ottomotores

DOOSAN
Serie D1146T

Energía que Mueve al Mundo

DNY100 / DNY125

Definición

El rendimiento del motor se corresponde con la norma **ISO 3046, BS 5514 y DIN 6271**.

Las clasificaciones se basan en la norma **ISO 8528**. (Si necesita más información, póngase en contacto con la organización de ventas.)

Potencia Prime

Está disponible para un número ilimitado de horas al año en una aplicación de carga variable. La potencia media consumible durante 24 horas de operación no deberá sobrepasar el 70% de la potencia nominal.

Potencia Standby

Está disponible en el caso de un corte de suministro eléctrico o en condiciones de prueba para un máximo de 200 horas de funcionamiento por año. La potencia media consumible durante 24 horas de operación no deberá exceder de 70 No se permite sobrecarga.% De la potencia de reserva.

Tabla de Potencias

Modelo	Voltaje	kVA Prime	kWe Prime	kVA Stand-by	kWe Stand-by
DNY100	220-440V	117	94	127	102
DNY125	220-440V	146	116	160	128

0.8 Power factor

Datos Técnicos	DNY110	DNY125
Motor:	D1146T	D1146T
Generador:	Stamford UCI274C	Stamford UCI274E
Numero de Cilindros	6 en-linea	
Diametro por Carrera:	111(4.37) x 139(5.47) mm(in)	
Relación de Compresión:	16.8:1	
Aspiración:	Turbocargado	
Desplazamiento:	8.071(492.49) lts(in³)	
Consumo a plena carga:	35.1 lts - 100% carga	
Frecuencia:	60 Hz	
Velocidad:	1800 rpm	
Presion Efectiva:	Max. 0.9 kg/cm² (12.8 psi)	
Flujo de Agua:	150 lts/min.	
Calor rechazado en refrigerante:		
Flujo de Aire:	10.6 m³/min	
Flujo de Escape:	25.7 m³/min	
Temperatura de Escape:	470ºC	
Restricciones Max. Permisibles		
Sistema de Admision:	220mmH²O initial - 635mmH²O final	
Sistema de Escape:	600mmH²O max	
Sistema de Aislamiento	Clase H	
Sistema de control:	Autoexitado	
AVR	SX460	

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

Como leer nuestro codigo Ejem: **DNY100**

D = Motor Doosan
N =Generador Newage Stamford
Y = Frecuencia 60Hz-1800 RPM
100 =Potencia del Equipo.

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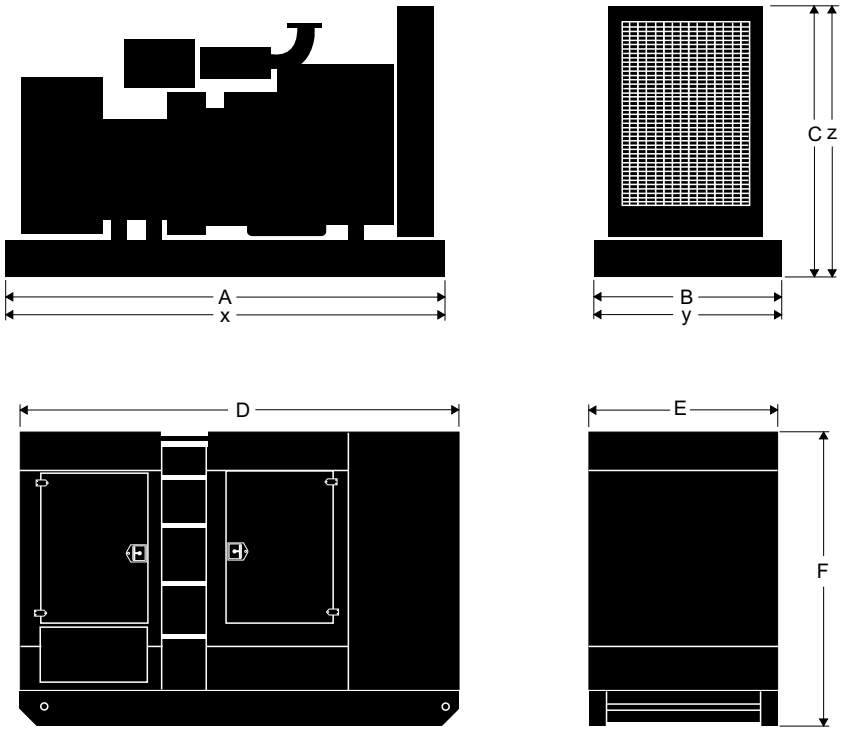
Dimensiones



	Equipo con Base Estructural			Equipo con Base Tanque			Equipo con Caseta Acústica*		
	A	B	C	x	y	z	D	E	F
C.pack	260,00	93,00	150,50	280,00	145,00	163,00	343,00	145,00	190,00
	Peso: 1397,00 kgs			Peso: 1953,00 kgs			Peso: 2586,00 kgs		

[*] optional

Información Técnica

Nota: las condiciones de referencia estándar son de 25 ºC (77 º 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, asi 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, asi como elmonitoreo del grupo generador.

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

Los módulos pueden ser monitoreados através de un exelente software para observar parámetros del equipo de manera facíl y rapida.

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

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FRAME UC274E
WINDING 311

RATINGS	REFER TO RATINGS BOOK
OVERLOAD	REFER TO RATINGS BOOK
ALTITUDE	REFER TO RATINGS BOOK
AMBIENT TEMP.	REFER TO RATINGS BOOK

CONTROL SYSTEM SER. 3	SEPARATELY EXCITED BY P.M.G.		
A.V.R.	MX341	MX321	
VOLTAGE REGULATION	± 1.0 %	± 0.5%	WITH 4% ENGINE GOVERNING
SUSTAINED SHORT CIRCUIT	REFER TO SHORT CIRCUIT DECREMENT CURVES OF THIS SECTION		

CONTROL SYSTEM SER. 4	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	IP22 STANDARD - IP23 OPTIONAL (5% DERATE)	
RATED POWER FACTOR	0.8	
STATOR WINDING	DOUBLE LAYER CONCENTRIC	
WINDING PITCH	TWO THIRDS	
WINDING LEADS	12	
STATOR WDG. RESISTANCE	0.031 Ohms PER PHASE AT 22°C SERIES STAR CONNECTED	
ROTOR WDG. RESISTANCE	1.40 Ohms at 22°C	
R.F.I. SUPPRESSION	B.S. 800 VDE 0875G VDE 0875N For other standards apply to the factory	
WAVEFORM DISTORTION	NO LOAD < 1.8% 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)	
EFFICIENCY	REFER TO EFFICIENCY CURVES OF THIS SECTION	
	1 BEARING	2 BEARING
WEIGHT COMP. GENERATOR	495 kg	509 kg
WEIGHT WOUND STATOR	180 kg	180 kg
WEIGHT WOUND ROTOR	170.2 kg	158.77 kg
WR^2 INERTIA	1.3837 kgm^2	1.3301 kgm^2

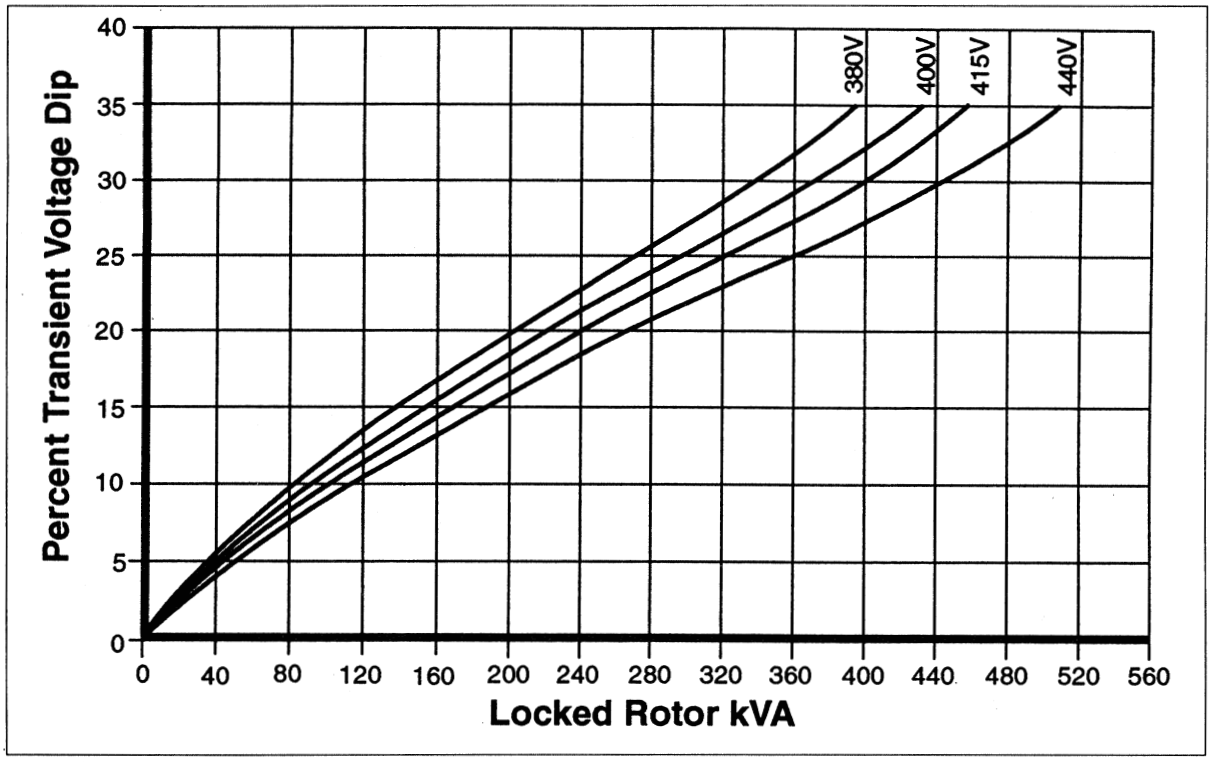
	50 Hz				60 Hz			
TELEPHONE INTERFERENCE	THF< 2%				TIF< 50			
COOLING AIR	0.514 m^3 /sec 1090 cfm				0.617 m^3 /sec 1308 cfm			
VOLTAGE SERIES STAR (Y)	380	400	415	440	416	440	460	480
VOLTAGE PARALLEL STAR (Y)	190	200	208	220	208	220	230	240
VOLTAGE EDISON DELTA (Δ)	220	230	240	250	240	254	266	277
kVA BASE RATING FOR REACTANCE VALUES	140	140	140	130	160	167.5	167.5	179
Xd DIR. AXIS SYNCHRONOUS	2.33	2.11	1.96	1.61	2.68	2.48	2.28	2.24
X'd DIR. AXIS TRANSIENT	0.22	0.20	0.18	0.15	0.25	0.23	0.21	0.20
X"d DIR. AXIS SUBTRANSIENT	0.15	0.14	0.12	0.11	0.17	0.16	0.14	0.14
Xq QUAD. AXIS REACTANCE	1.52	1.37	1.28	1.05	1.74	1.63	1.49	1.46
X"q QUAD. AXIS SUBTRANSIENT	0.18	0.16	0.15	0.12	0.22	0.21	0.19	0.19
XL LEAKAGE REACTANCE	0.08	0.07	0.07	0.05	0.09	0.09	0.08	0.08
X_2 NEGATIVE SEQUENCE	0.15	0.14	0.13	0.11	0.19	0.18	0.16	0.15
X_0 ZERO SEQUENCE	0.10	0.09	0.08	0.07	0.11	0.11	0.10	0.09
REACTANCES ARE SATURATED	VALUES ARE PER UNIT AT RATING AND VOLTAGE INDICATED							

T'd TRANSIENT TIME CONST.	0.032 sec
T"d SUB-TRANSTIME CONST.	0.010 sec
T'do O.C. FIELD TIME CONST.	0.850 sec
Ta ARMATURE TIME CONST.	0.007 sec
SHORT CIRCUIT RATIO	1/xd

ISSUE 3

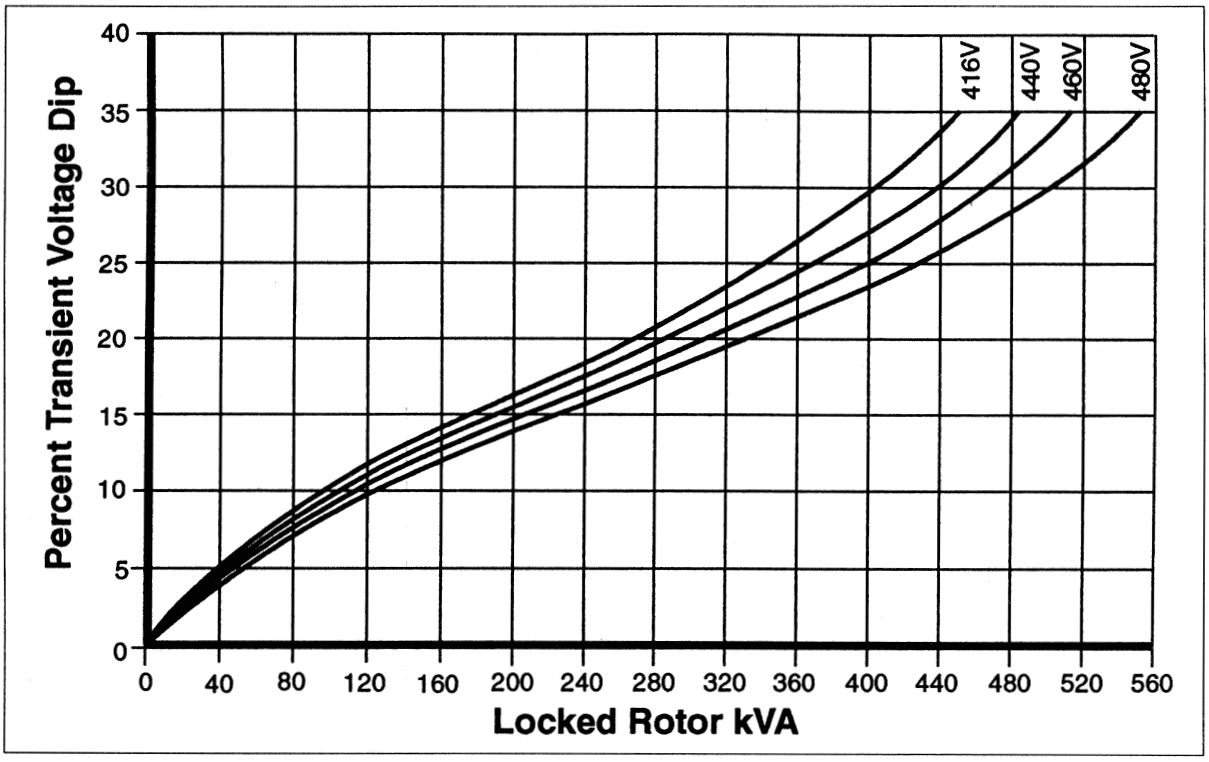
FRAME UC274E 50 HZ

SERIES 3 WINDING 311
LOCKED ROTOR MOTOR STARTING CURVE



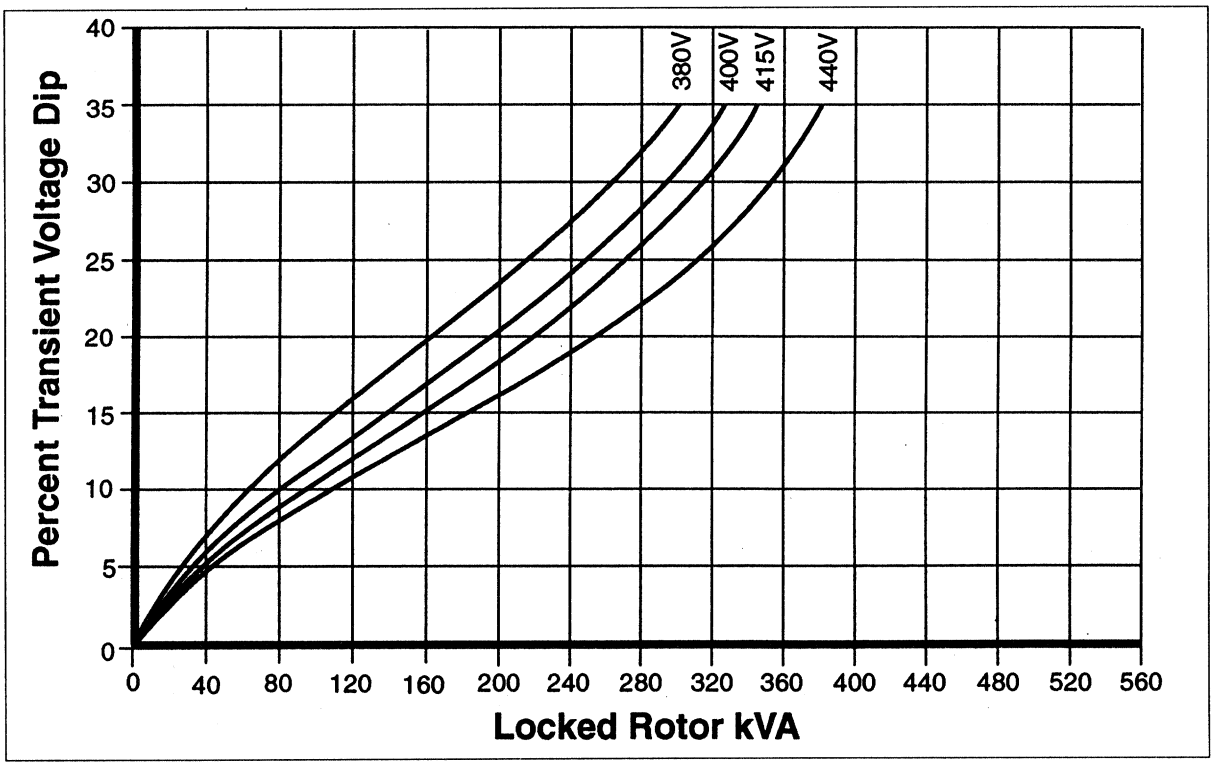
FRAME UC274E 60 HZ

SERIES 3 WINDING 311
LOCKED ROTOR MOTOR STARTING CURVE



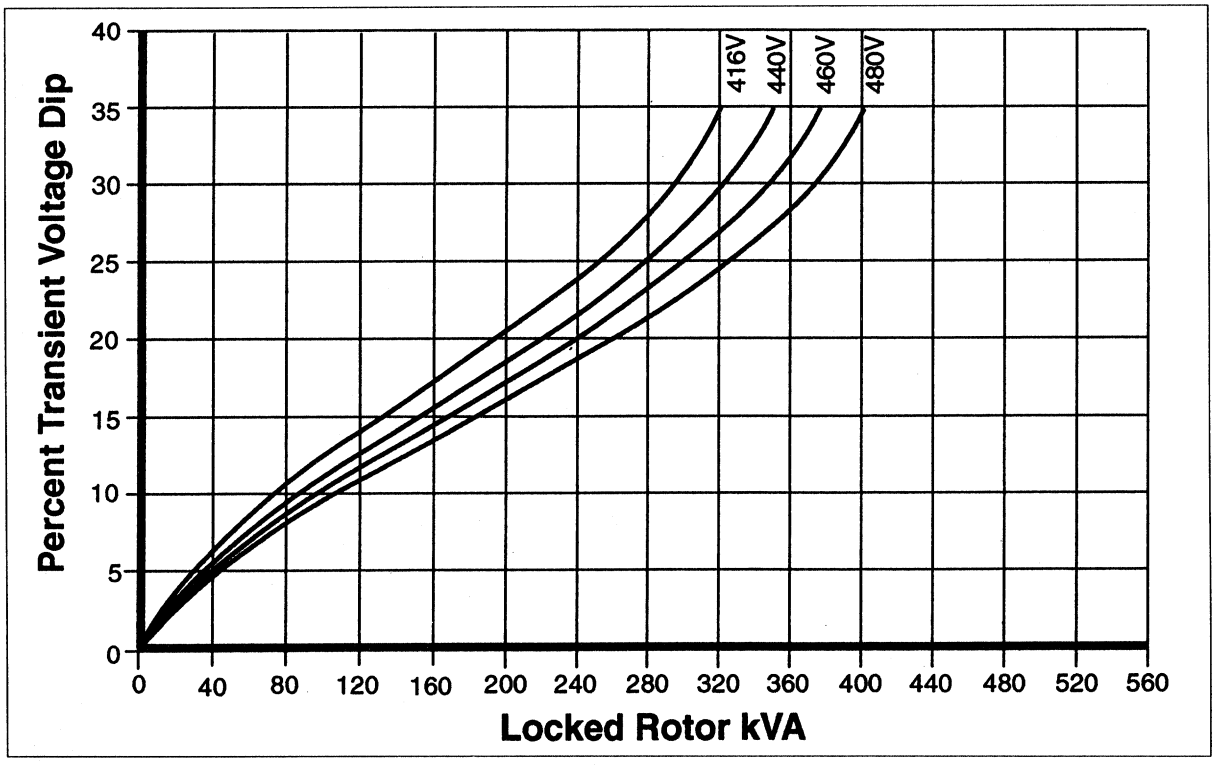
FRAME UC274E 50 HZ

SERIES 4 WINDING 311
LOCKED ROTOR MOTOR STARTING CURVE

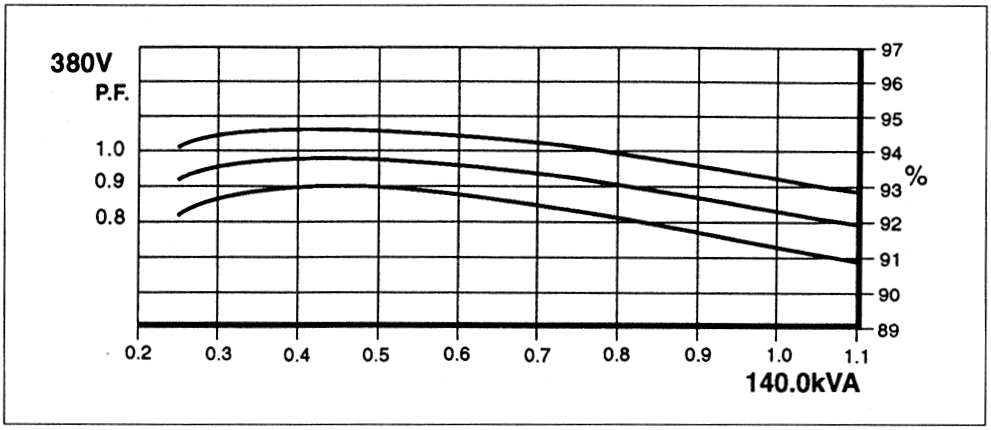


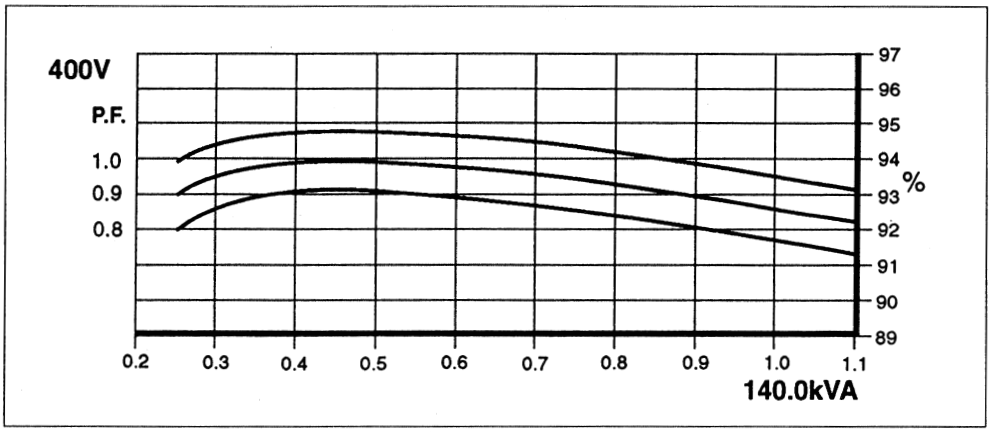
FRAME UC274E 60 HZ

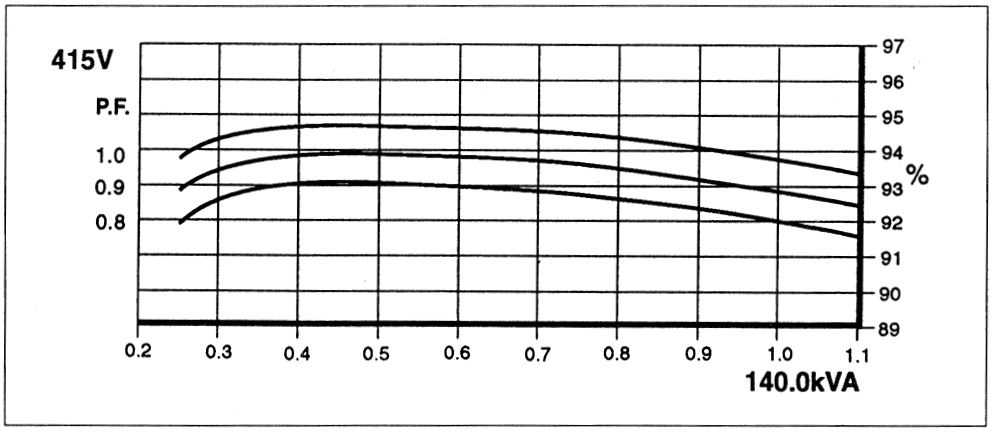
SERIES 4 WINDING 311
LOCKED ROTOR MOTOR STARTING CURVE

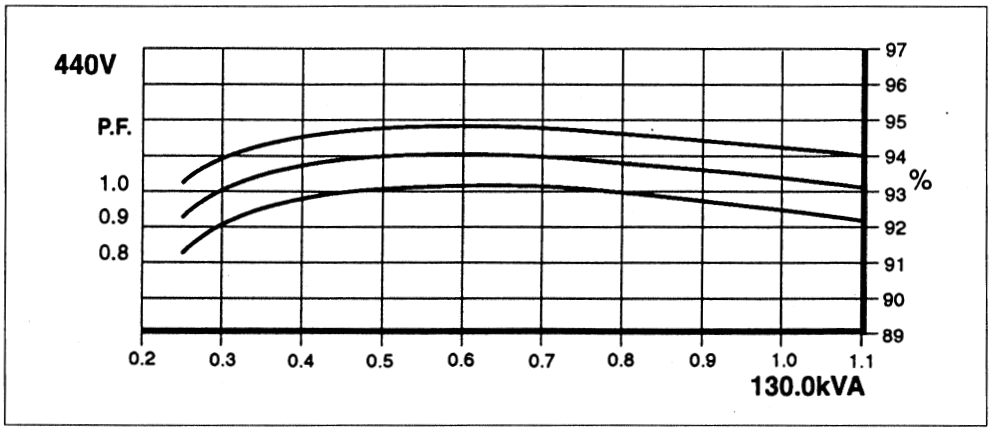


THREE PHASE EFFICIENCY CURVES

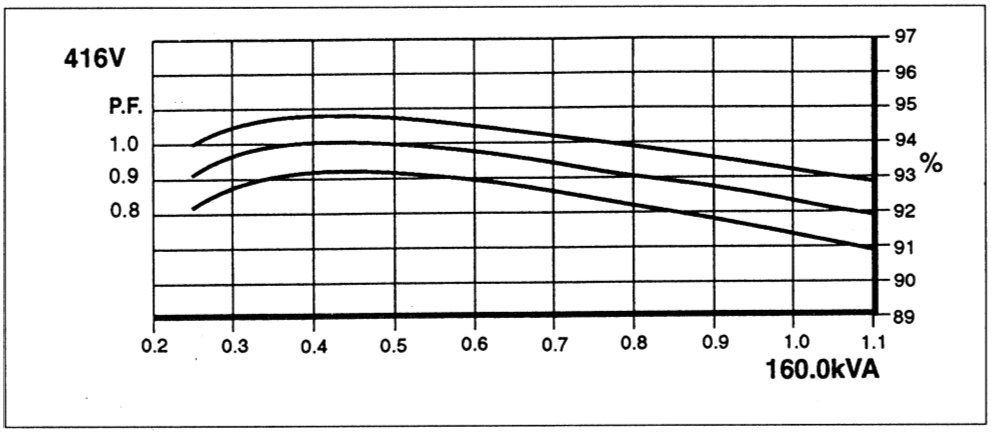


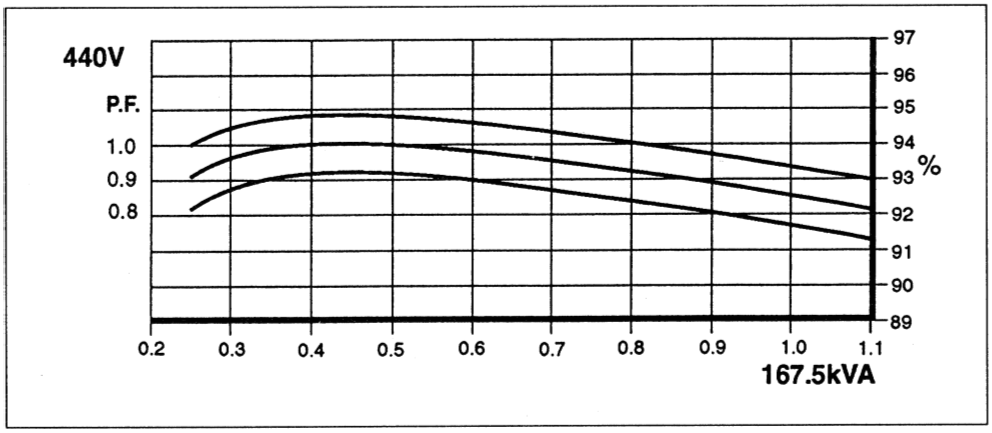


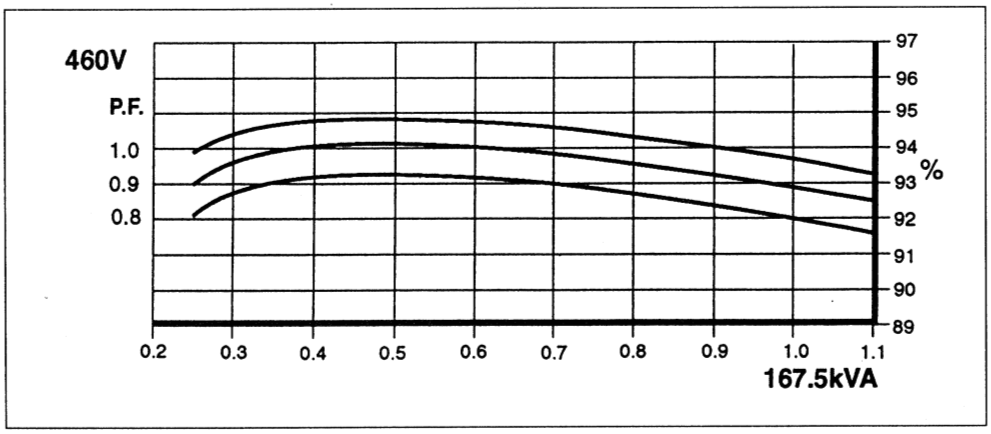


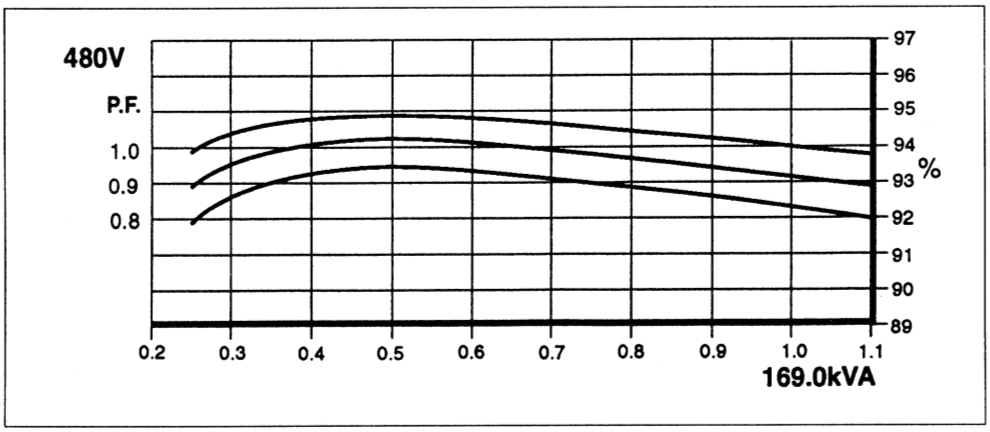


THREE PHASE EFFICIENCY CURVES





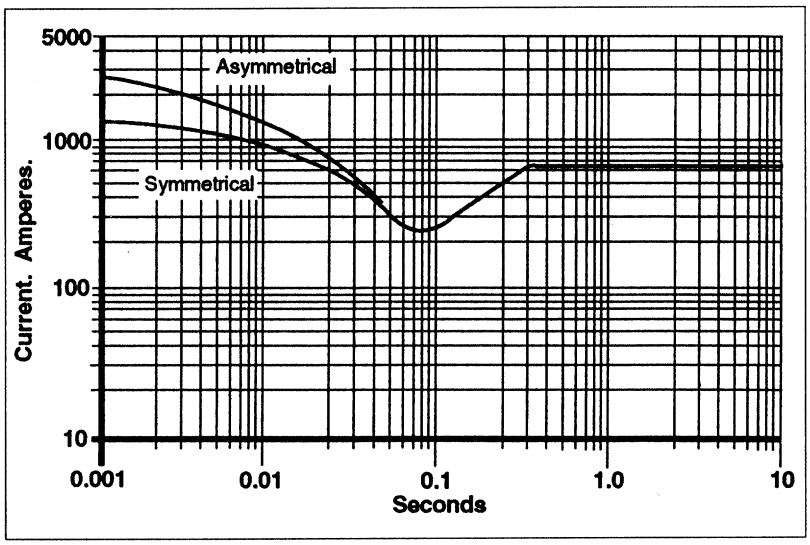




FRAME UC274E 50 HZ

SERIES THREE
Three Phase Short Circuit Decrement Curve
No-load Excitation at Rated Speed

Based on series star (wye) connection



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 :

VOLTAGE	FACTOR
380 V	X 1.0
400 V	X 1.07
415 V	X 1.12
440 V	X 1.18

The sustained current value is constant irrespective of voltage level.

Note 2

The following multiplication factors 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 Series Star (Wye) connected machines. For other connections the following multiplers should be applied to current values shown :

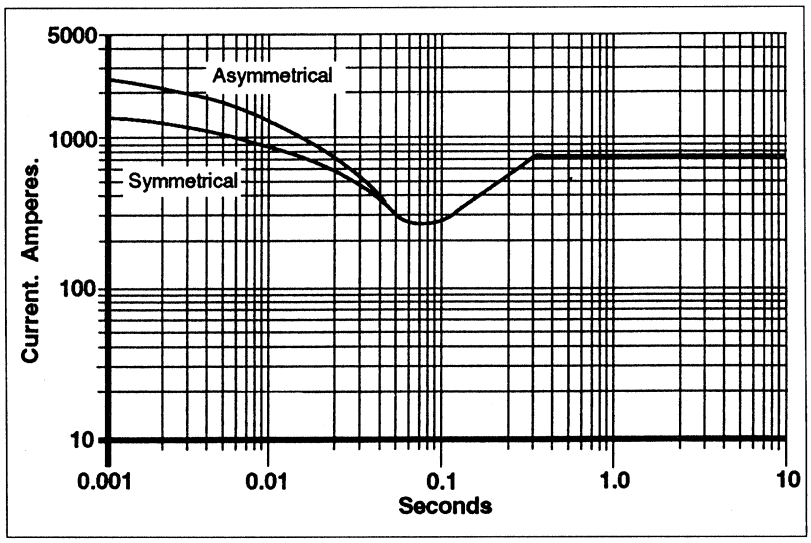
Parallel Star (Wye) Curve current value X 2
Series Delta (Δ) Curve current value X 1.732

Times are unchanged.

FRAME UC274E 60 HZ

SERIES THREE
Three Phase Short Circuit Decrement Curve
No-load Excitation at Rated Speed

Based on series star (wye) connection



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 :

VOLTAGE	FACTOR
416 V	X 1.0
440 V	X 1.06
460 V	X 1.12
480 V	X 1.17

The sustained current value is constant irrespective of voltage level.

Note 2

The following multiplication factors 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 Series Star (Wye) connected machines. For other connections the following multiplers should be applied to current values shown :

Parallel Star (Wye) Curve current value X 2
Series Delta (Δ) Curve current value X 1.732

Times are unchanged.

NEWAGE
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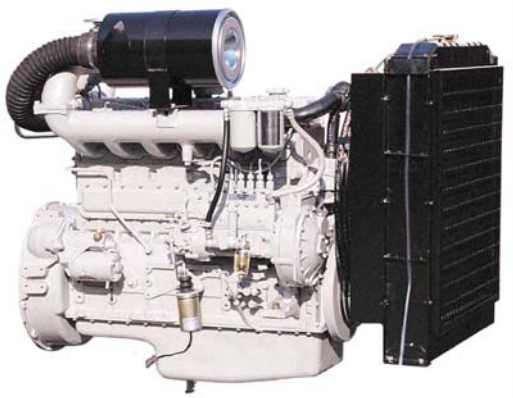
D1146T G-DRIVE

◎ POWER RATING

Engine Speed rev/min	Type of Operation	Engine Power	
		kWm	Ps
1800	Continuous Power	113	153
	Prime Power	125	170
	Standby Power	138	187
1500	Continuous Power	97	131
	Prime Power	107	145
	Standby Power	118	160



Note : -. The engine performance corresponds to ISO 3046, BS 5514 and DIN 6271.

-. Ratings are based on ISO 8528.

→ **Prime power** available at variable load. The permissible average power out put (during 24h period) shell not exceed 70% of the prime power rating.

→ **Standby power** available in the event of a main power network failure. No overload is permitted.

◎ MECHANICAL SYSTEM

○ Engine Model	D1146T
○ Engine Type	In-line 4 cycle, water cooled
	Turbo charged
○ Combustion type	Direct injection
○ Cylinder Type	Replaceable dry liner
○ Number of cylinders	6
○ Bore x stroke	111(4.37) x 139(5.47) mm(in.)
○ Displacement	8.071(492.49) lit.(in^3)
○ Compression ratio	16.8 : 1
○ Firing order	1-5-3-6-2-4
○ Injection timing	11° BTDC
○ Compression pressure	Above 28 kg/cm2(398 psi) at 200rpm
○ Dry weight	Approx. 780 kg (1,720 lb)
○ Dimension (LxWxH)	1,277 x 824 x 1,074 mm (50.3 x 32.4 x 42.3 in.)
○ Rotation	Counter clockwise viewed from Flywheel
○ Fly wheel housing	SAE NO.2
○ Fly wheel	Clutch NO.11 1/2

◎ FUEL CONSUMPTION

○ **Prime Power** (lit/hr)	**1,500 rpm**	**1,800 rpm**
25%	8.2	11.4
50%	13.6	18.1
75%	19.5	24.9
100%	25.9	32.5
○ **Standby Power** (lit/h	**1,500 rpm**	**1,800 rpm**
25%	8.6	11.9
50%	14.3	19.6
75%	20.4	27.3
100%	27.0	35.1

◎ FUEL SYSTEM

○ Injection pump	Zexel in-line “AD” type
○ Governor	RSV type (all speed control)
○ Feed pump	Mechanical type
○ Injection nozzle	Multi hole type
○ Opening pressure	214 kg/cm^2 (3,044 psi)
○ Fuel filter	Full flow, cartridge type
○ Used fuel	Diesel fuel oil

◎ MECHANISM

○ Type	Over head valve
○ Number of valve	Intake 1, exhaust 1 per cylinder
○ Valve lashes at cold	Intake 0.30mm (0.0118 in.)
	Exhaust 0.30mm (0.0118 in.)

◎ VALVE TIMING

	Opening	**Close**
○ Intake valve	16 deg. BTDC	36 deg. ABDC
○ Exhaust valve	46 deg. BBDC	14 deg. ATDC

◎ LUBRICATION SYSTEM

○ Lub. Method	Fully forced pressure feed type
○ Oil pump	Gear type driven by crankshaft
○ Oil filter	Full flow, cartridge type
○ Oil pan capacity	High level 15.5 liters (4.09 gal.)
	Low level 12 liters (3.17 gal.)
○ Angularity limit	Front down 25 deg.
	Front up 25 deg.
	Side to side 25 deg.
○ Lub. Oil	Refer to Operation Manual

D1146T G-DRIVE

◎ COOLING SYSTEM

○ Cooling method	Fresh water forced circulation
○ Water capacity (engine only)	14 liters (3.70 gal.)
○ Pressure system	Max. 0.9 kg/cm^2 (12.8 psi)
○ Water pump	Centrifugal type driven by belt
○ Water pump Capacity	150 liters (39.6 gal.)/min at 1,800 rpm (engine)
○ Thermostat	Wax – pellet type Opening temp. 71°C Full open temp. 85°C
○ Cooling fan	Blower type, steel 590 mm diameter, 6 blade

◎ ENGINEERING DATA

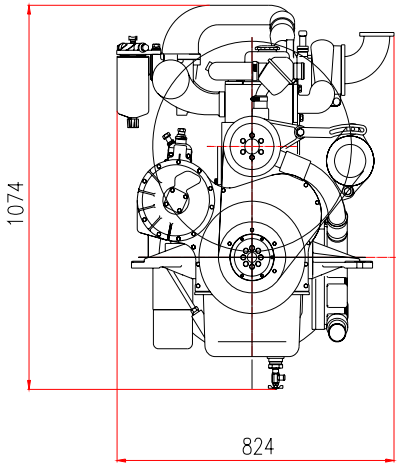
○ Water flow	130 liters/min @1,500 rpm 150 liters/min @1,800 rpm
○ Heat rejection to coolant	17.4 kcal/sec @1,800 rpm
○ Air flow	6.7 m^3/min @1,500 rpm 10.6 m^3/min @1,800 rpm
○ Exhaust gas flow	25.7 m^3/min @1,800 rpm
○ Exhaust gas temp.	470 °C @1,800 rpm
○ Max. permissible restrictions	
−.Intake system	220 mmH_2O initial 635 mmH_2O final
−.Exhaust system	600 mmH_2O max.

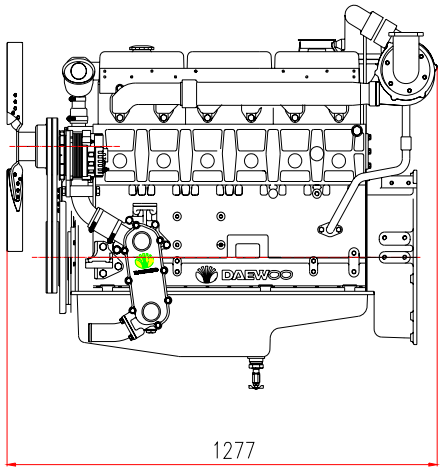
◎ ELECTRICAL SYSTEM

○ Charging generator	24V x 45A [or 12V x 26A] Aalternator
○ Voltage regulator	Built-in type IC regulator
○ Starting motor	24V x 4.5kW [or 12V x 2.5kW]
○ Battery Voltage	24V [or 12V]
○ Battery Capacity	100 AH [or 150 AH] (recommended)
○ Starting aid (Option)	Block heater

◆ CONVERSION TABLE

in. = mm x 0.0394	lb/ft = N.m x 0.737
PS = kW x 1.3596	U.S. gal = lit. x 0.264
psi = kg/cm2 x 14.2233	kW = 0.2388 kcal/s
in3 = lit. x 61.02	lb/PS.h = g/kW.h x 0.00162
hp = PS x 0.98635	cfm = m^3/min x 35.336
lb = kg x 2.20462	





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※ Speccifications are subject to change without prior notice

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