To learn more about Magic Aire Unit Ventilators and to download our literature and software, please visit our website or contact your local sales representative.

Magic Aire manufactures the unit ventilator product lines in Wichita Falls, TX. Our management system is registered to both ISO 9001 and ISO 14001, achieving international recognition for quality processes and environmental responsibility. See website for certification dates.

magicaire.com

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Water Source Heat Pump

MASWB (Water Loop Heat Pump) Single and Three Phase Units - Cooling and Heating Capacity and Efficiency

Model	Nominal Tons	Nominal Speed		Partial Load		Nominal Speed		Partial Load	
		Net Cooling BTUH	Efficiency (EER)	Net Cooling BTUH	Efficiency (EER)	Net Heating BTUH	Efficiency (COP)	Net Heating BTUH	Efficiency (COP)
MASWB2	2	23400	14.2	10000	16.5	29300	5.5	11700	6.7
MASWB3	3	41500	14.6	15700	17.4	46400	4.9	14000	6.3
MASWB5	5	49200	14.0	23700	17.1	60200	4.9	18100	6.5

MASWB (Water Loop Heat Pump)
AHRI Cooling Conditions -Nominal & Part Load: Indoor 80.6ºDB/66.2ºWB, Entering Liquid Temp 86ºDB • AHRI Heating Conditions -Nominal & Part Load: Indoor 68ºDB/59ºWB, Entering Liquid Temp 68ºDB

MASWB (Ground Water Heat Pump) Single and Three Phase Units - Cooling and Heating Capacity and Efficiency

Model	Nominal Tons	Nominal Speed		Partial Load		Nominal Speed		Partial Load	
		Net Cooling BTUH	Efficiency (EER)	Net Cooling BTUH	Efficiency (EER)	Net Heating BTUH	Efficiency (COP)	Net Heating BTUH	Efficiency (COP)
MASWB2	2	26200	20.1	11000	29.7	22400	4.1	8700	4.7
MASWB3	3	46900	21.6	13500	24.9	39500	3.9	11600	5.0
MASWB5	5	54300	20.5	27100	29.2	46600	4.0	23200	4.4

MASWB (Ground Water Heat Pump)
AHRI Cooling Conditions -Nominal & Part Load: Indoor 80.6ºDB/66.2ºWB, Entering Liquid Temp 59ºDB • AHRI Heating Conditions -Nominal & Part Load: Indoor 68ºDB/59ºWB, Entering Liquid Temp 50ºDB

MASWB (Ground Loop Heat Pump) Single and Three Phase Units - Cooling and Heating Capacity and Efficiency

Model	Nominal Tons	Nominal Speed		Partial Load		Nominal Speed		Partial Load	
		Net Cooling BTUH	Efficiency (EER)	Net Cooling BTUH	Efficiency (EER)	Net Heating BTUH	Efficiency (COP)	Net Heating BTUH	Efficiency (COP)
MASWB2	2	24500	15.7	10700	28.0	17100	3.4	7300	3.9
MASWB3	3	43200	16.7	12900	24.2	31900	3.4	10100	4.2
MASWB5	5	51200	16.1	16200	23.0	38500	3.4	20600	3.9

MASWB (Ground Loop Heat Pump)
AHRI Cooling Conditions -Nominal: Indoor 80.6ºDB/66.2ºWB, Entering Liquid Temp 77ºDB • AHRI Cooling Conditions -Partial load: Indoor 80.6ºDB/66.2ºWB, Entering Liquid Temp 68ºDB
AHRI Heating Conditions -Nominal: Indoor 68ºDB/59ºWB, Entering Liquid Temp 32ºDB • AHRI Heating Conditions -Partial load: Indoor 68ºDB/59ºWB, Entering Liquid Temp 41ºDB

AC Only w/Hydronic Heat

MASCB Single Phase Units - Cooling Capacity & Efficiency

Model	Nominal Tons	Nominal Speed		Partial Load	
		Net Cooling BTUH	Efficiency (EER)	Net Cooling BTUH	Efficiency (EER)
MASCB2	2	22100	10.0	14220	15.7
MASCB3	3	33400	9.6	20430	14.6
MASCB4	4	44500	10.0	20600	14.4
MASCB5	5	51800	9.6	20700	15.6

MASCB Three Phase Units - Cooling Capacity & Efficiency

Model	Nominal Tons	Nominal Speed		Partial Load	
		Net Cooling BTUH	Efficiency (EER)	Net Cooling BTUH	Efficiency (EER)
MASCB2	2	23200	11.0	13300	15.7
MASCB3	3	34200	9.6	13900	14.3
MASCB4	4	44000	10.4	14500	16.5
MASCB5	5	52000	10.2	17200	16.3

Air Source Heat Pump

MASPB Single Phase Units - Cooling and Heating Capacity and Efficiency

Model	Nominal Tons	Nominal Speed		Partial Load		Nominal Speed		Partial Load	
		Net Cooling BTUH	Efficiency (EER)	Net Cooling BTUH	Efficiency (EER)	Net Heating BTUH	Efficiency (COP)	Net Heating BTUH	Efficiency (COP)
MASPB2	2	22100	9.5	15400	14.1	20300	2.9	16900	3
MASPB3	3	34000	9.5	18000	13.1	36300	2.9	28500	3.1
MASPB4	4	44500	9.7	20500	13.0	41700	3	35200	3.5
MASPB5	5	49210	9.6	31000	13.0	49500	2.9	41500	3.4

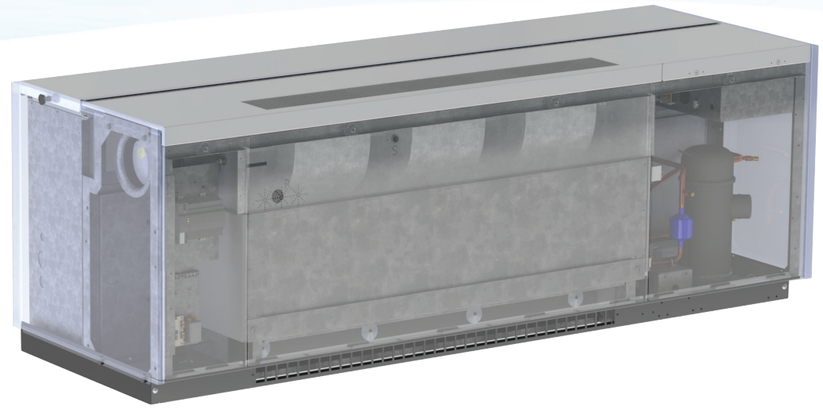
MASPB Three Phase Units - Cooling and Heating Capacity and Efficiency

Model	Nominal Tons	Nominal Speed		Partial Load		Nominal Speed		Partial Load	
		Net Cooling BTUH	Efficiency (EER)	Net Cooling BTUH	Efficiency (EER)	Net Heating BTUH	Efficiency (COP)	Net Heating BTUH	Efficiency (COP)
MASPB2	2	21700	10.6	13500	14.0	20400	3.1	17100	3.5
MASPB3	3	36100	9.6	25300	13.5	36300	3.0	28500	3.5
MASPB4	4	42900	9.9	32700	13.7	42200	3.2	35200	3.6
MASPB5	5	51200	9.8	33600	13.6	50000	3.2	41500	3.6

AHRI Cooling Conditions - Nominal Speed : Indoor 80ºDB / 67ºWB, Outdoor 95ºDB / 75ºWB • AHRI Cooling Conditions - Partial Load : Indoor 80ºDB / 67ºWB, Outdoor 82ºDB / 65ºWB
AHRI Heating Conditions - Nominal Speed : Indoor 70ºDB / 60ºWB, Outdoor 47ºDB / 43ºWB • AHRI Heating Conditions - Partial Load : Indoor 70ºDB, Outdoor 62ºDB / 56.5ºWB

Contemporary Self-Contained Unit Ventilators

Models MASCB, MASPB and MASWB



The entire line of Magic Aire Self-Contained Unit Ventilators is ETL listed to US and Canadian Safety Standards, such as ANSI/UL 1995 and certified under the AHRI 840 program for Unit Ventilators.

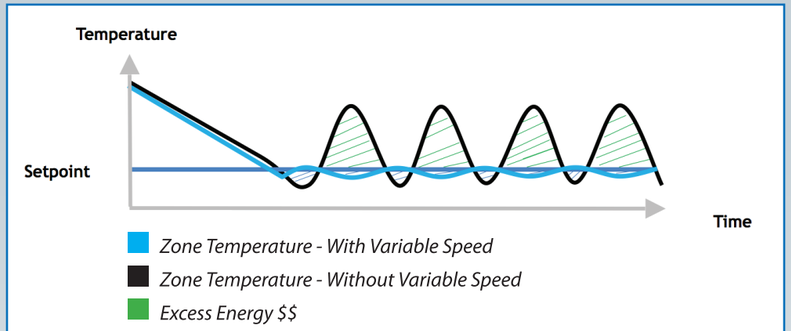
Form: 035-000046-002

Patented: US 11,879,673 B2 on MASWB and MASPB models

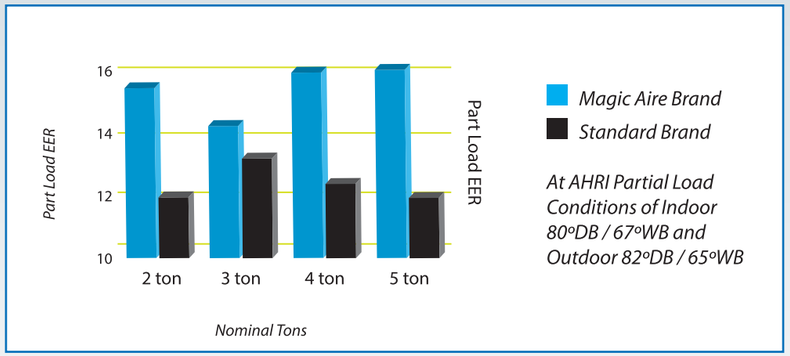
Flexible Solutions For The Modern Classroom

Technology At Work For You

The Magic Aire Contemporary Self Contained Unit Ventilators, MASCB, MASPB and MASWB models, are designed for a variety of applications where Indoor Air Quality is critical, such as classrooms, plus provide an Economical and Energy Efficient means for maintaining room conditions by incorporating some of the most up to date technology available for the HVAC industry.



Typical compressors cycle excessively resulting in current spikes, temperature fluctuations, and over-cooling. The variable speed compressor continuously matches the load, delivering only the required energy to satisfy space conditions, providing you with exceptional energy savings and temperature control.



Much of HVAC equipment is oversized. For a typical building load profile, the Design Conditions make up only 2% of operation time versus the part load conditions the unit will operate at a majority of the time. The MASCB is efficient during Full Load design conditions and during the majority of run time at Part Load.

Reduced Energy Consumption

Magic Aire's variable speed unit generates lower energy costs than a traditional two speed unit. Variable-speed systems significantly reduce energy use by precisely matching a system's level of operation to the cooling load, which can vary throughout the day based on the building's needs. Operation dollars are not wasted by running a unit at a higher temperature than the setpoint.

Lower Operation Cost

Another benefit of unit ventilators is zone heating and cooling of individual spaces. Each of the spaces will have its own controls, so you only need to condition that space when it is occupied, saving energy and money.

The Economizer control mode utilizes Magic Aire's ultra-low leak outdoor air damper to provide free cooling when the outdoor air temperature allows.

Lower Sound

With the lower speeds that can be achieved with a variable speed compressor, speed is reduced and the sound level is reduced versus a fixed speed at the same equivalent capacity. Also, fixed speed compressors cycle on and off which add to noise where variable speed compressors ramp up and down to required speed.

Thick sound-insulation materials are applied on the inside of access panels as well as a sound blanket over the compressor as a means of further reducing the sound being transmitted to the outside.

Reduced Installation Expense

Reduce installation expenses with factory provided DDC Controls and Valve packages.

- Built in Time Clock for Standalone operation
- Factory Outside Air Louvers
- Factory Valve Packages

New Features and Models

Modulating Hot Gas Reheat

Provides optimal Dehumidification without the need to use additional energy to reheat the space, as required by ASHRAE 90.1.

Air Source Heat Pump - MASPB

Variable-speed capacity-control enables enhanced heating part load capacity resulting in less dependence on auxiliary electric heat while also achieving the same superior cooling efficiencies

Water Sourced Heat Pump - MASWB

Variable capacity technology produces the industry's widest capacity range to keep owners comfortable over the widest scope of conditions. And, by using water as a stable thermal source either in a closed loop piping system, or by directly pumping well water, geothermal heat pumps provide energy efficient comfort the year around Brazed plate heat exchangers are utilized and one of the most efficient ways to transfer heat. They are designed to provide unparalleled performance with the lowest life-cycle cost. With no need for gaskets or supporting equipment, about 95% of the material is used to transfer heat. Since the robust construction requires no gaskets, the risk of leaking is eliminated. This means stable thermal and hydraulic performance.

Enhanced Features

- Variable Speed Compressor for broader capacity range
- Integrated Inverter Control
- Ultra Low Leak Outside Air/Return Air Damper
- BACnet MS/TP standard for Building Management System (BMS) integration
- Demand Ventilation
- Humidity monitoring and control
- User Friendly configuration and setup with a Web page Interface
- Override Scheduling
- Holiday Scheduling
- Heating options including Hot water, Steam, and Electric Heat
- High Efficiency Outdoor and Indoor ECM Fan Motor
- Sloped Top Option
- Brazed Plate Heat Exchanger (MASWB models)