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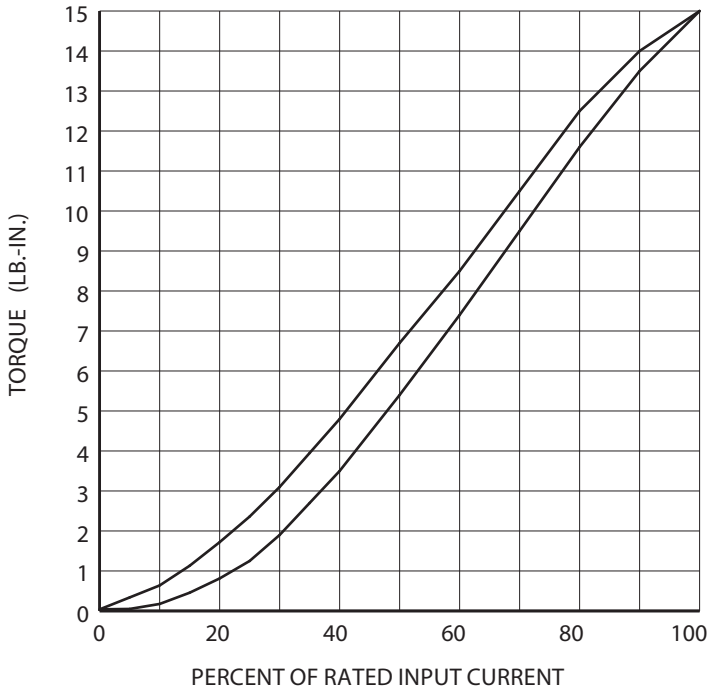
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magnetic particle BRAKE B15 — 0.3 to 15 lb.-in.

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. 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.

Torque range	0.3 to 15	lb.-in.
Maximum RPM	2000	RPM
Maximum heat dissipation	20	watts
Maximum case temperature	160	degrees F
Maximum overhung load	40	lbs.
Shaft inertia	34×10^{-6}	lb.-in.-sec^2
Response (unforced)	25	mSec.
Response (forced)	14	mSec.
Weight	2.5	lbs.

← Use the lower curve when approaching a current value from 0 amps. Use the upper curve when approaching a current value from 100% rated current.

	6 V	12 V	24 V	90 V
COIL RESISTANCE (ohms)	7.3	28	105	1370
100% INPUT CURRENT (amps)	0.79	0.41	0.22	0.063

← Rated D.C. coil voltages available: 6 VDC (yellow leads), 12 VDC (green leads), 24 VDC (red leads), 90 VDC (blue leads).

BRAKE PERFORMANCE

TORQUE: At the rated voltage, the brake will draw 100% of the rated input current. Output torque will be 15 lb.-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 20 slip (thermal) watts continuously. For continuous slip, calculate the heat input by the formula :

HEAT (watts) = RPM x TORQUE (lb.-in.) x 0 .012

Using the above forumula: At rated torque, the maximum continuous slip RPM is 111. The brake can dissipate higher amounts of heat for short periods of time, but the average must not exceed 20 watts. The case temperature must never exceed 160 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, thru-shafts (hollow shaft models), etc. must mount as slide fits. Use a puller to remove stuck components. Never pry or hammer to install or remove components.

Solid Shaft Models: Center your set-screw on the flat of the brake shaft.

Hollow Shaft Models: Never tighten the #10 set screws of the clamp ring without the thru-shaft installed. Tighten set screws to 36 in.-lbs.

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.

Always electrically ground the brake.

PLACID INDUSTRIES
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