

Technical Datasheet

ER1930F Natural Gas CHP Unit



Energy Balance and Part Load Data @ 1.0PF		Units	100%	75%	50%
Electrical Output	(+/-3%)	kW	1932	1449	966
Electrical Efficiency (LHV)	(+/-5%)	%	41.9%	40.6%	38.2%
Heat Output (LTHW)	(+/-10%)	BTU/min	119467	95283	70983
Thermal Efficiency (LHV)	(+/-8%)	%	45.6%	46.9%	49.4%
Fuel Input (LHV)	(+/-5%)	BTU/min	262233	203267	143833
Total Efficiency (LHV)	(+/-8%)	%	87.5%	87.5%	87.6%
Heat Output from Jacket Water	(+/-8%)	BTU/min	61017	46617	33817
Heat Output from Exhaust Gas (Cooled to 248°F)	(+/-8%)	BTU/min	58450	48667	37167
Intercooler Heat Output (2nd Stage)	(+/-8%)	BTU/min	7167	5067	3300
Radiated Heat Output	(+/-8%)	BTU/min	7433	5575	3717
Combustion Air Flow	(+/-5%)	SCFM ¹	4547	3459	2385
Fuel Volume Flow (LHV = 924 BTU/SCFM)	(+/-5%)	SCFM ¹	284	220	156
Exhaust Mass Flow, Wet	(+/-5%)	lb/h	22741	17311	11947
Exhaust Volume Flow, Wet (32° F)	(+/-5%)	SCFM ¹	4699	3576	2467
Exhaust Temperature	(+/-5%)	°F	844	893	945
Steam Option**: Steam boiler output @ 15 psig	(+/-5%)	lb/h	2635	2207	1671
Chiller Option**: Absorption chiller output	(+/-5%)	Tons	320 - 460	TBC	TBC

Engine Details

Manufacturer	MTU
Model	GB1932N6
Fuel Type	Natural gas
Min. Methane Number	70
Cylinders	20
Aspiration	Turbocharged/IC/2 Stage
Speed at Engine	1500 rpm
Gearbox Speed	1500/1800 rpm

Secondary Water Details (Client Side)*

Max. Water In/Out Temp.	°F	170/192
Max. Water Flow Rate	GPM	739
Max. Glycol Content	%	50
Connection Size	in (mm)	5 (130)
Connection Type		ANSI B16.5 Class 150
Pressure Loss	PSIG	On Request
Max. Test Pressure	PSIG	150

Exhaust Details*

Connection Size	in (mm)	20 (500)
Outlet Temp [†]	°F	248
Max. Backpressure at Exhaust Outlet	inH2O	8.0

Ventilation Details

Maximum Supply Air Volume Flow Rate	CFM	23250
Minimum Supply Air Volume Flow Rate	CFM	15500
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	159
Connection Size	in (mm)	3 (75)
Max. Glycol Content	%	50

Generator Details

Manufacturer	Leroy Somer	
Model	LSA 51.2 VL90	
Type	Synchronous	
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	2415
X"d Dir. Axis Sub-Transient		0.14
T" Sub-Transient Time Const.		0.22

Electrical Details*

CHP Breaker Size	A/Ph	3200
Current Per Phase @ 0.8PF	A	2905
Current Per Phase @ 0.95PF	A	2446
Current Per Phase @ 1.0PF	A	2324
Efficiency @ 0.8PF	%	96.3%
Efficiency @ 0.95PF	%	96.8%
Efficiency @ 1.0PF	%	97.2%

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
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Fuel Details*

Main Supply Connection Size	in (mm)	5/130
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.

* For Customer Interface ** With Optional Equipment † Selected on a project-specific basis ‡ Subject to heat recovery device † Temperature= 32°F, Pressure = 15psi