S200

OPTIONS

Generator Set
- Oil temperature alarm – required for NFPA Level 1
- Heavy-duty air filter w/ restriction indicator
- Oil temperature shutdown
- Closed crankcase ventilation canister kit

Enclosed Unit
- Weather protective enclosure, internally mounted exhaust system
- Sound attenuated enclosure, internally mounted exhaust system

Exhaust System Open Units
- Residential silencer
- Critical silencer
- Exhaust pipe kit

Fuel System
- Flexible fuel line
- Fuel/water separator filter

Electrical System
- 3.5-amp battery charger, float
- 6-amp battery charger, float-equalize
- 6-amp battery charger, float-equalize with alarms
- 10-amp battery charger, float-equalize
- 10-amp battery charger, float-equalize with alarms
- Battery warmer
- 120-volt alternator anti-condensation heater

Control Panel
- Remote annunciator
- GenConnect monitoring and control communication system

Additional Accessories
- Automatic transfer switch
- Main line circuit breaker options
- Additional owners manuals

Service And Extended Warranty
- Trained service personnel providing IR parts, service and planned maintenance agreements
- Extended warranty

WEIGHT AND MEASUREMENTS

Open Model S200		
Weight (462-M5 model)		1802 kg (3,972 lb)
Overall Size – l x w x h	mm (in)	2666 (105) x 1194 (47) x 1479 (58)
Weather Protected Model		
Weight (462-M5 model)		2158 kg (4,759 lb)
Overall Size – l x w x h	mm (in)	3772 (149) x 1194 (47) x 1742 (69)
Sound Attenuated Model		
Weight (462-M5 model)		2163 kg (4,768 lb)
Overall Size – l x w x h	mm (in)	3772 (149) x 1194 (47) x 1742 (69)

Note: All weights with coolant and oil.

Distributed by:

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

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Ingersoll-Rand

Diesel Generator

S200

STANDARD FEATURES

- John Deere heavy-duty, EPA-compliant industrial diesel engine
- 12-volt electric starter and engine-driven battery-charging alternator
- Electronic isochronous governor
- Leroy Somer high-performance, AREP-excited brushless alternator
- 40°C ambient temperature unit-mounted radiator with radiator duct adapter flange
- Integral anti-vibration engine-alternator mounts
- Dry-type, single-stage air filter
- UL main line circuit breaker
- Ingersoll-Rand Intellisys™ autostart control panel, NFPA 110 compatible
- Voltage adjust potentiometer +/-5%
- 12-volt lead acid-type cranking battery with rack and cables
- Thermostically controlled external block heater with isolation valves
- Flexible fuel lines
- External drains and valves for oil and coolant
- Flexible exhaust connection
- Owners manual
- Protective guards, shields and labeling per UL2200
- UL2200 listing available

- Ingersoll-Rand provides single-source service and supply for the entire generating system and accessories.
- Ingersoll-Rand generator sets are prototype and production tested.
- Ingersoll-Rand diesel generators accept rated load in one step.
- Superior motor starting and short circuit capability achieved via the "AREP" excitation system.
- A 1-year / 1,500-hour limited warranty included.

GENERATOR RATINGS

Diesel Ratings					**Standby Rating**		**Prime Rating**	
					150°C / 40°C Rise		**125°C / 40°C Rise**	
Alternator	**Voltage**	**Phase**	**Hertz**	**Power Factor**	**kW / kVA**	**Amps**	**kW / kVA**	**Amps**
LSA 46.2M5	346 / 600	3	60	0.8	208 / 260	250	192 / 240	231
	277 / 480	3	60	0.8	210 / 263	316	193 / 241	289
	254 / 440	3	60	0.8	196 / 245	321	184 / 230	302
	139 / 240	3	60	0.8	210 / 263	631	193 / 241	579
	127 / 220	3	60	0.8	196 / 245	643	184 / 230	604
	120 / 208	3	60	0.8	188 / 235	652	175 / 219	607
	120 / 240	3	60	0.8	188 / 235	565	175 / 219	526

Standby Rating: Applicable for supplying emergency electrical power in the event of a utility power outage, and to varying load requirement up to nameplate rating for the duration of the power outage. No overload capability is available for this rating. Ratings are in accordance with ISO3046, DIN6271 and BS5514. Prime Rating: Applicable for supplying electrical power in lieu of commercially purchased power. Prime power is the maximum power available at a variable load for an unlimited number of hours. A 10% overload capacity is available for maximum 1 hour duration within a 12-hour period. Prime ratings are in accordance with ISO8528. Overload power criteria is in accordance with ISO3046, DIN6271 and BS5514. For continuous ratings (non varying load), consult the factory. For complete rating definitions, please refer to the rating definitions guideline located in the Operations and Maintenance Manual or contact IR Energy Systems for this document.

S200 APPLICATION DATA

ENGINE DATA

Manufacturer	John Deere
Model	6068HF475
Intake Air	Turbocharged, Charge air cooled
Cylinder Arrangement	In-Line 6
Displacement, L (cu in)	6.8 (414)
Bore And Stroke, mm (in)	106 x 127 (4.19 x 5)
Compression Ratio	17.0:1
Rated rpm	1,800
Gross Engine Power Output, bhp (kWm)	314 (234)
BMEP At Rated Load, psi (kPa)	333.8 (2300)
Cylinder Head Material	Grey iron
Piston Type And Material	Cast aluminum
Crankshaft Material	Steel alloy
Valve (Exhaust) Material	Steel
Governor Type	Electronic
Frequency Regulation, No-Load To Full-Load	Isochronous
Frequency Regulation, Steady State	+/- .5%
Air Cleaner Type	Dry

LUBRICATION SYSTEM

Type Of Oil Pump	Full pressure
Oil Pan Capacity, L (qt)	31.5 (33)
Oil Pan Capacity With Filter, L (qt)	32 (34)
Oil Filter: Quantity, Type	1, Cartridge
Oil Cooler	Water cooled
Oil Pressure Normal Operating Range At Rated rpm, kPa (psi)	345 (50)
Low Oil Pressure Pre-Alarm Setting, kPa (psi)	103 (15)
Low Oil Pressure Shutdown Setting, kPa (psi)	48 (7)

EXHAUST SYSTEM

Exhaust Flow At Rated kW, m/min (cfm)	41.8 (1,476)
Exhaust Temp At Rated kW, Dry Exhaust, °C (°F)	523 (973)
Max Allowable Back Pressure, kPa (in Hg)	7.5 (2.2)
Exhaust Outlet Size Connection, mm (in)	101.6 (4.0)

FUEL SYSTEM

Recommended Fuel	#2 Diesel
Fuel Supply Line, Min ID, mm (in)	5/16" I.D. Hose – Line Length Under 10', 7/16" I.D. Hose – Line Length Over 10'
Fuel Return Line, Min ID, mm (in)	5/16" I.D. Hose – Line Length Under 10', 7/16" I.D. Hose – Line Length Over 10'
Max Lift, Engine-Driven Fuel Pump, m (ft)	.9 (3)
Max Fuel Flow, L/h (gph)	90.8 (24.0)
Fuel Injection Pump	Denso HPCR
Fuel Prime Pump	Manual
Fuel Filter	2 Micron @ 98% Efficiency, With Integral Water Separator

ENGINE ELECTRICAL SYSTEM

Ignition System	NA
Battery-Charging Alternator	55 amps at 12 volts DC
Ground Polarity	Negative
Starter Motor Voltage (DC)	12-volt
Battery, recommended:	
Quantity, CCA, temp rating	1-12V, 800, -18°C (0°F)

OPERATING REQUIREMENTS

Air Requirements:	
Combustion Air, m^3/min (cfm)	16.4 (579)
Radiator-Cooled Cooling Air, m^3/min (scfm)*	184 (6500)
Heat Rejected To Ambient Air:	
Engine, kW (Btu/min)	35.2 (2002)
Generator, kW (Btu/min)	18.3 (1039)

* Air density = 1.20 kg/m (0.075 lbm/ft)

Site Derating Factors

Temperature:
Derate .5% per 5.5°C (10°F) temperature above 25°C (77°F)

Elevation:
Derate 5% per 500 m (1,640') elevation above 1000 m (3,281')

FUEL CONSUMPTION

Diesel, L/h (gph) at % load – Standby Rating

100% — 56.7 (15.0), 75% — 41.0 (10.8), 50% — 28.2 (7.5), 25% — 15.3 (4.0)

S200 APPLICATION DATA

COOLING SYSTEM

Type Of System	Pressurized, closed recovery
Ambient Temperature, °C (°F)*	40 (104)
Coolant Temperature Normal Operating Range, °C (°F)	82 – 94 (180 – 201)
Coolant Temperature Pre-Alarm Setting, °C (°F)	107 (225)
Coolant Temperature Shutdown Setting, °C (°F)	113 (235)
Radiator System Capacity, Including Engine, L (gal)	30 (7.9)
Coolant Flow Rate, L/min (gpm)	240 (63)
Heat Rejection To Coolant At Rated kW (Btu/min)	101 (5726)
Air/Air Exhanger Heat Rejection At Rated kW, (Btu/min)	47.3 (2692)
Water Pump Type	Centrifugal
Type Of Fan	Pusher
Number Of Fan Blades	8
Diameter Of Fan, mm (in)	686 (27)
Fan, kWm (hp)	5.0 (6.71)
Max Restriction Of Cooling Air, Intake And Discharge Of Radiator, kPa (in H20)	.2 (.8) Open unit
Coolant Heater	1500W, 120 VAC

CONTROL PANEL

Intellisys

- Powerful and flexible microprocessor-based digital control panel for easy genset operation
- Built-in generator and engine protection parameters with NFPA 110 capability
- Quick access to all generator and engine measurements and status
- Capable of local or remote monitoring and control of genset via dedicated RS232 port
- Large backlit LCD screen for convenient operator access and six LED status displays

ALTERNATOR SPECIFICATIONS

Manufacturer	Leroy Somer
Design	4-pole, rotating field
Exciter Type	Brushless, AREP
Stator	2/3 pitch
Rotor	Direct coupled by flexible disc
Bearing: Quantity, Type	1, sealed
Amortisseur Windings	Full
Leads: Quantity, Type	
LSA 46.2M5	12, reconnectable
Insulation Material	Class H per NEMA MG1
Standard Temperature Rise	150°C standby / 125°C prime
Phase Rotation	A, B, C
Total Harmonic Distortion	< 4%
Telephone Influence Factor (TIF)	< 50%
Telephone Harmonic Factor (THF)	< 2%
Voltage Regulator	R438
Voltage Regulation, No-Load To Full-Load	+/- 1.5%
Recovery Time (20% Voltage Dip) ms	500
Unbalanced Load Capability	10%
One-Step Load Acceptance	100% of rating
Peak Motor Starting kVA At 480 V, (0.6 Starting Power Factor):	
LSA 46.2M5	580 (35% voltage dip)

- Compliance with IEC 34.1/34.2 - UTE: NFC 51.111 - VDE 0530 - BS 4999 and 5000 - NEMA: MG1.22 - ISO 8528.3 - CSA.
- Generator allows as standard sustained short-circuit current of up to 300% of rated current for up to 10 seconds.
- Vacuum-impregnated windings with epoxy varnish for dependability and long life.
- Alternator is self-ventilated and IP23 drip-proof constructed.

*Max ambient temperature at which the generator set can operate at standby rating having applied appropriate derates for ambient temperature and altitude.