

Technical Datasheet

E265UL Natural Gas CHP Unit



Energy Balance and Part Load Data @ 0.95PF		Units	100%	75%	50%
Electrical Output	(+/-3%)	kW	263	197	132
Electrical Efficiency (LHV)	(+/-5%)	%	35.3%	33.4%	29.8%
Heat Output	(+/-10%)	BTU/min	23407	19160	15025
Thermal Efficiency (LHV)	(+/-8%)	%	55.3%	57.1%	59.8%
Fuel Input (LHV)	(+/-5%)	BTU/min	42338	33576	25110
Total Efficiency (LHV)	(+/-8%)	%	90.6%	90.5%	89.6%
Heat Output from Jacket Water	(+/-8%)	BTU/min	14670	12534	10480
Heat Output from Exhaust Gas (Cooled to 248°F)	(+/-8%)	BTU/min	8737	6626	4545
Aftercooler Heat Output	(+/-8%)	BTU/min	N/A	N/A	N/A
Radiated Heat Output	(+/-8%)	BTU/min	1568	1189	843
Combustion Air Flow	(+/-5%)	SCFM	394	312	233
Fuel Mass Flow ($\rho = 0.0432\text{lb/SCFM}$)	(+/-5%)	lb/h	119	94	70
Fuel Volume Flow (LHV = 924 BTU/SCFM)	(+/-5%)	SCFM	46	36	27
Exhaust Mass Flow (Wet)	(+/-5%)	lb/h	2157	1711	1280
Exhaust Volume Flow (Cooled to 248°F)	(+/-5%)	ACFM	641	509	380

Engine Details

Manufacturer	MAN
Model	E 2842 E 312
Fuel Type	Natural Gas
Min. Methane Number	80
Cylinders	12
Aspiration	Natural
Speed	1800 rpm

Secondary Water Details

Max. Water In/Out Temp.	176/194°F
Max. Water Flow Rate*	168 GPM
Max. Glycol Content	40%
Connection Size	3 (80) in (mm)
Flange Type	ANSI B16.5 Class 150
Pressure Loss	2.9 PSIG
Max. Test Pressure	150 PSIG

* Assuming 40% Glycol, higher % available on request

Exhaust Details

Connection Size	8 (200) in (mm)
Flange Type	ANSI B16.5 Class 150
Outlet Temp	248 °F
Max. Allowable Backpressure	TBC inH2O

Ventilation Details

Connection Size	24.8 (630) in (mm)
Ventilation Rate	6152 ACFM
Max. Air Inlet Temp.	86 °F
Max. Air Outlet Temp.	113 °F

Generator Details

Manufacturer	Stamford
Model	HCI444E-311
Type	Synchronous
Voltage	480 V
Phase	3 Ph
Frequency	60 Hz
Ingress Protection	IP23
Insulation Class	H
Rated Apparent Power	0.8 PF
Rated Apparent Power at 80°C Rise	350 kVA
X"d Dir. Axis Sub-Transient	0.1
T" Sub-Transient Time Const.	0.019

Electrical Details

CHP Breaker Size	600 A/Ph
Current Per Phase @ 0.8PF	395 A
Current Per Phase @ 0.95PF	333 A
Efficiency @ 0.8PF	94.5%
Efficiency @ 0.95PF	95.5%

Fuel Details

Connection Size	2 (50) in (mm)
Flange Type	ANSI B16.5 Class 150
Min/Max. Supply Pressure	0.3/0.8 PSIG

Emissions

NOx	16.20 g/BHP-h
CO	10.00 g/BHP-h
NMHC	TBC g/BHP-h
NOx ... 3-Way Catalyst	1.00 g/BHP-h
CO ... 3-Way Catalyst	2.00 g/BHP-h
NMHC ... 3-Way Catalyst	0.70 g/BHP-h

Noise

Enclosure SPL	@ 3 ft ... Standard/Low	70/65
Exhaust SPL	@ 3 ft ... Standard/Low	70/60

NB: Energy balance data is stated at ISO 3046-1 conditions. Values for part load are estimates only. Noise data stated at free-field conditions. All information detailed is for guidance only and is subject to change without notice due to our commitment to continuous improvement - all values should be confirmed with ER on a project specific basis.