

**WPT**<sup>®</sup>  
**POWER**

## Mining Brakes and Clutches



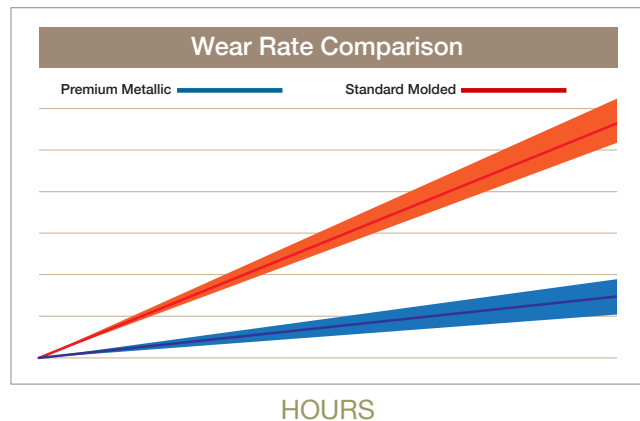
# Mining Clutches & Brakes



## Mining Brakes

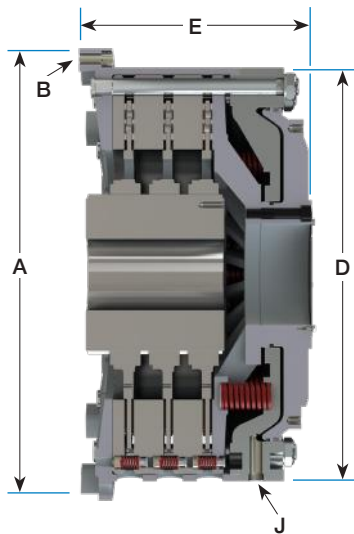
WPT Power's Mining Brakes and Clutches are designed specifically for heavy earthmoving equipment, such as rope shovels and draglines. These brake and clutch units are suitable for pneumatic operation, have a variety of torque capacities and pressure settings, and can dissipate large thermal loads. WPT Mining Brake and Clutch units are 100% compatible with existing installations, and multiple hub options are available.

- Interchangeable with existing installations
- Premium metallic friction linings
- Vertical & Horizontal mounting
- Available with limit switches and wear indicators

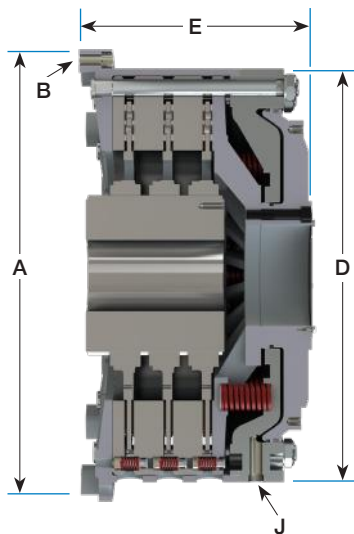


## Mining Clutches

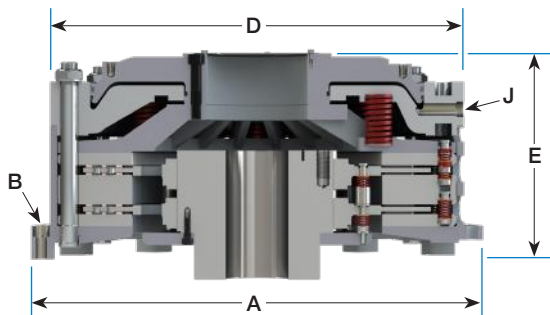
Clutches are available in 13" and 17" Options. Consult WPT Application Engineering for application assistance and applicable service factors.



Standard Mount



Paired Stud



Vertical Mount

### Standard Mining Brake Dimensions

Model	A		B			D	E	J Air Inlet
	(+0.003/ -0.000)	(+0.08/ -0.00)	Hole Circle	Diameter	Quantity			
	in (mm)							
PE-113	18.872 (479.35)		17.63 (447.7)	21/32 (16.7)	8	16 5/8 (422.4)	6 9/16 (166.6)	1/2
PE-117	23.995 (609.47)		22.50 (571.5)	21/32 (16.7)	12	21 (533.4)	8 5/8 (218.4)	1/2
PE-217	23.995 (609.47)		22.50 (571.5)	21/32 (16.7)	12	21 (533.4)	11 1/16 (280.7)	1/2
PE-121	28.245 (717.42)		26.75 (679.5)	25/32 (19.8)	12	25 (635.0)	9 1/8 (231.1)	3/4
PE-221	28.245 (717.42)		26.75 (679.5)	25/32 (19.8)	12	25 (635.0)	11 1/4 (286.3)	3/4
PE-321	28.245 (717.42)		26.75 (679.5)	25/32 (19.8)	12	25 (635.0)	13 1/2 (342.1)	3/4
PE-225	32.495 (825.37)		31.00 (787.4)	25/32 (19.8)	12	29 3/4 (755.7)	14 1/8 (358.9)	3/4
PE-325	32.495 (825.37)		31.00 (787.4)	25/32 (19.8)	12	29 3/4 (755.7)	16 15/16 (430.8)	3/4
PE-130	38.995 (990.47)		37.00 (939.8)	29/32 (23.0)	12	35 1/2 (901.7)	15 1/16 (382.5)	3/4

### Paired Mining Brake Dimensions

Model	A		B			D	E	J Air Inlet
	(+0.003/ -0.000)	(+0.08/ -0.00)	Hole Circle	Diameter	Quantity			
	in (mm)							
PE-121	28.245 (717.42)		26.75 (679.5)	25/32 (19.8)	12	25.00 (635.0)	9 3/4 (247.6)	3/4
PE-221	28.245 (717.42)		26.75 (679.5)	25/32 (19.8)	12	25.00 (635.0)	12 3/8 (314.3)	3/4
PE-225	32.495 (825.37)		21.00 (787.4)	25/32 (19.8)	12	29 3/4 (755.7)	13 7/8 (352.4)	3/4
PE-325	32.495 (825.37)		21.00 (787.4)	25/32 (19.8)	12	29 3/4 (755.7)	17 7/8 (454.0)	3/4

### Mining Brake Specifications

Model	Torque Rating @ 60 psi (4.1 Bar)*	Weight and Inertia			Lining Area
	Static Torque	Total Weight Less Hub	Drive Plate Weight	Drive Plate Inertia	
	lbf-in (N-m)	lb (kg)	lb (kg)	lbf-ft <sup>2</sup> (kg-m <sup>2</sup> )	
PE-113	21,700 (2450)	180 (82)	16 (7)	2.6 (0.11)	90 (580)
PE-117	44,500 (5030)	350 (160)	34 (16)	8.5 (0.36)	134 (870)
PE-217	82,200 (9290)	470 (210)	60 (27)	16 (0.66)	270 (1700)
PE-121	86,700 (9800)	520 (240)	43 (20)	17 (0.73)	200 (1300)
PE-221	158,000 (17900)	660 (300)	96 (44)	35 (1.5)	400 (2600)
PE-321	212,000 (24000)	880 (400)	150 (69)	55 (2.3)	600 (3900)
PE-225	278,000 (31400)	1,200 (530)	150 (69)	89 (3.8)	540 (3500)
PE-325	386,000 (43600)	1,500 (680)	230 (110)	130 (5.4)	810 (5200)
PE-130	272,000 (30700)	1,600 (700)	100 (46)	84 (3.5)	340 (2200)

Consult WPT Application Engineering for application assistance, service factors, specifications, and detailed drawings/3D models.

\*Dynamic (slipping) Torque is 75% of the Static Torque.

**NOTE:** Contact WPT for other available torques and release pressures.

# Limit & Temperature Switches



WPT Power is continually working with customers to extend the service life of its products, reduce maintenance, and facilitate their installation. The key focus is enhancing the life and continuous support of brakes in equipment manufactured by companies such as CAT® (Bucyrus Erie) and Komatsu® (P&H). Wire rope shovels and draglines share the same overall drive concept and utilize a series of electric motors with spring-applied pneumatic release brakes to operate their propel, swing, hoist, crowd (shovel), and drag motions.

## Types of Sensors

Most brakes are equipped with limit switches and temperature switches for onboard diagnostics. These sensors alert the operator if the brake's operation is in a condition requiring maintenance.

They can include:

- **Thermal Sensor** - Indicates when the brake is working at a non-recommended temperatures.
- **Release Switch** - Indicates to the operator and the control system that the brake is released.
- **Wear Switch** - Indicates that brake lining and the discs are worn, and the brake needs an adjustment.

## Why WPT's Kits?

Our Actuator Switch Kit for rope shovels and draglines has an improved design over previous generations, allowing for easier adjustment and appreciable serviceability. WPT Power's kits include shims that allow for greater adjustment during switch installation. Shims can be added on top of the cylindrical standoffs to adjust the wear switch's trigger point or beneath the aluminum target block to adjust the release switch's trigger point.

The real-time monitoring of the brake's temperature, wear, and operation will provide optimized performance and safety over the brake's lifespan.

## Sensor Kits Available For:

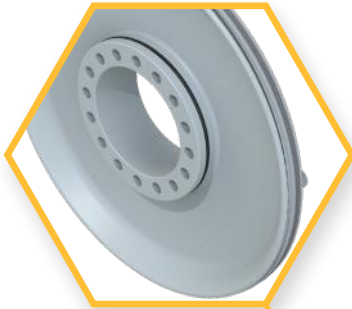
Wire Rope Shovels	Brakes
Bucyrus 459HR / CAT® 7495 HR	Hoist
	Crowd Y Swing
	Temperature
Komatsu® (P&H) 4100 XPB Komatsu® (P&H) 4100 XPC	Hoist
	Crowd Y Swing

For application assistance, service factors, and specifications in recommending sensor kit(s), consult WPT Application Engineering.

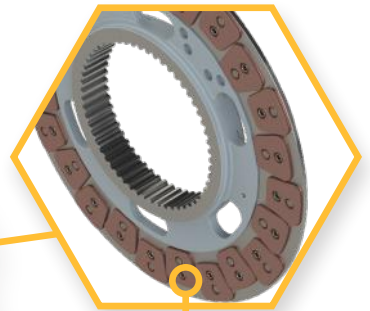


# Mining Clutches & Brakes

Self-adjusting pneumatic  
piston actuator



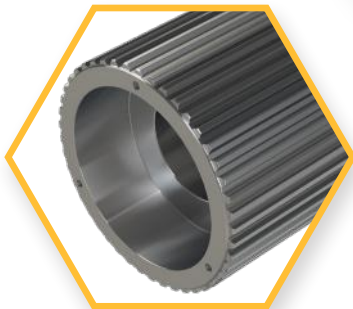
Dynamically balanced  
drive plates



Vertical support hubs for  
swing applications



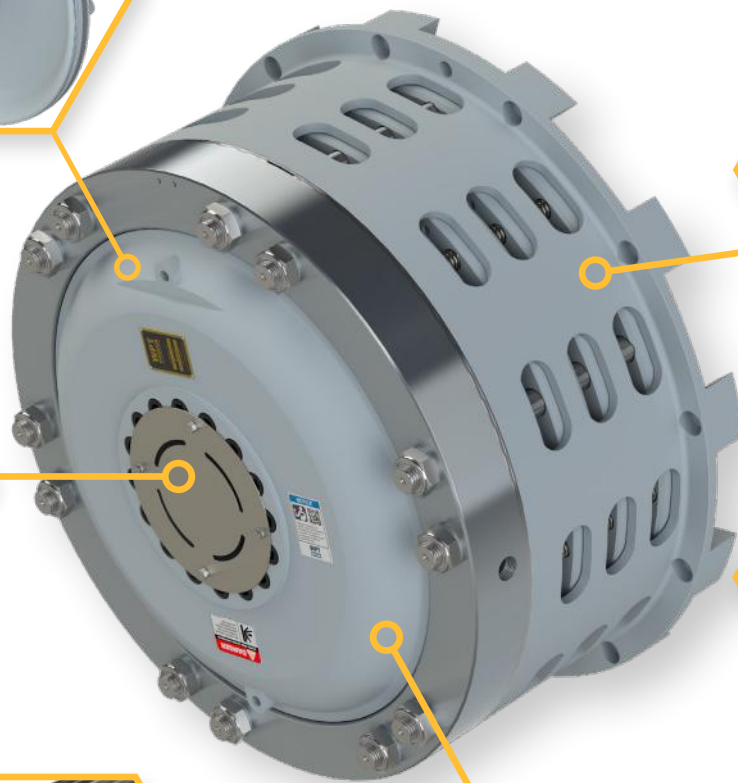
Premium metallic  
friction



Hubs for horizontal shaft  
motions with internal spline or  
tapered bore



Heavy-duty die springs for  
maximum torque and durability





### Global resource network

Our qualified distributor network provides responsive and knowledgeable sales and technical support worldwide. WPT's customer care approach ensures your product needs will be met quickly and with minimum downtime – when and wherever you are.

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