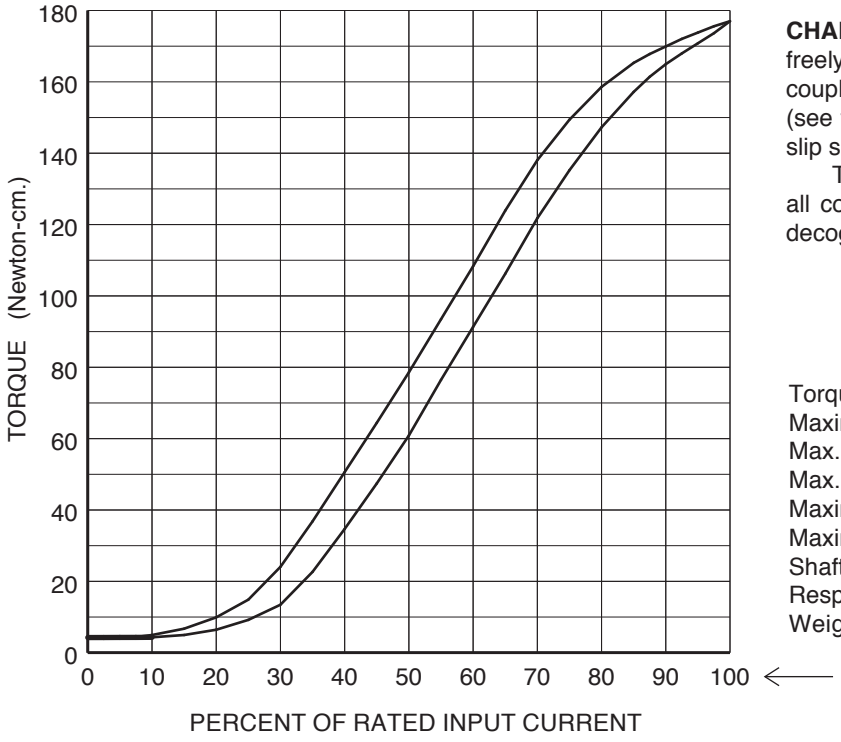
hysteresis BRAKE H250 — 4.3 to 177 N.-cm.

DATA SHEET



CHARACTERISTICS - With no electrical excitation, the shaft freely rotates. With electrical excitation, the shaft becomes coupled to the housing. Torque is proportional to input current (see torque graph), and independent of RPM. The brake will slip smoothly at the torque level set by the coil input current.

Tensioning torque is exceptionally smooth under virtually all conditions due to the unique auto-decogging feature. To decog, simply rotate the shaft 1 revolution.

Torque range	4.3 to 177	N.-cm.
Maximum RPM	5000	RPM
Max. heat dissipation, with cover	65	watts
Max. heat dissipation, no cover	110	watts
Maximum case temperature	75	degrees C
Maximum overhung load	23	kg.
Shaft inertia	328 x 10^{-6}	kg.-m^2
Response (unforced)	85	mSec.
Weight	4	kg.

COILS (volts D.C.) - - - - -	12V	24V	90V
COIL RESISTANCE (Ohms)	19	77	1090
100% INPUT CURRENT (Amps)	0.56	0.28	0.073

0% thru 100% of rated input current can be dialed in directly on a Placid Ind. constant current power supply. The output torque can be determined using the graph. Use the lower curve when approaching a current value from 0 amps. Use the upper curve when approaching the current value from 100% rated current.

Torque vs. current is independent of temperature. Torque vs. voltage decreases as temperature rises (approx. 20% from room temp. to max. temperature) due to increasing coil resistance with temperature.

BRAKE PERFORMANCE

TORQUE: At 100% input current, output torque will be 177 N.-cm.

POWER SUPPLY: A "constant-current" D.C. power supply is recommended for the best accuracy in open-loop control systems. This type of power supply will maintain a fixed (but adjustable) output current, regardless of the temperature of the brake, so output torque is constant (but adjustable).

HEAT DISSIPATION: The brake can dissipate 65 slip (thermal) watts continuously, (110 slip watts without the cover). For continuous slip, calculate the heat input by the formula :

HEAT (watts) = RPM x TORQUE (N.-cm.) / 960

Using the above formula: At rated torque, the maximum continuous slip RPM is 352 (596 without the cover). The brake can dissipate higher amounts of heat for short periods of time, but the average must not exceed 125 watts. The case temperature must never exceed 75 degrees C.

INSTALLATION INFORMATION

Do not drop, or strike with a hammer. Keep away from fine metal filings and fine metal chips. Shield from liquids.

Do not attempt to remove the brake shaft or retaining rings.

All pulleys, sprockets, couplings, etc. must mount as slide fits. Use a puller to remove stuck components. Never pry or hammer to install or remove components.

Center your set-screw on the shaft flat.

Always use a flexible coupling when connecting the shaft of a rigidly mounted brake to the shaft of another rigidly mounted device. Precisely align both shafts.

To avoid danger of electrical shock, always electrically ground the brake.

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