ABYARAN

موتور دیزل : BENZ	ژنراتور : Meccalte

	Prime		Standby	
	KVA	KW	KVA	KW
دیزل ژنراتور	48	60	52.8	66

موتور دیزل		
Manufacturer	IVECO	تولید کننده
Type	NEF45SM1A	تیپ
Number of cylinders	4	تعداد سیلندر ها
Cylinder arrangement	inline	آرایش سیلندر ها
Displacement , Liters	4.5	جا به جایی
Bore × Stroke , mm	104x132	قطر سیلندر × کورس پیستون
Compression Ratio	17,5 : 1	نسبت تراکم
Fan Power, kWm	1,15	قدرت فن
Mean Piston Speed , m/s	6,6	میانگین سرعت پیستون

ژنراتور		
Manufacturer	Mecc Alte	تولید کننده
Type	ECO32-2L/4	تیپ
Frequency, Hz	50	فرکانس
Speed, Rpm	1500	سرعت
Voltage, V	380	ولتاژ
Excitation	2	سیستم تحریک
Stator windings	12	سیم پیچ استاتور
Rotor	with damping cage	روتور
Over speed, Rpm	2250	حداکثر سرعت مجاز
Short circuit current	0,47	جریان اتصال کوتاه
Insulation class	H	کلاس عایق
Protection class	IP 21	کلاس حفاظتی
Cooling air volume,m^3 / sec	11,8	دبی هوای خنک کننده

NEF45 SM1A

59 kW (1500 rpm) - 65 kW (1800 rpm)

1/ GENERAL		1500 rpm	1800 rpm
Engine model		N45 SM1A	
Basic engine type		F4GE0455C*F650 - 504253544	
Number cylinders		4	
Firing order (N° 1 nearest to fan)		1-3-4-2	
Cylinder arrangement		in line	
Valves per cylinder		2	
Cycle		diesel 4 stroke	
Injection system		direct	
Induction System		Turbocharged	
Bore	mm	104	
Stroke	mm	132	
Total displacement	lit	4,5	
Mean piston speed	m/s	6,6	7,9
Compression ratio		17,5 : 1	
Flywheel rotation		anti clockwise viewed on flywheel	
Housing flywheel		SAE 3	
Flywheel		11"1/2	
Moment of inertia			
without flywheel	kgm^2	0,14	
flywheel only	kgm^2	0,71	
BMEP gross			
Prime Power	bar/kPa	9,7 / 969,7	9,0 / 902,4
Stand-by Power	bar/kPa	10,7 / 1066,7	9,9 / 992,6
Dry weight (including cooling package)	kg	~450	
Energy to coolant	kcal/kWh	485,4	588,2
Energy to radiation	kcal/kWh	172	141
Dimensions L x W x H	mm	1259 x 657 x 1016	

2/ PERFORMANCES			1500 rpm	1800 rpm
Continuous Power	(gross)	kWm	43,5	49
Prime Power	(gross)	kWm	54,5	61
Stand-By Power	(gross)	kWm	60	67
Fan consumption		kWm	1,15	2
Continuous Power	(net)	kWm	42,3	47
Prime Power	(net)	kWm	53,3	59
Stand-By Power	(net)	kWm	58,8	65
Performance condition				
temperature		°C	≤ 40	
altitude a.s.l		m	≤ 1000	
Derating				
temperature > T 40°C		%/5°C	2%	
altitude >1000 <3000 m		%/500m	2%	
altitude >3000 m		%/500m	4%	

3/ COOLING SYSTEM		1500 rpm	1800 rpm
Type		liquid	
Recommanded coolant		water - paraflu 50%	
Coolant capacity			
engine only	liter	8,5	
radiator and hoses	liter	10	
Coolant pump flow	l/min	103,3	123,9
Pressure cap setting	kPa (bar)	70 (0,7)	
Shutdown switch setting	°C	103	
Maximum additional restriction	Pa	147	
Air To Boil Prime Power	°C	58	60
Fan			
diameter	mm	450	
number of blades		8	
drive ratio		1,41 : 1	
speed	rpm	2115	2538
air flow	m^3/s	1,86	2,3
power consumption	kWm	1,15	2

4/ LUBRICATION SYSTEM		1500 rpm	1800 rpm
Oil sump capacity			
max	liter	8,5	
min	liter	5,5	
Oil system capacity including filter	liter	12,8	
Oil pressure at rated speed	kPa	300 - 500	
Oil temperature			
normal	°C	---	
max	°C	120	
Engine angularity			
longitudinal	degrees	25°	
transverse	degrees	25°	
Servicing interval	hours	600	
Oil specification		ACEA E3 / E5	
Oil consumption	%fuel	< 0,1	

5/ INTAKE SYSTEM		1500 rpm	1800 rpm
Air consumption at 100 % of load	m^3/h (Kg/h)	260 (313)	346 (417)
Air intake restriction, clean filter	kPa (mbar)	2 (20)	
Air intake restriction, dirty filter	kPa (mbar)	5 (50)	
Air filter type		dry	

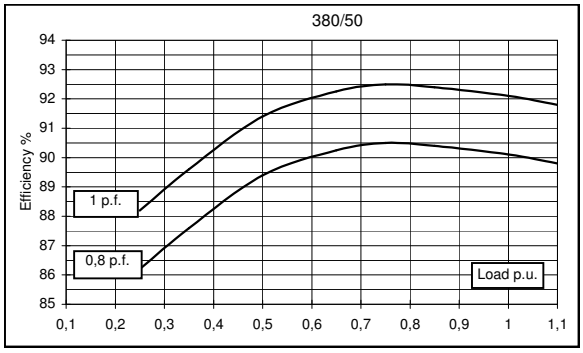
6/ EXHAUST SYSTEM		1500 rpm	1800 rpm
Gas flow at stand-by Power	kg/h	325	431
Max temperature at PRP (25°C)	°C	483	385
Max allowable back pressure	kPa (mbar)	5 (50)	
Energy to exhaust	kcal/kWh	655,3	722,9

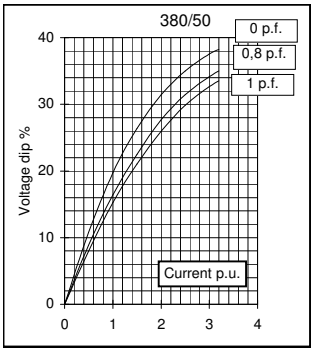
GENERATOR TYPE ECO 32-2L/4

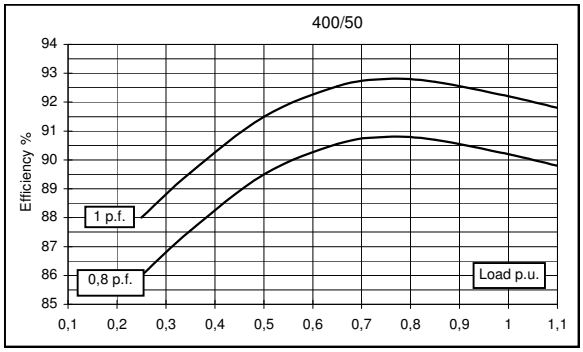
Document : **DS009A/2**

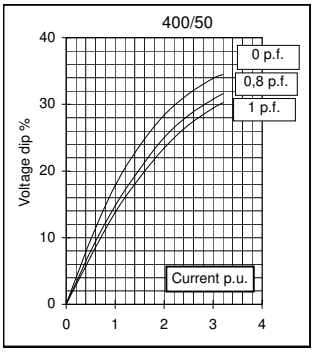
issue 008 date : 13/11/2012

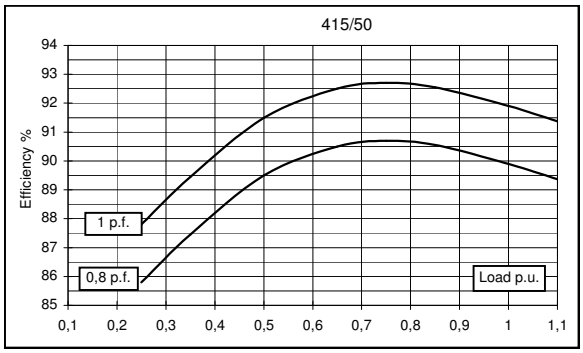
50 Hz

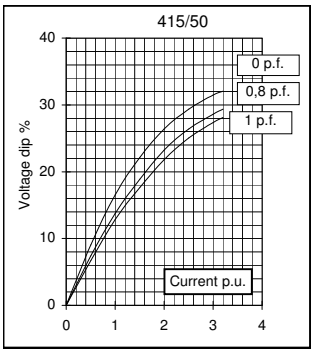


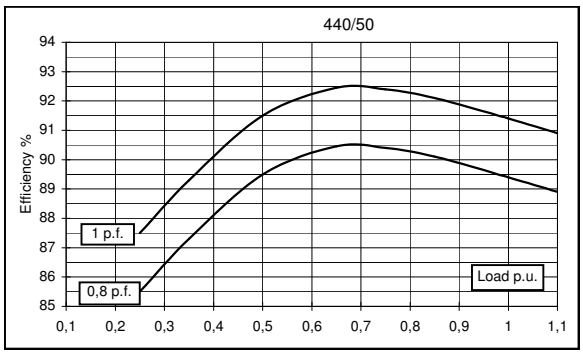


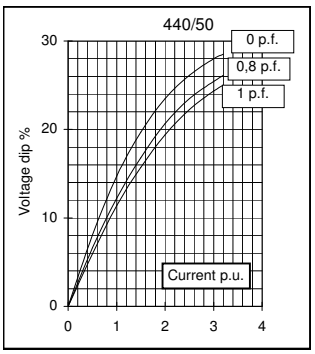


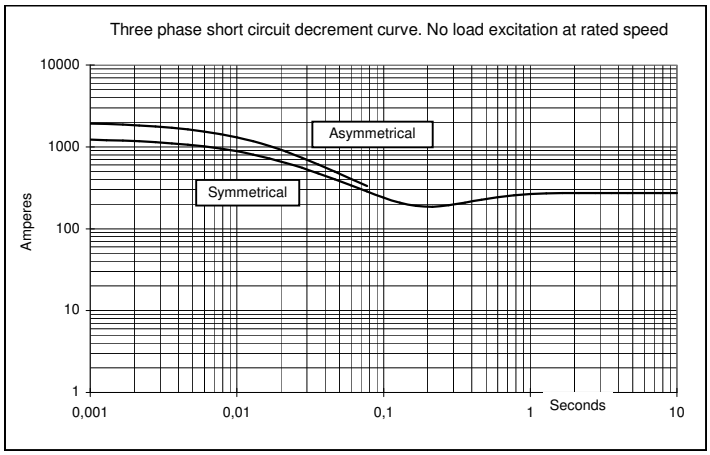








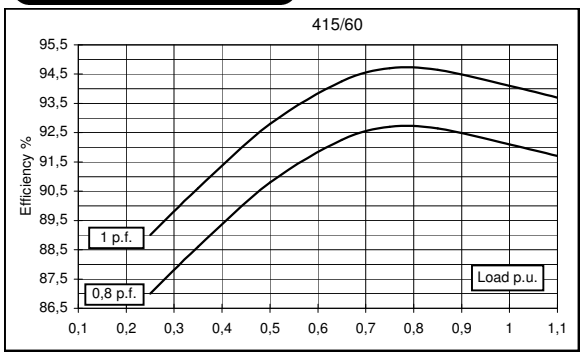


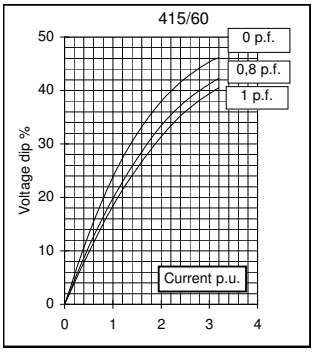


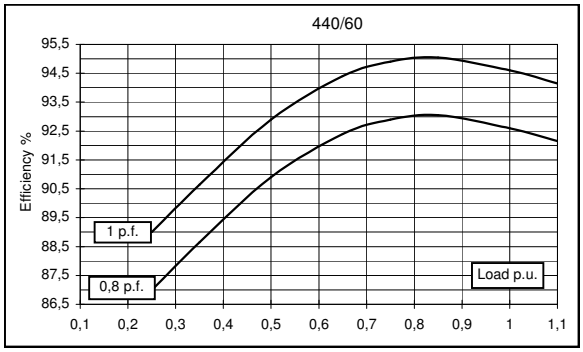
GENERATOR TYPE ECO 32-2L/4

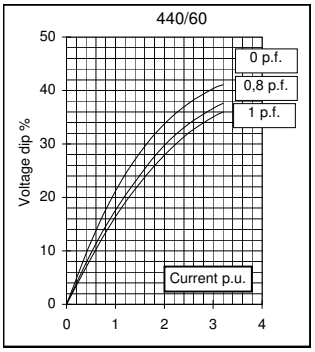
Document : **DS009A/3**
issue 008 date : 13/11/2012

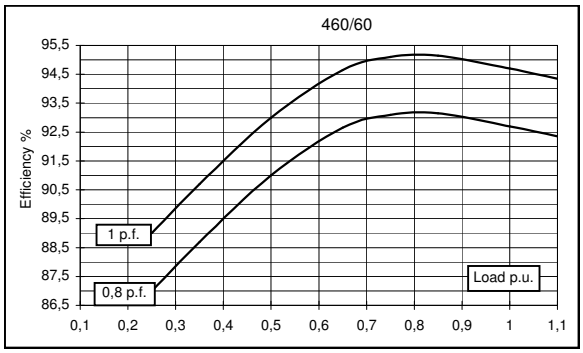
60 Hz

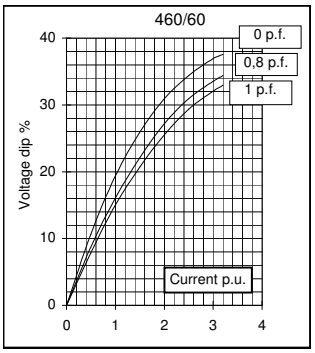


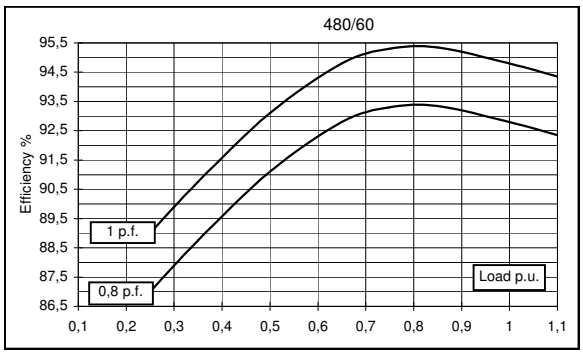


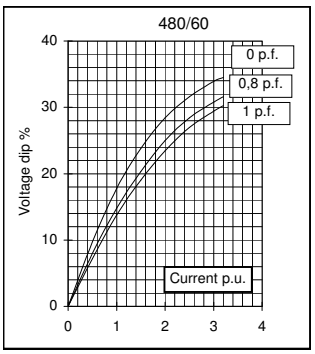


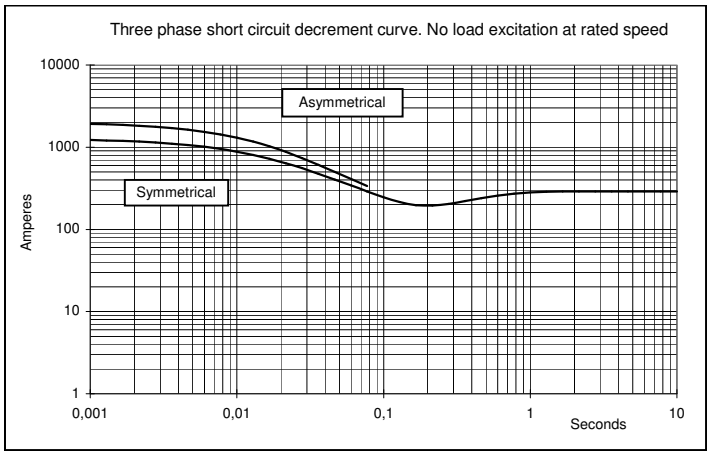




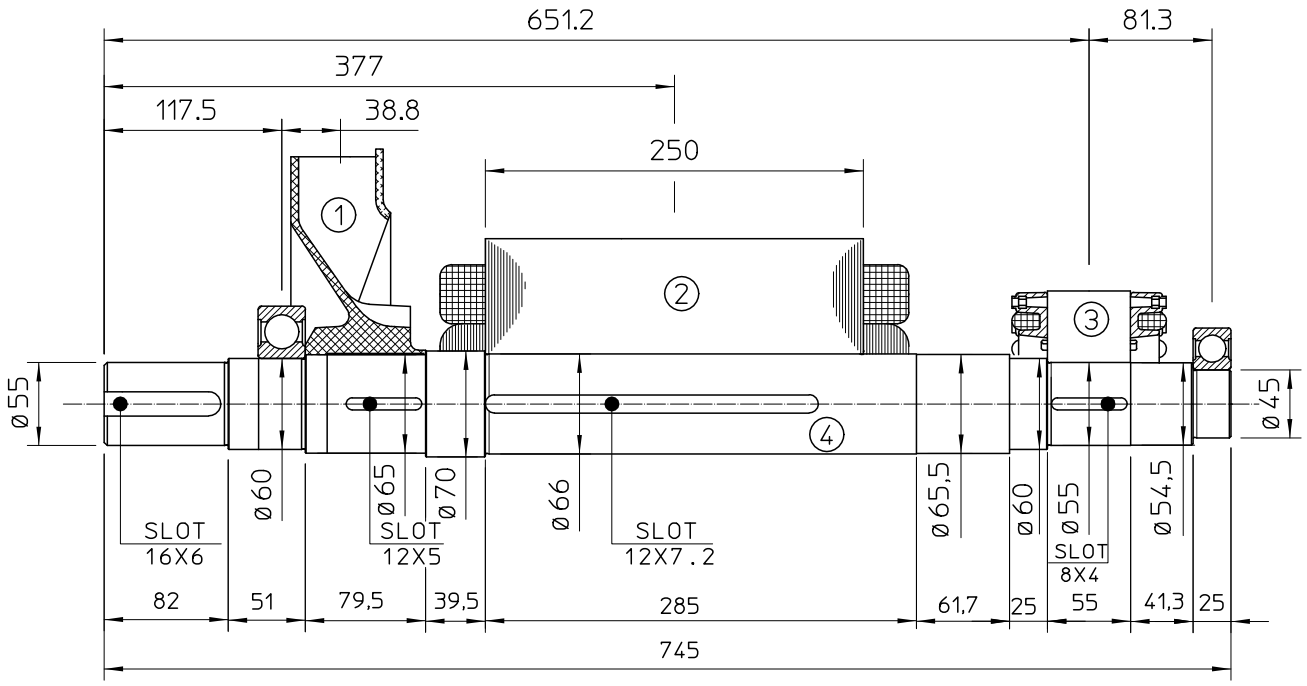






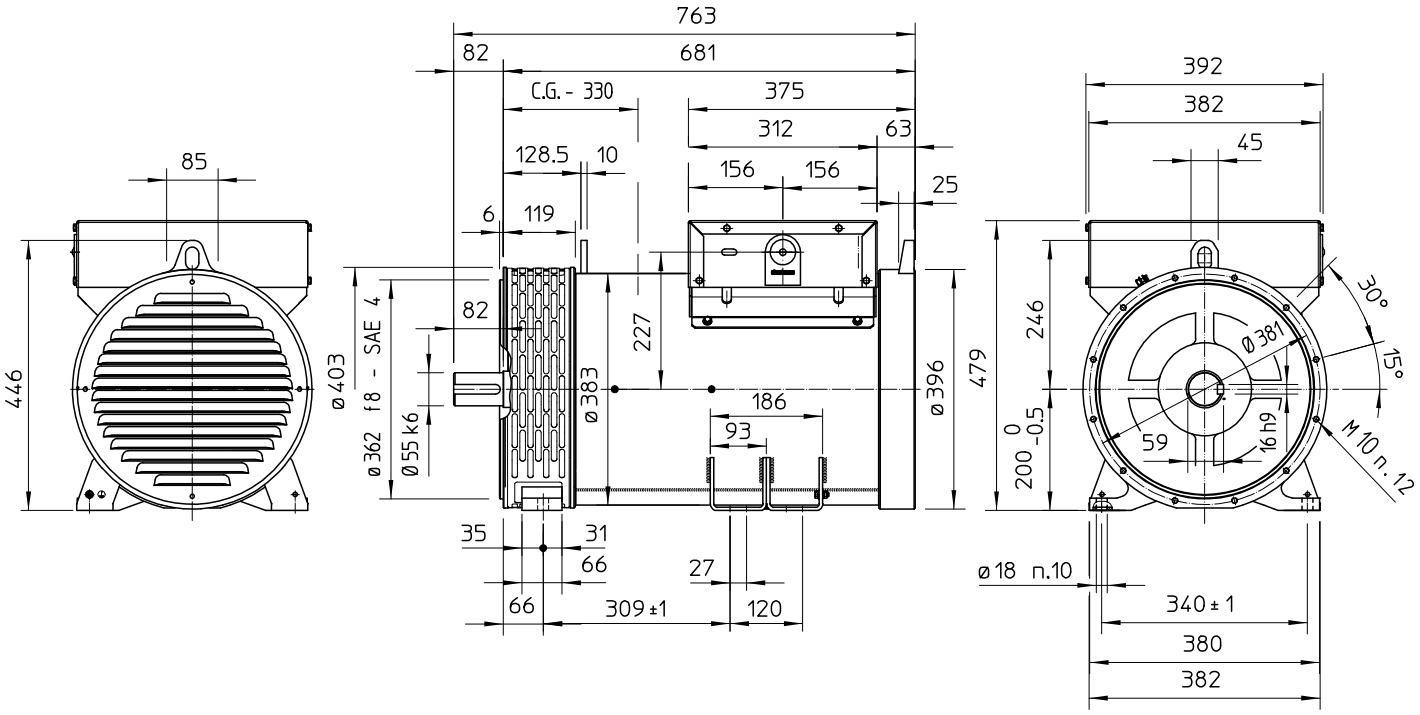


TWO BEARING MOMENTS OF INERTIA



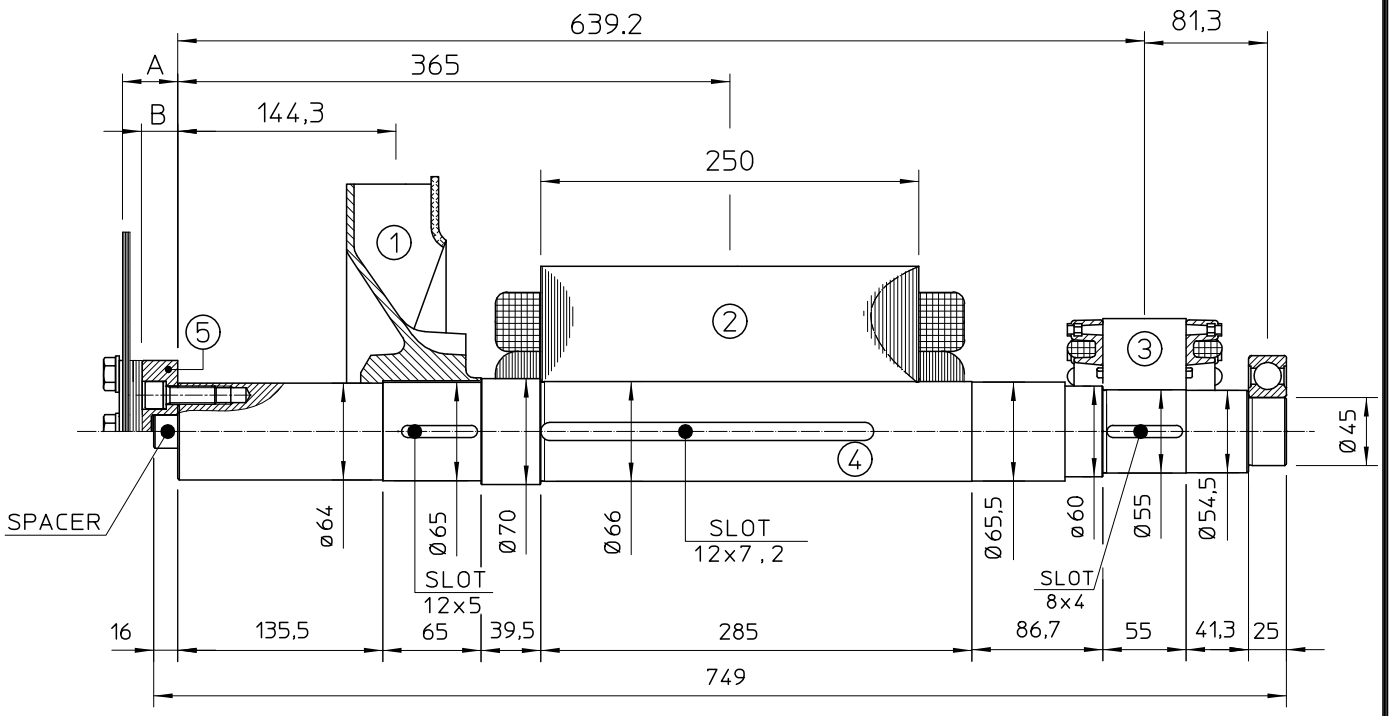
POS.	COMPONENT	WEIGHT (kg)	J (kgm^2)
1	FAN	2.3	0.0224
2	MAIN ROTOR	64.5	0.4579
3	EX. ROTOR	7	0.016
4	SHAFT	17.3	0.0067
TOTAL		91.1	0.503

TWO BEARING DIMENSIONS



C.G.= GRAVITY CENTER

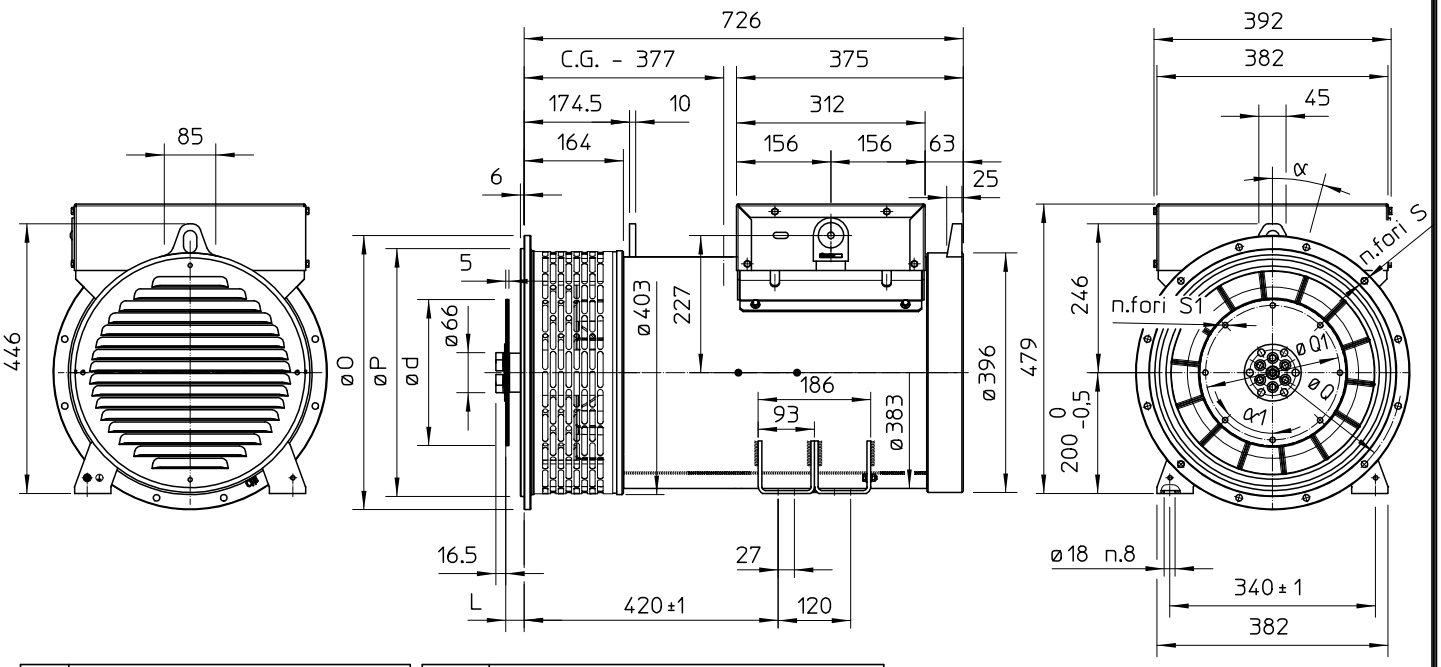
SINGLE BEARING MOMENTS OF INERTIA



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	5	SHAFTS COUPLING FLEX PLATE		
N°	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 DISCQUE 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