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## FEATURES

### GENERATOR SET

- Complete system designed and built at ISO 9001 certified facilities
- Factory tested to design specifications at full load conditions

### ENGINE

- Governor, electronic
- Electrical system, 12 VDC
- Cartridge type filters
- Battery rack and cables
- Coolant and lube drains piped to edge of base

### GENERATOR

- Insulation system, class H
- Drip proof generator air intake (NEMA 2, IP23)
- Electrical design in accordance with BS5000 Part 99, EN61000-6, IEC60034-1, NEMA MG-1.33

### CONTROL SYSTEM

- EMCP 3.1 digital control panel
- Vibration isolated NEMA 1 enclosure with lockable hinged door
- DC and AC wiring harnesses

### MOUNTING ARRANGEMENT

- Heavy-duty fabricated steel base with lifting points
- Anti-vibration pads to ensure vibration isolation
- Complete OSHA guarding
- Stub-up pipe ready for connection to silencer pipework
- Flexible fuel lines to base with NPT connections

**STANDBY  
PRIME**

**60-100 kW  
54-90 kW**

**60 Hz**

Model	Standby kW (kVA)	Prime kW (kVA)
D60-4S	60 (60)	54 (54)
D75-4S	75 (75)	67.5 (67.5)
D80-4	80 (100)	72 (90)
D90-4S	90 (90)	82 (82)
D100-4	100 (125)	90 (112.5)
D100-4S	100 (100)	90 (90)

Tier II EPA Approved, Emissions Certified

## GeneratorJoe

### COOLING SYSTEM

- Radiator and cooling fan complete with protective guards
- Standard ambient temperatures up to 50° C (122° F)

### CIRCUIT BREAKER

- UL/CSA listed
- 3-pole with solid neutral
- NEMA 1 steel enclosure, vibration isolated
- Electrical stub-up area directly below circuit breaker

### AUTOMATIC VOLTAGE REGULATOR

- Voltage within ± 0.5% 3-phase and ± 1.0% single phase at steady state from no load to full load
- Provides fast recovery from transient load changes

### EQUIPMENT FINISH

- All electroplated hardware
- Anticorrosive paint protection
- High gloss polyurethane paint for durability and scuff resistance

### QUALITY STANDARDS

- BS4999, BS5000, BS5514, EN61000-6, IEC60034, NEMA MG-1.33, NFPA 110 (with optional equipment)

### DOCUMENTATION

- Operation and maintenance manuals provided
- Wiring diagrams included

### WARRANTY

- All equipment carries full manufacturer's warranty.

## OPTIONAL EQUIPMENT\*

### ENCLOSURE

- B Series weather protective enclosure (includes internal silencer system)
  - Single point lift
  - Panel viewing window
  - External emergency stop pushbutton
- Sound attenuated enclosure (includes internal silencer system)

### SILENCER SYSTEM – OPEN UNIT

- Level 1 silencer
- Level 2 silencer
- Level 3 silencer
- Mounting kit
- Through-wall installation kits

### ENGINE

- Battery heater
- Lube oil drain pump
- High lube oil temperature shutdown
- Lube oil sump heater

### CIRCUIT BREAKER

- Auxiliary voltfree contacts
- Shunt trip (100+ amp breakers)

### GENERATOR

- Anti-condensation heater
- Permanent magnet generator
- AREP excitation system (D80-4, D100-4)
- Generator upgrade 1 size (D80-4, D100-4)

### CONTROL SYSTEM

- No control system
- EMCP 3.2 digital control panel

### MOUNTING ACCESSORIES

- Seismic (Zone 4) vibration isolators

### FUEL SYSTEM

- Metal fuel tank
- UL listed closed top-diked skid-mounted fuel tank base (12/24-hour capacity) with fuel alarm (low level/leak detected)
- Critical high fuel alarm
- Critical low fuel level shutdown

### COOLING SYSTEM

- Coolant heater
- Low coolant temperature alarm
- Low coolant level shutdown
- Radiator transition flange

### REMOTE ANNUNCIATORS

- 16-channel remote annunciator panel (supplied loose)

### MISCELLANEOUS ACCESSORIES

- Toolkit
- Additional operator's manual pack
- Special enclosure color
- UL listing
- CSA certification
- French or Spanish language labels

### EXTENDED SERVICE CONTRACTS

- Extended Service Coverage available

### TESTING

- Factory witness test (restricted to 6 hours – full load, 1.0 pf)

\* Some options may not be available on all models.  
Not all options are listed.



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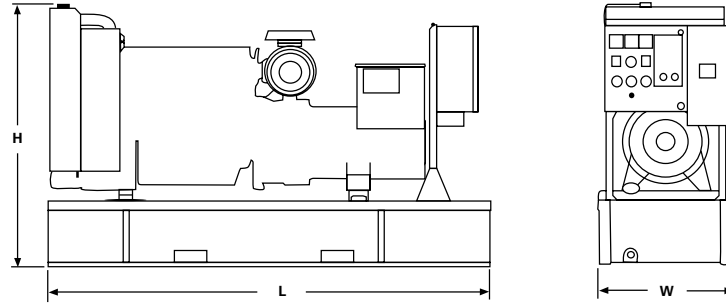
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**STANDBY**  
**PRIME**  
**60 Hz**

**60 - 100 kW**  
**54 - 90 kW**



**GENERATOR SET DIMENSIONS AND WEIGHTS**



Model	Length mm (in)	Width mm (in)	Height mm (in)	Weight kg (lb)*
<b>D60-4S</b>	2347 (92.4)	1100 (43.3)	1321 (52.0)	1342 (2,959)
<b>D75-4S</b>	2347 (92.4)	1100 (43.3)	1321 (52.0)	1382 (3,047)
<b>D80-4</b>	2347 (92.4)	1100 (43.3)	1321 (52.0)	1432 (3,157)
<b>D90-4S</b>	2347 (92.4)	1100 (43.3)	1321 (52.0)	1432 (3,157)
<b>D100-4</b>	2347 (92.4)	1100 (43.3)	1321 (52.0)	1432 (3,157)
<b>D100-4S</b>	2347 (92.4)	1100 (43.3)	1321 (52.0)	1502 (3,311)

**NOTE:** General configuration not to be used for installation. See specific dimensional drawings for detail.

\*Includes oil and coolant



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**STANDBY**  
**PRIME**  
**60 Hz**

**60 - 100 kW**  
**54 - 90 kW**



**CATERPILLAR®**

**D80-4 (3-Phase)**

Materials and specifications are subject to change without notice.

Generator Set Technical Data – 1800 rpm/60 Hz			Standby		Prime	
Power Rating	kW	kVA	80	100	72	90
<b>Lubricating System</b>						
Type: full pressure						
Oil filter: spin-on, full flow						
Oil cooler: watercooled						
Oil type required: API CG4/CH4						
Total oil capacity	L	U.S. gal	7.9	1.4	7.9	1.4
Oil pan	L	U.S. gal	6.4	1.2	6.4	1.2
<b>Fuel System</b>						
Generator set fuel consumption						
100% load	L/hr	gal/hr	23.8	6.3	21.7	5.7
75% load	L/hr	gal/hr	18.5	4.2	16.9	4.5
50% load	L/hr	gal/hr	13.2	3.5	12.2	3.2
<b>Engine Electrical System</b>						
Voltage/ground: 12/negative						
Battery charging generator ampere rating	amps		65		65	
<b>Cooling System</b>						
Water pump type: centrifugal						
Radiator system capacity incl. engine	L	U.S. gal	12.6	3.3	12.6	3.3
Maximum coolant static head	m H <sub>2</sub> O	ft H <sub>2</sub> O	10.2	33.5	10.2	33.5
Coolant flow rate	L/hr	U.S. gal/hr	11 640	3,075	11 640	3,075
Minimum temperature to engine	°C	°F	70	158	70	158
Temperature rise across engine	°C	°F	4.4	7.9	4.0	7.0
Heat rejected to coolant at rated power	kW	Btu/min	52.5	2,986	47.8	2,719
Total heat radiated to room at rated power	kW	Btu/min	15.7	893	13.8	785
Radiator fan load	kW	hp	5.0	6.7	5.0	6.7
<b>Air Requirements</b>						
Combustion air flow	m <sup>3</sup> /min	cfm	5.95	218	5.9	207
Maximum air cleaner restriction	kPa	in H <sub>2</sub> O	5	20	5	20
Radiator cooling air (zero restriction)	m <sup>3</sup> /min	cfm	276	9,746	276	9,746
Generator cooling air	m <sup>3</sup> /min	cfm	26.4	933	26.4	933
Allowable air flow restriction (after radiator)	kPa	in H <sub>2</sub> O	0.120	0.48	0.120	0.48
Cooling airflow (@ rated speed)						
Rate with restriction	m <sup>3</sup> /min	cfm	244	8,616	244	8,616
<b>Exhaust System</b>						
Maximum allowable backpressure	kPa	in Hg	15	4.5	15	4.5
Exhaust flow at rated kW	m <sup>3</sup> /min	cfm	13.47	565	14.5	514
Exhaust temperature at rated kW – Dry exhaust	°C	°F	544	1,011	495	919
<b>Generator Set Noise Rating*</b>						
(without attenuation) at 1 m (3 ft)	dB(A)		96		96	

Generator Technical Data		277/480V	266/460V	127/220V	120/240V 120/208V	347/600V
<b>Motor Starting Capability:</b> (kVA)						
(30% voltage dip)	Self excited	206	191	177	160	N/A
	PM excited**	271	252	233	211	271
	AREP excited	271	252	233	211	271
<b>Full Load Efficiencies:</b>						
	Standby	91.7	91.4	91.3	90.9	91.7
	Prime	91.8	91.8	91.5	91.3	91.8
<b>Reactances (per unit):</b>						
	X <sub>d</sub>	2.87	3.12	3.41	3.82	2.87
	X' <sub>d</sub>	0.11	0.12	0.13	0.15	0.11
Reactances shown are	X'' <sub>d</sub>	0.067	0.073	0.079	0.089	0.067
applicable to the	X <sub>q</sub>	1.72	1.87	2.05	2.29	1.72
standby rating.	X'' <sub>q</sub>	0.083	0.090	0.099	0.110	0.083
	X <sub>2</sub>	0.075	0.082	0.089	0.100	0.075
	X <sub>0</sub>	0.004	0.004	0.005	0.005	0.004
<b>Time Constants:</b>		t' <sub>d</sub>	t'' <sub>d</sub>	t' <sub>do</sub>	t <sub>a</sub>	
		100 ms	10 ms	2555 ms	15 ms	

\* dB(A) levels are for guidance only

\*\* With PMG Excited Option AVR12

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**D60-4S (1-Phase)**

Materials and specifications are subject to change without notice.

Generator Set Technical Data – 1800 rpm/60 Hz		Standby		Prime	
<b>Power Rating (at 240V)</b>	kW      kVA	60	60	54	54
<b>Lubricating System</b> Type: full pressure Oil filter: spin-on, full flow Oil cooler: watercooled Oil type required: API CG-4/CH4 Total oil capacity Oil pan	L      U.S. gal L      U.S. gal	7.9      1.4 6.4      1.2		7.9      1.4 6.4      1.2	
<b>Fuel System</b> Generator set fuel consumption 100% load 75% load 50% load	L/hr      gal/hr L/hr      gal/hr L/hr      gal/hr	19.1      5.0 14.8      3.9 10.8      2.9		17.5      4.6 13.6      3.6 10.0      2.6	
<b>Engine Electrical System</b> Voltage/ground: 12/negative Battery charging generator ampere rating	amps		65		65
<b>Cooling System</b> Water pump type: centrifugal Radiator system capacity incl. engine Maximum coolant static head Coolant flow rate Minimum temperature to engine Temperature rise across engine Heat rejected to coolant at rated power Total heat radiated to room at rated power Radiator fan load	L      U.S. gal m H <sub>2</sub> O      ft H <sub>2</sub> O L/hr      U.S. gal/hr °C      °F °C      °F kW      Btu/min kW      Btu/min kW      hp	12.6      3.3 10.2      33.5 11 640      3,075 70      158 4.4      7.7 52.5      2,986 15.6      887 5.0      6.7		12.6      3.3 10.2      33.5 11 640      3,075 70      158 4.0      7.0 47.8      2,719 14.1      802 5.0      6.7	
<b>Air Requirements</b> Combustion air flow Maximum air cleaner restriction Radiator cooling air (zero restriction) Generator cooling air Allowable air flow restriction (after radiator) Cooling airflow (@ rated speed) Rate with restriction	m <sup>3</sup> /min      cfm kPa      in H <sub>2</sub> O m <sup>3</sup> /min      cfm m <sup>3</sup> /min      cfm kPa      in H <sub>2</sub> O m <sup>3</sup> /min      cfm	5.95      210 7.5      30.1 276      9,746 19.2      678 0.120      0.48 244      8,616		5.4      191 7.5      30.1 276      9,746 19.2      678 0.120      0.48 244      8,616	
<b>Exhaust System</b> Maximum allowable backpressure Exhaust flow at rated kW Exhaust temperature at rated kW – Dry exhaust	kPa      in Hg m <sup>3</sup> /min      cfm °C      °F	15.0      4.5 16.0      565 544      1,011		15.0      4.5 14.5      514 495      919	
<b>Generator Set Noise Rating*</b> (without attenuation) at 1 m (3 ft)	dB(A)		96		96

Generator Technical Data		120/240V	115/230V	110/220V
<b>Motor Starting Capability: (kVA)</b> (30% voltage dip)	Self excited PM excited**	128 128	119 119	101 101
<b>Full Load Efficiencies:</b>	Standby Prime	88.3 88.3	87.6 87.6	86.9 86.9
<b>Reactances (per unit):</b>	X <sub>d</sub> Reactances shown are applicable to the standby rating. X' <sub>d</sub> X'' <sub>d</sub> X <sub>q</sub> X'' <sub>q</sub>	2.14 0.17 0.086 1.29 0.105	2.33 0.18 0.093 1.41 0.115	2.55 0.20 0.102 1.54 0.125
<b>Time Constants:</b>	t' <sub>d</sub> 80 ms	t'' <sub>d</sub> 7 ms	t' <sub>do</sub> 1354 ms	t <sub>a</sub> 12 ms

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**D75-4S (1-Phase)**

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Generator Set Technical Data – 1800 rpm/60 Hz			Standby		Prime	
<b>Power Rating</b> (at 240V)	kW	kVA	75	75	67.5	67.5
<b>Lubricating System</b> Type: full pressure Oil filter: spin-on, full flow Oil cooler: watercooled Oil type required: API CF-4 Total oil capacity Oil pan	L L	U.S. gal U.S. gal	7.9 6.4	1.4 1.2	7.9 6.4	1.4 1.2
<b>Fuel System</b> Generator set fuel consumption 100% load 75% load 50% load	L/hr L/hr L/hr	gal/hr gal/hr gal/hr	22.9 17.8 12.7	6.0 4.7 3.4	20.9 16.3 12.0	5.5 4.3 3.2
<b>Engine Electrical System</b> Voltage/ground: 12/negative Battery charging generator ampere rating	amps		65		65	
<b>Cooling System</b> Water pump type: centrifugal Radiator system capacity incl. engine Maximum coolant static head Coolant flow rate Minimum temperature to engine Temperature rise across engine Heat rejected to coolant at rated power Total heat radiated to room at rated power Radiator fan load	L m H <sub>2</sub> O L/hr °C °C kW kW kW	U.S. gal ft H <sub>2</sub> O U.S. gal/hr °F °F Btu/min Btu/min hp	12.6 10.2 11 640 70 4.4 52.5 17.0 5.0	3.3 33.5 3,075 158 7.9 2,986 967 6.7	12.6 10.2 11 640 70 4.0 47.8 15.1 5.0	3.3 33.5 3,075 158 7.2 2,719 859 6.7
<b>Air Requirements</b> Combustion air flow Maximum air cleaner restriction Radiator cooling air (zero restriction) Generator cooling air Allowable air flow restriction (after radiator) Cooling airflow (@ rated speed) Rate with restriction	m <sup>3</sup> /min kPa m <sup>3</sup> /min m <sup>3</sup> /min kPa m <sup>3</sup> /min	cfm in H <sub>2</sub> O cfm cfm in H <sub>2</sub> O cfm	7.79 5.0 276 19.2 0.120 244	279 20 9,746 678 0.48 8,616	7.38 5.0 276 19.2 0.120 244	260 20 9,746 678 0.48 8,616
<b>Exhaust System</b> Maximum allowable backpressure Exhaust flow at rated kW Exhaust temperature at rated kW – Dry exhaust	kPa m <sup>3</sup> /min °C	in Hg cfm °F	15 22.5 580	4.5 794 1,076	15 20.0 540	4.5 705 1,004
<b>Generator Set Noise Rating*</b> (without attenuation) at 1 m (3 ft)	dB(A)		95		95	

Generator Technical Data		120/240V	115/230V	110/220V
<b>Motor Starting Capability:</b> (kVA) (30% voltage dip)	Self excited	170	160	150
	PM excited**	170	160	150
<b>Full Load Efficiencies:</b>	Standby	88.9	88.4	87.7
	Prime	89.3	88.8	88.2
<b>Reactances (per unit):</b>	X <sub>d</sub>	2.02	2.20	2.40
Reactances shown	X' <sub>d</sub>	0.15	0.16	0.18
are applicable to	X'' <sub>d</sub>	0.077	0.084	0.092
the standby rating.	X <sub>q</sub>	1.21	1.32	1.44
	X'' <sub>q</sub>	0.095	0.103	0.113
<b>Time Constants:</b>	t' <sub>d</sub>	t'' <sub>d</sub>	t' <sub>do</sub>	t <sub>a</sub>
	80 ms	7 ms	1431 ms	12 ms

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**D90-4S (1-Phase)**

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Generator Set Technical Data – 1800 rpm/60 Hz		Standby		Prime	
<b>Power Rating (at 240V)</b>	kW      kVA	90	90	82	82
<b>Lubricating System</b> Type: full pressure Oil filter: spin-on, full flow Oil cooler: watercooled Oil type required: API CG4/CH4 Total oil capacity Oil pan	L      U.S. gal L      U.S. gal	7.9      1.4 6.4      1.2		7.9      1.4 6.4      1.2	
<b>Fuel System</b> Generator set fuel consumption 100% load 75% load 50% load	L/hr      gal/hr L/hr      gal/hr L/hr      gal/hr	27.3      7.2 20.9      5.5 14.7      3.9		24.9      6.6 19.0      5.0 14.0      3.7	
<b>Engine Electrical System</b> Voltage/ground: 12/negative Battery charging generator ampere rating	amps	65		65	
<b>Cooling System</b> Water pump type: centrifugal Radiator system capacity incl. engine Maximum coolant static head Coolant flow rate Minimum temperature to engine Temperature rise across engine Heat rejected to coolant at rated power Total heat radiated to room at rated power Radiator fan load	L      U.S. gal m H <sub>2</sub> O      ft H <sub>2</sub> O L/hr      U.S. gal/hr °C      °F °C      °F kW      Btu/min kW      Btu/min kW      hp	12.6      3.3 10.2      33.5 11 640      3,075 70      158 5.5      9.9 65.6      3,731 21.2      1,206 5.0      6.7		12.6      3.3 10.2      33.5 11 640      3,075 70      158 5.0      9.0 59.7      3,396 18.8      1,069 5.0      6.7	
<b>Air Requirements</b> Combustion air flow Maximum air cleaner restriction Radiator cooling air (zero restriction) Generator cooling air Allowable air flow restriction (after radiator) Cooling airflow (@ rated speed) Rate with restriction	m <sup>3</sup> /min      cfm kPa      in H <sub>2</sub> O m <sup>3</sup> /min      cfm m <sup>3</sup> /min      cfm kPa      in H <sub>2</sub> O m <sup>3</sup> /min      cfm	7.79      279 5.0      20 276      9,746 26.4      933 0.120      0.48 244      8,616		7.38      260 5.0      20 276      9,746 26.4      933 0.120      0.48 244      8,616	
<b>Exhaust System</b> Maximum allowable backpressure Exhaust flow at rated kW Exhaust temperature at rated kW – Dry exhaust	kPa      in Hg m <sup>3</sup> /min      cfm °C      °F	15      4.5 22.5      794 580      1,076		15      4.5 20.0      705 540      1,004	
<b>Generator Set Noise Rating*</b> (without attenuation) at 1 m (3 ft)	dB(A)	95		95	

Generator Technical Data		120/240V	115/230V	110/220V
<b>Motor Starting Capability:</b> (kVA) (30% voltage dip)	Self excited PM excited**	145 145	135 135	126 126
<b>Full Load Efficiencies:</b>	Standby Prime	88.6 89.1	88 88.5	87.8 87.8
<b>Reactances (per unit):</b>	X <sub>d</sub> X' <sub>d</sub> X'' <sub>d</sub> X <sub>q</sub> X'' <sub>q</sub>	2.99 0.25 0.148 1.80 0.184	3.25 0.28 0.161 1.96 0.201	3.55 0.30 0.176 2.14 0.219
<b>Time Constants:</b>	t' <sub>d</sub> t'' <sub>d</sub> t' <sub>do</sub> t <sub>a</sub>	165 ms	13 ms	2555 ms      20 ms

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**D100-4 (3-Phase)**

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Generator Set Technical Data – 1800 rpm/60 Hz			Standby		Prime	
<b>Power Rating</b>	kW	kVA	100	125.0	90	112.5
<b>Lubricating System</b> Type: full pressure Oil filter: spin-on, full flow Oil cooler: watercooled Oil type required: API CG4/CH4 Total oil capacity Oil pan	L L	U.S. gal U.S. gal	8.0 5.5	2.1 1.4	8.0 5.5	2.1 1.4
<b>Fuel System</b> Generator set fuel consumption 100% load 75% load 50% load	L/hr L/hr L/hr	gal/hr gal/hr gal/hr	29.8 22.5 15.8	7.9 5.9 4.2	26.8 20.4 14.6	7.1 5.4 3.9
<b>Engine Electrical System</b> Voltage/ground: 12/negative Battery charging generator ampere rating	amps		65		65	
<b>Cooling System</b> Water pump type: centrifugal Radiator system capacity incl. engine Maximum coolant static head Coolant flow rate Minimum temperature to engine Temperature rise across engine Heat rejected to coolant at rated power Total heat radiated to room at rated power Radiator fan load	L m H <sub>2</sub> O L/hr °C °C kW kW kW	U.S. gal Ft H <sub>2</sub> O U.S. gal/hr °F °F Btu/min Btu/min hp	12.6 10.2 11 640 70 5.5 65.6 20.7 5.0	3.3 33.5 3,075 158 9.9 3,731 1,177 6.7	12.6 10.2 11 640 70 5.0 59.7 18.3 5.0	3.3 33.5 3,075 158 9.0 3,396 1,041 6.7
<b>Air Requirements</b> Combustion air flow Maximum air cleaner restriction Radiator cooling air (zero restriction) Generator cooling air Allowable air flow restriction (after radiator) Cooling airflow (@ rated speed) Rate with restriction	m <sup>3</sup> /min kPa m <sup>3</sup> /min m <sup>3</sup> /min kPa m <sup>3</sup> /min	cfm in H <sub>2</sub> O cfm cfm in H <sub>2</sub> O cfm	78 8 276 26.4 0.120 244	276 32 9,746 933 0.48 8,616	7.75 8 276 26.4 0.120 244	274 32 9,746 933 0.48 8,616
<b>Exhaust System</b> Maximum allowable backpressure Exhaust flow at rated kW Exhaust temperature at rated kW – Dry exhaust	kPa m <sup>3</sup> /min °C	in Hg cfm °F	15 20.4 574	4.5 721 1,065	15 18.4 517	4.5 651 963
<b>Generator Set Noise Rating*</b> (without attenuation) at 1 m (3 ft)	dB(A)		95		95	

Generator Technical Data	277/480V	266/460V	127/220V	120/240V 120/208V	347/600V
<b>Motor Starting Capability:</b> (kVA) (30% voltage dip) Self excited PM excited** AREP excited	206 271 271	191 252 252	177 233 233	160 211 211	N/A 271 271
<b>Full Load Efficiencies:</b> Standby Prime	91.0 91.4	90.9 91.0	90.5 90.9	90.0 90.4	91.0 91.4
<b>Reactances (per unit):</b> X <sub>d</sub> X' <sub>d</sub> Reactances shown are applicable to the standby rating. X <sub>q</sub> X'' <sub>q</sub> X <sub>2</sub> X <sub>0</sub>	3.58 0.14 0.083 2.15 0.104 0.094 0.005	3.90 0.15 0.091 2.34 0.113 0.102 0.005	4.26 0.17 0.099 2.56 0.123 0.112 0.006	4.77 0.19 0.111 2.86 0.138 0.125 0.006	3.58 0.14 0.083 2.15 0.104 0.094 0.005
<b>Time Constants:</b>	t' <sub>d</sub> 100 ms	t'' <sub>d</sub> 10 ms	t' <sub>do</sub> 2555 ms	t <sub>o</sub> 15 ms	

\* dB(A) levels are for guidance only

\*\* With PMG Excited Option AVR12



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**D100-4S (1-Phase)**

Materials and specifications are subject to change without notice.

Generator Set Technical Data – 1800 rpm/60 Hz			Standby		Prime	
<b>Power Rating (at 240V)</b>	kW	kVA	100	100	90	90
<b>Lubricating System</b> Type: full pressure Oil filter: spin-on, full flow Oil cooler: watercooled Oil type required: API CF-4 Total oil capacity Oil pan	L L	U.S. gal U.S. gal	7.9 6.4	1.4 1.2	7.9 6.4	1.4 1.2
<b>Fuel System</b> Generator set fuel consumption 100% load 75% load 50% load	L/hr L/hr L/hr	gal/hr gal/hr gal/hr	29.6 22.4 15.9	7.8 5.9 4.2	26.8 20.4 15.0	7.1 5.4 4.0
<b>Engine Electrical System</b> Voltage/ground: 12/negative Battery charging generator ampere rating	amps		65		65	
<b>Cooling System</b> Water pump type: centrifugal Radiator system capacity incl. engine Maximum coolant static head Coolant flow rate Minimum temperature to engine Temperature rise across engine Heat rejected to coolant at rated power Total heat radiated to room at rated power Radiator fan load	L m H <sub>2</sub> O L/hr °C °C kW kW kW	U.S. gal ft H <sub>2</sub> O U.S. gal/hr °F °F Btu/min Btu/min hp	12.6 10.2 11 640 70 5.5 65.6 21.2 5.0	3.3 33.5 3,075 158 9.9 3,731 1,206 6.7	12.6 10.2 11 640 70 5.0 59.7 18.8 5.0	3.3 33.5 3,075 158 9.0 3,396 1,069 6.7
<b>Air Requirements</b> Combustion air flow Maximum air cleaner restriction Radiator cooling air (zero restriction) Generator cooling air Allowable air flow restriction (after radiator) Cooling airflow (@ rated speed) Rate with restriction	m <sup>3</sup> /min kPa m <sup>3</sup> /min m <sup>3</sup> /min kPa m <sup>3</sup> /min	cfm in H <sub>2</sub> O cfm cfm in H <sub>2</sub> O cfm	7.79 5.0 276 26.4 0.120 244	279 20 9,746 933 0.48 8,616	7.38 5.0 276 26.4 0.120 244	260 20 9,746 933 0.48 8,616
<b>Exhaust System</b> Maximum allowable backpressure Exhaust flow at rated kW Exhaust temperature at rated kW – Dry exhaust	kPa m <sup>3</sup> /min °C	in Hg cfm °F	15 22.5 580	4.5 794 1,076	15 20.0 540	4.5 705 1,004
<b>Generator Set Noise Rating*</b> (without attenuation) at 1 m (3 ft)	dB(A)		95		95	

Generator Technical Data		120/240V	115/230V	110/220V
<b>Motor Starting Capability:</b> (kVA) (30% voltage dip)	Self excited	188	174	162
	PM excited**	188	174	162
<b>Full Load Efficiencies:</b>	Standby	90.5	90.0	89.4
	Prime	90.5	90.0	89.4
<b>Reactances (per unit):</b> Reactances shown are applicable to the standby rating.	X <sub>d</sub>	2.67	2.91	3.18
	X' <sub>d</sub>	0.21	0.23	0.25
	X <sup>u</sup> <sub>d</sub>	0.127	0.138	0.151
	X <sub>q</sub>	1.60	1.74	1.90
	X <sup>u</sup> <sub>q</sub>	0.151	0.164	0.180
<b>Time Constants:</b>	t' <sub>d</sub>	t'' <sub>d</sub>	t' <sub>do</sub>	t <sub>a</sub>
	165 ms	13 ms	2734 ms	20 ms

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**STANDBY**  
**PRIME**  
**60 Hz**

**60 - 100 kW**  
**54 - 90 kW**



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**STANDBY**  
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