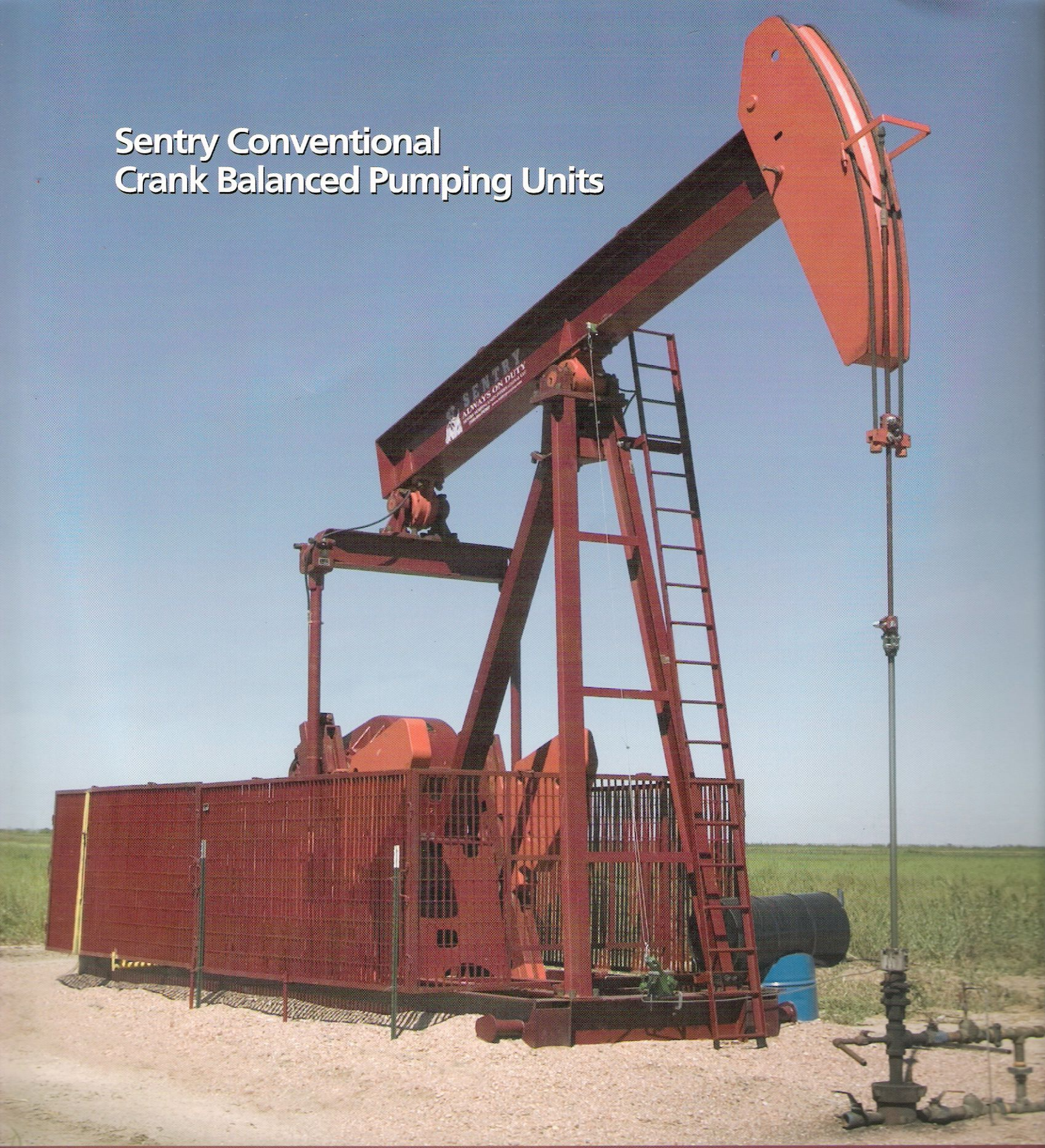
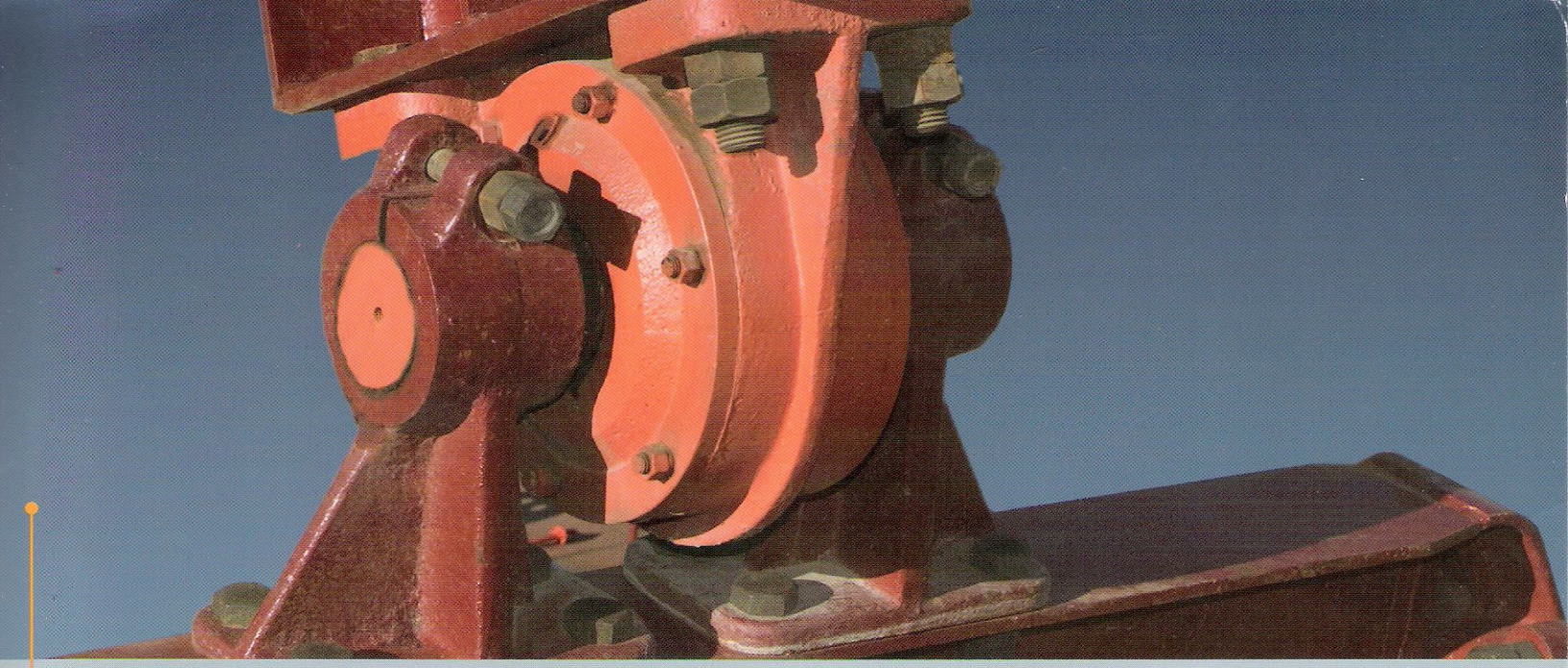
Sentry Conventional Crank Balanced Pumping Units



SENTRY®

ALWAYS ON DUTY

ISO 9002



Equalizer beam bearing assembly: Unmatched in the industry for strength and durability, the assembly features machined ductile iron castings, oversized double row, self aligning roller bearing, metal to metal seals and large lubrication reservoirs. Sentry's design ensures constant equalization of loads to the pitman arms and crank pins. Proven, easy to maintain and extremely reliable in the long term.

Pump strong. Pump sure. Pump Sentry.

For 40 years Sentry pumping units have proven themselves in the field. Rugged, dependable, engineered for long and efficient use, Sentry units are simple to operate and easy to maintain. With dozens of models and hundreds of configurations, these units adapt to widely varied and

Crank pins: Pins assemblies feature oversized self-aligning double roller bearings mounted in machined ductile iron housings. Hardened, ground tapers of extended length on the high-tensile **steel wrist pins** (A) create additional surface contact. Cast steel knockoff pin nuts are standard on all units.

Horsehead: Fitted with a robust steel casting to provide full bridle support, the horsehead is easily attached and removed for well servicing. **Brake:** Equipped with a positive-stop locking pawl, the Sentry brake ensures totally safe lockouts during inclement weather and regular maintenance. **Counterbalance weights and crank arms:** Massive crank arms utilize integral T-slots and graduated markings for fast easy attachment and positioning of counterweights. The cast rack and pinion locks the weights in place. Simply. Safely. Surely.

highly specialized production requirements. These units mean fast, painless assembly, efficiency, and economy. Then, at the heart of the matter, there's smooth, smooth performance from Sentry's Massive Double Helical, involute gear reducer that significantly exceeds all API and ISO 9002 standards. You expect and receive low-maintenance, high output capacity day to day and quiet trouble-free operation year to year.

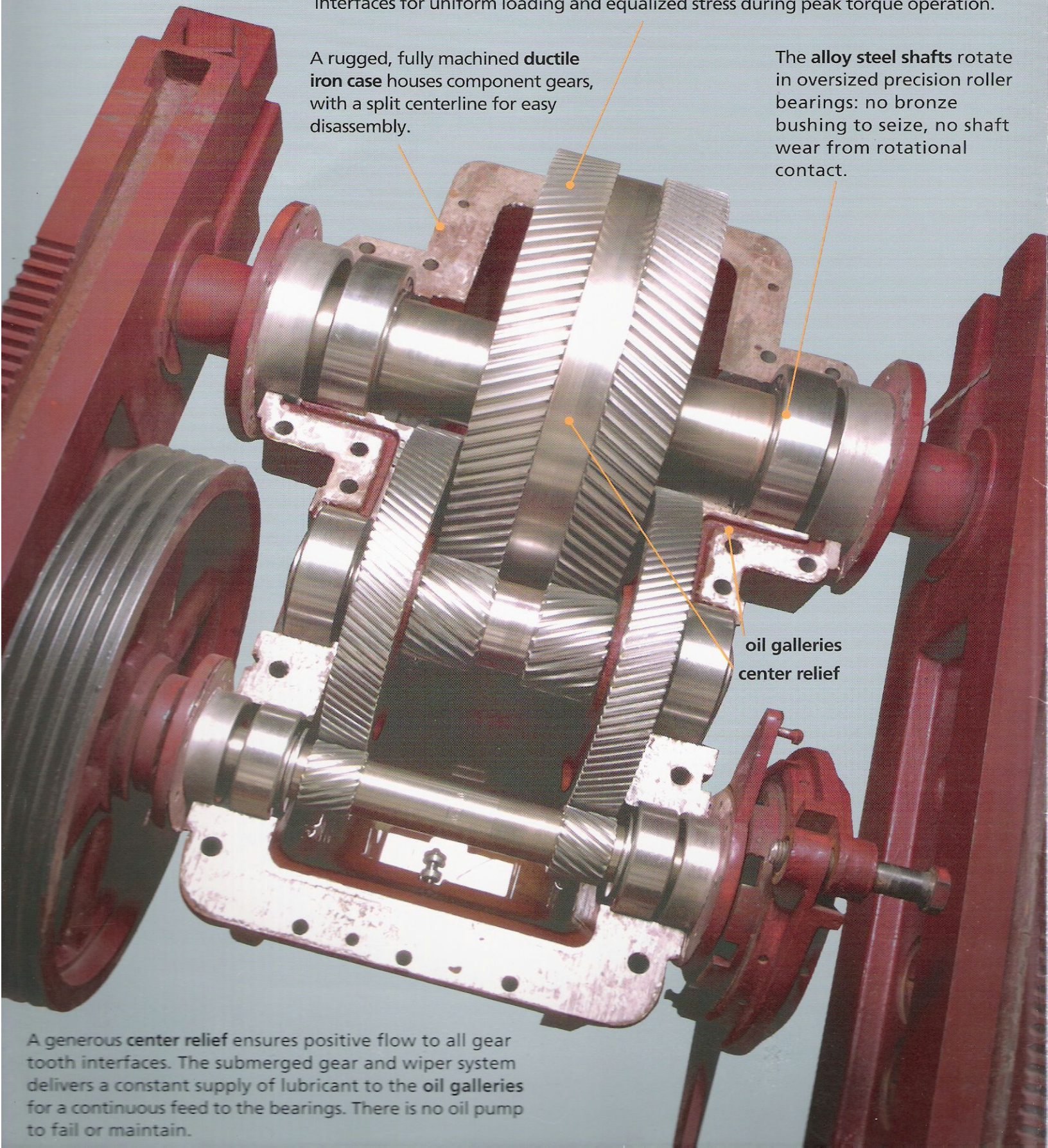
Center beam bearing assembly: Constructed of fully machined ductile iron, the casting houses over-sized self aligning roller bearings and a large lubricant reservoir, angular gussets transfer vertical and torsional stresses to the walking beam.

Gear Reducer: The Sentry gear box utilizes a combination of a ductile iron housing, and forged, high-tensile cast-steel gearing to produce a gear box that is vastly superior to the common cast and steel combinations.

All Sentry gear reducers feature precision machined high tensile, **double helical gears.** These heat-treated steel gear teeth significantly exceed the API criteria for pitting and bending stresses. This design allows extra wide gear tooth interfaces for uniform loading and equalized stress during peak torque operation.

A rugged, fully machined **ductile iron case** houses component gears, with a split centerline for easy disassembly.

The **alloy steel shafts** rotate in oversized precision roller bearings: no bronze bushing to seize, no shaft wear from rotational contact.



A generous **center relief** ensures positive flow to all gear tooth interfaces. The submerged gear and wiper system delivers a constant supply of lubricant to the **oil galleries** for a continuous feed to the bearings. There is no oil pump to fail or maintain.

MAIN SPECIFICATIONS

Model		C114 – 173 – 64		
Load Rating lbs		17, 300		
Basic Parameter	Stroke length in	64/54/40		
	Max stroke frequency r/min	12		
	Rated torque in. lbs	114, 000		
	Balanced type	Crank balanced		
	Crank direction	Counterclockwise		
Gear Reducer	Rated torque in. lbs	114, 000		
	Model	114D		
	Gear type	Divided – flow type, herringbone, involute gear reducer		
	Gear ratio	29. 818		
	Center range in	25. 59		
	Center height in	16. 93		
	Oil storage quantity U. S. gal	29		
	Lubricant	120#gear lubricant in winter 150#gear lubricant in summer		
	Big pulley diameter in	30		
	Pwuey groove type	4C		
Balance Assembly	Weight of counterweight lbs	1543 × 4		
	Weight of crank lbs	2006 × 2		
	Radius of crank in	31. 1	25. 6	19. 7
	Stroke length relevant to crank radius in	64	54	40
Wire Line	Type	6 × 19s – 26 – 180		
	Length in	228		
Structure Unbalance lbs		1060		
Overall Dimensions Length × Width × Height in		327 × 72 × 206 (Nature gas engine configured)		
Total Weight lbs		28160 (Nature gas engine configured and Ex. engine)		

MAIN SPECIFICATIONS

Model		C160 – 200 – 74		
Load Rating lbs		20, 000		
Basic Parameter	Stroke length in	74/64/53		
	Max stroke frequency r/min	12		
	Rated torque in. lbs	160, 000		
	Balanced type	Crank balanced		
	Crank direction	Counterclockwise		
Gear Reducer	Rated torque in. lbs	160, 000		
	Model	160D		
	Gear type	Divided – flow type, herringbone, involute gear reducer		
	Gear ratio	28. 506		
	Center range in	29. 53		
	Center height in	17. 72		
	Oil storage quantity U. S. gal	37		
	Lubricant	120#gear lubricant in winter 150#gear lubricant in summer		
	Big pulley diameter in	30		
	Pwuey groove type	4C		
Balance Assembly	Weight of counterweight lbs	2204 × 4		
	Weight of crank lbs	2094 × 2		
	Radius of crank in	36. 2	31. 3	26. 4
	Stroke length relevant to crank radius in	74	64	53
Wire Line	Type	6 × 37 – 28 – 170		
	Length in	274		
Structure Unbalance lbs		1070		
Overall Dimensions Length × Width × Height in		382 × 95 × 237 (Nature gas engine configured)		
Total Weight lbs		27190 (Nature gas engine configured and Ex. engine)		

MAIN SPECIFICATIONS

Model		C228 – 256 – 100		
Load Rating lbs		25, 600		
Basic Parameter	Stroke length in	100/85/70		
	Max stroke frequency r/min	12		
	Rated torque in. lbs	228, 000		
	Balanced type	Crank balanced		
	Crank rotate direction	Counterclockwise		
Gear Reducer	Rated torque in. lbs	228, 000		
	Model	228D		
	Gear type	Divided – flow type, herringbone, involute gear reducer		
	Gear ratio	28. 873		
	Center range in	33. 46		
	Center height in	19. 69		
	Oil storage quantity U. S. gal	42. 8		
	Lubricant	120#gear lubricant in winter 150#gear lubricant in summer		
	Big pulley diameter in	36		
	Pwuey groove type	4C		
Balance Assembly	Weight of counterweight lbs	2370 × 4		
	Weight of crank lbs	3196 × 2		
	Radius of crank in	41. 9	35. 8	29. 7
	Stroke length relevant to crank radius in	100	85	70
Wire Line	Type	6 × 37 – 32 – 170		
	Length in	358		
Structure Unbalance lbs		990		
Overall Dimensions Length × Width × Height in		436 × 110 × 287 (Nature gas engine configured)		
Total Weight lbs		43000 (Nature gas engine configured and Ex. engine)		

MAIN SPECIFICATIONS

Model		C320 – 305 – 120		
Load Rating lbs		30, 500		
Basic Parameter	Stroke length in	120/99/78		
	Max stroke frequency r/min	12		
	Rated torque in. lbs	320, 000		
	Balanced type	Crank balanced		
	Crank direction	Counterclockwise		
Gear Reducer	Rated torque in. lbs	320, 000		
	Model	320D		
	Gear type	Divided – flow type, herringbone, involute gear reducer		
	Gear ratio	28. 807		
	Center range in	37. 4		
	Center height in	23. 23		
	Oil storage quantity U. S. gal	75		
	Lubricant	120#gear lubricant in winter 150#gear lubricant in summer		
	Big pulley diameter in	36		
	Pwuey groove type	5C		
Balance Assembly	Weight of counterweight lbs	3527 × 4		
	Weight of crank lbs	4190 × 2		
	Radius of crank in	41. 9	34. 8	27. 8
	Stroke length relevant to crank radius in	120	99	78
Wire Line	Type	18 × 7 – 28 – 185 – I		
	Length in	335		
Structure Unbalance lbs		1025		
Fixed Type of Main Base		Press bars		
Overall Dimensions Length × Width × Height in		421 × 91 × 301 (Nature gas engine configured)		
Total Weight lbs		51260 (Nature gas engine configured and Ex. engine)		

MAIN SPECIFICATIONS

Model		C456 – 305 – 144		
Road Rating lbs		30, 500		
Basic Parameter	Stroke length in	144/123/102		
	Max stroke frequency r/min	12		
	Rated torque in. lbs	456, 000		
	Balanced type	Crank balanced		
	Crank direction	Counterclockwise		
Gear Reducer	Rated torque in. lbs	456, 000		
	Model	456D		
	Gear type	Divided – flow type, herringbone, involute gear reducer		
	Gear ratio	28. 25		
	Center range in	39. 37		
	Center height in	25. 59		
	Oil storage quantity U. S. gal	110		
	Lubricant	120#gear lubricant in winter 150#gear lubricant in summer		
	Big pulley diameter in	50		
	Pwuey groove type	6C		
Balance Assembly	Weight of counterweight lbs	3748 × 4		
	Weight of crank lbs	4420 × 2		
	Radius of crank in	46. 46	39. 96	33. 46
	Stroke length relevant to crank radius in	144	123	102
Wire Line	Type	6 × 19s – 32 – 180		
	Length in	381		
Structure Unbalance lbs		617		
Fixed Type of Main Base		Press bars		
Overall Dimensions Length × Width × Height in		445 × 106 × 329 (Nature gas engine configured)		
Total Weight lbs		58510 (Nature gas engine configured and Ex. engine)		