

Mbsm.pro, Embraco, Start Capacitor

Category: expertise

written by Lilianne | 24 November 2024

VI

Compressor	Capacitor to be used in capillary systems	Capacitor to be used in expansion valve systems
FFI12BX 115V60Hz	378 to 454 μ F (115VAC) or 233 to 280 μ F (150VAC)	378 to 454 μ F (115VAC)
FFI12BX 220V60Hz	124 to 149 μ F (180VAC) or 64 to 77 μ F (250VAC)	124 to 149 μ F (180VAC)
FFI12HBX 115V60Hz	378 to 454 μ F (115VAC) or 233 to 280 μ F (150VAC)	378 to 454 μ F (115VAC)
FFI12HBX 220V60Hz	124 to 149 μ F (180VAC) or 64 to 77 μ F (250VAC)	124 to 149 μ F (180VAC)
FF8.5BX 115V60Hz	270 to 324 μ F (115VAC)	270 to 324 μ F (115VAC)
FF10BX 115V60Hz	270 to 324 μ F (150VAC)	270 to 324 μ F (150VAC)
FF10HBX 115V60Hz	282 to 339 μ F (180VAC)	282 to 339 μ F (180VAC)
FFI12HAX 115V60Hz	378 to 454 μ F (150VAC)	378 to 454 μ F (150VAC)

The relays of the aforementioned compressors have the following characteristics:

- terminals 11 and 13 are longer than

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Overview of Embraco Start Capacitors

Start capacitors are critical components in refrigeration and air conditioning systems, particularly for Embraco compressors. They provide the necessary boost in torque to start the compressor, especially in applications where high starting torque is required.

Functionality of Start Capacitors

- **Increased Starting Torque:** Start capacitors are designed to deliver a surge of energy to the compressor motor during startup, which is essential for overcoming inertia and initiating operation¹.
- **Support for Larger Compressors:** They are particularly beneficial for larger, single-phase compressors, as they help reduce the amp draw on startup, preventing potential damage and inefficiencies

Components Related to Start Capacitors

In addition to start capacitors, several other components work in conjunction with them to ensure the efficient operation of compressors:

- **Start Relay:** Engages the compressor when cooling is needed and disconnects it once the desired temperature is reached
- **Overload Protector:** Safeguards the compressor by disconnecting power before

damage occurs due to overheating or overloading

- **Run Capacitor:** While start capacitors assist during startup, run capacitors enhance running efficiency by providing a continuous boost to the motor during operation

Importance of Using Original Parts

Using original Embraco parts is crucial for maintaining the efficiency and longevity of refrigeration systems. Manufacturers like Embraco invest significant resources into testing and designing these components to ensure optimal performance. Replacing worn or generic parts can lead to decreased efficiency and increased risk of failure

Availability of Embraco Start Capacitors

Embraco start capacitors are available through various suppliers, often categorized by specific model numbers. For example:

- **Ojeda 100517034 Start Capacitor:** Designed for specific freezer applications
- **Embraco 513556535ESP-ALL:** A versatile option suitable for various compressor models
- **Embraco 43-53µF Start Capacitor:** Another specific model available for purchase

Compressor	Voltage & Frequency	Relay Code (HST)*	Protector Code (HST)	Start Capacitor
FG 70AK	115V 60Hz	513506082	13554048	243-292 µF (150VAC)
FG 70AK	220V 60Hz	513506090	13554056	72-88 µF (250VAC)
FG 80AK	115V 60Hz	513506104	13554080	243-292 µF (150VAC)
FG 80AK	220V 60Hz	513506112	13554064	72-88 µF (250VAC)
FG 65HAK	220-240V 50Hz	513506597	13534209	64-77 µF (220VAC)
FG 75HAK	220-240V 50Hz	513506600	13554471	64-77 µF (220VAC)
FG 85HAK	220-240V 50Hz	513506619	13554072	64-77 µF (220VAC)
FG 95HAK	220-240V 50Hz	513506341	13554170	64-77 µF (250VAC)

* To use FG AK/FG HAK compressors in the HST status, ask Embraco to provide the relay/protector shown in the table above.

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