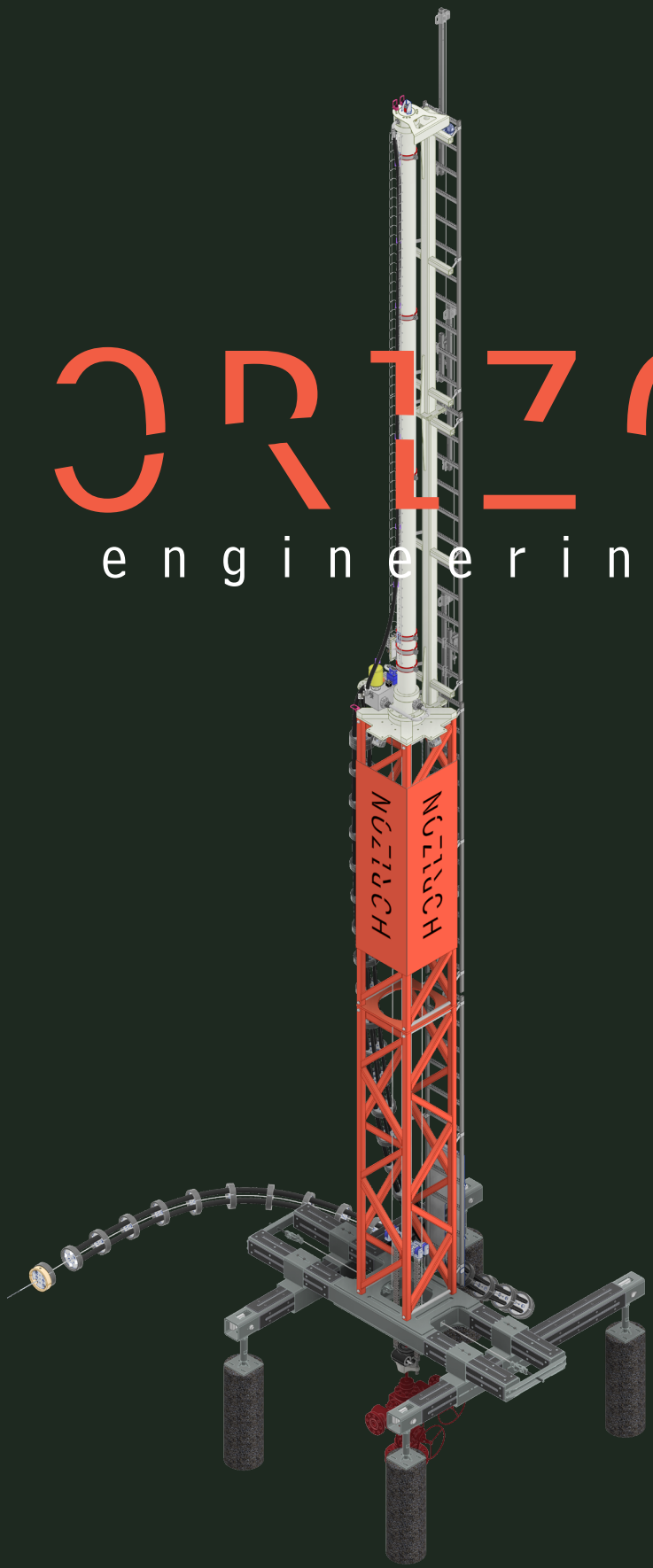
HORIZON

engineering



Next-Gen Long Stroke Hydraulic Rod Pump

GENERAL	Type 27-150	Type 30-150	Type 40-240
Total stroke length	3.8[m] 150 [in]	3.8 [m] 150 [in]	6.1 [m] 240 [in]
Max stroke speed (full length)	7.5 [SPM]	5 [SPM]	2.5 [SPM]
Peak Polished Rod Load (PPRL)	12.2 [t] 27 [Klbs]	13.5 [t] 30 [Klbs]	18.2 [t] 40 [Klbs]

RIG	SPECIFICATIONS AVAILABLE FOR ALL CYLINDERS SIZE	
Stroke speed ratio adjustment	Standard	Enables independent adjustment of the upstroke and downstroke speeds
Variable stroke length adjustment	Standard	¼" increments from 1" to total length
Slave cylinder	Standard	Two chambers cylinder with integrated measure
Carrier bar included	Standard	Compatible with standard polished rods up to 1"½
Rod rotator torque reaction cables	Option	Torque reaction cables prevent the hydraulic cylinder from rotating when the rod rotator is operating
Rig-IN/OUT	Standard	A sliding beam covered with HDPE wear plates allows the rig to be easily pulled back for wellhead maintenance access
Ajustable leveling system	Standard	The rig is equipped with leveling feet to ensure precise perpendicular alignment with the wellhead
Rig weight	~1.8 [t] 4000 [lbs]	
Total rig height	14 [m] 45 [ft]	
Safe access to the rig top	Standard	Life-line protected ladder all the way up (EN 353-1 / ANSI Z359.16 / AS 1891-3)

HYDRAULICS	SPECIFICATIONS AVAILABLE FOR ALL CYLINDERS SIZE	
Hydraulic Power Unit (HPU)	Standard	ISO 668 1D 10 foot container
	Sensitive area	Soundproofed ISO 668 1D 10 foot container
Continuous operation temperature	Winterized	-40 to +45 [°C] -40 to +113 [°F]
	Standard	-20 to +45 [°C] -4 to +113 [°F]
	Tropicalized	-10 to +55 [°C] 14 to +131 [°F]
Hydraulic hose carrier chain length (2x1" ¼ & 2x1")	Standard	12 [m] 40 [ft]
	Enhanced	20 [m] 65 [ft]
Hydraulic oil type	Standard	Hydraulic fluids based on mineral oil
	Sensitive area	Environmentally approved fluids
Oil conditioning system	Standard	ISO 4406 15/13/10 class and water separation system
Counterbalance system with true dynamic compensation and linearized gas accumulators behavior	Standard	Fixed pressure nitrogen-bladder accumulators No manipulation required No nitrogen addition, no nitrogen purge
Hydraulic coupling system	Standard	Hoses chain line is connected and disconnected by a safe, simple and quick movement requiring low effort and without any leakage
Max hydraulic working pressure	350 [bar] 5000 [psi]	
HPU weight	~3850 [kg] 8500 [lbs]	

Technical specifications are subject to change. Contractual agreements take precedence over all other documentation.

ELECTROTECH. & AUTOMATION	SPECIFICATIONS AVAILABLE FOR ALL CYLINDERS SIZE	
Type of electrical supply / phases	Grid / 3P+N or Genset / 3P+N	
Characteristics of energy supply	380 to 480VAC 50/60Hz - 45 [kW] 60 [hp]	
Variable Frequency Drive (VFD)	Standard	
Industrial communication	IO-Link and EtherCAT	
Sensor monitoring level	Standard	Essential IO-Link sensor package for key operational parameters
	Enhanced	Extended IO-Link sensor suite for full predictive diagnostics and condition monitoring
Pump Off Control (POC)	Standard	
Gas interference mode	Standard	
Pump clean-out routine	Standard	
Modern HMI interface	Standard	Powered by HELIO HMI
Remote control / adjustment	In development	
Remote report / alarming	Standard	Requires subscription to HORIZON systems
External control I/O	Standard	2DI : Coil 24...230 V AC/DC 2DO : Changeover contact max. 250 V AC/DC - 6A (e.g. Ext. alarm, start/stop)

MISCELLANEOUS	SPECIFICATIONS AVAILABLE FOR ALL CYLINDERS SIZE	
Fire detection / suppression (HPU)	Standard	Only the electrical cabinet
	Enhanced	Full automatic fire detection and suppression
Improved logistics	Standard	The system features forklift pockets and lifting points for convenient transport
Easy set up / installation	Standard	Assembly requires only a truck-mounted crane, two people and basic standard tools
Painting C3-M (SN EN ISO 12944)	Lower structure	RAL 6012 (Black Green)
	Tower segments	RAL 2004 (Pure Orange)
	Upper struct. + HPU	RAL9010 (Pure White)
Applications	Deep, Deviated, High-volume wells ESP, Gas lift conversion Gas wells deliquification Heavy oil wells	
Replace / competitive to	Rotaflex, Conventional and Enhanced Geometry Pumping Units	
Customization	HORIZON engineering remains open to considering any requests outside its standard scope	

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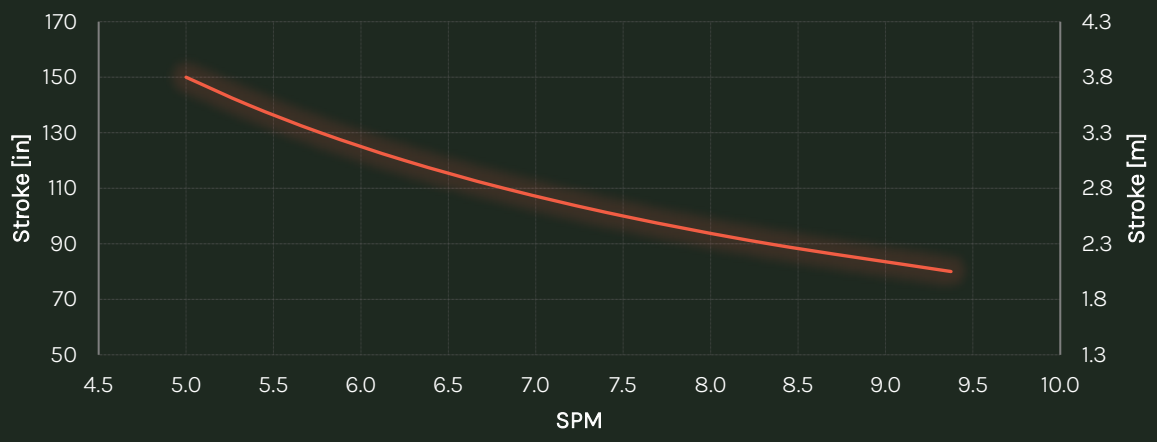
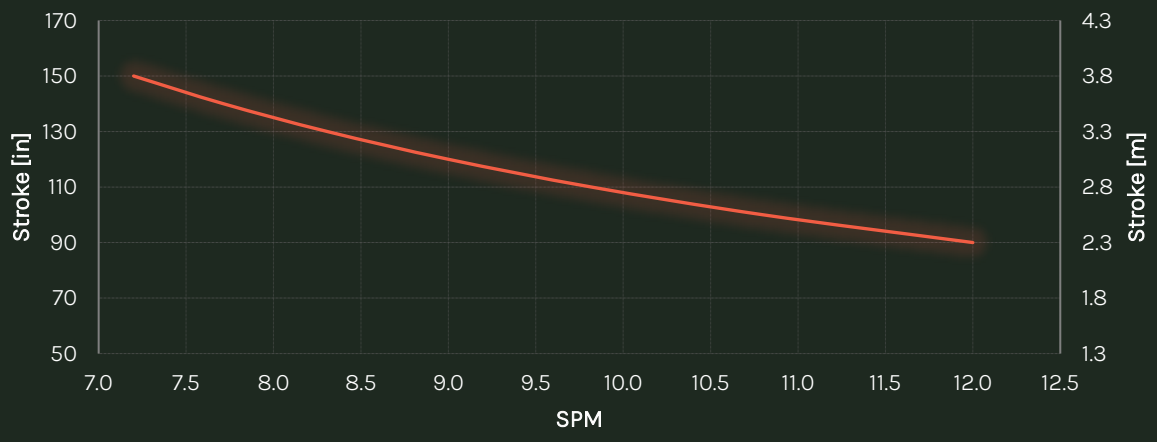
Cylinder type 40-240
PPRL 40 klbf

Cylinder type 30-150
PPRL 30 klbf



Cylinder type 27-150
PPRL 27 klbf



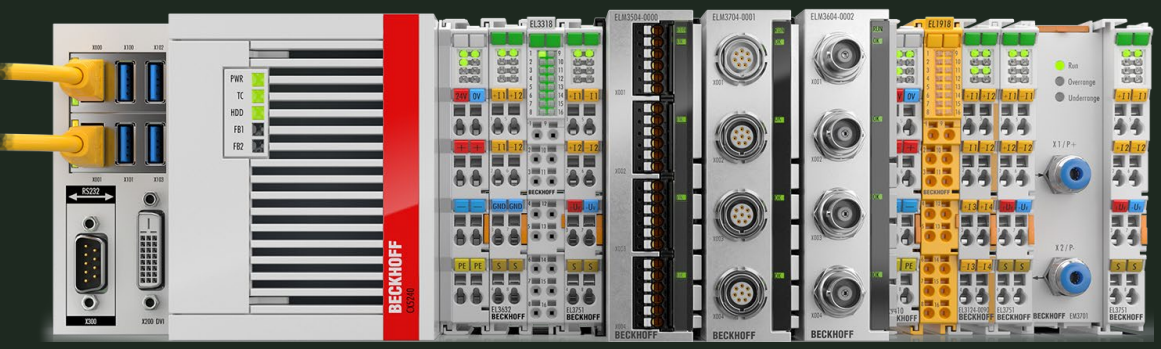
AUTOMATION

Adaptive Extraction via Onboard Machine Learning AI*

Leveraging our existing industrial automation platform, we are now integrating machine learning directly into the control layer to enable real-time, intelligent adaptation of extraction parameters to dynamic well conditions.

Current Automation

- Real-time monitoring & control via EtherCAT
- Predictive maintenance & fault detection
- Remote diagnostics & parameters tuning



What's Next : The AI Leap !

- Machine Learning engine embedded in PLC — future software upgrade
- Learns from live sensors data — pressure, flow, torque, temperature
- Dynamically adjusts stroke rate & length — per well, per cycle
- Self-optimizes for reservoir changes — no manual intervention

Outcomes

Smarter extraction. Higher uptime. Lower OPEX. Better ROI.

**under development*

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Let’s Power the Future Together!

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