

Bethlehem PUMPING UNITS

ENGINEERING DATA

228 API SIZE

228,000 In. Lbs. API Peak Torque Pumping Units

GEAR REDUCER DATA

OPTIONAL ITEMS

<p>API Reducer Size 228</p> <p>API Peak Torque @ 20 SPM 228,000 in. lbs.</p> <p>Gear Ratio, Double Reduction 28.45 to 1</p> <p>Crankshaft Dia. 6"</p> <p>V-Belt Sheave - Pitch Dia. Std. 24.6" 5C or 4D Alternates 19.6" or 29.6", Max. 41"</p> <p>Diameter of Reducer Hi-Speed Shaft 2 3/8"</p> <p>Distance, Centerline Unit to Centerline Drive 15 7/8"</p> <p>Gear Reducer Oil Capacity, U. S. Gal. 34</p>	<p>Dual Zone Polished Rod Hanger</p> <p>Triple Zone Polished Rod Hanger</p> <p>Wide Main Base (Portable Type)</p> <p>Crank Guard Rails</p> <p>Power Assemblies for: Single Cylinder Engines, Hi-Speed Engines, Electric Motors— Elevated or Ground Level.</p>
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STRUCTURE DATA

API Structure Size	246-86	212-86	246-74	200-74	173-74	200-64
Unit Designation	228-246-86	228-212-86	228-246-74	228-200-74	228-173-74	228-200-64
API Structure Capacity, lbs.	24,600	21,200	24,600	20,000	17,300	20,000
Length of Strokes, in.	86, 74, 61, 48	86, 74, 62, 51	74, 64, 54, 44	74, 64, 54, 44	74, 62, 51, 39	64, 54, 44, 34
Walking Beam Size	24" @ 120#	24" @ 100#	24" @ 100#	24" @ 94#	24" @ 84#	24" @ 84#
Saddle Bearing Type	Bushing Type, Factory Lubricated					
Projected Area, sq. in.	125	97.5	97.5	97.5	75	75
Tail Bearing Type	Bronze Bushed, Factory Lubricated					
Projected Area, sq. in.	48	48	48	37	37	37
Wrist Pin Bearing - Type	Spherical Roller Bearing, Factory Lubricated. Tapered Pin, Removed Hydraulically.					
Size	3SL	3SL	3SL	3SL	3SL	3SL
Pitman Size, Pipe O. D.	4" Std.	4" Std.	4" Std.	4" Std.	4" Std.	4" Std.
Wireline Hanger	1 1/8" x 29'-0"	1" x 23'-0"	1" x 22'-0"	1" x 22'-0"	1" x 20'-6"	1" x 19'-0"
Cranks	8495B	7478B	7478B	7478B	6468B	6468B
Structure Unbalance, lbs.	950	500	900	700	400	700

COUNTERBALANCE DATA

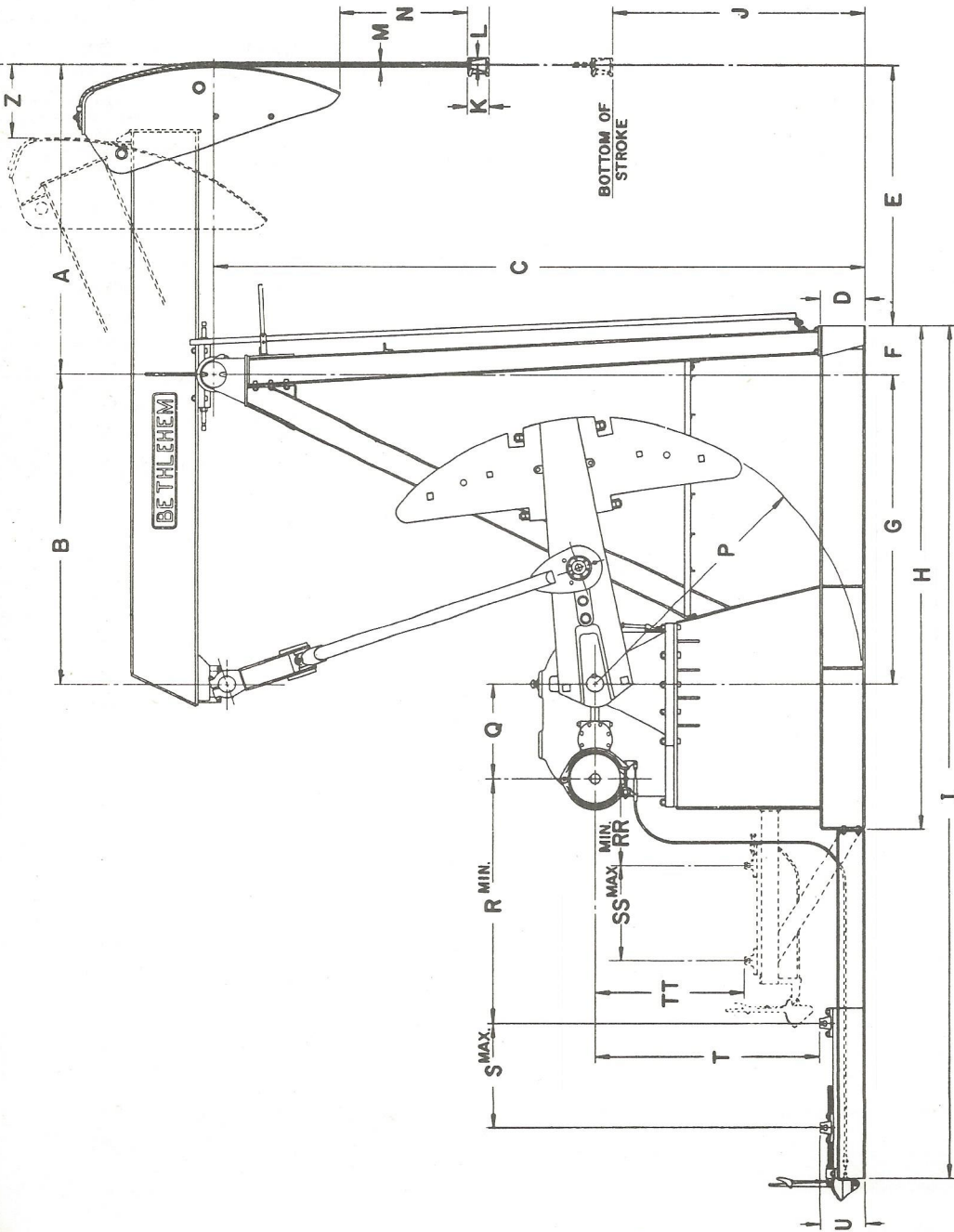
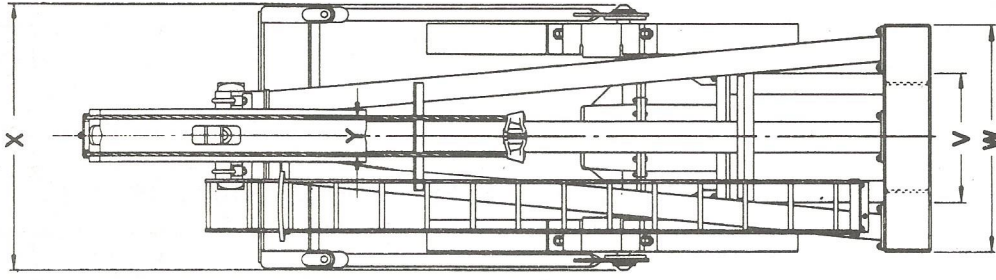
Pounds of effective Counterbalance at Polished Rod at Maximum Stroke, Includes Structure Unbalance.

Cranks Only	8,680	4,780	5,850	5,650	3,970	4,780
4 No. 78 Main Weights	14,560	9,350	11,140		8,110	
4 No. 78 Filler Weights	17,530	11,660	13,810		10,190	
8 No. 78 Filler Weights	20,500	13,960	16,470		12,270	
12 No. 78 Filler Weights	23,460	16,270	19,140		14,350	
14 No. 78 Filler Weights		17,430	20,480			
One Only Filler Weight	740	580	670		520	
4 No. 68 Main Weights	14,180	9,080	10,820	10,620	8,190	9,600
4 No. 68 Filler Weights	16,380	10,780	12,790	12,590	9,860	11,510
8 No. 68 Filler Weights	18,580	12,490	14,760	14,560	11,530	13,420
12 No. 68 Filler Weights	20,780	14,200	16,740	16,540	13,200	15,330
14 No. 68 Filler Weights		15,060	17,720			
One Only Filler Weight	550	425	495	495	420	480
4 No. 50 Main Weights	12,770			9,330	7,090	8,350
4 No. 50 Filler Weights	14,870			11,220	8,690	10,180
8 No. 50 Filler Weights	16,980			13,100	10,290	12,000
12 No. 50 Filler Weights	19,080			14,990	11,890	13,830
One Only Filler Weight	525			475	400	460

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DIMENSIONAL DATA

228,000 In. Lbs. Peak Torque Pumping Units



UNIT	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z	RR	SS	TT
228-246-86	9'-3"	9'-3"	19'-4 1/2"	16"	7'-9"	18"	9'-3"	14'-6"	24'-10"	79"	7 1/2"	2 1/2"	1 1/8"	55"	95"	30"	6'-11"	48 1/2"	80"	16"	37"	6'-3 3/4"	6'-7 1/4"	12"	26 1/4"	27 1/2"	34 1/4"	53"
228-212-86	"	8'-0"	16'-4 3/4"	"	7'-10"	17"	8'-0"	13'-2"	22'-1"	78"	5 3/4"	"	21 1/2"	21 1/2"	78"	"	66"	"	63"	"	"	57 3/4"	"	"	25 1/2"	"	"	36"
228-246-74	8'-0"	"	"	"	6'-7"	"	"	"	"	82"	5 3/4"	"	31 1/2"	31 1/2"	"	"	"	"	"	"	"	"	9"	"	"	"	"	"
228-200-74	"	"	"	"	"	"	"	"	"	"	"	"	"	22 1/2"	68"	"	"	"	53"	"	"	51 3/4"	"	"	"	"	"	"
228-173-74	"	7'-0"	14'-1"	12"	6'-8"	16"	7'-0"	12'-1"	21'-0"	64"	"	"	"	21 1/4"	68"	"	"	"	"	"	"	51 3/4"	"	"	"	27 1/4"	"	26"
228-200-64	7'-0"	"	"	"	68"	"	"	"	"	75"	"	"	1"	21 1/4"	"	"	"	"	"	"	"	"	"	"	23 1/2"	"	"	"

Note: Dimensions I, R, S and T are for Hi-Speed Engine