

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

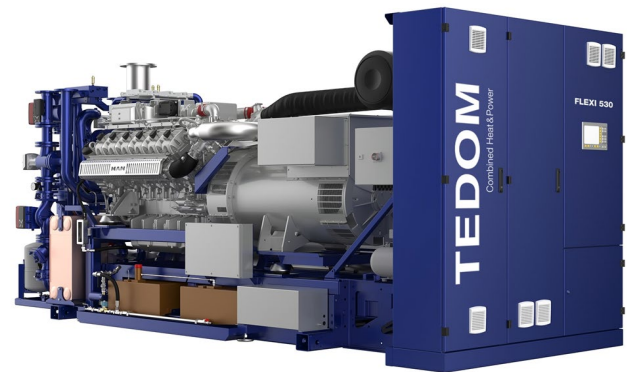
Full range of power ratings - from 35 kW to 4.0 MW in a single engine

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 M555
Fuel Input	Natural Gas



System Performance	% rated load	100%	75%	50%	Notes
Electrical Output	<i>kW</i>	555	416	278	
Electrical Efficiency	<i>%, LHV</i>	38.8%	37.7%	35.1%	
Fuel Consumption	<i>BTU/hr, HHV</i>	5,424,124	4,186,790	2,997,949	
Max Hot Water Output	<i>BTU/hr</i>	2,306,607	1,818,671	1,344,383	Jacket Water + Exhaust Heat
Thermal Efficiency	<i>%, LHV</i>	47.2%	48.3%	49.8%	
Overall Efficiency	<i>%, LHV</i>	86.0%	86.0%	84.9%	
Heat Rate	<i>BTU/kWh, LHV</i>	8,796	9,053	9,723	

Heat Recovery	% rated load	100%	75%	50%	Notes
Jacket Water Heat	<i>BTU/hr</i>	1,381,917	1,068,000	788,204	includes lube oil heat
Turbo Intercooler Heat (low temp)	<i>BTU/hr</i>	170,640	122,861	85,320	not included in hot water output above
Exhaust Heat	<i>BTU/hr</i>	924,690	750,671	556,179	cooled to 250F
Engine Exhaust Temp	<i>°F</i>	748			
Exhaust Mass Flow, Wet	<i>lbs/hr</i>	6,655	5,012	3,450	
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>	128	101	75	
Chilled Water (with single-effect absorber)					
Chilled Water Output	<i>RTons</i>	144	114	84	COP=0.75 using max hot water output
Steam (with exhaust heat recovery steam generator (HRSG))					
Steam @ 15 psig	<i>lbs/hr</i>	860			
Steam @ 120 psig	<i>lbs/hr</i>	649			maximum practical pressure

Engine Specifications			Notes
Manufacturer Model # / Cylinders		MAN E3262 LE202	
Speed	<i>RPM</i>	1800	
Oil consumption, ave/max	<i>grams/kWh</i>	0.16 / 0.32	at rated power
Oil volume, engine/replenishment tank	<i>gallons</i>	24 / 34	Additional clean/waste oil tank available
Major overhaul interval	<i>operating hours</i>	40,000	

Generator Specifications			Notes
Manufacturer / Model #		Leroy Somer LSA 49.3 M6	synchronous
Voltage / Frequency / Speed	<i>VAC / Hz / RPM</i>	480 / 60 / 1800	
Rated Power	<i>kVA</i>	693	
Rated Current	<i>A</i>	835	
Power Factor		0.8 - 1.0	

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

Combustion, Exhaust & Ventilation Air			Notes
Combustion Air Flow Rate	<i>CFM</i>	1,360	
Exhaust Gas Flow Rate	<i>CFM</i>	1,410	
Exhaust Temperature, nom/max	<i>°F</i>	248 / 302	
Exhaust Back Pressure Allowed	<i>psi</i>	0.15	after exhaust heat exchanger and silencer
Heat Rejection to Ventilation Air	<i>BTU/h</i>	198,000	
Ventilation Air Flow, max	<i>CFM</i>	9,707	SE, C at 122F ventilation outlet temp.
Ventilation Inlet Air Temp, min/max	<i>°F</i>	32 / 95	Indoor OM and SE installations
Outdoor Air Temp, min/max	<i>°F</i>	-4 / 95	Outdoor C installations

Emissions (@ 15% O ₂ in exhaust)		Standard	Reduced	With SCR	Notes
NO _x	<i>g/bHP-h</i>	1.10	0.54	<0.05	lean-burn engine
CO	<i>g/bHP-h</i>	1.40	0.65	<0.05	system includes oxidation catalyst

Dimensions & Noise		Open Module (OM)	Sound Enclosure (SE)	Outdoor Container (C)	Notes
Length	<i>ft, in</i>	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	<i>ft, in</i>	5' 7"	5' 9"	8' 0"	
Height	<i>ft, in</i>	7' 3"	8' 4"	8' 6"	
Operating weight	<i>lbs</i>	19,513	21,607	37,482	
Noise Emissions	<i>dBA</i>	96 @ 3 ft	80* @ 3 ft	65 @ 33 ft	* option for 65 dBA @ 3 ft

System performance subject to change without notice.

1/15/2021