

TORSIONAL™ PROGRESSING CAVITY PUMP

LOW ECCENTRICITY ROBUST GEOMETRY

WELL CHALLENGES:

Do you have a well that experiences:

- Frequent coiling and flushing
- Rod and rod shear fatigue failures
- Frequent scrapped rotors due to base metal wear
- Rod/tubing contact wear above the pump
- Vibration loading failures
- Sudden torque spiking that results in seized rotors and flushes

Introducing the Lifting Solutions TorsionAL Progressing Cavity Pump (PCP).

Engineered with low-eccentricity and wide seal lines, this robust pump solves many issues related to high eccentricity pump models. The TorsionAL PCP is available in 3 configurations:

- Standard (TL)
- Short stator (TS)
- TorsionAL-PivotAL (TP) pump combination

FEATURES AND BENEFITS

Increase rotor pull success rate at lower, safer pulling loads

In wells with frequent servicing due to coiling, flushing, or stuck-rotor issues, the TorsionAL PC pump pulls free more easily than conventional or CHOPS models.

Reduce rod string, tubing, and rotor failures

The low-orbit diameter of the TorsionAL PCP as well as its robust geometry minimizes fatigue loading and rod whip above the pump and minimizes contact wear between the rod and tubing.

Reduce stick-slip and stator bite

The TorsionAL rotor's high stiffness minimizes torsional flex, which can alleviate stator bite and stick-slip causing torque spiking.

Improve seal life and rotor reuse

Pressure and wear are more evenly distributed due to the rotors wide seal lines and increased surface area, which results in less severe fluid washing and yields a higher salvage rate for rotor re-chroming.

Alleviate vibrational loading problems

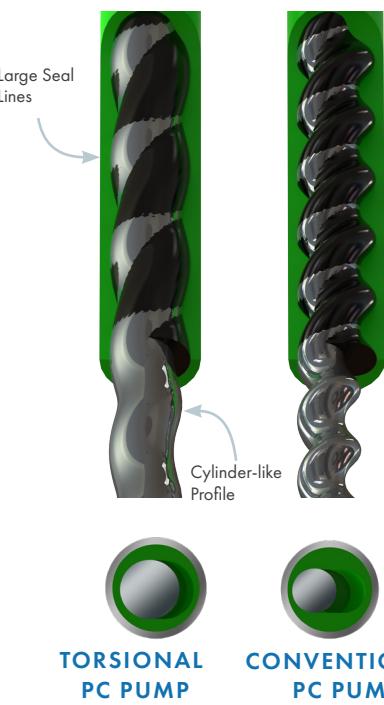
The reduced eccentricity of the TorsionAL geometry results in reduced vibrational loading.

APPLICATIONS

TL – The standard TorsionAL configuration has a standard cavity pressure rating and is designed for general purpose applications.

TS – The short TorsionAL configuration is made up of a short stator (half the length of a TL) and a tight fitting rotor, enabling a high cavity pressure rating. It is designed for applications with problems achieving long run times due to rotor breaks and frequent rig-less activity, and is suitable for low-pressure production.

TP – The TorsionAL-PivotAL configuration is made up of a TL stator and a PivotAL rotor and works by selectively operating the stator using active and inactive stator sections. The TP has the same pressure rating as the TL because the PivotAL rotor only seals half of the TL stator at a time. This configuration is designed for contact-wear applications and allows the operator the unique ability to restore pumping efficiency by lifting or replacing the rotor.



SPECIFICATIONS

Model	Configuration	Lift	Stator Length	Stator Tube OD in. (mm)	Standard Stator Connection in. (mm)	Optional Stator Connection in. (mm)	Rotor Drift Diameter in. (mm)	Standard Rotor Connection in. (mm)	Min. Tubing Size for Installation		3/4-in. Coilability in 3-1/2-in. EUe Tubing				
					[OD in. (mm)]	[OD in. (mm)]		[OD in. (mm)]	Drift in. (mm)	Orbit in. (mm)					
15	TL	700	90	3.5 (88.9)	2-7/8 (73.0) EUE Box [3.75 (95.3)]	3-1/2 (88.9) NUE Pin [4.18 (106.2)]	2.11 (53.6)	1 (25.4) API Pin [2.00 (50.8)]	2-7/8 (73.0) EUE	2-7/8 (73.0) EUE	Yes				
		1400	180												
		1850	240												
	TS	900	90				2.12 (53.8)								
		1800	180												
		2400	240												
	TP	900 x2	180				2.12 (53.8)								
		1200 x2	240												
30	TL	600	130	3.5 (88.9)	2-7/8 (73.0) EUE Box [3.75 (95.3)]	3-1/2 (88.9) NUE Pin [4.18 (106.2)]	2.11 (53.6)	1 (25.4) API Pin [2.00 (50.8)]	2-7/8 (73.0) EUE	2-7/8 (73.0) EUE	Yes				
		1200	260												
		1500	325												
	TS	800	130				2.12 (53.8)								
		1600	260												
		2000	325												
	TP	800 x2	260				2.12 (53.8)								
		1000 x2	325												
60	TL	600	192	3.75 (95.3)	3-1/2 (88.9) EUE Pin [4.18 (106.2)]	2-7/8 (73.0) EUE Box WEX [3.75 (95.3)]	2.27 (57.7)	1 (25.4) API Pin [2.00 (50.8)]	2-7/8 (73.0) EUE	3-1/2 (88.9) EUE	Coil Joint				
		900	288												
		1200	384												
	TS	800	192				2.28 (57.9)								
		1200	288												
		1600	384												
	TP	600 x2	288				2.28 (57.9)								
		800 x2	384												
120	TL	600	292	4.125 (104.8)	3-1/2 (88.9) EUE Box [4.13 (104.9)]	N/A	2.64 (67.1)	1 (25.4) API Pin [2.00 (50.8)]	3-1/2 (88.9) EUE	4-1/2 (114.3) EUE	No				
		900	393												
		1200	524												
	TS	800	262				2.65 (67.3)								
		1200	393												
		1600	524												
	TP	600 x2	393				2.65 (67.3)								
		800 x2	524												