Energía que Mueve al Mundo

PERKINS SERIE 1106

Definiciónes

Potencia Prime
Estos valores son aplicables para el suministro de energía eléctrica continua (a carga variable)en lugar de la red comercial.

Potencia Stand by
Estos valores son aplicables para el suministro de energía eléctrica continua (a carga variable)en caso de fall a de la red comercial. No se permite sobrecarga sobre estos valores.

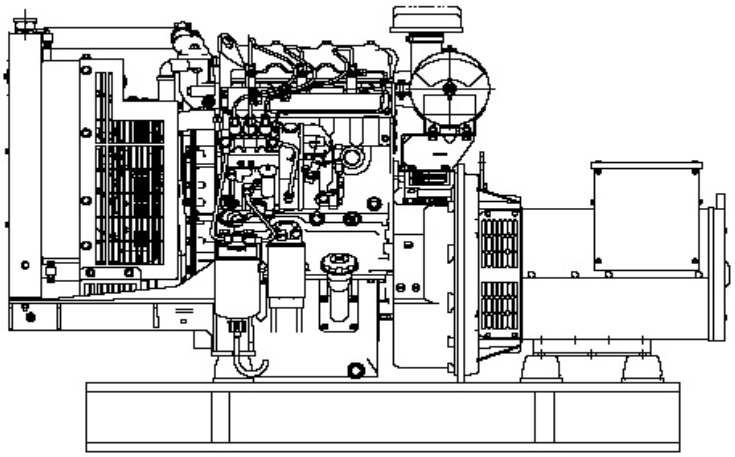

Tabla de Potencias

Modelo	Voltaje	Prime kVA	Prime kWe	Stand-by kVA	Stand-by kWe
PNY130	220-440V	151	120	165	132
PNY150	220-440V	169	135	188	150
PNY175	220-440V	200	156	219	175

0.8 Factor de potencia

Información Técnica

Datos Técnicos	PNY130	PNY150	PNY175
Frecuencia:	60 Hz	60 Hz	60 Hz
Motor Marca / Modelo	**Perkins** 1006TAG	**Perkins** 1106D-E66TAG3	**Perkins** 1106D-E66TAG4
Generador Marca/Modelo:	Stamford UCI224E	Stamford UCI224F	Stamford UCI224G
Numero de polos del Generador:	4 polos	4 polos	4 polos
Tipo de aislameinto del Generador:	Tipo H	Tipo H	Tipo H
Número de Cilindros del motor:	6 en V	6 en V	6 en V
Diametro por Carrera :in (mm)	4.13 X 5.0 (105X127)	4.13 X 5.0 (105X127)	4.13 X 5.0 (105X127)
Relación de Compresión:	17.0 : 1	16.2:1	16.2:1
Aspiración:	Turbo y postenfriado	Turbo y postenfriado	Turbo y postenfriado
Velocidad:	1800 RPM	1800 RPM	1800 RPM
Potencia del motor: kWm	158.5	171.4	204.3
Presion Efectiva: Lbf/in^2(kPA)	1836 (266)	1731 (251.1)	2065.0 (299.5)
Velocidad de Piston: ft/s (m/s) :	7.62 (25)	7.62 (25)	7.62 (25)
Consumo de combustible : lt / hr - 100%	37.7	43	52
Calor Expulsado en el Sistema de Escape : BTU/min (kW)	9394 (147.6)	7735.4 (135.9)	9608.0 (168.8)
Calor Expulsado en el Sistema de Enfriamiento: BTU/min (kW)	4362 (76.7)	4559.3 (80.1)	5322.0 (93.5)
Temperatura de Escape: ºF (ºC)	1023.8 (551)	876.2 (469.0)	999.3 (537.4)
Flujo de Enfriamiento en el Radiador m^3/min	182.0	313.8	313.8
Flujo de Escape:m^3/min (ft^3/min)	31.41 (1109.1)	30.7 (1084.2)	35.5 (1523.7)
Dimensiones (Largo x Ancho x Alto)cm	220x86x132	220x86x132	220x86x132
Peso Aprox. humedo kg.	1001	1400	1450

Como leer nuestro codigo: Ejem: **PNY30**

P=Motor Perkins
N=Generador Newage Stamford
E=50Hz-1500 RPM
Y=60Hz-1800 RPM
30= Potencia del Equipo.

Los equipos en foto pudieran incluir accesorios opcionales

Perkins STAMFORD

ottomotores
Energía que Mueve al Mundo

Celebrando 60 años de exitos 1950-2010

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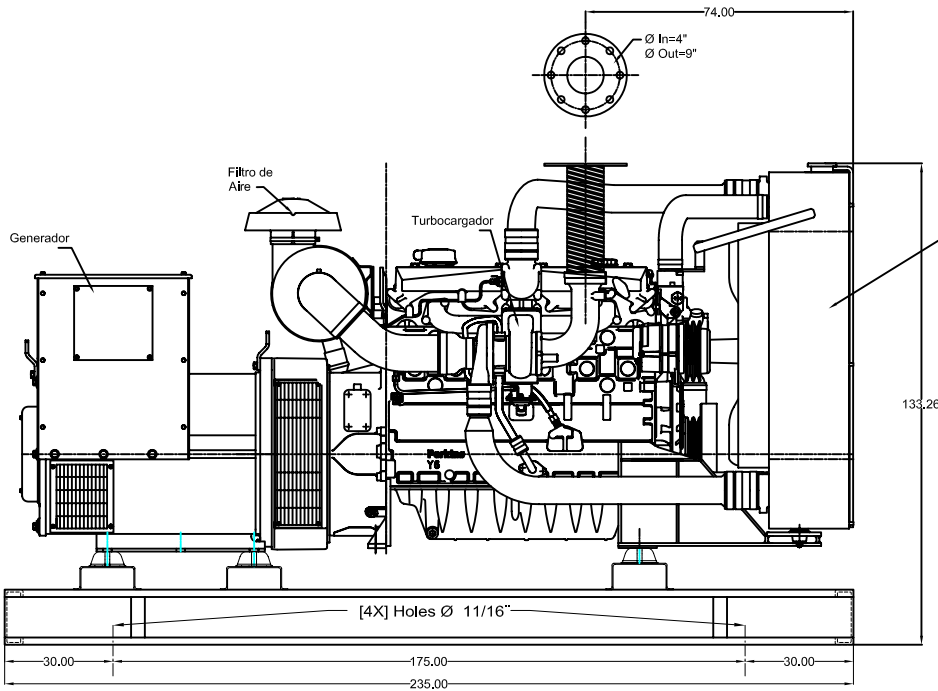
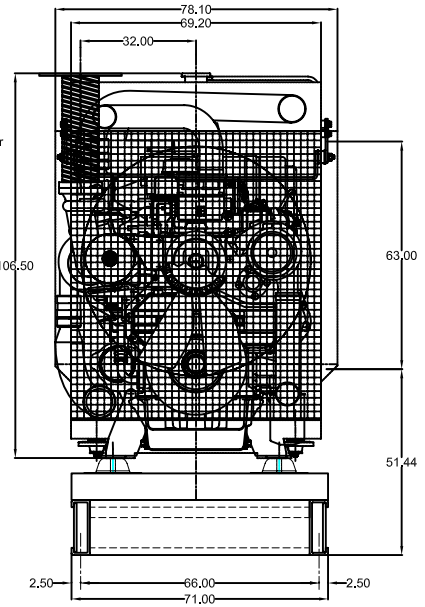
DESCRIPCION	
MOTOR:	1006TAG
GENERATOR:	UCI274E
RADIATOR:	COOL PACK
BASE PATIN:	BMT-1002TAG-STF
PESO TOTAL:	Seco-1152.70 Kgs. Humedo-1196.70 Kgs.
No. AMORTIGUADORES:	4



VISTA LATERAL



VISTA FRONTAL

Cliente: OTP:

Rev.	Descripcion	Fecha	Aprobo

Revisiones

Titulo: DIMENSIONES GENERALES MOTOR PERKINS 1006TAG GENERADOR STAMFORD 130 kW

Dibujo: ING. R.G.C.	Reviso: ING. R.G.C.	Aprobo: ING. V.F.F	Clave: DP-PRK130-06
Fecha: 08 Sep 2010	Fecha: 08 Sep 2010	Fecha: 08 Sep 2010	Depto.: Ingenieria

Acot.: cms | Esc: s/e | Plano: N/A | De: N/A

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Technical Data

1000 Series

1006TAG

ElectropaK

158,5 kW @ 1800 rev/min

Basic technical data

Number of cylinders 6
Cylinder arrangement. . . . . Vertical, in-line
Cycle . . . . . four stroke
Induction system . . . . . turbocharged air to air charge cooled
Compression ratio . . . . . 17·0 : 1
Bore . . . . . 100 mm (3.94 in)
Stroke . . . . . 127mm (5.0 in)
Cubic capacity . . . . . 5,99 litres (365.0 in³)
Direction of rotation . . . . . clockwise, from the front
Firing order 1, 5, 3, 6, 2, 4

Total weight of ElectropaK

-dry . . . . . 586 kg (1291 lb)
-wet . . . . . 630 kg (1388 lb)

Overall dimensions

-height . . . . . 1065 mm (41.92 in)
-length . . . . . 1685 mm (63.33 in)
-width . . . . . 773 mm (30.43 in)

Moments of inertia (mk²)

-flywheel . . . . . see option drawings
-engine . . . . . 0,2996 kgf m² (1024 lbf in²)

Centre of gravity

Complete ElectropaK (wet engine / without fan guards)
-forward from rear of block . . . . . 402 mm (15.8 in)
-above block centre line . . . . . 187 mm (7.4 in)
-offset to RHS . . . . . 41 mm (1.6 in)

Performance

Note: All data based on operation to BSAU141A 1971; BS5514; 1987, ISO3046/1 1982; DIN6271

Cyclic irregularity for engine and flywheel
at 100% continuous power 0,0023
Maximum overspeed limit . . . . . 2050 rev/min
Speed variation at constant load . . . . . ± 0·8%
Average sound level at 1 metre
-bare engine without inlet / exhaust . . . . . 96,7 dB(A)

Test conditions

-air temperature . . . . . 25 °C (68 °F)
-relative humidity 30%
-barometric pressure . . . . . 101,3 kPa (29.5 in hg)
All ratings certified to within . . . . . +3% to -5%

If the engine is to operate in ambient conditions other than those of the test conditions, suitable adjustments must be made for these changes. For full details, contact Perkins Technical Service Department.

For details of load acceptance values, contact the applications department at Perkins Engines Company Limited, Stafford

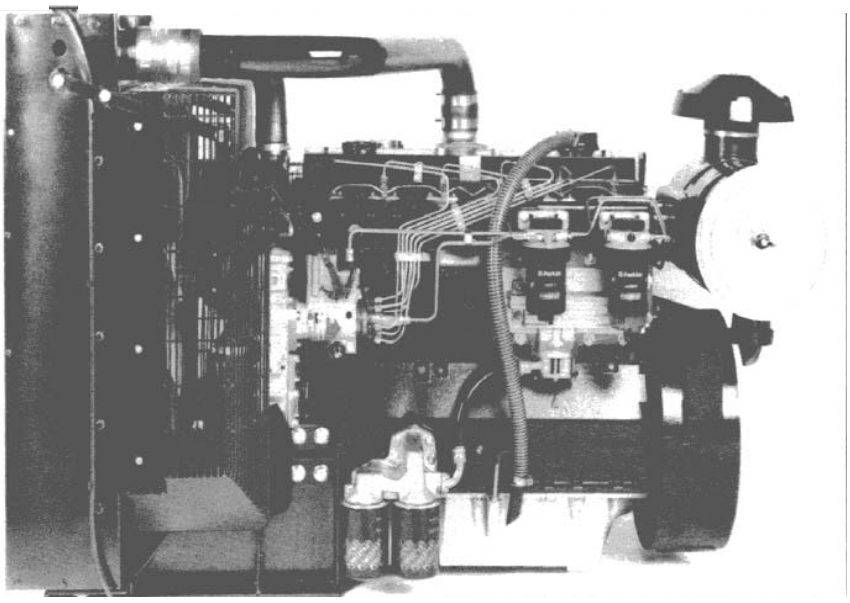
General installation

Designation	Units	Type of operation and application	
		(Continuous) Prime	Stand-by
		60Hz	60Hz
Gross engine power (to BSAU141A)	kW (bhp)	144,2 (193.8)	158,5 (212.1)
Fan loss	kW (bhp)	11,5 (15.4)	11,5 (15.4)
ElectropaK net engine power	kW (bhp)	134 (179.7)	147 (197.1)
Brake mean effective pressure	kPa (lbf/in²)	1610 (233)	1836 (266)
Piston speed	m/s (ft/s)	7,62 (25)	7,62 (25)
Engine coolant flow	l/min (UK gal/min)	172 (37.8)	172 (37.8)
Combustion air flow	m³/min (ft³/min)	10,72 (378.6)	11,17 (37.8)
Exhaust gas flow	m³/min (ft³/min)	29,75 (1050.6)	31,41 (1109.1)
Exhaust gas temperature	°C (°F)	540 (1004.0)	551 (1023.8)
Cooling fan air flow	m³/min (ft³/min)	182 (6427)	182 (6427)
Total heat from fuel	kW (Btu/min)	394 (22406)	444 (25250)
Gross heat to power	kW (Btu/min)	144,5 (8218)	158,5 (9014)
Net heat to power	kW (Btu/min)	133 (7564)	147 (8360)
Heat to exhaust	kW (Btu/min)	140 (7962)	147,6 (9394)
Heat to water and lubricating oil	kW (Btu/min)	68 (3867)	76,7 (4362)
Heat to charge cooler	kW (Btu/min)	22,5 (1280)	27,6 (1570)
Heat to radiation	kW (Btu/min)	19 (1081)	33,6 (1911)

Caution: *The airflows shown in this table will provide acceptable cooling for an open power unit operating in ambient temperatures of up to 53 °C (46 °C if a canopy fitted). If the power unit is to be enclosed totally, a cooling test should be done to check that the engine cooling is acceptable. If there is insufficient cooling, contact Perkins Technical Service Department.*

Standard base engine specification - YB35028

Fan drive assembly
Lubricating oil sump
Cylinder head cover
and lubricating oil filler
Lubricating oil filter
and oil cooler
Crankshaft pulley
Water pump assembly
Water outlet connection
Fan extension
Turbocharger
Exhaust outlet connections
Fuel oil filter and pre-filter
Induction heater
Lifting eyes



Typical easy order specification

Description	Option code
Engine rating - 121 kW (162.3 bhp) @ 1800 rev/min	A8003
Flywheel	D8003
Starter motor (12V)	E8001
Alternator (12V)	N8001
Air filter	S8004
Fan	M8001
Front mountings (not required)	ZC000
Temperature switch	ZL802
Lubricating oil switch	ZJ801
Engine speed controller (12V)	ZA802
Radiator (includes air-to-air charge cooler, pipes and front mounting feet)	ZM801
Radiator and fan guards (includes air-to-air charge cooler, pipes and front mounting feet)	ZM802

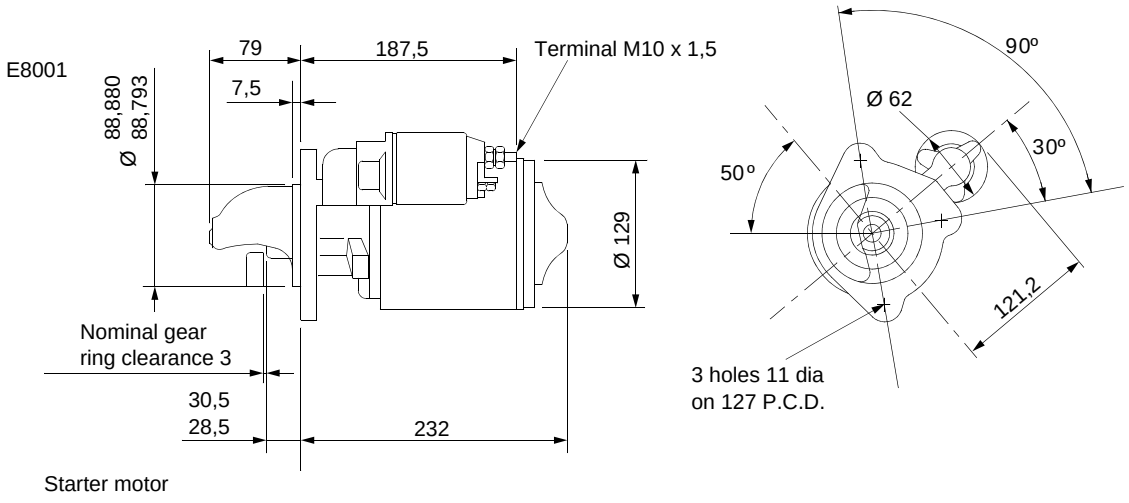
The electronic governor system

The 1006TAG engine is fitted with both mechanical and electronic governors. The electronic governor controls the engine speed to within ± 0,25%.
If the electronic governor fails, the mechanical governor will control the maximum engine speed to 2050 rev/min.
The electronic governor system is made up of three parts:
The engine speed controller - This contains the adjustment screws to set the engine speed and is normally fitted to the control panel.
The actuator - This is contained within the fuel injection pump assembly and controls the engine speed.
The electro-magnetic sensor - This is fitted to the flywheel housing and measures the engine speed.

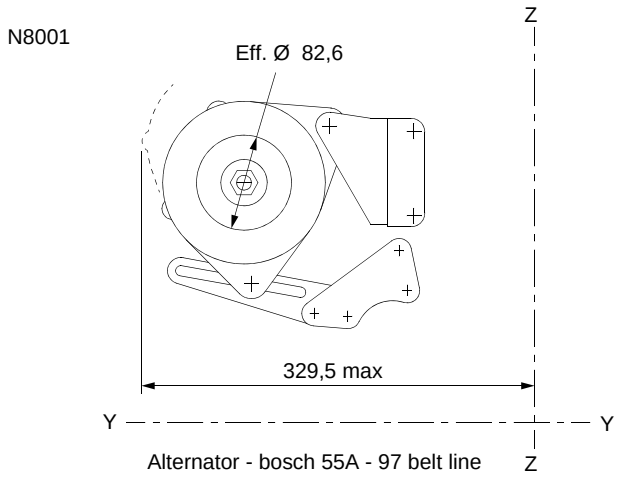
***Cautions*:**

- *Ensure that the electro-magnetic sensor (A4) is set correctly, and the cables are connected in accordance with the wiring diagram (A) on page 3.*
- *Ensure that there is electrical continuity between the frame for the engine and the frame for the control panel.*

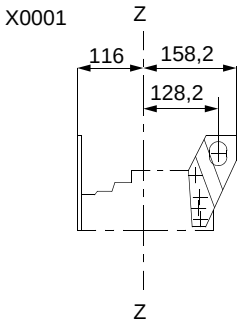
1006TAG ElectropaK, other details - YD35028

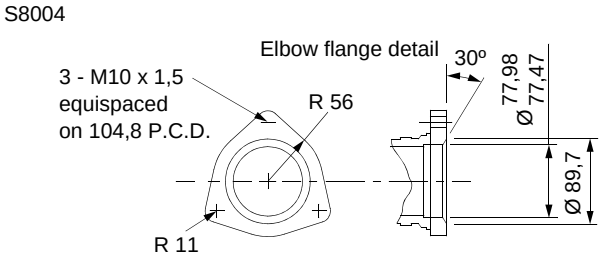


Starter motor

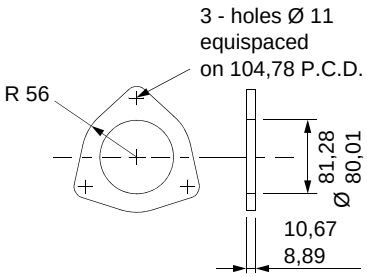


Alternator - bosch 55A - 97 belt line

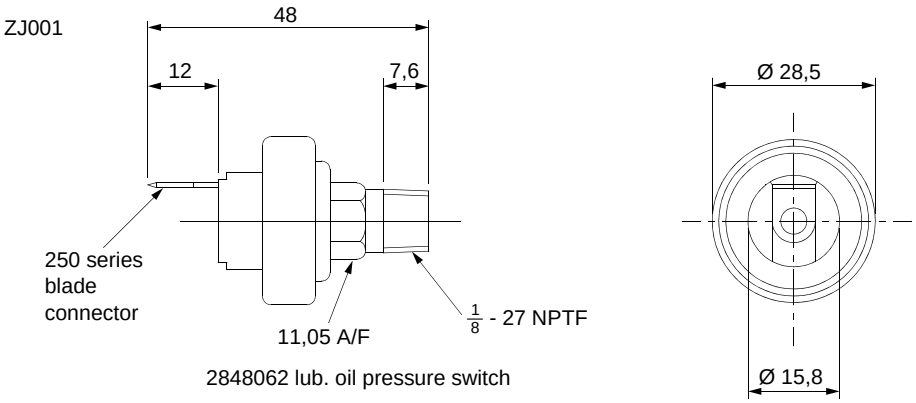




Exhaust outlet flange



Exhaust pipe flange



2848062 lub. oil pressure switch

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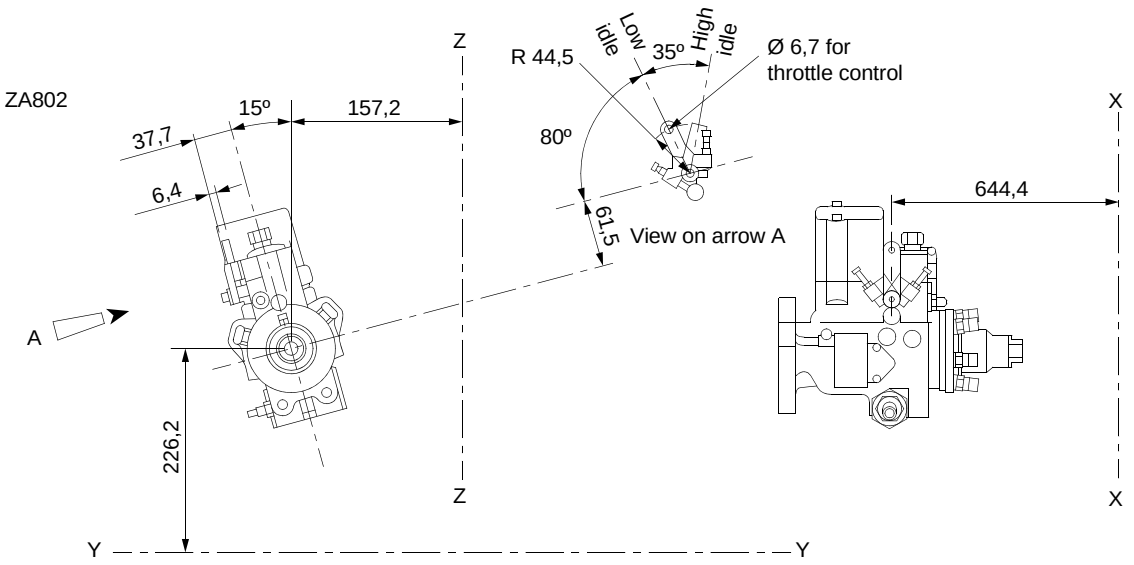
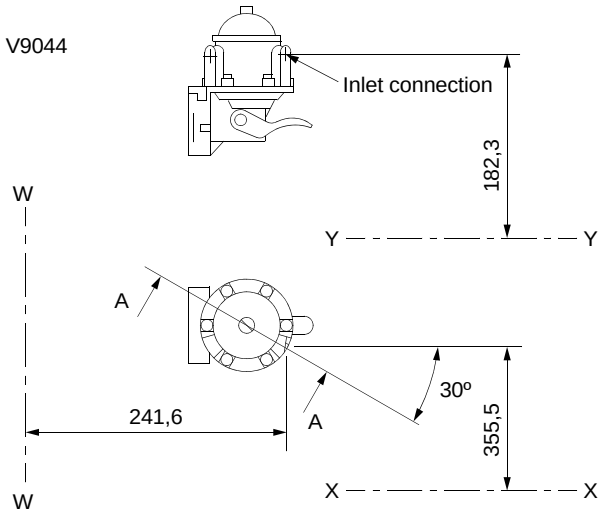
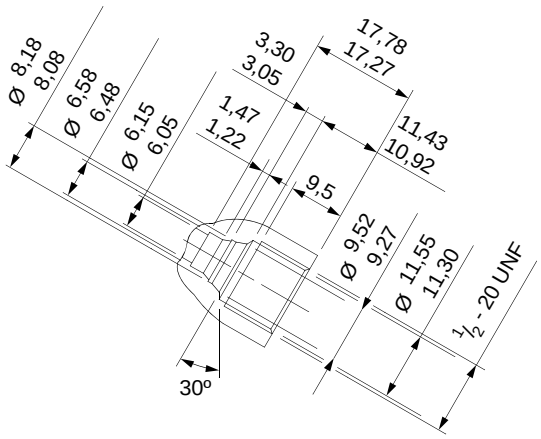
1006TAG ElectropaK, other details - YD35028



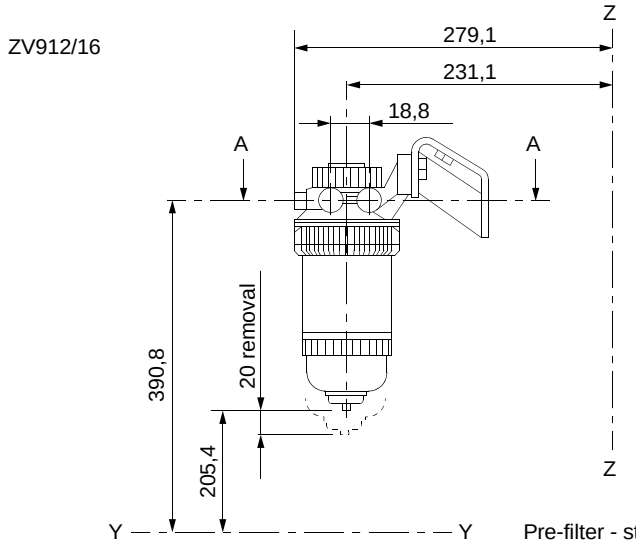
Fuel Pump - Stanadyne



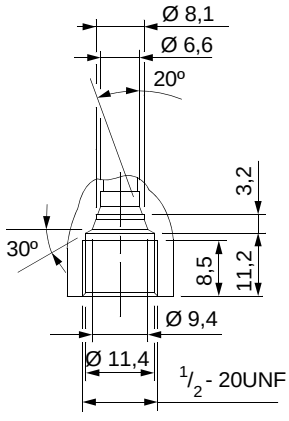
Pump - fuel lift



Section A-A



Pre-filter - stanadyne



Section A - A

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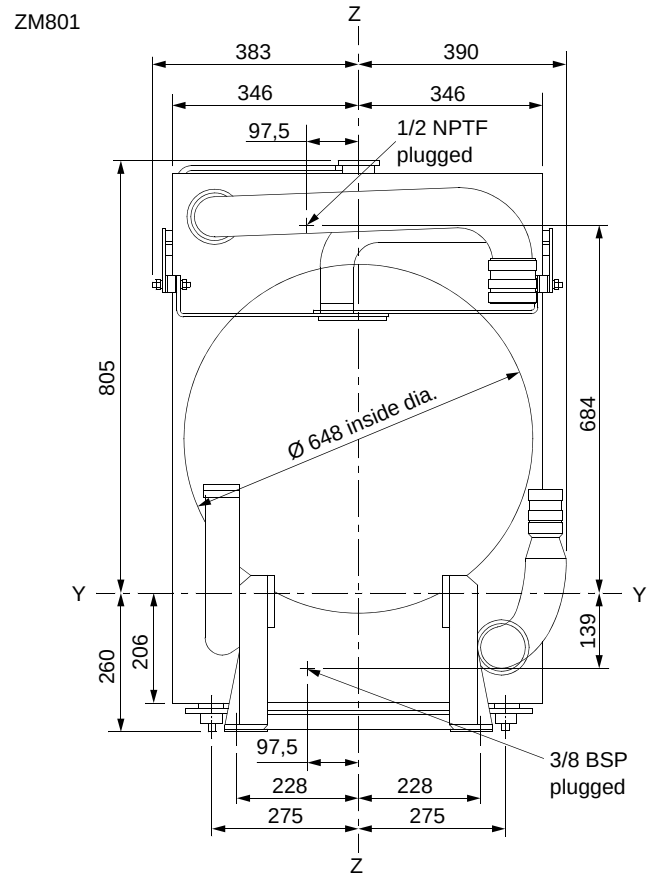
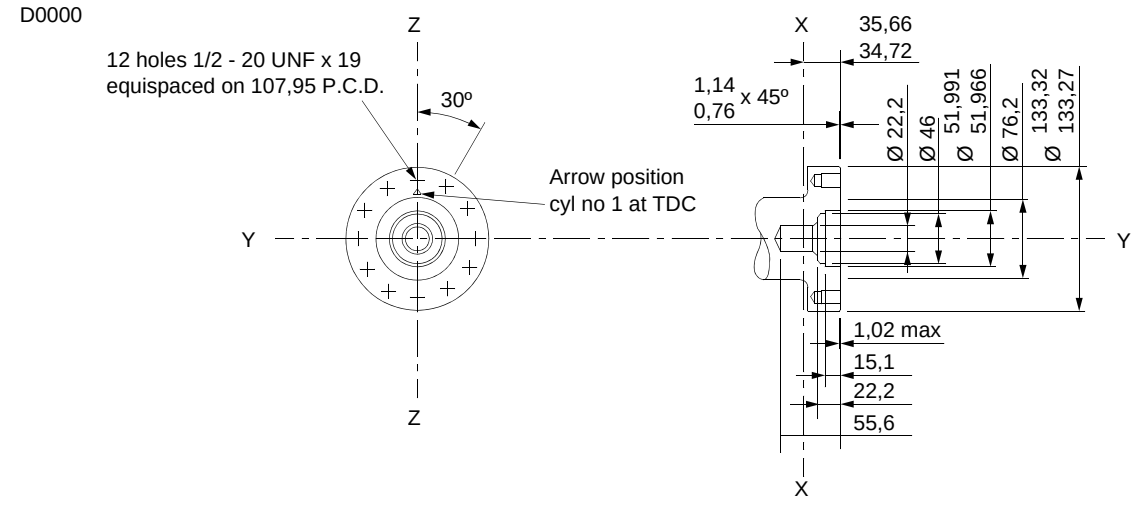
1006TAG ElectropaK, other details - YD35028



Engine front mounting bracket with radiator



Crankshaft palm

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To set the engine speed

1 Ensure that the speed control lever (A3) on the fuel injection pump is held in the fixed position and that adjustment screws are both locked.

2 Set the screw (A2) to position 30 on the dial.

Note: The settings on the dial are in increments of 10.

3 Turn the adjustment screw (A1) for the engine speed, in a counter-clockwise direction 20 complete turns. Then turn the screw in a clockwise direction 5 complete turns.

4 Start the engine and allow it to reach its normal temperature of operation. Initially, the engine speed will be low. To increase the speed of the engine, turn gradually the speed adjustment screw (A1) in a clockwise direction, until the correct engine speed is obtained.

Note: As load is applied to or removed from the engine, the engine speed will be electronically governed to within +0,25%. If this does not happen, further adjustments will be necessary.

5 If the time taken is too long for the engine to return to its correct speed, turn the adjustment screw (A2) gradually in a clockwise direction, to a position just above 30 on the dial.

6 Apply a load to the engine and check that the speed and governing are correct. If necessary, repeat operation 5.

7 If the time taken is too quick and the engine speed is erratic, turn the adjustment screw (A2) gradually in a counter-clockwise direction, to a position just below 30 on the dial.

8 Apply a load to the engine and check that the speed and governing are correct. If necessary, repeat operation 7

Note: It may be necessary to make further adjustments to the screws (A1) and (A2) until the correct speed and governing are obtained.

Caution: *Any adjustments to these screws must be made gradually.*

Identification of component numbers in triangles

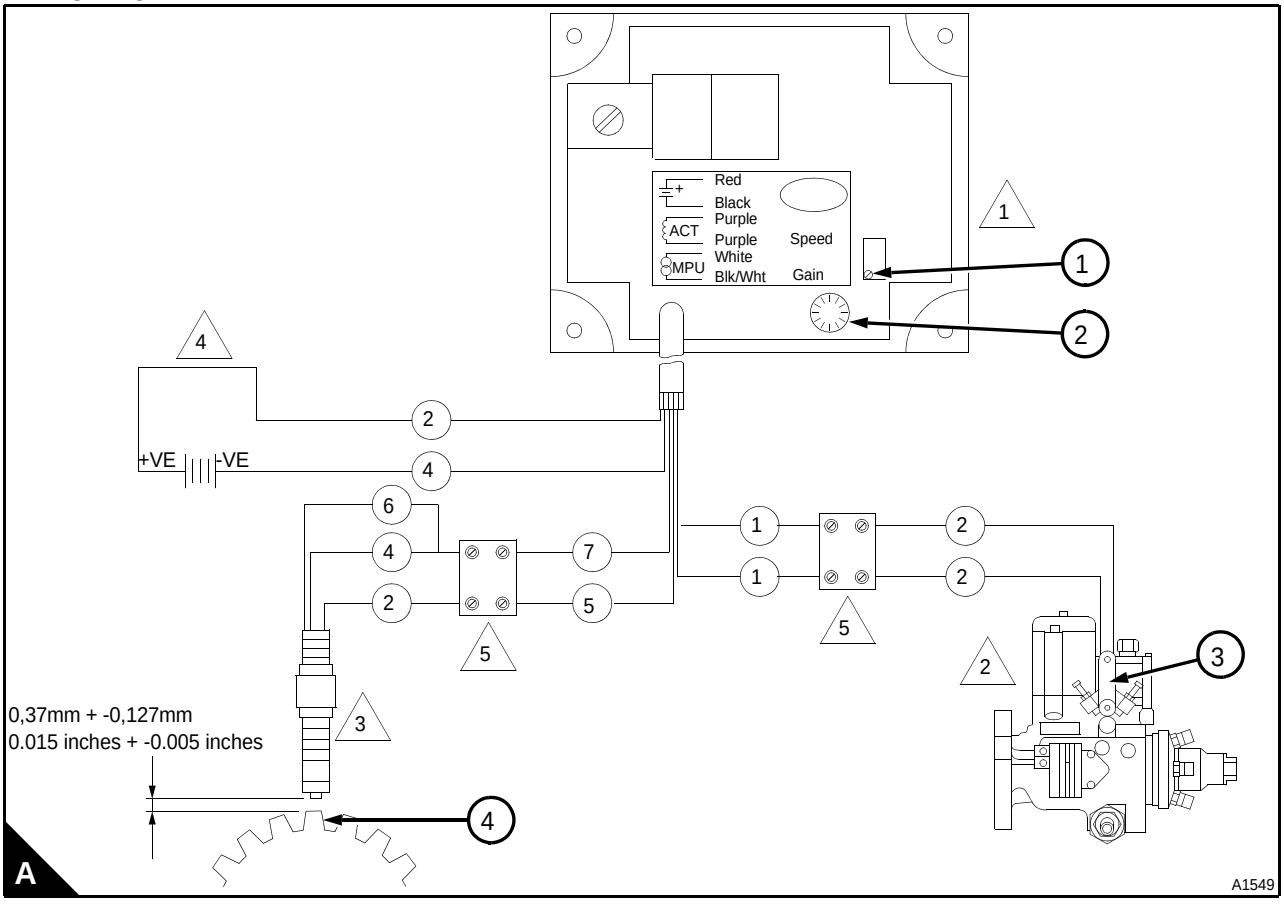
Number	Description
1	Controller for engine speed
2	Actuator
3	Electro-magnetic sensor
4	Battery
5	Connector

Details for cables identfied in circles

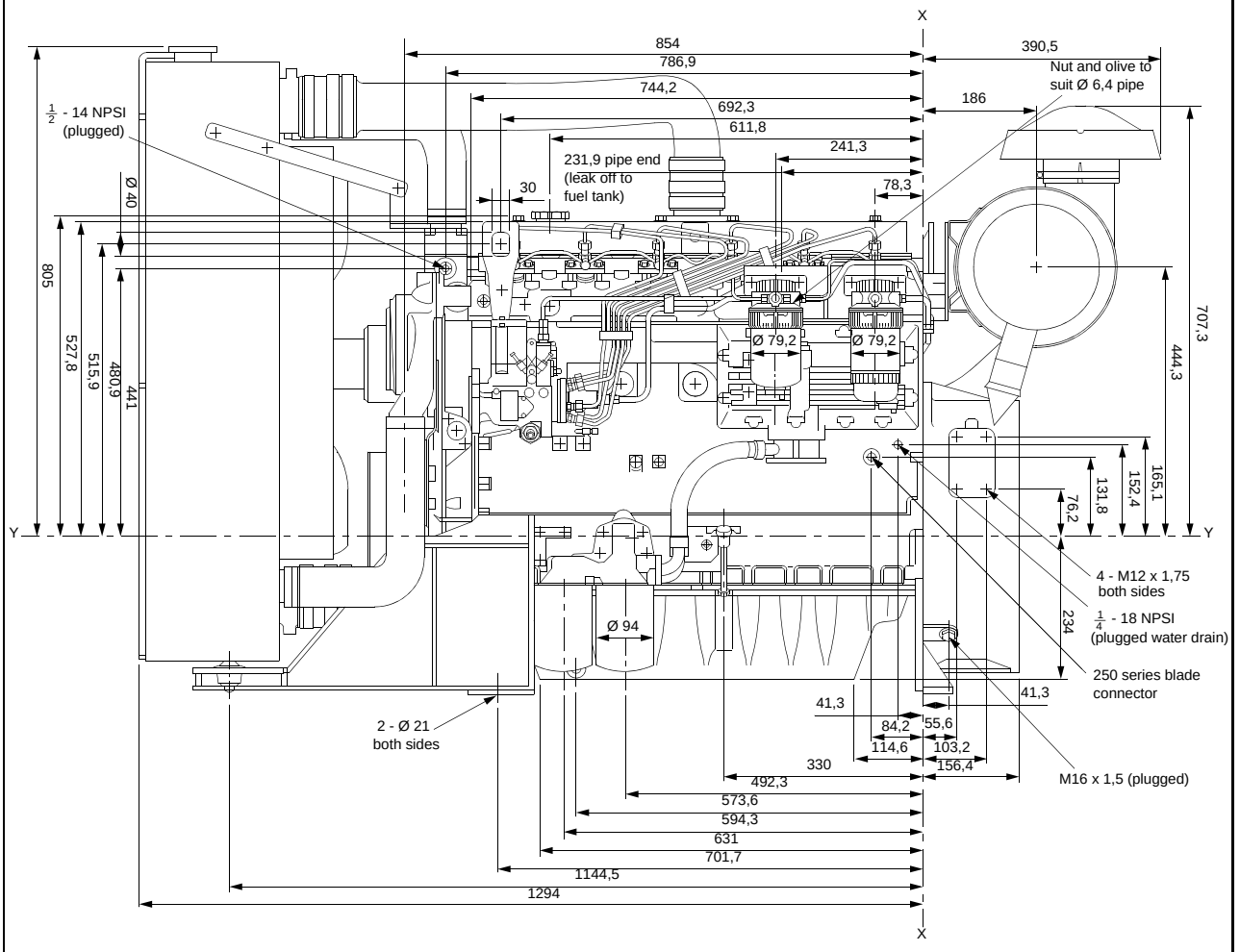
Circuit	Number	Colour
Controller to actuator	1 2	Purple Red
Controller to battery	2 4	Red Black
Controller to sensor	2 7 5 6	Red Black/White White Earth/shield

Caution: *The plastic connector that is supplied (loose) for the circuit 'controller to actuator', should be fitted with a crimping tool of the correct size. If it is not, the connector may be damaged.*

Wiring diagram



1006TAG ElectropaK, left side view - YD35028



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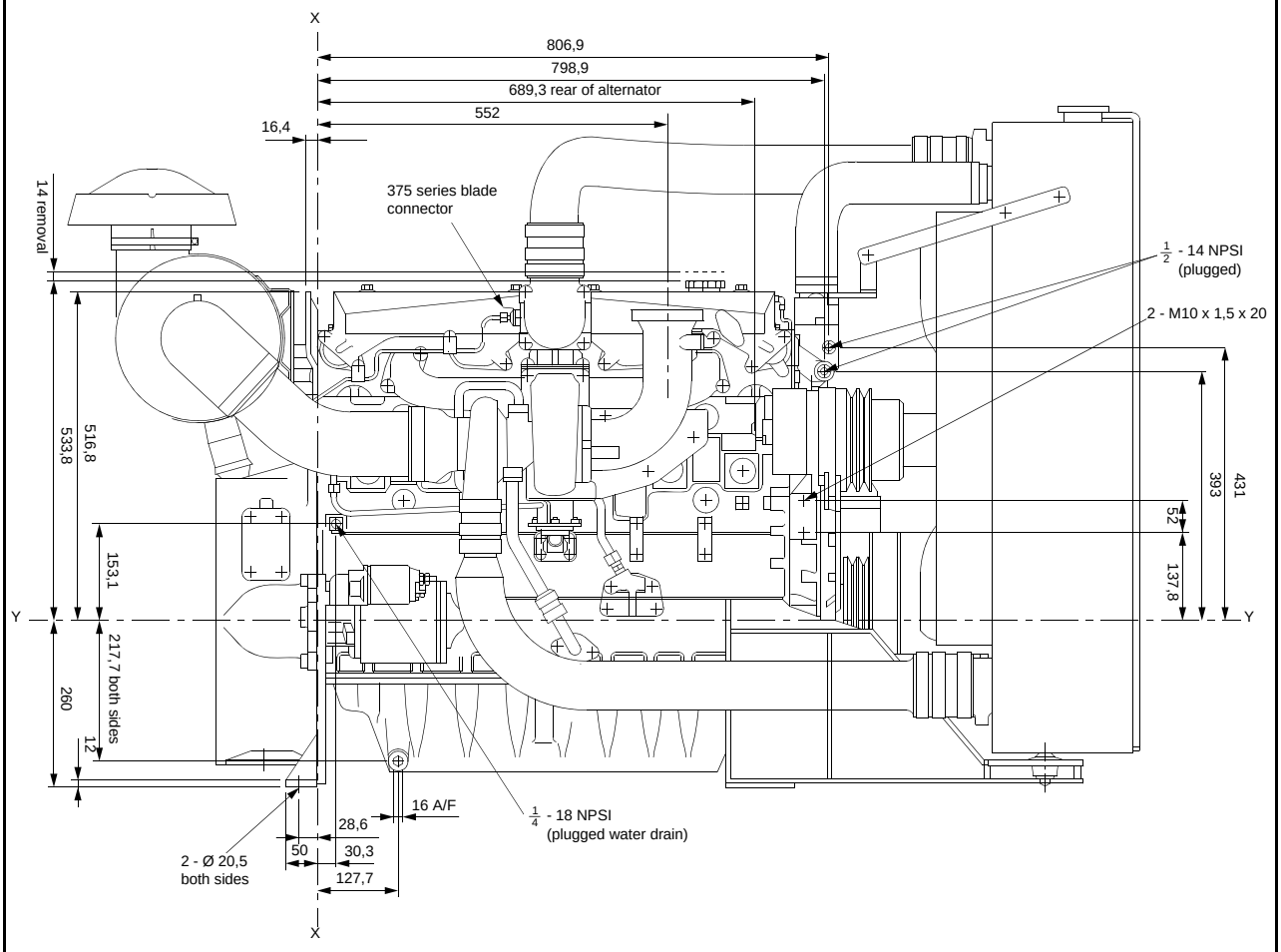
1006TAG ElectropaK, right side view- YD35028



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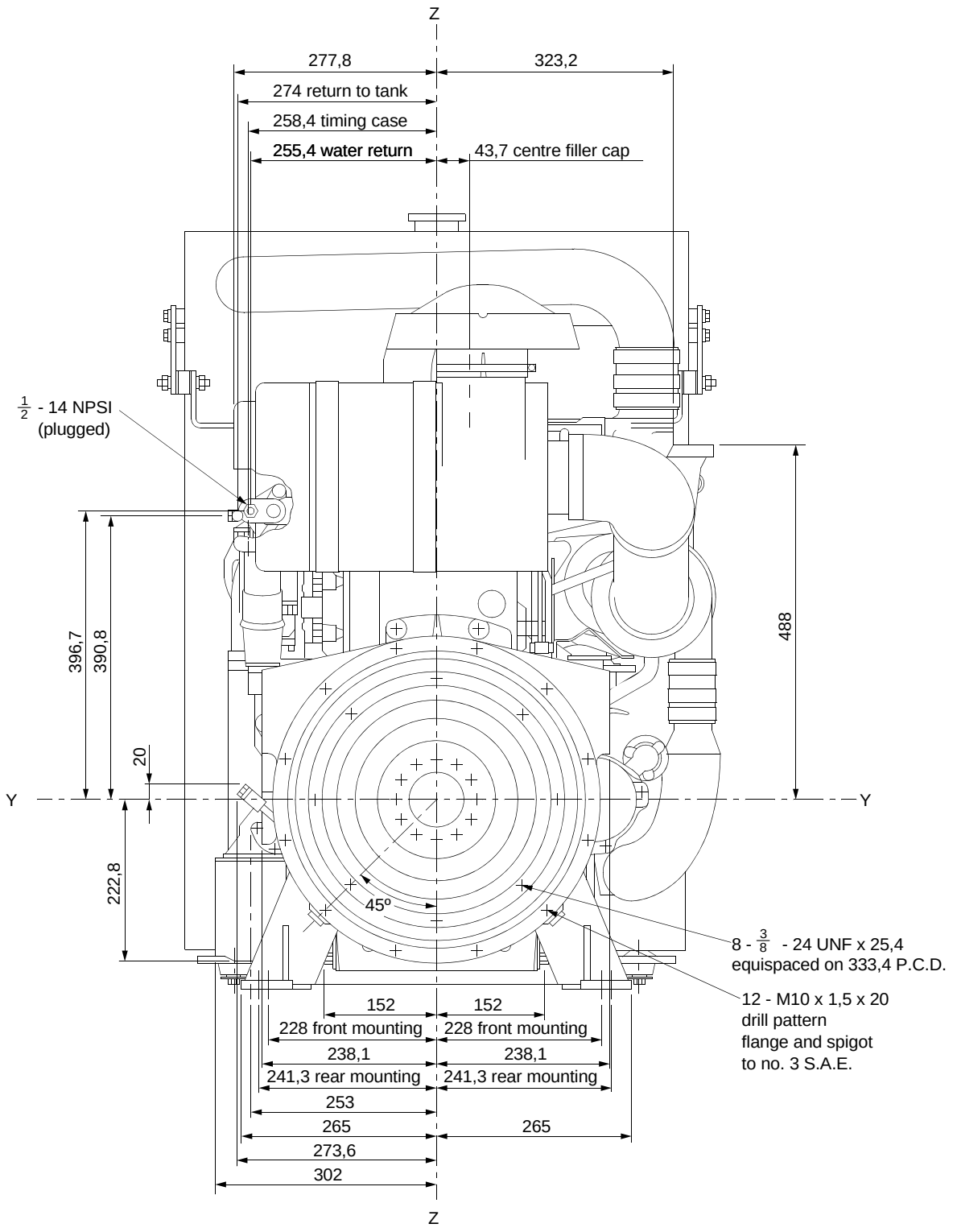
1006TAG ElectropaK, rear view - YD35028



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Cooling system

Radiator

-face area ... 0,401 m² (4.3 ft²)
-rows and materials ... 3 rows, brass
-gills/inch and material ... 14, copper
-width of matrix ... 637 mm (25.1 in)
-height of matrix ... 630 mm (24.8 in)
-pressure cap setting ... 68,9 kPa (9.9 lbf/in²)
Maximum top tank temperature ... 103 °C (217 °F)
Estimated cooling air flow reserve (see caution in General Installation data table on page 1) ... 0,18 kPa (0.79 in H_2O)

Charge cooler

-type ... fin and tube
-rows and materials ... 1 row / 62 mm (2.4 in) - Aluminium
-number of blades ... 10 - Aluminium

Fan

-diameter ... 635 mm (25 in)
-drive ratio ... 1.25 : 1
-number of blades ... 10
-material ... composite

Coolant

Maximum pressure head at pump ... 9,8 m (32.2 ft)

Total system capacity

-with radiator ... 37,22 litres (65.5 UK pints)
-without radiator ... 12,7 litres (22.4 UK pints)
-drain down capacity ... 35,3 litres (62.2 UK pints)
Minimum temperature to engine ... 76 °C (169 °F)
Temperature rise across engine ... 8 °C (14 °F)
Max permissible external system resistance ... 35 kPa (5 lbf/in²)
Thermostat operation range ... 82-93 °C (180-199 °F)
Recommended coolant:

Electrical system

-type ... Negative ground
-alternator ... 55A 12/24V options
-starter motor ... 12/24V options

Cold start recommendations

Minimum starting temperature °C	Grade of engine lubricating oil	Battery specifications			
		BS3911 Cold start amps	SAEJ537 Cold cranking amps	Number of batteries needed	Perkins Type
-10	10W	340	540	2	D (069)
-10	20W	340	540	2	D (069)
-15	10W	340	540	2	D (069)
-20	5W	340	540	2	D (069)

Exhaust system

Maximum back pressure for total system ... 6 kPa (1.8 in Hg)
Inside diameter of outlet flange ... 78 mm (3.1 in)
Note: Changes to induction restriction, exhaust back pressure and fuel viscosity/temperature/specific gravity, can affect power output. For further details contact Perkins Technical Service Department.

Fuel system

Type of injection ... Direct
Fuel injection pump ... Rotary/Stanadyne DB4
Fuel atomiser ... Bosch/RSU/4 hole (0.35 mm diameter)
Nozzle opening pressure ... 24,7 MPa (243.8 atm)

Fuel lift pump

-delivery/hour ... 133,7 litres (235 UK pints)
-pressure ... 30 kPa (4.35 lbf/in²)
Maximum suction head ... 1,8 m (6.0 ft)
Maximum pressure head ... 3,0 m (9.8 ft)
Diesel Fuel to conform to BS 2869 1983 class A2 ASTM D97566T Number 2D.
Governor type ... Electronic / Mechanical

Fuel consumption

litres/hour (UK gallons/hour)

Power rating %			
110	100	**75**	50
41,3 (9.1)	**37,6 (8.3)**	**28,9 (6.4)**	19,4 (4.3)

Induction system

Maximum permissible air intake restriction at engine

-clean filter ... 3,0 kPa (12 in H_2O)
-dirty filter ... 5,0 kPa (20 in H_2O)
-air filter type ... dry element
Minimum dirt capacity ... 353 g/m³/min
Turbocharger type ... Garrett T04E/36/0,84-62-1

Lubrication system

Capacities

-total ... ...19 litres (33.5 UK pints)
-sump only . ...16 litres (28.2 UK pints)
Maximum operating angles
-front up, front down, right side .. ..25°

Lubricating oil pressure

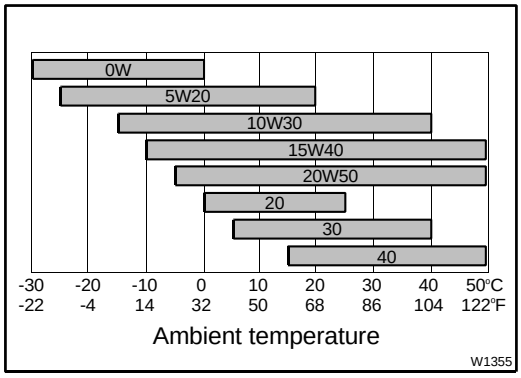
-relief valve opens.. ... ... 345 - 414 kPa (50 - 59 lbf/in²)
-at rated speed... ... ... 300 - 340 kPa (43 - 49 lbf/in²)
-idle speed . ... 62 - 90 kPa (9 - 13 lbf/in²)

Lubricating oil temperature

-at normal operation... ... ...105 °C (221 °F)
-maximum .. ..125 °C (257 °F)
Lub. oil consumption as a % of fuel consumption.. ... ... 0.2% max

Recommended SAE viscosity

A Single of multigrade lubricating oil which conforms to API CD/SE or CCMC D4 must be used.



Mountings

Type ... ... 4 point rubber mounting
Maximum bending moment at
rear face of block .. .. 1130 Nm (835 lbf ft)

@Perkins®

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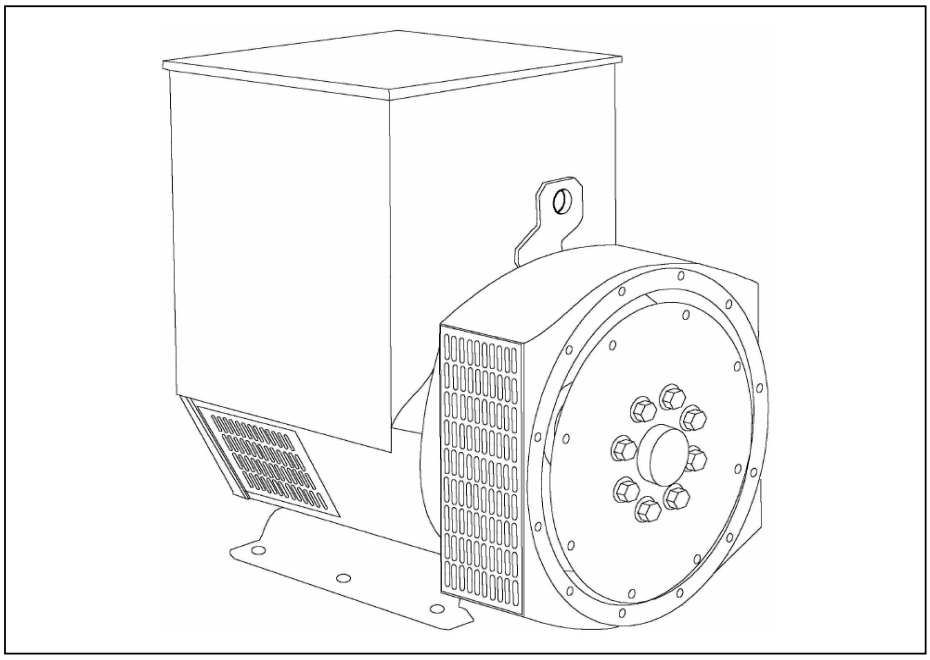
UCI274E - Technical Data Sheet



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.

STAMFORD
power generation

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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			
WR² 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 m³/sec 1090 cfm				0.617 m³/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
Xd 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
Xq 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							
Ta ARMATURE TIME CONST.	0.007 s							
SHORT CIRCUIT RATIO	1/Xd							

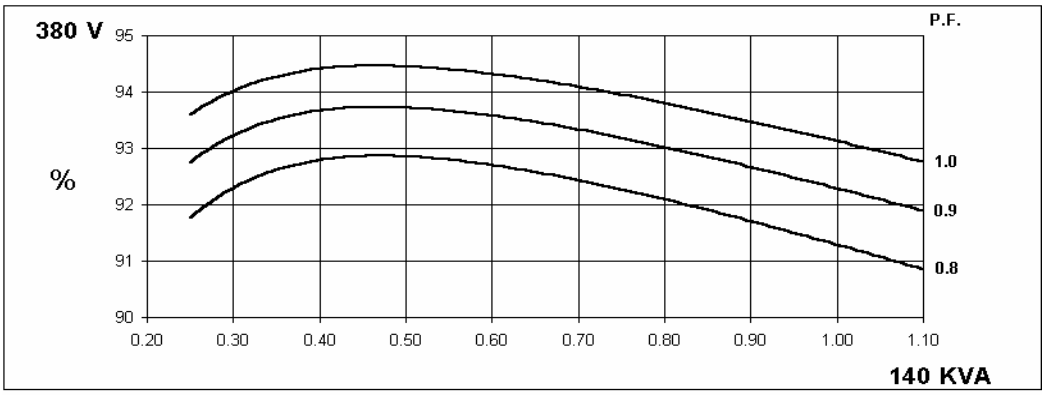
50 Hz

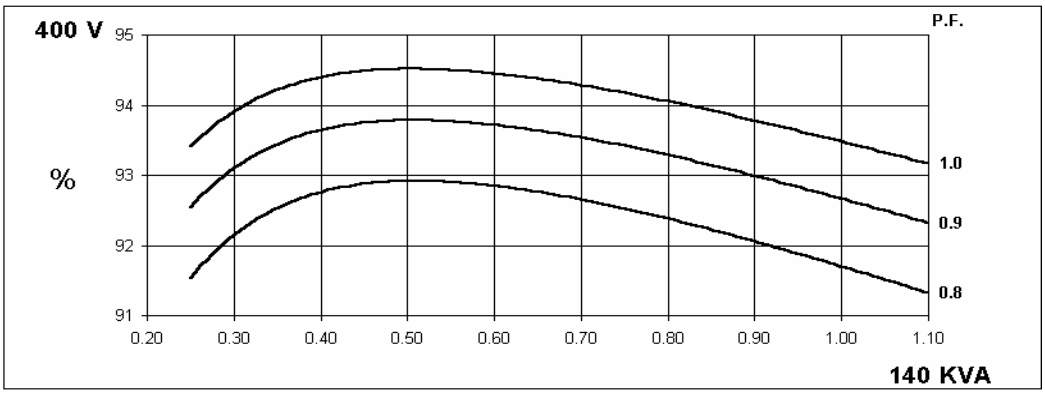
UCI274E

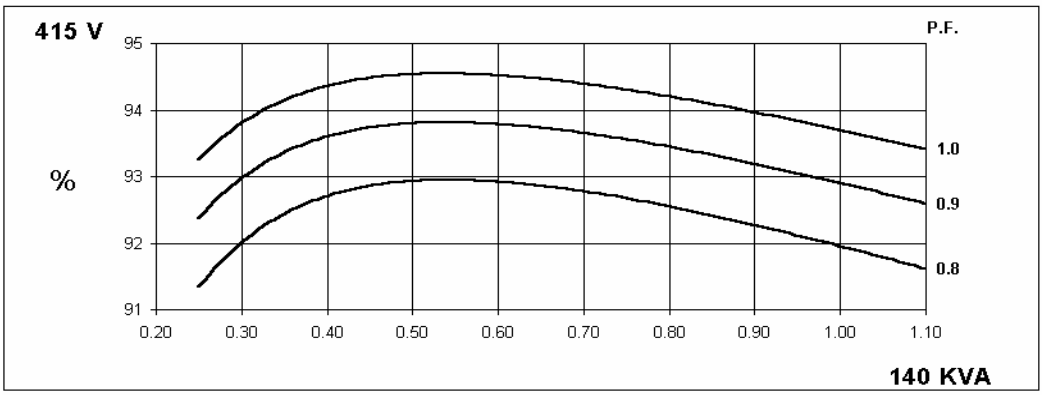
Winding 311

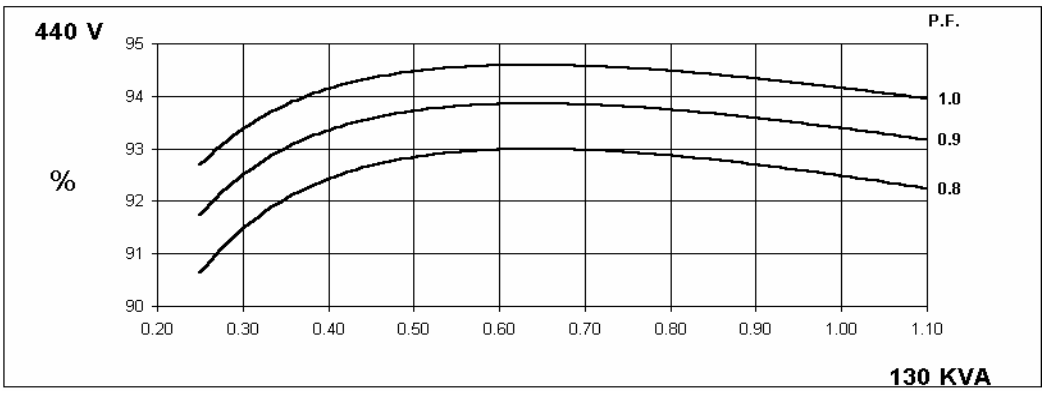
STAMFORD power generation

THREE PHASE EFFICIENCY CURVES









STAMFORD
power generation

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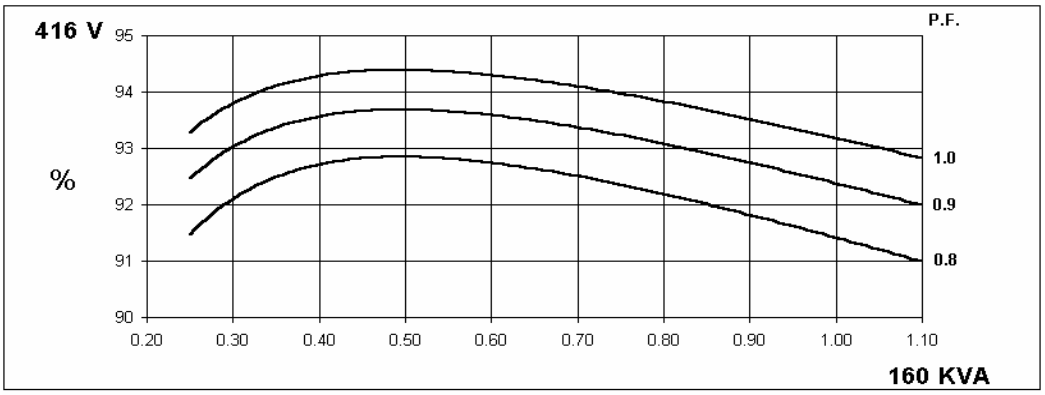
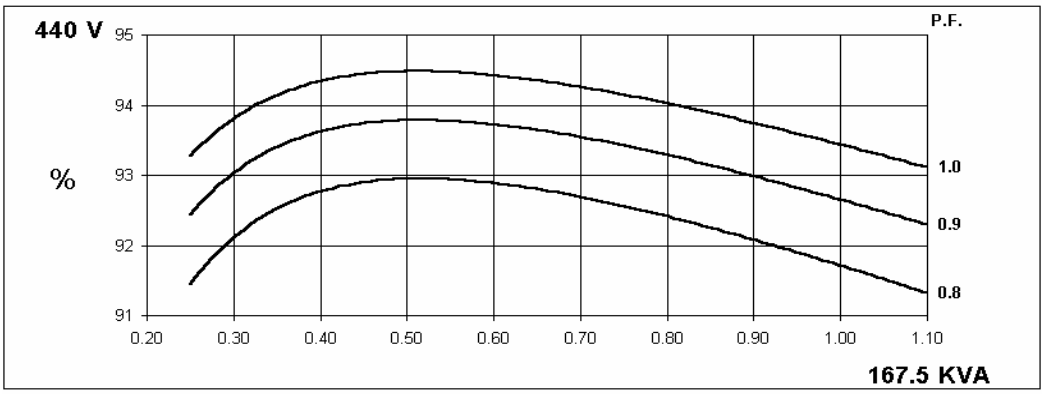
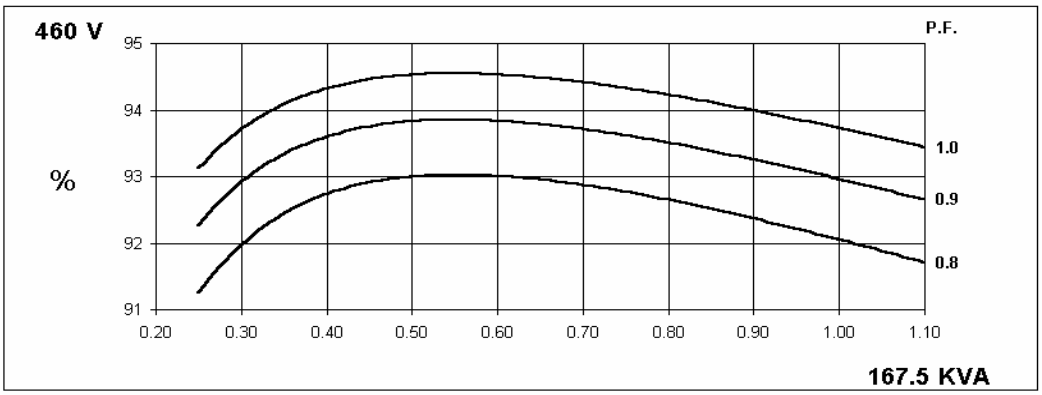
Winding 311

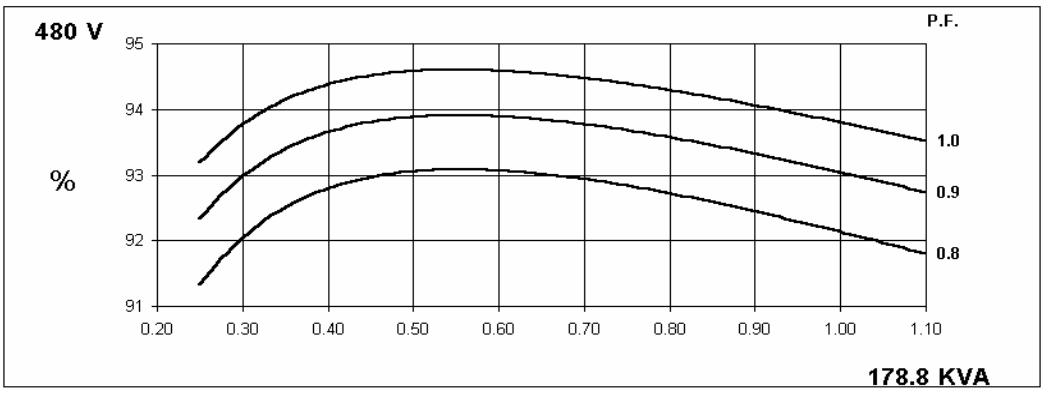
60 Hz

THREE PHASE EFFICIENCY CURVES









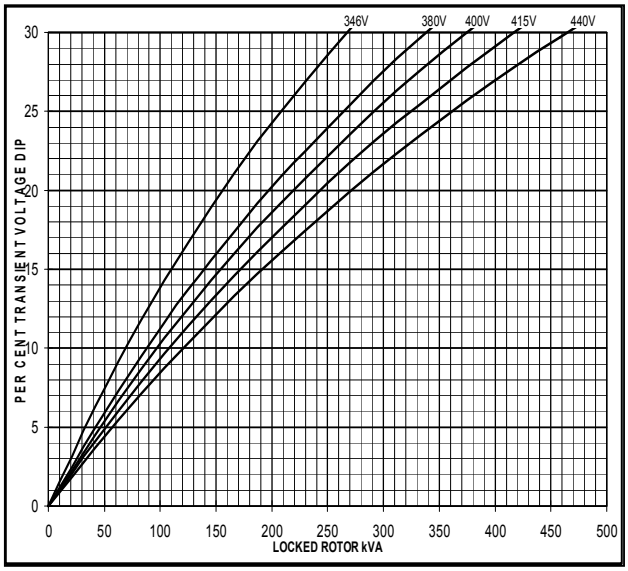
UCI274E

Winding 311

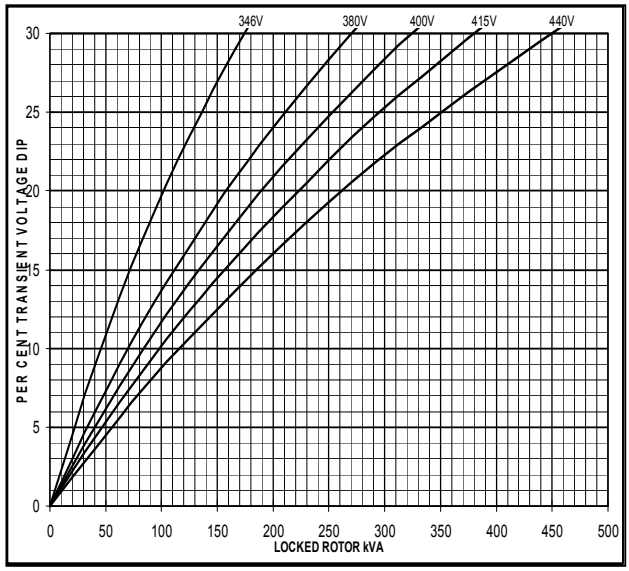
Locked Rotor Motor Starting Curve

50 Hz

MX

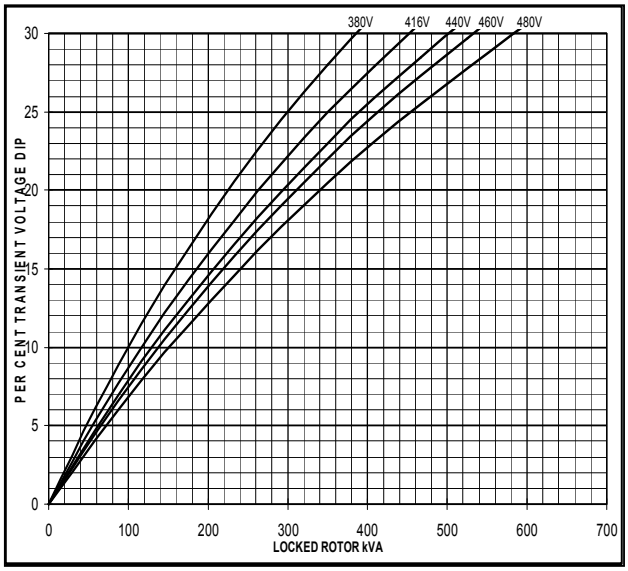


SX

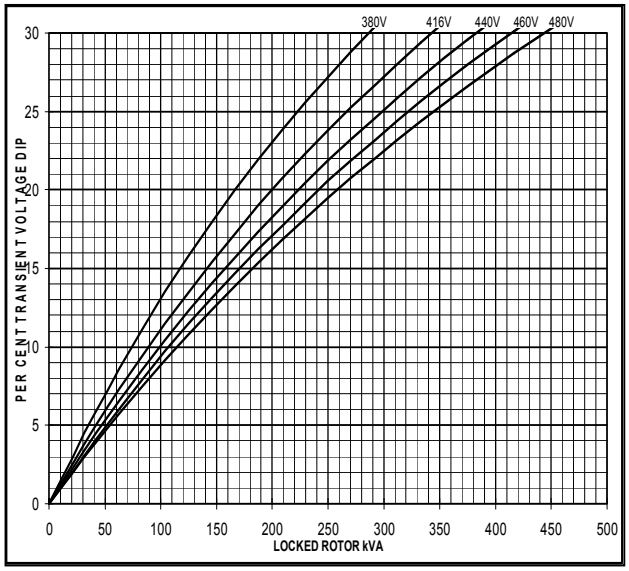


60 Hz

MX

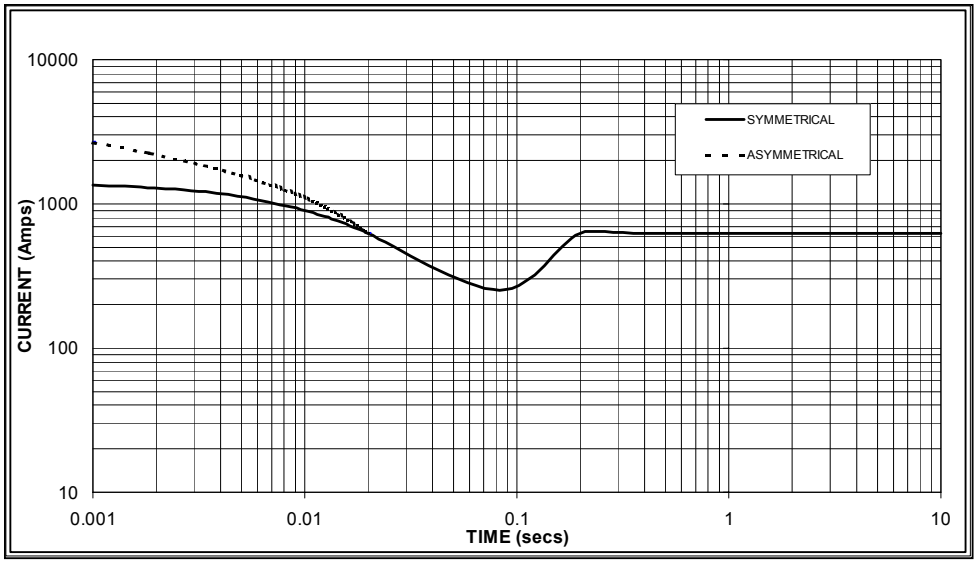


SX



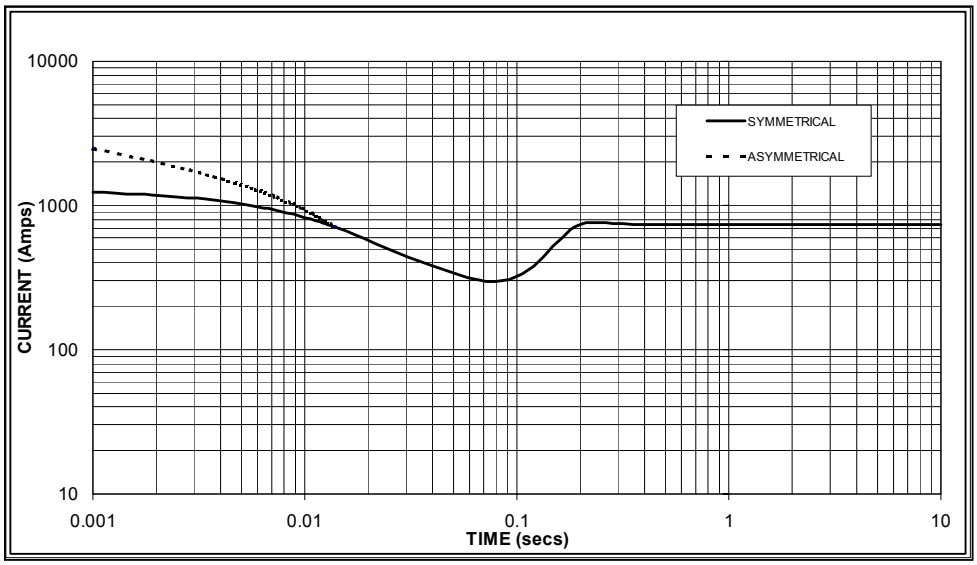
Three-phase Short Circuit Decrement Curve. No-load Excitation at Rated Speed
Based on star (wye) connection.

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

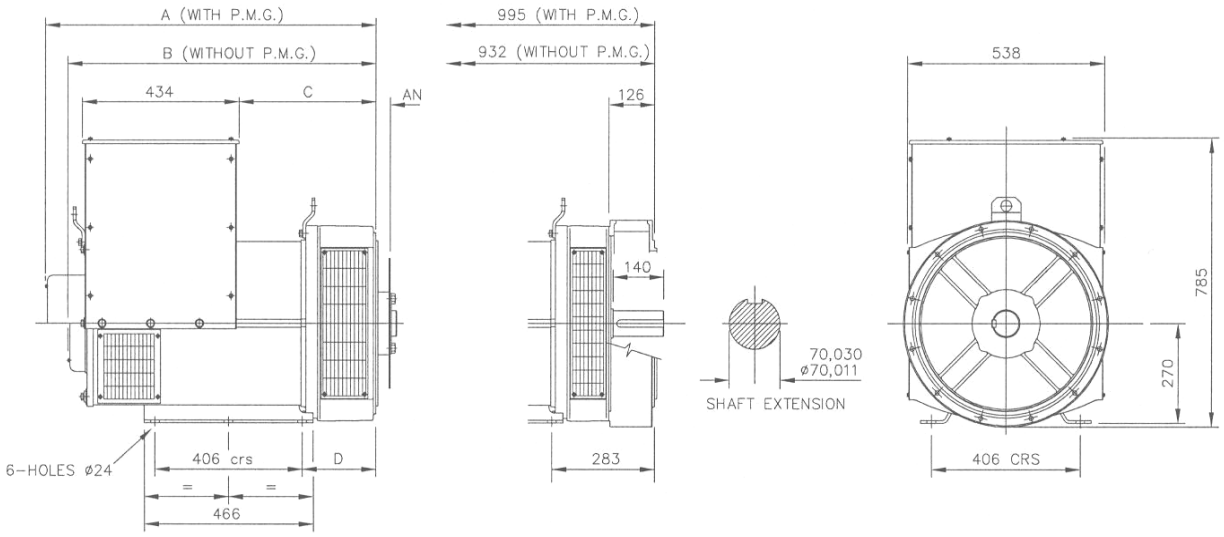
STAMFORD power generation

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

NEWAGE AVK SEG

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