

TENAX V SERIES

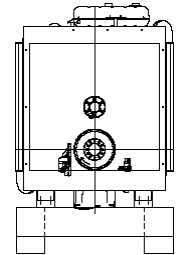
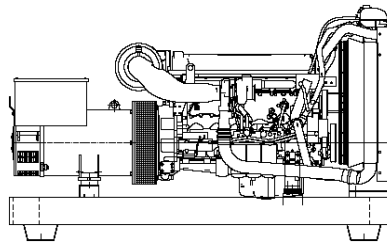
**DIESEL GENERATOR
GROUPE ELECTROGENE DIESEL
GRUPO ELECTROGENO DIESEL
GRUPPO ELETTOGENO DIESEL**

MODEL
MODELE
MODELO
MODELLO

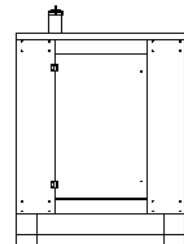
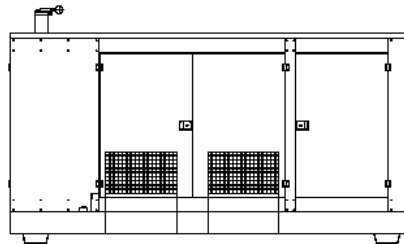
VO 351 TV*

POWERED BY

OPEN VERSION



SOUNDPROOF VERSION



GENERATING SET PERFORMANCE PERFORMANCES DU GROUPE PRESTACIONES DEL GRUPO PRESTAZIONI DEL GRUPPO		50 Hz		60 Hz	
Voltage Voltage Voltage Tensione		V	400 / 230	V	220 / 127
Continuous Power Puissance service continue Potencia servicio continuo Potenza servizio continuo	PRP	kVA	315	kVA	345
Stand-by Power Puissance service secours Potencia servicio emergencia Potenza servizio in emergenza	LTP	kVA	341	kVA	383
Continuous Power Puissance service continue Potencia servicio continuo Potenza servizio continuo	PRP	kWe	252	kWe	276
Stand-by Power Puissance service secours Potencia servicio emergencia Potenza servizio in emergenza	LTP	kWe	273	kWe	306
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	45,0	l/h	50,2

ENGINE MOTEUR MOTOR MOTORE	VOLVO PENTA		TAD 941 GE		
PERFORMANCE PERFORMANCES PRESTACIONES PRESTAZIONI		1500 rpm		1800 rpm	
Continuous Power Puissance service continue Potencia servicio continuo Potenza servizio continuo	PRP	kWm	281	kWm	292
Stand-by Power Puissance service secours Potencia servicio emergencia Potenza servizio in emergenza	LTP	kWm	310	kWm	323
Specific fuel consumption Consumption spécifique combustible Consumo específico de combustible Consumo specifico combustibile		g/kWh	25 % 230 50 % 208 75 % 200 100 % 202	g/kWh	25 % 242 50 % 214 75 % 204 100 % 205
Diesel 4 Stroke – Injection type Diesel 4 temps – Type injection Diesel 4 tiempos – Tipo de inyección Diesel a 4 tempi – Tipo di iniezione					Direct Directe Directa Diretta
Aspiration type Type d'aspiration Tipo de aspiracion Tipo d'aspirazione					Turbocharged Suralimentée Sobrealimentado Sovralimentata
Cooling system Refroidissement Sistema de refrigeración Raffreddamento					Water Eau Agua Acqua
Speed governor Régulateur de tours Regulador Regolatore di giri					Electronic Électronique Eléctronico Elettronico
Cylinders, numbers and arrangement Nombre et disposition des cylindres Cilindros, numero y disposición Numero e disposizione dei cilindri					6 L
Total displacement Cylindrée totale Cilindrata total Cilindrata totale				cm ³	9360
Bore x stroke Alésage x course Diámetro x carrera Alesaggio x corsa				mm	120 x 138
Compression ratio Rapport de compression Relación de compresión Rapporto di compressione					17.4:1
Engine electric system voltage Voltage système électrique moteur Voltaje sistema eléctrico motor Voltaggio sistema elettrico motore					24 V
Derating for temperature Déclassement pour température Declasamiento para temperatura Declassamento per temperatura					NO DERATING
Derating for altitude Déclassement pour altitude Declasamiento para altitud Declassamento per altitudine				0 ÷ 1500 m 1500 ÷ 3000 m	0 6% / 500 m
Derating for relative humidity Déclassement pour humidité relative Declasamiento para humedad relativa Declassamento per umidità relativa					NO DERATING

ALTERNATOR ALTERNATEUR ALTERNADOR ALTERNATORE		MECCALTE	
PERFORMANCE PERFORMANCES PRESTACIONES PRESTAZIONI		1500 rpm	1800 rpm
Model Modèle Modelo Modello		ECO38-3LN/4	ECO38-3LN/4
Continuous Power Puissance service continue Potencia servicio continuo Potenza servizio continuo	40 °C	kVA 350 kWe 280	KVA 420 kWe 336
Stand-by Power Puissance service secours Potencia servicio emergencia Potenza servizio in emergenza	40 °C	KVA 360 kWe 288	KVA 432 kWe 346
Stand-by Power Puissance service secours Potencia servicio emergencia Potenza servizio in emergenza	27 °C	KVA 370 kWe 296	KVA 444 kWe 355
Efficiency Rendement Eficiencia Efficienza		2/4 92,6 % 3/4 93,7 % 4/4 93,5 %	2/4 93,3 % 3/4 94,5 % 4/4 94,3 %
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 regulation 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 21
Air Volume Volume d'air Volumen de aire Volume d'aria		50 Hz 60 Hz	32 m ³ /min 39 m ³ /min
Standard AVR model Modèle AVR standard Modelo AVR standard Modello AVR standard			DSR
Derating for temperature Déclassement pour temperature Declasamiento para temperatura Declasseamento per temperatura		0 ÷ 40°C > 40 °C	0 3 % / 5°C
Derating for altitude Déclassement pour altitude Declasamiento para altitud Declasseamento 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 réservoir intergré Capacidad Tanque integrado Capacità Serbatoio integrato		Weight Poids Peso Peso	Dimensions Cotes d'encombrement Medidas externas Dimensioni d'ingombro			
	(L)			(kg)	(cm)		
	STD	EXTRA 1			L	W	H
OPEN SKID VERSION VERSION SUR SKID VERSION ABIERTA VERSIONE APERTA	260	ON REQUEST	2440	293	111	177	
SOUND PROOF VERSION VERSION INSONORISEE VERSION INSONORISADA VERSIONE INSONORIZZATA	335	ON REQUEST	3500	383	163	226	

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

GB	F	E	I
<ul style="list-style-type: none"> Steel base frame Vibration dampers Integrated fuel tank Silencer industrial type for open version Battery Manual autostart control panel With DSE7310 Engine with original tropical radiator Emergency stop button Sound proof canopy of galvanized steel with residential silencer 	<ul style="list-style-type: none"> Châssis acier Amortisseurs de vibrations Réservoir intégré Silencieux industriel pour la version ouverte Batterie Coffret de contrôle manuel autostart avec DSE7310 Moteur avec radiateur tropical Bouton arrêt d'urgence Capote d'insonorisation d'acier galvanisé avec silencieux résidentiel 	<ul style="list-style-type: none"> Telar de acero Apagadores de vibracion Tanque combustible Silenciador industrial para la versión abierta Bateria Cuadro electrico manual autostart con DSE7310 Motor con radiador original tropical Botón parada de emergencia Cabina de insonorización de acero cincado con silenciador residencial 	<ul style="list-style-type: none"> Basamento in acciaio Antivibranti Serbatoio integrato Silenziatore industriale per versione aperta Batteria Quadro elettrico manuale autostart con DSE7310 Motore con radiatore originale tropicalizzato Pulsante arresto di emergenza Cabina di insonorizzazione di acciaio zincato con marmitta residenziale

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

ACP 7310 AUS

630 A (400 V - 3 ph - 50Hz - 1500 rpm)
 1000 A (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) Amperimetro (3 fases) Frecuencimetro KW- metro kVA- metro Cos φ-metro Revoluciones por minuto metro Medida horas de marcha Voltmetro 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**

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 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.

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 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.

 **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 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.	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/restart – Auto – Manual – Start LCD display scroll Event log view Acoustic alarm	Fiche électronique de contrôle DSE7320 Disjoncteur de protection Chargeur de batterie Bouton poussoir arrête d'urgence	Ficha electrónica de control DSE7320 Interruptor magnetotermico Cargador de batería Boton de parada de emergencia	Scheda elettronica di controllo DSE7320 Interruttore magnetotermico Carica batteria Pulsante stop emergenza
DIGITAL MEASURING	MESURES NUMERIQUES	MEDIDAS DIGITALES	MISURAZIONI DIGITALI
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 %	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 %	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 %	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 %
INDICATORS	INDICATEURS	INDICADORES	INDICATORI
Mains live Generator live Mains contactor closed Generator contactor closed Engine running	Présence secteur Présence tension générateur Inverseur secteur fermé Inverseur générateur fermé Moteur en marche	Presencia tensión de red Presencia tensión grupo Transferencial red cerrado Transferencial grupo cerrado Motor en marcha	Presenza tensione di rete Presenza tensione generatore Erogazione da rete Erogazione da gruppo Motore avviato
PROTECTIONS	PROTECTIONS	PROTECCIONES	PROTEZIONI
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	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	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	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
Over/under battery voltage	Sur/sus la tension de batterie	Sobre/bajo voltaje de la batería	Sovra/sotto tensione della batteria

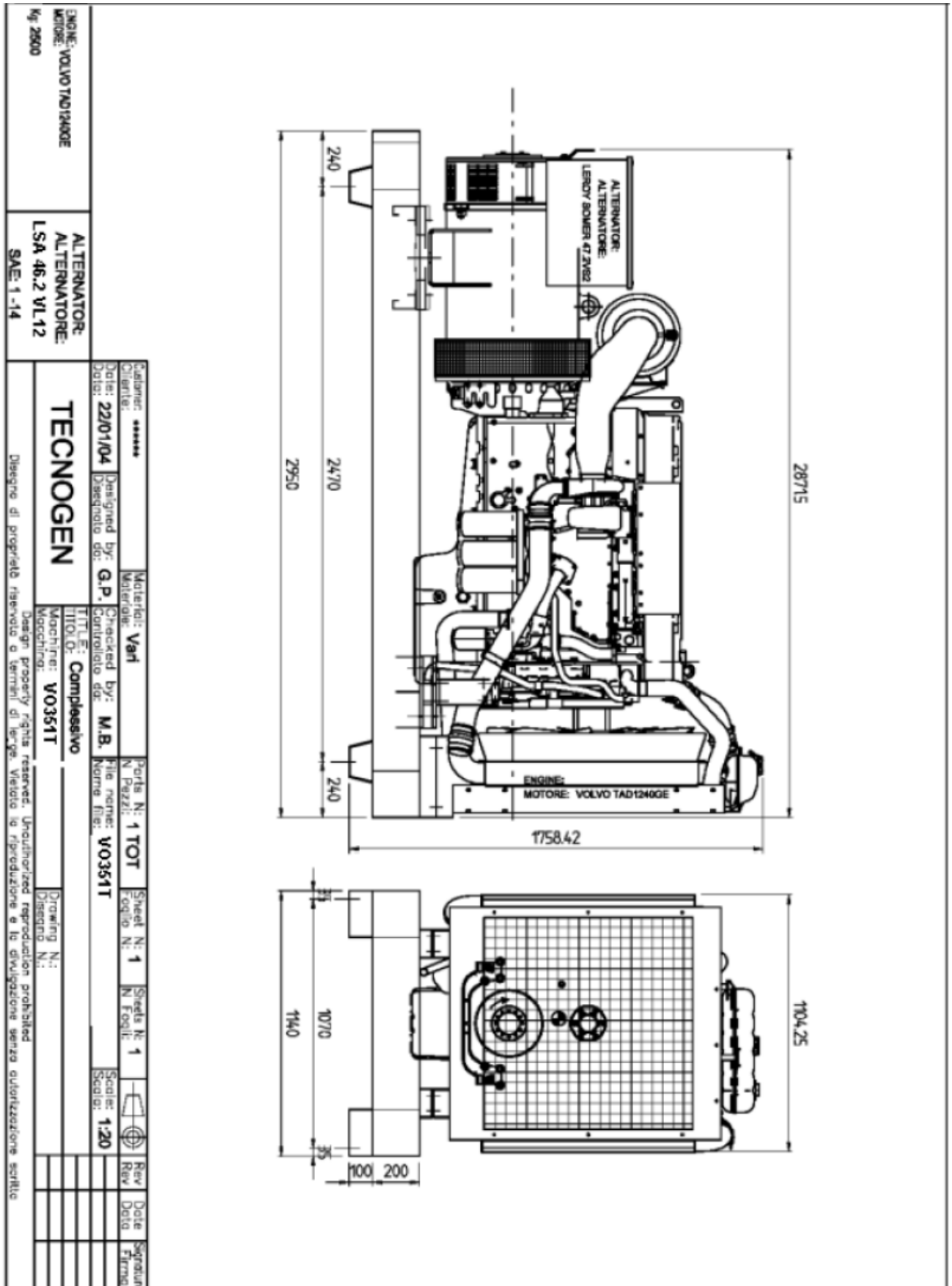
**SOUNDPROOF CANOPY
CAPOTE D'INSONORISATION
CAPOTA DE INSONORIZACION
CABINA INSONORIZATA**

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 sopro 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 10 points
Notre qualité résumée en 10 points
Nuestra calidad en 10 puntos
La nostra qualità in 10 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 più 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 più 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	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
8	High serviceability level Haut niveau d'accessibilité pour la manutention Alto nivel de accesibilidad para la manutención Alto livello di accessibilità per la manutenzione
9	Large cable entry area for easy installation Grande zone d'entrée 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
10	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

TENAX V series - OPEN VERSION DRAWING
Série TENAX v - DESSIN VERSION SUR SKID
Serie TENAX v - DIBUJO VERSION ABIERTA
Serie TENAX v - DISEGNO VERSIONE APERTA



VOLVO PENTA INDUSTRIAL DIESEL

TAD941GE

308 kW (413 bhp) at 1500 rpm, 326 kW (437 bhp) at 1800 rpm, acc. to ISO 3046

The TAD941GE is a powerful, reliable and economical Generating Set Diesel Engine built on the dependable Volvo in-line six design.

Durability & low noise

Designed for the easiest, fastest and most economical installation. Well balanced to produce smooth and vibration-free operation with low noise level, featured with high torque.

To maintain a controlled working temperature in cylinders and combustion chambers, the engine is equipped with piston cooling. The engine is also fitted with replaceable cylinder liners and valve seats / guides to ensure maximum durability and service life of the engine.

Operational economy and Low exhaust emission

The state of the art, high-tech injection and air charging system with low internal losses contributes to excellent combustion and low fuel consumption.

The TAD941GE complies with EU stage 2 and TA-luft exhaust emission regulations.

Easy service & maintenance

Easily accessible service and maintenance points contribute to the ease of service of the engine.

Technical description

Engine and block

- Optimized cast iron cylinder block with optimum distribution of forces without the block being unnecessary heavy.
- Wet, replaceable cylinder liners
- Piston cooling for low thermal load on pistons and reduced ring temperature
- Tapered connecting rods to reduce risk of piston cracking
- Crankshaft induction hardened bearing surfaces and fillets with seven main bearings for moderate load on main and big-end bearings
- Nitrocarburized transmission gears for heavy duty operation
- Keystone top compression rings for long service life
- Viscous type crankshaft vibration damper
- Replaceable valve guides and valve seats
- Over head camshaft and four valves per cylinder equipped with camshaft damper to reduce noise and vibrations.

Lubrication system

- Full flow oil cooler
- Full flow disposable spin-on oil filters, for extra high filtration
- The lubricating oil level can be measured during operation (Standard dipstick only)
- Gear type lubricating oil pump, gear driven by the transmission

Fuel system

- Non-return fuel valve
- Electronic Unit Injectors
- Fuel pre-filter with water separator and water-in-fuel indicator / alarm
- Gear driven low-pressure fuel pump
- Fuel pressure switch
- Self de-aerating system. When replacing filters all fuel stays in the engine.

Turbo charger

- Efficient and reliable turbo charger
- Extra oil filter for the turbo charger

Cooling system

- Air to air intercooler
- Belt driven, maintenance-free coolant pump with high degree of efficiency
- Coolant filter as standard

- Fan hub
- Fan & belt guard
- Efficient cooling with accurate coolant control through a water distribution duct in the cylinder block. Reliable sleeve thermostat with minimum pressure drop
- Radiator
- Radiator guard
- Pusher type fan

Electrical system

- Engine Management System 2 (EMS 2), an electronically controlled processing system which optimizes engine performance. It also includes advanced facilities for diagnostics and fault tracing
- The instruments and controls connects to the engine via the CAN SAE J1939 interface and the Control Interface Unit (CIU). The CIU converts the digital CAN bus signal to an analog signal, making it possible to connect a variety of instruments.
- Sensors for oil pressure, oil temp, boost pressure, boost temp, coolant temp, fuel temp, water in fuel, fuel pressure and two speed sensors. Crank case pressure, oil level and air filter pressure droop sensors
- Alternator 24V / 80A



**VOLVO
PENTA**

TAD941GE

Technical Data

General

Engine designation	TAD941GE	
No. of cylinders and configuration.....	in-line 6	
Method of operation	4-stroke	
Bore, mm (in.).....	120 (4.72)	
Stroke, mm (in.).....	138 (5.43)	
Displacement, l (in ³).....	9.36 (571)	
Compression ratio.....	17.4:1	
Dry weight, kg (lb).....	1015 (2238)	
Dry weight with Gen Pac, kg (lb).....	1354 (2986)	
Wet weight, kg (lb).....	1065 (2348)	
Wet weight with Gen Pac, kg (lb).....	1404 (3096)	

Performance	1500 rpm	1800 rpm
with fan, kW (hp) at:		
Prime Power	281 (382)	292 (397)
Max Standby Power	310 (422)	323 (439)

Lubrication system	1500 rpm	1800 rpm
Oil consumption, l/h (US gal/h) at:		
Prime Power	0.04 (0.010)	0.04 (0.010)
Max Standby Power	0.04 (0.010)	0.04 (0.010)
Oil system capacity incl filters, liter (US gal).....	40 (10.6)	

Fuel system	1500 rpm	1800 rpm
Specific fuel consumption at:		
Prime Power, g/kWh (lb/hph)		
25%	230 (0.373)	242 (0.392)
50%	208 (0.337)	214 (0.347)
75%	200 (0.324)	204 (0.331)
100%	202 (0.327)	205 (0.332)
Max Standby Power, g/kWh (lb/hph)		
25%	226 (0.366)	238 (0.386)
50%	205 (0.332)	210 (0.340)
75%	200 (0.324)	203 (0.329)
100%	204 (0.331)	207 (0.336)

Intake and exhaust system	1500 rpm	1800 rpm
Air consumption, m ³ /min (cfm) at:		
Prime Power	17.7 (625)	22.0 (777)
Max Standby Power	19.6 (692)	23.8 (840)
Max allowable air intake restriction, kPa (In wc):	5 (20.1)	5 (20.1)
Heat rejection to exhaust, kW (BTU/min) at:		
Prime Power	224 (12739)	230 (13080)
Max Standby Power	239 (13592)	260 (14786)
Exhaust gas temperature after turbine, °C (°F) at:		
Prime Power	519 (966)	467 (873)
Max Standby Power	539 (1002)	494 (921)
Max allowable back-pressure in exhaust line, kPa (In wc)	10.0 (40.2)	10.0 (40.2)
Exhaust gas flow, m ³ /min (cfm) at:		
Prime Power	46.5 (1642)	53.1 (1875)
Max Standby Power	52.2 (1843)	59.2 (2091)

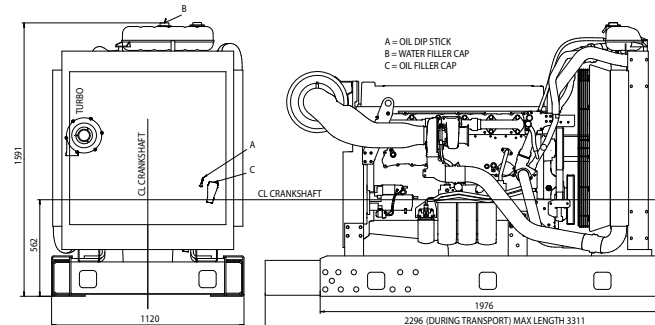
Standard Equipment

	Engine	Gen Pac
Engine		
Automatic belt tensioner	•	•
Lift eyelets	•	•
Flywheel housing with conn. acc. to SAE 1	•	•
Flywheel for 14" flex. plate and flexible coupling	•	•
Vibration dampers	•	•
Engine suspension		
Fixed front and rear suspension	•	•
Lubrication system		
Oil dipstick	•	•
Full-flow oil filter of spin-on type	•	•
By-pass oil filter of spin-on type	•	•
Oil cooler, side mounted	•	•
Low noise oil sump	•	•
Fuel system		
Fuel filters of disposable type	•	•
Electronic unit injectors	•	•
Pre-filter with water separator and water-in-fuel indicator/alarm	•	•
Intake and exhaust system		
Air filter without rain cover	•	•
Air filter with replaceable paper insert	•	•
Air restriction indicator	•	•
Air cooled exhaust manifold	•	•
Connecting flange for exhaust pipe	•	•
Exhaust flange with v-clamp	•	•
Turbo charger, high right side	•	•
Cooling system		
Radiator incl intercooler	-	•
Belt driven coolant pump	•	•
Fan hub	-	•
Thrust fan	-	•
Fan guard	-	•
Belt guard	-	•
Control system		
Engine Management System 2 (EMS 2) with CAN-bus interface SAE J1939	•	•
Alternator		
Alternator 80A / 24V	•	•
Starting system		
Starter motor, 5.5kW, 24V	•	•
Connection facility for extra starter motor	•	•
Instruments and senders		
Temp. and oil pressure for automatic stop/alarm	•	•
Engine Packing		
Plastic wrapping	•	•

- optional equipment or not applicable
• included in standard specification

Dimensions TAD941GE

Not for installation



Note! Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice. The engine illustrated may not be entirely identical to production standard engines.

Power Standards

The engine performance corresponds to ISO 3046, BS 5514 and DIN 6271. The technical data applies to an engine without cooling fan and operating on a fuel with calorific value of 42.7 MJ/kg (18360 BTU/lb) and a density of 0.84 kg/litre (7.01 lb/US gal, 8.42 lb/Imp gal), also where this involves a deviation from the standards.

Exhaust emissions

The engine complies with EU stage 2 emission legislation according to the Non Road Directive EU 97/68/EEC. The engine also complies with TA-luft exhaust emission regulations.

Rating Guidelines

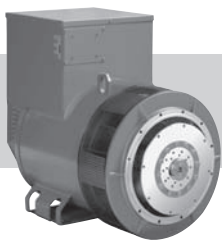
PRIME POWER rating corresponds to ISO Standard Power for continuous operation. It is applicable for supplying electrical power at variable load for an unlimited number of hours instead of commercially purchased power. A10 % overload capability for governing purpose is available for this rating.

MAXIMUM STANDBY POWER rating corresponds to ISO Standard Fuel Stop Power. It is applicable for supplying standby electrical power at variable load in areas with well established electrical networks in the event of normal utility power failure. No overload capability is available for this rating.

1 bhp = 1 kW x 1.341

VOLVO PENTA

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meccalte



ECO 38N

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4 POLE

CHARACTERISTICS

INDUSTRIAL RATINGS

ambient 40° C

Type	KVA - cos 0.8φ- 3 Phase continuous							Efficiency		
	CL. H (ΔT= 125°C)				CL. F (ΔT= 105°C)			η % CL. H (ΔT= 125°C)		
Series Star Y	380	400	415	IP45 400 V	380	400	415	2/4	3/4	4/4
Parallel Star YY	190	200	208		190	200	208			
Series Delta Δ	220	230	240		220	230	240			
Parallel Delta ΔΔ	110	115	120		110	115	120			
ECO38-1SN/4	180	180	180		145	170	170			
ECO38-2SN/4	200	200	200	160	185	185	185	91,7	92,9	92,7
ECO38-3SN/4	225	225	225	180	207	207	207	92	93,3	93
ECO38-1LN/4	250	250	250	200	230	230	230	92,4	93,7	93,4
ECO38-2LN/4	300	300	300	240	275	275	275	92,7	94	93,7
ECO38-3LN/4	350	350	350	280	320	320	320	92,6	93,7	93,5

Type	CL. H (ΔT= 125°C)				CL. F (ΔT= 105°C)			Efficiency		
	CL. H (ΔT= 125°C)				CL. F (ΔT= 105°C)			η % CL. H (ΔT= 125°C)		
Series Star Y	440	460	480	IP45 480 V	440	460	480	2/4	3/4	4/4
Parallel Star YY	220	230	240		220	230	240			
Series Delta Δ	254	265	277		254	265	277			
Parallel Delta ΔΔ	127	133	138		127	133	138			
ECO38-1SN/4	220	220	220		175	205	205			
ECO38-2SN/4	240	240	240	192	220	220	220	92,8	94	93,8
ECO38-3SN/4	270	270	270	215	250	250	250	93,4	94,5	94,2
ECO38-1LN/4	300	300	300	240	280	280	280	93,7	94,9	94,5
ECO38-2LN/4	340	360	360	280	310	330	330	93,9	95,1	94,7
ECO38-3LN/4	420	420	420	330	385	385	385	93,3	94,5	94,3

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°
ECO38-1SN/4	196	188	188	236	230	230
ECO38-2SN/4	220	211	211	264	253	253
ECO38-3SN/4	250	237	237	300	284	284
ECO38-1LN/4	275	264	264	330	316	316
ECO38-2LN/4	330	315	315	396	378	378
ECO38-3LN/4	370	360	360	444	432	432

Type	J (Kgm ²) B3-B14 FORM	Weight (Kg)	Air Volume		Noise dB(A)			
			Air Volume		50 Hz		60 Hz	
			50 Hz (m ³ /min)	60 Hz (m ³ /min)	1m	7m	1m	7m
ECO38-1SN/4	1,7243	510	32	39	82	69	86	73
ECO38-2SN/4	1,8799	560						
ECO38-3SN/4	2,0751	590						
ECO38-1LN/4	2,3481	680						
ECO38-2LN/4	2,8342	765						
ECO38-3LN/4	3,4747	905						

ACCESSORIES

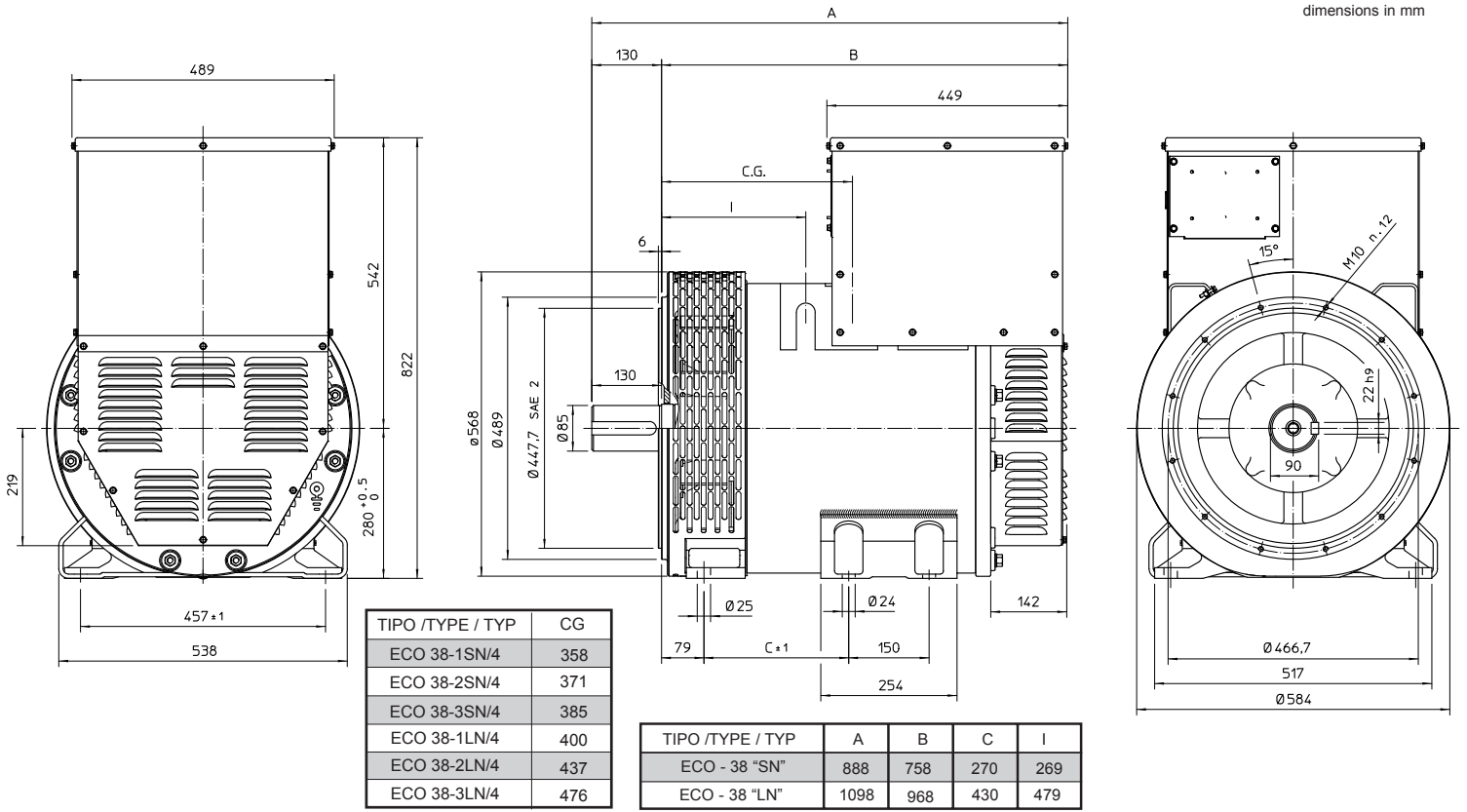
REGULATOR				PARALLEL DEVICE	THERMAL PROTECTION			HEATERS	MECHANICAL PROTECTION		
DSR	DER-1	SR7/2	UVR6		PTC	BIMET. DEVICE	PT100		IP21	IP23	IP45
●	□	□	□	□	□	□	□	□	●	□	□

● = Standard
 □ = Optional

Rating



OVERALL DIMENSIONS B3-B14 FORM



OVERALL DIMENSIONS MD35 FORM

