

# VFDB Brakes

## Variable Frequency Drive Brake

*Our spring-applied, electrical-release VFDB brakes are designed to excel in moderate to extreme duty applications where compromise is unacceptable and only the best will do.*

### Key Benefits

Higher maximum engagement speed than competitive products.

Maintains torque in critical high-energy applications.

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

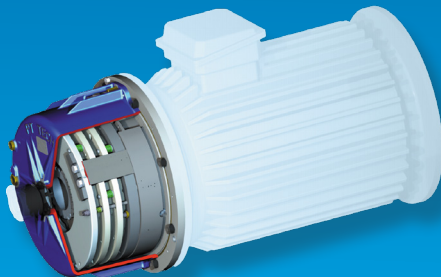
Compact design allows for a small mounting flange to help reduce motor cost.

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.



### How are VFDB Brakes Different?

It's simple, Dynamic Torque.

VFDB 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 VFDB 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 VFDB brake is the best choice. To assure performance and validate each VFDB's dynamic torque, PT Tech tests these brakes under extreme operating conditions on our extensive line of test stands prior to shipping.

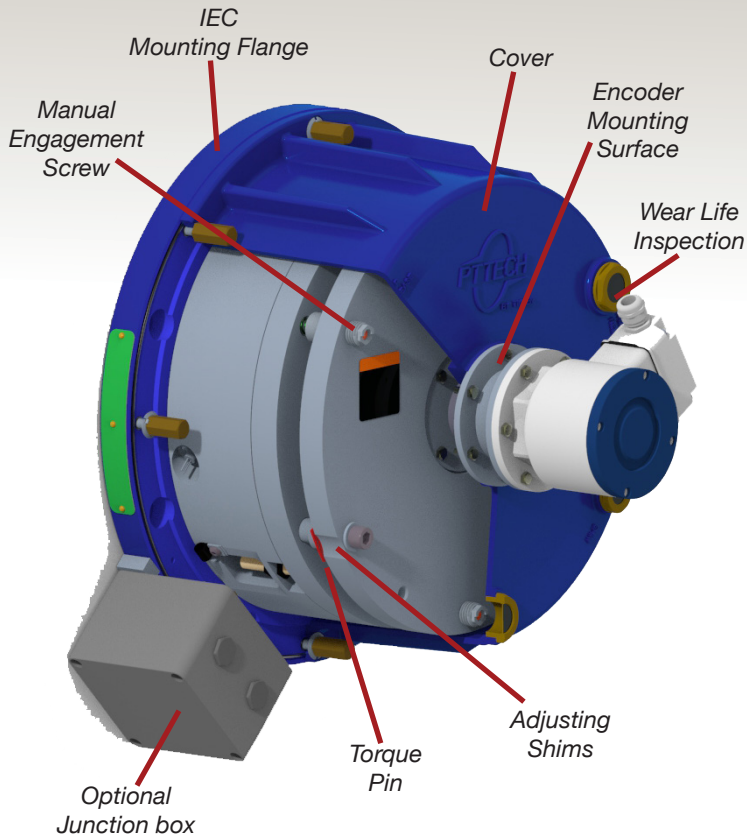
VFDB brakes are the only motor mounted brakes to address the issue of low frequency friction-induced vibration during high-speed stops that can damage expensive drive components, including bending motor shafts.

IP67 rated for marine applications

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.*

## VFDB Component



### VFDB MOUNTING DIMENSIONS

MODEL	FLANGE SIZE	BORE SIZE (MM)
VFDB 76	450/550	75
VFDB 110		
VFDB 160	550/660	110
VFDB 250		
VFDB 400	660/800	TBD
VFDB 630	800	125
VFDB 1000		TBD

### FLANGE DIMENSIONS (MM)

FLANGE SIZE	FLANGE DIAMETER A	FLANGE DIAMETER B	PILOT DEPTH	BOLT CIRCLE	# OF MOUNTING BOLTS
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

### VFDB PERFORMANCE BY MODEL SIZE

MODEL SIZE	STATIC TORQUE NEW (NM)	STATIC TORQUE WORN (NM)	DYNAMIC TORQUE WORN (NM)	MAX FREEWHEELING SPEED (RPM)	MAX ENGAGEMENT SPEED (RPM)	HOLDING VOLTAGE (V DC MIN)	EXCITATION VOLTAGE (V DC MIN)	AIRGAP MIN/MAX (MM)	INERTIA (KG-M <sup>2</sup> )	MASS (KG)
VFDB 76	830	760	950	4000	2500	50	205	0.8/2.0	0.06	137.4
VFDB 110	1180	1075	1300	3600	2500	50	205	0.8/2.0	0.06	137.9
VFDB 160	1750	1600	1950	3200	1900	50	205	0.8/2.0	TBD	TBD
VFDB 250	2750	2500	3100	2800	1900	50	205	0.8/2.0	TBD	TBD
VFDB 400	4400	4000	5000	2200	1500	50	205	0.8/2.0	TBD	TBD
VFDB 630	6950	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
VFDB 1000	10,000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD