

ENERMAX SERIES

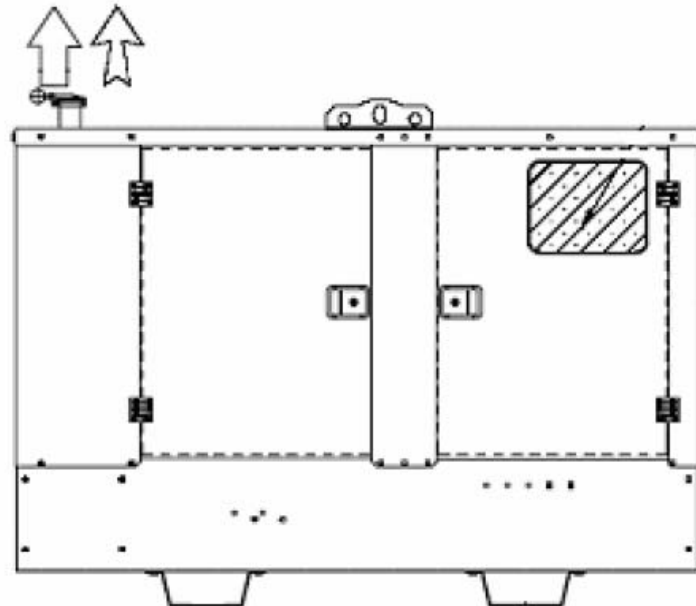
DIESEL GENERATOR
GROUPE ELECTROGENE DIESEL
GRUPO ELECTROGENO DIESEL
GRUPPO ELETTOGENO DIESEL

MODEL
 MODELE
 MODELO
 MODELLO

PK 36 TSX



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 30	kVA 36
Stand-by Power Puissance service secours Potencia servicio emergencia Potenza servizio in emergenza	LTP	kVA 33	kVA 40
Continuous Power Puissance service continue Potencia servicio continuo Potenza servizio continuo	PRP	kWe 24	kWe 29
Stand-by Power Puissance service secours Potencia servicio emergencia Potenza servizio in emergenza	LTP	kWe 27	kWe 32
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 4,8	l/h 6,1

ENGINE MOTEUR MOTOR MOTORE		PERKINS		1103A-33G	
PERFORMANCE PERFORMANCES PRESTACIONES PRESTAZIONI		1500 rpm		1800 rpm	
Continuous Power Puissance service continue Potencia servicio continuo Potenza servizio continuo	PRP	kWm	27,7	kWm	32,2
Stand-by Power Puissance service secours Potencia servicio emergencia Potenza servizio in emergenza	LTP	kWm	30,4	kWm	35,4
Specific fuel consumption Consommation spécifique combustible Consumo específico de combustible Consumo specifico combustibile		g/kWh	50 % 232 75 % 214 100 % 211 110 % 214	g/kWh	50 % 251 75 % 227 100 % 221 110 % 222
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					Natural Naturel Natural Naturale
Cooling system Refroidissement Sistema de refrigeracion Raffreddamento					Water Eau Agua Acqua
Speed governor Régulateur de tours Regulador Regolatore di giri					Mechanical Mécanique Mecanico Meccanico
Cylinders, numbers and arrangement Nombre et disposition des cylindres Cilindros, numero y disposicion Numero e disposizione dei cilindri					3 L
Total displacement Cylindrée totale Cilindrata total Cilindrata totale				cm ³	3.300
Bore x stroke Alésage x course Diámetro x carrera Alesaggio x corsa				mm	105.0 x 127.0
Compression ratio Rapport de compression Relación de compresión Rapporto di compressione					19.25 :1
Engine electric system voltage Voltage système électrique moteur Voltaje sistema eléctrico motor Voltaggio sistema elettrico motore					12 V
Derating for temperature Déclassement pour temperature Declasamiento para temperatura Declasseamento per temperatura				0 ÷ 25°C > 25 °C	0 2 % / 10°C
Derating for altitude Déclassement pour altitude Declasamiento para altitud Declasseamento per altitudine				0 ÷ 500 m 500 ÷ 1500 m 1500 ÷ 3000 m	0 4 % / 500 m 6 % / 500 m

ALTERNATOR ALTERNATEUR ALTERNADOR ALTERNATORE		MECCALTE	
PERFORMANCE PERFORMANCES PRESTACIONES PRESTAZIONI		1500 rpm	1800 rpm
Model Modèle Modelo Modello		ECP28-VL/4	ECP28-VL/4
Continuous Power Puissance service continue Potencia servicio continuo Potenza servizio continuo	40 °C	kVA 30,0 kWe 24,0	kVA 36 kWe 29
Stand-by Power Puissance service secours Potencia servicio emergencia Potenza servizio in emergenza	40 °C	kVA 31,0 kWe 24,8	kVA 36,6 kWe 29,3
Stand-by Power Puissance service secours Potencia servicio emergencia Potenza servizio in emergenza	27 °C	kVA 32,0 kWe 25,6	kVA 38,4 kWe 30,7
Efficiency Rendement Eficiencia Efficienza		2/4 86,5 % 3/4 88,5 % 4/4 88,1 %	2/4 88,4% 3/4 90,3% 4/4 89,8%
Standard winding connections Liaison des bobinages Tipo de conexión 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 accuracy 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 protección mecánica Grado di protezione meccanica		IP 23	
Air volume Volume d'air Volumen de aire Volume d'aria		50 Hz	5,3 m ³ /min
		60 Hz	5,8 m ³ /min
Standard AVR model Modèle AVR standard Modelo AVR standard Modello AVR standard		DSR	
Derating for temperature Déclassement pour température Declasamiento para temperatura Declasseamento per temperatura		0 ÷ 40°C	0
		> 40 °C	3 % / 5°C
Derating for altitude Déclassement pour altitude Declasamiento para altitud Declasseamento per altitudine		0 ÷ 1500 m	0
		1500 ÷ 2500 m	3% / 500 m
		2500 ÷ 3000 m	4% / 500 m

LOGISTIC INFORMATION
INFORMATIONS LOGISTIQUES
INFORMATION LOGISTICA
INFORMAZIONI LOGISTICHE

	Integrated fuel tank capacity Capacité réservoir intégré Capacidad Tanque integrado Capacità Serbatoio integrato			Weight Poids Peso Peso	Dimensions Cotes d'encombrement Medidas externas Dimensioni d'ingombro			
	(L.)				(kg)	(cm)		
	STD	EXTRA1	EXTRA2			L	W	H
SOUND PROOF VERSION VERSION INSONORISEE VERSION INSONORISADA VERSIONE INSONORIZZATA	135	185	ON REQUEST	1020	196	98	148	

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


GB	F	E	I
<ul style="list-style-type: none"> Lifting eye Vibration dampers Integrated bunded fuel tank Battery Manual autostart control panel With DSE7310 Emergency stop button Sound proof canopy of galvanized steel with residential silencer Fork lift guides 	<ul style="list-style-type: none"> Crochet de levage Amortisseurs de vibrations Réservoir intégré avec bac de rétention Batterie Coffret de contrôle manuel autostart avec DSE7310 Bouton arrêt d'urgence Capote d'insonorisation d'acier galvanisé avec silencieux résidentiel Supports pour fourches 	<ul style="list-style-type: none"> Gancho central Apagadores de vibracion Tanque combustible integrado con bandeja para la recogida de líquidos Bateria Cuadro manual autostart con DSE7310 Botón parada de emergencia Cabina de insonorización de acero cincado con silenciador residencial Supportes para carretilla 	<ul style="list-style-type: none"> Gancio centrale di sollevamento Antivibranti Serbatoio integrato con vasca di raccolta liquidi Batteria Quadro manuale autostart con DSE7310 Pulsante arresto di emergenza Cabina di insonorizzazione di acciaio zincato con marmitta residenziale Porta forche

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

ACP 7310 AUS

50A (400 V - 3 ph - 50Hz - 1500 rpm)
 100A (220 V - 3 ph - 60Hz - 1800 rpm)

STANDARD EQUIPMENT: 4 poles circuit breaker Electronic control board DSE 7310 Control panel box key Emergency Stop button	EQUIPEMENT STANDARD: Disjoncteur de protection 4 pôles Fiche électronique DSE 7310 Clé pour serrure du coffret Interrupteur d'arrêt d'urgence	EQUIPAMIENTO STANDARD: Interruptor magnetotermico 4 polos Carta electronica DSE 7310 Llave cuadro Botón de parada de emergencia	EQUIPAGGIAMENTO STANDARD: Interruttore magnetotermico 4 poli Scheda elettronica DSE 7310 Chiave quadro Pulsante di arresto di emergenza
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	DSE 7310	CONTROL BOARD CARTE ELECTRONIQUE DE CONTROL CARTA ELECTRONICA DE CONTROL SCHEDA ELETTRONICA DI CONTROLLO
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PROTECTIONS	PROTECTIONS	PROTECCIONES	PROTEZIONI
Low oil pressure High engine temperature Low fuel level Fail to start Fail to stop Emergency stop Over/under generator frequency Over/under generator voltage Over/under speed Fuel level Belt breakage Over current Over/under battery voltage	Basse pression huile moteur Haute température moteur Basse niveau combustible Non démarrage Non arrêt Arrêt d'urgence Sur/sous générateur fréquence Sur/sous générateur voltage Sur/sourvitesse Niveau de combustible Rupture courroie Surcourant Sur/sus la tension de batterie	Baja presión aceite Elevada temperatura motor Baja nivel carburante Falta de arranque Falta de parada Parada de emergencia Sobre/bajo generatore frecuencia Sobre/bajo generatore voltaje Sobre/bajo velocidad nivel de combustible Ruptura correa Corriente maxima Sobre/bajo voltaje de la batería	Bassa pressione olio Alta temperatura motore Basso livello di carburante Mancato avviamento Mancato arresto Stop d'emergenza Sovra/sotto frequenza generatore Sovra/sotto voltaggio generatore Sovra/sotto velocità livello del carburante Rottura cinghia Sovracorrente Sovra/sotto tensione della batteria
DIGITAL METERS	VOYANT NUMERIQUE POUR	VISOR DIGITAL PARA	MISURATORE DIGITALE PER
Generator volts (3 phases) Generator amperes (3 phases) Generator frequency KW-meter kVA-meter Cos φ- meter Rpm meter Gen set hours counter Battery Volts	Voltmètre générateur (3 phases) Ampèremètre générateur (3 phases) Fréquencemètre générateur KW-mètre kVA- mètre Cos φ- mètre Tm mètre Totalisateur d'heures de marche Voltmètre batterie	Voltmetro (3 fases) Amperímetro (3 fases) Frecuencímetro KW- metro kVA- metro Cos φ-metro Revoluciones por minuto metro Medida horas de marcha Voltímetro batería	Voltmetro tensione generatore (3 fasi) Amperometro generatore (3 fasi) Frequenzimetro generatore KW- metro kVA- metro Cos φ-metro Gm metro Contaore di funzionamento gruppo Voltmetro batteria

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

<p>1) ACP 7320 ATS</p> 	<p>COMPLETE CONTROL PANEL FREE STANDING TYPE Equipment: control board, circuit breaker, battery charger, transfer switch, box key. COFFRET ELECTRIQUE COMPLET TYPE ARMOIRE SEPRE 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.</p>
<p>2) ACP 7320 AMF</p> 	<p>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.</p>
<p>3) ACP 7320 STS</p> 	<p>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 SEPRE Equipement : carte électronique de contrôle, disjoncteur de protection, chargeur de batterie, inverseur de source séparé, 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.</p>

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

GB	F	E	I
<p>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.</p>	<p>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.</p>	<p>La DSE7320 es una carta de control para arranque 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.</p>	<p>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.</p>
FEATURES	EQUIPEMENT	EQUIPMENT	EQUIPAGGIAMENTO
<p>Stop/reste – Auto – Manual – Start LCD display scroll Event log view Acoustic alarm</p>	<p>Fiche électronique de contrôle DSE7320 Disjoncteur de protection Chargeur de batterie Bouton poussoir arrête d'urgence</p>	<p>Ficha electrónica de control DSE7320 Interruptor magnetotermico Cargador de batería Boton de parada de emergencia</p>	<p>Scheda elettronica di controllo DSE7320 Interruttore magnetotermico Carica batteria Pulsante stop emergenza</p>
DIGITAL MEASURING	MESURES NUMERIQUES	MEDIDAS DIGITALES	MISURAZIONI DIGITALI
<p>Generator volts (3 phases) Generator amperes (3 phases) Generator frequency KW-meter KVA-meter Cos φ- meter Rpm meter Water temperature (optional) Oil pressure (optional) Gen set hours counter Mains volts Battery volts Mains frequency Charging voltage Start-counter Fuel level %</p>	<p>Voltmètre générateur (3 phases) Ampèremètre générateur (3 phases) Fréquencemètre générateur KW- mètre kVA- mètre Cos φ- mètre Tm mètre Température eau (facultatif) Pression huile (facultatif) Totalisateur d'heures de marche Voltmètre secteur Voltmètre batterie Fréquence réseau Tension de charge Compteur démarrages Niveau combustible %</p>	<p>Voltmetro (3 fases) Amperimetro (3 fases) Frecuencimetro KW- metro kVA- metro Cos φ- metro Revoluciones por minuto metro Termometro agua (opcional) Presión aceite (opcional) Medida horas de marcha Voltmetro tensión de red Voltmetro batería Frecuencia red Tensión de carga Numero de arranques Nivel carburante %</p>	<p>Voltmetro tensione generatore (3 fasi) Amperometro generatore (3 fasi) Frequenzimetro generatore KW- metro kVA- metro Cos φ- metro Gm metro Temperatura acqua (facoltativo) Pressione olio (facoltativo) Contaore di funzionamento gruppo Voltmetro tensione rete Voltmetro batteria Frequenza rete Tensione di carica Contavviamenti Livello carburante %</p>
INDICATORS	INDICATEURS	INDICADORES	INDICATORI
<p>Mains live Generator live Mains contactor closed Generator contactor closed Engine running</p>	<p>Présence secteur Présence tension générateur Inverseur secteur fermé Inverseur générateur fermé Moteur en marche</p>	<p>Presencia tensión de red Presencia tensión grupo Transferencial red cerrado Transferencial grupo cerrado Motor en marcha</p>	<p>Presenza tensione di rete Presenza tensione generatore Erogazione da rete Erogazione da gruppo Motore avviato</p>
PROTECTIONS	PROTECTIONS	PROTECCIONES	PROTEZIONI
<p>Low oil pressure High engine temperature Low fuel level Fail to start Fail to stop Emergency stop Over/under frequency Over/under voltage Over/under speed Fuel level Belt breakage Over current Over/under battery voltage</p>	<p>Bas pression huile moteur Haute température moteur Bas niveau combustible Non démarrage Non arrêt Arrêt d'urgence Sur/sous fréquence Sur/sous voltage Sur/sous vitesse Niveau de combustible Rupture courroie Surcourant Sur/sus la tension de batterie</p>	<p>Baja presión aceite Elevada temperatura motor Baja nivel carburante Falta de arranque Falta de parada Parada de emergencia Sobre/bajo frecuencia Sobre/bajo voltaje Sobre/bajo velocidad nivel de combustible Ruptura correa Corriente maxima Sobre/bajo voltaje de la batería</p>	<p>Bassa pressione olio Alta temperatura motore Basso livello di carburante Mancato avviamento Mancato arresto Stop d'emergenza Sovra/sotto frequenza Sovra/sotto voltaggio Sovra/sotto velocità Livello del carburante Rottura cinghia Sovraccorrente Sovra/sotto tensione della batteria</p>

SOUNDPROOF CANOPY
CAPOTE D'INSONORISATION
CAPOTA DE INSONORIZACION
CABINA INSONORIZATA

GB	F	E	I
<p>The TecnoGen Super Silent soundproof canopy has been designed with the aim of achieving the maximum noise level reduction and to provide a perfect cooling of the engine. The cooling airflow is forced through fixed circuits. The canopy is suitable for tropical ambient application. The exhaust gas silencer is residential type internally mounted. The canopy is completely built of hot galvanized carbon sheet steel. The sheets have a thickness 20/10. The structure is fully bolted, fixed by a special polyethylene sealing, completely free from electrical installation. All the panels can be easily removed. The cab is provided with doors of wide opening for easy access to generating set for the maintenance operations. The soundproofing materials are highly fire resistant and self-extinguishing.</p>	<p>La capote insonorisée TecnoGen Super Silent à été conçue pour atteindre le niveau de bruit le mineur possible et un refroidissement du moteur parfait. Le souffle d'air refroidissant est canalisé en circuits fixes. La capote est apte à être utilisée dans les ambiances tropicales. Le silencieux des gaz d'échappement, de type résidentiel, est mis à l'intérieur de la capote. La cabine est construite en acier galvanisé à chaud. Les tôles ont une épaisseur de 20/10. La structure est complètement boulonnée et fixée à travers des garnitures spéciales au polyéthylène. Tous les panneaux sont facilement amovibles. La cabine est dotée de portes avec grandes ouvertures qui permettent un accès facile au groupe électrogène pour les opérations de manutention. Les matériaux d'insonorisation sont fortement résistant au feu et auto-extinguibles.</p>	<p>La capota insonorizada TecnoGen Super Silent tiene sido planeada con el objetivo de alcanzar el menor nivel de rumorosidad posible y un perfecto enfriamiento del motor. El soplo de aire es canalizado en circuitos fijos. La cabina es apta a ser utilizada en ambientes tropicales. El silenciador de los gases de descargue, de tipo residencial, es colocado dentro de la cabina. La cabina es construida en acero cincado. Las chapas tienen un espesor de 20/10. La estructura es completamente bullonata y montada con sellos especiales de polietilene. Todos los paneles son fácilmente removibles. La cabina es dotada con puertas con amplias aberturas que permiten el fácil acceso al grupo electrógeno por las operaciones de manutención. Los materiales insonorizantes son muy resistentes al fuego y auto-extinguentes.</p>	<p>La cabina insonorizzata TecnoGen Super Silent è stata progettata allo scopo di raggiungere il minor livello di rumorosità possibile e un perfetto raffreddamento del motore. Il soffio d'aria raffreddante è canalizzato in circuiti fissi. La cabina è adatta ad essere utilizzata in ambienti tropicali. Il silenziatore dei gas di scarico, di tipo residenziale, è collocato all'interno della cabina. La cabina è costruita in acciaio zincato a caldo. Le lamiere hanno uno spessore di 20/10. La struttura è completamente bullonata e fissata tramite speciali sigilli al polietilene. Tutti i pannelli sono facilmente rimovibili. La cabina è dotata di porte con ampie aperture che consentono il facile accesso al gruppo elettrogeno per le operazioni di manutenzione. I materiali insonorizzanti sono altamente resistenti al fuoco e autoestinguenti.</p>

Our quality in 13 points
Notre qualité résumée en 13 points
Nuestra calidad en 13 puntos
La nostra qualità in 13 punti

1		Internal residential silencer for lower sound levels Silencieux interne pour un niveau bas de bruit Silenciador interno para un nivel de rumorosidad más bajo Silenziatore interno per un livello di rumorosità piú basso
2		Integrated fuel tank of different sizes Réservoirs de combustible disponibles, sur demande, de capacité supérieure Tanques integrados disponibles, como opción, de capacidad superior Serbatoi integrati disponibili, su richiesta, di capacità superiore
3		Control panel viewing window to easily check status of generating set Fenêtre de visualisation du panneau de contrôle pour un contrôle plus facile du status opérationnel du groupe Ventana de visualización del panel de control por un más fácil control del estatus operativo del grupo Finestra di visualizzazione del pannello di controllo per un piú facile controllo dello status operativo del gruppo
4		Lockable access doors for extra safety and security Porte d'accès avec serrure pour une sûreté majeure Puertas de acceso con cerradura para una mayor seguridad Porte di accesso con serratura per una maggiore sicurezza
5		Galvanized bolts Boulons galvanisés Pernos cincados Bulloni zincati
6		Emergency stop button Interrupteur d'arrêt d'urgence Botón parada de emergencia Pulsante arresto di emergenza
7		Fuel tank cap with external key Bouchon gasoil avec clé positionne a l'extérieur Tapo gasoleo con llare situado a l'externo Tappo gasolio con chiave posizionato all'esterno
8		Fully banded baase frame Réservoir amovible avec bague de retention Tanque integrado sfilabile con el envase para recoger los liquidos Serbatoio integrato sfilabile con vasca raccolta liquidi
9		Central lifting hook Crochet central d'enlèvement Gancho de elevación Gancio di sollevamento centrale
10		Doors location convenient to controls and service area Placement des portes pour rendre les contrôles plus faciles Colocación de las puertas para facilitar los controles Collocazione delle porte per facilitare i controlli
11		High serviceability level Haut niveau d'accessibilité pour la manutention Alto nivel de accesibilidad para la manutención Alto livello di accessibilità per la manutenzione
12		Large cable entry area for easy installation Grande zone d'entré des câbles pour une installation plus facile Amplia área de entrada cables para una instalación fácil Ampia area di entrata cavi per una facile installazione
13		Galvanized metal steel sheet pre-treated prior to powder coating Tôles en acier galvanisé pré-traitées avant le vernissage à poudre Chapas de acero cincado pre-tratadas antes de la pintura a polvo Lamiere di acciaio zincato pre-trattate prima della verniciatura a polvere

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

<p>ENGINE: PERKINS 1103A-33G1 MOTORE: ***** Kg: *****</p>	
<p>Customer: ***** Clientel: ***** Date: 16/04/09 Disegnato da: G.P. Disegnato da: G.P.</p>	<p>Materials: Varf Checked by: G.P. Controllo da: G.P.</p>
<p>TecnoGen</p> <p>Machine: PK36TSX Macchina: PK36TSX</p>	<p>Parts N: 1 TOT N Pezzi: 1 Steel N: 1 Foglio N: 1 Sheets N: 1 N Fogli: 1</p> <p>File name: PK36TSX Nome file: PK36TSX</p> <p>Scale: ***** Scale: *****</p>
<p>Disegno di proprietà riservata a termini di legge. Vietata la riproduzione e la divulgazione senza autorizzazione scritta</p>	

1100 Series 1103A-33G Diesel Engine – ElectropaK

30.4 kWm 1500 rev/min
35.4 kWm 1800 rev/min

Building upon Perkins proven reputation within the power generation industry, the 1100 Series range of ElectropaK engines now fit even closer to customers needs.

In the world of power generation success is only gained by providing more for less. With the 1103A-33G Perkins has engineered even higher levels of reliability, yet lowered the cost of ownership.

1100A units are designed for territories that do not require compliance to EPA or EU emissions legislation. These units are able to meet TA luft legislation.

Compact, efficient power

- 1100 Series is the result of an intensive period of customer research that has guided the development of the range
- The new 3.3 litre cylinder block ensures bore roundness is maintained under the pressures of operation. It also ensures combustion and mechanical noise is lowered
- A new cylinder head has re-established Perkins mastery of air control

Quality by design

- Product design and Class A manufacturing improvements enhance product reliability while maintaining Perkins legendary reputation for durability

Cost effective power

- Compact size and low noise
- Lower fuel consumption and oil use
- 500 hour service intervals
- Two year warranty

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



Engine Speed (rev/min)	Type of Operation	Typical Generator Output (Net)		Engine Power			
				Gross		Net	
		kVA	kWe	kWm	bhp	kWm	bhp
1500	Prime Power	30.0	24.0	28.2	37.8	27.7	37.1
	Standby (maximum)	33.0	26.4	31.0	41.6	30.4	40.8
1800	Prime Power	34.9	27.9	33.2	44.5	32.2	43.2
	Standby (maximum)	38.2	30.6	36.5	48.9	35.4	47.5

The above ratings represent the engine performance capabilities to conditions specified in ISO 8528/1, ISO 3046/1:1986, BS5514/1. 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 DIN EN 590. Lubricating oil: 15W40 to API CG4.

Rating Definitions

Prime Power: Variable load. Unlimited hours usage with an average load factor of 80% of the published prime power over each 24 hour period. A 10% overload is available for 1 hour in every 12 hours of operation. **Standby Power:** Variable load. Limited to 500 hours annual usage, up to 300 hours of which may be continuous running. No overload is permitted.

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

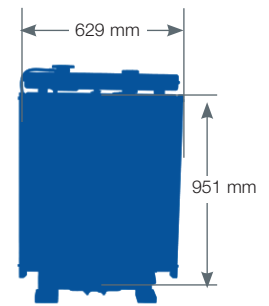
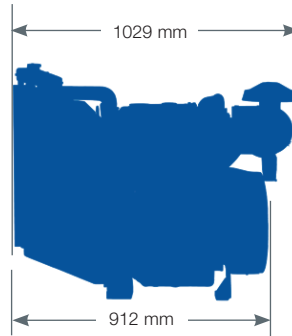
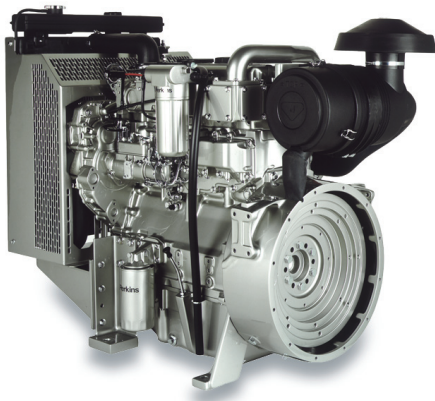
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 **Perkins**[®]

THE HEART OF EVERY GREAT MACHINE

1100 Series 1103A-33G Diesel Engine – ElectropaK

30.4 kWm 1500 rev/min
35.4 kWm 1800 rev/min



Standard ElectropaK specification

Air inlet

- Mounted air filter

Fuel system

- Rotary type pump
- Ecoplus fuel filter

Lubrication system

- Wet sump with filler and dipstick
- Spin-on oil filter

Cooling system

- Thermostatically-controlled system with gear-driven circulation pump and belt-driven pusher fan
- Mounted radiator and piping

Electrical equipment

- 12 volt starter motor and 12 volt 65 amp alternator with DC output
- 12 volt shutdown solenoid energised to run

Flywheel and housing

- High inertia flywheel to SAE J620 size 10/11½
- SAE 3 flywheel housing

Mountings

- Front engine mounting bracket

Literature

- User's Handbook

Optional equipment

- Woodward electronic governor (LCG2)
- Workshop manual
- Parts book

Option groups

A selection of optional items is available to enable the customer to prepare a specification precisely matched to the needs.

Fuel Consumption litres/hour Temperate/Tropical				
Engine Speed	1500 rev/min		1800 rev/min	
	UK g/hr	l/hr	UK g/hr	l/hr
Standby	1.73	7.9	2.08	9.5
Prime Power	1.56	7.1	1.89	8.6
75% of Prime Power	1.18	5.4	1.45	6.6
50% of Prime Power	0.85	3.9	1.07	4.9

General data

Number of cylinders	3 vertical in-line
Bore and stroke.....	105 x 127 mm
Displacement	3.3 litres
Aspiration	Naturally aspirated
Cycle.....	4 stroke
Combustion system.....	Direct injection
Compression ratio	19.25:1
Rotation.....	Anti-clockwise viewed from flywheel
Cooling system.....	Water-cooled
Total lubrication system capacity.....	7.9 litres
Total coolant capacity	10.2 litres
Dimensions – Length	1029 mm
Width	629 mm
Height	951 mm
Dry weight (approximately).....	412 kg
Final weight and dimensions will depend on completed specification	

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

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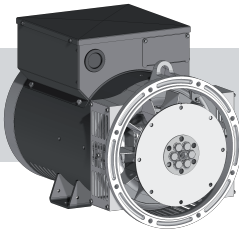
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THE HEART OF EVERY GREAT MACHINE



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4 POLE A

CHARACTERISTICS

INDUSTRIAL RATINGS

ambient 40 ° C

Type	kVA - cos φ 0.8 - 3 Phase continuous							Efficiency			1 Phase kVA COS φ 1 CL. H (ΔT= 125 °C) DELTA
	CL. H (ΔT= 125 °C)				CL. F (ΔT= 105 °C)			η % CL. H (ΔT= 125 °C)			
50 Hz	380	400	415		380	400	415	2/4	3/4	4/4	
Series Star Y Parallel Star YY Series Delta Δ Parallel Delta ΔΔ	190 220 110	200 230 115	208 240 120	IP45 400 V	190 220 110	200 230 115	208 240 120				
ECP28-1VS/4	7,8	7,8	7,8	6,6	7	7	7	83,5	86,0	85,8	5
ECP28-2VS/4	11	11	11	9,3	10	10	10	83,8	86,5	86,2	7
ECP28-0S/4	13,5	13,5	13,5	11,5	12,5	12,5	12,5	84,4	86,9	86,6	8,5
ECP28-S/4	17	17	17	14,5	16	16	16	85,4	87,4	87,2	11,5
ECP28-M/4	20	20	20	17	18,5	18,5	18,5	85,6	87,8	87,4	13,5
ECP28-2L/4	25	25	25	21	23	23	23	86,1	88,1	87,8	16,5
ECP28-VL/4	30	30	30	24	26	26	26	86,5	88,5	88,1	19

Type	CL. H (ΔT= 125 °C)				CL. F (ΔT= 105 °C)			Efficiency			1 Phase kVA COS φ 1 CL. H (ΔT= 125 °C) DELTA
								η % CL. H (ΔT= 125 °C)			
60 Hz	440	460	480		440	460	480	2/4	3/4	4/4	
Series Star Y Parallel Star YY Series Delta Δ Parallel Delta ΔΔ	220 254 127	230 265 133	240 277 138	IP45 480 V	220 254 127	230 265 133	240 277 138				
ECP28-1VS/4	8,8	9,4	9,4	8	7,8	8,5	8,5	84,5	87,0	86,9	6,3
ECP28-2VS/4	12,4	13,2	13,2	11	11	12	12	84,8	87,6	87,3	8,8
ECP28-0S/4	15	16,2	16,2	13,5	13,5	15	15	85,5	88,0	87,7	10,8
ECP28-S/4	18,6	20,4	20,4	17,5	17,5	19	19	86,2	88,6	88,7	13,5
ECP28-M/4	23	24	24	20,5	20	22	22	87,5	89,5	89,5	16
ECP28-2L/4	27,5	30	30	25	25,5	27,5	27,5	88	90	89,7	20
ECP28-VL/4	36	36	36	29	32	32	32	88,4	90,3	89,8	23

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°
ECP28-1VS/4	8,4	8	8	10	9,7	9,7
ECP28-2VS/4	11,7	11,3	11,3	14	13,6	13,6
ECP28-0S/4	14,6	14	14	17,5	16,7	16,7
ECP28-S/4	18	17,5	17,5	21,6	21	21
ECP28-M/4	21,5	20,5	20,5	25,8	24,6	24,6
ECP28-2L/4	26,5	25,5	25,5	31,8	30,6	30,6
ECP28-VL/4	32,5	30,5	30,5	38,4	36,6	36,6

Type	J (kgm ²) B3/B14 FORM	Weight SAE (kg)	Air Volume		Noise dB(A)			
					50 Hz		60 Hz	
			50 Hz (m ³ /min)	60 Hz (m ³ /min)	1m	7m	1m	7m
ECP28-1VS/4	0,0711	79	5,3	5,8	68	57	71	61
ECP28-2VS/4	0,0821	86						
ECP28-0S/4	0,0904	96						
ECP28-S/4	0,1041	104						
ECP28-M/4	0,1182	115						
ECP28-2L/4	0,1421	136						
ECP28-VL/4	0,1636	162						

ACCESSORIES

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

● = Standard
 □ = Optional

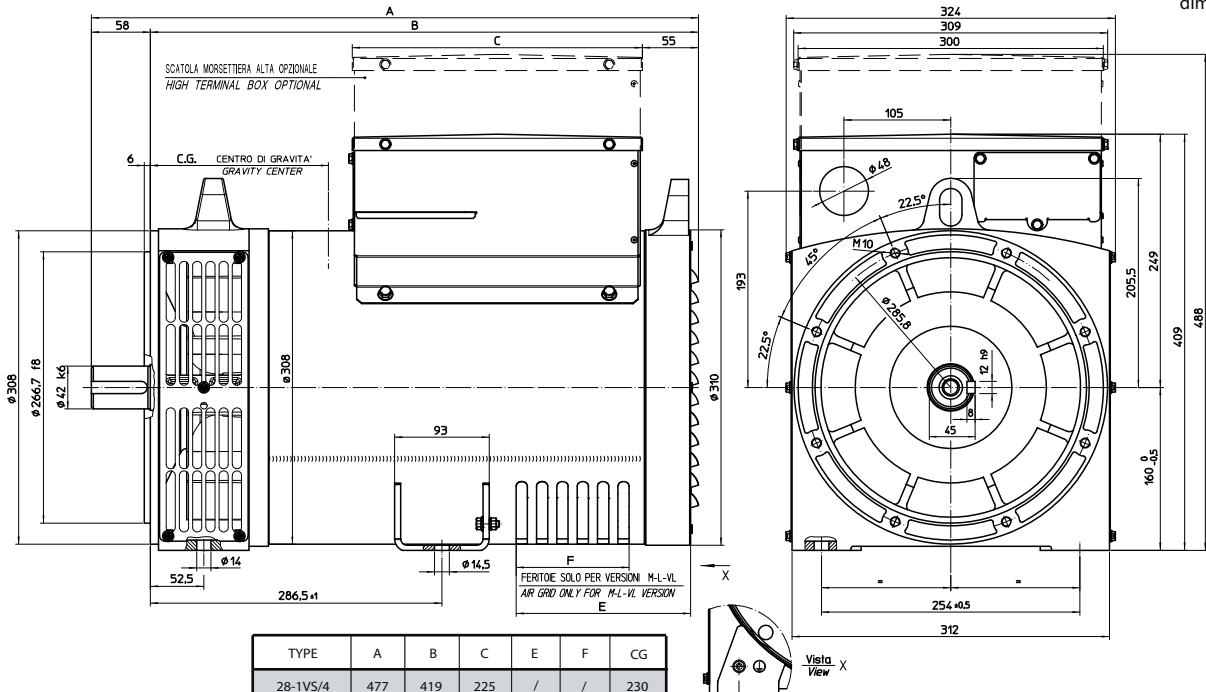
* available if requested when placing the order

Rating



OVERALL DIMENSIONS B3-B14 FORM

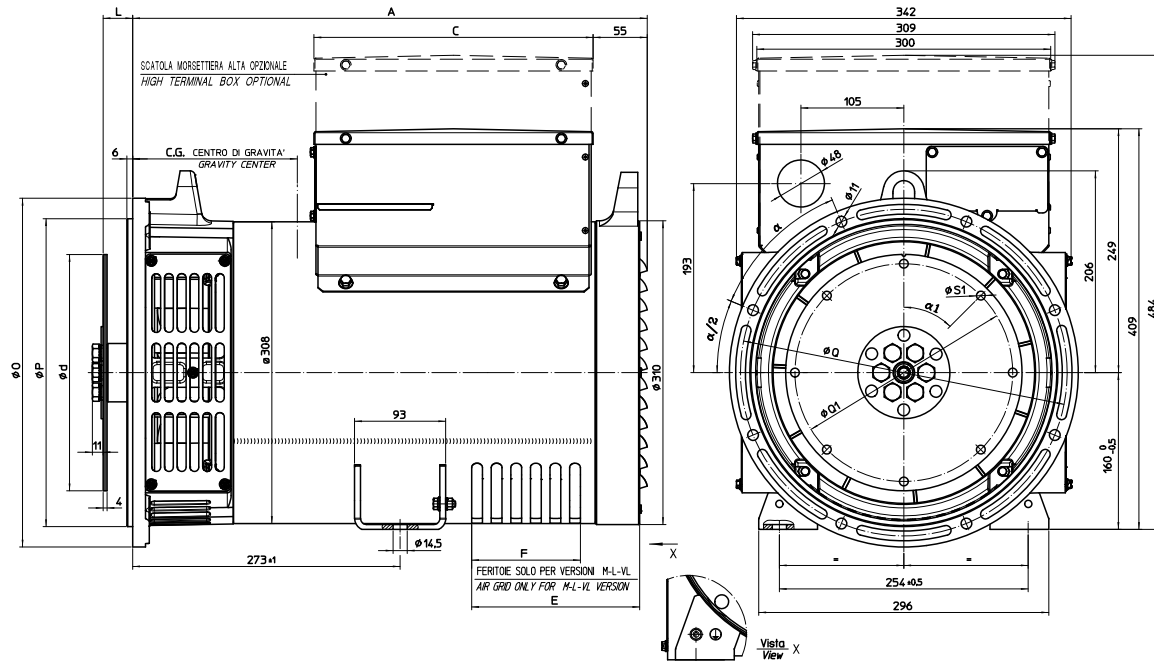
dimensions in mm



TYPE	A	B	C	E	F	CG
28-1VS/4	477	419	225	/	/	230
28-2VS/4	477	419	225	/	/	230
28-0S/4	517	459	285	/	/	235
28-S/4	517	459	285	/	/	237
28-M/4	552	494	285	131,5	71	250
28-2L/4	597	539	285	171,5	111	275
28-VL/4	627	569	285	171,5	111	286

OVERALL DIMENSIONS MD35 FORM

dimensions in mm



TIPO / TYPE	A	C	E	F	CG
28-1VS/4	405	225	/	/	200
28-2VS/4	405	225	/	/	200
28-0S/4	445	285	/	/	214
28-S/4	445	285	/	/	217
28-M/4	480	285	131,5	71	238
28-2L/4	525	285	171,5	111	254
28-VL/4	555	285	171,5	111	274

SAE N.	GIUNTI A DISCHI DISC COUPLING DISQUE DE MONOPALIER SCHEIBENKUPPLUNG				
	L	d	Q1	S1	α1
6 1/2	30,2	215,9	200	9	60°
7 1/2	30,2	241,3	222,25	9	45°
8	62	263,52	244,47	11	60°
10	53,8	314,32	295,27	11	45°
11 1/2	39,6	352,42	333,37	11	45°

SAE N.	FLANGIE FLANGE BRIDE FLANSCH BRIDAS			
	O	P	Q	α
5	356	314,3	333,4	45°
4	403	362	381	30°
3	451	409,6	428,6	30°
2	490	447,7	466,7	30°