LIFTING SOLUTIONS

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

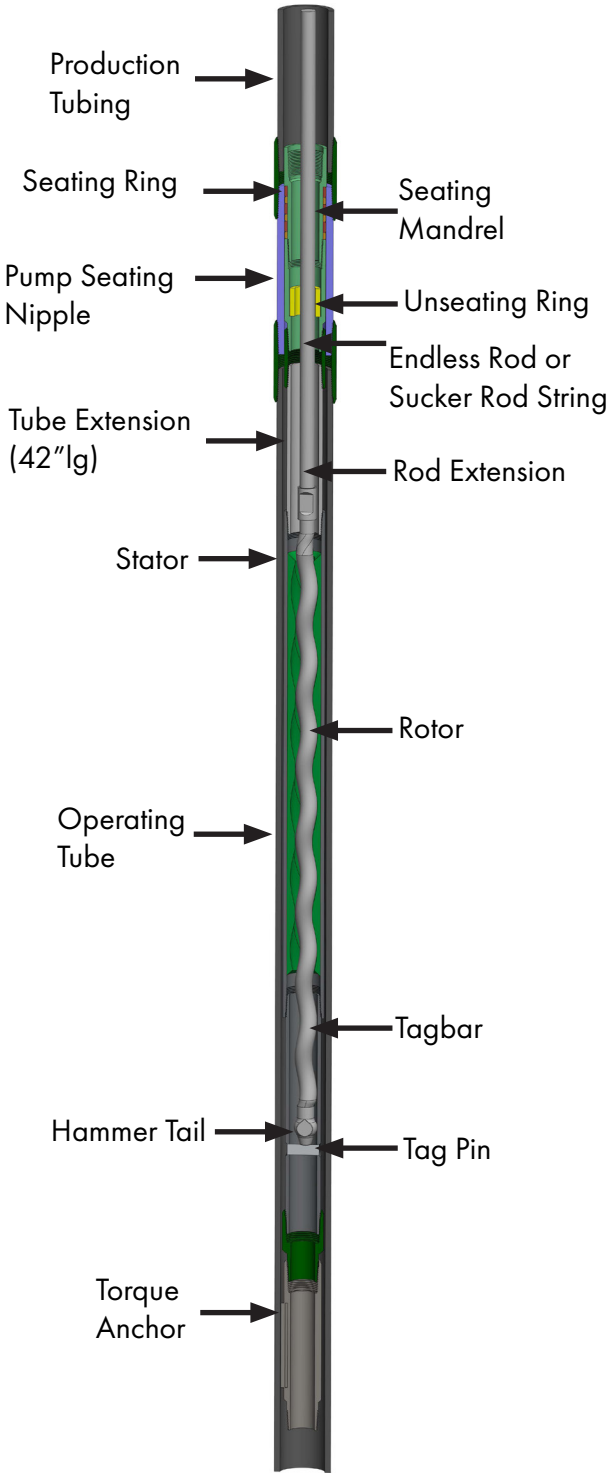
Designed for compatability with existing industry completions.

- Multiple ring sizes accommodate all PSN IDs
- Compatable 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



MKT-BR-GBL-PCP-IPCP-001v6

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 11 to 23	13 to 44 69 to 145	600 to 3600 500 to 1800	2000 to 11800 1600 to 6000	57.2	2.25	1.660-in. EUE BOX	1.660-in. EUE PIN	5/8-in. API PR Pin	225 259	166 191	31.8	1.25	500	19.7
3-1/2"	7 to 62	44 to 390	500 to 2400	1600 to 7900	69.9	2.75	1.900-in. EUE BOX	1.900-in. EUE PIN	7/8-in. API PR Pin	614	453	41.3	1.63	536	21.1
4-1/2"	10 15 20 to 70	63 94 126 to 440	600 to 3600 600 to 3600 600 to 3000	2000 to 11800 2000 to 11800 2000 to 9800	88.9	3.5	2.875-in. EUE BOX	2.875-in. EUE PIN	7/8-in. API PR Pin	1085	800	47.7 48.1 47.9	1.88 1.89 1.89	594	23.4
4-1/2"	13 18 28 to 155	82 113 226 to 975	1200 to 3000 600 to 2400 600 to 3000	3900 to 9800 2000 to 7900 2000 to 9800	95.3	3.75	2.875-in. EUE BOX	2.875-in. EUE PIN	1-in. API Pin	1627	1200	53.6 53.2 53.3	2.11 2.09 2.10	653	25.7

ELASTOMER

Elastomer Code	Typical Applications	Nitrile Level (% ACN)	Hardness (Shore A)	Maximum Downhole Temperature[1]	Resistance Guide					
					Oil	Water	Abrasive	Gas [3]	H_2S	CO_2
SN1	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
MN1	Heavy to moderate oil, moderate abrasives, dewatering (CSG/CBM)	32 to 36	65 to 70	80°C (176F) 100°C (212°F) for CSG/CBM	Up to 20 API (Max 25 API)[2]	Very Good	Very Good	Good	Good	Good
HN2	Medium to light oil, high CO_2, chemical treatment, deeper/ hotter wells	45 to 50	70 to 75	100°C (212°F)	Up to 35 API (Max 45 API)[2]	Very Good	Good	Very Good	Good	Very Good Excellent[4]

[1] LS can provide technical documentation on the temperature rating methodology upon request.
[2] Suitability of upper API gravity depends on specific application conditions including oil chemistry, water cut, and temperature.
[3] Gas & explosive-decompression resistance is a concern primarily with CO_2 since methane (CH_4) permeability is significantly lower in elastomers.
[4] HN-ED Explosive Decompression elastomer formulation is available for high CO_2 applications. This elastomer is custom order.