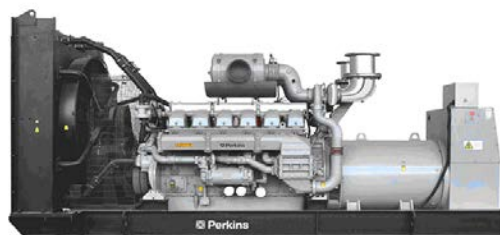


DATA SHEET

DIESEL GENERATOR 720KW
 MODEL#FDK-P720/H1
 50HZ/1500RPM
 PERKINS MODEL: 4006-23TAG3A



General Features:

- ♦ All qualified generator sets are subjected to a comprehensive performance test which includes 50% load, 70% load, 100% load, 110% load and to check, verify that all control systems, alarm and shut-down protection.
- ♦ Equipped with battery charger and 24V high performance maintenance-free lead-acid starting batteries and connecting cables.
- ♦ Stainless galvanized zinc plates with strong corrosion-proof.
- ♦ Vibration isolators between the engine/alternator and base frame.
- ♦ Equipped with industrial silencer and flexible exhaust hose.
- ♦ Designed to comply with ISO8528/GB2820.
- ♦ Powered by Perkins engine and coupled with Stamford alternator.
- ♦ Water jacket preheater, oil heater and double air cleaner, etc. are available.

FDK Diesel Generator Set Data

Genset Model	FDK-P720/H1
Prime Power	640KW/800KVA
Standby Power	720KW/900KVA
Output Frequency / Rated speed	50Hz/1500rpm
Rated Voltage	230V/400V

Engine Make	Perkins UK
Engine Model	4006-23TAG3A
Alternator model	Stamford HCI634G
Control System	DSE7320
Phase	Three

(1) **Prime power:** The rating is available for an unlimited of annual operating hours in variable load applications, in accordance with ISO8528-1.A 10% overload is available for a period of 1 hour within 12-hour period of operation, in accordance with ISO 3046-1.

(2) **Standby power:** The rating is applicable for supplying emergency power in variable load applications for up to 200 hours per year in accordance with ISO8528-1. Overload is not allowed.

(3) **Rated voltage:** available with customer requirement.

Engine Specifications (DETAILED in APPENDIX)

Engine Model	4006-23TAG3A
Engine Manufacturer	Perkins UK
Cylinder quantity	6
Cylinder Arrangement	In-line
Cycle	4
Aspiration	Turbo charged

Bore x Stroke (mm x mm)	160x190
Displacement	22.92 L
Compression Ratio	13.6:1
Prime power / Speed (KW/RPM)	705kw/1500
Standby power/ Speed (KW/RPM)	786kw/1500
Governor type	Electronic



ISO9001:2008

FDK reserves the right to change the specifications and designs without notice.

Piston Speed	9.5m/s
Typical genset electrical output	648 kw
Total Lubrication System Capacity (L)	113.4
Total Coolant Capacity (L)	105

Fuel Consumption at 100% load (L/HOUR)	172 at rated speed
Starter motor	24V
Alternator	24V
Minimum cranking speed.	120 rpm

Alternator Specifications

Alternator model	HCI634G
Alternator manufacturer	STAMFORD
Exciter type	Single bearing, Brushless, Self-excited
Rated output prime power	810KVA
Rated speed	1500 rpm
Rated frequency	50Hz

Number of phase	3
Rated voltage	400V (Available with custom requirements)
Power factor	0.8
Voltage regulation NL-FL	±1%
Insulation grade	H
Protection grade	IP23

Alternator option: Leroy Somer, MECC, Marathon, Engga, Faraday

Control System DSE7320 (DETAILED in INSTRUCTION)

DSE7320 is an advanced control module based on micro-processor, containing all necessary functions for protection of the genset and the breaker control. It can monitor the mains supply, breaker control and automatically start the engine when the mains are abnormal. Accurately measure various operational parameters and display all values and alarms information on the LCD. In addition, the control module can automatically shut down the engine and indicate the engine failure.

FEATURES

- ◆ Microprocessor control, with high stability and credibility.
- ◆ Monitoring and measuring operational parameters of the mains supply and genset.
- ◆ Indicating operation status, fault conditions, all parameters and alarms.
- ◆ Multiple protections; multiple parameters display, like pressure, temp. etc.
- ◆ Manual, automatic and remote work mode selectable.
- ◆ Real time clock for time and date display, overall runtime display, 250 log entries.
- ◆ Overall power output display.
- ◆ Integral speed/frequency detecting, telling status of start, rated operation, overspeed etc.
- ◆ Communication with PC via RS485 OR RS232 interface, using MODBUS protocol.

Soundproof Enclosure Specification

FDK silent generator is designed by professional acoustic engineers based on years of experience. Now we can make the noise of the generator less than 80-85dB(A) at 1m, or 70-75dB(A) at 7m, 60-65dB(A) at 15m.

FEATURES

- ◆ Multi-way air intake and exhaust guarantee the power performance of the generator.
- ◆ Large-scale impedance combined type silencer effectively reduce noise of the generator.
- ◆ Internal high performance rubber damper and flexible materials reduce vibration.
- ◆ Base mounted fuel tank supports the generator running for 8 hours.



ISO9001:2008

FDK reserves the right to change the specifications and designs without notice.

Optional

Generator set	Alternator	Low environment Temp	ATS
<input type="checkbox"/> Open generator set <input type="checkbox"/> Silent generator set <input type="checkbox"/> Trailer generator set <input type="checkbox"/> ABB MCCB circuit breaker	<input type="checkbox"/> Stamford <input type="checkbox"/> Marathon <input type="checkbox"/> Mecc Alte <input type="checkbox"/> Leroy Somer <input type="checkbox"/> Farady <input type="checkbox"/> Engga	<input type="checkbox"/> Water heater <input type="checkbox"/> Oil heater <input type="checkbox"/> Battery heater	<input type="checkbox"/> CHINT <input type="checkbox"/> SCHNEIDER <input type="checkbox"/> ABB
Fuel system	Control system	Voltage	Synchronized system
<input type="checkbox"/> 12hrs base tank <input type="checkbox"/> 24hrs base tank <input type="checkbox"/> Dual wall base fuel tank <input type="checkbox"/> Outside fuel tank	<input type="checkbox"/> AMF function <input type="checkbox"/> ATS control cabinet <input type="checkbox"/> DSE7320 <input type="checkbox"/> DSE7510 <input type="checkbox"/> GU620A	<input type="checkbox"/> 415/240V <input type="checkbox"/> 400/230V <input type="checkbox"/> 380/220V <input type="checkbox"/> 220/127V <input type="checkbox"/> 200/115V	<input type="checkbox"/> CHINT Cabinet <input type="checkbox"/> SCHNEIDER Cabinet <input type="checkbox"/> DSE8610 Module <input type="checkbox"/> COMAQ Module <input type="checkbox"/> DEIF Module

Dimension & Weight

Open

Overall Size: LxWxH (mm)	5600x2300x2800
Weight (kg)	5800

Soundproof Version

Overall Size: LxWxH (mm)	20FT Container
Weight (kg)	8200

Sales Promises

- ◆ FDK provides a full line of brand new and high quality products. Each and every unit is strictly factory tested before shipment.
- ◆ Quality warranty is according to our standard conditions: 12 months from BL date or 1000 running hours, whichever comes first.
- ◆ Service and parts are available from FDK or distributors in your location.
- ◆ FDK guarantee use **BRAND NEW & GENUINE MACHINE.**



Technical Data

4000 Series

Diesel Engine - Electropak

4006-23TAG2A

4006-23TAG3A

Basic technical data

Number of cylinders6
 Cylinder arrangement Vertical, In line
 Cycle 4 stroke, compression ignition
 Induction system Turbocharged
 Compression ratio 13.6:1 nominal
 Bore 160 mm
 Stroke 190 mm
 Cubic capacity 22,921 litres
 Direction of rotation Anti-clockwise viewed on flywheel
 Firing order 1, 5, 3, 6, 2, 4
 Cylinder 1 furthest from flywheel
 Total weight of Electrounit (engine only)
 -dry 2524 kg
 -wet 2663 kg

Overall dimensions

-height 1964 mm
 -length 3027 mm
 -width 1706 mm

Moment of inertia

Engine 4,59 kgm²
 Flywheel 6,02 kgm²
 Cyclic irregularity for engine/flywheel (prime power):

	TAG2A	TAG3A
1500 rev/min	1:67	1:62
1800 rev/min	1:105	1:97

Ratings

Steady state speed stability at constant load ± 0.25%
 Electrical ratings are based on average alternator efficiency and are for guidance only (0.8 power factor being used).

Operating point

Engine speed 1500/1800 rev/min
 Static injection timing See engine number plate
 Cooling water exit temperature 98 °C Max.
 Fuel data
 To conform to BS2869 class A2.

Performance

Estimated sound pressure level (Temperate):
 -1500 rev/min 106 dBA
 -1800 rev/min 111 dBA
 Estimated sound pressure level (Tropical):
 -1500 rev/min 107 dBA
Note: All data based on operation to ISO 3046/1, BS 5514 and DIN 6271 standard reference conditions.

For engines operating in ambient conditions other than the standard reference conditions stated below, a suitable de-rate must be applied. De-rate tables for increased ambient temperature and/or altitude are available, please contact Perkins Applications Department.

Test conditions

Air temperature 25 °C
 Barometric pressure 100 kPa
 Relative humidity 30%
 Air inlet restriction at maximum power (nominal) 2,5 kPa
 Exhaust back pressure (nominal) 3,0 kPa
 Fuel temperature (inlet pump) 58 °C maximum
 For test conditions relevant to data on load acceptance, refer to Perkins Applications Department.

General installation

4006-23TAG2A - Temperate

Designation	Units	50 Hz 1500 rev/min			60 Hz 1800 rev/min		
		Baseload power	Prime power	Standby power	Baseload power	Prime power	Standby power
Gross engine power	kWm	527	654	717	549	676	740
Fan power	kWm	22			38		
Net engine power	kWm	505	632	695	511	638	702
BMEP gross	kPa	1840	2281	2502	1597	1966	2152
Combustion air flow	m ³ /min	60	64	71	62	65	72
Exhaust gas temperature max. after turbo	°C	430					
Exhaust gas flow (max)	m ³ /min	180			190		
Boost pressure ration	-	3,0	3,4	3,6	3,2	3,4	3,6
Mechanical efficiency	%	90					
Overall thermal efficiency	%	43	42	41	41,5	41	40
Friction power and pumping losses	kWm	70			75		
Mean piston speed	m/s	9,5			11,4		
Engine coolant flow	l/s	10			12		
Cooling fan airflow	m ³ /min	1200			1320		
Typical Genset electrical output 0.8pf 25 °C (100 kPa)	kVA	600	750	825	600	750	825
	kWe	480	600	660	480	600	660
Assumed alternator efficiency	%	95			94		

General installation

4006-23TAG2A - Tropical

Designation	Units	50 Hz 1500 rev/min			60 Hz 1800 rev/min		
		Baseload power	Prime power	Standby power	Baseload power	Prime power	Standby power
Gross engine power	kWm	531	658	721	555	682	746
Fan power	kWm	26			44		
Net engine power	kWm	505	632	695	511	638	702
BMEP gross	kPa	1854	2295	2516	1609	1977	2163
Combustion air flow	m ³ /min	60	64	71	62	65	72
Exhaust gas temperature max. after turbo	°C	430					
Exhaust gas flow (max)	m ³ /min	180			190		
Boost pressure ration	-	3,0	3,4	3,6	3,2	3,4	3,6
Mechanical efficiency	%	90					
Overall thermal efficiency	%	43	42	41	41,5	41	40
Friction power and pumping losses	kWm	70			75		
Mean piston speed	m/s	9,5			11,4		
Engine coolant flow	l/s	10			12		
Cooling fan airflow	m ³ /min	1200			1320		
Typical Genset electrical output 0.8pf 25 °C (100 kPa)	kVA	600	750	825	600	750	825
	kWe	480	600	660	480	600	660
Assumed alternator efficiency	%	95			94		

4006-23TAG3A - Temperate

Designation	Units	50 Hz 1500 rev/min			60 Hz 1800 rev/min		
		Baseload power	Prime power	Standby power	Baseload power	Prime power	Standby power
Gross engine power	kWm	566	705	786	614	759	839
Fan power	kWm	22			38		
Net engine power	kWm	544	683	764	576	721	801
BMEP gross	kPa	1969	2452	2734	1780	2200	2432
Combustion air flow	m ³ /min	60	69	73	68	76	78
Exhaust gas temperature max. after turbo	°C	500					
Exhaust gas flow (max)	m ³ /min	193			209		
Boost pressure ration	-	3,1	3,5	3,8	3,35	3,6	3,79
Mechanical efficiency	%	90					
Overall thermal efficiency	%	43	41	40	41,5	40,5	39,5
Friction power and pumping losses	kWm	70			75		
Mean piston speed	m/s	9,5			11,4		
Engine coolant flow	l/s	10			12		
Cooling fan airflow	m ³ /min	1200			1320		
Typical Genset electrical output 0.8pf 25 °C (100 kPa)	kVA	645	810	906	683	855	950
	kWe	516	648	725	547	684	760
Assumed alternator efficiency	%	95			95		

General installation

4006-23TAG3A - Tropical

Designation	Units	50 Hz 1500 rev/min			60 Hz 1800 rev/min		
		Baseload power	Prime power	Standby power	Baseload power	Prime power	Standby power
Gross engine power	kWm	566	705	786	614	759	839
Fan power	kWm	26			44		
Net engine power	kWm	540	679	760	570	715	795
BMEP gross	kPa	1969	2452	2734	1780	2200	2432
Combustion air flow	m ³ /min	60	69	73	68	76	78
Exhaust gas temperature max. after turbo	°C	500					
Exhaust gas flow (max)	m ³ /min	193			209		
Boost pressure ration	-	3,1	3,5	3,8	3,35	3,6	3,79
Mechanical efficiency	%	90					
Overall thermal efficiency	%	43	41	40	41,5	40,5	39,5
Friction power and pumping losses	kWm	70			75		
Mean piston speed	m/s	9,5			11,4		
Engine coolant flow	l/s	10			12		
Cooling fan airflow	m ³ /min	1200			1320		
Typical Genset electrical output 0.8pf 25 °C (100 kPa)	kVA	640	800	900	675	844	938
	kWe	512	640	720	540	675	750
Assumed alternator efficiency	%	95			95		

Rating Definitions

Baseload power

Unlimited hours usage with an average load factor of 100% of the published Baseload Power. No overload is permitted on Baseload Power.

Prime power

Unlimited hours usage with an average load factor of 80% of the published Prime Power over each 24 hours period. A 10% overload is available for 1 hour in every 12 hours operation.

Standby power

Limited to 500 hours annual usage with an average load factor of 80% of the published Standby Power rating over each 24 hour period. Up to 300 hours of annual usage may be run continuously. No overload is permitted on Standby Power.

Energy balance

4006-23TAG2A - Temperate

Designation	Units	50 Hz 1500 rev/min ½ TA Luft			50 Hz 1500 rev/min best SFC			1800 rev/min		
		Baseload power	Prime power	Standby power	Baseload power	Prime power	Standby power	Baseload power	Prime power	Standby power
Energy in fuel	kW	1380	1749	1938	1307	1641	1798	1430	1808	1988
Energy in power output (gross)	kW	527	654	717	527	654	717	549	676	740
Energy to cooling fan	kW	22			22			38		
Energy in power output (net)	kW	505	632	695	505	632	695	511	638	702
Energy to exhaust	kW	456	612	670	416	500	541	533	644	686
Energy to coolant and oil	kW	200	229	269	171	229	262	151	216	252
Energy to radiation	kW	43	62	79	54	64	73	57	72	79
Energy to charge coolers	kW	154	193	203	139	194	205	140	200	231

4006-23TAG2A - Tropical

Designation	Units	50 Hz 1500 rev/min ½ TA Luft			50 Hz 1500 rev/min best SFC			1800 rev/min		
		Baseload power	Prime power	Standby power	Baseload power	Prime power	Standby power	Baseload power	Prime power	Standby power
Energy in fuel	kW	1390	1758	1950	1317	1649	1809	1444	1823	2004
Energy in power output (gross)	kW	531	658	721	531	658	717	555	682	746
Energy to cooling fan	kW	26			26			44		
Energy in power output (net)	kW	505	632	695	505	632	695	511	638	702
Energy to exhaust	kW	458	615	675	419	500	544	536	648	689
Energy to coolant and oil	kW	202	231	271	173	231	264	153	218	255
Energy to radiation	kW	44	62	79	54	66	73	58	72	80
Energy to charge coolers	kW	154	192	204	140	194	207	142	203	234

4006-23TAG3A - Temperate

Designation	Units	50 Hz 1500 rev/min ½ TA Luft			50 Hz 1500 rev/min best SFC			1800 rev/min		
		Baseload power	Prime power	Standby power	Baseload power	Prime power	Standby power	Baseload power	Prime power	Standby power
Energy in fuel	kW	1470	1926	2154	1390	1749	1970	1598	1995	2258
Energy in power output (gross)	kW	566	705	786	566	705	786	614	759	839
Energy to cooling fan	kW	22			22			38		
Energy in power output (net)	kW	544	683	764	544	683	764	576	721	801
Energy to exhaust	kW	480	665	741	429	500	565	530	635	759
Energy to coolant and oil	kW	210	280	315	190	280	310	225	309	330
Energy to radiation	kW	59	77	86	56	70	79	64	80	90
Energy to charge coolers	kW	155	199	226	149	194	230	165	212	240

4006-23TAG3A - Tropical

Designation	Units	50 Hz 1500 rev/min ½ TA Luft			50 Hz 1500 rev/min Best SFC			1800 rev/min		
		Baseload power	Prime power	Standby power	Baseload power	Prime power	Standby power	Baseload power	Prime power	Standby power
Energy in fuel	kW	1470	1926	2154	1390	1749	1970	1598	1995	2258
Energy in power output (gross)	kW	566	705	786	566	705	786	614	759	839
Energy to cooling fan	kW	26			26			44		
Energy in power output (net)	kW	540	679	760	540	679	760	569	714	794
Energy to exhaust	kW	480	665	741	429	500	565	530	635	759
Energy to coolant and oil	kW	210	280	315	190	280	310	225	309	330
Energy to radiation	kW	59	77	86	56	70	79	64	80	90
Energy to charge coolers	kW	155	199	226	149	194	230	165	212	240

Note: ½ TA Luft figures have been developed to comply with ½ TA Luft as 1986 with 2000 mg/m³ NOx 5% O₂ limits for power generation engines.

Cooling system

Recommended coolant: 50% inhibited ethylene glycol or 50% inhibited propylene glycol and 50% clean fresh water. For combined heat and power systems and where there is no likelihood of ambient temperature below 10 °C, then clean 'soft' water may be used, treated with 1% by volume of Perkins inhibitor in the cooling system. The inhibitor is available in 1 litre bottles from Perkins.

Nominal jacket water pressure in crankcase. 170 kPa
 Maximum top temperature (standby) ... 98 °C
 Maximum static pressure head on pump ... 7 m
 Draw down capacity .. 22 litres
 Maximum permissible restriction to coolant pump flow. 20 kPa
 Thermostat operating range.. ... 71 - 85 °C
 Ambient cooling clearance (open ElectropaK prime power) based on air temp at fan 3 °C above ambient.

Temperate

Maximum additional restriction (duct allowance) to cooling airflow. (TAG2A and TAG3A standby power) and resultant minimum airflow					
Ambient clearance: 50% Glycol		Duct allowance mm H ₂ O		Min airflow m ³ /sec	
rev/min		rev/min		rev/min	
1500	1800	1500	1800	1500	1800
36 °C	39 °C	25	25	13	16

Tropical

Maximum additional restriction (duct allowance) to cooling airflow. (TAG2A and TAG3A standby power) and resultant minimum airflow					
Ambient clearance: inhibited coolant		Duct allowance mm H ₂ O		Min airflow m ³ /sec	
rev/min		rev/min		rev/min	
1500	1800	1500	1800	1500	1800
50 °C	50 °C	13	20	20	22

The above information at 1500 rev/min applies for ½ TA Luft and Best SFC ratings.

Radiator

Face area .. 2,569 m²
 Rows and materials... 3 rows of brass tubes

Gills per inch and material

-jacket water... Copper fin at 14 gills/in
 -charge air section. ... Copper fin at 10 gills/in

Width and height of matrix

-height ... 1600 mm
 -width. ... 1606 mm
 Weight (dry) radiator . 570 kg
 Total coolant capacity ... 105 litres
 Pressure cap setting . 70 kPa

Coolant jacket data	Units	1500 rev/min	1800 rev/min
Coolant flow	l/s	10	12
Coolant exit temperature (max)	°C	98	98
Coolant entry temperature (min)	°C	70	70

Charge cooler, integral with radiator

Face area .. 1,622 m²

Coolant pump

Speed and method of drive... 1.4 x e rev/min Gear

Fan

Type ... Engine mounted
 Speed:
 -1500 ... 1170 rev/min
 -1800 ... 1404 rev/min
 Diameter. ... 1,2 m
 Number of blades:
 -Temperate. ... 6
 -Tropical ... 8
 Material... Steel
 Drive ratio ... 0.78:1

Lubrication system

Recommended lubricating oil to conform with the specification of API CG4 15W/40

Lubricating oil capacity

-sump maximum. ... 113,4 litres
 -sump minimum... 90,7 litres

Lubrication oil pressure at rated speed

Minimum. ... 240 kPa
 Oil relief valves open... 300 kPa
 Oil filter spacing.. 40 microns
 Sump drain plug tapping size. ... G1
 Oil pump speed and method of drive . 1.4 x e rev/min, gear

Oil pump flow

-1500 rev/min . 3,7 litres/sec
 -1800 rev/min . 4,4 litres/sec
 Oil consumption as a percentage of full load fuel consumption less than ... 0.25%

Normal operating angles

Front and rear. ... 5°
 Side tilt ... 10°

Electrical system

Type ... Insulated return
 Alternator ... 40 amps at 28 volts, stabilised output at 20 °C ambient
 Starter motor ... 7,5 kW
 Number of teeth on flywheel... 190
 Number of teeth on starter motor ... 12
 Minimum cranking speed ... 120 rev/min
 Pull in current of starter motor solenoid... 30 amps at 24 volts
 Hold in current of starter motor solenoid ... 9 amps at 24 volts
 Engine stop solenoid.. 24 volts
 Pull in current of stop solenoid ... 60 amps at 24 volts

Starting requirements

Temperature range	
To 10 °C (50 °F)	Oil: CG4 15w/40
	Starter: 1 x 24 volts
	Battery: 2 x 12v x Ah 143
	max. breakaway:
	-current 1000 amps
-cranking current 600 amps	
-aids Not necessary	

Notes:

- The battery capacity is defined by the 20 hour rate at 0 °C
- The oil specification should be for the minimum ambient temperature as the oil will not be warned by the immersion heater
- The breakaway current is dependant on the battery capacity available. Cables should be capable of handling the transient current which may be up to double the steady cranking current.

Fuel system

Recommended fuel ... To conform to BS2869 1998 Class A1, A2
 Type of injection system ... Direct injection
 Fuel injector ... Combined unit injector
 Fuel injector pressure
 ... 220 ATS (NOP) 1400 bar maximum operating pressure

Delivery

-1500 rev/min ... 660 litres/hour
 -1800 rev/min ... 810 litres/hour
 Fuel delivery pump pressure... 300 kPa
 Fuel lift pump maximum suction head ... 2.5 m
 Fuel return maximum pressure head
 ... see installation manual for details
 Fuel filter spacing... 10 microns
 Governor type ... Electronic

Fuel consumption gross (½ TA Luft)

Temperate and Tropical

	g/kWh	l/h
4006-23TAG2A	1500	1500
Standby	213	178
Prime	213	163
Baseload	215	133
75% Prime	215	124
50% Prime	219	84
4006-23TAG3A		
Standby	222	203
Prime	214	175
Baseload	207	139
75% Prime	213	132
50% Prime	213	88

Fuel consumption gross (best SFC)

Temperate and tropical

	g/kWh		l/h	
	1500	1800	1500	1800
4006-23TAG2A				
Standby	210	228	176	196
Prime	210	224	161	176
Baseload	212	212	131	135
75% Prime	213	214	122	126
50% Prime	218	224	83	88
4006-23TAG3A				
Standby	212	230	194	224
Prime	210	226	172	200
Baseload	208	213	137	152
75% Prime	210	214	130	144
50% Prime	213	205	90	96

Induction system

Maximum air intake restriction of engine

-clean filter... 127 mm H₂O
 -dirty filter... 380 mm H₂O
 -air filter type ... dry - paper

Exhaust system

Exhaust outlet size (internal) ... 2 x 152,4 mm

Exhaust back pressure for total system

-TAG2A ... 610 mm H₂O
 -TAG3A ... 610 mm H₂O
 For recommended pipe sizes see the Installation Manual.

Engine mounting

Maximum additional load applies to flywheel due to all rotating components... 650 kg
 Position of engine centre of gravity (wet):
 -forward of the rear face of the crankcase... 625 mm
 -above the crankshaft centre line ... 140 mm

Typical Load Acceptance (cold)

At 1500 rev/min

Engine type	Initial Load Acceptance When engine reaches rated speed (15 seconds maximum after engine starts to crank)				2nd Load Application Immediately after engine has recovered to rated speed (5 seconds after initial load application)			
	Prime Power %	Load kWm (kWe) Net	Transient Frequency Deviation %	Frequency recovery time seconds	Prime Power %	Load kWm (kWe) Net	Transient Frequency Deviation %	Frequency recovery time seconds
4006-23TAG2A	67	421 (400)	≤ -10	5	33	211 (200)	≤ -10	5
4006-23TAG3A	66	448 (421)	≤ -10	5	34	231 (219)	≤ -10	5

At 1800 rev/min

Engine type	Initial Load Acceptance When engine reaches rated speed (15 seconds maximum after engine starts to crank)				2nd Load Application Immediately after engine has recovered to rated speed (5 seconds after initial load application)			
	Prime Power %	Load kWm (kWe) Net	Transient Frequency Deviation %	Frequency recovery time seconds	Prime Power %	Load kWm (kWe) Net	Transient Frequency Deviation %	Frequency recovery time seconds
4006-23TAG2A	70	446 (420)	≤ -10	5	30	192 (180)	≤ -10	5
4006-23TAG3A	67	483 (454)	≤ -10	5	33	232 (221)	≤ -10	5

The above complies with requirements of Classification 3 & 4 of ISO 8528 - 12 and G2 operating limits stated in ISO 8528 - 5.

The above figures were obtained under test conditions as follows:

Engine block temperature 45 °C

Alternator efficiency 94%

Minimum ambient temperature 10 °C

Isynchronous governing

Under frequency roll off (UFRO) set to 1 Hz below rated frequency

Typical alternator inertia 20 kgm²

All tests were conducted using an engine installed and serviced to Perkins Engines Company Limited recommendations.

The information given on this Technical Data Sheet is for standard engines, and for guidance only. For ratings other than shown contact the Applications department.

Noise levels

The figures for total noise levels are typical for an engine running at Prime Power rating in a semi-reverberant environment and measured at a distance of one metre from the periphery of the engine.

Octave analysis

The following histograms show an octave band analysis at the position of the maximum noise level.

Total noise level

Sound pressure level re: -20×10^{-6} pa
 Speed 1500 rev/min ... Ambient noise level 79 dBA 4006TAG2A/3A
 Octave analysis performed at the position of maximum noise.

4006TAG2A/3A - Temperate

POSITION 1

1500 rev/min	104,0 - dBA	4006TAG2A
1800 rev/min	109,0 - dBA	4006TAG2A
1500 rev/min	104,0 - dBA	4006TAG3A
1800 rev/min	109,0 - dBA	4006TAG3A

POSITION 7

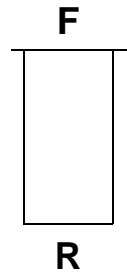
1500 rev/min	105,5 - dBA	4006TAG2A
1800 rev/min	107,5 - dBA	4006TAG2A
1500 rev/min	106,0 - dBA	4006TAG3A
1800 rev/min	108,0 - dBA	4006TAG3A

POSITION 6

1500 rev/min	107,5 - dBA	4006TAG2A
1800 rev/min	109,0 - dBA	4006TAG2A
1500 rev/min	108,0 - dBA	4006TAG3A
1800 rev/min	110,0 - dBA	4006TAG3A

POSITION 5

1500 rev/min	106,5 - dBA	4006TAG2A
1800 rev/min	107,5 - dBA	4006TAG2A
1500 rev/min	107,0 - dBA	4006TAG3A
1800 rev/min	108,0 - dBA	4006TAG3A



POSITION 2

1500 rev/min	105,5 - dBA	4006TAG2A
1800 rev/min	108,5 - dBA	4006TAG2A
1500 rev/min	106,0 - dBA	4006TAG3A
1800 rev/min	109,0 - dBA	4006TAG3A

POSITION 3

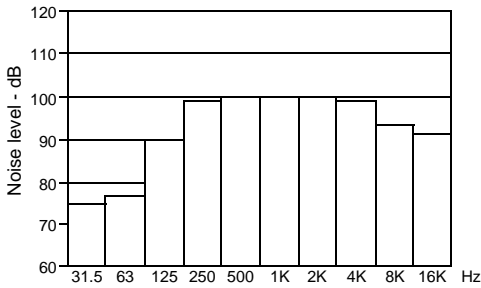
1500 rev/min	108,5 - dBA	4006TAG2A
1800 rev/min	110,0 - dBA	4006TAG2A
1500 rev/min	109,0 - dBA	4006TAG3A
1800 rev/min	110,0 - dBA	4006TAG3A

POSITION 4

1500 rev/min	107,0 - dBA	4006TAG2A
1800 rev/min	107,5 - dBA	4006TAG2A
1500 rev/min	107,5 - dBA	4006TAG3A
1800 rev/min	108,0 - dBA	4006TAG3A

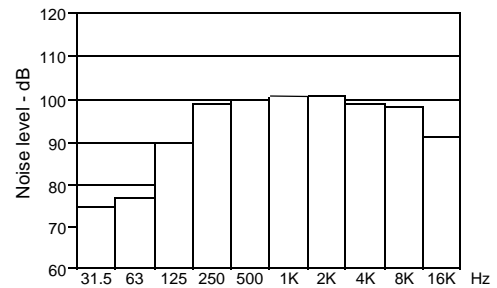
4006TAG2A

1500 rev/min at position 7



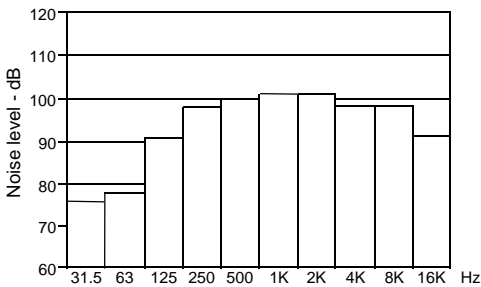
4006TAG3A

1500 rev/min at position 7



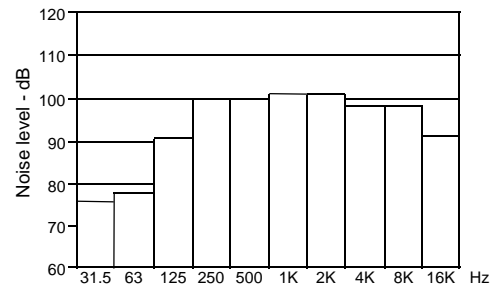
4006TAG2A

1800 rev/min at position 7



4006TAG3A

1800 rev/min at position 7



4006TAG2A/3A - Tropical

POSITION 1

1500 rev/min	108,0 - dBA	4006TAG2A
1800 rev/min	111,0 - dBA	4006TAG2A
1500 rev/min	108,0 - dBA	4006TAG3A
1800 rev/min	111,0 - dBA	4006TAG3A

POSITION 7

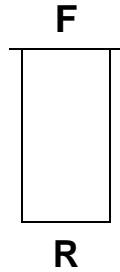
1500 rev/min	106,5 - dBA	4006TAG2A
1800 rev/min	108,0 - dBA	4006TAG2A
1500 rev/min	107,0 - dBA	4006TAG3A
1800 rev/min	109,0 - dBA	4006TAG3A

POSITION 6

1500 rev/min	106,5 - dBA	4006TAG2A
1800 rev/min	110,0 - dBA	4006TAG2A
1500 rev/min	107,0 - dBA	4006TAG3A
1800 rev/min	110,0 - dBA	4006TAG3A

POSITION 5

1500 rev/min	107,0 - dBA	4006TAG2A
1800 rev/min	109,5 - dBA	4006TAG2A
1500 rev/min	107,0 - dBA	4006TAG3A
1800 rev/min	111,0 - dBA	4006TAG3A



POSITION 2

1500 rev/min	106,0 - dBA	4006TAG2A
1800 rev/min	109,0 - dBA	4006TAG2A
1500 rev/min	106,0 - dBA	4006TAG3A
1800 rev/min	110,0 - dBA	4006TAG3A

POSITION 3

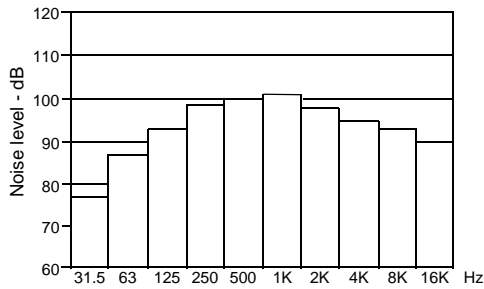
1500 rev/min	108,0 - dBA	4006TAG2A
1800 rev/min	111,0 - dBA	4006TAG2A
1500 rev/min	108,0 - dBA	4006TAG3A
1800 rev/min	112,0 - dBA	4006TAG3A

POSITION 4

1500 rev/min	106,0 - dBA	4006TAG2A
1800 rev/min	108,0 - dBA	4006TAG2A
1500 rev/min	106,0 - dBA	4006TAG3A
1800 rev/min	109,0 - dBA	4006TAG3A

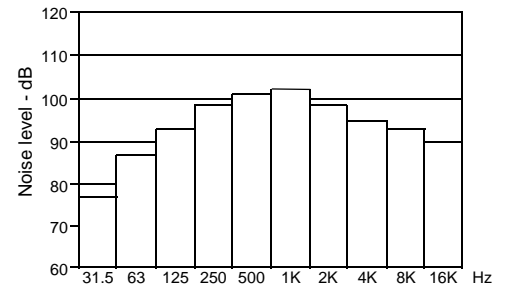
4006TAG2A

1500 rev/min at position 7



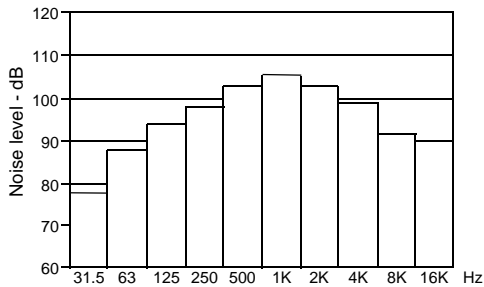
4006TAG3A

1500 rev/min at position 7



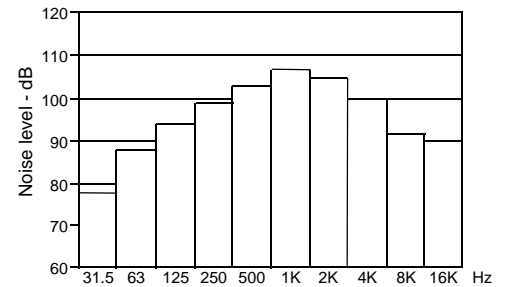
4006TAG2A

1800 rev/min at position 7



4006TAG3A

1800 rev/min at position 7



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