



DRESSER RAND

Bringing energy and the environment into harmony.*

GAS ENGINES AND GENSETS **1800 RPM**


Guascor

Speed	1800 rpm	
Generator frequency	60 Hz	
Gas Type	Natural Gas	
NOx emissions	≤ 2 g/bHPH	
Minimum methane number	75	1)

Engine type			SFGLD 180	SFGLD 240	SFGLD 360	SFGLD 480	SFGM 560	HGM 560
Engine power 2)		kW	350	453	700	906	1100	1350
Speed		min ⁻¹	1800	1800	1800	1800	1800	1800
Mean effective pressure		bar	13	12,6	13	12,6	13	16
Exhaust temperature	approx.	°C	405	420	402	440	532	473
Exhaust mass flow wet	approx.	kg/h	1820	2166	3609	4490	5201	6692
Combustion air mass flow 2)	approx.	kg/h	1755	2078	3479	4316	4999	6456
Combustion air temperature design		°C	25	25	25	25	25	25
Ventilation air flow 3)	approx.	m ³ /h	24500	31710	49000	63420	77000	94500
Exhaust manifold type			Wet	Wet	Wet	Wet	Dry	Dry
InterCooler Stages			Single	Single	Double	Double	Double	Double
Engine parameters								
Bore		mm	152	152	152	152	160	160
Stroke		mm	165	165	165	165	175	175
Displacement		dm ³	18,0	24,0	35,9	47,9	56,3	56,3
Number of cylinders			6	8	12	16	16	16
Compression ratio			11,8 : 1	11,8 : 1	11,8 : 1	11,8 : 1	12 : 1	12 : 1
Mean piston speed		m/s	9,9	9,9	9,9	9,9	10,5	10,5
Lube oil content 4)		dm ³	70	95	150	195	232	400
Typical mean lube oil consumption 5)		g/kWh	0,35	0,35	0,35	0,35	0,20	0,20
Generator								
Efficiency 6)		%	96,1	96,2	96,6	96,5	96,8	96,9
			95,7				96,5	
Energy balance								
Electrical power 6)		kW	336	436	676	874	1065	1308
HT water heat	± 8 %	kW	202	319	493	719	590	599
LT water heat	± 8 %	kW	100	122	117	138	170	224
Exhaust cooled to 120 °C	± 8 %	kW	166	208	325	460	685	756
Engine radiation heat		kW	16	21	29	29	54	82
Generator radiation heat		kW	14	17	24	32	35	42
Fuel consumption 7)	+ 5 %	kW	889	1189	1774	2388	2757	3214
Mechanical efficiency		%	39,4	38,1	39,5	37,9	39,9	42,0
Electrical efficiency		%	37,8	36,7	38,1	36,6	38,6	40,7
Thermal efficiency		%	52,6	54,6	52,7	55,2	52,4	49,1
Total efficiency		%	90,5	91,2	90,8	91,8	91,0	89,8
System parameters								
HT water flow rate min.		m ³ /h	30	40	60	80	75	80
HT water K value			4,5 x 10 ⁻⁴	3,3 x 10 ⁻⁴	1 x 10 ⁻⁴	1,1 x 10 ⁻⁴	1,1 x 10 ⁻⁴	1,78 x 10 ⁻⁴
LT coolant flow rate min./max.		m ³ /h	20/30	25/30	25/30	25/30	25/30	25/30
LT K value			1,86 x 10 ⁻³	1,89 x 10 ⁻³	2,06 x 10 ⁻³	2,06 x 10 ⁻³	2,06 x 10 ⁻³	1,9 x 10 ⁻³
HT water heat		dm ³	50	60	180	200	200	260
HT water temperature max.		°C	90	90	90	90	90	90
LT coolant temperature		°C	55	55	55	55	55	55
Exhaust backpressure max.		mbar	45	45	45	45	45	45
Maximum pressure loss in front of air cleaner		mbar	5	5	5	5	5	5
Gas flow pressure, fixed between (pressure variation +/- 10 %)		mbar	50 ... 240	50 ... 240	50 ... 240	50 ... 240	50 ... 240	50 ... 240
Starter battery 2 x 12 V, capacity required		Ah	280	280	280	280	280	280

- 1) For other MN consult Dresser-Rand
- 2) Engine power ratings and combustion air volume flows acc. to ISO 3046/1
- 3) Intake air flow at delta T = 5° including combustion air
- 4) Not including pipes and heat exchangers
- 5) These values are the mean lube oil consumption between maintenance steps

- 6) At 60 Hz, U = 0.48 kV, power factor = 1
- 7) With a tolerance of + 5 %
- 8) More flow depending on the external circuit installed
- 9) Maximum fixed on 30m³/h not to exceed the 3m³

Speed	1800 rpm	
Generator frequency	60 Hz	
Gas Type	Sewage Gas	
NOx emissions	≤ 2 g/bHPH	
Standard gas composition	CH4 62.5%, CO2 36%, N2 1,5%	1)

Engine type			SFGLD 180	SFGLD 240	SFGLD 360	SFGLD 480	SFGM 560	HGM 560
Engine power 2)		kW	350	453	700	906	1100	1350
Speed		min ⁻¹	1800	1800	1800	1800	1800	1800
Mean effective pressure		bar	13	12,6	13	12,6	13	16
Exhaust temperature	approx.	°C	407	427	414	443	516	482
Exhaust mass flow wet	approx.	kg/h	1862	2357	3613	4592	5400	6790
Combustion air mass flow 2)	approx.	kg/h	1698	2138	3287	4154	4892	6197
Combustion air temperature design		°C	25	25	25	25	25	25
Ventilation air flow 3)	approx.	m ³ /h	24500	31710	49000	63420	77000	94500
Exhaust manifold type			Wet	Wet	Wet	Wet	Dry	Dry
InterCooler Stages			Single	Single	Double	Double	Double	Double
Engine parameters								
Bore		mm	152	152	152	152	160	160
Stroke		mm	165	165	165	165	175	175
Displacement		dm ³	18,0	24,0	35,9	47,9	56,3	56,3
Number of cylinders			6	8	12	16	16	16
Compression ratio			11,8 : 1	11,8 : 1	11,8 : 1	11,8 : 1	12 : 1	12: 1
Mean piston speed		m/s	9,9	9,9	9,9	9,9	10,5	10,5
Lube oil content 4)		dm ³	70	95	150	195	232	400
Typical mean lube oil consumption 5)		g/kWh	0,35	0,35	0,35	0,35	0,20	0,20
Generator								
Efficiency 6)		%	96,1	96,2	96,6	96,5	96,8	96,9
			95,7				96,5	
Energy balance								
Electrical power 6)		kW	336	436	676	874	1065	1308
HT water heat	± 8 %	kW	198	286	477	696	569	577
LT water heat	± 8 %	kW	103,0	132,0	124,0	142,0	172,0	227,0
Exhaust cooled to 120 °C	± 8 %	kW	171	231	340	474	713	786
Engine radiation heat		kW	18	21	28	30	54	82
Generator radiation heat		kW	14	17	24	32	35	42
Fuel consumption 7)	+ 5 %	kW	896	1195	1779	2388	2772	3228
Mechanical efficiency		%	39,1	37,9	39,3	37,9	39,7	41,8
Electrical efficiency		%	37,5	36,5	38,0	36,6	38,4	40,5
Thermal efficiency		%	52,7	54,3	52,9	54,9	52,5	49,3
Total efficiency		%	90,2	90,8	90,9	91,6	90,9	89,8
System parameters								
HT water flow rate min.		m ³ /h	30	40	60	80	75	80
HT water K value			4,5 x 10 ⁻⁴	3,3 x 10 ⁻⁴	1 x 10 ⁻⁴	1,1 x 10 ⁻⁴	1,1 x 10 ⁻⁴	1,78 x 10 ⁻⁴
LT coolant flow rate min./max.		m ³ /h	20/30	25/30	25/30	25/30	25/30	25/30
LT K value			1,86 x 10 ⁻³	1,89 x 10 ⁻³	2,06 x 10 ⁻³	2,06 x 10 ⁻³	2,06 x 10 ⁻³	1,9 x 10 ⁻³
HT water heat		dm ³	50	60	180	200	200	260
HT water temperature max.		°C	90	90	90	90	90	90
LT coolant temperature		°C	55,0	55,0	55,0	55,0	55,0	55,0
Exhaust backpressure max.		mbar	45	45	45	45	45	45
Maximum pressure loss in front of air cleaner		mbar	5	5	5	5	5	5
Gas flow pressure, fixed between (pressure variation +/- 10 %)		mbar	50 ... 240	50 ... 240	50 ... 240	50 ... 240	50 ... 240	50 ... 240
Starter battery 2 x 12 V, capacity required		Ah	280	280	280	280	280	280

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- 6) At 60 Hz, U = 0.48 kV, power factor = 1
- 7) With a tolerance of + 5 %
- 8) More flow depending on the external circuit installed
- 9) Maximum fixed on 30m³/h not to exceed the 3m/5

Dimensions and other data

Engine Dimensions		SFGLD 180	SFGLD 240	SFGLD 360	SFGLD 480	SFGM 560	HGM 560
Width	mm	945	945	1368	1368	1550	1787
Length	mm	2020	2612	2637	3143	3000	3409
Height	mm	1459	1459	1738	1738	2200	2165
Dry weight genset	kg	2700	3500	4200	5450	5800	7500

Genset Dimensions (60 Hz)		SFGLD 180	SFGLD 240	SFGLD 360	SFGLD 480	SFGM 560	HGM 560
Width	mm	1200	1270	1664	1664	1669	1848
Length	mm	3024	3658	3830	4396	4669	5648
Height	mm	1846	1914	2132	2184	2176	2319
Dry weight genset	kg	4000	4940	7230	9225	10000	11735

Noise emissions* 60 Hz (1800 rpm)

Engine noise dB(A)	HZ (Frec. Band)	SFGLD 180	SFGLD 240	SFGLD 360	SFGLD 480	SFGM 560	HGM 560
	125	--	70	--	70	73	70
	250	76	86	74	84	87	84
	500	88	84	90	84	85	82
	1000	91	89	85	88	87	86
	2000	87	87	87	89	91	92
	4000	83	83	82	83	86	88
	LpA, Δ dB(A)	94	94	93	93	95	95

Exhaust noise dB(A)	HZ	SFGLD 180	SFGLD 240	SFGLD 360	SFGLD 480	SFGM 560	HGM 560
	63	99	101	102	99	103	103
	125	128	131	131	127	125	125
	250	128	131	131	114	135	136
	500	120	123	126	130	127	127
	1000	115	118	119	123	120	121
	2000	112	116	116	119	116	117
	4000	105	108	110	112	112	113
	LpA, Δ dB(A)	132	135	135	136	136	137

Notes — Data obtained according to ISO 9614-2. Data obtained @ 1 m from engine according to ISO 11203:1996. Maximum data Standard Deviation $s = \pm 4$ dB(A).

For a complete list of products and services, visit www.dresser-rand.com or contact the following:

CORPORATE HEADQUARTERS

Dresser-Rand Holdings Spain, S.L.U.
Barrio de Oikia, 44
20759 Zumaia (Gipuzkoa) Spain
PO Box 30
Tel: (Int'l +34) 943 86 52 00
Fax: (Int'l +34) 943 86 52 10

Dresser-Rand
West8 Tower, Suite 1000
10205 Westheimer Road
Houston, Texas 77042
Tel: (Int'l +1) 713-354-6100
Fax: (Int'l +1) 713-354-6110

Dresser-Rand
112, Avenue Kleber
Cedex 16
Paris 75784 France
Tel: (Int'l +33) 156 26 71 71
Fax: (Int'l +33) 156 26 71 72
Email: info@dresser-rand.com

REGIONAL HEADQUARTERS

The Americas
West8 Tower, Suite 1000
10205 Westheimer Road
Houston, Texas 77042
Tel: (Int'l +1) 713-354-6100
Fax: (Int'l +1) 713-354-6110

EMEA
(Europe, Middle East & Africa)
Dresser-Rand S.A.
31 Boulevard Winston Churchill
Cedex 7013
Le Havre 76080, France
Tel: (Int'l +33) 2-35-25-5225
Fax: (Int'l +33) 2-35-25-5366/5367

Asia-Pacific
Dresser-Rand Asia Pacific Sdn Bhd
Unit 9-4, 9th Floor
Bangunan Malaysian Re
17 Lorong Dungun
Damansara Heights
50490 Kuala Lumpur, Malaysia
Tel: (Int'l +60) 3-2093-6633
Fax: (Int'l +60) 3-2093-2622

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