

ژنراتور : Mecc alte

موتور دیزل : Perkins

Standby		Prime		
KVA	KW	KVA	KW	
66	-	60	66	دیزل ژنراتور



1100 Series 1103C-33TG2 Diesel Engine – Electropak

45.6 kWm 1500 rev/min
52.4 kWm 1800 rev/min

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

In the world of power generation today, success is only gained by providing more for less. Therefore with this new 1103C-33TG2 electronically governed turbocharged unit, Perkins has engineered for its customers even higher levels of reliability, yet lowered the cost of ownership.

Rapid starting and pick-up are naturally built-in especially for cold operation, but where legislation or local markets demand an emissions capability, this engine is designed to comply with TA Luft (1986) and EU 2007 Stage II.

Compact and efficient power

The Perkins 1100 Series family was developed following an intensive period of customer research. The 3.3 and 4.4 litre engines feature new cylinder blocks which ensure bore roundness is maintained under the pressures of operation, as well as significantly reducing mechanical and combustion noise. A new cross-flow cylinder head design optimises combustion control, and combines with turbocharger and charge cooler technology to achieve the best combination of power delivery and low exhaust emissions.

Cleaner and quieter power

The refined structure of the 1100C range leads to an exceptionally low noise signature. To meet environmental needs swirl conditioned air is delivered through the new cross-flow cylinder head, and burns cleanly with the high pressure fuel from an advanced technology rotary pump.

Quality by design

Class A manufacturing improvements ensure that product reliability meets the high standards demanded by customers. Product design is focused on maintaining Perkins' legendary reputation for durability.

Cost effective power

The compact packaging and low noise performance of the 1100C range bring clear benefits to the Genset packager. Low cost of operation is assured by lower fuel and oil consumption, 500 hour service intervals, and the two 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

Certified against the requirements of EU 2007 (EU 97/68/EC Stage II) legislation for non-road mobile machinery, powered by constant speed engines and is capable of meeting TA Luft (2002) emissions legislation

Engine Speed (rev/min)	Type of Operation	Typical Generator Output (Net)		Engine Power			
				Gross		Net	
		kVA	kWe	kWm	bhp	kWm	bhp
1500	Prime Power	46.0	36.8	41.9	56.1	40.9	54.9
	Standby (maximum)	51.3	41.0	46.5	62.4	45.6	61.1
1800	Prime Power	52.9	42.3	48.6	65.2	47.0	63.0
	Standby (maximum)	58.9	47.1	54.0	72.4	52.4	70.2

The above ratings represent the engine performance capabilities to conditions specified in ISO 8528/1, ISO 3046/1:1986, BS 5514/1. Derating may be required for conditions outside these; consult Perkins Engines Company Limited.

Generator powers are typical and are based on typical alternator efficiencies and a power factor (cos θ) of 0.8. Fuel specification: BS 2869 Class 2 or ASTM D975 D2.

Lubricating oil: API CH4/ACEA E5.

Rating Definitions

Prime Power: Power available at variable load in lieu of a main power network. Overload of 10% permitted for 1 hour in every 12 hours operation.

Standby (maximum): Power available at variable load in the event of a main power network failure. Maximum use 500 hours per year. No overload is permitted.

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

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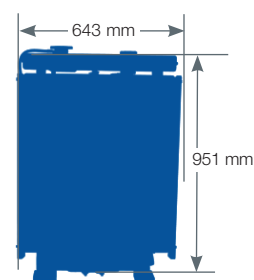
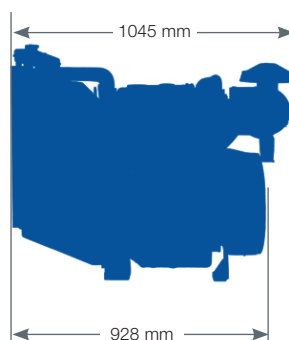
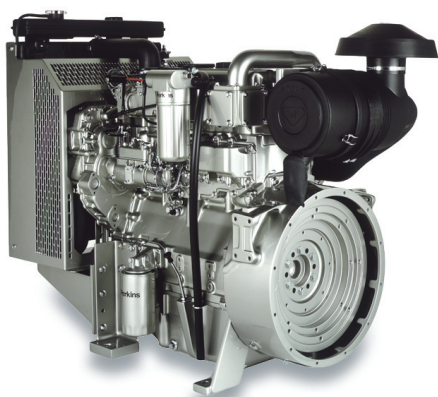
Perkins®

THE HEART OF EVERY GREAT MACHINE

1100 Series 1103C-33TG2 Diesel Engine – ElectropaK

45.6 kWm 1500 rev/min

52.4 kWm 1800 rev/min



Standard ElectropaK specification

Air inlet

- Mounted air filter

Fuel system

- Rotary type pump
- Ecoplus fuel filter

Lubrication system

- Cast iron 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
- Glow plug cold start aid

Flywheel and housing

- Flywheel to SAE J620 size 10/11½
- SAE 3 flywheel housing

Literature

- User's Handbook

Optional equipment

- Workshop manual
- Parts book

Fuel Consumption				
Engine Speed	1500 rev/min		1800 rev/min	
	g/kWh	l/hr	g/kWh	l/hr
Standby	220	11.8	224	13.8
Prime Power	218	10.5	242	13.4
75% of Prime Power	222	8.0	251	10.4
50% of Prime Power	233	5.6	271	7.5
25% of Prime Power	266	3.2	304	4.2

General data

Number of cylinders 3 vertical in-line
Bore and stroke.....105 x 127 mm
Displacement 3.3 litres
Aspiration Turbocharged
Cycle.....4 stroke
Combustion system.....Direct injection
Compression ratio 18.23:1
Rotation.....Anti-clockwise viewed on flywheel
Cooling system.....Water-cooled
Total lubrication system capacity..... 7.4 litres
Total coolant capacity 10.1 litres
Dimensions – Length 1045 mm
Width 643 mm
Height 951 mm
Total dry weight 412 kg

Final weight and dimensions will depend on completed specification

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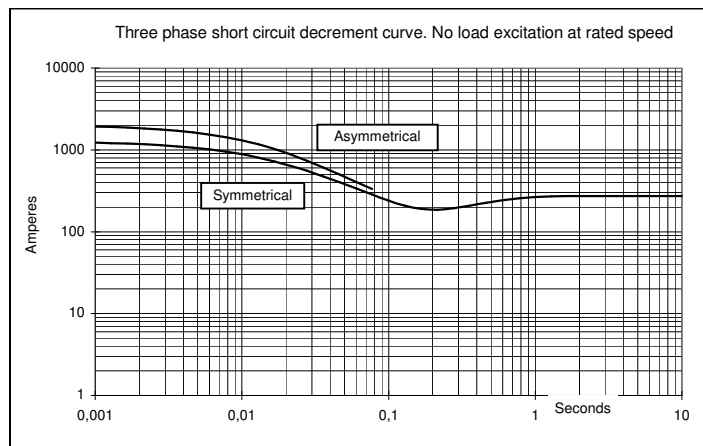
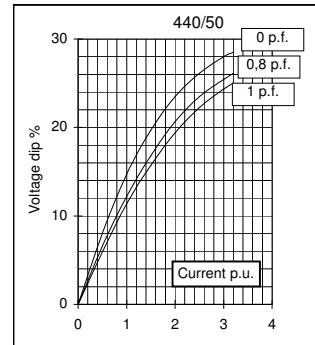
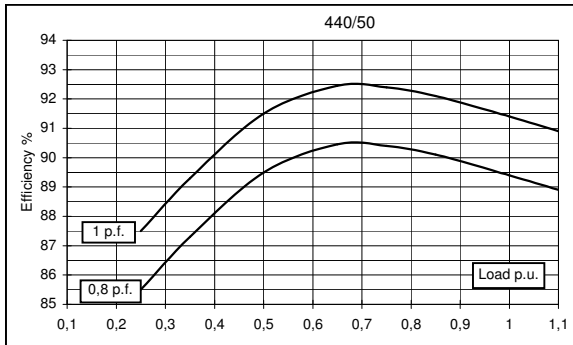
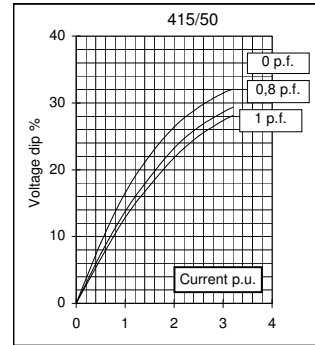
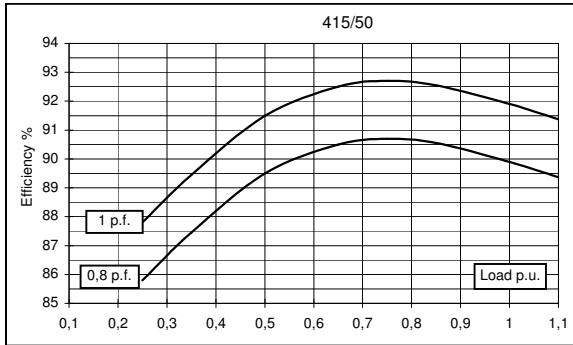
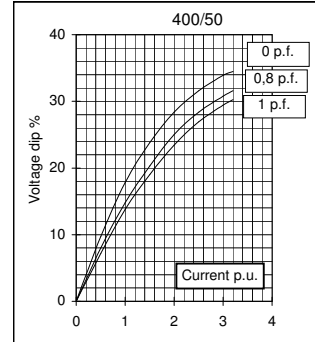
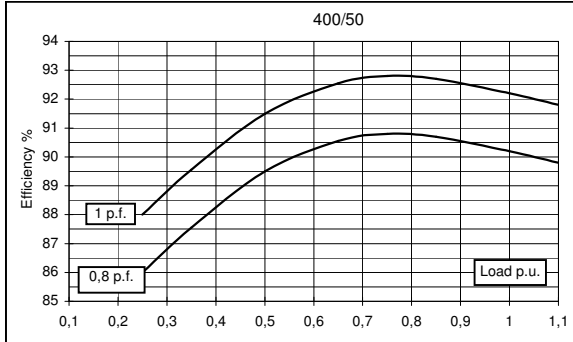
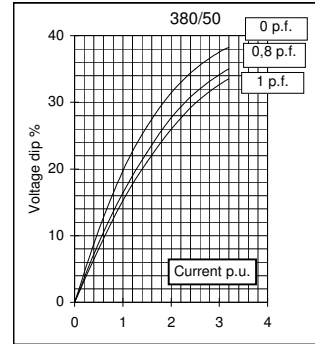
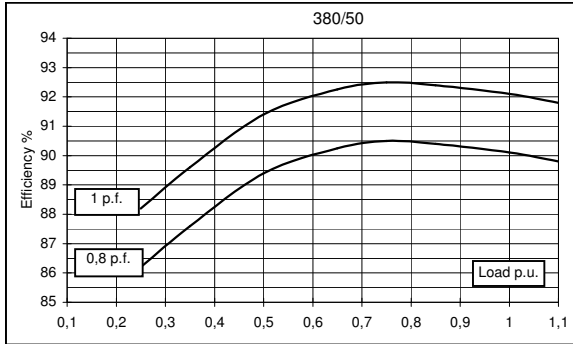
THE HEART OF EVERY GREAT MACHINE

Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	63	63	63	52	63	71	75,5	75,5
		kW	50	50	50	42	50	56,8	60,4	60,4
Rated power class F		kVA	60	60	60	47	58	68	72	72
		kW	48	48	48	38	46	54	57,6	57,6
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	%	90,1	90,2	89,9	89,4	92,1	92,6	92,7	92,8
(see graph. for details)	3/4	%	90,5	90,8	90,7	90,4	92,7	92,9	93,1	93,3
	2/4	%	89,4	89,5	89,5	89,5	90,8	90,9	91	91,1
	1/4	%	86,2	86	85,8	85,5	87	87	87	87
Reactances (f. l.cl. F)	Xd	%	314,1	283,5	263,4	193,4	316,5	317,3	308,7	284
	Xd'	%	14,85	13,4	12,45	9,14	14,96	15,00	14,59	13,4
	Xd''	%	7,91	7,14	6,63	4,87	7,97	7,99	7,77	7,14
	Xq	%	123,0	111	103,1	75,7	123,9	124,2	120,9	111
	Xq'	%	123,0	111	103,1	75,7	123,9	124,2	120,9	111
	Xq''	%	38,3	34,6	32,1	23,6	41,5	36,8	34,6	34,6
	X ₂	%	25,93	23,4	21,74	15,96	26,12	26,19	25,48	23,4
	X ₀	%	3,49	3,15	2,93	2,15	3,52	3,53	3,43	3,15
Short Circuit Ratio	Kcc		0,47	0,59	0,69	1,29	0,34	0,39	0,47	0,59
Time Constants	Td'	sec.	0,062							
	Td''	sec.	0,014							
	Tdo'	sec.	1,20							
	Tα	sec.	0,028							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load	Amp.		0,5	0,6	0,7	1	0,3	0,4	0,45	0,6
Excitation at full load	Amp.		2	2	2,5	2,9	1,7	1,8	1,9	2,1
Overload (long-term)	%	1 hour in a 6 hours period 110% rated load								
Overload per 20 sec.	%	300								
Stator Winding Resistance (20 °C)	Ω	0,041								
Rotor Winding Resistance (20 °C)	Ω	2,861								
Exciter Resistance (20 °C)	Ω	Rotor : 0,442				Stator : 11,35				
Heat dissipation at f.l.cl.H	W	5538	5476	5662	4932	4323	4539	4756	4686	
Telephone Interference		THF < 2%					TIF < 45			
Radio interference		EN61000-6-3, EN61000-6-1. For others standards apply to factory								
Waveform Distors.(THD) at f. load	LL/LN %	3,8 / 3,6								
Waveform Distors.(THD) at no load	LL/LN %	3 / 2,9								
Mechanical characteristics										
Protection		IP 21 (other protection on request)								
DE bearing		6312-2RS								
NDE bearing		6309-2RS								
Weight of wound stator assembly	kg	95								
Weight of wound rotor assembly	kg	64,5								
Weight of complete generator	kg	282								
Maximun overspeed	rpm	2250								
Unbalanced magnetic pull at f.l.cl.F	kN/mm	4,7								
Cooling air requirement	m³/min	11,8					14,5			
Inertia Constant (H)	sec.	0,098					0,118			
Noise level at 1m/7m	dB(A)	75 / 60					79 / 64			

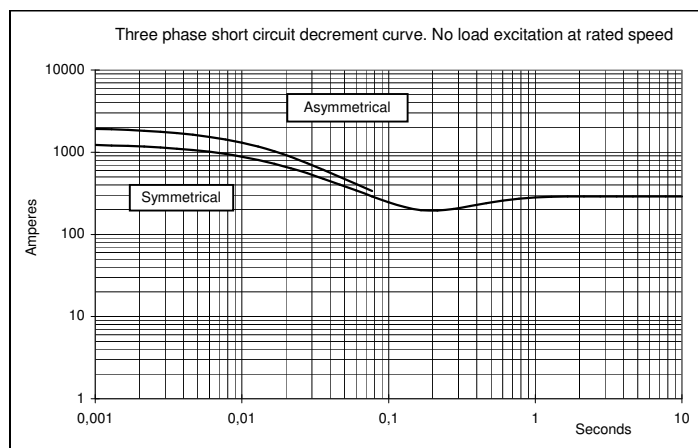
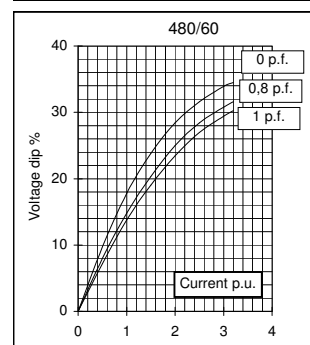
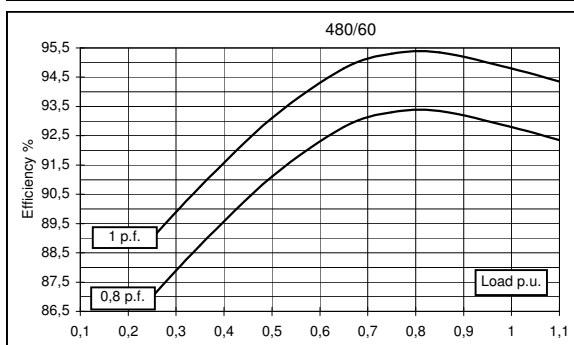
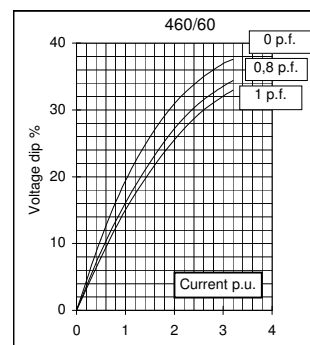
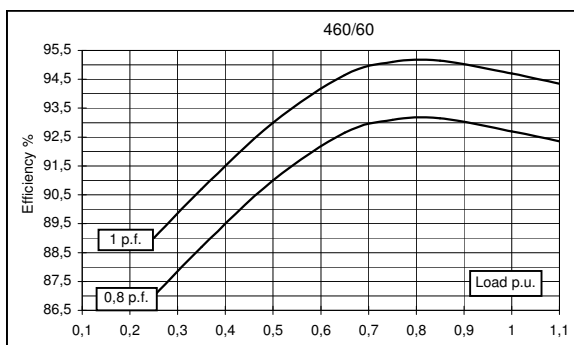
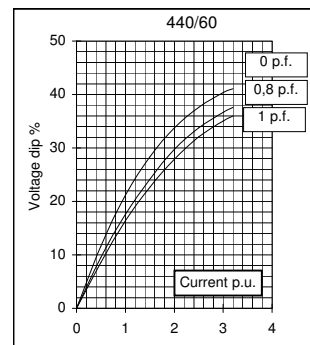
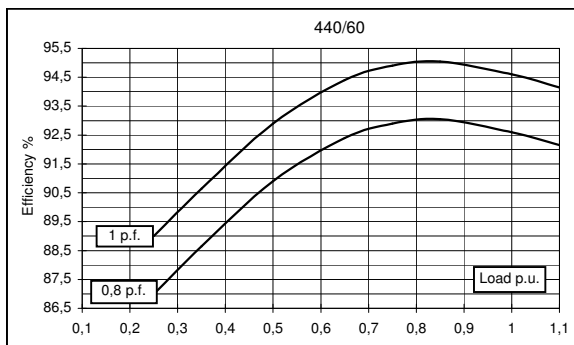
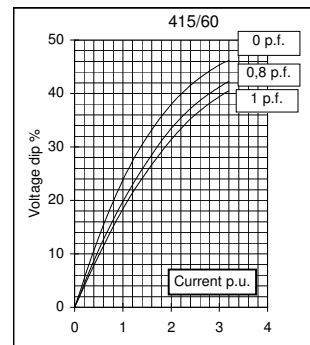
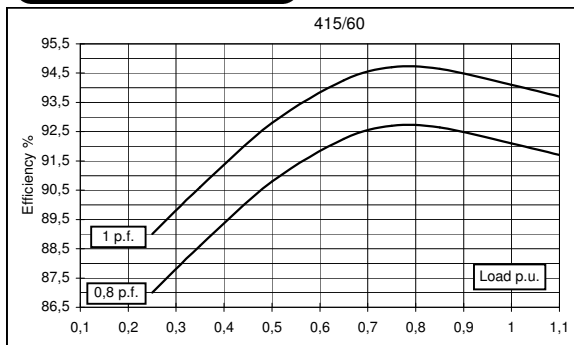
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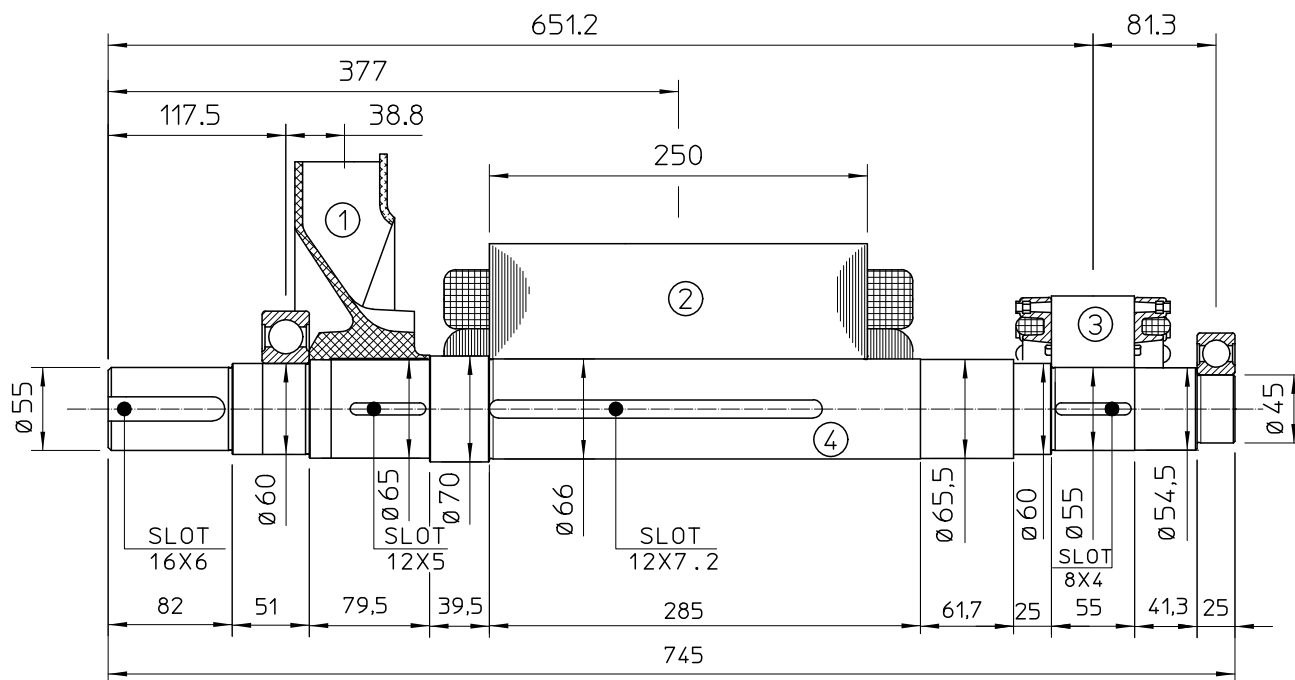
50 Hz



60 Hz

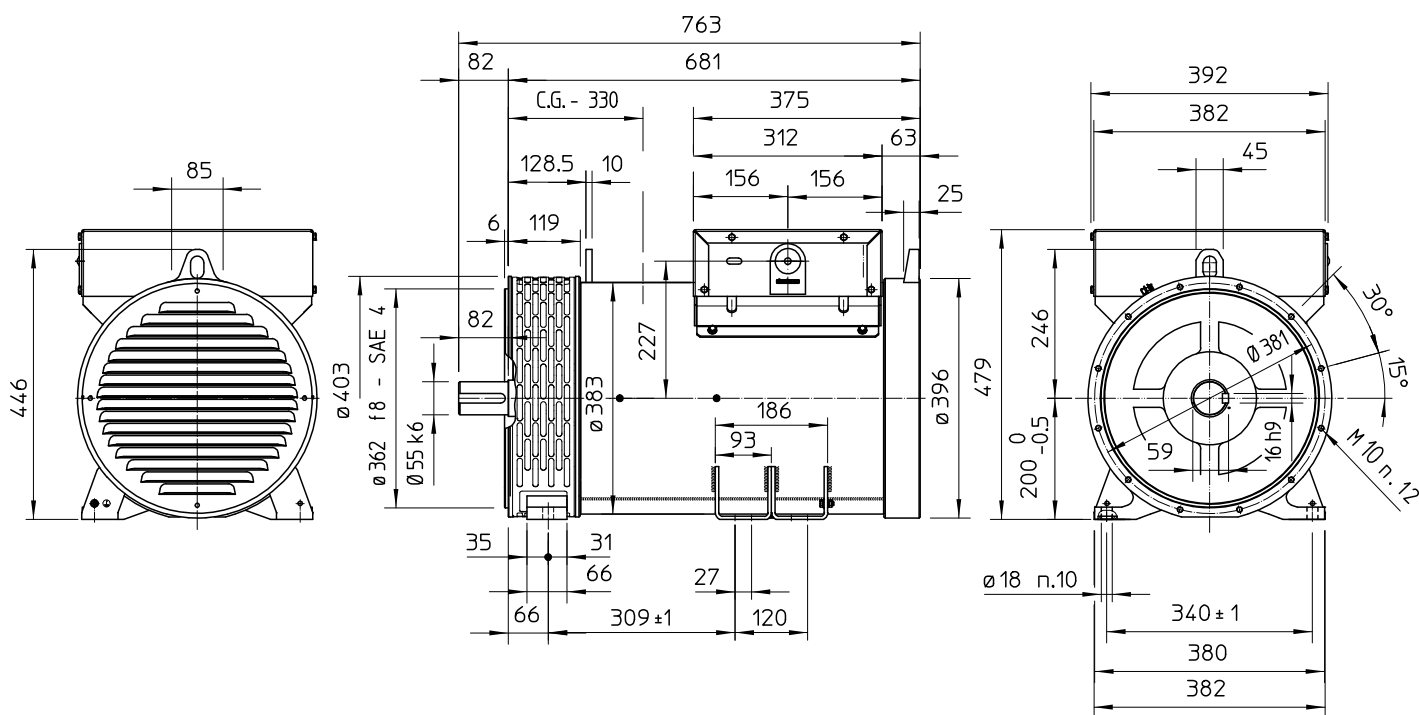


TWO BEARING MOMENTS OF INERTIA



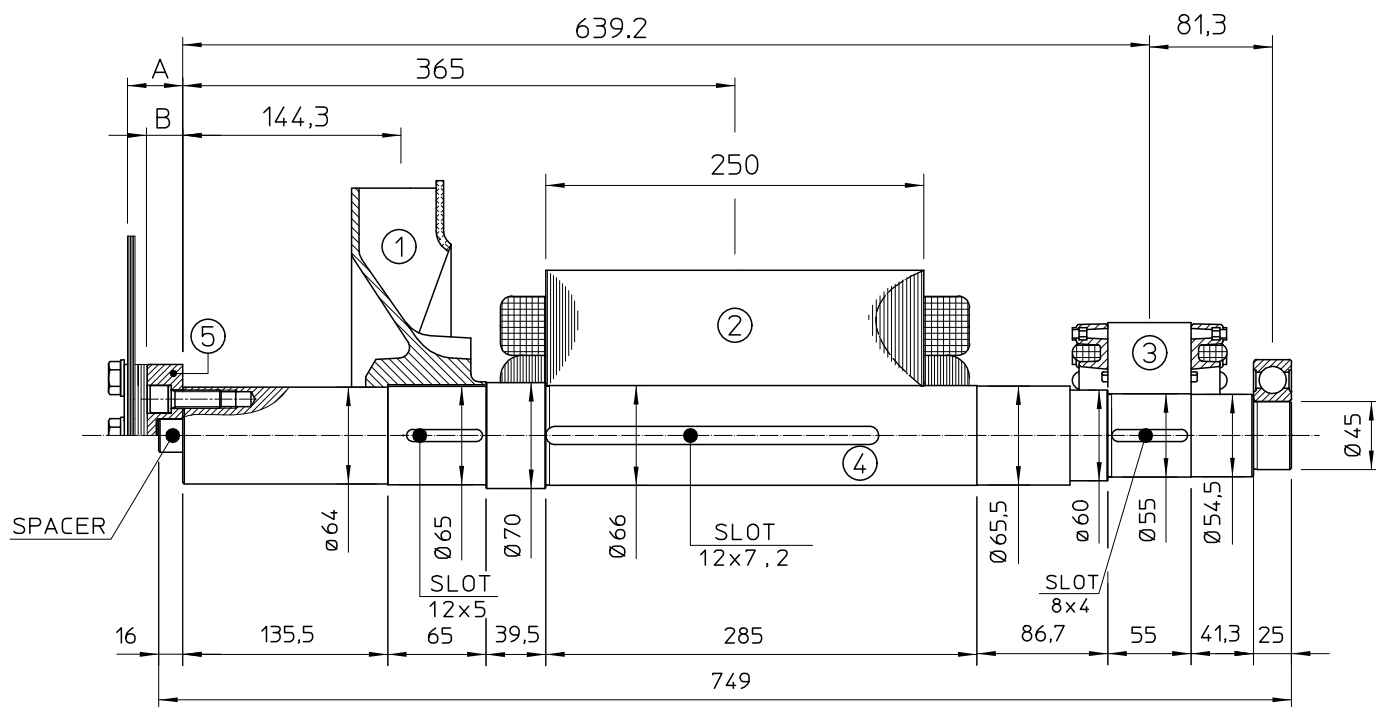
POS.	COMPONENT	WEIGHT (kg)	J (kgm ²)
1	FAN	2.3	0.0224
2	MAIN ROTOR	64.5	0.4579
3	EX. ROTOR	7	0.016
4	SHAFT	17.3	0.0067
TOTAL		91.1	0.503

TWO BEARING DIMENSIONS



C.G.= GRAVITY CENTER

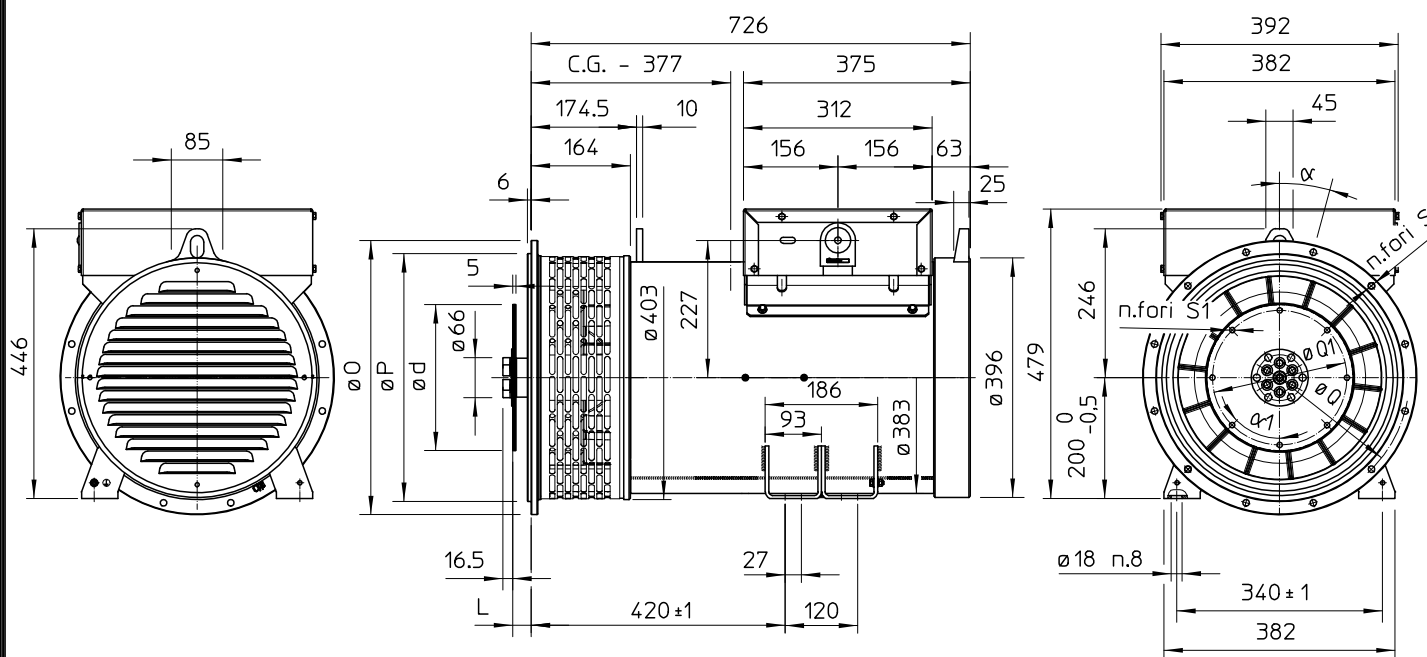
SINGLE BEARING MOMENTS OF INERTIA



POS.	COMPONENT	WEIGHT (kg)	J (kgm ²)
1	FAN	2.3	0.0224
2	MAIN ROTOR	64.5	0.4579
3	EX. ROTOR	7	0.016
4	SHAFT	17.6	0.0090
TOTAL		91.4	0.5053

SAE N°	5	SHAFTS COUPLING FLEX PLATE		
	A	B	WEIGHT kg	J kgm ²
6.5	5	2.5	1.74	0.0084
7.5	5	2.5	2.1	0.013
8	36.6	28.1	3.9	0.02
10	28.6	21.6	4.47	0.038
11.5	15	11.5	4.51	0.059

SINGLE BEARING DIMENSIONS



SAE N.	FLANGIA / FLANGE BRIDE / FLANSCH					
	O	P	Q	S	N. FORI HOLES N°	α
5	356	314.3	333.4	11	8	45
4	403	362	381	11	12	30
3	451	409.6	428.6	11	12	30
2	490	447.7	466.7	11	12	30
1	552	511.2	530.2	11	12	30

SAE N.	GIUNTI A DISCHI / DISC COUPLING DISQUE DE MONOPALIER / SCHEIBENKUPPLUNG					
	d	L	Q1	S1	N. FORI HOLES N°	α_1
6 1/2	215.9	30.2	200	9	6	60
7 1/2	241.3	30.2	222.25	9	8	45
8	263.52	62	244.47	11	6	60
10	314.32	53.8	295.27	11	8	45
11 1/2	352.42	39.6	333.37	11	8	45

C.G.= GRAVITY CENTER