FUSTEQ Series

DIESEL GENERATOR
GROUPE ELECTROGENE DIESEL
GRUPO ELECTROGENO DIESEL
GRUPPO ELETTROGENO DIESEL

MODEL
MODELE
MODELO
MODELLO

PK 502 FQ*

POWERED BY

Perkins

mecc alte

SOUNDPROOF VERSION

GENERATING SET PERFORMANCE PERFORMANCES DU GROUPE PRESTACIONES DEL GRUPO PRESTAZIONI DEL GRUPPO		50 Hz		60 Hz	
Voltage Voltage Voltaje Tensione		V	400 / 230	V	220 / 127
Continuous Power Puissance service continue Potencia servicio continuo Potenza servizio continuo	PRP	kVA	**450**	kVA	**500**
Stand-by Power Puissance service secours Potencia servicio emergencia Potenza servizio in emergenza	LTP	kVA	**491**	kVA	**550**
Continuous Power Puissance service continue Potencia servicio continuo Potenza servizio continuo	PRP	kWe	360	kWe	400
Stand-by Power Puissance service secours Potencia servicio emergencia Potenza servizio in emergenza	LTP	kWe	392,8	kWe	440
Power factor Facteur de puissance Factor de potencia Fattore di potenza	cos φ		0,8		0,8
Fuel consumption Consommation combustible Consumo de combustible Consumo combustibile	70 %	l/h	65,6	l/h	68
Noise level Niveau de bruit Nivel de ruido Livello rumorosità	dB(A)@7m	60dB(A) without load			

TECNOGEN SpA - postal address: strada Ponteriglio, 25 – 29010 Pontenure (PC)- ITALY
Tel **+39 0523 512440** - Fax **+39 0523 504453** – E-mail: **export@tecnogen.com** - Web site: **www.tecnogen.com**

ENGINE MOTEUR MOTOR MOTORE		PERKINS		2506C-E15TAG1	
PERFORMANCE PERFORMANCES PRESTACIONES PRESTAZIONI		**1500 rpm**		**1800 rpm**	
Continuous Power Puissance service continue Potencia servicio continuo Potenza servizio continuo	PRP	kWm	407,8	kWm	453,8
Stand-by Power Puissance service secours Potencia servicio emergencia Potenza servizio in emergenza	LTP	kWm	446,8	kWm	508,8
Specific fuel consumption Consommation spécifique combustible Consumo especifico de combustibile Consumo specifico combustibile		g/kWh	50 % 222 75 % 212 100 % 216 110 % 217	g/kWh	50 % 217 75 % 204 100 % 199 110 % 201
Diesel 4 Stroke – Injection type Diesel 4 temps – Type injection Diesel 4 tiempos – Tipo de inyeccion Diesel a 4 tempi – Tipo di iniezione					Direct Directe Directa Diretta
Aspiration type Type d'aspiration Tipo de aspiracion Tipo d'aspirazione					Turbochargedqq Suraalimentée Sobrealimentato Sovralimentata
Cooling system Refroidissement Sistema de refrigeracion Raffreddamento					Water Eau Agua Acqua
Speed governor Régulateur de tours Regulador Regolatore di giri					Electronic Electronique Electronico Elettronico
Cylinders, numbers and arrangement Nombre et disposition des cylindres Cilindros, numero y disposicion Numero e disposizione dei cilindri					6L
Total displacement Cylindrée totale Cilindrata total Cilindrata totale				cm^3	15.000
Bore x stroke Alésage x course Diametro x carrera Alesaggio x corsa				mm	137 x 171
Compression ratio Rapport de compression Relación de compresión Rapporto di compressione					16.1
Engine electric system voltage Voltage système électrique moteur Voltaje sistema eléctrico motor Voltaggio sistema elettrico motore					24 V
Derating for temperature Déclassement pour temperature Declasamiento para temperatura Declassamento per temperatura				0 ÷ 25°C > 25 °C	0 2 % / 10°C
Derating for altitude Déclassement pour altitude Declasamiento para altitud Declassamento per altitudine				0 ÷ 1000 m > 1000m	0 1,5 % / 500 m

ALTERNATOR ALTERNATEUR ALTERNADOR ALTERNATORE			MECCALTE		
PERFORMANCE PERFORMANCES PRESTACIONES PRESTAZIONI		**1500 rpm**		**1800 rpm**	
Model Modèle Modelo Modello		ECO40-2S/4		ECO40-2S/4	
Continuous Power Puissance service continue Potencia servicio continuo Potenza servizio continuo	40 °C	kVA kWe	**450** 360	KVA kWe	**510** 408
Stand-by Power Puissance service secours Potencia servicio emergencia Potenza servizio in emergenza	40 °C	KVA kWe	**468** 374,4	KVA kWe	**536** 428,8
Stand-by Power Puissance service secours Potencia servicio emergencia Potenza servizio in emergenza	27 °C	KVA kWe	**491** 392,8	KVA kWe	**556** 444,8
Efficiency Rendement Eficienza Efficienza		2/4 3/4 4/4	93,2 % 94,0 % 93,7 %	2/4 3/4 4/4	94,2 % 95,5 % 94,7 %
Standard winding connections Liaison des bobinages Tipo de conexiòn Collegamento avvolgimenti		Y		YY	
Exciter Eccitatrice Excitador Eccitatrice	**brushless** rotating exciter design with solid state pivotante **sans brosses** avec pont de diodes pivotants puente de diodos **sin escobillas** rotantes rotante **senza spazzole** con ponte di diodi rotanti				
Poles Poles Polos Poli					4
Phases Phases Fases Fasi					3 + N
Wires Fils Hilos Morsetti					12
Voltage reguletion Regulation Voltage Regulación voltaje Regolazione tensione					± 1%
Insulation class Classe d' isolation Classe de aislamiento Classe di isolamento					H
Enclosure Degré de protection mécanique Grado de protecciòn mecanica Grado di protezione meccanica					IP 21
Air Volume Volume d'air Volumen de aire Volume d'aria				50 Hz 60 Hz	54 m^3/min 64,8 m^3/min
Standard AVR model Modèle AVR standard Modelo AVR standard Modello AVR standard					**DER-1**
Derating for temperature Déclassement pour temperature Declasamiento para temperatura Declassamento per temperatura				0 ÷ 40°C > 40 °C	0 3 % / 5°C
Derating for altitude Déclassement pour altitude Declasamiento para altitud Declassamento per altitudine				0 ÷ 1000 m 1000 ÷ 2500 m 2500 ÷ 3000 m	0 3% / 500 m 4% / 500 m

LOGISTIC INFORMATION
INFORMATIONS LOGISTIQUES
INFORMATION LOGISTICA
INFORMAZIONI LOGISTICHE

	Integrated fuel tank capacity Capacité reservoir intergré Capacidad Tanque integrado Capacità Serbatoio integrato		Weight Poids Peso Peso	Dimensions Cotes d'encombrement Medidas externas Dimensioni d'ingombro		
	(L.)			(cm)		
	STD	EXTRA1	(kg)	L	W	H
SOUND PROOF VERSION VERSION INSONORISEE VERSION INSONORISADA VERSIONE INSONORIZZATA	2000	ON REQUEST	8170	500	210	240

GENSET STANDARD EQUIPMENT
EQUIPEMENT STANDARD GROUPE ELECTROGENE
EQUIPAMIENTO STANDARD GRUPO ELECTROGENO
EQUIPAGGIAMENTO STANDARD GRUPPO ELETTROGENO

GB	F	E	I
✓ Lifting eye ✓ Fully bunded fuel tank ✓ Integrated fuel tank ✓ Vibration dampers ✓ One or more electric fans controlled by Inverter VSi ✓ Manual autostart control panel **ACP7310AUS** with circuit breaker ✓ Battery ✓ Ultra silent canopy ✓ Residential silencer ✓ Fork lift guides	✓ Crochet de levage ✓ Bac de rétention ✓ Réservoir intégré ✓ Amortisseurs de vibration ✓ Un ou plusieurs ventilateurs électriques commandés par Inverter VSi ✓ Démarrage manuel autostart **ACP7310AUS** avec disjoncteur de protection ✓ Batterie ✓ Capotage ultra-silencieux ✓ Silencieux résidentielle ✓ Supports pour fourches	✓ Gancho central ✓ Tanque del combustible con sistema de recolección de líquidos ✓ Tanque de combustible integrado ✓ Sistema de amortiguación anti-vibrante ✓ Uno o más ventiladores eléctricos controlados para Inverter Vsi ✓ Cuadro manual autostart **ACP7310AUS** con interruptor magnetotérmico ✓ Batería ✓ Cabina ultra-silenciosa ✓ Silenciador residencial ✓ Supportes para carrettilla	✓ Gancio di sollevamento centrale ✓ Serbatoio con vasca di raccolta liquidi ✓ Serbatoio integrato ✓ Anti vibranti ✓ Una o più ventole elettriche controllate da tecnologia Inverter VSi ✓ Quadro di comando manuale autostart **ACP7310AUS** con interruttore magnetotermico ✓ Batteria ✓ Cabina ultra silenziosa ✓ Marmitta residenziale ✓ Porta forche

MANUAL AUTOSTART CONTROL PANEL
COFFRET ELECTRIQUE MANUEL AUTOSTART
CUADRO ELECTRICO MANUAL AUTOSTART
QUADRO ELETTRICO MANUALE AUTOSTART

ACP 7310 AUS

800 A (400 V - 3 ph - 50Hz – 1500 rpm)
1600 A (220 V - 3 ph - 60Hz – 1800 rpm)

STANDARD EQUIPMENT:	**EQUIPEMENT STANDARD:**	**EQUIPAMIENTO STANDARD:**	**EQUIPAGGIAMENTO STANDARD:**
4 poles circuit breaker	Disjoncteur de protection 4 pôles	Interruptor magnetotermico 4 polos	Interruttore magnetotermico 4 poli
Electronic control board **DSE 7310**	Fiche électronique **DSE 7310**	Carta electronica **DSE 7310**	Scheda elettronica **DSE 7310**
Control panel box key	Clé pour serrure du coffret	Llave cuadro	Chiave quadro
Emergency Stop button	Interrupteur d'arrêt d'émergence	Botón de parada de emergencia	Pulsante di arresto di emergenza

DSE 7310

CONTROL BOARD
CARTE ELECTRONIQUE DE CONTROL
CARTA ELECTRONICA DE CONTROL
SCHEDA ELETTRONICA DI CONTROLLO

PROTECTIONS	**PROTECTIONS**	**PROTECCIONES**	**PROTEZIONI**
Low oil pressure	Basse pression huile moteur	Baja presión aceite	Bassa pressione olio
High engine temperature	Haute température moteur	Elevada temperatura motor	Alta temperatura motore
Low fuel level	Basse niveau combustible	Baja nivel carburante	Basso livello di carburante
Fail to start	Non démarrage	Falta de arranque	Mancato avviamento
Fail to stop	Non arrêt	Falta de parada	Mancato arresto
Emergency stop	Arrêt d'urgence	Parada de emergencia	Stop d'emergenza
Over/under generator frequency	Sur/sous générateu fréquence	Sobre/bajo generatore frecuencia	Sovra/sotto frequenza generatore
Over/under generator voltage	Sur/sous générateu voltage	Sobre/bajo generatore voltaje	Sovra/sotto voltaggio generatore
Over/under speed	Sur/sourvitesse	Sobre/bajo velocitad	Sovra/sotto velocità
Fuel level	Niveau de combustible	nivel de combustibile	Livello del carburante
Belt breakage	Rupture courroie	Ruptura correa	Rottura cinghia
Over current	Surcourant	Corriente maxima	Sovracorrente
Over/under battery voltage	Sur/sus la tension de batterie	Sobre/bajo voltaje de la batería	Sovra/sotto tensione della batteria
DIGITAL METERS	**VOYANT NUMERIQUE POUR**	**VISOR DIGITAL PARA**	**MISURATORE DIGITALE PER**
Generator volts (3 phases)	Voltmètre générateur (3 phases)	Voltimetro (3 fases)	Voltmetro tensione generatore (3 fasi)
Generator amperes (3 phases)	Ampèremètre générateur (3 phases)	Amperimetro (3 fases)	Amperometro generatore (3 fasi)
Generator frequency	Fréquencemètre générateur	Frecuencimetro	Frequenzimetro generatore
KW-meter	KW-mètre	KW- metro	KW- metro
kVA-meter	kVA- mètre	kVA- metro	kVA- metro
Cos φ- meter	Cos φ- mètre	Cos φ-metro	Cos φ-metro
Rpm meter	Tm mètre	Revolutiones por minuto metro	Gm metro
Gen set hours counter	Totalisateur d'heures de marche	Medida horas de marcha	Contaore di funzionamento gruppo
Battery Volts	Voltmètre batterie	Voltimetro batería	Voltmetro batteria

AUTOMATIC CONTROL PANEL
COFFRET ELECTRIQUE AUTOMATIQUE
CUADRO ELECTRICO AUTOMATICO
QUADRO ELETTRICO AUTOMATICO

1) **ACP 7320 ATS**

COMPLETE CONTROL PANEL FREE STANDING TYPE
Equipment: control board, circuit breaker, battery charger, transfer switch, box key.

COFFRET ELECTRIQUE COMPLET TYPE ARMOIRE SEPARE DU GROUPE
Equipement : carte électronique de contrôle, disjoncteur de protection, chargeur de batterie, inverseur de source, clé coffret.

CUADRO ELECTRICO COMPLETO EN ARMARIO SEPARADO DEL GRUPO
Equipamiento: carta electronica de controllo, interruptor magnetotermico, cargador de bateria, transferencial, llave quadro.

QUADRO ELETTRICO COMPLETO SEPARATO DAL GRUPPO
Equipaggiamento: scheda elettronica di controllo, interruttore magnetotermico, carica batteria, telecommutazione e chiave quadro.

2) **ACP 7320 AMF**

AMF CONTROL PANEL FITTED ON THE GEN-SET WITHOUT TRANSFER SWITCH
Equipment: control board, circuit breaker, battery charger, box key.

COFFRET ELECTRIQUE MONTE SUR LE GROUPE SANS INVERSEUR DE SOURCE
Equipement : carte électronique de contrôle, disjoncteur de protection, chargeur de batterie, clé coffret.

CUADRO ELECTRICO MONTADO SOBRE EL GRUPO SIN TRANSFERENCIAL
Equipamiento: carta electronica de controllo, interruptor magnetotermico, cargador de bateria, llave quadro.

QUADRO ELETTRICO MONTATO SUL GRUPPO ELETTROGENO SENZA TELECOMMUTAZIONE
Equipaggiamento: scheda elettronica di controllo, interruttore magnetotermico, carica batteria, chiave quadro.

3) **ACP 7320 STS**

CONTROL PANEL FITTED ON THE GEN-SET WITH TRANSFER SWITCH SUPPLIED IN A SEPARATED BOX
Equipment: control board, circuit breaker, battery charger, box key, separate transfer switch.

COFFRET ELECTRIQUE MONTE SUR LE GROUPE + INVERSEUR DE SOURCE FOURNI DANS UN COFFRET SEPARE
Equipement : carte électronique de contrôle, disjoncteur de protection, chargeur de batterie, inverseur de source separé, clé coffret.

CUADRO ELECTRICO MONTADO SOBRE EL GRUPO CON TRANSFERENCIAL SEPARADO
Equipamiento: carta electronica de controllo, interruptor magnetotermico, cargador de bateria, llave quadro, transferencial separado.

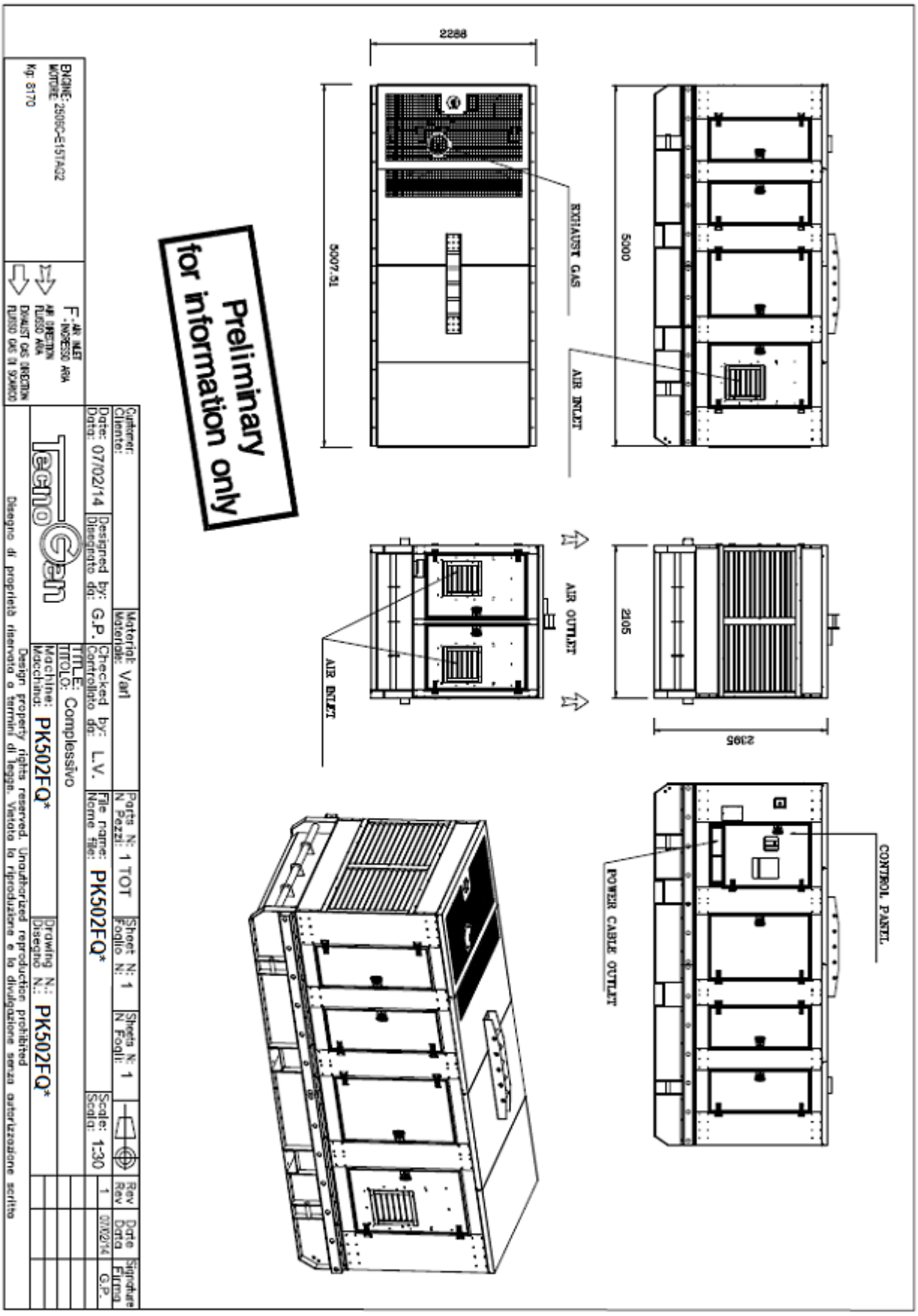
QUADRO ELETTRICO MONTATO SUL GRUPPO ELETTROGENO CON TELECOMMUTAZIONE SEPARATA
Equipaggiamento: scheda elettronica di controllo, interruttore magnetotermico, carica batteria, chiave quadro, telecommutazione in armadio separato.

DSE 7320

CONTROL BOARD
CARTE ELECTRONIQUE DE CONTROL
CARTA ELECTRONICA DE CONTROL
SCHEDA ELETTRONICA DI CONTROLLO

GB	F	E	I
The DSE7320 is an Automatic Mains Failure Control Module designed to automatically start and stop diesel generating sets that include electronic and non electronic engines. The module also provides excellent genset monitoring and protection features.	La DSE7320 est une carte de contrôle projetée pour démarrer et arrêter automatiquement groupes électrogènes diesels avec moteurs électroniques et non électroniques. La carte représente un système excellent de contrôle et de protection du groupe électrogène.	La DSE7320 es una carta de control para arranquar y parar automáticamente grupos electrógenos diesel con motores electrónicos y no electrónicos. La carta constituye un excelente sistema de control y protección del grupo electrógeno.	La DSE7320 è una scheda di controllo progettata per avviare e arrestare automaticamente gruppi elettrogeni diesel con motori elettronici e non elettronici. La scheda costituisce un eccellente sistema di controllo e di protezione del gruppo elettrogeno.
FEATURES	**EQUIPEMENT**	**EQUIPMENT**	**EQUIPAGGIAMENTO**
Stop/reste – Auto – Manual – Start	Fiche électronique de contrôle DSE7320	Ficha electrónica de control DSE7320	Scheda elettronica di controllo DSE7320
LCD display scroll	Disjoncteur de protection	Interruptor magnetorermico	Interruttore magnetotermico
Event log view	Chargeur de batterie	Cargador de batería	Carica batteria
Acustic alarm	Bouton poussoir arrête d'émergence	Boton de parada de emergencia	Pulsante stop emergenza
DIGITAL MEASURING	**MESURES NUMERIQUES**	**MEDIDAS DIGITALES**	**MISURAZIONI DIGITALI**
Generator volts (3 phases)	Voltmètre générateur (3 phases)	Voltimetro (3 fases)	Voltmetro tensione generatore (3 fasi)
Generator amperes (3 phases)	Ampèremètre générateur (3 phases)	Amperimetro (3 fases)	Amperometro generatore (3 fasi)
Generator frequency	Fréquencemètre générateur	Frecuencimetro	Frequenzimetro generatore
KW-meter	KW-mètre	KW- metro	KW- metro
kVA-meter	kVA- mètre	kVA- metro	kVA- metro
Cos φ- meter	Cos φ- mètre	Cos φ-metro	Cos φ-metro
Rpm meter	Tm mètre	Revolutiones por minuto metro	Gm metro
Water temperature (optional)	Température eau (facultatif)	Termometro agua (opcional)	Temperatura acqua (facoltativo)
Oil pressure (optional)	Pression huile (facultatif)	Presión aceite (opcional)	Pressione olio (facoltativo)
Gen set hours counter	Totalisateur d'heures de marche	Medida horas de marcha	Contaore di funzionamento gruppo
Mains volts	Voltmètre secteur	Voltimetro tensión de red	Voltmetro tensione rete
Battery volts	Voltmètre batterie	Voltimetro batería	Voltmetro batteria
Mains frequency	Fréquence réseau	Frecuencia red	Frequenza rete
Charging voltage	Tension de charge	Tensión de carga	Tensione di carica
Start-counter	Compteur démarrages	Numero de arranques	Contavviamenti
Fuel level %	Niveau combustible %	Nivel carburante %	Livello carburante %
INDICATORS	**INDICATEURS**	**INDICADORES**	**INDICATORI**
Mains live	Présence secteur	Presencia tensión de red	Presenza tensione di rete
Generator live	Présence tension générateur	Presencia tensión grupo	Presenza tensione generatore
Mains contactor closed	Inverseur secteur fermé	Transferencial red cerrado	Erogazione da rete
Generator contactor closed	Inverseur générateur fermé	Transferencial grupo cerrado	Erogazione da gruppo
Engine running	Moteur en marche	Motor en marcha	Motore avviato
PROTECTIONS	**PROTECTIONS**	**PROTECCIONES**	**PROTEZIONI**
Low oil pressure	Bas pression huile moteur	Baja presión aceite	Bassa pressione olio
High engine temperature	Haute température moteur	Elevada temperatura motor	Alta temperatura motore
Low fuel level	Bas niveau combustible	Baja nivel carburante	Basso livello di carburante
Fail to start	Non démarrage	Falta de arranque	Mancato avviamento
Fail to stop	Non arrêt	Falta de parada	Mancato arresto
Emergency stop	Arrêt d'urgence	Parada de emergencia	Stop d'emergenza
Over/under frequency	Sur/sous fréquence	Sobre/bajo frecuencia	Sovra/sotto frequenza
Over/under voltage	Sur/sous voltage	Sobre/bajo voltaje	Sovra/sotto voltaggio
Over/under speed	Sur/sous vitesse	Sobre/bajo velocitad	Sovra/sotto velocità
Fuel level	Niveau de combustible	nivel de combustibile	Livello del carburante
Belt breakage	Rupture courroie	Ruptura correa	Rottura cinghia
Over current	Surcourant	Corriente maxima	Sovracorrente
Over/under battery voltage	Sur/sus la tension de batterie	Sobre/bajo voltaje de la batería	Sovra/sotto tensione della batteria

SOUND PROOF VERSION DRAWING
DESSIN VERSION INSONORIZEE
DIBUJO VERSION INSONORISADA
DISEGNO VERSIONE INSONORIZZATA



2500 Series 2506C-E15TAG1 Diesel Engine – ElectropaK

435 kWm at 1500 rpm
490 kWm at 1800 rpm

The 2500 Series engine has been developed using the latest engineering techniques and builds on the strengths of the already very successful 2000 Series family and addresses today's uncompromising demands within the power generation industry. Developed from a proven heavy-duty industrial base, these products offer superior performance and reliability.

The 2506C-E15TAG1 is a turbocharged and air-to-air charge-cooled, 6 cylinder diesel engine. Its premium features provide economic and durable standby duty, exceptional power-to-weight ratio resulting in exceptional fuel consumption and low gaseous emissions and advanced overall performance and reliability making this the prime choice for today's power generation industry.

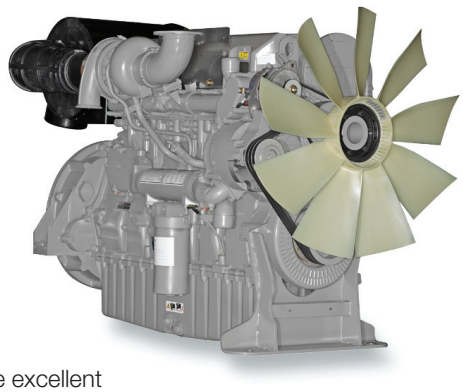
Economic power

- Mechanically operated unit fuel injectors with advanced electronic control, combined with carefully matched turbocharging, give excellent fuel atomisation which leads to exceptional low fuel consumption

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 ratio ensures clean rapid starting in all conditions
- Perkins global product support is designed to enhance the customer experience of owning a Perkins powered machine. We deliver this through the quality of our distribution network, extensive global coverage and a range of Perkins supported OEM partnership options. So whether you are an end-user or an equipment manufacturer our engine expertise is essential to your success

Compact, clean and efficient power



- Exceptional power to weight ratio and compact size gives optimum power density for ease of installation and more cost effective transportation
- Designed to provide excellent service access for ease of maintenance

Product support

- Perkins actively pursues product support excellence by ensuring our distribution network invest in their territory – strengthening relationships and providing more value to you, our customer
- Through an 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 fingertips covering technical information, parts identification and ordering systems, all dedicated to maximising the productivity of your engine
- Throughout the entire life of a Perkins engine, we provide access to genuine OE specification parts and service. We give 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

Certified against the requirements of EU 2007 legislation for non-road mobile machinery, powered by constant speed engines (EU 97/68/EC Stage II)

Engine Speed (rev/min)	Type of Operation	Typical Generator Output (Net)		Engine Power			
				Gross		Net	
		kVA	kWe	kWm	bhp	kWm	bhp
1500	Prime Power	455	364	412	552	396	531
	Standby Power	500	400	451	605	435	583
1800	Prime Power	500	400	458	615	435	583
	Standby Power	563	450	514	689	490	657

The above ratings represent the engine performance capabilities to conditions specified in ISO 8528/1, ISO 3046/1:1986, BS 5514/1. **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 C14.

Rating Definitions
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.

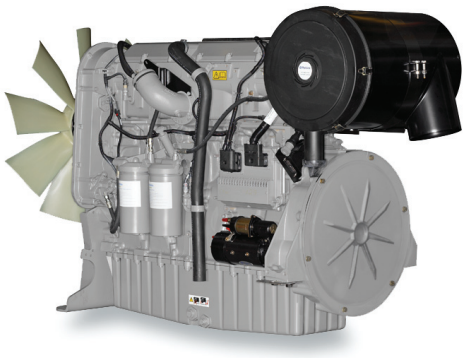
Photographs are for illustrative purposes only and may not reflect final specification.

Publication No. PN1845/09/12 Produced in England

Perkins®
THE HEART OF EVERY GREAT MACHINE

2500 Series 2506C-E15TAG1 Diesel Engine – ElectropaK

435 kWm at 1500 rpm
490 kWm at 1800 rpm



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 G3 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

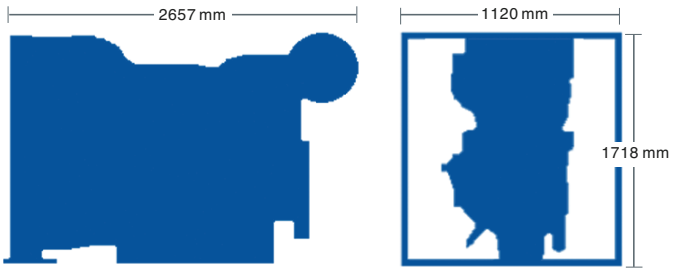
Cooling system
- Gear-driven circulating pump
- Mounted belt-driven fan
- Radiator supplied loose incorporating air-to-air charge cooler
- System designed for ambients up to 50ºC

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 14
- SAE ½ flywheel housing

Mountings
- Front engine mounting bracket

Optional equipment
- 110 volt/240 volt immersion heater
- Additional speed sensor
- Temperature and pressure sensors for gauges
- Air filter rain hood
- Twin starters/facility for second starter
- Tool kit
- Additional manuals
- Closed circuit crankcase ventilation system



Fuel Consumption				
Engine Speed	1500 rev/min		1800 rev/min	
	g/kWh	l/hr	g/kWh	l/hr
Standby	217	109	201	114
Prime Power	216	99	199	100
75% of Prime Power	212	73	204	77
50% of Prime Power	222	51	217	57

General data

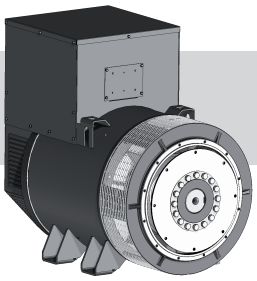
Number of cylinders 6
Cylinder arrangement ..... Vertical in-line
Cycle ..... 4 stroke
Induction system ..... Turbocharged and air-to-air charge cooled
Combustion system ..... Direct injection
Cooling system ..... Water-cooled
Bore and stroke ..... 137 mm x 171 mm
Displacement ..... 15 litres
Compression ratio 16:1
Direction of rotation ..... Anti-clockwise, viewed on flywheel
Total lubrication system capacity ..... 62 litres
Total coolant capacity ..... 58 litres
Dimensions – Length ..... 2657 mm
Width ..... 1120 mm
Height ..... 1718 mm
Dry weight (ElectropaK) ..... 1,633 kg

Final weight and dimensions will depend on completed specification

Publication No. PN1845/09/12 Produced in England

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

Perkins®
THE HEART OF EVERY GREAT MACHINE



ECO 40

4 POLE

MECCALTE spa - Via Roma, 20 - 36051 CREAZZO (VI) ITALIA
Tel. +39 0444/396111 - Fax +39 0444/396166 - e-mail : info@meccalte.it
web site: www.meccalte.com

CHARACTERISTICS

INDUSTRIAL RATINGS

ambient 40 °C

Type	kVA - cos φ 0.8 - 3 Phase continuous							Efficiency		
50 Hz	CL. H (ΔT= 125 °C)				CL. F (ΔT= 105 °C)			η % CL. H (ΔT= 125 °C)		
Series Star Y Parallel Star YY Series Delta Δ Parallel Delta ΔΔ	760 380 440 220	800 400 460 230	830 415 480 240	IP45 400 V	760 380 440 220	800 400 460 230	830 415 480 240	2/4	3/4	4/4
ECO40-1S/4	400	**400**	400	330	370	**370**	370	92,9	93,8	93,5
ECO40-2S/4	450	**450**	450	370	410	**410**	410	93,2	94	93,7
ECO40-3S/4	500	**500**	500	410	450	**450**	450	93,3	94,2	93,9
ECO40-1L/4	550	**550**	540	450	500	**500**	490	93,7	94,6	94,2
ECO40-1.5L/4	620	**620**	620	480	560	**560**	560	93,7	94,6	94,3
ECO40-2L/4	680	**680**	680	500	630	**630**	630	93,8	94,7	94,3
ECO40-VL/4	720	**720**	710	520	660	**660**	650	93,9	94,8	94,4

60 Hz	CL. H (ΔT= 125 °C)				CL. F (ΔT= 105 °C)			Efficiency		
								η % CL.H (ΔT= 125 °C)		
Series Star Y Parallel Star YY Series Delta Δ Parallel Delta ΔΔ	880 440 508 254	920 460 530 265	960 480 554 277	IP45 480 V	880 440 508 254	920 460 530 265	960 480 554 277	2/4	3/4	4/4
ECO40-1S/4	450	480	**480**	396	410	440	**440**	94,4	95,2	95
ECO40-2S/4	510	540	**540**	444	460	490	**490**	94,2	95,5	94,7
ECO40-3S/4	580	600	**600**	492	520	540	**540**	94,8	95,6	95,2
ECO40-1L/4	630	660	**660**	540	570	600	**600**	94,8	95,5	95,2
ECO40-1.5L/4	700	744	**744**	576	632	672	**672**	95,3	96,4	95,7
ECO40-2L/4	780	816	**816**	600	720	756	**756**	95,5	96,7	95,8
ECO40-VL/4	865	865	**865**	625	800	800	**800**	95,8	96,8	96

STANDBY RATINGS

Type	kVA Temp. Rise / Ambient °C			kVA Temp. Rise / Ambient °C		
	50 Hz			60 Hz		
	163° / 27°	150° / 40°	125° / 27°	163° / 27°	150° / 40°	125° / 27°
ECO40-1S/4	437	417	417	525	500	500
ECO40-2S/4	491	468	468	590	563	563
ECO40-3S/4	546	521	521	656	625	625
ECO40-1L/4	601	567	567	722	680	680
ECO40-1.5L/4	670	640	640	805	770	770
ECO40-2L/4	735	700	700	882	840	840
ECO40-VL/4	779	740	740	935	890	890

Type	J (Kgm²) B3-B14 FORM	Weight (Kg)	Air Volume		Noise dB(A)			
					50 Hz		60 Hz	
			50 Hz (m³/min)	60 Hz (m³/min)	1m	7m	1m	7m
ECO40-1S/4	5,504	1040	54	64,8	94	82	98	88
ECO40-2S/4	6,240	1118						
ECO40-3S/4	6,852	1171						
ECO40-1L/4	7,356	1324						
ECO40-1.5L/4	8,739	1380						
ECO40-2L/4	9,258	1586						
ECO40-VL/4	9,874	1693						

ACCESSORIES

REGULATOR				PARALLEL DEVICE	THERMAL PROTECTION			HEATERS	MECHANICAL PROTECTION		
DSR	DER-1	SR7/2	UVR6		PTC	BIMET. DEVICE	PT100		IP21	IP23	IP45
☐	●	☐	☐	●	☐	☐	☐	☐	●	☐	☐

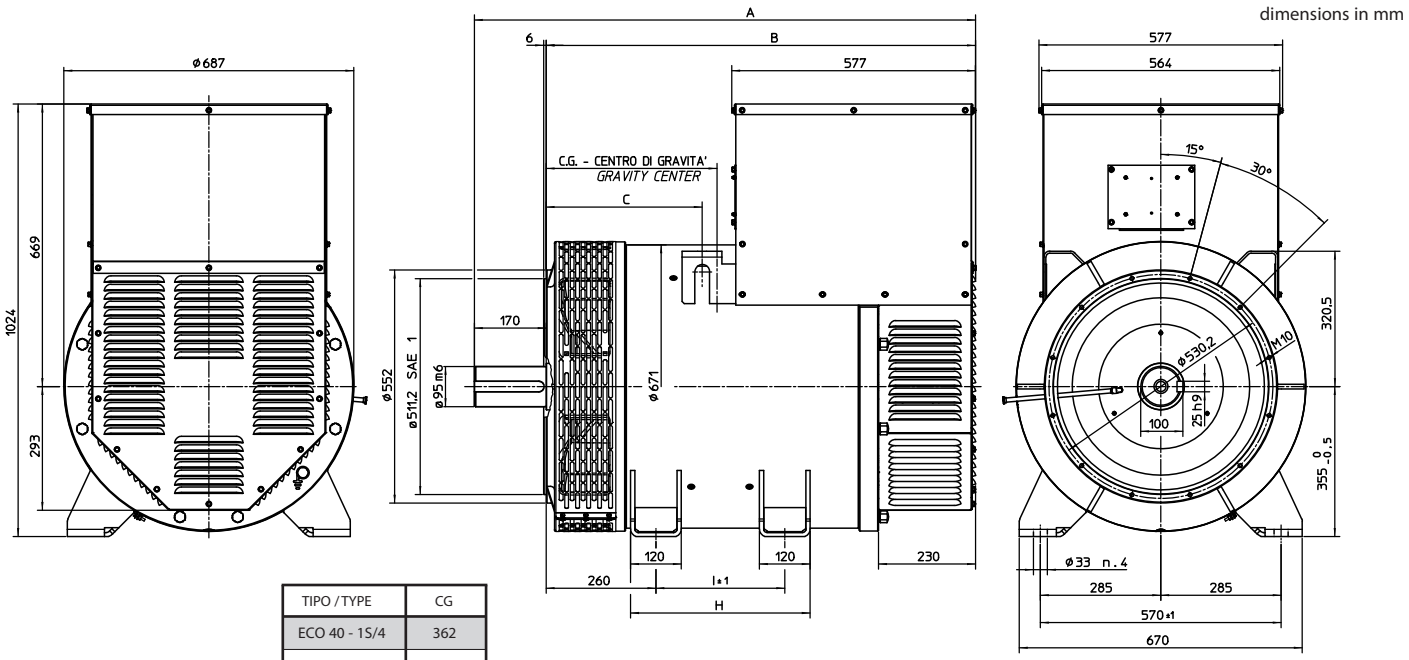
● = Standard
☐ = Optional

Rating

INSULATION SYSTEM

OVERALL DIMENSIONS B3 - B14 FORM

dimensions in mm

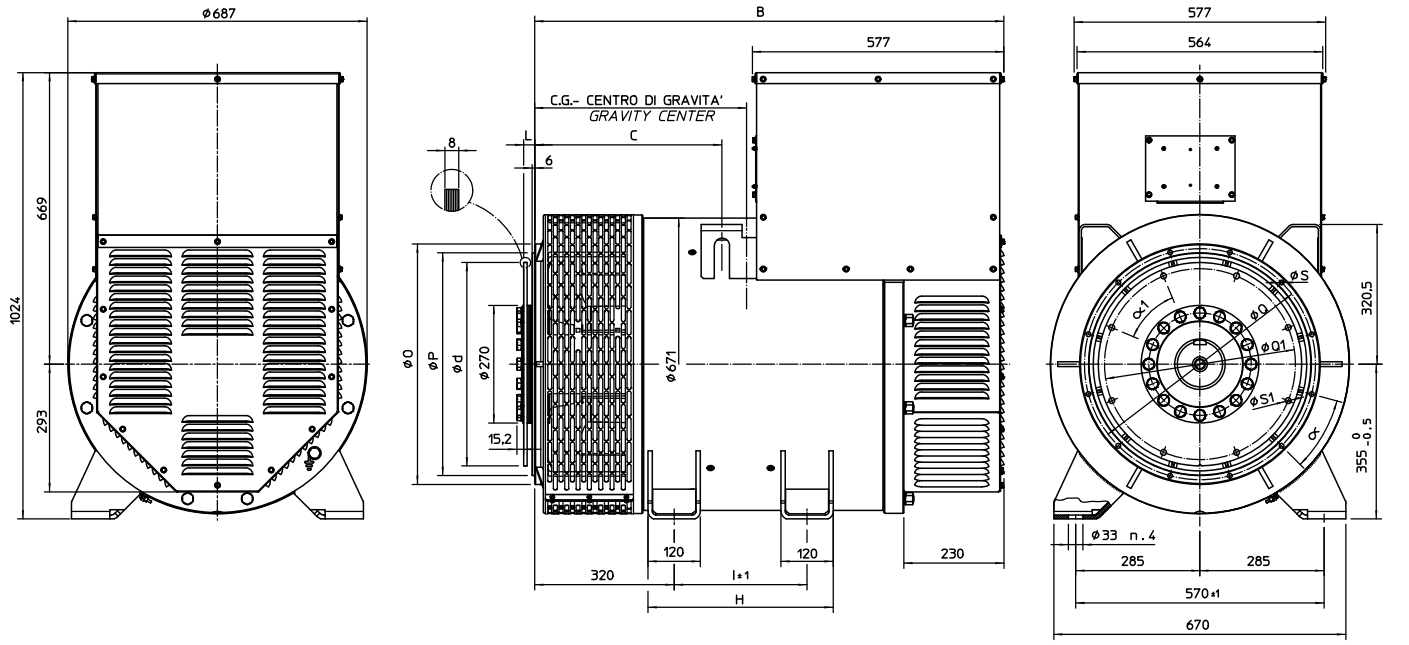


TIPO / TYPE	CG
ECO 40 - 1S/4	362
ECO 40 - 2S/4	372
ECO 40 - 3S/4	442
ECO 40 - 1L/4	537
ECO 40 - 1.5L/4	542
ECO 40 - 2L/4	547
ECO 40 - VL/4	594

TIPO/TYPE/TYPE/TYP/TIPO	A	B	C	I	H
ECO 40 S	1187	1017	369,5	305	425
ECO 40 L	1352	1182	534,5	470	590
ECO 40 VL	1452	1282	634,5	470	590

OVERALL DIMENSIONS MD35 FORM

dimensions in mm



TIPO / TYPE	CG
ECO 40 - 1S/4	422
ECO 40 - 2S/4	432
ECO 40 - 3S/4	442
ECO 40 - 1L/4	597
ECO 40 - 1.5L/4	600
ECO 40 - 2L/4	607
ECO 40 - VL/4	650

SAE N.	FLANGIE FLANGE BRIDE FLANSCHE BRIDAS					
	O	P	Q	n. fori	S	α
1	552	511,2	530,2	12	11	30°
1/2	648	584,2	619,1	12	14	30°
0	711	647,7	679,5	16	14	22,5 °
00	883	787,4	850,9	16	14	22,5 °

SAE N.	GIUNTI A DISCHI DISC COUPLING DISQUE DE MONOPALIER SCHEIBENKUPPLUNG					
	L	d	Q1	n. fori	S1	α 1
14	25,4	466,72	438,15	8	14	45°
18	15,7	571,5	542,92	6	17	60°

TIPO/TYPE/TYPE/TYP/TIPO	B	C	I	H
ECO 40 S	1077	429,5	305	425
ECO 40 L	1242	594,5	470	590
ECO 40 VL	1342	604,5	470	590