GOLDEN MAJD Co.

GOLDEN MAJD CO
المجد الذهبي
E-mail: goldenmajd@yahoo.com

600 - 660S

Rating @ 0.8 PF		Prime rating	Stand-by rating
Voltage *1	Freq. *2	PT600 *3	PT660S *4
400 V	50 Hz	600.0 KVA	660.0 KVA
480 V	60 Hz	642.7 KVA	701.1 KVA

The above ratings represent the generating set capability guarantied within ±3% at the references conditions equivalent to those specified in ISO 8528/1, ISO 3046/1 and BS 5514/1

NOTES

1 - The applicable voltage range is 380V to 415V for 50Hz applications and 380V to 480V for 60Hz applications.
2 - This generating set is of switchable speed of 1500rpm/1800rpm.
3 - **PT600** is the prime power rating of the generating set, where a variable load and unlimited hours usage are applied on the generating set with an average load factor of 80% of the prime rating over each 24 hour period. Noting that a 10% overload is available for 1 hour in every 12 hours operation.
4 - **PT660S** is the standby power rating of the generating set, where a variable load limited to an annual usage up to 500 hours is applied, with 300 hours of which may be continuous running. Noting that no overload is permitted.

Engine Technical Data		
Model	Perkins 2806C-E18TAG1	
Cylinders	6; vertical in-line	
Aspiration	Turbocharged & A/A charge-cooled	
Combustion	Direct injection	
Cooling System	Water cooled	
Displacement	18.1 L	
Oil consumption	0.1 % of fuel consumption	
Lube oil capacity	62 L	
Coolant capacity	61.0 L	
Governor	Electronic	
Emissions regulations	TA luft (1986)	
Speed	1500 rpm	1800 rpm
Fuel Consumption PT600	123 L/H	127 L/H
Fuel Consumption PT660S	134 L/H	141 L/H
Radiator Cooling Air Flow	702 m^3/min	852 m^3/min
Max Exhaust Gas Flow	104 m^3/min	118 m^3/min

The above performance data are valid as per the following specs:
- Diesel Fuel is according to BS2869 Class A2 or equivalent.
- Lubricating oil is according to API CG4 (15W/40).
- The coolant should be 50% antifreeze and 50% fresh water.

Alternator Technical Data		
Model	Leroy Somer LSA 47.2 L9	
Regulation	± 0.5 %	
International protection	IP23	
Insulation class	H	
Terminals	6 or 12	
Frequency	50 Hz	60 Hz
Coolant Air Flow	0.9 m^3/s	1.1 m^3/s

Shipping Data			
Length	Width	Height	Weight
3940 mm	1550 mm	2200 mm	4760 kg

All information given in this leaflet is correct at the time of printing but it may be changed subsequently by the Company

ISO 9001 : 2000
Certificate Number: CC1680-009512.009912

62 St. - Baghdad - Iraq
Tel. : 8150445
8850942
8852140
Mobile : 07901150364
07901109589
07901305088
07901680139
www.goldenmajd.com
E-mail:goldenmajd@yahoo.com
majidobaidi@yahoo.com

The Perkins 2800 Series is a family of well-proven 6 cylinder 16 and 18 litre in-line diesel engines, designed to address today's uncompromising demands within the power generation industry with particular aim at the standby market sector. Developed from a proven heavy-duty industrial base, the engine offers superior performance and reliability.

The 2806A-E18TAG1A is a turbocharged and air-to-air charge cooled, 6 cylinder diesel engine of 18 litres capacity. Its premium features provide economic and durable operation, low gaseous emissions and advanced overall performance and reliability.

2800 Series

2806A-E18TAG1A

Diesel Engine – ElectropaK

574 kWm at 1500 rpm
598 kWm at 1800 rpm

Economic Power

- Mechanically operated unit fuel injectors with electronic control combined with carefully matched turbocharging give excellent fuel atomisation and combustion with optimum economy.
- Low emissions result from electronic control of fuel injected.

Reliable Power

- Developed and tested using the latest engineering techniques and finite element analysis for high reliability, low oil usage and low wear rates.
- High compression ratios also ensure clean rapid starting in all conditions.
- Support comes from a worldwide network of 4,000 distributors and dealers.

Compact, Clean and Efficient Power

- Exceptional power to weight ratio and compact size give optimum power density with easier installation and cost effective transportation.
- Designed to provide excellent service access for ease of maintenance.
- The availability of a low emissions specification allows minimum environmental impact through operation, and complies with all major emissions legislation. The standard specification model provides superior fuel consumption which maximises engine efficiency.

This engine does not comply with harmonized international regulated emissions limits.

Engine Speed (rev/min)	Type of Operation	Typical Generator Output (Net)		Engine Power			
				Gross		Net	
		kVA	kWe	kWm	bhp	kWm	bhp
1500	Baseload Power	450	360	407.3	546	391	524
	Prime Power	600	480	539.7	724	522	700
	Standby (maximum)	660	528	592.7	795	574	770
1800	Prime Power	625	500	567.7	761	543	728
	Standby (maximum)	687	550	623.0	835	598	802

The above ratings represent the engine performance capabilities to conditions specified in ISO 8528/1, ISO 3046/1:1986, BS 5514/
Derating may be required for conditions outside these; consult Perkins Engines Company Limited.
Generator powers are typical and are based on an average alternator efficiency and a power factor (cos. θ) of 0.8.
Fuel specification: BS 2869: Part 2 1998 Class A2 or ASTM D975 D2. **Lubricating oil:** 15W40 to API CG4.
Rating Definitions
Baseload Power: Power available for continuous full load operation. Overload of 10% permitted for 1 hour in every 12 hours operation.
Prime Power: Power available at variable load with a load factor not exceeding 80% of the prime power rating. Overload of 10% is permitted for 1 hour in every 12 hours operation.
Standby Power: Power available in the event of a main power network failure up to a maximum of 500 hours per year of which up to 300 hours may be run continuously. Load factor may be up to 100% of standby power. No overload is permitted.

Publication No. 1870/07/07 Produced in England

2800 Series

2806A-E18TAG1A

Standard ElectropaK Specification

Air inlet
- Mounted air filter

Fuel system
- Mechanically actuated electronically controlled unit fuel injectors with full authority electronic control
- Governing to ISO 8528-5 class G2 with isochronous capability
- Replaceable 'Ecoplus' fuel filter elements with primary filter/water separator
- Fuel cooler

Lubrication system
- Wet sump with filler and dipstick
- Full-flow replaceable 'Ecoplus' filter
- Oil cooler integral with filter header

Cooling system
- Gear-driven circulating pump
- Mounted belt-driven pusher fan
- Radiator incorporating air-to-air charge cooler, (supplied loose)
- System designed for ambients up to 50ºC
- Low coolant level switch

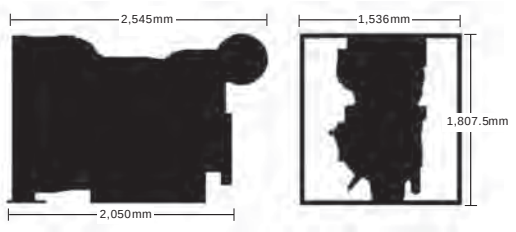
Electrical equipment
- 24 volt starter motor and 24 volt 70 amp alternator with DC output
- ECM mounted on engine with wiring looms and sensors
- 3 level engine protection system

Flywheel and housing
- High inertia flywheel to SAE J620 size 18
- SAE '0' flywheel housing

Mountings
- Front engine mounting bracket

Literature
- User's Handbook

Optional Equipment
- 110 volt/240 volt immersion heater
- Additional speed sensor
- Temperature and pressure sensors for gauges
- Electric hours counter
- Air filter rain hood
- Twin starters/facility for second starter
- Tool kit
- Parts manual/Workshop manual



Fuel Consumption				
Engine Speed	1500 rev/min		1800 rev/min	
	g/kWh	l/hr	g/kWh	l/hr
Standby	201	134	203	141
Prime power	203	123	202	127
Baseload power	199	90	-	-
75% of prime power	199	90	201	95
50% of prime power	203	61	210	66

General Data

Number of cylinders	6
Cylinder arrangement	Vertical in-line
Cycle	4 stroke
Induction system	Turbocharged and air-to-air charge cooled
Combustion system	Direct injection
Cooling system	Water-cooled
Bore and stroke	145 mm x 183 mm
Displacement	18.1 litres
Compression ratio	14.5:1
Direction of rotation	Anti-clockwise, viewed on flywheel
Total lubrication system capacity	62 litres
Total coolant capacity	61 litres
Total dry weight	2050 kg
Dimensions	Length 2545 mm Width 1536 mm Height 1807.5 mm

Final weight and dimensions will depend on completed specification

Perkins®

Perkins Engines Company Limited
Peterborough PE1 5NA
United Kingdom
Telephone +44 (0)1733 583000
Fax +44 (0)1733 582240
www.perkins.com

75 years 1932-2007

Distributed by

Publication No. 1870/07/07 Produced in England

LEROY SOMER®

3782 en - 10.2006 / c

Alternators
LSA 47.2 - 4 Pole

Electrical and mechanical data

Common data

Insulation class	H	Excitation system	SHUNT (12 wire)	A R E P or PMG
Winding pitch	2/3 (N° 6 or N° 6S)	A.V.R. model	R 230	R 448
Terminals	12 (N° 6) / 6 (N° 6S)	Voltage regulation (*)	± 0,5 %	± 0,5 %
Drip proof	IP 23	Sustained short-circuit current	-	300% (3 IN) : 10s
Altitude	≤ 1000 m	Total harmonic TGH / THC (**)	at no load < 1,5 % - on load < 2 %	
Overspeed	2250 min^{-1}	Waveform : NEMA = TIF (**)	< 50	
Air flow	0,9 m^3/s (50Hz) / 1,1 (60Hz)	Wave form : I.E.C. = THF(**)	< 2 %	

(*) Steady state duty. (**) Total harmonic content line to line, at no load or full rated linear and balanced load.

Ratings 50 Hz - 1500 R.P.M.

kVA / kW - Power factor = 0,8

Duty		Continuous duty 40°C			Continuous duty / 40°C			Stand-by/ 40°C			Stand-by / 27°C		
Class/T°K		H / 125° K			F / 105° K			H / 150° K			H / 163° K		
Phase		3 ph.			3 ph.			3 ph.			3 ph.		
12 wire													
Y		380V	400V	415V	380V	400V	415V	380V	400V	415V	380V	400V	415V
Δ		220V	230V	240V	220V	230V	240V	220V	230V	240V	220V	230V	240V
YY			200V			200V			200V			200V	
47.2 VS2	kVA		**365**			330			405			**420**	
	kW		***292***			*264*			*324*			***336***	
47.2 S4	kVA		**410**			370			430			**450**	
	kW		***328***			*296*			*344*			***360***	
47.2 S5	kVA		**455**			405			471			**500**	
	kW		***364***			*324*			*377*			***400***	
47.2 M7	kVA		**500**			465			545			**570**	
	kW		***400***			*372*			*436*			***456***	
47.2 M8	kVA		**550**			500			575			**600**	
	kW		***440***			*400*			*460*			***480***	
47.2 L9	kVA		**600**			535			630			**660**	
	kW		***480***			*428*			*504*			***528***	
6 wire													
Y		380V	400V	415V	380V	400V	415V	380V	400V	415V	380V	400V	415V
Δ		220V	230V	240V	220V	230V	240V	220V	230V	240V	220V	230V	240V
47.2 L9*	kVA		**600**			535			630			**660**	
	kW		***480***			*428*			*504*			***528***	

Ratings 60 Hz - 1800 R.P.M.

kVA / kW - PF = 0,8

Duty		Continuous duty 40°C								Stand-by / 40 °C				Stand-by / 27 °C			
Class / T° K		H / 125° K				F / 105° K				H / 150° K				H / 163° K			
Phase		3 ph.				3 ph.				3 ph.				3 ph.			
12 wire																	
Y		380V	416V	440V	480V	380V	416V	440V	480V	380V	416V	440V	480V	380V	416V	440V	480V
Δ		220V	240V			220V	240V			220V	240V			220V	240V		
YY			208V	220V	240V		208V	220V	240V		208V	220V	240V		208V	220V	240V
47.2 VS2	kVA	424	454	456	**456**	394	410	410	410	451	483	500	511	469	500	518	**530**
	kW	339	363	365	**365**	315	328	328	328	361	386	400	409	375	400	414	**424**
47.2 S4	kVA	450	480	500	**512**	396	442	442	465	475	513	533	550	500	530	550	**581**
	kW	360	384	400	**410**	317	354	354	372	380	410	426	440	400	424	440	**465**
47.2 S5	kVA	475	510	531	**570**	441	473	493	518	503	543	566	592	527	562	585	**625**
	kW	380	408	425	**456**	353	378	394	414	402	434	453	474	422	450	468	**500**
47.2 M7	kVA	562	610	625	**625**	523	566	581	590	600	651	669	680	625	668	690	**700**
	kW	450	488	500	**500**	418	453	465	472	480	521	535	554	500	534	552	**560**
47.2 M8	kVA	562	610	630	**690**	523	566	587	632	600	651	672	729	625	671	705	**750**
	kW	450	488	504	**552**	418	453	470	506	480	521	538	583	500	537	564	**600**
47.2 L9	kVA	602	661	685	**750**	556	609	634	675	643	707	734	780	667	728	763	**825**
	kW	482	529	548	**600**	445	487	507	540	514	566	587	624	534	582	610	**660**
6 wire																	
Y		380V	416V	440V	480V	380V	416V	440V	480V	380V	416V	440V	480V	380V	416V	440V	480V
Δ		220V	240V			220V	240V			220V	240V			220V	240V		
47.2 L9*	kVA	602	661	685	**750**	556	609	634	675	643	707	734	780	667	728	763	**825**
	kW	482	529	548	**600**	445	487	507	540	514	566	587	624	534	582	610	**660**

* AREP excitation only

COMPACT (Big Range)

A larger type of the compact enclosure that is used in tigh spaces and almost having the same look. The difference between the two is mainly the number of the doors and the silenced exhaust system which is mounted externally.

GHADDAR
MACHINERY Co. S.A.L.

YOUR POWER PARTNER

Charasteristics:

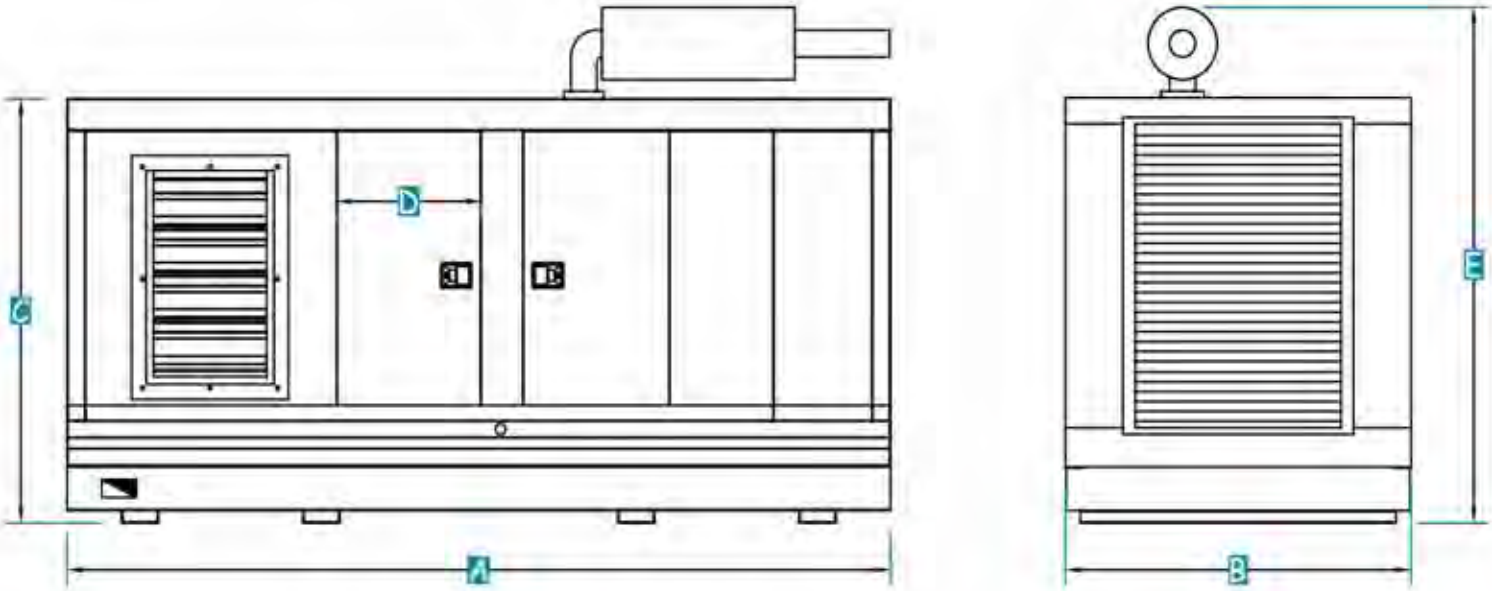
> Body and components made of steel painted with highly corrosive synthetic gloss.
> Stainless steel locks and hinges.
> Two large doors on each side for easy maintenance access.
> Lube oil pipe can be reached externally to allow easy drainage.
> Special viewing window for the control panel in a lockable door.
> Lifting points on the base frame.
> Fuel fill and battery are secured through lockable doors.
> Exhaust silencing system mounted externally.
> Emergency stop push button installed on the exterior of the enclosure (optional).

Range
200 - 800 KVA

ISO 9001 :2000
QMI REGISTERED
IQNet CERTIFIED MANAGEMENT SYSTEM
Certificate Numbers: CC1680-009512. 009912

Sound Pressure Levels (dBA)

		50 Hz						60 Hz					
		1 m		3 m		7 m		1 m		3 m		7 m	
Generating Set	Powertech	0%	100%	0%	100%	0%	100%	0%	100%	0%	100%	0%	100%
Engine model	KVA	Load	Load	Load	Load	Load	Load	Load	Load	Load	Load	Load	Load
1306C-E87TAG3	200	79.7	82.4	76.2	78.3	71.2	73.6	82.6	85.3	79.1	81.2	74.1	76.5
1306C-E87TAG6	250	79.7	82.4	76.2	78.3	71.2	73.6	82.6	85.3	79.1	81.2	74.1	76.5
2306C-E14TAG2	350	81.2	83.9	77.7	79.8	72.7	75.1	84.1	86.8	80.6	82.7	75.6	78
2306C-E14TAG3	400	81.2	83.9	77.7	79.8	72.7	75.1	84.1	86.8	80.6	82.7	75.6	78
2806C-E16TAG1	450	81.9	84.6	78.4	80.5	73.4	75.8	85	87.7	81.5	83.6	76.5	78.9
2806C-E16TAG2	500	81.9	84.6	78.4	80.5	73.4	75.8	85	87.7	81.5	83.6	76.5	78.9
2806C-E18TAG1	550	83.1	86	79.6	82.9	74.6	77.2	86.3	89.2	82.8	86.1	77.8	80.4
2806C-E18TAG2	625	83.1	86	79.6	82.9	74.6	77.2	86.3	89.2	82.8	86.1	77.8	80.4
4006C-23TAG2A	725	83.8	86.7	80.3	83.6	75.3	77.9	87.3	90.2	83.8	87.1	78.8	81.4
4006C-23TAG3A	800	84.1	87.6	80.6	84.5	75.6	78.8	87.5	91	84	87.9	79	82.2



Dimensions

Generating Set	Powertech	A: mm	B: mm	C: mm	D: mm	E: mm
Engine model	KVA					
1306C-E87TAG3	200	4150	1800	2250	735	2570
1306C-E87TAG6	250	4150	1800	2250	735	2570
2306C-E14TAG2	350	4750	2000	2350	729	2850
2306C-E14TAG3	400	4750	2000	2350	729	2850
2806C-E16TAG1	450	5250	2000	2350	822	2850
2806C-E16TAG2	500	5250	2000	2350	822	2850
2806C-E18TAG1	550	5500	2200	2470	822	2920
2806C-E18TAG2	625	5500	2200	2470	822	2920
4006C-23TAG2A	725	5750	2200	2470	822	2920
4006C-23TAG3A	800	5750	2200	2470	822	2920