



**ENGINE PERFORMANCE CURVE**

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

**POWERTECH 2.9L Engine**  
 Model: **3029TFU29**  
**58 hp (43 kW) Prime**  
**64 hp (48 kW) Standby**  
 [Option 16QS / 16SR]

Nominal Engine Power @ 1800 RPM			
Prime		Standby	
HP	kW	HP	kW
58	43	64	48

Generator Efficiency %	Fan Power		Power Factor	Prime Rating		Standby Rating <sup>1</sup>		4 sec Standby Block Load Capability
	hp	kW		kW	kVA	kW	kVA	
88-92	4	3	0.8	35-37	44-46	39-41	49-51	100%

Note 1: Based on nominal engine power.

Air Intake Restriction ..... 12 in.H<sub>2</sub>O (3 kPa)  
 Exhaust Back Pressure ..... 30 in.H<sub>2</sub>O (7.5 kPa)

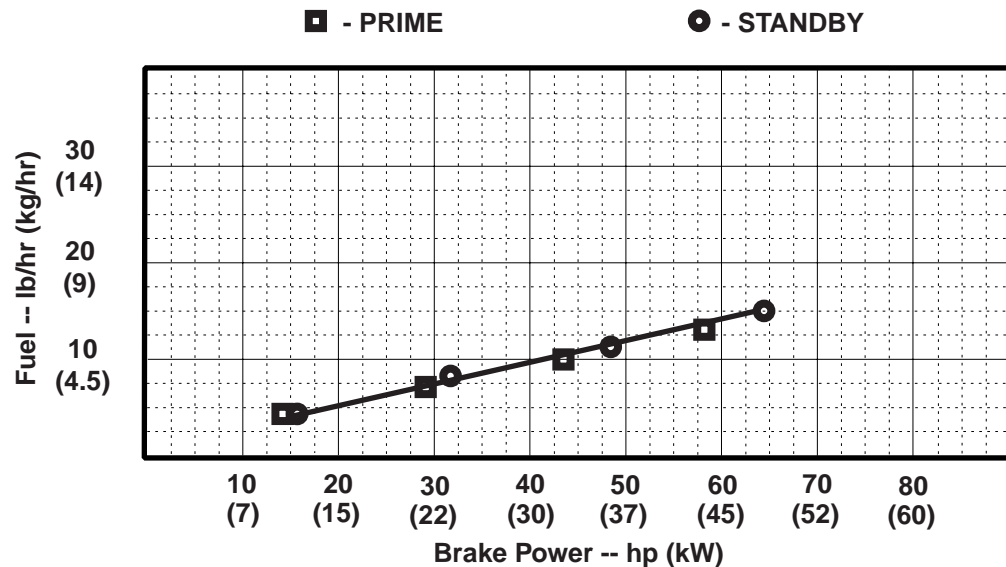
Gross power guaranteed within + or - 5% at SAE J1995 and ISO 3046 conditions:

- 77 °F (25 °C) air inlet temperature
- 29.31 in.Hg (99 kPa) barometer
- 104 °F (40 °C) fuel inlet temperature
- 0.853 fuel specific gravity @ 60 °F (15.5 °C)

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:

Emission Certifications:

Certified by:

CARB; EPA\*

Ref: Engine Emission Label

\* Revised Data

Curve 3029TFU29 ..... Sheet 1 of 2  
 November 2000

## Engine Specification Data

### General Data

Model .....	3029TFU29
Number of Cylinders .....	3
Bore and Stroke--in.(mm) .....	4.19 x 4.33 (106 x 110)
Displacement--in. <sup>3</sup> (L) .....	177 (2.9)
Compression Ratio .....	17.2:1
Valves per Cylinder--Intake/Exhaust .....	1/1
Firing Order .....	1-2-3
Combustion System .....	Direct Injection
Engine Type .....	In-line, 4-Cycle
Aspiration .....	Turbocharged
Engine Crankcase Vent System .....	Open
Maximum Crankcase Pressure--in.H <sub>2</sub> O (kPa) .....	2 (0.5)

### Physical Data

Length--in.(mm) .....	28.2 (716)
Width--in.(mm) .....	20.4 (519)
Height--in.(mm) .....	32.2 (819)
Weight, dry--lb (kg).....	697 (316)
(Includes SAE 4 flywheel housing, RE28119 flywheel, starter and electrics.)	
Center of Gravity Location	
From Rear Face of Block (X-axis)--in.(mm).....	7.8 (198)
Right of Crankshaft (Y-axis)--in.(mm) .....	0.4 (10)
Above Crankshaft (Z-axis)--in.(mm) .....	4.9 (124)
Max. Allow. Static Bending Moment at Rear	
Face of Flywhl Hsg w/ 5-G Load--lb-ft (N*m) ...	600 (814)
Thrust Bearing Load Limit (Forward)	
Continuous--lb (N) .....	500 (2224)
Intermittent--lb (N).....	900 (4003)

### Electrical System

Recommended Battery Capacity (CCA)	
12 Volt System--amp .....	640
24 Volt System--amp .....	570
Maximum Allowable Starting Circuit Resistance	
12 Volt System--Ohm.....	0.0012
24 Volt System--Ohm.....	0.002
Starter Rolling Current--12 Volt System	
At 32 °F ( 0 °C)--amp .....	780
At -22 °F (-30 °C)--amp .....	1000
Starter Rolling Current--24 Volt System	
At 32 °F (0 °C)--amp.....	600
At -22 °F (-30 °C)--amp .....	700

### Air System

	<u>Prime</u>	<u>Standby</u>
Maximum Allowable Temp Rise--Ambient Air to Engine Inlet--°F (°C) .....	15 (8)	15 (8)
Maximum Air Intake Restriction		
Dirty Air Cleaner--in.H <sub>2</sub> O (kPa) .....	25 (6.25)	25 (6.25)
Clean Air Cleaner--in.H <sub>2</sub> O (kPa) .....	12 (3)	12 (3)
Engine Air Flow--ft <sup>3</sup> /min (m <sup>3</sup> /min) .....	124 (3.5)	127 (3.6)
Intake Manifold Pressure--psi (kPa) .....	10 (67)	11 (77)
Rec'd. Intake Pipe Dia--in.(mm).....	2.5 (63.5)	2.5 (63.5)

### Exhaust System

	<u>Prime</u>	<u>Standby</u>
Exhaust Flow--ft <sup>3</sup> /min (m <sup>3</sup> /min).....	300 (8.5)	325 (9.2)
Exhaust Temperature--°F (°C) .....	896(480)	941(505)
Max. Allow. Back Press.--in.H <sub>2</sub> O (kPa).....	30 (7.5)	30 (7.5)
Recm'd Exhaust Pipe Dia--in.(mm) ...	2.5 (63.5)	2.5 (63.5)

### Cooling System

	<u>Prime</u>	<u>Standby</u>
Engine Heat Reject.--BTU/min (kW) .	1423 (25)	1593 (28)
Coolant Flow--gal/min (L/min).....	29 (110)	29 (110)
Thermostat Start to Open--°F (°C).....	180 (82)	180 (82)
Thermostat Fully Open--°F (°C).....	201 (94)	201 (94)
Maximum Water Pump		
Inlet Restriction--in.H <sub>2</sub> O (kPa) .....	28 (7)	28 (7)
Engine Coolant Capacity--qt (L) .....	6 (5.7)	6 (5.7)
Recm'd Pressure Cap--psi (kPa).....	10* (69*)	10* (69*)
Maximum Top Tank Temp--°F (°C) .....	221 (105)	221 (105)
Min. Coolant Fill Rate--gal/min (L/min) .....	3 (11)	3 (11)
Min. Air-to-Boil Temperature--°F (°C) ..	117 (47)	117 (47)

### Fuel System

	<u>Prime</u>	<u>Standby</u>
Fuel Injection Pump .....	Stanadyne	Stanadyne
Governor Regulation.....	5 %	5 %
Governor Type .....	Mech	Mech
Total Fuel Flow--lb/hr (kg/hr).....	209 (95)	209 (95)
Fuel Consumption--lb/hr (kg/hr).....	21(9.5)	23 (10.6)
Maximum Fuel Transfer Pump Suction--		
ft (m) fuel.....	3 (0.9)	3 (0.9)
Fuel Filter Micron Size @ 98 % Efficiency .....	8	8

### Lubrication System

	<u>Prime</u>	<u>Standby</u>
Oil Pressure at Rated Speed--psi (kPa).....	50 (345)	50 (345)
Oil Pressure at Low Idle--psi (kPa) .....	15 (105)	15 (105)
In Pan Oil Temperature--°F (°C) .....	239 (115)	239 (115)
Oil Pan Capacity, High--qt (L) .....	8 (7.6)	8 (7.6)
Oil Pan Capacity, Low--qt (L).....	7 (6.6)	7 (6.6)
Total Engine Oil Cap. w/ Filters--qt (L) ...	9 (8.5)	9 (8.5)
Engine Angularity Limits (Continuous)		
Any Direction--degrees.....	20	20

### Performance Data

	<u>Prime</u>	<u>Standby</u>
Rated Power--hp (kW) .....	58 (43)	64 (48)
Rated Speed--rpm .....	1800	1800
Low Idle Speed--rpm .....	1400	1400
BMEP--psi (kPa) .....	142 (977)	158 (1090)
Friction Power		
@ Rated Speed--hp (kW) .....	21 (16)	21 (16)
Altitude Capability--ft (m) .....	7500 (2285)	5000 (1525)
Ratio--Air : Fuel.....	24.8:1	23.0:1
Noise--dB(A) @ 1 m .....	92.4	92.7

### Fuel Consumption -- lb/hr (kg/h)

	<u>Prime</u>	<u>Standby</u>
25 % Power .....	4 (3.1)	4 (3.1)
50 % Power .....	7 (5.1)	8 (5.7)
75 % Power .....	10 (7.4)	11 (8.2)
100 % Power .....	13 (9.5)	14 (10.6)

All values at rated speed and power with standard options unless otherwise noted.

\* Revised Data  
Curve 3029TFU29 ..... Sheet 2 of 2  
November 2000