Rating @ 0.8 PF		Prime rating	Stand-by rating
Voltage*1	Freq.*2	PT 300°3	PT 330S4
400 V	50 Hz	305.6 KVA	335.4 KVA
480 V	60 Hz	-	-

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

NOTES

300 - 3308

- 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 fixed speed of 1500rpm.
- 3 PT300 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 PT330S 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 1606A	-E93TAG5
Cylinders	6; vertical in-li	ne
Aspiration	Turbocharged	& A/A charge cooled
Combustion	Direct injection	n
Cooling System	Water cooled	
Displacement	9.3 L	24
Oil consumption	0.1 % of fuel c	onsumption
Lube oil capacity	36 L	
Coolant capacity	30.9 L	
Governor	Electronic	
Emissions regulations	Non-compliant	
Speed	1500 rpm	1800 rpm
Fuel Consumption PT300	61 L/H	-
Fuel Consumption PT330S	66 L/H	-
Radiator Cooling Air Flow	TBC)#
Max Exhaust Gas Flow	TBC	-

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 CI 4 (15W/40).
- The coolant should be 50% antifreeze and 50% fresh water.

Model	Leroy Somer L	SA 46.2 VL12
Regulation	± 0.5 %	
International protection	IP23	
Insulation class	H	
Terminals	12	
Frequency	50 Hz	60 Hz
Coolant Air Flow	0.49 m 3/s	0.51 m³/s

Shipping Dat	a		
Length	Width	Height	Weight
3000 mm	1120 mm	1630 mm	2250 kg

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







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1600 Series 1606A-E93TAG5 Diesel Engine - Electropak

300 kVA Prime Power / 330 kVA Standby Power

Building upon Perkins proven reputation within the power generation industry, the 1600 Series range of ElectropaK engines now fit even closer to our customers needs.

The 1606A engine is a full authority electronic, 6 cylinder engine. It is economical and quiet and provides the close speed control and reliable, high performance that are demanded by our customers for their power generation business.

Focusing on our common platform theme, changes to engine envelope dimensions and connection points have been kept to a minimum, meaning that there is an easy changeover from 1300 Series to 1600 Series.



- The Perkins 1606A-E93TAG5 delivers up to 330 kVA standby at 50Hz, providing greater productivity through an improved power to weight ratio
 - This world-class power density has been achieved in a 9.3 litre turbocharged engine with a hydraulic actuated unit injector fuel system; making this engine robust for all markets because of its ability to cope with the variation of fuel quality around the world
- The 1606A has been designed to run in the harshest conditions; from the lowest to highest ambient temperatures: -40°C to 55°C

Low operating costs

- Service intervals are set at 500 hours as standard
- We use the appropriate technology when and where needed which ensures low cost of ownership, simple maintenance and reduced downtime
- The 1600 Series engine design offers common components to reduce parts inventory. eg, filters, cylinder heads, blocks and pistons
- Perkins provides comprehensive warranty cover for two years (up to 3,000 hours), with three years on major engine components



Flexibility

- The 1606A range has been designed to hit all the main power nodes
- Tropical radiator is offered as standard, but could offer tailored solutions to meet your requirements
- High power density helps reduce installation costs and is easily packaged

World class product support

- Our experienced global network of distributors and dealers, fully trained engine experts deliver total service support around the clock, 365 days a year. They have a comprehensive suite of web based tools at their finger tips, covering technical information, parts identification and ordering systems, all dedicated to maximising the productivity of your engine
- Perkins actively pursues product support excellence by insisting our distribution network invest in their territory to provide you with a consistent quality of support across the globe
- Throughout the entire life of a Perkins engine, we provide access to genuine OE specification parts giving 100% reassurance that you receive the very best in terms of quality for lowest possible cost... wherever your Perkins powered machine is operating in the world

F : 0 !	_	Typical C	enerator	Engine	Power
Engine Speed (rev/min)	Type of Operation	Outp	ut (Net)	N	et
(icerinin)	Operation	kVA	kWe	kWm	bhp
1500	Prime Power	300	240	261	350
	Standby (maximum)	330	264	287	385



1600 Series 1606A-E93TAG5 Diesel Engine - Electropak

300 kVA Prime Power / 330 kVA Standby Power

Standard ElectropaK specification

Air inlet

Mounted air filter and turbocharger

Fuel system

- High pressure G2 fuel system with full authority electronic control
- Electronic governing to ISO 3046-4 with stand-alone isochronous and load-sharing capabilities
- Replaceable element fuel filter with pre-filter and hand primer pump

Lubrication system

- Wet front well steel sump with filler and dipstick
- Full flow spin-on filters
- Stacked plate-type oil cooler thermostatically controlled

Cooling system

- Thermostatically controlled with belt driven circulating pump and 36 inch belt-drive fan
- Radiator supplied loose with all guards and pipes
- Air-to-air charge cooler incorporated in radiator

Electrical equipment

- 24V starter motor and 24V 45 amp alternator with DC output
- Electronic Control Module (ECM) mounted on engine with wiring looms and sensors
- 3 level engine protection system

Flywheel and housing

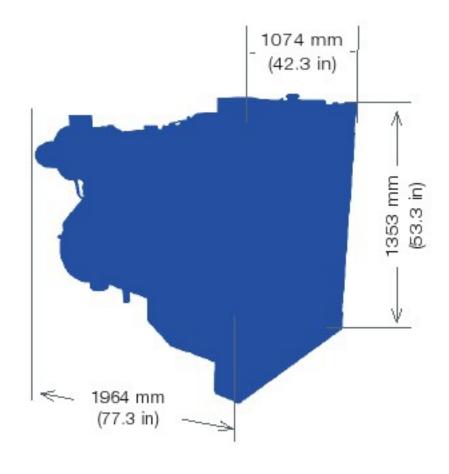
- High inertia flywheel to SAE 1 J620 Size 355.6 mm (14 in)
- Cast iron SAE 1 flywheel housing

Mountings

Front engine mounting bracket

Optional equipment

- Sensor positions for:
 - oil pressure
 - oil temperature
 - coolant temperature
- Turbocharger exhaust outlet
- Parts Book
- Service Manual



Engine data

Number of cylinders	Vertical in-line 6 cylinder
Bore and stroke	117 x 146 mm (4.6 x 5.7 in)
Displacement	9.3 litres (567 cubic in)
Aspiration	Turbocharged aftercooled
Cycle	4 stroke
Combustion system	Direct injection
Engine rotationAn	ti-clockwise viewed on flywheel
Cooling system	Liquid
Total lubrication capacity	
Dimensions - Length - including a	air cleaner 1964 mm (77.3 in)
Width	1074 mm (42.3 in)
Height	1353 mm (53.3 in)
Dry weight	963 kg (2123 lbs)

Final weight and dimensions will depend on completed specification

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Low Voltage alternators - 4 pole LSA 46.2

180 to 315 kVA - 50 Hz / 228 to 381 kVA - 60 Hz

Electrical and mechanical data

3790 en - 2012.11/h

Low Voltage alternators 4 pole 3-phase PARTINER

LSA 46.2

180 to 315 kVA - 50 Hz / 228 to 381 kVA - 60 Hz

SPECIALLY ADAPTED TO APPLICATIONS

The LSA 46.2 alternator is designed to be suitable for typical generator applications, such as: backup, marine applications, rental, telecommunications, etc.

COMPLIANT WITH INTERNATIONAL STANDARDS

The LSA 46.2 alternator conforms to the main international standards and regulations:

- IEC 60034, NEMA MG 1.32-33, ISO 8528-3, CSA / UL 1446 (UL 1004 on request), marine regulations, etc.

It can be integrated into a CE marked generator.

The LSA 46.2 is designed, manufactured and marketed in an ISO 9001 environment and ISO 14001.

TOP OF THE RANGE ELECTRICAL PERFORMANCE

- Class H insulation.
- . Standard 12-wire re-connectable winding, 2/3 pitch, type no. 6.
- Voltage range 50 Hz: 220 V 240 V and 380 V 415 V (440 V).
- Voltage range 60 Hz: 208 V 240 V and 380 V 480 V.
- High efficiency and motor starting capacity.
- · Other voltages are possible with optional adapted windings:
 - 50 Hz: 440 V (no. 7), 500 V (no. 9), 550 V (no. 22), 600 V (no. 23), 690 V (no. 10 or 52).
 - 60 Hz: 380 V and 416 V (no. 8), 600 V (no. 9).
- R 791 interference suppression conforming to standard EN 55011 group 1 class B standard for European zone (CE marking).

EXCITATION AND REGULATION SYSTEM SUITED TO THE APPLICATION

E	xcitation	system			R	egulation	options	
Volage regulator	SHUNT	AREP	PMG	Current transformer for paralleling	Mains paralleling	3-phase sensing	3-phase sensing for mains paralleling unbalanced	Remote voltage potentiometer
R250	Std	-	5.T.	-	-	-		1
R450	Option	Std	Std	C.T.	R726	R731	R734	1
D510C	Option	Option	Option	C.T.	included	included	contact factory	√

Voltage regulator accuracy ± 0.5%

√: possible mounting

PROTECTION SYSTEM SUITED TO THE ENVIRONMENT

- The LSA 46.2 is IP 23.
- Standard winding protection for clean environments with relative humidity ≤ 95 %, including indoor marine environments.

Options: • Filters on air inlet: derating 5%.

- Filters on air inlet and air outlet (IP 44): derating 10%.
- . Winding protections for harsh environments and relative humidity greater than 95%.
- Space heaters.
- Thermal protection for winding and shields.

REINFORCED MECHANICAL STRUCTURE USING FINITE ELEMENT MODELLING

- Compact and rigid assembly to better withstand generator vibrations.
- Steel frame.
- Cast iron flanges and shields.
- Twin-bearing and single-bearing versions designed to be suitable for engines on the market.
- · Half-key balancing.
- Sealed for life ball bearings, regreasable bearings (optional).

ACCESSIBLE TERMINAL BOX PROPORTIONED FOR OPTIONAL EQUIPMENT

- Easy access to the voltage regulator and to the connections.
- Possible inclusion of accessories for paralleling, protection and measurement.
- 12-way terminal block for voltage reconnection.

2 Ref: 3790 en

Low Voltage alternators 4 pole 3-phase PARTURE

LSA 46.2

180 to 315 kVA - 50 Hz / 228 to 381 kVA - 60 Hz

General characteristics

Insulation class	Н	Excitation system	SHUNT	AREP or PMG
Winding pitch	2/3 (N° 6)	AVR type	R 250	R 450
Number of wires	12	Voltage regulation (*)	±0.5 %	±0.5 %
Protection	IP 23	Short-circuit current	-	300% (3 IN) : 10s
Altitude	≤ 1000 m	Totale Harmonic distortion THD (**)	no load < 2.5°	% - on load < 2.5%
Overspeed	2250 min ⁻¹	Waveform: NEMA = TIF (**)		< 50
Air flow	0.43 m ² /s (50Hz) / 0.51 (60Hz)			

^(*) Steady state. (**) Total harmonic distortion between phases, no-load or on-load (non-distorting)

Ratings 50 Hz - 1500 R.P.M.

kVA / kW	/ - P.F	. = 0.	8																		
Duty/T°C		С	ontinu	ous di	uty/40°	,C	С	Continuous duty/40°C				Star	nd-by/4	10°C		Stand-by/27°C					
Class/T°K			H	1/125°	K			F	F/105°	K		H/150°K					H/163°K				
Phase		34	3	ph.		1 ph.		3	ph.		1 ph.		3	ph.		1 ph.		3	oh.		1 ph.
Υ		380∨	400∨	415V	440V	ΔΔ	380V	400V	415V	440V	ΔΔ	380V	400V	415V	440V	ΔΔ	380V	400V	415V	440V	ΔΔ
Δ		220V	230V	240V		230V	220V	230V	240V		230V	220V	230V	240V		230V	220V	230V	240V		230V
YY					220V					220V					220V	Š				220V	
46.2 M3	kVA	180	180	180	160	104	168	168	168	146	97	195	195	195	175	110	203	203	203	180	114
	kW	144	144	144	128	83	134	134	134	116	78	156	156	156	140	88	162	162	162	144	91
46.2 M5	kVA	200	200	200	175	116	184	184	184	160	108	214	214	214	190	123	223	223	223	200	127
	kW	160	160	160	140	93	147	147	147	128	86	171	171	171	152	98	178	178	178	160	102
46.2 L6	kVA	250	250	240	205	141	217	217	217	190	131	254	260	254	225	150	266	275	266	237	156
	kW	200	200	192	164	113	174	174	174	152	105	203	208	203	180	120	213	220	213	190	125
46.2 L9	kVA	280	280	280	215	154	250	250	250	195	142	290	290	290	240	165	300	300	300	250	170
	kW	224	224	224	172	123	200	200	200	156	114	232	232	232	192	132	240	240	240	200	136
46.2 VL12	kVA	315	315	300	260	187	276	276	260	230	170	327	327	310	285	200	341	341	325	300	208
	kW	252	252	240	208	150	221	221	208	184	136	262	262	248	228	160	273	273	260	240	166

Ratings 60 Hz - 1800 R.P.M.

kVA / kW	/ - P.F	. = 0.	8																		
Duty/T°C		C	ontinu	ious d	uty/40	°C	C	Continuous duty/40°C			Stand-by/40°C					Stand-by/27°C					
Class/T°K			H	1/125°	K			ı	F/105°	K			ŀ	1/150°	Ϋ́			H	1/163°	K	
Phase			3	ph.		1 ph.	4)	3	ph.		1 ph.		3	ph.		1 ph.		3	h.		1 ph.
Υ		380V	416V	440V	480V	ΔΔ	380V	416V	440V	480V	ΔΔ	380V	416V	440V	480V	ΔΔ	380V	416V	440V	480V	ΔΔ
Δ		220V	240V			240V	220V	240V			240V	220V	240V			240V	220V	240V			240V
YY			208V	220V	240V			208V	220V	240V			208V	220V	240V			208V	220V	240V	
46.2 M3	kVA	192	205	220	228	128	177	189	198	210	119	203	219	228	244	136	211	225	237	255	141
	kW	154	164	176	182	102	142	151	158	168	95	162	175	182	195	109	169	180	190	204	113
46.2 M5	kVA	205	219	230	250	136	190	203	211	225	126	219	235	245	262	145	227	242	252	273	151
	kW	164	175	184	200	109	152	162	169	180	101	175	188	196	210	116	182	194	202	218	121
46.2 L6	kVA	257	276	289	300	173	239	255	265	278	160	276	295	308	324	184	285	304	317	337	192
	kW	206	221	231	240	138	191	204	212	222	128	221	236	246	259	147	228	243	254	270	154
46.2 L9	kVA	296	316	328	344	197	273	291	302	302	182	313	338	351	357	209	326	348	366	375	220
	kW	237	253	262	275	158	218	233	242	242	1.46	250	270	281	286	167	261	278	293	300	176
46.2 VL12	kVA	333	357	372	381	220	309	329	341	347	200	359	383	397	412	235	370	399	415	429	243
	kW	266	286	298	305	176	247	263	273	278	160	287	306	318	330	188	296	319	332	343	194

Ref: 3790 en 3

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.



- > 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).





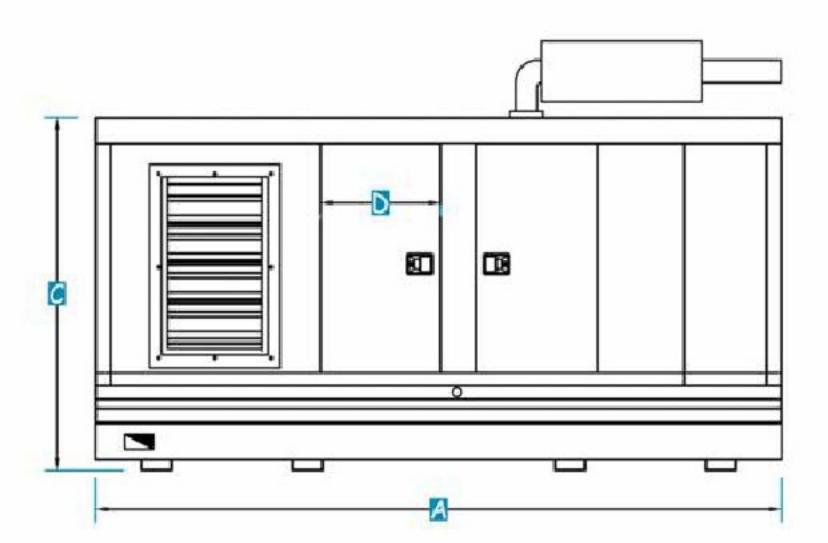


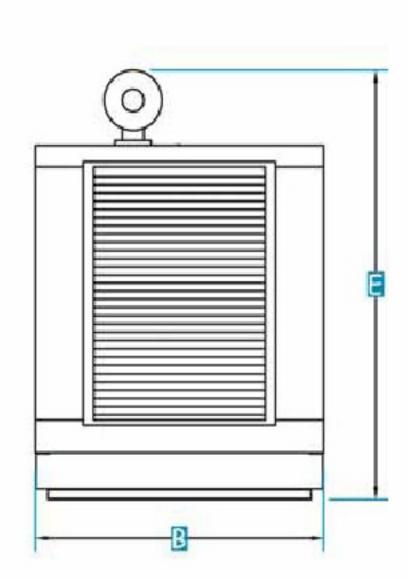
Range 200 - 800 KVA



Sound Pressure Levels (dBA)

Engine model 1306C-E87TAG3 1306C-E87TAG6 2306C-E14TAG2 2306C-E14TAG3 2806C-E16TAG1 2806C-E16TAG2			50 Hz							60 Hz						
1306C-E87TAG6 2306C-E14TAG2 2306C-E14TAG3 2806C-E16TAG1 2806C-E16TAG2 2806C-E18TAG1		1	m	3	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