



## Electric Clutch Solutions for Mobile Off-Highway Applications



## WARNER ELECTRIC PROVIDES POWER TRANSMISSION SOLUTIONS FOR MOBILE OFF-HIGHWAY APPLICATIONS

Warner Electric provides precision engineered clutches to meet the critical requirements of the highly-specialized machines and vehicles built for specific commercial work, often operating in harsh weather environments.



Warner utilizes advanced technologies and materials, together with extensive application expertise and world-class engineering capability to provide reliable, efficient, cost-effective clutch solutions to our customers. For this reason, many of the world's leading off-highway OEM's and end-users choose Warner's proven products for their power transmission needs.

Warner engineers are keenly aware that many types of unique off-highway vehicles require small clutch quantities. In response to often low-volume requests, Warner clutches designed for this particular market are provided as basic units which allow OEMs to economically customize each clutch to fit their specific application.

Highly-engineered Warner clutches reduce costly downtime and maximize operational efficiency in a wide array of agriculture, construction equipment, mining, heavy-duty truck, forestry, electric vehicle and mobile lift & crane applications.

### WHY DO CUSTOMERS SELECT **WARNER ELECTRIC** CLUTCHES?



**Problem:** A major hydro-seeder manufacturer needed clutches that could meet their application need for high torque and simplicity of control to replace two mechanical designs used previously. The clutches needed to have mounting flexibility so that re-design of other drive train components would be minimized.

**Solution:** Warner Electric engineers provided an SF 825 clutch with custom spring and hub design to easily retrofit in place of the customer's existing mechanical clutches. Two clutches allow operators to control both sprayer and mixer systems easily instead of having to manually engage the previous mechanical clutches. The high torque clutch design ensures that the unit can drive through intermittent torque spikes in the mixer process.



# WARNER ELECTRIC CLUTCHES DESIGNED SPECIFICALLY FOR MOBILE OFF-HIGHWAY APPLICATIONS

Warner Electric offers two distinct product families for use in Mobile Off-Highway applications:

**SF Series** are available in diameters ranging from 8" to 12.5", with torque ranges up to 1,000 ft.lbs. in a stationary field configuration.

**PC Series** units extend the product range to 1,800 ft.lbs. in a 15.25" diameter in a brush holder, magnet, armature design.

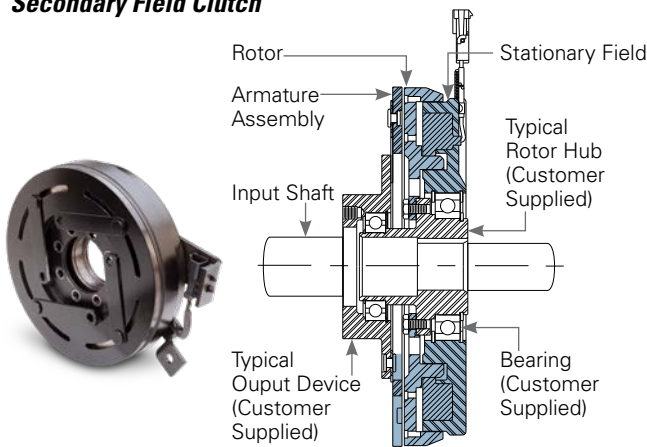
Both families include leaf spring armature designs for clean release. They also offer two-pole or four-pole magnetic circuit designs to achieve the highest torque capacity for a given unit diameter. Finally, both are designed without friction material so that friction face contamination is a non-issue.

The SF and PC product lines are provided as a "Basic" product design so that short-line manufacturers can customize the units with their own bearings and input/output hubs without incurring the costs associated with a proprietary, high-volume design.

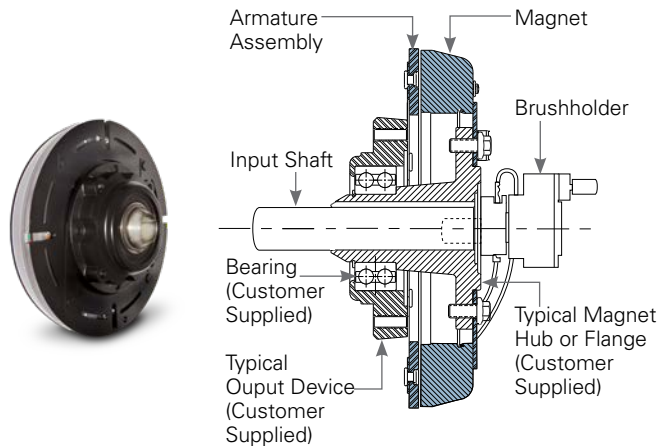
## Operating Torque Capacity

Model	Overall Dia.	Static Torque	Mounting	Max. Speed	Voltage
PC 825 - 2 Pole	8 1/4"	250 lb ft	F	2000	12V
PC 825 - 4 Pole	8 1/4"	400 lb ft	F	2000	12V
PC 1000 - 2 Pole	10"	500 lb ft	F	2000	12V
PC 1000 - 4 Pole	10"	700 lb ft	F	2000	12V
PC 1250 - 2 Pole	12 1/2"	700 lb ft	F	2000	12V
PC 1250 - 4 Pole	12 1/2"	1000 lb ft	F	2000	12V
PC 1525 - 2 Pole	15 1/4"	1250 lb ft	F	2000	12V
PC 1525 - 4 Pole	15 1/4"	1800 lb ft	F	2000	12V
SF 825 - 2 Pole	8 1/4"	175 lb ft	B	2000	12V
SF 825 - 4 Pole	8 1/4"	400 lb ft	B	2000	12V
SF 1000 - 2 Pole	10"	300 lb ft	B	2000	12V
SF 1000 - 4 Pole	10"	700 lb ft	B	2000	12V
SF 1250 - 2 Pole	12 1/2"	700 lb ft	B	2000	12V
SF 1250 - 4 Pole	12 1/2"	1000 lb ft	B	2000	12V

### SF Design Secondary Field Clutch



### PC Design Primary Clutch



## WHY DO CUSTOMERS SELECT WARNER ELECTRIC CLUTCHES?



**Problem:** Adding an electric clutch to a concrete saw system adds both convenience and safety to these high demand, but potentially dangerous systems. The application has multiple design challenges. The system must be able to work reliably despite load spikes that can occur when cutting the concrete. High levels of moisture from the cutting coolant could contaminate a clutch with friction material. Lastly, the unit must work in both hot and cold weather situations.

**Solution:** The Warner Electric SF 1000 clutch provides torque to exceed the application requirement. By allowing the sharp diamond tipped blade to be disconnected from the engine, the cutting system can be driven from one location to the next using engine power rather than pushed manually if the blade were to continue to run.



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