

DESIGN SPECIFICATIONS

- ✓ High quality, reliable and complete power unit.
- ✓ Compact design.
- ✓ Easy start and maintenance possibility.
- ✓ Every generating set is subject to a comprehensive test programme which includes full load testing and checking and proving of all control and safety shut down functions testing.
- ✓ Fully engineered with a wide range of options and accessories: Canopy, soundproof canopy and mobile units.



400 / 230 V - 50 Hz	Generating Set Model		AC 250	ACQ 275	ACQ 350	AC 350	AC 400	AC 440
Power Pf. 0,8	Standby	kVA	250	275	350	350	400	440
	Prime	kVA	225	250	300	316	356	400

Standby: Continuous running at variable load for duration of an emergency. No overload is permitted on these ratings. In accordance with ISO 3046, BS 5514.
 Prime: Continuous running at variable load for unlimited periods with 10 % overload available for 1 hour in any 12 hour period. In accordance with ISO 8528, ISO 3046, BS 5514.
 Contact us for the other running periods. Power ratings based on a 40 °C (104 °F) ambient temperature reference.

STANDARD GENSET SPECIFICATIONS

ENGINE

- CUMMINS heavy - duty diesel engine.
- Four cycle, water cooled, turbo charged.
- Electronic Governor Control System.
- Direct injection fuel system.
- Replaceable wet type cylinder liners.
- 4 Valves per cylinder (from AC 350 to AC 440).
- 24 Volt D.C. starter and charge alternator.
- Replaceable fuel filters, oil filters and dry element air filters.
- Cooling radiator and fan.
- Starter battery (with lead acid) including Rack and Cables.
- Flexible fuel connection hoses and manual sump oil drain valve.
- Industrial capacity exhaust silencer and steel bellows.
- Jacket water heater (automatic models).
- Operation manuals and circuit diagram documents.

ALTERNATOR

- Brushless, single bearing system, 4 poles.
- Insulation class H.
- Standard degree of protection IP21.
- Self - exciting and self - regulating.
- Stator windings with 2 / 3 pitch for improved harmonics.
- Impregnation with tropicalised epoxy varnish.
- Solid state Automatic Voltage Regulator.

CHASSIS

- The complete generating set is mounted as whole on a heavy - duty fabricated, steel base frame. Antivibration pads are fixed between the engine / alternator feet and the base frame.
- The generating set can be lifted or carefully pushed / pulled by the base frame.
- Base frame design incorporates an integral fuel tank.
- Dial type fuel gauge and drain bung on the fuel tank.

CANOPY

- All canopy parts are designed with modular principles.
- Without welding assembly.
- All metal canopy parts are painted by electrostatic polyester powder paint.
- Exhaust silencer is protected against environment influences.
- Thermally insulated engine exhaust system.
- Emergency stop push button outside of canopy.
- Easy lifting and moving.
- Easy maintenance and operation.

QUALITY STANDARDS

- The equipment meets the following standards: ISO 3046, VDE 0530, BS 4999, BS 5000, IEC 34.
 The generating set is manufactured by a fully accredited ISO 9001 Szutest.



CONTROL SYSTEM

Control supervision and protection panel is mounted on the genset base frame. The control panel is equipped as follows:

Auto Mains Failure Control System P2020:

- Control with DSE model 5220 module.
- Static battery charger.
- Emergency stop push button.

Control Module Features: DSE Model 5220

- Automatic controls generating set, start and shutdown.
- Front panel programming of the module settings.
- Remote communication via RS 232 port or RS 485 "modbus" output.
- Scrolling digital LCD display.
- Event logging of shutdown alarms.
- Monitoring AC mains supply.
- Provides signal to change over switchgear.
- Easy pushbutton control.

Stop / Reset - Auto - Manual - Test - Start.

Metering via LCD Display:

- Generator Volts (L - L / L - N).
- Generator Amperes (L1, L2, L3).
- Generator Frequency (Hz).
- Generator kVA.
- Generator kW.
- Generator Cos φ
- Mains frequency (Hz).
- Engine oil pressure (PSI & Bar).
- Engine Temperature (°C & °F).
- Engine speed RPM.
- Engine hours run.
- Plant battery volts.
- Mains volts (L - L / L - N).

Alarms:

- Under / Over generator volts.
- Under / Over generator frequency.
- Over current.
- Low oil pressure.
- High engine temperature.
- Under / Over speed.
- Under / Over mains volts.
- Under / Over mains frequency.
- Low coolant level.
- Fail to start.
- Fail to stop.
- Emergency stop.
- Charge fail.
- Low / High battery volts.
- Can data fail.
- Can ECU fail.

2. Power Outlet Terminal Board Mounted on the Genset Base Frame.



DSE 5220

TECHNICAL DATA

DIESEL GENERATING SETS 400 / 230 V - 50 Hz

GROUP	MODEL			AC 250	ACQ 275	ACQ 350	AC 350	AC 400	AC 440
	Power	Standby	kVA kW	250 200	275 220	350 280	350 280	400 320	440 352
Pf. 0,8	Prime	kVA kW	225 180	250 200	300 240	316 252	356 284	400 320	
DIESEL ENGINE	Engine Make			Cummins	Cummins	Cummins	Cummins	Cummins	Cummins
	Model			6 CTA 8,3 G 2	QLS9 - G3	QLS9 - G5	NT 855 G6	NTA 855 G4	NTA 855 G7
	Gross Engine Power Output (at rated rpm)		kWm	231	257	310	310	351	391
			hp	310	345	415	415	470	525
	Air Cooling			Turbo Charged - Charge Cooled	Turbo Charged - Charge Cooled	Turbo Charged - Charge Cooled	Turbo Charged	Turbo After Cooled	Turbo After Cooled
	Cubic Capacity		Liter	8,3	8,8	8,8	14	14	14
	Cylinders and Build			6 - In Line	6 - In Line	6 - In Line	6 - In Line	6 - In Line	6 - In Line
	Engine Rated Speed			rpm	1500	1500	1500	1500	1500
	Bore and Stroke		mm. x mm.	114 x 135	114 x 145	114 x 145	140 x 152	140 x 152	140 x 152
	Compression Ratio			16,7:1	16,8:1	16,8:1	14,0:1	14,0:1	14,0:1
	Governor Type			Electronic	Electronic	Electronic	Electronic	Electronic	Electronic
	Fuel Consumption		Load	1/2 3/4 Full	1/2 3/4 Full	1/2 3/4 Full	1/2 3/4 Full	1/2 3/4 Full	1/2 3/4 Full
			l / h.	25 38 51,8	34 49 59	31 46 63	36 52 69	39 57 76	45 65 88
	Fuel Tank Capacity		Liter	360	420	420	420	420	420
	Total Oil Capacity		Liter	23,8	26,5	26,5	38	38,6	36
	Coolant Capacity (raditor and engine)		Liter	40	33	33	70	70	85
	Radiator Cooling Air		m ³ / min.	186	475	475	456	498	510
	Air Intake Engine		m ³ / min.	15,3	19,5	20,5	21,6	24,5	31,5
	Exhaust Gas Flow		m ³ / min.	41	32	32	64	67,6	84
	Exhaust Gas Temperature		°C	565	585	560	574	524	553
Heat Radiated to Ambient		kW	24	21	35	57	65	75	
Engine Derating - Altitude			4% per 300 m. Above 1000 m.	Above 1000 m.	Above 1000 m.	4% per 300 m. Above 1525 m.	4% per 300 m. Above 1525 m.	4% per 300 m. Above 600 m.	
Engine Derating - Temperature			6% per 10°C Above 40°C	Above 40°C	Above 40°C	2% per 11°C Above 40°C	2% per 11°C Above 40°C	15% per 10°C Above 40°C	
Alternator Voltage Regulation			± 1 %	± 1 %	± 1 %	± 1 %	± 1 %	± 1 %	

OPEN TYPE

Dimensions (length x width x height)	m.	2,9 x 1,18 x 1,77	3 x 1,15 x 1,9	3 x 1,15 x 1,9	3,23 x 1,15 x 2
Dry weight	kg.	1970	2920	3150	3170 3250 3280

SOUND ATTENUATED TYPE

	ASM 7	AK 70			AK 80	
Dimensions (length x width x height)	m.	4 x 1,21 x 2	4,55 x 1,46 x 2,27			4,9 x 1,55 x 2,5
Dry Weight	kg.	2750	4180	4400	4480	4540 5025
Fuel Tank Capacity	Liter	420	650	650	650	650 850

☐ Manufacturer reserves the right to make changes in model, technical specifications, colour, equipment and accessories without prior notice.

OPTIONAL EQUIPMENTS

Diesel Engine

- ☐ Remote Radiator (for AC 350, AC 400, AC 440).
- ☐ Oil heater.

Alternator

- ☐ 3 pole output circuit breaker (only automatic models).
- ☐ Oversized alternator.
- ☐ Anti - condensation heater.

Panel

- ☐ Charge ammeter.
- ☐ Transfer switch 3 pole.
- ☐ Transfer switch 4 pole.
- ☐ Automatic synchronising and power control system.
- ☐ Earth fault, single set.



Accessories

- ☐ Bulk fuel tank.
- ☐ Automatic fuel filling system.
- ☐ Fuel water separator filter.
- ☐ Manual fuel filling system.
- ☐ Low fuel level alarm.
- ☐ Residential silencer.
- ☐ Enclosure canopy.
- ☐ Sound proof canopy.
- ☐ Trailer.
- ☐ Manual oil drain pump.
- ☐ Tool kit for maintenance.

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