

GX SERIES

Stage V emission compliant

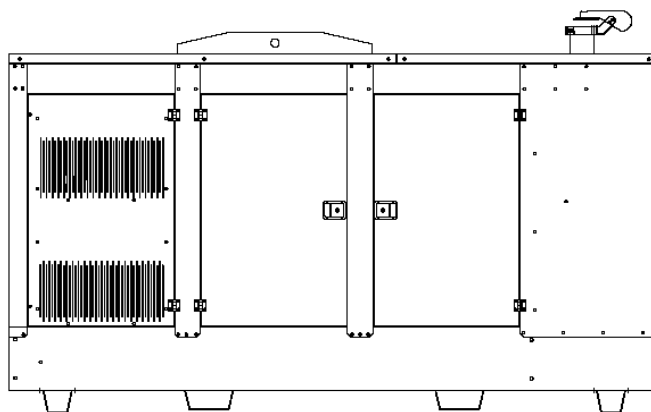
DIESEL GENERATOR
GROUPE ELECTROGENE DIESEL
GRUPO ELECTROGENO DIESEL
GRUPPO ELETTOGENO DIESEL

MODEL
 MODELE
 MODELO
 MODELLO

GX225C V



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
Prime Power Puissance service continue Potencia servicio continuo Potenza servizio continuo	PRP	kVA 200	kVA 230
Stand-by Power Puissance service secours Potencia servicio emergencia Potenza servizio in emergenza	LTP	kVA 220	kVA 253
Prime Power Puissance service continue Potencia servicio continuo Potenza servizio continuo	PRP	kWe 160	kWe 184
Stand-by Power Puissance service secours Potencia servicio emergencia Potenza servizio in emergenza	LTP	kWe 176	kWe 202
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 29,9	l/h 34,4

ENGINE MOTEUR MOTOR MOTORE		CUMMINS		B6.7-G18	
PERFORMANCE PERFORMANCES PRESTACIONES PRESTAZIONI		1500 rpm		1800 rpm	
Prime Power					
Puissance service continue	PRP	kWm	185	kWm	202
Potencia servicio continuo					
Potenza servizio continuo					
Stand-by Power					
Puissance service secours	LTP	kWm	202	kWm	220
Potencia servicio emergencia					
Potenza servizio in emergenza					
Specific fuel consumption			25 % 241		25 % 225
Consommation spécifique combustible		g/kWh	50 % 198	g/kWh	50 % 201
Consumo específico de combustible			75 % 195		75 % 195
Consumo específico combustible			100 % 200		100 % 202
Derating for temperature		0÷40°C/1200m	0	0÷40°C/1200m	0
Déclassement pour température					
Declasamiento para temperatura		>40°C	14,3%/10°C	>40°C	23%/10°C
Declassamento per temperatura					
Derating for altitude		0÷1800m/25°C	0	0÷1800m/25°C	0
Déclassement pour altitude					
Declasamiento para altitud		>1800m	5,4%/305m	>1800 m	5,2%/305m
Declassamento per altitudine					
Diesel 4 Stroke – Injection type					Direct
Diesel 4 temps – Type injection					Directe
Diesel 4 tiempos – Tipo de inyeccion					Directa
Diesel a 4 tempi – Tipo di iniezione					Diretta
Aspiration type					Turbocharged
Type d'aspiration					Suralimentée
Tipo de aspiracion					Sobrealimentado
Tipo d'aspirazione					Sovralimentata
Cooling system					Water
Refroidissement					Eau
Sistema de refrigeracion					Agua
Raffreddamento					Acqua
Speed governor					Electronic
Régulateur de tours					Electronique
Regulador					Electronico
Regolatore di giri					Electronico
Cylinders, numbers and arrangement					6 L
Nombre et disposition des cylindres					
Cilindros, numero y disposicion					
Numero e disposizione dei cilindri					
Total displacement					
Cylindrée totale				cm ³	6.690
Cilindrata total					
Cilindrata totale					
Bore x stroke					
Alésage x course				mm	107.0 x 124.0
Diametro x carrera					
Alesaggio x corsa					
Compression ratio					
Rapport de compression					17.3 :1
Relación de compresión					
Rapporto di compressione					
Engine electric system voltage					
Voltage système électrique moteur					12 V
Voltaje sistema eléctrico motor					
Voltaggio sistema elettrico motore					

ALTERNATOR ALTERNATEUR ALTERNADOR ALTERNATORE		LEROY SOMER				
PERFORMANCE PERFORMANCES PRESTACIONES PRESTAZIONI		1500 rpm		1800 rpm		
Model Modèle Modelo Modello		LSA 44.3 VL14		LSA 44.3 VL14		
Prime Power Puissance service continue Potencia servicio continuo Potenza servizio continuo		40 °C	kVA kWe	200 160	KVA kWe	230 184
Stand-by Power Puissance service secours Potencia servicio emergencia Potenza servizio in emergenza		40 °C	KVA kWe	212 170	KVA kWe	244 195
Stand-by Power Puissance service secours Potencia servicio emergencia Potenza servizio in emergenza		27 °C	KVA kWe	220 176	KVA kWe	253 202
Efficiency Rendement Eficiencia Efficienza			1/4 2/4 3/4 4/4	92,7 % 94,1 % 93,8 % 93,0 %	1/4 2/4 3/4 4/4	92,1 % 94,0 % 93,9 % 93,3 %
Standard winding connections Liaison des bobinages Tipo de conexión Collegamento avvolgimenti			Y		YY	
Exciter Excitatrice 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		± 0,25 %				
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				
Maximum overspeed Survitesse Régimen máximo Velocità di fuga		2250 min ⁻¹				
Optional AVR model with 300% shortcircuit current Modèle AVR en option avec un courant de court-circuit du 300% Modelo AVR opcional con una corriente de corto circuito del 300% Modello AVR in opzione con corrente di corto circuito del 300%				(3 In) : 10s	D 350 AREP	
Derating for temperature Déclassement pour température Declasamiento para temperatura Declassamento per temperatura		0 ÷ 40°C		0		
		> 40 °C		3 % / 5°C		
Derating for altitude Déclassement pour altitude Declasamiento para altitud Declassamento per altitudine		0 ÷ 1500 m		0		
		1500 ÷ 2500 m		3% / 500 m		
		2500 ÷ 3000 m		4% / 500 m		

LOGISTIC INFORMATION
INFORMATIONS LOGISTIQUES
INFORMAZIONE 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		L	W	H
SOUND PROOF VERSION VERSION INSONORISEE VERSION INSONORISADA VERSIONE INSONORIZZATA	900	ON REQUEST	3560	390	113	226

Def tank capacity: 113L

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 residenciale Porta forche

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

Q7310 AUS

400A (400 V - 3 ph - 50Hz - 1500 rpm)

630A (220 V - 3 ph - 60Hz - 1800 rpm)

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

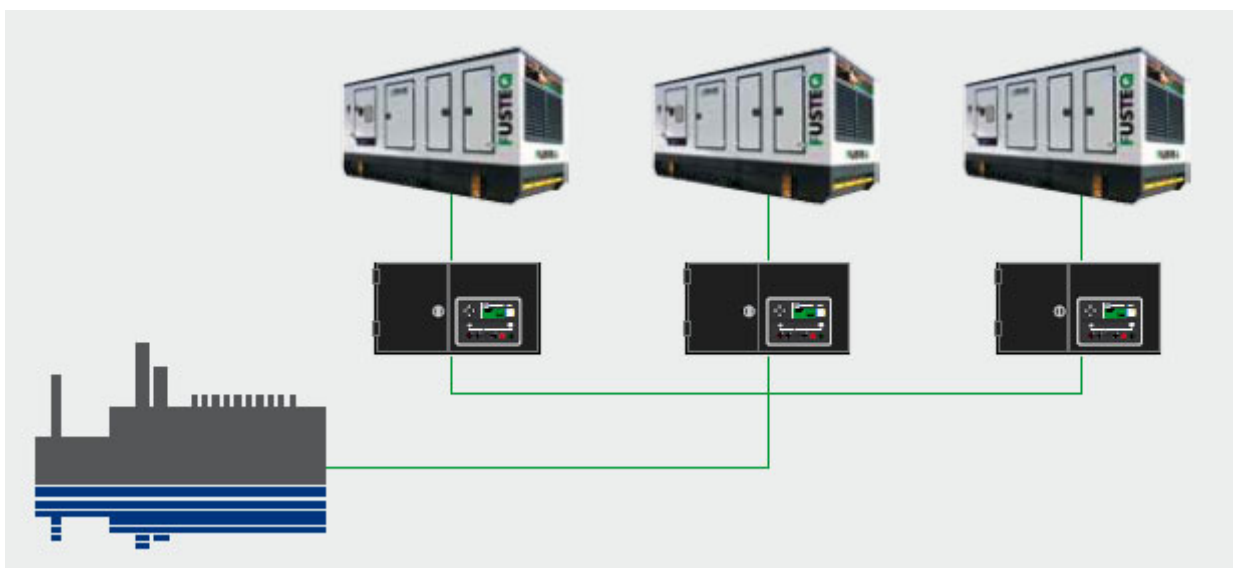
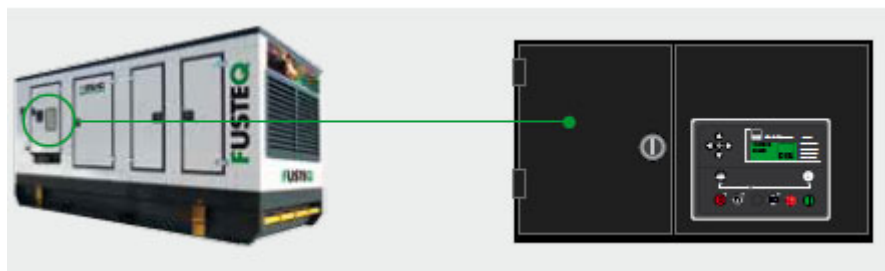
2)  **Q 7320 AMF**
AMF CONTROL PANEL FITTED ON THE GEN-SET WITHOUT TRANSFER SWITCH
 Equipment: control board, circuit breaker, battery charger, box key.
COFFRET ELECTRIQUE MONTE SUR LE GROUPE SANS INVERSEUR DE SOURCE
 Equipement : carte électronique de contrôle, disjoncteur de protection, chargeur de batterie, inverseur de source, 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, telecommutazione e chiave quadro.

3)  **Q 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 electrogenos diesel con motores electrónicos y no electrónicos. La carta constituye un excelente sistema de control y protección del grupo electrogeno.	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 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 frecuencia Sobre/bajo 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 Sovra/sotto voltaggio Sovra/sotto velocità Livello del carburante Rottura cinghia Sovraccorrente Sovra/sotto tensione della batteria

**SYNCHRONISING CONTROL PANEL AS OPTION
COFFRET DE SYNCHRONISATION EN OPTION
CUADRO ELECTRICO DE PARALELO OPCION
QUADRO ELETTRICO DI PARALLELO IN OPZIONE**



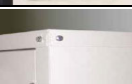





400A (400V - 3 ph - 50Hz - 1500 rpm)
630A (220V - 3 ph - 60Hz - 1800 rpm)

GB	F	E	I
<p>The synchronising control panel Q8610S allows the synchronisation between multiple generating sets with load sharing</p>	<p>Le coffret de commande Q8610S permet le parallèle entre plus groupes électrogènes et la répartition de la charge</p>	<p>El cuadro eléctrico Q8610S permite el paralelo entre más grupos electrógenos con la división de la carga</p>	<p>Il quadro di parallelo Q8610S permette il parallelo tra più gruppi elettrogeni e la ripartizione del carico</p>
<div style="display: flex; align-items: center;">  <div> <p>DSE8610</p> <p>CONTROL BOARD CARTE ELECTRONIQUE DE CONTROL CARTA ELECTRONICA DE CONTROL SCHEDA ELETTRONICA DI CONTROLLO</p> </div> </div>			
CONTROLS	COMMANDES	CONTROLES	COMANDI
<p>Stop/reset – Manual – Auto – Start LCD Display Scroll Lamp test / Mute Circuit breaker control</p>	<p>Stop / reset – Manuel – Auto – Démarrage Sélection display LCD Test lampes / Muet Commande disjoncteur de protection</p>	<p>Stop / reset – Manual – Auto – Arranque Selección display LCD Prueba lámparas / Mudo Contrôle interruptor magnetotérmico</p>	<p>Stop / reset – Manuale – Auto – Avviamento Selezione display LCD Test lampade / Muto Controllo interruttore magnetotermico</p>

SOUNDPROOF CANOPY
CAPOTE D'INSONORISATION
CAPOTA DE INSONORIZACION
CABINA INSONORIZZATA

GB	F	E	I
<p>The Bruno 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 Bruno 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 maintenance. Les matériaux d'insonorisation sont fortement résistant au feu et auto-extinguibles.</p>	<p>La capota insonorizada Bruno 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 bullonada 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 mantenimiento. Los materiales insonorizantes son muy resistentes al fuego y auto-extinguentes.</p>	<p>La cabina insonorizzata Bruno 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>

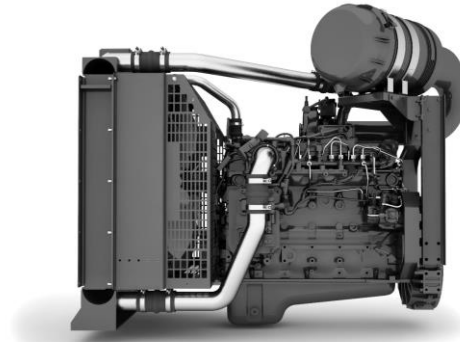
Our quality in 13 points
Notre qualité résumée en 13 points
Nuestra calidad en 13 puntos
La nostra qualità in 13 punti

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 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		Fuel tank cap with external key (optional) Bouchon gasoil avec clé positionne à l'extérieur (en option) Tapo gasoleo con llave situado a l'externo (opcional) Tappo gasolio con chiave posizionato all'esterno (in opzione)
8		Fully banded base frame Réservoir amovible avec bague de retention Tanque integrado sfilabile con el envase para recoger los líquidos 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



B6.7-G18

EU Stage V and Tier 4 Final



Description

The new Cummins G-Drive engines are designed with next generation aftertreatment technology, providing an optimised solution to meet EU Stage V, and US Tier 4 Final emissions. This unique and simplistic design brings an improvement in reliability and fuel economy, as well as longer intervals for scheduled maintenance.

Air Control Throttle Reduced operator interface, intake throttle for increased thermal management capability. Aftertreatment specification capable of low load operation up to -25° C.

Cooling System 50°C LAT capability with noise optimized fan.

Air Cleaner Normal and heavy-duty air cleaner options.

Features

Integrated Aftertreatment Design. Full single module (DOC/DPF/SCR) with compact size for reduced installation impact. Industry leading DPF technology expertise with best in class reliability and service intervals.

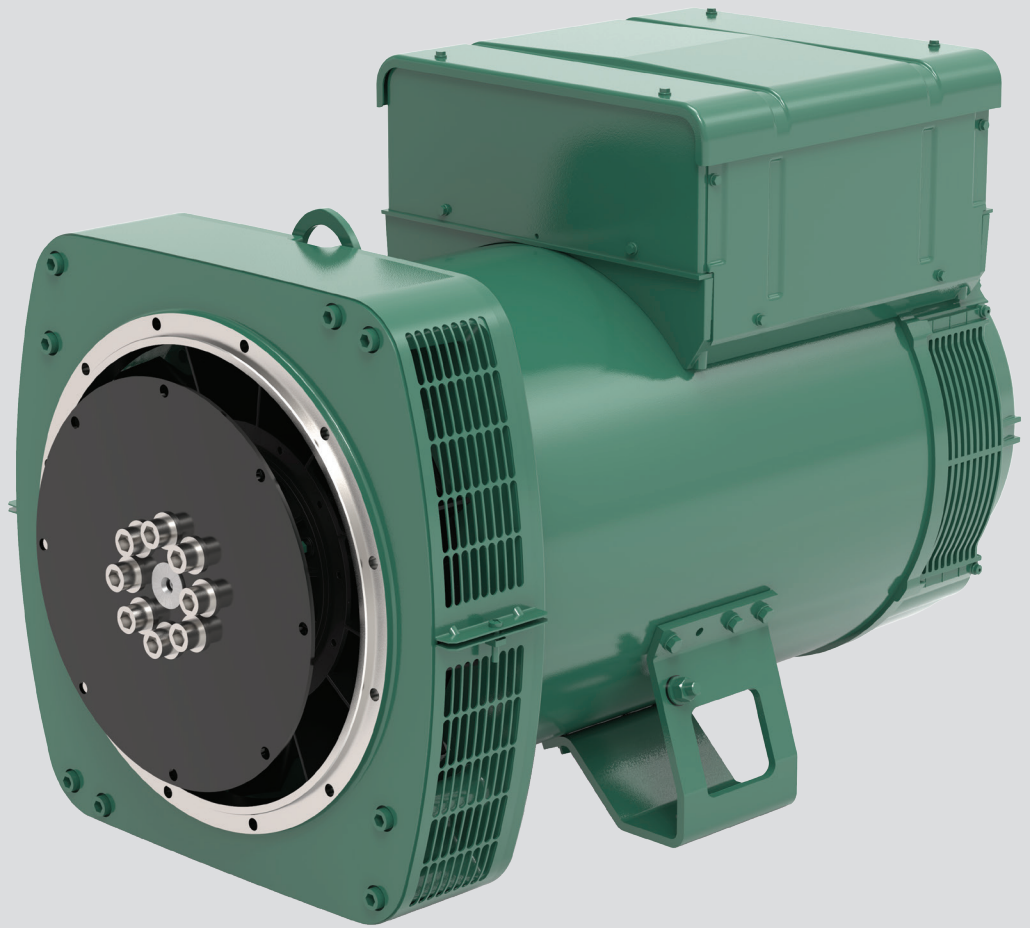
EGR-Free Design (supported by better NOx conversion performance) allows a higher sulphur tolerance for global capability and puts the B6.7 and L9 on par with lower emissions level engines. A streamlined design also delivers a significant reduction in installation complexity and cost.

Improved Performance Higher power density (vs Tier 4F). Meets ISO 8528 transient and steady state performance.



This engine has been designed in facilities certified to ISO9001 and manufactured in facilities certified to ISO9001 or ISO9002.

This equipment has been designed and tested to meet EU product safety regulations. Material compliance declaration is available upon request



LSA 44.3

Low Voltage Alternator - 4 pole

70 to 200 kVA - 50 Hz / 88 to 250 kVA - 60 Hz
Electrical and mechanical data

LEROY-SOMER™

Nidec
All for dreams

Specially adapted to applications

The LSA 44.3 alternator is designed to be suitable for typical generator applications, such as: backup, prime power, cogeneration, marine applications, rental, telecommunications, etc.

Compliant with international standards

The LSA 44.3 alternator conforms to the main international standards and regulations: IEC 60034, NEMA MG 1.32-33, ISO 8528-3, CSA C22.2 n°100-14, UL 1446 (UL 1004 on request), marine regulations, etc.

It can be integrated into a EC marked generator.

The LSA 44.3 is designed, manufactured and marketed in an ISO 9001 environment and ISO 14001.

Top of the range electrical performance

- Class H insulation
- Standard 12 wire re-connectable winding, 2/3 pitch, type no. 6
- Voltage range:
 - 50 Hz: 220 V - 240 V and 380 V - 415 V (440 V)
 - 60 Hz: 208 V - 240 V and 380 V - 480 V
- High efficiency and motor starting capacity
- Other voltages are possible with optional adapted windings:
 - 50 Hz: 440 V (no. 7), 500 V (no. 9), 690 V (n°10 or 52)
 - 60 Hz: 380 V and 416 V (no. 8), 600 V (no. 9)
- Complies with EN 61000-6-3, EN 61000-6-2, EN 55011, group 1 class B for European zone (EC marking)

Reinforced mechanical structure using finite element modelling

- Compact rigid assembly to better withstand generator vibrations
- Steel frame and terminal box
- Aluminium/cast iron flanges and shields
- Two-bearing and single-bearing versions designed to be suitable for commercially-available heat engines
- Half-key balancing two bearing
- Permanently greased bearings (20 000h)
- Direction of rotation: clockwise and anti-clockwise (without derating)

Excitation and regulation system suited to the application

Excitation system				Regulation options			
Voltage regulator	SHUNT	AREP (option)	PMG (option)	C.T. Current transformer for paralleling	Mains paralleling	3-phase sensing	Remote voltage potentiometer
R250	Standard	-	-	-	-	-	√
D350	-	Standard	Standard	√	-	√	√
D550	Option	Option	Option	√	√	√	√

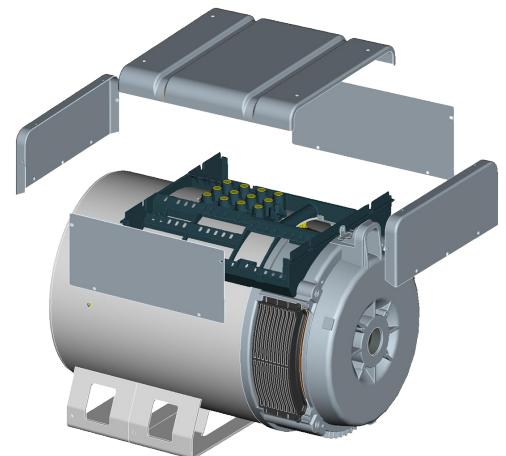
√ : Possible option

Compact and design terminal box

- Easy access to the AVR (lid) and to the connections
- Terminal block for reconnecting the voltage

Protection system suited to the environment

- The LSA 44.3 is IP 23
- Standard winding protection for clean environments with relative humidity ≤ 95%, including indoor marine environments
- Options:
 - Filters on air inlet: derating 5%
 - Filters on air inlet and air outlet (IP 44) : derating 10%
 - Space heaters
 - Thermal protection for stator windings
 - Winding protection for harsh environments and relative humidity greater than 95%
 - Shaft height: H = 225 mm on demand
 - Cable outlet at right



LSA 44.3 - 70 to 200 kVA - 50 Hz / 88 to 250 kVA - 60 Hz

General characteristics

Insulation class	H	Excitation system	SHUNT	AREP / PMG
Winding pitch	2/3 (wdg 6)	AVR type	R250	D350
Number of wires	12	Voltage regulation (*)	± 0.5%	± 0.25%
Protection	IP 23	Short-circuit current	-	300% (3 IN): 10 s
Altitude	≤ 1000 m	Total Harmonic Distortion THD (**) in no-load	< 2%	
Overspeed	2250 min ⁻¹	Total Harmonic Distortion THD (**) on linear load ...	< 5%	
Air flow	0.25m ³ /s, 50 Hz - 0.30m ³ /s, 60 Hz	Waveform: NEMA = TIF (**)	< 50	
Air flow (***)	0.29m ³ /s, 50 Hz - 0.34m ³ /s, 60 Hz	(*) Steady state. (**) Total harmonic distortion between phases, no-load or on-load (non-distorting).		

(***) Only for LS 44.3 L12, VL13 & VL14

Ratings 50 Hz - 1500 R.P.M.

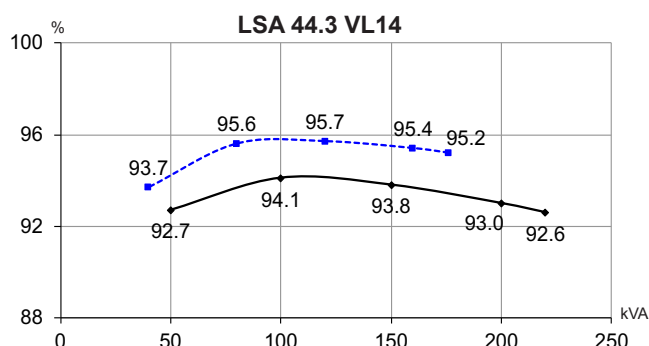
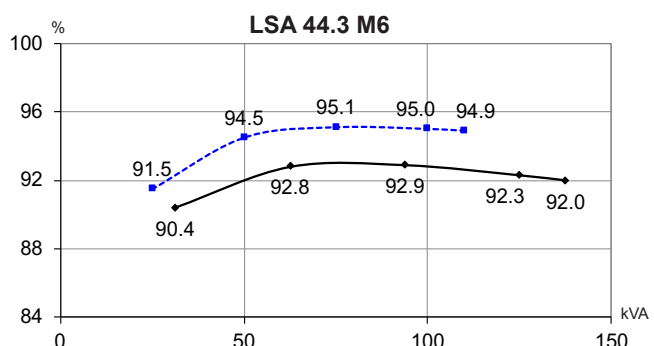
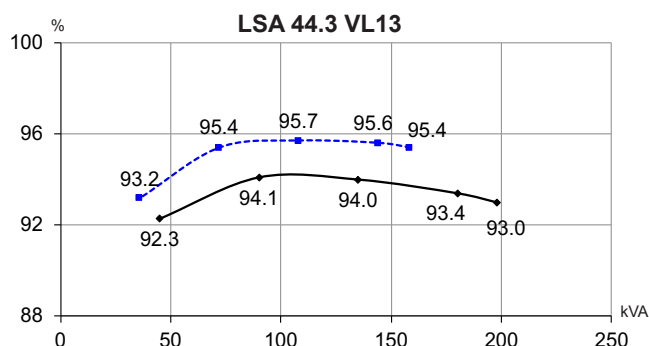
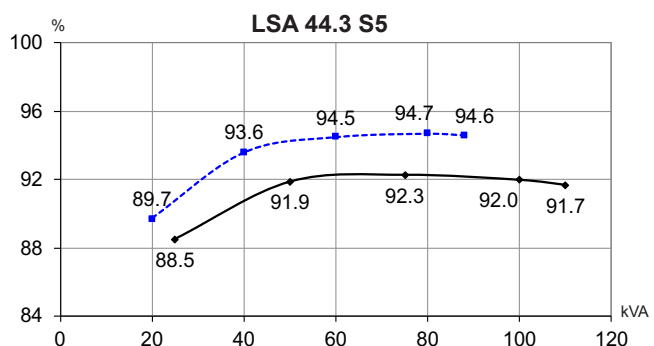
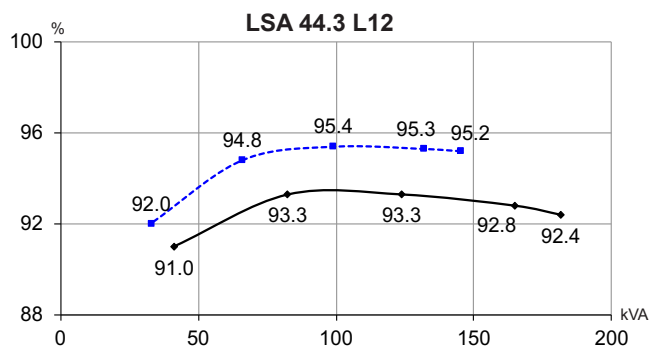
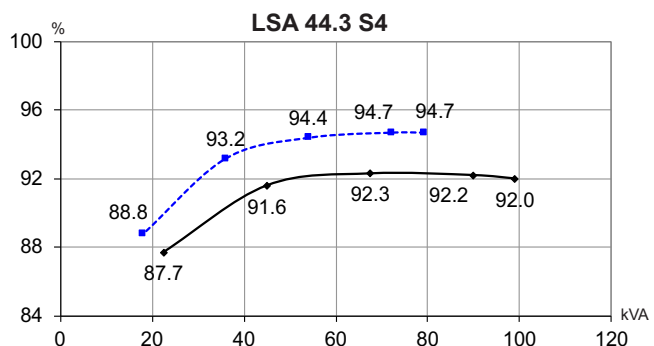
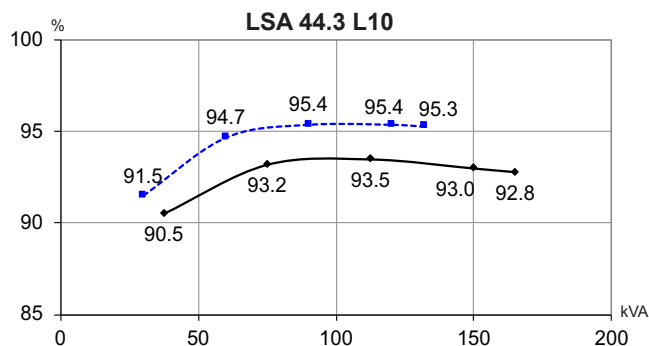
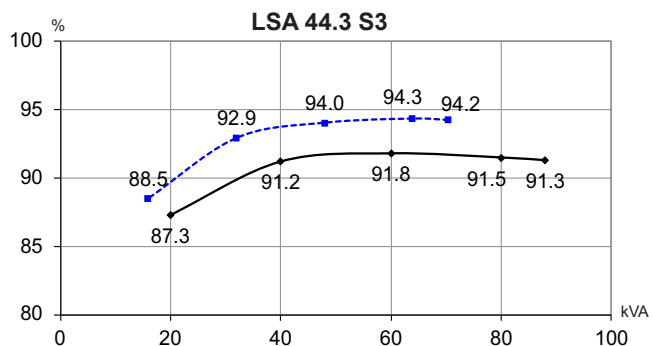
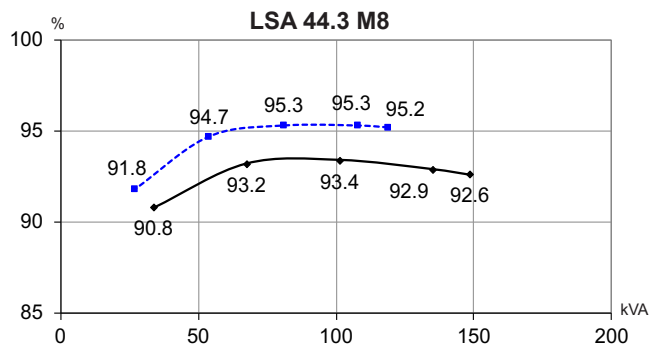
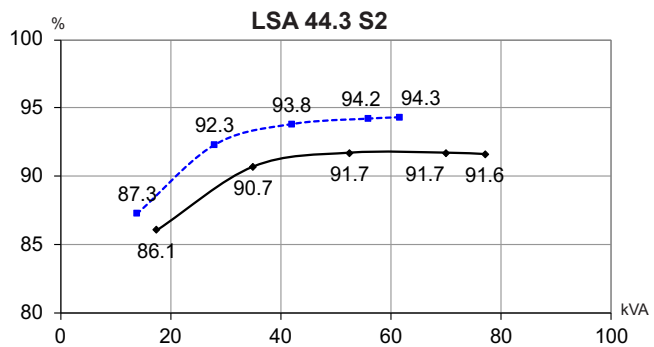
Duty/T°C		Continuous duty/40°C					Continuous duty/40°C					Stand-by/40°C					Stand-by/27°C				
Class/T°C		H/125°K					F/105°K					H/150°K					H/163°K				
Phase		3 ph.			1 ph.	3 ph.			1 ph.	3 ph.			1 ph.	3 ph.			1 ph.				
Y		380V	400V	415V	440V	ΔΔ	380V	400V	415V	440V	ΔΔ	380V	400V	415V	440V	ΔΔ	380V	400V	415V	440V	ΔΔ
Δ		220V	230V	240V	230V		220V	230V	240V	230V		220V	230V	240V	230V		220V	230V	240V	230V	
YY		220V					220V					220V					220V				
LSA 44.3 S2	kVA	70	70	70	63	42	64	64	64	57	38	74	74	74	67	45	77	77	77	69	46
	kW	56	56	56	50	33.5	51	51	51	46	30.5	59	59	59	54	36	62	62	62	55	37
LSA 44.3 S3	kVA	80	80	80	72	48	73	73	73	66	44	85	85	85	76	51	88	88	88	79	53
	kW	64	64	64	58	38.5	58	58	58	53	35	68	68	68	61	41	70	70	70	63	42
LSA 44.3 S4	kVA	90	90	90	81	54	82	82	82	74	49	95	95	95	86	57	100	100	100	89	59
	kW	72	72	72	65	43	66	66	66	59	39	76	76	76	69	46	80	80	80	71	47
LSA 44.3 S5	kVA	100	100	100	90	60	91	91	91	82	55	106	106	106	95	64	110	110	110	99	66
	kW	80	80	80	72	48	73	73	73	66	44	85	85	85	76	51	88	88	88	79	53
LSA 44.3 M6	kVA	125	125	125	113	67	114	114	114	103	61	133	133	133	120	71	138	138	138	124	74
	kW	100	100	100	90	54	91	91	91	82	49	106	106	106	96	57	110	110	110	99	59
LSA 44.3 M8	kVA	135	135	135	122	73	123	123	123	111	66	143	143	143	129	77	150	150	150	134	80
	kW	108	108	108	98	58	98	98	98	89	53	114	114	114	103	62	120	120	120	107	64
LSA 44.3 L10	kVA	150	150	150	135	80	137	137	137	123	73	159	159	159	143	85	165	165	165	149	88
	kW	120	120	120	108	64	110	110	110	98	58	127	127	127	114	68	132	132	132	119	70
LSA 44.3 L12	kVA	165	165	165	138	88	150	150	150	126	80	175	175	175	150	93	182	182	182	157	97
	kW	132	132	132	110	70	120	120	120	101	64	140	140	140	120	74	146	146	146	126	78
LSA 44.3 VL13	kVA	180	180	180	171	90	164	164	164	156	82	191	191	191	181	95	200	200	200	188	99
	kW	144	144	144	137	72	131	131	131	125	66	153	153	153	145	76	160	160	160	150	79
LSA 44.3 VL14	kVA	192	200	200	192	100	175	182	182	175	91	204	212	212	204	106	211	220	220	211	110
	kW	154	160	160	154	80	140	146	146	140	73	163	170	170	163	85	169	176	176	169	88

Ratings 60 Hz - 1800 R.P.M.

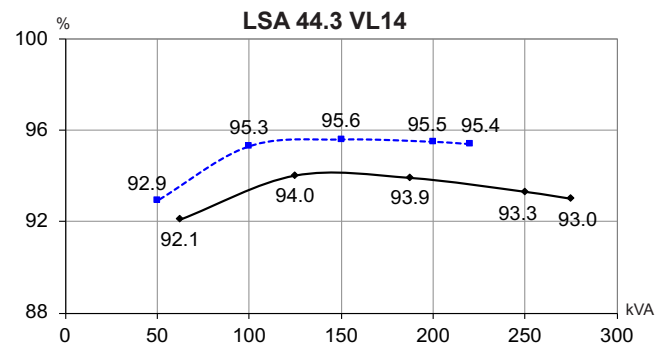
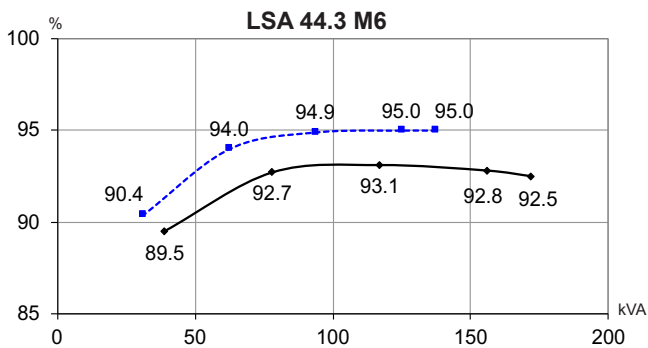
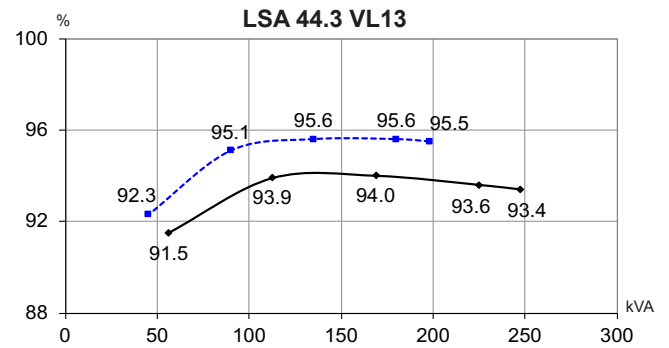
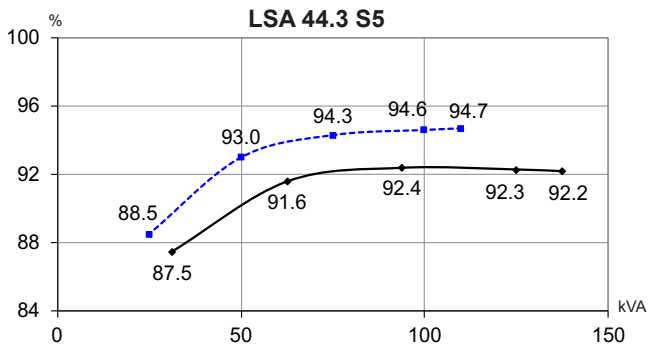
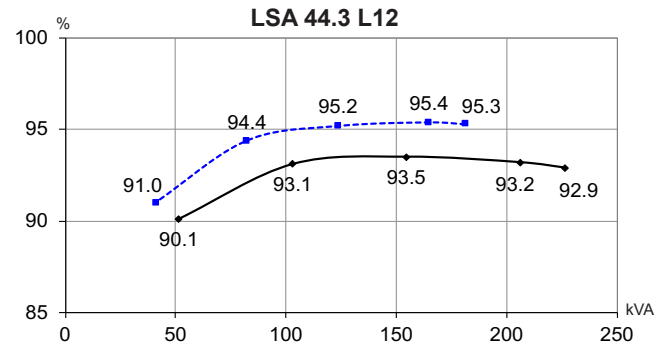
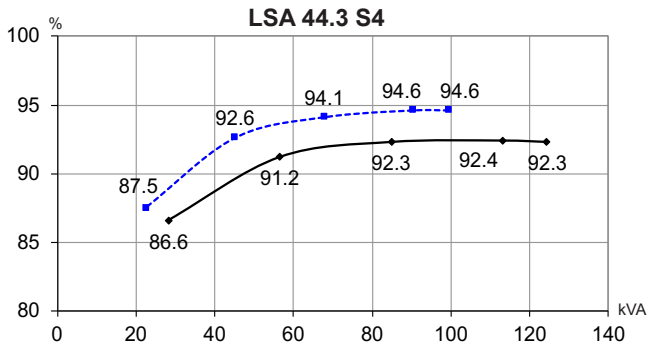
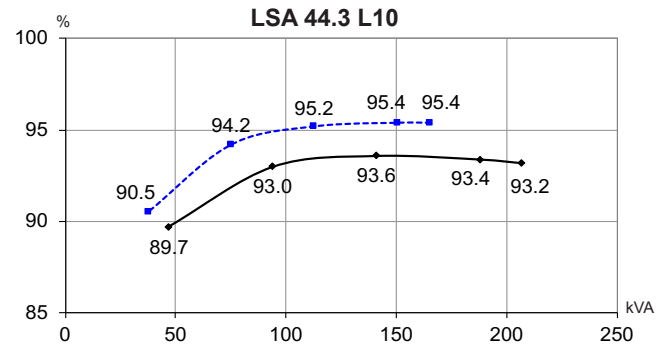
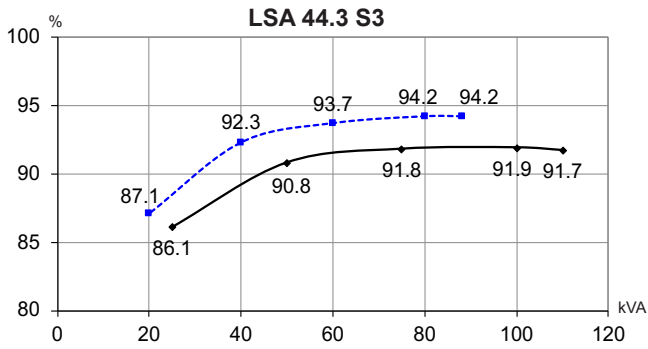
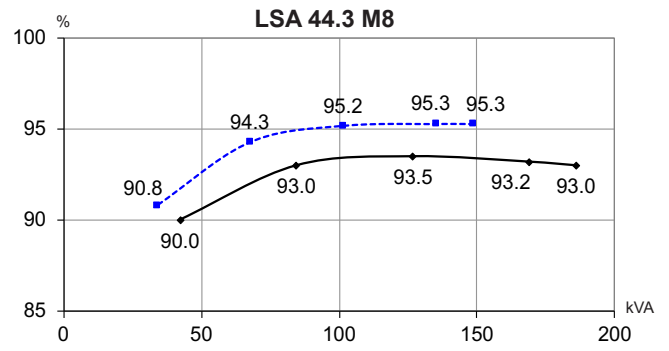
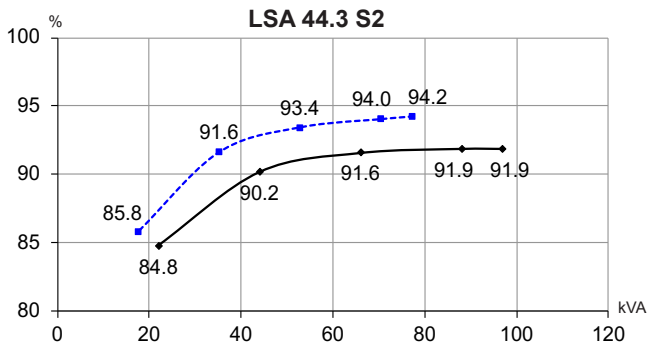
Duty/T°C		Continuous duty/40°C					Continuous duty/40°C					Stand-by/40°C					Stand-by/27°C				
Class/T°C		H/125°K					F/105°K					H/150°K					H/163°K				
Phase		3 ph.			1 ph.	3 ph.			1 ph.	3 ph.			1 ph.	3 ph.			1 ph.				
Y		380V	416V	440V	480V	ΔΔ	380V	416V	440V	480V	ΔΔ	380V	416V	440V	480V	ΔΔ	380V	416V	440V	480V	ΔΔ
Δ		220V	240V		240V		220V	240V		240V		220V	240V		240V		220V	240V		240V	
YY		208V					208V					208V					208V				
LSA 44.3 S2	kVA	69	76	80	88	46	63	69	73	80	42	73	81	85	93	49	76	84	88	97	51
	kW	55	61	64	70	37	50	55	58	64	33.5	58	65	68	74	39	61	67	70	78	41
LSA 44.3 S3	kVA	79	87	92	100	52	72	79	84	91	47	84	92	98	106	55	87	96	101	110	57
	kW	63	70	74	80	42	58	63	67	73	37.5	67	74	78	85	44	70	77	81	88	46
LSA 44.3 S4	kVA	89	98	103	113	59	81	89	94	103	54	94	104	109	120	63	98	108	113	124	65
	kW	71	78	82	90	47	65	71	75	82	43	75	83	87	96	50	78	86	90	99	52
LSA 44.3 S5	kVA	99	108	115	125	65	90	99	105	114	59	105	114	122	133	69	109	119	127	138	72
	kW	79	86	92	100	52	72	79	84	91	47	84	91	98	106	55	87	95	102	110	58
LSA 44.3 M6	kVA	124	135	143	156	76	113	123	130	142	69	131	143	152	165	81	136	149	157	172	84
	kW	99	108	114	125	61	90	98	104	114	55	105	114	122	132	65	109	119	126	138	67
LSA 44.3 M8	kVA	134	146	155	169	81	122	133	141	154	74	142	155	164	179	86	147	161	171	186	89
	kW	107	117	124	135	65	98	106	113	123	59	114	124	131	143	69	118	129	137	149	71
LSA 44.3 L10	kVA	148	163	172	188	95	135	148	157	171	86	157	173	182	199	101	163	179	189	207	105
	kW	118	130	138	150	76	108	118	126	137	69	126	138	146	159	81	130	143	151	166	84
LSA 44.3 L12	kVA	165	179	189	206	105	150	163	172	187	96	175	190	200	218	111	182	197	208	227	116
	kW	132	143	151	165	84	120	130	138	150	77	140	152	160	174	89	146	158	166	182	93
LSA 44.3 VL13	kVA	180	195	210	225	113	164	177	191	205	102	191	207	223	239	119	200	215	231	250	124
	kW	144	156	168	180	90	131	142	153	164	82	153	166	178	191	95	160	172	185	200	99
LSA 44.3 VL14	kVA	200	215	230	250	125	182	196	209	228	114	212	228	244	265	133	220	237	253	275	136
	kW	160	172	184	200	100	146	157	167	182	91	170	182	195	212	106	176	190	202	220	109

* Values are rounded-off and are subject to change without notice by the manufacturer.

Efficiencies 400 V - 50 Hz (— P.F.: 0.8) (----- P.F.: 1)



Efficiencies 480 V - 60 Hz (— P.F.: 0.8) (----- P.F.: 1)



Reactances (%). Time constants (ms) - Class H / 400 V

	S2	S3	S4	S5	M6	M8	L10	L12	VL13	VL14
Kcc Short-circuit ratio	0.68	0.59	0.61	0.55	0.45	0.44	0.49	0.44	0.37	0.33
Xd Direct-axis synchro. reactance unsaturated	239	273	258	287	329	323	305	335	343	381
Xq Quadrature-axis synchro. reactance unsaturated	121	139	131	146	167	165	155	171	175	194
T'do No-load transient time constant	2308	2308	2211	2211	2154	2112	2077	2077	2025	2025
X'd Direct-axis transient reactance saturated	10.3	11.8	11.6	12.9	15.2	15.3	14.6	16.1	16.9	18.8
T'd Short-circuit transient time constant	100	100	100	100	100	100	100	100	100	100
X''d Direct-axis subtransient reactance saturated	6.2	7	7	7.7	9.1	9.1	8.8	9.6	10.1	11.3
T''d Subtransient time constant	10	10	10	10	10	10	10	10	10	10
X''q Quadrature-axis subtransient reactance saturated	13.2	15.1	14.5	16.1	18.6	18.3	17.4	19.1	19.7	21.9
Xo Zero sequence reactance	0.43	0.49	0.48	0.54	0.63	0.63	0.61	0.67	0.7	0.78
X2 Negative sequence reactance saturated	9.74	11.13	10.75	11.95	13.89	13.78	13.11	14.42	14.96	16.62
Ta Armature time constant	15	15	15	15	15	15	15	15	15	15

Other class H / 400 V data

io (A) No-load excitation current SHUNT	0.75	0.75	0.73	0.73	0.66	0.62	0.67	0.67	0.78	0.78
io (A) No-load excitation current AREP	0.97	0.97	0.94	0.94	0.85	0.81	0.86	0.86	0.78	0.78
ic (A) On-load excitation current SHUNT	2.07	2.33	2.11	2.31	2.47	2.37	2.45	2.71	3.17	3.53
ic (A) On-load excitation current AREP	2.67	3	2.71	2.98	3.18	3.05	3.15	3.49	3.17	3.53
uc (V) On-load excitation voltage SHUNT	23.1	25.8	26.5	28.9	30.6	29.3	29.9	32.7	16.2	17.9
uc (V) On-load excitation voltage AREP	18.6	20.7	21.3	23.2	24.5	23.5	24	26.3	16.2	17.9
ms Response time ($\Delta U = 20\%$ transient)	500	500	500	500	500	500	500	500	500	500
kVA Start ($\Delta U = 20\%$ cont. or $\Delta U = 30\%$ trans.) SHUNT*	184	184	292	293	310	334	371	379	487	487
kVA Start ($\Delta U = 20\%$ cont. or $\Delta U = 30\%$ trans.) AREP*	222	221	344	344	366	400	414	414	545	545
% Transient ΔU (on-load 4/4) SHUNT - P.F.: 0.8 _{LAG}	13.3	14.5	11.6	12.4	13.8	13.8	13.4	14.3	13	13.9
% Transient ΔU (on-load 4/4) AREP - P.F.: 0.8 _{LAG}	11.8	12.9	10.4	11.1	12.3	12.3	12	12.7	11.6	12.4
W No-load losses	2174	2174	2396	2396	2387	2478	2894	2946	2670	2670
W Heat dissipation	5025	5892	6073	6935	8254	8251	8914	10236	10165	11933

* P.F. = 0.6

Reactances (%). Time constants (ms) - Class H / 480 V

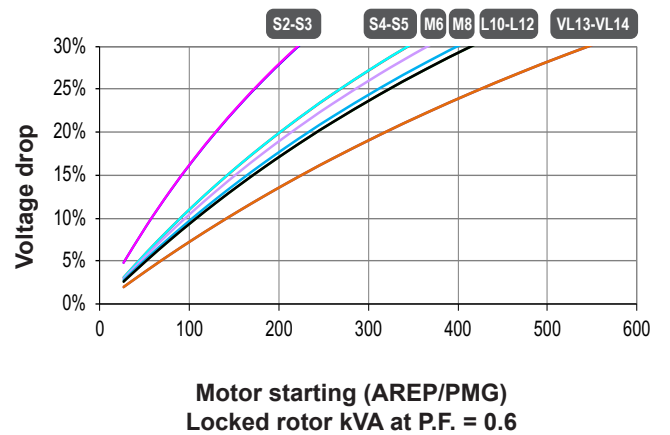
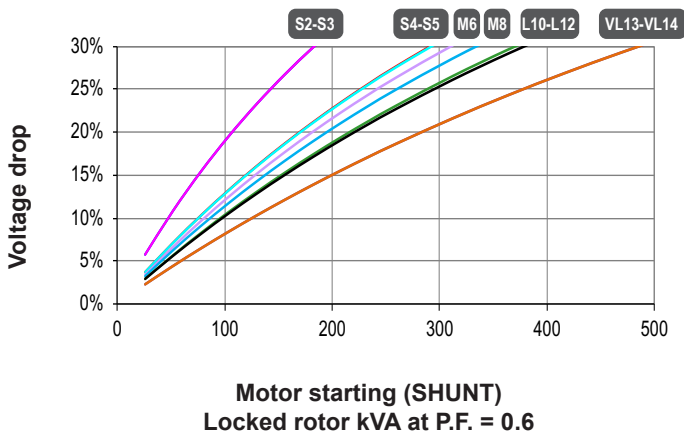
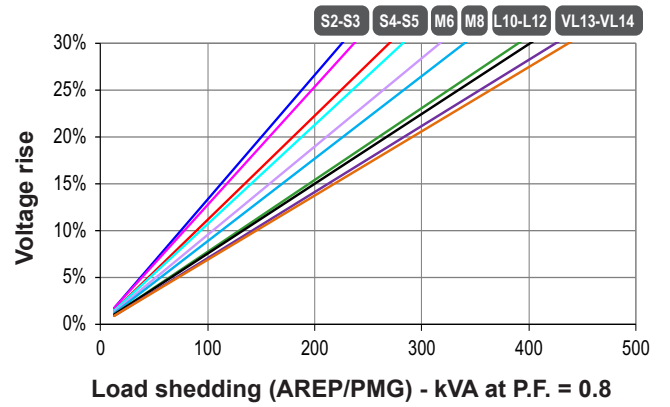
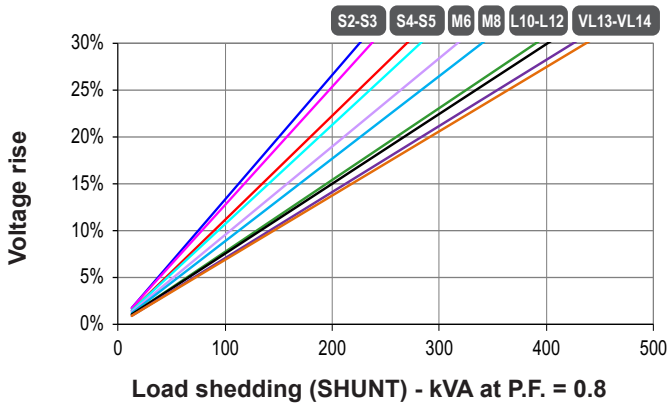
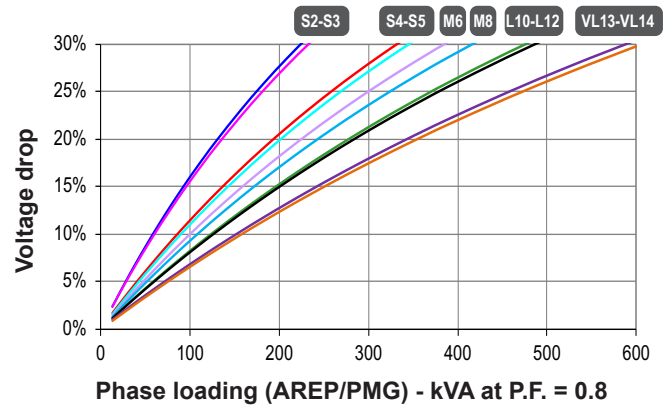
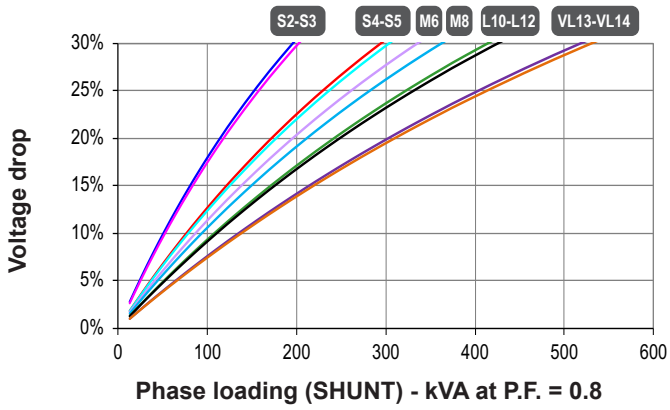
	S2	S3	S4	S5	M6	M8	L10	L12	VL13	VL14
Kcc Short-circuit ratio	0.65	0.57	0.58	0.53	0.43	0.42	0.47	0.43	0.36	0.32
Xd Direct-axis synchro. reactance unsaturated	250	284	270	299	342	337	318	349	358	397
Xq Quadrature-axis synchro. reactance unsaturated	127	145	137	152	174	172	162	178	182	202
T'do No-load transient time constant	2308	2308	2211	2211	2154	2112	2077	2077	2025	2025
X'd Direct-axis transient reactance saturated	10.8	12.3	12.2	13.5	15.8	15.9	15.3	16.8	17.6	19.6
T'd Short-circuit transient time constant	100	100	100	100	100	100	100	100	100	100
X''d Direct-axis subtransient reactance saturated	6.5	7.3	7.3	8.1	9.5	9.5	9.2	10	10.6	11.7
T''d Subtransient time constant	10	10	10	10	10	10	10	10	10	10
X''q Quadrature-axis subtransient reactance saturated	13.9	15.7	15.1	16.7	19.3	19.1	18.1	19.9	20.5	22.8
Xo Zero sequence reactance	0.45	0.51	0.5	0.56	0.66	0.66	0.63	0.7	0.73	0.81
X2 Negative sequence reactance saturated	10.2	11.59	11.25	12.44	14.44	14.37	13.7	15	15.59	17.32
Ta Armature time constant	15	15	15	15	15	15	15	15	15	15

Other class H / 480 V data

io (A) No-load excitation current SHUNT	0.75	0.75	0.73	0.73	0.66	0.62	0.67	0.67	0.77	0.77
io (A) No-load excitation current AREP	0.97	0.97	0.94	0.94	0.85	0.81	0.86	0.86	0.77	0.77
ic (A) On-load excitation current SHUNT	2.08	2.31	2.13	2.32	2.47	2.38	2.44	2.68	3.21	3.56
ic (A) On-load excitation current AREP	2.67	2.98	2.75	2.99	3.18	3.06	3.14	3.45	3.21	3.56
uc (V) On-load excitation voltage SHUNT	23.5	26	27	29.4	31	29.7	30.3	33	16.6	18.3
uc (V) On-load excitation voltage AREP	18.8	20.8	21.7	23.6	24.9	23.9	24.3	26.5	16.6	18.3
ms Response time ($\Delta U = 20\%$ transient)	500	500	500	500	500	500	500	500	500	500
kVA Start ($\Delta U = 20\%$ cont. or $\Delta U = 30\%$ trans.) SHUNT*	220	222	352	351	374	403	465	466	589	587
kVA Start ($\Delta U = 20\%$ cont. or $\Delta U = 30\%$ trans.) AREP*	265	265	422	423	446	481	541	544	708	706
% Transient ΔU (on-load 4/4) SHUNT - P.F.: 0.8 _{LAG}	13.7	14.9	12	12.7	14.1	14.2	13.8	14.7	13.3	14.3
% Transient ΔU (on-load 4/4) AREP - P.F.: 0.8 _{LAG}	12.2	13.2	10.7	11.4	12.6	12.6	12.3	13	11.9	12.7
W No-load losses	3188	3188	3501	3501	3506	3639	4217	4308	3928	3928
W Heat dissipation	6152	7047	7349	8241	9669	9747	10581	11988	12155	14140

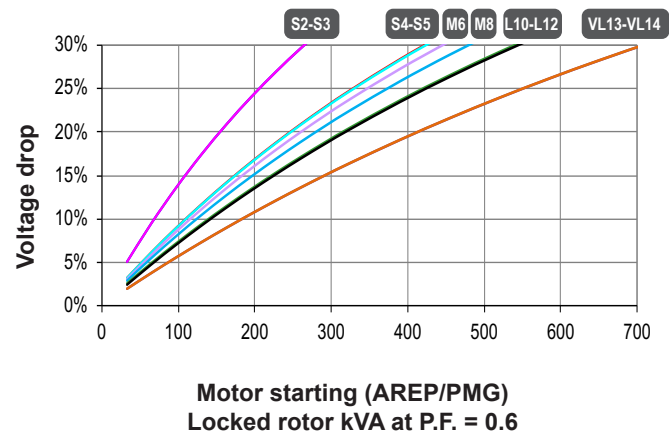
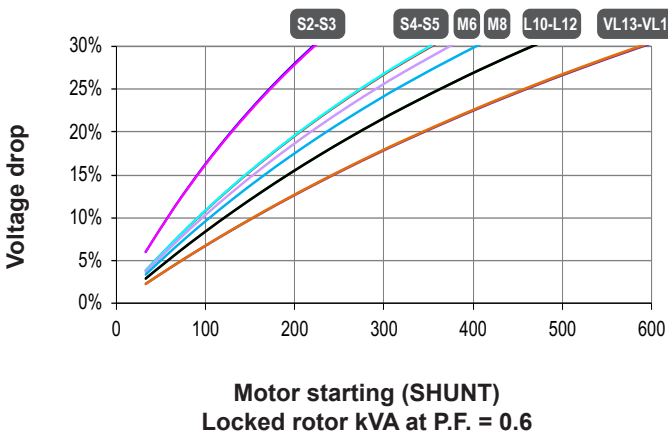
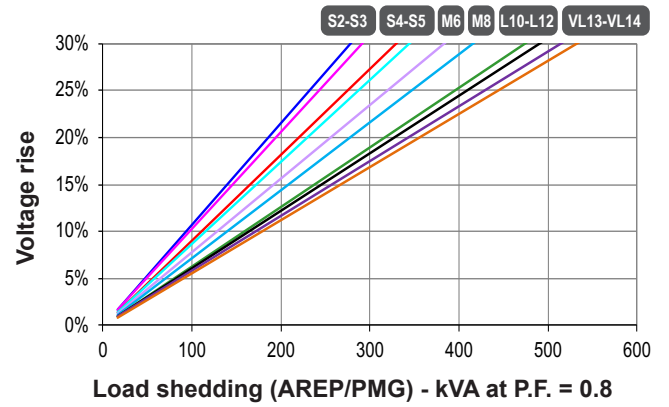
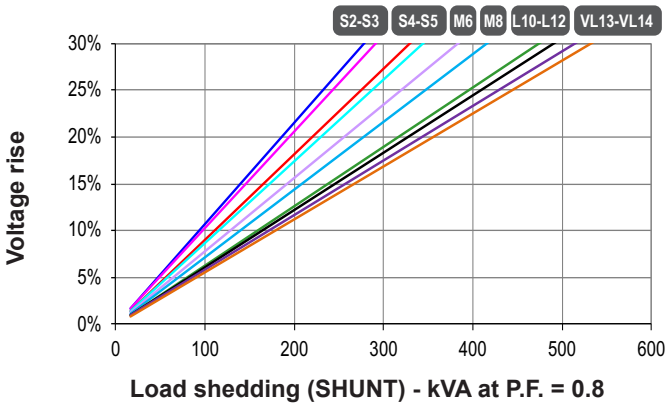
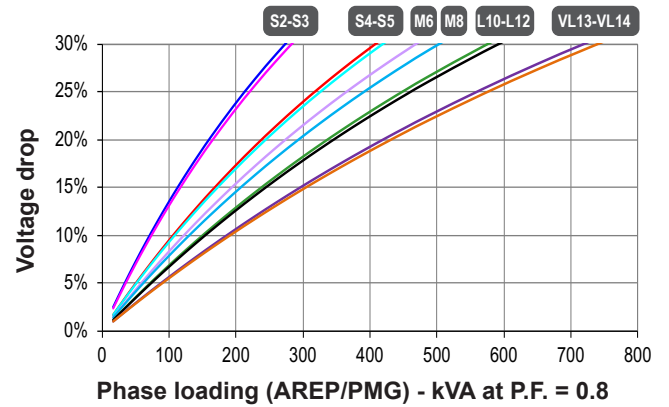
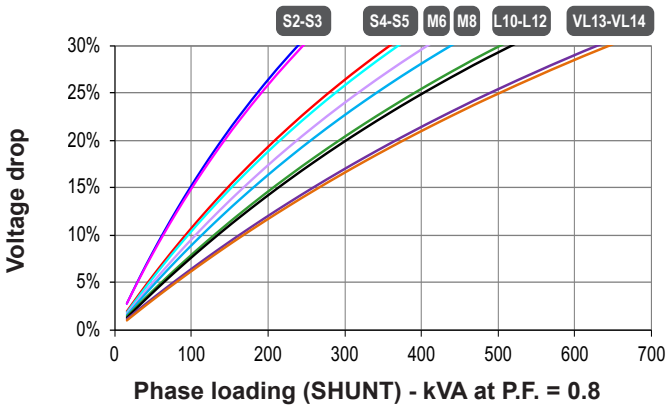
* P.F. = 0.6

Transient voltage variation 400V - 50 Hz



1) For a starting P.F. other than 0.6, the starting kVA must be multiplied by $K = \text{Sine P.F.} / 0.8$
 2) For voltages other than 400V (Y), 230V (Δ) at 50 Hz, then kVA must be multiplied by $(400/U)^2$ or $(230/U)^2$.

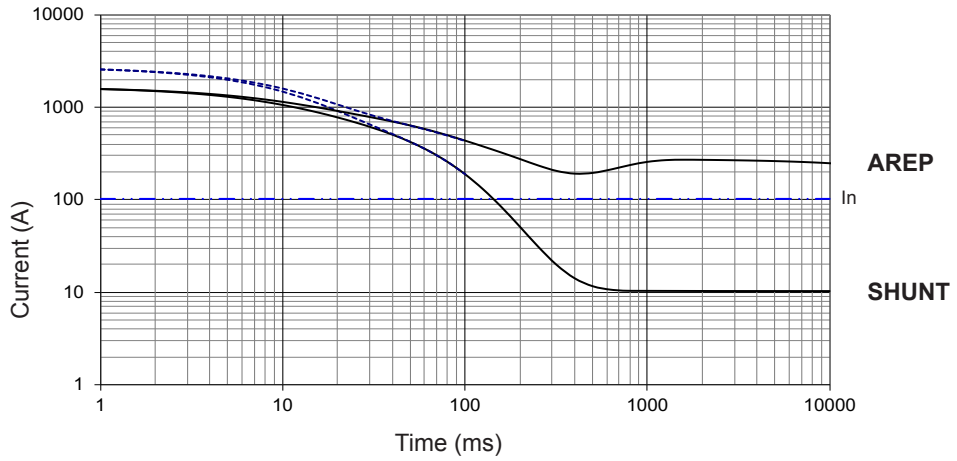
Transient voltage variation 480V - 60 Hz



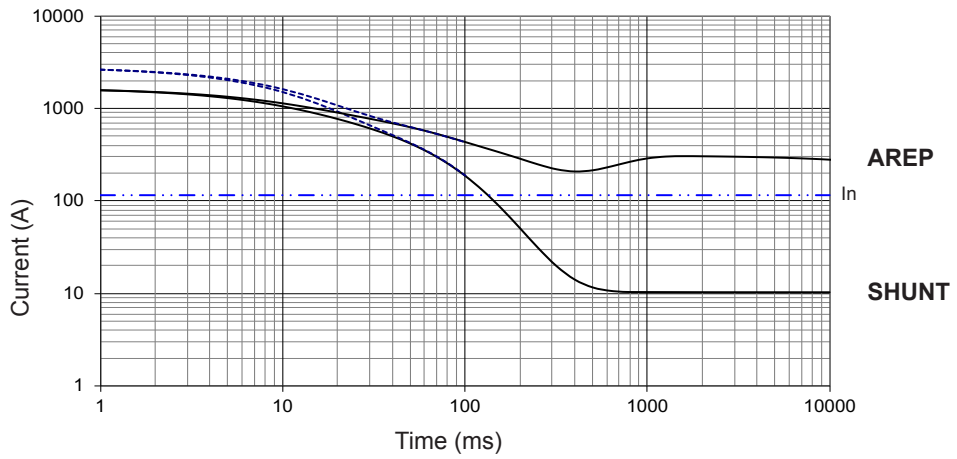
1) For a starting P.F. other than 0.6, the starting kVA must be multiplied by $K = \text{Sine P.F.} / 0.8$
 2) For voltages other than 480V (Y), 277V (Δ), 240V (YY) at 60 Hz, then kVA must be multiplied by $(480/U)^2$ or $(277/U)^2$ or $(240/U)^2$.

3-phase short-circuit curves at no load and rated speed (star connection Y)

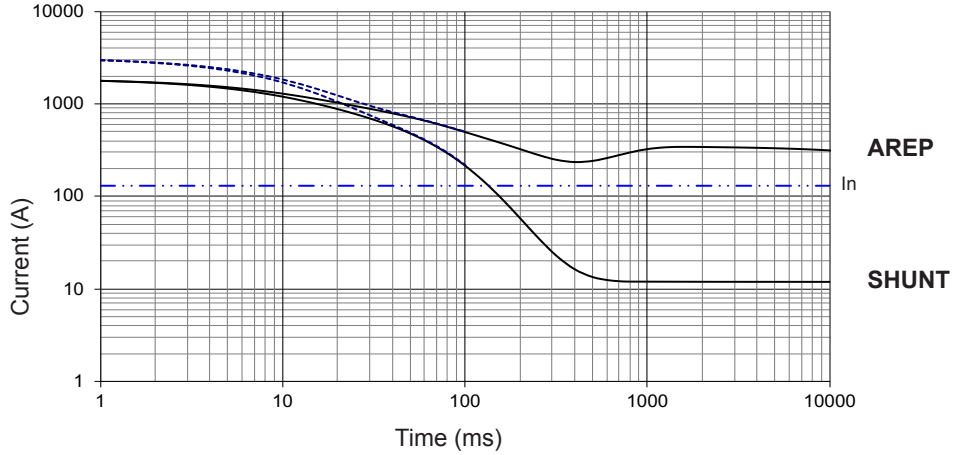
LSA 44.3 S2
 Symmetrical —
 Asymmetrical - - -



LSA 44.3 S3
 Symmetrical —
 Asymmetrical - - -



LSA 44.3 S4
 Symmetrical —
 Asymmetrical - - -



Influence due to connection

Curves shown are for star (Y) connection.

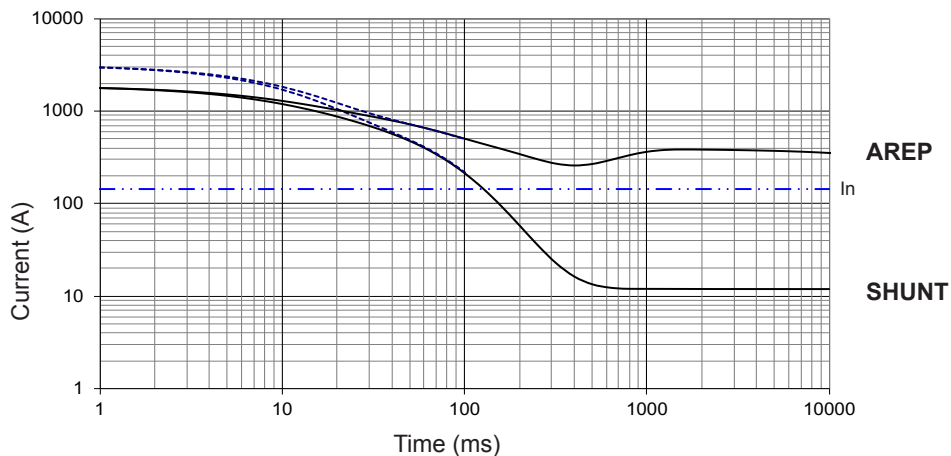
For other connections, use the following multiplication factors:

- Series delta : current value x 1.732
- Parallel star : current value x 2

3-phase short-circuit curves at no load and rated speed (star connection Y)

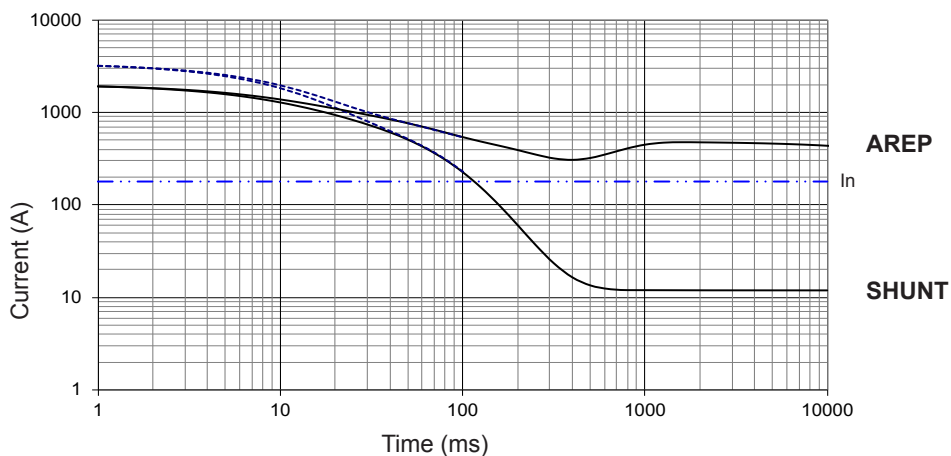
LSA 44.3 S5

Symmetrical —
Asymmetrical - - -



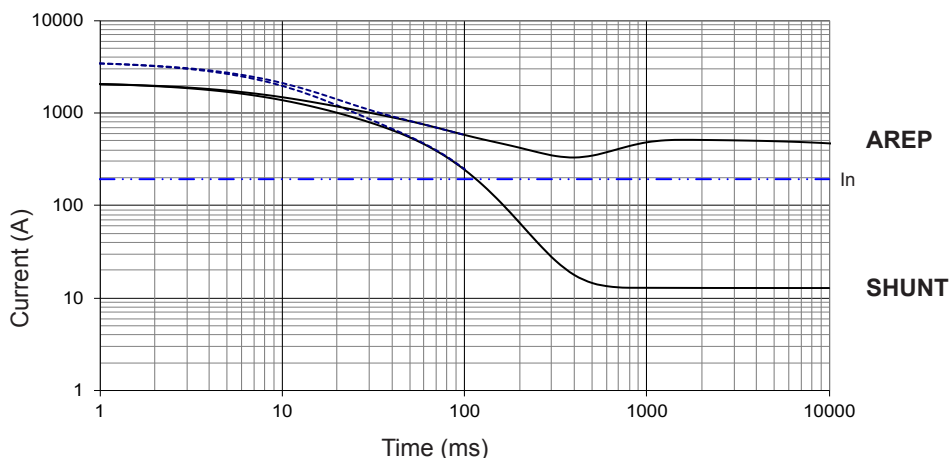
LSA 44.3 M6

Symmetrical —
Asymmetrical - - -



LSA 44.3 M8

Symmetrical —
Asymmetrical - - -



Influence due to short-circuit

Curves are based on a three-phase short-circuit.

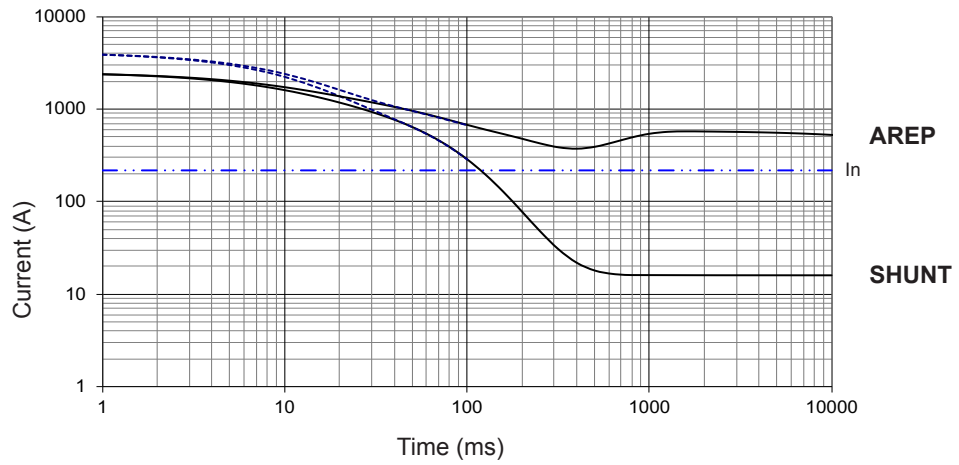
For other types of short-circuit, use the following multiplication factors.

	3-phase	2-phase L/L	1-phase L/N
Instantaneous (max.)	1	0.87	1.3
Continuous	1	1.5	2.2
Maximum duration (AREP/PMG)	10 sec.	5 sec.	2 sec.

3-phase short-circuit curves at no load and rated speed (star connection Y)

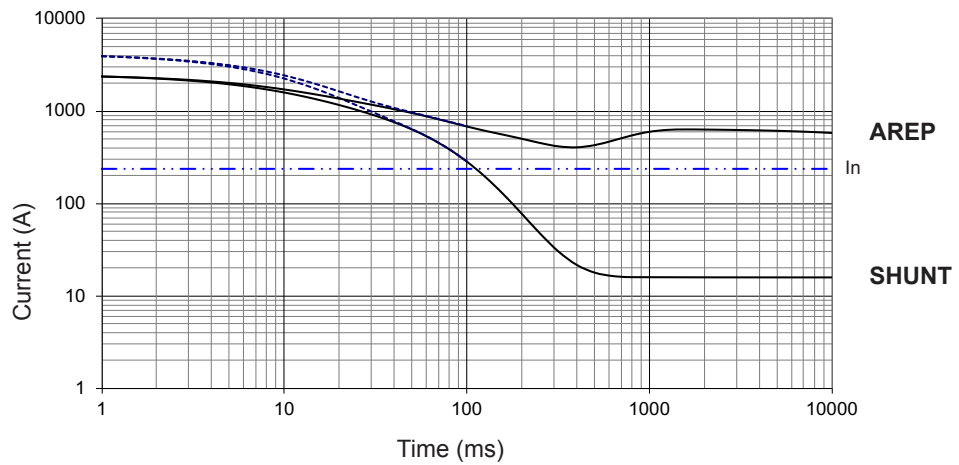
LSA 44.3 L10

Symmetrical —
Asymmetrical - - -



LSA 44.3 L12

Symmetrical —
Asymmetrical - - -



Influence due to connection

Curves shown are for star (Y) connection.

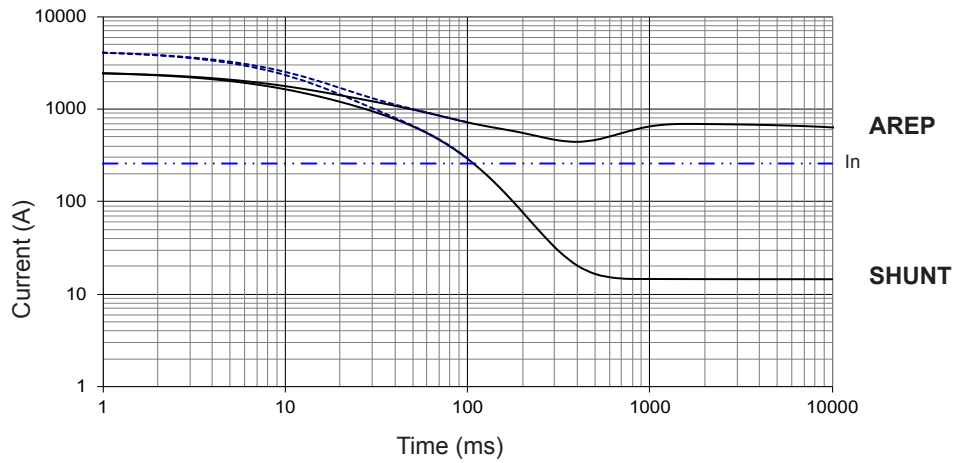
For other connections, use the following multiplication factors:

- Series delta : current value x 1.732 - Parallel star : current value x 2

3-phase short-circuit curves at no load and rated speed (star connection Y)

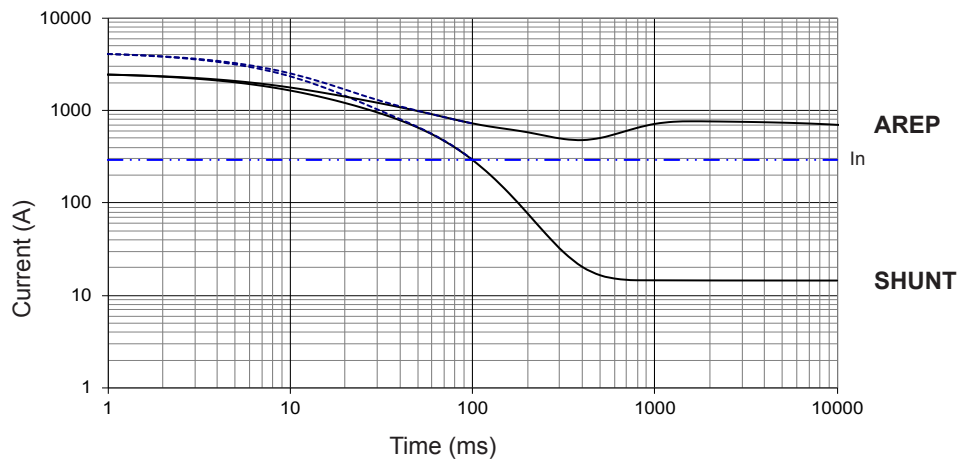
LSA 44.3 VL13

Symmetrical —
Asymmetrical - - -



LSA 44.3 VL14

Symmetrical —
Asymmetrical - - -



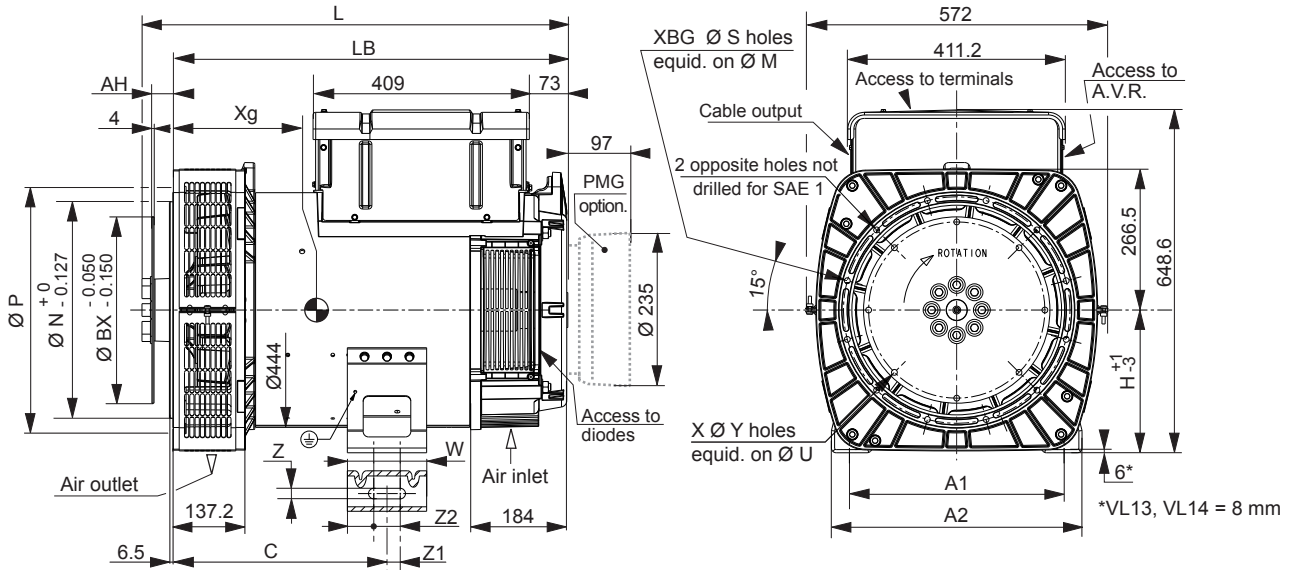
Influence due to short-circuit

Curves are based on a three-phase short-circuit.

For other types of short-circuit, use the following multiplication factors.

	3-phase	2-phase L/L	1-phase L/N
Instantaneous (max.)	1	0.87	1.3
Continuous	1	1.5	2.2
Maximum duration (AREP/PMG)	10 sec.	5 sec.	2 sec.

Single bearing dimensions



Dimensions (mm) and weight				
Type	L without PMG maxi*	LB	Xg	Weight (kg)
LSA 44.3 S2	758	677	313	295
LSA 44.3 S3	758	677	313	295
LSA 44.3 S4	758	677	329	332
LSA 44.3 S5	758	677	329	332
LSA 44.3 M6	828	747	353	368
LSA 44.3 M8	828	747	365	398
LSA 44.3 L10	868	787	383	433
LSA 44.3 L12	868	787	383	433
LSA 44.3 VL13	953	872	416	554
LSA 44.3 VL14	953	872	416	554

* L maxi = LB + AH maxi + 19

Flange (mm)					
S.A.E.	P	N	M	S	XBG
4	400	361.95	381	11	12
3	445	409.58	428.62	11	12
2	485	447.68	466.72	11	12
1	560.5*	511.18	530.23	12	10

* VL13 and VL14 = 550 mm

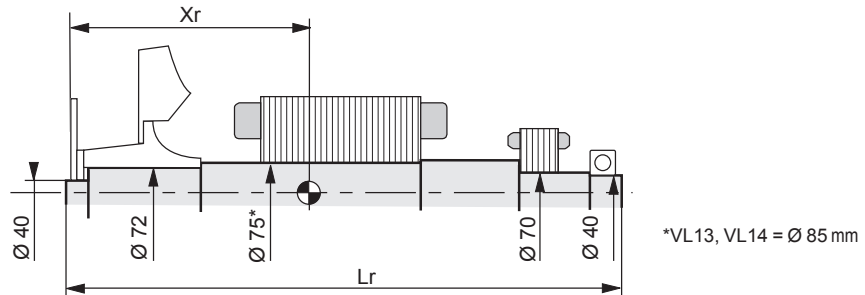
Shaft height (mm)		
	Standard	Option
H	270	225* 280**
Feet length		
C	405	332.5 429
A1	406	356 457
A2	474	474 541
Z	20	14.5 20
Z1	25	20 25
Z2	50	40 50
W	150	120 150

* Not available for VL13 and VL14
** Available only for VL13 and VL14

Coupling				
Flange	1	2	3	4
14	x	-	-	-
11 1/2	x	x	x	-
10	x	x	x	x
8	-	-	x	x

Flex plate (mm)					
S.A.E.	BX	U	X	Y	AH
14	466.72	438.15	8	14	25.4
11 1/2	352.42	333.38	8	11	39.6
10	314.32	295.28	8	11	53.8
8	263.52	244.48	6	11	62

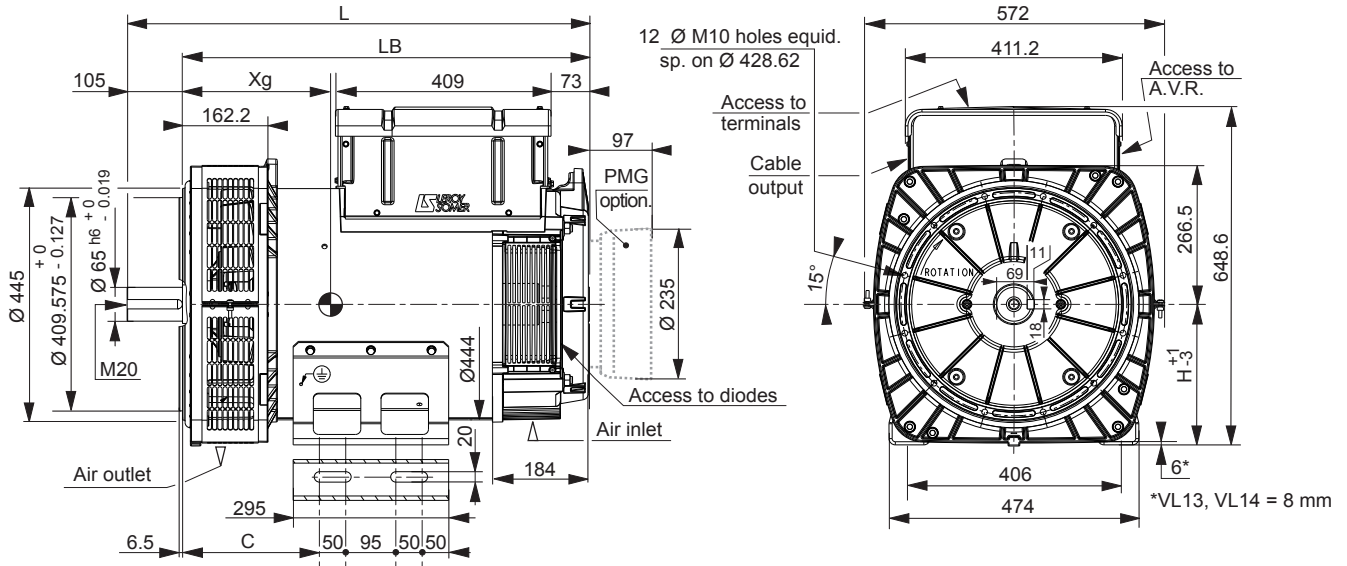
Torsional analysis data



Centre of gravity: Xr (mm), Rotor length: Lr (mm), Weight: M (kg), Moment of inertia: J (kgm²): (4J = MD²)																
Flex plate	S.A.E. 8				S.A.E. 10				S.A.E. 11 1/2				S.A.E. 14			
	Xr	Lr	M	J	Xr	Lr	M	J	Xr	Lr	M	J	Xr	Lr	M	J
LSA 44.3 S2	362	729	121	0.855	353	729	121	0.868	322	729	127	0.883	318	729	123	1.007
LSA 44.3 S3	362	729	121	0.855	353	729	121	0.868	322	729	127	0.883	318	729	123	1.007
LSA 44.3 S4	383	729	139	1.013	372	729	139	1.026	359	729	138	1.041	337	729	141	1.165
LSA 44.3 S5	383	729	139	1.013	372	729	139	1.026	359	729	138	1.041	337	729	141	1.165
LSA 44.3 M6	408	799	154	1.129	399	799	154	1.142	386	799	153	1.157	364	799	156	1.281
LSA 44.3 M8	418	799	165	1.236	410	799	165	1.249	397	799	165	1.264	373	799	168	1.388
LSA 44.3 L10	438	839	181	1.371	429	839	181	1.384	417	839	180	1.399	397	839	183	1.523
LSA 44.3 L12	437	839	181	1.381	428	839	181	1.394	416	839	181	1.409	396	839	184	1.533
LSA 44.3 VL13	473	922.4	224	1.739	465	914	224	1.753	451	899	224	1.769	436.5	906	231	1.899
LSA 44.3 VL14	473	922.4	224	1.739	465	914	224	1.753	451	899	224	1.769	436.5	906	231	1.899

NOTE : Dimensions are for information only and may be subject to modifications. Contractual 2D drawings can be downloaded from the Leroy-Somer site, 3D drawing files are available upon request. The torsional analysis of the transmission is imperative. All values are available upon request.

Two bearing dimensions

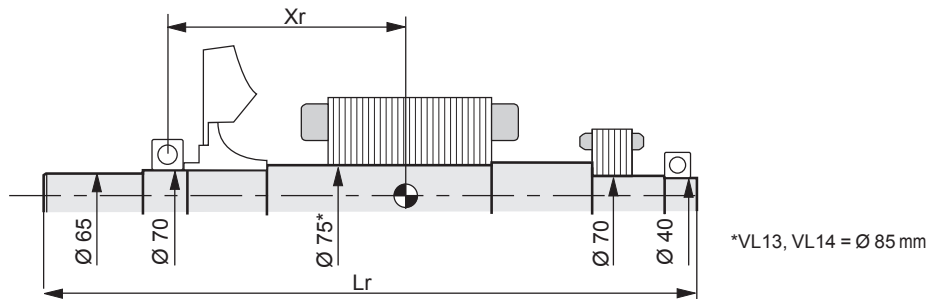


Dimensions (mm) and weight

Type	L without PMG	LB	Xg	C	H*	Weight (kg)
LSA 44.3 S2	807	702	333	260	270	301
LSA 44.3 S3	807	702	333	260	270	301
LSA 44.3 S4	807	702	350	260	270	338
LSA 44.3 S5	807	702	350	260	270	338
LSA 44.3 M6	877	772	373	260	270	374
LSA 44.3 M8	877	772	385	260	270	404
LSA 44.3 L10	917	812	403	260	270	439
LSA 44.3 L12	917	812	393	260	270	439
LSA 44.3 VL13	1002	897	422	285	270	555
LSA 44.3 VL14	1002	897	422	285	270	555

* H options: 225 mm, not available for VL13 and VL14, or 280 mm, available only for VL13 and VL14. Drawing available upon request.

Torsional analysis data



Centre of gravity: Xr (mm), Rotor length: Lr (mm), Weight: M (kg), Moment of inertia: J (kgm²): (4J = MD²)

Type	Xr	Lr	M	J
LSA 44.3 S2	309	793	117	0.825
LSA 44.3 S3	309	793	117	0.825
LSA 44.3 S4	329	793	135	0.988
LSA 44.3 S5	329	793	135	0.988
LSA 44.3 M6	353	863	149	1.096
LSA 44.3 M8	363	863	161	1.203
LSA 44.3 L10	383	903	176	1.346
LSA 44.3 L12	382	903	177	1.356
LSA 44.3 VL13	409	988	219.5	1.706
LSA 44.3 VL14	409	988	219.5	1.706

NOTE : Dimensions are for information only and may be subject to modifications. Contractual 2D drawings can be downloaded from the Leroy-Somer site, 3D drawing files are available upon request. The torsional analysis of the transmission is imperative. All values are available upon request.

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Moteurs Leroy-Somer SAS. Siège : Bd Marcellin Leroy, CS 10015, 16915 Angoulême Cedex 9, France.
Capital social : 65 800 512 €, RCS Angoulême 338 567 258.

1500 rpm (50 Hz ratings)

Gross engine output			Net engine output			Typical generator set output					
Standby	Prime	Base	Standby	Prime	Base	Standby (ESP)		Prime (PRP)		Base (COP)	
kWm/BHP			kWm/BHP			kWe	kVA	kWe	kVA	kWe	kVA
216/290	197/264	177/237	202/271	185/248	165/221	188	235	172	216	154	192

1800 rpm (60 Hz ratings)

Gross engine output			Net engine output			Typical generator set output					
Standby	Prime	Base	Standby	Prime	Base	Standby (ESP)		Prime (PRP)		Base (COP)	
kWm/BHP			kWm/BHP			kWe	kVA	kWe	kVA	kWe	kVA
237/318	216/289	194/260	220/295	202/271	180/241	205	256	188	234	167	209

General engine data

Fuel Rating	FR97283
Type	Inline 4-Cycle Diesel, Turbocharged & Charge Air Cooled
Bore mm	107mm (4.21in.)
Stroke mm	124mm (4.88in.)
Displacement litre	6.7L (409 in ³)
Cylinder block	Cast Iron, 6 cylinder
Battery charging alternator	70A/95A (for 24V) 100A (for 12V)
Starting voltage	12/24V
Fuel system	Bosch HPCR
Fuel filter	Spin-on, full flow with water separator and WIF sensor
Lube oil filter type(s)	Spin-on, full flow filter
Lube oil capacity (l)	19.6
Flywheel dimensions	SAE 2/11.5

Coolpac performance data

Cooling system design	Jacket Water and Charge Air Cooled
Coolant ratio	50% ethylene glycol; 50% water
Coolant capacity (l)	14.64
Limiting ambient temp.** (°C)	56.7 @ 60Hz / 47.5 @ 50Hz
Fan power (kWm)	13.1 (60Hz) / 10.4 (50Hz)
Cooling system air flow (m ³ /s)**	5.74 (60Hz) / 4.77 (50Hz)
Air cleaner type	Normal and Heavy-duty dry replaceable element options with restriction indicator and TBAP sensor

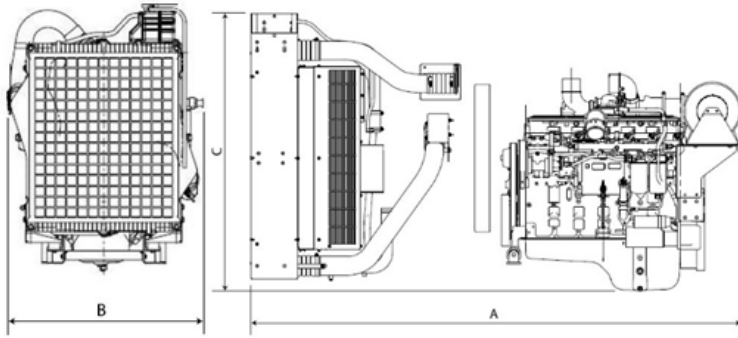
** @ 0.5" H2O

Fluid consumption 1500 (50 Hz)

Output Power			Fuel		DEF
%	kWm	BHP	L/h	US Gal/hr	L/h
Standby Power					
100	216	290	51	13.6	5.9
Prime Power					
100	197	264	46	12.2	5.3
75	148	198	34	8.9	3.7
50	98	132	23	6.1	2.1
25	49	66	14	3.7	1.0
Continuous Power					
100	177	237	41	10.8	4.7

Fluid consumption 1800 (60 Hz)

Output Power			Fuel		DEF
%	kWm	BHP	L/h	US Gal/hr	L/h
Standby Power					
100	237	318	57	15.0	6.1
Prime Power					
100	216	289	51	13.5	5.3
75	162	217	37	9.8	4.2
50	108	145	26	6.7	2.3
25	54	72	14	3.8	0.8
Continuous Power					
100	194	260	45	11.9	1.3



Note: Drawing shown for illustration purposes only

Weights and dimensions

Length mm	Width mm	Height mm	Weight (dry) kg
1518	983	1343	697.3

Ratings definitions

Emergency Standby Power (ESP):	Limited-Time Running Power (LTP):	Prime Power (PRP):	Base Load (Continuous) Power (COP):
Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power to a constant electrical load for limited hours. Limited-Time Running Power (LTP) is in accordance with ISO 8528.	Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) in accordance with ISO 8528, ISO 3046, AS 2789, DIN6271 and BS 5514.

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