

Model WM Energy Recovery Mini Systems (850 to 11,000 CFM)

Now AHRI 1060 Certified!

Carnes Energy Recovery Mini Systems provide affordable preconditioned ventilation air, flexible design and offers supplemental heating or cooling.

BENEFITS:

- Full energy recovery wheel benefits from enthalpy media.
- Optional supplemental conditioning in a painted steel cabinet.
- 6 standard duct arrangements, special configurations available.
- Latched and hinged double wall access doors.

AVAILABLE OPTIONS INCLUDE:

- ETL/CSA Listing for quick building code approvals.
- Complete wheel control options, variable speed wheel drive, electronic controller, frost controls, and electric preheat.
- Variable speed fan drives.
- Double wall construction, airflow gauge, dirty filter switches.
- DX, chilled water, hot water coils and electric reheat available.
- Weather hoods with moisture eliminators, motorized dampers.
- Roof curbs.
- Optional 5 year wheel only or unit mechanical warranty.



PRODUCT OVERVIEW

• MINISYSTEMS

Carnes Energy Recovery MiniSystems provide affordable preconditioned ventilation air by combining the highly effective Carnes energy recovery wheel with flexible cabinet design in 4 sizes for airflows from 850 to 11,000 CFM. Additional wheel and unit control options and optional supplemental heating and/or cooling is available to provide single source conditioning.

The Model WMWA offers the base MiniSystem design consisting of a 16 gauge painted steel cabinet with 12 gauge steel base. The housing roof, sides, and internal partition are insulated with 1 inch thick, 4 lb density, foil faced insulation. Optional 24 gauge steel inner liner is available for additional IAQ protection. Hinged doors with rain deflectors are provided for access to all compartments and internal components. 6 Standard Duct Arrangements are available for design flexibility. Special duct arrangements are available.

• MINISYSTEMS WITH COILS

Model WMEA utilizes Electric Heating Coils- Features include: fusing, multiple stage and/or SCR control, airflow proving switch, UL Listing. Heater may require an independent power circuit separate from the Energy Recovery MiniSystem power circuit.

Model WMHA incorporates Hot Water Coils up to 2 rows deep.

Model WMCA offers DX or Chilled Water Cooling Coils up to 6 rows deep. All cooling coils are equipped with a stainless steel condensate drain pan incorporating a bottom drain extending through the side of the cabinet to allow connection to a P-Trap (by

Complete wheel controls with defrost options are available to maximize operational flexibility and efficiency. All controls needed for unit operation are installed in the external control panel(s). Included are a single point power connection with NEMA 3R disconnect, internal fusing, and 24 volt control circuit.

Forward curved belt drive blowers with adjustable belt sheaves are mounted on neoprene vibration isolators.

Motors – ODP, TEFC, High efficiency, High efficiency TEFC, and 2 speed motors are available. Fan Variable Frequency Drives are also available on special request.

2 inch, 30%, disposable pleated filters are incorporated for the outside air and the return air compartments. Other filter types and sizes are available.

Weather hoods with aluminum moisture eliminators and a variety of gravity and motorized dampers are available.

others). This eliminates any possibility of standing water in the drain pan. DX Coils are provided with distributors to receive expansion valves at the liquid connections.

Model WMAA includes either a DX or Chilled Water Cooling coil in series with either Electric Heat or a Hot Water Coil for complete supplemental conditioning capability.

Other types of supplemental conditioning, such as Dehumidifier Heat Pipes, may be available on special order. Please consult with Carnes Co. for availability of specific components.

UNIT SELECTION PROCEDURE

Carnes provides equipment selection and performance calculation software for the Energy Recovery MiniSystems (Energy-C-Lect). This powerful tool is the simplest and fastest way to perform energy recovery performance, unit selection, and submittals. The latest Energy-C-Lect version is available on the Carnes website.

The following manual selection guidelines are provided primarily so that you may understand the underlying assumptions and calculations behind the selection software. **Use Energy-C-Lect for actual selection, performance, and submittals.**

MODEL	WMTA, WMEA, WMHA	WMCA, WMAA	
UNIT SIZE	AIRFLOW, CFM (L/S)		MAX. ESP, in. w.g. (kPa)
WM_A03	700 (330)	700 (330)	2.25 (0.56)
	1,900 (897)	1,600 (755)	2.25 (0.56)
	--	2,400 (1132)	2.25 (0.56)
	2,900 (1369)	--	2.5 (0.622)
WM_A06	1,740 (821)	1,740 (821)	3.0 (0.746)
	3,500 (1652)	3,500 (1652)	3.0 (0.746)
	--	3,850 (1817)	2.5 (0.622)
	5,220 (2464)	--	1.5 (0.373)
WM_A09	2,800 (1321)	2,800 (1321)	3.0 (0.746)
	5,600 (2643)	5,600 (2643)	3.0 (0.746)
	--	6,200 (2926)	2.5 (0.622)
	7,500 (3540)	--	1.0 (0.249)
WM_A14	4,300 (2029)	4,300 (2029)	3.0 (0.746)
	7,600 (3587)	7,600 (3587)	2.5 (0.622)
	--	9,620 (4540)	1.5 (0.373)
	11,000 (5191)	--	0.25 (0.062)

Unit Size	Approx. Max. Installed Weight (Lbs./Kg.)		DIMENSIONS LISTED IN INCHES (Millimeters)					
			Max. Coil Dimensions		Maximum Coil Face Area in Sq. Ft. (m ²)	Filter Quantity Size	Roof Curb Dimensions	
	WMTA without Coils	Cabinet with Coils	FH	FL			WMTA without Coils	Maximum with Coils
WM_A03	1,260 (572)	1,510 (685)	36 (914)	17 (432)	4.3 (0.4)	4 - 18 x 20 x 2 (457 x 508 x 51)	58 x 42 (1473 x 1067)	106 x 42 (2692 x 1067)
WM_A06	1,550 (703)	1,810 (821)	46 (1168)	22 (559)	7.0 (0.7)	4 - 24 x 24 x 2 (610 x 60 x 51)	70 x 52 (1778 x 1321)	118 x 52 (2997 x 1321)
WM_A09	2,050 (930)	2,650 (1202)	58 (1473)	28 (711)	11.3 (1.0)	6 - 18 x 20 x 2 (457 x 508 x 51) 6 - 12 x 20 x 2 (305 x 508 x 51)	78 x 64 (1981 x 1626)	126 x 64 (3200 x 1626)
WM_A14	3,100 (1406)	3,980 (1805)	72 (1829)	35 (889)	17.5 (1.6)	12 - 18 x 25 x 2 (457 x 2350 x 51)	100 x 78 (2540 x 1981)	148 x 78 (3759 x 1981)