

JOB NAME:	LOCATION:	
CONTRACTOR:	PROJECT MANAGER:	
SUPERINTENDENT:	SUBCONTRACTOR:	
PURCHASER:	ORDER NO:	
ENGINEER:	PROJECT MANAGER:	
SUBMITTED TO:	APPROVAL:	CONSTRUCTION:
SUBMITTED BY:	DATE:	
UNIT DESIGNATION:	SCHEDULE NO:	MODEL NO:

### COOLING PERFORMANCE

Outdoor Design Temperature ..... °F °C DB, °F °C WB  
 Elevation Above Sea Level..... FT, M  
 Intake Air External Static Pressure ..... IWG, Pa  
 Intake Air Flow..... CFM, LPS  
 Conditioned Air Ext. Static Pressure ..... IWG, Pa  
 Total Conditioned Air @ Full Speed ..... CFM, LPS  
 Conditioned Air Temperature (+/- 2 °F)..... °F °C DB, °F °C WB  
 Inlet and conditioned air dewpoint are the same..... °F °C  
 Working Air External Static Pressure ..... IWG, Pa  
 Working Air Flow..... CFM, LPS

### ELECTRICAL DATA

3 phase 440 - 480 VAC, 50 - 60 Hz, 1250 W max, 2.1 Amp, EC Motor  
 FLA ..... 2.1   
 Power Supply (max. overcurrent protection) ..... 20  
 Min. unit disconnect FLA ..... 5  
 Ampacity ..... 15 – 20  
 Min. wire size..... 14 AWG w/ ground  
 External Fusing..... 10 – 20 amp  
 Phase..... 3  
 HZ (require to spec) ..... 50/60  
 Power input requirement (watts) ..... 1250  
 EC, backward curved impeller, 3D, 500mm diameter .....

### TOTAL UNIT WEIGHT/SHIPPING DIMENSIONS

Dry Install Weight:..... 370 lbs (168 kg)  
 Operating Weight (wet) ..... 420 lbs (190 kg)  
 Shipping Dimensions..... 30”(1,524mm)W x 50”(1,270mm)L x  
 ..... 73”(1,854mm)H, 400 LBS (181 kg)

### WATER

\*Minimum Flow with 1/2” NPT Connection ..... 1.4 GPM (5.3 Lt)  
 Supply Line Dynamic Pressure at Unit..... 40 – 80 PSI / 225 – 500 kPa

\*The water flow rate listed is the instantaneous peak rate when the solenoid valve inside the unit is on and 0 gpm (lps) when the valve is off. The solenoid valve cycles on once every two minutes for varying lengths of time (5 to 40 seconds at a time).

### CONFIGURATION ..... Indoor Outdoor

Working Air Connections .....  Top

### FACTORY OPTIONS

Thermostat with auto-variable motor speed control .....   
 Insulated Product Air Plenum .....

### STANDARD FEATURES

- 3-year limited warranty on HMX; 1-year warranty on all other components
- EER 60+ (Energy Efficiency Ratio)
- COP 18+
- Quiet and vibration free operation
- Cooling capacity increases as ambient temperature increases
- Low maintenance, simple winterization
- Low water use – automatically adjusts to weather conditions and manually set for local water quality
- Patented thermodynamic cycle
- ABS pan
- Powder coated, electro-galvanized steel housing
- All electrical/water connections can be accessed from front
- Easy to connect power/control wiring
- Integrated control module for reliable, economical operation
- Patented, high technology, poly heat and mass exchanger (HMX)
- Biocide integrated into HMX fibers
- No chemical refrigerants or ozone depleting chemicals
- No humidity added or removed to supply air
- Fresh, outside air for better indoor air quality (IAQ)
- Filtered air with reduced dust, pollens and allergens
- No tool filter access panel - 3 standard size 20” (508mm) x 25” (635mm) x 2” (50.8mm) MERV 8 ring frame air filters
- Tapered intake air plenum for fan efficiency/even air distribution
- Conditioned air plenum provided – accommodates most any size, shape, duct
- Compact, easy to install, ideal height 70.25” cabinet
- 4 lifting lugs on the bottom of the unit for easier and safer handling during installation
- High efficiency, electronically commutated motor (ECM)
- Optional auto-variable speed thermostat available
- Supplied with water filter (30 nominal micron, 9.875” cartridge)
- Drain with multi-dimensional port and screwed into the base
- Exhaust at top directed away from inlet or fan intake
- Service covers with tear drop mounting holes to avoid need to completely remove the screws
- Pressure measurement port in the wet section for balancing the air flow thru the HMX's
- Low water pressure cut off switch
- Made in the USA

# COOLERADO M50C 3 PH PERFORMANCE TABLE\*

Coolerado M50C 380 – 480 VAC, 3 Phase motor Performance Table*										
External Static Pressure		Full Speed Product Air Flow			Approx. Product Air Wet Bulb Approach	Product Approx. = WB + below		Working Air Flow		
Inches H2O	Pascal	CFM	CMH	LPS		F	C	CFM	CMH	LPS
0.6	149	1350	2290	635	94%	2	1.1	1000	1700	470
0.7	174	1260	2140	594	95%	2	1.1	930	1580	440
0.8	199	1220	2072	575	95%	1	.6	900	1529	425
0.9	224	1160	1970	547	98%	1	.5	860	1460	405
1	249	1100	1869	519	100%	0	0	814	1383	384
1.1	273	1040	1767	490	103%	-1	-.6	770	1308	363
1.2	298	980	1664	462	107%	-2	-1.1	725	1231	342
*Performance at sea level: Performance increases ~0.5% for every 1,000 feet / 305 m increase above sea level.										
Example: Design 98 F DB / 62 F WB, 0.1" ext. static, (Air flow adjusted to 1350 cfm, see below), 98 F - 62 F = 36 F, 36 F * 0.95 = 34.2 F, 98 F - 34.2 F = 63.8 F Product Air Temperature ≈ Design WB + 2 °F = 64 F										
Example: Design 36 C DB / 16 C WB, 0.1" ext. static, (Air flow adjusted to 635 lps, see below), 36 C - 16 C = 20 C, 20 C * 0.95 = 19 C, 36 C - 20 C = 16 C Product Air Temperature ≈ Design WB + 1.1 °C = 17.1 C										
If the External static supply pressure is less than 0.6" wc (149 Pa) the control board potentiometer must be turned down to a maximum pressure drop across the supply side of the HMX, (after filter to supply plenum), of 1.1" wc (224 Pa).										

## CONTROL SYSTEMS



Optional Auto-Variable Speed Thermostat  
Surface Mounted  
4.75" Wide x 5 3/4" High  
(120 mm x 146 mm)  
Requires 4 Low Voltage Conductors

## CLEARANCE TOLERANCES

Secure M50 units to angle support rail with screws located within 1" of the bottom of the base. There is an ABS drain pan that is above the bottom 1 inch. There are also 4 1/4" bolt holes at each corner that can be used to support or hold the unit. There are also 4 leveling feet below the unit.

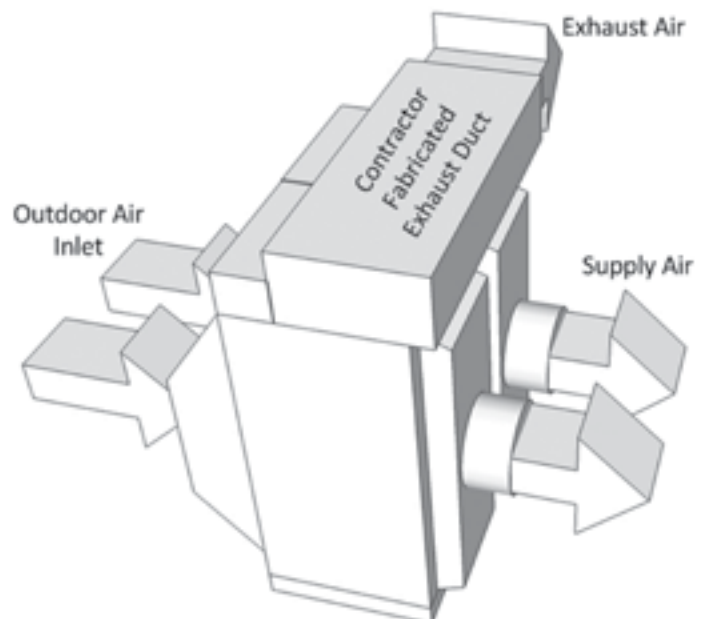
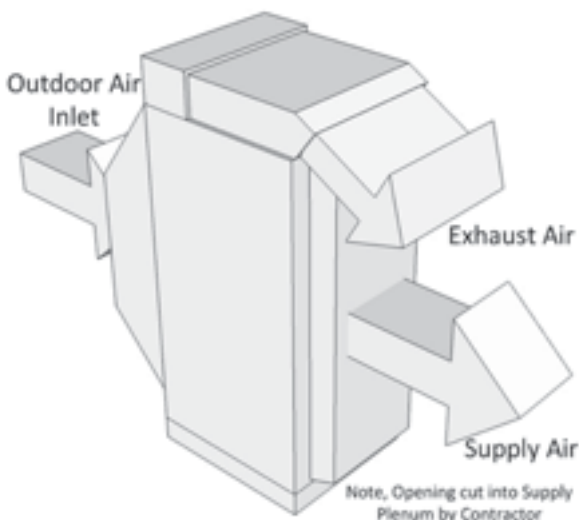
### Minimum Clearances:

Sides: 0"

Air Intake (fan) Side: 24"

Conditioned Air Plenum Side: 12"

Top: 0", or 6" for installation or more if Working Air is Exhaust out of top.



Alternate configuration of exhaust air (working air) ducts for multiple unit installations.

# COOLERADO M50C 3 PH

