

**NORTHERN LIGHTS**



**Need 20 kW? Then your job is heavy duty and needs a set to match.**

# NL488K, 20 kW Prime Power Generator Set

Twenty kilowatts. 20,000 watts of reliable power. That is enough juice to power the big jobs and the NL488K is built to produce it on demand as prime power.

Powered by a 133 cubic inch, four cylinder industrial diesel, the 488K has the cubes it needs to start big electric motors. Power from displacement instead of a turbocharger.

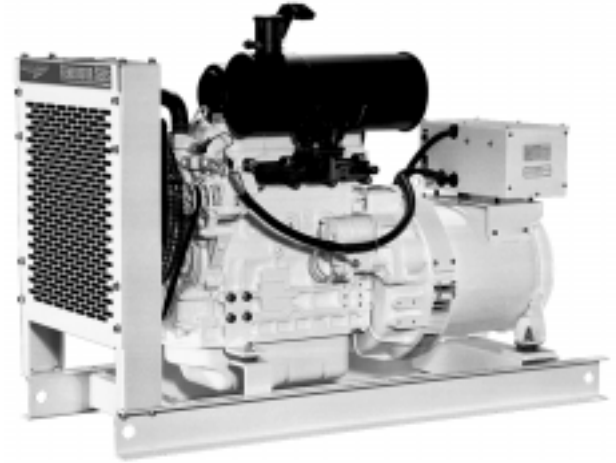
Direct injected with the most modern combustion design, the 488K meets the new emission standards without costly add-on components. This clean burn design cuts fuel use too. At full load it uses about a gallon and a half of safe, economical diesel fuel per hour.

*Clean, simple design.  
View shows the 12V  
DC alternator, starter and  
standard unit-mounted muffler.*

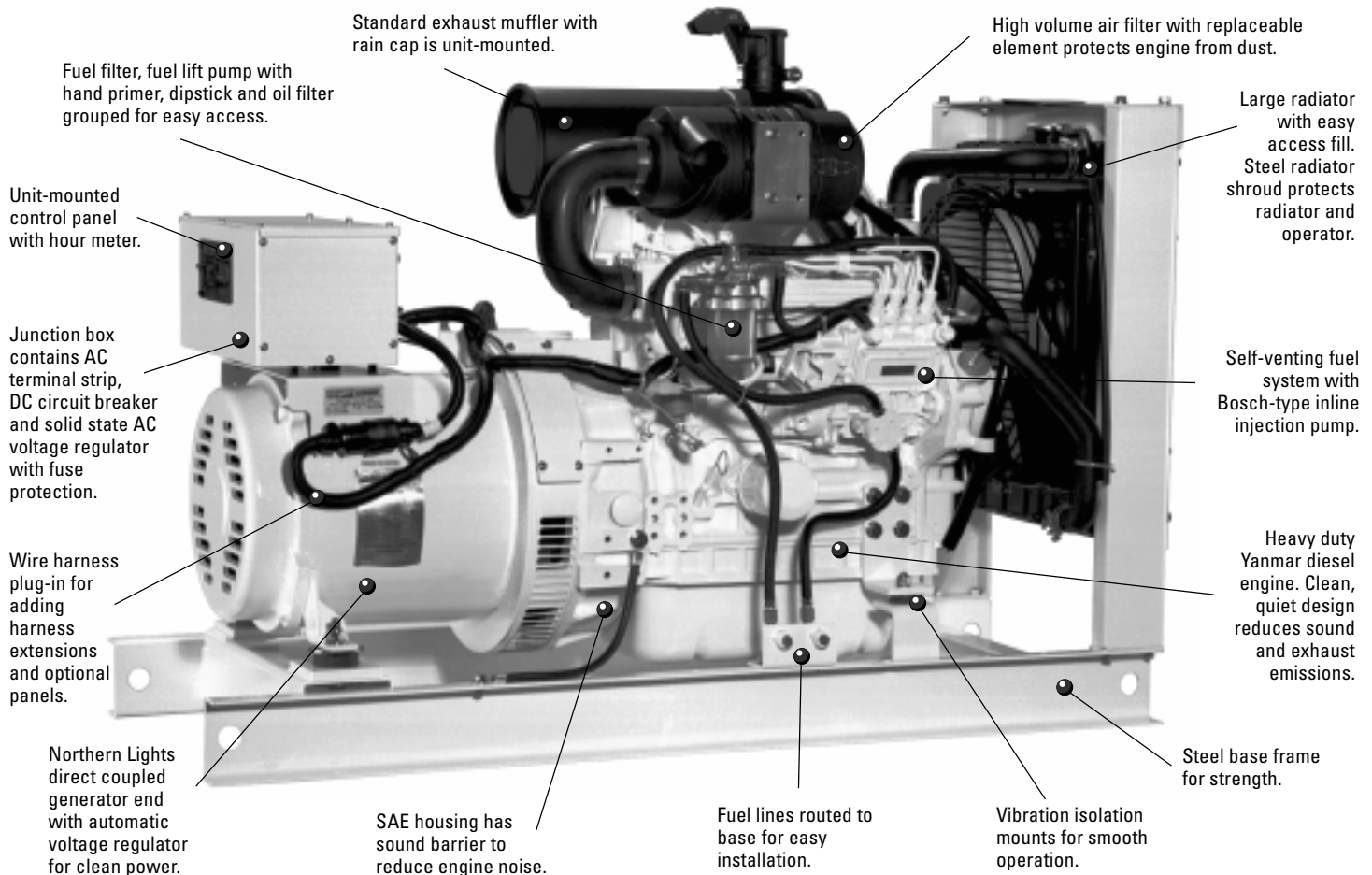
Clean and quiet. Special sound-attenuating features make this a set you can live with while you make your living. Even the exhaust muffler is standard and unit mounted to cut your installation costs.

The generator matches the engine's heavy duty features. Class H winding insulation and a 105° C temperature rise rating tell you this generator end was built for prime power duty anywhere in the world. It also has an automatic voltage regulator which provides  $\pm 1\%$  AC voltage regulation to protect your electronics.

Need a custom power package?



The NL488K is a great foundation for any mid-size application. Just tell your Northern Lights dealer what you need. Northern Lights control panels, enclosures, trailers and a wide range of pre-engineered options are available to turn this rugged generator set into a complete power system for your prime power or critical stand-by application.



## NL488K SPECIFICATIONS

### AC Output<sup>1</sup>

**20kW**..... 60 Hz, 1800 RPM, 1 Ph, 1.0 PF  
120-240 Volt 166/83 Amps  
120 Volt 166 Amps

**16 kW**..... 50 Hz, 1500 RPM, 1 Ph, 1.0 PF  
110-220 Volt 145.4/72.7Amps  
240 Volt 66 Amps  
110 Volt 145.4 Amps

Phase..... 1 standard (3 phase optional)

Voltage regulation..... ±1%

### Engine

Yanmar diesel..... 4TNE88

Type..... inline 4 cyl., naturally aspirated

Displacement..... 133.62 cid (2.189)

Bore/Stroke..... 3.46/3.54 in (88/90 mm)

HP @ 1800 RPM..... 31

HP @ 1500 RPM..... 24.5

Approx. fuel use rate at 1800 RPM<sup>2</sup>

full load..... 1.6 gph..... 1.3 Imp gph..... 6.0 lph

3/4 load..... 1.2 gph..... 1.0 Imp gph..... 4.6 lph

1/2 load..... 0.8 gph..... 0.66 Imp gph..... 3.0 lph

### Installation Data

Intake air flow/1800 RPM..... 69 cfm (0.032ps)

Exhaust outlet O.D..... 2.125 in (54 mm)

Max exhaust temp..... 1022°F (550°C)

Max back pressure..... 48 in (1200mm) H<sub>2</sub>O

Heat rejection..... 1316 btu/min

Coolant capacity w/radiator..... 6 qts (5.7 l)

Engine lube oil capacity..... 8.35 qts (7.9 l)

Fuel inlet and return outlet..... 1/4 inch NPT

### Weight

Approx. dry weight..... 871 lbs (396 kg)

### Notes

- Based on 1.0 unity power factor.  
Deratings: 3% per 1000 ft over 500 ft. above sea level. 1.5% for every 10° over 77° F.
- Actual fuel consumption will vary higher or lower depending on operating conditions.

## FEATURES & BENEFITS

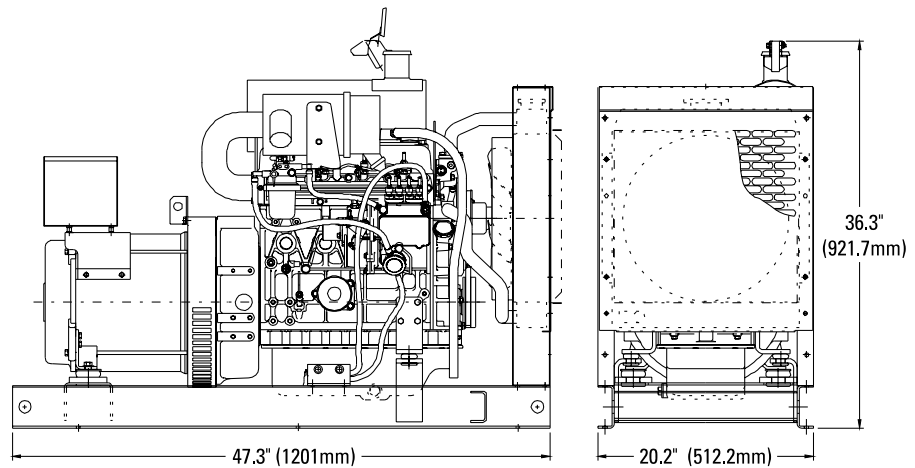
### Engine Block

- Yanmar four cycle, 4 cylinder, liquid-cooled, naturally aspirated, overhead valve, industrial duty diesel engine.
- Modern combustion design improves fuel efficiency, reduces smoke and noise.
- Air intake heater for fast cold-weather starting.
- High top piston ring placement and stabilized piston design for improved combustion and efficiency.
- Noise barrier cast into the flywheel housing for quiet operation.

### Cooling System

- Liquid-cooled with radiator and pusher cooling fan. Radiator shroud and fan guard.

## DIMENSIONAL DATA



Contact dealer for complete installation drawings

### Self-Venting Fuel System

- Bosch-type in-line injection pump with control solenoid of fuel rack, not throttle. Eliminates speed variance.
- High pressure direct injection system for superior fuel atomization, economy and reduced exhaust emissions.
- Engine speed governed to 5% for frequency control.
- Replaceable fuel injectors.
- Fuel lift pump with hand primer.
- Fuel filter with replaceable element.
- Fuel line manifold on base for easy connection to your fuel tank.

### Intake and Exhaust

- Large air cleaner with replaceable filter element.
- Unit mount exhaust muffler. Saves you installation time and money.

### Lubrication System

- Pressure lubricated by trochoid pump.
- Full flow, spin-on oil filter with bypass.

### DC Electrical System

- 12 volt system includes starter motor and battery charging alternator with solid state voltage regulator.
- Standard unit-mount control panel has engine hour meter, preheat switch, start-stop switch and DC system circuit breaker.
- Panel harness plug-in for no-tool installation of optional control panels.
- Optional Y-harness and 10, 20 or 40 foot panel harness extensions allow you to mount additional control panel(s) in a convenient location.



- Safety shutdown system protects engine in event of oil pressure loss or high water temperature. Additional safety shutdown equipment optional.

### AC Generator

- Northern Lights direct coupled, 4 pole, revolving field, generator with Class H insulation and pre-lubricated, double sealed bearing. Brushless design is maintenance free.
- Generator has a low 105° C temperature rise rating instead of 125° C. This conservative temperature rise is better for tropical applications and continuous operation.
- Generator is externally regulated with an automatic voltage regulator. This provides "clean power" (± 1% RMS no load to full load) to protect sensitive electronics. Excellent motor starting capability.
- High air flow from integral fan keeps generator running cool.
- Terminal strip in generator junction box for easy connection to AC distribution system and simplified voltage changes.

### Special Equipment

- Steel base frame gives rigid support and makes installation easy.
- Vibration mounts isolate engine vibration for smooth, quiet operation.
- Long life, white enamel finish for excellent service visibility.
- Operator's and parts manuals.
- Each set is test run with a load. One step in our rigorous quality control program.
- Shipping box standard.

**DEALER:**