



# CDB

Caliper Disc Brakes

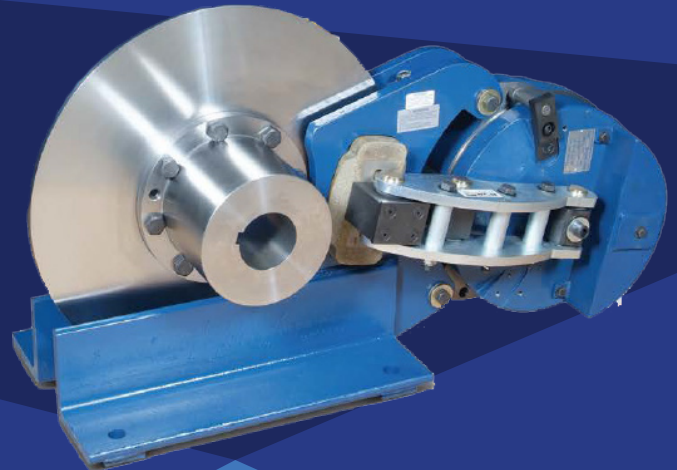
Proven Braking Technology

## PT Tech's CDB Series Caliper Disc Brake Packages

have been improving crane reliability and performance since 1993, on over 600 installations.

Spring Applied, Electrically Released, Operates in Series with DC Mill Motors, Meets AIST Standard #11, Series and Shunt Coils Available

- Wear adjustment takes only seconds
- Less frequent need for wear adjustments
- Lightweight friction pucks - replacement takes 5 minutes
- For the largest brake size, a set of friction pucks weighs only 17lbs.
- Slotted base allows for brake installation and removal without disturbing the brake disc
- Discs polish rather than heat check
- Eliminates drag/drift problems due to thermal expansion/contraction of the drum



# Increase Performance and Safety

Since 1993 PT Tech has been manufacturing AIST Caliper Disc Brakes for use in mill duty applications on cranes and process lines. These brakes have eliminated many of the problems associated with drum brakes. Heat checking of drums, frequent adjustments due to drift/drag problems, replacement of angle hinge plates, brake shoe weight, awkward positioning of adjustment mechanisms, no provision for lifting etc... are all problems that have been eliminated with the PT Tech design.

CDB bases are manufactured to meet AIST Standard #11. The centerline of the CDB relative to the motor is the same as the centerline of the drum it replaces. Therefore, when replacing a drum brake no modification to the mounting holes is required. Also, the CDB Series brakes operate in series with a DC mill duty motor. By using PT Tech's proven coil design, PT Tech eliminates the concern of electrical compatibility.

Maintaining CDB brakes is easy. Wear adjustment can be accomplished in seconds. Consistency of adjustment is assured due to the armature gap indicator pin. Field experience has proven the wear life of the CDB's friction pucks to exceed drum brake shoes even under extreme duty cycles. And when worn out, the friction pucks can be replaced in 5 minutes.

A complete set of friction pucks for the CDB2329A weighs 15lbs. compared to the 100+ lbs. for the 23" brake shoes. This makes brake maintenance faster and far less grueling.

Improve your crane's performance, reduce maintenance hours and lower maintenance cost with PT Tech's CDB Series Brakes.

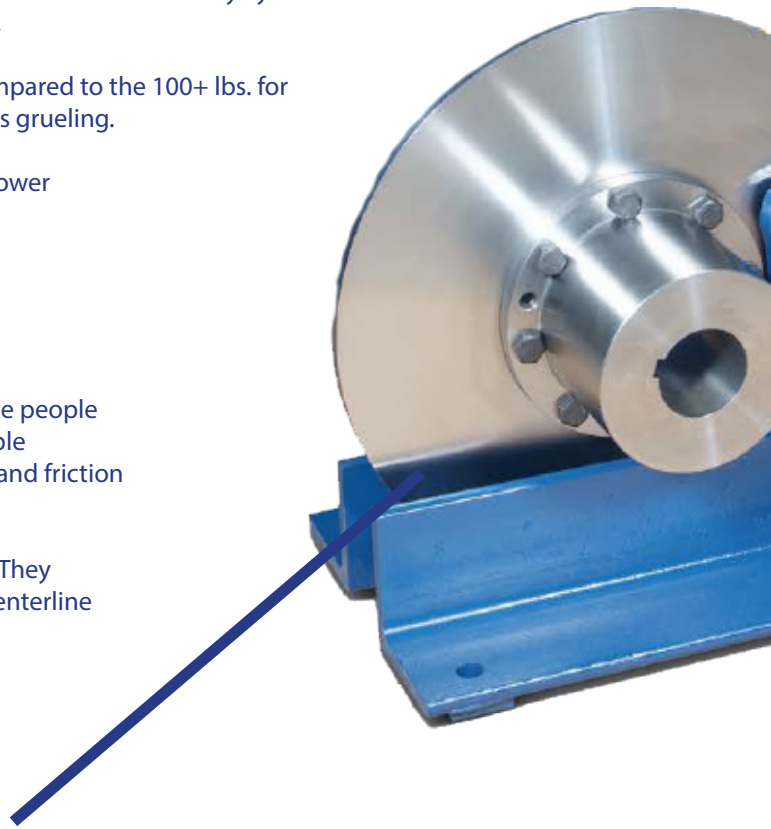
## Reduce Maintenance/Save Money

Since 1993 PT Tech Brakes have been making the life of maintenance people easier. Wear adjustments can take less than 10 seconds using a simple crescent wrench. Changing friction material takes about 5 minutes and friction pads weigh a fraction of drum brake shoes.

The CDB bases are manufactured to conform to AIST #11 Standard. They have the same "footprint" as the drum brake they replace and the centerline of the disc will align with the drum being replaced.

## Disc Advantage

- Increased energy absorption capacity.
- Significantly increased energy dissipation capability.
- Can operate at higher temperatures without thermal stress.
- Brake can be adjusted when disc is hot or cold without causing drift/drag problems.
- Resists heat checking because both sides of the disc absorb heat and expand uniformly.



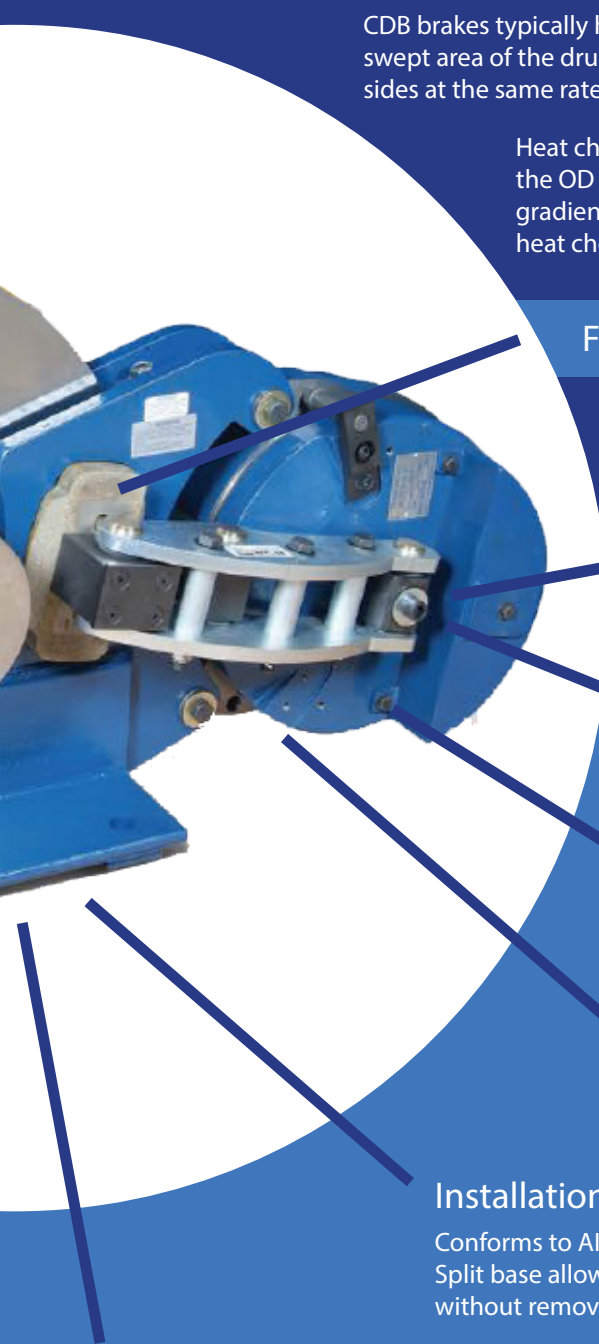
# The CDB Advantage...

CDB disc brakes outperform drum brakes because they have greater thermal capacity and discs are far more resistant to heat checking than drums. Brake performance is related to duty cycle. Each time the brake actuates, it generates heat. How well the brake handles the heat through absorption and dissipation determines the brake's performance.

Instantaneous energy absorption is related to a brake's swept friction area. Energy dissipation is related to the percent of swept friction area that is exposed to air.

CDB brakes typically have 20% more swept area and more than twice the exposed swept area of the drum brakes they replace. Discs rarely heat check. They absorb heat from both sides at the same rate. This results in an even rate of expansion across the thickness of the disc.

Heat checking of drums is the result of thermal shock. When a drum brake is applied, the OD of the drum heats up; however, the ID remains cooler. This results in thermal gradient across the rim which produces extreme mechanical forces. These forces cause heat checking.



## Friction Pucks

Caliper arms swing up exposing friction pucks for ease of replacement. Friction material is non-asbestos. Pads weigh 8.5 to 15 lbs each

## Proven Armature Design

600 + Installations. Series and shunt coils available.

## Brake Adjustment Made Easy

Loosen jam nut. Turn adjustment bolt until pin is flush. Tighten jam nut. All adjustments can be made with a 12" crescent wrench.

## Armature Gap Indicator

Provides for easy check of proper brake adjustment.

## Unique Caliper Arm Design

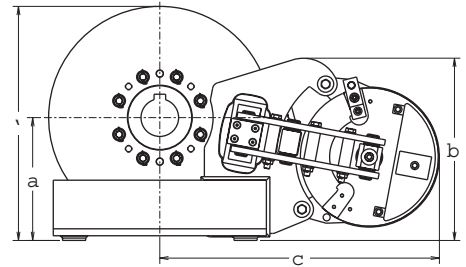
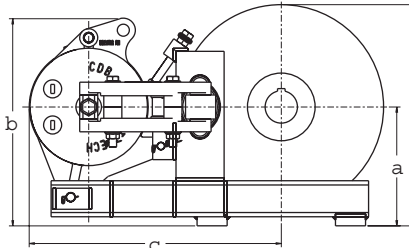
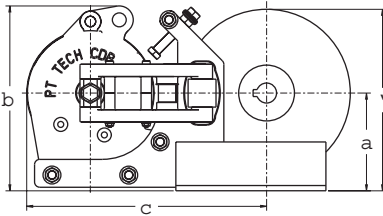
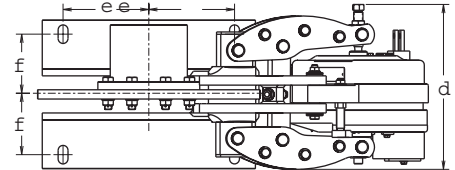
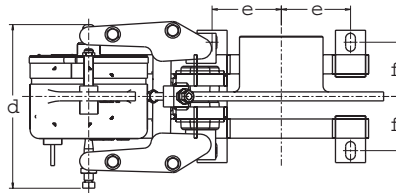
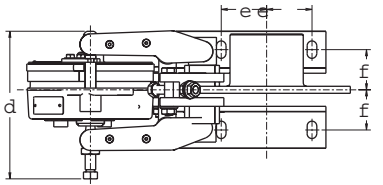
Easily accommodates 3/16" axial movement of DC mill motors.

## Installation

Conforms to AIST mounting dimensions (foot print). Split base allows brake to be installed without removing disc.

## Unique Base Design

Torque reaction load transmitted directly through the friction pucks into the base. Fabricated steel construction.



| MODEL*   | DRUM BRAKE REPLACED inches | DISC DIAMETER inches | TORQUE lb-ft | BRAKE WT lbs | DISC WT lbs | Dimensions inches            |   |                                    |  |                             |                |            |
|----------|----------------------------|----------------------|--------------|--------------|-------------|------------------------------|---|------------------------------------|--|-----------------------------|----------------|------------|
|          |                            |                      |              |              |             | A<br>Disc height above floor | B<br>Disc/motor shaft centerline height above floor | C<br>Brake Body height above floor | D<br>Brake length from centerline of motor shaft | E<br>Width incl. Adj. Bolt. | Mounting holes |            |
|          |                            |                      |              |              |             |                              |   |                                    |  |                             | F<br>Length    | G<br>Width |
| CDB0812A | 8"                         | 12"                  | 100          | 126          | 34          | 13"                          | 7"  | 13.25"                             | 17.18"   | 10.59"                      | 3.25"          | 2.88"      |
| CDB1014A | 10"                        | 14"                  | 200          | 131          | 39          | 15.38"                       | 8.38"   | 14.63"                             | 18.06"   | 10.56"                      | 4"             | 3.13"      |
| CDB1317A | 13"                        | 17"                  | 550          | 220          | 85          | 18.38"                       | 9.88"   | 17.25"                             | 20.94"   | 13.8"                       | 5.75"          | 4.5"       |
| CDB1621A | 16"                        | 21"                  | 1000         | 240          | 115         | 22.63"                       | 12.13"  | 19.5"                              | 25.23"   | 13.8"                       | 7.5"           | 5.38"      |
| CDB1924A | 19"                        | 24"                  | 2000         | 636          | 185         | 25.25"                       | 13.25"  | 19.7"                              | 30.16"   | 17.8"                       | 9.25"          | 6.5"       |
| CDB2329A | 23"                        | 29"                  | 4000         | 730          | 270         | 30.38"                       | 15.88"  | 23.31"                             | 36.66"   | 18.17"                      | 11.75"         | 8"         |

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