

# DIESEL/ELECTRIC PERFORMANCE COMPARISONS

## BELLE™ Written-Pole® Single-Phase versus Three-Phase Electric Motors and Diesel Engines

Description	Written-Pole® Single-Phase	Conventional Three-Phase	Conventional Diesel
Rated Output (hp)	75	75	75 (pump hp)
Rated Input Voltage	480	480	NA
Full Load Speed (rpm)	1800	1775	NA
Full Load Current (amps)	116	83	NA
Peak Starting Current (amps)	220	430-575	NA
Operating Efficiency (%)	94.5%	94.5%	25.0%
Power Factor (pf)	Near Unity	0.85	NA
Input Power (kW at Rated Output)	59.2 kW	59.2 kW	179 kW
Input Demand (kVA at Rated Output)	59.2 kVA	67.7 kVA	NA
Starting Demand (kVA)	101 kVA	365-420 kVA	NA
Hourly Operating Cost	\$6.55 per hour (\$0.11 per kWh)	\$6.55 per hour (\$0.11 per kWh)	\$11.26 per hour (\$2.60 per gallon)
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 <sup>T</sup>	326 <sup>T</sup>	NA
Conductor Size (200 Feet)	1/0 Awg	3 Awg	NA
Circuit Breaker/Fuse Size (amps)	150 Amps	125 – 175 Amps	NA
Transformer Size (kVA)	75 kVA	100 kVA	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.

### Additional Information

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