



# Lufkin Pumping Unit Gen2

*The next generation of the oilfield icon...the same proven features you depend on with enhanced components for safer, reliable operations.*

Reliability, safety and service are the hallmarks of the Lufkin Pumping Unit Gen2 technology. Since becoming part of the GE family, Lufkin pumping units have been redesigned to answer customers' call for a cost effective, dependable lift technology.

Building on decades of experience in the oilfield and a long history of innovation in materials and design, today's Lufkin Pumping Unit Gen2 offers a superior production solution.

This is the technology our customers have always known from Lufkin—in fact, it is the same gearing and bearings. And with GE's innovation and research heritage, we've updated the design of the units and standardized some pieces to make them safer and easier to install—but our focus has remained on providing reliable technology that enables you to produce efficiently and cost effectively.

## New features

### Improved safety.

Technology based on proven, tested design allows for safer service, component handling.

### Improved reliability.

The Lufkin know-how customers expect, integrated into design specifications and installation method for increased strength, fatigue connection robustness, and longevity.

### Improved quality.

Global supply chain of advanced-capability suppliers means better quality control, stringent design specifications, and quality surveillance.

### Improved serviceability.

Designed for easier installation and service.

### Increased component standardization.

Minimized variation, maximized availability.

### Improved delivery speed.

Equipment manufactured and delivered to the well site faster than ever.

### And more:

- Engineered components and validated assemblies that exceed API standards.
- Lifting features added for improved assembly and service.
- Unique fasteners ensure secure, long-lasting connections.



## Benefits

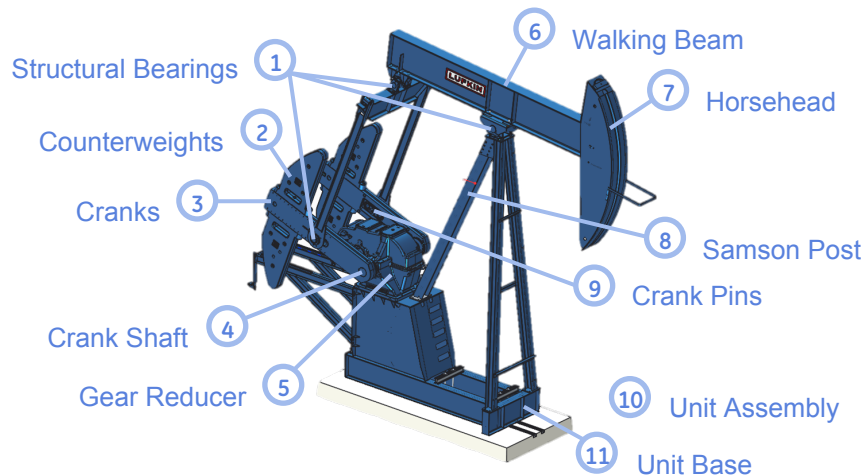
- Efficiencies built into the design to help you enhance production
- Extreme reliability to reduce unplanned down-time
- Available in a variety of models to fit your specific well requirements
- Backed by a global network of installation, service, and repair expertise to keep you running and to reduce non-productive time

## Standard Offerings<sup>†</sup>

Conventional	Reverse Mark	Mark II	Churchill
C1824D-427-216	RM912D-427-192	M1280D-427-216	CH114-119-100
C1280D-427-192	RM912D-427-168	M912D-427-192	CH80-119-64
C912D-427-168	RM640D-365-168	M912D-365-168	
C912D-365-192	RM456D-365-120	M640D-305-168	
C912D-365-168		M456D-305-144	
C640D-365-168		M320D-305-120'	
C320D-305-120'			
C228D-246-86			

<sup>†</sup> Other API unit sizes offered at increased cycle

## Design Features



### 1 Structural Bearings

- Standardized for inventory and spares availability
- Improved load ratio (capacity vs. peak load)
- Spherical washers added to Counter Balance (CB) to eliminate bolt bending

### 2 Counterweights (CW)

- Reshaped for greater efficiency
- No need for auxiliary weights
- Lifting holes added for ground lift and positioning

### 3 Cranks

- Longer length for greater CW efficiency
- Crank bore increased for larger shaft
- Crank bore deeper for increased torque capacity
- 5" tick marks for CW positioning
- Thicker ligament between crank holes
- Sleeved tapered holes for manufacturing and serviceability
- Lifting hole for handling and rotating

### 4 Crank Shaft (Conventional Units)

- Enlarged for greater torque capacity and strength, reduced deflection and gear wear

### 5 Gear Reducer

- Excess material/weight removed from housing and cover
- Nordlock washers assuring splitline bolt torque
- Lifting features added
- Wipers on both LS and IS gears (standard)
- Proven reliability and robustness:
  - LS bronze bushings for better load distribution
  - HS/IS bearing carriers – protects housing/cover from damage
- Best-in-class time-tested gear train

### 6 Walking Beam (WB)

- Improved midspan web stiffeners for increased twist resistance
- Bolted lugs secured with Nordlock washers
- Landing surface for horsehead adjustment screws

### 7 Horsehead

- Increased carrier bar distance (I) for polished rod accessories
- Decreased top-of-stroke
- Increased bottom-of-stroke ground clearance (L) to allow more room for wellhead jewelry
- Safety bar moved to WB web for ease of installation

### 8 Samson Post

- Improved rear leg connections for reliable joint make-up
- Nordlock washers applied for assured bolt torque

### 9 Crank Pins

- Supernuts applied for reliable torque and seating
- Supernuts avoid hammer-wrench

### 10 Unit Assembly

- Optimized API geometry for balanced loads and linkage optimization
- Reduced overall weight by more than 10% for transportation and lifting efficiency

### 11 Unit Base

- Shorter base for smaller footprint
- Reduced front foundation loading (~15%)

## Improved safety features of the Lufkin Pumping Unit Gen2 include:

- Lifting holes added in cranks for handling and rotating
- Counterweights added to eliminate need for auxiliary weights
- Lifting features added to gear reducer
- Increased bottom-of-stroke ground clearance
- Crank pins redesigned with supernuts to avoid hammer-wrench