Technical Datasheet

ER555 Natural Gas CHP Unit

Energy Balance and Part Load Data @ .95PF		Units	100%	75%	50%
Electrical Output	(+/-3%)	kW	557	418	278
Electrical Efficiency (LHV)	(+/-5%)	%	37.8%	37.0%	35.1%
Heat Output	(+/-10%)	BTU/min	41543	32358	23577
Thermal Efficiency (LHV)	(+/-8%)	%	49.9%	50.6%	52.6%
Fuel Input (LHV)	(+/-5%)	BTU/min	83293	63922	44815
Total Efficiency (LHV)	(+/-8%)	%	87.7%	87.6%	87.7%
Heat Output from Jacket Water (Including 2nd Stage Aftercooler)	(+/-8%)	BTU/min	22264	16719	11959
Heat Output from Exhaust Gas (Cooled to248°F)	(+/-8%)	BTU/min	19279	15639	11618
Intercooler Heat Output	(+/-8%)	BTU/min	2332	1763	1120
Radiated Heat Output	(+/-8%)	BTU/min	3526	2076	1183
Combustion Air Flow	(+/-5%)	SCFM	1396	10586	720
Fuel Volume Flow (LHV = 924 BTU/SCFM)	(+/-5%)	SCFM	90	69	49
Exhaust Mass Flow	(+/-5%)	lb/h	6993	5306	3613
Exhaust Volume Flow (Cooled to 248° F)	(+/-5%)	ACFM	1489	1130	665
Exhaust Temperature Out of Engine	(+/-5%)	°F	849	TBC	TBC
Steam Option: Steam boiler output @ 15 psig	(+/-5%)	lb/h	924	TBC	TBC
Chiller Option: Abosorption chiller ouput	(+/-5%)	Tons	90 - 150	TBC	TBC

Engine Details

Manufacturer		MAN
Model		E 3262 LE 202
Fuel Type		Natural gas
Min. Methane Number		80
Cylinders		12
Aspiration		Turbocharged/IC
Speed at Engine	rpm	1800

Secondary Water Details*

Max. Water In/Out Temp.	°F	170/192
Max. Water Flow Rate	GPM	257
Max. Glycol Content	%	50
Connection Size	in (mm)	4 (100)
Connection Type		ANSI B16.5 Class 150
Pressure Loss	PSIG	TBC
Max. Test Pressure	PSIG	150

Exhaust Details*

Connection Size	in (mm)	10 (250)
Outlet Temp‡	°F	248
Max. Backpressure at Exhaust Outlet	inH2O	8.0

Ventilation Details

Connection Size	in (mm)	30 (750)
Minimum Supply Air Volume Flow Rate	CFM	9400
Max. Air Inlet Temp.	°F	85
Max. Air Outlet Temp.	°F	115

Intercooler Details

Max. Water Inlet Temp.	°F	107.6
Water Flow Rate	GPM	31.5
Connection Size	in (mm)	1 (25)
Connection Type		ANSI B16.5 Class 150
Pressure Loss	PSI	TBC
Max. Test Pressure	PSI	45
Max. Glycol Content	%	50%

Generator Details

Manufacturer		Newage
Model		HCI 544F
Type		Syncronous
Voltage	V	480
Phase	Ph	3
Frequency/Speed	Hz/RPM	60/1800
Ingress Protection		IP23
Insulation Class		H
Rated Power Factor	PF	0.8
Rated Apparent Power at 105°C Rise	kVA	750
X"d Dir. Axis Sub-Transient		0.08
T" Sub-Transient Time Const.		0.012

Electrical Details*

CHP Breaker Size	A/Ph	1000
Current Per Phase @ 0.8PF	A	837
Current Per Phase @ 0.95PF	A	705
Current Per Phase @ 1.0PF	A	670
Efficiency @ 0.8PF	%	95.5%
Efficiency @ 0.95PF	%	96.0%
Efficiency @ 0.95PF	%	96.4%

Engine Emissions at 100% Load (Dry)*

NOx	g/BHP-h	1.00
CO	g/BHP-h	On Request
NMHC	g/BHP-h	On Request

Low NOx Engine Emissions†

NOx	g/BHP-h	On Request
CO	g/BHP-h	On Request
NMHC	g/BHP-h	On Request

Noise*

Exhaust @ 3 ft	Standard/Low	70/65

Fuel Details*

Main Supply Connection Size	in (mm)	3/80
Main Supply Connection Type		ANSI B16.5 Class 150
Min. Main Supply Pressure	PSIG	2.95

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.