

PT Tech Presents our newest product in braking solutions to the global marketplace: Our DMB line of Dynamic Motor Brakes.

Our spring-applied, electrical-release DMB Brakes are not a commodity product. We have designed this product to excel in moderate to extreme duty applications, where compromise is unacceptable and only the best is good enough.

The DMB Brake is designed using the latest 3D modeling and finite element analysis. In addition, the units are tested under extreme conditions. The brakes torque can be validated pre-shipment if OEM specified.

#### **Key Benefits**

Maintains torque in critical high-energy applications.

Prevents vibration during high-speed stops that can damage drive equipment.

Multi-plate design is compact, allowing for high maximum operating speeds.

Compact design allows for a small mounting flange to help reduce motor cost.

Designed to allow better airflow across motor to avoid the extra cost of external motor cooling fans.

Uses common-wear parts to reduce critical spare parts inventory

One easy adjustment during entire wear life – loosen six bolts, remove three shims, and re-tighten six bolts – done!

Easy to rebuild.

# **NBE Brakes**

Dynamic Motor Brakes

### How are DMB Brakes Different?

It's simple, Dynamic Torque.

NBE brakes are designed to operate in dynamic situations. Existing motor brakes are designed as holding brakes, to be applied when the VFD has brought the motor to zero rpm. Their friction material is specifically formulated to have a high static friction coefficient. Typically, this is accomplished at the sacrifice of the dynamic friction coefficient. At 1500 rpm motor speed, the typical motor brake has about 50% of its static torque.

Therefore, a design engineer is faced with a dilemma, select a brake on static torque for the sake of design cost or significantly upsize the brake to handle the dynamic torque. The NBE brake eliminates this dilemma. If there is the potential for a critical situation in which the motor brake has to stop a dynamic load to avoid serious consequences, then the NBE brake is the best choice. To assure performance and validate each NBE's dynamic torque, PT Tech tests these brakes under extreme operating conditions on our extensive line of test stands prior to shipping.

NBE brakes are the only motor mounted brakes to address the issue of low frequency friction-induced vibration during high-speed stops that can damage expensive drive components, including bending motor shafts.

PT Tech will certify both static and dynamic torque of each individual brake per OEM request. Marine certification DNV-GL, ABS & Lloyd's Register available upon request.

For application or technical assistance please contact PT Tech for more information.



## **Torque Comparison**



NBE DIMENSIONS									
MODEL	FLANGE SIZE	BORE SIZE (MM)	BORE LENGTH (MM)						
NBE125 NBE225	A400,A450,A550	60,65,70,75	142						
NBE230 NBE330	A450,A550,A660	65,70,75,80	142						
NBE245 NBE345	A660,A800	80,85,90,100,110	177.3						

FLANGE DIMENSIONS (MM)								
FLANGE SIZE	FLANGE DIAMETER A	FLANGE DIAMETER B	PILOT DEPTH	BOLT CIRCLE	# OF MOUNTING BOLTS			
A400	400	300	6	350	4			
A450	450	350	6	400	8			
A550	550	450	6	500	8			
A660	660	550	7	600	8			
A800	800	680	7	740	8			

\* Preliminary values to be used as reference only



NBE45 Series shown above Measurements are in mm

#### NBE PERFORMANCE BY MODEL SIZE

MODEL SIZE	RATED STATIC TORQUE NEW (NM)	MIN STATIC TORQUE (NM)	RATED DYNAMIC TORQUE NEW	RATED SPEED (RPM)	RATED BRAKE ENERGY 5/HR (kJ)
NBE125	800	690	800		194
NBE225	1,430	1,190	1,430		388
NBE230	1,920	1,560	1,920	4,000	510
NBE330	2,880	2,350	2,880		764
NBE245	4,320	3,520	4,320		1,050
NBE345	6,480	5,280	6,480	3,600	1,570







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