

MV & MV-X/XE SERIES

Energy Recovery Ventilators
Indoor Mini-Ventilators



APPLICATION

MV Series energy recovery mini-ventilators are designed for use in indoor applications requiring up to 1400 CFM for ventilation. X Models: ERV's shall be complete with low ambient kit for frost control, "Climate Smart" controller for Economizer Mode, and rotation sensor utilizing dry contact switch that closes upon failure. XE Models: Same with X series use ECM motors. Typical applications include classrooms, meeting rooms, and small retail. Units can be floor or ceiling mounted and include a standard rotating enthalpy wheel.

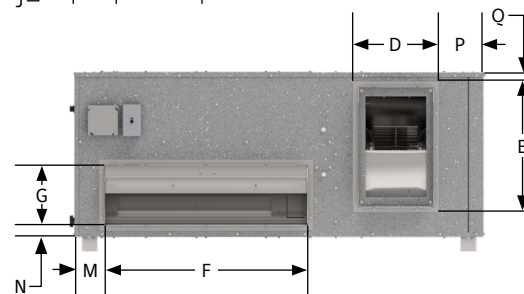
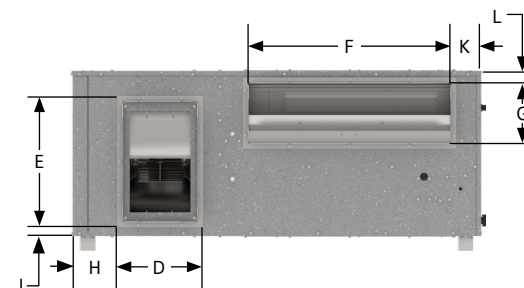
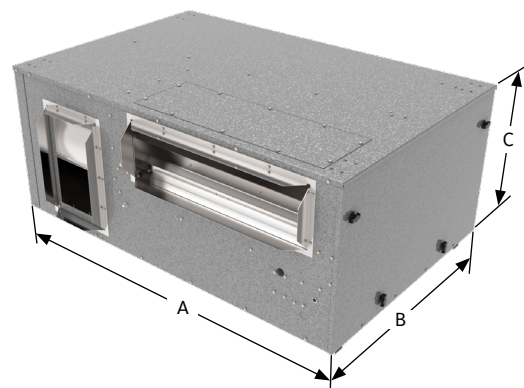
NOTE: ECM motor option is available starting from size 450. Size 250 doesn't have ECM motor option.

STANDARD CONSTRUCTION

Cabinet	20 (1.0) gage galvanized steel.
Panels	20 (1.0) gage galvanized steel.
Motors	All units have 115v/1Ph/60Hz and 230v/1Ph/60Hz motor options other than size 1500X/1500XE. 1500X/1500XE has only 230v/1Ph/60Hz.
Finish	Polyester Resin based powder coat. Gray color.
Core	AHRI rated Internal Enthalpy Wheel.
Filters	Intake and Exhaust: 2" Pleated MERV 8.
Temperature Limits	+10°F (-12°C) to. +115°F (+46°C).
Disconnect Switch	Standard (Non-Fused)

OPTIONS & ACCESSORIES

BMS Controller	Motorized Outside Air Damper
Speed Controller Module (SCM)	Motorized Exhaust Air Damper
Dirty Filter Switch (DFS)	7 Day Programmable Timer
MERV11 Filters (M11) & MERV 13 Filters (M13)	Motion Sensor (Occupancy Switch)
Floor or Ceiling Vibration Isolators (FVI/CVI)	



Model	Overall Cabinet			Duct Openings				Other Dimensions								Approximate Weight (lbs)	Ship WL.
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q		
MV 250	40	29	18	6	10	12	6	5.676	0.772	5.340	1.589	5.340	1.339	5.676	1.202	190	210
MV 250X*	40	29	18	6	10	12	6	5.676	0.772	5.340	1.589	5.340	1.339	5.676	1.202	195	215
MV 450	40	29	18	8	12	12	6	5.676	0.772	5.340	1.589	5.340	1.339	5.676	1.202	190	210
MV 450X*	40	29	18	8	12	12	6	5.676	0.772	5.340	1.589	5.340	1.339	5.676	1.202	195	215
MV 750	43.6	30.6	22	8	13	18	8	4.130	0.772	5.674	1.625	5.674	1.625	4.130	1.202	220	256
MV 750X*	46.6	30.6	22	8	13	18	8	4.130	0.772	5.674	1.625	5.674	1.625	4.130	1.202	225	261
MV 1500X*	54.5	36	22	10	16	27	8	6.69	2	4	1.625	4	1.577	6.789	2	243	278

*X models are built with frost control, rotation sensor and start, stop, jog function factory installed.

NOTE: Dimensions shown in parentheses () indicate millimeters.

QTY.	MODEL	OPTIONS								ACCESSORIES	TAG
		FVI	CVI	SCM	WMMD	WMPT	DISC.	DFS	M13		

PERFORMANCE

MV 250/250X												
External Static Pressure		0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
CFM	Low	498	479	459	435	411	384	347	307	263	218	175
	High	592	565	530	496	463	431	398	356	311	262	218

MV 450/450X												
External Static Pressure		0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
CFM	Low	656	640	625	609	590	570	552	538	511	477	440
	Medium	729	708	690	671	649	627	605	582	560	530	495
	High	783	765	740	721	700	678	650	622	598	580	560

MV 750/750X												
External Static Pressure		0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
CFM	Low	823	822	821	819	808	790	778	762	755	738	718
	Medium	997	992	985	975	960	940	928	905	884	872	850
	High	1162	1145	1130	1104	1095	1090	1068	1047	1020	998	967

MV1500XE												
Front Exhaust Side												
External Static Pressure		0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
CFM	Input Voltage (V)											
	2	203										
	3	339	208	20								
	4	549	448	317	105	34						
	5	736	653	568	459	303	128	37				
	6	931	877	800	694	627	544	360	270	155	45	
	7	1154	1108	1045	972	908	843	776	717	641	435	366
	8	1327	1265	1197	1165	1075	1011	959	910	855	787	708
	9	1406	1374	1300	1272	1257	1202	1142	1094	1066	1029	1003
	10	1408	1348	1308	1270	1247	1199	1158	1120	1090	1043	1022

PERFORMANCE

MV1500XE												
Rear Supply Side												
External Static Pressure		0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
CFM	Input Voltage (V)											
	2	181										
	3	364	198	39								
	4	580	465	296	121	34						
	5	803	755	679	541	342	191	91	40			
	6	990	917	881	785	692	547	360	211	136	54	
	7	1194	1152	1166	1067	981	896	829	737	578	404	252
	8	1365	1336	1309	1250	1214	1149	1058	1008	937	852	763
	9	1408	1405	1328	1349	1320	1253	1222	1181	1136	1085	1047
	10	1424	1408	1377	1349	1312	1271	1211	1201	1133	1100	1066

ELECTRICAL DATA AT 120v/1Ph/60Hz PSC MOTOR						
Unit	MCA	MOCP	Supply Fan HP	Supply Fan FLA	Exhaust Fan HP	Exhaust Fan FLA
MV250/MV250X	9.25	10	1/5	3.8	1/5	3.8
MV450/MV450X	14.65	20	1/3	6.2	1/3	6.2
MV750/MV750X	23.2	30	1/2	10.0	1/2	10.0

ELECTRICAL DATA AT 208v-230v/1Ph/60Hz PSC MOTOR						
Unit	MCA	MOCP	Supply Fan HP	Supply Fan FLA	Exhaust Fan HP	Exhaust Fan FLA
MV250/MV250X	3.45	5	1/5	1.4	1/5	1.4
MV450/MV450X	7.95	15	1/3	3.4	1/3	3.4
MV750/MV750X	11.55	15	1/2	5.0	1/2	5.0
MV1500X	11.25	15	3/4	5.0	3/4	5.0

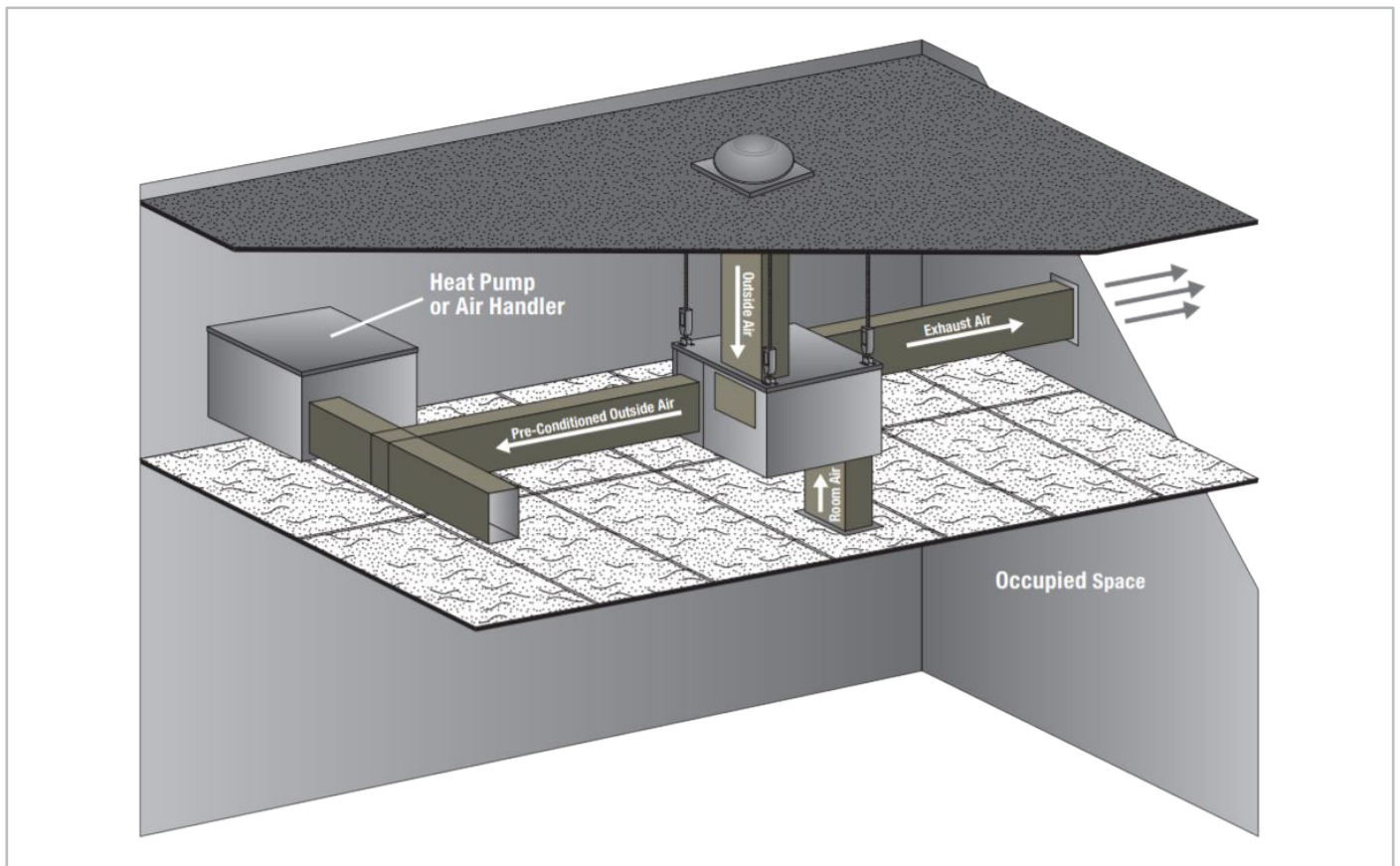
ELECTRICAL DATA AT 120v/1Ph/60Hz ECM MOTOR						
Unit	MCA	MOCP	Supply Fan HP	Supply Fan FLA	Exhaust Fan HP	Exhaust Fan FLA
MV450E/MV450XE	13.75	15	1/3	5.8	1/3	5.8
MV750E/MV750XE	18.93	25	1/2	8.1	1/2	8.1

ELECTRICAL DATA AT 208v-230v/1Ph/60Hz ECM MOTOR						
Unit	MCA	MOCP	Supply Fan HP	Supply Fan FLA	Exhaust Fan HP	Exhaust Fan FLA
MV450E/MV450XE	8.18	10	1/3	3.5	1/3	3.5
MV750E/MV750XE	11.10	15	1/2	4.8	1/2	4.8
MV1500XE	16.65	20	1	7.0 - 7.4	1	7.0 - 7.4

NOTES:

- "Non-X" model include no options w/PSC motors. "X" model include Low Ambient, Rotation Sensor, Start Stop & Jog option standard w/PSC motors. "E" model include no options w/ECM motors. "XE" model include Low Ambient, Rotation Sensor, Start Stop & Jog option standard w/ECM motors.

TYPICAL INSTALLATION



The energy recovery cassette shall be an Underwriters Laboratories Recognized Component for electrical and fire safety.

ERV unit to have minimum 2" (51) pleated MERV 8 filters in intake and exhaust airstreams. Unit shall be provided with a single point power connection. Energy Recovery Ventilators shall be in all respects equal to Ruskin Model (specifier select) MV250, MV250X, MV450, MV450X, MV450E, MV450XE, MV750, MV750X, MV750E, MV750XE, MV1500X and MV1500XE mini-ventilators.

SUGGESTED SPECIFICATION

Furnish and install, at locations shown on plans or in accordance with schedules, mechanical cooling system complete with an Energy Recovery Ventilator (ERV). The Energy Recovery Ventilator will contain an energy recovery component rated in accordance with AHRI Standard 1060-2000 with ratings certified by AHRI. ERV shall have movable duct flanges for OA and RA intake. All other airstreams shall be horizontal as standard. Cabinet shall be galvanized steel construction with a powder coat paint finish electrostatically bonded to the metal. Where conditioned air is handled, cabinet panels shall be fully insulated to prevent sweating and minimize sound. Knockouts shall be provided for power connections. Hanging or pad mount installation capability shall be standard. Test ports shall be provided so airflow can be measured across the energy recovery wheel. Intake and exhaust air blowers of the ERV shall contain a centrifugal forward curved blower. They shall have ball bearings with direct drive motors.

X Models: ERV's shall be complete with low ambient kit for frost control, "Climate Smart" controller for Economizer Mode, and rotation sensor utilizing dry contact switch that closes upon failure. The energy recovery device shall be a rotary heat exchanger per AHRI Standard 1060 description. The device will be an enthalpy wheel coated with a silica gel desiccant by a patented process without the use of binders or adhesives which may plug the desiccant aperture. The substrate shall be a lightweight polymer. Desiccant shall not dissolve or deliquesce in the presence of water or high humidity. The wheel shall be easily cleanable with standard coil cleaning solution or mild soap and water solution. On ERV's with wheels larger than 25" (635) diameter, it shall have removable segments for cleaning and maintenance. All diameter and perimeter seals shall be provided.

LINKS TO IMPORTANT DOCUMENTS

Document Title

Limited Warranty Document



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Website: www.ruskin.com
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