

VICTORIA

ADVANCED POWER PRODUCTS SOUTHERN PTY LTD
 33 Vella Drive
 SUNSHINE VIC 3020
 Ph: (03) 9310 1980
 Fax: (03) 9310 2065

MACFARLANE GENERATORS
 PO Box 5176
 CLAYTON VIC 3168
 Ph: (03) 9544 4222
 Fax: (03) 9543 7138

NEW SOUTH WALES

ADVANCED POWER PRODUCTS
 33 Shepherd Street
 LIVERPOOL NSW 2170
 Ph: (02) 9600 6555
 Fax: (02) 9821 1936

MACFARLANE GENERATORS
 31/7 Salisbury Road
 CASTLE HILL NSW 2154
 Ph: (02) 9899 6699
 Fax: (02) 9899 8048

SOUTH AUSTRALIA

WELSH & LEO
 27 Wood Avenue
 BROMPTON SA 5031
 Ph: (08) 8340 8322
 Fax: (08) 8340 8383

QUEENSLAND

EXPRO
 40 Holland Street
 NORTHGATE QLD 4013
 Ph: (07) 3260 5499
 Fax: (07) 3260 5546

PUMP N POWER
 Lot 6, Industrial Road
 MOUNT ISA QLD 4825
 Ph: (07) 4743 9943
 Fax: (07) 4743 0177

MACFARLANE GENERATORS
 PO Box 153
 Kallangur QLD 4503
 Ph: (07) 3205 6333
 Fax: (07) 9543 6344

WESTERN AUSTRALIA

CONTRACT POWER MANAGEMENT
 8 Chisholm Crescent
 KEWDALE WA 6105
 Ph: (08) 9453 3375
 Fax: (08) 8453 2659

NEW ZEALAND

AHR CONSULTANTS LTD
 2/11 Korotaha Terrace, Rothesay Bay
 PO Box 31723, Milford
 Auckland, New Zealand
 Ph: +64 9 475 5154
 Fax: +64 9 475 5174

Your local distributor:



Diesel Powered Generating Sets 24 kW – 100 kW Range



Single Source Reliability

Design, manufacture and testing of the engine, alternator control system and complete generating set is all carried out by companies within the Cummins group. This provides the assurance and strength of a major international corporation able to provide single source warranty.

Packaged self contained Generating Sets

Built in anti vibration mounts, set mounted fully wired electronic control system with engine protection circuits, AC and DC instrumentation plus standard fuel tank.

Engine

Cummins 4 & 6 cylinder water cooled direct injection diesel engines. Full flow replaceable element oil and fuel filters. Replaceable cartridge air cleaner with restriction indicator. 12 volt electric starting with engine driven battery charging alternator. Mechanical Governing. Tropical radiator with stone guard and fan and pulley safety guards.

Alternator

Brushless construction. Screen protected and drip proof enclosure to IP21 (NEAMA 1). Self exciting, self regulating, Class H insulation, tropically impregnated. All machines are supplied as 12 lead reconnectable as standard. Automatic voltage regulation to within +/- 1.5% between 0.8 to unity power factor.

General Arrangement

The engine and alternator are coupled together via a flexible steel disc coupling, and the complete assembly is mounted onto a fabricated steel base via 4 anti vibration mounts. The steel chassis is complete with 4 point lifting and bolting down holes.

Technical Data

Model No	ES82		ES100		ES112	
50Hz Prime Ratings	kW 66	kVA 82.5	kW 80	kVA 100	kW 90	kVA 112.5
50Hz Standby Ratings	kW 72	kVA 90	kW 88	kVA 110	kW 100	kVA 125
Engine	6BT5.9G1		6BTA5.9G1-I		6BTA5.9G2-I	
No of cylinders	6		6		6	
Engine configuration	In-line		In-line		In-line	
Cooling	Water		Water		Water	
Aspiration	Turbocharged		Turbocharged after cooled		Turbocharged after cooled	
Bore X Stroke mm	102x120		102x120		102x120	
Displacement Litres	5.88		5.88		5.88	
Compression Ratio	17.6:1		17.3:1		17.3:1	
Nett HP – Prime	105		124		140	
Lube Oil Capacity – Litres	14.3		14.3		14.3	
Fuel Consumption @ Standby Load – Ltr/Hr	16.69		23.53		29.13	
Base fuel tank capacity – slab tank - Ltr	200		200		200	
Engine Noise Level @ 3 Metre dB	95		95		95	
Electrical System DC Voltage	12		12		12	
Cooling						
Limited Ambient T @ 12mm restriction deg C	50		50		50	
Coolant Capacity Engine – Litres	9.1		9.9		9.9	
Coolant Capacity Radiator – Litres	14.83		12.5		12.5	
Radiator Air flow m3/sec	3.6		4.0		4.0	
Total Radiator Restriction Allowance mm H2O	50.8		35.6		35.6	
Exhaust						
Number and Size of Exhaust OD - mm	1 x 75		1 x 75		1 x 75	
Gas Temperature – Full Load deg C	480		593		593	
Maximum Back Pressure inch Hg	3		3		3	
Alternator						
Model	UC224G		UC274C		UC274E	
Steady state voltage regulation	+/- 1.5%		+/- 1.5%		+/- 1.5%	
Insulation class	H		H		H	
Dimensions						
Length mm	2170		2170		2170	
Width mm	816		816		816	
Height to Flex Exhaust Flange mm	1568		1551		1551	
Genset Dry Weight Kg	1050		1080		1190	
Genset Wet Weight Kg	1280		1310		1420	
Electrics						
Battery volts	12		12		12	
Recommended Ampere Hr	150		150		150	
De Rate Factors						
% derate / 10 deg C above 40deg C	2		2		2	
% derate / 100m above 100m	4		4		4	
% derate / 300m above 1500 m	4		4		4	

Ratings to BS5514 : ISO3046 DIN rating 6271 and ISO 3046/1
 PRIME: Continuous running (at variable load) for unlimited periods with 10% overload
 STANDBY: Continuous running (at variable load) for duration of emergency

Technical Data

Model No	ES 30		ES 35		ES 40		ES 50		ES 62.5	
50Hz Prime Ratings	kW 24	kVA 30	kW 28	kVA 35	kW 32	kVA 40	kW 40	kVA 50	kW 50	kVA 62.5
50Hz Standby Ratings	kW 26	kVA 33	kW 30	kVA 38	kW 35	kVA 43.75	kW 45	kVA 56	kW 55	kVA 68.75
Engine	S3.8G2		S3.8G3		S3.8G4		S3.8G6		S3.8G7	
No of cylinders	4		4		4		4		4	
Engine configuration	In-line		In-line		In-line		In-line		In-line	
Cooling	Water		Water		Water		Water		Water	
Aspiration	Natural		Natural		Turbocharged		Turbocharged		Turbocharged after cooled	
Bore X Stroke mm	97 x 128		97 x 128		97 x 128		97 x 128		97 x 128	
Displacement Litres	3.8		3.8		3.8		3.8		3.8	
Compression Ratio	17:1		17:1		17:1		17:1		17:1	
Nett HP – Prime	37		43		49		61		76	
Lube Oil Capacity – Litres	9		9		9		9		9	
Lub Oil Consumption – Ltr/Hr	0.017		0.019		0.022		0.027		0.031	
Fuel Consumption @75% average - Load factor – Ltr/Hr	5.5		6.5		7.0		8.5		9.0	
Base fuel tank capacity – slab tank - Litres	100		100		100		100		100	
Engine Noise Level @ 3 Metre dB	90		90		90		90		90	
Cooling										
Limited Ambient T @ 12mm restriction deg C	50		50		50		50		50	
Coolant Capacity Engine – Litres	9		9		9		9		10	
Coolant Capacity Radiator – Litres	2		2		2		2		2	
Radiator Air flow m3/sec	1.18		1.18		1.88		1.88		2.00	
Total Radiator Restriction Allowance mm	12		12		12		12		12	
Exhaust										
Number and Size of Exhaust OD - mm	1 x 75		1 x 75		1 x 75		1 x 75		1 x 75	
Gas Temperature – Full Load deg C	407		406		410		568		565	
Maximum Back Pressure inch Hg	2		2		2		2		2	
Alternator										
Model	UC224C		UC224C		UC224C		UC224D		UC224F	
Steady state voltage regulation	+/- 1.5%		+/- 1.5%		+/- 1.5%		+/- 1.5%		+/- 1.5%	
Insulation class	H		H		H		H		H	
Dimensions										
Length mm	1637		1637		1637		1637		1844	
Width mm	760		760		735		735		772	
Height to Flex Exhaust Flange mm	1170		1170		1122		1122		1243	
Genset Dry Weight Kg	731		731		753		766		901	
Genset Wet Weight Kg	749		749		771		784		928	
Electrics										
Battery volts	12		12		12		12		12	
Recommended Ampere Hr	120		120		120		120		120	
DeRate Factors										
% derate / 10 deg C above 40deg C	2		2		2		2		2	
% derate / 100m above 100m	1		1							
% derate / 100m above 600m					2		2		2	

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