Marketing Bulletin

MBM019-1407

Dear Valued Customers,

From:

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SUBJECT:

Launching of 60Hz Chilled Water Ceiling Cassette MCKE-EW(H) Series

New 60Hz Chilled Water Ceiling Cassette (3x3) MCKE-EW(H) Series with BLDC Motor

McQuay Air Conditioning is pleased to announce the launching of new chilled water ceiling cassette fan coil unit, with Brushless DC motor. The new MCKE-EW(H) series is available in both 2-pipe system and 4-pipe system.

This marketing bulletin will highlight the features of the new MCKE-EW(H) series with Brushless DC motor as well.

What is Brushless DC Motor?

The Brushless DC (BLDC) motor is the result of technology advancement combining both electrical and mechanical fields. Driven by an eleteonic controller, the BLDC motor is designed with a fixed armature and rotating permanent magnets. The rotor has no mechanical contact with stator and utilizes magnetic field to turn the motor.

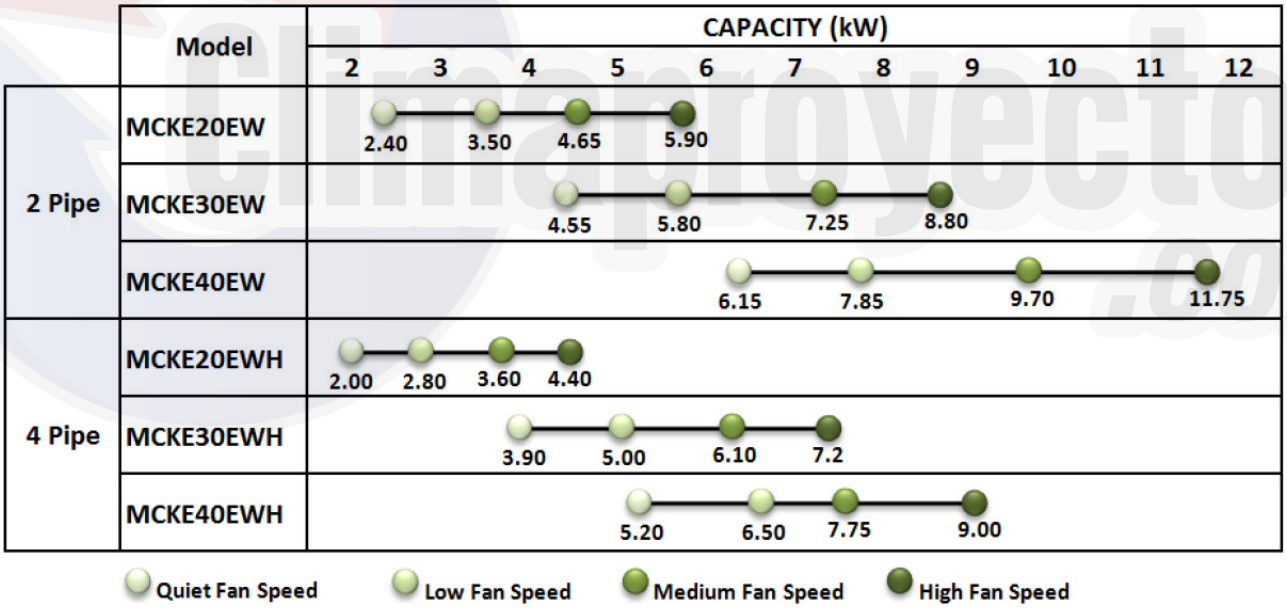
BLDC motor offers huge advantages as compared to the traditional AC motor such as the following:

a) Higher efficiency, which directly reduces the power consumption required to operate the motor.

b) Reduced wear and tear, due to the absence of carbon brushes / mechanical commutator. This means the motor will a greater reliability and longer life span.

Key Highlights

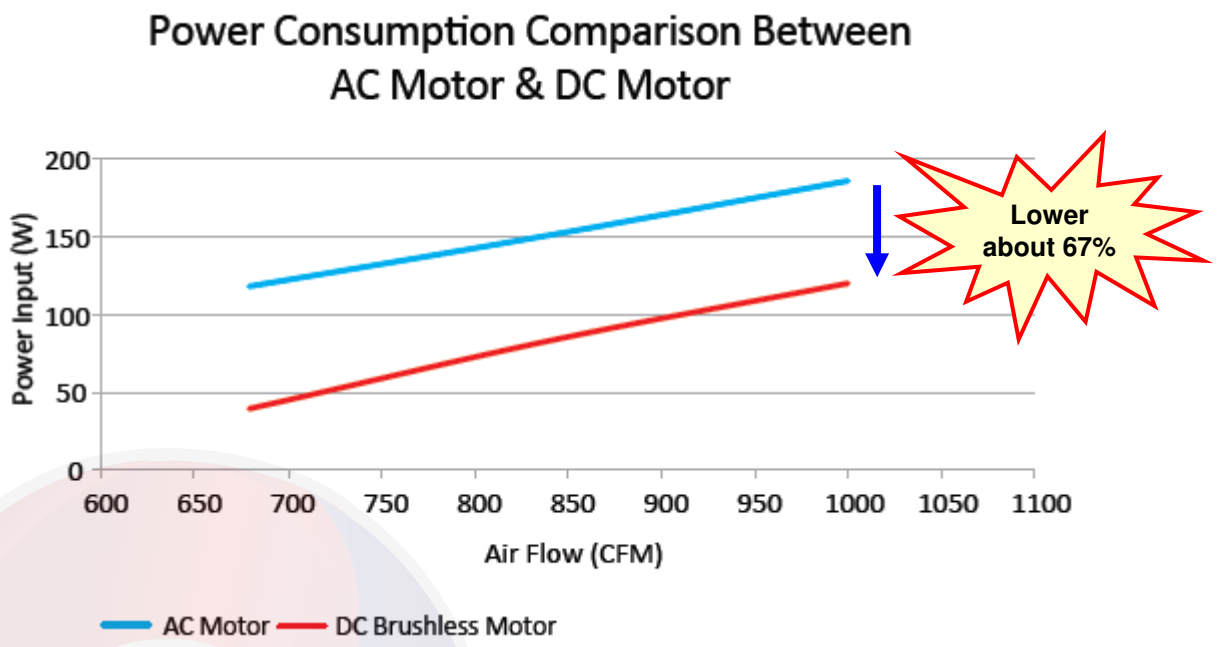
- ***Wider Capacity Range based on Fan Speed***
  - 2-Pipe System : 2.40 kW to 11.75 kW
  - 4-Pipe System : 2.00 kW to 9.00 kW



- ***4-Pipe System Available***
  - 4-pipe system allows a distribution system that contains both hot water supply with return line and a chilled water supply with another return line.
  - MCKE-EWH series

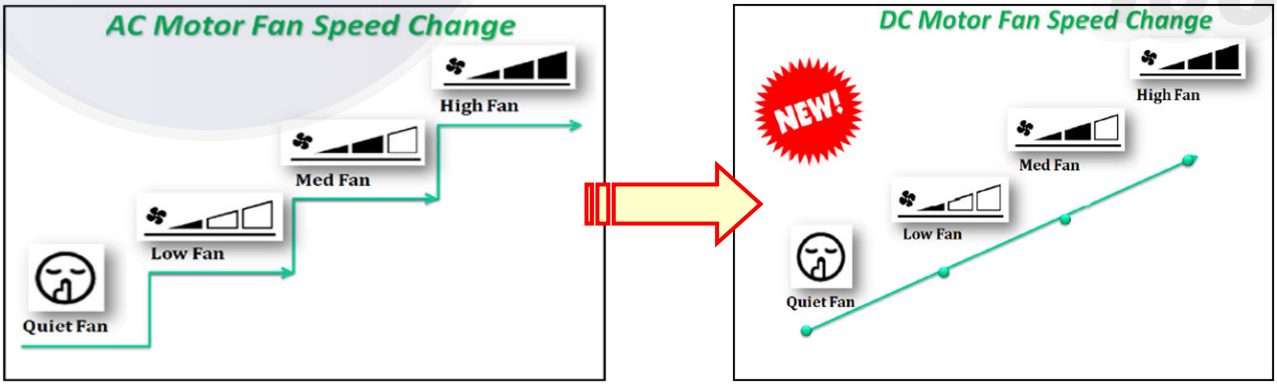
Energy Saving

- Lower power input as compared to AC motor due to better motor effiency.



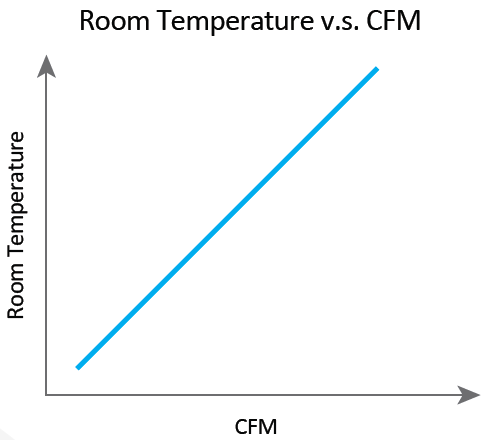
Stepless Four Fan Speed Control for Better Comfort Cooling

- Fan speed changes gradually, without any sudden change of air flow.



Modulating Fan Speed Control

- In auto fan speed mode, the fan speed modulates steplessly based on room temperature to reduce the difference between the room temperature and set temperature.
- Provides maximum cooling comfort and reduces energy consumption.

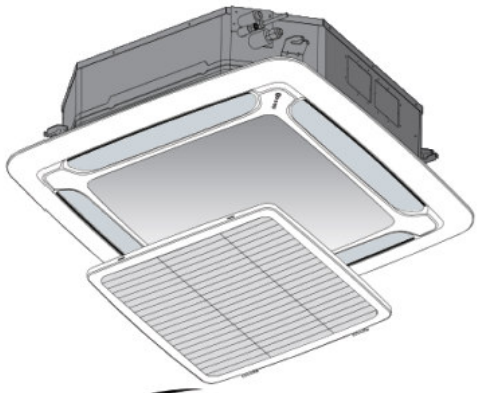


Low Noise

- Quiet mode is as low as 16 dBA.
- No brushes or mechanical commutator, it has less shaft friction or inertia and hence less audible noise.
- By adapting Daikin turbo fan, it is able to achieve exceptional low noise.

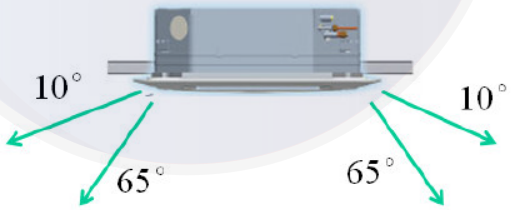
- ***Unique rounded side contour design, with new LED light location and rotatable intake grill for uniformed installation***
  - Better aesthetic appearance.
  - Ideal blend of style and function.

Rounded contour



Rotatable

- ***Optimized Cooling Comfort with 3 Different Swing Patterns***

	**Pattern 1 : Standard Setting** This is the factory default setting for comfort cooling
	**Pattern 2 : Draft Prevention Setting** Select this setting to eliminate direct drafts, which may cause discomfort
	**Pattern 3 : Ceiling Soil Prevention Setting** Recommended for location with light colour ceiling that must be kept spotless

Wireless Remote Controller

Wireless Remote Controller Features:

1. Glow in the dark Power Button
2. Turbo Mode
3. Quiet Mode
4. Fan Speed Selection
5. Temperature Selection
6. Sleep Mode
7. Mode Selection
8. On/Off Timer
9. Real Time Clock
10. Error Code Display

Large LCD Display

- With a 30mm x 30mm large LCD screen, all information can be easily seen with just a glance.

Sleek Profile

- Argonomic design to suit perfectly onto your palm
- Easy accessibility on located buttons while holding the handset.

Turbo Mode

- Turbo mode is available in COOL, HEAT and DRY modes only.
- Once activated, the air conditioner will operate at full power for 20 minutes.

Optional Wired Remote Controller

Wired Remote Controller Features:

1. Mode Selection
2. Turbo Mode
3. Quiet Mode
4. Delay Timer (Up to 2 Hrs)
5. On/Off Timer (Up to 2 Sets of 7days programmable timer Settings)
6. Sleep Mode
7. Temperature Selection
8. Fan Speed Selection
9. Real Time Clock

FURTHER INFORMATION

1. Specification

   Engineering Data : Chilled Water Cassette Fan Coil Unit (2-Pipe System with BLDC Motor)

MODEL			MCKE20EW				MCKE30EW				MCKE40EW			
			QUIET	LOW	MEDIUM	HIGH	QUIET	LOW	MEDIUM	HIGH	QUIET	LOW	MEDIUM	HIGH
NOMINAL COOLING CAPACITY		Btu/h	8200	11900	15900	20100	15200	19800	24700	30000	21000	26800	33100	40100
		W	2400	3500	4650	5900	4550	5800	7250	8800	6150	7850	9700	11750
NOMINAL SENSIBLE COOLING CAPACITY		Btu/h	5800	8700	11700	15400	11000	14500	18500	21900	14600	18900	23800	28600
		W	1710	2540	3440	4510	3220	4260	5410	6430	4270	5540	6970	8370
NOMINAL HEATING CAPACITY (ENTERING WATER TEMP. = 50˚C)		Btu/h	11300	15200	19800	24200	18400	23900	30400	38200	24100	31600	39100	46700
		W	3300	4450	5800	7100	5400	7000	8900	11200	7050	9250	11450	13700
FAN INPUT POWER		W	7	12	19	37	17	26	50	90	23	39	83	120
NOMINAL RUNNING CURRENT		A	0.14	0.20	0.28	0.47	0.26	0.36	0.61	0.97	0.32	0.49	0.92	1.23
POWER SOURCE		V/Ph/Hz	208-230 / 1 / 60											
REFRIGERANT TYPE			N/A											
CONTROL	AIR DISCHARGE		4 WAY AUTOMATIC LOUVER (UP & DOWN)											
	OPERATION		LCD WIRELESS MICRO-COMPUTER REMOTE CONTROL											
AIR FLOW		CFM	220	350	470	620	420	560	720	890	510	680	870	1060
EXTERNAL STATIC PRESSURE (H/M/L)		Pa	N/A											
NOMINAL WATER FLOW RATE		USGPM	1.84	2.68	3.56	4.52	3.41	4.44	5.55	6.74	4.71	6.01	7.43	9.00
		Litres/min	6.96	10.15	13.48	17.10	12.90	16.81	21.02	25.51	17.83	22.76	28.12	34.06
HEAD LOSS (COOLING)		kPa	5	10	15	24	7	9	14	20	15	22	30	41
HEAD LOSS (HEATING) : 50˚C		kPa	4	8	13	21	5	8	12	18	12	20	26	37
MAX. WORKING PRESSURE		kPa	1608											
SURFACE AIR VELOCITY		m/s	0.27	0.42	0.60	0.64	0.43	0.55	0.68	0.81	0.45	0.57	0.71	0.83
SOUND PRESSURE LEVEL		dBA	16	23	31	37	31	37	42	47	34	41	46	51
UNIT DIMENSION - ( ) WITH PANEL	H X W X D	mm	265 X 820 X 820 (340 X 990 X 990)								300 X 820 X 820 (375 X 990 X 990)			
PACKING DIMENSION - ( ) PANEL	H X W X D	mm	341 X 916 X 916 (125 X 1020 X 1020)								376 X 916 X 916 (125 X 1020 X 1020)			
UNIT WEIGHT		kg	26 + 4				28 + 4				32 + 4			
CONDENSATE DRAIN SIZE		mm	19.05											
PIPE CONNECTION		mm	19.05											

MODE	COOLING	HEATING
ENTERING AIR TEMPERATURE	27°C DB / 19°C WB	20°C DB
ENTERING WATER TEMPERATURE	7°C	50°C (2-PIPE SYSTEM) 70°C (4-PIPE SYSTEM)
LEAVING WATER TEMPERATURE	12°C	60°C (4-PIPE SYSTEM)

Note:

- Based on Eurovent Conditions.
- Additional 10W is required for condensate drain pump.
- Sound pressure level is tested as per JIS standard as below:

  MCKE20EW Model – 1.4m below the face center of air return of the unit

  MCKE30/40EW Model – 1.5m below the face center of the air return of the unit

Engineering Data : Chilled Water Cassette Fan Coil Unit (4-Pipe System with BLDC Motor)

MODEL			MCKE20EWH				MCKE30EWH				MCKE40EWH			
			QUIET	LOW	MEDIUM	HIGH	QUIET	LOW	MEDIUM	HIGH	QUIET	LOW	MEDIUM	HIGH
NOMINAL COOLING CAPACITY		Btu/h	6800	9600	12300	15000	13300	17100	20800	24600	17700	22200	26400	30700
		W	2000	2800	3600	4400	3900	5000	6100	7200	5200	6500	7750	9000
NOMINAL SENSIBLE COOLING CAPACITY		Btu/h	5300	7600	10200	13100	9900	13000	16600	19600	13300	16700	20700	24500
		W	1560	2240	2990	3850	2910	3810	4850	5750	3890	4900	6060	7170
NOMINAL HEATING CAPACITY (ENTERING WATER TEMP. = 70°C)		Btu/h	12800	17200	21700	26100	21800	27300	32800	38200	31900	39100	46200	53400
		W	3750	5050	6350	7650	6400	8000	9600	11200	9350	11450	13550	15650
FAN INPUT POWER		W	7	12	19	37	17	26	50	90	23	39	83	120
NOMINAL RUNNING CURRENT		A	0.14	0.20	0.28	0.47	0.26	0.36	0.61	0.97	0.32	0.49	0.92	1.23
POWER SOURCE		V/Ph/Hz	208-230 / 1 / 60											
REFRIGERANT TYPE			N/A											
CONTROL	AIR DISCHARGE		4 WAY AUTOMATIC LOUVER (UP & DOWN)											
	OPERATION		LCD WIRELESS MICRO-COMPUTER REMOTE CONTROL											
AIR FLOW		CFM	220	350	470	620	420	560	720	890	510	680	870	1060
EXTERNAL STATIC PRESSURE (H/M/L)		Pa	N/A											
NOMINAL WATER FLOW RATE (COOLING)		USGPM	1.53	2.14	2.76	3.37	2.99	3.83	4.67	5.51	3.98	4.98	5.93	6.89
		Litres/min	5.80	8.12	10.44	12.75	11.31	14.49	17.68	20.87	15.07	18.84	22.47	26.09
NOMINAL WATER FLOW RATE (HEATING)		USGPM	1.44	1.93	2.43	2.93	2.45	3.06	3.68	4.29	3.58	4.38	5.19	5.99
		Litres/min	5.44	9.20	9.20	11.09	9.28	13.91	13.91	16.23	13.55	16.60	19.64	22.68
HEAD LOSS (COOLING)		kPa	5	9	13	18	6	10	15	19	12	19	24	32
HEAD LOSS (HEATING) : 70°C		kPa	7	10	17	22	13	18	25	32	21	30	39	52
MAX. WORKING PRESSURE		kPa	1608											
SURFACE AIR VELOCITY		m/s	0.27	0.42	0.60	0.64	0.43	0.55	0.68	0.81	0.45	0.57	0.71	0.83
SOUND PRESSURE LEVEL		dBA	16	23	31	37	31	37	42	47	34	41	46	51
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CONDENSATE DRAIN SIZE		mm	19.05											
PIPE CONNECTION		mm	19.05											

MODE	COOLING	HEATING
ENTERING AIR TEMPERATURE	27°C DB / 19°C WB	20°C DB
ENTERING WATER TEMPERATURE	7°C	50°C (2-PIPE SYSTEM) 70°C (4-PIPE SYSTEM)
LEAVING WATER TEMPERATURE	12°C	60°C (4-PIPE SYSTEM)

Note:

- Based on Eurovent Conditions.
- Additional 10W is required for condensate drain pump.
- Sound pressure level is tested as per JIS standard as below:
  MCKE20EWH Model – 1.4m below the face center of air return of the unit
  MCKE30/40EWH Model – 1.5m below the face center of the air return of the unit

2. Model List :

Specification			Model Name
2-Pipe System	Unit		MCKE20EW-KEDDA
	Unit		MCKE30EW-KEDDA
	Unit		MCKE40EW-KEDDA
	Panel	Wireless Controller (Cooling)	MPLCKEW-PGS01CO-R
	Panel	Wireless Controller (Heatpump)	MPLCKEW-PGS01HP-R
	Panel	Wired Controller	MPLCKEW-PSLM8HP-R
4-Pipe System	Unit		MCKE20EWH-KEDDA
	Unit		MCKE30EWH-KEDDA
	Unit		MCKE40EWH-KEDDA
	Panel	Wireless Controller (Heatpump)	MPLCKEWH-PGS01A-R
	Panel	Wired Controller	MPLCKEW-PSLM8HP-R

3. Other Information :

Catalogue	To be updated in MSM-14
Pricelist	Please contact your respective customer service personnel / sales engineer

The models are now ready for ordering and mass production will begin from August 2014 onwards.

Should you need further information, please log in your enquires through e-feedback.