

Frequently Asked Questions

Electromagnetic Clutches/Brakes

Q What is the purpose of a slip ring assembly?

A Rotating field clutches use a slip ring and hub assembly, with a brush holder and brushes, to provide power to the rotating field magnet. (Page M-6)

Q What does the normal wear pattern look like, on an electromagnetic clutch/brake?

A Refer to the illustration on Page M-5.

Q Are the Dynacorp® “Warner® Interchange” components directly interchangeable with the comparable Warner® part?

A Yes, the Dynacorp® part may appear different but it will interchange dimensionally in form, fit and function. (Page L-1)

Q What are the two types of flange mounted configurations, which are offered by Dynacorp®?

A Inside mount – where the mounting bolt holes are on a diameter which is inside the field magnet.

Outside mount – where the mounting bolt holes are on a diameter which is outside the field magnet. (Page M-8)

Q When must heat dissipation be considered in sizing a Dynacorp® clutch/brake?

A When the cycle rate is greater than 15 cycles per minute. (Page M-10).

Q Does Dynacorp® friction material contain any asbestos?

A No. (Page i)

Q What is the difference between a clutch and a clutch coupling?

A A clutch is used to connect parallel shafts (i.e. incorporates a sheave for a belt drive). A clutch coupling connects in-line shafts. (Page M-7)

Q What is the function of the friction material used in an electromagnetic clutch/brake?

A Friction material helps to transmit torque and reduce wear on the armature and magnet poles. (Page M-5)

Q What is a packaged product?

A A complete unit or sub-assembly that is factory assembled and tested. (Page M-2)

Q What is burnishing?

A To obtain rated torque, it is necessary to establish good contact between the armature and mating magnetic poles. This is accomplished by either the normal wear-in process that will occur during operation, or by pre-running the friction surfaces. (Page M-5)

Q Are Dynacorp® products pre-burnished?

A Packaged products are pre-burnished. Custom design are not – unless requested as an option. (Page i)

Q What is a custom-design product?

A A group of individual components which is assembled by the customer. (Page M-2)

Frequently Asked Questions

Clutch/Brake Products

Q What is the Adjusto-gap® feature?

A It gives a positive release of the armature, while maintaining a constant air gap throughout the wear life of the unit. (Page H-18)

Q How is an electromagnetic holding brake actuated?

A The braking action is provided via springs, when the brake is de-energized. As the brake is energized the spring pressure is overcome, and the load is released. (Page F-1)

Q What is a bearing mount design?

A One where the unit is supported on the customer's shaft by an internal bearing. (Page M-2)

Q Why should I buy a Dynacorp® brand product?

A Dynacorp® offers a wide range of popular designs, on-time deliveries and maximum value. Dynacorp® products match or exceed the performance of any brand in today's motion control industry (Page i).

Q What is a stationary field design?

A One in which the magnet does not rotate. It is either flange or bearing mounted. (Page M-2)

Q Do Dynacorp® products use permanent magnets?

A No, they use temporary electromagnets, commonly known as field magnets. They apply magnetic force only when energized by a DC voltage. (Page M-4)

Q Can Dynacorp® clutch-brakes be used for high cycle rates?

A The selection charts apply to applications where the HP is known and the cycle rate is less than 15 cycles per minute. Higher cycle rates can be achieved, but it is necessary to calculate the heat generation in order to insure that it does not exceed the rating. (Page M-10)

Q What is dynamic torque?

A The torque required to either accelerate or decelerate the system inertia in a specified time - the time to speed. (Page M-11)

Controls

Q What is the purpose of the overexcite feature?

A This feature provides a voltage "spike" to the clutch magnet to dramatically reduce the engagement time, slippage, and heat. (Page K-2)

Q What is a plug-in power supply?

A It is a power supply that is equipped with an octal base, which plugs into an industrial octal socket, for ease of mounting and making electrical connections.

Q How can controls be used to control the heat generated by electromagnetic clutches/brakes?

A The anti-overlap and over excitation features in Dynacorp® controls can be used to greatly reduce the slippage and electrical heat. (Page K-2)

Wrap Spring Products

Q What functions can wrap spring products provide?

A Over-running, start coast, single revolution and start stop. (Page J-2)

Q How does a wrap spring product transmit torque?

A A solenoid is pulsed, which moves an actuator arm away from a control collar. This allows the clutch spring to wrap (wind) down onto the output assembly. (Page M-36)

Q How do I determine the direction of rotation for a wrap spring product?

A The direction of rotation (clockwise or counter clockwise) is determined by viewing from the input or pilot hub.