

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	Quanto D1200
Fuel Input	Natural Gas



System Performance	% rated load	100%	75%	50%	Notes
Electrical Output	<i>kW</i>	1,200	900	600	
Electrical Efficiency	<i>%, LHV</i>	43.4%	42.1%	39.8%	
Fuel Consumption	<i>BTU/hr, HHV</i>	10,484,793	8,106,413	5,716,583	
Max Hot Water Output	<i>BTU/hr</i>	4,081,709	3,266,050	2,412,850	Jacket Water + Exhaust Heat
Thermal Efficiency	<i>%, LHV</i>	43.3%	44.8%	46.9%	
Overall Efficiency	<i>%, LHV</i>	86.7%	86.9%	86.7%	
Heat Rate	<i>BTU/kWh, LHV</i>	7,864	8,106	8,575	

Heat Recovery	% rated load	100%	75%	50%	Notes
Jacket Water Heat	<i>BTU/hr</i>	2,088,634	1,614,254	1,160,352	includes lube oil heat
Turbo Intercooler Heat (low temp)	<i>BTU/hr</i>	395,885	266,198	156,989	not included in hot water output above
Exhaust Heat	<i>BTU/hr</i>	1,993,075	1,651,795	1,252,498	cooled to 250F
Engine Exhaust Temp	<i>°F</i>	777	824	876	
Exhaust Mass Flow, Wet	<i>lbs/hr</i>	14,368	10,892	7,531	
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>	227	181	134	
Chilled Water (with single-effect absorber)					
Chilled Water Output	<i>RTons</i>	255	204	151	COP=0.75 using max hot water output
Steam (with exhaust heat recovery steam generator (HRSG))					
Steam @ 15 psig	<i>lbs/hr</i>	1,975	1,644	1,250	
Steam @ 120 psig	<i>lbs/hr</i>	1,517	1,292	1,004	maximum practical pressure

Engine Specifications			Notes
Manufacturer Model # / Cylinders		MWM TCG2020 V12 / V-12	
Speed	<i>RPM</i>	1500	
Oil consumption, ave	<i>grams/kWh</i>	0.15	
Oil volume, engine/replenishment tank	<i>gallons</i>	189 / 92	Additional clean/waste oil tank available
Major overhaul interval	<i>operating hours</i>	64,000	

Generator Specifications			Notes
Manufacturer / Model #		Marelli MJB 450 MB4	synchronous
Voltage / Frequency / Speed	<i>VAC / Hz / RPM</i>	480 / 60 / 1800	medium voltage options available
Rated Power	<i>kVA</i>	1488	
Rated Current	<i>A</i>	1,790	
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>	1.2 - 2.2	
Gas Temperature (maximum)	<i>°F</i>	95	

Combustion, Exhaust & Ventilation Air			Notes
Combustion Air Flow Rate	<i>CFM</i>	2,881	
Exhaust Gas Flow Rate	<i>CFM</i>	3,003	
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>	256,000	
Ventilation Air Flow, max	<i>CFM</i>	16,321	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
NOx	<i>g/bHP-h</i>	1.0	0.5	<0.05	lean-burn engine
CO	<i>g/bHP-h</i>	1.3	0.6	<0.05	system includes oxidation catalyst

Dimensions & Noise		Open Module (OM)	Sound Enclosure (SE)	Outdoor Container (C)	Notes
Length	<i>ft, in</i>	31' 10"	28' 3"	52' 6"	Dimensions do not include accessories including exhaust silencer, exhaust heat exchanger, and cooling modules. See drawings for more details.
Width	<i>ft, in</i>	9' 3"	9' 0"	9' 10"	
Height	<i>ft, in</i>	8' 4"	13' 2"	9' 10"	
Operating weight	<i>lbs</i>	46,197	59,155	86,957	
Noise Emissions	<i>dBA</i>	113 @ 3 ft	77 @ 3 ft	65 @ 33 ft	

System performance subject to change without notice.

1/15/2021