

# KVAR POWERHOUSE RANGE

## 140 KVA – 200 KVA

### 50 Hz Three phase 380- 415 v

Model	Engine	Alternator	Manufacturing country or engine and alternator	PRP Output		ESP Output	
				Kva	Kw	Kva	Kw
PM140	1106A-70TG1	ECP34-2L	<b>UK</b>	138	110	152	121
PM150	1106A-70TAG2	ECP34-2L	<b>UK</b>	150	120	164	131
PM180	1106A-70TAG3	ECO38-1SN	<b>UK</b>	180	144	196	156
PM200	1106A-70TAG4	ECO38-2SN	<b>UK</b>	200	160	220	176
PS135	1106A-70TG1	UCI274E	<b>UK</b>	135	108	150	120
PS150	1106A-70TAG2	UCI274F	<b>UK</b>	150	120	165	132
PS180	1106A-70TAG3	UCI274G	<b>UK</b>	180	144	198	158
PS200	1106A-70TAG4	UCI274H	<b>UK</b>	200	160	220	176

#### Ratings definitions:

Ratings are in accordance with ISO8528 and are based on a 25 Deg C ambient air inlet temperature, 100 M altitude and 30% relative humidity and are based on 0.8 lagging power factor.

#### Prime Power (PRP)

Power available at variable load, with a load factor not exceeding the figure shown. An overload of 10% is permitted for 1 hour in any 12 hours operation.

#### Standby Power (ESP)

Power available at variable load in the event of a main power network failure upto a maximum of 500 hours per year. No overload is permitted.

## Data

		1106A-70TG1	1106A-70TAG2	1106A-70TAG3	1106A-70TAG4
Performance class	ISO8528	G2	G2	G2	G2
Average load factor	% of PRP	80	80	80	80
Load acceptance	% of PRP	90	70	67	62.5
Hz regulation – constant load	%	+/-0.75	+/-0.75	+/-0.75	+/-0.25
Voltage regulation	%	+/-1	+/-1	+/-1	+/-1
Cooling clearance	Deg C	53	53	53	53
Fuel tank capacity	Open	397	397	397	533
	Canopied	380	380	380	380
Fuel consumption Litres/hour	50%	16.2	16.4	19.7	23.2
	75%	22.7	24.3	30.6	34.1
	100%	29.6	32.6	39.6	44.6
	110%	32.9	35.3	43.4	48

**Fuel consumption is based on fuel in accordance with BS2869 with a specific gravity of 0.845 and is subject to a +5% tolerance**

		6 Inline Turbocharged	6 Inline Turbocharged Air/air charge cooled	6 Inline Turbocharged Air/air charge cooled	6 Inline Turbocharged Air/air charge cooled
Compression ratio		18.2:1	18.2:1	18.2:1	18.2:1
Bore x stroke	mm	105x135	105x135	105 x 135	105 x 135
Displacement	Litres	7	7	7	7
Mean piston speed	m/sec	6.8	6.8	6.8	6.8
Thermal efficiency (PRP)	%	39.4	39.7	38.7	38.6
BMEP (PRP)	kPa	1411.7	1522.1	1856.8	2041.8
Cooling capacity	Litres	21	21	21	21
Lub. oil capacity	Litres	16.5	16.5	16.5	16.5
Airflow	M3/min	252	252	252	252
Duct	Pa	125	125	125	125
Exhaust gas flow (ESP)	M3/min	22.66	25.53	33.85	36.8
Exhaust back pressure	kPa	6	6	6	6

		UCI274E	UCI274F	UCI274G	UCI274H
Avr model		SX460	SX460	SX460	SX460
Bearings		1	1	1	1
Stator insulation	Class	H	H	H	H
Rotor insulation	Class	H	H	H	H
Temperature rise	PRP	125/40	125/40	125/40	125/40
	ESP	163/27	163/27	163/27	163/27
Winding pitch		2/3	2/3	2/3	2/3
Number of leads		12	12	12	12
Mechanical protection		IP23	IP23	IP23	IP23
THF		<2	<2	<2	<2
Inertia	Kgm2	1.32	1.55	1.76	1.93

		ECP34-2L	ECP34-2L	ECO38-1SN	ECO38-2SN
Avr model		DSR	DSR	DSR	DSR
Bearings		1	1	1	1
Stator insulation	Class	H	H	H	H
Rotor insulation	Class	H	H	H	H
Temperature rise	PRP	125/40	125/40	125/40	125/40
	ESP	163/27	163/27	163/27	163/27
Winding pitch		2/3	163/27	2/3	2/3
Number of leads		12	12	12	12
Mechanical protection		IP21	IP21	IP21	IP21
THF		<2	<2	<2	<2
Inertia		1.11	1.11	1.72	1.87

## Scope of standard supply

Cooling system	Set mounted tropical radiator- original Perkins supply Engine driven cooling fan Fan and matrix protection guard
Induction system	Dry paper element air filter Pressure drop indicator
Governor type	Mechanical PM/PS200 Electronic
Fuel system	Fuel filter Fuel lines Contents gauge Vent and drain
Lubrication system	Lub oil filter Sump drain pump (optional on open sets) Standard on all canopied sets
DC electrical system	12 v starter motor 12 v charge alternator 1 x 125 amp/hour lead acid maintenance free batteries
Baseframe	Steel baseframe with integral steel fuel tank
Control panel	Powder coated steel enclosure flexibly mounted above alternator terminal box
Controller	DSE 7120
Circuit breaker	Powder coated steel enclosure fitted to gen set 3 pole MCCB
Monitoring	Oil pressure Engine temperature Engine speed Hours run Amps per phase Ac voltage Frequency Mains ac monitoring Maintenance scheduler
Exhaust	Industrial exhaust silencer Flexible exhaust section
Works Test	Full works test In accordance with ISO8528 covering Functions Load tests upto 110% Load acceptance capability Conducted at unity power factor
Paint colour	Black

# Canopy specifications

Our canopies are designed and manufactured in Western Europe to our own specifications and share the following in common:

Acoustic & weatherproof

Galvanised steel

Stainless steel door handles

Gloss powder coat

Zinc plated door hinges

Neatly fitted fireproof (DIN75200) soundproofing materials

Detachable air inlet and outlet attenuators – allows access to radiator and maximises the space available when loading multiple sets into containers for shipment.



## Prototype tested to ensure cooling clearance

Sound attenuation	Db@ 1m	85
Ambient cooling clearance	Deg C	50
Thickness of steel	mm	2
IP rating		IP44
Access		Combination of hinged doors and bolted panels
Access points		Viewing window
		Cable gland plate
		Radiator filler
Exhaust position		Roof mounted
Lifting facilities		Single point lifting frame
		Forklift access from base
Colour	Canopy	RAL9010 White
	Base	Galvanised



We can also offer Custom built soundproof canopies designed for specific applications

## Options

Each set within the KVA Powerhouse range can be supplied with a number of options to tailor the set to a specific duty.

Mains coolant heater	Assists starting and load acceptance capability at low ambient temperatures
Permanent magnet excitation	Improves motor starting and voltage regulation
Alternator anti condensation heaters	Minimises damage to the windings caused by condensation build up
Alternator winding thermistors	Provides alarm/shutdown for high winding temperature
Alternator winding and bearing RTD's	Provides temperature readout of windings and bearing(s)
High specification fuel/water separator with alarm contact	Minimises damage to fuel systems and provides alarm indication
Single point exhaust temperature monitoring	Provides a temperature readout
DSE7220 controller DSE7320 controller DSE8610 controller	Enables remote communications Enables synchronising
Remote monitoring and control	
4 pole mccb Motor operator Earth fault protection	
5 amp or 10 amp battery charger Battery temperature monitoring	
Automatic Transfer Switch panel Bypass switch panel	Using either Contactors or circuit breakers
Synchronising	Available either between generators or between generator and mains
Custom built enclosures	Purposely designed tailor made canopies for specific installations such as water authorities
High attenuation enclosures	65 dba @ 1m for Hospitals and residential installations
Critical exhaust silencer systems	
Bunded base fuel tank	Required for EC countries
Ce compliance and certification	Required for EC countries

Further options are shown in our current price list.

## Weights and dimensions

The following is given for guidance. For installation purposes we can supply as built drawings

### OPEN SETS

Model	Length	Width	Height	Dry weight
	Cm	Cm	Cm	kg
PM140	221	76	157	1550
PM150	232	76	167	1615
PM180	251	82	167	1635
PM200	251	82	167	1685
PS135	221	76	159	1550
PS150	233	76	168	1650
PS180	251	82	166	1700
PS200	251	82	166	1745

### CANOPIED SETS

Model	Length	Width	Height	Dry weight
	Cm	Cm	Cm	kg
ALL MODELS	363	102	194	Open set + 450 kg

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We have a policy of continuous product development and reserve the right to alter specifications without notice

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