



9/15/66

HEAVY DUTY MAGNETIC BRAKES

505 Electro-Mechanical

506 Electro-Hydraulic

TECHNICAL
INFORMATION
PUBLICATION
505/506

SIZE, TYPE AND DUTY CYCLE (Continued)

3. Shunt, A-c supply, A-c or D-c motor, A-c rectifier panel.

- Panel for 8" through 23" brakes. See below. The optional panel for these sizes includes the protecting circuit and a rectifier. The panel and the coil circuit can be continuously energized at 100% of A-c supply voltage without overheating. Torque rating is the same as for intermittent duty.
- Panel for 30" brakes. See below. This provides D-c from an A-c supply, but without the protecting feature. Therefore brakes are rated either intermittent or continuous. The panel and the coil circuit, at 100% of the A-c supply voltage, can be energized without overheating, for 1 hour for intermittent duty, or continuously for continuous duty.
- C-H and NEMA standards are that brakes will operate at 85% of the A-c supply voltage.

WHEELS

C-H brake wheels are made of specially formulated ductile iron. This has friction characteristics similar to cast iron, and shock and strength characteristics like steel. Because C-H wheels are not heat treated or carburized, they retain their physical and metallurgical properties at temperatures where wheels made of other materials undergo significant changes in their microstructure. C-H wheels wear evenly and smoothly in the form of fine flakes. For this reason, wheel scoring and lining erosion are significantly reduced.

LININGS

C-H brake linings are made of high grade impregnated asbestos fibers. They are technically called "folded and compressed" linings. The materials used in C-H linings result in a lining which has a constant coefficient of friction under operating conditions as well as long life.

COILS

Coils are made with Class B insulation, and they are NEMA 3 enclosed in stainless steel. Coils have 2 leads (about 4" long), and each lead is supplied with a suitable lug. Coils are reversible so that the leads can point toward or away from the wheel.

MOUNTING

505 and 506 brakes are designed for NEMA 1 mounting (base on horizontal surface). Optionally they are available for NEMA 2 mounting (base on vertical surface, magnet end up). Dimensions are the same for either mounting.

CONSTRUCTION

Structural members are made of ductile iron, except the 30" base, which is a steel weldment. Armatures in 8"-23" brakes are cast steel; 30" armatures are made of laminated steel.

C-H brakes have only 1 true pivot pin (pull rod to armature). By using hardened sockets wherever possible, wear and sticking at pivot points is negligible.

D-c PROTECTIVE PANEL, SHUNT ONLY

In some continuous applications, the required torque is between the intermittent and the continuous rating for a brake. Normally, a larger brake would be selected. As an option, a protective panel which permits using the smaller brake is available. The scheme utilized is below.

The panel uses a forcing circuit to release the brake and a timer and switch to insert resistance into the coil circuit. This keeps the coil temperature in bounds, and intermittent torque ratings are possible on continuously energized brakes. This same forcing and protecting scheme is used in A-c rectifier panels for 8"-23" brakes.

A-c RECTIFIER PANEL, SHUNT, 8"-23" ONLY

For A-c applications similar to the above, the protective panel is enlarged to include a suitable rectifier. This allows intermittent ratings for continuous applications from an A-c source. D-c voltage is 81% of A-c voltage.

A-c RECTIFIER PANEL, SHUNT, 30" ONLY

This optional panel does not include the forcing/protecting circuit. It only makes it possible to use 30" brakes from an A-c source. Separate series resistance is included, as is an integral 3 phase transformer. D-c voltage is 230 V.

