

Sigma-Cap™ Users Guide

Introduction

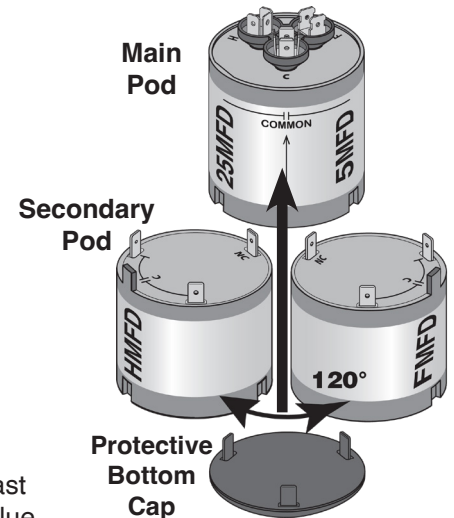
Sigma-Cap™ is the most universal run capacitor product available on the market today and replaces hundreds of capacitor values.

Sigma-Cap™ will replace a wide variety of capacitance values providing technicians the capability to carry a smaller truck stock. Technicians can build the correct size capacitor at the job site, allowing them to finish the job in one trip.

Pods are stacked and pressed together to give the capacitance necessary for both dual and single applications. Each pod can be used as a stand-alone capacitor. Each pod is dual rated for 370/440 VAC.

Quick assembly instructions

1. Determine capacitances required, compressor and fan.
2. Select the secondary pod(s), if required, to match needed capacitances.
3. The compressor (hermetic) value must be built first! Attach secondary pod(s), for compressor (H, hermetic) to the main pod first by aligning with 25 MFD label, if needed.
4. Attach fan (F) secondary pod(s), to Sigma-Cap™ aligning with the 5MFD label by rotating 120 degrees, if needed.
5. Verify capacitance values by adding the vertically aligned values.
6. Verify fan secondary pod(s) is on the bottom of the stack.
7. Verify all pods are tightly joined.
8. Attach protective bottom cap.



Setup

First determine what size of capacitor is required. When this value is known, the least number of Sigma-Cap™ pods needed can be determined to duplicate this same value.

Assembly

Sigma-Cap™ is composed of pods—a main pod, secondary pods and a protective bottom cap. Pods are stacked and pressed together to create the appropriate capacitance by vertically aligning the MFD values for the compressor motor and fan motor.

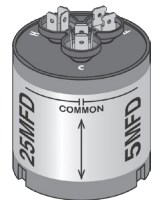
Main Pod = The compressor (hermetic) value must be built first!

The main pod always goes on the top of the stack of pods for replacing most dual capacitors.

The main pod contains two capacitors, a compressor (hermetic) motor capacitor that is 25 μ F (MFD) and a fan motor capacitor that is 5 μ F (MFD).

The compressor (hermetic) motor capacitor connection is labeled as H for hermetic; the fan is labeled F for fan.

The main pod has the industry standard 1/4" blade connections on the top. A 4-blade connection for the common, a 3-blade connection for the compressor motor and a 2-blade connection for the fan motor. The capacitance is listed on the side label of the pod between the common & herm blades and the common & fan blades. The main pod also has 1/4" female metal connectors on the bottom of the pod for attaching secondary pods. Additionally, aligning slots exist in the side bottom for secondary pod alignment.



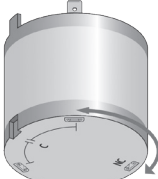
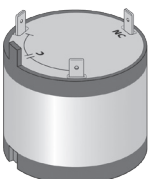
Main Pod

Secondary Pods = The compressor (hermetic) value must be built first!

Secondary pods have only one capacitor in them and are used to add capacitance to the compressor or fan motor sides. Secondary pods have 1/4" male terminals (blades) on the top of the pods and 1/4" female metal connectors on the bottom of the pods. These are the physical connections to the capacitor. The top and bottom are labeled with a C (capacitor) to designate there is a capacitance between the two blades on either side of the label and at the end of the curved line between them. The third blade is labeled NC meaning no capacitance or not connected.

The side label on the secondary pod identifies which blades on the top of the pod are connected to the capacitor and identifies the capacitance in microfarads (MFD).

The plastic aligning tab on the side top designates where the capacitor exists and for aligning with the bottom of another pod. This tab is used to aid in aligning the secondary pod for adding to the correct capacitor. Additionally, aligning slots exist in the side bottom for secondary pod alignment.



Secondary Pod

Stacking and Alignment = The compressor (hermetic) value must be built first!

When stacking the pods, it is most important to attach the compressor secondary pods, if any, before (above) the fan secondary pods, if any.

It is very important to align the secondary pods correctly before pressing them together. The pods are designed to be assembled one time! They are difficult to separate and reuse.

For connection to the compressor motor (C), place the plastic tab on the side top of the secondary pod in the slot that's below the 25 MFD Primary Unit label on the side of the main pod. This slot is also situated between the metal connections labeled H and C on the bottom of the main pod.

For connection to the fan motor (F), place the plastic tab on the side top of the secondary pod in the slot that's below the 5 MFD label on the side of the Main pod. This slot is also situated between the metal connections labeled C and F on the bottom of the Main pod.

When finished attaching all needed Secondary pods add the protective bottom cap. This cap protects the metal connections on the bottom pod from possible shorting.

Installation

Once the Sigma-Cap™ stack is assembled, verify all the pods are joined tightly. Check for accuracy by totaling the vertically aligned capacitor MFD (μF) values of all pods. For the compressor (hermetic), values are aligned under the area on the pod label between HERM & COMMON. For the fan (F), values are aligned under the area on the pod label between COMMON & FAN. The assembled unit is now ready to install following the manufacturer's wiring schematic.

Single Capacitor Use

If a single capacitor is needed multiple options exist.

1. use a secondary pod by itself
2. use multiple secondary pods stacked together
3. use the main pod plus secondary pods (if needed) and only utilizing hermetic connection.

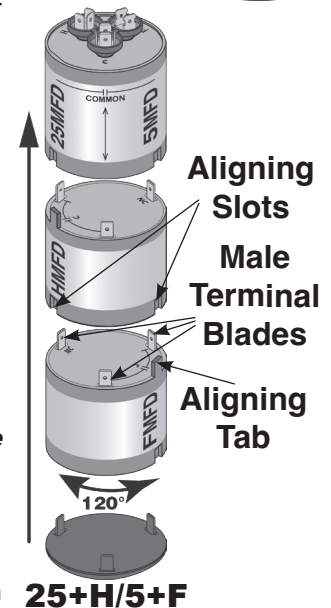
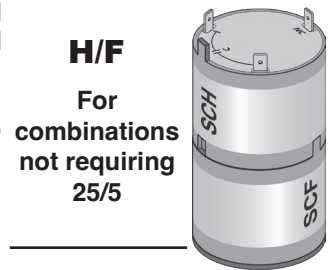
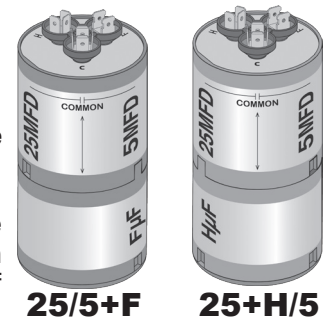
In all solutions, don't forget to add the protective bottom cap.

Warnings

When stacking the pods and pressing them together, it is most important to attach the compressor (hermetic) Secondary pods (if any) before (above) the fan Secondary pods.

Be careful to not attach in the wrong order as they are difficult to separate and reuse.

Make sure to use the protective bottom cap. This cap protects the metal connections on the bottom pod from potential shorting to the cabinet.



Warranty

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