


Pumping Units

Not just bigger. Better.



DARCO
USA · INC



Quality pumping units that reduce production costs

The Darco pumping unit is a well-engineered quality-constructed product that offers a welcome alternative to oil producing companies worldwide.

Our API approved line of units, ranging in size from 114 to 912, enable operators to satisfy the most challenging of lifting requirements.



Special features of the Darco unit include:

Double reduction gear reducer

split-herringbone design and circular arc gear teeth allow 25% to 50% longer life than present competing models.

Three-year warranty

is standard on all gears, shafts, and bearings.

Proven performance

is documented by 10,000 pumping units operating worldwide since 1960.

Price value

is unmatched unit for unit by any other competitive manufacturer in the marketplace today.

Largest structural members and assemblies

in the industry allow increased reserves for load variations.

Reduction of downtime

during routine servicing is assured by split-case design and easy access to all bearing assemblies.

Ours.

Theirs.



Both of the crank pins and bearings pictured here are from API approved 456 conventional pumping units. The one on the left is from Darco: the one on the right is from the world's leading manufacturer of pumping units.



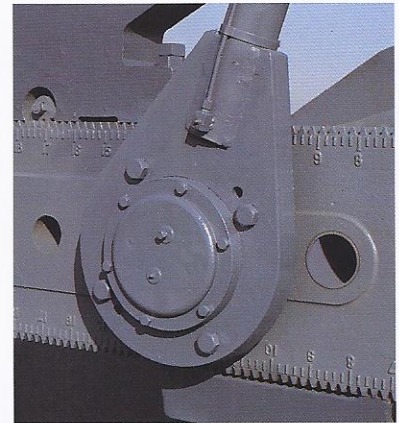
In every respect, Darco pumping units are bigger than the competition. The structural members, bearings, and gear reducer are heavier, stronger, and more mas-

sive than any other pumping unit components on the market today.

Darco's oversized structural members ensure prolonged unit life because durability and quality are built into our product from the beginning.

Crank Pin Bearing Assemblies

The crank pin assemblies are designed with self-aligning spherical bearings, which due to their size, ensure dependability no matter how tough the pro-

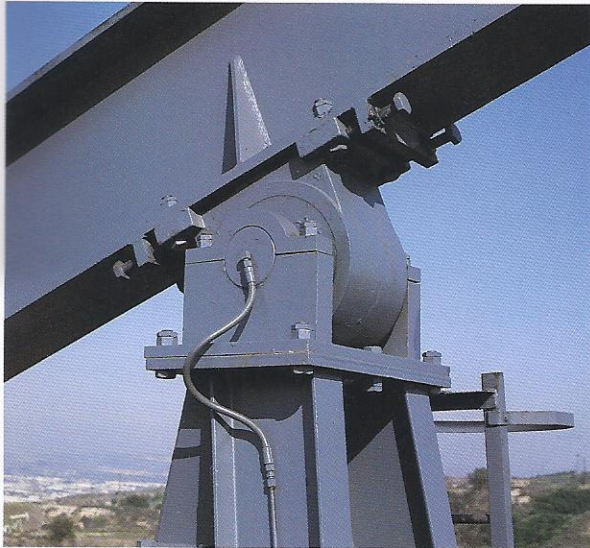


duction requirements. Special features, such as our high alloy steel sleeves in every crank hole, all but eliminate damage and downtime.

Darco components

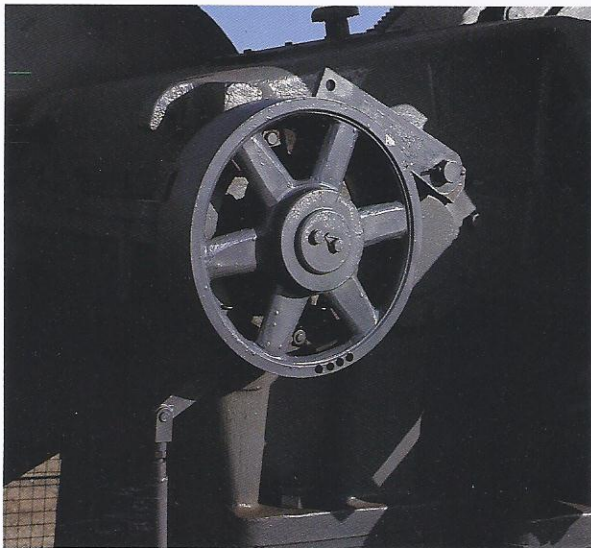
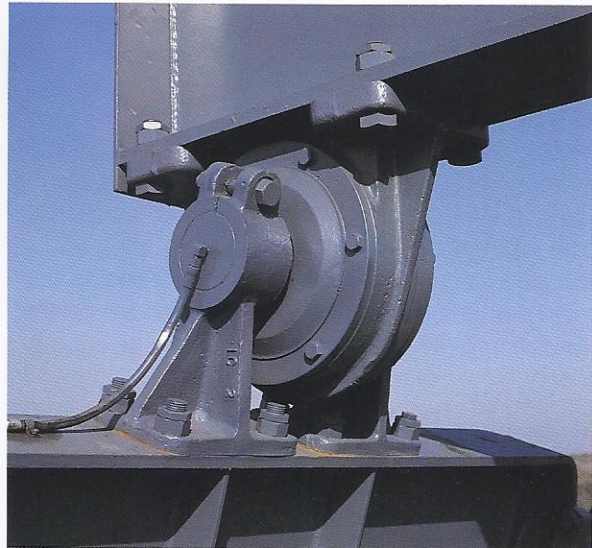
Center Bearing Assembly

Darco's center bearing assembly utilizes heavy-duty, self-aligning, anti-friction bearings, with a metal-to-metal seal designed to eliminate damage from over-lubrication. All bearings and oil seals are readily available throughout America.



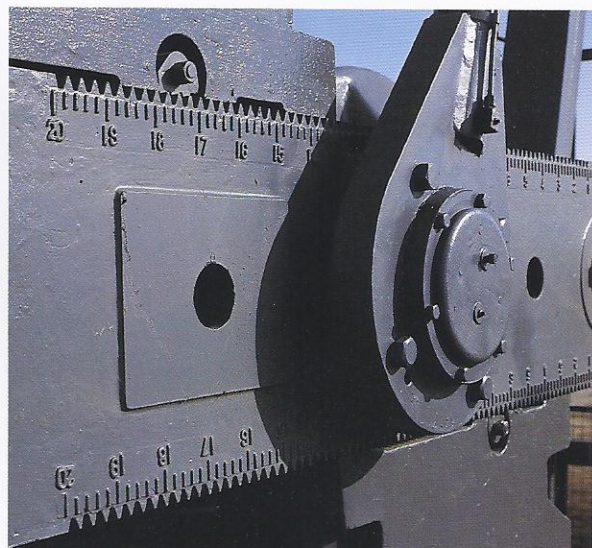
Equalizer Bearing Assembly

Our massive, self-aligning, double-row spherical bearing is encased in a rugged cast-iron housing to provide constant equalization of loads to the pitmans and crank pins. Ground level lubrication systems are standard.



Brake Assembly

Darco's anti-skid brake system provides stopping power when engaged. Our drum-type design with safety pawl ensures operators of immediate and decisive brake response when needed.



Counterweight Crank

Counterbalance can be easily and safely adjusted by only one person simply by sliding Darco counterweights along the crank arm. Calibrated markings assure accurate adjustment for various pumping conditions.

Double-reduction gear reducer.

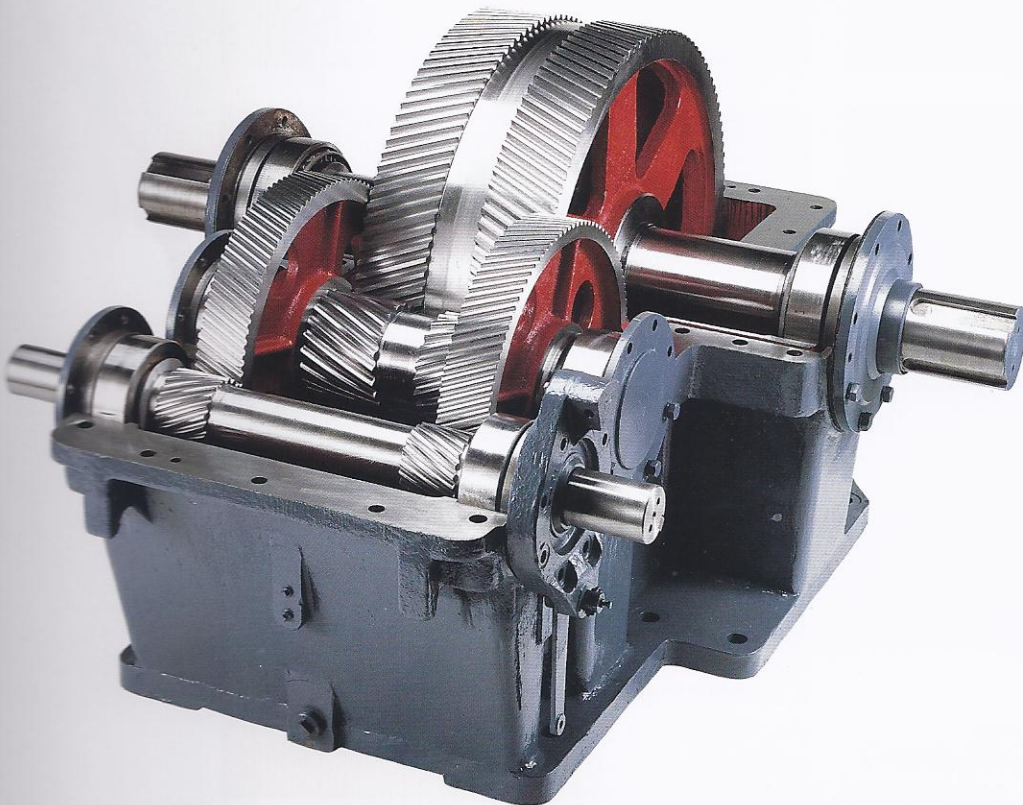
Each Darco gearbox, from API approved 114D through 912D, utilizes the oil industry's largest and widest forged and cast steel gears. Split herringbone design and circular arc gear teeth enable the Darco gear reducer to generally exceed conventional herringbone life by 25% to 50%.

Rugged heat-treated ground shafts and pinions float on massive straight roller bearings inside the precision machined split gear case. The positive oil splash wiper system assures total lubrication over all gears and bearings thus eliminating the need for oil pumps.

A special feature of the Darco gear reducer is the dual crankshaft keyway design. By allowing operators the option of changing crank positions and redistributing load points on the gears, the service life of the gearbox can be extended by many years.

To ensure that Darco gear reducers continue to operate for decades to come, each unit is thoroughly load tested and inspected before leaving the factory.

Proof of the Darco gear reducer's reliability is supported by thousands of pumping units in operation worldwide and our unprecedented three-year warranty.



912D Gear Reducer:

Rating: 912,000 in./lbs. Peak Torque
 Ratio of Gears: 30.35
 Crankshaft Dia.: 8¹⁷/₆₄"
 Sheave: 40", 48", 50" PD.-7D
 50", 55" PD.-8C
 4²³/₃₂" Bore
 Gear Reducer Oil Capacity: 185 gallons

640D Gear Reducer:

Rating: 640,000 in./lbs. Peak Torque
 Ratio of Gears: 28.25
 Crankshaft Dia.: 8¹⁷/₆₄"
 Sheave: 48", 50", 55" PD.-6D
 36", 44", 50", 55" PD.-6C
 4¹¹/₃₂" Bore
 Gear Reducer Oil Capacity: 130 gallons

456D Gear Reducer:

Rating: 456,000 in./lbs. Peak Torque
 Ratio of Gears: 28.5
 Crankshaft Dia.: 7⁵/₆₄"
 Sheave: 34", 48" PD.-5D
 36", 40", 48" PD.-6C
 4¹¹/₃₂" Bore
 Gear Reducer Oil Capacity: 125 gallons

320D Gear Reducer:

Rating: 320,000 in./lbs. Peak Torque
 Ratio of Gears: 28.81
 Crankshaft Dia.: 7⁵/₆₄"
 Sheave: 34", 36", 44", 48" PD.-6C
 3¹¹/₁₆" Bore
 Gear Reducer Oil Capacity: 70 gallons

228D Gear Reducer:

Rating: 228,000 in./lbs. Peak Torque
 Ratio of Gears: 28.87
 Crankshaft Dia.: 6¹¹/₁₆"
 Sheave: 30", 36", 40" PD.-5C
 3¹¹/₃₂" Bore
 Gear Reducer Oil Capacity: 64 gallons

160D Gear Reducer:

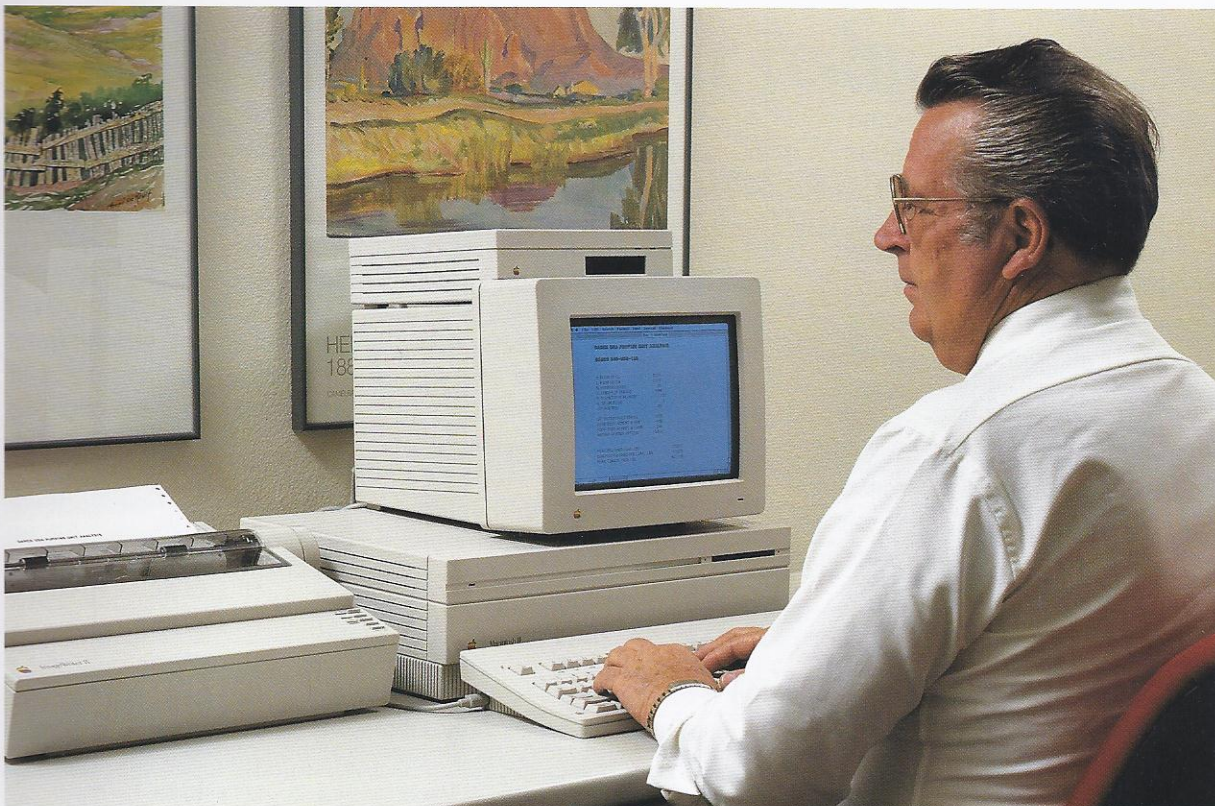
Rating: 160,000 in./lbs. Peak Torque
 Ratio of Gears: 28.51
 Crankshaft Dia.: 5²⁹/₃₂"
 Sheave: 28", 39", 36" PD.-4C
 2²⁷/₃₂" Bore
 Gear Reducer Oil Capacity: 48 gallons

114D Gear Reducer:

Rating: 114,000 in./lbs. Peak Torque
 Ratio of Gears: 28.36
 Crankshaft Dia.: 5¹/₈"
 Sheave: 28", 30", 34" PD.-3C
 2⁷/₁₆" Bore
 Gear Reducer Oil Capacity: 45 gallons

ADJUSTABLE CRANK BALANCED PUMPING UNIT SPECIFICATIONS

| Unit Designation | Polished Rod Capacity, Lbs. | Stroke Length in Inches | Wireline Centers | Walking Beam | Crank |
|------------------|-----------------------------|-------------------------|---------------------------------------|----------------|-------|
| C-912D-365-192 | 36,500 | 192, 165, 138 | 1 ³ / ₈ " x 12" | 33" x 217 lbs. | 4921 |
| C-912D-365-168 | 36,500 | 168, 144, 121 | 1 ³ / ₈ " x 12" | 33" x 201 lbs. | 4921 |
| C-912D-305-168 | 30,500 | 168, 144, 121 | 1 ¹ / ₄ " x 12" | 33" x 193 lbs. | 4921 |
| C-912D-427-144 | 42,700 | 144, 123, 102 | 1 ³ / ₈ " x 12" | 33" x 209 lbs. | 4411 |
| C-912D-365-144 | 36,500 | 144, 123, 102 | 1 ³ / ₈ " x 12" | 33" x 193 lbs. | 4411 |
| C-640D-305-192 | 30,500 | 192, 165, 138 | 1 ¹ / ₄ " x 12" | 33" x 201 lbs. | 4921 |
| C-640D-365-168 | 36,500 | 168, 144, 121 | 1 ³ / ₈ " x 12" | 33" x 201 lbs. | 4921 |
| C-640D-305-168 | 30,500 | 168, 144, 121 | 1 ¹ / ₄ " x 12" | 33" x 193 lbs. | 4921 |
| C-640D-365-144 | 36,500 | 144, 123, 102 | 1 ³ / ₈ " x 12" | 33" x 193 lbs. | 4411 |
| C-640D-305-144 | 30,500 | 144, 123, 102 | 1 ¹ / ₄ " x 12" | 31" x 183 lbs. | 4411 |
| C-640D-256-144 | 25,600 | 144, 123, 102 | 1 ¹ / ₈ " x 12" | 27" x 160 lbs. | 4411 |
| C-640D-305-120 | 30,500 | 120, 102, 84 | 1 ¹ / ₄ " x 12" | 27" x 165 lbs. | 3190 |
| C-456D-305-168 | 30,500 | 168, 144, 121 | 1 ¹ / ₄ " x 12" | 33" x 193 lbs. | 4921 |
| C-456D-305-144 | 30,500 | 144, 123, 102 | 1 ¹ / ₄ " x 12" | 31" x 183 lbs. | 4411 |
| C-456D-256-144 | 25,600 | 144, 123, 102 | 1 ¹ / ₈ " x 12" | 27" x 160 lbs. | 4411 |
| C-456D-365-120 | 36,500 | 120, 102, 84 | 1 ³ / ₈ " x 12" | 31" x 189 lbs. | 4411 |
| C-456D-305-120 | 30,500 | 120, 102, 84 | 1 ¹ / ₄ " x 12" | 27" x 165 lbs. | 3190 |
| C-456D-256-120 | 25,600 | 120, 102, 84 | 1 ¹ / ₈ " x 12" | 27" x 144 lbs. | 3190 |
| C-456D-213-120 | 21,300 | 120, 102, 84 | 1 ¹ / ₈ " x 8" | 27" x 119 lbs. | 2090 |
| C-456D-256-100 | 25,600 | 100, 85, 70 | 1 ¹ / ₈ " x 12" | 27" x 130 lbs. | 3190 |
| C-320D-256-144 | 25,600 | 144, 123, 102 | 1 ¹ / ₈ " x 12" | 27" x 160 lbs. | 4411 |
| C-320D-256-120 | 25,600 | 120, 102, 84 | 1 ¹ / ₈ " x 12" | 27" x 144 lbs. | 3190 |
| C-320D-213-120 | 21,300 | 120, 103, 87 | 1 ¹ / ₈ " x 8" | 27" x 139 lbs. | 2090 |
| C-320D-305-100 | 30,500 | 100, 85, 70 | 1 ¹ / ₄ " x 12" | 27" x 158 lbs. | 3190 |
| C-320D-256-100 | 25,600 | 100, 85, 70 | 1 ¹ / ₈ " x 12" | 27" x 130 lbs. | 3190 |
| C-320D-246-86 | 24,600 | 86, 74, 62 | 1 ¹ / ₈ " x 8" | 27" x 139 lbs. | 2090 |
| C-320D-213-86 | 21,300 | 86, 74, 62 | 1 ¹ / ₈ " x 8" | 27" x 111 lbs. | 2090 |
| C-320D-246-74 | 24,600 | 74, 64, 54 | 1 ¹ / ₈ " x 8" | 24" x 111 lbs. | 2090 |
| C-228D-185-144 | 18,500 | 144, 127, 109 | 1 ¹ / ₈ " x 8" | 27" x 130 lbs. | 2090 |
| C-228D-213-120 | 21,300 | 120, 103, 87 | 1 ¹ / ₈ " x 8" | 27" x 139 lbs. | 2090 |
| C-228D-213-100 | 21,300 | 100, 86, 72 | 1 ¹ / ₈ " x 8" | 27" x 139 lbs. | 2090 |
| C-228D-173-100 | 17,300 | 100, 86, 72 | 1 ¹ / ₈ " x 8" | 24" x 138 lbs. | 2090 |
| C-228D-246-86 | 24,600 | 86, 74, 62 | 1 ¹ / ₈ " x 8" | 24" x 138 lbs. | 2090 |
| C-228D-213-86 | 21,300 | 86, 74, 62 | 1 ¹ / ₈ " x 8" | 24" x 111 lbs. | 2090 |
| C-228D-200-74 | 20,000 | 74, 64, 54 | 1" x 8" | 24" x 111 lbs. | 2090 |
| C-228D-173-74 | 17,300 | 74, 64, 54 | 1" x 8" | 22" x 61 lbs. | 2090 |
| C-160D-173-100 | 17,300 | 100, 86, 73 | 1 ¹ / ₈ " x 8" | 24" x 111 lbs. | 1958 |
| C-160D-173-86 | 17,300 | 86, 74, 62 | 1 ¹ / ₈ " x 8" | 24" x 111 lbs. | 1958 |
| C-160D-200-74 | 20,000 | 74, 64, 54 | 1" x 8" | 22" x 61 lbs. | 1958 |
| C-160D-173-74 | 17,300 | 74, 62, 50 | 1" x 8" | 22" x 61 lbs. | 1548 |
| C-160D-143-74 | 14,300 | 74, 62, 50 | 1" x 8" | 22" x 61 lbs. | 1548 |
| C-114D-119-86 | 11,900 | 86, 72, 59 | 1 ¹ / ₈ " x 8" | 22" x 61 lbs. | 1548 |
| C-114D-143-74 | 14,300 | 74, 62, 50 | 1" x 8" | 22" x 61 lbs. | 1548 |
| C-114D-173-64 | 17,300 | 64, 54, 44 | 1" x 8" | 22" x 61 lbs. | 1548 |
| C-114D-143-64 | 14,300 | 64, 52, 40 | 1" x 8" | 18" x 44 lbs. | 1377 |



Size a well

Darco's custom-designed software program can easily determine customer size requirements by simulating actual well conditions on our computers.

Once we are given the data concerning a well, we are able to calculate the specific pumping unit best suited to meet your needs. The result is optimum performance at minimum cost.

Send us the information concerning your well and we will send you a free evaluation detailing your project requirements.

Darco U.S.A. welcomes all comments and questions regarding our pumping units. Please call or write us at our corporate headquarters.

Darco USA Inc.

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ADJUSTABLE CRANK COUNTERBALANCE DATA

All counterbalance shown in Lbs. Effective at Polished Rod with weights at maximum position, including structure unbalance.

| Unit | Stroke | Structural Unbalance | Counterbalance, Cranks Only | Effective Counterbalance Four main weights at crank position shown | | | | | | | Maximum Effective Counterbalance |
|----------------|--------|----------------------|-----------------------------|---|-------|-------|-------|-------|-------|-------|----------------------------------|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | |
| C-912D-365-192 | 192 | - 260 | 4470 | 6900 | 9400 | 12000 | 14300 | 17000 | 19400 | 22000 | 24096 |
| | 165 | | 5242 | 8100 | 11000 | 13800 | 16500 | 19300 | 21000 | 24800 | 27226 |
| | 138 | | 6290 | 9300 | 12900 | 16000 | 19400 | 22900 | 26000 | 29500 | 32165 |
| C-912D-365-168 | 168 | - 170 | 5381 | 8000 | 10700 | 13100 | 15500 | 18200 | 20700 | 23400 | 25551 |
| | 144 | | 6263 | 9300 | 12300 | 15100 | 18000 | 21000 | 24000 | 27000 | 29570 |
| | 121 | | 7238 | 11000 | 14500 | 18000 | 21400 | 24700 | 28200 | 32000 | 35048 |
| C-912D-305-168 | 168 | - 160 | 5405 | 7500 | 9600 | 11600 | 13600 | 15600 | 17800 | 19800 | 21616 |
| | 144 | | 6288 | 8700 | 11000 | 13300 | 15700 | 18200 | 20400 | 23000 | 24885 |
| | 121 | | 7480 | 10100 | 13000 | 15700 | 18800 | 21600 | 24300 | 27000 | 29321 |
| C-912D-427-144 | 144 | - 100 | 5183 | 8200 | 11300 | 14400 | 17300 | 20400 | 23400 | 26500 | 27985 |
| | 123 | | 6061 | 9700 | 13200 | 16800 | 20200 | 24000 | 27200 | 31000 | 32456 |
| | 102 | | 7280 | 11100 | 15400 | 19800 | 24000 | 28000 | 32100 | 36400 | 38664 |
| C-912D-365-144 | 144 | - 60 | 5280 | 8400 | 11400 | 14400 | 17300 | 20500 | 23400 | 26500 | 28073 |
| | 123 | | 6150 | 9900 | 13200 | 16800 | 20100 | 23800 | 27000 | 30800 | 32544 |
| | 102 | | 7370 | 11500 | 15800 | 19900 | 24000 | 28000 | 32100 | 36400 | 38792 |
| C-640D-305-192 | 192 | - 250 | 4495 | 7000 | 9600 | 12000 | 14500 | 17000 | 19500 | 22100 | 24096 |
| | 165 | | 5262 | 8000 | 11000 | 13800 | 16800 | 19500 | 22200 | 25000 | 27226 |
| | 138 | | 6312 | 9700 | 13000 | 16200 | 19800 | 23100 | 26500 | 29800 | 32165 |
| C-640D-365-168 | 168 | - 170 | 5381 | 8100 | 10800 | 13300 | 15900 | 18800 | 21300 | 24000 | 25551 |
| | 144 | | 6263 | 9300 | 12500 | 15300 | 18500 | 21700 | 24700 | 27900 | 29570 |
| | 121 | | 7238 | 11200 | 14900 | 18700 | 22100 | 26000 | 29600 | 33100 | 35048 |
| C-640D-305-168 | 168 | - 160 | 5402 | 7800 | 9800 | 11800 | 14000 | 16000 | 18100 | 20000 | 21616 |
| | 144 | | 6285 | 9000 | 11200 | 13800 | 16000 | 18800 | 21000 | 23700 | 24885 |
| | 121 | | 7260 | 10200 | 13000 | 16000 | 19000 | 22000 | 24800 | 27800 | 29321 |
| C-640D-365-144 | 144 | - 60 | 5280 | 8400 | 11800 | 14900 | 18000 | 21400 | 24600 | 27900 | 28073 |
| | 123 | | 6150 | 9800 | 13400 | 17100 | 21000 | 24700 | 28200 | 32000 | 32544 |
| | 102 | | 7370 | 11900 | 16100 | 20800 | 25000 | 29800 | 34000 | 38600 | 38752 |
| C-640D-305-144 | 144 | - 115 | 5150 | 7000 | 8800 | 10400 | 12200 | 14000 | 15700 | 17400 | 18321 |
| | 123 | | 6028 | 8400 | 10600 | 12800 | 15000 | 17100 | 19300 | 21700 | 22755 |
| | 102 | | 7247 | 10000 | 12500 | 15000 | 17800 | 20200 | 22900 | 25400 | 26883 |
| C-640D-256-144 | 144 | - 65 | 5270 | 7000 | 8800 | 10400 | 12100 | 14000 | 15700 | 17200 | 18020 |
| | 123 | | 6140 | 8200 | 10400 | 12500 | 14700 | 16700 | 18900 | 20900 | 21928 |
| | 102 | | 7360 | 9800 | 12300 | 15000 | 16500 | 20000 | 22500 | 25000 | 26245 |
| C-640D-305-120 | 120 | + 190 | 4640 | 7000 | 9200 | 11700 | 14000 | 16500 | 18900 | | 20273 |
| | 102 | | 5360 | 8000 | 11000 | 13700 | 16300 | 19000 | 21800 | | 23655 |
| | 84 | | 6374 | 9500 | 13000 | 16200 | 19700 | 23000 | 26300 | | 28573 |
| C-456D-305-168 | 168 | - 160 | 5405 | 7600 | 9800 | 11900 | 14000 | 16000 | 18200 | 20200 | 21616 |
| | 144 | | 6288 | 8700 | 11000 | 13500 | 16000 | 18500 | 20900 | 23300 | 24885 |
| | 121 | | 7480 | 10100 | 13000 | 16000 | 19000 | 21800 | 24700 | 27700 | 29321 |
| C-456D-305-144 | 144 | + 170 | 5776 | 7700 | 10000 | 12000 | 14100 | 16400 | 18500 | 20600 | 21830 |
| | 123 | | 6655 | 9100 | 11700 | 14100 | 16700 | 19200 | 21800 | 24200 | 25319 |
| | 102 | | 7874 | 10600 | 13600 | 16700 | 19700 | 23000 | 25900 | 29000 | 30161 |
| C-456D-256-144 | 144 | + 172 | 5780 | 7600 | 9600 | 11600 | 13600 | 15500 | 17400 | 19400 | 20323 |
| | 123 | | 6660 | 8800 | 11000 | 13300 | 15700 | 18000 | 20200 | 22500 | 23568 |
| | 102 | | 7878 | 10300 | 14100 | 16000 | 18700 | 21300 | 24000 | 26900 | 28068 |

NOTE: Desired counterbalance can be obtained by adjustment of counterweight at positions shown on crank.

ADJUSTABLE CRANK COUNTERBALANCE DATA

All counterbalance shown in Lbs. Effective at Polished Rod with weights at maximum position, including structure unbalance.

| Unit | Stroke | Structural Unbalance | Counterbalance, Cranks Only | Effective Counterbalance Four main weights at crank position shown | | | | | | | Maximum Effective Counterbalance |
|----------------|--------|----------------------|-----------------------------|---|-------|-------|-------|-------|-------|-------|----------------------------------|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | |
| C-456D-365-120 | 120 | + 460 | 7488 | 10400 | 13600 | 16700 | 19800 | 23000 | 26000 | 29000 | 29818 |
| | 102 | | 8540 | 12000 | 15700 | 19200 | 23000 | 26500 | 30000 | 33700 | 34391 |
| | 84 | | 10002 | 14300 | 18500 | 23000 | 27000 | 31400 | 35800 | 40000 | 40736 |
| C-456D-305-120 | 120 | + 190 | 4640 | 6900 | 9200 | 11500 | 14000 | 16200 | 18700 | | 20273 |
| | 102 | | 5360 | 8000 | 10800 | 13400 | 16000 | 19000 | 21800 | | 23656 |
| | 84 | | 6374 | 9500 | 13000 | 16000 | 19500 | 23000 | 26000 | | 28426 |
| C-456D-256-120 | 120 | + 220 | 4705 | 6300 | 8000 | 9700 | 11300 | 13000 | 14600 | | 16099 |
| | 102 | | 5426 | 7400 | 9400 | 11400 | 13300 | 15200 | 17000 | | 18699 |
| | 84 | | 6440 | 8800 | 11100 | 13500 | 16000 | 18100 | 20600 | | 22281 |
| C-456D-213-120 | 120 | + 260 | 2816 | 5000 | 7400 | 9900 | 12300 | | | | 14837 |
| | 103 | | 3162 | 6000 | 8500 | 11200 | 13700 | | | | 16368 |
| | 87 | | 3632 | 7000 | 10000 | 13100 | 16200 | | | | 19253 |
| C-456D-256-100 | 100 | + 445 | 6032 | 7800 | 9600 | 11400 | 13200 | 14800 | 16800 | | 17932 |
| | 85 | | 6892 | 9000 | 11100 | 13400 | 15300 | 17500 | 19600 | | 21010 |
| | 70 | | 8106 | 10600 | 12100 | 15400 | 18000 | 20400 | 23000 | | 24592 |
| C-320D-256-144 | 144 | - 90 | 5205 | 7000 | 9000 | 10800 | 12500 | 14200 | 16000 | 17800 | 18820 |
| | 123 | | 6085 | 8200 | 10400 | 12600 | 14600 | 16800 | 18900 | 21000 | 21928 |
| | 102 | | 7305 | 9800 | 12400 | 14900 | 17400 | 20000 | 22500 | 25000 | 26245 |
| C-320D-256-120 | 120 | + 150 | 4550 | 6300 | 8000 | 9700 | 11400 | 13100 | 14800 | | 15906 |
| | 102 | | 5275 | 7400 | 9400 | 11300 | 13400 | 15100 | 17300 | | 18545 |
| | 84 | | 6285 | 8800 | 11000 | 13400 | 15800 | 18400 | 20800 | | 22127 |
| C-320D-213-120 | 120 | + 50 | 2354 | 6300 | 8500 | 10600 | 12800 | | | | 13955 |
| | 103 | | 2700 | 7400 | 9800 | 12000 | 14200 | | | | 16087 |
| | 87 | | 3170 | 8800 | 11300 | 14000 | 16800 | | | | 18994 |
| C-320D-305-100 | 100 | + 467 | 6080 | 8900 | 11500 | 14000 | 16700 | 19200 | 22000 | | 23270 |
| | 85 | | 6940 | 10000 | 13300 | 16300 | 19400 | 22400 | 25400 | | 27058 |
| | 70 | | 8154 | 12000 | 15600 | 19200 | 23000 | 26600 | 30200 | | 32402 |
| C-320D-256-100 | 100 | + 448 | 6038 | 8300 | 10800 | 13200 | 15500 | 18000 | 20300 | | 21747 |
| | 85 | | 6900 | 9800 | 12800 | 15400 | 18100 | 21000 | 23800 | | 25287 |
| | 70 | | 8112 | 11400 | 15000 | 18200 | 21800 | 25000 | 28400 | | 30274 |
| C-320D-246-86 | 86 | + 440 | 4090 | 7000 | 10000 | 13000 | 15900 | 18700 | | | 18935 |
| | 74 | | 4572 | 8000 | 11200 | 14500 | 18000 | 21300 | | | 21704 |
| | 62 | | 5228 | 9200 | 13300 | 17400 | 21400 | 25200 | | | 25479 |
| C-320D-213-86 | 86 | + 432 | 4070 | 7000 | 10000 | 13000 | 16000 | | | | 18738 |
| | 74 | | 4552 | 8100 | 11500 | 15000 | 18500 | | | | 21478 |
| | 62 | | 5208 | 9400 | 13700 | 17800 | 22000 | | | | 25216 |
| C-320D-246-74 | 74 | + 380 | 4468 | 6600 | 9200 | 11800 | 14200 | 17000 | | | 18484 |
| | 64 | | 5016 | 7900 | 10800 | 13500 | 16300 | 19100 | | | 21127 |
| | 54 | | 5760 | 9000 | 12400 | 15800 | 19000 | 22600 | | | 24735 |
| C-228D-185-144 | 144 | - 64 | 1980 | 4000 | 6400 | 8800 | 11000 | | | | 12948 |
| | 127 | | 2308 | 5000 | 7800 | 10200 | 13000 | | | | 14966 |
| | 109 | | 2754 | 6000 | 9000 | 12000 | 15000 | | | | 17716 |
| C-228D-213-120 | 120 | + 50 | 2354 | 4800 | 7300 | 9800 | 12000 | | | | 13955 |
| | 103 | | 2700 | 5700 | 8400 | 11200 | 14000 | | | | 16087 |
| | 87 | | 3170 | 6500 | 9800 | 13000 | 16000 | | | | 18994 |

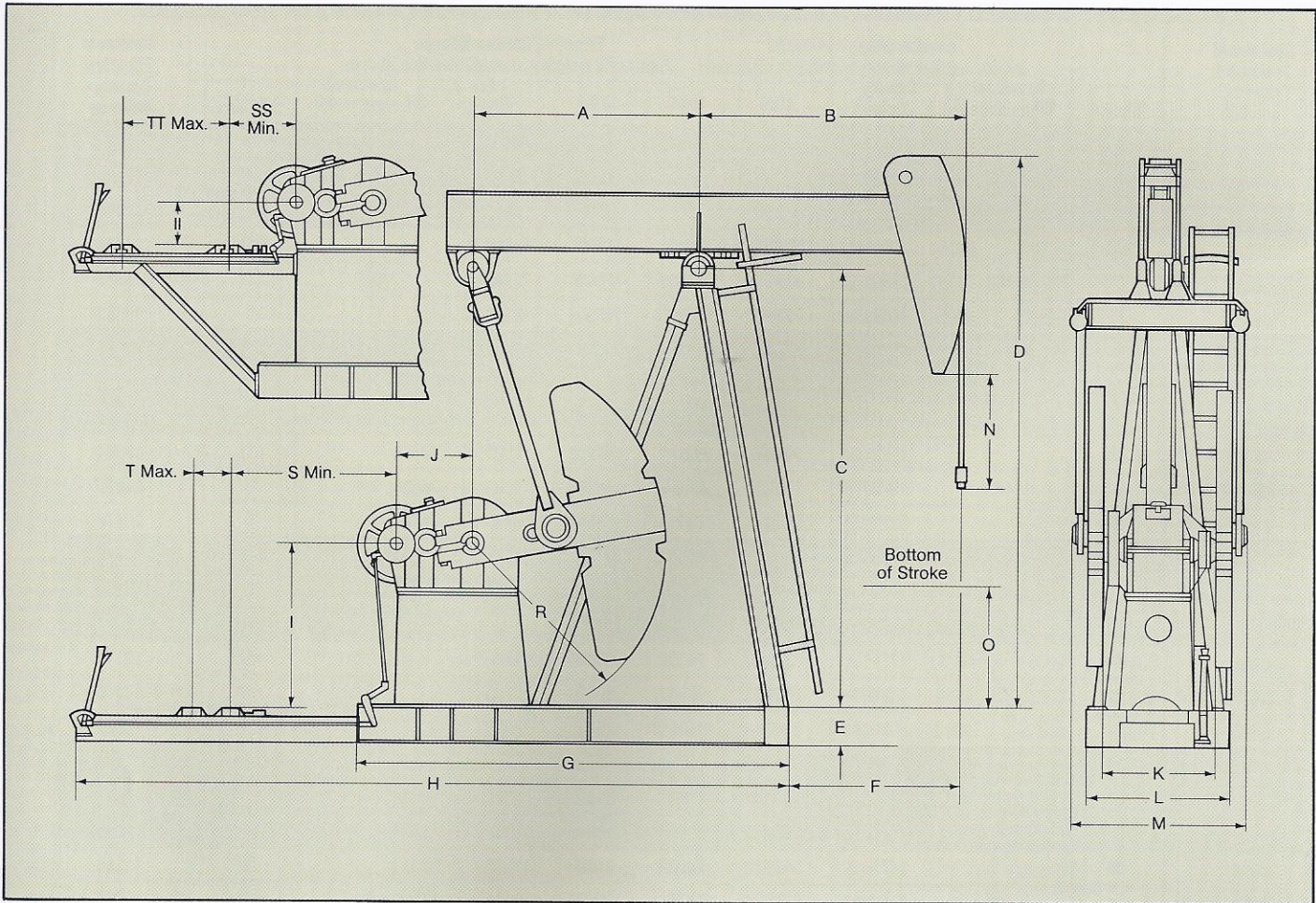
NOTE: Desired counterbalance can be obtained by adjustment of counterweight at positions shown on crank.

ADJUSTABLE CRANK COUNTERBALANCE DATA

All counterbalance shown in Lbs. Effective at Polished Rod with weights at maximum position, including structure unbalance.

| Unit | Stroke | Structural Unbalance | Counterbalance, Cranks Only | Effective Counterbalance Four main weights at crank position shown | | | | | | Maximum Effective Counterbalance |
|----------------|--------|----------------------|-----------------------------|---|-------|-------|-------|-------|----|----------------------------------|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | |
| C-228D-213-100 | 100 | + 180 | 3082 | 5800 | 8200 | 11000 | 13400 | | | 15673 |
| | 86 | | 3495 | 6600 | 9700 | 12500 | 15300 | | | 18482 |
| | 72 | | 4060 | 7700 | 11200 | 14600 | 18000 | | | 21263 |
| C-228D-173-100 | 100 | + 180 | 3082 | 5800 | 8300 | 11000 | 13700 | | | 14494 |
| | 86 | | 3490 | 6700 | 9700 | 12800 | 15700 | | | 16670 |
| | 72 | | 4060 | 7700 | 11100 | 14900 | 18100 | | | 19633 |
| C-228D-246-86 | 86 | + 440 | 4090 | 7200 | 10000 | 13000 | 16000 | | | 18997 |
| | 74 | | 4572 | 8100 | 11200 | 14700 | 18000 | | | 21724 |
| | 62 | | 5228 | 9300 | 13300 | 17200 | 21000 | | | 25445 |
| C-228D-213-86 | 86 | + 440 | 4090 | 6000 | 8000 | 10400 | 12600 | 14800 | | 15344 |
| | 74 | | 4572 | 7000 | 9300 | 11800 | 14000 | 16500 | | 17515 |
| | 62 | | 5228 | 8000 | 11000 | 13700 | 16400 | 19100 | | 20470 |
| C-228D-200-74 | 74 | + 520 | 4775 | 6500 | 8600 | 10700 | 12800 | 14700 | | 15815 |
| | 64 | | 5324 | 7900 | 10000 | 12800 | 15000 | 17300 | | 18031 |
| | 54 | | 6068 | 9000 | 11700 | 14200 | 17000 | 19800 | | 21034 |
| C-228D-173-74 | 74 | + 520 | 4775 | 6300 | 7900 | 9400 | 11000 | | | 12114 |
| | 64 | | 5324 | 7300 | 9000 | 11000 | 12700 | | | 14010 |
| | 54 | | 6068 | 8400 | 10500 | 12900 | 14800 | | | 16567 |
| C-160D-173-100 | 100 | + 110 | 2900 | 4500 | 6500 | 8200 | 10000 | 12000 | | 13764 |
| | 86 | | 3300 | 5400 | 7700 | 9800 | 12000 | 14000 | | 15803 |
| | 73 | | 3840 | 6400 | 9000 | 11400 | 14000 | 16200 | | 18566 |
| C-160D-173-86 | 86 | + 190 | 3477 | 5400 | 7300 | 9100 | 11000 | 13000 | | 14153 |
| | 74 | | 3936 | 6100 | 8100 | 10000 | 12000 | 14000 | | 15763 |
| | 62 | | 4556 | 7000 | 9300 | 11700 | 14000 | 16300 | | 18397 |
| C-160D-200-74 | 74 | + 580 | 4870 | 6600 | 8700 | 10700 | 12700 | 14600 | | 16137 |
| | 64 | | 5414 | 7800 | 10200 | 12500 | 14800 | 17300 | | 19257 |
| | 54 | | 6114 | 8900 | 11500 | 14200 | 17000 | 19700 | | 22046 |
| C-160D-173-74 | 74 | + 450 | 3515 | 5200 | 7200 | 9000 | 10800 | | | 12525 |
| | 62 | | 3980 | 6100 | 8200 | 10400 | 12700 | | | 14645 |
| | 50 | | 4652 | 7200 | 9800 | 12400 | 15000 | | | 17721 |
| C-160D-143-74 | 74 | + 450 | 3515 | 5000 | 6500 | 8000 | 9500 | | | 10904 |
| | 62 | | 3980 | 6000 | 7700 | 9300 | 11000 | | | 12726 |
| | 50 | | 4652 | 7000 | 9200 | 11400 | 13500 | | | 15368 |
| C-114D-119-86 | 86 | + 130 | 2466 | 4000 | 5500 | 7100 | 8700 | | | 10259 |
| | 72 | | 2868 | 4800 | 6700 | 8500 | 10400 | | | 12093 |
| | 59 | | 3460 | 5900 | 8000 | 10300 | 12500 | | | 14673 |
| C-114D-143-74 | 74 | + 290 | 3162 | 4900 | 6400 | 7900 | 9200 | | | 10550 |
| | 62 | | 3628 | 5900 | 7500 | 9100 | 10800 | | | 12375 |
| | 50 | | 4300 | 7000 | 9000 | 11000 | 13000 | | | 15016 |
| C-114D-173-64 | 64 | + 470 | 3920 | 5500 | 7100 | 9000 | 10800 | | | 12364 |
| | 54 | | 4450 | 6600 | 8700 | 10700 | 12700 | | | 14446 |
| | 44 | | 5220 | 7800 | 10100 | 12700 | 15000 | | | 17465 |
| C-114D-143-64 | 64 | + 435 | 2936 | 5100 | 7800 | 10200 | | | | 11486 |
| | 52 | | 3360 | 6400 | 9300 | 12100 | | | | 13734 |
| | 40 | | 4015 | 7800 | 11400 | 15000 | | | | 17085 |

NOTE: Desired counterbalance can be obtained by adjustment of counterweight at positions shown on crank.



ADJUSTABLE CRANK PUMPING UNIT GENERAL DIMENSIONS

| Unit | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | R | II | S | T | SS | TT |
|----------------|--------|--------|---------|--------|-----|---------|---------|---------|-----|-----------------------------------|----------------------------------|-----|--------|------|------|-------|----------------------------------|------|-----|------|------|
| C-912D-365-192 | 10'-0" | 17'-2" | 20'-5" | 30'-5" | 16" | 13'-1½" | 19'-0" | 29'-5½" | 96" | 45 ⁹ / ₁₆ " | 74 ³ / ₈ " | 76" | 9'-1¾" | 13½" | 48¾" | 110" | 53¾" | 89" | 48" | 26¾" | 50½" |
| C-912D-365-168 | 10'-0" | 15'-0" | 20'-5" | 29'-6" | 16" | 11'-1" | 19'-0" | 29'-5½" | 96" | 45 ⁹ / ₁₆ " | 74 ³ / ₈ " | 76" | 9'-1¾" | 20" | 62¾" | 110" | 53¾" | 89" | 48" | 26¾" | 50½" |
| C-912D-305-168 | 10'-0" | 15'-0" | 20'-5" | 29'-6" | 16" | 11'-1" | 19'-0" | 29'-5½" | 96" | 45 ⁹ / ₁₆ " | 74 ³ / ₈ " | 76" | 9'-1¾" | 20" | 62¾" | 110" | 53¾" | 89" | 48" | 26¾" | 50½" |
| C-912D-427-144 | 10'-0" | 15'-0" | 19'-9" | 27'-9" | 16" | 11'-3½" | 19'-0" | 29'-5½" | 88" | 45 ⁹ / ₁₆ " | 74 ³ / ₈ " | 76" | 9'-0" | 31" | 69" | 102½" | 53¾" | 89" | 48" | 26¾" | 50½" |
| C-912D-365-144 | 10'-0" | 15'-0" | 19'-9" | 27'-9" | 16" | 11'-3½" | 19'-0" | 29'-5½" | 88" | 45 ⁹ / ₁₆ " | 74 ³ / ₈ " | 76" | 9'-0" | 31" | 69" | 102½" | 53¾" | 89" | 48" | 26¾" | 50½" |
| | | | | | | | | | | | | | | | | | | | | | |
| C-640D-305-192 | 10'-0" | 17'-2" | 20'-5" | 30'-5" | 16" | 13'-1½" | 18'-5" | 29'-0" | 96" | 39 ⁹ / ₁₆ " | 69¾" | 76" | 8'-7¾" | 13½" | 48¾" | 110" | 53¾" | 77¾" | 48" | 26¾" | 50½" |
| C-640D-365-168 | 10'-0" | 15'-0" | 20'-5" | 29'-6" | 16" | 11'-1" | 18'-5" | 29'-0" | 96" | 39 ⁹ / ₁₆ " | 69¾" | 76" | 8'-7¾" | 20" | 62¾" | 110" | 53¾" | 77¾" | 48" | 26¾" | 50½" |
| C-640D-305-168 | 10'-0" | 15'-0" | 20'-5" | 29'-6" | 16" | 11'-1" | 18'-5" | 29'-0" | 96" | 39 ⁹ / ₁₆ " | 69¾" | 76" | 8'-7¾" | 20" | 62¾" | 110" | 53¾" | 77¾" | 48" | 26¾" | 50½" |
| C-640D-365-144 | 10'-0" | 15'-0" | 19'-9" | 27'-9" | 16" | 11'-3½" | 18'-5" | 29'-0" | 88" | 39 ⁹ / ₁₆ " | 69¾" | 76" | 8'-6½" | 31" | 69" | 102½" | 53¾" | 77¾" | 48" | 26¾" | 50½" |
| C-640D-305-144 | 10'-0" | 15'-0" | 19'-9" | 27'-9" | 16" | 11'-3½" | 18'-5" | 29'-0" | 88" | 39 ⁹ / ₁₆ " | 69¾" | 76" | 8'-4¾" | 31" | 69" | 102½" | 53¾" | 77¾" | 48" | 26¾" | 50½" |
| C-640D-256-144 | 10'-0" | 15'-0" | 19'-9" | 27'-9" | 16" | 11'-3½" | 18'-5" | 29'-0" | 88" | 39 ⁹ / ₁₆ " | 69¾" | 76" | 8'-4¾" | 31" | 69" | 102½" | 53¾" | 77¾" | 48" | 26¾" | 50½" |
| C-640D-305-120 | 9'-0" | 12'-9" | 17'-10" | 24'-7" | 16" | 9'-3¼" | 17'-5¼" | 27'-4½" | 80" | 39 ⁹ / ₁₆ " | 69¾" | 70" | 8'-3" | 26" | 75¼" | 94½" | 51 ⁵ / ₈ " | 77¾" | 48" | 26¾" | 37¾" |

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

ADJUSTABLE CRANK PUMPING UNIT GENERAL DIMENSIONS (continued)

| Unit | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | R | II | S | T | SS | TT |
|----------------|--------|---------|---------|---------|-----|---------|---------|---------|------|------|------|------|--------|------|------|-------|------|------|------|------|------|
| C-456D-305-168 | 10'-0" | 15'-0" | 20'-5" | 29'-6" | 16" | 11'-3½" | 18'-5" | 29'-5" | 96" | 42" | 66½" | 76" | 8'-2½" | 20" | 62¾" | 110" | 53¾" | 72½" | 48" | 29½" | 50½" |
| C-456D-305-144 | 10'-0" | 15'-0" | 19'-9" | 27'-9" | 16" | 11'-3½" | 18'-5" | 29'-3¼" | 88" | 42" | 66½" | 76" | 8'-2½" | 31" | 69" | 102½" | 53¾" | 72½" | 48" | 29½" | 50½" |
| C-456D-256-144 | 10'-0" | 15'-0" | 19'-9" | 27'-9" | 14" | 11'-3½" | 18'-5" | 29'-5" | 88" | 42" | 66½" | 76" | 8'-2½" | 31" | 67½" | 102½" | 53¾" | 72½" | 48" | 29½" | 50½" |
| C-456D-365-120 | 10'-0" | 12'-8" | 19'-9" | 26'-6" | 16" | 8'-8" | 18'-5" | 29'-5" | 88" | 42" | 66½" | 76" | 8'-2½" | 54¾" | 69" | 102½" | 53¾" | 72½" | 48" | 29½" | 50½" |
| C-456D-305-120 | 9'-0" | 12'-9" | 17'-10" | 24'-7" | 16" | 9'-3¼" | 17'-5¼" | 27'-4½" | 80" | 42" | 66½" | 70" | 8'-1" | 26" | 75¼" | 94½" | 51½" | 72½" | 48" | 30" | 37¾" |
| C-456D-256-120 | 9'-0" | 12'-9" | 17'-10" | 24'-7" | 16" | 9'-3¼" | 17'-5¼" | 27'-4½" | 80" | 42" | 66½" | 70" | 8'-1" | 26" | 75¼" | 94½" | 51½" | 72½" | 48" | 30" | 37¾" |
| C-456D-213-120 | 9'-0" | 12'-9" | 17'-10" | 24'-7" | 14" | 9'-6½" | 17'-2½" | 25'-4½" | 65" | 42" | 66½" | 70" | 7'-6¼" | 26" | 73¾" | 76½" | 51½" | 72½" | 48" | 30" | 37¾" |
| C-456D-256-100 | 9'-0" | 10'-8" | 17'-10" | 23'-9" | 16" | 7'-2½" | 17'-4" | 27'-3½" | 87" | 42" | 66½" | 70" | 8'-1" | 46" | 75¾" | 94½" | 51½" | 72½" | 48" | 30" | 37¾" |
| C-320D-256-144 | 10'-0" | 15'-0" | 19'-9" | 27'-9" | 14" | 11'-3½" | 18'-5" | 28'-4½" | 87" | 37¾" | 59¾" | 75½" | 7'-5" | 31" | 67¾" | 102½" | 53¾" | 72½" | 48" | 30¼" | 34¼" |
| C-320D-256-120 | 9'-0" | 12'-9" | 17'-10" | 24'-7" | 16" | 9'-3¼" | 17'-4" | 27'-3½" | 80" | 37¾" | 59¾" | 70" | 7'-5" | 26" | 75¼" | 94½" | 52¾" | 72½" | 48" | 30¼" | 34¼" |
| C-320D-213-120 | 9'-0" | 12'-9" | 17'-10" | 24'-7" | 16" | 9'-6½" | 17'-4" | 27'-3½" | 65" | 37¾" | 59¾" | 58" | 7'-0" | 26" | 75¼" | 76½" | 52¾" | 72½" | 48" | 30¼" | 34¼" |
| C-320D-305-100 | 9'-0" | 10'-8" | 17'-10" | 23'-9" | 16" | 7'-2½" | 17'-4" | 27'-3½" | 80" | 37¾" | 59¾" | 70" | 7'-0" | 46" | 75¾" | 94½" | 52¾" | 72½" | 48" | 30¼" | 34¼" |
| C-320D-256-100 | 9'-0" | 10'-8" | 17'-10" | 23'-9" | 16" | 7'-2½" | 17'-4" | 27'-3½" | 80" | 37¾" | 59¾" | 70" | 7'-0" | 46" | 75¾" | 94½" | 52¾" | 72½" | 48" | 30¼" | 34¼" |
| C-320D-246-86 | 9'-0" | 9'-3" | 15'-0" | 20'-3" | 14" | 5'-9¾" | 17'-1½" | 25'-3½" | 65" | 37¾" | 59¾" | 58" | 7'-0" | 31¾" | 68" | 76½" | 52¾" | 60¾" | 45¾" | 30¼" | 34¼" |
| C-320D-213-86 | 9'-0" | 9'-3" | 15'-0" | 20'-3" | 14" | 5'-9¾" | 17'-1½" | 25'-3½" | 65" | 37¾" | 59¾" | 58" | 7'-0" | 31¾" | 68" | 76½" | 35¾" | 60¾" | 45¾" | 30¼" | 34¼" |
| C-320D-246-74 | 8'-0" | 8'-0" | 15'-0" | 19'-8" | 14" | 4'-7¼" | 15'-9" | 24'-1" | 65" | 37¾" | 59¾" | 58" | 7'-0" | 36" | 77" | 76½" | 35¾" | 52¾" | 45¾" | 30¼" | 34¼" |
| C-228D-185-144 | 9'-2½" | 13'-6" | 17'-9¾" | 25'-7¼" | 14" | 10'-3½" | 16'-1" | 24'-3" | 65" | 33½" | 50" | 58" | 6'-5½" | 13½" | 62¾" | 76½" | 52¾" | 52¾" | 45¾" | 27½" | 34¼" |
| C-228D-213-120 | 9'-2½" | 12'-8¾" | 17'-9¾" | 24'-7½" | 14" | 9'-6¼" | 16'-1" | 24'-3" | 65" | 33½" | 50" | 58" | 6'-5½" | 26" | 73¾" | 76½" | 52¾" | 52¾" | 45¾" | 27½" | 34¼" |
| C-228D-213-100 | 9'-2½" | 10'-7½" | 15'-0" | 21'-0" | 14" | 7'-4¾" | 16'-1" | 24'-3" | 65" | 33½" | 50" | 58" | 6'-5½" | 16¾" | 68" | 76½" | 35¾" | 52¾" | 45¾" | 27½" | 34¼" |
| C-228D-173-100 | 9'-2½" | 10'-7½" | 15'-0" | 21'-0" | 14" | 7'-4¾" | 16'-1" | 24'-3" | 65" | 33½" | 50" | 58" | 6'-5½" | 16¾" | 68" | 76½" | 35¾" | 52¾" | 45¾" | 27½" | 34¼" |
| C-228D-246-86 | 9'-2½" | 9'-2½" | 15'-0" | 20'-2¾" | 14" | 5'-9¾" | 16'-1" | 24'-3" | 65" | 33½" | 50" | 58" | 6'-5½" | 31¾" | 68" | 76½" | 52¾" | 52¾" | 45¾" | 27½" | 34¼" |
| C-228D-213-86 | 9'-2½" | 9'-2½" | 15'-0" | 20'-2¾" | 14" | 5'-9¾" | 16'-1" | 24'-3" | 65" | 33½" | 50" | 58" | 6'-5½" | 31¾" | 68" | 76½" | 52¾" | 52¾" | 45¾" | 27½" | 34¼" |
| C-228D-200-74 | 8'-0" | 8'-0" | 15'-0" | 19'-7¾" | 14" | 4'-7¼" | 14'-8½" | 23'-0" | 65" | 33½" | 50" | 58" | 6'-5½" | 36" | 77" | 76½" | 35¾" | 52¾" | 45¾" | 27½" | 34¼" |
| C-228D-173-74 | 8'-0" | 8'-0" | 15'-0" | 19'-5¾" | 14" | 4'-7¼" | 14'-8½" | 23'-0" | 65" | 33½" | 50" | 58" | 6'-5½" | 36" | 77" | 76½" | 35¾" | 52¾" | 45¾" | 27½" | 34¼" |
| C-160D-173-100 | 8'-0" | 10'-7½" | 15'-1¾" | 21'-6½" | 14" | 7'-7" | 15'-0" | 22'-4¾" | 68" | 29½" | 47½" | 58" | 6'-4" | 16¾" | 69½" | 78" | 38¾" | 58¼" | 43" | 26¾" | 34¼" |
| C-160D-173-86 | 8'-0" | 9'-3½" | 15'-1¾" | 20'-5" | 14" | 7'-1¼" | 14'-2½" | 21'-6½" | 68" | 29½" | 47½" | 58" | 6'-4" | 31¾" | 69½" | 78" | 38¾" | 58¼" | 43" | 26¾" | 34¼" |
| C-160D-200-74 | 8'-0" | 8'-0" | 15'-1¾" | 20'-0" | 14" | 5'-7¾" | 14'-2½" | 21'-6½" | 68" | 29½" | 47½" | 58" | 6'-4" | 36" | 78¾" | 78" | 38¾" | 58¼" | 43" | 26¾" | 34¼" |
| C-160D-173-74 | 7'-0" | 8'-0" | 12'-8¼" | 17'-5¾" | 14" | 5'-3" | 12'-6" | 19'-9¾" | 56¾" | 29½" | 47¾" | 58" | 6'-2" | 21¼" | 65" | 68" | 29" | 48" | 43" | 26¾" | 34¼" |
| C-160D-143-74 | 7'-0" | 8'-0" | 12'-8¼" | 17'-5¾" | 14" | 5'-3" | 12'-6" | 19'-9¾" | 56¾" | 29½" | 47¾" | 58" | 6'-2" | 21¼" | 65" | 68" | 29" | 48" | 43" | 26¾" | 34¼" |
| C-114D-119-86 | 7'-0" | 9'-2½" | 12'-8¼" | 18'-0" | 12" | 6'-5½" | 12'-6" | 19'-9¾" | 56¾" | 25½" | 43¼" | 51" | 6'-1" | 16¾" | 54" | 68" | 29" | 48" | 43" | 23" | 34¼" |
| C-114D-143-74 | 7'-0" | 8'-0" | 12'-8¼" | 17'-5¾" | 12" | 5'-3" | 12'-6" | 19'-9¾" | 56¾" | 25½" | 43¼" | 51" | 6'-1" | 21¼" | 62½" | 68" | 29" | 48" | 43" | 23" | 34¼" |
| C-114D-173-64 | 7'-0" | 7'-0" | 12'-8¼" | 17'-2½" | 12" | 4'-3" | 12'-6" | 19'-9¾" | 56¾" | 25½" | 43¼" | 51" | 6'-1" | 18" | 75¾" | 68" | 29" | 48" | 43" | 23" | 34¼" |
| C-114D-143-64 | 6'-0" | 7'-0" | 11'-0" | 15'-3½" | 12" | 4'-6" | 10'-8¼" | 18'-2" | 44¾" | 25½" | 43¼" | 51" | 6'-0" | 18" | 54¼" | 56" | 29" | 42" | 43" | 14" | 30" |

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



Darco USA headquarters

Darco Inc., established in 1977 and headquartered in Santa Fe Springs, California, is one of the oil industry's leading pumping unit maintenance organizations. Over the years Darco has earned a reputation for integrity and superior service by expertly meeting the multi-dimensional requirements of both major and independent oil field operators.

As Darco expands to become the worldwide marketer of a long-established line of pumping unit products, it does so with experience, commitment, and authority.

In 1985 Darco began negotiations with LS International to represent and market LS's oilfield products in the U.S.A. Based in Lanzhou, China, LS was founded in 1953, and

is China's largest and oldest manufacturer of petroleum equipment, employing some 15,000 people on an 800 acre site. Today the LS factory utilizes the industry's most modern machinery, foundries, and techniques; and its products enjoy a well-documented history of quality and performance in China as well as other countries.

Having reached a formal agreement in June of 1987, Darco U.S.A. and LS International emerged as partners dedicated to bringing Darco/LS products to new and ready markets.

Darco's experience as a respected supplier of service to the oil industry makes us uniquely qualified to choose and represent products we can stand behind with confidence.

Beginning with an in-depth evaluation of product performance, we have the in-field, on-site expertise to accurately project long term product maintenance requirements as well as the ability to contribute directly and significantly to product research and development.

In addition, and most importantly, Darco establishes and oversees all of its national service dealers thereby maintaining our high standards of excellence. We believe this continued commitment to our product after it becomes your product sets Darco apart from the competition and serves as the cornerstone for building and maintaining lasting relationships in our industry.

FIELD APPLICATION FORMULAS V BELT DRIVES

WHERE:

RPM = Revolutions Per Minute of Prime Mover

d = Pitch Diameter of Prime Mover Sheave

R = Gear Ratio of Gear Box

BL = Belt Length

CD = Center Distance—Unit Sheave to Prime Mover Sheave

BPD = Barrels Per Day

HP = Horsepower

PD = Pump Depth

S = Stroke Length of Pumping Unit

$$d = \frac{SPM \times R \times D}{RPM}$$

$$D = \frac{RPM \times d}{SPM \times R}$$

$$SPM = \frac{RPM \times d}{R \times D}$$

$$RPM = \frac{SPM \times R \times d}{d}$$

$$R = \frac{RPM \times d}{SPM \times D}$$

$$BL = 1.57 (D + d) + 2CD$$

Assume Nema D Motor
(High Torque-High Slip)

$$HP = \frac{BPD \times PD}{56,000}$$



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