



For more information:

Grimes Sales & Service Co. Ltd.
Lampman, Saskatchewan

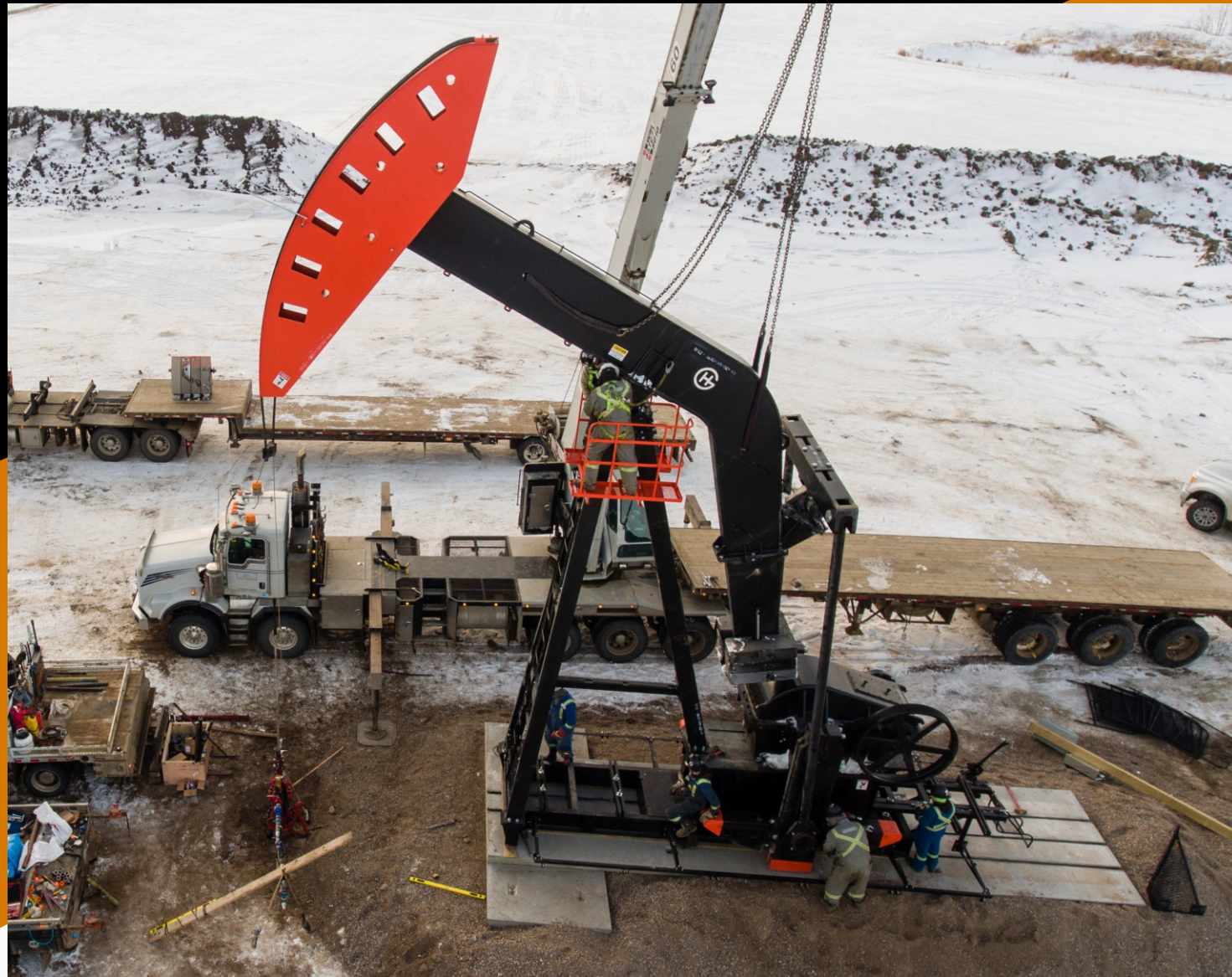
Ph: 306.457.2525

Fax: 306.487.2560

E-mail: grimessales@sasktel.net

Website:

<http://www.grimessales.com>



it's a whole new angle...

HG INFORMATION

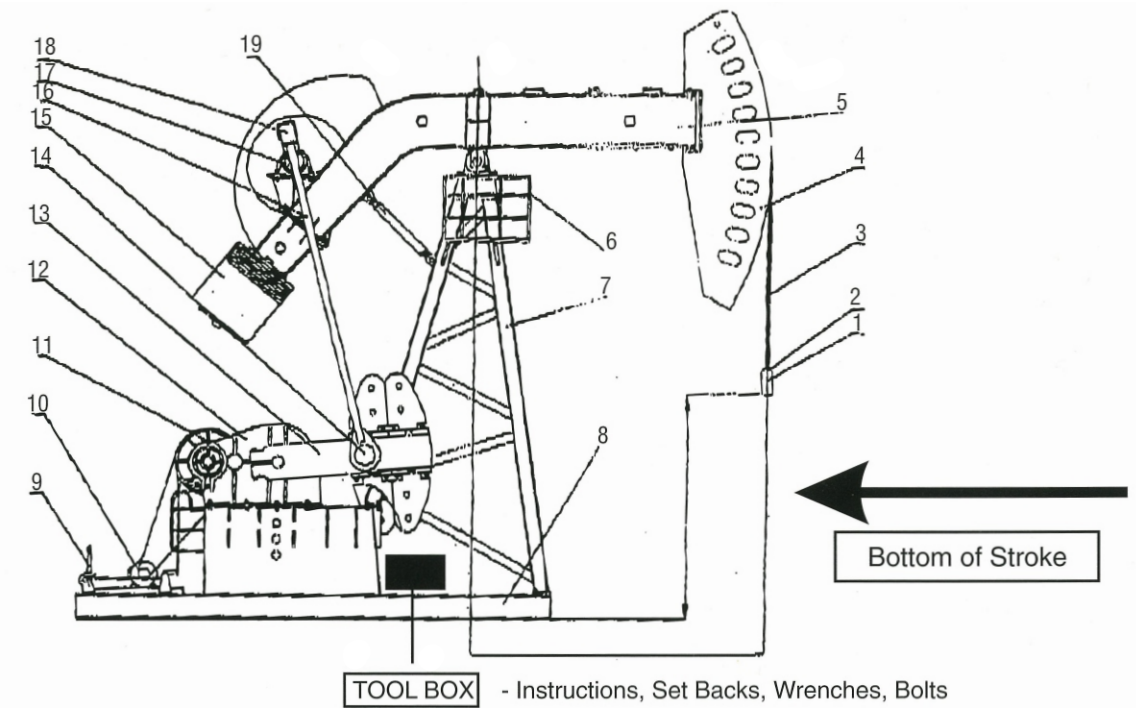


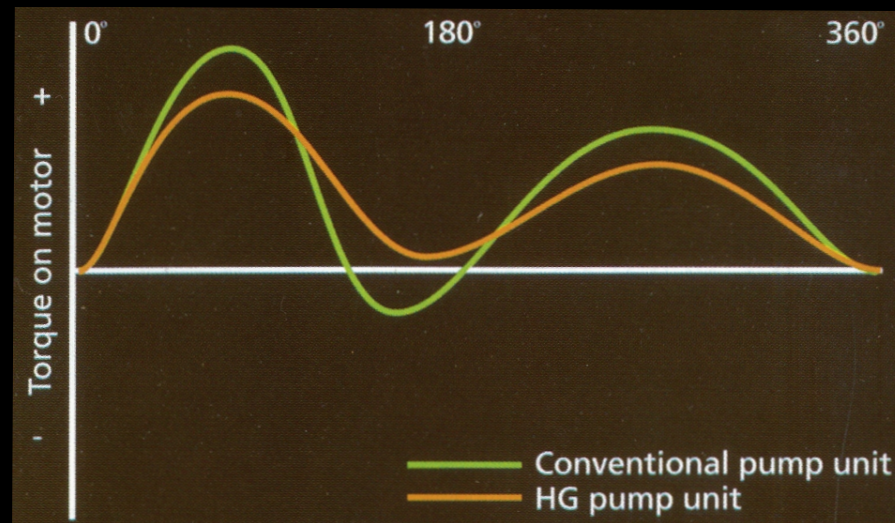
Figure 1 Pumping Unit Structure

1. Carrier Bar 2. Rod Clamp 3. Bridle Cable 4. Horses Head 5. Walking Beam
 6. Monkeyboard 7. A-Legs 8. Base 9. Brake Handle 10. Motor 11. Brake Assembly
 12. Reducer 13. Crank Arm 14. Pitman Arm 15. Beam Weights 16. Tail Bearing 17. Tail Bearing 18. Equalizer

	Size	Structure	Stroke	Gear Box Ratio	Gear Box Sheave	Belt Size	Bridle Cables	Set Back	Structural Unbalance w/ No Tail Weights	Weight	Bottom of Stroke
Straight Beam	80	119	64	30.12	C-32	C-136	1 1/4" x 21'	52"	375+	17010#	52"
Straight Beam	114	143	74	30.52	C-32	C-162	1 1/4" x 23'	51 1/2"	300+	25300#	54"
Straight Beam	160	173	86	31.71	C-32	C-162	1 1/4" x 22'	52"	-225	30800#	54"
	228	173	100	31.62	C-32"	C-162	2-14 x 1 1/4 S-27'	76"	450+	38750#	75"
	228	213	100	31.62	C-32"	C-162	1 1/4" x 31'	75"	450+	42000#	55"
	320	256	120	30.87	C-42"	C-180	14.5' x 1 1/16	74"	200+	49700#	48"
	320	256	144	32.47	C-45"	C-210	12-16'x1 1/16 S-34'	98"	200+	52600#	52"
	456	256	144	31.5	C-42"	C-210	2-16'x1 1/16 S-34'	98"	200+	52600#	52"
	456	305	168	31.5	C-42"	C-210	2-20'x1 1/4 S-39'	121 1/2"	211+	67100#	68"
	640	305	168	31.3	C-47"	C-225	S-39'	121 1/2"	211+	71000#	82"
	640	365	192	31.3	C-47"	C-225	2-20'x1 1/4 S-43'	147"	211+	74270#	60"
	912	365	192	31.05	C-54"	C-225	2-22'x1 1/4 S-46'	147"	579+	81800#	62"
	912	427	168	31.05	C-47"	C-228	1 1/4"x44'	121 1/2"	211+	81000#	74"
	1280	427	192	30.47	C-55"	C-255	1 1/4"x44'	147"	410+	90000#	60"

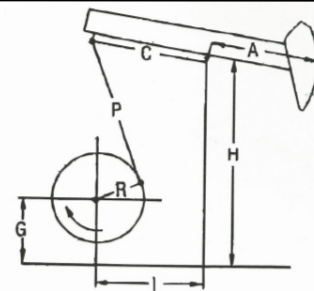
And the result?

The combination of the two counter weights results in less motor torque during the upstroke and reduces negative torque on the downstroke.



Both theoretical calculations and actual field data have demonstrated that the HG Curved Walking Beam Pump Unit requires a less powerful motor and roughly 20% less energy consumption.

HG API Specifications



Unit Model	A (mm)	C (mm)	P (mm)	H (mm)	I (mm)	G (mm)	K (mm)	R1 (mm)	R2 (mm)	R3 (mm)
C80-119-64	2135	1580	2160	3650	1600	1490	2688	315	450	585
C114-143-74	2100	1680	2915	4600	1780	1700	3403	475	600	725
C160-173-86	2400	1860	3220	5100	1980	1900	3763	540	660	800
CW228-173-100	3000	1860	3220	5100	1980	1900	3763	500	630	750
CW228-213-100	3000	2400	3420	5300	1980	1900	3935	618	818	974
C320-256-144	3000	1860	3420	5300	1980	1900	3934.5	580	735	890
CW456-256-144	3600	1860	3420	5700	1980	2300	3934	580	735	890
CW456-305-168	4200	2800	4715	7000	2800	2300	5470.8	960	1150	1340
CW640-305-168	4200	2800	4715	7000	2800	2300	5470.8	960	1150	1340
CW640-365-192	4880	2800	4715	7000	2800	2300	5470.8	960	1150	1340
CW912-365-192	4800	3025	5035	7600	3220	2600	5947.1	1075	1260	1445
CW912-427-168	4200	3025	5035	7300	3200	2300	5947	1060	1250	1445
CW1280-427-192	4800	3025	5035	7300	3200	2300	5947	1060	1250	1445



HG Curved Walking Beam Pumping Unit

Built to API standards, with a combination of crank-and-beam-based counterbalance weights, the HG Curved Walking Beam Pumping Unit is engineered to provide a dynamic structural imbalance. This superior combination of counterbalances results in a considerable reduction in operation energy requirements, as well as reductions in net torque curve.



The HG Curved Walking Beam Pumping Unit uses two counterweights instead of one: the conventional crank weight and an adjustable beam weight positioned at the end of an engineered curved walking beam (patent pending). The dynamic structure imbalance provided by the beam weights allows the counterweights to benefit the gearbox torque when it's needed most.

How does it work?

At the beginning of the upstroke, when the horsehead is down, the motor and the counter-weight have to do the most work to bring the rod and fluid up.

With the conventional pumping unit, the crank weight and the motor do all the work.

With the HG Pumping unit, the curved walking beam places the beam weight at the furthest distance from the sam-son post to provide maximum leverage. This helps the crank weight and the motor in bringing the horsehead back up.

At the beginning of the upstroke, when the horsehead is up, the motor and conventional weight do the least amount of work. The weight of the rod string takes the horsehead back down. With the conventional pumping unit, the

weight of the rod string pulls the crank weight back up, usually resulting in negative torque on the motor.

With the HG pumping unit, the beam weight is at a minimum distance from the samson post, resulting in less leverage to resist the horsehead's fall.

