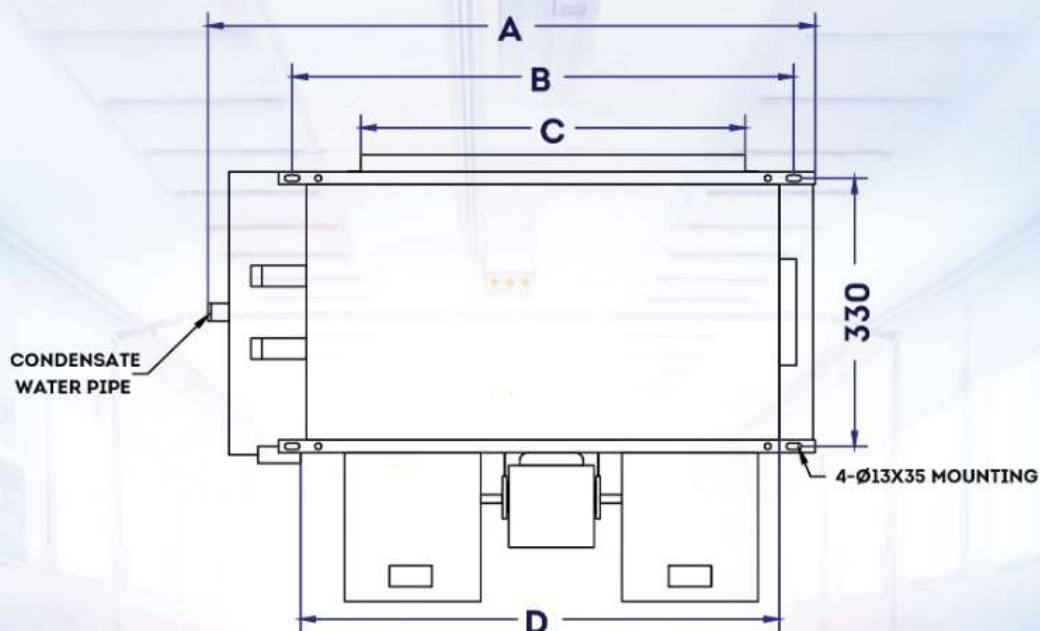


SIDE VIEW

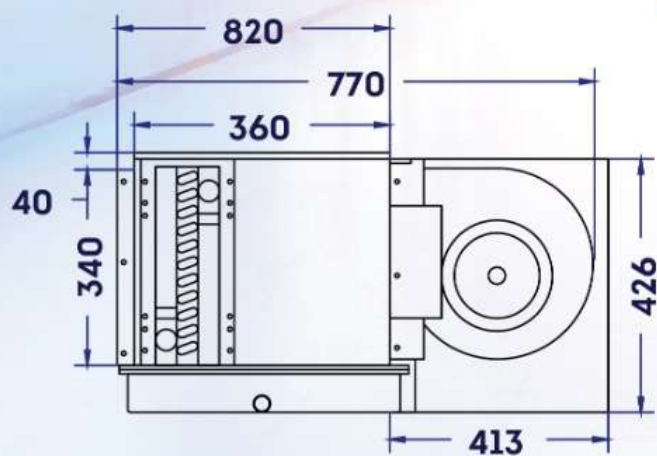
MBF	A	B	C	D	E	F	G	H	I	MOTOR NO.	FAN NO.
400B	905	250	690	135	54	118	732	245	490	1	2
500B	985	250	770	135	54	118	812	245	490	1	2
600B	1185	275	970	135	54	118	1012	270	515	1	2
800B	1465	275	1215	135	54	118	1257	270	515	2	3

MODEL DIAGRAM

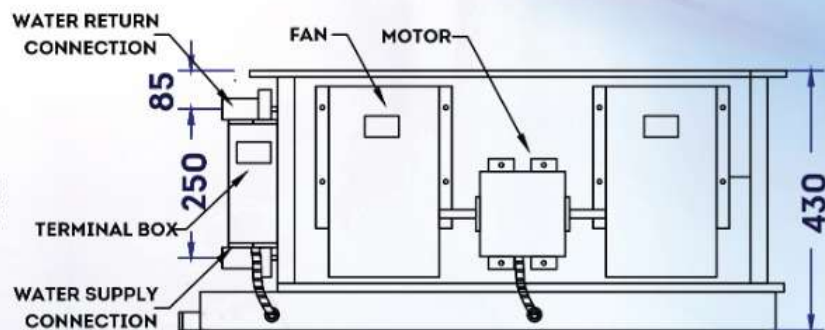
MODEL : MBF 400B - 800B HIGH AIR VOLUME



TOP VIEW



FRONT VIEW

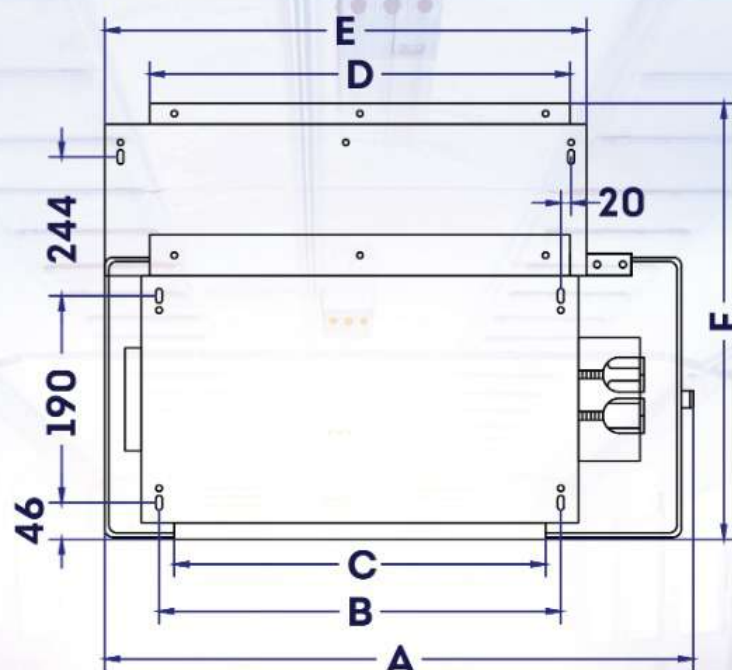


SIDE VIEW

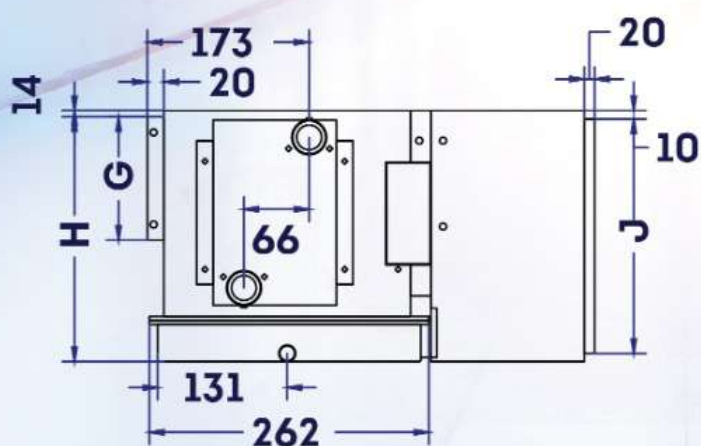
MBF	A	B	C	D	INLET / OUTLET	CONDENSATE WATER PIPE	MOTOR NO.	FAN NO.
800BH	860	683	530	590	R1	R1	1	1
1000BH	860	683	530	590	R1	R1	1	1
1200BH	960	783	630	690	R1	R1	1	1
1600BH	1110	953	800	860	R1	R1	1	2
1800BH	1260	1083	930	990	R1	R1	2	2
2000BH	1560	1403	1250	1310	R1-1/2	R1	2	2
3000BH	2010	1853	1700	1760	R1-1/2	R1	3	3

MODEL DIAGRAM

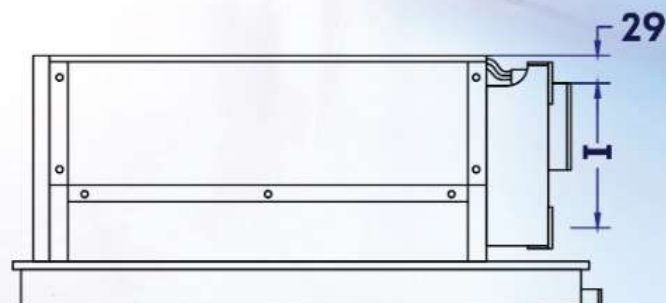
MODEL : MBF 400B - 800B (HIGH DELTA-T)



TOP VIEW



FRONT VIEW



SIDE VIEW

MBF	A	B	C	D	E	F	G	H	I	J	MOTOR NO.	FAN NO.
200H	660	478	448	481	551	553	145	256	155	226	1	1
300H	880	698	668	701	771	553	145	256	155	226	1	2
400H	960	778	748	781	851	553	145	256	155	226	1	2
500H	1060	878	848	881	951	553	145	256	155	226	1	2
600H	1160	978	948	981	1051	553	145	256	155	226	1	2
800H	1460	1228	1198	1231	1301	553	145	256	155	226	2	3
900H	1560	1325	1298	1331	1401	553	145	256	155	226	2	3
1000H	1660	1428	1398	1431	1501	553	145	256	155	226	2	4
1200H	1460	1228	1198	1231	1301	609	197	300	205	282	2	3
1400H	1660	1428	1398	1431	1501	609	197	300	205	282	2	3



NOTE



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As a result of our commitment to continuous improvement, MAC reserves the right to change the specification and description in this catalogue without prior notice.