

## Unparalleled quality for your most valuable assets.

Trust your servers to durable, precision cooling from Mitsubishi Electric.



mir.SLIM™

 **MITSUBISHI  
ELECTRIC**  
*Changes for the Better*

# TRUST YOUR SERVERS TO MITSUBISHI ELECTRIC PRECISION COOLING.

SERVER ROOM CLIMATES DEMAND COOLING MECHANISMS DESIGNED SPECIFICALLY TO MEET THEIR UNIQUE NEEDS. THAT IS WHY IT IS IMPERATIVE TO INSTALL A COMMERCIAL-GRADE SERVER ROOM COOLING SYSTEM THAT IS DURABLE, EFFICIENT AND RELIABLE. **THAT'S THE P-SERIES PRECISION COOLING SYSTEM FROM MITSUBISHI ELECTRIC.**

## COMMERCIAL VS. RESIDENTIAL GRADE TECHNOLOGY

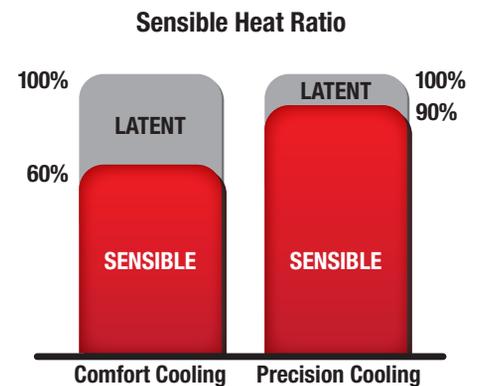
Some modified residential units claim to be sufficient for server room applications. However, these units, designed for comfort cooling in residential applications, are not equipped to endure the strain placed on them by the continuous sensible heat load of server rooms. This could result in potentially reduced lifespan, higher servicing costs and, ultimately, expensive early system failure.

Mitsubishi Electric's P-Series commercial grade precision cooling system is different: its durable design means it can withstand around-the-clock usage and extreme conditions. At the core of the system is a commercial grade variable speed compressor designed specifically for durability and to maintain consistent, reliable server room temperature.

## PRECISION COOLING VS. COMFORT COOLING

The key advantage of the P-Series system is *how* it delivers cooling. Residential-grade systems, though modified, are primarily designed to remove humidity in an environment to a level comfortable for humans, otherwise known as *comfort cooling*. As a result, only 60–70% of their operation is dedicated to lowering temperature.

But server rooms generate dry heat, meaning there is less need for humidity removal. The P-Series *precision cooling* system is designed for removal of sensible heat, first and foremost. As a result, it is capable of effectively removing the vast amount of sensible heat load in a server room, which is equivalent to 80–90% of the total cooling requirement.



## SEASONAL VS. CONSTANT COOLING

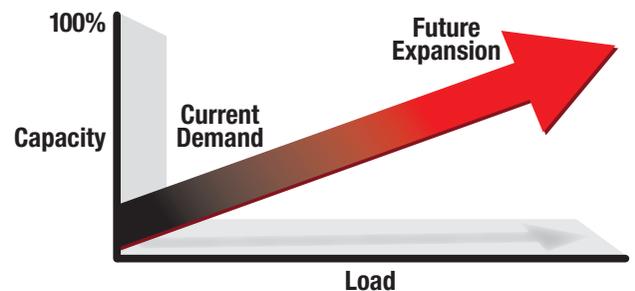
The compressors in residential units are not designed to deliver cooling in Canadian winters. Running them continuously during extreme cold conditions can lead to excessively low condensing pressure, which can result in a series of malfunctions and potential compressor failure. The P-Series features proven Low and Ultra Low Ambient cooling operations that are specifically designed for the Canadian climate, so they continue to operate efficiently and effectively even when outside temperatures reach as low as  $-40^{\circ}\text{C}$ .

## THE BENEFITS OF A VARIABLE SPEED INVERTER SCROLL COMPRESSOR

Conventional compressors typically only run at one speed and can only cycle between on and off – not an effective method for delivering cooling in a server room. The P-Series is equipped with Mitsubishi Electric’s quality-made, durable variable speed inverter scroll compressor that can adjust its speed to provide precise cooling as needed. This means:

- a consistent, precise temperature is maintained at all times;
- increased energy efficiencies, resulting in cost savings;
- when a server room expands, the P-Series can adapt to the increasing heat load without requiring the installation of additional equipment.

## P-Series Output Capacity Adapts to Load Changes



## DESIGN FLEXIBILITY

Unlike many ductless cooling systems with maximum pipe lengths of 65 feet, P-Series accommodates extra-long pipe lengths of up to 165 feet. This provides enough flexibility for the condenser and evaporator to be installed strategically to suit the overall design and functionality requirements of the commercial space. In addition, our Twin System can accommodate larger or odd shaped server rooms by allowing two indoor units to operate simultaneously with a single outdoor unit. As a result, temperatures remain consistent throughout the room with no corner left uncooled.

## P-SERIES ADVANTAGES VS. RESIDENTIAL UNITS

P-SERIES	RESIDENTIAL UNITS
Sensible Heat Ratio of 80–90%. (precision cooling)	Sensible Heat Ratio of only 60–70%. (comfort cooling)
Durability & Reliability 24/7 in commercial applications. (commercial-grade components)	Prone to failure in commercial applications. (residential-grade components)
Effective even when outdoor ambient temperature reaches -40°C. (proprietary ultra low ambient technology)	Loses effectiveness in low ambient outdoor conditions. (not built to deliver cooling in Canadian winters)



## P-SERIES SPECIFICATIONS

All models feature lead-lag control, 100% back-up, stand-by, and ability to integrate with BMS via BACnet, LonWorks or optional DDC control. P-Series offers four models of evaporator units that save valuable floor space:

	P-SERIES CONDENSERS	PUY-A12NHA4	PUY-A18NHA4	PUY-A24NHA4	PUY-A30NHA4	PUY-A36NHA4	PUY-A42NHA5
	<b>CEILING-CASSETTE EVAPORATOR</b>	PLA-A12BA	PLA-A18BA	PLA-A24BA	PLA-A30BA	PLA-A36BA	PLA-A42BA
	COOLING CAPACITY (TOTAL - BTU/H)	10,680	16,020	21,360	26,700	31,150	37,380
	COOLING CAPACITY (SENSIBLE - BTU/H)	9,996	14,514	18,284	22,054	26,041	30,128
	<b>WALL-MOUNTED EVAPORATOR</b>	PKA-A12HA	PKA-A18HA	PKA-A24KA	PKA-A30KA	PKA-A36KA	
	COOLING CAPACITY (TOTAL - BTU/H)	10,680	16,020	21,360	26,700	30,438	
	COOLING CAPACITY (SENSIBLE - BTU/H)	9,676	12,432	18,498	21,253	24,229	
	<b>CEILING-RECESSED EVAPORATOR</b>			PCA-A24KA	PCA-A30KA	PCA-A36KA	PCA-A42KA
	COOLING CAPACITY (TOTAL - BTU/H)			21,360	26,700	31,150	37,380
	COOLING CAPACITY (SENSIBLE - BTU/H)			17,643	20,986	25,730	29,381
	<b>CEILING-CONCEALED (DUCTED) EVAPORATOR</b>	PEA-A12AA	PEA-A18AA	PEAD-A24AA	PEAD-A30AA	PEAD-A36AA	PEAD-A42AA
	COOLING CAPACITY (TOTAL - BTU/H)	10,680	16,020	21,360	26,700	31,150	37,380
	COOLING CAPACITY (SENSIBLE - BTU/H)	9,249	14,514	16,575	20,719	26,353	31,997
	POWER SUPPLY	208/230V, 60HZ, 1PHASE					
	MAX. PIPE LENGTH	100FT (30M)	100FT (30M)	165FT (50M)	165FT (50M)	165FT (50M)	165FT (50M)
	OUTDOOR OPERATION RANGE	46°C DB TO -40°C DB (115°F DB TO -40°F DB)					

Above specs rated at 75°F DB, 61°F WB (indoor); 95°F DB (outdoor)

## COMMITTED TO THE CANADIAN MARKET

Since 1979, our team of experts and professional sales network has helped consulting engineers, building designers, architects and contractors across Canada meet and exceed their heating, ventilation and air conditioning requirements. We understand your needs and strive to bring you the latest, most innovative HVAC technologies.