



## New High Torque Airflex Brake Specifications

### Overview

Eaton Airflex has introduced a new line of high torque spring-applied, air-cooled disc brakes (DBBS) for use in Surface Mining, Oilfield and other heavy-duty industrial machinery designs. DBBS style brakes have been proven to stop and hold machinery during emergency and safety critical situations since 1979. Their torque and thermal capacities allow them to be used in the most demanding applications. Standard brakes can be furnished with multiple discs to generate over 5 million in. lbs. of static torque. All DBBS brakes use clean pneumatic release so there is no need to worry about contaminated brake fluids, hydraulic spills, or high pressure lines.

### Technical Introduction

DBBS brakes are offered for applications requiring higher speed operation or where precise balance of the rotating components is required, but for applications where brake engagement is non-cyclic. They utilize a solid rotor and stationary friction material and develop equal torque in either direction of rotation. Pressurizing the brake compresses the brake springs and withdraws the clamping plates from the brake discs, which are free to move axially. A stud and clamp tube design, with external mounted release springs, ensures smooth engagement and release.

### Features

- Fail safe spring set application with pneumatic release
- External out board shaft mounted brakes for easier installation and easier servicing while being removed from the application and contamination zone
- Standard and custom mounting flanges are available
- Lower rotating inertia than large rotors with calipers
- Elimination of internal and external teeth on the friction material prevents bind up due to wear, mis-alignment or internal contamination as seen in competitive brakes
- Solid air cooled disc provides high energy absorption

- Easy maintenance with visual wear indicators, elimination of balancing, easy removal of friction lining
- No shimming or partial disassembly required for wear adjustments. Single disc units require no adjustments whereas 50" multiple disc units have easily removable "knockout" wear spacers

### Where Used

- Drawworks
- Power Shovels
- Draglines
- Conveyors
- Shears
- Winches

Size	Dynamic Torque*		Max RPM	Length Engaged		Length Released		Gear Length		Bore Range		Max in.	Max mm.
	lb-in	N-m		in.	mm.	in.	mm.	in.	mm.	Min in.	Min mm.		
438 Enhanced	3,100,000	350,282	950	26.25	667	26.55	674	18.00	457	11.25	286	11.38	289
150DBBS	1,798,000	203,164	600	20.27	515	20.43	519	5.75	146	10.25	260	15.50	394
250DBBS	3,284,000	371,073	600	24.54	623	24.85	631	10.00	254	12.38	314	15.50	394
350DBBS	4,555,000	514,689	600	28.81	732	29.28	744	14.50	368	13.88	353	15.50	394
450DBBS	5,578,000	630,282	600	33.07	840	33.70	856	19.00	483	14.88	378	15.50	394

\*Static torque is approximately 15% more. Torque in each application is dependent on air pressure and speed.



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