

DIESEL/NATURAL GAS/ELECTRIC PERFORMANCE COMPARISONS

BELLE™ Written-Pole® Single-Phase versus Three-Phase Electric Motors and Fuel Generators

Description	Written-Pole® Single-Phase	Conventional Three-Phase	Conventional Diesel	Natural Gas
Rated Output (hp)	75	75	75 (pump hp)	75 (pump hp)
Rated Input Voltage	480	480	NA	NA
Full Load Speed (rpm)	1800	1750	NA	NA
Full Load Current (amps)	121 (2 Wires)	83 (3 Wires)	NA	NA
Peak Starting Current (amps)	220	502-670	NA	NA
Operating Efficiency (%)	94.5%	94.5%	25.0%	25.0%
Power Factor (pf)	Near Unity	0.85	NA	NA
Input Power (kW at Rated Output)	59.2 kW	59.2 kW	237 kW	237 kW
Input Demand (kVA at Rated Output)	59.2 kVA	69.6 kVA	NA	NA
Starting Demand (kVA)	106 kVA	417-557 kVA	NA	NA
Hourly Operating Cost	\$6.51 per hour (\$0.11 per kWh)	\$6.51 per hour (\$0.11 per kWh)	\$11.26 per hour (\$2.60 per gallon)	\$9.55 per hour (\$11.58 per MM BTU)
Monthly Demand Charges	Peak kVa demand is lower for Written-Pole® single-phase motors than comparable three-phase motors resulting in lower demand bills where applicable.			
Frame Size (NEMA)	445 ^T	365 ^T	NA	NA
Conductor Size (200 Feet)	1/0 Awg (2 Wires)	3 Awg (3 Wires)	NA	NA
Circuit Breaker/Fuse Size (amps)	150 Amps (2 Wires)	125 – 175 Amps (3 Wires)	NA	NA
Utility Transformer Size (kVA)	60 kVA	70 kVA	NA	NA

Specifications for comparison purposes only. Field performance may vary depending on voltage drop, voltage imbalance (three-phase), operating environment (altitude, etc.) and other related factors. kWh based on average price from TX, CA, OK, NE, WY, NM, KS. Fuel consumption based on 5.3 gallons per hour. Natural gas consumption based on 825 CF/Hr.

Additional Information

Contact us for more information on how the BELLE™ Written-Pole® single-phase motors, can help you improve productivity and increase profits.