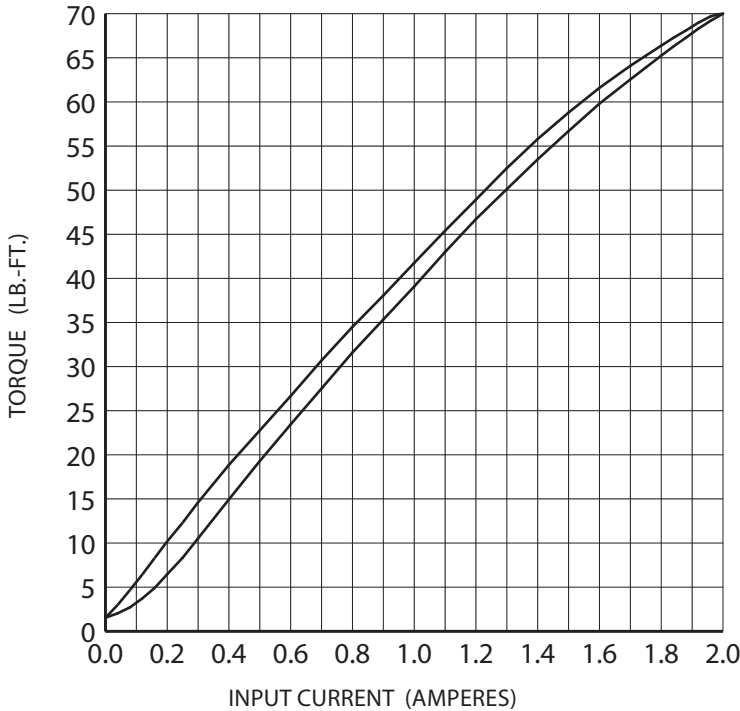


# magnetic particle BRAKE PLB-100

1.5 to 70 lb.-ft.

## DATA SHEET



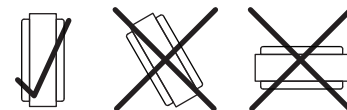
**CHARACTERISTICS** - With no electrical excitation, the shaft freely rotates. With electrical excitation, the shaft becomes coupled to the housing. Torque is proportional to input current (see torque graph), and independent of RPM. While the load torque is less than the output torque, the shaft won't rotate. When the load torque is increased, the brake will slip smoothly at the torque level set by the coil input current.

Torque range . . . . .	1.5 to 70	lb.-ft.
De-magnetized drag torque . . . . .	0.3	lb.-ft.
Maximum RPM . . . . .	500	RPM
Heat dissipation . . . . .	200	Watts
Heat dissipation, w/ piped air . . . . .	300	Watts
Piped air pressure . . . . .	7	psi
Piped air volume . . . . .	8	ft. <sup>3</sup> /minute
Maximum case temperature . . . . .	160	degrees F
Maximum overhung load . . . . .	175	lbs.
Shaft inertia . . . . .	0.26	lb.-in.-sec <sup>2</sup>
Weight . . . . .	30.5	lbs.

**TORQUE CURVE** - Use the lower torque curve when an input current value is approached from 0 amperes. Use the upper torque curve when the input current value is approached from the 100% input current.

At brake temperature :	68°F	160°F
COIL RESISTANCE (ohms)	10.5	12.5
INPUT D.C. VOLTAGE, @ 2.0 amps	21	25

Do not exceed 2.0 amperes or 70 lb.-feet torque.



Mount horizontally only.

### BRAKE PERFORMANCE

**TORQUE:** At 20 volts, the brake will draw 100% of the rated input current, at 68°F. Output torque will be 70 lb.-ft.

**POWER SUPPLY:** A "constant-current" D.C. power supply is recommended for the best accuracy in open-loop control systems.

**HEAT DISSIPATION:** For continuous slip, calculate the heat input by the formula :

$$\text{HEAT (watts)} = \text{RPM} \times \text{TORQUE (lb.-ft.)} \times 0.14$$

Using the above formula: At rated torque, the maximum continuous RPM is 20, (31 with compressed air). The brake can dissipate higher amounts of heat for short periods of time, but the average must not exceed ratings. 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 ring.

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.

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.

**COMPRESSED AIR COOLING** For additional cooling, connect low pressure (7 psi max.) compressed air to the 1/4-19 BSPT tapped hole. (British Standard Tapered Pipe Thread). An adaptor fitting to 1/4" hose is included. Use clean, filtered, oil free, moisture free air.



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