POLAR POWER INC.

Pioneering technological advancements that radically change the production, consumption, and environmental impact of power generation

GENERATORS AND ACCESSORIES

TELECOM

HYBRID POWER

MILITARY

MARINE

EV CHARGING

PRODUCT CATALOG

DC GENERATORS: Diesel

5.5 KW DIESEL DC GENERATOR

8080P-40205

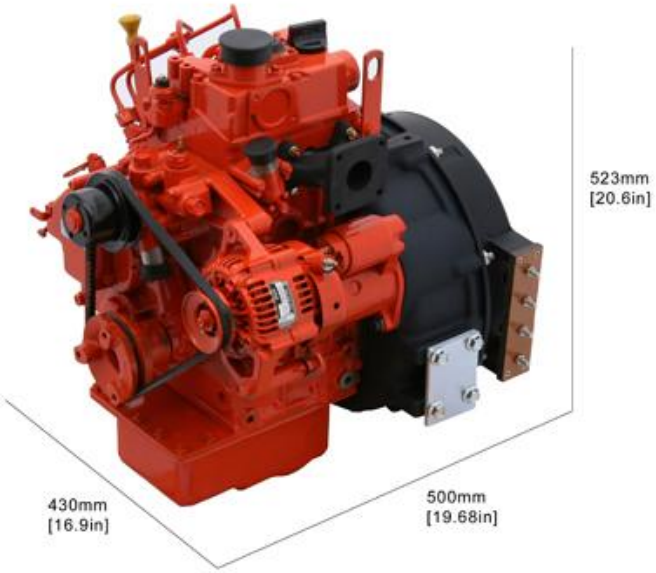
Datasheet

https://polarpower.com/file/8080P-40205_0115.pdf

The Most Efficient Means to Charge Batteries and Power Loads using Diesel
Fully Automatic Battery Charging Options
PLEASE NOTE: LONG PRODUCTION LEAD TIME

Features

- Maximum Continuous Output: 5.5 kW at 2900 RPM
- 100 amps at 54 Vdc (200 amps at 28 Vdc)
- Variable speed with 500 RPM span – full load to no load
- Lower engine speed options available
- 2 cylinder diesel, water cooled
- Engine Operational Life: 8,000 to 12,000 hours
- Temperature compensated battery charging
- Oil changes at 500 hours with 1,500 hour maintenance option
- Available with electric water pump in a beltless configuration
- Very light weight – 195 pounds without controls



DC GENERATORS: Diesel

6 KW DIESEL DC GENERATOR

8080Y-2TNV70

Datasheet

https://polarpower.com/file/8080Y-2TNV70_0115.pdf

The Most Efficient Means to Charge Batteries and Power Loads using Diesel
Fully Automatic Battery Charging Options

Features

- Maximum Continuous Output: 6 kW at 2900 RPM
- 100 amps at 54 Vdc (200 amps at 28 Vdc)
- Variable speed with 500 RPM span – full load to no load
- Lower engine speed options available
- 2 cylinder diesel, water cooled
- Engine Operational Life: 8,000 to 12,000 hours
- Temperature compensated battery charging
- Oil changes at 500 hours with 1,000 hour maintenance option
- Available with electric water pump in a beltless configuration
- Very light weight – 215 pounds without controls

DC GENERATORS: Diesel

10 KW DIESEL DC GENERATOR

8220I-3CA1

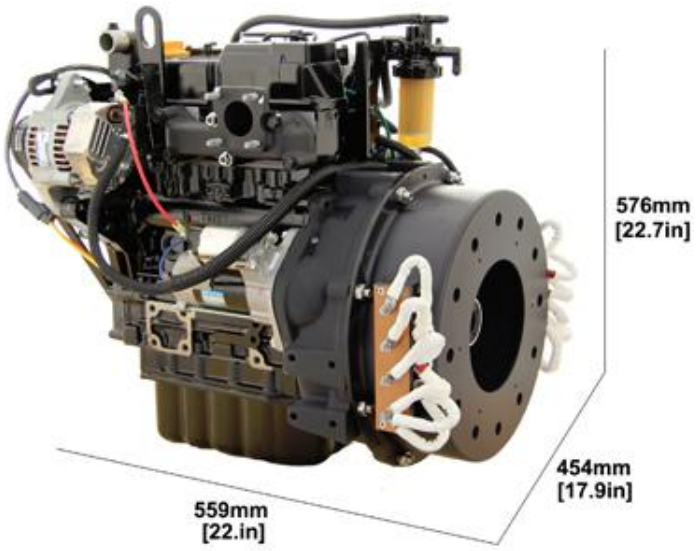
Datasheet

https://polarpower.com/file/8220I-3CA1_0115.pdf

The Most Efficient Means to Charge Batteries and Power Loads using Diesel
Fully Automatic Battery Charging Options

Features

- Maximum continuous output is 10 kW at 2600 RPM
- Available in all voltages from 24 to 500 Vdc
- Variable speed with 500 RPM span – full load to no load
- Lower engine speed options available
- 3 cylinder diesel, quiet and with very low vibration
- Engine Operational Life: 10,000 to 16,000 hours
- Temperature compensated battery charging
- Oil changes at 250 hours with 500 hour option
- Very light weight
- Alternator exceeding 85% efficiency



DC GENERATORS: Diesel

15-18 KW DIESEL DC GENERATOR

8220Y-3TNV88

The Most Efficient Means to Charge Batteries and Power Loads using Diesel
Fully Automatic Battery Charging Options

Features

- Maximum continuous output is 18 kW at 2800 RPM
- Available in all voltages from 48 to 500 Vdc
- Variable speed 500 RPM span – full load to no load
- Lower engine speed options available
- 3 cylinder diesel, quiet and with very low vibration
- Engine Operational Life: 10,000 to 16,000 hours
- Temperature compensated battery charging
- Oil changes at 250 hours with 500 hour option
- Very light weight
- Alternator exceeding 85% efficiency

Generator Specifications

POWER (KW)	15 to 18
TYPE	Permanent Magnets, NdFeB
STATOR	3 phase/32 poles
ALTERNATOR EXHAUST FLOW (CFM/CMM)	130 to 180 / 3.68 to 5.1
MTBF (HR)	100,000+
FUEL CONSUMPTION (GAL/HR.)	1.02 (at 15 kW output)
WARNING ALARMS	Standard

DC GENERATORS: Diesel

20 KW DIESEL DC GENERATOR

8340P-40415

Datasheet

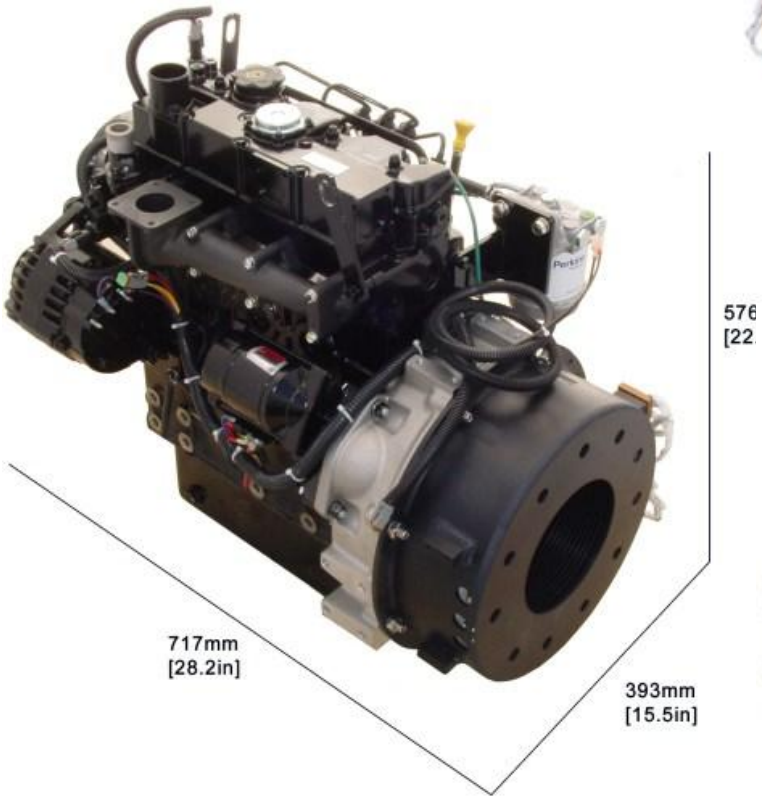
https://polarpower.com/file/8340P-40415_0115.pdf

PLEASE NOTE:
THE PERKINS 404D-15 ENGINE IS NO LONGER AVAILABLE, WE ARE REPLACING IT WITH EITHER A 403D-15 OR A YANMAR 3TNV88 ENGINE

The Most Efficient Means to Charge Batteries and Power Loads using Diesel
Fully Automatic Battery Charging Options

Features

- Maximum continuous output is 20 kW at 2900 RPM
- Available in all voltages from 48 to 500 Vdc
- Variable speed with a typical 500 RPM span from full load to no load
- Lower engine speed options available
- 4 cylinder diesel, quiet and with very low vibration
- Engine operational life is 10,000 to 16,000 hours based on selected engine RPM and load
- Temperature compensated battery charging
- Oil changes at 500 hours with 1,000 hour option
- Very light weight



DC GENERATORS: Diesel

26 KW DIESEL DC GENERATOR

8340P-40422

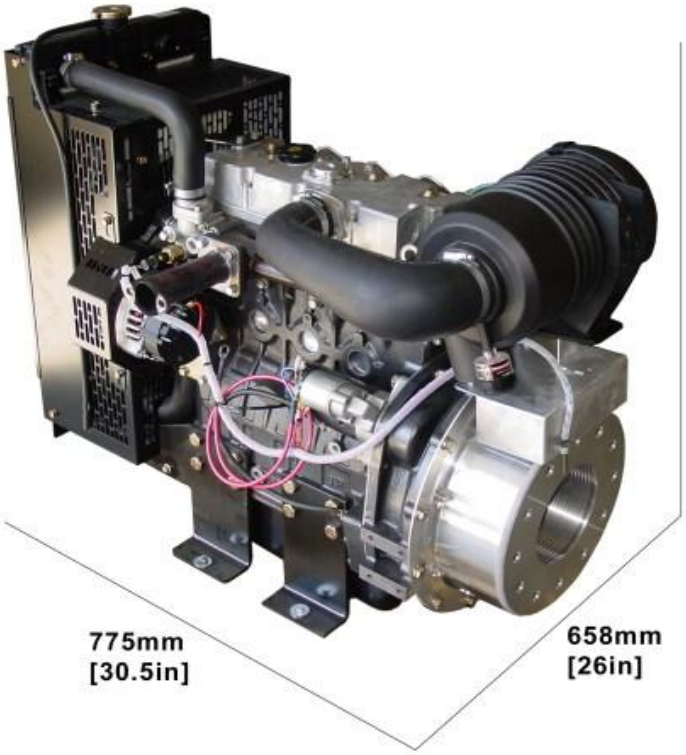
Datasheet

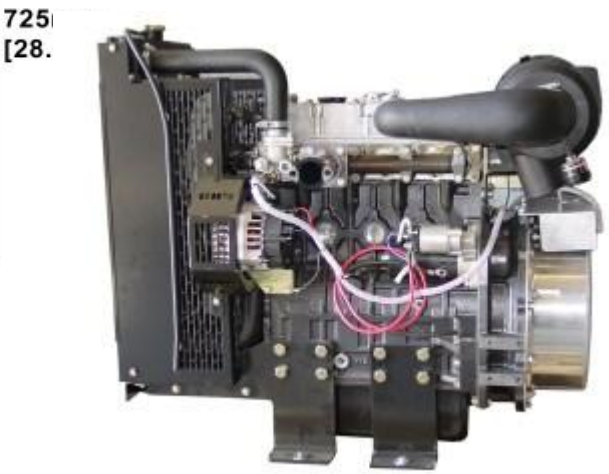
https://polarpower.com/file/8340P-40422_0115.pdf

The Most Efficient Means to Charge Batteries and Power Loads using Diesel
Fully Automatic Battery Charging Options

Features

- Maximum output is 26 kW at 2600 RPM
- Available in all voltages from 48 to 500 Vdc
- Variable speed with a typical 500 RPM span from full load to no load
- Lower engine speed options available
- 4 cylinder diesel, quiet and with low vibration
- Engine operational life is 12,000 to 20,000 hours based on selected engine RPM and load
- Temperature compensated battery charging
- Oil changes at 500 hours with 1,000 hour option
- Light weight
- Alternator exceeding 85% efficiency





DC GENERATORS: Diesel

27 KW DIESEL DC GENERATOR

8340P-4TNV88C

Datasheet

https://polarpower.com/file/S027DYB500TEA-Data-Sheet.pdf

The Most Efficient Means to Charge Batteries and Power Loads using Diesel
Fully Automatic Battery Charging Options

Features

- Maximum output is 27 kW at 2300 RPM
- 500 amps at 55 Vdc
- 4-cylinder Diesel, propane or natural gas
- Quiet and low vibration
- Engine Operational Life: 10,000 to 20,000 hours
- Temperature compensated battery charging
- Oil changes at 250 hours or once a year

DC GENERATORS: LPG/Propane/Natural Gas

TOYOTA 6KW-15KW CONTINUOUS OUTPUT GENERATOR SET

FEATURED

Polar's Ideal LPG & Natural Gas Generator

Datasheet

https://polarpower.com/file/LPG-Ideal-genset-Toyota_07-24.pdf

Polar has combined a Toyota engine specifically designed to run 24/7 for natural gas engine driven air-conditioning applications with a Bosh engine control unit and Polar 8000 series alternator and system controls. This resulting package provides:

Higher fuel economy in a lean burn configuration

- Closed loop combustion control
- Increased compression ratio for the highest fuel efficiency
- To further increase fuel efficiency, we removed the engine's parasitic loads

Proprietary long life 8000 series alternator, more than 100,000 hour life

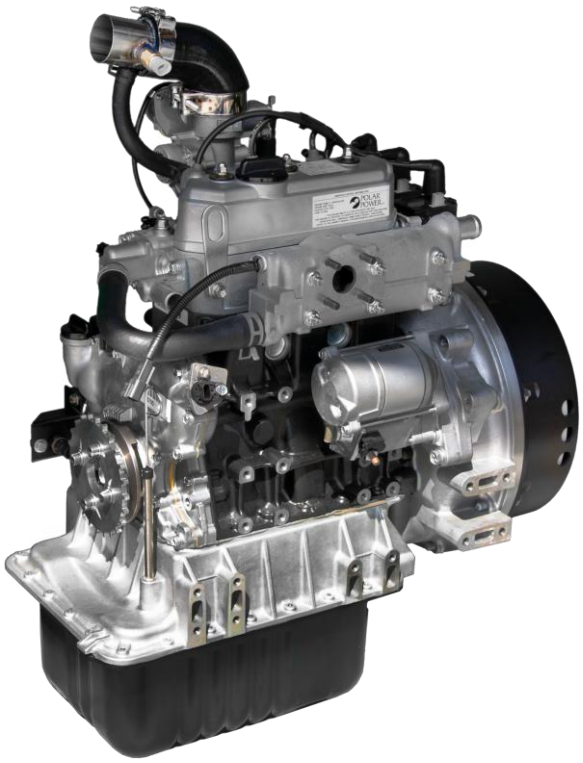
- No bearings
- No Brushes, slip rings, exciters

Polar all aluminum corrosion resistant enclosure

- For rugged outdoor use, outlasting steel enclosures by decades

Lower maintenance and increased reliability

- Replace belt driven water pump and radiator cooling fan with energy efficient electric fan and coolant pump. Coolant pump is without seals and driven with brushless dc motor for long life and ease of replacement.
- 15-liter oil sump capacity for oil maintenance intervals of 3000 hours and longer
- Increase engine maintenance intervals up to 1 year over 2 to 4 weeks for traditional LPG engines\
- Cast iron engine block with 4 crankshaft bearings (between each cylinder)
- Stellite valves to meet the higher combustion temperatures of LPG and Natural Gas



DC GENERATORS: LPG/Propane/Natural Gas

20 KW NG/PROPANE DC GENERATOR

8342F-MSG425

Datasheet

https://polarpower.com/file/DataSheet-V020GFB360TE-2.pdf

Operates on Natural Gas or Propane

Includes

- Enclosure is all aluminum construction with stainless hardware
- Powder Coated for extended service
- Can be transported to the roof via elevator / stairs
- Can meet the needs of prime power and backup installations
- Remote control and monitoring without subscription to third party cloud service

Options

- 8-alarm relay board
- Jump start kit
- Ethernet module
- Cell modems or IoT devices
- Coastal powder coating (prime coat with powder coating as top coat)
- MSC2020 providing an embedded webpage for universal remote access and control and enhanced datalogging

DC GENERATORS: LPG/Propane/Natural Gas

27 KW NG/PROPANE DC GENERATOR

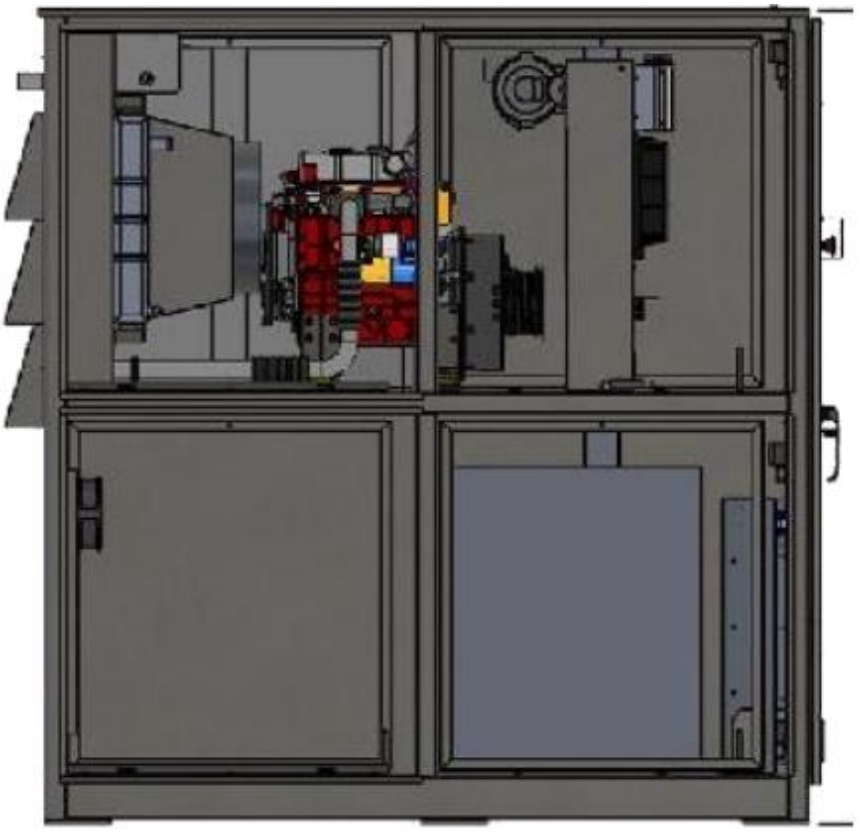
8340P-4TNV88C

Datasheet (for diesel model, NG/LPG datasheet coming soon)
https://polarpower.com/file/S027DYB500TEA-Data-Sheet.pdf

The Most Efficient Means to Charge Batteries and Power Loads
Fully Automatic Battery Charging Options

Features

- Maximum output is 27 kW at 2300 RPM
- 500 amps at 55 Vdc
- 4-cylinder LPG, propane or natural gas
- Quiet and low vibration
- Engine Operational Life: 10,000 to 20,000 hours
- Temperature compensated battery charging
- Oil changes at 250 hours or once a year



Solid model - Photos coming soon

DC GENERATORS: Marine Application

3 - 5.5 KW DC GENERATOR

8080VP-13

Datasheet

https://polarpower.com/file/8080VP-13_1015.pdf

The Most Efficient Technology for Auxiliary Power for Sail or Motor Vessels

Engineered primarily for cruising yachts with heavy electrical loads such, as a water maker, bow thruster, air conditioning, refrigeration, radar, autopilot, and entertainment systems.

Polar Power generators outperform conventional AC generators in every aspect

- Charges Batteries Faster
- Smaller in Size
- Lighter in Weight
- Greater Reliability
- Less Maintenance
- More Fuel Efficient
- Less Vibration/Noise

Auxiliary Power

Using a DC generator, battery bank, and an inverter creates an on-board power system that can have both DC and AC power 24/7, yet the generator runs only a few hours a day or week. This is the most efficient and convenient source of marine power.

- Up to 110 amps of 12 Vdc charging for house and engine starting batteries.
- Up to 5.5 kW for battery charging, inverter power, and electric propulsion.
- Charges batteries and powers the inverter at the same time.
- Charges the batteries and operates the propulsion motor at the same time.

DC GENERATORS: Marine Application

4 - 8 KW DC GENERATOR

8080VP-20

Datasheet

https://polarpower.com/file/8080VP-20_0115.pdf

The Most Efficient Technology for Auxiliary Power for Sail or Motor Vessels

The 8080VP-20 outperforms conventional marine AC generators in every aspect

- Charges Batteries Faster
- Smaller in Size
- Lighter in Weight
- Greater Reliability
- Less Maintenance
- More Fuel Efficient
- Less Vibration/Noise
- The 8080VP-20 is based on a three cylinder diesel engine which is smoother in vibration and lower in noise than the smaller 8080VP-13. The three cylinder engine is recommended for those that will depend heavily on their air-conditioners.

Auxiliary Power

Using a DC generator, battery bank, and an inverter creates an on-board power system that can have both DC and AC power 24/7, yet the generator runs only a few hours a day or week. This is the most efficient and convenient source of marine power.

- Up to 110 amps of 12 Vdc charging for house / engine starting batteries.
- Up to 8 kW for 24 to 72 Vdc battery charging, inverter power, and electric propulsion.
- Charges batteries and powers the inverter at the same time.
- Charges the batteries and operates the propulsion motor at the same time.

DC GENERATORS: Marine Application

9 - 14 KW DC GENERATOR

8220VP-30

Datasheet

https://polarpower.com/file/8220VP-30_0115.pdf

The Most Efficient Technology for Auxiliary Power for Sail or Motor Vessels
The Most Efficient DC Generator for Hybrid Electric Propulsion

Engineered for cruising yachts and commercial vessels with medium electrical loads.
Properly configured the 8220VP-30 outperforms a conventional AC generator

- Charges Batteries Faster
- Smaller in Size
- Lighter in Weight
- Greater Reliability
- Less Maintenance
- More Fuel Efficient
- Less Vibration/Noise

Any of our smaller DC marine generators (8080VP-13 and VP-20) can be used for Hybrid Propulsion, but we recommend this model as the smallest choice.
In selecting a generator for a hybrid vessel you should make sure there is ample power for extended electric motoring in foul weather.

Hybrid Electric Propulsion

The concept is to place one or two DC generators in the most optimum location within the vessel to provide power for the electric propulsion motors and DC to AC inverters and to charge batteries, all at the same time. The system can run one or more generators and combine the electrical output. The electric motors can be used for the main propulsion in sailing and unmanned undersea vehicles (UUV) or for bow thrusters in motoring craft.
Having one central battery bank powering the electric propulsion saves the sailor the inconvenience of having to warm up a diesel to motor out of his slip, off his mooring, or out to the breakwater. Propulsion under motor is silent and odor free.

DC GENERATORS: Marine Application

PLEASE NOTE:
THE VOLVO D2-40 ENGINE IS NO LONGER AVAILABLE, WE ARE REPLACING IT WITH EITHER A D2-50 OR A 3TNV88 YANMAR

13 - 20 KW DIESEL DC GENERATOR

8340VP-40

Datasheet

https://polarpower.com/file/8340VP-40_0115.pdf

The Most Efficient Technology for Auxiliary Power for Sail or Motor Vessels
The Most Efficient DC Generator for Hybrid Electric Propulsion for Mono-Hull and Multi-Hull Sailing Craft in the 9 to 15 meter Range

Engineered for large cruising yachts and commercial vessels with heavy electrical loads.
Properly configured the 8340VP-40 outperforms a conventional 40 kW AC generator in every aspect

- Charges Batteries Faster
- Smaller in Size
- Lighter in Weight
- Greater Reliability
- Less Maintenance
- More Fuel Efficient
- Less Vibration/Noise

Having one central battery bank powering the electric propulsion overcomes the inconvenience of having to warm up a diesel to motor from the boat's slip.

Additionally, propulsion under electric motor is silent and odor free. The central battery bank also provides power to operate the electrical appliances on board without having to run the generator. Having air conditioning available all night without the generator running is a true measure of comfort.
While under sail the electric motors can be used as hydro-electric generators to recharge batteries and power the loads such as navigation, auto-pilot, refrigeration and lighting. For instance, a sailing catamaran can produce as much a 6 kW of power to recharge the battery.

DC ALTERNATORS

6200 SERIES DC ALTERNATORS

Datasheet

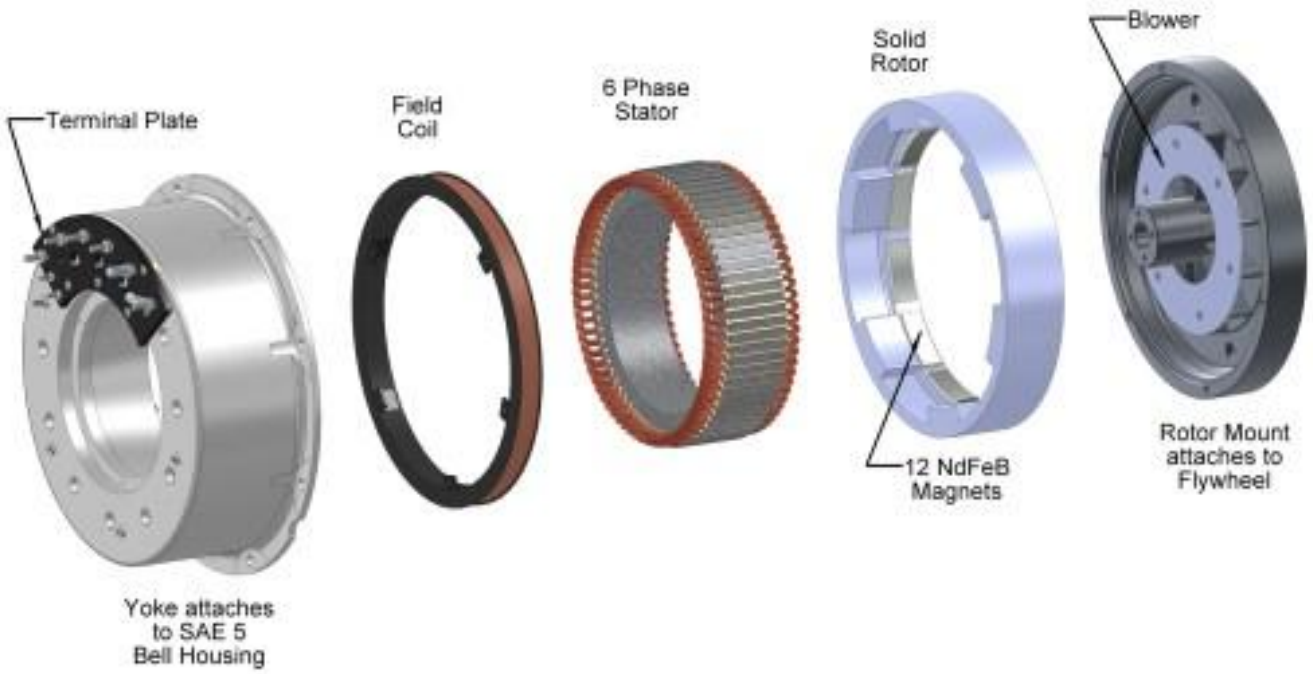
https://polarpower.com/file/6200_alternator_0115.pdf

Advantages

- High reliability and low maintenance
- High degree of corrosion resistance
- No mechanical adjustments
- Very light weight
- High quality electrical output
- Stiff voltage regulation to current demand
- Up to 94% efficiency
- Adjustable Power Outputs via Engine RPM
- Wide Temperature Operation Range (-50° to 145°F)

Applications

- Telecommunications
- Systems without Batteries
- Systems without Sensitive Loads
- Military APU's
- Cogeneration and CHP
- Cathodic Protection



POLAR POWER DESIGNS AND MANUFACTURES ITS OWN ALTERNATORS; WE SELL COMPLETE GENERATORS AND NOT ALTERNATOR KITS. BECAUSE OUR ALTERNATORS AND CONTROLS ARE DESIGNED TO FIT DIRECTLY ON SPECIFIC ENGINES AND ENGINE MODELS OF SPECIFIC BUILD CONFIGURATIONS WE ARE UNABLE TO SELL AND SUPPORT ALTERNATOR KITS. UNDER CERTAIN PROGRAMS INVOLVING QUANTITY WE WILL CONSIDER SELLING ALTERNATORS KITS UNDER A FRANCHISE CONTRACT.

DC ALTERNATORS

8000 SERIES DC ALTERNATORS

Datasheet

https://polarpower.com/file/8000_alternator_0115.pdf

Advantages

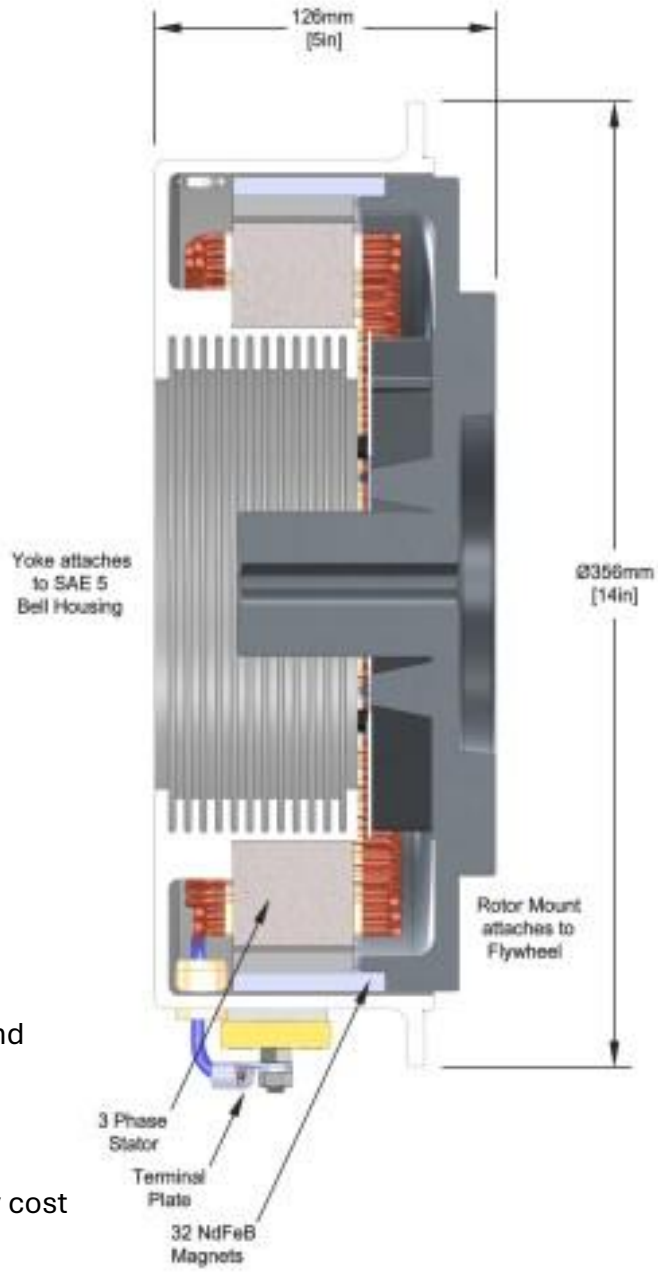
- High reliability and limited maintenance
- High degree of corrosion resistance
- No mechanical adjustments
- Very light weight
- High quality electrical output
- Stiff voltage regulation to current demand
- Up to 94% efficiency
- -40° to 70° C operational range

Applications

- Telecommunications
- Military APU
- Hybrid Electric Propulsion
- Fast Battery Charger
- Hybrid Photovoltaic Solar
- Uninterruptible Power Systems
- Hydroelectric
- Wind Energy

Designed for Performance

- Available in voltages of 12 to 500 Vdc
- 32 pole high frequency design provides low electrical ripple
- Higher frequency design provides compact and lightweight performance
- Direct engine mounting further enhances the compact and lightweight design
- Conventional 3 phase stator lowers assembly cost
- NdFeB Magnets for high efficiency
- Class 220 C magnetic wire for long and service life
- Anodized type III process for aluminum parts
- Nickel plating for steel parts
- Stator is varnished



PARTS and ACCESSORIES:

All-weather enclosures

Datasheet

https://polarpower.com/file/All-weather-enclosure-brochure-2018-rev2.pdf

Applications

- Telecommunications
- Solar Hybrid Power Systems
- Uninterruptible Power System

Features

- All aluminum construction for corrosion resistance and long service life.
- Polar enclosures are made with thick aluminum sheets of 2.3 mm (0.090”) for strength.
- Polar’s light weight enclosure facilitates transportation to the site via small vehicle, helicopter, or multi-person carry.
- The aluminum enclosure accepts Polar’s electric radiator or the engine belt driven fan assembly.
- The electric radiator reduces fuel consumption by up to 15% and noise by up to 30%.
- Forklift slots serve as helicopter/crane lifting points.
- The enclosure design is designed to retain spilled oil, fuel, and coolant as required at certain installation sites.

101 series - Designed for

- Perkins 403D-15
- Yanmar 3TNV88
- Ford TSG415
- Toyota K1S

100 series - Designed for

- Perkins 402D-05, 403D-07, 403D-11
- Yanmar 2TNV70, 3TNV70, 3TNV76
- Isuzu 3CB1, 3CA1
- Daihatsu 950P
- Kubota 972

101 series diesel

100 series LPG

PARTS and ACCESSORIES:

Open Frame

Datasheet

https://polarpower.com/file/Open-Frame-Generator_0115.pdf

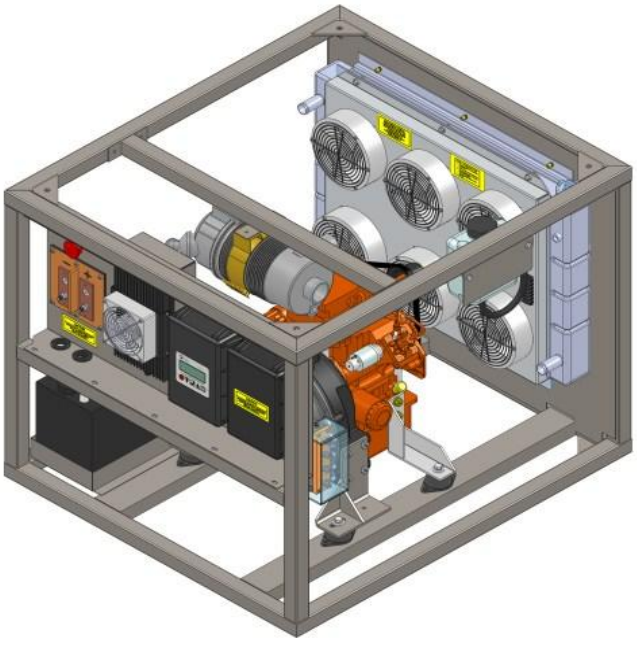
Description

The open frame is designed for installation within a walk-in shelter.

A walk-in shelter is the preferred set-up for our customers as it facilitates easy generator maintenance. We find higher-quality services can be given to the generator when the mechanic can walk into the enclosure, close the door behind him, turn on the light and work on the generator without snow, wind, or rain pouring affecting him.

A closed enclosure within a shelter tends to reduce preventative maintenance, as any component that's hidden from sight is also hidden from mind. Being able to see all the components without removing any panels facilitates preventative maintenance by making it easy to observe any components exhibiting a problem, for example a leak.

We have two standard frame sizes: 4 to 10 kW and 10 to 20 kW.



Features

The open frame is designed to be pushed against the wall with the shelter wall and has a cut-out allowing the radiator to blow the hot air directly to the outside.

You may remove the radiator from the open enclosure in place the radiator on the outside of the shelter, thereby reducing the amount of air is required to circulate through the shelter. This is advantageous in arctic type climates because the large volume of cold air drawn in by the radiator can cause other appliances to freeze. Placing the radiator on the outside of the shelter allows only the air required for engine combustion to enter the shelter and the larger volume of air required for radiator cooling is left outside the shelter. The requirements for placing the radiator outside the shelter in arctic environment do require more instruction than described on this page, please consult with Polar Power.

The open frame allows for stacking of the generators, one on top of another.

The open frame is constructed of 1.5 inch steel square tubing.

PARTS and ACCESSORIES:

Electric Radiator

Datasheet

https://polarpower.com/file/electric_radiator_0115.pdf

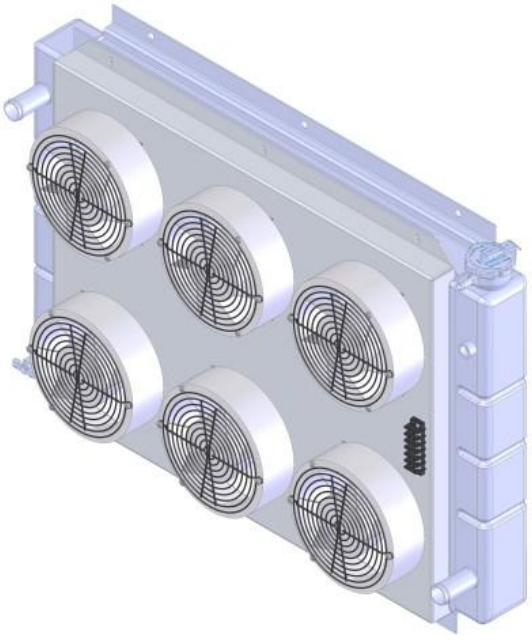
A cost effective approach to save fuel and reduce noise for generators from 2 to 10 kW

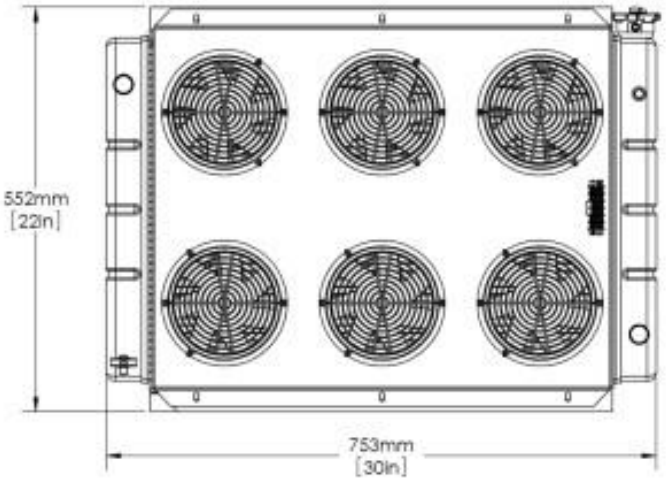
An engine's belt driven or direct driven fan and water pump present a considerable parasitic loss in the generators fuel efficiency. Engine manufactures typically size their fans (and water pumps) for the worst conditions: full load, hot weather, lowest engine speed, and this causes higher air velocities and pressure drops through the radiator. The belt driven fan supplied with a 15 HP engine can consume as between 1.5 to 3 HP of the engines gross HP (equivalent to between 1.1 to 2.2 kW of power).

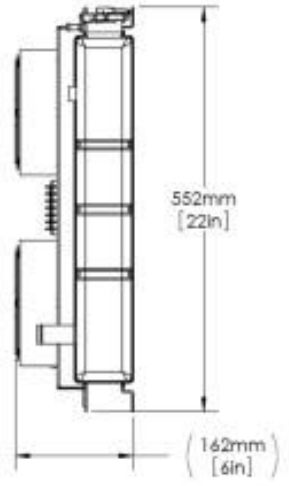
Small increases in engine RPM can double the fan HP requirement, and this hurts the fuel efficiency of variable speed generators.

Polar's Electric Radiator starts with a large radiator core popular in 500+ HP racing cars. We need this large radiator because our design performance will be stationary as opposed to moving 200+ kilometers per hour in a racing car. Using a large radiator minimizes the air pressure drops through the radiator, allowing the use of more efficient fans. Also with the low air velocities and low volumes of air, we need a larger radiator to compensate for lower heat exchange efficiencies.

Low air velocities and air flow rates allow fans of very small power. So instead of using 1.1 to 2.2 kW we use only 100 to 120 watts. This is a considerable fuel savings and noise reduction.







PARTS and ACCESSORIES:

Exhaust Heat Exchanger

4 KW TO 240 KW

Converts waste heat from engine exhaust into useable heat for hot water, space heating and air-conditioning

Datasheet

https://polarpower.com/file/Heat_Exchanger_0115.pdf

Features

- Saves fuel and energy
- Can reduce the generator size by reducing electrical heating and air conditioning loads
- Will typically reduce the exhaust backpressure in most installations thereby improving engine performance
- Reduce exhaust noise

Applications

- Hydronic floor heating.
- Engine driven carpet, floor, and steam cleaners.
- Space heating with fan coils.
- Eliminates wet exhaust systems for marine generators.
- Provides heat for absorption type air-conditioners.

Specifications

- Counter Flow Spiral Plate heat exchanger technology
- All 304 stainless steel construction
- Optional 316 stainless available
- Water or water/glycol are typical fluids for heat transfer
- 125 psig maximum fluid working pressure
- Water pressure drops at various flow rates are typical
- The exhaust pressure drop is dependent on gas inlet temperature and water temperature
- Typical pressure drop for an 18 hp engine is under 0.75 psi
- Exhaust gas temperature will be within 100 F of the water exit temperature
- Note: Horsepower (load) that the engine is operating under (not the engine rating) determines the amount of heat available.

Model No. 20-29-0030

PARTS and ACCESSORIES:

Filter Refining Pack

Datasheet
https://polarpower.com/file/Fuel-Oil-Refining-Pack_0115.pdf

Oil Refining
- Extend the engines service life
- Extends the oil change interval
- Reduces the operational cost of the generator engine

Diesel Fuel refining
- Significant improvement on generator reliability
- Reduces generator set failure due to water in fuel
- Improves fuel injector service life and reliability

Water is a combustion by-product of any fuel, and small amounts of combustion gas leaking past the piston rings places water in the engines lubricating oil.
Standard oil and fuel filters have a limited particle filtration performance of only 20 to 40 µ. The media used in these filters is strong on surface area but limited in volume or weight; therefore absorption of water is limited. These filters use a near paper thin media for a surface filtration effect.

The Polar Power refining pack has sub-micron filtration capability with 880 grams of media to absorb water in the fuel or lubricating oil.
We use depth filtration with over 100 mm of dense filter media depth through which the oil or fuel must pass. Depth filtration is the most efficient means for refining fuel and oil.
The refining pack protects every precision part of your engine against wear by removing the smallest harmful particles as well as up to 6oz of water.

PARTS and ACCESSORIES:

Supercapacitor

For high reliability in any environment select a Supercapacitor - based starting system
Eliminate the starting battery, the weakest link in a generator system

Datasheet

https://polarpower.com/file/Supercapacitor_0115.pdf

Features

In very cold climates the Supercapacitor will deliver up to 3 times the cranking amps of any lead acid battery. In hot desert climates our Supercapacitor starter provides up to 6 times the service life of a lead acid battery.

Polar strongly recommends using Supercaps in extreme weather installations, helicopter and remote access sites, and where battery theft is a problem.
The cost to replace a single lead acid starting battery at helicopter access or a remote site grossly outweighs the procurement cost of a Supercapacitor.
The configuration of our Supercapacitor starting system makes them impractical for starting automobiles and trucks reducing the theft value.
The long service life of the Supercapacitor solves the problem of maintenance crews frequently installing improper (but convenient) starting batteries that provide poor starting reliability.

Advantages

- Environmentally safe
- No toxic chemicals
- Virtually maintenance free
- Service life 15 – 20 years
- Operating range -40°C to +65°C
- High cranking amps
- Resists shock and vibration
- Multiple mounting options
- Lightweight

PARTS and ACCESSORIES:

Supra Control System

Datasheet

https://polarpower.com/file/Supra_Brochure_13tm.pdf

The Supra Control System Integrates

- Engine Control
- Alternator Voltage Regulation
- Auxiliary Power Inputs
- Operator Interface
- Remote Site Monitoring and Communications

The Supra Model 250 System is a highly integrated control solution that will improve the reliability, serviceability, and remote controllability of DC generator power systems. The Supra Controller can control power to DC loads and serve as a fuel based programmable battery charging system.

Supra's high level of circuit integration eliminates separate and independent control modules, simplifying the wire harness and eliminating the typical conflicts between modules integrated from different manufactures.

The Supra Controller based DC generator system can be remotely controlled, monitored, calibrated, and tested, through an industrial modem, cell phone modem, or Ethernet. Communication is accessible locally with a PC Laptop or remotely through the Internet to facilitate site support and reduce costly visits to the site.

The Supra provides a complete log of alarms and operating parameters at the completion of a charge cycle or shutdown due to a fault condition. Alarms can be reset and the generator exercised remotely to help identify potential problems before scheduling a site visit. If an unscheduled maintenance is required, the technician can arrive at the site prepared, reducing the need for a second visit.

The Supra facilitates Hybrid Systems incorporating other sources of power including solar, wind, hydro, and utility.

All connections to the controllers are through Amp/Tyco Circular C type connectors facilitating onsite repair through controller swapping (plug and play).

The controller circuits were designed to meet the most stringent Military and Telecommunications requirements for EMI, EMP, and Ripple.

The Supra Controller can meet the requirements of any type of grounding requirement: negative, positive, or float.

PARTS and ACCESSORIES:

Li-ion Batteries

Datasheet
https://polarpower.com/file/LiFePO4-brochure.pdf

Polar Power is now providing Lithium Ion Iron Phosphate Batteries with its Power Systems. Polar DC Generators can monitor charging and discharging of Lithium Ion Batteries on a cell by cell basis using an advanced Battery Management System (BMS).

LI-ION ADVANTAGES OVER LEAD ACID

Higher Cell Voltage
Lithium Ion = 3.2 V vs. Lead Acid = 2.0 V
Fewer cells enhances reliability

Considerably Lighter in Weight
Saving transportation cost especially if a helicopter is required

Much Smaller Footprint
Uses only a fraction of the space required by Lead Acid
Reduces enclosure and site land cost

Tolerates Higher Temperatures
Saves energy and equipment costs by eliminating air conditioning requirement

Faster Recharge Time with Higher Charging Efficiency
Reduces solar array size and generator fuel consumption

Twice the Discharge Cycle Life
Reducing Operating Costs

Deeper Discharge Tolerance in Cycling
70% of the amp hour rating for Lithium Ion vs. 20% for Lead Acid

State of Health and State of Charge is Monitored
For improved reliability

Longer Service Life:
Li-Ion 6-8 years vs. Lead Acid 2-4 years.

PARTS and ACCESSORIES:

Rain Caps

Polar Power's proprietary rain cap design

Description
This new rain cap keeps water out of the exhaust without any moving parts even during high winds and rain storms.
There is some exhaust noise reduction as a side benefit; although we have yet to measure the dba reduction, it is noticeable to the observer.

Video
https://youtu.be/zCPCM9vtnxk

More info coming soon:
please check our website for updates:
www.polarpower.com

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