

ژنراتور : Mecc alte

موتور دیزل : Perkins

Standby		Prime		
KVA	KW	KVA	KW	
88	-	80	64	دیزل ژنراتور



1100 Series 1104A-44TG2 Diesel Engine – Electropak

79.1 kWm at 1500 rpm
90.2 kWm at 1800 rpm

Building upon Perkins proven reputation within the power generation industry, the 1100 Series range of Electropak engines now fit even closer to customers needs.

In the world of power generation success is only gained by providing more for less. With the 1104A-44TG2 Perkins has engineered even higher levels of reliability, yet lowered the cost of ownership.

1100A units are designed for territories that do not require compliance to EPA or EU emissions legislation. These units are able to meet TA luft legislation.

Compact, efficient power

- 1100 Series is the result of an intensive period of customer research that has guided the development of the range
- The new 4.4 litre cylinder block ensures bore roundness is maintained under the pressures of operation. It also ensures combustion and mechanical noise is lowered
- A new cylinder head has re-established Perkins mastery of air control

Quality by design

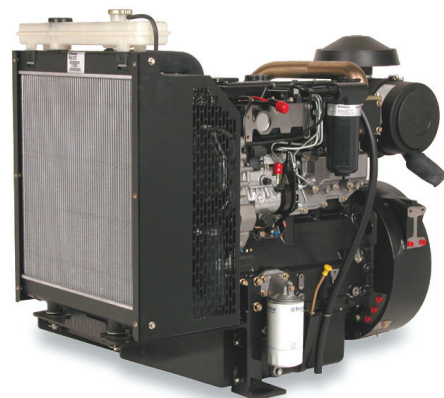
- Product design and Class A manufacturing improvements enhance product reliability while maintaining Perkins legendary reputation for durability

Cost effective power

- Compact size and low noise
- Lower fuel consumption and oil use
- 500 hour service intervals
- 2 year warranty

Product support

- Perkins actively pursues product support excellence by ensuring our distribution network invest in their territory – strengthening relationships and providing more value to you, our customer
- Through an experienced global network of distributors and dealers, fully trained engine experts deliver total service support around the clock, 365 days a year. They have a comprehensive suite of web based tools at their fingertips covering technical information, parts identification and ordering systems, all dedicated to maximising the productivity of your engine
- Throughout the entire life of a Perkins engine, we provide access to genuine OE specification parts and service. We give 100% reassurance that you receive the very best in terms of quality for lowest possible cost .. wherever your Perkins powered machine is operating in the world



Engine Speed (rev/min)	Type of Operation	Typical Generator Output (Net)		Engine Power			
				Gross		Net	
		kVA	kWe	kWm	bhp	kWm	bhp
1500	Prime Power	80.0	64.0	73.4	98.4	71.9	96.4
	Standby Power	88.0	70.4	80.7	108.2	79.1	106.1
1800	Prime Power	91.3	73.0	84.5	113.3	82.0	109.9
	Standby Power	100.3	80.3	93.0	124.7	90.2	121.0

The above ratings represent the engine performance capabilities to conditions specified in ISO 8528/1, ISO 3046/1:1986, BS5514/1. Derating may be required for conditions outside these; consult Perkins Engines Company Limited.

Generator powers are typical and are based on an average alternator efficiency and a power factor (cos. θ) of 0.8. Fuel specification: BS 2869: Part 2 1998 Class A2 or DIN EN 590. Lubricating oil: 15W40 to API CG4.

Rating Definitions

Prime Power: Variable load. Unlimited hours usage with an average load factor of 80% of the published prime power over each 24 hour period. A 10% overload is available for 1 hour in every 12 hours of operation. **Standby Power:** Variable load. Limited to 500 hours annual usage, up to 300 hours of which may be continuous running. No overload is permitted.

Photographs are for illustrative purposes only and may not reflect final specification.

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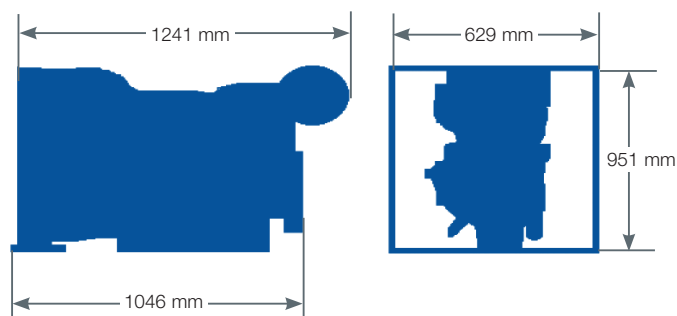
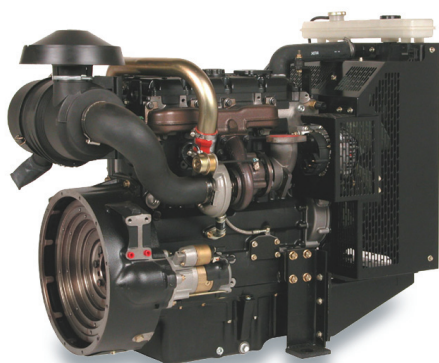
 **Perkins®**

THE HEART OF EVERY GREAT MACHINE

1100 Series 1104A-44TG2 Diesel Engine – Electropak

79.1 kWm at 1500 rpm

90.2 kWm at 1800 rpm



Standard Electropak specification

Air inlet

- Mounted air filter

Fuel system

- Rotary type pump
- Ecoplus fuel filter

Lubrication system

- Wet sump with filler and dipstick
- Spin-on oil filter

Cooling system

- Thermostatically controlled system with gear-driven circulation pump and belt-driven pusher fan
- Mounted radiator and piping

Electrical equipment

- 12 volt starter motor and 12 volt 65 amp alternator with DC output
- 12 volt shutdown solenoid energised to run

Flywheel and housing

- High inertia flywheel to SAE J620 Size 10/11½
- SAE 3 flywheel housing

Mountings

- Front engine mounting bracket

Literature

- User's Handbook

Optional equipment

- Woodward electronic governor (LOG2)
- Workshop manual
- Parts book

Fuel Consumption				
Engine Speed	1500 rev/min		1800 rev/min	
	g/kWh	l/hr	g/kWh	l/hr
110% of Prime Power	4.5	20.5	5.3	24.4
100% of Prime Power	4.1	18.7	4.9	22.3
75% of Prime Power	3.0	14.0	3.7	16.9
50% of Prime Power	2.1	9.7	2.6	11.9

General data

Number of cylinders 4 vertical in-line
Bore and stroke.....105 x 127 mm
Displacement 4.4 litres
Aspiration Turbocharged
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 17.25:1
Rotation.....Anti-clockwise viewed from flywheel
Cooling system.....Water-cooled
Total lubrication system capacity..... 8.0 litres
Total coolant capacity 13.0 litres
Dimensions – Length 1241 mm
Width 629 mm
Height 951 mm
Dry weight (approx.)..... 463 kg

Final weight and dimensions will depend on completed specification

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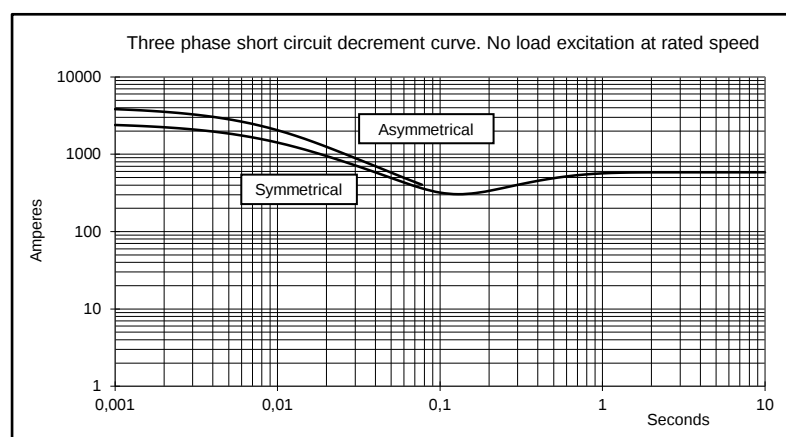
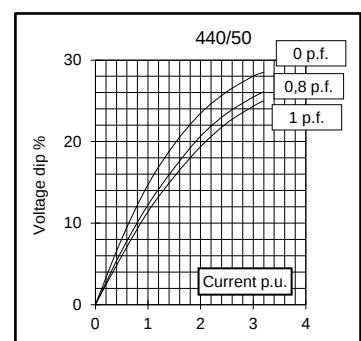
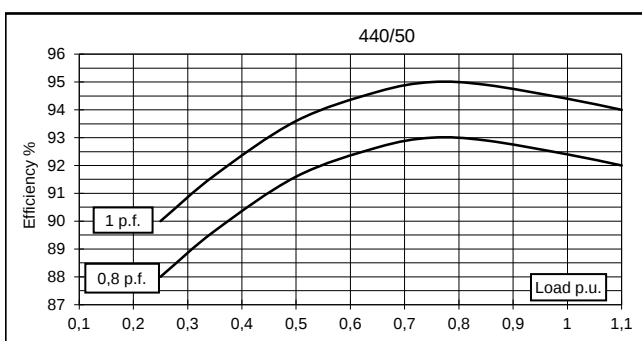
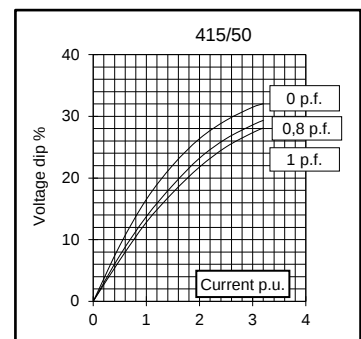
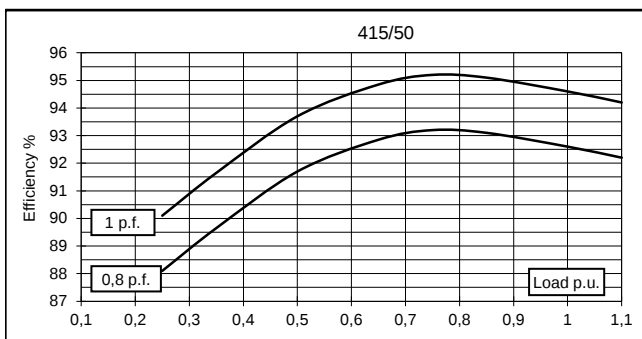
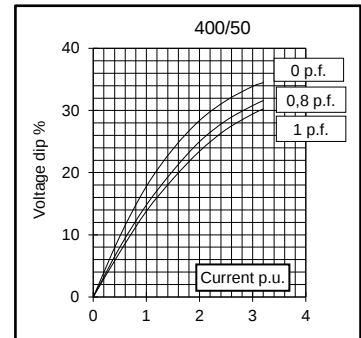
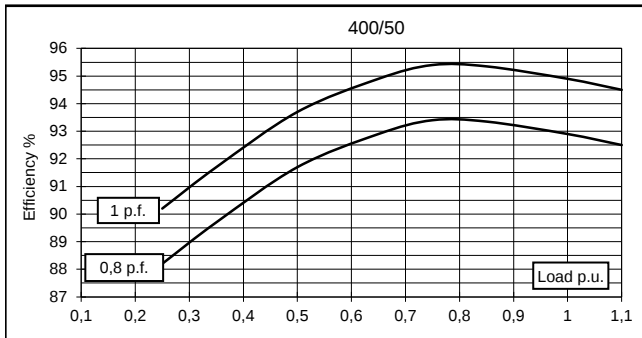
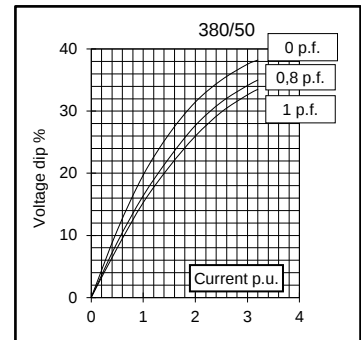
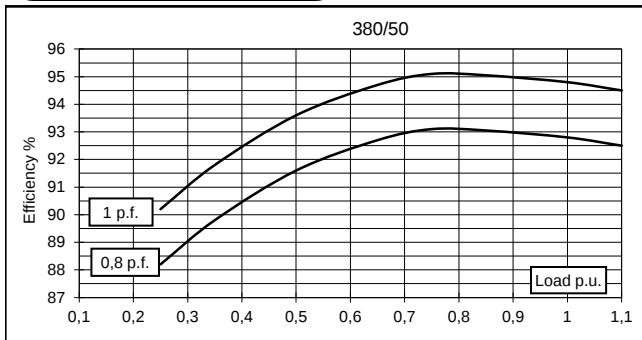
THE HEART OF EVERY GREAT MACHINE

Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	135	135	135	114	140	150	162	162
		kW	108	108	108	91	112	120	130	130
Rated power class F		kVA	121	121	121	103	125	135	146	146
		kW	97	97	97	82	100	108	117	117
Regulation with DSR			±1% with any power factor and speed variations between -5% +30%							
Insulation class			H							
Execution			Brushless							
Stator winding			12 ends							
Rotor			with damping cage							
Efficiencies class H	4/4	%	92,8	92,9	92,6	92,4	94	94,5	94,7	94,8
(see graph. for details)	3/4	%	93,1	93,4	93,2	93	94,5	95	95,2	95,3
	2/4	%	91,6	91,7	91,7	91,6	93,1	93,3	93,5	93,6
	1/4	%	88,2	88,2	88,1	88	89,3	89,4	89,5	89,3
Reactances (f. l.cl. F)	Xd	%	245	222	202	161	257	250	241	222
	Xd'	%	16,8	15,4	14,4	11,5	19,5	18,0	16,8	15,4
	Xd''	%	8,1	7,6	6,9	5,4	9,7	8,9	8,1	7,6
	Xq	%	148	136	125	112	162	154	148	136
	Xq'	%	148	136	125	112	162	154	148	136
	Xq''	%	31,2	28,4	27,1	25,2	35,4	33	31,2	28,4
	X ₂	%	18,9	17,2	16,6	15,4	22,1	20,7	18,9	17,2
	X ₀	%	3,1	2,7	2,9	2,2	3,6	3,4	3,1	2,7
Short Circuit Ratio	Kcc		0,39	0,45	0,60	0,90	0,30	0,35	0,39	0,45
Time Constants	Td'	sec.	0,039							
	Td''	sec.	0,0085							
	Tdo'	sec.	1,85							
	Tα	sec.	0,0168							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0,5	0,6	0,67	0,8	0,3	0,35	0,4	0,5
Excitation at full load		Amp.	2,1	2,1	2,2	2,4	2,3	2,1	2	2
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,016							
Rotor Winding Resistance (20°C)		Ω	4,142							
Exciter Resistance (20 °C)		Ω	Rotor : 0,410				Stator : 15,28			
Heat dissipation at f.l.cl.H		W	8379	8254	8631	7501	7149	6984	7253	7109
Telephone Interference			THF < 2%				TIF < 40			
Radio interference			EN61000-6-3, EN61000-6-2. For others standards apply to factory							
Waveform Distors.(THD) at f. load	LL/LN	%	1,7 / 1,9							
Waveform Distors.(THD) at no load	LL/LN	%	2,3 / 2,5							
Mechanical characteristics										
Protection			IP 21 (other protection on request)							
DE bearing			6314.2RS							
NDE bearing			6311.2RS							
Weight of wound stator assembly		kg	152							
Weight of wound rotor assembly		kg	101,3							
Weight of complete generator		kg	467							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	5,7							
Cooling air requirement		m³/min	19,3				23			
Inertia Constant (H)		sec.	0,098				0,118			
Noise level at 1m/7m		dB(A)	79 / 65				83 / 69			

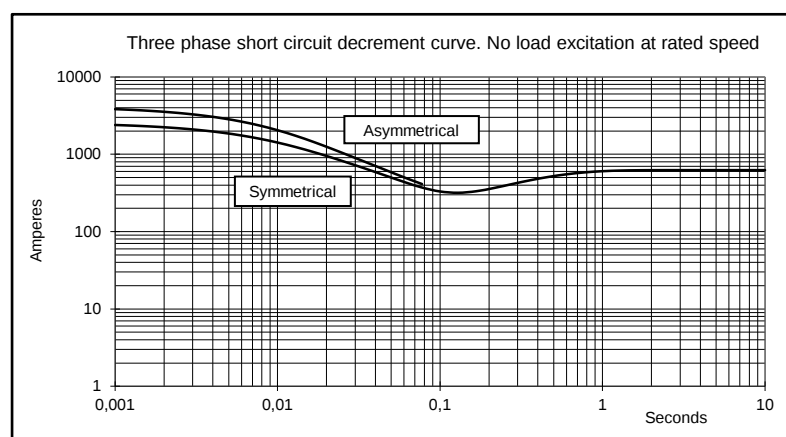
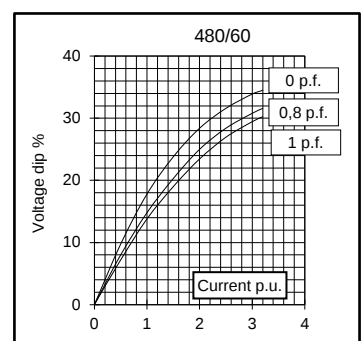
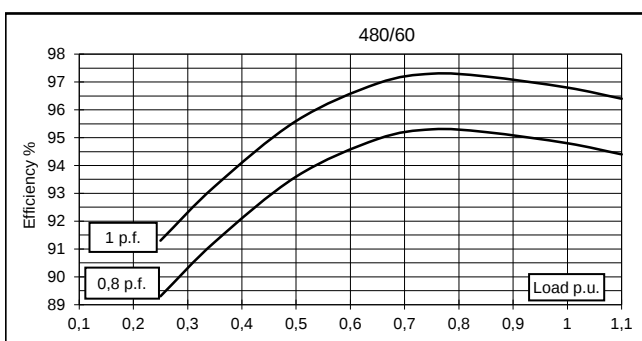
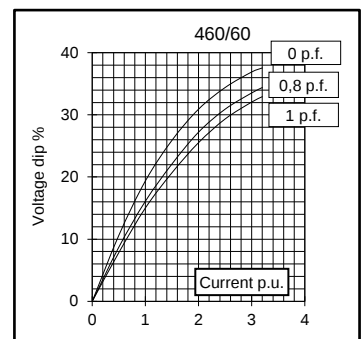
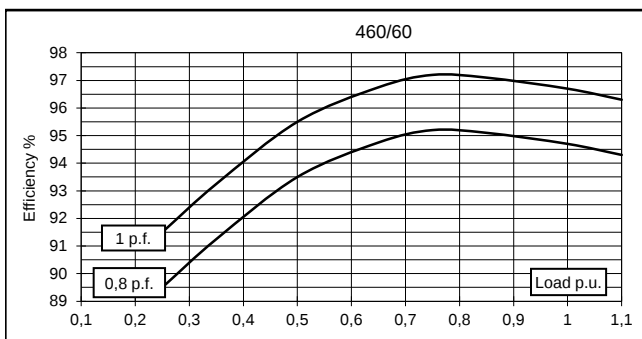
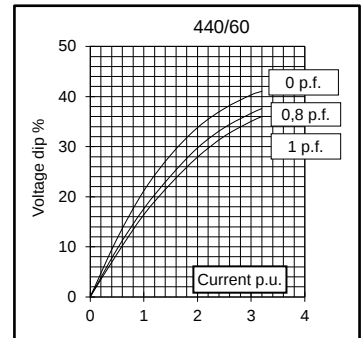
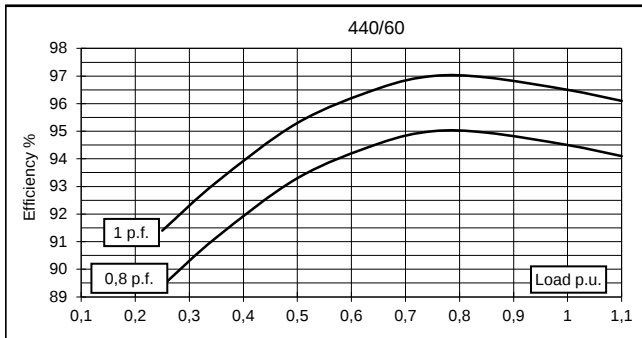
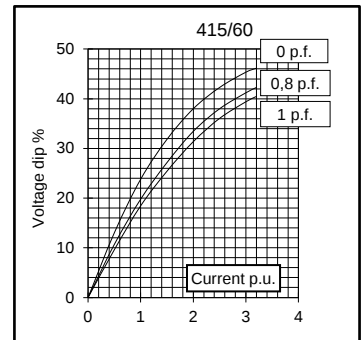
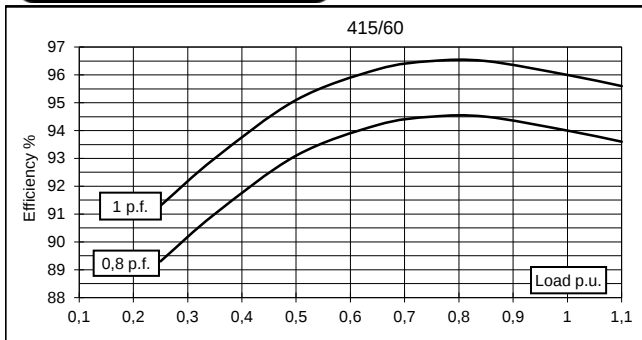
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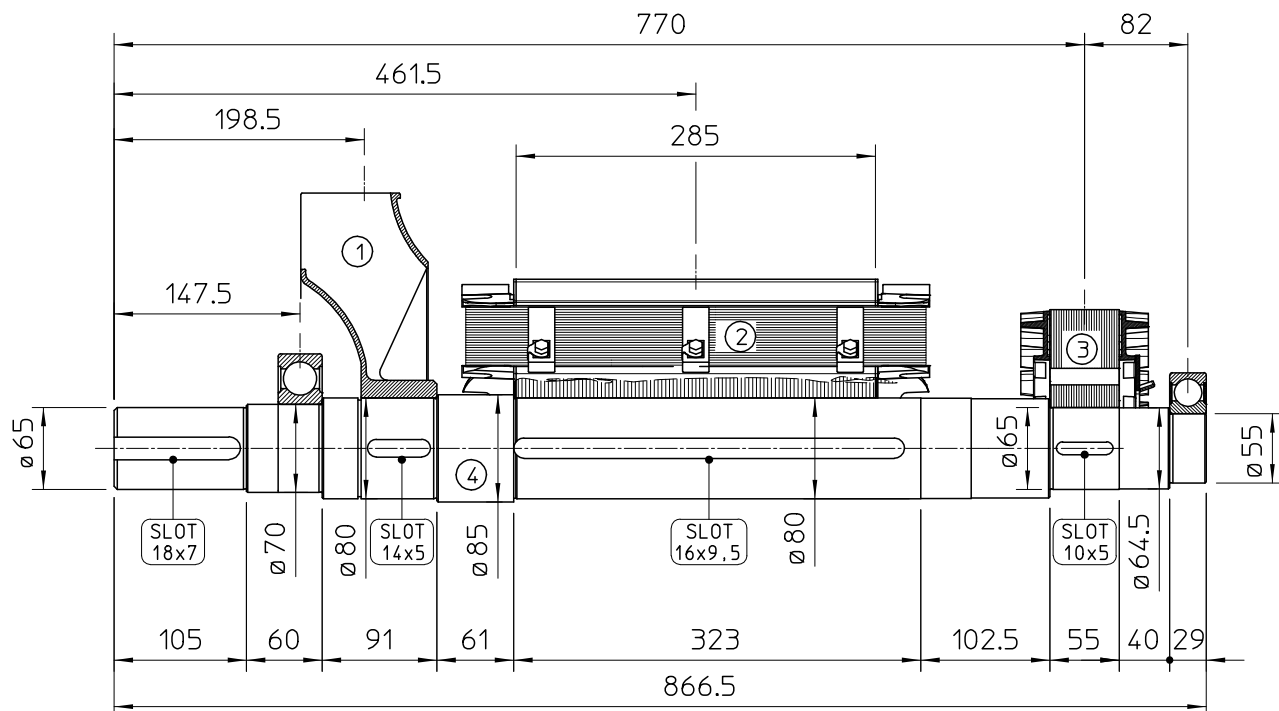
50 Hz



60 Hz

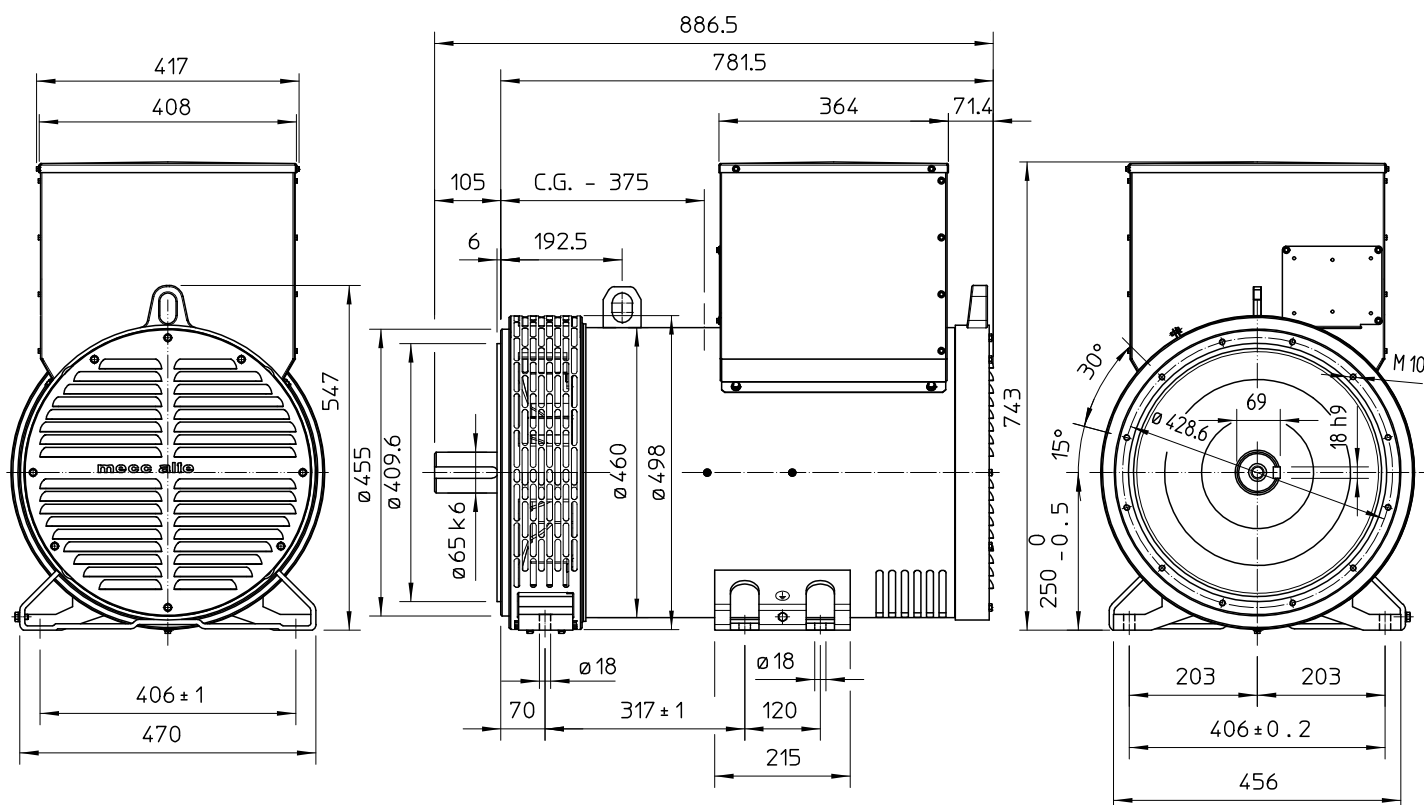


TWO BEARING MOMENTS OF INERTIA

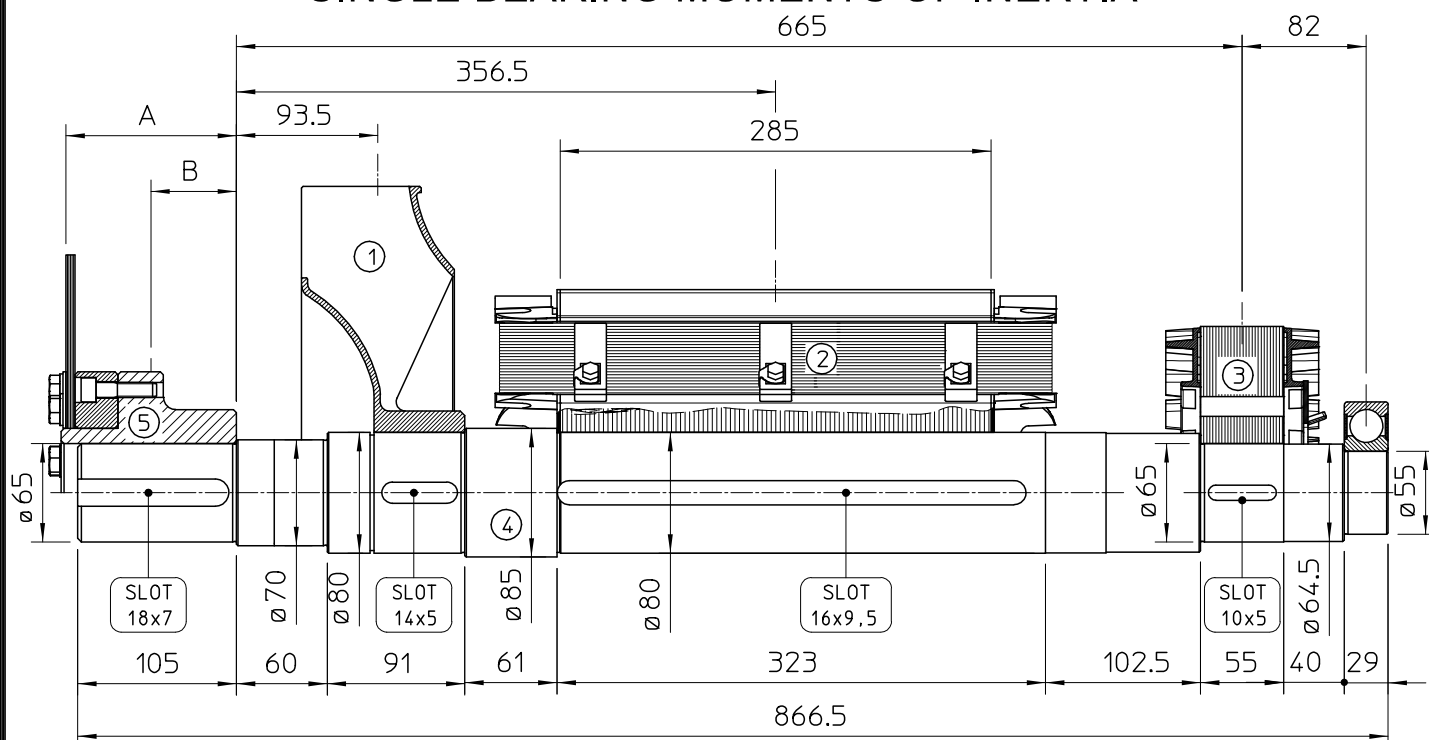


POS.	COMPONENT	WEIGHT (kg)	J (kgm ²)
1	FAN	3.6	0.0451
2	MAIN ROTOR	101.3	0.9153
3	EX. ROTOR	14.5	0.0874
4	SHAFT	29.6	0.0218
TOTAL		149	1.0696

TWO BEARING DIMENSIONS



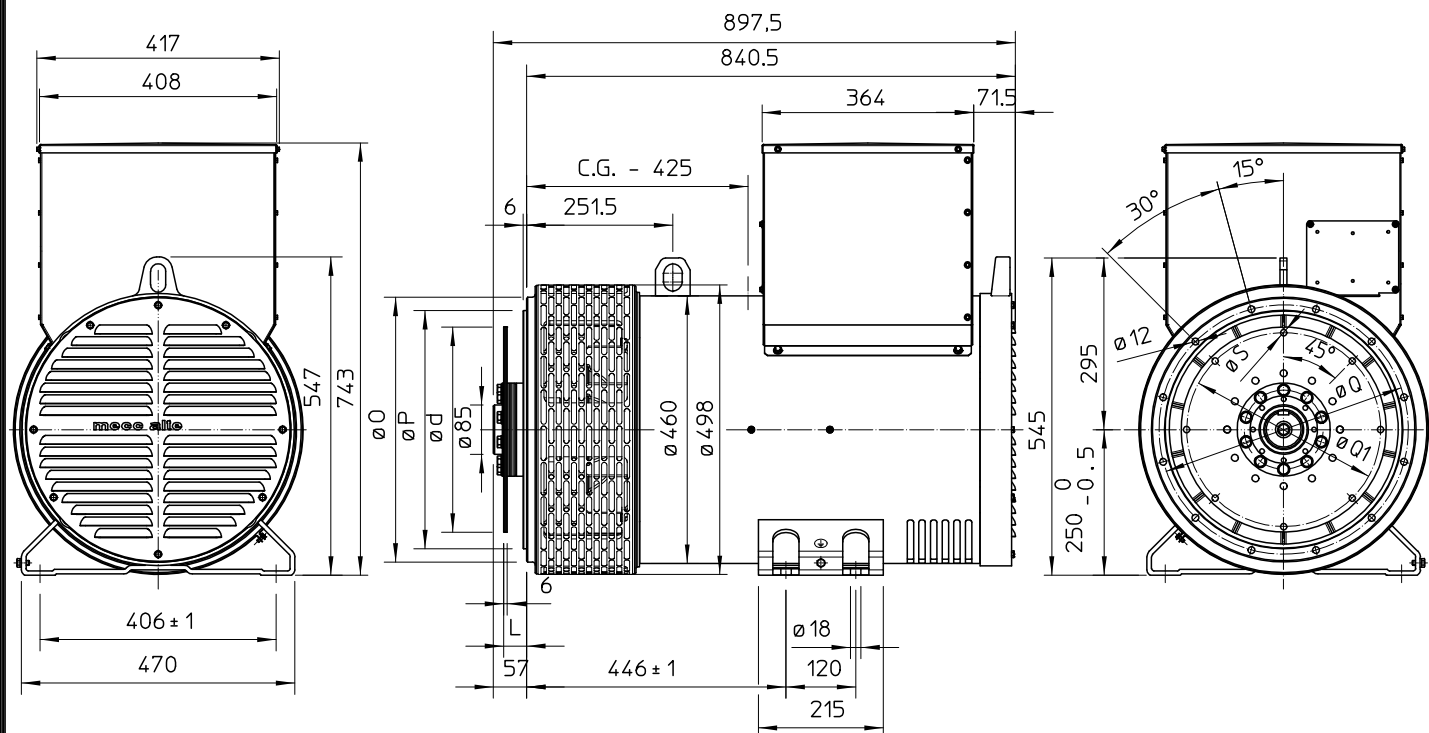
SINGLE BEARING MOMENTS OF INERTIA



POS.	COMPONENT	WEIGHT (kg)	J (kgm ²)
1	FAN	3.6	0.0451
2	MAIN ROTOR	101.3	0.9153
3	EX. ROTOR	14.5	0.0874
4	SHAFT	29.6	0.0218
TOTAL		148.8	1.0696

SAE N°	5 SHAFTS COUPLING FLEX PLATE			
	A	B	WEIGHT kg	J kgm ²
10	112.8	35.6	13.5	0.0770
11 1/2	98.6	71.5	12.4	0.0956
14	84.4	68.6	14.8	0.2360

SINGLE BEARING DIMENSIONS



SAE N.	FLANGIA / FLANGE BRIDE / FLANSCH		
	O	P	Q
3	451	409.6	428.6
2	489	447.7	466.7
1	552	511.2	530.2

SAE N.	GIUNTI A DISCHI / DISC COUPLING DISQUE DE MONOPALIER / SCHEIBENKUPPLUNG			
	<i>L</i>	<i>d</i>	<i>Q1</i>	<i>S</i>
10	53.8	314.32	295.27	11
11 1/2	39.6	352.42	333.37	11
14	25.4	466.72	438.15	14

C.G.= GRAVITY CENTER