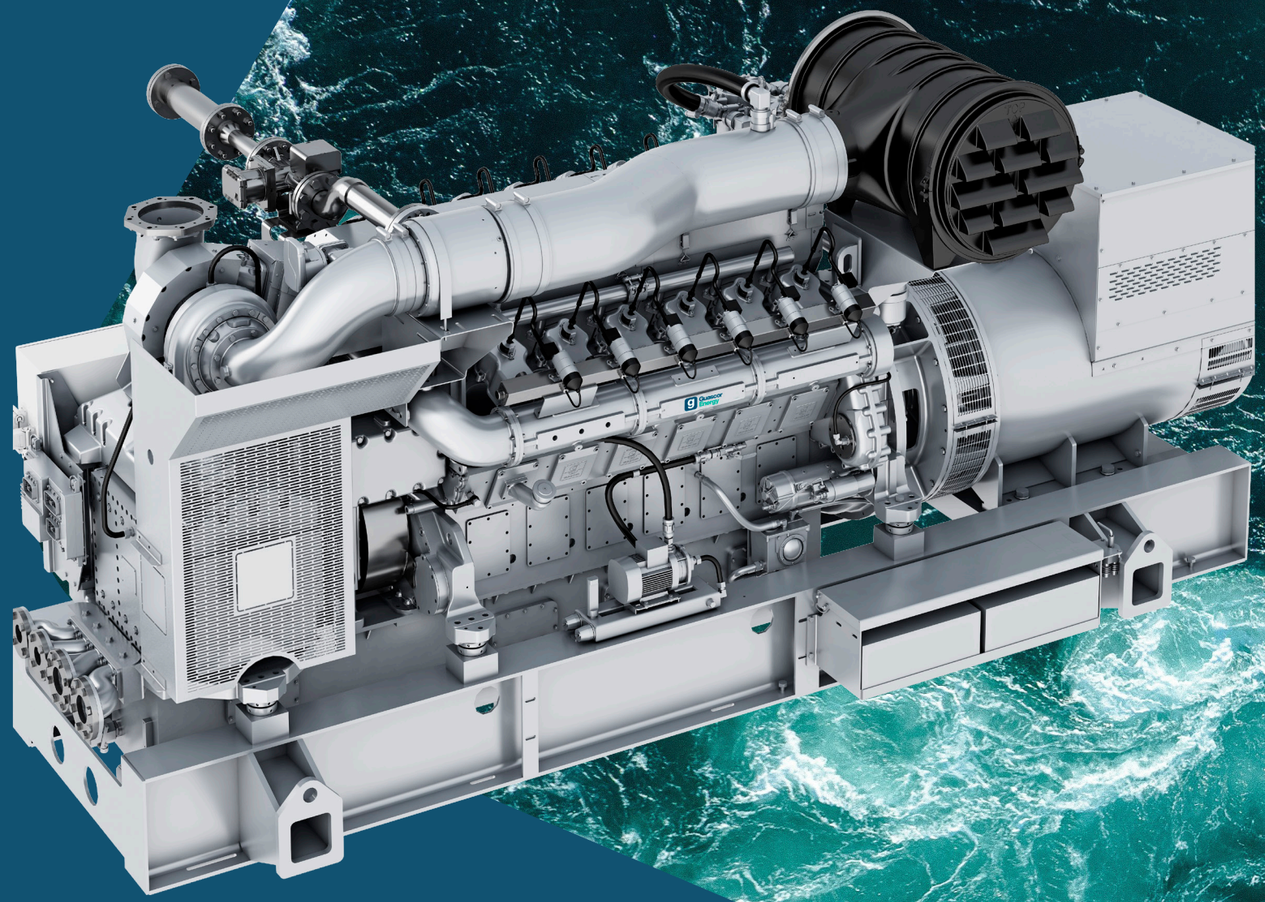
Guascor Energy



H series gas engines and gen-sets biogas

1.200/1.500/1.800 rpm

G-24HM, G-42HM & G-56HM

Engine Parameters		G-24HM		G-42HM		G-56HM			
	Metric Units								
Speed	rpm	1.500	1.800	1.500	1.800	1.200	1.500	1.500	1.800
Engine power [2)]	kWb	520		1.040		1.040	1.240	1.373	1.350
Cylinder arrangement		In Line 8		V12		V16			
Mean effective pressure	bar	17,4	19,7	19,7	16,4	18,5	17,6	19,6	16,0
Bore	mm	152		160		160			
Stroke	mm	165		175		175			
Displacement	liters	24,0		42,2		56			
Mean piston speed	m/s	8,3	9,9	8,8	10,5	7,0	8,8	8,8	10,5
Compression ratio		11,8:1		11,9:1		11,9:1			
Combustion air mass flow	kg/h	1.910	2.380	4.590	4.600	4.720	5.600	6.060	6.050
Engine coolant capacity (HT circuit) [4)]	liters	80		240		260			
Engine coolant capacity (LT circuit) [4)]	liters	20		75		75			
Lube oil capacity [5)]	liters	169		403		419			
Lube oil consumption [5)]	g/kWh	0,35		0,15		0,15			

1) Natural Gas MN80. For other MN consult Guascor Energy
2) Engine performance data acc. to ISO 3046/1
3) Assumes intake air flow at delta T = 5ºC including combustion air
4) Engine coolant capacity does not include pipes and heat exchangers
5) Mean lube oil consumption between maintenance steps

Data is for continuous rating, at sea level, and at an ambient temperature of 25º. Data for special gas and dual gas operation on request.
The values given in this data sheet are for information purposes only and not binding.

G-24HM, G-42HM & G-56HM

Engine Parameters		G-24HM		G-42HM		G-56HM			
	Metric Units								
Generator efficiency [6) 7)]	%	96,6	96,2	97,2	96,9	97,2	97,1	97,4	96,8
Electrical power [6) 7)]	kWe	502	500	1.011	1.008	1.007	1.204	1.337	1.308
Jacket (HT) water heat	kW	231	199	483	574	596	700	707	725
Intercooler (LT) water heat	kW	80	139	83	57	60	78	81	85
Exhaust heat - cooled to 120°C	kW	256	309	467	527	486	586	639	737
Engine radiation heat	kW	28	40	70	70	66	65	90	84
Generator radiation heat	kW	19	20	29	32	33	36	41	42
Fuel consumption [8)]	kW	1.180	1.243	2.356	2.445	2.394	2.855	3.092	3.183
Mechanical efficiency	%	44,1	41,8	44,1	42,4	43,4	43,4	44,4	42,4
Electrical efficiency	%	42,6	40,2	43,0	41,0	42,1	42,2	43,2	41,1
Thermal efficiency	%	48,1	48,6	46,4	48,5	47,3	47,8	46,1	48,6
Total efficiency	%	90,7	90,6	89,4	89,5	89,3	89,9	89,3	89,7

6) At 60 Hz, U = 0.48 kV, power factor = 1
7) At 50 Hz, U = 0.4 kV, power factor = 1
8) With a tolerance of + 5

Data is for continuous rating, at sea level, and at an ambient temperature of 25°C. Data for special gas and dual gas operation on request.
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G-24HM, G-42HM & G-56HM

System Parameters		G-24HM		G-42HM		G-56HM			
	Metric Units								
Jacket (HT) water temperature max.	°C			90		90			
Jacket (HT) water flow rate min.	m^3/h	33	29	57	41	41	49	49	50
Jacket (HT) water flow rate max.	m^3/h	60		90		90			
Intercooler stages		Single		Double		Double			
Intercooler (LT) coolant temperature	°C	55		Var	55	55	Var	Var	55
Intercooler (LT) coolant flow rate min.	m^3/h	20	25	20	25	15	20	20	25
Intercooler (LT) coolant flow rate max.	m^3/h	30	30	30	30	30	30	30	30
Exhaust manifold type		Dry		Dry		Dry			
Exhaust temperature	°C	497	491	448	463	415	420	422	468
Exhaust mass flow wet	kg/h	2.120	2.600	5.090	5.100	5.150	6.110	6.620	6.620
Exhaust backpressure max.	mbar	45		45		45			
Maximum pressure loss in front of air cleaner	mbar	5		5		5			
Fuel pressure range	mbar	50 - 240		50 - 240		50 - 240			
Starter battery 2x12 V, capacity required		280		280		280			

Data is for continuous rating, at sea level, and at an ambient temperature of 25°C Data for special gas and dual gas operation on request.
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G-24HM, G-42HM & G-56HM

Emissions and dimensions	Metric Units	G-24HM	G-42HM	G-56HM
Emissions [9]				
NOx	mg/Nm^3	< 500	< 500	< 500
CO	mg/Nm^3	< 1100	< 1100	< 1100
THC (in C1 base)	mg/Nm^3	< 1900	< 1300	< 1300
NMHC (in C1 base)	mg/Nm^3	< 300	< 300	< 300
Engine Dimensions				
Width	mm	2.079	2.155	2.141
Length	mm	3.223	3.571	4.041
Height	mm	1.590	2.181	2.217
Dry weight	kg	4.200	6.250	7.500
Genset Dimensions				
Width	mm	2.079	2.155	2.141
Length	mm	3.952	4.865	5.545
Height	mm	1.738	2.373	2.319
Dry weight	kg	6.230	10.735	12.200

9) Lower emission engines are available, consult Guascor Energy for performance data

G-24HM, G-42HM & G-56HM

Noise emissions[10]		G-24HM		G-42HM		G-56HM		
Engine Noise dB(A)	Hz (Frec. Band)							
	63	1.500	1.800	1.500	1.800	1.200	1.500	1.800
	125	73	67	71	-	71	73	70
	250	83	77	81	74	77	83	84
	500	85	80	84	88	79	85	82
	1	88	88	87	83	81	88	86
	2	92	91	90	90	88	92	92
	4	89	87	89	87	83	89	88
	LpA, å dB(A)	**96**	**94**	**94**	**94**	**90**	**96**	**95**
Exhaust Noise dB(A)	Hz (Frec. Band)							
	63	100	102	105	106	99	101	103
	125	121	131	119	129	109	122	125
	250	129	133	129	133	115	128	136
	500	116	122	116	123	116	122	127
	1	116	119	115	117	114	119	121
	2	115	117	113	114	114	117	117
	4	112	110	111	111	116	112	113
	LpA, å dB(A)	**130**	**136**	**130**	**135**	**122**	**130**	**137**

10) Data obtained according to ISO 9614-2. Data obtained @ 1 m from engine according to UNE-EN ISO-11203:1996 Maximum data standard deviations = ± 4 dB(A)

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