

**Power Generator(2MWe Class ,1MWx2Set)
50Hz**

	Cummins	MAN	Zibo
Model	KTA50-G8	6L21/31S	1000GF
Diesel Genset Type	High-Speed	Med-Speed	Med-Speed
Diastrokes(mm)	158.8x158.8	210x310	250x320
Sylinders(-)	16	6	8
Rotation(rpm)	1.500	1.000	750
Cont.Power Rate(KWe)	1.025	1.267	1.000
: (KWm/Net)	1.068	1.320	1.103
: (KWm/Gross)	1.100		
Fuel-Consumption(L/h)	266	277	233
Rotation(RPM)	1.500	1.000	750
Fuel Density(Kg/L)	0.85	0.85	0.85
Fuel-Consum.(L/KWe)	0.2595	0.2184	0.2329
: (Kg/KWe)	0.2206	0.1856	0.1980
Fuel-Consum.(L/1MWe)	259.5	218.4	232.9
: .(Kg/1MWe)	220.6	185.6	198.0
Genset Number	2	2	2
BioFuel Heat Rate(MJ/Kg)	38.0	38.0	38.0
: Density (Kg/L)	0.91	0.91	0.91
Fuel-Consum.(L/KWe/Bio-Oil)	0.2724	0.2292	0.2445
: (Kg/KWe/Bio-Oil)	0.2479	0.2086	0.2225
: (L/2.0MWe/Bio-Oil)	544.8	458.4	489.0
: (Kg/2.0MWe/Bio-Oil)	495.7	417.2	445.0
Elec.Price(Yen/KWh)	24	24	24
Oil-Price(Yen/Kg)	75	75	75
Sales(Yen/Yr@2MW)	384.000.000	384.000.000	384.000.000
Fuel-Cost(Yen/Yr@2MW)	297.441.951	250.294.737	266.987.368
Fuel-Cost/Elec-Sales (%)	77.46%	65.18%	69.53%

60Hz

	Cummins	MAN	Zibo
Model	KTA50-G9	6L21/31S	1000GF
Diesel Genset Type	High-Speed	Med-Speed	Med-Speed
Diastrokes(mm)	158.8x158.8	210x310	250x320
Sylinders(-)	16	6	8
Rotation(RPM)	1.800	900	720
Cont.Power Rate(KWe)	1.141	1.267	1.103
: (KWm/Net)	1.189	1.320	
: (KWm/Gross)	1.224		
Fuel-Consumption(L/h)	299	276	232.9411765
Genset Number	2	2	2

Fuel Density(Kg/L)	0.85	0.85	0.85
Fuel-Consum.(L/KWe)	0.2621	0.2181	0.2329
: (Kg/KWe)	0.2227	0.1854	0.198
Fuel-Consum.(L/1MWe)	262.1	218.1	232.9
: (Kg/1MWe)	222.7	185.4	198.0
BioFuel Heat Rate(MJ/Kg)	38.0	38.0	38
: Density (Kg/L)	0.91	0.91	0.91
Fuel-Consum.(L/KWe/Bio-Oil)	0.2750	0.2289	0.2445
: (Kg/KWe/Bio-Oil)	0.2503	0.2083	0.2225
: (L/2MWe/Bio-Oil)	550.1	457.9	489.0
: (Kg/2MWe/Bio-Oil)	500.6	416.7	445.0
Elec.Price(Yen/KWh)	24	24	24
Oil-Price(Yen/Kg)	75	75	75
Sales(Yen/Yr@2MW)	384.000.000	384.000.000	384.000.000
Fuel-Cost(Yen/Yr@2MW)	300.351.631	250.010.526	266.987.368
Fuel-Cost/Elec-Sales (%)	78.22%	65.11%	69.53%

**Power Generator(2MWe Class ,2MWx1Set)
50Hz**

	Cmmmins	MAN	Zibo
Model	QSK78-G9	7L27/38S	ZC8270ZLC-2
Diesel Genset Type	High-Speed	Med-Speed	Med-Speed
Diastrokes(mm)	170x190	270x380	270x385
Sylinders(-)	18	7	8
Rotation(rpm)	1,500	750	750
Cont.Power Rate(KWe)	1,956	2,241	2,207
: (KWm/Net)	2,037	2,310	
: (KWm/Gross)	2,072		
Fuel-Consumption(L/h)	476	166	492
Rotation(RPM)	1,500	750	750
Fuel Density(Kg/L)	0.85	0.85	0.85
Fuel-Consum.(L/KWe)	0.2434	0.2220	0.2230
: (Kg/KWe)	0.2069	0.1887	0.1896
Fuel-Consum.(L//2MWe)	486.7	443.9	446.1
: (Kg/2MWe)	413.7	377.3	379.2
Genset Number	1	1	1
BioFuel Heat Rate(MJ/Kg)	38.0	38.0	38.0
: Density (Kg/L)	0.91	0.91	0.91
Fuel-Consum.(L/KWe/Bio-Oil)	0.2554	0.2330	0.2341
: (Kg/KWe/Bio-Oil)	0.2324	0.2120	0.2130
: (L/2.0MWe/Bio-Oil)	510.8	465.9	468.2
: (Kg/2.0MWe/Bio-Oil)	464.9	424.0	426.1
Elec.Price(Yen/KWh)	24	24	24
Oil-Price(Yen/Kg)	75	75	75
Sales(Yen/Yr@2MW)	384,000,000	384,000,000	384,000,000
Fuel-Cost(Yen/Yr@2MW)	278,921,860	254,400,000	255,638,158
Fuel-Cost/Elec-Sales (%)	72.64%	66.25%	66.57%

60Hz

	Cmmmins	MAN	Zibo
Model	QSK78-G8	7L27/38S	ZC8270ZLC-2
Diesel Genset Type	High-Speed	Med-Speed	Med-Speed
Diastrokes(mm)	170x190	270x380	270x385
Sylinders(-)	18	7	8
Rotation(RPM)	1,800	720	720
Cont.Power Rate(KWe)	2,200	2,241	2,207
: (KWm/Net)	2,355	2,310	
: (KWm/Gross)	2,397		
Fuel-Consumption(L/h)	569	495	492
Genset Number	1	1	1

Fuel DEnsity(Kg/L)	0.85	0.85	0.85
Fuel-Consum.(L/KWe)	0.2586	0.2207	0.2230
: (Kg/KWe)	0.2198	0.1876	0.1896
Fuel-Consum.(L//2MWe)	517.3	441.5	446.1
: (Kg/2MWe)	439.7	187.6	189.6
BioFuel Heat Rate(MJ/Kg)	38.0	38.0	38.0
: Density (Kg/L)	0.91	0.91	0.91
Fuel-Consum.(L/KWe/Bio-Oil)	0.2715	0.2317	0.2341
: (Kg/KWe/Bio-Oil)	0.2470	0.2108	0.2130
: (L/2.0MWe/Bio-Oil)	542.9	463.4	468.2
: (Kg/2.0MWe/Bio-Oil)	494.1	421.7	426.1
Elec.Price(Yen/KWh)	24	24	24
Oil-Price(Yen/Kg)	75	75	75
Sales(Yen/Yr@2MW)	384,000,000	384,000,000	384,000,000
Fuel-Cost(Yen/Yr@2MW)	296,438,110	253,010,526	255,638,158
Fuel-Cost/Elec-Sales (%)	77.20%	65.89%	66.57%