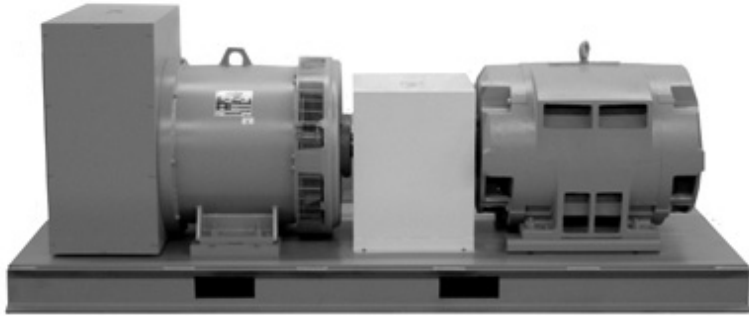




## BVL Model Motor-Generator Set Variable Frequency Output



### Features

*Customized to your specific application*  
*Reliable and durable*  
*Variable frequency and voltage*  
*Easy to operate*  
*Exceptional MTBF*  
*Minimal maintenance required*

### Description

Horlick BVL Model motor-generator sets consist of a 4-pole, 1800 RPM, induction motor and a 4-pole, 1800 RPM, synchronous generator mounted on a rigid steel base and connected via a flexible coupling. The motor speed is controlled by a variable frequency drive. In standard applications, the motor speed can be adjusted from 1350-1950 RPM creating an output frequency on the generator that varies from 45-65 Hz. BVL Model motor-generator sets are rated for continuous duty and they provide manufacturers a clean source of power that can be adjusted over a wide frequency and voltage range. They are most commonly utilized by manufacturers who want to utilize a fixed frequency of either 50 Hz or 60 Hz in their test stands. Alternatively, they may be used by manufacture's who are interested in testing their equipment over a frequency and voltage range that can be varied. BVL Model motor-generator sets are ideal for custom installations where flexibility and functionality are required.

Horlick BVL Model motor-generator sets are designed to be installed inside. Their noise level can vary from 75-95 dBA depending on the capacity of the system. As an option, BVL Model motor-generator sets can be mounted in a weather-resistant enclosure, a sound-reduced enclosure, a cargo container or a trailer. Each BVL Model motor-generator set is equipped with a standard control system that can be unit-mounted, wall-mounted or free standing. The components in the control system perform the functions necessary to operate, monitor and protect the system.



### Specifications

#### Motor

- Induction, 1800 RPM base speed, 4-pole
- Continuous duty, Class F insulation, open drip-proof
- Selection of 3-phase input voltages to include: 208V, 230V, 380V, 460V or 575V

#### Generator

- Brushless synchronous, 1800 RPM base speed, 4-pole
- Continuous duty, Class F insulation, open drip-proof
- Selection of output voltages to include: 120/240V, 1-phase or 120/208V, 220/380V or 277/480V, 3-phase
- Rated at 0.8 power factor to insure proper handling of inductive loads

#### Mechanical Construction

- Motor and generator mounted on rigid steel base
- Flexible coupling drive system
- Complete OSHA coupling guard
- Forklift or pallet jack provisions

#### Standard Control Systems

Each motor-generator set is equipped with a separate wall-mounted or floor-standing control panel. The standard package includes the following components:

#### Motor Controls

- Disconnect, non-fused with thru door handle
- Fuse block and fuses for motor short circuit protection
- Variable frequency drive
- Intermittent braking resistor
- Start-Stop push buttons with terminal strip for remote start/stop
- Control power transformer with fusing
- Pilot light to indicate "Motor Run"
- Potentiometer for motor-generator speed control

#### Generator Controls

- Digital meter to include voltage, current and frequency indication
- Voltage regulator,  $\pm 1\%$  regulation accuracy, with automatic buildup and rheostat for control of regulated voltage
- Output circuit breaker, molded case, to protect generator against short circuit or prolonged overload
- Pilot light to indicate "Output Circuit Breaker Closed"

### Performance Characteristics

- **Voltage regulation:**  $\pm 1\%$  from no-load to full-load at rated power factor
- **Voltage steady state stability:**  $\pm 0.5\%$  from no-load to full-load at rated power factor
- **Voltage adjustment range:**  $\pm 10\%$  in stepless increments of nominal output voltage
- **Frequency regulation:** Precise 50 Hz output from no-load to full-load
- **Voltage transient:** When a full-load at rated power factor is applied or released, the resultant instantaneous droop or overshoot will not exceed 30% of preset value
- **Voltage recovery time:** After a full-load is applied or released, the output voltage will return to the regulation band within 500 milliseconds
- **Harmonic distortion:** Less than 3% max. total distortion factor and less than 2.5% max. single-phase when measured line-to-line
- **Ambient operating conditions:** Temperature at 40°C, relative humidity at 95% (higher temperature rating for outdoor use available upon request)
- **Duty cycle:** Motor-generator set and controls are rated for continuous duty

### Motor-Generator Options

- Sound-reduced enclosure
- Weather-resistant, NEMA 3R enclosure
- Casters for portability
- Oversized generator to support motor-starting transients
- Thermal bearing and winding protection
- Unit mounted control system
- Generator reconnection switch to allow selection of multiple output voltages
- Generator over/under voltage protection
- Remote meter package with start/stop controls

Note: BVL Model motor-generator sets are also available with single phase outputs. Contact us for more information.

BVL Model Three Phase Output Ratings						
Model	Generator Rating at 60 Hz		Generator Rating at 50 Hz		Motor Rating	Motor Starting Method
BVL-53	6.25 KVA	5 KW	5 KVA	4 KW	10 HP	Variable Frequency Drive
BVL-73	9.3 KVA	7.5 KW	6.25 KVA	5 KW	15 HP	Variable Frequency Drive
BVL-103	12.5 KVA	10 KW	9.3 KVA	7.5 KW	20 HP	Variable Frequency Drive
BVL-153	18.8 KVA	15 KW	12.5 KVA	10 KW	25 HP	Variable Frequency Drive
BVL-203	25 KVA	20 KW	18.8 KVA	15 KW	30 HP	Variable Frequency Drive
BVL-253	31.3 KVA	25 KW	25 KVA	20 KW	40 HP	Variable Frequency Drive
BVL-303	37.5 KVA	30 KW	31.3 KVA	25 KW	50 HP	Variable Frequency Drive
BVL-403	50 KVA	40 KW	37.5 KVA	30 KW	60 HP	Variable Frequency Drive
BVL-503	62.5 KVA	50 KW	50 KVA	40 KW	75 HP	Variable Frequency Drive
BVL-603	75 KVA	60 KW	62.5 KVA	50 KW	100 HP	Variable Frequency Drive
BVL-803	100 KVA	80 KW	75 KVA	60 KW	125 HP	Variable Frequency Drive
BVL-1003	125 KVA	100 KW	100 KVA	80 KW	150 HP	Variable Frequency Drive
BVL-1253	156 KVA	125 KW	125 KVA	100 KW	200 HP	Variable Frequency Drive
BVL-1503	188 KVA	150 KW	156 KVA	125 KW	250 HP	Variable Frequency Drive
BVL-1753	219 KVA	175 KW	188 KVA	150 KW	300 HP	Variable Frequency Drive
BVL-2003	250 KVA	200 KW	200 KVA	160 KW	300 HP	Variable Frequency Drive
BVL-2503	313 KVA	250 KW	250 KVA	200 KW	400 HP	Variable Frequency Drive
BVL-3003	375 KVA	300 KW	313 KVA	250 KW	500 HP	Variable Frequency Drive
BVL-4003	500 KVA	400 KW	375 KVA	300 KW	600 HP	Variable Frequency Drive
BVL-5003	625 KVA	500 KW	500 KVA	400 KW	750 HP	Variable Frequency Drive
BVL-6003	750 KVA	600 KW	625 KVA	500 KW	1000 HP	Variable Frequency Drive