



## THE MAXIMIZER

*The most versatile pumping unit in the industry*



**High quality wire  
welding insures  
structural integrity.**

The MAXIMIZER fits more well conditions and performs better under changing conditions than any other pumping unit. Its exclusive design provides performance and dependability unmatched throughout the rest of the industry.

One of the unique design features that results in greater efficiency and the most economical operation is the configuration of the crank rotation. Conventional geometry used on most other units is restricted to evenly divided crank rotation — 180° on the upstroke and 180° on the downstroke. The MAXIMIZER's design permits a full 186° of its clockwise crank rotation to the upstroke where most of the work is done. This crank rotation configuration represents the most desirable balance between the versatility of conventional geometry and the focused application of special geometry.

In addition, the pumping unit can be run in either direction and used with either steel or fiberglass rods. Its built-in versatility allows it to pump productively under changing well site conditions and wherever it may be moved.

### **Dependability**

Performance, in both domestic and international fields has consistently demonstrated the value of the MAXIMIZER's improved unique geometry. It demonstrates, too, the importance of the engineering and quality built into all the MAXIMIZER's components. Each component is the product of superior design, quality materials, and experienced manufacturing. The MAXIMIZER continually saves energy and money in all kinds of oil field conditions. It is assurance that the pumping unit that works effectively and efficiently under optimum conditions will work just as effectively when fluid levels drop or when moved to another site.

**Reliability, performance,  
versatility, economics,  
all reasons to choose  
the MAXIMIZER.**





CNO PRODUING CO.  
COSTONWOOD OILFIELD SEC 6-11  
SECTION 34-45-11W  
CARTER COUNTY OKLA.

## THE MAXIMIZER II

*The new standard of Efficiency and Productivity*



**State of the art computer aided design stations and specialized computer analysis are used to qualify design.**

The MAXIMIZER II is designed and manufactured to meet operator's needs for greater performance and higher efficiency in a readily available pumping unit. The MAXIMIZER II shares with the MAXIMIZER advantages and benefits not found in other manufacturers' pumping units.

The exclusive crank rotation design allows more rotation to the upstroke. This, combined with the most effective counter balance phasing, creates lower net torque than any other pumping unit under most well conditions. The enhanced geometry delivers more lifting with less horse power.

For the operator anxious to closely manage all the variables involved in maximizing production profitability, the savings can be substantial.

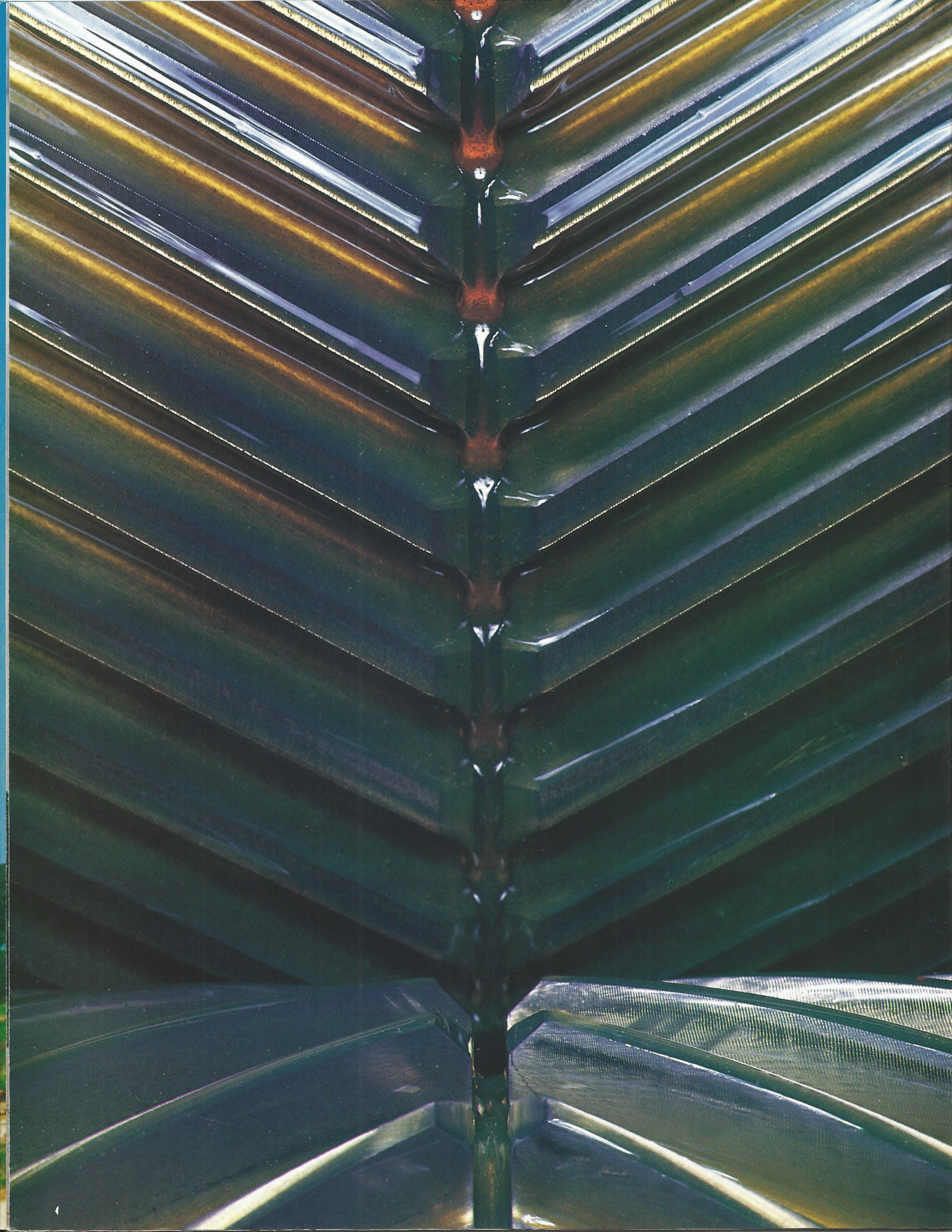
Tangible, measurable benefits of the MAXIMIZER II over the normal pushup special geometry units include:

- 25 percent larger useful load range when both are loaded with the counterbalance required to achieve maximum structure loading
- substantially lower polished rod acceleration during the critical first 40% of the upstroke
- lower power costs due to more uniform loading of the prime mover
- improved permissible load characteristics

The engineering and manufacturing experience that produces the MAXIMIZER II results in a versatile, energy effective pumping unit that maximizes production and minimizes cost.

**The MAXIMIZER II—enhanced geometry, heavier loads, reduced net torque.**





## AMERICAN MADE

### Quality Components



**Quality verification is an integral part of our manufacturing process.**

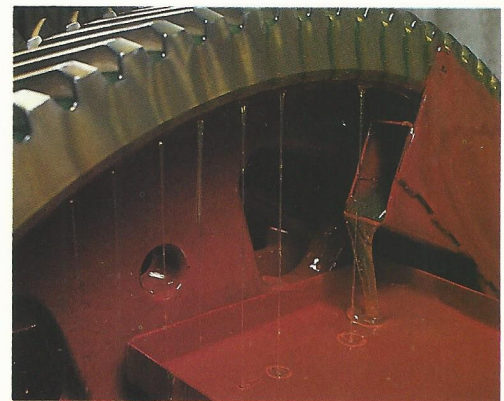
Every component of an American International pumping unit is designed and manufactured for high productivity, low cost maintenance and long oil field life. All units feature a rugged gearbox that stands up to the demands of continuous operation — far better than any other gearbox in the field. Quality controlled manufacture of all components accounts for the dependability and efficiency that has made these pumping units the standard of the industry. Unlike other manufacturers, the American International's gearbox uses a one piece gearcase which minimizes gear lubricant leakage and related environmental concern. With American International's innovative bolted crank arm attachment, the gearbox can be easily and quickly changed in the field which nearly eliminates costly down time.

Inside the American International gearbox is a precisely engineered gear train featuring tough, rugged herringbone gears. Herringbone gears designed and manufactured by American International are the standard of excellence for pumping unit gear reducers. Strong alloy steel pinions and ductile iron gears further attest to American International's commitment to quality. Machined to precise tolerances and assembled in our plant, the result is an optimum fit and a highly efficient system. The gear reducer contains oversized anti-friction bearings (not energy consuming bronze bushings). Each bearing is set in a carrier for ease of removal and installation. The American International gearbox is so smooth and energy efficient that even the largest size can be easily turned by hand.

Bearing lubrication is of utmost importance. An exclusive feature of an American International unit is its gearbox lubrication system. This unique system utilizes oil buckets to fill troughs that continuously feed oil to the gearbox bearings. An adequate supply of oil is supplied to each bearing regardless of the direction of rotation and even at pumping speeds of less than one stroke per minute.

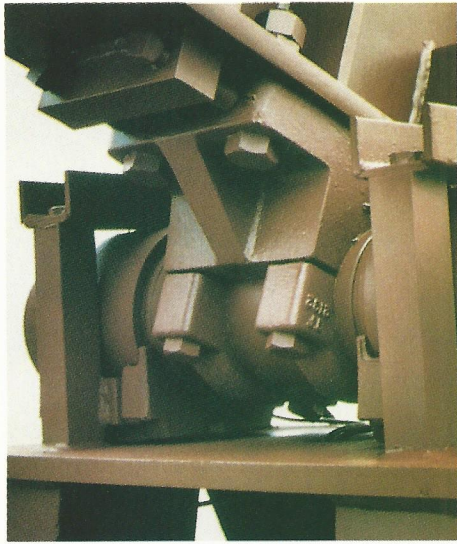
No other pumping unit performs so well under so many different oil field conditions.

**Positive, dependable lubrication with each revolution.**



## AMERICAN MADE

### High Reliability Assures Consistent Performance



**Saddle bearing has tapered roller bearings.**

#### The Springplate Equalizer

All of the MAXIMIZER units have the perfect equalizer pitman connection, with no bearings to wear out and no lubrication requirements to remember. The Springplate Equalizer's vibration-free operation equalizes pitman loads and maintains rigidity.

It is a contributing factor in American International's impressive record of dependability.

The manufacturing of every component in the MAXIMIZER and

the MAXIMIZER II is controlled by American International for American International customers. It is your assurance that the performance of your pumping unit will reflect American International's tradition of reliability.

#### Highest quality bearings

The anti-friction bearings in American International's pumping units boost drive efficiency, need little maintenance and offer longtime, durable performance. All units have oversized roller bearings, not bronze bushings.



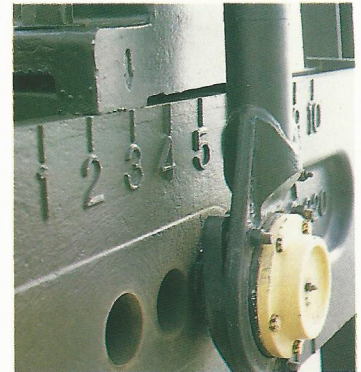
**The reliable and performance tested Bendix brake.**

Wrist pin bearings are self-aligning spherical roller bearings with a one-piece outer race that eliminates field adjustment. All units use tapered roller bearings at the saddle and equalizer bearings.

Each gearbox is equipped with a high capacity industrial brake for operations stops. The positive stop pawl can be engaged with notches in the brake drum to provide added safety.

American International maintains a full inventory of spare parts for all models.

**Wrist pins have heavy duty self aligning spherical roller bearings.**



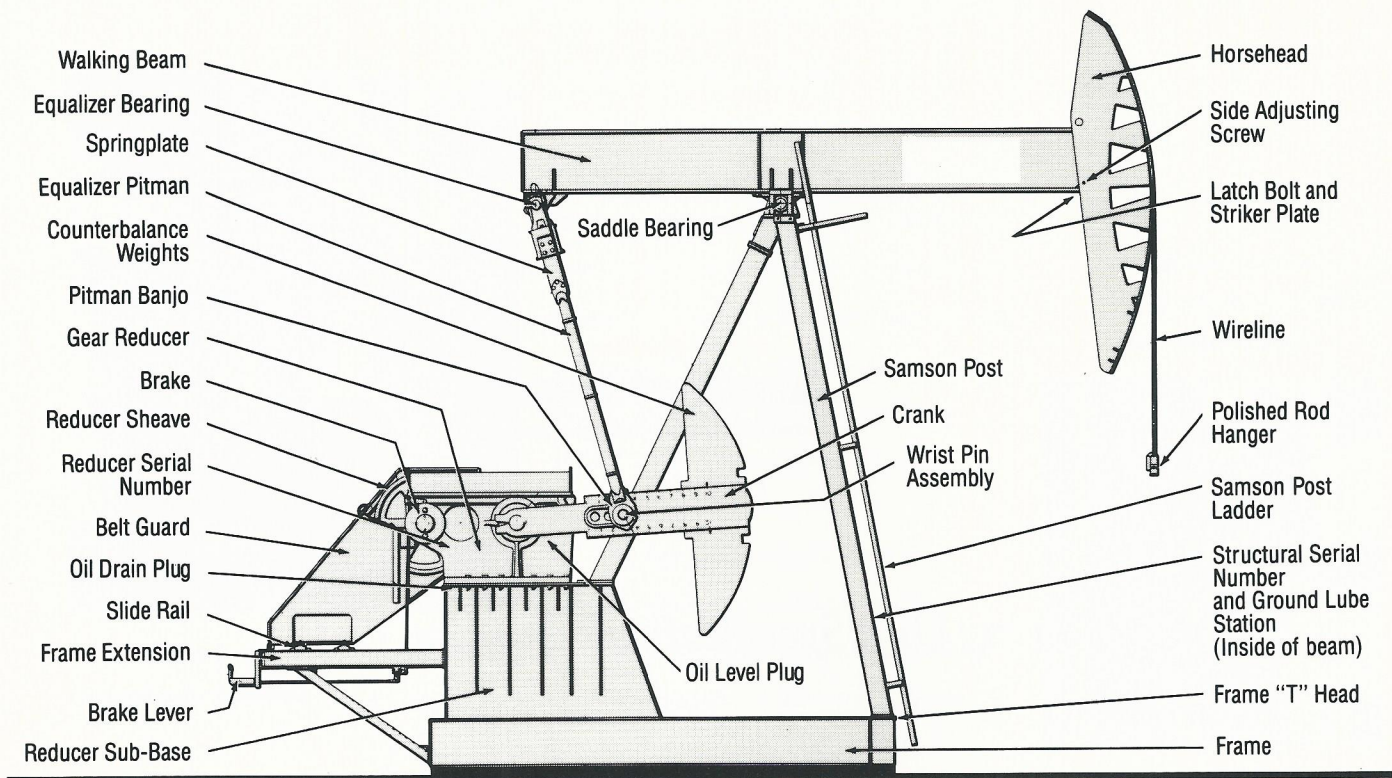
**The Springplate upper pitman connection has no moving parts to replace.**





*Dallas, Texas*

*Pumping Unit Specifications Technical Data*



### **Lubrication instructions**

The MAXIMIZER is an extremely rugged, durable pumping unit that will perform reliably for a long time. As always, proper care and lubrication assure that your unit will operate with maximum efficiency for many, trouble-free years.

Bearing assemblies and the pumping unit reducer are components that particularly should receive proper maintenance.

### **Herringbone gear reducer**

For temperatures down to 0°F, use an AGMA 5EP (ISO VG 220) premium, mild, extreme-pressure lubricant with rust and oxidation inhibitors and an anti-foam agent.

Pour point of the oil should be 5°F or lower.

For temperatures down to -30°F, use AGMA 4EP (ISO VG 150) premium, mild, extreme pressure lubricant with rust and oxidation inhibitors and an anti-foam agent.

Pour point of the oil should be -15°F or less. For low temperature operation, the oil should have sufficient fluidity to permit a free flow of oil into the bearings. Check for water in reducer every six months.

To obtain long life from a pumping unit reducer, it is necessary at all times that the oil is of suitable viscosity and free from foreign material, sludge and water.

### **Structural bearings**

The wrist pin, equalizer and saddle bearings should be lubricated with AARM-942 bearing grease. Each bearing assembly is fitted with a hydraulic grease fitting so that the lubricant can be applied with a gun. They should be greased at six-month intervals.

In some conditions, more frequent lubricating is required, depending on temperature and the condition of oil seals.



## The MAXIMIZER — pumping unit specifications

UNIT DESIGNATION	1280-365-216	1280-427-192 1280-365-192	912-305-192	1280-427-168 1280-365-168	912-365-168 640-365-168	912-305-168 640-305-168 456-305-168
STROKE LENGTH, INCHES	216, 185 1/4, 155 1/2	192, 164 3/4, 138 1/4	192, 164 1/2, 138	168, 144 1/4, 121 1/4	168, 144, 120 3/4	168, 144, 120 3/4
CRANKS	KC-117-53	KC-117-53	KB-117-53	KC-117-53	KB-117-53	KB-117-53
WIRELINE X CENTERS	1 1/4" X 42' X 16"	1 1/4" X 42' X 16"	1 1/4" X 42' X 16"	1 1/4" X 42' X 16"	1 1/4" X 40' X 16"	1 1/4" X 40' X 16"
UNIT DESIGNATION	912-427-144 912-365-144 640-365-144	640-305-144 456-305-144	640-256-144 456-256-144	456-213-144 320-213-144 228-173-144	320-119-144	456-365-120 640-365-120
STROKE LENGTH, INCHES	144, 123 1/4, 103 1/2	144, 123 1/4, 103 1/2	144, 123 1/4, 103 1/2	144, 124, 104 3/4	144, 122, 101 1/2	120, 102 3/4, 86 1/4
CRANKS	KB-117-53	KB-117-53	KB-117-53	KB-99-43	K-76-320	KB-117-53
WIRELINE X CENTERS	1 1/4" X 35' X 16"	1 1/4" X 35' X 16"	1 1/4" X 35' X 16"	1 1/4" X 35' X 16"	1" X 31' X 16"	1 1/4" X 35' X 16"
UNIT DESIGNATION	640-305-120 456-305-120	456-256-120 320-256-120	456-213-120 320-213-120 228-213-120	320-143-120	228-143-120 160-143-120	456-305-100 320-305-100
STROKE LENGTH, INCHES	120, 102 3/4, 86 1/4	120, 103 1/4, 87 1/4	120, 103 1/4, 87 1/4	120, 102, 84 1/2	120, 102, 84 1/2	100, 86, 72 3/4
CRANKS	KB-117-53	KB-99-43	KB-99-43	K-76-320	K-76-36	KB-99-43
WIRELINE X CENTERS	1 1/4" X 35' X 16"	1 1/4" X 35' X 12"	1 1/4" X 35' X 12"	1" X 30' X 12"	1" X 30' X 12"	1 1/4" X 35' X 12"
UNIT DESIGNATION	456-256-100 320-256-100	228-213-100	320-173-100	228-173-100 160-173-100	160-143-100 114-143-100	114-119-100
STROKE LENGTH, INCHES	100, 86, 72 3/4	100, 86, 72 3/4	100, 85, 70 1/2	100, 85, 70 1/2	100, 85, 70 1/2	100, 85, 70 1/2
CRANKS	KB-99-43	KB-99-43	K-76-320	K-76-36	K-76-36	K-76-36
WIRELINE X CENTERS	1 1/4" X 35' X 12"	1" X 30' X 12"	1" X 30' X 12"	1" X 30' X 12"	1" X 30' X 12"	1" X 30' X 12"
UNIT DESIGNATION	320-246-86	228-246-86	320-213-86	228-213-86	160-173-86 114-173-86	320-246-74
STROKE LENGTH, INCHES	86, 73, 60 1/2	86, 73, 60 1/2	86, 73, 60 1/2	86, 73, 60 1/2	86, 73, 60 1/2	74, 63, 52
CRANKS	K-76-320	K-76-36	K-76-320	K-76-36	K-76-36	K-76-320
WIRELINE X CENTERS	1" X 30' X 12"	1" X 30' X 12"	1" X 30' X 12"	1" X 30' X 12"	1" X 30' X 12"	1" X 30' X 12"
UNIT DESIGNATION	228-246-74	228-200-74 160-200-74	228-173-74 160-173-74 114-173-74	160-143-74 114-143-74	160-173-64	160-143-64 114-143-64
STROKE LENGTH, INCHES	74, 63, 52	74, 63, 52	74, 63, 52	74, 63, 52	64, 54 3/4, 45 1/2	64, 54 3/4, 45 1/2
CRANKS	K-76-36	K-76-36	K-76-36	K-76-36	K-76-36	K-76-36
WIRELINE X CENTERS	1" X 30' X 12"	1" X 30' X 12"	1" X 30' X 12"	1" X 30' X 12"	1" X 30' X 12"	1" X 30' X 12"

## CA — pumping unit specifications

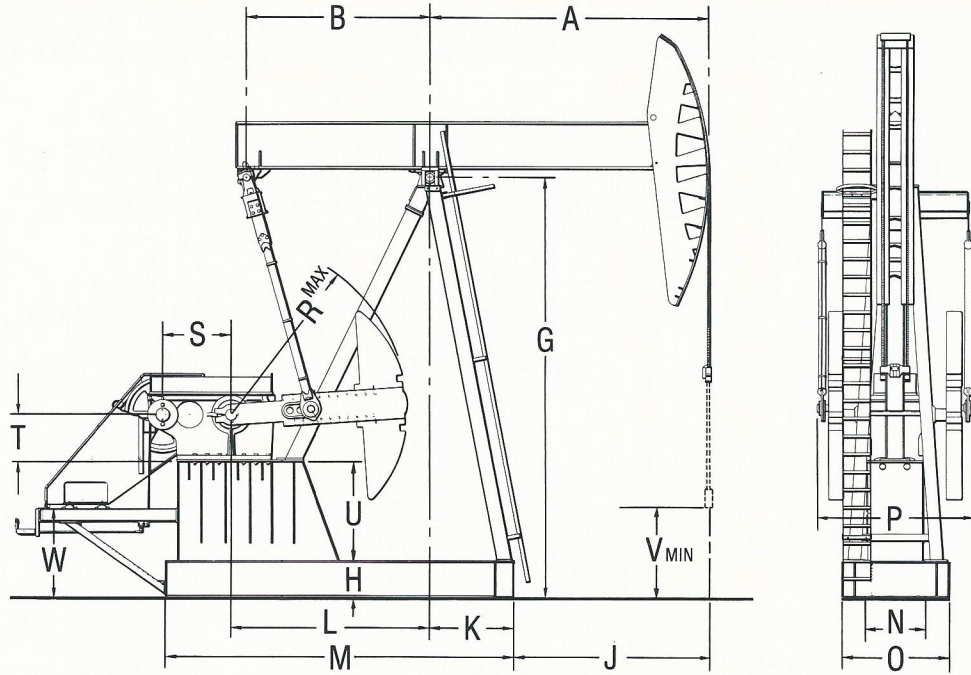
UNIT DESIGNATION	160-119-120	160-119-100 114-119-100	160-133-86 160-119-86 114-133-86 114-119-86	160-143-74 114-143-74	160-173-64 160-143-64 114-173-64 114-143-64
STROKE LENGTH, INCHES	120, 102, 84 1/2	100, 85, 70 1/2	86, 73, 60 1/2	74, 62 3/4, 52	64, 54 3/4, 45 1/2
CRANKS	KL-76-36	KL-76-36	KL-76-36	KL-76-36	KL-76-36
WIRELINE X CENTERS	1" X 27' X 12"	1" X 23' 10" X 12"	1" X 23' 10" X 12"	1" X 23' 10" X 12"	1" X 23' 10" X 12"

EXAMPLE: 912-365-168

912,000 inch pounds—Peak Torque Capacity 36,500 pounds—Polished Rod Capacity 168 inches—Maximum Polished Rod Stroke

## The MAXIMIZER — double reduction herringbone gear speed reducer data

REDUCER NUMBER	PEAK TORQUE RATING IN.-LBS.	RATIO OF GEARS	GEAR BOX OIL CAPACITY U.S. GALLONS	SHEAVE DIMENSIONS	CRANKSHAFT DIAMETER INCHES
D1280G	1,280,000	28.05	135	5" Bore 44"-10C, 50"-10C, 27"-8D, 33"-8D, 58"-8D	9
D912GA	912,000	29.25	100	4 1/4" Bore 44"-8C, 50"-8C, 27"-5D, 33"-5D, 40"-5D	7 1/4
D640GA	640,000	29.25	100	4 1/4" Bore 30"-8C, 36"-6C, 44"-6C, 50"-6C, 27"-4D, 33"-4D, 40"-4D	7 1/4
D456GA	456,000	29.78	60	3 5/8" Bore 30"-6C, 36"-6C, 44"-5C, 50"-5C, 27"-4D, 33"-4D	7 1/4
D320GA	320,000	30.32	55	3 1/2" Bore 24"-5C, 30"-5C, 36"-4C, 44"-4C, 22"-3D, 27"-3D, 33"-3D	7 1/4
D228GA	228,000	30.03	35	3 1/8" Bore 20"-4C, 24"-4C, 30"-4C, 36"-3C	6
D160GA	160,000	29.02	25	2 15/16" Bore 20"-3C, 24"-3C, 30"-3C, 36"-3C	6
D114GA	114,000	29.02	25	2 5/8" Bore 20"-3C, 24"-3C, 30"-3C, 36"-3C	6



**The MAXIMIZER — outline dimensions**

SIZE	A	B	G	H	J	K	L	M	N	O	P	R	S	T	U	V	W
1280-365-216	19'-9 3/8"	10'-1 1/2"	25'-11"	24 1/4"	15'-1 1/2"	4'-7 7/8"	11'-0"	19'-4"	4'-6"	7'-1"	9'-5 3/4"	117"	52.356"	33"	5'-3 3/4"	5'-0 3/4"	4'-10 1/8"
1280-427-192	17'-7"	"	"	"	12'-11 1/8"	"	"	"	"	"	"	"	"	"	"	7'-1 1/4"	"
1280-365-192	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
1280-427-168	15'-4 3/4"	"	"	"	10'-8 7/8"	"	"	"	"	"	"	"	"	"	"	7'-2"	"
1280-365-168	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
912-305-192	17'-7"	10'-2"	23'-2"	24 1/8"	"	"	"	"	3'-3 1/2"	5'-10 1/2"	8'-6 1/2"	"	45.750"	30"	5'-6 7/8"	4'-0"	"
912-365-168	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	4'-11"	"
912-305-168	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
912-427-144	13'-2 3/8"	"	"	"	8'-6 1/2"	"	"	"	"	"	"	"	"	"	"	7'-4 3/4"	"
912-365-144	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
640-365-168	15'-4 3/4"	"	"	"	10'-8 7/8"	"	"	"	"	"	8'-2 1/4"	"	"	"	"	4'-11"	"
640-305-168	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
640-365-144	13'-2 3/8"	"	"	"	8'-6 1/2"	"	"	"	"	"	"	"	"	"	"	7'-4 3/4"	"
640-305-144	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
640-256-144	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
640-305-120	11'-0"	"	"	"	6'-4 1/8"	"	"	"	"	"	"	"	"	"	"	7'-4 1/4"	"
456-305-168	15'-4 3/4"	"	"	"	10'-8 7/8"	"	"	"	"	"	7'-6 3/4"	"	39.933"	28"	"	4'-11"	"
456-305-144	13'-2 3/8"	"	"	"	8'-6 1/2"	"	"	"	"	"	"	"	"	"	"	7'-4 3/4"	"
456-256-144	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
456-213-144	"	8'-3 3/8"	21'-0 1/4"	21 1/4"	9'-7"	3'-7 3/8"	9'-2"	16'-0"	3'-1 3/4"	5'-8"	7'-5 1/2"	99"	"	"	4'-8"	5'-6"	4'-10"
456-365-120	11'-0"	10'-2"	23'-2"	24 1/8"	6'-4 1/8"	4'-7 7/8"	11'-0"	19'-4"	3'-3 1/2"	5'-10 1/2"	7'-6 3/4"	117"	"	"	5'-6 7/8"	7'-4 1/4"	4'-10 1/8"
456-305-120	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
456-256-120	"	8'-3 3/8"	21'-0 1/4"	21 1/4"	7'-4 5/8"	3'-7 3/8"	9'-2"	16'-0"	3'-1 3/4"	5'-8"	7'-5 1/2"	99"	"	"	4'-8"	5'-3"	4'-0"
456-213-120	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
456-305-100	9'-2"	"	"	"	5'-6 5/8"	"	"	"	"	"	"	"	"	"	"	5'-2 1/2"	"
456-256-100	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
320-213-144	13'-2 3/8"	"	"	"	9'-7"	"	"	"	"	"	7'-1 1/4"	"	35.167"	24"	"	5'-6"	"
320-119-144	"	6'-11"	17'-7"	16 1/8"	9'-9 7/8"	3'-4 1/2"	7'-6 1/8"	14'-0"	2'-9"	5'-0"	6'-8 5/8"	76"	"	"	3'-6"	4'-3 7/8"	3'-6 1/4"
320-256-120	11'-0"	8'-3 3/8"	21'-0 1/4"	21 1/4"	7'-4 5/8"	3'-7 3/8"	9'-2"	16'-0"	3'-1 3/4"	5'-8"	7'-1 1/4"	99"	"	"	4'-8"	5'-3"	4'-0"
320-213-120	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
320-143-120	"	6'-11"	17'-7"	16 1/8"	7'-7 1/2"	3'-4 1/2"	7'-6 1/8"	14'-0"	2'-9"	5'-0"	6'-8 5/8"	76"	"	"	3'-6"	4'-6 1/8"	3'-6 1/4"

### The MAXIMIZER — outline dimensions (con't.)

SIZE	A	B	G	H	J	K	L	M	N	O	P	R	S	T	U	V	W
320-305-100	9'-2"	8'-3 3/8"	21'-0 1/4"	21 1/4"	5'-6 5/8"	3'-7 3/8"	9'-2"	16'-0"	3'-1 3/4"	5'-8"	7'-1 1/4"	99"	35.167"	24"	4'-8"	5'-2 1/2"	4'-0"
320-256-100	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
320-173-100	"	6'-11"	17'-7"	16 1/8"	5'-9 1/2"	3'-4 1/2"	7'-6 1/8"	14'-0"	2'-9"	5'-0"	6'-8 5/8"	76"	"	"	3'-6"	4'-5 7/8"	3'-6 1/4"
320-246-86	7'-10 1/2"	"	"	"	4'-6"	"	"	"	"	"	"	"	"	"	"	4'-3 15/16"	"
320-213-86	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
320-246-74	6'-9 3/8"	"	"	"	3'-4 7/8"	"	"	"	"	"	"	"	"	"	"	4'-2 3/8"	"
228-173-144	13'-2 3/8"	8'-3 3/8"	21'-0 1/4"	21 1/4"	9'-7"	3'-7 3/8"	9'-2"	16'-0"	3'-1 3/4"	5'-8"	6'-6"	99"	33.312"	24"	4'-8"	5'-6"	4'-0"
228-213-120	11'-0"	"	"	"	7'-4 5/8"	"	"	"	"	"	"	"	"	"	"	5'-3"	"
228-143-120	"	6'-11"	17'-7"	16 1/8"	7'-7 1/2"	3'-4 1/2"	7'-6 1/8"	14'-0"	2'-9"	5'-0"	6'-1 3/8"	76"	"	"	3'-6"	4'-6 1/8"	3'-6 1/4"
228-213-100	9'-2"	8'-3 3/8"	21'-0 1/4"	21 1/4"	5'-6 5/8"	3'-7 3/8"	9'-2"	16'-0"	3'-1 3/4"	5'-8"	6'-6"	99"	"	"	4'-8"	5'-2 1/2"	4'-0"
228-173-100	"	6'-11"	17'-7"	16 1/8"	5'-9 1/2"	3'-4 1/2"	7'-6 1/8"	14'-0"	2'-9"	5'-0"	6'-1 3/8"	76"	"	"	3'-6"	4'-5 7/8"	3'-6 1/4"
228-246-86	7'-10 1/2"	"	"	"	4'-6"	"	"	"	"	"	"	"	"	"	"	4'-3 15/16"	"
228-213-86	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
228-246-74	6'-9 3/8"	"	"	"	3'-4 7/8"	"	"	"	"	"	"	"	"	"	"	4'-2 3/8"	"
228-200-74	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
228-173-74	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
160-143-120	11'-0"	"	"	"	7'-7 1/2"	"	"	"	"	"	5'-4 3/8"	"	30.200"	20"	"	4'-6 1/8"	"
160-173-100	9'-2"	"	"	"	5'-9 1/2"	"	"	"	"	"	"	"	"	"	"	4'-5 7/8"	"
160-143-100	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
160-173-86	7'-10 1/2"	"	"	"	4'-6"	"	"	"	"	"	"	"	"	"	"	4'-3 15/16"	"
160-200-74	6'-9 3/8"	"	"	"	3'-4 7/8"	"	"	"	"	"	"	"	"	"	"	4'-2 3/8"	"
160-173-74	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
160-143-74	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
160-173-64	"	7'-10"	"	"	"	"	"	"	"	"	"	"	"	"	"	4'-6"	"
160-143-64	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
114-143-100	9'-2"	6'-11"	"	"	5'-9 1/2"	"	"	"	"	"	"	"	"	"	"	4'-5 7/8"	"
114-119-100	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
114-173-86	7'-10 1/2"	"	"	"	4'-6"	"	"	"	"	"	"	"	"	"	"	4'-3 15/16"	"
114-173-74	6'-9 3/8"	"	"	"	3'-4 7/8"	"	"	"	"	"	"	"	"	"	"	4'-2 3/8"	"
114-143-74	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
114-143-64	"	7'-10"	"	"	"	"	"	"	"	"	"	"	"	"	"	4'-6"	"

### CA — outline dimensions

SIZE	A	B	G	H	J	K	L	M	N	O	P	R	S	T	U	V	W
160-119-120	11'-0"	6'-11"	15'-10 5/8"	15 7/8"	7'-10 1/2"	37 1/2"	7'-2"	12'-6"	32 7/8"	4'-9"	5'-4 3/8"	64 1/2"	30.2"	20"	31 3/4"	4'-2"	30 1/2"
160-119-100	9'-2"	"	13'-4 5/8"	"	6'-0 1/2"	"	"	"	"	"	"	"	"	"	"	38 3/8"	"
160-133-86	7'-10 1/2"	"	"	"	4'-9"	"	"	"	"	"	"	"	"	"	"	37 3/8"	"
160-119-86	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
160-143-74	6'-9 3/8"	"	"	"	3'-7 7/8"	"	"	"	"	"	"	"	"	"	"	36"	"
160-173-64	"	7'-10"	"	"	"	"	"	"	"	"	"	"	"	"	"	39 3/6"	"
160-143-64	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
114-119-100	9'-2"	6'-11"	"	"	6'-0 1/2"	"	"	"	"	"	"	"	"	"	"	38 3/8"	"
114-133-86	7'-10 1/2"	"	"	"	4'-9"	"	"	"	"	"	"	"	"	"	"	37 3/8"	"
114-119-86	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
114-143-74	6'-9 3/8"	"	"	"	3'-7 7/8"	"	"	"	"	"	"	"	"	"	"	36"	"
114-173-64	"	7'-10"	"	"	"	"	"	"	"	"	"	"	"	"	"	39 3/6"	"
114-143-64	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"



(Maximum Effective Counterbalance at the Polished Rod at Maximum Stroke)

**The MAXIMIZER — counterbalance data**

UNIT	1280-365-216	1280-427-192 1280-365-192	1280-427-168 1280-365-168	912-305-192	912-427-144 912-365-144	
					912-365-168 640-365-168 912-305-168 640-305-168 456-305-168	640-365-144 640-305-144 456-305-144 640-256-144 456-256-144
Crank Number	KC-117-53	KC-117-53	KC-117-53	KB-117-53	KB-117-53	KB-117-53
Cranks Only	4530	6180	8830	4460	5740	7880
4-B	—	—	—	—	7850	10330
2-B, 2-D	—	—	—	—	8220	10770
4-D	6740	8670	11670	6960	8600	11210
2-D, 2-F	7040	9010	12060	7305	8990	11660
4-F	7340	9350	12450	7650	9380	12120
2-F, 2-H	7615	9660	12805	7960	9730	12530
4-H	7890	9970	13160	8270	10090	12950
2-H, 2-J	8235	10360	13605	8665	10540	13470
4-J	8580	10750	14050	9060	10990	14000
2-J, 2-L	8870	11070	14415	9385	11360	14430
4-L	9160	11390	14780	9710	11730	14860
2-L, 2-N	9715	12015	15500	10340	12450	15700
4-N	10270	12640	16220	10970	13170	16550
2-N, 2-PJ	10475	12870	16480	11200	13430	16850
4-PJ	10680	13100	16740	11430	13700	17160
2-PJ, 2-RJ	11340	13845	17595	12180	14560	18160
4-RJ	12000	14590	18450	12930	15420	19160
2-L, 2-XJ	12810	15495	19475	13840	16450	20370
2-PJ, 2-XJ	13570	16350	20455	14700	17440	21520
2-RJ, 2-XJ	14230	17095	21310	15450	18300	22520
4-XJ	16460	19600	24170	17970	21180	25880
2-XJ, 2-YJ	19010	22470	27450	20860	24480	29730
4-YJ	21560	25340	30730	23750	27780	33580
4-ZJ	26200	30560	36660	—	—	—

UNIT	456-213-144 320-213-144	456-365-120 640-305-120 456-305-120	456-256-100 320-256-100	
			456-213-120 320-213-120 228-213-120	456-305-100 320-256-100 228-213-100
Crank Number	KB-99-43	KB-117-53	KB-99-43	KB-99-43
Cranks Only	5440	10350	7270	9400
4-B	7460	13290	9690	12300
2-B, 2-D	7820	13820	10120	12820
4-D	8180	14350	10550	13340
2-D, 2-F	8540	14980	10990	13860
4-F	8910	15440	11430	14390
2-F, 2-H	9240	15940	11820	14860
4-H	9580	16440	12220	15340
2-H, 2-J	10000	17070	12720	15940
4-J	10420	17700	13230	16550
2-J, 2-L	10760	18210	13640	17040
4-L	11100	18730	14050	17540
2-L, 2-N	11760	19740	14840	18480
4-N	12420	20750	15630	19430
2-N, 2-PJ	12750	21120	16020	19910
4-PJ	13080	21490	16420	20390
2-PJ, 2-RJ	13910	22690	17420	21580
4-RJ	14740	23890	18420	22780
2-L, 2-XJ	15550	25340	19388	23940
2-PJ, 2-XJ	16540	26720	20570	25370
2-RJ, 2-XJ	17370	27920	21570	26560
4-XJ	20000	31950	24720	30350



(Maximum Effective Counterbalance at the Polished Rod at Maximum Stroke)

**The MAXIMIZER — counterbalance data**

UNIT	320-119-144	320-143-120	228-143-120 160-143-120	228-173-100	320-173-100	320-246-86 320-213-86	228-246-86
				160-173-100 160-143-100 114-143-100 114-119-100			228-213-86 160-173-86 114-143-86
Crank Number	K-76-320	K-76-320	K-76-36	K-76-36	K-76-320	K-76-320	K-76-36
Cranks Only	1530	2620	2470	3690	3860	4760	4550
4-B	3020	4400	4250	5820	6000	7240	7040
2-B, 2-D	3270	4710	4560	6190	6370	7670	7470
4-D	3530	5020	4870	6570	6750	8110	7900
2-D, 2-F	3780	5320	5170	6930	7110	8530	8330
4-F	4040	5630	5480	7300	7480	8960	8760
2-F, 2-H	4270	5900	5750	7620	7800	9340	9140
4-H	4500	6170	6030	7950	8130	9730	9520
2-H, 2-J	4790	6520	6380	8370	8550	10210	10010
4-J	5080	6880	6730	8790	8970	10700	10500
2-J, 2-L	5310	7150	7000	9120	9300	11090	10880
4-L	5540	7430	7280	9460	9640	11480	11270
2-L, 2-N	5970	7950	7800	10080	10260	12200	11990
4-N	6410	8470	8320	10710	10890	12930	12720
2-N, 2-P	6630	8740	8590	11030	11210	13310	13100
4-P	6860	9010	8860	11350	11530	13690	13480
2-P, 2-R	7400	9660	9510	12130	12310	14590	14380
4-R	7940	10310	10160	12910	13090	15500	15290
2-R, 2-S	8740	11270	11120	14060	—	16840	16630
4-S	9550	—	12090	15220	—	18190	17980

(Maximum Effective Counterbalance at the Polished Rod at Maximum Stroke)

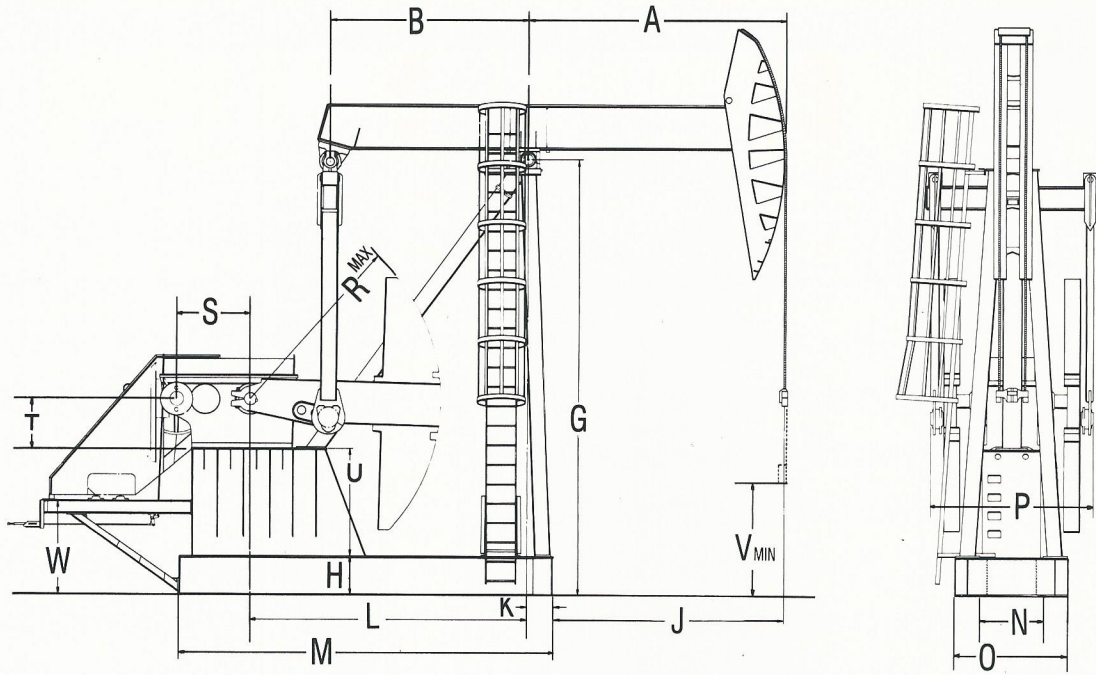
**The MAXIMIZER — counterbalance data**

UNIT	320-246-74	228-246-74	160-173-64
		228-200-74 160-200-74 228-173-74 160-173-74 114-173-74 160-143-74 114-143-74	
Crank Number	K-76-320	K-76-36	K-76-36
Cranks Only	5780	5530	6430
4-B	8660	8420	9730
2-B, 2-D	9160	8920	10310
4-D	9670	9430	10890
2-D, 2-F	10160	9920	11450
4-F	10660	10420	12020
2-F, 2-H	11100	10860	12520
4-H	11540	11300	13030
2-H, 2-J	12110	11870	13680
4-J	12680	12440	14330
2-J, 2-L	13130	12890	14840
4-L	13580	13340	15360
2-L, 2-N	14420	14180	16320
4-N	15270	15030	—
2-N, 2-P	15700	15460	—
4-P	16140	15900	—
2-P, 2-R	17190	16950	—
4-R	18250	18010	—
2-R, 2-S	—	19570	—
4-S	—	21130	—

(Maximum Effective Counterbalance at the Polished Rod at Maximum Stroke)

**CA — counterbalance data**

UNIT	160-119-120	160-119-100 114-119-100	160-133-86	160-143-74 114-143-74	160-173-64
			114-133-86 160-119-86 114-119-86		114-173-64 160-143-64 114-143-64
Crank Number	KL-76-36	KL-76-36	KL-76-36	KL-76-36	KL-76-36
Cranks Only	940	1440	2080	2670	3200
4-B	2450	3260	4210	5140	6080
2-B, 2-D	2710	3570	4570	5560	6580
4-D	2970	3890	4940	5990	7080
2-D, 2-F	3210	4190	5290	6400	7550
4-F	3460	4500	5650	6810	8020
2-F, 2-H	3680	4760	5950	7160	8440
4-H	3900	5030	6270	7520	8860
2-H, 2-J	4180	5370	6670	7990	9410
4-J	4470	5720	7070	8460	9960
2-J, 2-L	4690	5990	7380	8820	10380
4-L	4910	6260	7690	9180	10800
2-L, 2-N	5310	6750	8260	9840	11570
4-N	5720	7240	8840	10510	12350
2-N, 2-P	5930	7500	9140	10860	12760
4-P	6150	7760	9440	11220	13170
2-P, 2-R	6680	8400	10190	12090	14190
4-R	7220	9050	10950	12960	15210



**The MAXIMIZER II — outline dimensions**

SIZE	A	B	G	H	J	K	L	M	N	O	P	R	S	T	U	V	W
912-365-192	17'-7"	10'-5/8"	24'-5"	24 1/8"	168 7/8"	15 7/8"	14'-4"	19'-4"	3'-3 1/2"	5'-10 1/2"	8'-6 1/2"	117"	45.750"	30"	5'-6 7/8"	65"	4'-10 1/8"
912-427-168	15'-4 3/4"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	77"	"
912-365-168	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
912-305-168	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
912-427-144	13'-2 3/8"	"	"	"	142 1/2"	"	"	"	"	"	"	"	"	"	"	76 3/8"	"
912-365-144	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
912-305-144	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
640-365-168	15'-4 3/4"	"	"	"	168 7/8"	"	"	"	"	"	8'-2 1/4"	"	"	"	"	77"	"
640-305-168	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
640-365-144	13'-2 3/8"	"	"	"	142 1/2"	"	"	"	"	"	"	"	"	"	"	76 3/8"	"
640-305-144	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
640-256-144	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
640-305-120	11'-0"	"	"	"	116 1/8"	"	"	"	"	"	"	"	"	"	"	75 1/2"	"
456-305-144	13'-2 3/8"	"	"	"	142 1/2"	"	"	"	"	"	"	"	39.933"	28"	"	76 3/8"	"
456-256-144	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
456-365-120	11'-0"	"	"	"	116 1/8"	"	"	"	"	"	"	"	"	"	"	75 1/2"	"
456-305-120	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
456-256-120	"	"	"	"	"	"	"	"	3'-3 1/2"	5'-10 1/2"	7'-6 3/4"	117"	"	"	"	"	"

**The MAXIMIZER II — pumping unit specifications**

UNIT DESIGNATION	912-365-192	912-427-168 912-365-168 640-365-168	912-305-168 640-305-168	912-427-144 912-365-144 640-365-144	912-305-144 640-305-144	640-256-144
STROKE LENGTH, INCHES	192,159,128	168,139,112	168,139,112	144,119,96	144,119,96	144,119,96
CRANKS	P14-117-49	P9-117-49 OR P14-117-49	P9-117-49 OR P14-117-49	P9-117-49 OR P14-117-49	P9-117-49	P9-117-49
WIRELINE X CENTERS	1 1/4" X 42' X 16"	1 1/4" X 40' X 16"	1 1/4" X 40' X 16"	1 1/4" X 40' X 16"	1 1/4" X 40' X 16"	1 1/4" X 40' X 16"
UNIT DESIGNATION	456-305-144	456-256-144	640-305-120	456-365-120	456-305-120	456-256-120
STROKE LENGTH, INCHES	144,119,96	144,119,96	120,99,80	120,99,80	120,99,80	120,99,80
CRANKS	P14-117-49	P9-117-49	P9-117-49	P14-117-49	P9-117-49	P9-117-49
WIRELINE X CENTERS	1 1/4" X 40' X 16"	1 1/4" X 40' X 16"	1 1/4" X 40' X 16"	1 1/4" X 40' X 16"	1 1/4" X 40' X 16"	1 1/4" X 40' X 16"





(Maximum Effective Counterbalance at the Polished Rod at Maximum Stroke)

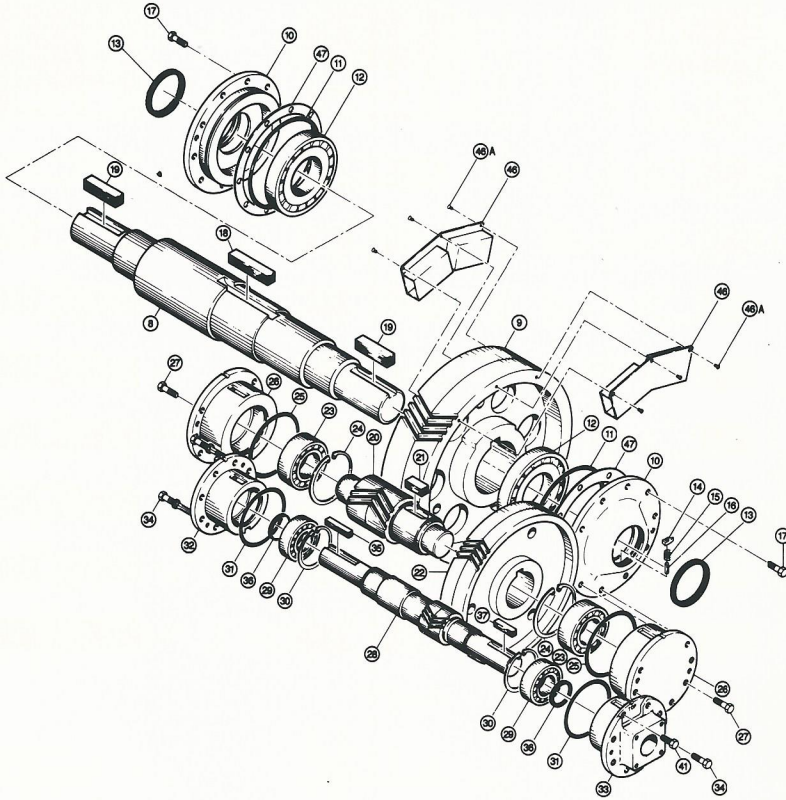
**The MAXIMIZER II — counterbalance data**

UNIT	912-365-192	912-427-168	912-365-168 912-305-168	640-365-168 640-305-168	912-365-144 912-305-144 640-305-144 640-256-144 456-256-144	640-365-144 456-305-144	640-305-120 456-305-120 456-256-120	456-365-120
					P9-117-49		P14-117-49	
Crank Number	P14-117-49	P14-117-49	P9-117-49	P14-117-49	P9-117-49	P14-117-49	P9-117-49	P14-117-49
Cranks Only	5430	6800	6290	6630	8300	8710	10560	11050
4-B	—	8950	8470	8780	10850	11210	13620	14060
2-B, 2-D	—	9340	8860	9170	11310	11660	14170	14600
4-D	7990	9730	9260	9560	11770	12120	14720	15140
2-D, 2-F	8340	10125	9660	9950	12240	12580	15280	15700
4-F	8690	10520	10070	10350	12710	13050	15850	16260
2-F, 2-H	9010	10885	10440	10710	13140	13470	16370	16770
4-H	9330	11250	10810	11080	13570	13900	16890	17280
2-H, 2-J	9730	11710	11270	11540	14110	14430	17540	17920
4-J	10130	12170	11740	12000	14660	14970	18190	18560
2-J, 2-L	10460	12550	12120	12380	15110	15410	18730	19090
4-L	10790	12930	12510	12760	15560	15850	19270	19620
2-L, 2-N	11440	13665	13260	13490	16430	16710	20320	20650
4-N	12090	14400	14010	14230	17310	17570	21370	21690
2-N, 2-PJ	12320	14670	14280	14500	17620	17880	21750	22060
4-PJ	12550	14940	14550	14770	17940	18190	22130	22430
2-PJ, 2-RJ	13315	15810	15440	15640	18970	19210	23370	23650
4-RJ	14080	16680	16330	16510	20010	20230	—	24880
2-L, 2-XJ	15015	17755	17410	17580	21280	21480	—	26370
2-PJ, 2-XJ	15895	18760	18430	18590	22470	22650	—	27780
2-RJ, 2-XJ	16660	19630	19320	19460	23500	23670	—	29000
4-XJ	19240	22580	22320	22410	27000	27110	—	33130
2-XJ, 2-YJ	22200	25955	25755	25785	—	—	—	—
4-YJ	25160	29330	29190	29160	—	—	—	—

**The MAXIMIZER II — double reduction herringbone gear speed reducer data**

REDUCER NUMBER	PEAK TORQUE RATING IN.-LBS.	RATIO OF GEARS	GEAR BOX OIL CAPACITY U.S. GALLONS	SHEAVE DIMENSIONS	CRANKSHAFT DIAMETER INCHES
D912GA	912,000	29.25	100	4 1/4" Bore 44"-8C, 50"-8C, 27"-5D, 33"-5D, 40"-5D	7 3/4
D640GA	640,000	29.25	100	4 1/4" Bore 30"-8C, 36"-6C, 44"-6C, 50"-6C, 27"-4D, 33"-4D, 40"-4D	7 3/4
D456GA	456,000	29.78	60	3 5/8 Bore 30"-6C, 36"-6C, 44"-5C, 50"-5C, 27"-4D, 33"-4D	7 3/4

## Reducer, Wrist Pin and Equalizer Bearing

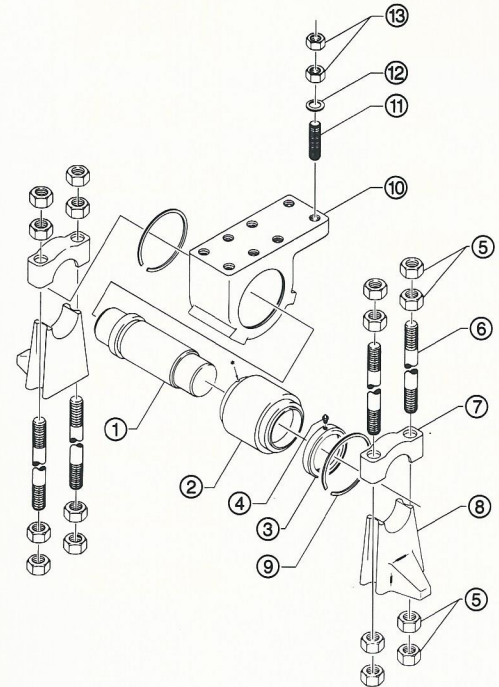
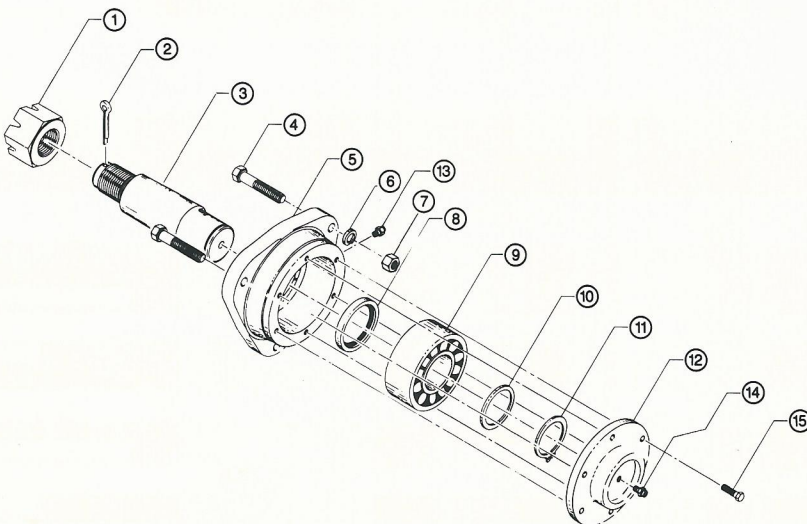


### Reducer

#### ITEM DESCRIPTION

8	L.S. SHAFT	17	BOLT	26	I.S. BRG. HSG.	35	SHEAVE KEY
9	L.S. GEAR	18	L.S. GEAR KEY	27	BOLT	36	DUST SEAL
10	L.S. BRG. HSG.	19	CRANK KEY	28	H.S. PINION	37	BRAKE DRUM KEY
11	O-RING, L.S.	20	I.S. PINION	29	H.S. BEARING	41	BOLT
12	L.S. BEARING	21	H.S. GEAR KEY	30	H.S. SNAP RING	46	OIL SCOOP
13	DUST SEAL	22	H.S. GEAR	31	O-RING, H.S.	46A	SCREW
14	WIPER	23	I.S. BEARING	32	H.S. BRG. HSG., L.H.	47	SHIM
15	SPRING	24	SNAP RING	33	H.S. BRG. HSG., R.H.		
16	PIN	25	O-RING, I.S.	34	BOLT		

### Wrist Pin



### Equalizer

#### ITEM DESCRIPTION

1	EQUALIZER PIN	8	CENTER CLAMP
2	BEARING ASSEMBLY	9	RETAINING RINGS
3	RETAINING RING	10	EQUALIZER BRG. HOUSING
4	GREASE FITTING	11	STUD
5	HEX. NUT	12	HARDENED WASHER
6	STUD BOLT	13	HEX. NUT
7	CENTER CLAMP CAP		

#### ITEM DESCRIPTION

1	WRIST PIN NUT
2	COTTER PIN
3	WRIST PIN
4	BOLT
5	BEARING HOUSING
6	LOCK WASHER
7	HEX. NUT
8	OIL SEAL
9	WRIST PIN BEARING
10	SUPPORT WASHER
11	RETAINING RING
12	BEARING HOUSING CAP
13	RELIEF FITTING
14	GREASE FITTING
15	BOLT



### **Pumping Speed Calculation Formulas**

#### **Strokes per minute**

example:

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

$$\text{SPM} = \frac{1160}{30.32} \times \frac{12}{44} = 10.4$$

#### **Prime Mover Sheave Diameter**

example:

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

$$d = \frac{10 \times 30.32 \times 44}{1160} = 11.5$$

Use nearest size available and SPM formula for estimate of pumping speed.

**Terms:** RPM = revolutions per minute of prime mover (electric motor)

R = ratio of reducer gears (see page 1, D320G)

d = pitch diameter of prime mover sheave

D = pitch diameter of reducer sheave (see page 1)

### **Instructions for ordering spare parts**

American views service as one of our primary company goals, and the delivery of spare parts is given a very high priority. Our records are maintained by the UNIT SERIAL NUMBER which is located on the samson post and REDUCER SERIAL NUMBER which is located on the gear reducer.

When ordering parts, it is essential that we have these numbers in addition to a general description of the part. The best insurance against unit downtime and parts compatibility is quality American replacement parts.

**WARNING: THE USE OF PARTS WHICH DO NOT MEET THE AMERICAN QUALITY AND DESIGN SPECIFICATIONS COULD RESULT IN UNIT FAILURE AND/OR SERIOUS INJURY TO PERSONNEL NEAR THE PUMPING UNIT. BEFORE PERFORMING MAINTENANCE OR INSPECTION ON A PUMPING UNIT, MAKE CERTAIN THAT PRIME MOVER IS OFF AND LOCKED-OUT IN ADDITION TO PREVENTING ROTATION OF CRANKS AND COUNTERWEIGHTS BY CHAINING OR BLOCKING TO PREVENT ROTATION. DO NOT USE BRAKE AS A SAFETY STOP, IT IS INTENDED ONLY FOR OPERATIONAL STOPS. ANY MOVEMENT OF THE UNIT DURING MAINTENANCE OR INSPECTION OF THE UNIT CAN CAUSE SERIOUS PERSONAL INJURY.**



4012 West Illinois Dallas, Texas 75211  
214-330-1000 800-428-7368 Fax: 214-337-3000