

Natural Gas Lean Burn CHP Modules:



Kraft Energy Systems provides reliable and efficient combined heat & power modules for a wide range of applications.

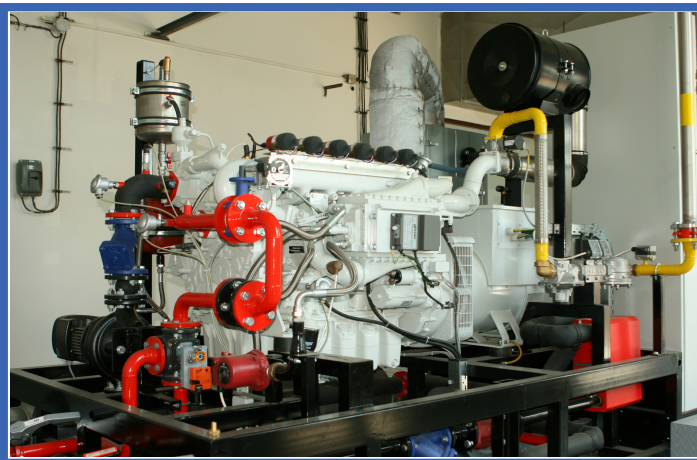
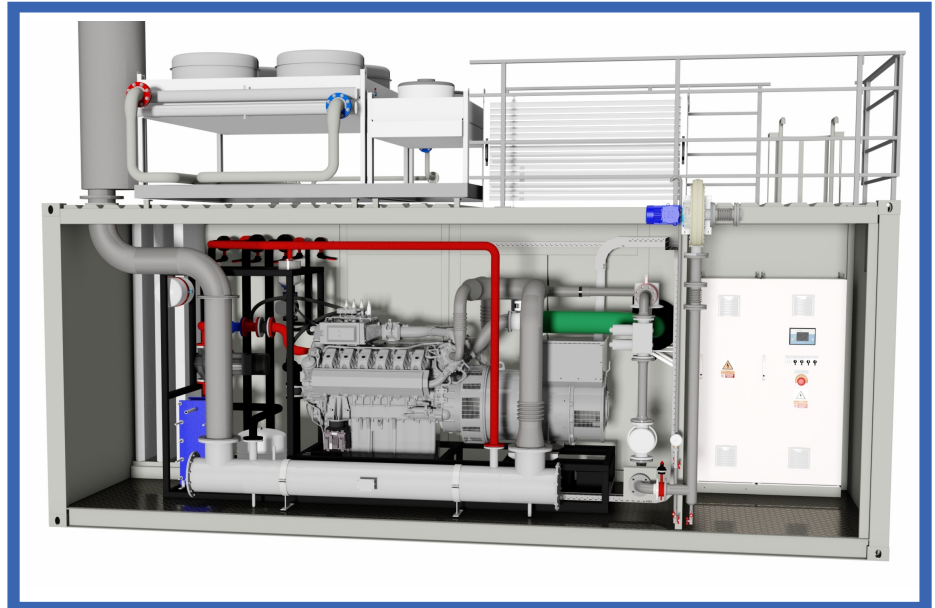
We utilize the highest quality components to package dependable solutions for long term operation.

Successful CHP projects require an experienced and responsive supplier who also provides expert field service after the sale. Kraft Energy Systems is that brand.



The Kraft Energy Systems Advantage:

- Over 50 Years of Power Generation Experience
- Pre & Post Sale - Engineering Support
- Long Term Service Agreements
- 24 x 7 Parts & Service
- Lower Energy Cost
- Environmentally Responsible



- Reliable, Fuel Efficient Industrial Engine
- Fully Automated & User Friendly Control System with Remote Access & Monitoring
- Compact Standardized Designs
- Quiet Indoor and Outdoor Enclosure Design
- Hot Water or Recovery
- Pre-manufactured Modules Reduce Installation Cost
- Standardized Utility Inter-tie Controls, Relay Options Available
- Low Exhaust Emissions Without Aftertreatment
- Lean Burn Models from 64 kWe - 550 kWe

CHP UNIT MODEL		KN 60L	KN 100L	KN 180CL	KN 240L	KN 375L	KN 430L	KN 550L
MAN Engine Model	-	E 0834 LE302	E 0836 LE302	E 2676 LE202	E 2676 LE202	E 3268 LE212	E 3262 LE232	E 3262 LE202
Generator Model	-	LSA 44.3 S3	LSA 44.3 M6	LSA 46.3 S4	LSA 46.3 M7	LSA 47.2 S5	LSA 47.2 M7	LSA 49.3 S4
Electric Output	kWe	64	104	180	239	373	430	550
Amps @ 600V @ 0.8 P.F.	Amps	77	125	217	287	449	517	662
Amps @ 480V @ 0.8 P.F.	Amps	96	156	271	359	561	647	827
Fuel Consumption (LHV)	BTU/hr	613,000	988,000	1,690,000	2,160,000	3,328,000	3,896,000	4,958,000
Engine Horsepower	BHP	91	148	254	335	523	603	778
No. of Cylinders / Arrangement	-	4 / IL	6 / IL	6 / IL	6 / IL	8 / V	12 / V	12 / V
Bore & Stroke	in	4.25 x 4.92	4.25 x 4.92	4.96 x 6.54 in	4.96 x 6.54	5.20 x 6.18	5.20 x 6.18	5.20 x 6.18
Displacement	cu in	279	419	757	757	1,049	1,573	1,573
BMEP	psi	172.6	155.2	149.9	197.3	219.4	168.2	217.5
Compression Ratio	-	11 : 1	11 : 1	12.6 : 1	12.6 : 1	12 : 1	12 : 1	12 : 1
Electric Efficiency	%	35.2	36.0	36.4	37.7	38.3	37.7	37.9
Thermal Efficiency	%	51.0	49.9	48.1	49.7	47.0	48.2	48.7
Combined Efficiency	%	86.3	85.9	84.5	87.3	85.3	85.9	86.6
Thermal Output	BTU/hr	315,000	493,000	813,000	1,073,000	1,565,000	1,880,000	2,408,000
Process Water Flow @ 32 °F rise	GPM	20	31	51	68	99	119	152
Process Water Flow @ 20 °F rise	GPM	32	51	83	110	160	192	246
Process Water Temperature	°F	190 or 180	190 or 180	190 or 180	190 or 180	190 or 180	190 or 180	190 or 180
Sound Level @ 1m	dB(A)	75 +/- 3	75 +/- 3	75 +/- 3	75 +/- 3	75 +/- 3	75 +/- 3	75 +/- 3
Exhaust Flow	lbs/hr	809	1,329	2,384	3,122	4,630	5,338	6,919
Exhaust Temperature	°F	248	248	248	248	248	248	248
NOx emission*	g/BHP-hr	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
CO emission*	g/BHP-hr	< 0.7	< 0.7	< 0.7	< 0.7	< 1.0	< 1.0	< 1.0
NMHC emission*	g/BHP-hr	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Gas Pressure (Min)	in WC	10	10	10	10	10	10	10

* Correlation 15% O₂. Lower NO_x levels possible on request

Tech Data is based on Natural Gas with a calorific value of 970 Btu/ft³ and a methane No. >80.

The Tech Data is based on standard conditions in accordance with DIN ISO 3046-1. Atmospheric pressure: 14.5 psi or 328 ft above sea level,

Air Temperature: 77 deg F, Relative Humidity: 30%

Tolerances: Fuel Consumption + 5%, Thermal Output +/- 8%

Sound Level Rating applies to Indoor Enclosed Module. Sound Level Rating applicable to Outdoor Enclosed Module is 65 dB(A) +/- 3 @ 10 m

Heat transfer data is based on 40% antifreeze.

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