

Offshore Oil Rig Drawworks Brake Solution



Positorq LCB (Load Control Brake)

The “All in One” Positorq LCB (Load Control brake)

Force Control Industries, Inc. provides an ideal solution to solve problems associated with many current drawworks including the friction brake and the auxiliary brake. Using the Positorq LCD (load control brake) with Oil Shear Technology puts all of the control in one simple to operate, highly reliable brake package.

The Positorq LCB is a multiple disc, oil shear, hydroviscous brake designed for continuous slip as well as dynamic stopping and static holding, all in one system.

What is a Positorq LCB?

A high performance multipurpose bio-degradable traction lubricant circulates through a closed loop system that is continually filtered and temperature controlled. Cooling of this fluid can be accomplished either through “oil to air” or “oil to water” heat exchangers. All internal working parts of the brake are operating in clean lubricating fluid and not exposed to salt air or water.

This eliminates contamination, corrosion, and mineral build up that can affect the braking operation.



The brake is an “dual purpose” brake. It will control the drop rate during tripping,, absorb the energy from stopping,, and enable stop and hold in position to make the next pipe connection.

The brake can slip at very low speed (down to 0 RPM) smoothly making it ideal for controlling WOB (the weight on the bit) without any chatter, stick slip or cogging during the drilling operation.

The brake control is a simple hydraulic pressure control on the brake actuation piston system through a servo valve. This system is ideal for control via an auto-driller for precise bit control in all meth-

ods of drilling either WOB (weight on bit), CRP (Controlled Rate of Penetration), or simple manual control.

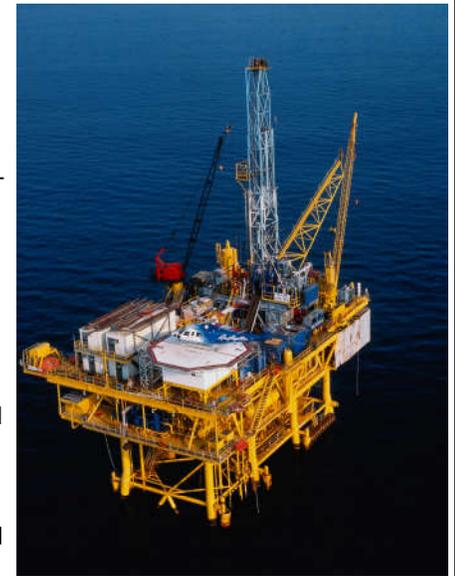
Oil Shear Technology provides a dynamic torque to static torque ratio nearly 1:1 eliminating the sharp jerk when transitioning between dynamic slip, and static lock up, reducing load on other transmission components, cabling, and top drive.

The brake can be designed as spring set causing the brake to engage in case of power failure reducing chance of damaged bit, or lost drill stem.

The Positorq Load Control auxiliary brake eliminates the need for the mechanical brake on the winch drum except as a standby back-up for emergency stops.

The Positorq LCB (Load Control Brake) is generally much less weight than the Elmagco (Bayer) brake, and smaller in size. This reduces rig area and weight improving allotment for other items.

The multiple disc friction stack design means more torque in a low inertia package. This relates to quicker response, less energy to be dissipated, and better control.



What's in it for me?

- **Faster Tripping**—High energy absorbing and smooth controllable stops can reduce the time for tripping operation
- **Reduced Bit Cost**—smooth quick control for the WOB can increase bit life reducing need for replacement.
- **Increased ROP**—better more responsive bit control can increase ROP (rate of penetration).
- **Reduced Weight**—The smaller footprint and lower weight increases allowance for other items.

The deeper the hole the greater the savings

The Drawworks “All in One” Brake Positorq LCB (Load Control Brake) Featuring Oil Shear Technology



Elmagco 7040



Positorq LCB TB-87

When you compare—the choice is obvious

Brake	Torque (Lb. Ft.) Dynamic	Torque (Lb. Ft.) Stopping	Torque (Lb. Ft.) Holding	Weight (Lbs)	Width (Inches)	Height (Inches)	
Elmagco (Baylor)							
7040	84,000	—	—	24,000#	38"	78"	
7838	96,000	—	—	28,500#	38"	78"	
8350	83,000	—	—	29,000#	38"	72"	
15050	150,000	—	—	45,600#	40"	92"	
Force Control LCB							
TB-85 LCB	35,804	53,706	71,608	4,300#	38"	32"	
TB-87 LCB	127,600	191,343	255,200	6,000#	41"	57"	

The Positorq LCB with Oil Shear Technology is a “win win” solution for high performance deep water offshore drilling rig drawworks load control brakes.

- **Weight Savings (up to 39,000#)**—The tremendous weight savings allows additional capacity for drilling mud or other items.
- **One unit does it all**—controls tripping, holding, and drilling. Simple controls, simple operation, operator friendly.
- **No large high power electrical controls**—battery backup, or other failure prone electrical controls..

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