



ENGINE PERFORMANCE CURVE

Rating: Gross Power

Application: Industrial
Intermittent / Continuous

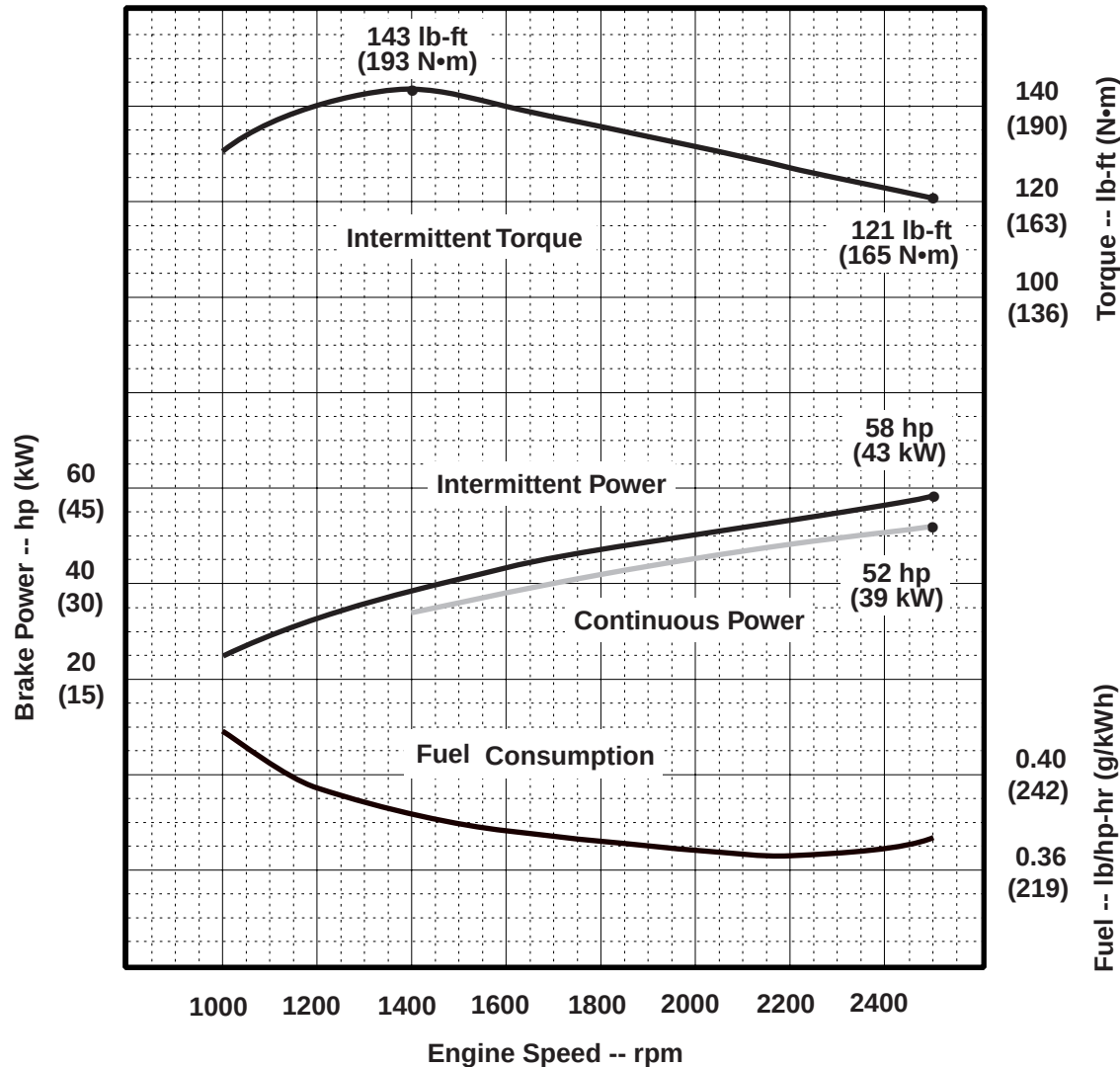
POWERTECH 2.9L Engine

Model: 3029DV100

[Option 16QU]

58 hp @ 2500 rpm

43 kW @ 2500 rpm



Air Intake Restriction 12 in.H₂O (3 kPa)
Exhaust Back Pressure 30 in.H₂O (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:

Tier-1 Emission Certifications:

Certified by:

NONE*
Ref: Engine Emission Label

* Revised Data

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Nov 2021

Common Specifications:

General Data

Models (with auxiliary drive)	5202 SAE A
(without auxiliary drive).....	5299
Number of Cylinders	3
Bore and Stroke--in. (mm).....	4.19 x 4.33 (106 x 110)
Displacement--in. ³ (L)	179 (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	Natural
Engine Crankcase Vent System.....	Open
Maximum Crankcase Pressure--in. H ₂ O (kPa)	2 (0.5)

Physical Data

Without A/D With A/D

Length--in. (mm)	28.2 (716) ...28.2 (716)
Width--in. (mm)	20.4 (519) ...20.8(528)
Height--in. (mm)	32.2 (819) ...32.2 (819)
Weight, dry--lb (kg)	696 (316) 698 (317)
(Includes SAE 4 flywheel housing, 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).....	0.3 (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 Brng. Load Limit (Forward)--lb (N) [I].....	900 (4003)
[C]	500 (2224)

Fuel System

Fuel Injection Pump	Stanadyne
Governor Regulation	7-10 %
Governor Type.....	Mechanical
Total Fuel Flow--lb/hr (kg/hr)	217 (98)
Fuel Consumption--lb/hr (kg/hr) [I].....	21.5 (9.8)
[C]	19.4 (8.8)
Maximum Fuel Transfer Pump Suction--ft (m) fuel....	3 (0.9)
Fuel Filter Micron Size @ 98% Efficiency	8

Engine Specification Data

Lubrication System

Oil Pressure at Rated Speed--psi (kPa).....	50 (345)
Oil Pressure at Low Idle-psi (kPa)	15 (105)
In Pan Oil Temperature--°F (°C)	240 (115)
Oil Pan Capacity, High--qt (L)	5.3 (5)
Oil Pan Capacity, Low--qt (L)	4.3 (4.1)
Total Engine Oil Capacity with Filters--qt (L).....	6.3 (6)
Engine Angularity Limits, Any Direction--Degrees [I].....	30
[C].....	20

Air System

Maximum Allowable Temp Rise--Ambient Air to	
Engine Inlet--°F (°C)	15 (8)
Maximum Air Intake Restriction	
Dirty Air Cleaner--in. H ₂ O (kPa)	25 (6.25)
Clean Air Cleaner--in. H ₂ O (kPa).....	12 (3)
Engine Air Flow--ft ³ /min (m ³ /min) [I]	100 (2.8)
[C].....	90 (2.5)
Intake Manifold Pressure--psi (kPa).....	Ambient
Recommended Intake Pipe Diameter--in. (mm) ..	2.5 (63.5)

Cooling System

Engine Heat Rejection--BTU/min (kW) [I]	1480 (26)
[C].....	1365 (24)
Coolant Flow--gal/min (L/min).....	38.5 (145)
Thermostat Start to Open--°F (°C)	180 (82)
Thermostat Fully Open--°F (°C).....	202 (94)
Max. Water Pump Inlet Restriction--in. H ₂ O (kPa)...	40 (10)
Engine Coolant Capacity--qt (L)	6 (5.7)
Recommended Pressure Cap--psi (kPa).....	7 (48)*
Maximum Top Tank Temp--°F (°C).....	221 (105)
Minimum Coolant Fill Rate--gal/min (L/min)	3 (11)
Min. Limiting Ambient Temperature--°F (°C).....	108 (42)

Exhaust System

Exhaust Flow--ft ³ /min (m ³ /min) [I].....	318 (9)
[C].....	250 (7)
Exhaust Temperature--°F (°C).....	1202 (650)
Max. Allowable Back Pressure--in. H ₂ O (kPa).....	30 (7.5)
Rec'd. Exhaust Pipe Diameter--in. (mm)	2.5 (63.5)

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

Performance Data

Rated Power--hp (kW) [I].....	58 (43)
[C].....	52 (39)
Rated Speed--rpm	2500
Peak Torque--lb-ft (N•m) [I].....	143 (193)
[C]	128 (173)
Peak Torque Speed--rpm.....	1400
Low Idle Speed--rpm	850
BMEP--psi (kPa) [I]	103 (710)
[C].....	92 (634)
Friction Power @ Rated Speed--hp (kW).....	26 (19)
Altitude Capability--ft (m)	1000 (300)*
Ratio--Air : Fuel [I]	21:1
[C]	24:1
Smoke @ Rated Speed--Bosch No [I].....	<2
[C].....	<2
Noise--dB(A) @ 1 m	
No Aux Drive Aux Drive	
[I].....	97.1
[C]	96.7

Engine Speed rpm	Contin. Limit hp(kW)	Intermit. Power hp(kW)	Intermit. Torque lb-ft(N•m)	BSFC lb/hp-hr (g/kWh)
2500	52 (39)	58 (43)	121 (165)	0.373 (227)
2400	51 (38)	56 (42)	123 (166)	0.369 (225)
2200	48 (36)	53 (40)	127 (172)	0.367 (224)
2000	45 (34)	50 (37)	131 (178)	0.369 (225)
1800	42 (31)	47 (35)	136 (186)	0.372 (227)
1600	38 (28)	43 (32)	140 (191)	0.377 (230)
1400	34 (25)	38 (28)	143 (193)	0.383 (234)
1200		33 (24)	140 (190)	0.395 (241)
1000		25 (19)	131 (178)	0.419 (255)

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

[I] = Intermittent Data [C] = Continuous Data
Unless noted, all other values pertain to both.

* Revised Data

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Nov 2021