ENGINE DATASHEET

TEKSAN

ENGINE PERFORMANCE CURVE

Rating: Gross Power
Application: Generator
1800 RPM (60 Hz)

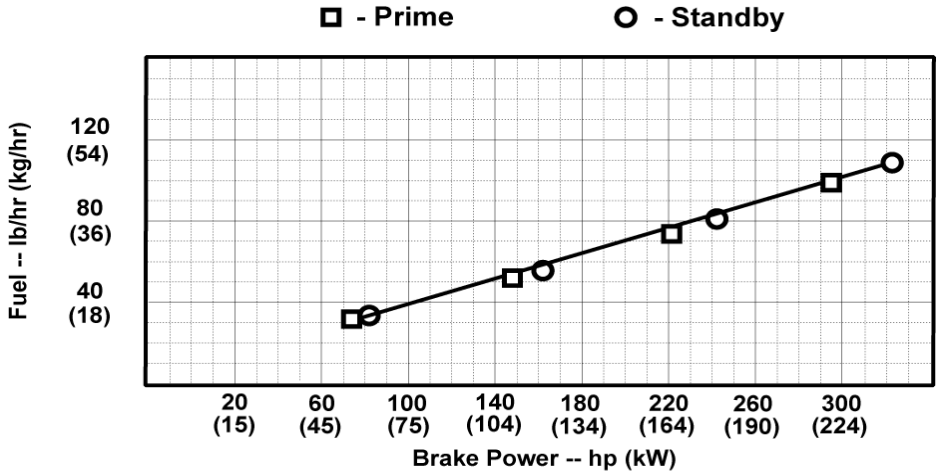
PowerTech™ PSL 6.8L Engine
Model: 6068HFG06
295 hp (220 kW) Prime
323 hp (241 kW) Standby

Dual-frequency Partner, 6068HFG06_C

Nominal Engine Power @ 1800 RPM			
Prime		Standby	
HP	kW	HP	kW
295	220	323	241

Generator Efficiency %	Fan Power (% of Standby)		Power Factor	Prime Rating		Standby Rating	
	hp	kW		kWe	kVA	kWe	kVA
90-94	9.6	7.2	0.8	191-200	239-250	210-220	263-275

Note 1: Based on nominal engine power; Fan Power is 3% of Standby.



STANDARD CONDITIONS

Air Intake Restriction.....12 in.H2O (3 kPa)
Exhaust Back Pressure.....30.1 in. H2O (7.5 kPa)

Gross power guaranteed within + or - 5%
at SAEJ1995 and ISO 3046 conditions:
- Air Inlet Temperature = 77 °F (25 °C)
- Barometer = 29.31 in.Hg (99 kPa)
- Fuel Inlet Temperature = 104 °F (40 °C)
- Fuel Specific Gravity @ 60 °F (15.5 °C) = 0.853

CONVERSION FACTORS:
- Power: kW = HP x 0.746
- Fuel: 1 Gal = 7.1 lb, 1 L = 0.85kg
- Torque: N·m = lb-ft x 1.356

All values are from currently available data and are subject to change without notice.

Notes: 1) This Performance Curve provides installation requirements necessary for the engine to emit at its certified emission levels. For additional information necessary to meet applicable regulatory requirements, refer to the John Deere Emissions-related Installation Instructions (AG01): https://power.deere.com/wps/myportal/jdps/products/engines/apguidelines. 2) A crankshaft Torsional Vibration Analysis is required on all Gen Set applications.

Designed/Calibrated to meet:	Certified by:
• CARB • EPA Tier 4 Ref: Engine Emission Label	02 MAY 2017

Performance Curve: 6068HFG06_A

Engine Installation Criteria

General Data

Model			6068HFG06	
Number of Cylinders			6	
Bore	106	mm	4.2	in.
Stroke	127	mm	5.0	in.
Displacement	6.8	L	415	$in.^3$
Compression Ratio			16.7 : 1	
Valves per Cylinder, Intake/Exhaust			2 \ 2	
Firing Order			1-5-3-6-2-4	
Combustion System			HPCR	
Engine Type			In-line, 4-cycle	
Aspiration			Turbocharged and air-to-air aftercooled	
Engine Crankcase Vent System			Open	

Physical Data

Length	1140	mm	44.9	in.
Width	780	mm	30.7	in.
Height	1205	mm	47.4	in.
Center of Gravity Location, X-axis From Rear Face of Block	420	mm	16.5	in.
Center of Gravity Location, Y-axis Right of Crankshaft	-10	mm	-0.4	in.
Center of Gravity Location, Z-axis Above Crankshaft	215	mm	8.5	in.
Max. Bending Moment about Main Bearings Front and Rear	480	N·m	354	lb-ft
Max. Allowable Static Bending Moment At Rear Face of Flywheel Housing with 5-G Load	814	N·m	600	lb-ft
Thrust Bearing Load Limit Forward, Intermittent	4000	N	899	lb
Thrust Bearing Load Limit Forward, Continuous	2200	N	495	lb
Thrust Bearing Load Limit Rearward, Intermittent	2000	N	450	lb
Thrust Bearing Load Limit Rearward, Continuous	1000	N	225	lb
Weight, with oil &no coolant (Includes engine, flywheel housing, flywheel &electrics)	785	kg	1731	lb
Max. Continuous Damper Temp	82	°C	180	°F
Max. ECU Vibration, All Axis			6.00	gRMS
Max. Torsional Vibration, Front of Crank			0.25	DDA

Electrical System

Min. Instantaneous Cranking			50	rpm
Min. Steady State Cranking			120	rpm
Starter Rolling Current, 12V @32 °F (0 °C)			450	amps
Starter Rolling Current, 24V @32 °F (0 °C)			250	amps
Starter Rolling Current, 12V @-22 °F (-30 °C)			700	amps
Starter Rolling Current, 24V @-22 °F (-30 °C)			400	amps
Min. Voltage at ECU during Cranking, 12V			6	volts
Min. Voltage at ECU during Cranking, 24V			10	volts
Max. Voltage Drop, Battery to Starter			0.8	volts
Max. Allowable Start Circuit Resistance, 12V			0.0012	Ohm
Max. Allowable Start Circuit Resistance, 24V			0.002	Ohm
Max. Voltage From Engine to Crankshaft, 12V			15	volts
Max. Voltage From Engine to Crankshaft, 24V			30	volts
Max. ECU Temperature	105	°C	221	°F
Max. VTG Actuator Surface Temp	130	°C	266	°F
Max. Air Throttle Electrical Actuator Temperature	125	°C	257	°F
Max. Harness Temperature	125	°C	257	°F
Max. Alternator Temperature	105	°C	221	°F
Max. Starter Temperature	120	°C	248	°F
Max. Temperature, All Other Electronics	125	°C	257	°F

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Engine Installation Criteria

Charge Air Cooling System

Air-to-Air Heat Rejection	59.5	kW	3387	BTU/min
Compressor Discharge Temperature @77°F(25°C) Ambient Air	240	°C	464	°F
Intake Manifold Pressure	307	kPa	44.5	psi
Compressor Discharge Temperature @117°F(47°C) 80 kPa Barametric pressure	260	°C	500	°F
Max. Temperature Out of Charge Air Cooler @All Ambient Conditions	88	°C	190	°F
Max. Pressure Drop through CAC	16	kPa	64.0	in. H_2O
Min. Pressure Drop through CAC	8	kPa	32.0	in. H_2O
Max. Temperature Out of Charge Air Cooler @77°F (25°C) Ambient Air	56	°C	133	°F
Min. Temperature Out of Charge Air Cooler @77°F (25°C) Ambient Air	48	°C	118	°F
Max. Bending Moment on Compressor Outlet	3.5	N·m	3	lb-ft
Max. Shear on Compressor Outlet	2.5	kg	6	lb

Cooling System

Engine Heat Rejection	122	kW	6944	BTU/min
Coolant Flow @10 kPa External Restriction	468	L/min	124	gal/min
Coolant Flow @40 kPa External Restriction	450	L/min	119	gal/min
Thermostat Start to Open	85	°C	185	°F
Thermostat Fully Open	97	°C	207	°F
Engine Coolant Capacity	11.9	Liter	12.6	quart
Min. Coolant Fill Rate	12	L/min	3.2	gal/min
Max. Water Pump Inlet Pressure	235	kPaa	34	psia
Min. Pump Inlet Pressure @203°F (95°C) Coolant	110	kPaa	16	psia
Min. Pump Inlet Pressure @Max. Top Tank Temperature	159	kPaa	23	psia
Max. External Coolant Restriction	50	kPa	7	psi
Max. Top Tank Temperature	113	°C	235	°F
Max. Top Tank Temperature 95% of Operating Hours	103	°C	217	°F

Exhaust System

Exhaust Flow	31.7	m^3/min	1119	$ft.^3$/min
Exhaust Temperature	400	°C	752	°F
Max. Allowable Exhaust Restriction	19.6	kPa	78	in. H_2O
Max. Bending Moment on Turbo Outlet	7.4	N·m	5.5	lb-ft
Max. Shear on Turbine Outlet	2.5	kg	6	lb
Exhaust Filter Size			5; Gen 1.5	
Exhaust Filter Pressure Drop (Clean)	12.1	kPa	48	in. H_2O
Min. Mixing Length, Outlet to Exhaust Filter			NA	
Max. Bending Moment on Exhaust Filter Inlet	110	N·m	81	lb-ft
Max. Bending Moment on Exhaust Filter Outlet	110	N·m	81	lb-ft
Max. Exhaust Leakage Rate, Engine to Exhaust Filter @30kPa	5	L/min	1.3	gal/min
Max. Temperature Drop, Engine to Exhaust Filter	30	Δ°C	54	Δ°F

Fuel System

ECU Description			L33 Controller	
Fuel Injection Pump			Denso HP6	
Governor Type			Electronic	
Total Fuel Flow	141	kg/hr	311	lb/hr
Fuel Consumption, Prime	45.0	kg/hr	99	lb/hr
Fuel Consumption, Standby	49.6	kg/hr	109	lb/hr
Fuel Temperature Rise, Inlet to Return	22	Δ°C	40	Δ°F
Min. Fuel Inlet Pressure	-30	kPa	-120	in. H_2O
Max. Fuel Return Pressure	40	kPa	160	in. H_2O
Min. Fuel Return Pressure	0	kPa	0	in. H_2O
Max. Fuel Inlet Temperature	75	°C	167	°F
Fuel Filter @98% Efficiency			2	mic

Lubrication System

Oil Pressure at Rated Speed	280	kPa	41	psi
Max. In-Pan Oil Temperature	138	°C	280	°F
Max. Crankcase Pressure	2	kPa	8	in. H_2O

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Engine Installation Criteria

Air Intake System

Engine Air Flow	16.0	m^3/min	565	$ft.^3$/min
Air Mass Flow	1084	kg/hr	2390	lb/hr
Maximum Allowable Temperature Rise, Ambient Air to Engine Inlet	8	Δ°C	15	Δ°F
Max. Air Intake Restriction, Clean Air Cleaner	3.75	kPa	15.0	in. H_2O
Max. Air Intake Restriction, Dirty Air Cleaner	6.25	kPa	25.0	in. H_2O
Air Cleaner Efficiency			99.9	%

Performance Data

Rated Power, Prime	220	kW	295	HP
Rated Power, Standby	241	kW	323	HP
Rated Speed			1800	rpm
Low Idle Speed			1200	rpm
Rated Torque, Prime	1165	N·m	859	lb-ft
Rated Torque, Standby	1280	N·m	944	lb-ft
BMEP, Prime	2180	kPa	316	psi
BMEP, Standby	2390	kPa	347	psi
Altitude Capability, Prime	3048	m	10000	ft
Altitude Capability, Standby	3048	m	10000	ft
Friction Power @Rated Speed	20	kW	27	HP
Air:Fuel Ratio, Prime			22.5 : 1	
Air:Fuel Ratio, Standby			22.2 : 1	
Noise @1 m Prime			94.1	dB(A)
Noise @1 m Standby			94.7	dB(A)
0-100% Standby Load Acceptance			6.1	sec
Load Acceptance, ISO 8528-5			G3	

Fuel Consumption	Prime		Standby	
	lb/hr	kg/h	lb/hr	kg/h
25 % Power	31.3	14.2	33.1	15.0
50 % Power	51.4	23.3	55.3	25.1
75 % Power	73.6	33.4	80.7	36.6
100 % Power	99.0	44.9	109.3	49.6

DEF Data

Rating	Engine Speed	DEF Consumption*		Percent of Diesel Consumption**
	RPM	g/kWh	lb/hp-hr	%
Standby	1800	9.0	0.0148	3.4
Prime	1800	8.5	0.0140	3.3

**DEF conversion factor: 1.087 kg/l (9.071 lb/gal)*

*** Percent of diesel consumption by volume at 100% power*

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