Technical Datasheet

ER760F Natural Gas CHP Unit

Energy Balance and Part Load Data @ 1.0PF		Units	100%	75%	50%
Electrical Output	(+/-3%)	kW	762	572	381
Electrical Efficiency (LHV)	(+/-5%)	%	41.2%	39.4%	37.0%
Heat Output (LTHW)	(+/-10%)	BTU/min	47583	37967	28233
Thermal Efficiency (LHV)	(+/-8%)	%	45.1%	46.0%	48.1%
Fuel Input (LHV)	(+/-5%)	BTU/min	105350	82583	58683
Total Efficiency (LHV)	(+/-8%)	%	86.3%	85.4%	85.1%
Heat Output from Jacket Water	(+/-8%)	BTU/min	23333	17933	13150
Heat Output from Exhaust Gas (Cooled to 248°F)	(+/-8%)	BTU/min	24250	20033	15083
Intercooler Heat Output (2nd Stage)	(+/-8%)	BTU/min	2683	2283	1533
Radiated Heat Output	(+/-8%)	BTU/min	3933	2950	1967
Combustion Air Flow	(+/-5%)	SCFM[1]	1833	1400	976
Fuel Volume Flow (LHV = 924 BTU/SCFM)	(+/-5%)	SCFM[1]	114	89	64
Exhaust Mass Flow, Wet	(+/-5%)	lb/h	9169	7004	4890
Exhaust Volume Flow, Wet (32° F)	(+/-5%)	SCFM[1]	1893	1447	1009
Exhaust Temperature	(+/-5%)	°F	848	895	943
Steam Option**: Steam boiler output @ 15 psig	(+/-5%)	lb/h	1071	896	681
Chiller Option**: Abosorption chiller ouput	(+/-5%)	Tons	125 - 185	TBC	TBC

Engine Details

Manufacturer		MTU
Model		GB762N6
Fuel Type		Natural gas
Min. Methane Number		70
Cylinders		8
Aspiration		Turbocharged/IC/2 Stage
Speed at Engine	rpm	1500
Gearbox Speed	rpm	1500/1800

Secondary Water Details (Client Side)*

Max. Water In/Out Temp.	°F	170/192
Max. Water Flow Rate	GPM	295
Max. Glycol Content	%	50
Connection Size	in (mm)	4 (100)
Connection Type		ANSI B16.5 Class 150
Pressure Loss	PSIG	On Request
Max. Test Pressure	PSIG	150

Exhaust Details*

Connection Size	in (mm)	14 (350)
Outlet Temp‡	°F	248
Max. Backpressure at Exhaust Outlet	inH2O	8.0

Ventilation Details

Maximum Supply Air Volume Flow Rate	CFM	11250
Minimum Supply Air Volume Flow Rate	CFM	7500
Max. Air Inlet Temp.	°F	86
Max. Air Outlet Temp.	°F	115

Second Stage Intercooler Details

Max. Coolant Inlet Temp at Engine.	°F	104
Coolant Flow Rate	GPM	106
Connection Size	in (mm)	2.5 (65)
Max. Glycol Content	%	50

Generator Details

Manufacturer		Leroy Somer
Model		LSA 50.2 M6
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	953
X"d Dir. Axis Sub-Transient		0.12
T" Sub-Transient Time Const.		0.18

Electrical Details*

CHP Breaker Size	A/Ph	1300
Current Per Phase @ 0.8PF	A	1146
Current Per Phase @ 0.95PF	A	965
Current Per Phase @ 1.0PF	A	917
Efficiency @ 0.8PF	%	95.3%
Efficiency @ 0.95PF	%	95.7%
Efficiency @ 1.0PF	%	96.3%

Engine Emissions at 100% Load (Dry)*

NOx	g/BHP-h	1.00
CO	g/BHP-h	2.00
NMHC	g/BHP-h	0.70

Low NOx Engine Emissions†

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

Noise (dBA)*

Enclosure (free field) @ 3 ft	Standard/Low	78/68

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.