39CQM
AIR Handling Units

Think HVAC, Think Carrier.

Engineered by the House of Experts

Airflow Range (m3/h): 2000 – 100,000

Carrier International SDN BHD

Presenting our state-of-the-art manufacturing facility where we employ the latest technologies and expertise to bring you truly comprehensive HVAC solutions.

With decades of carefully honed insights, we are honored to have won the trust of our valued stakeholders world-over. This includes industry-accredited institutions who have awarded us multiple accolades which we always work to uphold.

Operations
1984–till now

SEAP
Multi-purpose TrainingHub and Experience Centre

EUROVENT CERTIFIED PERFORMANCE
AHU N° 17.08.001
Range 39CQM
www.eurovent-certification.com

Check ongoing validity of certificate: www.eurovent-certification.com

AHRI CERTIFIED®
www.ahridirectory.org
Air-Cooling and Air-Heating Coils
AHRI Standard 410

Contents

General Specifications

The 39CQM Air Handling Unit is engineered with pioneering features to deliver cooling at par with Carrier's relentlessly high, industry-setting standards. Equipped with cutting-edge features, here's an AHU that seamlessly enables efficiency in cooling.

Think Efficient Design. Think Carrier.

The 39CQM Air Handling Unit is engineered with pioneering features to deliver cooling at par with Carrier's relentlessly high, industry-setting standards. Equipped with cutting-edge features, here's an AHU that seamlessly enables efficiency in cooling.

Isolation of insulation exposure to the air stream owing to the double-skin casing with 50mm (2") 40kg/m3 CFC-Free PU insulation

Low leak construction with door lock and sealing on mating panel perimeter

Factory-installed unit base of 100mm height, constructed of heavy gauge galvanized steel

Option:

- 125mm optional height
- Hot-dipped galvanized steel for marine applications

*If there is any discrepancy, the selection software data shall take precedence

Technical Specifications

Direct Expansion Coil (DX Coil)

- Aluminum/copper coils with belled collars
- Bonded 1/2” or 3/8” copper tubes by mechanical expansion
- Galvanized steel casing on coil; stainless steel option available
- Brass distributors with sweat type connections
- Option: Heresite / Blygold coating

Chilled Water Coil

- Aluminum/copper plate fins coils belled collars
- Bonded to 1/2” or 3/8” copper tubes by mechanical expansion
- Galvanized steel frame coils; stainless steel option available
- Steel headers on coils with male threaded connections

Option:

- Copper header with brazing type connection
- Heresite / Blygold coating

*If there is any discrepancy, the selection software data shall take precedence

Wide Range of Coils

Chilled Water:
1, 2, 3, 4, 5, 6, 7, 8, 10 rows with 8, 10, 12, 14 fins per inch

Hot Water:
1, 2, 3, 4, 5, 6, 7, 8, 10 rows with 8, 10, 12, 14 fins per inch

DX Coil:
2, 4, 6 & 8 rows with 8, 10, 12, 14 fins per inch

Spring Isolator

- Fan and motor assembly are mounted on a common base
- They have color-coded internally-mounted helica spring isolators

Assembly Fan Housing Motor & Base (FMB)

- Ensures proper and easy installation of the fan housing and motor
- Made of painted heavy gauge mild steel
- Made with power strut type

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Technical Specifications

Drain Pan & Drain Outlet

- New drain pan assembly for better drainage
- Side and bottom access drain

Bearing

- Deep groove ball bearing type with adaptor sleeve or spherical roller bearing type seal at both sides; all bearings are lubricated for longer life and easy maintenance
- Mounted within a cast iron housing
- Mounted on rigid bearing housing assembly

Fan Discharge Collar

- Flanged discharge collar to provide easy duct connection

Dampers

- Mixing boxes equipped with opposed blades dampers
- **Option:** 3-point / modulating damper actuator

Taper Lock Pulley

- Flexibility to change diameter of pulley according to fan shaft
- Pulleys with taper lock bush for convenient dismantling and maintenance of drive package

All photo are for illustration purpose only

Think Reliability. Think Carrier.

- Rigid frame construction with PUF panel. Stainless steel casing / anodized aluminium frame option available.
- All coils are factory pressure-tested at 400 psig under water as standard with Nitrogen (N2).
- Coil tracks enable easy coil removal for ease of maintenance.
- Powder-painted galvanized steel drain pan with side / bottom drainage option.
  Option: Stainless steel drain pan
- **Option:** Factory-installed UVC lamp

Think Performance. Think Carrier.

- Optimized fan impeller size to meet performance criteria:
  - Forward curved blade sizes: 160mm to 1,000mm
  - Backward curved / air foil blade sizes: 225mm to 1,000mm
- **Option:** For energy management applications, options include Heat Recovery Wheel (HRW), Air-to-Air Plate Heat Exchange (PHE) and Heat Pipe.
  Powder-painted galvanized steel drain pan with side / bottom drainage option.
- Plug fan with EC Motor / Axial Fan with PM Motor for better energy efficiency.

Think Technology. Think Carrier.

AHU selection software for easy unit selection SMART AHU features available.
[Please contact your nearest Carrier representative for more details]

Think Superior Standards. Think Carrier.

Model boxes are certified to EN1886 standard

Eurovent Specifications	
Thermal Transmittance	T2
Thermal Bridging Factor	TB2
Filter Bypass Leakage (front withdrawal)	F9
Casing Air Leakage	L1 (M)
Casing Strength	D1 (M)

Unit class specification marked are as per Eurovent standard.

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Configurable 39CQM

Think Customizable HVAC. Think Carrier.

Three easy steps to quickly select the right specifications for your space:

- Use airflow or coil face area to ascertain the unit size
  - 1.5m/s minimum velocity (cooling or heating)
  - 2.65m/s maximum velocity for cooling coil without drift eliminator
  - 4.5m/s maximum velocity for heating coil only
- With estimated dimensions, find the approximate size of the base unit or the necessary sections
- If applicable, do a quick selection of both, the base casing unit and motor drive package's weight

Standard Coil

AHU Model Name	Coil Face Area (m2)	Air Volume (l/s) × 1000				AHU Model Name	Coil Face Area (m2)	Air Volume (l/s) × 1000			
		2 m/s	2.5 m/s	3 m/s	3.5 m/s			2 m/s	2.5 m/s	3 m/s	3.5 m/s
39CQM0608	0.258	0.52	0.65	0.77	0.9	39CQM1521	2.454	4.91	6.14	7.36	8.59
39CQM0609	0.302	0.6	0.76	0.91	1.06	39CQM1522	2.587	5.17	6.47	7.76	9.05
39CQM0610	0.347	0.69	0.87	1.04	1.21	39CQM1524	2.854	5.71	7.14	8.56	9.99
39CQM0711	0.447	0.89	1.12	1.34	1.56	39CQM1525	2.987	5.97	7.47	8.96	10.45
39CQM0712	0.498	1	1.25	1.49	1.74	39CQM1619	2.291	4.58	5.73	6.87	8.02
39CQM0811	0.559	1.12	1.4	1.68	1.96	39CQM1621	2.57	5.14	6.43	7.71	9
39CQM0813	0.686	1.37	1.72	2.06	2.4	39CQM1622	2.71	5.42	6.78	8.13	9.49
39CQM0912	0.685	1.37	1.71	2.06	2.4	39CQM1624	2.99	5.98	7.48	8.97	10.47
39CQM0913	0.754	1.51	1.89	2.26	2.64	39CQM1625	3.129	6.26	7.82	9.39	10.95
39CQM0914	0.824	1.65	2.06	2.47	2.88	39CQM1719	2.499	5	6.25	7.5	8.75
39CQM1015	1.057	2.11	2.64	3.17	3.7	39CQM1819	2.604	5.21	6.51	7.81	9.11
39CQM1016	1.139	2.28	2.85	3.42	3.99	39CQM1822	3.08	6.16	7.7	9.24	10.78
39CQM1117	1.28	2.56	3.2	3.84	4.48	39CQM1824	3.397	6.79	8.49	10.19	11.89
39CQM1317	1.646	3.29	4.12	4.94	5.76	39CQM1825	3.556	7.11	8.89	10.67	12.45
39CQM1318	1.76	3.52	4.4	5.28	6.16	39CQM2025	3.983	7.97	9.96	11.95	13.94
39CQM1320	1.989	3.98	4.97	5.97	6.96	39CQM2125	4.125	8.25	10.31	12.38	14.44
39CQM1322	2.094	4.19	5.24	6.28	7.33	39CQM2226	4.606	9.21	11.52	13.82	16.12
39CQM1418	1.858	3.72	4.65	5.57	6.5	39CQM2230	5.394	10.79	13.49	16.18	18.88
39CQM1419	1.979	3.96	4.95	5.94	6.93	39CQM2234	6.181	12.36	15.45	18.54	21.63
39CQM1420	2.099	4.2	5.25	6.3	7.35	39CQM2330	5.568	11.14	13.92	16.7	19.49
39CQM1421	2.22	4.44	5.55	6.66	7.77	39CQM2334	6.38	12.76	15.95	19.14	L Gen S
39CQM1422	2.341	4.68	5.85	7.02	8.19	39CQM2434	6.779	13.56	16.95	20.34	23.73
39CQM1518	2.054	4.11	5.14	6.16	7.19	39CQM2634	7.377	14.75	18.44	22.13	25.82
39CQM1519	2.187	4.37	5.47	6.56	7.65	39CQM2636	7.847	15.69	19.62	23.54	27.46

*If there is any discrepancy, the selection software data shall take precedence

Standard Coil

AHU Model Name	Coil Face Area (m2)	Air Volume (l/s) × 1000			
		2 m/s	2.5 m/s	3 m/s	3.5 m/s
39CQM0608	0.213	0.43	0.53	0.64	0.75
39CQM0609	0.258	0.52	0.65	0.77	0.9
39CQM0610	0.302	0.6	0.76	0.91	1.06
39CQM0711	0.396	0.79	0.99	1.19	1.39
39CQM0712	0.447	0.89	1.12	1.34	1.56
39CQM0811	0.495	0.99	1.24	1.49	1.73
39CQM0813	0.622	1.24	1.56	1.87	2.18
39CQM0912	0.615	1.23	1.54	1.85	2.15
39CQM0913	0.685	1.37	1.71	2.06	2.4
39CQM0914	0.754	1.51	1.89	2.26	2.64
39CQM1015	0.974	1.95	2.44	2.92	3.41
39CQM1016	1.057	2.11	2.64	3.17	3.7
39CQM1117	1.191	2.38	2.98	3.57	4.17
39CQM1317	1.532	3.06	3.83	4.6	5.36
39CQM1318	1.646	3.29	4.12	4.94	5.76
39CQM1320	1.875	3.75	4.69	5.63	6.56
39CQM1322	1.986	3.97	4.97	5.96	6.95
39CQM1418	1.737	3.47	4.34	5.21	6.08
39CQM1419	1.858	3.72	4.65	5.57	6.5
39CQM1420	1.979	3.96	4.95	5.94	6.93
39CQM1421	2.099	4.2	5.25	6.3	7.35
39CQM1422	2.22	4.44	5.55	6.66	7.77
39CQM1518	1.92	3.84	4.8	5.76	6.72
39CQM1519	2.054	4.11	5.14	6.16	7.19

AHU Model Name	Coil Face Area (m2)	Air Volume (l/s) × 1000			
		2 m/s	2.5 m/s	3 m/s	3.5 m/s
39CQM1521	2.32	4.64	5.8	6.96	8.12
39CQM1522	2.454	4.91	6.14	7.36	8.59
39CQM1524	2.72	5.44	6.8	8.16	9.52
39CQM1525	2.854	5.71	7.14	8.56	9.99
39CQM1619	2.151	4.3	5.38	6.45	7.53
39CQM1621	2.431	4.86	6.08	7.29	8.51
39CQM1622	2.57	5.14	6.43	7.71	9
39CQM1624	2.85	5.7	7.13	8.55	9.98
39CQM1625	2.99	5.98	7.48	8.97	10.47
39CQM1719	2.347	4.69	5.87	7.04	8.21
39CQM1819	2.445	4.89	6.11	7.34	8.56
39CQM1822	2.921	5.84	7.3	8.76	10.22
39CQM1824	3.239	6.48	8.1	9.72	11.34
39CQM1825	3.397	6.79	8.49	10.19	11.89
39CQM2025	3.805	7.61	9.51	11.42	13.32
39CQM2125	3.941	7.88	9.85	11.82	13.79
39CQM2226	4.409	8.82	11.02	13.23	15.43
39CQM2230	5.197	10.39	12.99	15.59	18.19
39CQM2234	5.984	11.97	14.96	17.95	20.94
39CQM2330	5.364	10.73	13.41	16.09	18.77
39CQM2334	6.177	12.35	15.44	18.53	21.62
39CQM2434	6.563	13.13	16.41	19.69	22.97
39CQM2634	7.142	14.28	17.86	21.43	25
39CQM2636	7.612	15.22	19.03	22.84	26.64

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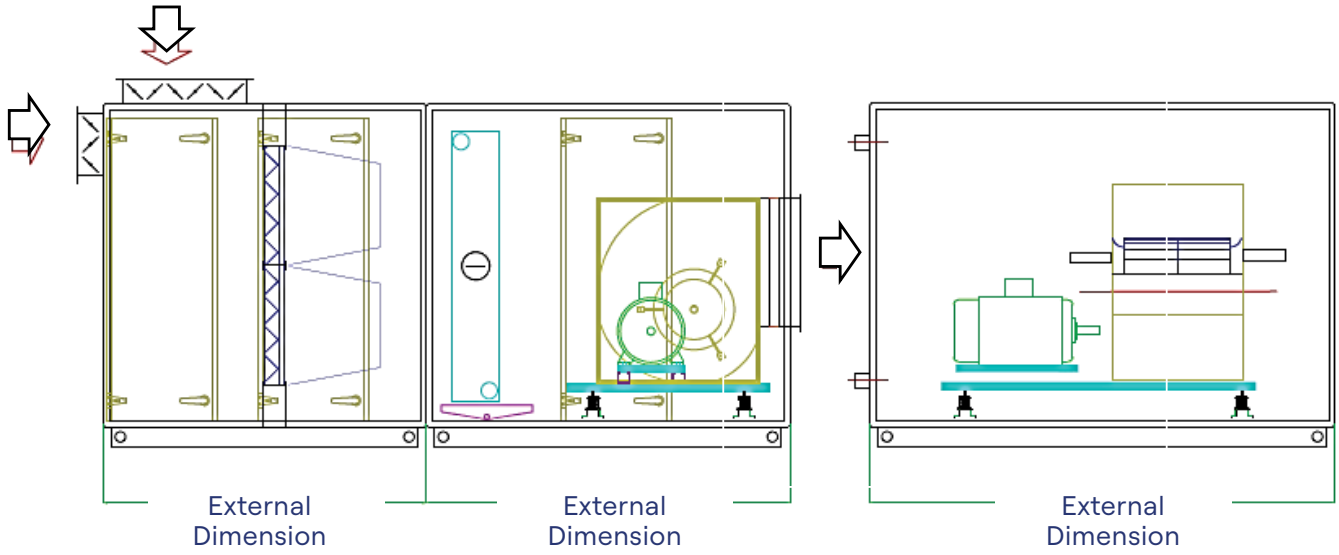
39CQM Dimensions

Horizontal Schematic



External AHU Length

External AHU Length = (Section Length + K)

where, K = 100mm (50mm casing thickness)

If the AHU module length is more than 2000mm, section will be split into several casing for shipping purpose.

For Example:

39CQM1522, MXB-BF-CCS-FS, Fan Size 500, Horizontal AHU with 50mm casing thickness Unit will be split into two section:

- MXB-BF:
  800mm + 600mm = 1400mm + K(100) = 1500mm
- CCS-FS:
  600mm + 1100mm = 1700mm + K(100) = 1800mm
- **Total AHU Length** = 3300mm

External AHU Width

External AHU Width = (Module Width + K)mm

where, K = 100mm (50mm casing thickness)

For Example:

39CQM1522, MXB-BF-CCS-FS, Fan Size 500, Horizontal AHU with 50mm casing thickness

- AHU Width = 2200mm + K(100mm) = 2300mm

Unit will be split into two section:

- MXB-BF:
  800mm + 600mm = 1400mm + K(100) = 1500mm
- CCS-FS:
  600mm + 1100mm = 1700mm + K(100) = 1800mm
- **Total AHU Length** = 3300mm

External AHU Height

Horizontal AHU Height = (Module Height + K + 100)mm where, K = 100mm (50mm casing thickness)

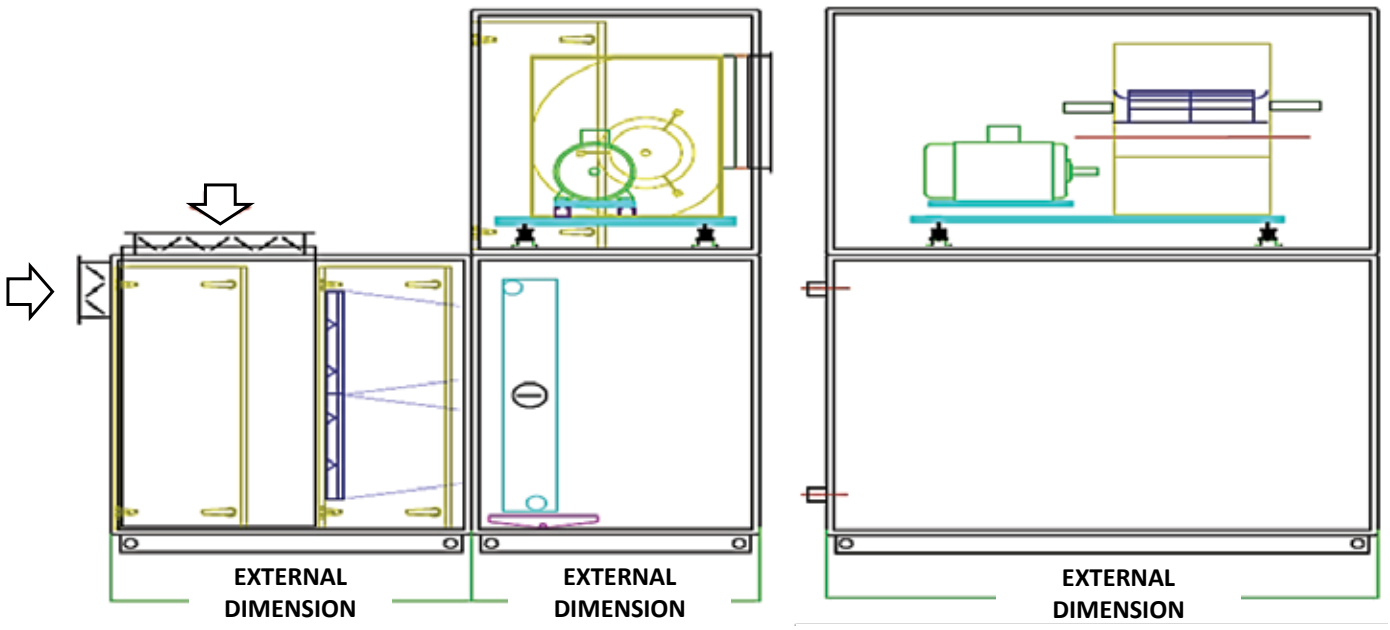
For Example:

39CQM1522, MXB-BF-CCS-FS, Fan Size 500, Horizontal AHU with 50mm casing thickness

- AHU Height = (1500mm + 100mm + 100mm) = 1700mm

*If there is any discrepancy, the selection software data shall take precedence

Vertical Schematic



External AHU Length

External AHU Length = (Section Length + K)

where, K = 100mm (50mm casing thickness)

If the AHU module length is more than 2000mm, section will be split into several casing for shipping purpose.

For Example:

39CQM1522, MXB-BF-CCS-FS, Fan Size 500, Vertical AHU with 50mm casing thickness

Unit will be split into two section:

- MXB-BF: 800mm + 600mm = 1400mm + K(100) = 1500mm
- CCS-FS: 600mm + 1100mm = 1700mm + K(100) = 1800mm
- **Total AHU Length** = 3300mm

Note:

- The fan is on top of the coil section, just apply the fan section length for calculation.
- Add 100mm incase of external filter track.

External AHU Width

External AHU Width = (Module Width + K)mm

where, K = 100mm (50mm casing thickness)

For Example:

39CQM1522, MXB-BF-CCS-FS, Fan Size 500, Horizontal AHU with 50mm casing thickness

- AHU Width = 2200mm + K(100mm) = 2300mm

External AHU Height

Vertical AHU = (Module Height + Fan Section Vertical Height + 2K + 100)mm

where, K = 100mm (50mm casing thickness)

For Example:

39CQM1522, MXB-BF-CCS-FS, Fan Size 500, Vertical AHU with 50mm casing thickness

- AHU Height = (1500mm + 1200mm + 200mm + 100mm) = 3000mm

*If there is any discrepancy, the selection software data shall take precedence

AHU Component Size

Model Name	Fan Size	Unit Ext Hgt	Unit Ext Wdt	MXB-Pri-CW-Fan		MXB-Pri/Sec-CW-Fan		Int Length	
				# Casing	Unit Ext Length	# Casing	Unit Ext Length	Mixing Box	Fan
39CQM0608	160	800	900	1	1800	1	2400	500	600
39CQM0608	180	800	900	1	1800	1	2400	500	600
39CQM0609	180	800	1000	1	1800	1	2400	500	600
39CQM0609	200	800	1000	1	1900	1	2500	500	700
39CQM0609	7-7	800	1000	1	1800	1	2400	500	600
39CQM0609	8-8	800	1000	1	1900	1	2500	500	700
39CQM0610	180	800	1100	1	1800	1	2400	500	600
39CQM0610	200	800	1100	1	1900	1	2500	500	700
39CQM0610	7-7	800	1100	1	1800	1	2400	500	600
39CQM0610	8-8	800	1100	1	1900	1	2500	500	700
39CQM0711	200	900	1200	1	1900	1	2500	500	700
39CQM0711	225	900	1200	1	1900	1	2500	500	700
39CQM0711	8-8	900	1200	1	1900	1	2500	500	700
39CQM0711	9-7	900	1200	1	1900	1	2500	500	700
39CQM0711	9-9	900	1200	1	1900	1	2500	500	700
39CQM0712	225	900	1300	1	1900	1	2500	500	700
39CQM0712	250	900	1300	1	1900	1	2500	500	700
39CQM0712	9-7	900	1300	1	1900	1	2500	500	700
39CQM0712	9-9	900	1300	1	1900	1	2500	500	700
39CQM0712	10-8	900	1300	1	1900	1	2500	500	700
39CQM0712	10-10	900	1300	1	2000	1	2600	500	800
39CQM0811	225	1000	1200	1	1900	1	2500	500	700
39CQM0811	250	1000	1200	1	1900	1	2500	500	700
39CQM0811	9-9	1000	1200	1	1900	1	2500	500	700
39CQM0811	10-8	1000	1200	1	1900	1	2500	500	700
39CQM0811	10-10	1000	1200	1	2000	1	2600	500	800
39CQM0811	12-9	1000	1200	1	2000	1	2600	500	800
39CQM0813	280	1000	1400	1	2000	1	2600	500	800
39CQM0813	315	1000	1400	1	2000	1	2600	500	800
39CQM0813	10-10	1000	1400	1	2000	1	2600	500	800
39CQM0813	12-9	1000	1400	1	2000	1	2600	500	800
39CQM0813	12-12	1000	1400	1	2000	1	2600	500	800
39CQM0912	250	1100	1300	1	2000	1	2600	600	700
39CQM0912	280	1100	1300	1	2100	1	2700	600	800
39CQM0912	10-8	1100	1300	1	2000	1	2600	600	700
39CQM0912	10-10	1100	1300	1	2100	1	2700	600	800
39CQM0912	12-9	1100	1300	1	2100	1	2700	600	800
39CQM0912	12-12	1100	1300	1	2100	1	2700	600	800
39CQM0913	280	1100	1400	1	2100	1	2700	600	800
39CQM0913	315	1100	1400	1	2100	1	2700	600	800

Base Hgt - 100 | Primary Filter - 0 | Combined Filter - 600 | Cooling Coil - 600

Model Name	Fan Size	Unit Ext Hgt	Unit Ext Wdt	MXB-Pri-CW-Fan		MXB-Pri/Sec-CW-Fan		Int Length	
				# Casing	Unit Ext Length	# Casing	Unit Ext Length	Mixing Box	Fan
39CQM0913	10-8	1100	1400	1	2000	1	2600	600	700
39CQM0913	10-10	1100	1400	1	2100	1	2700	600	800
39CQM0913	12-9	1100	1400	1	2100	1	2700	600	800
39CQM0913	12-12	1100	1400	1	2100	1	2700	600	800
39CQM0914	315	1100	1500	1	2100	1	2700	600	800
39CQM0914	355	1100	1500	1	2200	1	2800	600	900
39CQM0914	12-9	1100	1500	1	2100	1	2700	600	800
39CQM0914	12-12	1100	1500	1	2100	1	2700	600	800
39CQM1015	355	1200	1600	1	2200	1	2800	600	900
39CQM1015	400	1200	1600	1	2200	1	2800	600	900
39CQM1015	15-11	1200	1600	1	2200	1	2800	600	900
39CQM1015	15-15	1200	1600	1	2200	1	2800	600	900
39CQM1016	355	1200	1700	1	2200	1	2800	600	900
39CQM1016	400	1200	1700	1	2200	1	2800	600	900
39CQM1016	15-11	1200	1700	1	2200	1	2800	600	900
39CQM1016	15-15	1200	1700	1	2200	1	2800	600	900
39CQM1117	400	1300	1800	1	2200	1	2800	600	900
39CQM1117	450	1300	1800	1	2400	1	3000	600	1100
39CQM1117	15-11	1300	1800	1	2200	1	2800	600	900
39CQM1117	15-15	1300	1800	1	2200	1	2800	600	900
39CQM1117	18-13	1300	1800	1	2400	1	3000	600	1100
39CQM1117	18-18	1300	1800	1	2400	1	3000	600	1100
39CQM1317	400	1500	1800	1	2300	1	2900	700	900
39CQM1317	450	1500	1800	1	2500	1	3100	700	1100
39CQM1317	15-11	1500	1800	1	2300	1	2900	700	900
39CQM1317	15-15	1500	1800	1	2300	1	2900	700	900
39CQM1317	18-13	1500	1800	1	2500	1	3100	700	1100
39CQM1317	18-18	1500	1800	1	2500	1	3100	700	1100
39CQM1318	450	1500	1900	2	2600	2	3200	700	1100
39CQM1318	500	1500	1900	2	2700	2	3300	700	1200
39CQM1318	18-13	1500	1900	2	2600	2	3200	700	1100
39CQM1318	18-18	1500	1900	2	2600	2	3200	700	1100
39CQM1320	450	1500	2100	2	2600	2	3200	700	1100
39CQM1320	500	1500	2100	2	2700	2	3300	700	1200
39CQM1320	18-13	1500	2100	2	2600	2	3200	700	1100
39CQM1320	18-18	1500	2100	2	2600	2	3200	700	1100
39CQM1322	450	1500	2300	2	2600	2	3200	700	1100
39CQM1322	500	1500	2300	2	2700	2	3300	700	1200
39CQM1322	18-13	1500	2300	2	2600	2	3200	700	1100
39CQM1322	18-18	1500	2300	2	2600	2	3200	700	1100
39CQM1418	450	1600	1900	2	2600	2	3200	700	1100
39CQM1418	500	1600	1900	2	2700	2	3300	700	1200

Base Hgt - 100 | Primary Filter - 0 | Combined Filter - 600 | Cooling Coil - 600

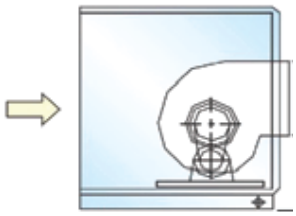
Model Name	Fan Size	Unit Ext Hgt	Unit Ext Wdt	MXB-Pri-CW-Fan		MXB-Pri/Sec-CW-Fan		Int Length	
				# Casing	Unit Ext Length	# Casing	Unit Ext Length	Mixing Box	Fan
39CQM1418	18-13	1600	1900	2	2600	2	3200	700	1100
39CQM1418	18-18	1600	1900	2	2600	2	3200	700	1100
39CQM1419	450	1600	2000	2	2600	2	3200	700	1100
39CQM1419	500	1600	2000	2	2700	2	3300	700	1200
39CQM1419	560	1600	2000	2	2800	2	3400	700	1300
39CQM1419	18-13	1600	2000	2	2600	2	3200	700	1100
39CQM1419	18-18	1600	2000	2	2600	2	3200	700	1100
39CQM1420	500	1600	2100	2	2700	2	3300	700	1200
39CQM1420	560	1600	2100	2	2800	2	3400	700	1300
39CQM1421	500	1600	2200	2	2700	2	3300	700	1200
39CQM1421	560	1600	2200	2	2800	2	3400	700	1300
39CQM1422	500	1600	2300	2	2700	2	3300	700	1200
39CQM1422	560	1600	2300	2	2800	2	3400	700	1300
39CQM1518	450	1700	1900	2	2600	2	3200	700	1100
39CQM1518	500	1700	1900	2	2700	2	3300	700	1200
39CQM1519	500	1700	2000	2	2700	2	3300	700	1200
39CQM1519	560	1700	2000	2	2800	2	3400	700	1300
39CQM1521	560	1700	2200	2	2800	2	3400	700	1300
39CQM1521	630	1700	2200	2	2900	2	3500	700	1400
39CQM1522	500	1700	2300	2	2700	2	3300	700	1200
39CQM1522	560	1700	2300	2	2800	2	3400	700	1300
39CQM1522	630	1700	2300	2	2900	2	3500	700	1400
39CQM1524	560	1700	2500	2	2800	2	3400	700	1300
39CQM1524	630	1700	2500	2	2900	2	3500	700	1400
39CQM1525	560	1700	2600	2	2800	2	3400	700	1300
39CQM1525	630	1700	2600	2	2900	2	3500	700	1400
39CQM1619	500	1800	2000	2	2800	2	3400	800	1200
39CQM1619	560	1800	2000	2	2900	2	3500	800	1300
39CQM1621	560	1800	2200	2	2900	2	3500	800	1300
39CQM1621	630	1800	2200	2	3000	2	3600	800	1400
39CQM1622	560	1800	2300	2	2900	2	3500	800	1300
39CQM1622	630	1800	2300	2	3000	2	3600	800	1400
39CQM1622	710	1800	2300	2	3100	2	3700	800	1500
39CQM1624	560	1800	2500	2	2900	2	3500	800	1300
39CQM1624	630	1800	2500	2	3000	2	3600	800	1400
39CQM1624	710	1800	2500	2	3100	2	3700	800	1500
39CQM1625	560	1800	2600	2	2900	2	3500	800	1300
39CQM1625	630	1800	2600	2	3000	2	3600	800	1400
39CQM1625	710	1800	2600	2	3100	2	3700	800	1500
39CQM1719	560	1900	2000	2	2900	2	3500	800	1300
39CQM1819	560	2000	2000	2	3000	2	3600	900	1300
39CQM1822	560	2000	2300	2	3000	2	3600	900	1300

Model Name	Fan Size	Unit Ext Hgt	Unit Ext Wdt	MXB-Pri-CW-Fan		MXB-Pri/Sec-CW-Fan		Int Length	
				# Casing	Unit Ext Length	# Casing	Unit Ext Length	Mixing Box	Fan
39CQM1822	630	2000	2300	2	3100	2	3700	900	1400
39CQM1822	710	2000	2300	2	3200	2	3800	900	1500
39CQM1824	630	2000	2500	2	3100	2	3700	900	1400
39CQM1824	710	2000	2500	2	3200	2	3800	900	1500
39CQM1825	630	2000	2600	2	3100	2	3700	900	1400
39CQM1825	710	2000	2600	2	3200	2	3800	900	1500
39CQM2025	630	2200	2600	2	3100	2	3700	900	1400
39CQM2025	710	2200	2600	2	3200	2	3800	900	1500
39CQM2025	800	2200	2600	2	3400	2	4000	900	1700
39CQM2125	710	2300	2600	2	3300	2	3900	1000	1500
39CQM2125	800	2300	2600	2	3500	2	4100	1000	1700
39CQM2226	710	2400	2700	2	3300	2	3900	1000	1500
39CQM2226	800	2400	2700	2	3500	2	4100	1000	1700
39CQM2230	800	2400	3100	2	3500	2	4100	1000	1700
39CQM2230	900	2400	3100	2	3700	2	4300	1000	1900
39CQM2234	800	2400	3500	2	3500	2	4100	1000	1700
39CQM2234	900	2400	3500	2	3700	2	4300	1000	1900
39CQM2234	1000	2400	3500	2	3800	2	4400	1000	2000
39CQM2330	800	2500	3100	2	3600	2	4200	1100	1700
39CQM2330	900	2500	3100	2	3800	2	4400	1100	1900
39CQM2334	800	2500	3500	2	3600	2	4200	1100	1700
39CQM2334	900	2500	3500	2	3800	2	4400	1100	1900
39CQM2334	1000	2500	3500	2	3900	2	4500	1100	2000
39CQM2434	900	2600	3500	2	3800	2	4400	1100	1900
39CQM2434	1000	2600	3500	2	3900	2	4500	1100	2000
39CQM2634	900	2800	3500	2	3800	2	4400	1100	1900
39CQM2634	1000	2800	3500	2	3900	2	4500	1100	2000
39CQM2636	900	2800	3700	2	3800	2	4400	1100	1900
39CQM2636	1000	2800	3700	2	3900	2	4500	1100	2000

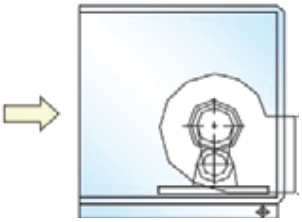
Base Hgt - 100 | Primary Filter - 0 | Combined Filter - 600 | Cooling Coil - 600

Fan Arrangement

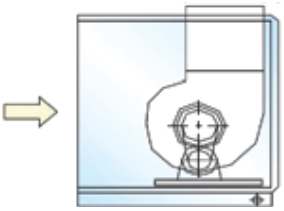
Side Elevation



THF ARR 1



BHF ARR 2



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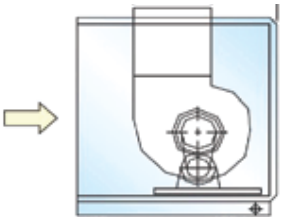

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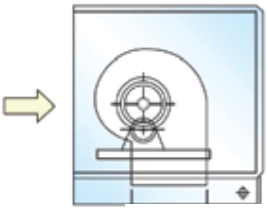
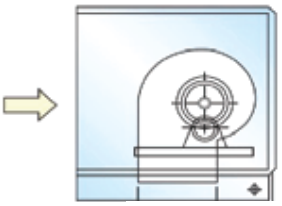
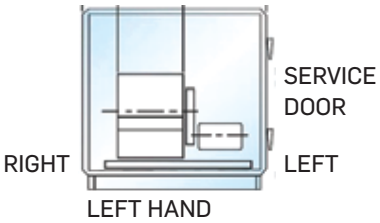


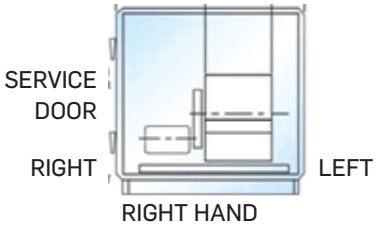
DBF ARR 5

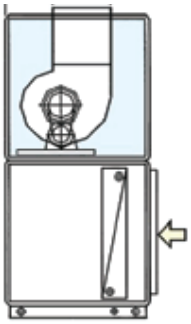


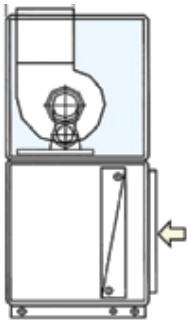
DBR ARR 6

Front Elevation









Guide Specification

General

The design of the air handling unit is based on the use of modular panels and extruded aluminum perimeter frames with composite corner piece.

Units shall be horizontal/vertical draw-through type or horizontal blow-through type. In general, the unit shall consist of:

- Mixing box section
- Heater section Fan section
- Filter section
- Coil section
- Access or Plenum section

Casing

- Unit shall be constructed of a complete frame with easily removable panels.
- All 39CQM unit sections shall be supplied with heavy gauge, 125mm optional height and hot-dipped galvanized steel for marine applications. Lifting holes are provided for rigging purposes and are positioned to suit optimum hoisting stability.
- All panels shall be sealed against a full casing perimeter with nitrile gasket to ensure a tight seal.
- Mixing Box section shall be solid double wall, insulated casing and complete with necessary dampers for return and fresh air mixing. Accessibility options shall be provided with hinged access door on left, right or both access sides.
    - Viewports shall be available as a factory-installed option on the door of this section.
    - Marine lights shall be available as a factory-installed option.
- Filter section shall be solid double wall, insulated casing and complete with necessary tracks or filters installation. Accessibility options shall be with hinged access door on hand side or hinged access doors on both sides.

  Pressure gauges (or pressure switches) shall be available as a factory-installed option.

  Filter sections shall be designed and constructed to contain one of the following filter types:

  1. Face/side loading pre-filters
  2. Face loading bag filters
  3. Side loading bag filters
  4. Face loading HEPA filters
- Casing panels shall have no exterior exposed raw edges that could lead to rust formation. All casing corners shall be radiused or chamfered.
- Heat Recovery Wheel (HRW) section shall have solid double wall, insulated casing and complete with necessary fittings for HRW installation. Accessibility option shall be with removable access door on the hand side.

*If there is any discrepancy, the selection software data shall take precedence

- The casing panels shall be solid double wall of 50mm nominal construction with injection foam insulation in between. The outer panel shall be painted 0.5mm thick galvanized steel (sky blue color– RAL 5012) and inner panel shall be unpainted 0.5mm thick galvanized steel as standard. The panel coating shall meet ASTM B117 Standard for 500-hour salt spray test. 0.8 and 1.0mm thick panel skin options available.Stainless steel panel option available.
- Fan section has solid double wall, insulated casing and complete with necessary base for fan/motor installation. Accessibility options shall be with hinged access door on hand side or hinged access doors on both sides.

  Viewports shall be available as a factory-installed option on the door of this section.

  Marine lights shall be available as a factory-installed option.

  Blow-thru sections shall have a diffuser plate as an integral part of the fan section if used immediately downstream of the fan section.

  The fan discharge shall be square in area and isolated from the casing by flexible canvas connection.

- Access and Plenum section shall have solid double wall and insulated casing. Accessibility options shall be hinged access door on hand side or hinged access doors on both sides.

  Viewports shall be available as a factory-installed option on the door.

  Marine lights shall be available as a factory-installed option.

- Heater section shall have solid double wall, insulated casing and complete with necessary fittings for heater installation. Accessibility option shall be with removable access door on the hand side.
- The casing panels shall be insulated with injected cast-in-situ CFC-Free Polyurethane insulation foam with thermal conductivity of 0.020W/mK and a density of 40kg/m3 in between. The insulation shall be sandwiched and encapsulated between the inner and outer panel. Exposed insulation is not acceptable.
- Coil section shall have solid double wall, insulated casing and complete with necessary fittings for coil installation. Accessibility options shall be with hinged access door or removable access doors.

Fans

General

- Forward-curved fans shall have double width double inlet (DWDI) fan impeller and scroll. They shall be constructed of galvanized steel and shall be designed for continuous operation at the maximum rated fan speed and motor horsepower. Completed fan assembly shall be statically and dynamically balanced in accordance to ISO 1940.
- Backward inclined fans shall have double width double inlet (DWDI) fan impeller and scroll. The fan assembly shall be cleaned, primed and painted with epoxy paint and shall be designed for continuous operation at the maximum rated fan speed and motor horse-power. Completed fan assembly shall be statically and dynamically balanced in accordance to ISO 1940.
- Airfoil fan sections shall have one double width double inlet (DWDI) airfoil fan impeller and scroll. The fan assembly shall be cleaned, primed and painted with epoxy paint and shall be designed for continuous operation at the maximum rated fan speed and motor horse-power. Completed fan assembly shall be statically and dynamically balanced in accordance to ISO 1940.
- Plenum/Plug fan sections shall have one single width single inlet (SWSI) fan impeller and scroll. The fan assembly shall be cleaned, primed and painted with epoxy paint. Completed fan assembly shall be statically and dynamically balanced in accordance to ISO 1940. Plug fan shall be direct driven.
- Fan wheels shall be keyed to the shaft and shall be designed for continuous operation at maximum rated fan speed and motor horsepower. Fan wheels and shafts shall be selected with a maximum operating speed 25% below the first critical speed.
- Recommended fan discharge outlet velocity is between 10~12 m/s.
- Fan shafts shall be solid carbon steel, turned, ground, polished and coated with protective paint. Hollow shafts are not acceptable.
- For variable air volume control, variable frequency drive (VFD) can be supplied optionally.

Performance Ratings

- Air performance ratings of the fans shall be rated and certified in accordance with AMCA if applicable.

Sound Ratings

- Manufacturer shall publish eight octave sound power for fan inlet, fan discharge and airborne.

Mounting

- Fan scroll, impeller, shaft, bearing, drives and motor shall be mounted on a common base assembly. The base assembly shall be isolated from the outer casing with factory-installed spring isolator and flexible canvas connection.

Bearing

- Fan bearings are with nominal 200,000hrs average life (L50) as standard for DWDI and AC Plug Fan.

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Motor

- Fan motors shall be mounted within the fan section casing on slide rails to aid in belt tightening.
- Fan motors shall be IP55 enclosure, totally enclosed fan cooled (TEFC) with class F insulation and class B temperature rise complying with BS2757.
- Fan motors shall be standard efficiency type. Optional high efficiency (IE3) motors shall be available, if specified. Motor efficiency class shall be based on IEC 60034-30:2008 Standard.
- The motors shall be suitable for operation at ambient temperature of 40°C (max) with ±10% voltage utilization range and a 1.15 minimum service factor. For operation > 40°C please check with factory representative.

Drives

- The drive assembly shall consist of V-belts and a set of fan and motor pulleys adequately sized to meet the specified performance.
- The V-belts shall be SPZ, SPA, SPB or SPC grades, oil and heat resistance and having anti-static characteristic which prevent electrical discharge.
- The motor and fan pulley dimension shall conform to ISO 4183 and shall be using taper-lock bush with set screws for easy and quick assemble and disassemble process. The pulley shall be phosphated and coated with a layer of rust prohibitive paint for protection against corrosion.
- Drive shall be designed for a minimum 1.5 service factor as standard with a 2.0 service factor as option. Drives shall be fixed pitch with variable pitch as an option. All drives shall be factory mounted with sheaves properly aligned and balanced.

Coils

General

- All coil performances shall be rated in accordance with AHRI 410 Standard and shall be tested at 400 psi air pressure while submerged under water.
- All coils shall have galvanized steel casing of 12.7mm (1/2-in.) OD seamless copper tubes mechanically expanded into fins to ensure high thermal performance. Optional is with 9.5mm (3/8") OD copper tubes (applicable for cooling coil only).
- All coils shall be with aluminum fin with belled collars. Optional copper fins or fins with protective coatings shall be supplied, if specified. Protective coatings shall be post coated and sprayed type only.
- All aluminum fin coils shall be supplied with galvanized casing and steel tube sheets. Optional stainless steel or aluminum tube sheet shall be supplied, if specified. Copper fin coils shall be supplied with stainless steel casing and tube sheets.
- All water coils shall be with 1 – 10 rows and 8 – 14 fin per inch (fpi) whereas refrigerant coils shall be with 2 – 8 rows and 8 – 14 fin per inch (fpi).
- Moisture eliminator shall be provided, if specified to trap moisture droplets. The moisture eliminator material shall be aluminum, mesh aluminum or PVC type as specified.

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Cooling and Heating

- All cooling, heating and refrigerant (DX) coils shall be provided to meet the scheduled performance.
- All coils shall have minimum 12.7mm (1/2-in.) OD seamless copper tubes mechanically expanded into fins to ensure high thermal performance. Optional is with 9.5mm (3/8") OD copper tubes (applicable for cooling coil only).

Direct Expansion (DX)

- Headers shall be constructed of seamless copper pipe material with brazed joints.
- DX coil circuiting shall include dual distributors arrangement for all sizes. Brass nozzles and distributors are factory supplied to ensure uniform flow. Thermal expansion valves shall be provided if specified.
- DX coils shall have full face active area with row-split intertwined circuits for equal loading (optional face-split if specified). Suction and thermal valve connection shall be on the same side.
- DX coils shall be designed for counter flow arrangements (refrigerant flow against airflow direction).

Drain Pans

- Drain pans shall be single wall thick galvanized (and powder painted) or SS304 stainless steel construction as specified. The drain pan depth shall be sufficient and insulated with PE closed cell insulation underneath to prevent condensation.
- The side drainage drain pan shall be sloped toward the drain fitting to ensure positive condensate drainage and shall extend downstream of the coil to provide sufficient amount of space to contain moisture carry-over. Side drainage drain pan shall allow no standing water and design in accordance to ASHRAE Standard 62.
- Drain pan shall have a side drainage design with MPT connection (43mm OD) for side discharge and trapping, while bottom drainage design with FPT connection (43mm). One drain outlet shall be supplied for each cooling coil section unless otherwise indicated.
- Where cooling coils are stacked in a coil bank, intermediate drain pans shall be provided and the condensate shall be piped to the bottom drain pan. The bottom coil shall not serve as a drain path for the upper coil.
- The coil shall not sit in the drain pan and shall be removable via a coil track.

*If there is any discrepancy, the selection software data shall take precedence

Electrical Heaters

- Electric heater capacity shall be as indicated on the equipment schedule.
- The electric heater element shall be constructed from 80/20 nickel chrome resistance wire which is connected to terminal pins and centered in SS304 stainless steel sheath tubes by compressed magnesium oxides.

Filter

- Primary filter sections accept 25mm or 50mm (G3 or G4) washable or disposable filters.
- Bag filter sections capable of accepting (F5 - F9) bag filters with length up to 529mm with 22mm header.
- Blow-thru HEPA filter sections contain a face loading filter frame capable of accepting standard size 300mm deep HEPA filters (H13-H14).
- Optional Magnehelic / Minihelic filter gages (or filter switches) complete with necessary tubing to measure the pressure drop across the filters shall be provided if specified.

European Efficiency Guide	Filter Details	Media	Frame Material
G3	Panel - Primary Filter	Pleated type: Synthetic fibre	Galvanize Iron / Aluminium
G4	Panel - Primary Filter	Pleated type: Synthetic fibre	Galvanize Iron / Aluminium
M5 - F9	Bag - Secondary Filter	Pleated type: Synthetic fibre	Galvanize Iron / Aluminium
H13 - H14	HEPA	Pleated type: Synthetic fibre	Galvanize Iron / Aluminium

- European Efficiency Classes are based on European Standards EN 779 and EN 1882.

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MXB Dampers

Damper frame shall be made of extruded and anodized aluminum. Damper blades shall also be extruded and anodized aluminum airfoil shape to withstand high velocity and static pressure. Dampers shall be provided with flexible synthetic blade edge seals for low leakage application.

Accessories / Options

Viewports

- Viewports shall be available as factory installed option on access doors. The viewports shall be fabricated from round, double plane, clear and rigid polycarbonate with a minimum diameter of 200mm and installed with screws that do not come into direct contact with the internal surface of the air handling unit.
- The viewport shall be gasketed on the internal and external surface with thermoplastic elastomer (TPE) gaskets to ensure air-tightness. The viewport shall be capable of withstanding unit operating pressures.

Marine Lamp

- Marine lamps shall be available as factory installed option on the mixing box, empty and fan sections of the air handling unit. The construction shall be vapor tight and rated to IP44.
- The marine lamps shall consist of a structural light fitting base with aluminum reflector receptacle and structural glass globe protected by wire mesh.
- The marine lamps shall come fitted with a light bulb complete with factory installed wiring and terminated with an IP55 rated switch located external to the unit.

*If there is any discrepancy, the selection software data shall take precedence

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*Images are for illustration purposes only.