

FAQ's

Variable Mass Flow Package (VMF)

Optimized By Smart Compressor Control (SCC) Technology



Q: What compressor types does the Variable Mass Flow Package (VMF) work on?

A: The VMF works on scroll, reciprocating, screw and any open type or semi-hermetic compressors.

Q: Do I need anything else with the VMF?

A: The VMF comes pre-wired, pre-programmed, ready for plug and play installation.

Q: Will installing the VMF interfere with my existing controls?

A: No, the VMF does not interfere with any existing controls. If the existing control shuts the compressor down, the VMF will shut down too.

Q: Does the VMF use pressure sensors?

A: No, the VMF is unique and only uses temperature sensors to modulate compressors similar to VRF technology.

Q: What kWh savings can I expect?

A: We are seeing between 25% and 50% savings on average, but we have seen as high as 60% savings!

Q: Where has the VMF been installed?

A: We have installations in the most rigorous climates in the world, from the coldest temperatures in Russia to the hottest climates in Saudi Arabia.

Q: What type of systems have you installed the VMF on?

A: We have installations on refrigeration racks, single compressor refrigeration systems, air-conditioning rooftop packaged units, air-conditioning DX splits, and air-cooled chillers.

Q: Are all 3-phase compressors compatible?

A: Yes, 208/220V 3-Phase, 380/480V 3-phase and 500/600V 3-phase are all compatible.

Q: Are all refrigerants compatible with the VMF?

A: Yes, all refrigerants are compatible with the VMF.

Q: Can you install on fan motors?

A: Yes.

Q: Can the VMF be installed on a heat pump?

A: Yes.

Q: Will the VMF eliminate the need to set unloaders?

A: Yes, it will.

Q: I am a contractor that wishes to sell your product. What are the conservative savings that I can promise my customer?

A: We always say that the savings are derived from the customer's consumption; however, if the compressor is sized correctly for the application, you can easily achieve an average annual savings of 30% on the entire system.

Q: I am a contractor. How do I purchase your product?

A: You can purchase our product from one of our national distributors. If you contact us, we can let you know which ones are in your area.

Q: I am an end user. How can I purchase your product?

A: You can purchase our product from one of our national distributors. If you contact us, we can let you know which ones are in your area.

Q: Does the VMF help with the new 2023 HVAC SEER's Regulations?

A: Yes, the regulations are for new products; however, if you have a new 2022 model that does not qualify with the new 2023 SEER regulation, you should be able to qualify with our VMF package.

Q: Does the VMF help reduce my carbon footprint?

A: Yes, if you are saving any electrical consumption, you are helping the environment by reducing your carbon footprint.

Q: Will the VMF help me comply with government-mandated energy reductions?

A: Yes, it will. The VMF qualifies to help you comply with Local Law's in NY & MA.

Q: Are utility rebates available for the VMF?

A: Yes, please get in touch with us for more information.

Q: Would this product extend the life of my compressor?

A: Yes. If the system is regularly serviced, the lifespan of the existing compressor should increase.

Q: Will the compressor hunt up and down?

A: No, our technology is designed to prevent the compressor from hunting. The compressor is intelligent and will only react when there is a need for more capacity.

Q: What is the difference between installing a VFD with a pressure transducer and the VMF technology?

A: When installing a VFD with a pressure transducer, you only reduce the compressor's speed when the pressure decreases. However, this method does not provide any visibility into the compressor's health or its operating conditions. As a result, you cannot monitor the expansion valve, superheat temperature, discharge temperature, or any other relevant information.

This method of installing a VFD is often a contributing factor to compressor breakdowns. However, the VMF technology utilizes the Smart Compressor Control technology to modulate the mass flow of the refrigerant. The VMF collects necessary data from the drive through Modbus and then determines the appropriate modulation speed for the compressor based on the data gathered from sensors and VFD. This advanced technology offers better visibility and control over the compressor's operating conditions, thus reducing the risk of compressor breakdowns and improving efficiency.

Q: Do I need to set up any parameters on the VMF when I install it on-site?

A: No, the VMF is fully programmed and tested before leaving our facility.

Q: Do I need to penetrate the roof when installing it on a roof?

A: No, you can install the VMF free-standing or use a rubber footing base.

Q: How long does an installation take from start to finish?

A: We estimate that after installing the first two VMF packages, you will know what you need to bring with you. Typically, contractors take no more than four hours per package.

Q: What about setting it up and commissioning it?

A: After providing power to the VMF, you need to input two parameters on the Smart Compressor Control, and you are good to go. The system will run and learn within 24 hours of operation.

Q: When shall I expect to start seeing savings?

A: You will start seeing savings as soon as you start the unit. However, they will improve within 24 hours.

Q: Would my savings be affected if there was a change in ambient temperature?

A: No, the VMF adjusts its settings to the current conditions of the refrigeration system and ambient temperature.

Q: After installing, what happens if I decide to change the set point temperature on my refrigeration system? Do I need to call Falkonair to re-commission the system?

A: No, the system will recognize that the set point has been changed and will maintain the capacity demand as needed.

Q: Is there a similar technology to the VMF in the market?

A: The only technology like the VMF is VRF on Air-Conditioning.

Q: Why has nobody done this before?

A: The technology experience used on the VMF was not available before, and our innovator gathered twenty years of experience to create the intelligent algorithm.

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