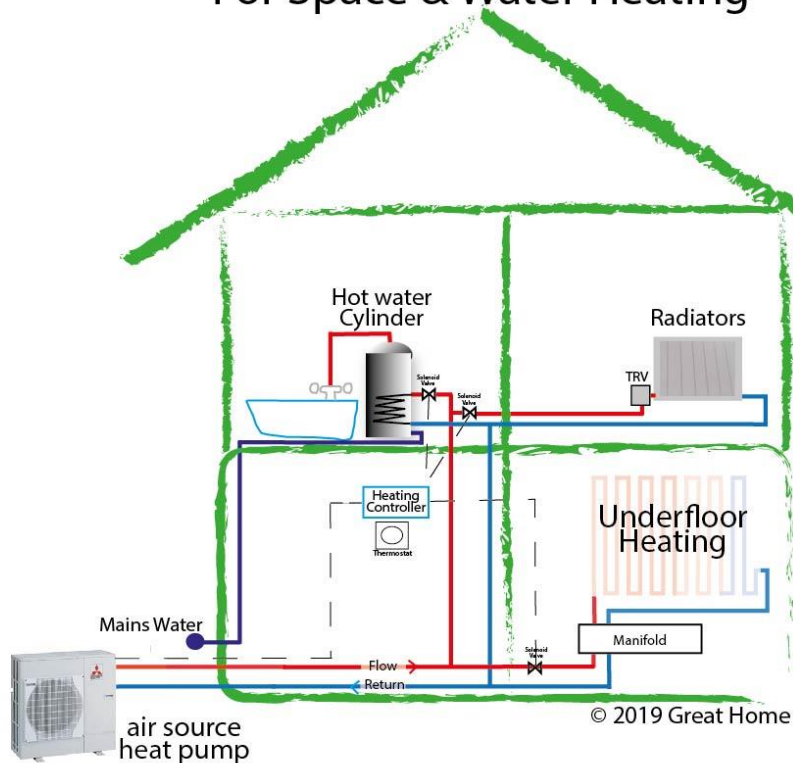


Heat Pump Technology for New and Existing Buildings



available from Canadian Aerothermal.

Air Source Heat Pump System For Space & Water Heating



Key facts about incorporating Aerothermal technology into buildings today:

- Operating on renewable inexhaustible energy source.
- Non-polluting, and purifies the air within the home.
- Only consumes the electricity required to operate.
- Saves up to 50% on electricity bills.
- Perfect for our climate: Rated for -25 C. temperatures
- System operates at 200 – 400% efficiency throughout the year.
- For every 1kWh used to operate a heat pump for your home, it creates on average 4 kWh of heating or cooling.

This chart showcases 3 models of Mitsubishi Heat Pumps, both in Hyper Heat Technology and a Base Model (Non-Hyper Heat).

The first four models (1-4) are single zone units that can incorporate either a wall mount, floor mount, 1-way ceiling cassette, a 4-way ceiling cassette, or an air handler.

The final two (5 and 6) are multi-zone units with that offer flexible options of connecting 4 indoor units: wall and floor mount, ceiling cassettes and air handlers.

		Outdoor temp	-25	-20	-15	-10	-5	0	HSPF	SEER	COP at -8	TIER	Cooling max Btu/h	Heating Btu/h max @ -8	Heating Btu/h max @ -15	Moisture Removal pints/h
1	MUZ-FH09NAH Hyper-heat	Heating Capacity % of Rated Capacity	71%	86%	100%	100%	100%	100%	12.5	30.5	3.27	3	12,000	12,900	11,000	1.5
2	MUZ-GL09NAH Base model	Heating Capacity % of Rated Capacity	~	63%	75%	87%	96%	100%	11.8	24.6	3.12		12,200	9,900	8,000	1.5
3	MUZ-FH15NAH Hyper-heat	Heating Capacity % of Rated Capacity	81%	90%	100%	100%	100%	100%	11.5	22	3.18	1	19,000	20,200	18,300	4
4	MUZ-GL15NAH Base model	Heating Capacity % of Rated Capacity	~	62%	76%	90%	94%	94%	10.8	21.6	2.73		18,200	15,900	14,100	2.7
5	Hyper-Heat 4 Port MXZ4C36NAHZ	Heating Capacity % of Rated Capacity	76%	88%	100%	100%	100%	100%	11.3	19.1	2.73	3	36,000	45,000	44,000	Dependant on indoor unit
6	4 Port MXZ4C36NAZ	Heating Capacity % of Rated Capacity	~	~	52%	67%	81%	93%	11	19.2	2.9		34,400	26,100	25,800	Dependant on indoor unit

The heating seasonal performance factor (HSPF): a measure of the total heat output in Btu of a heat pump over the entire heating season divided by the total energy in watt hours it uses during that time. This number is like the seasonal efficiency of a fuel-fired heating system and includes energy for supplementary heating. Weather data characteristic of long-term climatic conditions are used to represent the heating season in calculating the HSPF.

The seasonal energy efficiency ratio (SEER): measures the cooling efficiency of the heat pump over the entire cooling season. It is determined by dividing the total cooling provided over the cooling season in Btu by the total energy used by the heat pump during that time in watt hours. The SEER is based on a climate with an average summer temperature of 28°C.

Coefficient of Performance (COP): defined as the ratio of the energy output to the input. Higher COP's equate to lower operating costs. Heat pumps not only convert work to heat, they pump additional heat from a heat source to where the heat is required.



Floor-Mounted

Features a dual-outlet for optimum air distribution and front panel access to the filter for ease of cleaning.



Wall-Mounted

Wall-mounted units allow you to personalize your comfort room by room. They feature a wide airflow (up to 150°) and Super-Quiet Technology - as low as 19dB(A).



Ceiling-Concealed

Ceiling-concealed units deliver discrete, zoned comfort by using short run ductwork to disperse air evenly throughout the space.



4-Way Cassette

This unit fits flush to the ceiling to stay out of sight while four air outlets and multiple airflow patterns offer greater air coverage and better air distribution.

Ductless

Wall Mounted: models range from heating capacity of 8,700 -20,300 btu/h

Floor Mounted: models range from 11,000 – 21,600 btu/h. 21 dB

1 and 4-Way Cassette: Offers up to 72 different airflow patterns... ideal for applications with ceilings up to 4.2 metres in height. 8,000 – 36,000 Btu/h heating capacity. Fit between standard 16” joists to accommodate the needs of nearly every room. Optionally available with an automatic filter lift. Filter can be lowered by up to 4 m using the remote control

Ducted

Ceiling-Concealed: Medium static and range from 6,000 – 96,000 Btu/h heating capacity.

For replacing existing furnaces, central air-conditioning systems, and is also perfect the air-conditioning solution for homes with radiant floor heating systems.



Zuba Central

A ducted unit that replaces a furnace while using existing ducting. An efficient whole home solution by offering complete year-round comfort control room by room. This system can also be fully disassembled and reassembled to fit into tight spaces such as closets, attics, or equipment rooms and other space-limited installations. A key feature of this system is that it can incorporate zoning within buildings to allow occupants to adjust the temperature in each zone.

Key features and Benefits with Heat Pump Systems

- Inverter-Driven compressors: Maximize savings by using only the energy needed to perfectly heat or cool an area.
- Easy installation: Installs quickly and easily, without the need for major construction and remodeling.
- Complete Zone control: Realizes maximum control and energy efficiency by cooling and heating only those spaces in use.
- Comfort control: Complete comfort control of temperature, fan speed, and air direction in each room or zone.
- Washable anti-allergen filters: Improves air quality by removing dust, allergens and pollen.
- Hyper-Heating inverter (H2i) heat pumps: Provides instant and continuous warmth even in extreme climates (rated to -25 C)
- Ultimate energy efficiency: With higher SEER, EER and HSPF ratings.

Defrost cycle

During temperatures of below freezing, moisture in the air passing over the outside coil will condense and freeze on it. The frost buildup decreases the efficiency of the coil by reducing its ability to transfer heat to the refrigerant. Heat pumps can switch into defrost mode first by reversing the system to cooling mode. This mode sends hot gas to the outdoor coil to melt the frost. There are two methods used to determine when the unit switches to defrost mode. 1) Demand-frost controls, that monitor airflow, refrigerant pressure, air or coil temperature pressure differential across the outdoor coil to detect frost accumulation on the outdoor coil. 2) Time- temperature defrost method is started and ended by a pre-set interval timer or a temperature sensor located on the outside coil. This cycle can be initiated every 30, 60, or 90 minutes, depending on the climate and the design of the system.

Maintenance

Proper maintenance is critical to ensure heat pumps operate efficiently and provide long service life. Washable filters make it easy and economical for owners. Coil maintenance for the outdoor unit can be done by a homeowner or can be part of a regular maintenance plan with a qualified service contractor.

Life expectancy and warranties for Mitsubishi products

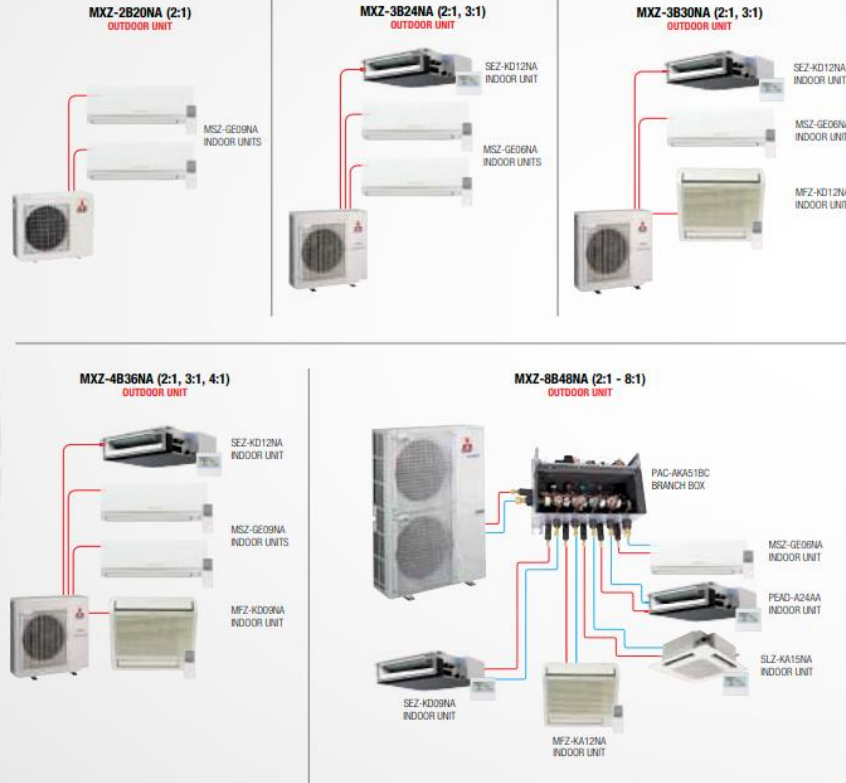
Service life between 15 – 20 years

Warranties: 10 years parts, 10 years compressor (residential and commercial)

MULTI-SPLIT SYSTEM

The MXZ-B Series provides you with superior control and flexibility by heating and cooling up to eight rooms, with only a single outdoor unit. The MXZ-B Series can be configured to suit your style and capacity requirements while offering outstanding energy efficiency.

Combination Examples:



CONNECTABLE INDOOR UNITS

Wall-Mounted Style

Model	MSZ-GE06NA*	MSZ-GE09NA	MSZ-GE12NA	MSZ-GE15NA	MSZ-GE18NA	MSZ-GA24NA
Cooling Capacity	Btu/h 6,000	9,000	12,000	14,000	17,200	22,000
Heating Capacity	Btu/h 7,400	10,900	14,400	18,000	21,600	23,200
Airflow (Q, L, M, H, SH)	CFM Dry 145-170-237-321-399	145-170-237-321-399	145-170-237-321-399	205-272-335-420-533	230-275-339-420-533	N/A-296-431-568-624
Sound Indoor (Q, L, M, H, SH)	Cooling dB(A) 19-22-30-37-43	19-22-30-37-43	19-22-30-37-45	26-32-38-44-49	28-33-38-44-49	N/A-34-40-49-51
Dimension	H in. 11-5/8	11-5/8	11-5/8	11-5/8	11-5/8	12-13/16
	W in. 31-7/16	31-7/16	31-7/16	31-7/16	31-7/16	43-5/16
	D in. 9-1/8	9-1/8	9-1/8	9-1/8	9-1/8	10-1/4

Ceiling-Concealed Style

Model	SEZ-KD09NA	SEZ-KD12NA	SEZ-KD15NA	SEZ-KD18NA	PEAD-A24AA
Cooling Capacity	Btu/h 9,000	12,000	15,000	17,200	24,000
Heating Capacity	Btu/h 10,900	13,600	18,000	20,100	26,000
Airflow (L, M, H)	CFM Dry 194-247-317	247-317-388	353-441-529	423-529-635	512-636-742
Sound Indoor (L, M, H)	Cooling dB(A) 23-26-30	23-29-33	30-34-37	30-34-38	30-33-37
Dimension	H in. 7-7/8	7-7/8	7-7/8	7-7/8	9-7/8
	W in. 31-1/8	39	39	46-7/8	43-5/16
	D in. 27-9/16	27-9/16	27-9/16	27-9/16	28-7/8

4-Way Cassette Style

Model	SLZ-KA09NA	SLZ-KA12NA	SLZ-KA15NA
Cooling Capacity	Btu/h 9,000	12,000	15,000
Heating Capacity	Btu/h 10,900	14,400	18,000
Airflow (L, M, H)	CFM Dry 280-320-250	280-320-390	280-320-390
Sound Indoor (L, M, H)	Cooling dB(A) 29-32-38	30-34-39	31-35-40
Dimension	H in. 8-3/16	8-3/16	8-3/16
	W in. 22-7/16	22-7/16	22-7/16
	D in. 22-7/16	22-7/16	22-7/16

Floor-Mounted Style

Model	MFZ-KA09NA*	MFZ-KA12NA*	MFZ-KA18NA*
Cooling Capacity	Btu/h 9,000	12,000	17,200
Heating Capacity	Btu/h 10,900	14,400	21,600
Airflow (L, M, H, SH)	CFM Dry 169-205-251-314	177-215-261-321	251-279-325-394
Sound Indoor (L, M, H, SH)	Cooling dB(A) 25-30-35-40	26-31-36-41	35-38-42-46
Dimension	H in. 23-5/8	23-5/8	23-5/8
	W in. 27-7/16	27-7/16	27-7/16
	D in. 7-7/8	7-7/8	7-7/8

FLOOR-MOUNTED FEATURES VCSi

- Catechin Plus Air Purifying System
- Dual-Outlet for Optimum Air Distribution
- SmartSet & Econo Cool Functions
- Super-Quiet Technology
- SuperHi Fan Speed
- Optional Wired Remote Controller

admin@clogieconsulting.info for more information. Free assessments available

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