

## Diesel Generator Set

# S500

500 kW / 625 kVA

Standby Power @ 60Hz

455 kW / 568 kVA

Prime Power @ 60Hz

### STANDARD FEATURES

- Diesel engine, EPA and CARB certified, electric starter, battery charging alternator 24V, electronic governor
- Single bearing alternator IP 21, Class H insulation
- High Ambient Radiator – 50° C
- Integral vibration isolation
- Dry type air filter
- Main line circuit breaker
- 24V battery, rack and cable
- User manual
- CSA Certified



- Ingersoll-Rand provides a full line of products with high quality recognized engines and alternators.
- All generator sets are factory tested. All generator set models are prototype tested.
- A two-year/2000-hour limited warranty included. Extended warranty option available.
- Service and parts are available from Ingersoll-Rand distributors.

### GENERATOR RATINGS

Voltage	Hz	Phase	P.F	Standby Amps	Standby Ratings kW/kVA	Prime Ratings kW/kVA
277/480	60	3	0.8	752	500 / 625	455 / 568
254/440	60	3	0.8	820	500 / 625	455 / 568
127/220	60	3	0.8	1640	500 / 625	455 / 568
120/208	60	3	0.8	1666	480 / 600	436 / 545

Standby ratings are available for the duration of any power outage. No overload capacity is specified at these ratings. Prime ratings are available per BS 5514, DIN 6271, ISO-3046 and IEC 34-1 with 10% overload capacity one hour in twelve hours.

Ratings are per standard environmental conditions. Please consult factory for deration.



# S500 APPLICATION DATA

500 kW / 625 kVA Standby Power @ 60Hz | 455 kW / 568 kVA Prime Power @ 60Hz

## ENGINE DATA

<b>Manufacturer</b>	VOLVO
<b>Model</b>	TAD1631GE, 4-cycle, Turbocharged
<b>Cylinder arrangement</b>	6 In-Line
<b>Displacement</b>	983.7 in <sup>3</sup> (16.12 L)
<b>Bore and stroke</b>	5.7 in (144 mm)X 6.5 in (165 mm)
<b>Compression ratio</b>	15:1
<b>Rated rpm</b>	1,800
<b>Piston speed</b>	32.5 ft/s (9.9 m/s)
<b>Max stand by power at rated rpm</b>	731.6 bhp (546 kW)
<b>Frequency regulation, no load to full load</b>	NA
<b>Speed regulation, steady state</b>	+/- 0.5%
<b>BMEP</b>	304.3 psi (21 bar)
<b>Governor type</b>	Electronic

## OPERATING DATA

### EXHAUST SYSTEM

<b>Exhaust gas flow</b>	<b>Exhaust temperature</b>	<b>Max back pressure</b>
3,780 cfm (1750 L/s)	968 °F (520°C)	2.06 in Hg (6.97 kPa)

### FUEL CONSUMPTION – STANDBY RATING

<b>100% (Load)</b>	<b>75% (Load)</b>	<b>50% (Load)</b>	<b>25% (Load)</b>
32.3 gal/hr (122.1 L/h)	23.2 gal/hr (87.8 L/h)	15.8 gal/hr (59.7 L/h)	NA gal/hr (NA L/h)

### LUBRICATION SYSTEM

<b>Total oil capacity w/filters</b>	<b>Oil pressure low idle</b>	<b>Oil pressure rated RPM</b>	<b>Oil consumption 100% load</b>
16.9 gal (64 L)	10.1 psi (0.7 bar)	72.5 psi (5 bar)	0.0 gal/hr (0.16 L/h)

### AIR INTAKE

<b>Max intake restriction</b>	<b>Engine air flow</b>
20 in H <sub>2</sub> O (4.98 kPa)	3,708.4 cfm (1,750 L/s)

### COOLING SYSTEM

<b>Radiator &amp; engine capacity Max</b>	<b>Water temperature</b>	<b>Outlet water temperature</b>	<b>Fan power</b>	<b>Fan air flow</b>	<b>Engine heat rejection</b>
16.9 gal (64 L)	217.4 °F (103 °C)	199.4 °F (93 °C)	12 kW	18,859.9 cfm (8.9 m <sup>3</sup> /s)	11,997.5 btu/mn (211 kW)



# S500 APPLICATION DATA

500 kW / 625 kVA Standby Power @ 60Hz | 455 kW / 568 kVA Prime Power @ 60Hz

## ALTERNATOR DATA

<b>Manufacturer</b>	LEROY SOMER
<b>Type</b>	LSA471VL12
<b>Poles</b>	4
<b>Exciter type</b>	AREP
<b>Insulation — class/temperature rise</b>	H / 150°C/40°C (Standby)
<b>Voltage regulator</b>	R448
<b>Bearing</b>	1
<b>Coupling</b>	Direct
<b>Voltage regulation 0 to 100% load</b>	+/-1.5%
<b>Recovery time (20% Volt dip) ms</b>	500
<b>Peak motor starting kVA@480V</b>	1800 (35% voltage dip)

- Compliance with NEMA (IEC 34.1/34.2 MG1.22, UTE: NFC 51.111, VDE 0530 BS 4999 & 5000, CSA, ISO 8528.3)
- 2/3 pitch, 12 leads reconnectable
- Vacuum-impregnated windings with epoxy varnish. IP21 drip proof
- Generator allows as standard sustained short circuit current of up to 300% of rated current for up to 10 seconds

## CONTROL PANEL

### Intellisys™ Standard features

- Powerful & flexible Microprocessor-based digital control panel for easy genset operation
- 8-line 21-character backlit LCD screen for convenient operator access
- Quick access to all generator and engine measurements and status
- User-friendly and non-volatile alarm & fault history with date-time stamp
- Built-in generator and engine protection parameters
- Field-proven and well-documented control panel components
- Supports engine pre-glow, battery charger, coolant heater, auto-start options.
- Capable of local or remote monitoring & control of genset via dedicated RS485 port.

*Intellisys™ digital control panel is available on all models. Compatible with 12 or 24 Volt engine electrical system.*



### Options

- Software for remote management
- NFPA 110, Level 1 Control Panel



# S500

500 kW / 625 kVA Standby Power @ 60Hz | 455 kW / 568 kVA Prime Power @ 60Hz

## OPTIONS

### Engine and Radiator

- Heat shield protection
- Oil drain extension
- Heavy duty air filter
- Lube oil drain pump
- Radiator core guard
- Battery charger, equalize/float type
- Block heater

### Enclosed Unit

- Sound attenuated enclosure (74dba @ 23 Ft-full load)

### Alternator

- Anti-condensation heater
- Enforced impregnation
- Oversized alternator

### Exhaust

- Industrial silencer exhaust kit
- Residential silencer exhaust kit
- Critical silencer exhaust kit

### Fuel

- Day tank
- Sub base fuel tanks UL-142
- Fuel/water separator filter

### Control panel

- NFPA II0, level 1 control panel
- Remote annunciator

### Literature

- Parts manual
- Maintenance manual
- Operation manual

### Service & Extended Warranty

- Trained service personnel providing IR parts, service and maintenance packages
- Extended Warranty

## WEIGHT AND MEASUREMENTS

<b>Open model</b>	S500
<b>Weight</b>	7,426 lb Net 8,616 lb Gross (3,370 Kg Net 3,910 Kg Gross)
<b>Overall size — l x w x h</b>	143" x 50" x 77" (3,635 mm x 1,270 mm x 1,950 mm)



<b>Sound attenuated</b>	Silencer mounted inside
<b>Weight</b>	11,375 lb Net 12,570 lb Gross (5162 Kg Net 5704 Kg Gross)
<b>Overall size — l x w x h</b>	238" x 66" x 94" (6,040 mm x 1,680 mm x 2,400 mm)



**Distributed by:**



(877) IR POWER [www.irenergysystems.com](http://www.irenergysystems.com)