

KVAR Powerhouse Range

7.5 KVA – 20 KVA

50 hz Three phase 380- 415 v

Model	Engine	Alternator	Manufacturing country of engine & alternator	PRP Output		ESP Output	
				Kva	Kw	Kva	Kw
PM9#	403A-11G1	ECP282VS4	UK	9	7.2	10	8
PM13#	403A-15G1	ECP28-OS4	UK	13	10.4	14.3	11.4
PM15	403A-15G2	ECP28-S4	UK	15	12	16.5	13.2
PM20#	404A-22G1	ECP28-M4	UK	20	16	21.5	17.2

Model	Engine	Alternator	Manufacturing country of engine & alternator	PRP Output		ESP Output	
				Kva	Kw	Kva	Kw
PM9	403D-11G	ECP282VS4	UK	9	7.2	10	8
PM13	403D-15G	ECP28-OS4	UK	13	10.4	14.3	11.4
PM20	404D-22G	ECP28-M4	UK	20	16	21.5	17.2

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

		403A-11G1	403D-11G	403A-15G1	403A-15G2	403D-15G	404A-22G1	404D-22G
Performance class	ISO8528	G2	G2	G2	G2	G2	G2	G2
Average load factor	% of PRP	80	80	80	80	80	80	80
Load acceptance	% of PRP	80	80	80	80	80	80	80
Hz regulation – constant load	%	+/-0.75	+/-0.75	+/-0.75	+/-0.75	+/-0.75	+/-0.75	+/-0.75
Voltage regulation	%	1	1	1	1	1	1	1
Cooling clearance	Deg C	53	53	53	53	53	53	53
Fuel tank capacity	Litres	66	66	66	66	66	66	66
Fuel consumption	50%	1.4	1.4	2	2.5	2	3	3
Litres/hour	75%	1.8	1.8	2.7	3.3	2.7	4.1	4.1
	100%	2.4	2.4	3.5	4.5	3.5	5.4	5.4
	110%	2.7	2.7	3.9	5.4	3.9	6.1	6.1

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

Cylinders		3	3	3	3	3	4	4
Configuration		Inline	Inline	Inline	Inline	Inline	Inline	Inline
Aspiration		Natural	Natural	Natural	Natural	Natural	Natural	Natural
Compression ratio		23:1	23:1	22.5:1	22.5:1	22.5:1	23.3:1	23.3:1
Bore x stroke	mm	77 x 81	77 x 81	84 x 90	84 x 90	84 x 90	84 x 100	84 x 100
Displacement	Litres	1.1	1.1	1.5	1.5	1.5	2.2	2.2
Mean piston speed	m/sec	4.1	4.1	4.5	4.5	4.5	5	5
Thermal efficiency (PRP)	%	32	32	33	33	33	35	35
BMEP (PRP)	kPa	610	610	650	746	650	669	660
Cooling capacity	Litres	5.2	5.2	6	6	6	7	7
Lub. oil capacity	Litres	4.4	4.4	6	6	6	10.6	10.6
Airflow	M3/s	0.67	0.67	0.61	0.69	0.61	0.67	0.67
Duct	Pa	0	0	0	45	0		0
Exhaust gas flow (ESP)	M3/min	1.8	1.8	2.9	2.9	2.9	3.9	3.9
Max exhaust back pressure	kPa	10.2	10.2	10.2	10.2	10.2	10.2	10.2

		ECP282VS4	ECP280S4	ECP28S4	ECP28M4
Avr model		DSR	DSR	DSR	DSR
Bearings		1	1	1	1
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
Protection		IP21	IP21	IP21	IP21
THF		<2	<2	<2	<2
Inertia	Kgm2	0.08	0.09	0.10	0.11

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
Governor type	Mechanical
Fuel system	Fuel filter Fuel lines Fuel tank located in chassis 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 60 amp/hour lead acid maintenance free battery
Baseframe	Galvanised chassis with removable polyethylene fuel tank
Control panel	Powder coated steel enclosure flexibly mounted above alternator terminal box
Controller	DSE 7120
Circuit breaker	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 – 1 metre OAL
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 with galvanised chassis

Canopy specifications

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

- Acoustic & weatherproof
- Bolted construction
- Galvanised steel
- Polyamide door handles
- Gloss powder coat
- Zinc plated door hinges
- Neatly fitted fire resistant (DIN75200) soundproofing materials



Prototype developed and tested to ensure satisfactory cooling clearance

Sound attenuation	Db@ 1m	75
Ambient cooling clearance	Deg C	50
Thickness of steel	mm	2
IP rating		IP44
Access		2 hinged doors service side 1 bolted panel opposing side
Access points		Viewing window Cable gland plate Radiator filler
Exhaust position		Internal
Lifting facilities		Single point lifting frame Forklift access from base
Colour	Canopy Base	RAL9010 White Galvanised

Special canopies for Telecom applications with 600 Litre capacity fuel tank and optional integrated ATS panel



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
Alternator anti condensation heaters	Minimises damage to the windings caused by condensation build up
DSE7220 controller DSE7320 controller	Enhanced monitoring Enables remote communications
Remote monitoring and control	
2 amp battery charger	
Automatic Transfer Switch panel Bypass switch panel	Using either Contactors or circuit breakers
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	
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
PM9	125	71	104	400
PM13	126	71	114	500
PM15	126	71	114	500
PM20	136	71	118	600

Canopied Sets

Model	Length	Width	Height	Dry weight
	Cm	Cm	Cm	kg
PM9	160	73	127	650
PM13	160	73	127	750
PM15	160	73	127	750
PM20	160	73	127	850

KVA Power
Installations Ltd
TEL +44(0)01942 386237
sales@kvapower.co.uk
www.kvapower.co.uk

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

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