

ZPP NA 644

6 Cylinder Inline | Naturally-Aspirated |
4.4L - Gasoline, Natural Gas, Propane |

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Specifications

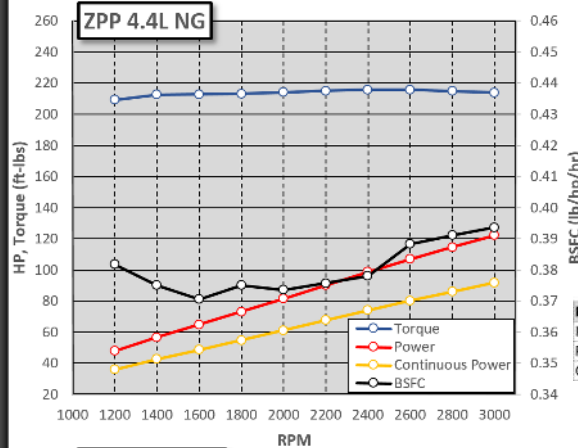
| | |
|-------------------------|-----------------------------------|
| # of Cylinders | 6 Inline |
| Operation | 4-stroke |
| Ignition | Spark-Ignited |
| # of Valves | 2/cylinder |
| Firing Order | 1-5-3-6-4-2 |
| Bore x Stroke | 98.4 X 96.8 mm 3.874" x 3.811" |
| Displacement | 4416 cc / 269.5 ci |
| Compression Ratio | 9.7 : 1 |
| Dry Weight | 193 kg / 424.6 lbs |
| Piston Speed @ 2400 rpm | 1,524 fpm |
| Piston Speed @ 1800 rpm | 1,143 fpm |
| Oil Capacity | 5.7L / 6.0 qts |
| Electrical System | 12 Volt |

Standard Features

| | |
|---|---------------------------------|
| ☆ | US EPA Certified |
| ☆ | CAN bus controlled—J1939 |
| ☆ | Full Built-in Engine Protection |
| ☆ | Stoichiometric Combustion |
| ☆ | Cast Iron block and head |

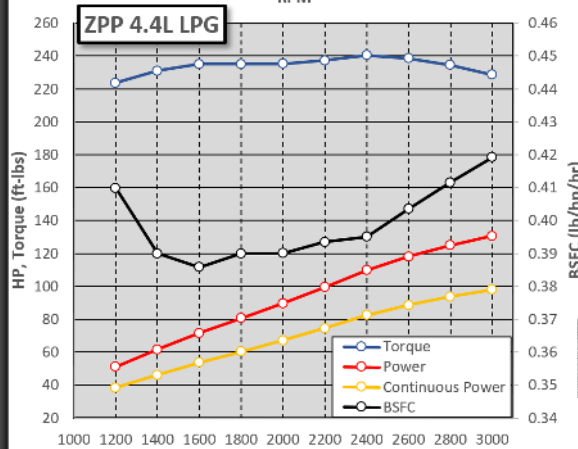
Optional Features

| | |
|---|-----------------------------|
| ☆ | Customer Specific Packaging |
| ☆ | Turn-Key Enclosures |

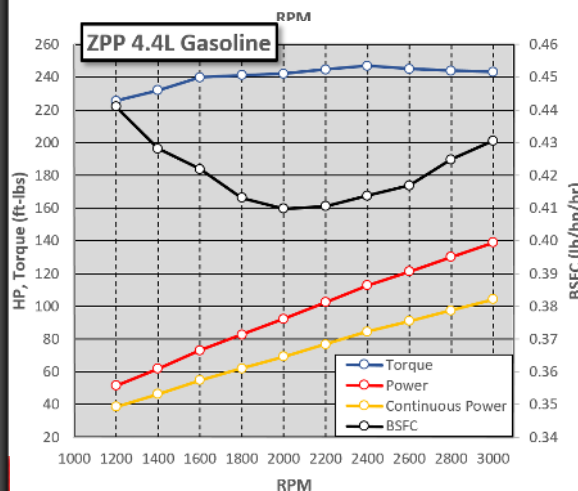


| | Industrial Rating (bHP) | | Genset Rating (kWe) |
|--------------|-------------------------|----------|---------------------|
| Rating | 2400 rpm | 1800 rpm | 1800 rpm |
| Intermittent | 98.6 | 73.1 | 50.7 |
| Prime | 88.8 | 65.8 | 45.6 |
| Continuous | 74.0 | 54.8 | 38.0 |

*All data is corrected per SAE J1349
*Performance is NET including losses from engine auxiliaries (alternator, fan, water pump, air cleaner, catalyst)
*NG is pipeline grade gas
*LPG is commercial grade
*Gasoline is pump gasoline
*Electrical kW calculated with 92% generator efficiency



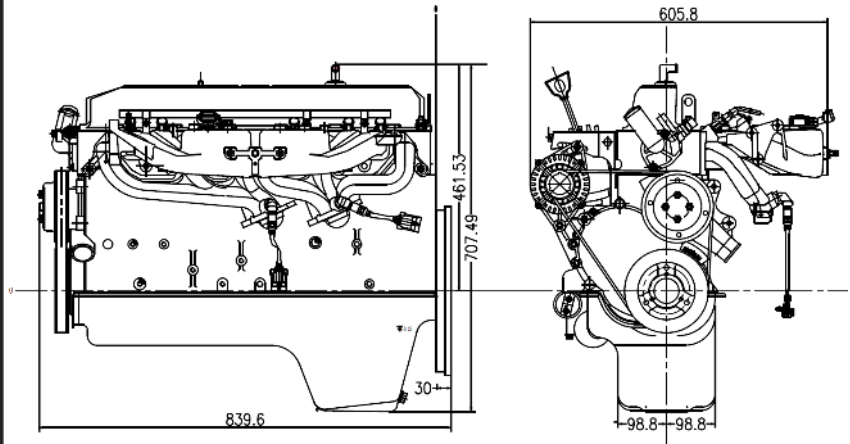
| | Industrial Rating (bHP) | | Genset Rating (kWe) |
|--------------|-------------------------|----------|---------------------|
| Rating | 2400 rpm | 1800 rpm | 1800 rpm |
| Intermittent | 109.8 | 80.6 | 55.9 |
| Prime | 98.9 | 72.5 | 50.3 |
| Continuous | 82.4 | 60.4 | 41.9 |



| | Industrial Rating (bHP) | | Genset Rating (kWe) |
|--------------|-------------------------|----------|---------------------|
| Rating | 2400 rpm | 1800 rpm | 1800 rpm |
| Intermittent | 112.8 | 82.7 | 57.3 |
| Prime | 74.4 | 74.4 | 51.6 |
| Continuous | 62.0 | 62.0 | 43.0 |

Fuel System Features

- ☆ Natural Gas, LPG, or Gasoline
- ☆ Air-valve Mixer based fueling
- ☆ Electronic, closed-loop control
- ☆ EPA certified to pipeline quality fuels
- ☆ Electronic Throttle body
- ☆ Inline catalyst provided with engine



**All data is corrected per SAE J1349*

Pipeline NG

| RPM | Torque ft-lbs (Nm) | Power BHP (kW) | BMEP (psi) | Fuel Flow (lb/hr) | Air Flow (lb/hr) | BSFC (lb/hp/hr) | Exhaust Outlet (F) |
|-------------|-----------------------|--------------------|---------------|----------------------|---------------------|--------------------|-----------------------|
| 2800 | 214.9 (291.4) | 114.6 (85.4) | 120.3 | 44.8 | 735.0 | 0.391 | 1,485 |
| 2400 | 215.8 (292.6) | 98.6 (73.5) | 120.8 | 37.3 | 611.2 | 0.378 | 1,410 |
| 2000 | 214.1 (290.3) | 81.5 (60.8) | 119.9 | 30.4 | 499.3 | 0.374 | 1,335 |
| 1800 | 213.2 (289.1) | 73.1 (54.5) | 119.4 | 27.4 | 449.6 | 0.375 | 1,299 |
| 1600 | 212.7 (288.4) | 64.8 (48.3) | 119.1 | 24.0 | 393.8 | 0.371 | 1,259 |
| 1200 | 209.3 (283.7) | 47.8 (35.7) | 117.2 | 18.2 | 299.3 | 0.382 | 1,142 |

Commercial LPG

| RPM | Torque ft-lbs (Nm) | Power BHP (kW) | BMEP (psi) | Fuel Flow (lb/hr) | Air Flow (lb/hr) | BSFC (lb/hp/hr) | Exhaust Outlet (F) |
|-------------|-----------------------|---------------------|---------------|----------------------|---------------------|--------------------|-----------------------|
| 2800 | 234.4 (317.8) | 125.0 (93.2) | 131.3 | 51.4 | 805.4 | 0.412 | 1,517 |
| 2400 | 240.4 (325.9) | 109.8 (81.9) | 134.6 | 43.4 | 679.5 | 0.395 | 1,453 |
| 2000 | 235.3 (319.0) | 89.6 (66.8) | 131.7 | 34.9 | 547.3 | 0.390 | 1,388 |
| 1800 | 235.1 (318.7) | 80.6 (60.1) | 131.6 | 31.4 | 492.0 | 0.390 | 1,353 |
| 1600 | 235.1 (318.7) | 71.6 (53.4) | 131.6 | 27.6 | 432.7 | 0.386 | 1,310 |
| 1200 | 223.6 (303.2) | 51.1 (38.1) | 125.2 | 20.9 | 328.0 | 0.410 | 1,178 |

Gasoline

| RPM | Torque ft-lbs (Nm) | Power BHP (kW) | BMEP (psi) | Fuel Flow (lb/hr) | Air Flow (lb/hr) | BSFC (lb/hp/hr) | Exhaust Outlet (F) |
|-------------|-----------------------|---------------------|---------------|----------------------|---------------------|--------------------|-----------------------|
| 2800 | 243.9 (330.6) | 130.0 (97.0) | 136.5 | 55.2 | 812.0 | 0.425 | 1,626 |
| 2400 | 246.9 (334.7) | 112.8 (84.1) | 138.2 | 46.7 | 686.1 | 0.414 | 1,577 |
| 2000 | 242.2 (328.3) | 92.2 (68.8) | 135.6 | 37.8 | 555.5 | 0.410 | 1,528 |
| 1800 | 241.2 (327.0) | 82.7 (61.6) | 135.0 | 34.1 | 502.0 | 0.413 | 1,481 |
| 1600 | 239.9 (325.3) | 73.1 (54.5) | 134.3 | 30.8 | 453.2 | 0.422 | 1,446 |
| 1200 | 225.5 (305.7) | 51.5 (38.4) | 126.2 | 22.7 | 334.0 | 0.441 | 1,366 |