

Diesel Generator Set

S450

450 kW / 563 kVA

Standby Power @ 60Hz

409 kW / 511 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	677	450 / 563	409 / 511
254/440	60	3	0.8	709	432 / 540	409 / 511
127/220	60	3	0.8	1417	432 / 540	409 / 511
120/208	60	3	0.8	1419	409 / 511	390 / 488

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.



S450 APPLICATION DATA

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ENGINE DATA

Manufacturer	VOLVO
Model	TAD1630GE, 4-cycle, Turbocharged
Cylinder arrangement	6 In-Line
Displacement	983.7 in ³ (16.12 L)
Bore and stroke	5.7 in (144 mm)X 6.5 in (165 mm)
Compression ratio	15:1
Rated rpm	1,800
Piston speed	32.5 ft/s (9.9 m/s)
Max. stand by power at rated rpm	641.2 BHP (478.5 kW)
Frequency regulation, no load to full load	NA
Speed regulation, steady state	+/- 0.5 %
BMEP	269.5 psi (18.6 bar)
Governor type	Electronic

OPERATING DATA

EXHAUST SYSTEM

Exhaust gas flow	Exhaust temperature	Max. back pressure
3231 cfm (1,525 L/s)	851 °F (455°C)	2.06 in Hg (6.97 kPa)

FUEL CONSUMPTION – STANDBY RATING

100% (Load)	75% (Load)	50% (Load)	25% (Load)
29.4 gal/hr (111.3 L/h)	21.1 gal/hr (79.7 L/h)	14.2 gal/hr (53.8 L/h)	NA gal/hr (NA L/h)

LUBRICATION SYSTEM

Total oil capacity w/filters	Oil pressure low idle	Oil pressure rated RPM	Oil consumption 100% load
16.9 gal (64 L)	10.1 psi (.7 bar)	72.5 psi (5 bar)	0.0 gal/hr (0.17 L/h)

AIR INTAKE

Max intake restriction	Engine air flow
20 in H ₂ O (4.98 kPa)	3,231.6 cfm (1,525 L/s)

COOLING SYSTEM

Radiator & engine capacity max.	Water temperature	Outlet water temperature	Fan power	Fan air flow	Engine heat rejection
15.9 gal (60 L)	217.4 °F (103 °C)	199.4 °F (93 °C)	12 kW	19,919.4 cfm (9.4 m ³ /s)	11,599.4 btu/mn (204 kW)



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ALTERNATOR DATA

Manufacturer	LEROY SOMER
Type	LSA471L9
Poles	4
Exciter type	AREP
Insulation — class/temperature rise	H / 150°C/40°C (Standby)
Voltage regulator	R448
Bearing	1
Coupling	Direct
Voltage regulation 0 to 100% load	+/-1.5%
Recovery time (20% Volt dip) ms	<500
Peak motor starting kVA@480V	1480 (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



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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 110, level 1 control panel
- Remote annunciator

Literature

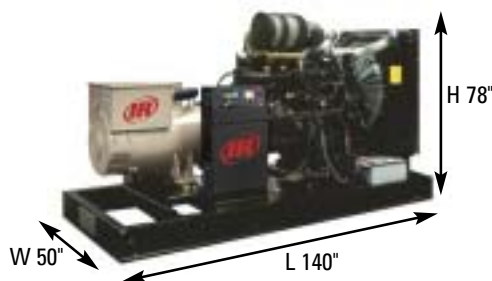
- Parts manual
- Maintenance manual
- Operation manual

Service & Extended Warranty

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

WEIGHT AND MEASUREMENTS

Open model	S450
Weight	7,415 lb Net 8,616 lb Gross (3,365 Kg Net 3,910 Kg Gross)
Overall size — l x w x h	140" x 50" x 78" (3,555 mm x 1,270 mm x 1,990 mm)



Sound attenuated	Silencer mounted inside
Weight	11,265 lb Net 12,460 lb Gross (5112 Kg Net 5654 Kg Gross)
Overall size — l x w x h	238" x 66" x 94" (6,040 mm x 1,680 mm x 2,400 mm)



Distributed by:

IR Ingersoll-Rand (877) IR POWER www.irenergysystems.com