	Cummins Inc Columbus, Indiana 47201 ENGINE PERFORMANCE CURVE	Basic Engine Model: 6BTA5.9-G3	Curve Number: FR-91232 @ 1500 RPM FR-91231 @ 1800 RPM	G-DRIVE B5.9 1
		Engine Critical Parts List: CPL: 8387	Date: 7Nov03	
Displacement : 5.88 litre (359.0 in³)		Bore : 102 mm (4.02 in.) Stroke : 120 mm (4.72 in.)		
No. of Cylinders : 6		Aspiration : Turbocharged and Aftercooled		

•• PRELIMINARY ••

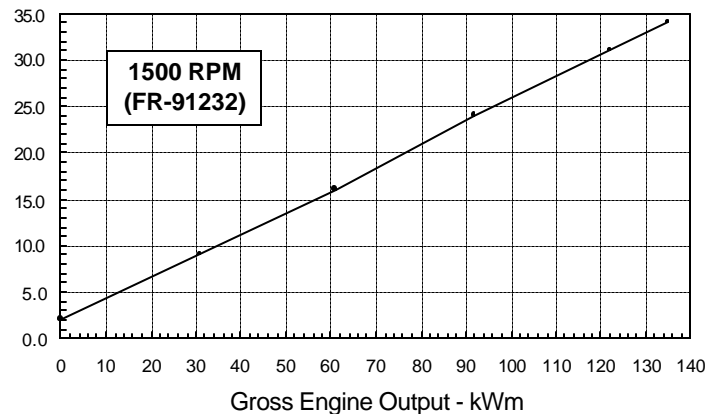
Engine Speed RPM	Standby Power		Prime Power		Continuous Power	
	kWm	BHP	kWm	BHP	kWm	BHP
1500	135	181	122	164	TBD	TBD
1800	154	207	140	188	TBD	TBD

Emissions Certification: This engine complies with certain emissions requirements established by US EPA/CARB in accordance with the OEM TPEM provision of 40CFR89.102 for Tier 1 emission limits and by the German TA-Luft. See Exhaust Emissions Data Sheet for conformance specifics.

Engine Performance Data @ 1500 RPM

OUTPUT POWER			FUEL CONSUMPTION			
%	kWm	BHP	kg/ kWm·h	lb/ BHP·h	litre/ hour	U.S. Gal/ hour
STANDBY POWER						
100	135	181	0.208	0.343	34	9.0
PRIME POWER						
100	122	164	0.208	0.343	31	8.1
75	92	123	0.213	0.351	24	6.3
50	61	82	0.221	0.364	16	4.3
25	31	41	0.230	0.378	9	2.3
CONTINUOUS POWER						
100	TBD	TBD	TBD	TBD	TBD	TBD

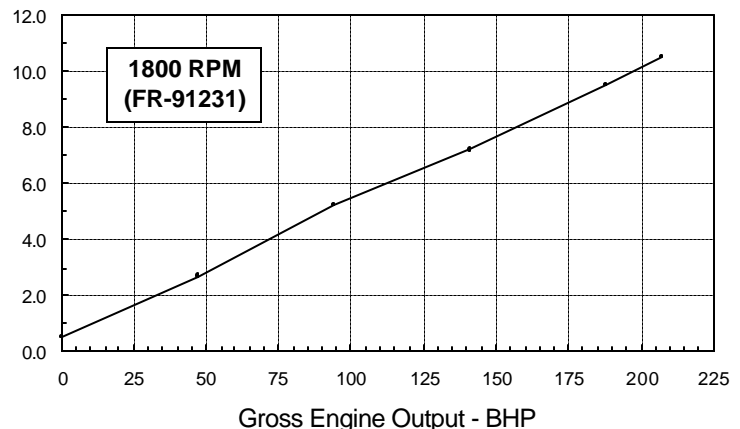
Litre/hour



Engine Performance Data @ 1800 RPM

OUTPUT POWER			FUEL CONSUMPTION			
%	kWm	BHP	kg/ kWm·h	lb/ BHP·h	litre/ hour	U.S. Gal/ hour
STANDBY POWER						
100	154	207	0.212	0.348	40	10.5
PRIME POWER						
100	140	188	0.211	0.348	36	9.5
75	105	141	0.218	0.359	27	7.2
50	70	94	0.231	0.380	20	5.2
25	35	47	0.240	0.395	10	2.7
CONTINUOUS POWER						
100	TBD	TBD	TBD	TBD	TBD	TBD

U.S. Gallons/hour

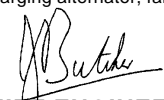


CONVERSIONS: (Litres = U.S. Gal x 3.785) (Engine kWm = BHP x 0.746) (U.S. Gal = Litres x 0.2642) (Engine BHP = Engine kWm x 1.34)

Data shown above represent gross engine performance capabilities obtained and corrected in accordance with ISO-3046 conditions of 100 kPa (29.53 in Hg) barometric pressure [110 m (361 ft) altitude], 25 °C (77 °F) air inlet temperature, and relative humidity of 30% with No. 2 diesel or a fuel corresponding to ASTM D2. See reverse side for application rating guidelines.

The fuel consumption data is based on No. 2 diesel fuel weight at 0.85 kg/litre (7.1 lbs/U.S. gal).

Power output curves are based on the engine operating with fuel system, water pump and lubricating oil pump; not included are battery charging alternator, fan, optional equipment and driven components.



POWER RATING APPLICATION GUIDELINES FOR GENERATOR DRIVE ENGINES

These guidelines have been formulated to ensure proper application of generator drive engines in A.C. generator set installations. Generator drive engines are not designed for and shall not be used in variable speed D.C. generator set applications.

STANDBY POWER RATING is applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. Under no condition is an engine allowed to operate in parallel with the public utility at the Standby Power rating.

This rating should be applied where reliable utility power is available. A standby rated engine should be sized for a maximum of an 80% average load factor and 200 hours of operation per year. This includes less than 25 hours per year at the Standby Power rating. Standby ratings should never be applied except in true emergency power outages. Negotiated power outages contracted with a utility company are not considered an emergency.

CONTINUOUS POWER RATING is applicable for supplying utility power at a constant 100% load for an unlimited number of hours per year. No overload capability is available for this rating.

PRIME POWER RATING is applicable for supplying electric power in lieu of commercially purchased power. Prime Power applications must be in the form of one of the following two categories:

UNLIMITED TIME RUNNING PRIME POWER

Prime Power is available for an unlimited number of hours per year in a variable load application. Variable load should not exceed a 70% average of the Prime Power rating during any operating period of 250 hours.

The total operating time at 100% Prime Power shall not exceed 500 hours per year.

A 10% overload capability is available for a period of 1 hour within a 12 hour period of operation. Total operating time at the 10% overload power shall not exceed 25 hours per year.

LIMITED TIME RUNNING PRIME POWER

Prime Power is available for a limited number of hours in a non-variable load application. It is intended for use in situations where power outages are contracted, such as in utility power curtailment. Engines may be operated in parallel to the public utility up to 750 hours per year at power levels never to exceed the Prime Power rating. The customer should be aware, however, that the life of any engine will be reduced by this constant high load operation. Any operation exceeding 750 hours per year at the Prime Power rating should use the Continuous Power rating.

Reference Standards:

BS-5514 and DIN-6271 standards are based on ISO-3046.

Operation At Elevated Temperature And Altitude:

The engine may be operated at:

1800 RPM up to 5,000 ft (1525 m) and 104°F (40 °C) without power deration.

1500 RPM up to 3,280 ft (1000 m) and 104°F (40°C) without power deration.

For sustained operation above these conditions, derate by 4% per 1,000 ft (300 m), and 1% per 10 °F (2% per 11 °C).

•• PRELIMINARY ••

Cummins Inc.
Engine Data Sheet

G-DRIVE

B5.9

3

ENGINE MODEL : 6BTA5.9-G3

CONFIGURATION NUMBER : D403050DX02

DATA SHEET : DS-91231

DATE : 7Nov03

PERFORMANCE CURVE : FR-91232 @ 1500
FR-91231 @ 1800

INSTALLATION DIAGRAM

• Fan to Flywheel : TBD

CPL NUMBER

• Engine Critical Parts List : 8387

GENERAL ENGINE DATA

Type.....	4-Cycle; In-line; 6-Cylinder Diesel	
Aspiration.....	Turbocharged and Aftercooled	
Bore x Stroke	4.02 x 4.72 (102 x 120)	
Displacement	359 (5.88)	
Compression Ratio.....	16.5 : 1	
Dry Weight		
Fan to Flywheel Engine	— lb (kg)	903 (411)
Wet Weight		
Fan to Flywheel Engine	— lb (kg)	958 (435)
Moment of Inertia of Rotating Components		
• with FW 9017 Flywheel	— lb _m • ft ² (kg • m ²)	25.3 (1.06)
Center of Gravity from Rear Face of Flywheel Housing	— in (mm)	21.4 (544)
Center of Gravity Above Crankshaft Centerline.....	— in (mm)	6.1 (155)
Maximum Static Loading at Rear Main Bearing.....	— lb (kg)	N.A.

ENGINE MOUNTING

Maximum Bending Moment at Rear Face of Block.....	— lb • ft (N • m)	1000 (1356)
---	-------------------	-------------

EXHAUST SYSTEM

Maximum Back Pressure.....	— in Hg (mm Hg)	3 (76)
----------------------------	-----------------	--------

AIR INDUCTION SYSTEM

Maximum Intake Air Restriction		
• with Dirty Filter Element	— in H ₂ O (mm H ₂ O)	25 (635)
• with Normal Duty Air Cleaner and Clean Filter Element.....	— in H ₂ O (mm H ₂ O)	10 (254)
• with Heavy Duty Air Cleaner and Clean Filter Element	— in H ₂ O (mm H ₂ O)	15 (381)

COOLING SYSTEM

Coolant Capacity — Engine Only	— US gal (liter)	2.6 (9.9)
Maximum Coolant Friction Head External to Engine		
— 1800 rpm.....	— psi (kPa)	5 (35)
— 1500 rpm.....	— psi (kPa)	4 (28)
Maximum Static Head of Coolant Above Engine Crank Centerline.....	— ft (m)	46 (14)
Standard Thermostat (Modulating) Range	— °F (°C)	180 - 203 (82 - 95)
Minimum Pressure Cap.....	— psi (kPa)	10 (69)
Maximum Top Tank Temperature for Standby / Prime Power.....	— °F (°C)	220 / 212 (104 / 100)

LUBRICATION SYSTEM

Oil Pressure @ Idle Speed	— psi (kPa)	30 (207)
@ Governed Speed.....	— psi (kPa)	50 (345)
Maximum Oil Temperature	— °F (°C)	250 (121)
Oil Capacity with OP 9006 Oil Pan : High - Low.....	— US gal (liter)	3.8 - 3.3 (14.2 - 12.3)
Total System Capacity (Including Full Flow Filter).....	— US gal (liter)	4.3 (16.4)
Angularity of OP 9006 Oil Pan		
— Front Down.....		40°
— Front Up.....		40°
— Side to Side		40°

FUEL SYSTEM

Type Injection System	Stanadyne DB4 Direct Injection
Maximum Restriction at Lift Pump	4 (102) — in Hg (mm Hg)
Maximum Allowable Head on Injector Return Line (Consisting of Friction Head and Static Head)	20 (508) — in Hg (mm Hg)
Total Drain Flow (Constant for all Loads)	8 (30) — US gph (liter / hr)

ELECTRICAL SYSTEM

Cranking Motor (Heavy Duty, Positive Engagement)	12 — volt
Battery Charging System, Negative Ground	63 — ampere
Maximum Allowable Resistance of Cranking Circuit	0.00075 — ohm
Minimum Recommended Battery Capacity	
• Cold Soak @ 10 °F (-12 °C) and Above	800 — 0°F CCA

COLD START CAPABILITY

Minimum Ambient Temperature for Aided (with Coolant Heater) Cold Start within 10 seconds	50 — °F (°C)
Minimum Ambient Temperature for Unaided Cold Start	10 — °F (°C)

PERFORMANCE DATA

- All data is based on:
- Engine operating with fuel system, water pump, lubricating oil pump, air cleaner and exhaust silencer; not included are battery charging alternator, fan, and optional driven components.
 - Engine operating with fuel corresponding to grade No. 2-D per ASTM D975.
 - ISO 3046, Part 1, Standard Reference Conditions of:

Barometric Pressure	: 100 kPa (29.53 in Hg)	Air Temperature	: 25 °C (77 °F)
Altitude	: 110 m (361 ft)	Relative Humidity	: 30%

Steady State Stability Band at any Constant Load	— %	+/- 0.50
Estimated Free Field Sound Pressure Level of a Typical Generator Set;		
Excludes Exhaust Noise; at Rated Load and 7.5 m (24.6 ft); 1800 rpm / 1500 rpm	— dBA	N.A.
Exhaust Noise at 1 m Horizontally from Centerline of Exhaust Pipe Outlet Upwards at 45°	— dBA	N.A.

Governed Engine Speed	— rpm
Engine Idle Speed	— rpm
Gross Engine Power Output	— BHP (kW _m)
Brake Mean Effective Pressure	— psi (kPa)
Piston Speed	— ft / min (m / s)
Friction Horsepower	— HP (kW _m)
Engine Water Flow at Stated Friction Head External to Engine:	
• 1 psi Friction Head	— US gpm (liter / s)
• Maximum Friction Head	— US gpm (liter / s)

	STANDBY POWER		PRIME POWER	
	60 hz	50 hz	60 hz	50 hz
	1800	1500	1800	1500
	950 - 1150	950 - 1150	950 - 1150	950 - 1150
	207 (154)	181 (135)	188 (140)	164 (122)
	254 (1752)	266 (1836)	230 (1585)	241 (1659)
	1416 (7.2)	1180 (6.0)	1416 (7.2)	1180 (6.0)
	22 (16.4)	17 (12.7)	22 (16.4)	17 (12.7)
	38 (2.4)	32 (2.0)	38 (2.4)	32 (2.0)
	30 (1.9)	24 (1.5)	30 (1.9)	24 (1.5)
	409 (190)	302 (144)	391 (181)	284 (135)
	991 (533)	1073 (578)	947 (508)	1041 (560)
	1049 (479)	824 (391)	972 (447)	757 (357)
	24.1 : 1	20.6 : 1	25.5 : 1	21.5 : 1
	1731 (30.4)	1661 (29.2)	1442 (25.3)	1401 (24.6)
	4534 (79.7)	3843 (67.5)	4205 (73.9)	3587 (63.0)
	7376 (129.6)	6082 (106.9)	6714 (118.0)	5545 (97.4)

Engine Data with Dry Type Exhaust Manifold

Intake Air Flow	— cfm (liter / s)
Exhaust Gas Temperature	— °F (°C)
Exhaust Gas Flow	— cfm (liter / s)
Air to Fuel Ratio	— air : fuel
Radiated Heat to Ambient	— BTU / min (kW _m)
Heat Rejection to Coolant	— BTU / min (kW _m)
Heat Rejection to Exhaust	— BTU / min (kW _m)

N.A. - Data is Not Available
N/A - Not Applicable to this Engine
TBD - To Be Determined

•• PRELIMINARY ••

ENGINE MODEL : 6BTA5.9-G3
DATA SHEET : DS-91231
DATE : 7Nov03
CURVE NO. : FR-91232 @ 1500 RPM
FR-91231 @ 1800 RPM



ottomotores

CUMMINS SERIE 6B

Energía que Mueve al Mundo

Definiciones

Potencia Prime

Estos valores son aplicables para el suministro de energía eléctrica continua (a carga variable) en lugar de la red comercial + 10% sobrecarga

Potencia Stand by

Estos valores son aplicables para el suministro de energía eléctrica continua (con carga variable) en caso de falla de la red comercial. No se permite sobrecarga sobre estos valores.

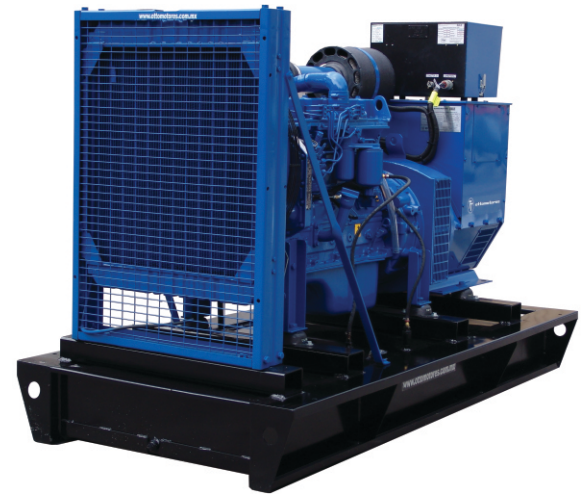
Tabla de Potencias

Modelo	Voltaje	kVA Prime	kWe Prime	kVA Stand-by	kWe Stand-by
CNY100	220-440V	114	91	125	100
CNY125	220-440V	142	114	156	125

0.8 Factor de potencia

Información Técnica

Datos Técnicos	CNY100	CNY125
Frecuencia:	60 Hz	60 Hz
Marca / Modelo	Cummins 6BTA5.9G3	Cummins 6BTA5.9G3
Generador Modelo:	Stamford UCI274C	Stamford UCI274E
Número de Cilindros:	6 en línea	6 en línea
Diametro por Carrera :in (mm)	4.02X4.72 (102X120)	4.02X4.72 (102X120)
Relación de Compresión:	16.5 : 1	16.5 : 1
Aspiración:	turbo y postenfriado	turbo y postenfriado
Velocidad:	1800 RPM	1800 RPM
Potencia: BHP(kWm)	177 (132)	207 (154)
Presion Efectiva: psi (kPA)	254 (1752)	254 (1752)
Velocidad dePiston: ft/min (m/s)	1416 (7.2)	1416 (7.2)
Consumo a plena carga: lt / hr - 100%	36.00	36.00
Calor Expulsado en el Sistema de Escape: BTU/min (kWm)	7376 (129.6)	7376 (129.6)
Calor Expulsado en el Sistema de Enfriamiento: BTU/min (kWm)	4534 (79.7)	4534 (79.7)
Temperatura de Escape: °F (°C)	991 (533)	991 (533)
Flujo de Enfriamiento en el Radiador m³/seg - FPM	llame a fabrica	llame a fabrica
Flujo de Escape: cfm (liter/s)	1049 (479)	1049 (479)



Nota: Imagen de carácter ilustrativa ya que los equipos en foto pudieran incluir accesorios opcionales



Como leer nuestro codigo: Ejem: CNY100

C=Motor Cummins
N=Generador Newage Stamford
Y=60Hz-1800 RPM
100= Potencia del Equipo.



LAPEM

Ottomotores, S.A de C.V.

Calz. San Lorenzo No.1150
Col. Cerro de la estrella, C.P. 09860
Delg. Iztapalapa México, D.F.
Tels:52-55-5624-5600

Fax: 52-55-5426-5521 / 52-55-5426-5581
email: ventas@ottomotores.com.mx

www.ottomotores.com.mx

Dimensiones

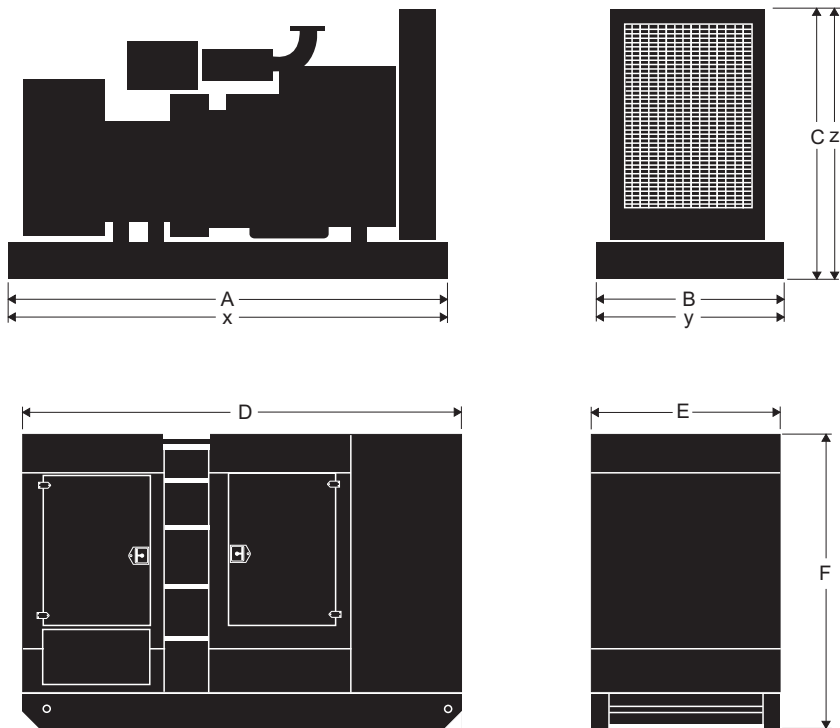


Tabla de Dimensiones

CNY100 CNY125	Equipo con Base Estructural			Equipo con Base Tanque			Equipo con Caseta Acústica*		
	A	B	C	x	y	z	D	E	F
C.pack	220,00	71,00	135,00	260,00	109,00	163,41	326,00	109,00	185,00
	Peso: 977,00 kgs			Peso: 1440,00 kgs			Peso: 1961,00kgs		

[*] Equipo opcional

Información Técnica

Nota: las condiciones de referencia estándar son de 25 °C (77 ° F) temperatura de entrada de aire. Todos los datos de desempeño de motores son basados en la potencia mencionada arriba.

Datos de consumo de combustible a plena carga con combustible diesel tienen una gravedad específica de 0,85.

Comercializado por:

Módulos de Control



Ottomotores tiene una posición única en la fabricación de grupos electrógenos utilizando en ellos módulos de control que cumplen con todos los niveles de requerimiento del mercado nacional y de exportación.



Las diferentes soluciones de controles que se tienen para nuestra gama de plantas generadoras, permite una operación simple en modo manual y automático, así mismo permiten desarrollar proyectos de sincronía entre plantas generadoras o con la red de energía eléctrica.



La familia de módulos de control en transición abierta (DALE 3200) permite tener control en forma automática de la unidad de transferencia, así como el monitoreo del grupo generador.



Nuestro módulos de control cuentan con puerto de comunicación RS485 para la comunicación remota con el grupo generador.



Los módulos pueden ser monitoreados através de un excelente software para observar parámetros del equipo de manera fácil y rápida.



La familia de módulos de control para la sincronía (6100, 6050 y 6300), incorporan un amplio sistema de monitoreos además de conexión a Internet (LAN) o mensaje SMS vía celular, o usando los puertos de comunicación RS485 a través de ModBus



ottomotores

Energía que Mueve al Mundo

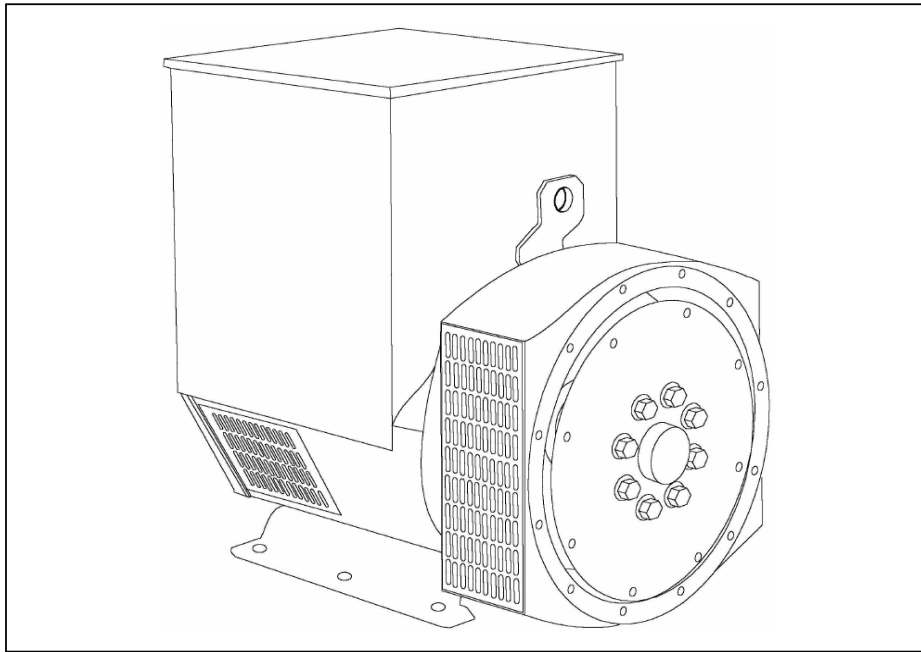
Calz. San Lorenzo No.1150
Col. Cerro de la Estrella, C.P.09860
Delegación Iztapalapa México D.F.
Tels: 52-55-5624-5600
Fax.52-55-5426-55-21 / 52-55-54265581

E-mail ventas1@ottomotores.com.mx
ventas2@ottomotores.com.mx

Web site. www.ottomotores.com.mx



UCI274E - Technical Data Sheet



UCI274E

SPECIFICATIONS & OPTIONS



STANDARDS

Newage Stamford industrial generators meet the requirements of BS EN 60034 and the relevant section of other international standards such as BS5000, VDE 0530, NEMA MG1-32, IEC34, CSA C22.2-100, AS1359. Other standards and certifications can be considered on request.

VOLTAGE REGULATORS

SX460 AVR - STANDARD

With this self excited control system the main stator supplies power via the Automatic Voltage Regulator (AVR) to the exciter stator. The high efficiency semiconductors of the AVR ensure positive build-up from initial low levels of residual voltage.

The exciter rotor output is fed to the main rotor through a three phase full wave bridge rectifier. This rectifier is protected by a surge suppressor against surges caused, for example, by short circuit.

SX440 AVR

With this self-excited system the main stator provides power via the AVR to the exciter stator. The high efficiency semi-conductors of the AVR ensure positive build-up from initial low levels of residual voltage.

The exciter rotor output is fed to the main rotor through a three-phase full-wave bridge rectifier. The rectifier is protected by a surge suppressor against surges caused, for example, by short circuit or out-of-phase paralleling.

The SX440 will support a range of electronic accessories, including a 'droop' Current Transformer (CT) to permit parallel operation with other ac generators.

If 3-phase sensing is required with the self-excited system, the SX421 AVR must be used.

SX421AVR

This AVR also operates in a self-excited system. It combines all the features of the SX440 with, additionally, three-phase rms sensing for improved regulation and performance. Over voltage protection is provided via a separate circuit breaker. An engine relief load acceptance feature is built in as standard.

MX341 AVR

This sophisticated AVR is incorporated into the Stamford Permanent Magnet Generator (PMG) control system.

The PMG provides power via the AVR to the main exciter, giving a source of constant excitation power independent of generator output. The main exciter output is then fed to the main rotor, through a full wave bridge, protected by a surge suppressor. The AVR has in-built protection against sustained over-excitation, caused by internal or external faults. This de-excites the machine after a minimum of 5 seconds.

An engine relief load acceptance feature can enable full load to be applied to the generator in a single step.

If three-phase sensing is required with the PMG system the MX321 AVR must be used.

We recommend three-phase sensing for applications with greatly unbalanced or highly non-linear loads.

MX321 AVR

The most sophisticated of all our AVRs combines all the features of the MX341 with, additionally, three-phase rms sensing, for improved regulation and performance.

Over voltage protection is built-in and short circuit current level adjustments is an optional facility.

WINDINGS & ELECTRICAL PERFORMANCE

All generator stators are wound to 2/3 pitch. This eliminates triplen (3rd, 9th, 15th ...) harmonics on the voltage waveform and is found to be the optimum design for trouble-free supply of non-linear loads. The 2/3 pitch design avoids excessive neutral currents sometimes seen with higher winding pitches, when in parallel with the mains. A fully connected damper winding reduces oscillations during paralleling. This winding, with the 2/3 pitch and carefully selected pole and tooth designs, ensures very low waveform distortion.

TERMINALS & TERMINAL BOX

Standard generators are 3-phase reconnectable with 12 ends brought out to the terminals, which are mounted on a cover at the non-drive end of the generator. A sheet steel terminal box contains the AVR and provides ample space for the customers' wiring and gland arrangements. It has removable panels for easy access.

SHAFT & KEYS

All generator rotors are dynamically balanced to better than BS6861:Part 1 Grade 2.5 for minimum vibration in operation. Two bearing generators are balanced with a half key.

INSULATION/IMPREGNATION

The insulation system is class 'H'.

All wound components are impregnated with materials and processes designed specifically to provide the high build required for static windings and the high mechanical strength required for rotating components.

QUALITY ASSURANCE

Generators are manufactured using production procedures having a quality assurance level to BS EN ISO 9001.

The stated voltage regulation may not be maintained in the presence of certain radio transmitted signals. Any change in performance will fall within the limits of Criteria 'B' of EN 61000-6-2:2001. At no time will the steady-state voltage regulation exceed 2%.

NB Continuous development of our products entitles us to change specification details without notice, therefore they must not be regarded as binding.

Front cover drawing typical of product range.

UCI274E
WINDING 311

CONTROL SYSTEM	SEPARATELY EXCITED BY P.M.G.							
A.V.R.	MX321	MX341						
VOLTAGE REGULATION	± 0.5 %	± 1.0 %	With 4% ENGINE GOVERNING					
SUSTAINED SHORT CIRCUIT	REFER TO SHORT CIRCUIT DECREMENT CURVES (page 7)							
CONTROL SYSTEM	SELF EXCITED							
A.V.R.	SX460	SX440	SX421					
VOLTAGE REGULATION	± 1.5 %	± 1.0 %	± 0.5 %	With 4% ENGINE GOVERNING				
SUSTAINED SHORT CIRCUIT	SERIES 4 CONTROL DOES NOT SUSTAIN A SHORT CIRCUIT CURRENT							
INSULATION SYSTEM	CLASS H							
PROTECTION	IP23							
RATED POWER FACTOR	0.8							
STATOR WINDING	DOUBLE LAYER CONCENTRIC							
WINDING PITCH	TWO THIRDS							
WINDING LEADS	12							
STATOR WDG. RESISTANCE	0.0317 Ohms PER PHASE AT 22°C SERIES STAR CONNECTED							
ROTOR WDG. RESISTANCE	1.34 Ohms at 22°C							
R.F.I. SUPPRESSION	BS EN 61000-6-2 & BS EN 61000-6-4,VDE 0875G, VDE 0875N. refer to factory for others							
WAVEFORM DISTORTION	NO LOAD < 1.5% NON-DISTORTING BALANCED LINEAR LOAD < 5.0%							
MAXIMUM OVERSPEED	2250 Rev/Min							
BEARING DRIVE END	BALL. 6315-2RS (ISO)							
BEARING NON-DRIVE END	BALL. 6310-2RS (ISO)							
	1 BEARING				2 BEARING			
WEIGHT COMP. GENERATOR	492 kg				511 kg			
WEIGHT WOUND STATOR	180 kg				180 kg			
WEIGHT WOUND ROTOR	167.51 kg				156.55 kg			
WR ² INERTIA	1.3271 kgm ²				1.2765 kgm ²			
SHIPPING WEIGHTS in a crate	525 kg				539 kg			
PACKING CRATE SIZE	105 x 67 x 103(cm)				123 x 67 x 103(cm)			
	50 Hz				60 Hz			
TELEPHONE INTERFERENCE	THF<2%				TIF<50			
COOLING AIR	0.514 m ³ /sec 1090 cfm				0.617 m ³ /sec 1308 cfm			
VOLTAGE SERIES STAR	380/220	400/231	415/240	440/254	416/240	440/254	460/266	480/277
VOLTAGE PARALLEL STAR	190/110	200/115	208/120	220/127	208/120	220/127	230/133	240/138
VOLTAGE SERIES DELTA	220/110	230/115	240/120	254/127	240/120	254/127	266/133	277/138
kVA BASE RATING FOR REACTANCE VALUES	140	140	140	n/a	160	167.5	167.5	178.8
X _d DIR. AXIS SYNCHRONOUS	2.34	2.11	1.96	-	2.68	2.51	2.29	2.25
X' _d DIR. AXIS TRANSIENT	0.21	0.19	0.18	-	0.25	0.23	0.21	0.21
X'' _d DIR. AXIS SUBTRANSIENT	0.14	0.13	0.12	-	0.17	0.16	0.15	0.14
X _q QUAD. AXIS REACTANCE	1.53	1.38	1.28	-	1.74	1.63	1.49	1.46
X'' _q QUAD. AXIS SUBTRANSIENT	0.18	0.16	0.15	-	0.22	0.21	0.19	0.18
X _L LEAKAGE REACTANCE	0.08	0.08	0.07	-	0.09	0.08	0.08	0.08
X ₂ NEGATIVE SEQUENCE	0.16	0.14	0.13	-	0.19	0.18	0.16	0.16
X ₀ ZERO SEQUENCE	0.10	0.09	0.08	-	0.11	0.10	0.09	0.09
REACTANCES ARE SATURATED				VALUES ARE PER UNIT AT RATING AND VOLTAGE INDICATED				
T' _d TRANSIENT TIME CONST.	0.032 s							
T'' _d SUB-TRANSTIME CONST.	0.01 s							
T' _{do} O.C. FIELD TIME CONST.	0.85 s							
T _a ARMATURE TIME CONST.	0.007 s							
SHORT CIRCUIT RATIO	1/X _d							

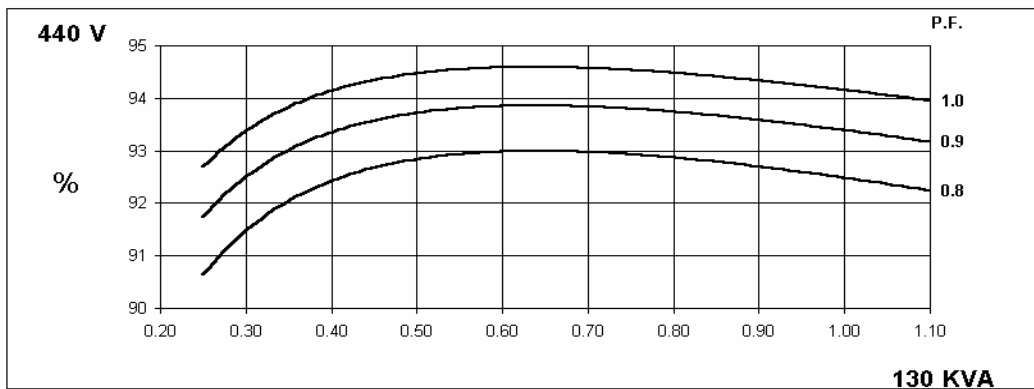
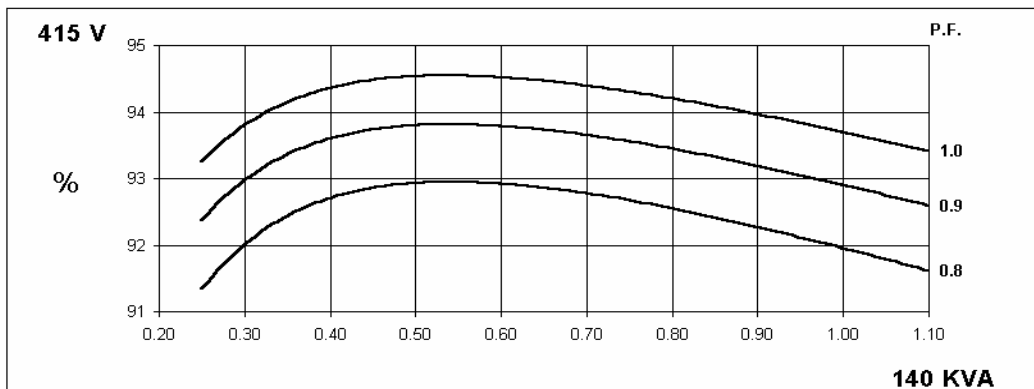
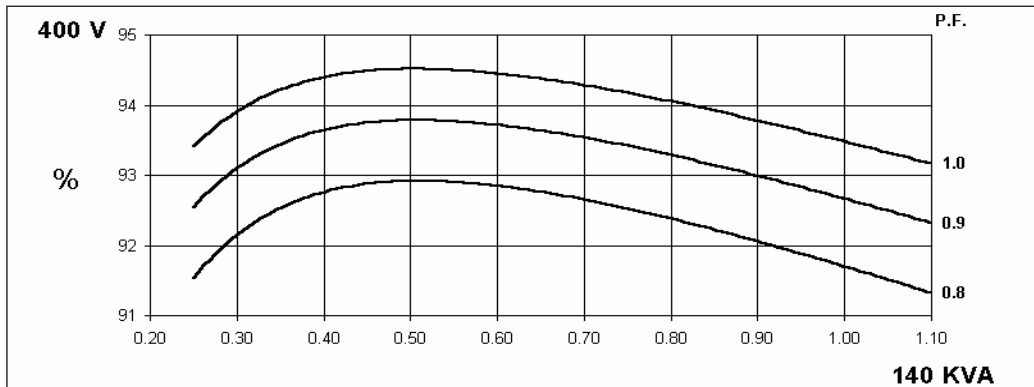
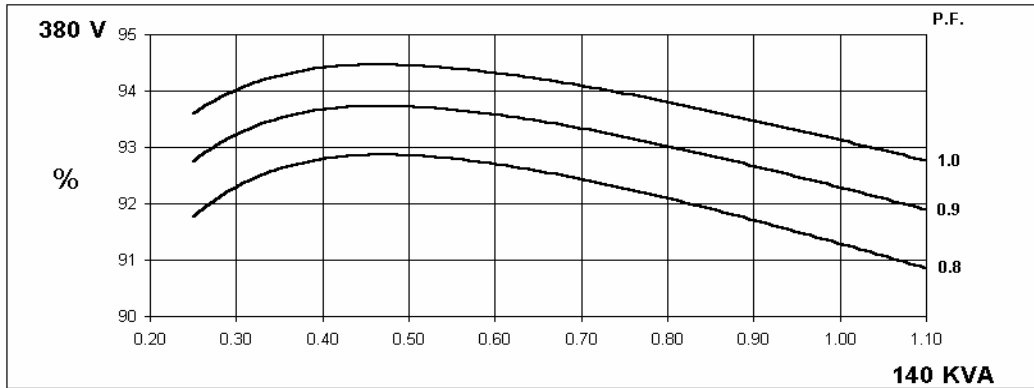
**50
Hz**

UCI274E

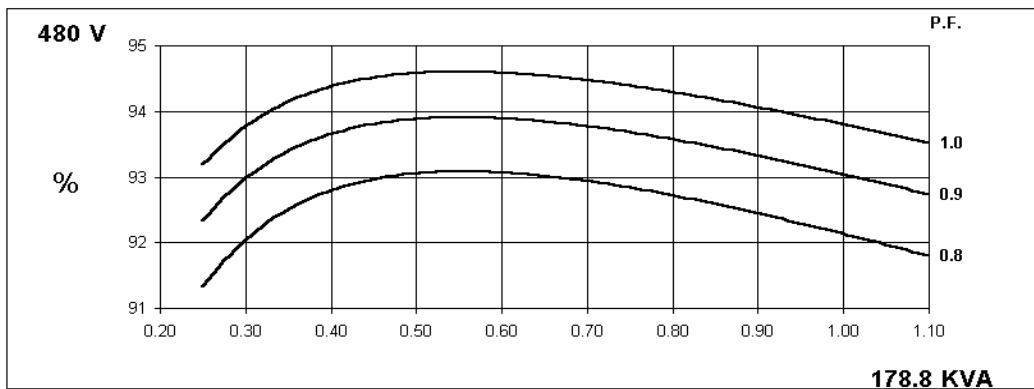
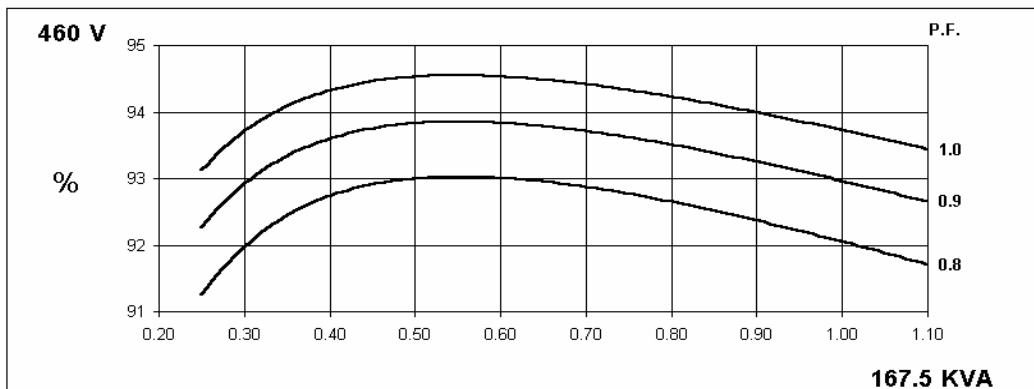
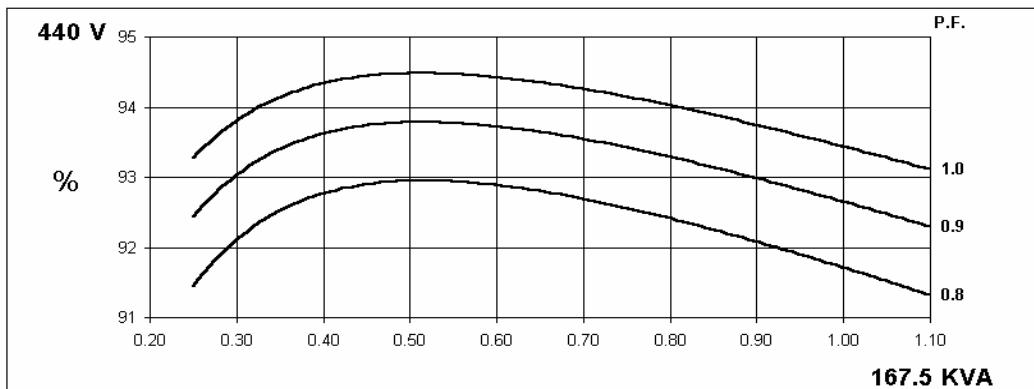
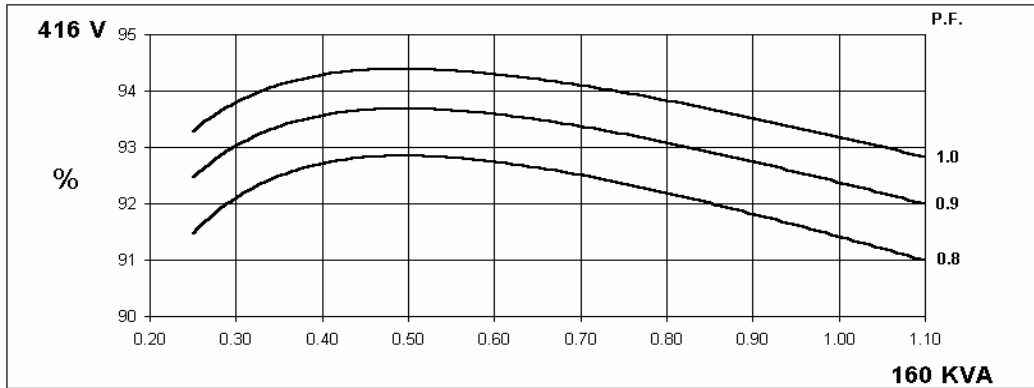
Winding 311

STAMFORD
power generation

THREE PHASE EFFICIENCY CURVES



THREE PHASE EFFICIENCY CURVES



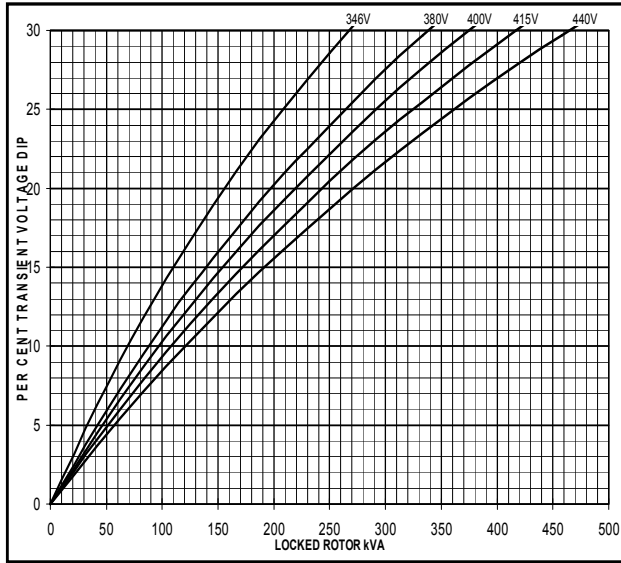
UCI274E
Winding 311



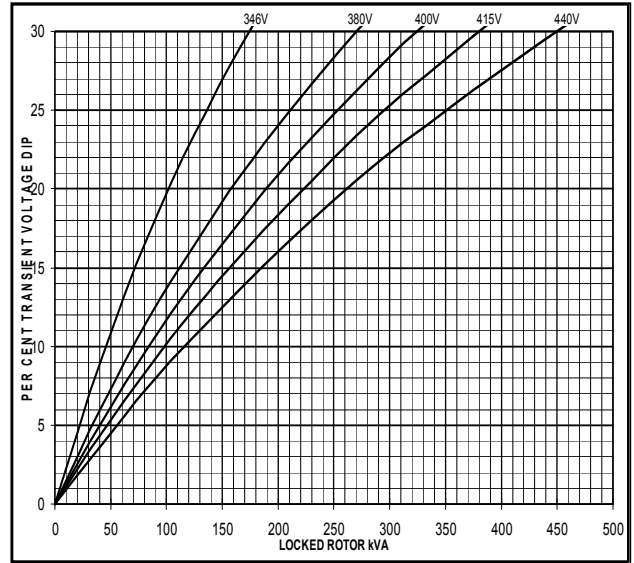
Locked Rotor Motor Starting Curve

**50
Hz**

MX

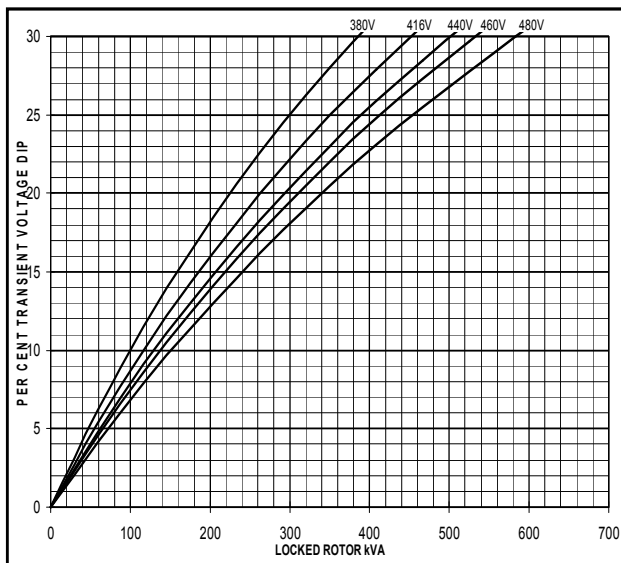


SX

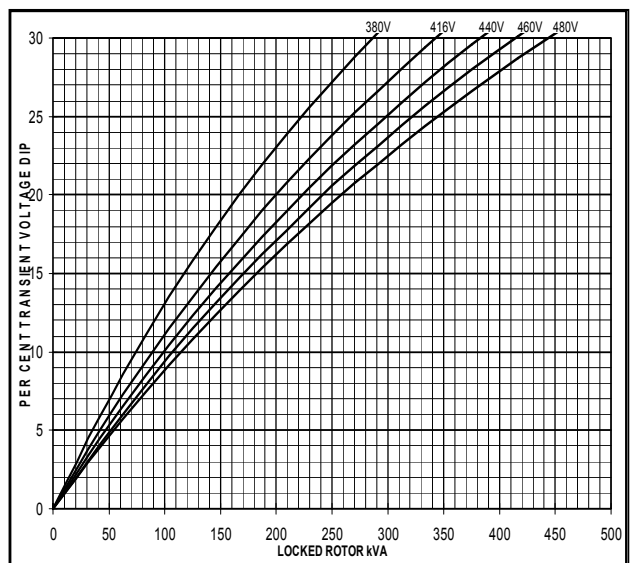


**60
Hz**

MX

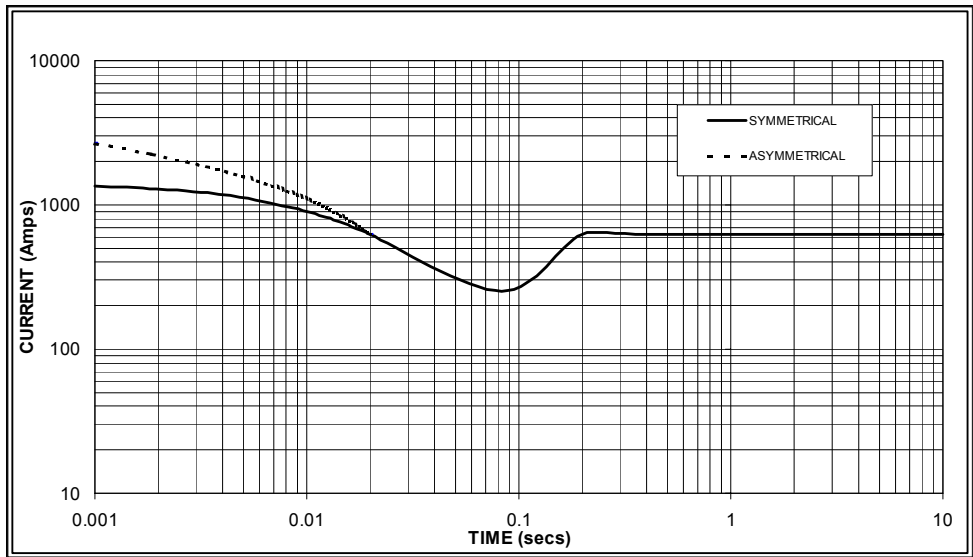


SX



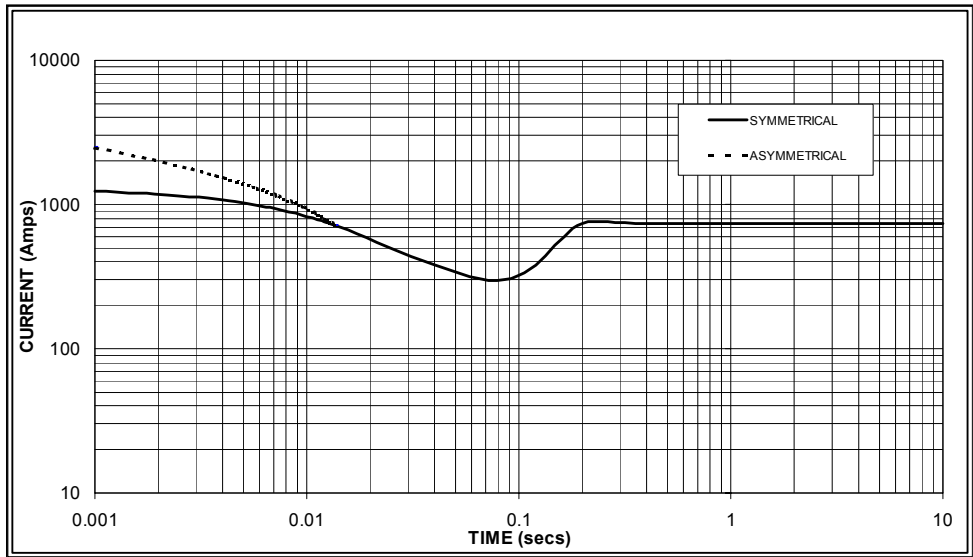
**Three-phase Short Circuit Decrement Curve. No-load Excitation at Rated Speed
Based on star (wye) connection.**

**50
Hz**



Sustained Short Circuit = 630 Amps

**60
Hz**



Sustained Short Circuit = 740 Amps

Note 1

The following multiplication factors should be used to adjust the values from curve between time 0.001 seconds and the minimum current point in respect of nominal operating voltage :

50Hz		60Hz	
Voltage	Factor	Voltage	Factor
380v	X 1.00	416v	X 1.00
400v	X 1.07	440v	X 1.06
415v	X 1.12	460v	X 1.12
440v	X 1.18	480v	X 1.17

The sustained current value is constant irrespective of voltage level

Note 2

The following multiplication factor should be used to convert the values calculated in accordance with NOTE 1 to those applicable to the various types of short circuit :

	3-phase	2-phase L-L	1-phase L-N
Instantaneous	x 1.00	x 0.87	x 1.30
Minimum	x 1.00	x 1.80	x 3.20
Sustained	x 1.00	x 1.50	x 2.50
Max. sustained duration	10 sec.	5 sec.	2 sec.

All other times are unchanged

Note 3

Curves are drawn for Star (Wye) connected machines. For other connection the following multipliers should be applied to current values as shown :

Parallel Star = Curve current value X 2

Series Delta = Curve current value X 1.732

UCI274E

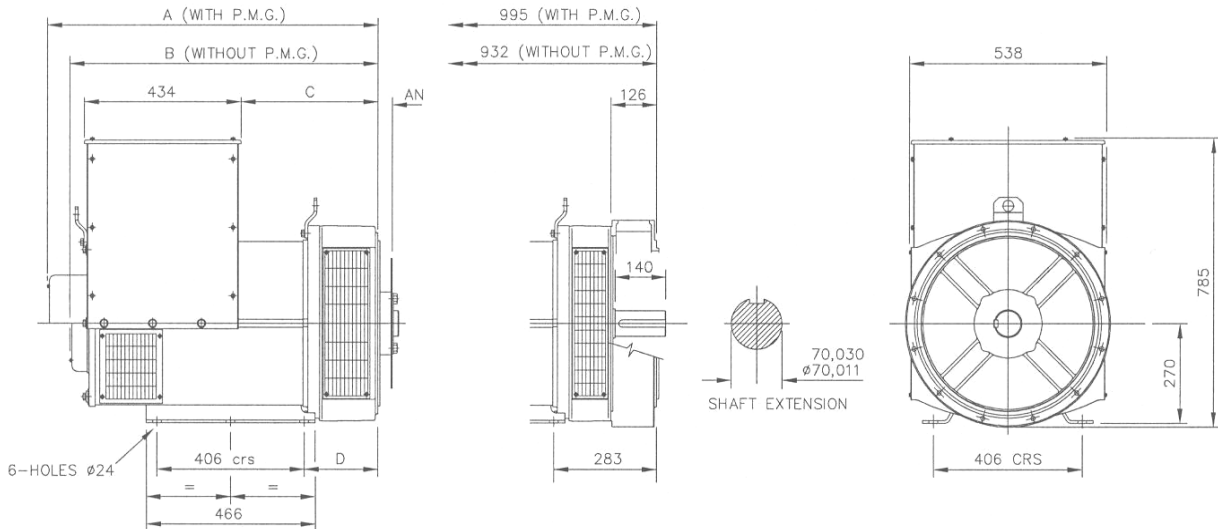
Winding 311 / 0.8 Power Factor



RATINGS

Class - Temp Rise		Cont. F - 105/40°C				Cont. H - 125/40°C				Standby - 150/40°C				Standby - 163/27°C			
50 Hz	Series Star (V)	380	400	415	440	380	400	415	440	380	400	415	440	380	400	415	440
	Parallel Star (V)	190	200	208	220	190	200	208	220	190	200	208	220	190	200	208	220
	Series Delta (V)	220	230	240	254	220	230	240	254	220	230	240	254	220	230	240	254
	kVA	125.0	125.0	125.0	n/a	140.0	140.0	140.0	n/a	145.0	145.0	145.0	n/a	150.0	150.0	150.0	n/a
	kW	100.0	100.0	100.0	n/a	112.0	112.0	112.0	n/a	116.0	116.0	116.0	n/a	120.0	120.0	120.0	n/a
	Efficiency (%)	91.7	92.1	92.3	n/a	91.3	91.7	92.0	n/a	91.1	91.6	91.8	n/a	91.0	91.4	91.7	n/a
	kW Input	109.1	108.6	108.3	n/a	122.7	122.1	121.7	n/a	127.3	126.6	126.4	n/a	131.9	131.3	130.9	n/a
60 Hz	Series Star (V)	416	440	460	480	416	440	460	480	416	440	460	480	416	440	460	480
	Parallel Star (V)	208	220	230	240	208	220	230	240	208	220	230	240	208	220	230	240
	Series Delta (V)	240	254	266	277	240	254	266	277	240	254	266	277	240	254	266	277
	kVA	140.0	143.8	143.8	160.0	160.0	167.5	167.5	178.8	170.0	175.0	175.0	187.5	175.0	181.3	181.3	193.8
	kW	112.0	115.0	115.0	128.0	128.0	134.0	134.0	143.0	136.0	140.0	140.0	150.0	140.0	145.0	145.0	155.0
	Efficiency (%)	91.9	92.2	92.5	92.5	91.4	91.7	92.1	92.1	91.2	91.5	91.9	92.0	91.0	91.4	91.8	91.9
	kW Input	121.9	124.8	124.4	138.4	140.0	146.1	145.5	155.3	149.1	153.0	152.3	163.0	153.8	158.7	158.0	168.7

DIMENSIONS



SINGLE BEARING ADAPTORS				
ADAPTOR	A	B	C	D
SAE 1	928,3	865,3	389,3	216,3
SAE 2	914	851	375	202
SAE 3	914	851	375	202

COUPLING DISCS	
DISC	AN
SAE 10	53,98
SAE 11,5	39,68
SAE 14	25,40



PO Box 17 • Barnack Road • Stamford • Lincolnshire • PE9 2NB

Tel: 00 44 (0)1780 484000 • Fax: 00 44 (0)1780 484100

Website: www.newage-avkseg.com