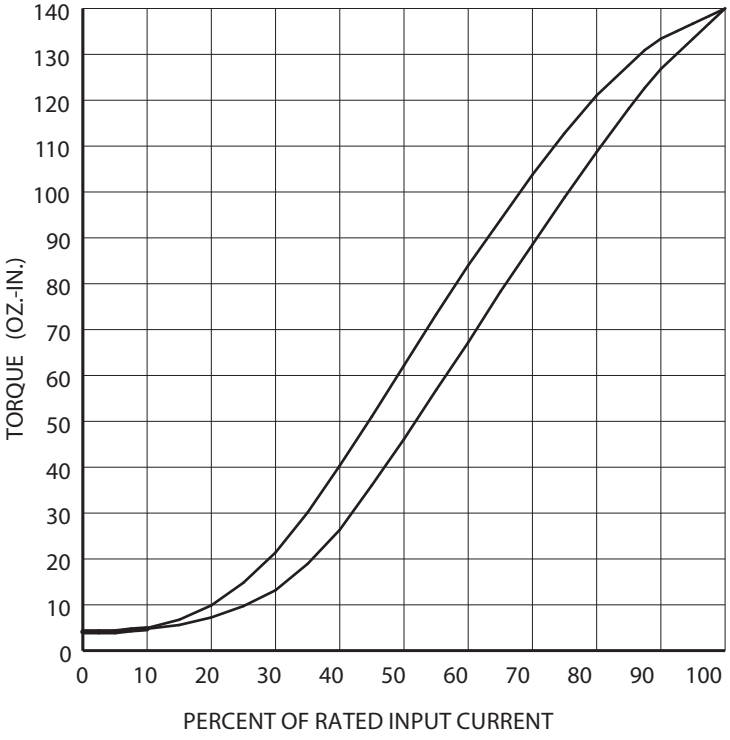
hysteresis BRAKE H140 — 4 to 140 oz.-in.

DATA SHEET



COILS (volts D.C.) - - - - -	12 V	24 V	90V
COIL RESISTANCE (ohms)	20	83	925
100% INPUT CURRENT (amps)	0.51	0.25	0.078

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. While the load torque is less than the output torque, the shaft won't rotate. When the load torque is increased, 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 to 140	oz.-in.
Maximum RPM	5000	RPM
Max. heat dissipation with cover	45	watts
Max. heat dissipation, no cover	75	watts
Maximum case temperature	180	degrees F
Maximum overhung load	40	lb.
Shaft inertia	97×10^{-5}	lb.-in.-sec^2
Response (unforced)	60	mSec.
Weight	6	lb.

← 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 140 oz.-in.

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 45 slip (thermal) watts continuously. (75 slip watts without the cover). For continuous slip, calculate the heat input by the formula :

HEAT (watts) = RPM x TORQUE (oz.-in.) / 1356

Using the above formula: At rated torque, the maximum continuous slip RPM is 435 (726 without the cover). The brake can dissipate higher amounts of heat for short periods of time, but the average must not exceed 45 watts (75 watts without the cover). The case temperature must never exceed 180 degrees F.

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.

PLACID INDUSTRIES
Magnetic Particle Brakes & Clutches
Hysteresis Brakes & Controls

1580 Lake Street • Elmira, NY 14901 • USA
518-523-2422 • 866-523-2423 • Fax: 518-523-2746 • placidindustries.com