



Inverter Technology is here!!



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TGM Industries just changed the rules of the game. TGM's legendary field reliability is now available in a more esthetically-pleasing unit than ever that's also higher efficiency than anything we've ever offered.



ISO 14001

→ How it works... Please see explanation of how inverter technology works on page 2.

Model	Capacity Btu/hour *	SEER	Description
MWVT10S/MRVT10AS	10,000	16.0	Inverter Series High-Wall Mini-Split System - 220v/60Hz/1 Ø
MWVT12S/MRVT12AS	12,000	16.0	Inverter Series High-Wall Mini-Split System - 220v/60Hz/1 Ø
MWVT18S/MRVT18AS	18,000	15.5	Inverter Series High-Wall Mini-Split System - 220v/60Hz/1 Ø
MWVT24S/MRVT24AS	24,000	16.0	Inverter Series High-Wall Mini-Split System - 220v/60Hz/1 Ø

Speak with your Territory Sales Manager today about special introductory pricing.

* Capacity at ARI air conditioning standard rating point

[Inverter \(air conditioning\) from TGM Industries – Miami, FL – U.S.A.](#)

The inverter tag found on some air conditioners signifies the ability of the unit to continuously regulate its thermal power flow by altering the speed of the compressor in response to cooling demand. Traditional reverse-cycle air-conditioners use a heat pump that is either working at maximum capability or switched off, as the compressor's speed cannot be varied. In order to regulate temperature, a thermistor is used to measure the ambient air temperature and switch the compressor on when the ambient air temperature is too far from the desired temperature.

Air-conditioners bearing the inverter tag use a variable-frequency drive to control the speed of the compressor motor. The variable-frequency drive uses a rectifier to convert the incoming AC current to DC and then uses pulse-width modulation of the DC current within an inverter to produce AC current of a desired frequency. The AC current is used to drive a hermetic brushless motor in the compressor. As the speed of a brushless motor is synchronised to the frequency of the AC current, it is thus possible to build a compressor that can be run at different speeds. Similarly, the voltage and frequency can be varied as needed to efficiently run the motor at different speeds. A microcontroller can then sample the current ambient air temperature and adjust the speed of the compressor appropriately.

Eliminating stop-start cycles increases efficiency, extends the life of components, and helps eliminate sharp fluctuations in the load the air-conditioner places on the power supply. Ultimately this makes inverter air conditioners less prone to break downs, cheaper to run and the outdoor compressor is generally quieter than a standard air conditioning unit's compressor. While at the beginning of the 1990s inverter air conditioners had some drawbacks, this is no longer the case. Running at full load conventional air conditioners tend to be more efficient and outperform inverters. Inverter-based air conditioners have their strengths in environments where a partial load is common as they are significantly more efficient than conventional air conditioners in these situations. For most households inverters are the preferred option as part load is the common mode there. The higher initial expense is balanced by lower energy bills. In a typical setting the pay-back time is between one and two years and sometimes is significantly less depending on the local cost of electricity KWH when comparing the initial cost of a standard unit with an inverter-type unit. A typical homeowner, with several units installed, can expect to save several thousand U.S.\$'s in five years of normal operation when compared to standard-efficiency systems.

Therefore, it depends on usage what type will be better. In any case though, it pays to buy an energy efficient model, i.e. one with a high SEER, EER, or HSPF factor and at least an EnergyStar certified product, as this will significantly reduce the electricity bill.