



Part of GE Oil & Gas



Churchill

Churchill Model CH-80D-119-64 Beam Balanced Pumping Unit



The Churchill 80D units feature high quality yet economical single helical teeth, which are machined from heat treated, ductile iron castings. Incorporated into the high-speed end of the gear reducer is Churchill's unique StepDown* design, which minimizes shaft deflection and improves gear meshing.

Horseheads. Attention to small details is a Churchill hallmark. For example, by removing a single bolt, Churchill unit horseheads are easily detached for well servicing. Also, a radius on the horsehead's support plate, which rests on the walking beam, permits lateral head adjustment to ensure proper alignment of the wireline.

Beam Counterweights. Churchill units feature counterweights that slide over the end of the beam. This simplification of the beam weights makes it much easier to determine the number of weights required to achieve proper counterbalance.

Structural Bearings. Churchill pioneered the use of Friction-Ease*, non-metallic bearings on center and equalizer assemblies. Years of exhaustive field tests and service have proven them to be among the most economical and durable bearings in the industry. Unlike conventional bearings, Friction-Ease bearings have the resilience to absorb shock loading without damage.

The crank pin bearing assembly uses high-quality, anti-friction bearings. All bearing assemblies are factory lubricated and have conveniently placed grease fittings that permit easy field lubrication for routine maintenance.

Safety Guarding. Pumping units contain a number of heavy moving parts, which constitute a safety hazard if not properly installed and guarded. Perimeter type guarding is included to provide ease of operation while providing safety for people, animals and assets.

Reliability Since 1954

Churchill is a familiar name in oil fields throughout the world. Historically, the Churchill brand has been recognized as an industry leading beam balanced pumping unit. [Lufkin Industries](#), a GE Oil & Gas company, owns the design of the Churchill units and are backed by the industry's most comprehensive field service network.

In a wide variety of applications, from shallow oil wells to de-watering coal-bed methane gas wells, Churchill beam balanced pumping units are unmatched. Known as "the producer's choice" on shallow wells around the world, Churchill units enjoy a well-earned reputation for quality construction and dependability.

Churchill beam balanced pumping units are simple to operate and require minimal maintenance. As a customer, you value the longevity of a pumping unit that will perform for years. Every Churchill unit is designed, engineered and manufactured to minimize maintenance and maximize reliability.

Product Features

Structural Frames. Use of wide-flange beams and "heavy-walled" channel and angles on this new design "Channel Steel" result in a rugged structure that is capable of withstanding extreme well loads. Slide rails that adapt to all prime movers are standard on Churchill units, along with easy access bolting.

Gear Reducers. Churchill gear reducers are designed to meet or exceed API and AGMA specifications. The precision-cut helical gears are encased in a strong, heavy-walled, cast-iron housing.

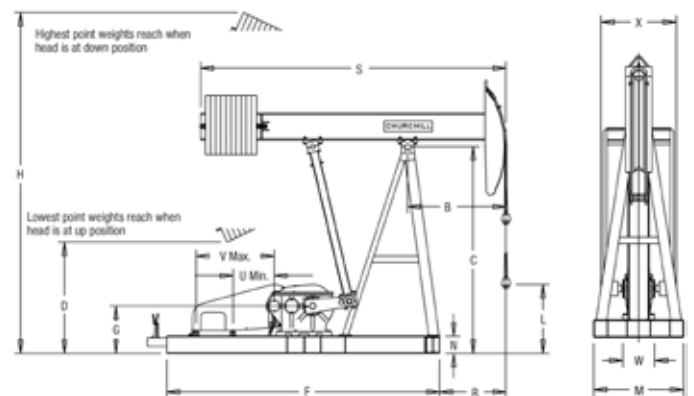


Figure 1. Dimensional Parameters

Churchill Beam Balanced Pumping Unit

Dimensional Data (inches) - See Figure 1

Unit Size	B	C	D	F	G	H	L	M	N	R	S	U	V	W	X
CH-80D-119-64	71.00	115.90	53.5	201.50	25.9	175.5	31.7	72.0	9.84	55.91	188.0	16.00	47.5	21.50	50.00

NOTE: Do not use above dimensions for foundation. Request foundation plan.

API Geometry Dimensions (inches) - See Figure 2

Unit Size	A	C1, C2	I	P	H	G	R1, R2	S.U.	T.F.@90°/Stroke Length
CH-80D-119-64	71.00	41.75, 49.25	47.38	90.50	115.87	25.87	18, 14	349	30.577/64

Structural Data

Unit Size	Polished Rod Capacity (lbs.)	Stroke Lengths (inches)	Equalizer Bearing (type)	Center Bearing (type)	Crank Pin Bearings (type)	Wireline Hanger (inches)
CH-80D-119-64	11,900	64, 54, 49, 41	Friction-Ease	Friction-Ease	Spherical Roller	.75 x 7 CRTS.

Counterbalance Data

Unit	CH-80D-119-64
Stroke	64 in.
Structural Unbalance	349 lb

Wts.	lb	Wts.	lb
0	389	16	5,369
1	728	17	5,649
2	1,064	18	5,925
3	1,396	19	6,197
4	1,724	20	6,465
5	2,048	21	6,730
6	2,368	22	6,991
7	2,685	23	7,248
8	2,998	24	7,501
9	3,308	25	7,751
10	3,613	26	7,997
11	3,915	27	8,240
12	4,214	28	8,478
13	4,508	29	8,713
14	4,799	30	8,944
15	5,086	31	9,171

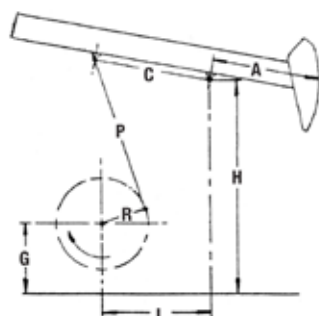


Figure 2. API Geometry Parameters

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Portable Base Data (inches)

Unit Size	Base	Length	Width
CH-80D-119-64	GPB	204.5	72

Field Automation and Well Optimization

Lufkin Automation is an industry leader in oil production automation and well optimization products and services. We offer a complete line of field-proven wellhead automation products, well analysis equipment and software designed to increase operating performance, reduce lifting costs and enhance returns on producing assets. We continue to be a leader in the development of new, integrated solutions for oil producers worldwide from software to instrumentation and controls, including:

- Rod pump controllers
- Variable frequency drives
- SCADA and remote management systems
- Rod pump design and analysis software
- Fluid level instruments
- Dynamometers
- SAM* well manager injection well controllers (IWC)
- SAM well manager Progressive Cavity Pump controllers (PCP)
- Lufkin Well Manager 2.0

Additionally, we offer complete oilfield automation repair and our offices are strategically located in key markets.

Ordering Instructions

To size and/or order a Churchill pumping unit, contact the nearest GE Oil & Gas representative or sales office. When ordering replacement parts, be sure to include the unit model number, unit serial and order number, a complete part description and, if known, the casting number or part number.

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