PT TECH
POWERING INNOVATION

Innovative solutions for your Brake requirements

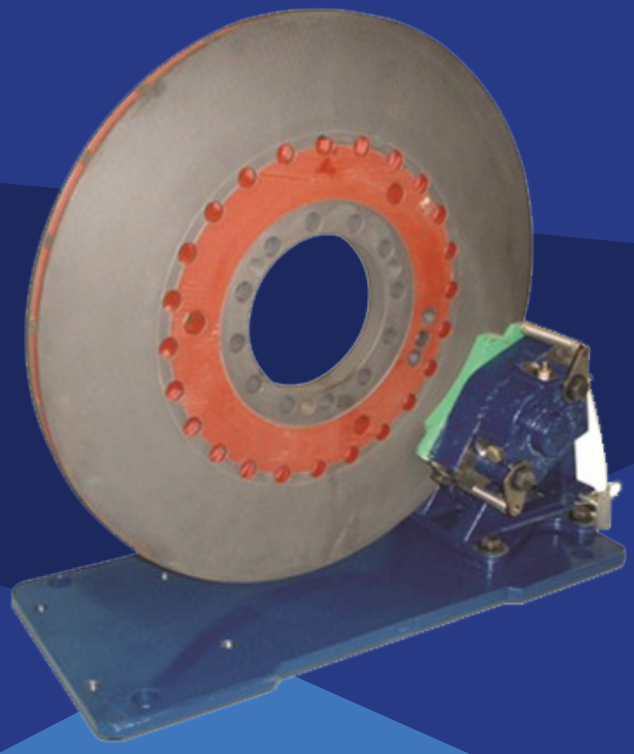
HCDB

Hydraulic Caliper Disc Brakes

PT Tech's HCDB Series Caliper Disc Brakes

have been improving crane reliability and performance since 1993, on 100's of installations.

- Replaces existing 10", 14", and 18" drum brakes on overhead crane bridge drives
- Hydraulic brakes operates with existing pedal/master cylinder
- Meets AIST Specification #11
- Uses ventilated discs for increased heat dissipation capability
- Automatic wear compensation
- Discs polish rather than heat check
- Eliminates drag/drift problems due to thermal expansion/contraction of the drum



Increase Performance, Reduce Maintenance

The hydraulic caliper works with standard foot pedal/reservoir that is commonly found on large cranes. It is wear-compensating thus giving the operator a short and consistent pedal stroke. Replacing friction pucks is quick and easy.

The overall package size is approximately the size of a comparable hydraulic drum brake. The adapter plate allows for mounting in place of the drum brake without modification.

The ventilated disc provides the superior performance that everyone associates with disc brakes on cars.

18" Drum	14" Drum	10" Drum
HCDB1824A	HCDB1419A	HCDB1015A
24 5/8" Disc	19 1/2" Disc	15 1/2" Disc

Reduce Maintenance/Save Money

Since 1994 PT Tech Brakes have been making the life of maintenance people easier. Unlike drum brakes, the HCDB requires minimal maintenance. Changing friction pucks on the hydraulic caliper takes about 5 minutes. These calipers are best appreciated when climbing stairs. A pad set weighs less than 7-pounds. The HCDB package is designed to retrofit into existing drum brake locations. The adapter plate aligns with existing drum brake mounting holes. The hydraulic caliper is designed to operate with the existing pedal/master cylinder that is common to most crane applications. The resulting pedal stroke will be much shorter thus more comfortable to the operator.

Adapter Plate

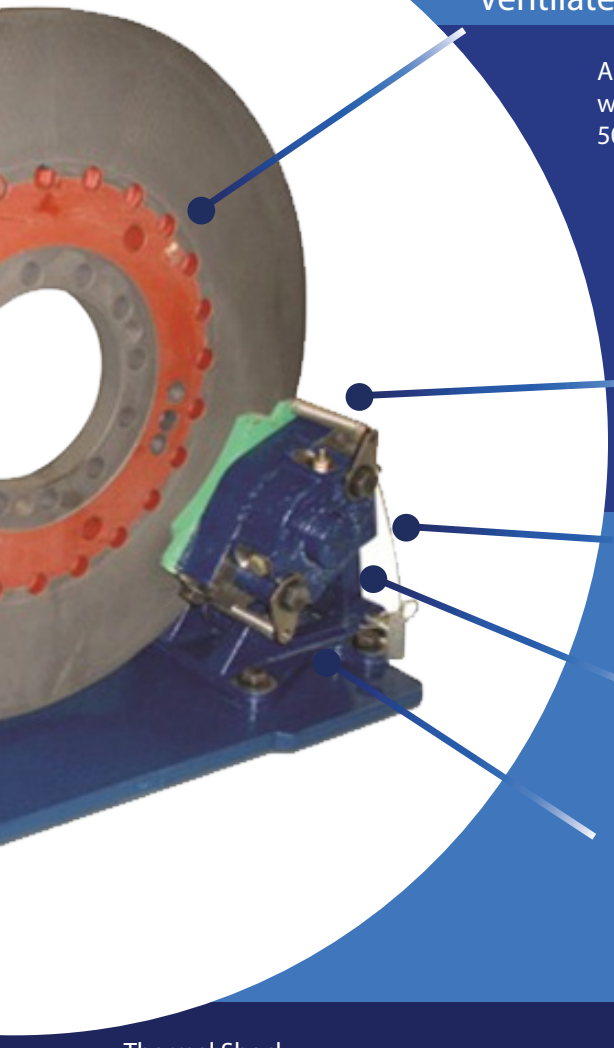
Bolts into existing drum brake application.

The HCDB Advantage...

HCDB disc brakes out perform 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.

HCDB-A brakes typically have 20% more swept area and more than twice the exposed swept area of the drum brakes they replace.



Ventilated Disc

Allows for increased heat capacity when the disc spins more than 500 rpm.

Discs eliminate heat checking problems associated with drums.

Disc eliminates drag/drift problems when then heat up/cool down, because unlike drums there is so little expansion as discs heat up during stops.

Friction Pads

Much lighter than drum brake pads and quicker to replace.

Shorter Pedal Stroke

Makes the operators life easier.

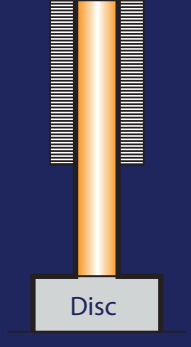
Compact Design

Allows it to retrofit into most installations.

Wear Compensating

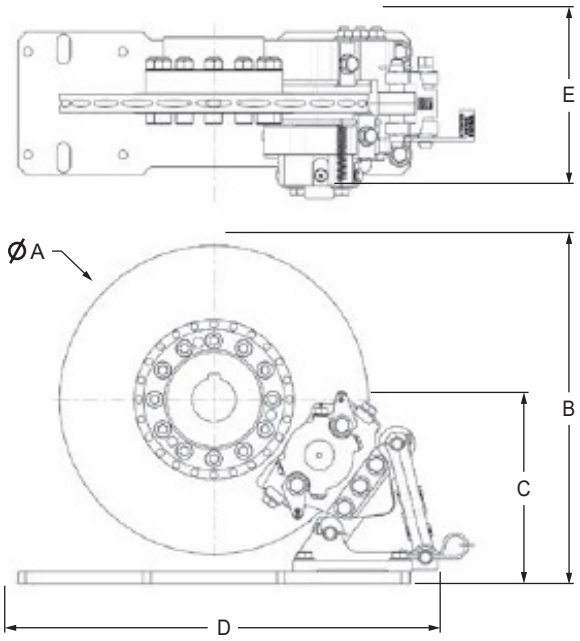
Each time the brake cycles it compensates for friction material wear. This reduces maintenance, increases productivity, and consistent pedal stroke.

Thermal Shock



When the disc speed is more than 500 rpm, ventilated discs have significantly greater heat dissipation capability than solid discs. This can be critical in bridge brake applications. The entire kinetic energy of the crane must be handled by the brake if the operator does not plug reverse the motors. When operating at motor speed on an AC powered crane, the ventilated disc can have up to 300% more thermal dissipation capacity than a solid disc.

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 a thermal gradient across the rim which produces extreme mechanical forces. These forces cause heat checking.



Model*	Drum Brake Replaced (inches)	Disc Diameter (inches)	Service Torque (lb-ft) *w/1.5" piston	Disc Weight (lbs)	Dimensions inches			
					B Disc Height Above Floor (inches)	C Disc/motor shaft centerline height above floor	D Length	E Width Including Adj. Bolt
HCDB1015A	10"	15-1/2"	399	62	16-7/8"	9"	23-3/4"	11"
HCDB1419A	14"	19-1/2"	538	111	21-3/8"	11-5/8"	26-9/16"	11"
HCDB1824A	18"	24-5/8"	715	159	25-1/2"	13-1/8"	29-3/8"	11"

* SERVICE TORQUE BASED ON AIST STANDARD 70lb PEDAL FORCE
* TORQUE DEPENDS ON THE MASTER CYCLINDER USED
* ELECTRIC PARKING BRAKE COMBO IS OPTIONAL

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