

INSERTABLE PCP

SMARTER WORKOVERS. LOWER OPEX. PROVEN PERFORMANCE.

The Insertable Progressing Cavity Pump (iPCP) is a thru-tubing artificial lift solution installed via the rod string inside production tubing. It's designed to eliminate the need to pull tubing during pump-related workovers.

KEY BENEFITS

Minimize Downtime & Costs

- No tubing pull required for pump replacement
- Smaller service rigs (flush-by or rod rigs) suffice
- Downhole monitoring systems remain intact
- Reusable iPCP assembly components for long-term savings
- Can be installed above existing completion using existing PSN or in combination with bottom hold down tools

Optimize Well Performance

- Enables volume/lift changes without pulling tubing
- Allows stator flushing without unseating the pump

INNOVATIVE FEATURES

Hammer Tail

Engineered for safe, efficient assembly & installation.

- Supports safe rotor seating during installation
- Engage unseating ring for safe pull out of hole
- Eliminates the need for 'flush by tubes'

Multi-Size Seating Rings

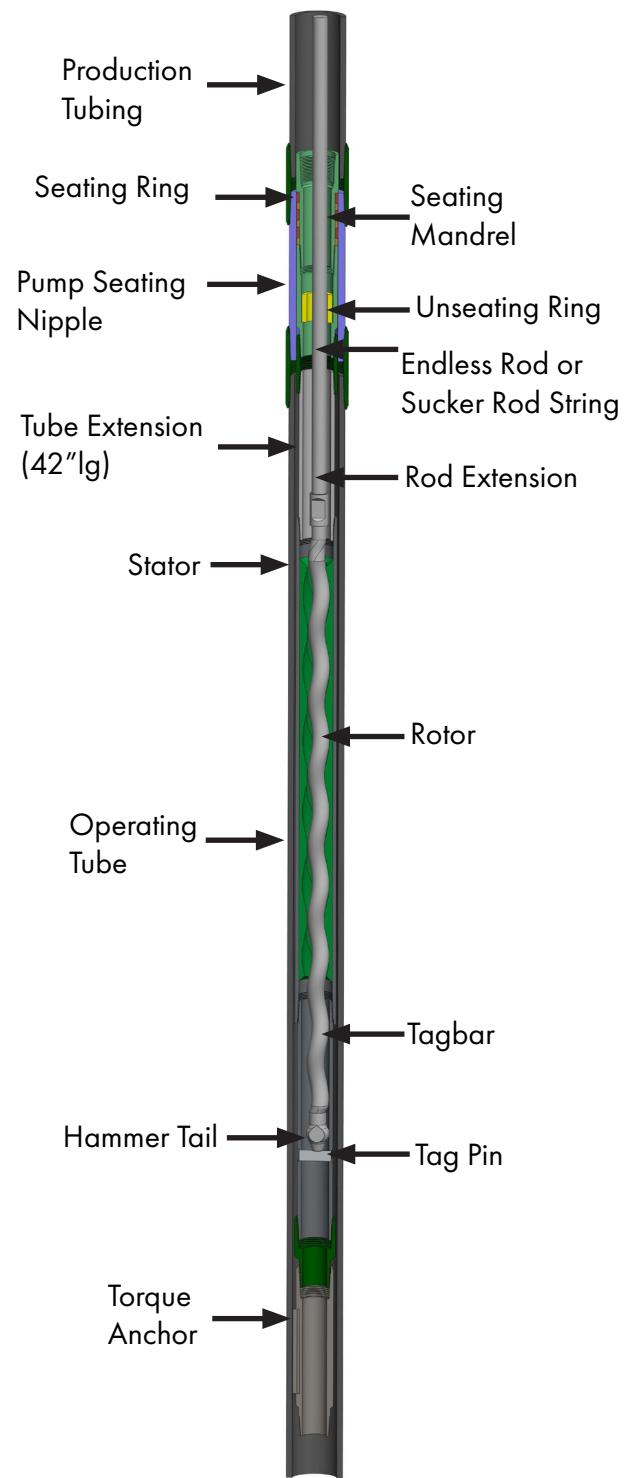
Designed for compatibility with existing industry completions.

- Multiple ring sizes accommodate all PSN IDs
- Compatible with common industry tubing sizes

Stator Discharge Seal

Designed for sand and abrasive environments.

- Isolates pump discharge from annulus
- Prevents sand packing and unseating issues



LS I-PCP MODEL OVERVIEW TABLE

Compatible/ Available tubing sizes	Available pump model range based on tubing size		Available lift range based on tubing size		Standard Stator OD based on tubing size		Standard Stator connection based on tubing size		Standard Rotor connection based on tubing size	Maximum torque based on Model		Max. OD		Rod Stickup	
	(m3)	(bbls)	(m)	(ft)	(mm)	(in)	Top	Bottom		(nm)	(ft*lbs)	(mm)	(in)	(mm)	(in)
2-7/8"	2 to 7	13 to 44	600 to 3600	2000 to 11800	57.2	2.25	1.660-in.	1.660-in.	5/8-in. API	225	166	31.8	1.25	500	19.7
	11 to 23	69 to 145	500 to 1800	1600 to 6000			EUE BOX	EUE PIN	PR Pin 225	259	191				
3-1/2"	7 to 62	44 to 390	500 to 2400	1600 to 7900	69.9	2.75	1.900-in.	1.900-in.	7/8-in.	614	453	41.3	1.63	536	21.1
4-1/2"	10	63	600 to 3600	2000 to 11800	88.9	3.5	2.875-in.	2.875-in.	7/8-in. API	1085	800	48.1	1.89	594	23.4
	15	94	600 to 3600	2000 to 11800			EUE BOX	EUE PIN	PR Pin						
	20 to 70	126 to 440	600 to 3000	2000 to 9800											
4-1/2"	13	82	1200 to 3000	3900 to 9800	95.3	3.75	2.875-in.	2.875-in.	1-in. API Pin	1627	1200	53.2	2.09	653	25.7
	18	113	600 to 2400	2000 to 7900			EUE BOX	EUE PIN	PR Pin						
	28 to 155	226 to 975	600 to 3000	2000 to 9800											

ELASTOMER

Elastomer Code	Typical Applications	Nitrile Level (% ACN)	Hardness (Shore A)	Maximum Downhole Temperature	Oil	Water	Abrasive	Gas ¹	H ₂ S	CO ₂
SN	Heavy oil (CHOPS), high abrasives	32 to 36	55 to 60	60°C (140°F)	Up to 15 API	Very Good	Excellent	Fair	Fair	Fair
MN	Heavy to moderate oil, moderate abrasives, dewatering (CSG/CBM)	32 to 36	65 to 70	80°C (176°F)	Up to 20 API (Max 25 API) ²	Very Good	Very Good	Good	Good	Good
HN	Medium to light oil, high CO ₂ /free gas, chemical injection, deeper/hotter wells	45 to 50	70 to 75	100°C (212°F)	Up to 35 API (Max 40 API) ²	Very Good	Good	Very Good	Good	Very Good Excellent ³

¹ Gas & explosive-decompression resistance is a concern primarily with CO₂ since methane (CH₄) permeability is significantly lower in elastomers

² Suitability of upper API gravity depends on specific application conditions including oil chemistry, water cut, and temperature

³ HN-ED Explosive Decompression elastomer formulation is available for high CO₂ applications. This elastomer is custom order.