

ژنراتور : Meccalte

موتور دیزل : IVECO

Standby		Prime		دیزل ژنراتور
KW	KVA	KW	KVA	
82.5	66	75	60	



موتور دیزل

Manufacturer	IVECO	تولید کننده
Type	NEF45SM2A	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	ECO32-3L/4	تیپ
Frequency, Hz	50	فرکانس
Speed, Rpm	1500	سرعت
Voltage, V	380	ولتاژ
Excitation	Brushless	سیستم تمریک
Stator windings	12	سیم پیچ استاتور
Rotor	with damping cage	روتور
Over speed, Rpm	2250	مداکثر 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 فنک کننده

Specifications

Thermodynamic cycle		Diesel 4 stroke	
Air intake		TC	
Arrangement		4, in line	
Bore x stroke	mm	104x132	
Total displacement	l	4.5	
Valves per cylinder		2	
Injection system		direct	
Speed governor		mechanical	
Cooling system		liquid (water + 50% Paraflu1)	
Flywheel housing/flywheel	type	SAE3 / 11" 1/2	
Flywheel rotation		CCW	
Lube oil specifications		ACEA E3-E5	
Lube oil consumption		<0.1% of fuel consumption	
Fuel specifications		EN 590	
Oil and filters intervals for replacement	hours	600	
Fuel consumption at:	rpm	1500	1800
	100% load l/h (g/kWh)	17.1 (214.2)	17.3 (215.5)
	80% load l/h (g/kWh)	12.7 (212.1)	13.0 (216.0)
	50% load l/h (g/kWh)	8.6 (214.1)	9.0 (225.9)
Coolant capacity: engine only	l	~8.5	
	engine+radiator	l	~18.5
ATB (without canopy)	°C	55	
Lube oil total system capacity including pipes, filters etc.	l	~12.8	
Electrical system		12Vcc	
Starting batteries: recommended capacity	Ah	1x100	
Discharge current (EN 50342)	A	650	
Cold starting:	without air preheating	°C -10	
	with air preheating	°C -25	

Performance

Ratings ¹		1500 rpm		1800 rpm	
		PRIME	STAND-BY	PRIME	STAND-BY
Rated Output ²	kWm	66	73	65	72

1) Ratings in accordance with ISO 8528. For duty at temperature over 40°C and/or altitude over 1000 meters must be considered a power derating factor. Contact the FPT sales organization

2) Net power at flywheel available after 50 hours running with a ±3% tolerance

PRIME POWER: The prime power is the maximum power available with varying loads for an unlimited number of hours. The average power output during a 24h period of operation must not exceed 80% of the declared prime power between the prescribed maintenance intervals and at standard environmental conditions. A 10% overload is permissible for 1 hour every 12 hours of operation.

STAND-BY POWER: The stand-by power is the maximum power available for a period of 500 hours/year with a mean load factor of 90% of the declared stand-by power. No kind of overloads is permissible for this use.

CONTINUOUS POWER: Contact the FPT sales organization.

Standard Configuration:

FPT engine N45 SM2A equipped with:

- Mounted radiator
- Mounted belt driven pusher fan
- Fan guard
- Mounted air filter with replaceable cartridges
- Fuel filter
- Primary fuel filter/water separator
- Replaceable oil filter
- Front engine mounting brackets
- Flywheel housing SAE3 and flywheel 11"1/2
- Re-directable exhaust gas elbow
- Recircled oil breather system
- Oil dipstick
- HWT and LOP sensors
- 12 Vdc electrical system
- User's handbook

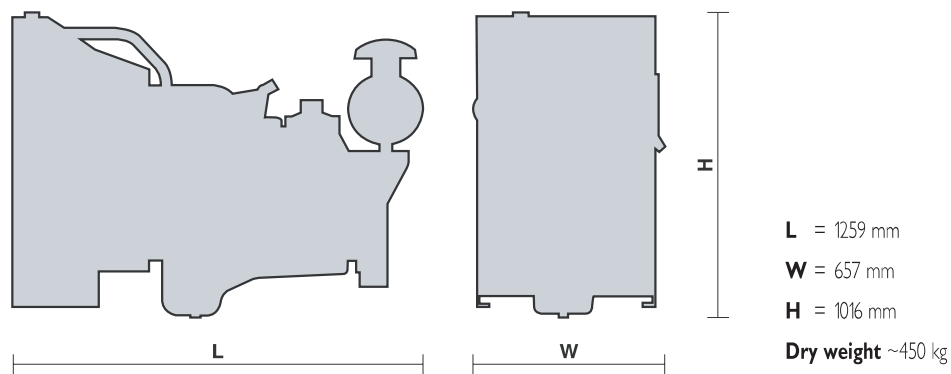
THE ENGINE IS SUPPLIED WITHOUT LIQUIDS

Optional equipment:

On request the engine can be supplied with:

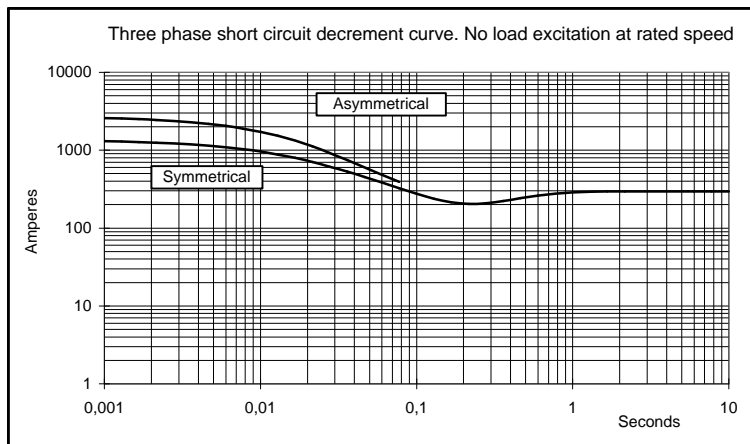
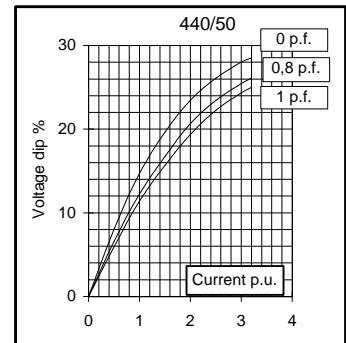
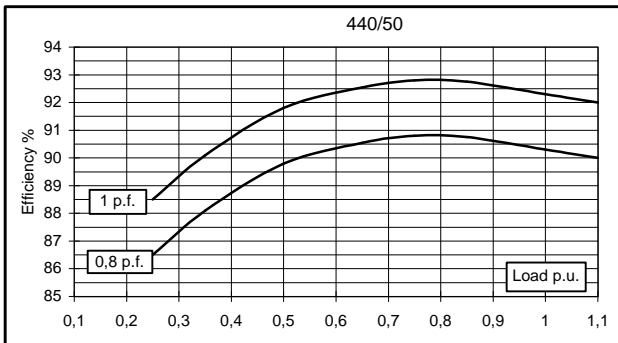
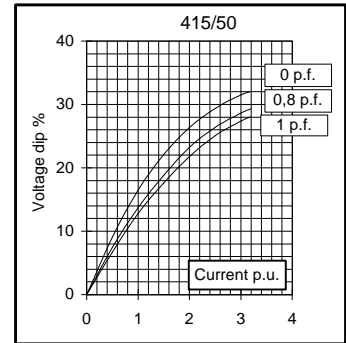
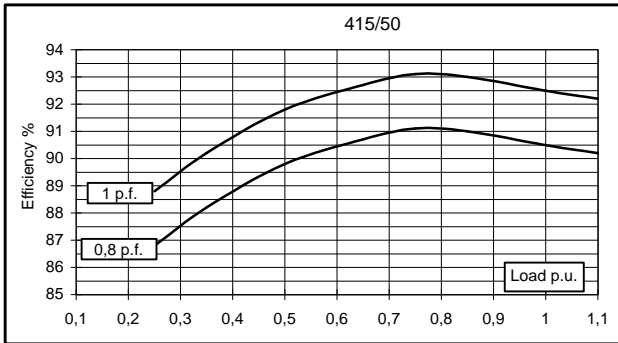
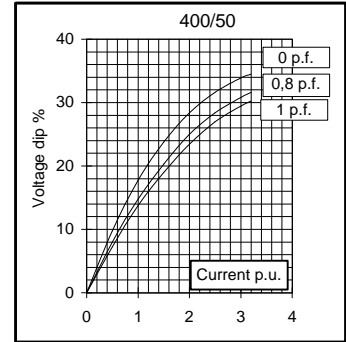
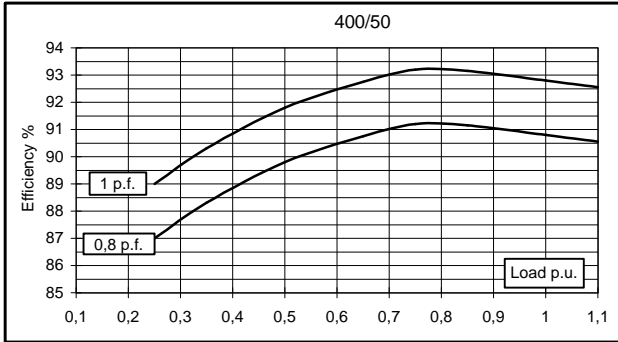
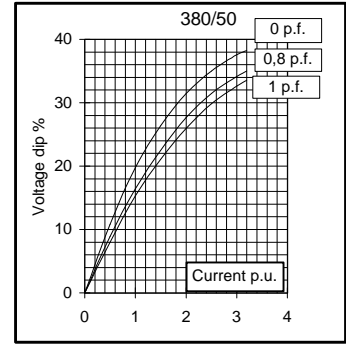
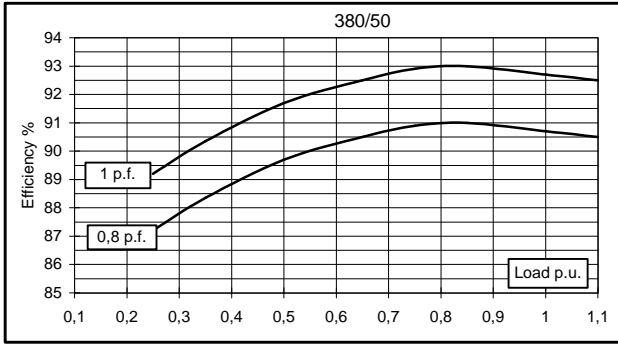
- Oil drain pump
- Oil drain valve
- 120/230 Volt water jacket heater
- WT and OP sensors for gauges
- Low water level sensor
- Turbo and exhaust gas guards
- Exhaust gas flexible joint
- 24 Volt electrical system

Overall dimensions

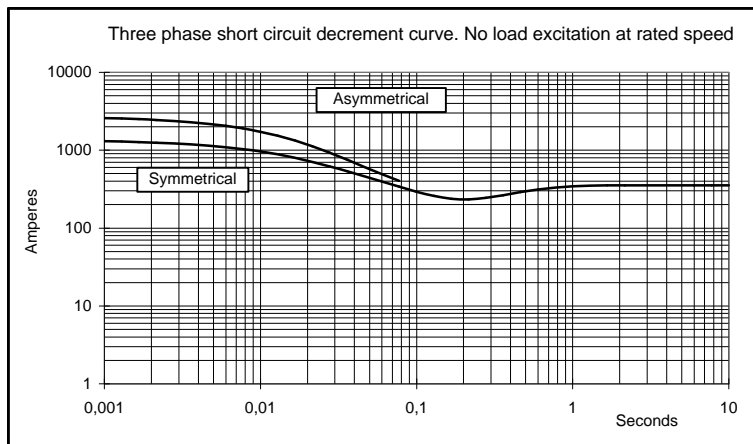
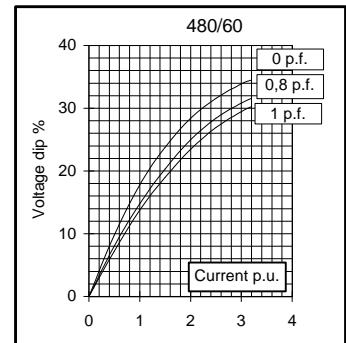
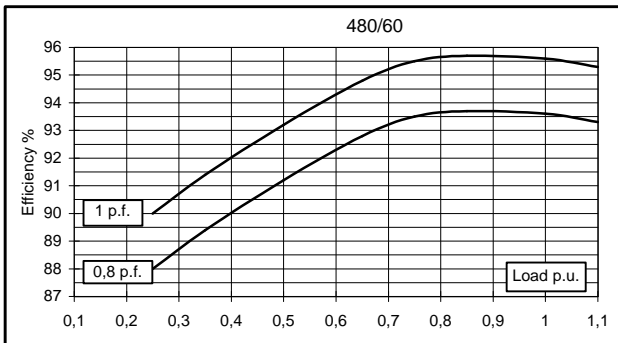
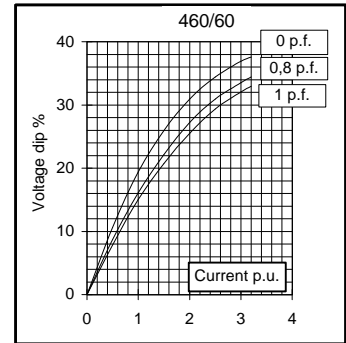
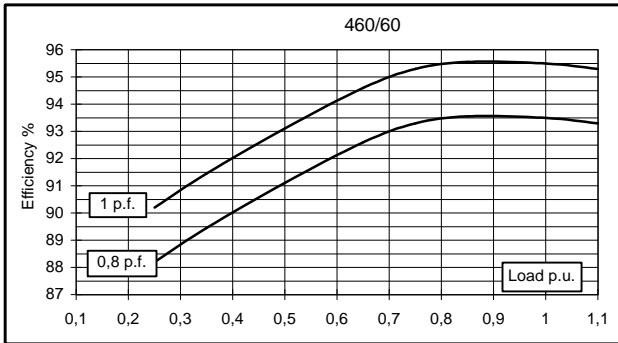
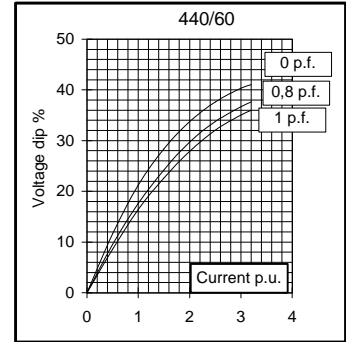
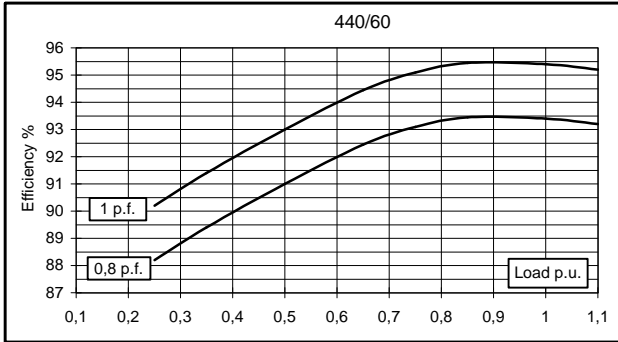
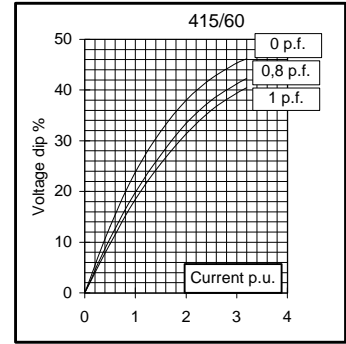
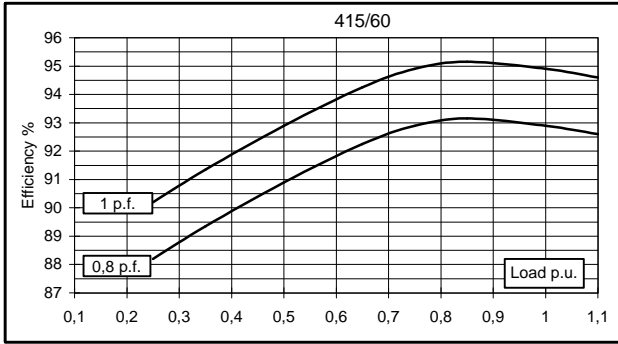


Electrical Characteristics										
Frequency	Hz	50				60				
Voltage (series star)	V	380	400	415	440	415	440	460	480	
Rated power class H	kVA	70	70	70	65	75	80	84	84	
	kW	56	56	56	52	60	64	67,2	67,2	
Rated power class F	kVA	63	63	63	52	68	75	78	78	
	kW	50,4	50,4	50,4	41,6	54,4	60	62,4	62,4	
Regulation with SR7/2		±1,5 % 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	%	90,7	90,8	90,5	90,3	92,9	93,4	93,5	93,6
(see graph. for details)	3/4	%	90,9	91,2	91,1	90,8	92,9	93,1	93,3	93,5
	2/4	%	89,7	89,8	89,8	89,8	90,9	91	91,1	91,2
	1/4	%	87,2	87	86,8	86,5	88,2	88,2	88,2	88
Reactances (f. l.cl. F)	Xd	%	315,8	285	264,8	218,7	340,4	323,0	310,3	285
	Xd'	%	13,85	12,5	11,61	9,59	14,93	14,17	13,61	12,5
	Xd''	%	7,20	6,5	6,04	4,99	7,76	7,37	7,08	6,5
	Xq	%	121,9	110	102,2	84,4	131,4	124,7	119,8	110
	Xq'	%	121,9	110	102,2	84,4	131,4	124,7	119,8	110
	Xq''	%	35,5	32	29,7	24,6	38,2	36,3	34,8	32
	X ₂	%	24,16	21,8	20,25	16,73	26,04	24,71	23,74	21,8
	X ₀	%	3,43	3,1	2,88	2,38	3,70	3,51	3,38	3,1
Short Circuit Ratio	Kcc		0,49	0,58	0,65	1,20	0,37	0,41	0,49	0,58
Time Constants	Td'	sec.	0,065							
	Td''	sec.	0,0135							
	Tdo'	sec.	1,30							
	Tα	sec.	0,027							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load	Amp.		0,5	0,6	0,7	1,2	0,25	0,3	0,4	0,5
Excitation at full load	Amp.		2	2,1	2,3	2,7	1,7	1,6	1,8	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		0,035							
Rotor Winding Resistance (20°C)	Ω		3,171							
Exciter Resistance (20 °C)	Ω		Rotor : 0,442				Stator : 11,35			
Heat dissipation at f.l.cl.H	W		5742	5674	5878	5586	4586	4522	4672	4595
Telephone Interference			FHT < 2%				TIF < 45			
Radio interference			EN50081-1, EN50082-1, VDE0875K. For others standards apply to factory							
Waveform Distors.(THD) at f. load	LL/LN %		3,9 / 3,7							
Waveform Distors.(THD) at no load	LL/LN %		3,3 / 3,1							
Mechanical characteristics										
Protection			IP 21 (other protection on request)							
DE bearing			6312-2RS							
NDE bearing			6309-2RS							
Weight of wound stator assembly	kg		110							
Weight of wound rotor assembly	kg		72							
Weight of complete generator	kg		298							
Maximun overspeed	rpm		2250							
Unbalanced magnetic pull at f.l.cl.F	kN/mm		5,2							
Cooling air requirement	m ³ /min		11,8				14,5			
Inertia Constant (H)	sec.		0,101				0,121			
Noise level at 1m/7m	dB(A)		75 / 60				79 / 64			

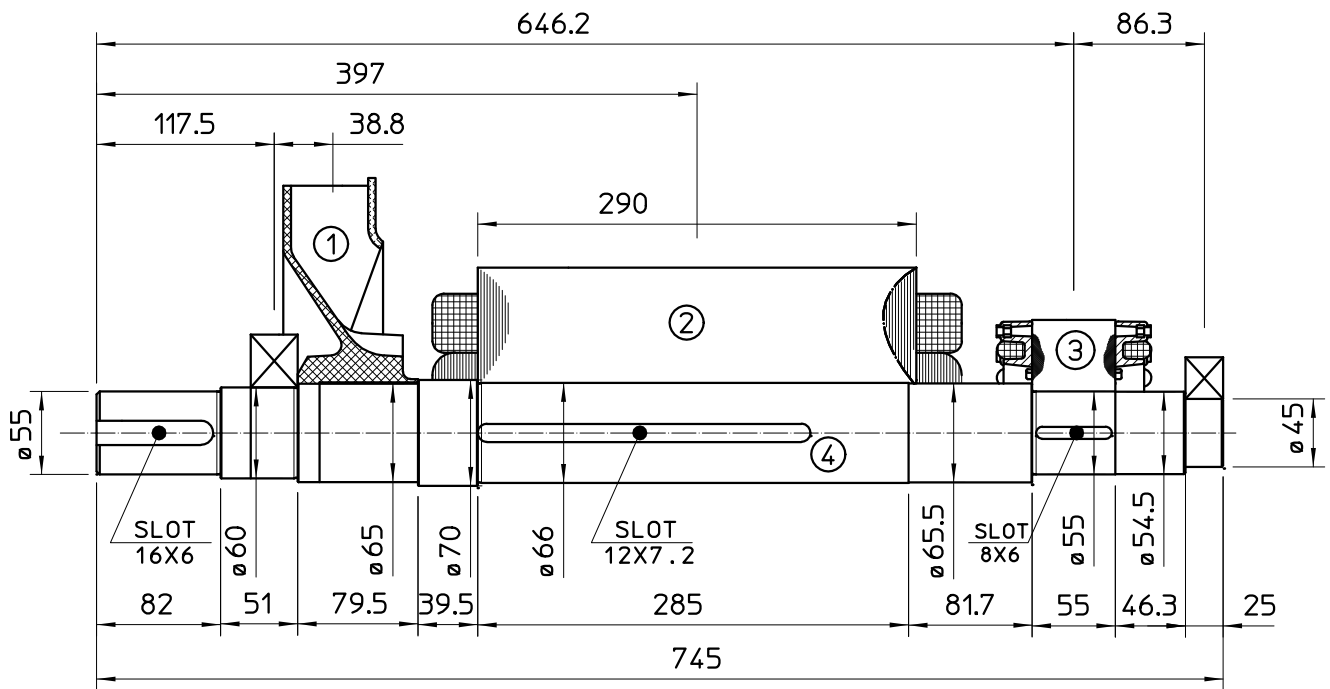
50 Hz



60 Hz

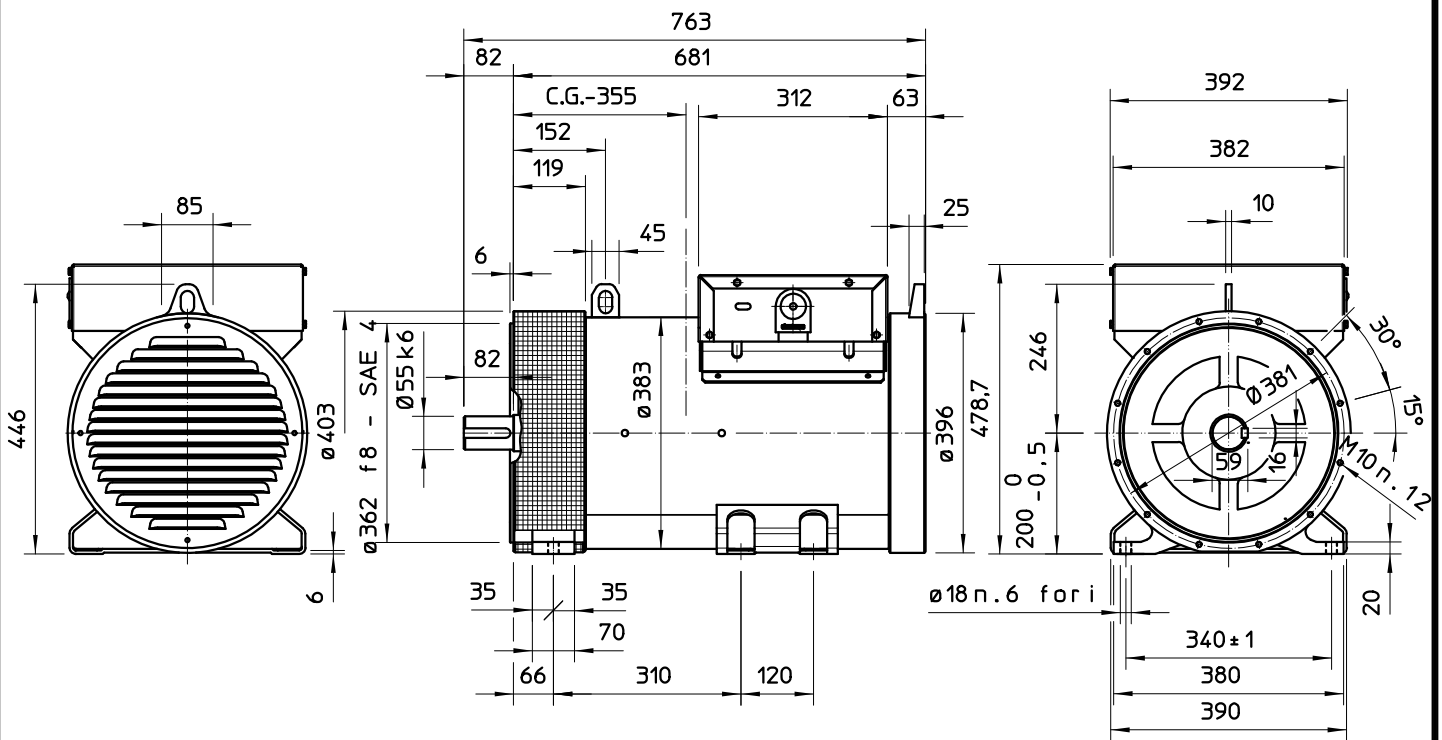


TWO BEARING MOMENTS OF INERTIA



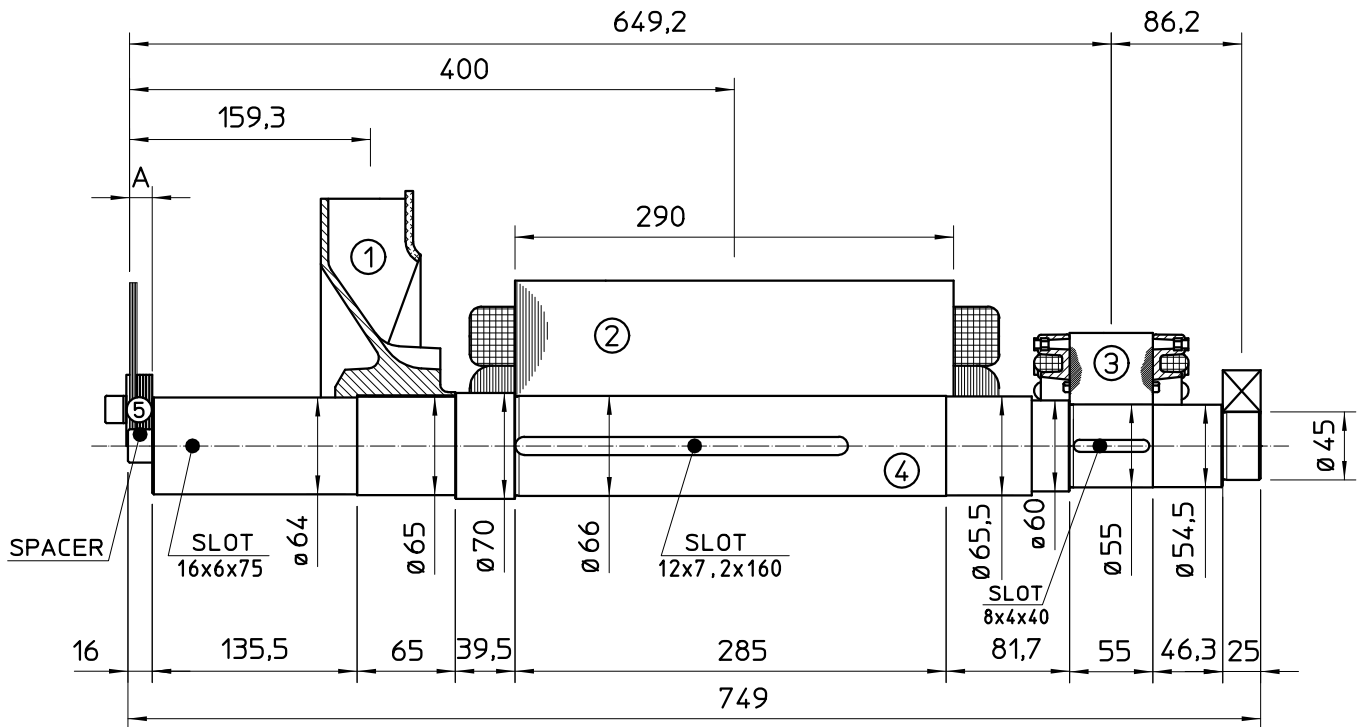
COMPONENT	WEIGHT kg	J kgm ²
1 FAN	2,3	0,0224
2 MAIN ROTOR	74	0,5254
3 EX. ROTOR	7	0,016
4 SHAFT	17,5	0,008
TOTAL	100,8	0,5718

TWO BEARING DIMENSIONS



C.G. = GRAVITY CENTER

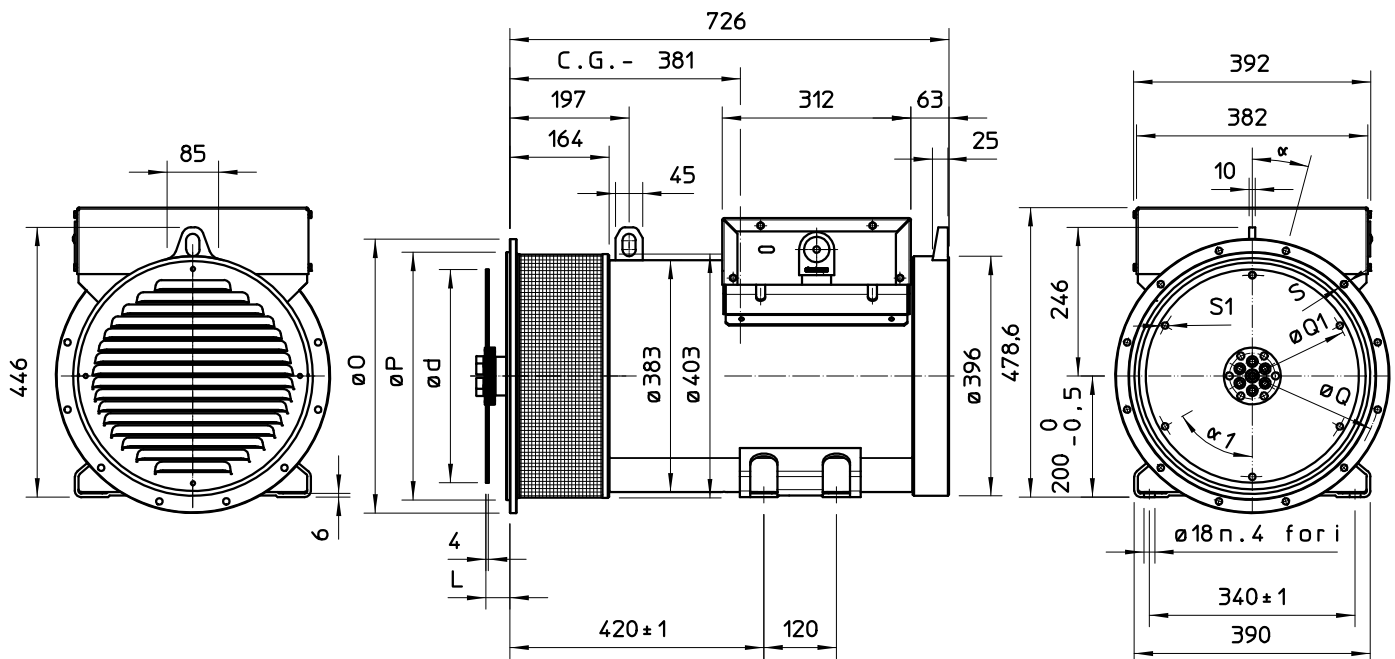
SINGLE BEARING MOMENTS OF INERTIA



COMPONENT	WEIGHT kg	J kgm ²
1 FAN	2,3	0,0224
2 MAIN ROTOR	74	0,5254
3 EX. ROTOR	7	0,016
4 SHAFT	18,3	0,0094
TOTAL	101,6	0,5732

SAE No	S	SHAFTS COUPLING FLEX PLATE	
		A (mm)	WEIGHT kg J kgm ²
6,5	5	1,74	0,0084
7,5	5	2,1	0,013
8	36,6	3,9	0,02
10	28,6	4,47	0,038
11,5	15	4,51	0,059

SINGLE BEARING DIMENSIONS



SAE No	DISC COUPLING					
	L	d	Q1	No holes	S1	a1
6,5	30,2	215,9	200	6	9	60°
7,5	30,2	241,3	222,25	8	9	45°
8	62	263,52	244,47	6	11	60°
10	53,8	314,32	295,27	8	11	45°
11,5	39,6	352,42	333,37	8	11	45°

SAE No	FLANGE					
	O	P	Q	No holes	S	a
5	356	314,3	333,4	8	11	22°30'
4	403	362	381	12	11	15°
3	451	409,6	428,6	12	11	15°
2	489	447,7	466,7	12	11	15°
1	552	511,2	530,2	12	11	15°

C.G. = GRAVITY CENTER