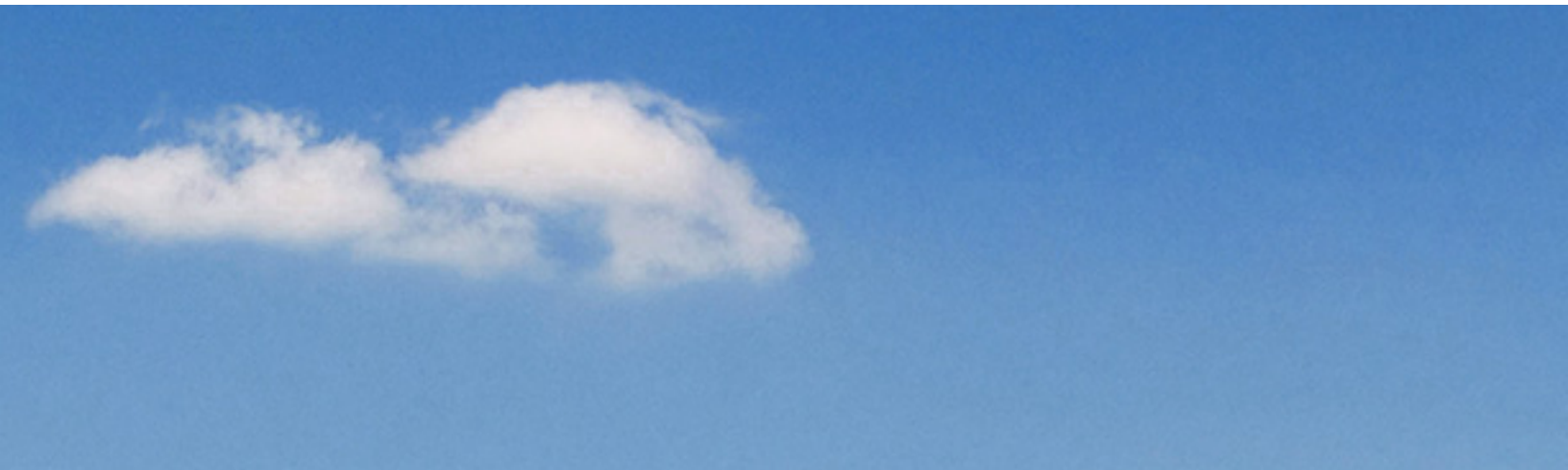


## موتور دیزل

Manufacturer	Deutz	تولید کننده
Type	BF6M1013EC	تیپ
Number of cylinders	4	تعداد سیلندر ها
Cylinder arrangement	in-line	آرایش سیلندر ها
Cycle	4 stroke	چرخه
Aspiration	Turbo charged CAC	سیستم تنفس
Bore × Stroke , mm	105X130	قطر سیلندر × کورس پیستون
Displacement , Liters	4.76	جا به جایی
Speed Governor	Mechanical	سرعت گاورنر
Cooling System	water-cooled	سیستم فنک کننده
Frequency	50Hz	فرکانس



## ژنراتور

Manufacturer	Mecc alte	تولید کننده
Type	ECP34-2L	تیپ
Exciter type	Brushless, Self-excited	نوع کانتر
Power factor	0.8	ضریب قدرت
Voltage	380	ولتاژ
Frequency	50 Hz	فرکانس
Speed, Rpm	1500	سرعت
Insulation class	H	کلاس عایق
Protection class	IP23	کلاس حفاظتی
Excitation	Brushless	سیستم تمریک

## GENERAL INFORMATION

### DIESEL GENERATOR SET

Model	DE165D5 / DE175D6	
Motor	DEUTZ BF6M1013EC	
Alternator	STAMFORD OR LEROY SOMER	
Speed Control type	Mechanical / Electrical	
Phase	Three	
Fuel Tank Capacity	370 L	
System Voltage	12V	
Frequency	50HZ	60HZ
Air Flow	10800m³/h	11500m³/h
Combustion air flow	693.3m³/h	801.2m³/h
Exhaust air flow	1799m³/h	2097m³/h
Exhaust Temperature	535°C	480°C

### Engine

Maximum output(kw)	132KW(50Hz)	140KW(60Hz)
Number of Cylinders	Inline 6	
Aspiration	Turbo charged, CAC	
Cycle	6	
Fuel Type	Diesel	
Combustion Type	Direct Injection	
Cooling Type	Water cooled	
Bore	108mm	
Stroke	130mm	
Displacement	7.15L	
Compression Ratio	19:1	
Lubrication Capacity	20 liter	
Coolant Capacity	9.8 liter	

FUEL CONSUMPTION	1500 RPM	1800 RPM
	L/hr	L/hr
100% Prime Power(1)	38.5	41.8
75% Prime Power(1)	28.9	31.4
50% Prime Power(1)	19.6	21.5
25% Prime Power(1)	10.9	12.4

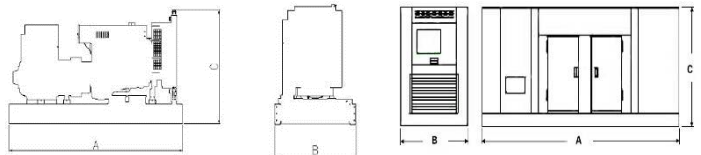
DIMENSION	OPEN	SILENT
Length (A)	2650mm	3250mm
Width (B)	1080mm	1080mm
Height (C)	1650mm	2070mm
Net Weight	2050kg	2550kg

### Alternator

Insulation	Clase "H"
Excitation Type	Self-excitation or PMG
Protection class	IP23

### Certificates

Engine	ISO 3046, BS 5514, DIN 6271
Alternator	UTE NFC 51-111-105-110
	ICE34-1, BS 5000-4999
	NEMA MG 21, VDE 0530
Generator Set	ISO 8528



(1)Prime Power: ratings are as per DIN 6271, BS55114 and ISO-3046 with 10% overload capacity

(2)Standby Power: power available at variable load for up to a maximum of 500 hours during one year of which 300 hours may be for continuous use

(3)Operation at Altitude  $\leq 1500\text{m}$ , Ambient temperature  $\leq 40^\circ\text{C}$ . If altitude higher than 1500m, each 300m will cause additional de-rating 4%.

**Certificacion ISO 9001:2000**



# GENERATOR TYPE ECP 34-2L/4 A

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Electrical Characteristics										
Frequency	Hz	50				60				
Voltage (series star)	V	380	400	415	440	415	440	460	480	
Rated power class H	kVA	150	150	150	125	150	170	180	180	
	kW	120	120	120	100	120	136	144	144	
Rated power class F	kVA	136	136	136	113	132	150	163	163	
	kW	109	109	109	90,4	106	120	130	130	
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	%	93,1	93,2	92,9	92,7	94,3	94,8	94,9	95
(see graph. for details)	3/4	%	93,2	93,5	93,4	93,1	94,7	94,9	95	95,2
	2/4	%	91,9	92	92	91,8	93,5	93,6	93,7	93,8
	1/4	%	89,2	89	88,8	88,8	90,2	90,2	90,2	90
Reactances (f. l.cl. F)	Xd	%	265,9	240	223,0	165,3	267,6	269,8	261,3	240
	Xd'	%	16,4	14,8	13,7	10,2	16,5	16,6	16,1	14,8
	Xd''	%	6,9	6,2	5,8	4,3	6,9	7,0	6,8	6,2
	Xq	%	135,3	122,1	113,4	84,1	136,1	137,2	132,9	122,1
	Xq'	%	135,3	122,1	113,4	84,1	136,1	137,2	132,9	122,1
	Xq''	%	29,4	26,5	24,6	18,3	29,5	29,8	28,9	26,5
	X <sub>2</sub>	%	18,3	16,5	15,3	11,4	18,4	18,5	18,0	16,5
	X <sub>0</sub>	%	2,8	2,5	2,3	1,7	2,8	2,8	2,7	2,5
Short Circuit Ratio	Kcc		0,40	0,48	0,55	0,91	0,30	0,35	0,40	0,48
Time Constants	Td'	sec.	0,0401							
	Td''	sec.	0,0095							
	Tdo'	sec.	1,90							
	Tα	sec.	0,017							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load	Amp.		0,3	0,4	0,5	0,7	0,2	0,3	0,4	0,5
Excitation at full load	Amp.		2,3	2,4	2,5	2,7	2,1	2,3	2,4	2,6
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20 °C)	Ω		0,015							
Rotor Winding Resistance (20 °C)	Ω		3,577							
Exciter Resistance (20 °C)	Ω		Rotor : 0,410				Stator : 15,28			
Heat dissipation at f.l.cl.H	W		8894	8755	9171	7875	7253	7460	7739	7579
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 / 1,8							
Waveform Distors.(THD) at no load	LL/LN %		2,3 / 2,4							
<b>Mechanical characteristics</b>										
Protection			IP 21 ( other protection on request )							
DE bearing			6314.2RS							
NDE bearing			6311.2RS							
Weight of wound stator assembly	kg		168							
Weight of wound rotor assembly	kg		106							
Weight of complete generator	kg		481							
Maximun overspeed	rpm		2250							
Unbalanced magnetic pull at f.l.cl.F	kN/mm		5,6							
Cooling air requirement	m <sup>3</sup> /min		19,3				23			
Inertia Constant (H)	sec.		0,098				0,117			
Noise level at 1m/7m	dB(A)		79 / 65				83 / 69			

All technical data are to be considered as a reference and they can be modified without any notice

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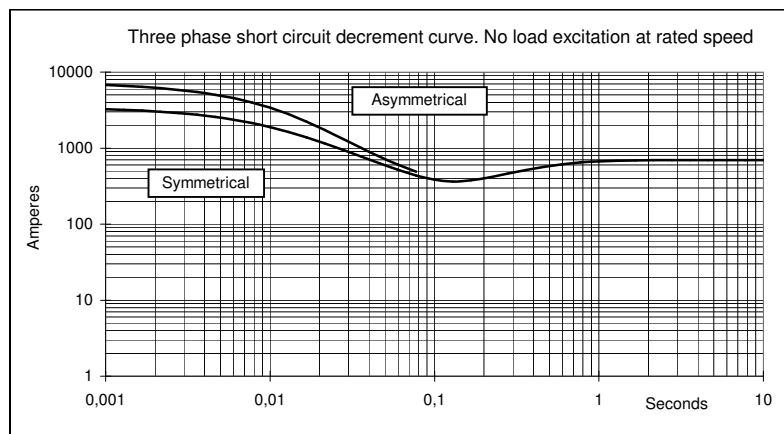
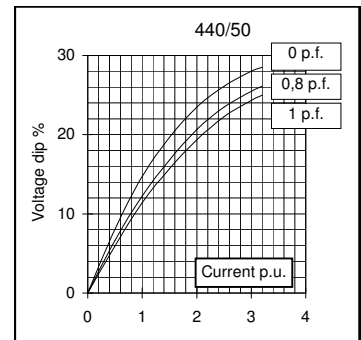
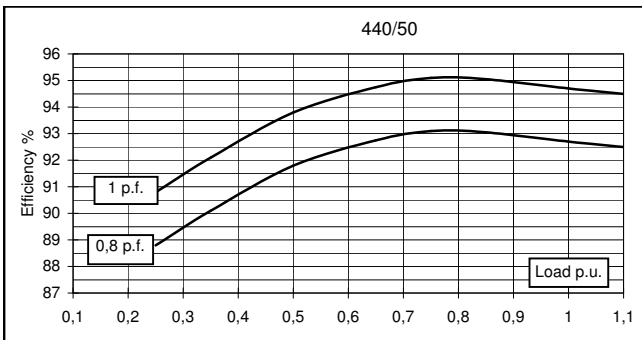
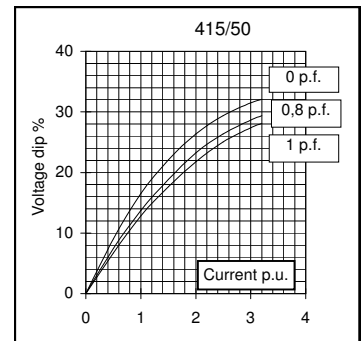
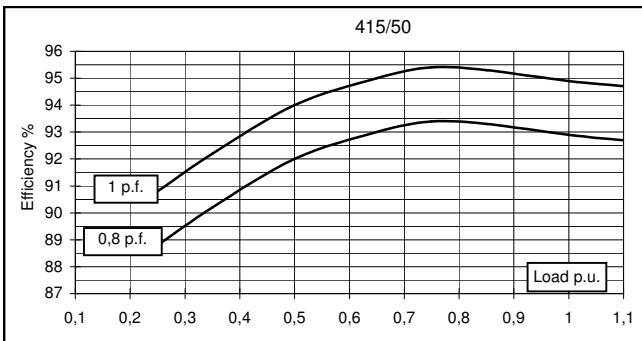
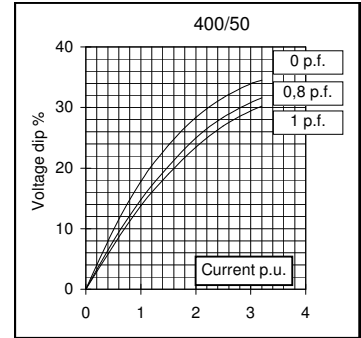
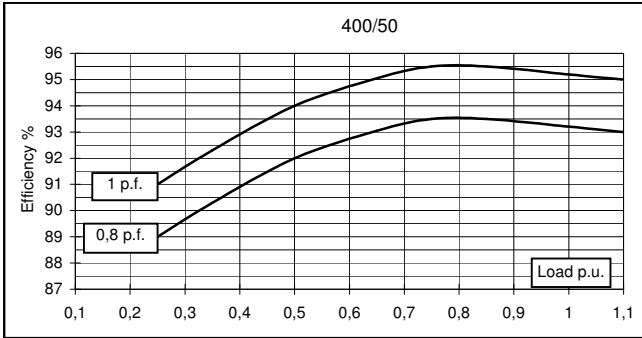
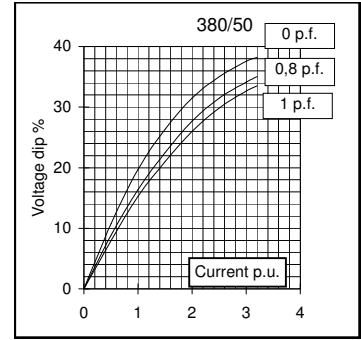
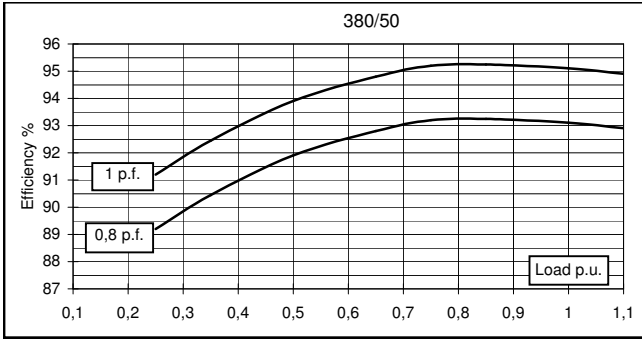


# GENERATOR TYPE ECP 34-2L/4 A

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## 50 Hz



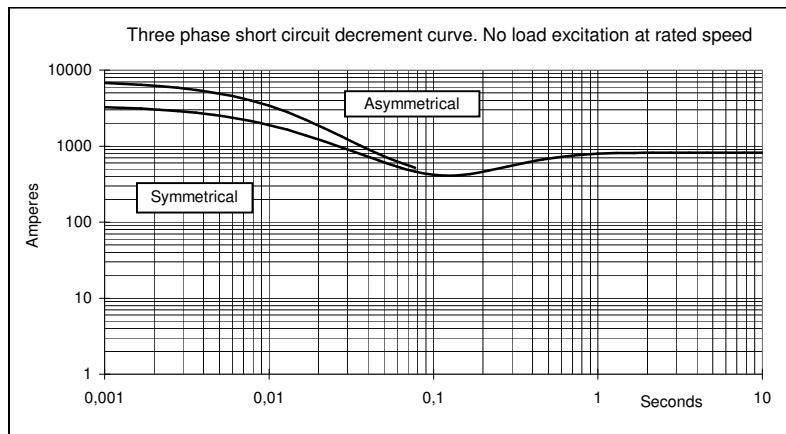
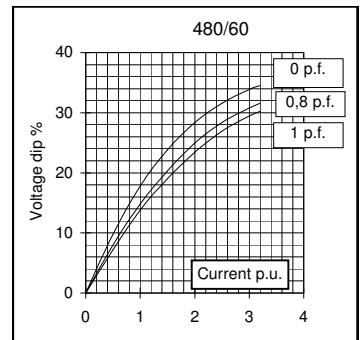
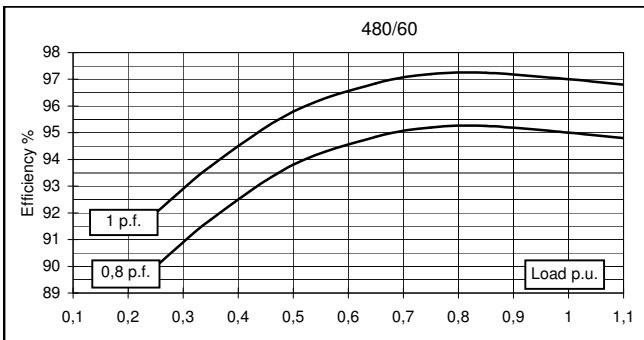
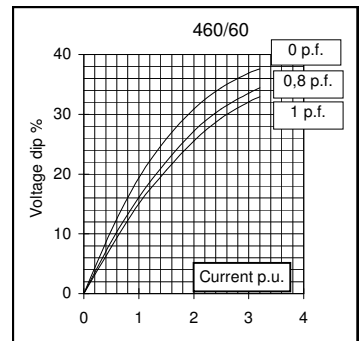
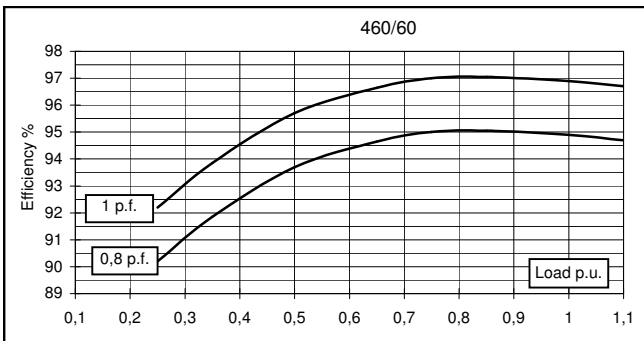
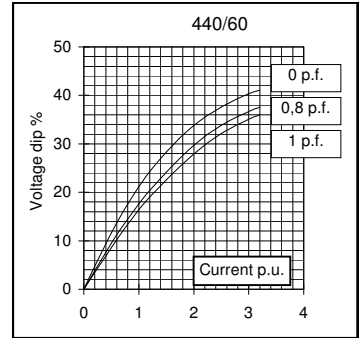
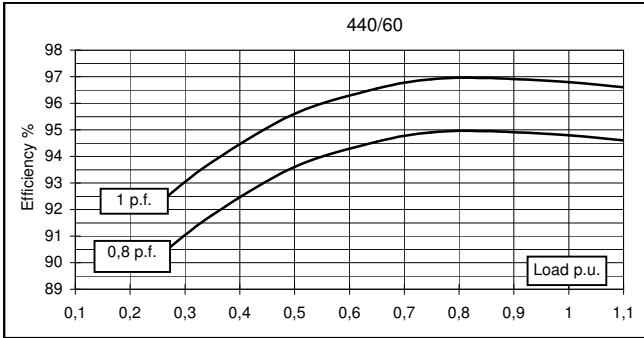
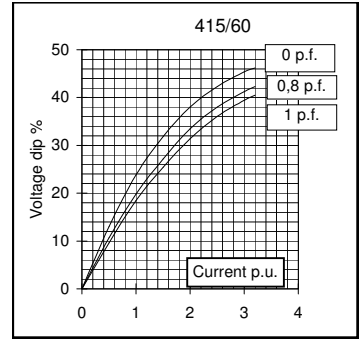
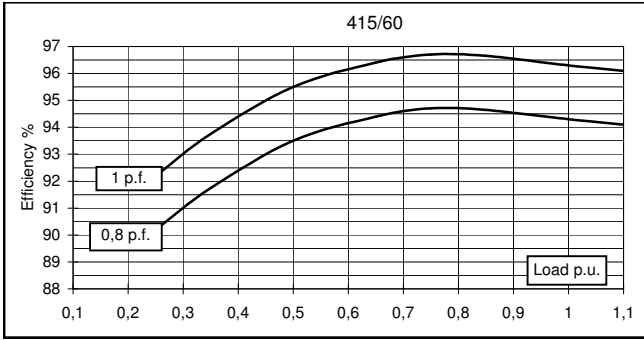


# GENERATOR TYPE ECP 34-2L/4 A

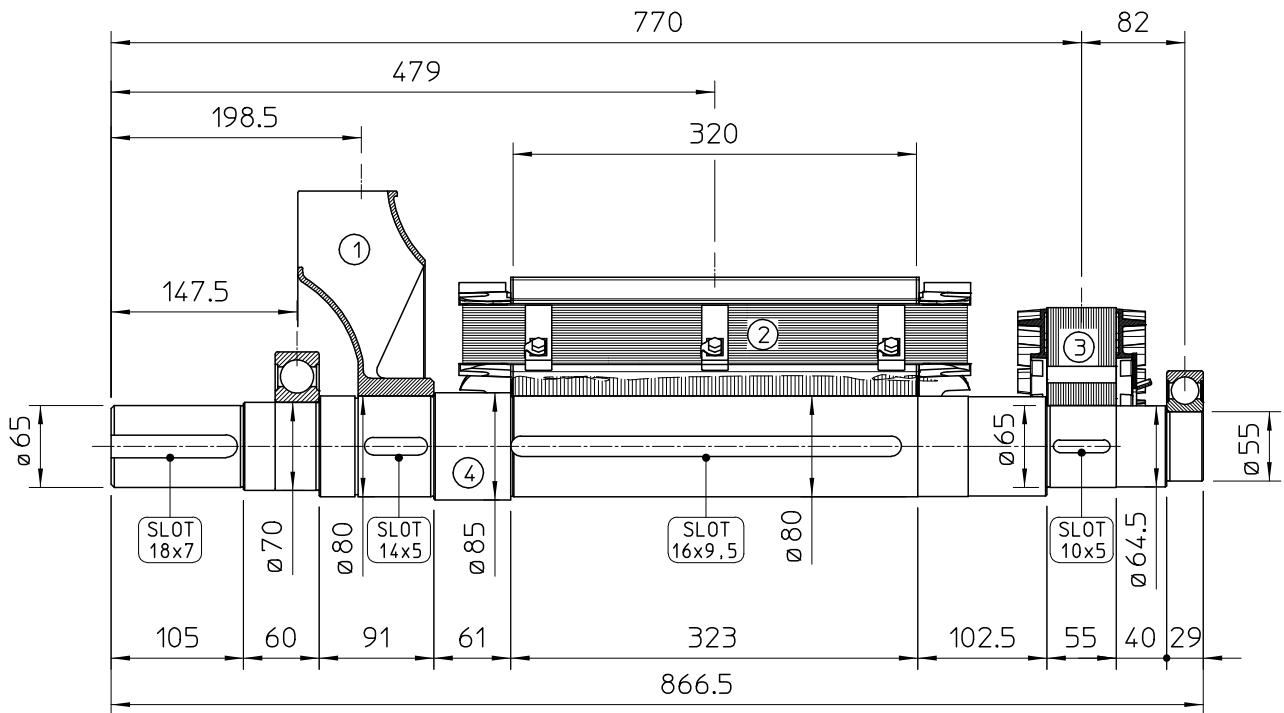
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## 60 Hz

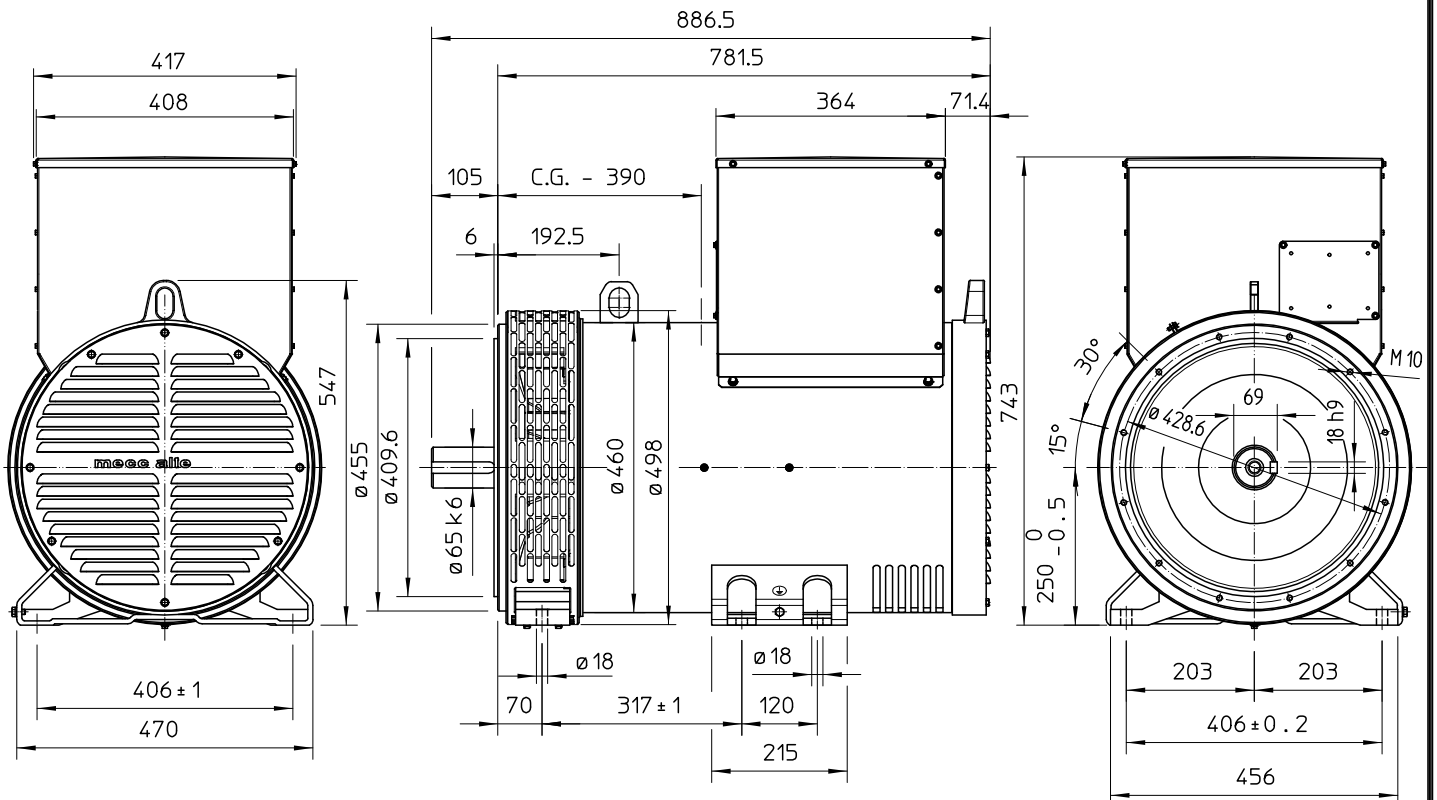


### TWO BEARING MOMENTS OF INERTIA



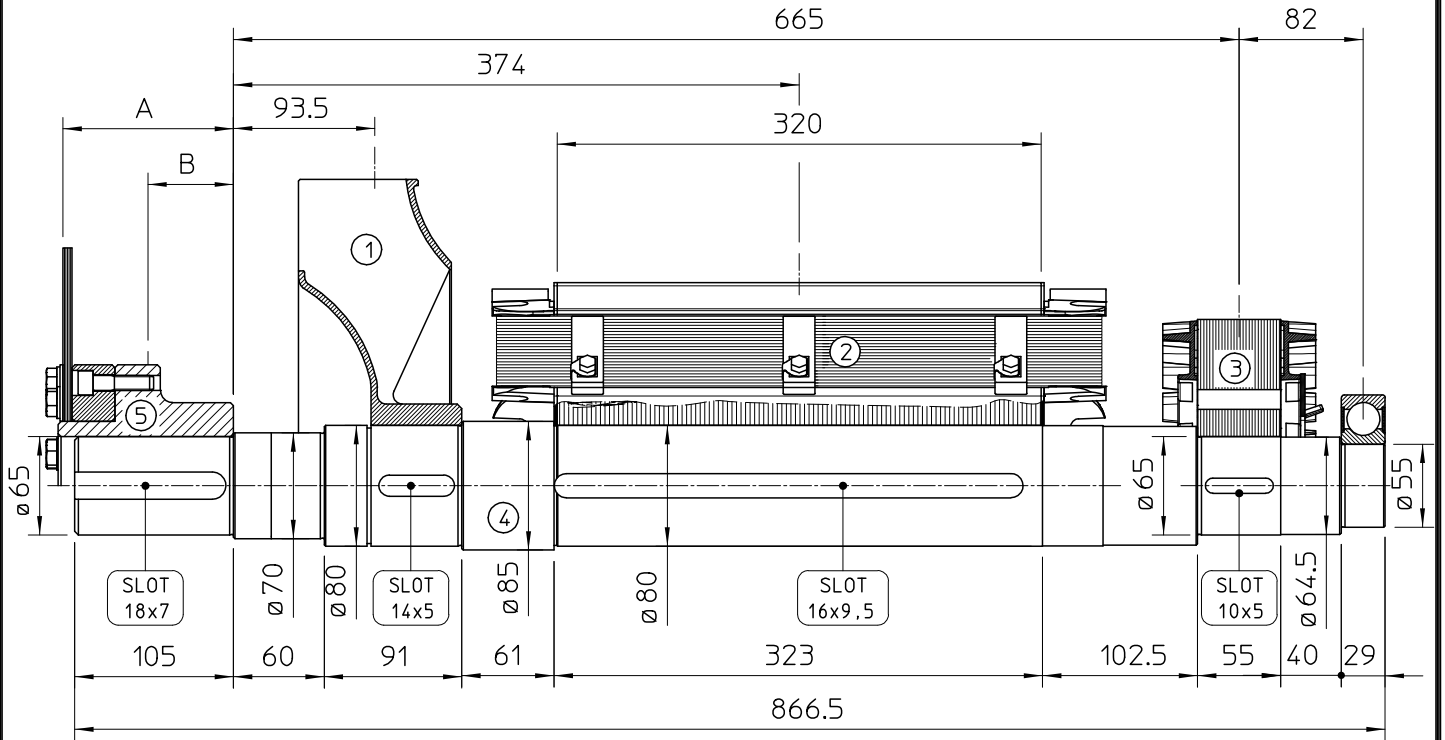
POS.	COMPONENT	WEIGHT (kg)	J (kgm <sup>2</sup> )
1	FAN	3.6	0.0451
2	MAIN ROTOR	107.3	0.9647
3	EX. ROTOR	14.5	0.0874
4	SHAFT	29.6	0.0218
TOTAL		155	1.119

### TWO BEARING DIMENSIONS



C.G.= GRAVITY CENTER

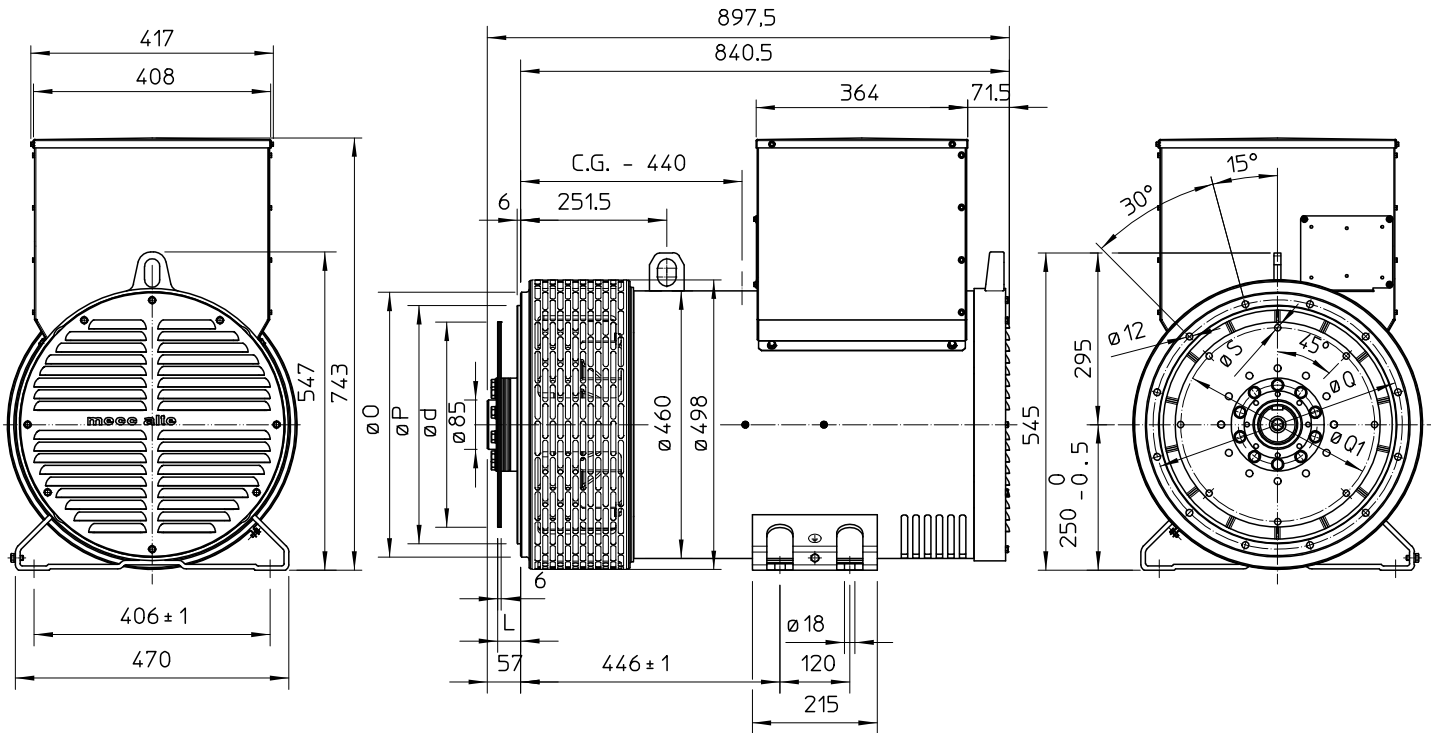
### SINGLE BEARING MOMENTS OF INERTIA



POS.	COMPONENT	WEIGHT (kg)	J (kgm <sup>2</sup> )
1	FAN	3.6	0.0451
2	MAIN ROTOR	107.3	0.9647
3	EX. ROTOR	14.5	0.0874
4	SHAFT	29.6	0.0218
TOTAL		155	1.119

SAE N°	5		SHAFTS COUPLING FLEX PLATE	
	A	B	WEIGHT kg	J kgm <sup>2</sup>
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 DISCQUE DE MONOPALIER / SCHEIBENKUPPLUNG			
	L	d	Q1	S
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