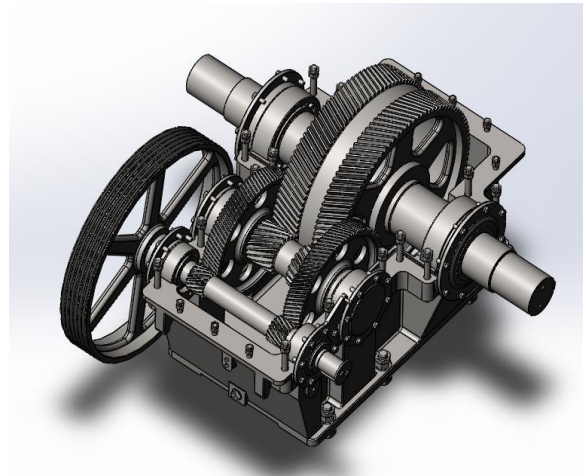


Gear Reducer

The gearbox is made of ASTM A48 C35 (Class 35) cast iron or equivalent HT250 and be made up of two pieces divided at the horizontal centerline of the shafting to permit easy field removal and replacement of all rotating elements. C35 or HT250 cast iron has better mechanical properties than C25 that is used by the competitors.

In addition the gear train is designed with dual high-speed gears and pinions insuring even distribution of load about the centerline of the gear box.

The industry' s largest shafting and bearings contribute to higher safety factors. Innovative lubrication system allows excellent lubrication throughout the operating speed range.

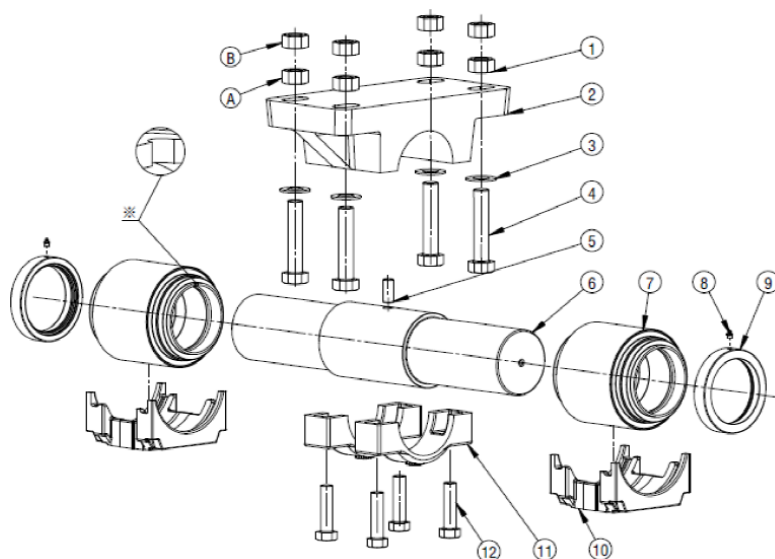


Gear Reducer Parameters

Reducer Model	Peak Torque Rating [in-lbs]	Reduction Ratio	Gear Box Oil Capacity [US Gallons]	Sheave Dimensions	Crankshaft Diameter
1824D	1,824,000	28.889	246	Bore 5 1/2", 68"/12C	9.84"
1280D	1,280,000	28.672	208	Bore 5", 58"/10C	9.84"
912D	912,000	28.79	180	Bore 4 3/8", 50"/8C	7.87"
640D	640,000	27.21	100	Bore 4 3/8", 50"/6C	7.87"
456D	456,000	28.255	100	Bore 3 5/8", 44"/5C	7.87"
320D	320,000	28.807	75	Bore 3 1/2", 44"/4C	6.89"
228D	228,000	28.873	42	Bore 3", 36"/4C	6.89"
160D	160,000	28.507	27	Bore 2 5/8", 30"/3C	5.91"
114D	114,000	29.818	25	Bore 2 1/2", 30"/3C	5.13"
80D	80,000	31.747	13	Bore 1 9/16", 25"/3B	3.54"

* The sheave diameter and number of belts could be changed as per customers requirements if the condition is allowed;

* Dimensions and parameters may change without notices.

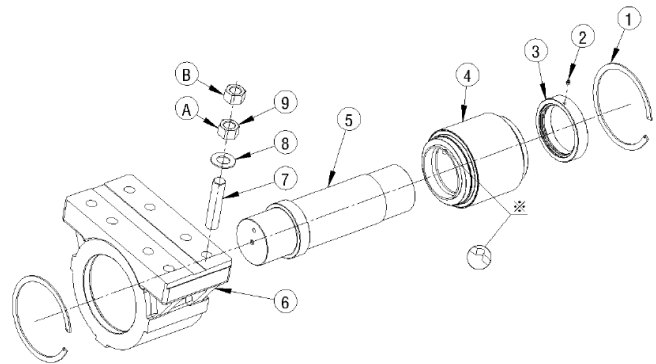


Saddle Bearing Assembly

1. Hexagon Nut
2. Trunnion
3. Wide Flat Washer
4. Hexagon Bolt
5. Trunnion Pin
6. Shaft
7. Bearing
8. Grease Fitting
9. Retainer Ring
10. Pedestal Adaptor
11. Trunnion Clamp
12. Hexagon Bolt

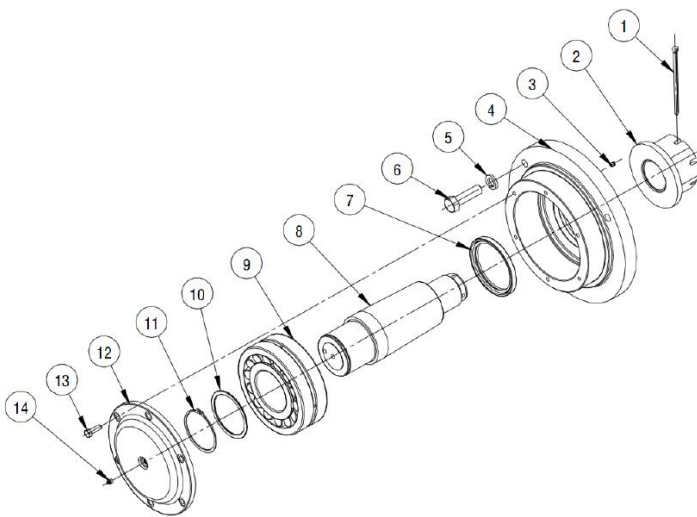
Equalizer Bearing Assembly

1. Retaining Ring
2. Grease Fitting
3. Retainer Ring
4. Bearing
5. Shaft
6. Housing
7. Double-screw Bolt
8. Hardened Flat Washer
9. Hexagon Nut



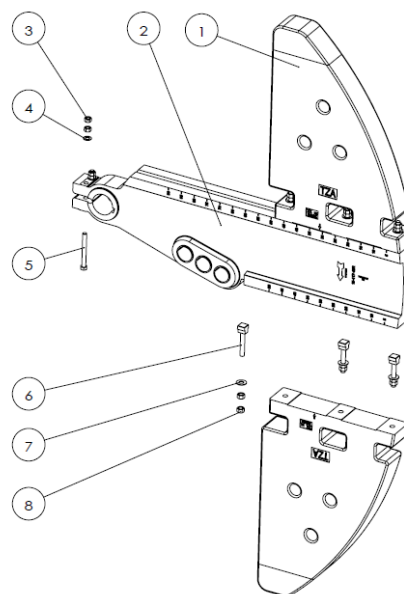
Wrist Pin Bearing Assembly

1. Cotter Pin
2. Castle Nut
3. Vent plug
4. Housing
5. Spring Washer
6. Hexagon Bolt
7. Oil Seal
8. Wrist Pin
9. Bearing
10. Support Washer
11. Retaining Ring
12. Cover Plate
13. Hexagon Bolt
14. Grease Fitting

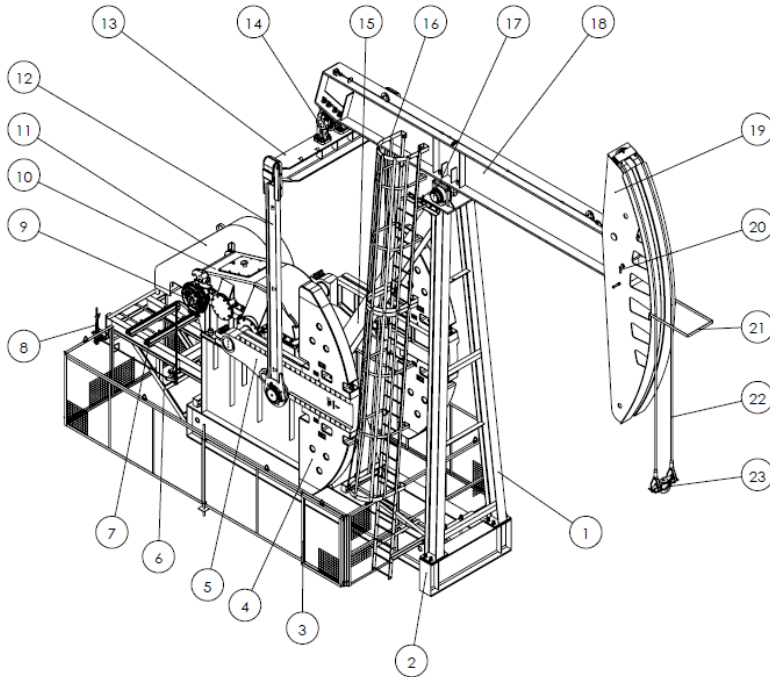


Crank Counterbalance Assembly

1. Counterweight
2. Crank
3. Hexagon Nut
4. Hardened Flat Washer
5. Hexagon Bolt
6. Counter weight Bolt
7. Wide Flat Washer
8. Hexagon Nut



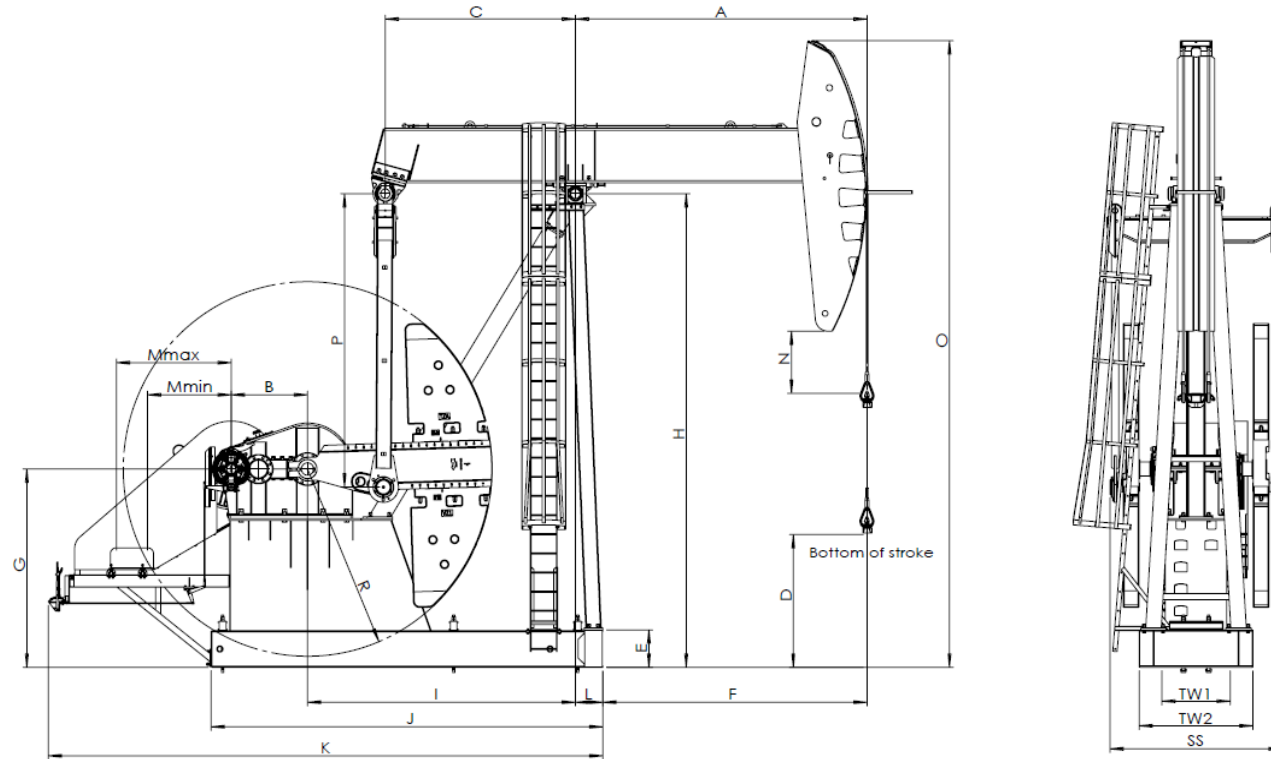
General API Specifications



1. Sampson Post Front Leg
2. Main Base
3. Crank Guards
4. Counter Weight
5. Crank
6. High-Mount Base Extension
7. Motor Base
8. Brake Handle
9. Brake Assembly
10. Gear Reducer
11. Reducer Sheave
12. Pitman Arm
13. Equalizer
14. Equalizer Bearing Assembly
15. Sampson Post Support Leg
16. Ladder
17. Saddle Bearing Assembly
18. Walking Beam
19. Horsehead
20. Flag
21. U frame
22. Wireline
23. Carrier Bar

Model	Gear Reducer Torque Rating (in-lbs)	Polished Rod Capacity (lbs)	Stroke Length (in)
EG1280-427-216	1,280,000	42,700	216,179,145
EG912-427-192	912,000	42,700	192,159,128
EG912-427-168	912,000	42,700	168,139,112
EG912-365-168	912,000	36,500	168,139,112
EG640-365-168	640,000	36,500	168,139,112
EG456-365-144	456,000	36,500	144,119,96
*PPRL and Stroke Length can be customized for certain applications			
*Other models are available			

Outline Dimensions(in)



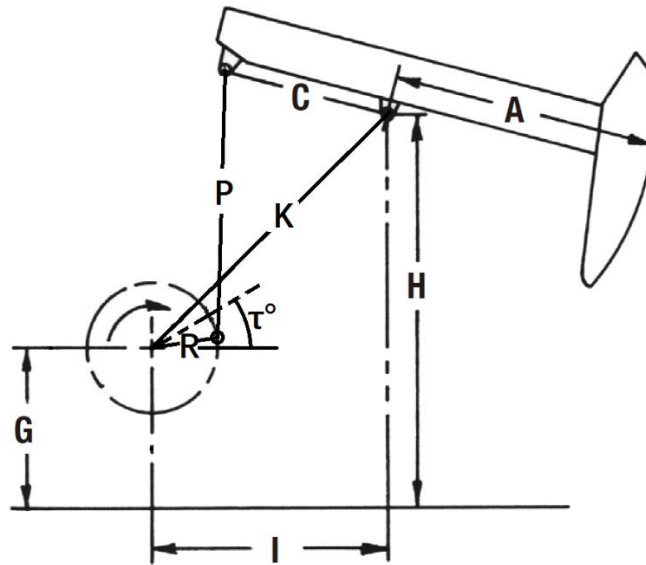
Model	A	C	G	I	P	H	B	R	N	D	L	E	F	J	K	Mmin	Mmax	TW1	TW2	SS
EG1280-427-216	211.50	120.63	129.33	171.97	208.03	325.31	56.69	125.00	26.65	66.69	19.17	27.56	192.33	261.61	357.64	50.79	74.41	47.24	81.02	125.35
EG912-427-192	211.50	120.63	123.90	172.00	187.99	299.90	48.43	117.00	29.65	63.66	15.44	23.39	196.06	248.62	352.05	53.15	72.83	43.31	72.28	109.49
EG912-427-168	185.09	120.63	123.90	170.00	183.31	295.90	48.43	117.00	28.66	84.33	17.44	23.39	167.65	248.62	352.05	53.15	72.83	43.31	72.28	109.17
EG912-365-168	185.09	120.63	123.90	170.00	183.31	295.90	48.43	117.00	28.66	84.33	17.44	23.39	167.65	248.62	352.05	53.15	72.83	43.31	72.28	109.17
EG640-365-168	185.09	120.63	121.73	170.00	184.93	295.90	41.34	117.00	28.66	84.33	17.44	23.39	167.65	241.42	344.84	50.39	70.08	43.31	72.28	105.20
EG456-365-144	158.39	120.63	121.34	170.00	185.02	295.90	39.37	117.00	51.18	87.20	17.44	23.39	140.94	239.21	342.64	50.39	70.08	43.31	72.28	106.81

* Dimensions are subject to changes without notices

Effective Counterbalance(lb)

Model	Structural Imbalance (lbs)	Crank No.	Stroke (in)	Crank Only ECB	4-A	4-B	4-C	4-E	4-H	4-J	4-F	4-L	4-O	4-S	4-ZA	4-ZG
EG1280-427-216	-2047	CR12-125-55	216	6115	9413	10779	11989	13174	15346	17087	14663	19769	23458	26438	31264	34633
			179	7505	11393	13003	14429	15827	18386	20439	17582	23601	27949	31462	37151	41122
			145	9480	14208	16165	17900	19598	22710	25206	21732	29050	34336	38608	/	/
EG912-427-192	-1550	CR15-117-49A	192	5502	8949	10378	11641	12864	15104	16893	14427	19702	23490	26530	31400	34771
			159	6723	10802	12493	13988	15435	18086	20202	17284	23527	28010	31607	37370	41360
			128	8473	13458	15524	17352	19120	22360	24947	21380	29010	34488	38885	/	/
EG912-427-168	-570	CR15-119-49	168	7448	11384	13016	14459	15855	18414	20457	17640	23665	27991	31463	37025	40875
			139	8845	13502	15433	17141	18792	21820	24237	20904	28033	33152	37260	/	/
			112	10847	16539	18899	20985	23003	26704	29657	25585	34296	40551	/	/	/
EG912-365-168	-337	CR9-117-49	168	7683	11619	13251	14694	16090	18649	20691	17875	23900	28226	31698	/	/
			139	9080	13737	15668	17376	19027	22056	24472	21140	28268	33387	/	/	/
			112	11083	16774	19134	21221	23239	26940	29892	25820	34531	/	/	/	/
EG640-365-168	-366	CR15-117-49	168	7655	11593	13225	14669	16066	18626	20669	17851	23879	28206	31680	/	/
			139	9050	13709	15640	17347	18999	22028	24445	21112	28242	33361	/	/	/
			112	11051	16742	19101	21188	23206	26906	29859	25787	34497	/	/	/	/
EG456-365-144	799	CR15-117-49	144	10174	14777	16685	18373	20005	22998	25385	22092	29137	34196	/	/	/
			119	11804	17248	19505	21501	23432	26971	29796	25901	34233	/	/	/	/
			96	14140	20791	23548	25986	28345	32669	36119	31361	/	/	/	/	/
*Designs are subject to changes without notices																

API Linkage Dimensions(in)



Model	A	C	G	I	P	H	K	R1	R2	R3	Phase Angle(τ°)
EG1280-427-216	211.50	120.63	129.33	171.97	208.03	325.31	260.74	55.63	47.38	39.13	-12.5
EG912-427-192	211.50	120.63	123.90	172.00	187.99	299.90	246.09	49.50	42.00	34.50	-15.0
EG912-427-168	185.09	120.63	123.90	170.00	183.31	295.90	241.83	49.50	42.00	34.50	-15.0
EG912-365-168	185.09	120.63	123.90	170.00	183.31	295.90	241.83	49.50	42.00	34.50	-9.5
EG640-365-168	185.09	120.63	121.73	170.00	184.93	295.90	243.38	49.50	42.00	34.50	-15.0
EG456-365-144	158.39	120.63	121.34	170.00	185.02	295.90	243.66	49.50	42.00	34.50	-15.0

* Dimensions are subject to changes without notices

Effective Counterbalance Chart

Crank Number	CBTC (2 cranks/in.-lb)
CR12-125-55	761,636
CR15-117-49A	578,947
CR15-117-49	580,578
CR9-117-49	580,708
*CBTC:Counterbalance torque of cranks (in.-lb)	

$$CBTW=[(\text{Crank No.}) - (X + G)] \times W$$

$$ECB=\frac{CBTC+CBTW}{TF} + su^*$$

SU----Structural imbalance at polish rod,from catalog (lb)

TF----Torque factor at 90° ,from catalog (in)

X----Distance of counterweights from the end of crank(in)

W----Total weight of counterweights used on two cranks (lb)

Counter Balance ID	Weight (lb)	G (in.)
A	711	13.91
B	1,010	13.36
C	1,282	13.71
E	1,590	16.73
H	2,149	19.88
J	2,621	22.32
F	1,901	15.15
L	3,201	20.21
O	4,201	23.38
S	5,066	26.14
ZA	6,597	31.08
ZG	7,750	34.23
*G:Distance of center of gravity from counterweight bottom (in).		