

TEDOM CHP System Datasheet



Key features of Kinsley TEDOM Combined Heat and Power Systems

Complete, integrated CHP systems - engineered, built and tested in a high-quality factory environment

Full range of power ratings - from 35 kW to 4.0 MW in a single engine

Customizable, engineered solutions to meet the specific needs of each application, including:

- fuel - natural gas, biogas, propane
- heat recovery - hot water, steam, chilled water
- emissions control - rich-burn, low NOx lean-burn, SCR
- packaging - indoor open module, indoor sound enclosure, outdoor container

Comprehensive long-term service by Kinsley, including 24/7 remote monitoring and U.S. parts management



TEDOM Model	Cento M285
Fuel Input	Natural Gas

System Performance	% rated load	100%	75%	50%	Notes
Electrical Output	<i>kW</i>	285	214	143	
Electrical Efficiency	<i>%, LHV</i>	37.0%	35.0%	31.1%	
Fuel Consumption	<i>BTU/hr, HHV</i>	2,920,865	2,315,829	1,737,492	
Max Hot Water Output	<i>BTU/hr</i>	1,440,000	1,194,000	963,000	Jacket Water + Exhaust Heat
Thermal Efficiency	<i>%, LHV</i>	54.8%	57.3%	61.6%	
Overall Efficiency	<i>%, LHV</i>	91.8%	92.3%	92.7%	
Heat Rate	<i>BTU/kWh, LHV</i>	9,224	9,751	10,974	

Heat Recovery	% rated load	100%	75%	50%	Notes
Jacket Water Heat	<i>BTU/hr</i>	863,000	758,936	660,791	includes lube oil heat
Exhaust Heat	<i>BTU/hr</i>	577,000	435,064	302,385	cooled to 250F
Engine Exhaust Temp	<i>°F</i>	1,105			
Exhaust Mass Flow, Wet	<i>lbs/hr</i>	2,125	1,695		
Hot Water					
Maximum Supply Temperature	<i>°F</i>	194	194	194	Option for 210 F
Maximum Return Temperature	<i>°F</i>	158	158	158	158 F is maximum for full heat recovery
Nominal Flow Rate (water)	<i>GPM</i>	80	66	54	
Chilled Water (with single-effect absorber)					
Chilled Water Output	<i>RTons</i>	84	70	56	COP=0.70 using max hot water output
Steam (with exhaust heat recovery steam generator (HRSG))					
Steam @ 15 psig	<i>lbs/hr</i>	493			
Steam @ 120 psig	<i>lbs/hr</i>	419			maximum practical pressure

Engine Specifications			Notes
Manufacturer Model # / Cylinders		MAN E3262 E302 / V 12	
Speed	RPM	1800	
Oil consumption, ave/max	grams/kWh	0.21 / 0.42	at rated power
Oil volume, engine/replenishment tank	gallons	24 / 33	Additional clean/waste oil tank available
Major overhaul interval	operating hours	40,000	

Generator Specifications			Notes
Manufacturer / Model #		Leroy Somer LSA 46.3 L11	synchronous
Voltage / Frequency / Speed	VAC / Hz / RPM	480 / 60 / 1800	
Rated Power	kVA	356	
Rated Current	A	429	
Power Factor		0.8 - 1.0	

Fuel			Notes
Fuel type		Natural Gas	
Lower heating value (minimum)	BTU/SCF	912	
Methane Number (minimum)		80	
Gas Pressure	psi	0.7 - 1.4	
Gas Temperature (maximum)	°F	95	

Combustion, Exhaust & Ventilation Air			Notes
Combustion Air Flow Rate	CFM	434	
Exhaust Gas Flow Rate	CFM	461	
Exhaust Temperature, nom/max	°F	248 / 302	
Exhaust Back Pressure Allowed	psi	0.15	after exhaust heat exchanger and silencer
Heat Rejection to Ventilation Air	BTU/h	99,000	
Ventilation Air Flow, max	CFM	4,303	SE, C at 122F ventilation outlet temp.
Ventilation Inlet Air Temp, min/max	°F	32 / 95	Indoor OM and SE installations
Outdoor Air Temp, min/max	°F	-4 / 95	Outdoor C installations

Emissions (@ 15% O ₂ in exhaust)		Standard	Reduced	With SCR	Notes
NOx	g/bHP-h	0.21	0.12	n/a	rich-burn engine with 3-way catalyst
CO	g/bHP-h	0.68	0.34	n/a	

Dimensions & Noise		Open Module (OM)	Sound Enclosure (SE)	Outdoor Container (C)	Notes
Length	ft, in	15' 9"	15' 11"	19' 11"	Dimensions do not include accessories including exhaust silencer, exhaust heat exchanger, and cooling modules. See drawings for more details.
Width	ft, in	5' 9"	5' 9"	8' 0"	
Height	ft, in	7' 3"	8' 4"	8' 6"	
Operating weight	lbs	12,125	14,740	20,857	
Noise Emissions	dBA	94 @ 3 ft	80* @ 3 ft	65 @ 33 ft	* option for 65 dBA @ 3 ft

System performance subject to change without notice.

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