NATURAL SMOKE VENTILATION

VENTÜER

Engineered Ventilation Products & Systems

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OUR MISSION

To supply engineered ventilation products and systems that enable our clients to create healthy, comfortable and code-compliant buildings.

Ventilation of indoor spaces has never been more important, with an increasing percentage of the world's population spending more time living, working and playing indoors.

Recognising the need for ventilation is easy. Delivering products and systems that create a healthy and comfortable indoor environment, comply with building code requirements, and work with the other building elements is not.

Ventüer works with architects, builders and installation contractors. Since 2009 we have been designing, manufacturing and guaranteeing ventilation products and systems for a wide range of commercial, industrial and residential construction projects.

When partnering with Ventüer, you can have confidence that the ventilation products and systems provided to your construction project are well designed, fit for purpose and code-compliant. We eliminate the risks associated with incorrect product selection or poor installation methodology, leaving you with high performing buildings that delivers health, comfort and safety to their occupants.

We take the responsibility, the risk and the care.

You take the credit for the successful end result.

CLEARING THE AIR

WHY USE NATURAL SMOKE VENTILATION?

Statistics show that more than 60% of fatalities and injuries in building fires are due to occupants being overcome by or inhaling hot gases or smoke. Less than 40% are caused directly by the fire itself.

Smoke control systems are thus life-saving systems. They greatly increasing an occupants chances of survival in the event of a fire by keeping escape routes smoke-free, and help firefighters tackle blazes more safely and effectively - saving more lives and reducing damage to the building.

There are two primary methods of ventilating smoke - natural and mechanical. Natural smoke ventilation uses the inherent buoyancy of hot smoke and air to remove the toxic gases through openings in the building facade or roof. Mechanical smoke ventilation uses fans to force the smoke through shafts or ducts, and is generally used where space is at a premium and / or where the natural airflow is insufficient to achieve the required performance.

Ventüer smoke ventilators are designed for use in natural smoke ventilation systems. A full range of certified roof vents, facade vents and controls work together to ensure the maximum safety for the occupants of your building.

Fig. 1 - fire breaking out in an unprotected room (i.e. without smoke ventilation) will rapidly fill the room with smoke. Occupants can be disorientated and overcome by the heat and toxic gases, and firefighters are forced to work under reduced visibility.

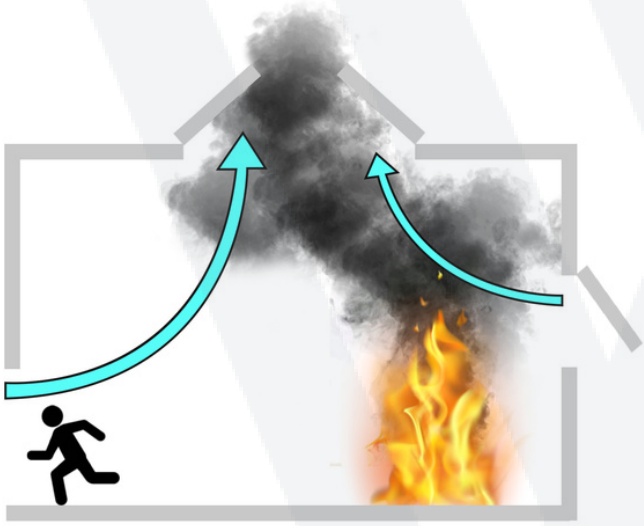
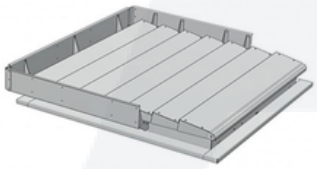


Fig. 2 - when buildings are suitably protected with a properly designed smoke ventilation system, the hot air and smoke created by the fire is exhausted through openings on or near the roof. This ensures a clear area of breathable air near the floor, allowing occupants to safely escape and firefighters clear access.

RANGE OVERVIEW



MERCOR ROOF VENTILATORS

- Louvred roof-mounted smoke ventilator
- Optional insulated or translucent blades
- Multiple control / actuator options
- Suitable for natural passive ventilation as well as smoke exhaust

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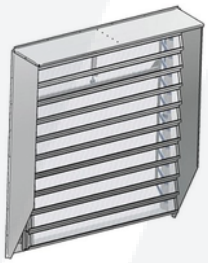

MERCOR FACADE VENTILATORS

- Louvred facade-mounted smoke ventilator
- Suitable for integration into multiple cladding types
- Optional insulated or translucent blades
- Suitable for natural passive ventilation as well as smoke exhaust

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HAHN GLAZED VENTILATORS

- Aesthetically pleasing
- Options of double and triple glazing
- High open area percentage for rapid smoke extraction
- Provides natural lighting as well as ventilation
- Burglar proof, impact resistant and noise reducing

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CONTROL SYSTEMS

- Suitable for fire alarm or BMS integration
- Standalone or networked control panel options
- Fully customisable to suit project requirements
- Manual switching and rainsensor options for comfort ventilation
- UPS and inbuilt battery backup options

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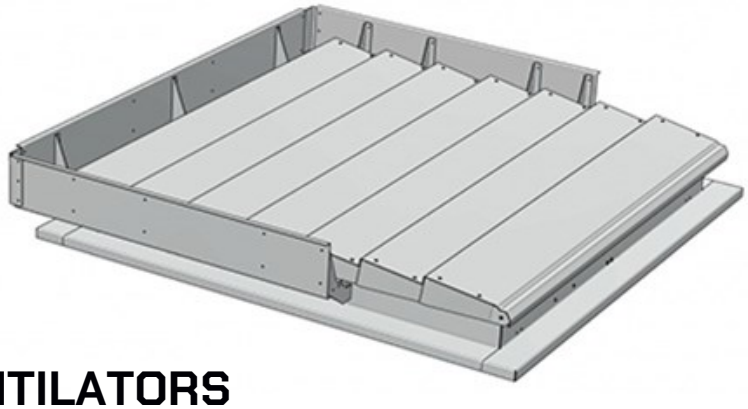
MERCOR-MLR



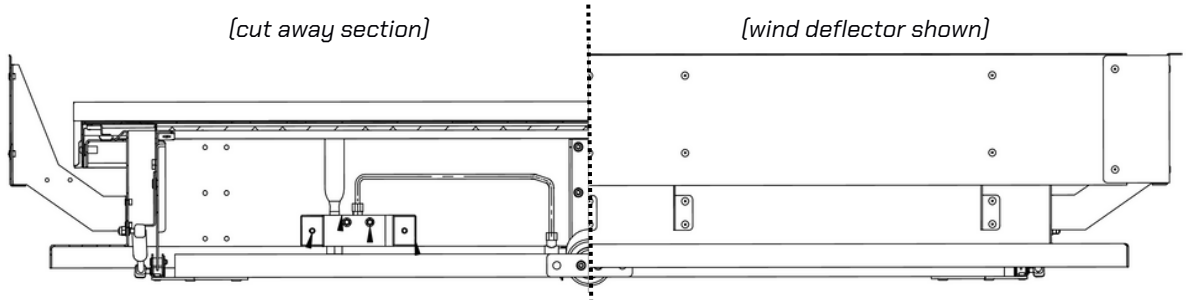
ROOF-MOUNTED SMOKE VENTILATORS

Ventüer MERCOR-LAM (MLR) louvred smoke ventilators are used in natural smoke and heat exhaust ventilation systems. Mounted on roofs, louvre smoke vents exhaust smoke and heat from a building, allowing low level escape routes to be kept clear of smoke. MLR smoke ventilators are fully certified to EN 12101-2. They are particularly suited to industrial and warehouse buildings and may also be used to provide natural comfort ventilation.

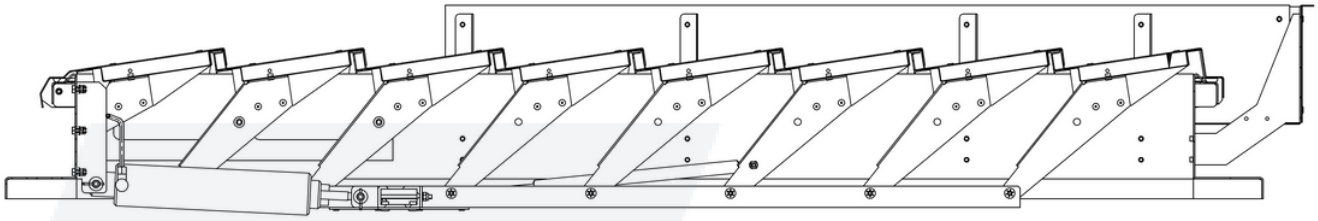
They are available in a wide range of sizes and types of upstands. They may be installed at any angle from 0 to 90°, but are generally installed horizontally and supplied with aerodynamic wind shields as standard. They consume minimal energy during the opening and closing cycle and have high resistance to weather and are therefore suited for use on exposed and high wind areas. They provide good security, are impact resistant and do not create a fall hazard when open.

TECHNICAL DATA | MERCOR-MLR

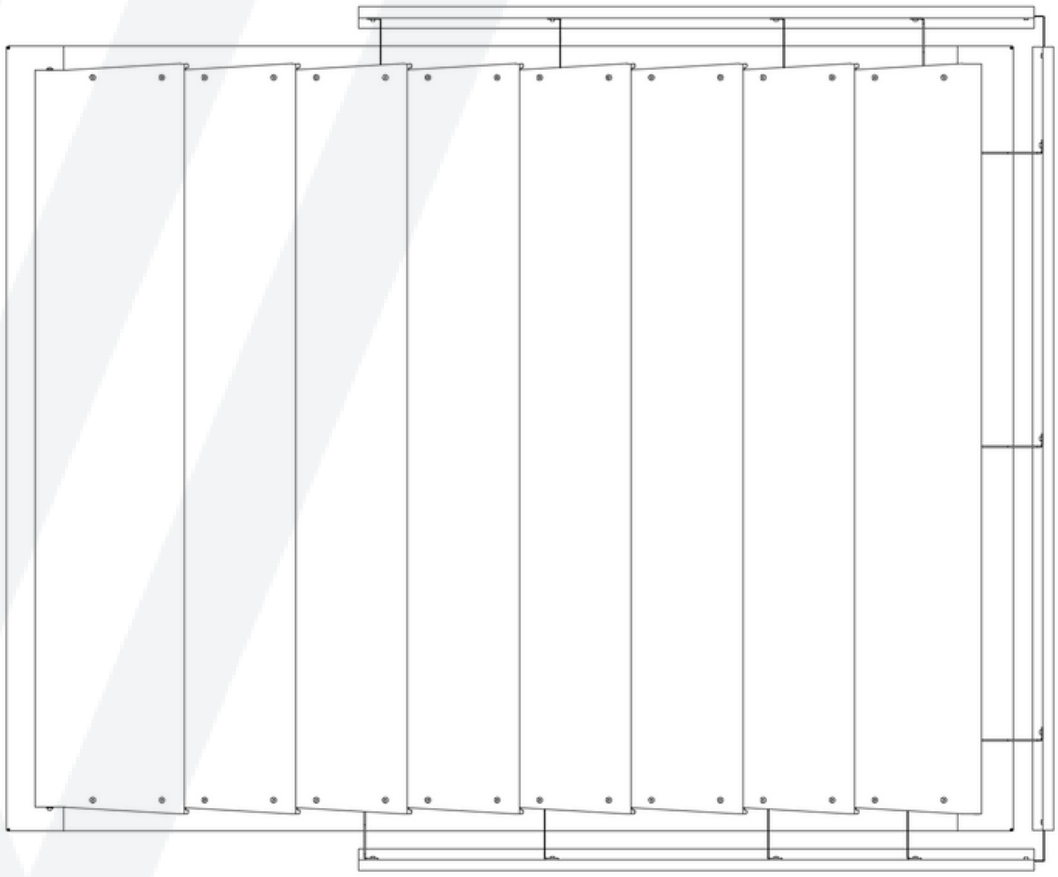
DIMENSIONS	Minimum Depth	800 mm
	Maximum Depth	3800 mm
	Minimum Width (blade span)	500 mm
	Maximum Width (blade span)	2500 mm
MATERIAL	Blade Material Type Options	- 16 mm thick polycarbonate multi-skin sheet - 25 mm thick polycarbonate multi-skin sheet - Double-skin non-insulated aluminium louvres - Double-skin insulated aluminium louvres
	Base Material Types Options	- Aluminium - Galvanised Steel
	Surface Finish Options	- Unpainted - Powdercoated RAL colours
CONTROLS	Actuator Options	- 24 V DC electric actuators - 230 V AC electric actuators - Single action pneumatic cylinder - Double action pneumatic cylinder
	Thermal Release Option	Yes
USE	Emergency smoke ventilation	Yes
	Daily natural ventilation	Yes
EN12101-2 CERTIFICATION	Operational Reliability (smoke ventilation)	- Re300 (300 cycles): vent with E1 electric control and C1, C2 pneumatic control - Re1000 (1000 cycles): vent with C3 pneumatic control with gas spring)
	Operational Reliability (daily ventilation)	- Re10000 (10 000 cycles)
	Wind Load Class	- WL1500 (1500 N/m2): for all louvered vent types - WL3000 (3000N/m2): vents (max. 12 blades) of length 150 cm - WL4000 (4000 N/m2): vents (max. 12 blades) of length 100 cm
	Resistance to High Temperature	- B300 (300°C)
	Resistance to Low Temperature	- T (-25) or T(00): resistance of vents to low temperature of -25°C or 0°C
	Maximum vent opening time	- 60 seconds – maximum vent opening time to working position



Section through MERCOR-MLR ventilator *(parallel to blades)*



Section through MERCOR-MLR ventilator *(perpendicular to blades)*



Top View of MERCOR-MLR ventilator

MERCOR-MLR TECHNICAL PARAMETERS

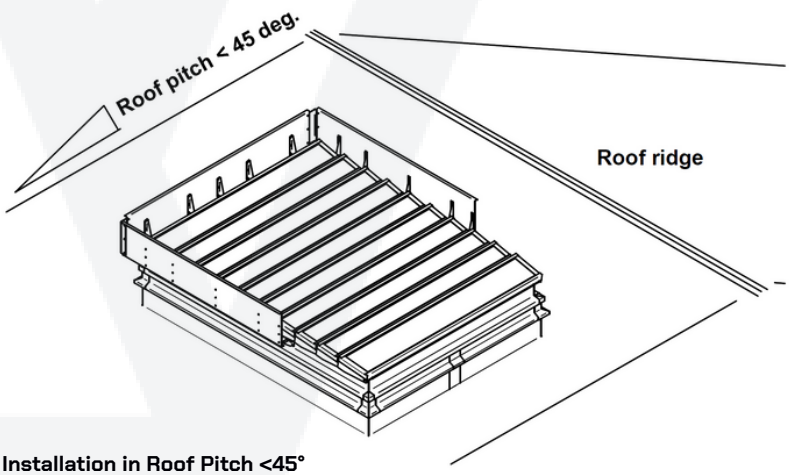
Product Code	Ventilator Throat Depth (mm)	Ventilator Throat Width (blade length - mm)	No. Blades	Max. Wind Load	Aerodynamic Active Area (M2)	Electric Actuator Size (A)						Approximate Weight (Min - Max kg)
						1300 Pa Snow Load	950 Pa Snow Load	750 Pa Snow Load	500 Pa Snow Load	250 Pa Snow Load	125 Pa Snow Load	
MLR-4-500	800	500	4	4 kPa	0.24	0.8	0.8	0.8	0.8	0.8	-	23 - 27
MLR-4-800	800	800	4	4 kPa	0.39	1.3	1	0.8	0.8	0.8	-	27 - 32
MLR-4-1000	800	1000	4	4 kPa	0.496	1.3	1	0.8	0.8	0.8	-	30 - 36
MLR-4-1200	800	1200	4	3 kPa	0.595	2	1.3	1	0.8	0.8	-	33 - 40
MLR-4-1400	800	1400	4	3 kPa	0.694	2	1.3	1	0.8	0.8	-	35 - 43
MLR-4-1600	800	1600	4	1.5 kPa	0.806	2.6	1.8	1.3	1	0.8	-	38 - 47
MLR-4-1700	800	1700	4	1.5 kPa	0.857	2.6	1.8	1.3	1	0.8	-	40 - 49
MLR-5-500	1000	500	5	4 kPa	0.3	1	0.8	0.8	0.8	0.8	-	26 - 31
MLR-5-1000	1000	1000	5	4 kPa	0.62	2	1.3	1	0.8	0.8	-	34 - 41
MLR-5-1200	1000	1200	5	3 kPa	0.756	2	1.3	1.3	1	0.8	-	37 - 46
MLR-5-1400	1000	1400	5	3 kPa	0.882	2.6	2	1.6	1	0.8	-	40 - 50
MLR-5-1600	1000	1600	5	1.5 kPa	1.008	2 x 1.3	2	1.6	1.3	0.8	-	43 - 54
MLR-5-1800	1000	1800	5	1.5 kPa	1.134	2 x 1.3	2.6	2	1.3	0.8	-	47 - 58
MLR-5-2000	1000	2000	5	1.5 kPa	1.26	1 x 2.0	2.6	2	1.3	0.8	-	50 - 63
MLR-5-2100	1000	2100	5	1.5 kPa	1.323	2 x 2	2 x 1.3	2.6	2	1	-	52 - 67
MLR-6-500	1200	500	6	4 kPa	0.366	2	1.3	1.3	1	0.8	-	26 - 32
MLR-6-1000	1200	1000	6	4 kPa	0.756	2	1.3	1.3	1	0.8	-	38 - 47
MLR-6-1200	1200	1200	6	3 kPa	0.907	2.6	2	1.6	1	0.8	-	42 - 52
MLR-6-1400	1200	1400	6	3 kPa	1.058	2 x 1.3	2	2	1.3	0.8	-	45 - 57
MLR-6-1600	1200	1600	6	1.5 kPa	1.21	2 x 1.6	2.6	2	1.3	0.8	-	49 - 61
MLR-6-1800	1200	1800	6	1.5 kPa	1.382	2 x 2.0	2 x 1.3	2	1.6	0.8	-	53 - 66
MLR-6-2000	1200	2000	6	1.5 kPa	1.536	2 x 2.0	2 x 1.3	2.6	2	1	-	56 - 71
MLR-6-2200	1200	2200	6	1.5 kPa	1.69	-	2 x 2.0	2 x 1.3	2.6	1	-	60 - 76
MLR-6-2400	1200	2400	6	1.5 kPa	1.843	-	2 x 2.0	2 x 1.3	2.6	1	-	63 - 81
MLR-6-2500	1200	2500	6	1.5 kPa	1.92	-	2 x 2.0	2 x 1.3	2.6	1	-	67 - 85
MLR-6-500	1400	500	6	4 kPa	0.427	2.6	2	1.6	1	0.8	-	30 - 36
MLR-7-600	1400	600	7	4 kPa	0.521	2.6	2	1.6	1	0.8	-	32 - 38
MLR-7-1000	1400	1000	7	4 kPa	0.882	2.6	2	1.6	1	0.8	-	42 - 52
MLR-7-1200	1400	1200	7	3 kPa	1.058	2 x 1.3	2	2	1.3	0.8	-	47 - 58
MLR-7-1400	1400	1400	7	3 kPa	1.235	2 x 2.0	2.6	2	1.3	0.8	-	51 - 63
MLR-7-1600	1400	1600	7	1.5 kPa	1.434	2 x 2.0	2 x 1.3	2.6	2	0.8	-	54 - 68
MLR-7-1800	1400	1800	7	1.5 kPa	1.613	2 x 2.0	2 x 1.3	2 x 1.3	2	1	-	58 - 73
MLR-7-2000	1400	2000	7	1.5 kPa	1.792	2 x 2.6	2 x 2.0	2 x 1.3	2	1	-	61 - 78
MLR-7-2200	1400	2200	7	1.5 kPa	1.971	-	2 x 2.0	2 x 2.0	2 x 1.3	1.3	-	65 - 83
MLR-7-2400	1400	2400	7	1.5 kPa	2.15	-	2 x 2.0	2 x 2.0	2 x 1.3	1.3	-	69 - 89
MLR-7-2500	1400	2500	7	1.5 kPa	2.24	-	2 x 2.0	2 x 2.0	2 x 1.3	1.3	-	72 - 93
MLR-8-550	1600	550	8	4 kPa	0.537	2 x 1.3	2	1.6	1.3	0.8	-	32 - 38
MLR-8-700	1600	700	8	4 kPa	0.694	2 x 1.3	2	1.6	1.3	0.8	-	40 - 50
MLR-8-1000	1600	1000	8	4 kPa	1.008	2 x 1.3	2	1.6	1.3	0.8	-	46 - 57
MLR-8-1200	1600	1200	8	3 kPa	1.21	2 x 1.6	2.6	2	1.3	0.8	-	52 - 65
MLR-8-1400	1600	1400	8	3 kPa	1.434	2 x 2.0	2 x 1.3	2.6	2	0.8	-	58 - 72
MLR-8-1600	1600	1600	8	1.5 kPa	1.638	2 x 2.0	2 x 1.6	2 x 1.3	2	1	-	63 - 79
MLR-8-1800	1600	1800	8	1.5 kPa	1.843	2 x 2.6	2 x 2.0	2 x 1.3	2	1	-	69 - 86
MLR-8-2000	1600	2000	8	1.5 kPa	2.048	-	2 x 2.0	2 x 1.6	2.6	1.3	-	74 - 94
MLR-8-2200	1600	2200	8	1.5 kPa	2.253	-	2 x 2.6	2 x 2.0	2 x 1.3	1.3	-	80 - 101
MLR-8-2400	1600	2400	8	1.5 kPa	2.458	-	2 x 2.6	2 x 2.0	2 x 1.3	1.3	-	86 - 108
MLR-8-2500	1600	2500	8	1.5 kPa	2.56	-	2 x 2.6	2 x 2.0	2 x 1.3	1.3	-	91 - 114
MLR-9-600	1800	600	9	4 kPa	0.67	-	2,0	1,3	1,3	0,8	-	42 - 52
MLR-9-800	1800	800	9	4 kPa	0.907	-	2,0	1,3	1,3	0,8	-	45 - 55
MLR-9-1000	1800	1000	9	4 kPa	1.134	2 x 1.6	2.6	2	1.3	0.8	-	51 - 63
MLR-9-1200	1800	1200	9	3 kPa	1.382	2 x 2.0	2 x 1.3	2.6	1.6	0.8	-	57 - 71
MLR-9-1400	1800	1400	9	3 kPa	1.613	2 x 2.0	2 x 1.6	2 x 1.3	2	1	-	63 - 79
MLR-9-1600	1800	1600	9	1.5 kPa	1.843	2 x 2.6	2 x 2.0	2 x 1.3	2	1	-	69 - 86
MLR-9-1800	1800	1800	9	1.5 kPa	2.074	-	2 x 2.0	2 x 1.6	2.6	1.3	-	75 - 94
MLR-9-2000	1800	2000	9	1.5 kPa	2.304	-	2 x 2.6	2 x 2.0	2 x 1.3	1.3	-	81 - 102
MLR-9-2200	1800	2200	9	1.5 kPa	2.534	-	2 x 2.6	2 x 2.0	2 x 1.3	1.3	-	87 - 110
MLR-9-2400	1800	2400	9	1.5 kPa	2.765	-	2 x 2.6	2 x 2.0	2 x 1.3	1.3	-	93 - 118
MLR-9-2500	1800	2500	9	1.5 kPa	2.88	-	2 x 2.6	2 x 2.0	2 x 1.3	1.3	-	99 - 125
MLR-10-650	2000	650	10	4 kPa	0.806	2 x 2.0	2 x 1.3	2	1.3	0.8	-	52 - 64
MLR-10-1000	2000	1000	10	4 kPa	1.26	2 x 2.0	2 x 1.3	2	1.3	0.8	-	55 - 68
MLR-10-1200	2000	1200	10	3 kPa	1.536	2 x 2.0	2 x 1.3	2.6	2	1	-	61 - 77
MLR-10-1400	2000	1400	10	3 kPa	1.792	2 x 2.6	2 x 2.0	2 x 1.3	2	1	-	68 - 85
MLR-10-1600	2000	1600	10	1.5 kPa	2.048	-	2 x 2.0	2 x 1.6	2.6	1.3	-	74 - 94
MLR-10-1800	2000	1800	10	1.5 kPa	2.304	-	2 x 2.6	2 x 2.0	2 x 1.3	1.3	-	81 - 102
MLR-10-2000	2000	2000	10	1.5 kPa	2.56	.	2 x 2.6	2 x 2.0	2 x 1.3	1.3	-	88 - 111
MLR-10-2200	2000	2200	10	1.5 kPa	2.816	-	-	2 x 2.0	2 x 2.0	1.3	-	94 - 120
MLR-10-2400	2000	2400	10	1.5 kPa	3.12	-	-	2 x 2.0	2 x 2.0	1.3	-	101 - 128
MLR-10-2500	2000	2500	10	1.5 kPa	3.25	-	-	2 x 2.0	2 x 2.0	1.3	-	107 - 136
MLR-11-700	2200	700	11	4 kPa	0.97	2 x 2.0	2 x 1.3	2.6	2	0.8	-	59 - 73
MLR-11-1000	2200	1000	11	4 kPa	1.386	2 x 2.0	2 x 1.3	2.6	2	0.8	-	59 - 73
MLR-11-1200	2200	1200	11	3 kPa	1.69	2 x 2.6	2 x 2.0	2 x 1.3	2	1	-	66 - 83
MLR-11-1400	2200	1400	11	3 kPa	1.971	-	2 x 2.0	2 x 1.3	2.6	1	-	73 - 92
MLR-11-1600	2200	1600	11	1.5 kPa	2.253	-	2 x 2.6	2 x 2.0	2 x 1.3	1.3	-	80 - 101
MLR-11-1800	2200	1800	11	1.5 kPa	2.534	-	2 x 2.6	2 x 2.0	2 x 1.3	1.3	-	87 - 110
MLR-11-2000	2200	2000	11	1.5 kPa	2.816	-	-	2 x 2.6	2 x 1.6	1.6	-	94 - 120
MLR-11-2200	2200	2200	11	1.5 kPa	3.146	-	-	-	2 x 2.0	2	-	101 - 129
MLR-11-2400	2200	2400	11	1.5 kPa	3.432	-	-	-	2 x 2.0	2	-	109 - 138
MLR-11-2500	2200	2500	11	1.5 kPa	3.575	-	-	-	2 x 2.0	2	-	116 - 146
MLR-12-800	2400	800	12	4 kPa	1.21		2 x 2.0	2 x 1.3	2.6	1	-	63 - 79
MLR-12-1000	2400	1000	12	4 kPa	1.536		2 x 2.0	2 x 1.3	2.6	1	-	63 - 79
MLR-12-1200	2400	1200	12	3 kPa	1.843	2 x 2.6	2 x 2.0	2 x 1.3	2	1	-	70 - 89
MLR-12-1400	2400	1400	12	3 kPa	2.15	-	2 x 2.0	2 x 2.0	2 x 1.3	1.3	-	78 - 99
MLR-12-1600	2400	1600	12	1.5 kPa	2.458	-	2 x 2.6	2 x 2.0	2 x 1.3	1.3	-	86 - 109
MLR-12-1800	2400	1800	12	1.5 kPa	2.765	-	-	2 x 2.0	2 x 1.6	1.6	-	93 - 118
MLR-12-2000	2400	2000	12	1.5 kPa	3.12	-	-	2 x 2.6	2 x 2.0	2	-	101 - 128
MLR-12-2200	2400	2200	12	1.5 kPa	3.432	-	-	-	2 x 2.6	2.6	-	109 - 138
MLR-12-2400	2400	2400	12	1.5 kPa	3.744	-	-	-	2 x 2.6	2.6	-	116 - 148
MLR-12-2500	2400	2500	12	1.5 kPa	3.9	-	-	-	2 x 2.6	2.6	-	124 - 157

MERCOR-MLR TECHNICAL PARAMETERS

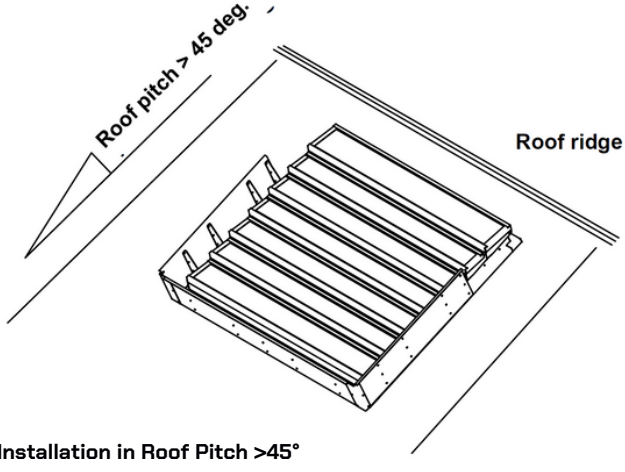
Product Code	Ventilator Throat Depth (mm)	Ventilator Throat Width (blade length - mm)	No. Blades	Max. Wind Load	Aerodynamic Active Area (M2)	Electric Actuator Size (A)						Approximate Weight (Min - Max kg)
						1300 Pa Snow Load	950 Pa Snow Load	750 Pa Snow Load	500 Pa Snow Load	250 Pa Snow Load	125 Pa Snow Load	
MLR-13-850	2600	850	13	1.5 kPa	1.392	-	-	2 x 2.0	2 x 1.3	1.3	-	75 - 95
MLR-13-1200	2600	1200	13	1.5 kPa	1.997	-	-	2 x 2.0	2 x 1.3	1.3	-	75 - 95
MLR-14-900	2800	900	14	1.5 kPa	1.588	-	-	2 x 2.6	2 x 2.0	2	-	80 - 101
MLR-14-1200	2800	1200	14	1.5 kPa	2.15	-	-	2 x 2.6	2 x 2.0	2	-	80 - 101
MLR-14-1400	2800	1400	14	1.5 kPa	2.509	-	-	2 x 2.6	2 x 2.0	2	-	88 - 112
MLR-14-1600	2800	1600	14	1.5 kPa	2.867	-	-	2 x 2.6	2 x 2.0	2	-	97 - 123
MLR-14-1800	2800	1800	14	1.5 kPa	3.276	-	-	-	2 x 2.0	2	-	106 - 135
MLR-14-2000	2800	2000	14	1.5 kPa	3.64	-	-	-	2 x 2.6	2.6	-	114 - 146
MLR-14-2200	2800	2200	14	1.5 kPa	4.004	-	-	-	2 x 2.6	2.6	-	123 - 157
MLR-14-2400	2800	2400	14	1.5 kPa	4.368	-	-	-	-	2 x 1.3	-	131 - 168
MLR-14-2500	2800	2500	14	1.5 kPa	4.55	-	-	-	-	2 x 1.3	-	140 - 178
MLR-15-950	3000	950	15	1.5 kPa	1.824	-	-	2 x 2.6	2 x 2.0	2	-	84 - 107
MLR-15-1200	3000	1200	15	1.5 kPa	2.304	-	-	2 x 2.6	2 x 2.0	2	-	84 - 107
MLR-15-1400	3000	1400	15	1.5 kPa	2.688	-	-	2 x 2.6	2 x 2.0	2	-	93 - 119
MLR-15-1600	3000	1600	15	1.5 kPa	3.072	-	-	2 x 2.6	2 x 2.0	2	-	103 - 131
MLR-15-1800	3000	1800	15	1.5 kPa	3.51	-	-	-	2 x 2.0	2	-	112 - 143
MLR-15-2000	3000	2000	15	1.5 kPa	3.9	-	-	-	2 x 2.6	2.6	-	121 - 155
MLR-15-2100	3000	2100	15	1.5 kPa	4.095	-	-	-	2 x 2.6	2.6	-	125 - 160
MLR-15-2200	3000	2200	15	1.5 kPa	4.29	-	-	-	2 x 2.6	2.6	-	130 - 166
MLR-15-2300	3000	2300	15	1.5 kPa	4.485	-	-	-	-	2 x 1.3	-	134 - 172
MLR-15-2400	3000	2400	15	1.5 kPa	4.68	-	-	-	-	2 x 1.3	-	139 - 178
MLR-15-2500	3000	2500	15	1.5 kPa	4.875	-	-	-	-	2 x 1.3	-	148 - 189
MLR-16-1050	3200	1050	16	1.5 kPa	2.15	-	-	-	-	2 x 1.3	2 x 0.8	89 - 113
MLR-16-1200	3200	1200	16	1.5 kPa	2.458	-	-	-	-	2 x 1.3	2 x 0.8	89 - 113
MLR-16-1400	3200	1400	16	1.5 kPa	2.867	-	-	-	-	2 x 1.3	2 x 0.8	98 - 125
MLR-16-1600	3200	1600	16	1.5 kPa	3.277	-	-	-	-	2 x 1.3	2 x 0.8	108 - 138
MLR-16-1800	3200	1800	16	1.5 kPa	3.744	-	-	-	-	2 x 1.3	2 x 0.8	118 - 150
MLR-16-2000	3200	2000	16	1.5 kPa	4.16	-	-	-	-	2 x 1.3	2 x 0.8	127 - 163
MLR-16-2200	3200	2200	16	1.5 kPa	4.576	-	-	-	-	2 x 1.3	2 x 0.8	137 - 176
MLR-16-2400	3200	2400	16	1.5 kPa	4.992	-	-	-	-	2 x 1.3	2 x 1.0	146 - 188
MLR-16-2500	3200	2500	16	1.5 kPa	5.2	-	-	-	-	2 x 1.3	2 x 1.0	156 - 199
MLR-17-1100	3400	1100	17	1.5 kPa	2.394	-	-	-	-	2 x 1.3	2 x 0.8	93 - 119
MLR-17-1200	3400	1200	17	1.5 kPa	2.611	-	-	-	-	2 x 1.3	2 x 0.8	93 - 119
MLR-17-1400	3400	1400	17	1.5 kPa	3.046	-	-	-	-	2 x 1.3	2 x 0.8	104 - 132
MLR-17-1600	3400	1600	17	1.5 kPa	3.536	-	-	-	-	2 x 1.3	2 x 0.8	114 - 145
MLR-17-1800	3400	1800	17	1.5 kPa	3.978	-	-	-	-	2 x 1.3	2 x 0.8	124 - 158
MLR-17-2000	3400	2000	17	1.5 kPa	4.42	-	-	-	-	2 x 1.3	2 x 0.8	134 - 172
MLR-17-2200	3400	2200	17	1.5 kPa	4.862	-	-	-	-	2 x 1.3	2 x 1.0	144 - 185
MLR-17-2400	3400	2400	17	1.5 kPa	5.304	-	-	-	-	2 x 1.3	2 x 1.0	154 - 198
MLR-17-2500	3400	2500	17	1.5 kPa	5.525	-	-	-	-	2 x 1.3	2 x 1.0	159 - 205
MLR-18-1150	3600	1150	18	1.5 kPa	2.65	-	-	-	-	2 x 1.3	2 x 0.8	98 - 125
MLR-18-1200	3600	1200	18	1.5 kPa	2.765	-	-	-	-	2 x 1.3	2 x 0.8	98 - 125
MLR-18-1400	3600	1400	18	1.5 kPa	3.226	-	-	-	-	2 x 1.3	2 x 0.8	109 - 139
MLR-18-1600	3600	1600	18	1.5 kPa	3.744	-	-	-	-	2 x 1.3	2 x 0.8	119 - 153
MLR-18-1800	3600	1800	18	1.5 kPa	4.212	-	-	-	-	2 x 1.3	2 x 0.8	130 - 167
MLR-18-2000	3600	2000	18	1.5 kPa	4.68	-	-	-	-	2 x 1.3	2 x 0.8	140 - 181
MLR-18-2200	3600	2200	18	1.5 kPa	5.148	-	-	-	-	2 x 1.3	2 x 1.0	151 - 195
MLR-18-2400	3600	2400	18	1.5 kPa	5.616	-	-	-	-	2 x 1.3	2 x 1.0	162 - 209
MLR-18-2500	3600	2500	18	1.5 kPa	5.85	-	-	-	-	2 x 1.3	2 x 1.0	167 - 216
MLR-19-1200	3800	1200	19	1.5 kPa	2.918	-	-	-	-	2 x 1.3	2 x 0.8	103 - 131
MLR-19-1400	3800	1400	19	1.5 kPa	3.405	-	-	-	-	2 x 1.3	2 x 0.8	114 - 145
MLR-19-1600	3800	1600	19	1.5 kPa	3.952	-	-	-	-	2 x 1.3	2 x 0.8	125 - 160
MLR-19-1800	3800	1800	19	1.5 kPa	4.446	-	-	-	-	2 x 1.3	2 x 0.8	136 - 175
MLR-19-2000	3800	2000	19	1.5 kPa	4.94	-	-	-	-	2 x 1.3	2 x 1.0	147 - 189
MLR-19-2200	3800	2200	19	1.5 kPa	5.434	-	-	-	-	2 x 1.3	2 x 1.0	158 - 204
MLR-19-2400	3800	2400	19	1.5 kPa	5.928	-	-	-	-	2 x 1.3	-	169 - 219
MLR-19-2500	3800	2500	19	1.5 kPa	6.175	-	-	-	-	2 x 1.3	-	175 - 226

Installation of MERCOR-MLR

Roof vents need to be supported by the roof structure components, such as purlins, trimmers, metal decking, curbs, etc. If the roof pitch is less than 45° the vent should be oriented with the louver blades running perpendicular to the roof ridge and for greater pitches the louver blades should preferably run parallel to the roof ridge (tilt up to open configuration).



Installation in Roof Pitch <45°



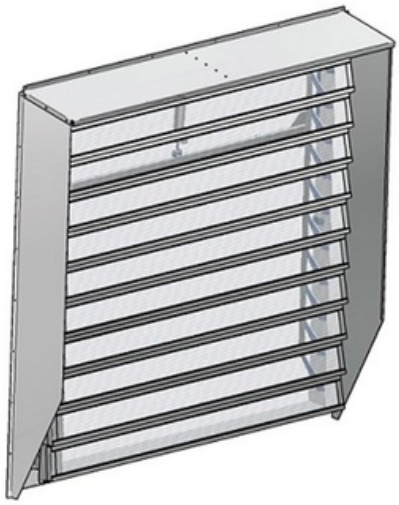
Installation in Roof Pitch >45°

MERCOR-MLR
Roof-mounted Smoke Ventilator
(blades closed)

MERCOR-MLR
Roof-mounted Smoke Ventilator
(blades open)

MERCOR-MLW
Facade-mounted Smoke Ventilator
(blades closed)

MERCOR-MLW



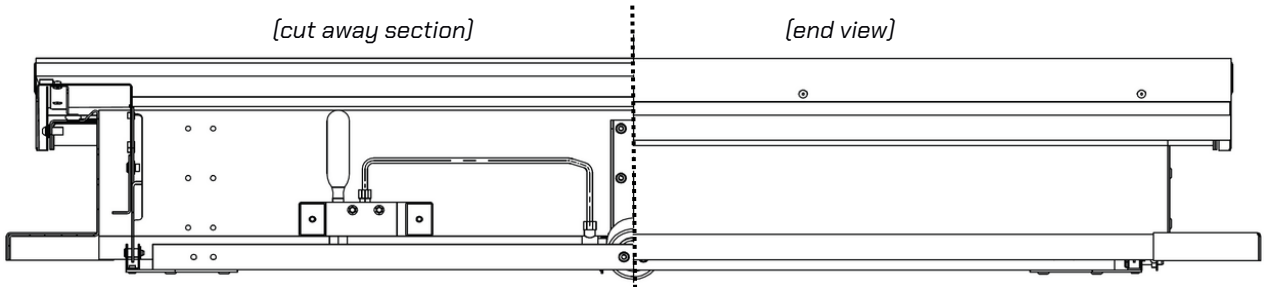
FACADE-MOUNTED SMOKE VENTILATORS

Mounted in the building facade, Ventüer MERCOR-LAM (MLW) louvred smoke ventilators exhaust smoke and heat from a building allowing escape routes to be kept clear of smoke and are fully certified to EN 12101-2. They are particularly suited to industrial and warehouse buildings and may also be used to provide natural comfort ventilation.

They are available in a wide range of sizes. The blades can be constructed from solid aluminium or translucent polycarbonate, and the perimeter fitted with optional rainshields. They consume minimal energy during the opening and closing cycle and have high resistance to weather and are therefore suited for use on exposed and high wind areas.

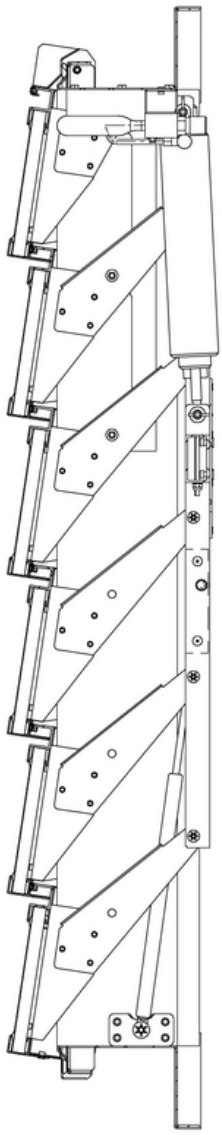
TECHNICAL DATA | MERCOR-MLW

DIMENSIONS	Minimum Depth	800 mm
	Maximum Depth	3800 mm
	Minimum Width (blade span)	500 mm
	Maximum Width (blade span)	2500 mm
MATERIAL	Blade Material Type Options	- 16 mm thick polycarbonate multi-skin sheet - 25 mm thick polycarbonate multi-skin sheet - Double-skin non-insulated aluminium louvres - Double-skin insulated aluminium louvres
	Base Material Types Options	- Aluminium - Galvanised Steel
	Surface Finish Options	- Unpainted - Powdercoated RAL colours
CONTROLS	Actuator Options	- 24 V DC electric actuators - 230 V AC electric actuators - Single action pneumatic cylinder - Double action pneumatic cylinder
	Thermal Release Option	Yes
USE	Emergency smoke ventilation	Yes
	Daily natural ventilation	Yes
EN12101-2 CERTIFICATION	Operational Reliability (smoke ventilation)	- Re300 (300 cycles): vent with E1 electric control and C1, C2 pneumatic control - Re1000 (1000 cycles): vent with C3 pneumatic control with gas spring)
	Operational Reliability (daily ventilation)	- Re10000 (10 000 cycles)
	Wind Load Class	- WL1500 (1500 N/m2): for all louvered vent types - WL3000 (3000N/m2): vents (max. 12 blades) of length 150 cm - WL4000 (4000 N/m2): vents (max. 12 blades) of length 100 cm
	Resistance to High Temperature	- B300 (300°C)
	Resistance to Low Temperature	- T (-25) or T(00): resistance of vents to low temperature of -25°C or 0°C
	Maximum vent opening time	- 60 seconds – maximum vent opening time to working position



Section through MERCOR-MLW ventilator *(parallel to blades)*

Face View of MERCOR-MLW ventilator



Section through MERCOR-MLW ventilator *(perpendicular to blades)*

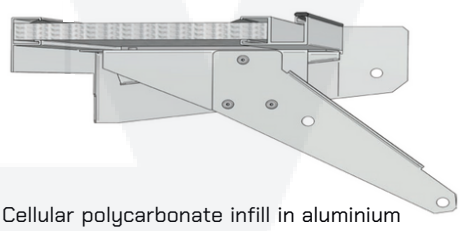
MERCOR-MLW TECHNICAL PARAMETERS

Product Code	Ventilator Throat Height (mm)	Ventilator Throat Width (blade length - mm)	No. Blades	Max. Wind Load	Aerodynamic Active Area (M2)	Electric Actuator Size (A)	Approximate Weight (Min - Max kg)
MLW-4-500	800	500	4	4 kPa	0.24 m2	0.8	23 - 27
MLW-4-800	800	800	4	4 kPa	0.39 m2	0.8	27 - 32
MLW-4-1000	800	1000	4	4 kPa	0.49 m2	0.8	30 - 36
MLW-4-1200	800	1200	4	3 kPa	0.6 m2	0.8	33 - 40
MLW-4-1400	800	1400	4	3 kPa	0.7 m2	0.8	35 - 43
MLW-4-1600	800	1600	4	1.5 kPa	0.8 m2	0.8	38 - 47
MLW-4-1700	800	1700	4	1.5 kPa	0.85 m2	0.8	40 - 49
MLW-5-500	1000	500	5	4 kPa	0.3 m2	0.8	26 - 31
MLW-5-1000	1000	1000	5	4 kPa	0.62 m2	0.8	34 - 41
MLW-5-1200	1000	1200	5	3 kPa	0.75 m2	0.8	37 - 46
MLW-5-1400	1000	1400	5	3 kPa	0.88 m2	0.8	40 - 50
MLW-5-1600	1000	1600	5	1.5 kPa	1.01 m2	0.8	43 - 54
MLW-5-1800	1000	1800	5	1.5 kPa	1.14 m2	0.8	47 - 58
MLW-5-2000	1000	2000	5	1.5 kPa	1.27 m2	0.8	50 - 63
MLW-5-2100	1000	2100	5	1.5 kPa	1.32 m2	0.8	52 - 67
MLW-6-500	1200	500	6	4 kPa	0.36 m2	0.8	26 - 32
MLW-6-1000	1200	1000	6	4 kPa	0.75 m2	0.8	38 - 47
MLW-6-1200	1200	1200	6	3 kPa	0.91 m2	0.8	42 - 52
MLW-6-1400	1200	1400	6	3 kPa	1.06 m2	0.8	45 - 57
MLW-6-1600	1200	1600	6	1.5 kPa	1.22 m2	0.8	49 - 61
MLW-6-1800	1200	1800	6	1.5 kPa	1.37 m2	0.8	53 - 66
MLW-6-2000	1200	2000	6	1.5 kPa	1.53 m2	0.8	56 - 71
MLW-6-2200	1200	2200	6	1.5 kPa	1.68 m2	0.8	60 - 76
MLW-6-2400	1200	2400	6	1.5 kPa	1.84 m2	0.8	63 - 81
MLW-6-2500	1200	2500	6	1.5 kPa	1.92 m2	0.8	67 - 85
MLW-6-500	1400	500	6	4 kPa	0.42 m2	0.8	30 - 36
MLW-7-600	1400	600	7	4 kPa	0.52 m2	0.8	32 - 38
MLW-7-1000	1400	1000	7	4 kPa	0.88 m2	0.8	42 - 52
MLW-7-1200	1400	1200	7	3 kPa	1.06 m2	0.8	47 - 58
MLW-7-1400	1400	1400	7	3 kPa	1.24 m2	0.8	51 - 63
MLW-7-1600	1400	1600	7	1.5 kPa	1.43 m2	0.8	54 - 68
MLW-7-1800	1400	1800	7	1.5 kPa	1.61 m2	0.8	58 - 73
MLW-7-2000	1400	2000	7	1.5 kPa	1.79 m2	0.8	61 - 78
MLW-7-2200	1400	2200	7	1.5 kPa	1.97 m2	0.8	65 - 83
MLW-7-2400	1400	2400	7	1.5 kPa	2.15 m2	0.8	69 - 89
MLW-7-2500	1400	2500	7	1.5 kPa	2.24 m2	0.8	72 - 93
MLW-8-550	1600	550	8	4 kPa	0.53 m2	0.8	32 - 38
MLW-8-700	1600	700	8	4 kPa	0.69 m2	0.8	40 - 50
MLW-8-1000	1600	1000	8	4 kPa	1.01 m2	0.8	46 - 57
MLW-8-1200	1600	1200	8	3 kPa	1.22 m2	0.8	52 - 65
MLW-8-1400	1600	1400	8	3 kPa	1.43 m2	0.8	58 - 72
MLW-8-1600	1600	1600	8	1.5 kPa	1.63 m2	0.8	63 - 79
MLW-8-1800	1600	1800	8	1.5 kPa	1.84 m2	0.8	69 - 86
MLW-8-2000	1600	2000	8	1.5 kPa	2.05 m2	0.8	74 - 94
MLW-8-2200	1600	2200	8	1.5 kPa	2.26 m2	0.8	80 - 101
MLW-8-2400	1600	2400	8	1.5 kPa	2.47 m2	0.8	86 - 108
MLW-8-2500	1600	2500	8	1.5 kPa	2.57 m2	0.8	91 - 114
MLW-9-600	1800	600	9	4 kPa	0.67 m2	0,8	42 - 52
MLW-9-800	1800	800	9	4 kPa	0.9 m2	0,8	45 - 55
MLW-9-1000	1800	1000	9	4 kPa	1.14 m2	0.8	51 - 63
MLW-9-1200	1800	1200	9	3 kPa	1.37 m2	0.8	57 - 71
MLW-9-1400	1800	1400	9	3 kPa	1.61 m2	0.8	63 - 79
MLW-9-1600	1800	1600	9	1.5 kPa	1.84 m2	0.8	69 - 86
MLW-9-1800	1800	1800	9	1.5 kPa	2.08 m2	0.8	75 - 94
MLW-9-2000	1800	2000	9	1.5 kPa	2.31 m2	1	81 - 102
MLW-9-2200	1800	2200	9	1.5 kPa	2.55 m2	1	87 - 110
MLW-9-2400	1800	2400	9	1.5 kPa	2.78 m2	1	93 - 118
MLW-9-2500	1800	2500	9	1.5 kPa	2.9 m2	1	99 - 125
MLW-10-650	2000	650	10	4 kPa	0.8 m2	0.8	52 - 64
MLW-10-1000	2000	1000	10	4 kPa	1.27 m2	0.8	55 - 68
MLW-10-1200	2000	1200	10	3 kPa	1.53 m2	0.8	61 - 77
MLW-10-1400	2000	1400	10	3 kPa	1.79 m2	0.8	68 - 85
MLW-10-1600	2000	1600	10	1.5 kPa	2.05 m2	0.8	74 - 94
MLW-10-1800	2000	1800	10	1.5 kPa	2.31 m2	1	81 - 102
MLW-10-2000	2000	2000	10	1.5 kPa	2.57 m2	1	88 - 111
MLW-10-2200	2000	2200	10	1.5 kPa	2.84 m2	1.3	94 - 120
MLW-10-2400	2000	2400	10	1.5 kPa	3.1 m2	1.3	101 - 128
MLW-10-2500	2000	2500	10	1.5 kPa	3.23 m2	1.3	107 - 136
MLW-11-700	2200	700	11	4 kPa	0.97 m2	0.8	59 - 73
MLW-11-1000	2200	1000	11	4 kPa	1.4 m2	0.8	59 - 73
MLW-11-1200	2200	1200	11	3 kPa	1.68 m2	0.8	66 - 83
MLW-11-1400	2200	1400	11	3 kPa	1.97 m2	0.8	73 - 92
MLW-11-1600	2200	1600	11	1.5 kPa	2.26 m2	0.8	80 - 101
MLW-11-1800	2200	1800	11	1.5 kPa	2.55 m2	1	87 - 110
MLW-11-2000	2200	2000	11	1.5 kPa	2.84 m2	1	94 - 120
MLW-11-2200	2200	2200	11	1.5 kPa	3.12 m2	1.3	101 - 129
MLW-11-2400	2200	2400	11	1.5 kPa	3.41 m2	1.3	109 - 138
MLW-11-2500	2200	2500	11	1.5 kPa	3.56 m2	1.3	116 - 146

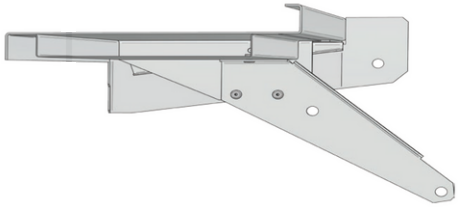
MERCOR-MLW TECHNICAL PARAMETERS

Product Code	Ventilator Throat Height (mm)	Ventilator Throat Width (blade length - mm)	No. Blades	Max. Wind Load	Aerodynamic Active Area (M2)	Electric Actuator Size (A)	Approximate Weight (Min - Max kg)
MLW-12-800	2400	800	12	4 kPa	1.21 m2	0.8	63 - 79
MLW-12-1000	2400	1000	12	4 kPa	1.52 m2	0.8	63 - 79
MLW-12-1200	2400	1200	12	3 kPa	1.84 m2	0.8	70 - 89
MLW-12-1400	2400	1400	12	3 kPa	2.15 m2	0.8	78 - 99
MLW-12-1600	2400	1600	12	1.5 kPa	2.47 m2	1	86 - 109
MLW-12-1800	2400	1800	12	1.5 kPa	2.78 m2	1	93 - 118
MLW-12-2000	2400	2000	12	1.5 kPa	3.1 m2	1.3	101 - 128
MLW-12-2200	2400	2200	12	1.5 kPa	3.41 m2	1.3	109 - 138
MLW-12-2400	2400	2400	12	1.5 kPa	3.73 m2	1.3	116 - 148
MLW-12-2500	2400	2500	12	1.5 kPa	3.88 m2	1.3	124 - 157
MLW-13-850	2600	850	13	1.5 kPa	1.39 m2	1	75 - 95
MLW-13-1200	2600	1200	13	1.5 kPa	1.99 m2	1	75 - 95
MLW-14-900	2800	900	14	1.5 kPa	1.58 m2	1.3	80 - 101
MLW-14-1200	2800	1200	14	1.5 kPa	2.15 m2	1.3	80 - 101
MLW-14-1400	2800	1400	14	1.5 kPa	2.52 m2	1.3	88 - 112
MLW-14-1600	2800	1600	14	1.5 kPa	2.88 m2	1.3	97 - 123
MLW-14-1800	2800	1800	14	1.5 kPa	3.25 m2	1.3	106 - 135
MLW-14-2000	2800	2000	14	1.5 kPa	3.62 m2	1.3	114 - 146
MLW-14-2200	2800	2200	14	1.5 kPa	3.99 m2	1.3	123 - 157
MLW-14-2400	2800	2400	14	1.5 kPa	4.35 m2	1.3	131 - 168
MLW-14-2500	2800	2500	14	1.5 kPa	4.54 m2	1.3	140 - 178
MLW-15-950	3000	950	15	1.5 kPa	1.82 m2	1.3	84 - 107
MLW-15-1200	3000	1200	15	1.5 kPa	2.3 m2	1.3	84 - 107
MLW-15-1400	3000	1400	15	1.5 kPa	2.7 m2	1.3	93 - 119
MLW-15-1600	3000	1600	15	1.5 kPa	3.09 m2	1.3	103 - 131
MLW-15-1800	3000	1800	15	1.5 kPa	3.49 m2	1.3	112 - 143
MLW-15-2000	3000	2000	15	1.5 kPa	3.88 m2	1.3	121 - 155
MLW-15-2100	3000	2100	15	1.5 kPa	4.08 m2	1.3	125 - 160
MLW-15-2200	3000	2200	15	1.5 kPa	4.27 m2	1.3	130 - 166
MLW-15-2300	3000	2300	15	1.5 kPa	4.47 m2	1.3	134 - 172
MLW-15-2400	3000	2400	15	1.5 kPa	4.67 m2	1.3	139 - 178
MLW-15-2500	3000	2500	15	1.5 kPa	4.87 m2	1.3	148 - 189
MLW-16-1050	3200	1050	16	1.5 kPa	2.15 m2	0.8	89 - 113
MLW-16-1200	3200	1200	16	1.5 kPa	2.46 m2	0.8	89 - 113
MLW-16-1400	3200	1400	16	1.5 kPa	2.88 m2	0.8	98 - 125
MLW-16-1600	3200	1600	16	1.5 kPa	3.3 m2	0.8	108 - 138
MLW-16-1800	3200	1800	16	1.5 kPa	3.72 m2	0.8	118 - 150
MLW-16-2000	3200	2000	16	1.5 kPa	4.14 m2	0.8	127 - 163
MLW-16-2200	3200	2200	16	1.5 kPa	4.56 m2	0.8	137 - 176
MLW-16-2400	3200	2400	16	1.5 kPa	4.98 m2	0.8	146 - 188
MLW-16-2500	3200	2500	16	1.5 kPa	5.19 m2	0.8	156 - 199
MLW-17-1100	3400	1100	17	1.5 kPa	2.39 m2	0.8	93 - 119
MLW-17-1200	3400	1200	17	1.5 kPa	2.61 m2	0.8	93 - 119
MLW-17-1400	3400	1400	17	1.5 kPa	3.06 m2	0.8	104 - 132
MLW-17-1600	3400	1600	17	1.5 kPa	3.51 m2	0.8	114 - 145
MLW-17-1800	3400	1800	17	1.5 kPa	3.96 m2	0.8	124 - 158
MLW-17-2000	3400	2000	17	1.5 kPa	4.4 m2	0.8	134 - 172
MLW-17-2200	3400	2200	17	1.5 kPa	4.85 m2	0.8	144 - 185
MLW-17-2400	3400	2400	17	1.5 kPa	5.3 m2	0.8	154 - 198
MLW-17-2500	3400	2500	17	1.5 kPa	5.52 m2	0.8	159 - 205
MLW-18-1150	3600	1150	18	1.5 kPa	2.65 m2	0.8	98 - 125
MLW-18-1200	3600	1200	18	1.5 kPa	2.77 m2	0.8	98 - 125
MLW-18-1400	3600	1400	18	1.5 kPa	3.24 m2	w0.8	109 - 139
MLW-18-1600	3600	1600	18	1.5 kPa	3.72 m2	0.8	119 - 153
MLW-18-1800	3600	1800	18	1.5 kPa	4.19 m2	0.8	130 - 167
MLW-18-2000	3600	2000	18	1.5 kPa	4.66 m2	0.8	140 - 181
MLW-18-2200	3600	2200	18	1.5 kPa	5.14 m2	0.8	151 - 195
MLW-18-2400	3600	2400	18	1.5 kPa	5.61 m2	0.8	162 - 209
MLW-18-2500	3600	2500	18	1.5 kPa	5.85 m2	0.8	167 - 216
MLW-19-1200	3800	1200	19	1.5 kPa	2.93 m2	2 x 0.8	103 - 131
MLW-19-1400	3800	1400	19	1.5 kPa	3.43 m2	2 x 0.8	114 - 145
MLW-19-1600	3800	1600	19	1.5 kPa	3.93 m2	2 x 0.8	125 - 160
MLW-19-1800	3800	1800	19	1.5 kPa	4.43 m2	2 x 0.8	136 - 175
MLW-19-2000	3800	2000	19	1.5 kPa	4.93 m2	2 x 0.8	147 - 189
MLW-19-2200	3800	2200	19	1.5 kPa	5.43 m2	2 x 0.8	158 - 204
MLW-19-2400	3800	2400	19	1.5 kPa	5.93 m2	2 x 0.8	169 - 219
MLW-19-2500	3800	2500	19	1.5 kPa	6.18 m2	2 x 0.8	175 - 226

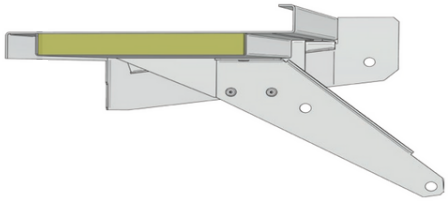
MLR & MLW Louvre Blade Infill Options



Cellular polycarbonate infill in aluminium frame (opal or transperant)



Twin-skin non-insulated aluminium blade



Twin-skin insulated aluminium blade

LOUVRE WINDOWS

The Ventüer glazed louvre windows are high-performance smoke ventilators, designed for installation into facade apertures or curtain walling. Electrically operated, with battery backup and / or fail-safe actuators, these ventilators fully open in under 60 seconds - ensuring rapid smoke and heat release from stairwells, corridors, lobbies and atriums.

With single, double and triple glazed options and thermally broken frames, these louvre windows are also highly energy efficient. Ideal for comfort ventilation and natural light supply as well as being highly effective smoke ventilators, they can be proudly incorporated as a design feature to the facade of any building.

(1) *Required wind load must be considered*

(2) *For easier transportation and handling large window elements may be divided into sections to be connected on site*

(3) *Subject to control type*

(4) *Technical requirements must be considered*

(5) *Certified calculation of Uw value in consideration of: Vent size, amount and size of blades, Ug value of insulated glass and Psi valve of edge bound. The Uw value changes depending on these considerations.*

(6) *Cvo indication for ratio-window width/height < 0,75, up to 10 louvres with a max. opening. For the calculation of the geometric free area Av = height x width. For the calculation of the aerodynamic free area Aa = Cvo x Av*

Louvre Window Technical Information Summary

		Tairmo Allglass	Tairmo	S9iVt-05	S9iVt-05 Allglass	Integral	S9-iV	S9	S9-45°
Profiles	Louvre frame construction	AL-profiles, thermally broken	AL-profiles, thermally broken	AL-profiles, thermally broken	AL-profiles, thermally broken	AL-profiles, thermally broken	AL-profiles, non-thermally broken	AL-profiles, non-thermally broken	AL-profiles, thermally broken
	Blade frame construction	AL-profiles, thermally broken	AL-profiles, thermally broken	AL-profiles, thermally broken	AL-profiles, thermally broken	AL-profiles, thermally broken	AL-profiles, non broken	No frame	No frame
Dimensions	Width (min./max.) (1)	250 mm / 2500 mm	250 mm / 2500 mm	250 mm / 1800 mm	250 mm / 1600 mm	250 mm / 1800 mm	250 mm / 1800 mm	250 mm / 1600 mm	250 mm / 1600 mm
	Height (min./max.) (2)	290 mm / up to any height	260 mm / up to any height	200 mm / up to any height	250 mm / up to any height	520 mm / up to any height	200 mm / up to any height	200 mm / up to any height	225 mm / up to any height
	Blade Height (min./ max.) (1)	220 mm / 400 mm	180 mm / 400 mm	150 mm / 350 mm	200 mm / 350 mm	150 mm / 350 mm	150 mm / 350 mm	150 mm / 300 mm	180 mm / 300 mm
	Frame depth	66 mm	66 mm	47 mm	47 mm / 50,4 mm	80 mm	46 mm	46 mm	47 mm
	Max. Louvre opening angle (3)	90 °	90 °	84 °	84 °	83 °	84 °	84 °	84 °
Type of Glass	Type of Glass	Triple glazing	Triple glazing	Double or triple glazing	Double or triple glazing	Double or triple glazing	Double glazing	Single glazing	Single glazing
	Glass thickness	52 mm	40 mm	28 / 32 mm	32 mm / 34 mm	28 mm	24 mm	8 / 10 / 12 mm	8 / 10 / 12 mm
	Standard glass combination	6 / 16 / 6 / 16 / 8	6 / 12 / 4 / 12 / 6 4 / 14 / 4 / 14 / 4	6 / 16 / 6 6 / 20 / 6	4 / 22 / 6 6 / 20 / 8	6 / 16 / 6	4 / 16 / 4	–	–
	Type of glass (1) (4)	Float, semi-tempered, toughened or laminated glass	Float, semi-tempered, toughened or laminated glass	Float, semi-tempered, toughened or laminated glass	Float, semi-tempered, toughened or laminated glass	Float, semi-tempered, toughened or laminated glass	Float, semi-tempered, toughened or laminated glass	Toughened or laminated glass	Toughened or laminated glass
	Alternitive types of infill (1)	Composite panels	Composite panels	Composite panels	–	Composite panels	Composite panels	Timber, aluminium,etc.	Timber, aluminium,etc.
Operation Method	Manual	✓	✓	✓	✓	✓	✓	✓	✓
	Electric	✓ 24 / 230V	✓ 24 / 230V	✓ 24 / 230V	✓ 24 / 230V	✓ 24V (integr./implemented)	✓ 24V / 230V	✓ 24 / 230V	✓ 24 / 230V
	Pneumatic	✓	✓	✓	✓	–	✓	✓	✓
	Finger entrapment protection (3)	✓	✓	✓	✓	✓	✓	✓	✓
	Surface finish	Anodised / powder coated	Anodised / powder coated	Anodised / powder coated	Anodised / powder coated	Anodised / powder coated	Anodised / powder coated	Anodised / powder coated	Anodised / powder coated
Performance Characteristics	CE- certified Smoke vents (EN 12101-2)	✓ Smoke vent	✓ Smoke vent	✓ Smoke vent	✓ Smoke vent	✓ Smoke vent	✓ Smoke vent	✓ Smoke vent	–
	Aerodynamic performance Cv (6)	0.56	0.56	0.56	0.54	0.54	0.59	0.65	–
	Air permeability (EN 12207)	Class 3	Class 4	Class 3	Class 3	Class 3	Class 2	Class 2	Class 2
	Watertightness (EN 12208)	Class 7A	Class 6A	Class 4A	Class 4A	Class 3A	Class 3A	Class 3A	Class 1A
	Resistance against wind load (EN 12210)	Class C4	Class C5	Certified	Certified	Certified	Certified	Certified	Certified
	U value (EN ISO 10077) (5)	Uw (max) = 0,9 W/m²K	Uw (max) = 0,8 W/m²K	Uw (max) = 1,4 W/m²K	Uw (max) = 1,3 W/m²K	Uw (max) = 1,5 W/m²K	Uw (max) = 2,1 W/m²K	–	–
	Other characteristics	-	Ball protection (DIN 18032-3)	Security certified Ball protection (DIN 18032-3) Sound insulation certified (EN 14351-1)	Ball protection (DIN 18032-3)	Ball protection (DIN 18032-3)	Sound insulation certified (DIN 52210)	–	Sound insulation certified (DIN 52210)

PROJECT
University of Cologne

LOCATION
Cologne, Germany

PRODUCT
HAHN-S9iVA
glazed smoke ventilators

CONTROL SYSTEMS

No smoke ventilation system is complete without a certified and correctly designed control system. Ventüer-supplied control panels can be configured as standalone systems or integrated into existing fire alarm or building management systems.

In-built battery backup and UPS options are available, as well as manual switching, thermostats and wind / rain sensors for combined control of comfort ventilation systems. Adaptable and customisable, they can be easily tailored to meet project specific requirements.

Contact Ventüer for product recommendations, design advice and assistance smoke ventilator control systems.

PROJECT
Blake Street Apartments

LOCATION
Auckland, New Zealand

PRODUCT
HAHN-S9
single glazed smoke ventilators

VENTÜER

sales@ventuer.co.nz

www.ventuer.co.nz

North Island

+64 9 973 3616

34a Peters Way, Silverdale, Auckland 0932

South Island

+64 3 928 5937

34 Onslow Street, Invercargill 9812