



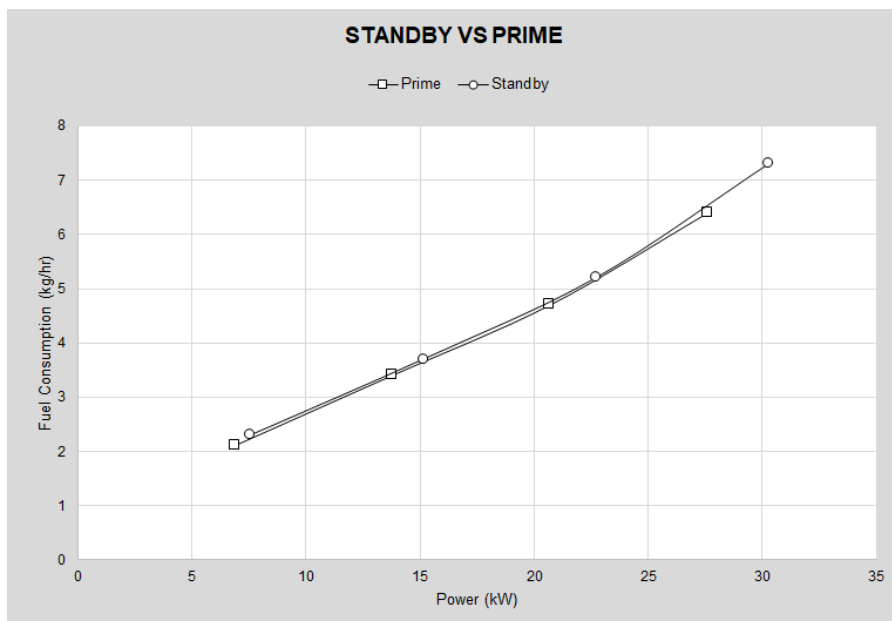
ENGINE PERFORMANCE CURVE

Rating: Gross power
Application: Generator
1500 RPM (50 Hz)

PowerTech™ 2.9L Engine
Model: 3029DFU20
37 hp 28 kW Prime
41 hp 30 kW Standby

Nominal Engine Power @ RPM			
Prime		Standby	
HP	kW	HP	kW
37	28	41	30

Generator Efficiency %	Fan power (% of Standby)		Power Factor	Prime Rating		Standby Rating	
	hp	kW		kWe	kVA	kWe	kVA
90	2.2	1.6	0.8	23	29	26	32



STANDARD CONDITIONS

Air Intake Restriction 3 kPa
Exhaust Back Pressure 7.5 kPa
Gross Power Guaranteed within + or - 5% at SAEJ1995 and ISO 3046 conditions:
Air Inlet Temperature = 25 °C
Barometer = 29.31 kPa
Fuel Inlet Temperature = 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 = 0.85 kg
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.

Designed/Calibrated to meet:

Certified By:

Non-certified

PORCHERON A.

Ref: Engine Emission Label

09-Mar-21

Performance Curve: 3029DFU20_A

Engine Installation Criteria

General Data

Engine Model	3029DFU20	
Number of Cylinders	3	
Bore	106 mm	4.2 in.
Stroke	110 mm	4.3 in.
Displacement	2.9 L	177 in. ³
Compression Ratio	17.2 : 1	
Valves per Cylinder, Intake/Exhaust	2	
Firing Order	1-2-3	
Combustion System	Direct Injection	
Engine Type	In-line, 4-Cycle	
Aspiration	Natural	
Engine Crankcase Vent System	Open	

Physical Data

	GSPU engine	
Length	890 mm	35 in.
Width	620 mm	24.4 in.
Height	940 mm	37 in.
Weight, with oil&no coolant (Includes engine, flywheel housing, flywheel&electronics)	410 kg	903.9 lb
Center of Gravity Location, X-axis From Rear Face of Block	-18.08 mm	-0.7 in.
Center of Gravity Location, Y-axis Right of Crankshaft	149.86 mm	5.9 in.
Center of Gravity Location, Z-axis Above Crankshaft	236.3 mm	9.3 in.
Max. Allowable Static Bending Moment at Rear Face of Flywheel Housing with 5-G Load	814 N·m	602.4 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
Max. Continuous Damper Temp	#N/A °F	
Max. Torisonal Vibration, Front of Crank	#N/A DDA	

Electrical System

Starter Rolling Current, 12V @32 °F (0 °C)	640 amps	
Starter Rolling Current, 24V @32 °F (0 °C)	570 amps	
Starter Rolling Current, 12V @-22 °F (-30°C)	1000 amps	
Starter Rolling Current, 24V @-22 °F (-30°C)	700 amps	
Min. Voltage at ECU during Cranking, 12V	6 volts	
Min. Voltage at ECU during Cranking, 24V	10 volts	
Max. Allowable Start Circuit Resistance, 12V	0.00120 Ohm	
Max. Allowable Start Circuit Resistance, 24V	0.00200 Ohm	
Max. Voltage From Engine to Crankshaft, 12V	#N/A volts	
Max. Voltage From Engine to Crankshaft, 24V	#N/A volts	
Max. ECU Temperature	105 °C	221 °F
Max. Alternator Temperature	105 °C	221 °F
Max. Starter Temperature	120 °C	248 °F
Max. Temperature, All Other Electronics	125 °C	257 °F

Charge Air Cooling System

Air-to-Air Heat Rejection	#N/A kW	#N/A BTU/min
Compressor Discharge Temperature @ 77°F(25°C)	#N/A °C	#N/A °F
Ambient Air		
Intake Manifold Pressure	#N/A kPa	#N/A psi
Max. Temperature Out of Charge Air Cooler @ All Ambient Conditions	#N/A °C	#N/A °F
Max. Pressure Drop through CAC	#N/A kPa	#N/A in. H ₂ O
Max. Temperature Out of Charge Air Cooler 77°F (25°C)	#N/A °C	#N/A °F
Ambient Air		

Cooling System

Engine Heat Rejection	18 kW	995.2 BTU/min
Coolant Flow @ 10 kPa External Restriction	98 L/min	25.8 gal/min
Thermostant Start to Open	82 °C	179.6 °F
Thermostat Fully Open	94 °C	201.2 °F
Engine Coolant Capacity	6 Liter	6.0 quart
Min. Coolant Fill Rate	11 L/min	2.9 gal/min
Min. Pump Inlet Pressure @ 203°F (95°C)		
Coolant	30 kPa	4.4 psi
Max. External Coolant Restriction	30 kPa	4.4 psi
Max. Top Tank Temperature	105 °C	221.0 °F
Max. Top Tank temperature 95% of Operating Hours	103 °C	217 °F
Min. Air-to-Boil Temperature	54.4°C	130 °F

Performance Curve: 3029DFU20

Engine Installation Criteria

Exhaust System

Exhaust Flow	5.2 m ³ /min	184 ft ³ /min
Exhaust Temperature	595 °C	1103 °F
Max. Allowable Exhaust Restriction	7.5 kPa	30 in. H ₂ O
Max. Bending Moment on Turbo Outlet	#N/A N·m	#N/A lb-ft
Max. Shear on Turbine Outlet	#N/A kg	#N/A lb

Fuel System

ECU Description	#N/A	
Fuel Injection Pump	Delphi DP100G	
Governor Type	Mechanical	
Total Fuel Flow	48 kg/hr	106 lb/hr
Fuel Consumption, Prime	7.3 kg/hr	15.4 lb/hr
Fuel Temperature Rise, Inlet to Return	8 Δ°C	46.4 Δ°F
Min. Fuel Inlet Pressure	-30 kPa	-121 in. H ₂ O
Max. Fuel Inlet Pressure	69 kPa	277 in. H ₂ O
Max. Fuel Return Pressure	10 kPa	40 in. H ₂ O
Min. Fuel Return Pressure	kPa	0 in. H ₂ O
Max. Fuel Inlet Temperature	85 °C	185 °F
Fuel Filter @98% Efficiency	mic	

Lubrication System

Oil Pressure at Rated Speed	303 kPa	44 psi
Max. Crankcase Pressure	1 kPa	2 in. H ₂ O

Air Intake System

Engine Air Flow	1.9 m ³ /min	65 ft. ³ /min
Air Mass Flow	126 kg/hr	278 lb/hr
Maximum Allowable Temperature Rise, Ambient Air to Engine Inlet	8 Δ°C	15 Δ°F
Max. Air Intake Restriction, Clean Air Clearer	3.75 kPa	15 in. H ₂ O
Max. Air Intake Restriction, Dirty Air Clearer	6.25 kPa	25 in. H ₂ O
Air Cleaner Efficiency	99.9 %	

Performance Data

Rated Power, Prime	28 kW	37 HP
Rated Power, Standby	30 kW	41 HP
Rated Speed	1500 rpm	
Low Idle Speed	NA rpm	
Rated Torque, Prime	173 N·m	127.6 lb-ft
Rated Torque, Standby	192 N·m	141.6 lb-ft
BMEP, Prime	747 kPa	108 psi
BMEP, Standby	832 kPa	121 psi
Altitude Capability, Prime	2300 m	7546 ft
Altitude Capability, Standby	1500 m	4921 ft
Friction Power @Rated Speed	13.0 kW	17 HP
Air: Fuel Ratio, Prime	: 1	
Air: Fuel Ratio, Standby	17 : 1	
Noise @1 m Prime	107.7 dB(A)	
Noise @1 m Standby	107.9 dB(A)	
0-100% Standby Load Acceptance	#N/A sec	
Load Acceptance, ISO 8528-5	G2	

Fuel Consumption	Prime		Standby	
	kg/h	lb/hr	kg/h	lb/hr
25 % Power	2.1	4.6	2.3	5.1
50 % Power	3.4	7.5	3.7	8.2
75 % Power	4.7	10.4	5.5	12.1
100 % Power	6.4	14.1	7.3	16.1

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