GENERATOR TYPE ECO 38-1LN/4

Document : **DS073A/1**

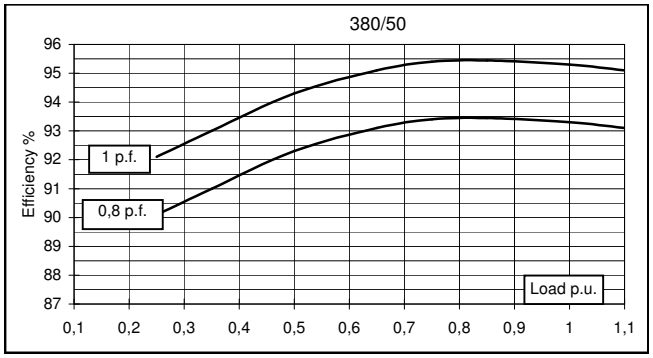
issue 004 date 28/10/2013

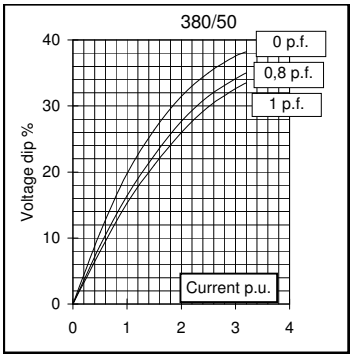
Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	250	250	250	230	290	300	300	300
		kW	200	200	200	184	232	240	240	240
Rated power class F		kVA	230	230	230	215	270	280	280	280
		kW	184	184	184	172	216	224	224	224
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	%	93,3	93,4	93,1	92,9	93,8	94,3	94,4	94,5
(see graph. for details)	3/4	%	93,4	93,7	93,6	93,3	94,3	94,5	94,7	94,9
	2/4	%	92,3	92,4	92,4	92,2	93,4	93,5	93,6	93,7
	1/4	%	90,1	89,9	89,7	89,5	90,6	90,6	90,6	90,4
Reactances (f. l.cl. F)	Xd	%	229,4	207	192,3	157,4	267,7	246,3	225,4	207
	Xd'	%	15,5	14,0	13,0	10,6	18,1	16,7	15,2	14,0
	Xd"	%	8,0	7,2	6,7	5,5	9,3	8,6	7,8	7,2
	Xq	%	129,6	117	108,7	89,0	151,3	139,2	127,4	117
	Xq'	%	129,6	117	108,7	89,0	151,3	139,2	127,4	117
	Xq"	%	24,4	22	20,4	16,7	28,5	26,2	24,0	22
	X_2	%	17,7	16,0	14,9	12,2	20,7	19,0	17,4	16,0
	X_0	%	2,7	2,4	2,2	1,8	3,1	2,9	2,6	2,4
Short Circuit Ratio	Kcc		0,41	0,44	0,68	1,11	0,32	0,38	0,41	0,44
Time Constants	Td'	sec.	0,085							
	Td"	sec.	0,013							
	Tdo'	sec.	1,30							
	Tα	sec.	0,017							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0,6	0,71	0,8	0,95	0,4	0,5	0,58	0,7
Excitation at full load		Amp.	2,7	2,8	3	3,2	2,4	2,6	2,7	2,8
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,0065							
Rotor Winding Resistance (20°C)		Ω	4,887							
Exciter Resistance (20 °C)		Ω	Rotor : 0,685				Stator : 15,28			
Heat dissipation at f.l.cl.H		W	14362	14133	14823	14062	15335	14507	14237	13968
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 %	2 / 2,1							
Waveform Distors.(THD) at no load		LL/LN %	2,9 / 3,1							
Mechanical characteristics										
Protection			IP 21 (other protection on request)							
DE bearing			6318.2RS							
NDE bearing			6314.2RS							
Weight of wound stator assembly		kg	231							
Weight of wound rotor assembly		kg	147,5							
Weight of complete generator		kg	680							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	5,1							
Cooling air requirement		m³/min	32				39			
Inertia Constant (H)		sec.	0,116				0,139			
Noise level at 1m/7m		dB(A)	82 / 69				86 / 73			

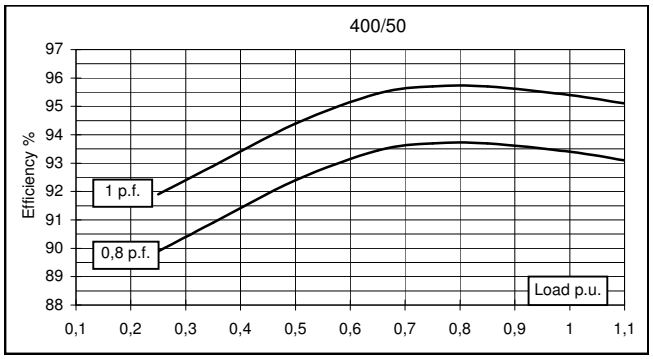
GENERATOR TYPE ECO 38-1LN/4

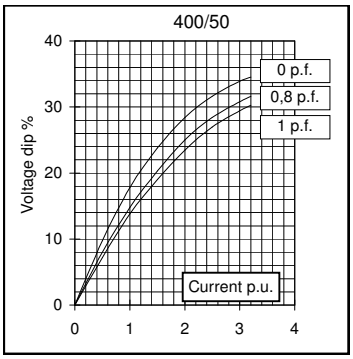
Document : **DS073A/2**
issue 004 date : 28/10/2013

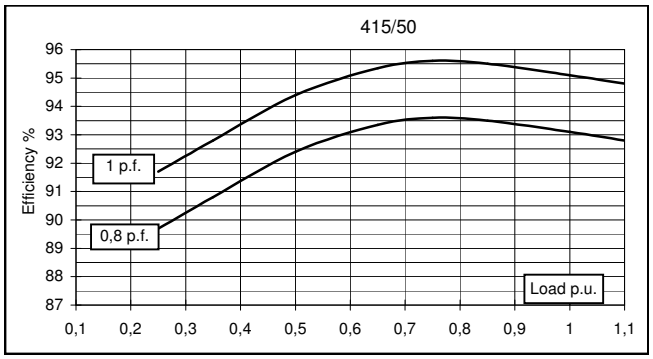
50 Hz

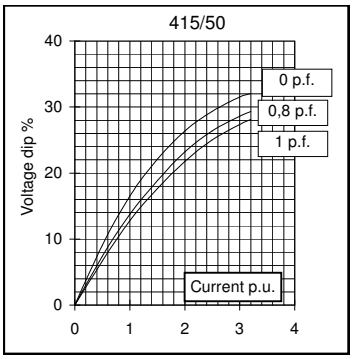


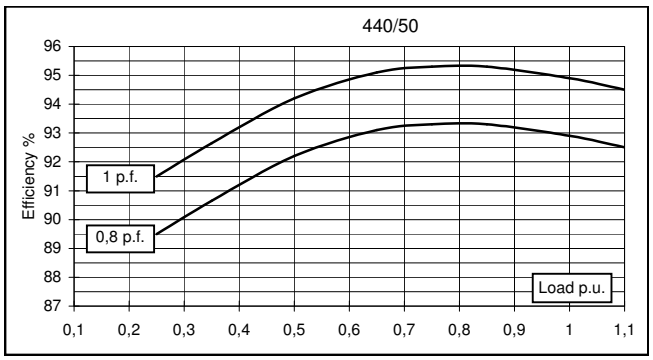


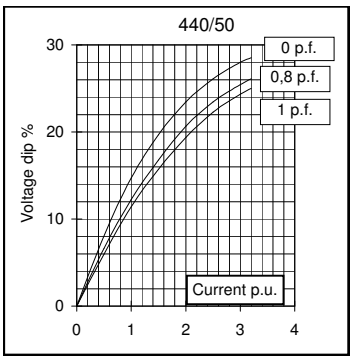


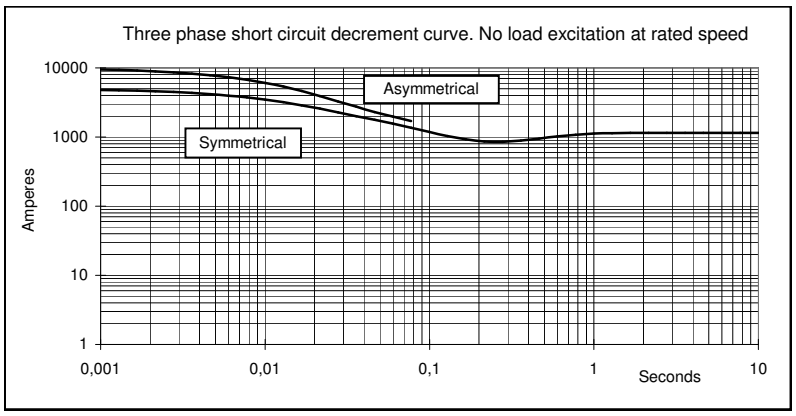








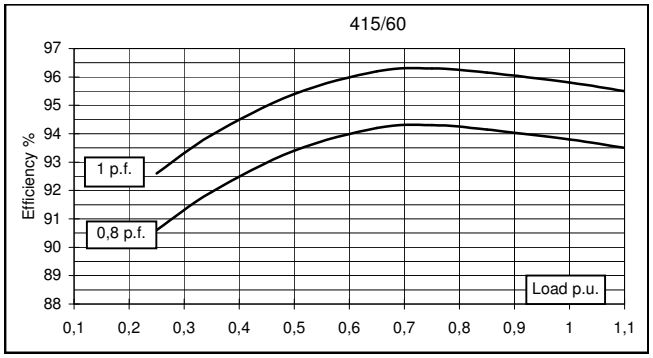


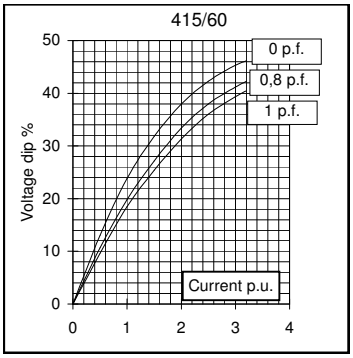


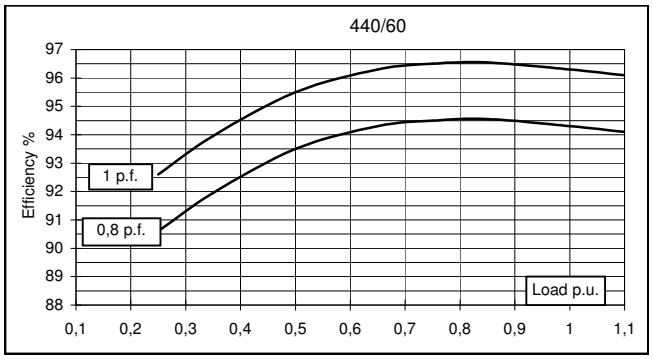
GENERATOR TYPE ECO 38-1LN/4

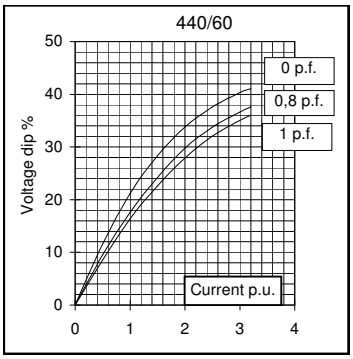
Document : **DS073A/3**
issue 004 date : 28/10/2013

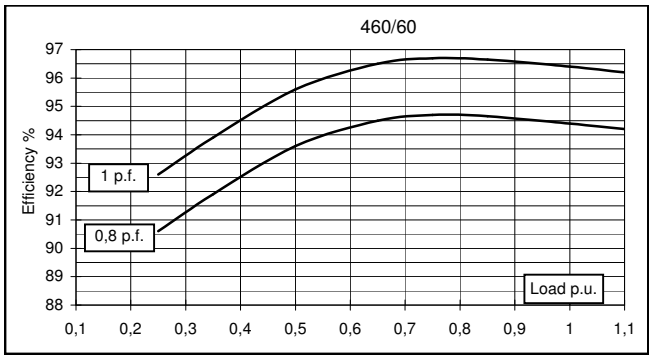
60 Hz

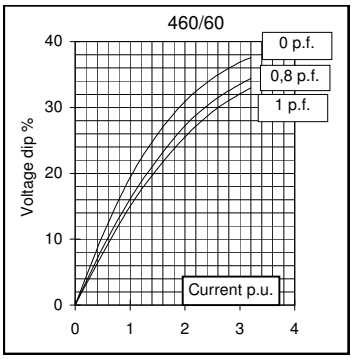


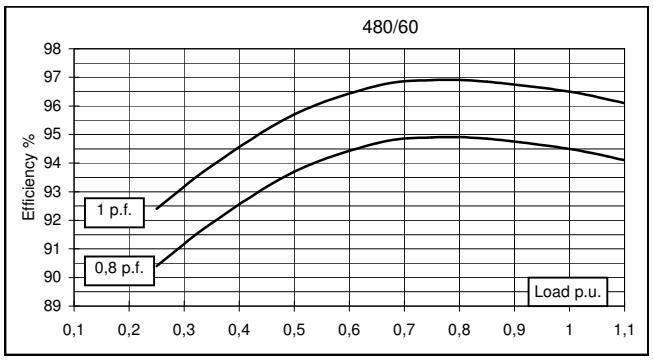


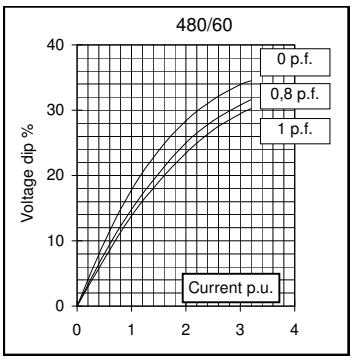


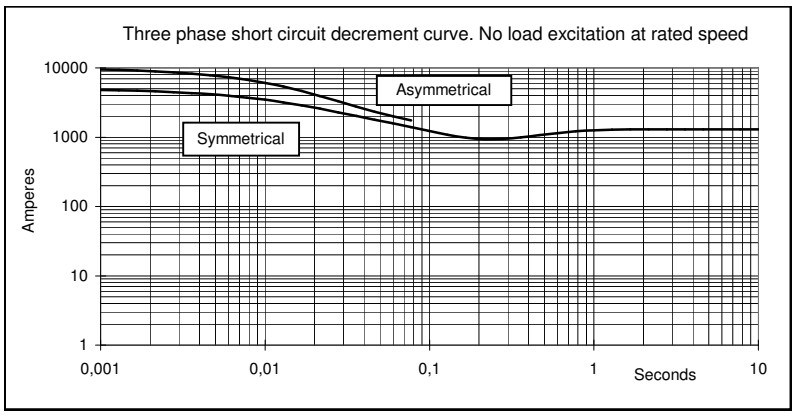




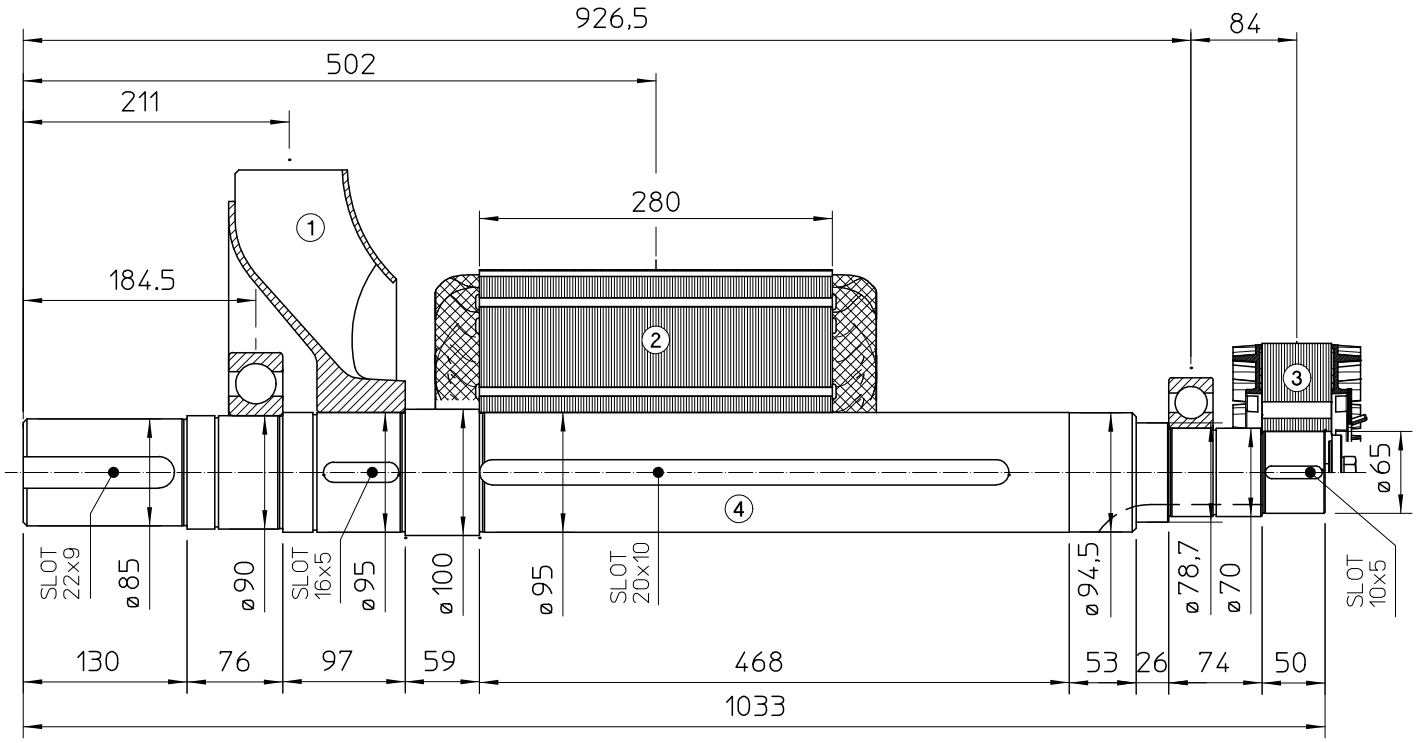






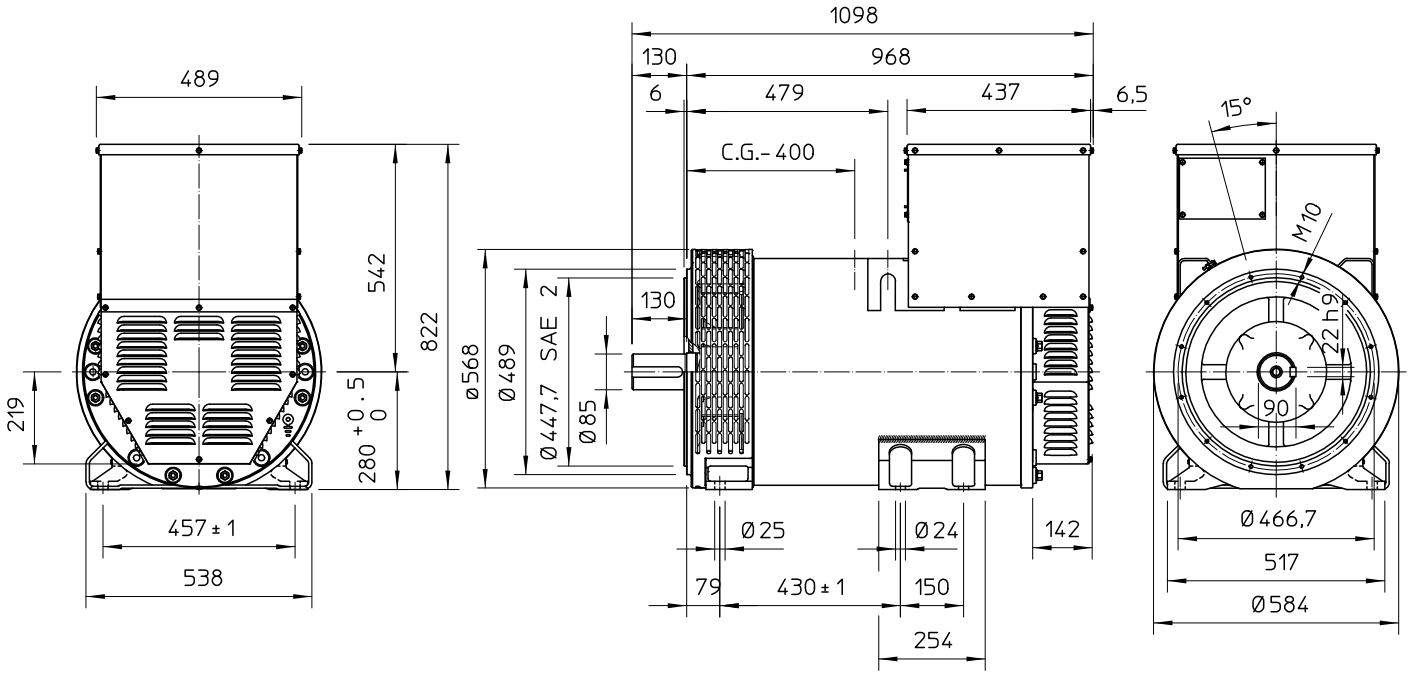


TWO BEARING MOMENTS OF INERTIA



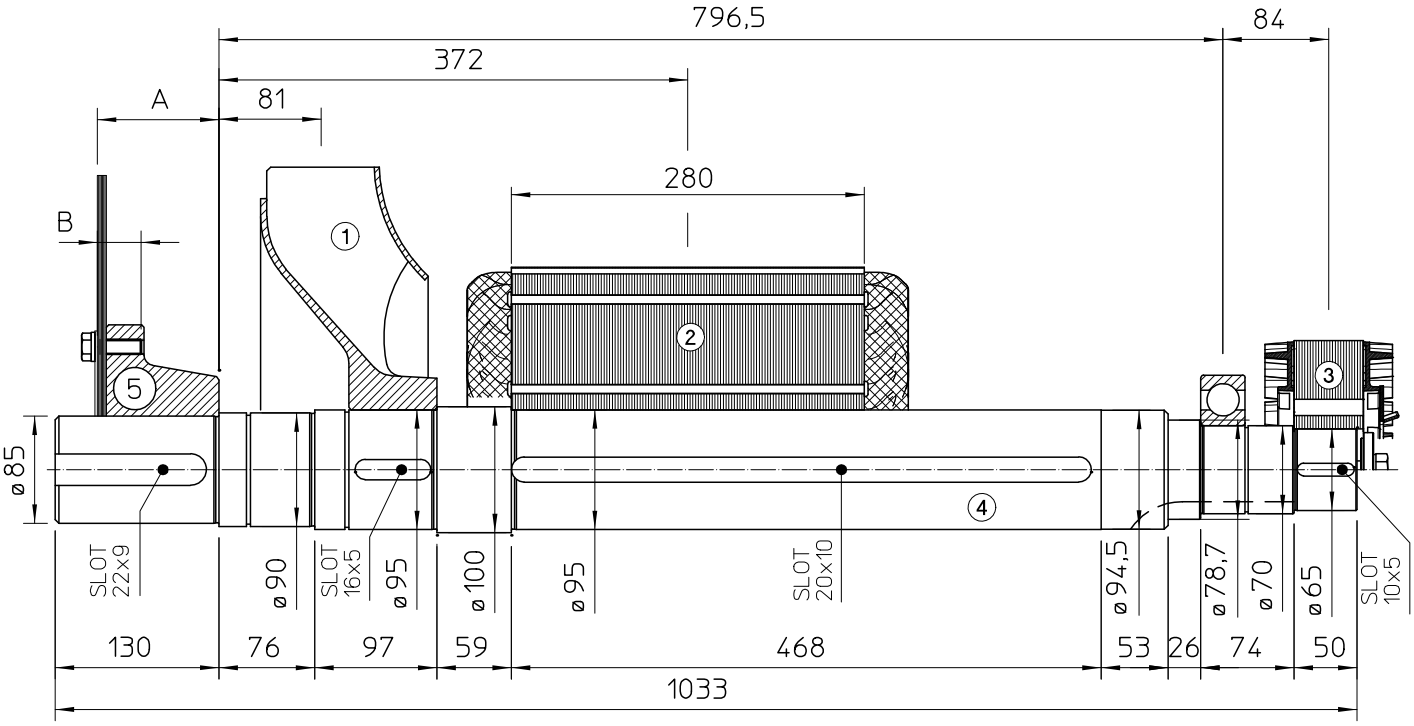
POS.	COMPONENT	WEIGHT (kg)	J (kgm^2)
1	FAN	6.1	0.1887
2	MAIN ROTOR	147.5	2.0195
3	EX. ROTOR	14.5	0.0874
4	SHAFT	49.9	0.0525
TOTAL		218	2.3481

TWO BEARING DIMENSIONS



C.G.= GRAVITY CENTER

SINGLE BEARING MOMENTS OF INERTIA



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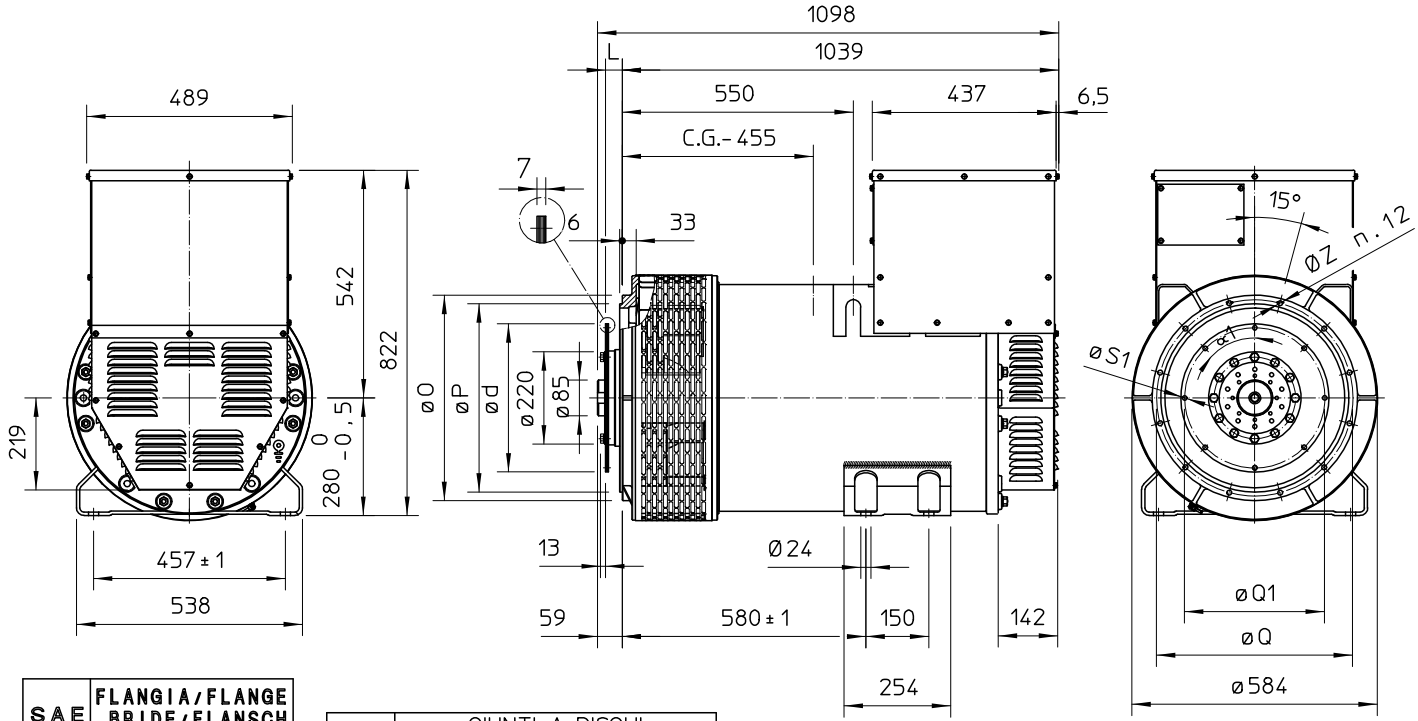
1	FAN	6.1	0.1887
2	MAIN ROTOR	147.5	2.0195
3	EX. ROTOR	14.5	0.0874
4	SHAFT	49.9	0.0525
TOTAL		218	2.3481

SAE	5	SHAFTS COUPLING FLEX PLATE		
N°	A	B	WEIGHT kg	J kgm^2
11.5	110.4	41.1	20.5	0.174
14	96.4	34.7	23.5	0.275

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
1/2	648	584,2	619,1

SAE N.	GIUNTI A DISCHI DISC COUPLING DISQUE DE MONOPALIER SCHEIBENKUPPLUNG					
	L	d	Q1	n. fori	S1	∝1
11 1/2	39,6	352,42	333,37	8	11	45°
14	25,4	466,72	438,15	8	14	45°

C.G.= GRAVITY CENTER

GENERATOR TYPE ECO 3-1SN/4

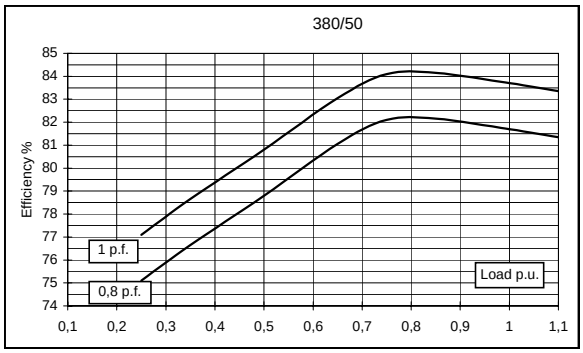
Document : **DS040A/1**
issue 004 date 25/07/2007

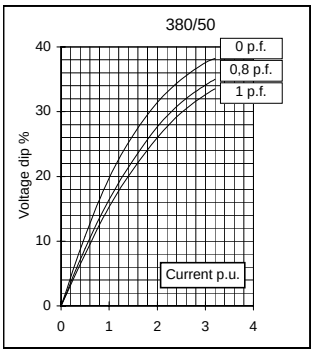
Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	6,5	6,5	6,5	5,5	7	7,8	7,8	7,8
		kW	5,2	5,2	5,2	4,4	5,6	6,2	6,2	6,2
Rated power class F		kVA	6	6	6	5	5,5	6,5	7,2	7,2
		kW	5	5	5	4	4,4	5,2	5,8	5,8
Regulation with		SR7/2	±1,5 % with any power factor and speed variations between -5% +30%							
Insulation class			H							
Execution			Brushless							
Stator winding			6 ends							
Rotor			without damping cage							
Efficiencies class H	4/4	%	81,7	81,8	81,5	81,3	82,6	83,1	83,2	83,3
(see graph. for details)	3/4	%	82,1	82,4	82,3	82	83,3	83,5	83,7	83,9
	2/4	%	78,8	78,9	78,9	78,6	80,1	80,2	80,3	80,4
	1/4	%	75,1	75	74,8	74,3	76,2	76	76,1	76,4
Reactances (f. l.cl. F)	Xd	%	187,5	169,2	157,2	118,3	203,1	201,4	184,2	169,2
	Xd'	%	18,39	16,6	15,42	11,61	19,93	19,76	18,07	16,6
	Xd"	%	15,62	14,1	13,10	9,86	16,93	16,78	15,35	14,1
	Xq	%	65,8	59,4	55,2	41,5	71,3	70,7	64,7	59,4
	Xq'	%	65,8	59,4	55,2	41,5	71,3	70,7	64,7	59,4
	Xq"	%	75,5	68,1	63,3	47,6	81,8	81,0	74,2	68,1
	X_2	%	17,15	15,48	14,38	10,83	18,58	18,42	16,86	15,48
	X_0	%	6,76	6,1	5,67	4,27	7,32	7,26	6,64	6,1
Short Circuit Ratio	Kcc		0,86	1	1,19	1,50	0,73	0,81	0,86	1
Time Constants	Td'	sec.	0,026							
	Td"	sec.	0,025							
	Tdo'	sec.	0,71							
	Tα	sec.	0,011							
Short Circuit Current Capacity		%	>300				>320			
Excitation at no load		Amp.	0,28	0,36	0,41	0,48	0,18	0,2	0,22	0,25
Excitation at full load		Amp.	0,99	1,08	1,1	1,2	0,75	0,8	0,9	0,95
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	1,938							
Rotor Winding Resistance (20°C)		Ω	6,078							
Exciter Resistance (20 °C)		Ω	Rotor : 1,453				Stator : 15,71			
Heat dissipation at f.l.cl.H		W	1165	1157	1180	1012	1180	1269	1260	1251
Telephone Interference			THF < 2%				TIF < 45			
Radio interference			EN60034-1, VDE 0875 K. For others standards apply to factory							
Waveform Distors.(THD) at f. load		LL/LN %	2,93 / 2,5							
Waveform Distors.(THD) at no load		LL/LN %	2,8 / 2,6							
Mechanical characteristics										
Protection			IP 23 (other protection on request)							
DE bearing			6308-2RS							
NDE bearing			6305-2RS							
Weight of wound stator assembly		kg	18,7							
Weight of wound rotor assembly		kg	10,2							
Weight of complete generator		kg	63							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	2,5							
Cooling air requirement		m^3/min	3,5				3,9			
Inertia Constant (H)		sec.	0,106				0,127			
Noise level at 1m/7m		dB(A)	72 / 58				78 / 60			

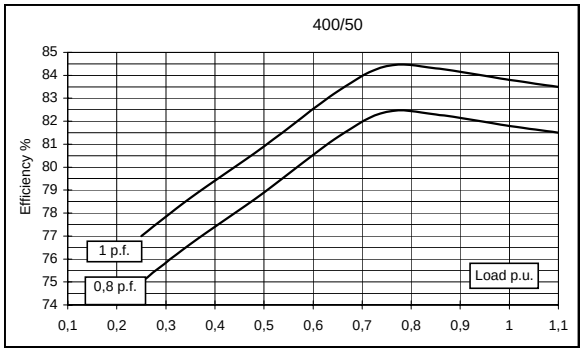
GENERATOR TYPE ECO 3-1SN/4

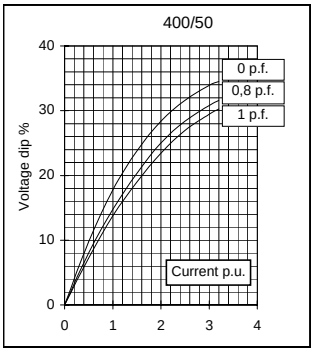
Document : **DS040A/2**
issue 004 date : 25/07/07

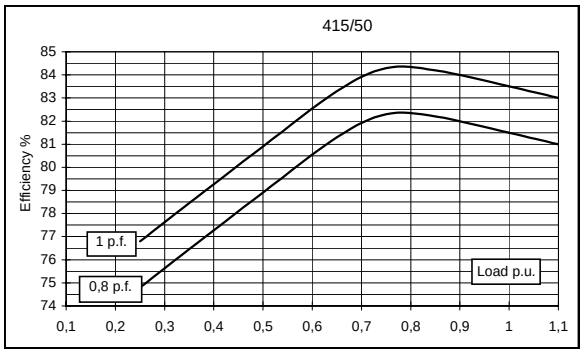
50 Hz

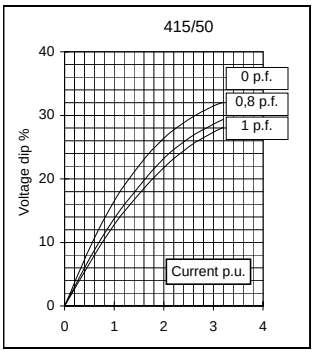


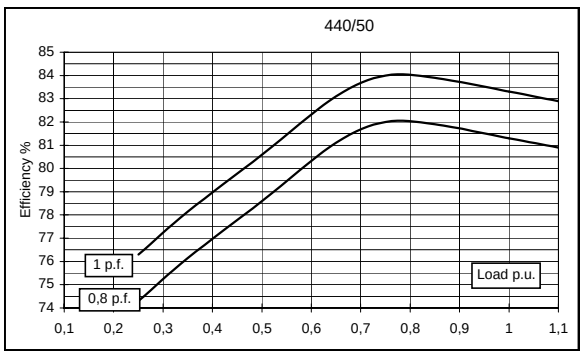


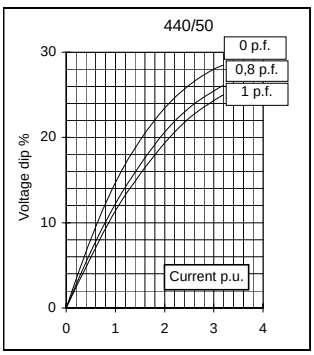


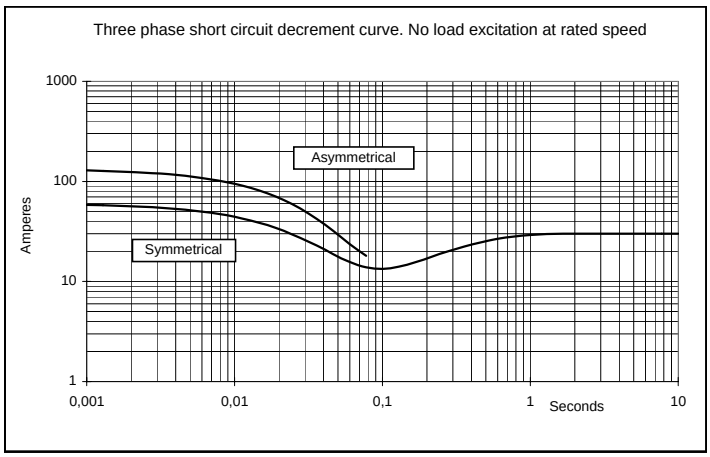






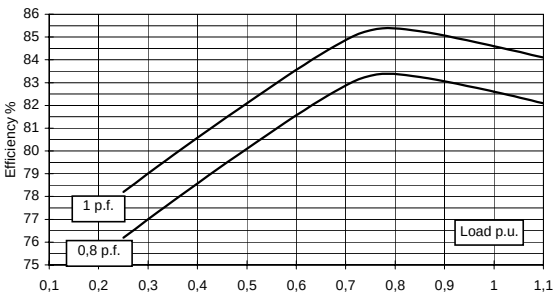




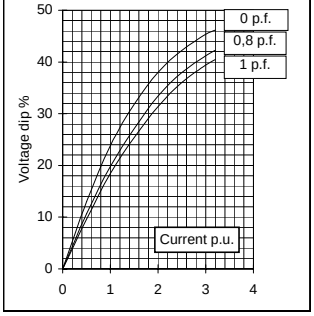


60 Hz

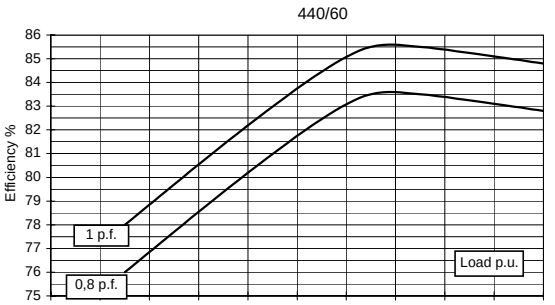
415/60



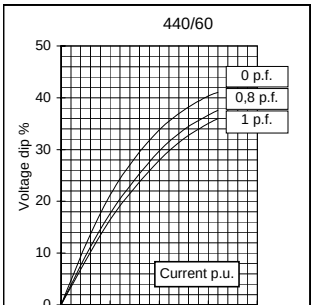
415/60



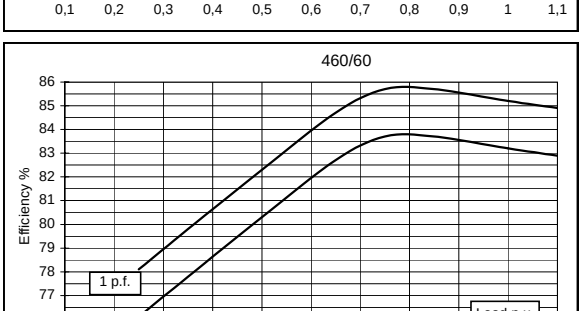
440/60



440/60



460/60



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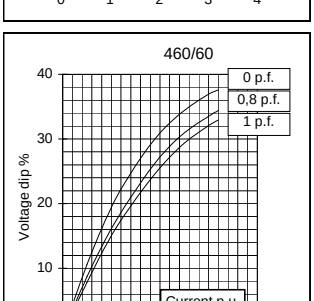

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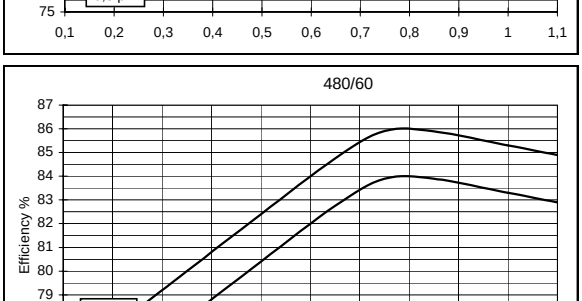

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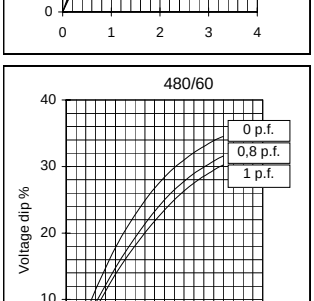
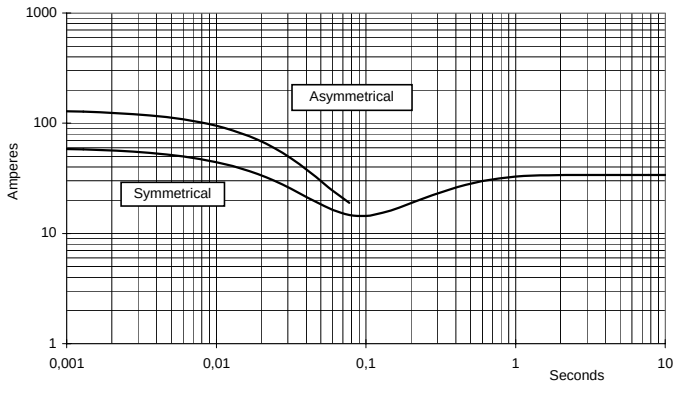
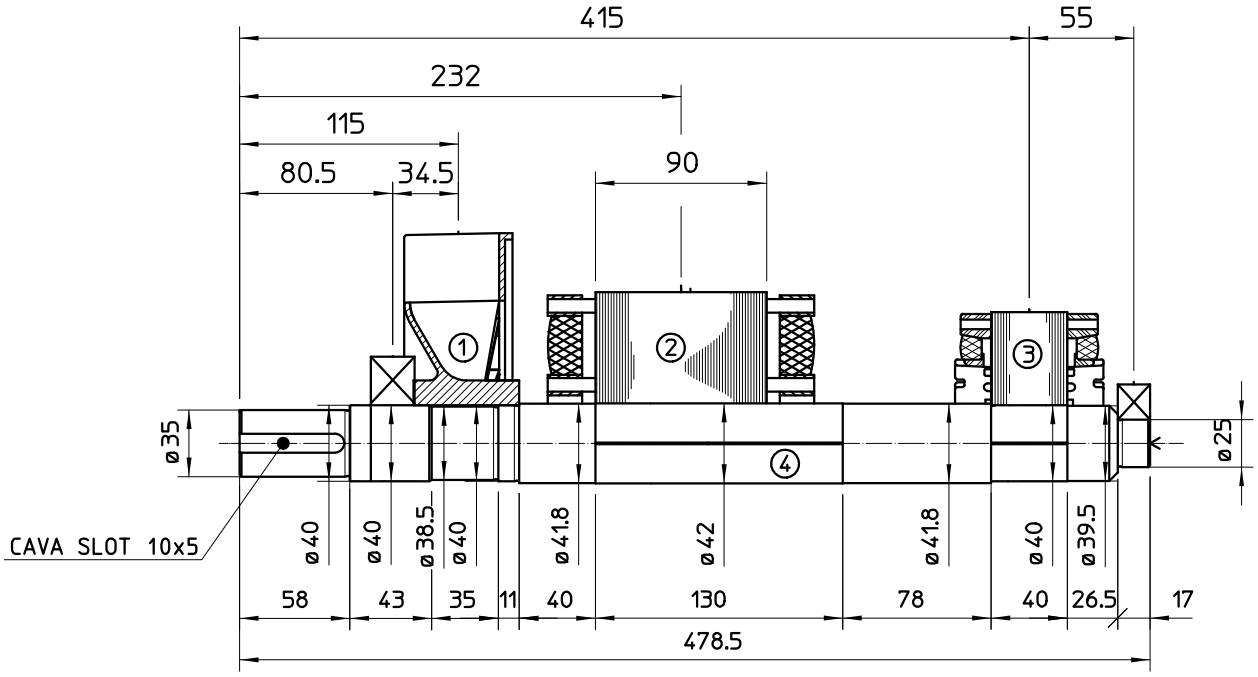


Three phase short circuit decrement curve. No load excitation at rated speed

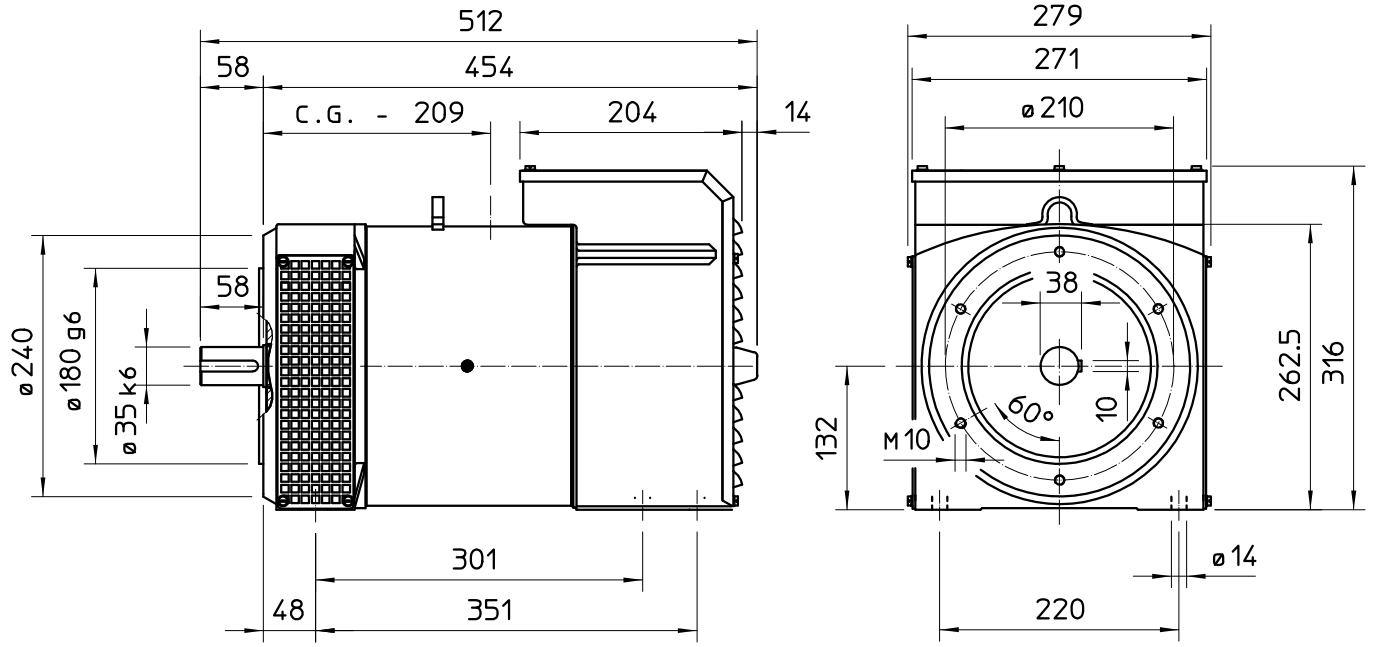


TWO BEARING MOMENTS OF INERTIA



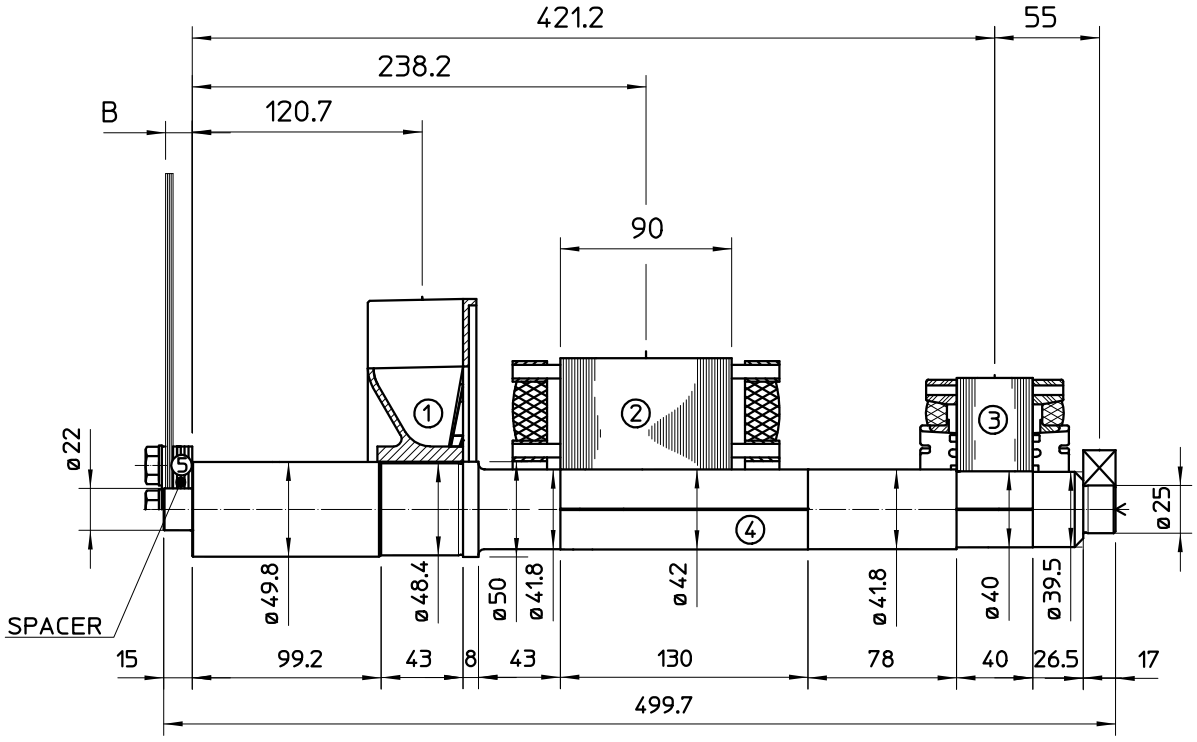
	COMPONENT	WEIGHT Kg	J Kgm²
1	FAN	0.93	0.0036
2	MAIN ROTOR	11	0.038
3	EX ROTOR	4.12	0.011
4	SHAFT	4.7	0.00097
6	TOTAL	20.75	0.05357

TWO BEARING DIMENSIONS



C.G. = GRAVITY CENTER

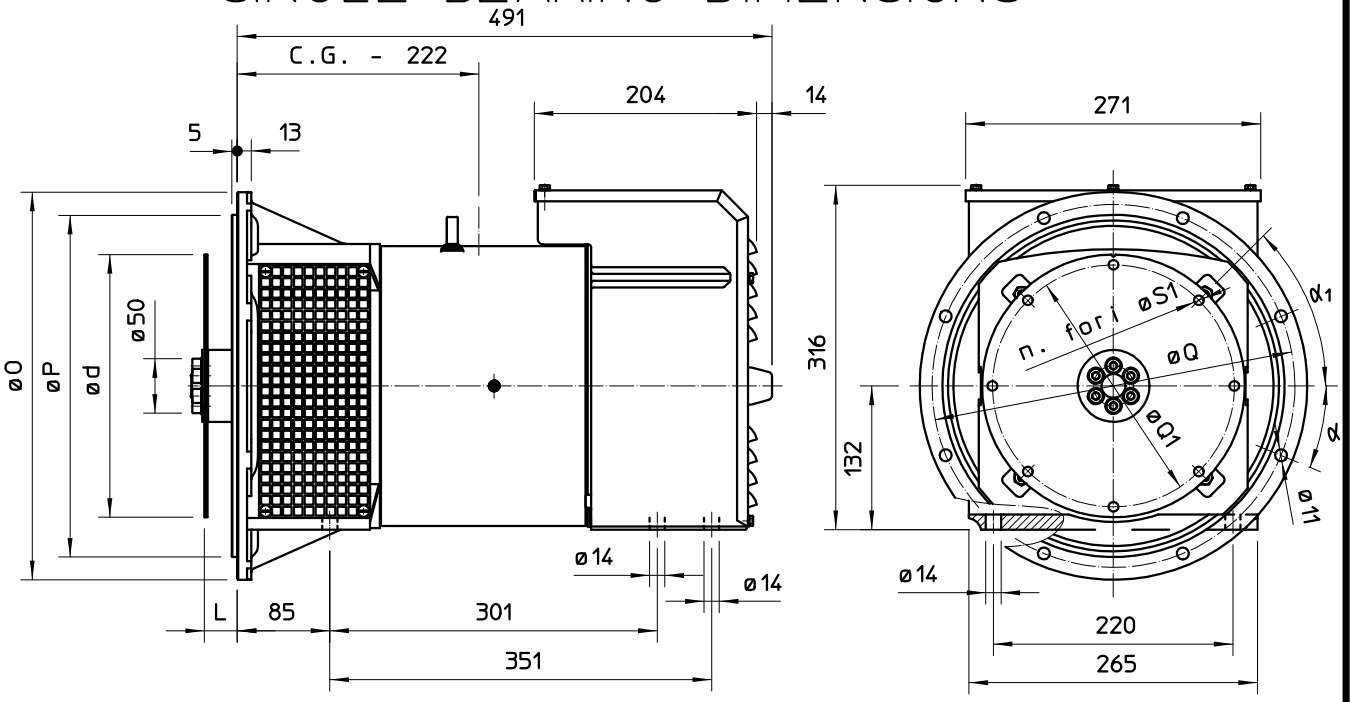
SINGLE BEARING MOMENTS OF INERTIA



	COMPONENT	WEIGHT Kg	J Kgm²
1	FAN	0.82	0.0032
2	MAIN ROTOR	11	0.038
3	EX ROTOR	4.12	0.011
4	SHAFT	5.6	0.0012
6	TOTAL	21.54	0.0534

SAE N.	5	SHAFT COUPLING FLEX PLATE	
	B(mm)	WEIGHT kg	J kgm²
6 1/2	4	1.14	0.0067
7 1/2	4	1.42	0.0103
8	35.6	1.97	0.0171
10	27.6	2.59	0.0319
11 1/2	14	3.1	0.0481

SINGLE BEARING DIMENSIONS



FLANGIA FLANGE BRIDE FLANSCHE BRIDAS	SAE N.	O	P	Q	n. fori	α
	6	308	266.7	285.75	8	22°30'
	5	356	314.3	333.4	8	22°30'
	4	403	362	381	12	15°
	3	451	409.6	428.6	12	15°

GIUNTI A DISCO COUPLING DISC PLATEX DISQUE DE MONOPALIER SCHEIBENKUPPLUNG JUNTAS A DISCOS						
SAE N.	L	d	Q1	n. fori	S1	α1
6 1/2	30.2	215.9	200	6	9	60°
7 1/2	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 1/2	39.6	352.42	333.37	8	11	45°

C.G. = GRAVITY CENTER

GENERATOR TYPE ECO 38-3LN/4

Document : **DS075A/1**

issue 004 date 28/10/2013

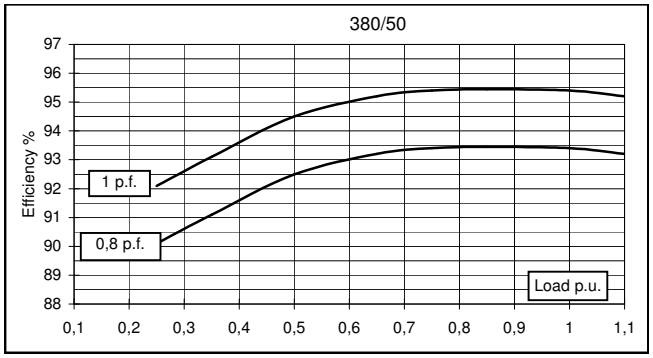
Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	350	350	350	340	380	420	420	420
		kW	280	280	280	272	304	336	336	336
Rated power class F		kVA	320	320	320	310	350	385	385	385
		kW	256	256	256	248	280	308	308	308
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	%	93,4	93,5	93,2	93	93,6	94,1	94,2	94,3
(see graph. for details)	3/4	%	93,4	93,7	93,6	93,3	93,9	94,1	94,3	94,5
	2/4	%	92,5	92,6	92,6	92,4	93	93,1	93,2	93,3
	1/4	%	90,1	89,9	89,7	89,5	90,6	90,6	90,6	90,4
Reactances (f. l.cl. F)	Xd	%	238,2	215	199,7	172,6	260,2	255,9	234,1	215
	Xd'	%	19,1	17,2	16,0	13,8	20,8	20,5	18,7	17,2
	Xd"	%	10,4	9,4	8,7	7,5	11,4	11,2	10,2	9,4
	Xq	%	139,6	126	117,1	101,2	152,5	150,0	137,2	126
	Xq'	%	139,6	126	117,1	101,2	152,5	150,0	137,2	126
	Xq"	%	22,3	20,1	18,7	16,1	24,3	23,9	21,9	20,1
	X_2	%	17,4	15,7	14,6	12,6	19,0	18,7	17,1	15,7
	X_0	%	2,4	2,2	2,0	1,8	2,7	2,6	2,4	2,2
Short Circuit Ratio	Kcc		0,37	0,42	0,57	0,92	0,24	0,32	0,37	0,42
Time Constants	Td'	sec.	0,099							
	Td"	sec.	0,0127							
	Tdo'	sec.	1,50							
	Tα	sec.	0,013							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0,55	0,72	0,95	1,2	0,35	0,35	0,6	0,7
Excitation at full load		Amp.	3,5	3,9	4,1	4,3	3,3	3,5	3,7	3,9
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,0042							
Rotor Winding Resistance (20°C)		Ω	6,780							
Exciter Resistance (20 °C)		Ω	Rotor : 0,685				Stator : 15,28			
Heat dissipation at f.l.cl.H		W	19786	19465	20429	20473	20786	21067	20688	20310
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 %	3,1 / 2,9							
Waveform Distors.(THD) at no load		LL/LN %	2,7 / 2,7							
Mechanical characteristics										
Protection			IP 21 (other protection on request)							
DE bearing			6318.2RS							
NDE bearing			6314.2RS							
Weight of wound stator assembly		kg	347							
Weight of wound rotor assembly		kg	230							
Weight of complete generator		kg	905							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	6,2							
Cooling air requirement		m^3/min	32				39			
Inertia Constant (H)		sec.	0,123				0,147			
Noise level at 1m/7m		dB(A)	82 / 69				86 / 73			

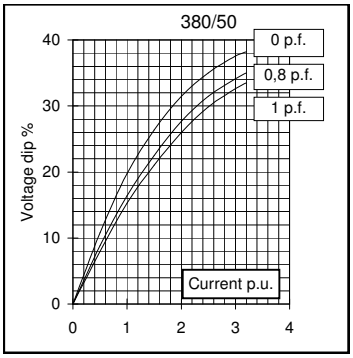
All technical data are to be considered as a reference and they can be modified without any notice.

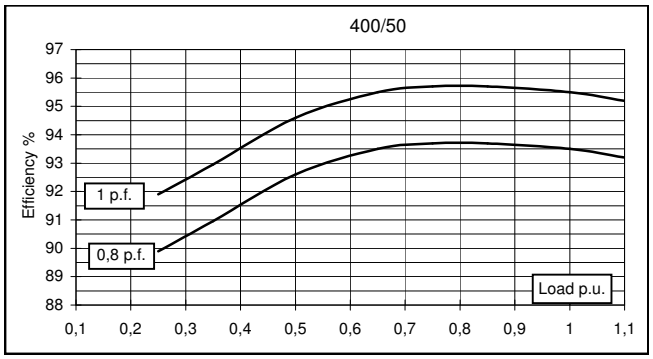
GENERATOR TYPE ECO 38-3LN/4

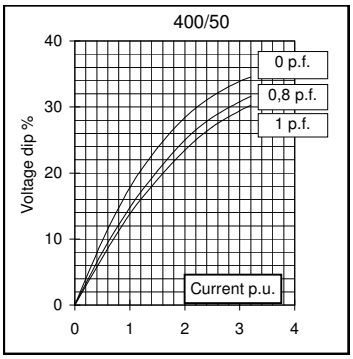
Document : **DS075A/2**
issue 004 date : 28/10/2013

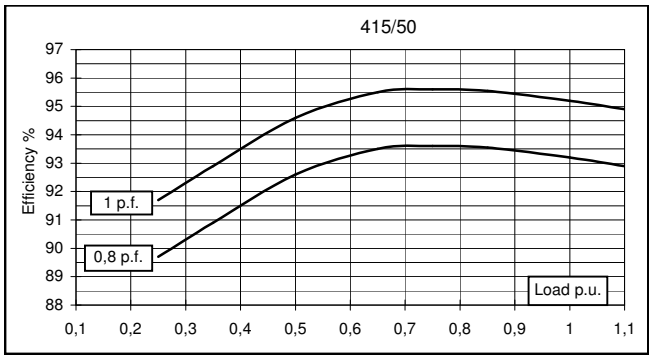
50 Hz

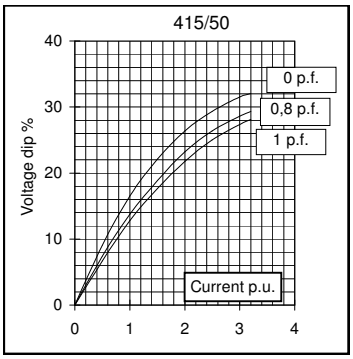


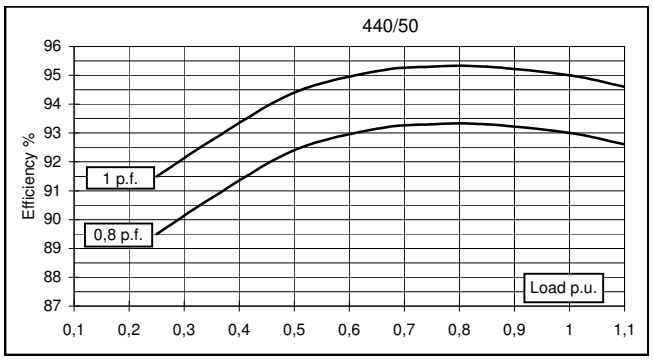


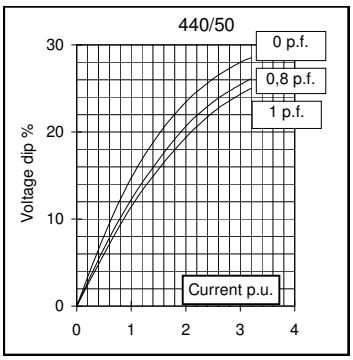


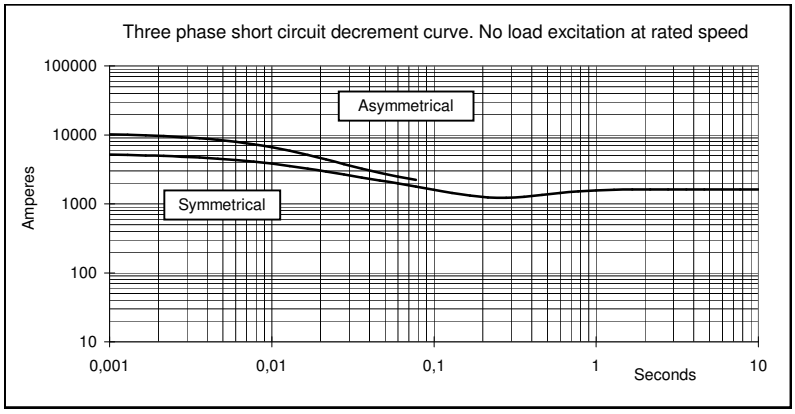








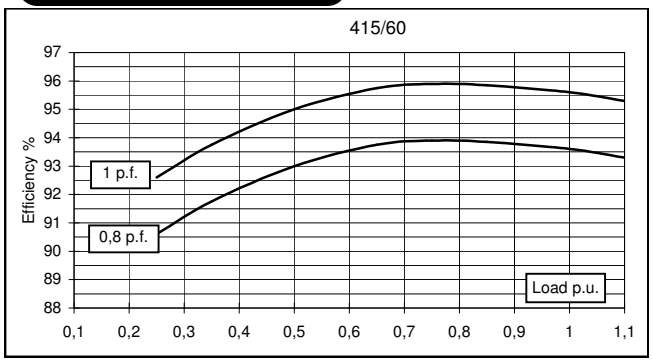


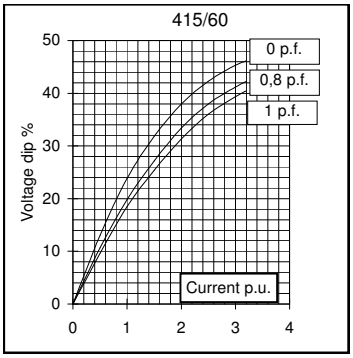


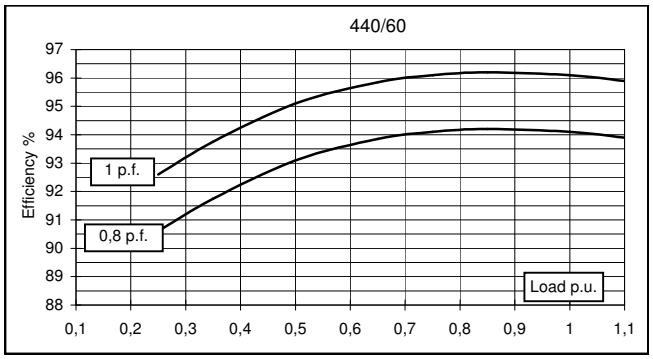
GENERATOR TYPE ECO 38-3LN/4

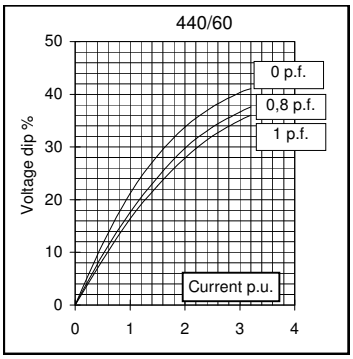
Document : **DS075A/3**
issue 004 date : 28/10/2013

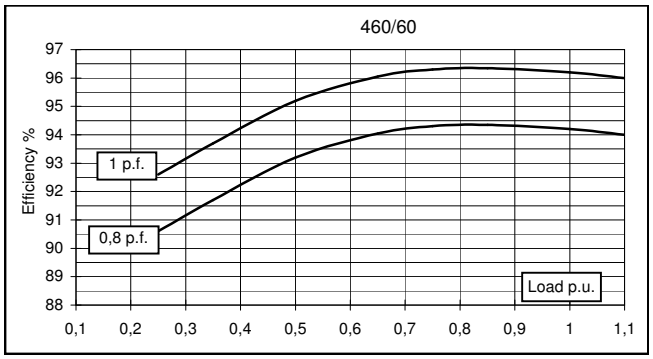
60 Hz

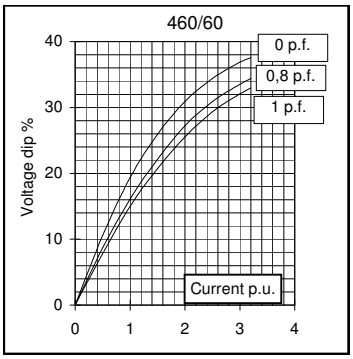


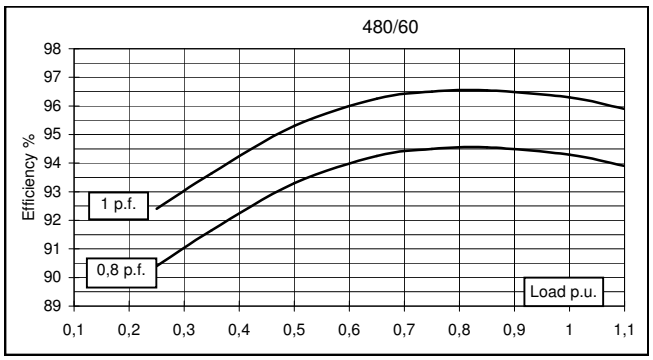


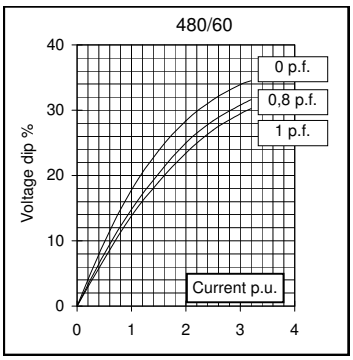


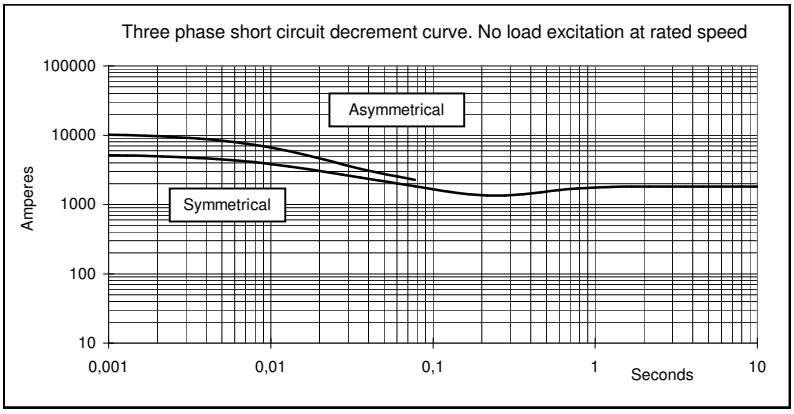




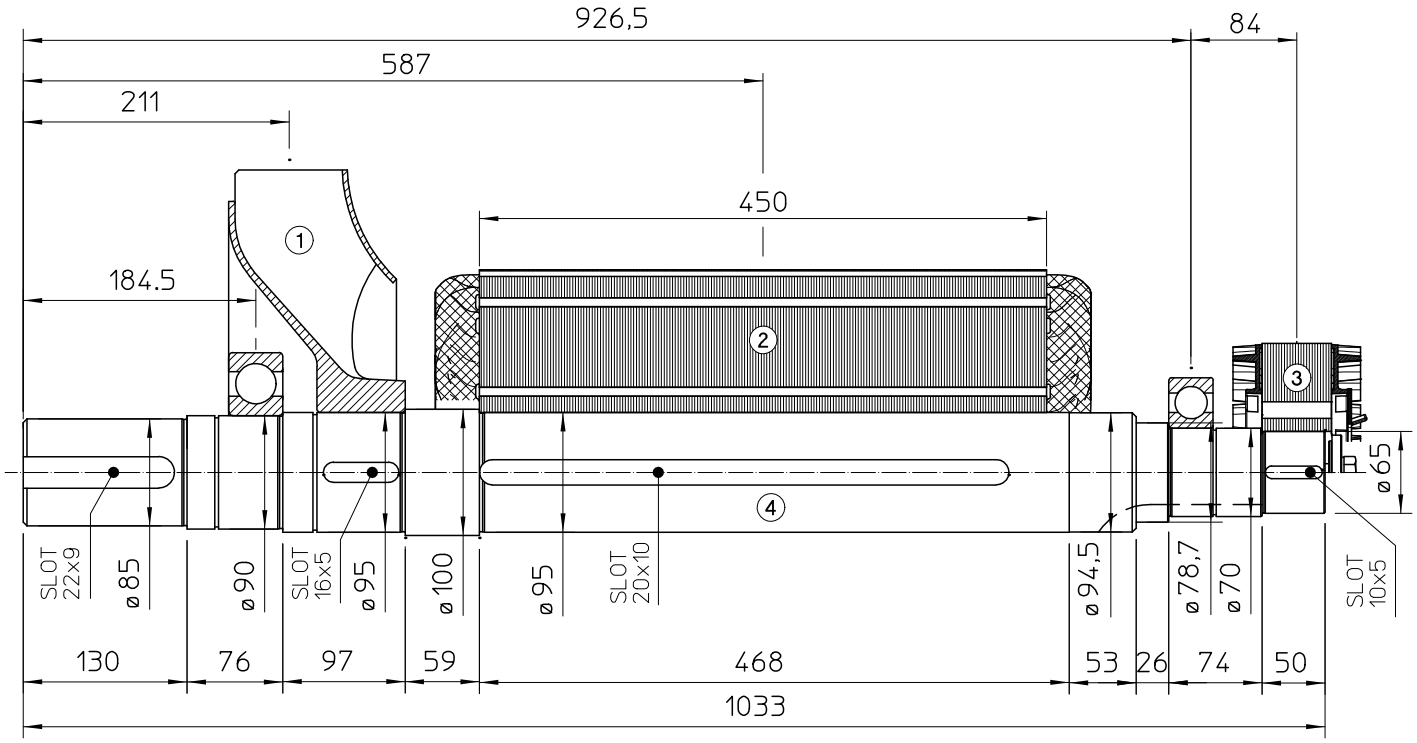






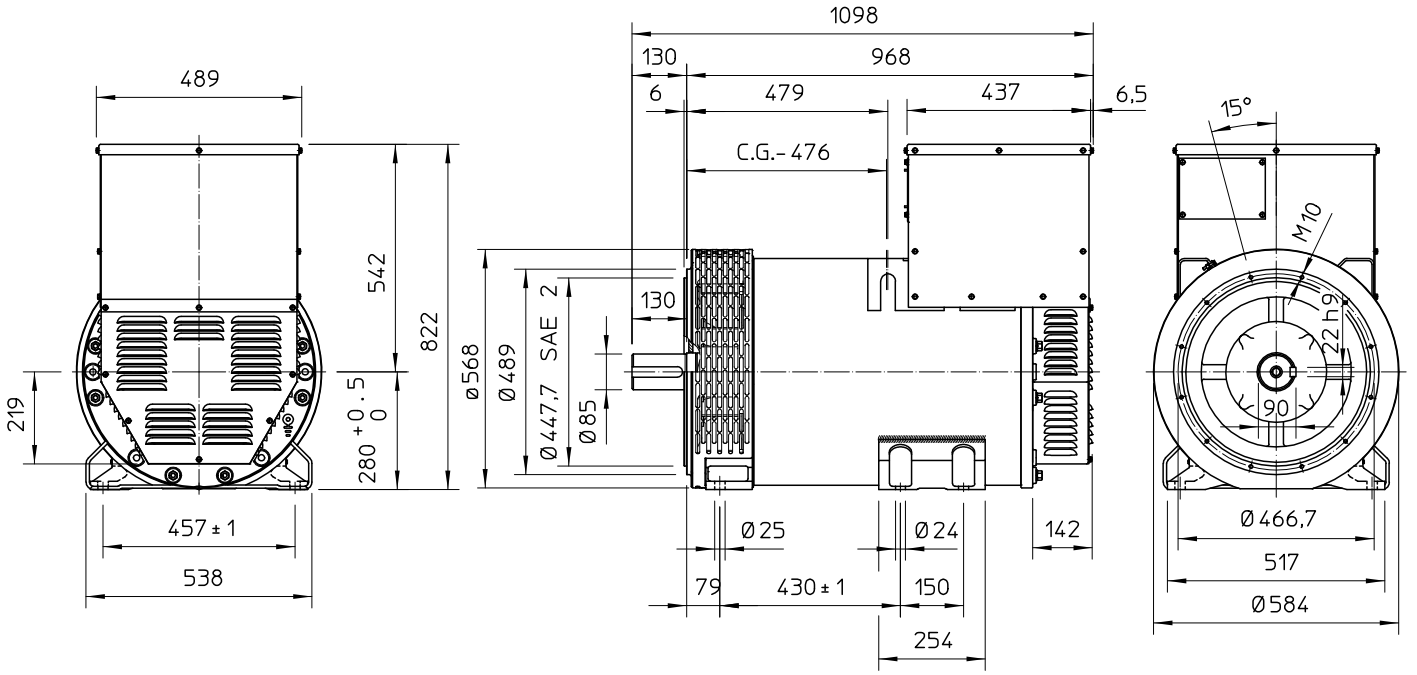


TWO BEARING MOMENTS OF INERTIA



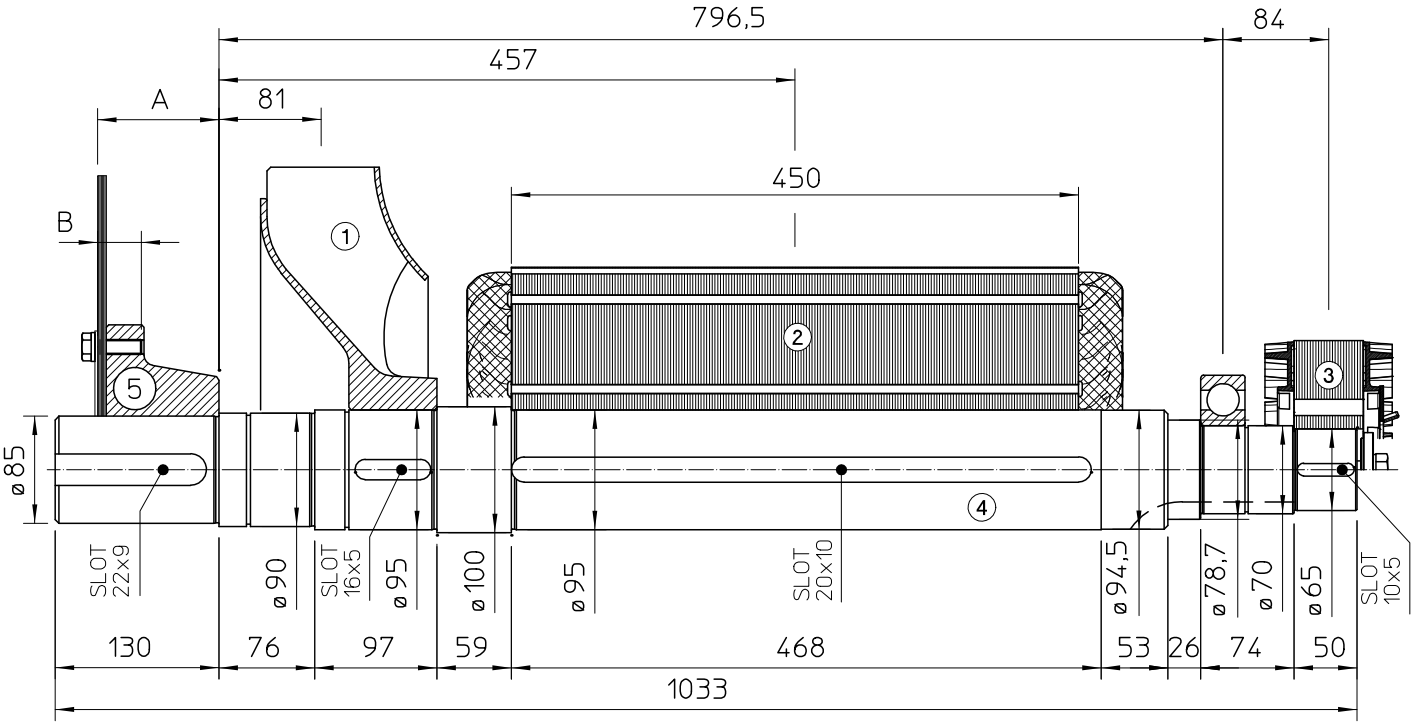
POS.	COMPONENT	WEIGHT (kg)	J (kgm^2)
1	FAN	6.1	0.1887
2	MAIN ROTOR	230	3.1461
3	EX. ROTOR	14.5	0.0874
4	SHAFT	49.9	0.0525
TOTAL		300.5	3.4747

TWO BEARING DIMENSIONS



C.G.= GRAVITY CENTER

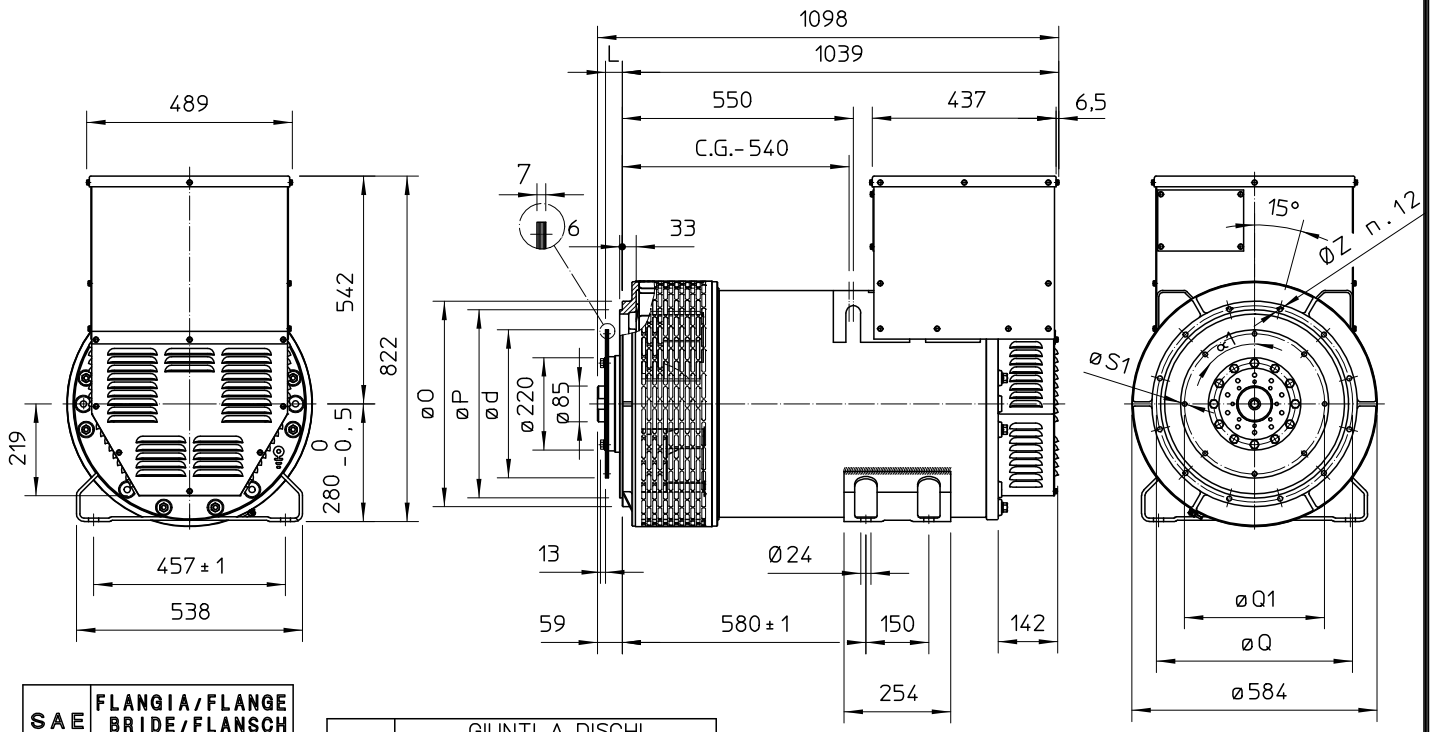
SINGLE BEARING MOMENTS OF INERTIA



POS.	COMPONENT	WEIGHT (kg)	J (kgm^2)
1	FAN	6.1	0.1887
2	MAIN ROTOR	230	3.1461
3	EX. ROTOR	14.5	0.0874
4	SHAFT	49.9	0.0525
TOTAL		300.5	3.4747

SAE N°	5 SHAFTS COUPLING FLEX PLATE			
	A	B	WEIGHT kg	J kgm^2
11.5	110.4	41.1	20.5	0.174
14	96.4	34.7	23.5	0.275

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
1/2	648	584,2	619,1

SAE N.	GIUNTI A DISCHI DISC COUPLING DISQUE DE MONOPALIER SCHEIBENKUPPLUNG					
	L	d	Q1	n. fori	S1	∝1
11 1/2	39,6	352,42	333,37	8	11	45°
14	25,4	466,72	438,15	8	14	45°

C.G.= GRAVITY CENTER

mecc alte spa

GENERATOR TYPE ECO 34-1LN/4

Document :**DS014A/1**

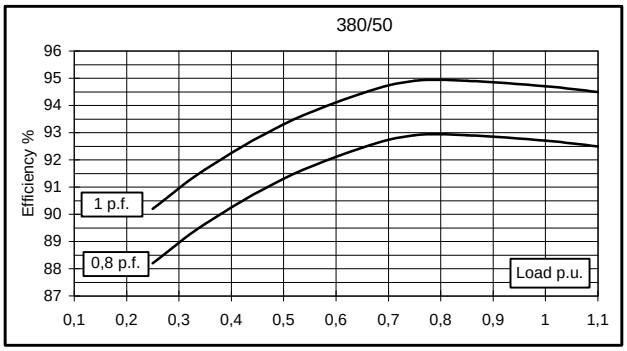
issue 006 date 15/05/2003

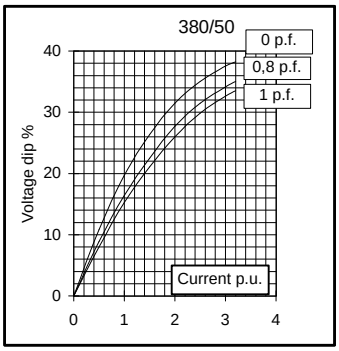
Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	125	125	125	105	130	140	150	150
		kW	100	100	100	84	104	112	120	120
Rated power class F		kVA	113	113	113	95	116	125	136	136
		kW	90,4	90,4	90,4	76	92,8	100	109	109
Regulation with		UVR6	±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	%	92,7	92,8	92,5	92,3	93,8	94,3	94,4	94,5
(see graph. for details)	3/4	%	92,9	93,2	93,1	92,8	94,4	94,6	94,7	94,9
	2/4	%	91,3	91,4	91,4	91,2	92,8	92,9	93	93,1
	1/4	%	88,2	88	87,8	87,8	89,2	89,2	89,2	89
Reactances (f. l.cl. F)	Xd	%	227,1	205	190,4	142,3	237,7	227,7	223,2	205
	Xd'	%	18,3	16,5	15,3	11,5	19,1	18,3	18,0	16,5
	Xd"	%	7,2	6,5	6,0	4,5	7,5	7,2	7,1	6,5
	Xq	%	156,7	141,4	131,4	98,2	163,9	157,1	154,0	141,4
	Xq'	%	156,7	141,4	131,4	98,2	163,9	157,1	154,0	141,4
	Xq"	%	31,8	28,7	26,7	19,9	33,3	31,9	31,2	28,7
	X_2	%	19,6	17,7	16,4	12,3	20,5	19,7	19,3	17,7
	X_0	%	3,1	2,8	2,6	1,9	3,2	3,1	3,0	2,8
Short Circuit Ratio	Kcc		0,41	0,51	0,63	0,98	0,32	0,37	0,41	0,51
Time Constants	Td'	sec.	0,0372							
	Td"	sec.	0,0076							
	Tdo'	sec.	1,80							
	Tα	sec.	0,0163							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0,5	0,55	0,6	0,8	0,2	0,3	0,4	0,5
Excitation at full load		Amp.	2,2	2,3	2,4	2,6	2	2,2	2,3	2,4
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,018							
Rotor Winding Resistance (20°C)		Ω	3,165							
Exciter Resistance (20 °C)		Ω	Rotor : 0,410				Stator : 15,28			
Heat dissipation at f.l.cl.H		W	7875	7759	8108	7008	6874	6770	7119	6984
Telephone Interference			FHT < 2%				TIF < 40			
Radio interference			EN50081-1; EN50082-1; VDE0875K. For others standards apply to factory							
Waveform Distors.(THD) at f. load		LL/LN %	1,8 / 1,9							
Waveform Distors.(THD) at no load		LL/LN %	2,4 / 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	142							
Weight of wound rotor assembly		kg	90							
Weight of complete generator		kg	431							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	5,4							
Cooling air requirement		m^3/min	19,3				23			
Inertia Constant (H)		sec.	0,102				0,122			
Noise level at 1m/7m		dB(A)	79 / 65				83 / 69			

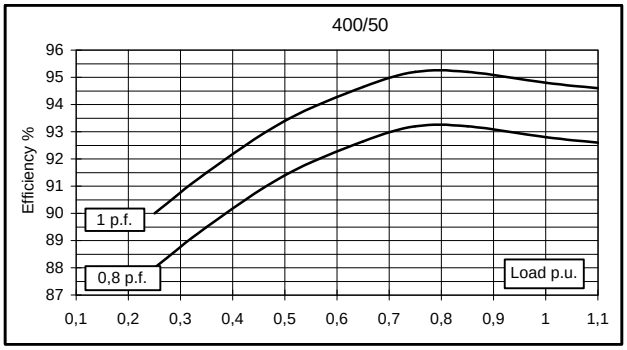
GENERATOR TYPE ECO 34-1LN/4

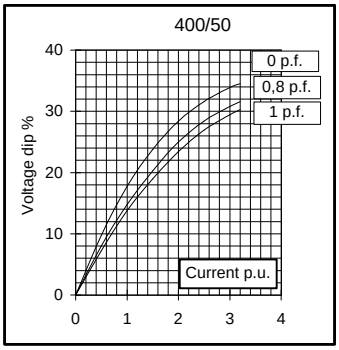
Document : **DS014A/2**
issue 006 date : 15/05/03

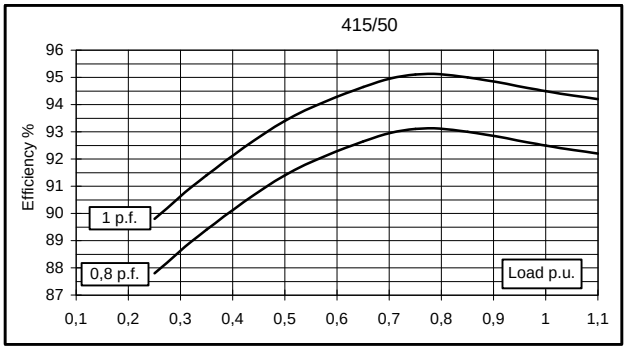
50 Hz

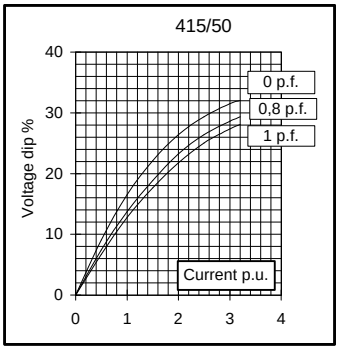


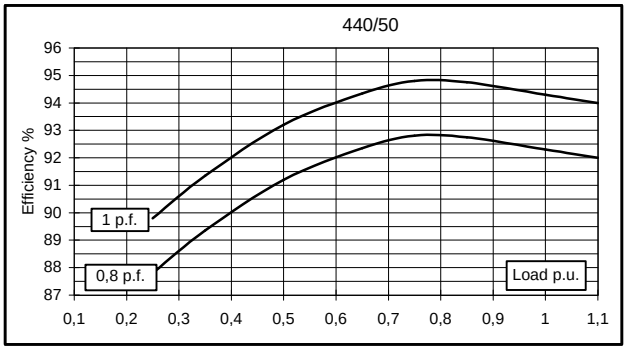


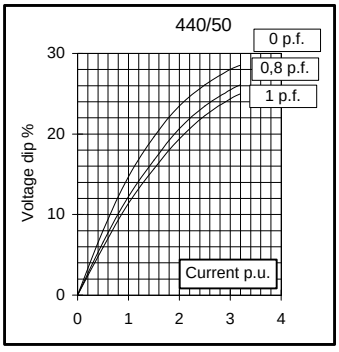


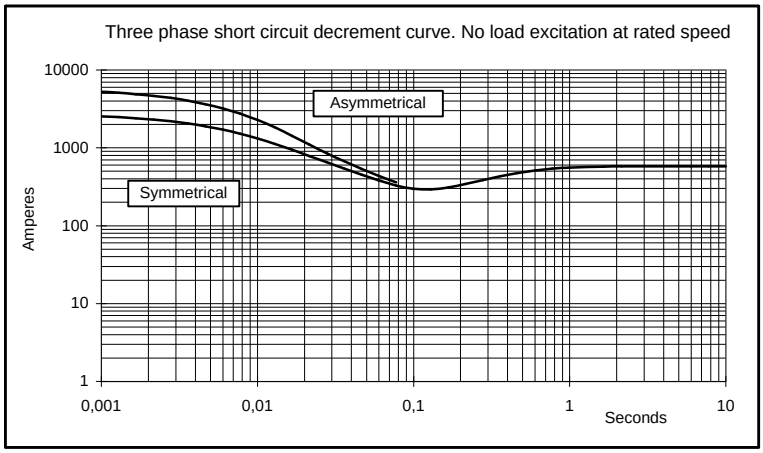








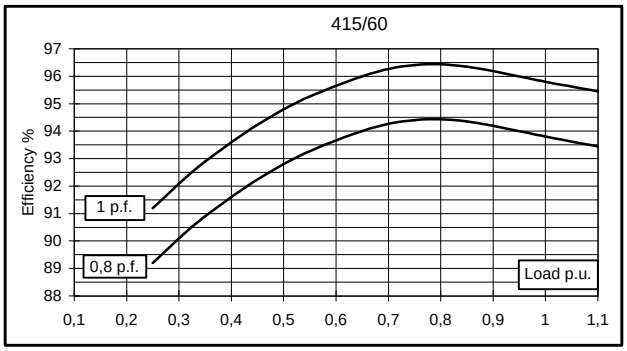


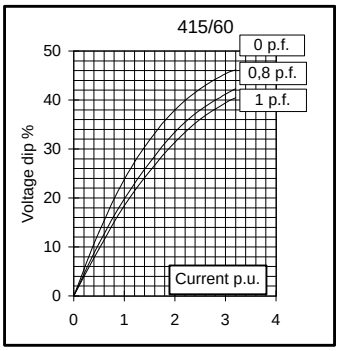


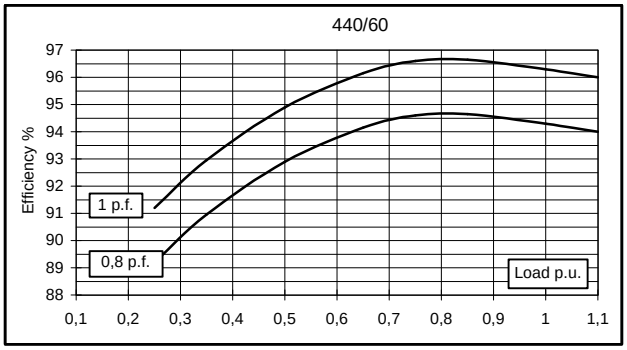
GENERATOR TYPE ECO 34-1LN/4

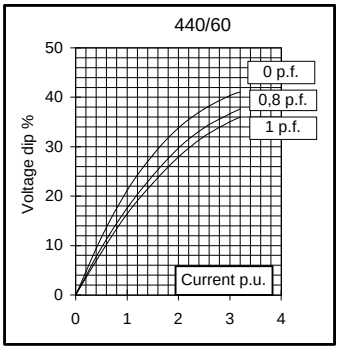
Document : **DS014A/3**
issue 006 date : 15/05/03

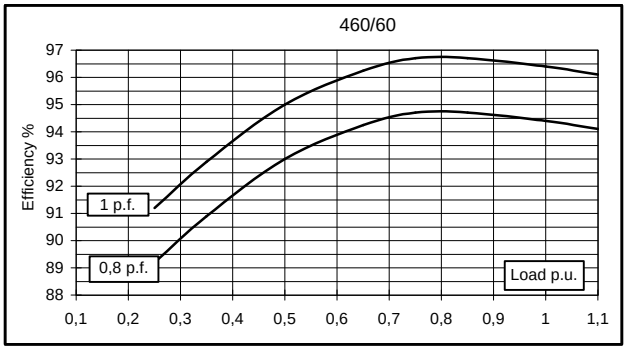
60 Hz

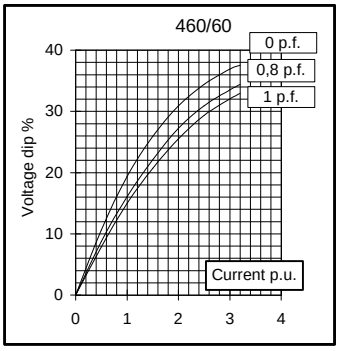


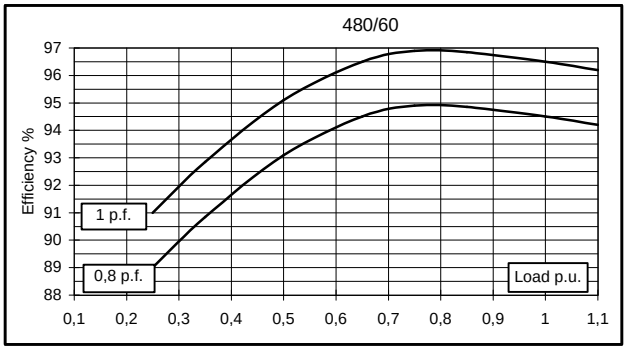


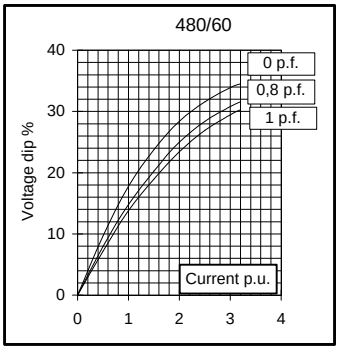


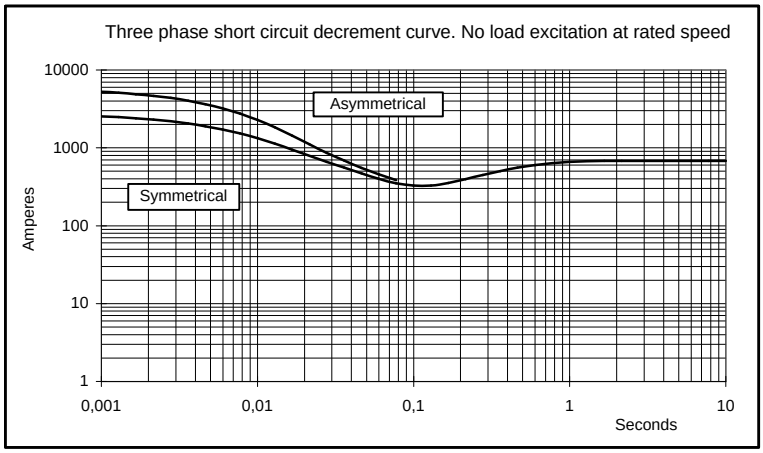




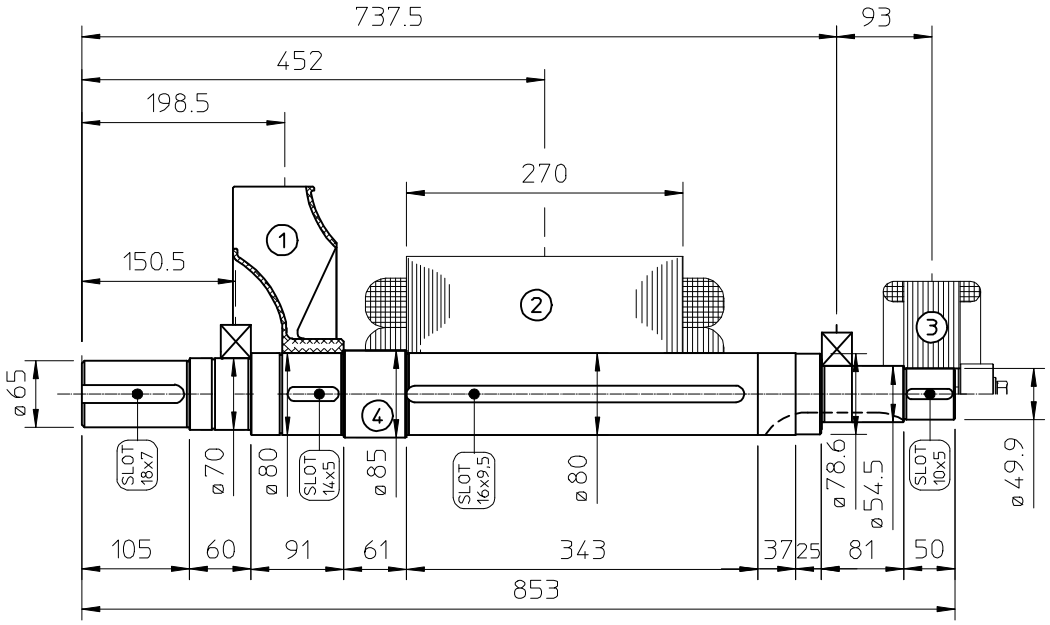






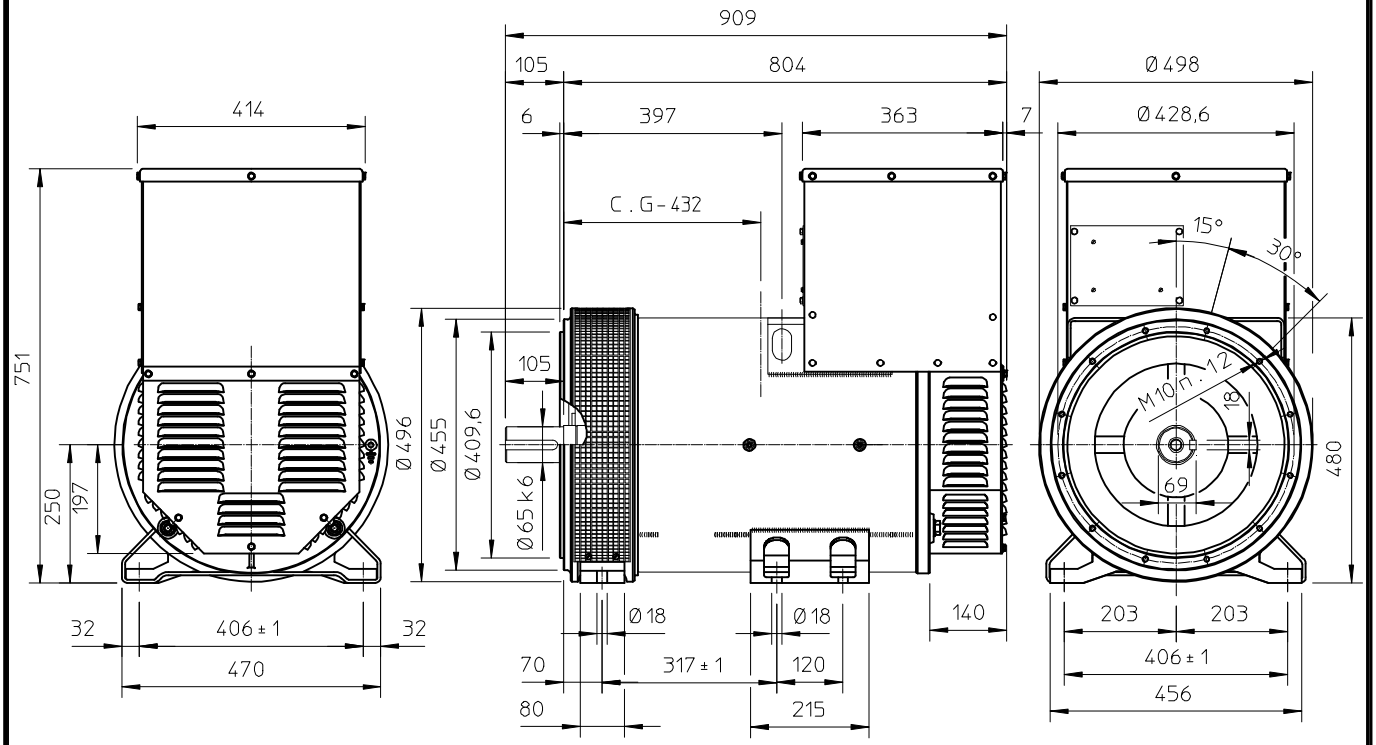


TWO BEARING MOMENTS OF INERTIA



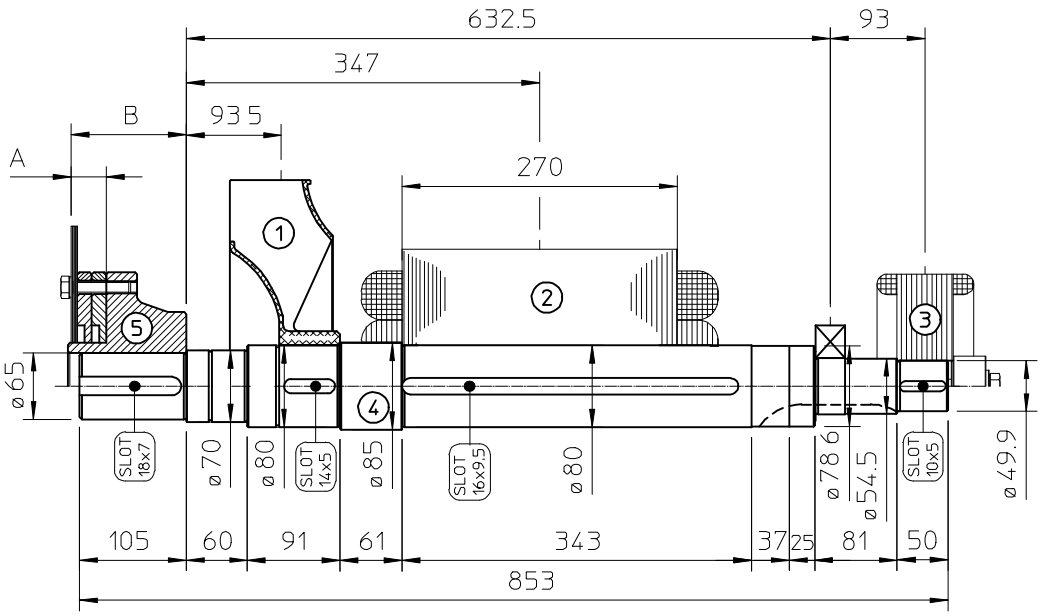
	COMPONENT	WEIGHT kg	J kgm^2
1	FAN	3,3	0,0451
2	MAIN ROTOR	90	0.8772
3	EX. ROTOR	14,5	0,0874
4	SHAFT	28 1	0.0211
	TOTAL	135.9	1.0308

TWO BEARING DIMENSIONS



C G = GRAVITY CENTER

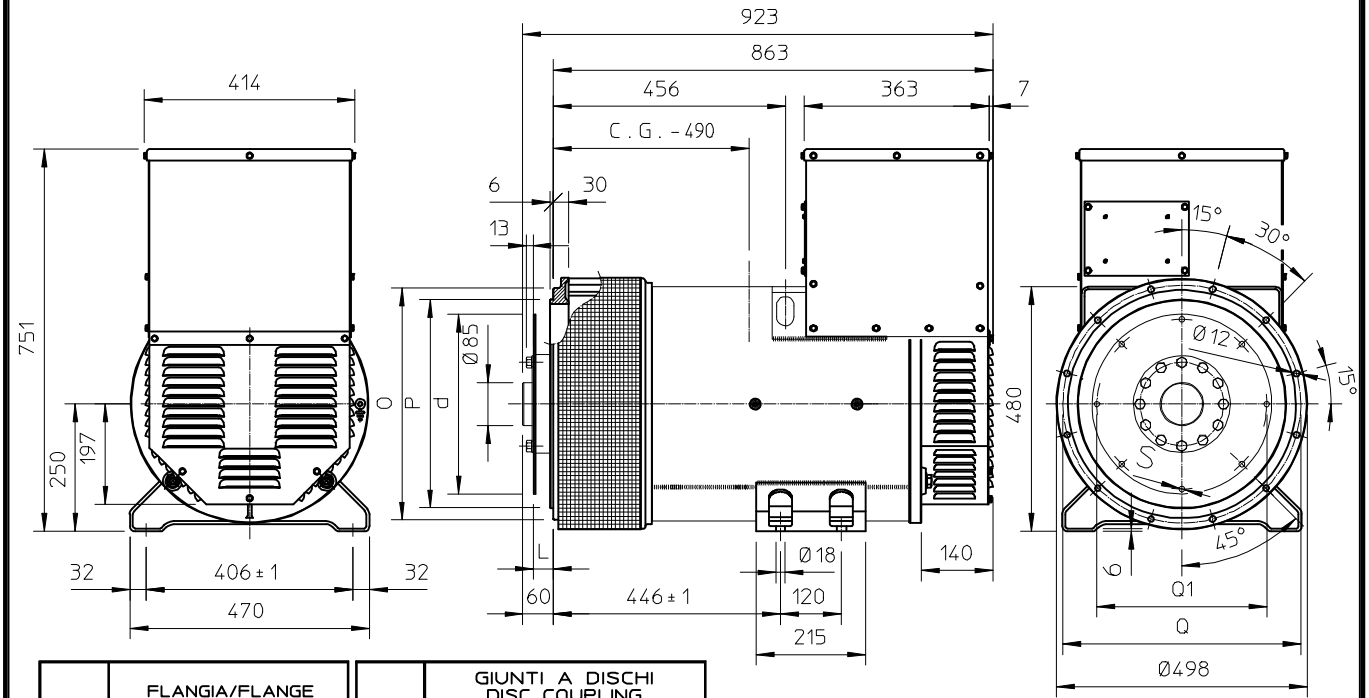
SINGLE BEARING MOMENTS OF INERTIA



	COMPONENT	WEIGHT kg	J kgm²
1	FAN	3,3	0,0451
2	MAIN ROTOR	90	0.8772
3	EX. ROTOR	14,5	0,0874
4	SHAFT	28.1	0.0211
	TOTAL	135.9	1.0308

SAE No	5 SHAFTS COUPLING FLEX PLATE			
	A	B	WEIGHT kg	J kgm²
10	46,5	112,8	20,5	0,1342
11,5	37,3	98,6	19,3	0,1512
14	27,4	84,4	21,1	0,2752

SINGLE BEARING DIMENSIONS



SAE N.	FLANGIA/FLANGE BRIDE/FLANSCH			
	O	P	Q	N. fori
3	451	409,6	428,6	12
2	489	447,7	466,7	12
1	552	511,2	530,2	12

SAE N.	GIUNTI A DISCHI DISC COUPLING DISQUE DE MONOPALIER SCHEIBENKUPPLUNG				
	L	d	Q1	N. fori	S
10	53,8	314,32	295,27	8	11
11 1/2	39,6	352.42	333,37	8	11
14	25,4	466,72	438,15	8	14

CG = GRAVITY CENTER

mecc alte spa

GENERATOR TYPE ECO 34-2LN/4

Document :**DS015A/1**

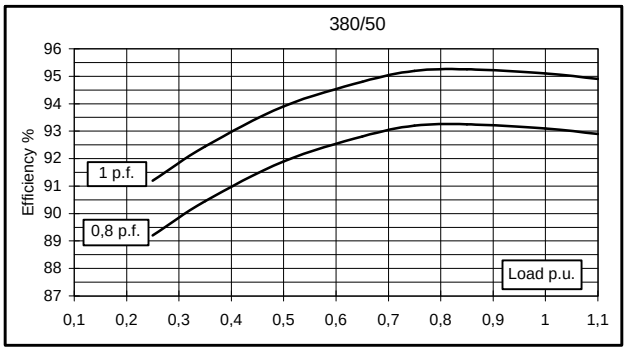
issue 006 date 15/05/2003

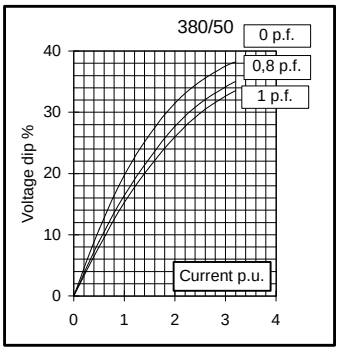
Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	150	150	150	125	150	170	180	180
		kW	120	120	120	100	120	136	144	144
Rated power class F		kVA	136	136	136	113	132	150	163	163
		kW	109	109	109	90,4	106	120	130	130
Regulation with		UVR6	±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_2	%	18,3	16,5	15,3	11,4	18,4	18,5	18,0	16,5
	X_0	%	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			FHT < 2%				TIF < 40			
Radio interference			EN50081-1; EN50082-1; VDE0875K. 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							
Mechanical characteristics										
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	465							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	5,6							
Cooling air requirement		m^3/min	19,3				23			
Inertia Constant (H)		sec.	0,098				0,117			
Noise level at 1m/7m		dB(A)	79 / 65				83 / 69			

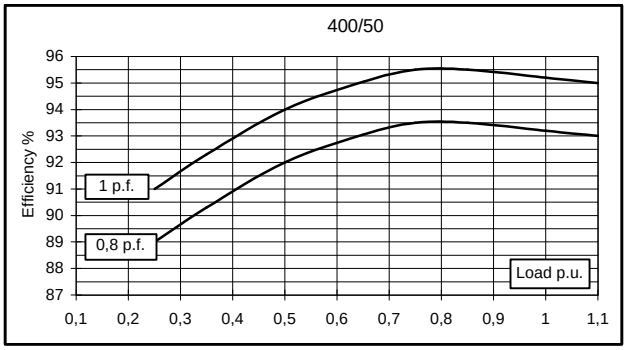
GENERATOR TYPE ECO 34-2LN/4

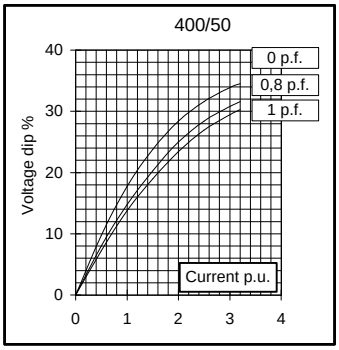
Document : **DS015A/2**
issue 006 date : 15/05/03

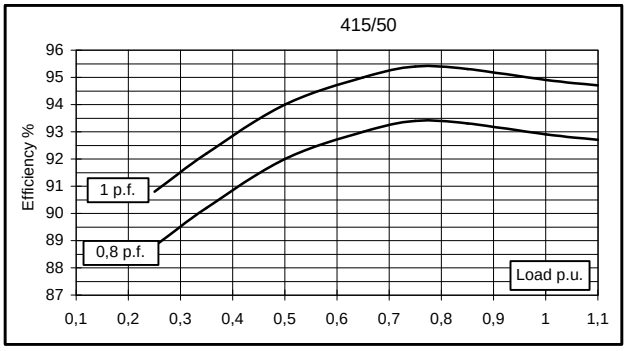
50 Hz

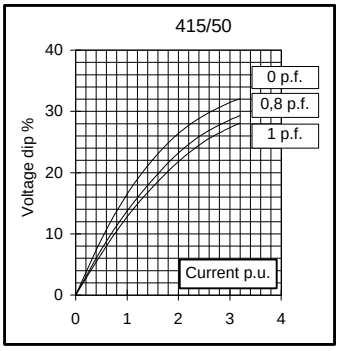


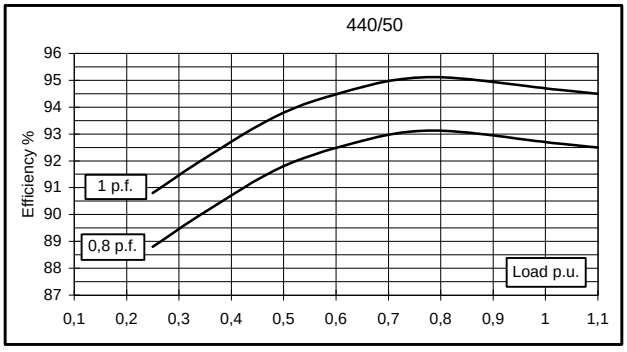


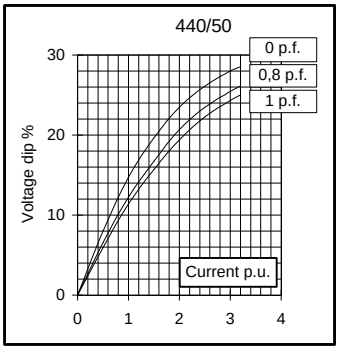


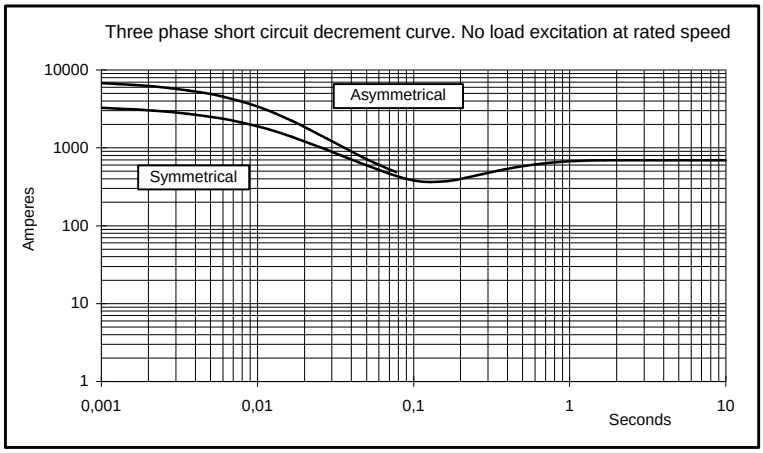










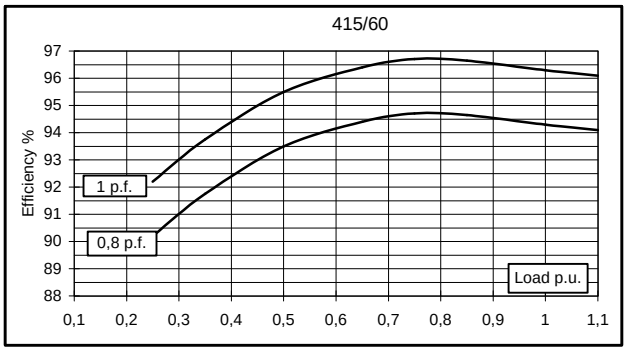


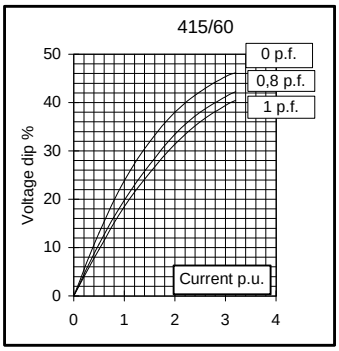
GENERATOR TYPE ECO 34-2LN/4

Document : **DS015A/3**
issue 006 date : 15/05/03

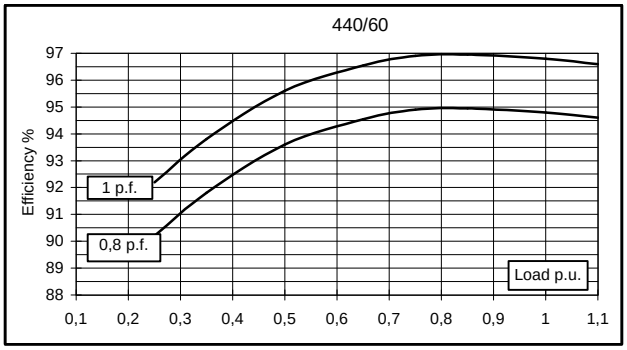
60 Hz

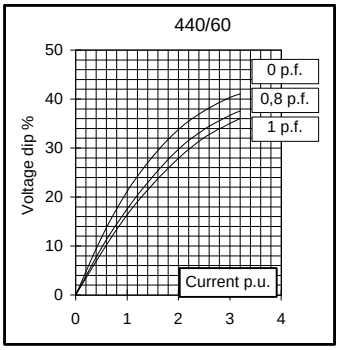
415/60



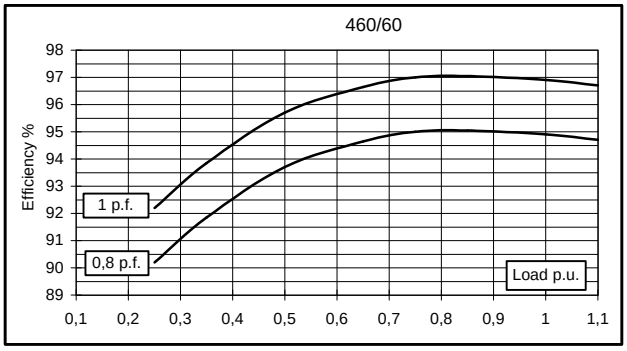


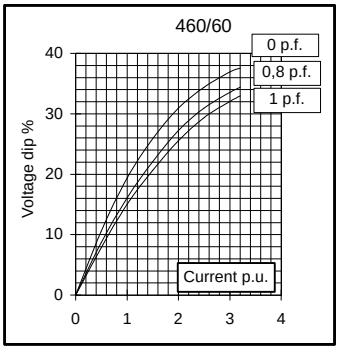
440/60



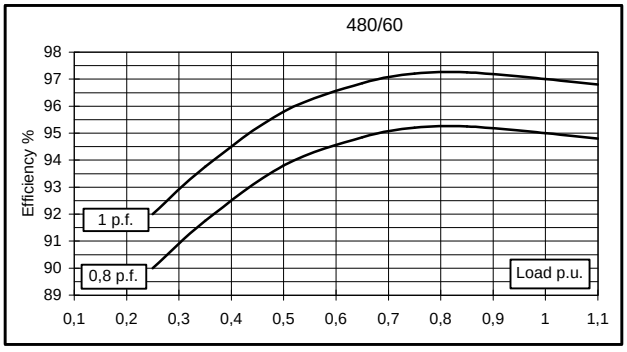


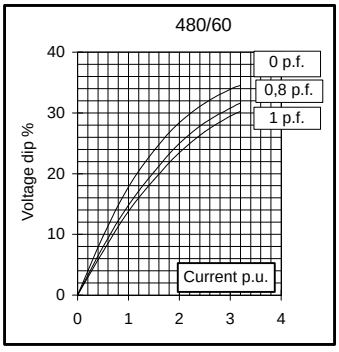
460/60



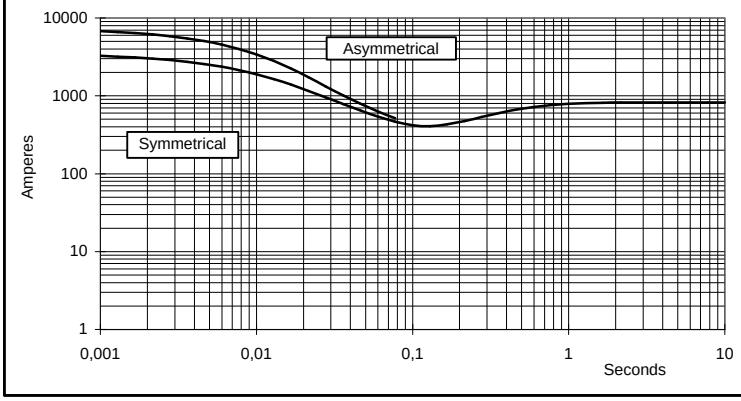


480/60

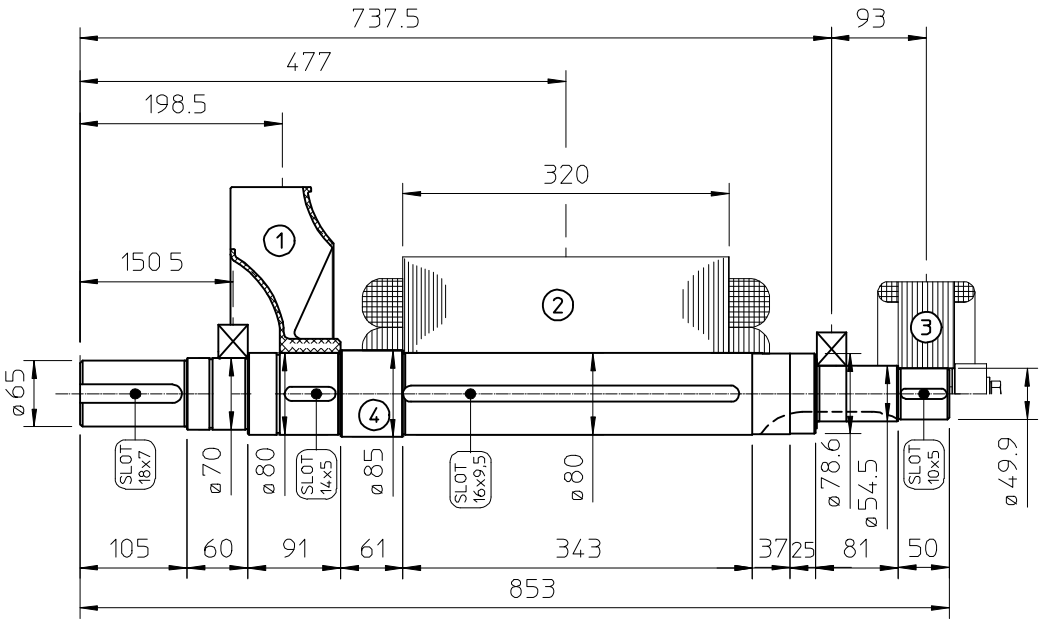




Three phase short circuit decrement curve. No load excitation at rated speed

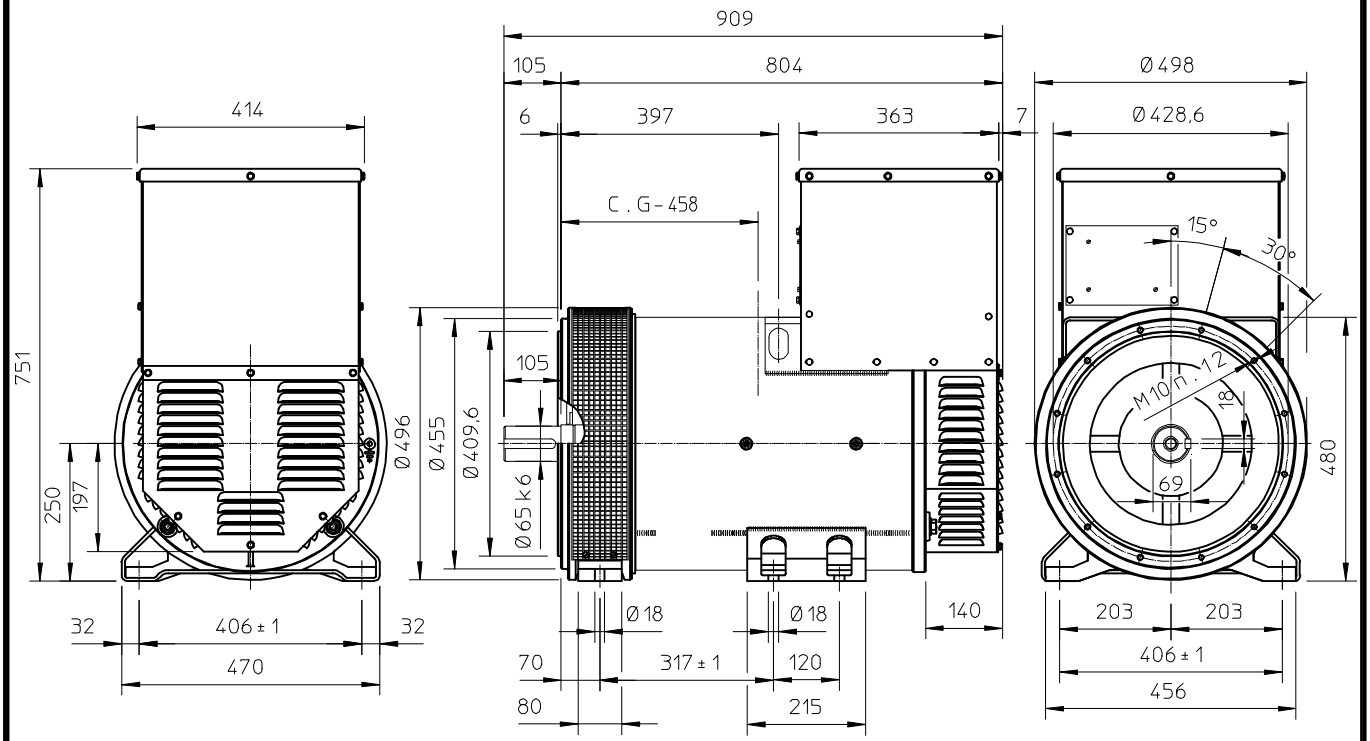


TWO BEARING MOMENTS OF INERTIA



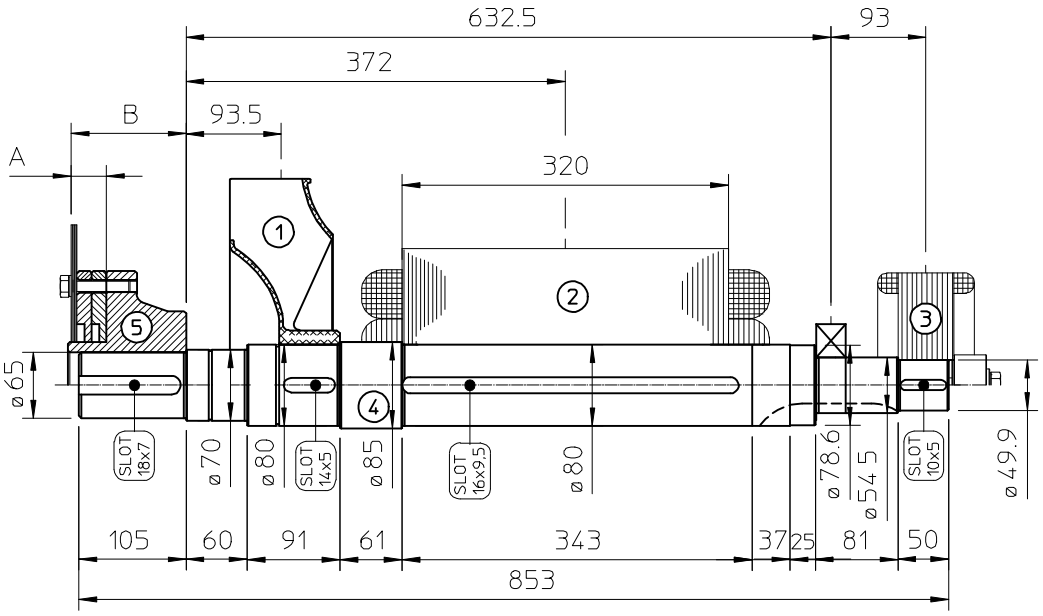
	COMPONENT	WEIGHT kg	J kgm^2
1	FAN	3,3	0,0451
2	MAIN ROTOR	106	1.0320
3	EX. ROTOR	14,5	0,0874
4	SHAFT	28.1	0.0211
	TOTAL	151.9	1.1856

TWO BEARING DIMENSIONS



C.G. = GRAVITY CENTER

SINGLE BEARING MOMENTS OF INERTIA



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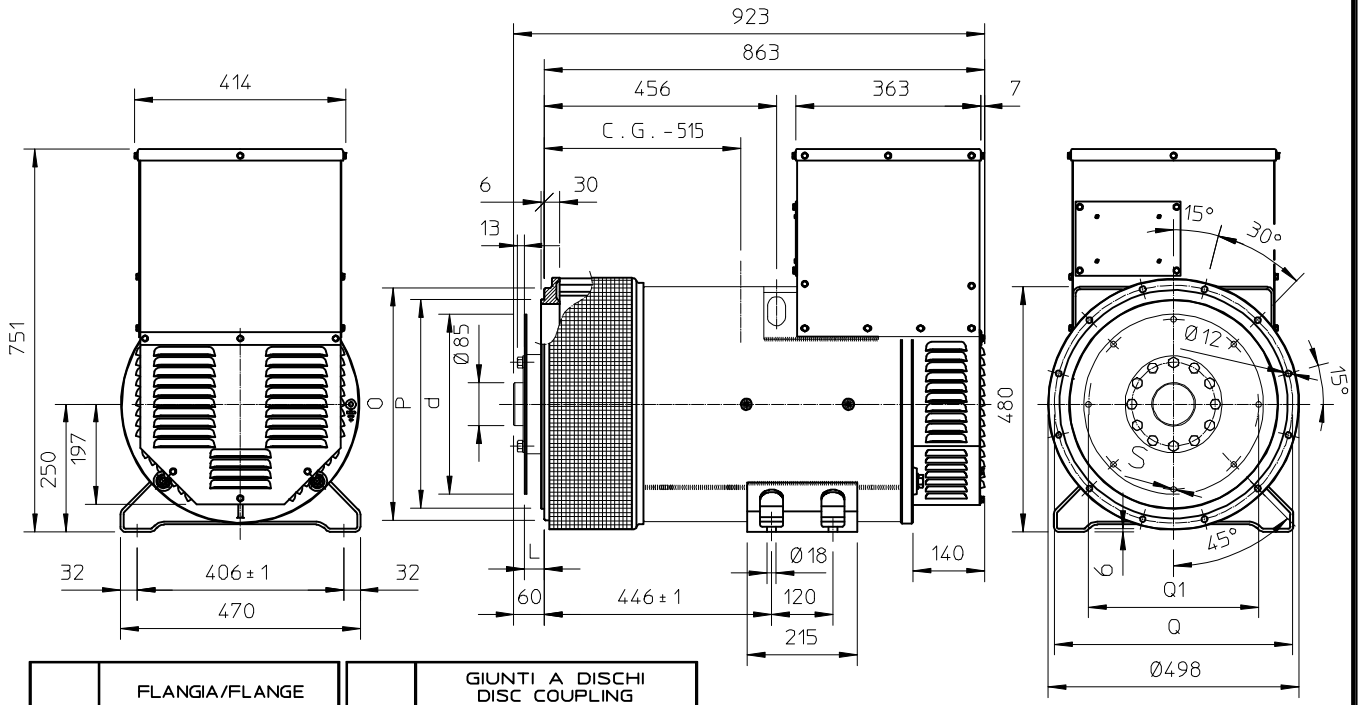
2	MAIN ROTOR	106	1.0320
3	EX ROTOR	14,5	0,0874
4	SHAFT	28.1	0.0211
	TOTAL	151.9	1.1856

SAE No	5 SHAFTS COUPLING FLEX PLATE			
	A	B	WEIGHT kg	J kgm²
10	46,5	112,8	20,5	0,1342
11,5	37,3	98,6	19,3	0,1512
14	27,4	84,4	21,1	0,2752

SINGLE BEARING DIMENSIONS



SAE N.	FLANGIA/FLANGE BRIDE/FLANSCH			
	O	P	Q	N. fori
3	451	409,6	428,6	12
2	489	447,7	466,7	12
1	552	511,2	530,2	12

SAE N.	GIUNTI A DISCHI DISC COUPLING DISQUE DE MONOPALIER SCHEIBENKUPPLUNG				
	L	d	Q1	N. fori	S
10	53,8	314,32	295,27	8	11
11 1/2	39,6	352,42	333,37	8	11
14	25,4	466,72	438,15	8	14

C G = GRAVITY CENTER

mecc alte spa

GENERATOR TYPE ECO 38-1S/4

Document :**DS070A/1**
issue 001 date 05/03/2004

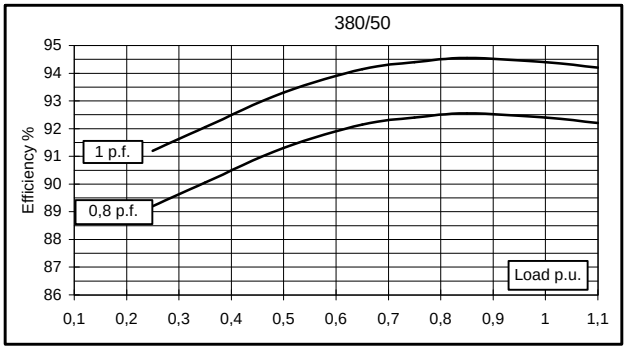
Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	180	180	180	165	210	220	220	220
		kW	144	144	144	132	168	176	176	176
Rated power class F		kVA	170	170	170	155	195	205	205	205
		kW	136	136	136	124	156	164	164	164
Regulation with		UVR6	±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	%	92,4	92,5	92,2	92	92,8	93,3	93,4	93,5
(see graph. for details)	3/4	%	92,4	92,7	92,6	92,3	93,1	93,3	93,5	93,7
	2/4	%	91,3	91,4	91,4	91,2	92,1	92,2	92,3	92,4
	1/4	%	89,2	89	88,8	88,6	90,2	90,2	90,2	90
Reactances (f. l.cl. F)	Xd	%	229,4	207	192,3	156,8	264,3	246,3	225,4	207
	Xd'	%	11,3	10,2	9,5	7,7	13,0	12,1	11,1	10,2
	Xd"	%	6,4	5,8	5,4	4,4	7,4	6,9	6,3	5,8
	Xq	%	113,0	102	94,8	77,3	130,3	121,4	111,1	102
	Xq'	%	113,0	102	94,8	77,3	130,3	121,4	111,1	102
	Xq"	%	22,9	20,7	19,2	15,7	26,4	24,6	22,5	20,7
	X_2	%	15,0	13,5	12,5	10,2	17,2	16,1	14,7	13,5
	X_0	%	3,1	2,8	2,6	2,1	3,6	3,3	3,0	2,8
Short Circuit Ratio	Kcc		0,39	0,42	0,60	0,97	0,28	0,35	0,39	0,42
Time Constants	Td'	sec.	0,075							
	Td"	sec.	0,012							
	Tdo'	sec.	0,80							
	Tα	sec.	0,016							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0,65	0,7	0,8	1,1	0,35	0,5	0,6	0,65
Excitation at full load		Amp.	2,9	3,1	3,4	3,5	2,5	2,7	2,8	3
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,0134							
Rotor Winding Resistance (20°C)		Ω	4,510							
Exciter Resistance (20 °C)		Ω	Rotor : 0,685				Stator : 15,28			
Heat dissipation at f.l.cl.H		W	11844	11676	12182	11478	13034	12639	12437	12235
Telephone Interference			FHT < 2%				TIF < 40			
Radio interference			EN50081-1, EN50082-1, VDE0875K. For others standards apply to factory							
Waveform Distors.(THD) at f. load		LL/LN %	2,8 / 2,7							
Waveform Distors.(THD) at no load		LL/LN %	3,1 / 3							
Mechanical characteristics										
Protection			IP 21 (other protection on request)							
DE bearing			6318.2RS							
NDE bearing			6314.2RS							
Weight of wound stator assembly		kg	177							
Weight of wound rotor assembly		kg	109							
Weight of complete generator		kg	525							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	4,4							
Cooling air requirement		m^3/min	32				39			
Inertia Constant (H)		sec.	0,122				0,144			
Noise level at 1m/7m		dB(A)	82 / 69				86 / 73			

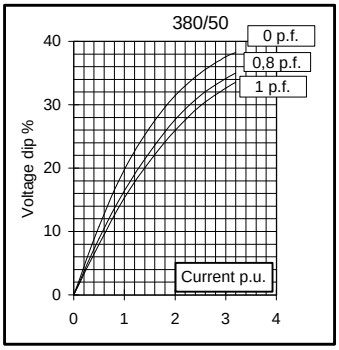
GENERATOR TYPE ECO 38-1S/4

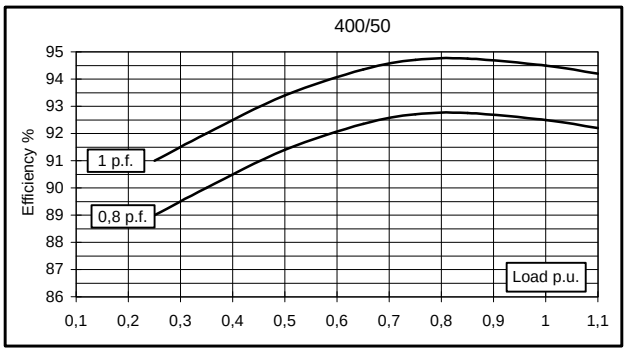
Document : **DS070A/2**

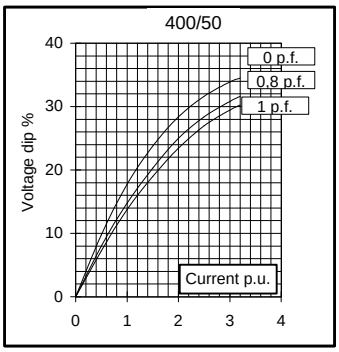
issue 000 date : 01/07/03

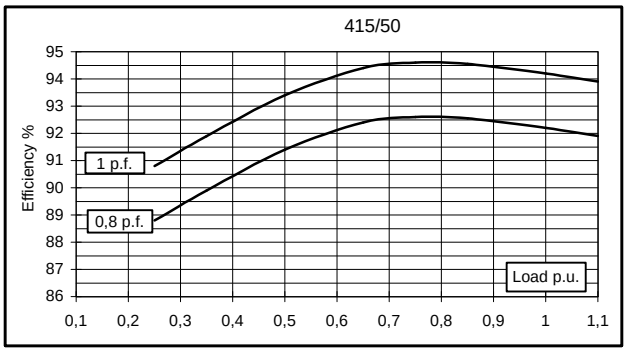
50 Hz

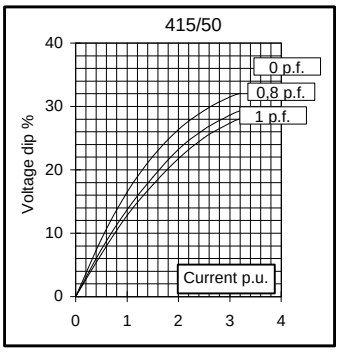


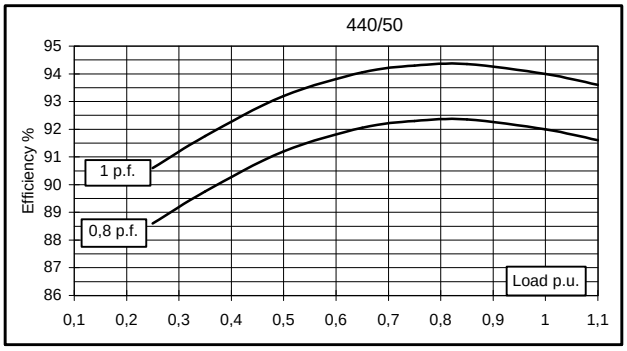


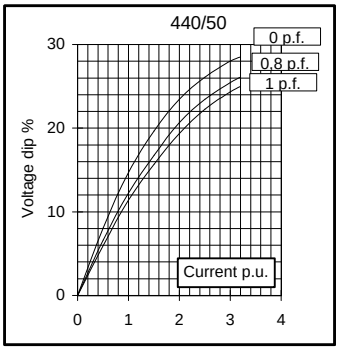


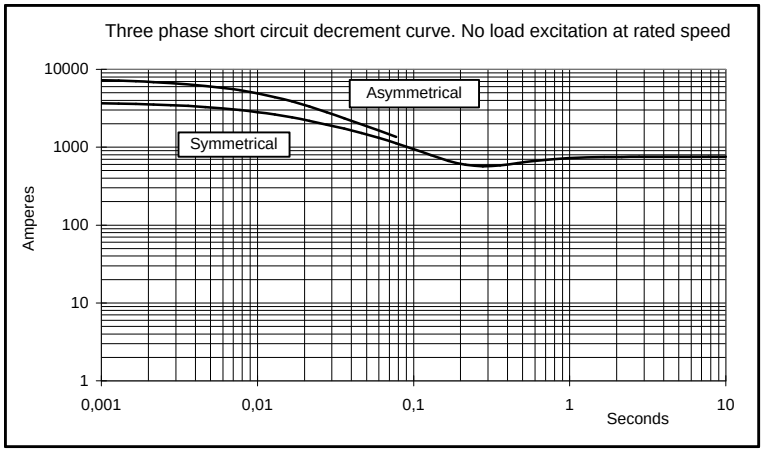








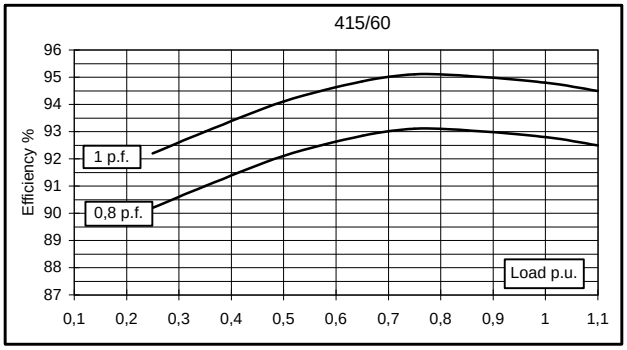


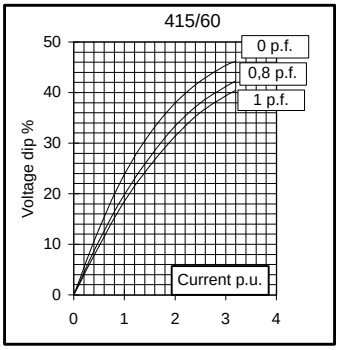


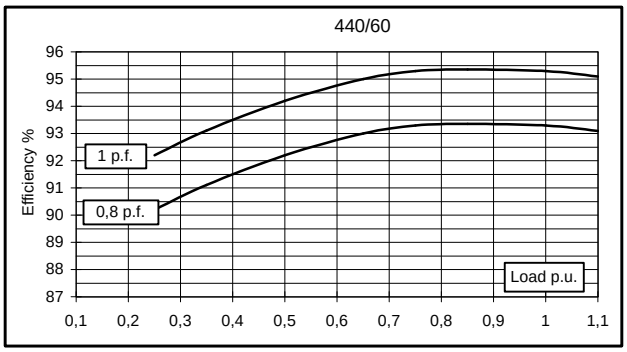
GENERATOR TYPE ECO 38-1S/4

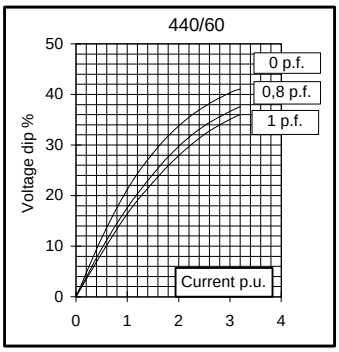
Document : **DS070A/3**
issue 000 date : 01/07/03

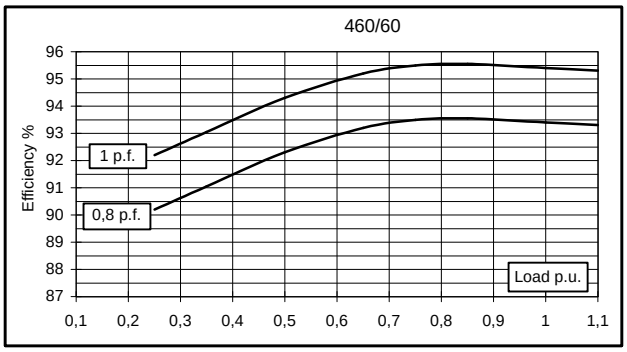
60 Hz

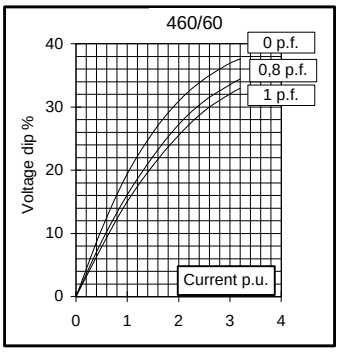


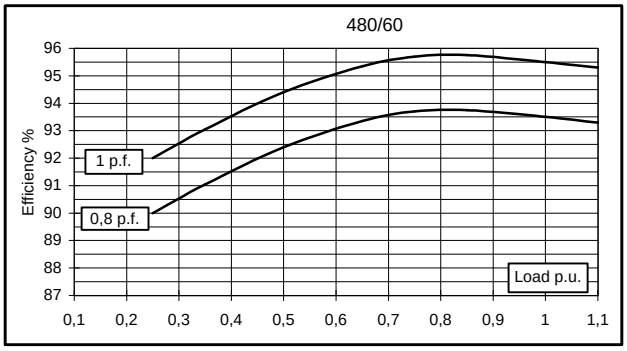


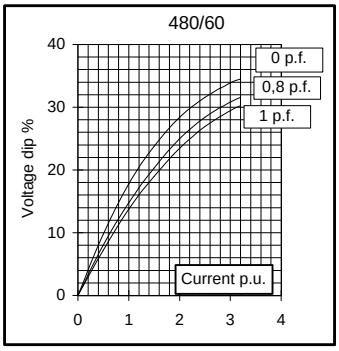


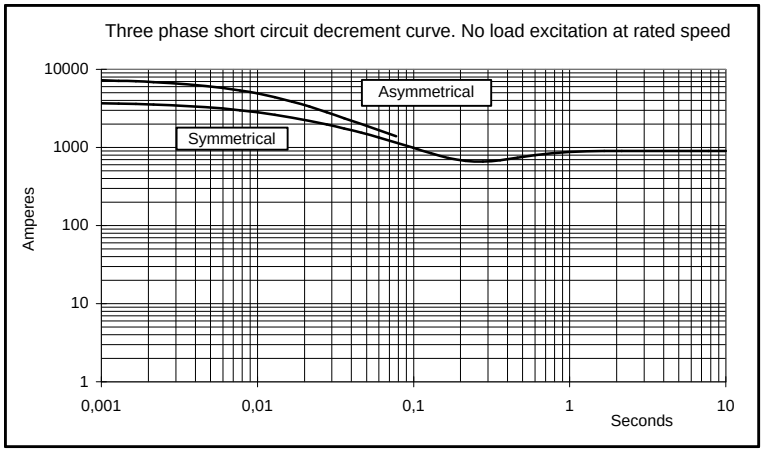




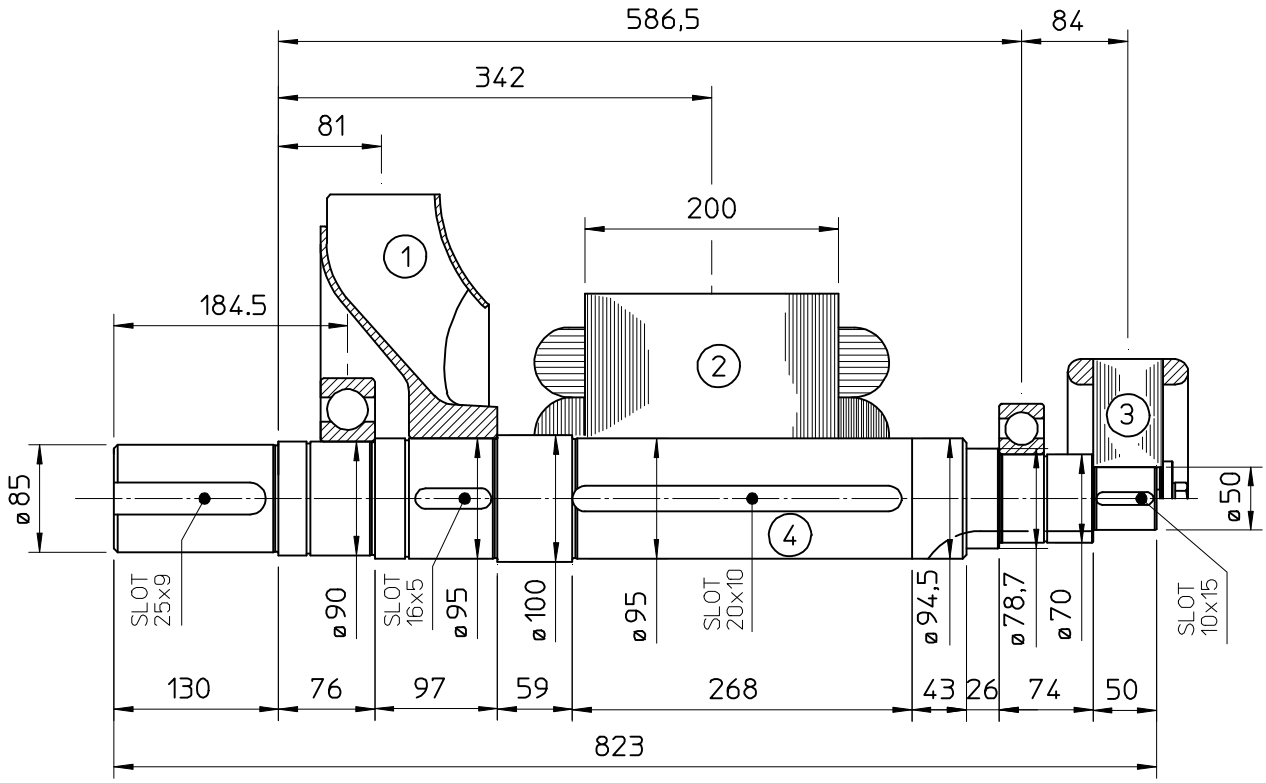






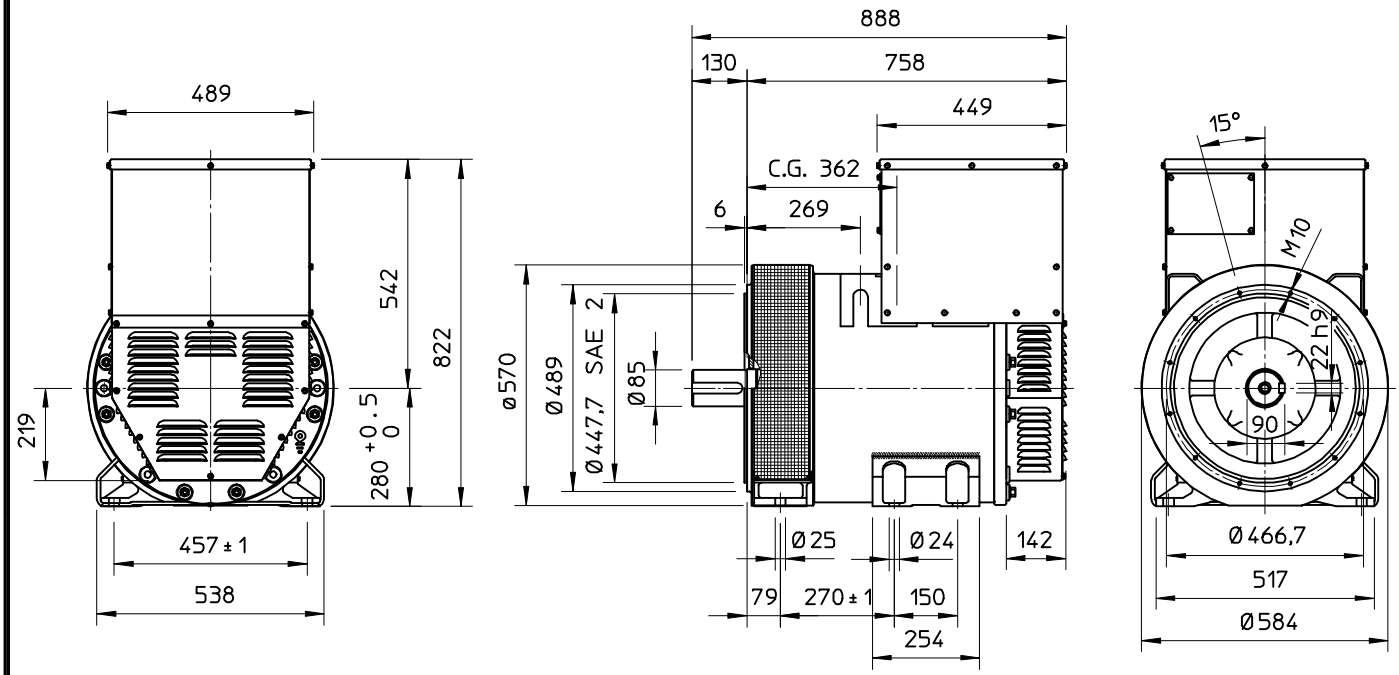


TWO BEARING MOMENTS OF INERTIA



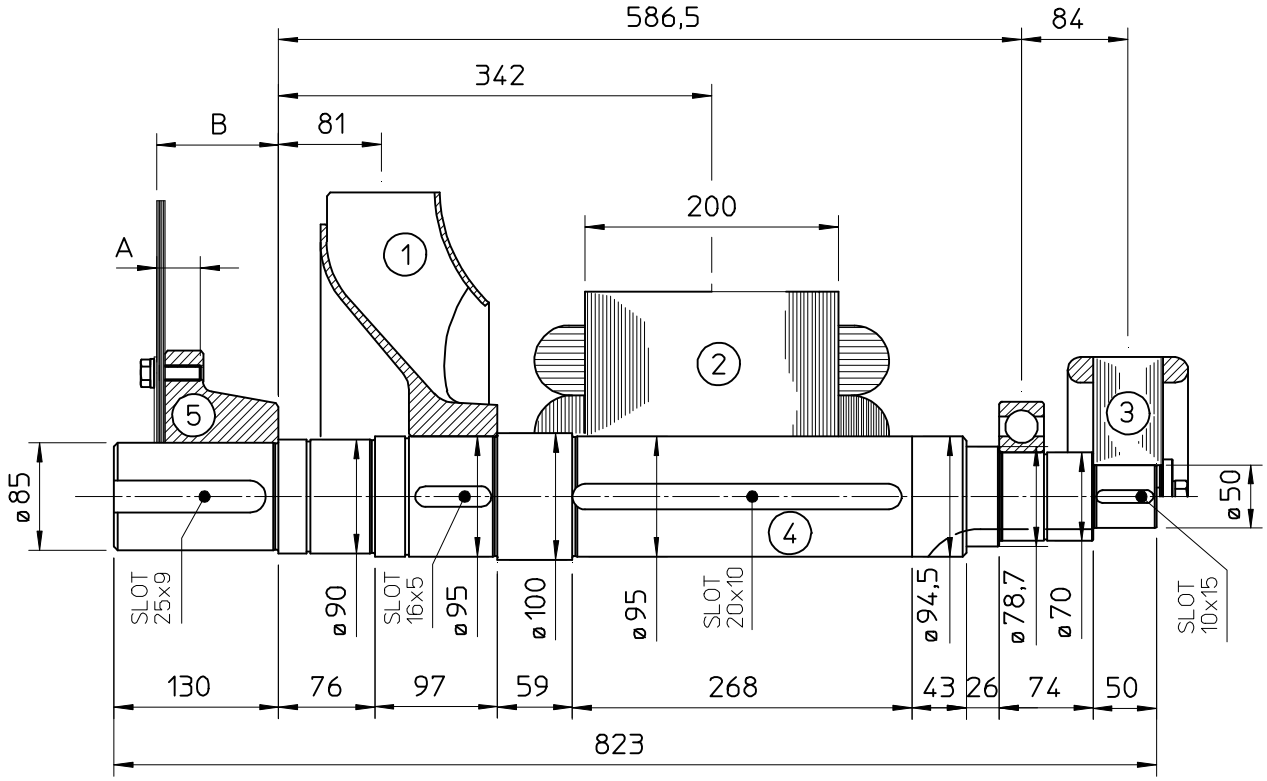
	COMPONENT	WEIGHT kg	J kgm²
1	FAN	6,1	0,1887
2	MAIN ROTOR	109	1,4587
3	EX. ROTOR	14,5	0,0874
4	SHAFT	38,5	0.0397
	TOTAL	168,1	1,7745

TWO BEARING DIMENSIONS



C.G = GRAVITY CENTER

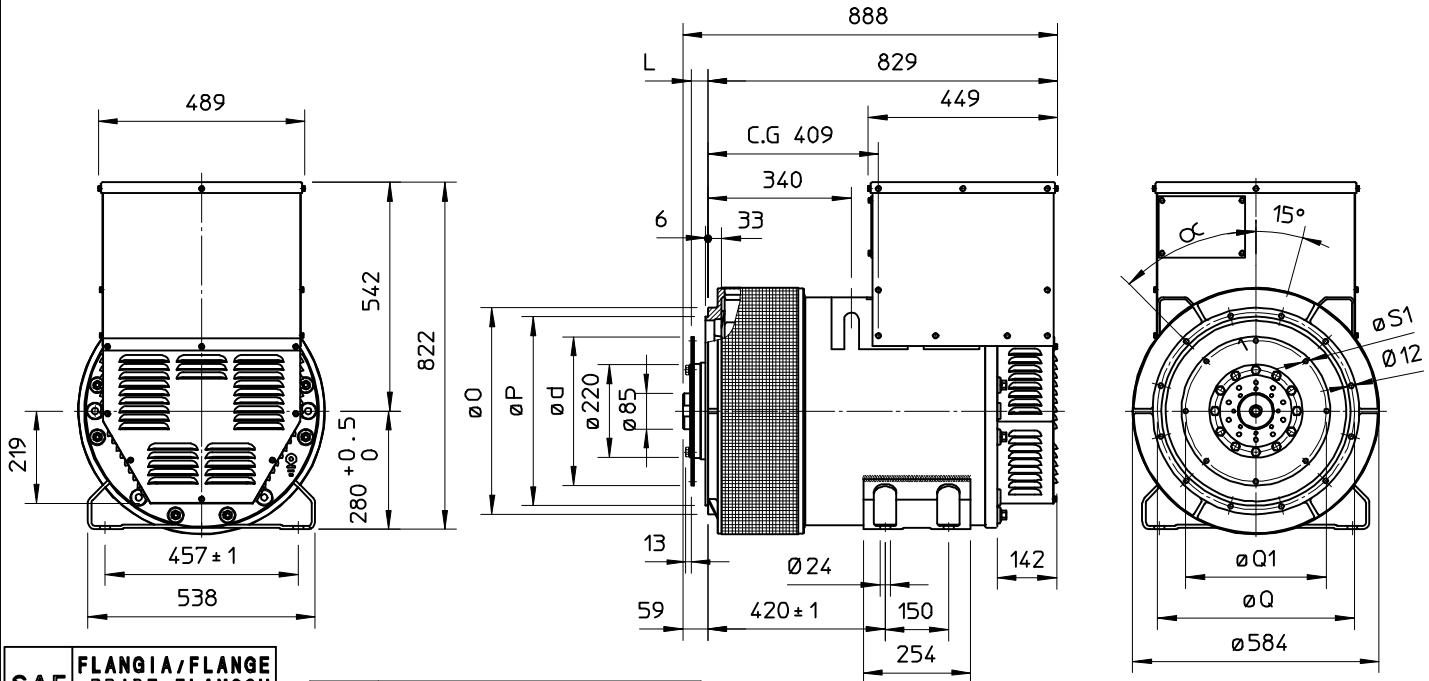
SINGLE BEARING MOMENTS OF INERTIA



	COMPONENT	WEIGHT kg	J kgm²
1	FAN	6,1	0,1887
2	MAIN ROTOR	109	1,4587
3	EX. ROTOR	14,5	0,0874
4	SHAFT	38,5	0.0397
	TOTAL	168,1	1,7745

SAE No	5 SHAFTS COUPLING FLEX PLATE			
	A	B	WEIGHT kg	J kgm²
11.5	41.1	110.4	22,7	0,306
14	34.7	96.4	22,7	0,306

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
1/2	648	584,2	619,1

SAE N.	GIUNTI A DISCHI DISC COUPLING DISQUE DE MONOPALIER SCHEIBENKUPPLUNG					
	L	d	Q1	n. fori	S1	∝1
11 1/2	39,6	352,42	333,37	8	11	45°
14	25,4	466,72	438,15	8	14	45°

C.G = GRAVITY CENTER

mecc alte spa

GENERATOR TYPE ECO 38-2S/4

Document :**DS071A/1**

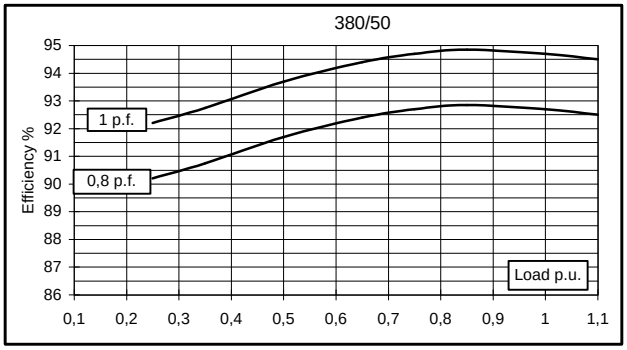
issue 001 date 05/03/2004

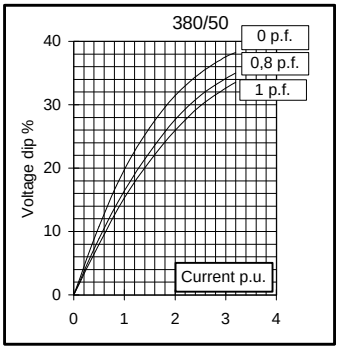
Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	200	200	200	190	230	240	240	240
		kW	160	160	160	152	184	192	192	192
Rated power class F		kVA	185	185	185	175	210	220	220	220
		kW	148	148	148	140	168	176	176	176
Regulation with		UVR6	±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	%	92,7	92,8	92,5	92,3	93,2	93,7	93,8	93,9
(see graph. for details)	3/4	%	92,7	93	92,9	92,6	93,5	93,7	93,9	94,1
	2/4	%	91,7	91,8	91,8	91,6	92,6	92,7	92,8	92,9
	1/4	%	90,2	90	89,8	89,6	90,7	90,7	90,7	90,5
Reactances (f. l.cl. F)	Xd	%	232,7	210	195,1	164,9	269,2	249,9	228,7	210
	Xd'	%	12,7	11,5	10,7	9,0	14,7	13,7	12,5	11,5
	Xd"	%	6,9	6,2	5,8	4,9	7,9	7,4	6,8	6,2
	Xq	%	127,4	115	106,8	90,3	147,4	136,9	125,2	115
	Xq'	%	127,4	115	106,8	90,3	147,4	136,9	125,2	115
	Xq"	%	24,9	22,5	20,9	17,7	28,8	26,8	24,5	22,5
	X_2	%	16,6	15,0	13,9	11,8	19,2	17,9	16,3	15,0
	X_0	%	2,9	2,6	2,4	2,0	3,3	3,1	2,8	2,6
Short Circuit Ratio	Kcc		0,41	0,44	0,62	1,00	0,30	0,37	0,41	0,44
Time Constants	Td'	sec.	0,080							
	Td"	sec.	0,013							
	Tdo'	sec.	0,95							
	Tα	sec.	0,017							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0,5	0,7	0,9	1,2	0,3	0,35	0,45	0,65
Excitation at full load		Amp.	2,9	3	3,2	3,4	2,4	2,6	2,8	2,9
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,0108							
Rotor Winding Resistance (20°C)		Ω	4,485							
Exciter Resistance (20 °C)		Ω	Rotor : 0,685				Stator : 15,28			
Heat dissipation at f.l.cl.H		W	12600	12414	12973	12680	13425	12909	12691	12473
Telephone Interference			FHT < 2%				TIF < 40			
Radio interference			EN50081-1, EN50082-1, VDE0875K. For others standards apply to factory							
Waveform Distors.(THD) at f. load		LL/LN %	2,7 / 2,6							
Waveform Distors.(THD) at no load		LL/LN %	3 / 2,9							
Mechanical characteristics										
Protection			IP 21 (other protection on request)							
DE bearing			6318.2RS							
NDE bearing			6314.2RS							
Weight of wound stator assembly		kg	182							
Weight of wound rotor assembly		kg	118							
Weight of complete generator		kg	573							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	5,2							
Cooling air requirement		m^3/min	32				39			
Inertia Constant (H)		sec.	0,118				0,141			
Noise level at 1m/7m		dB(A)	82 / 69				86 / 73			

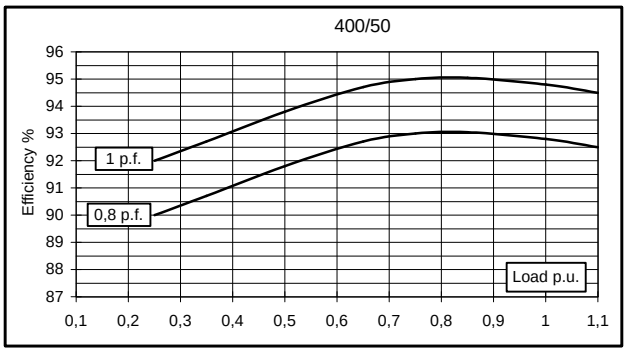
GENERATOR TYPE ECO 38-2S/4

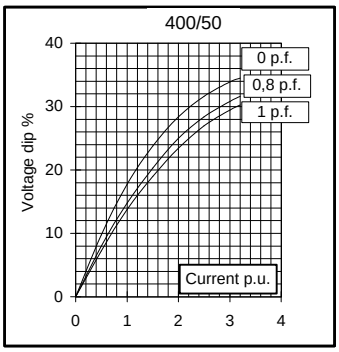
Document : **DS071A/2**
issue 000 date : 01/07/03

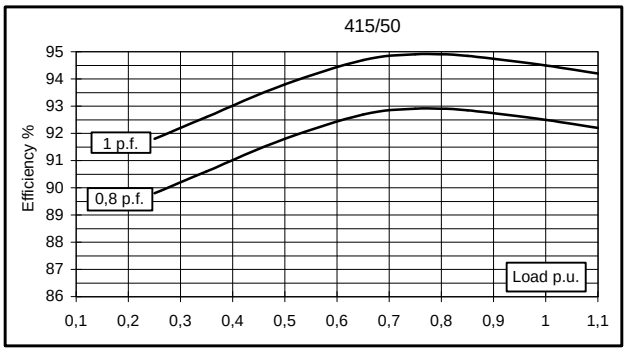
50 Hz

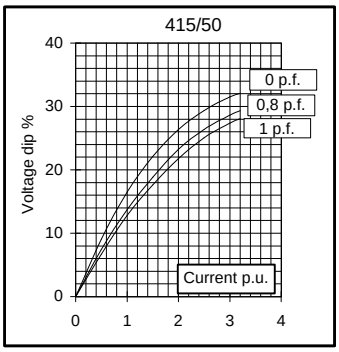


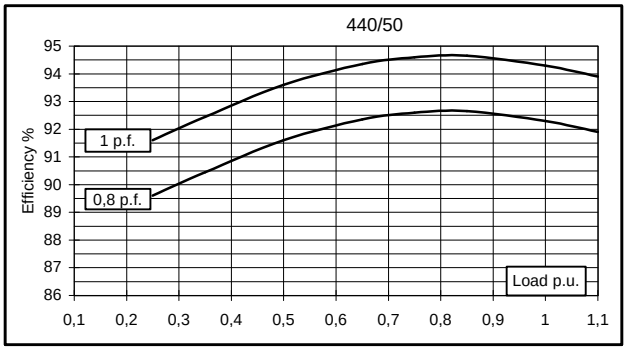


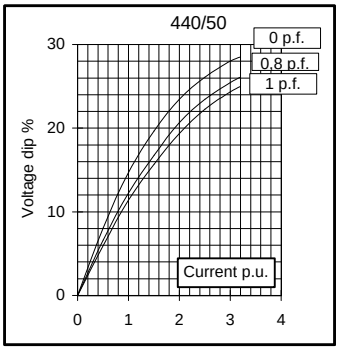


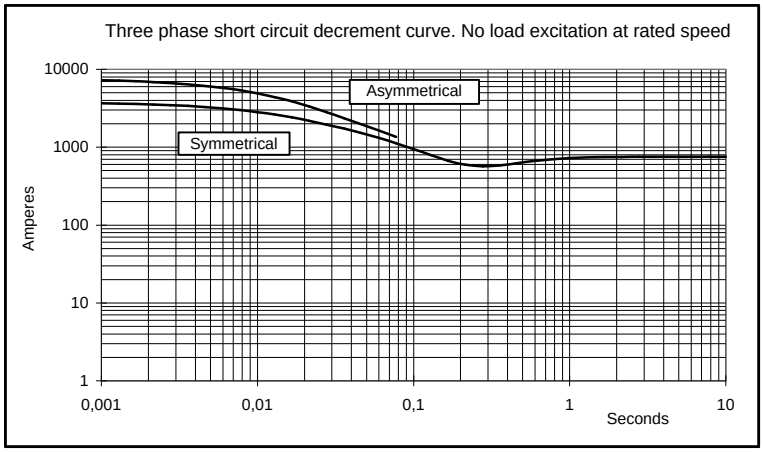








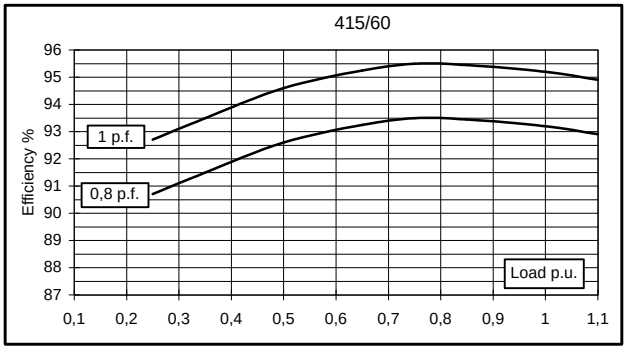


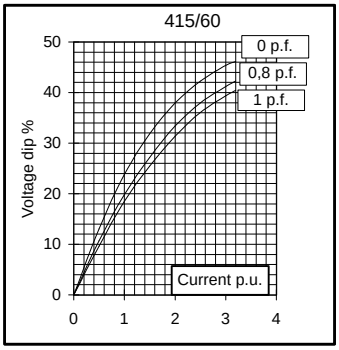


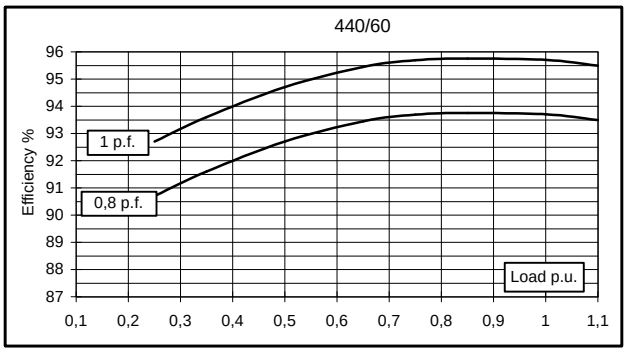
GENERATOR TYPE ECO 38-2S/4

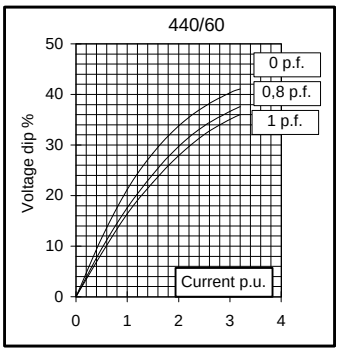
Document : **DS071A/3**
issue 000 date : 01/07/03

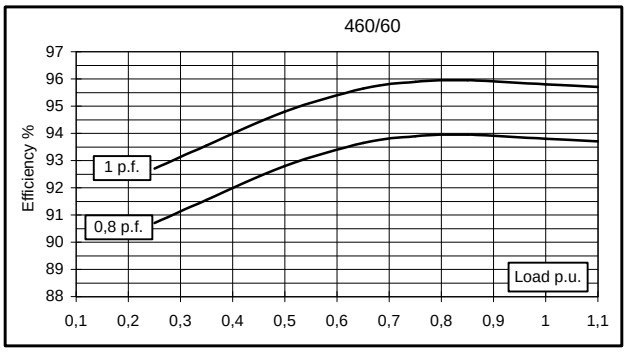
60 Hz

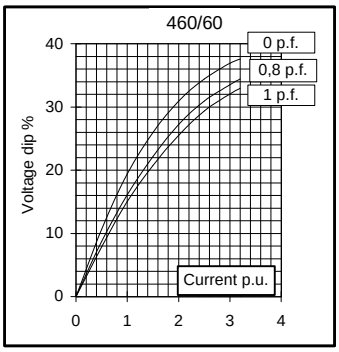


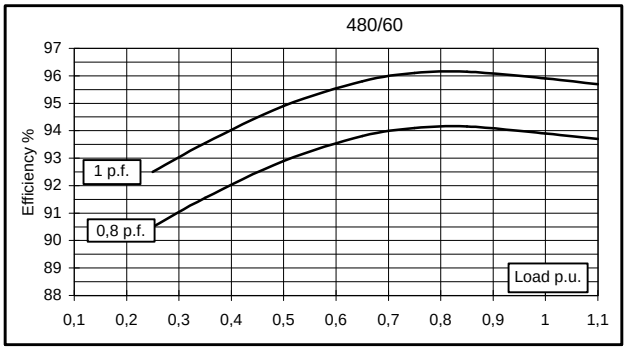


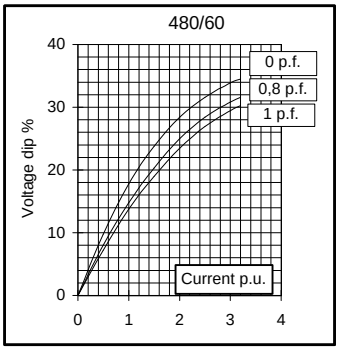


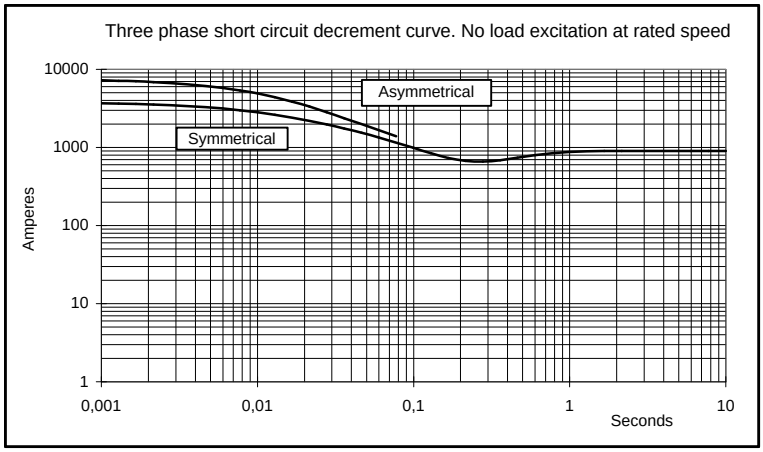




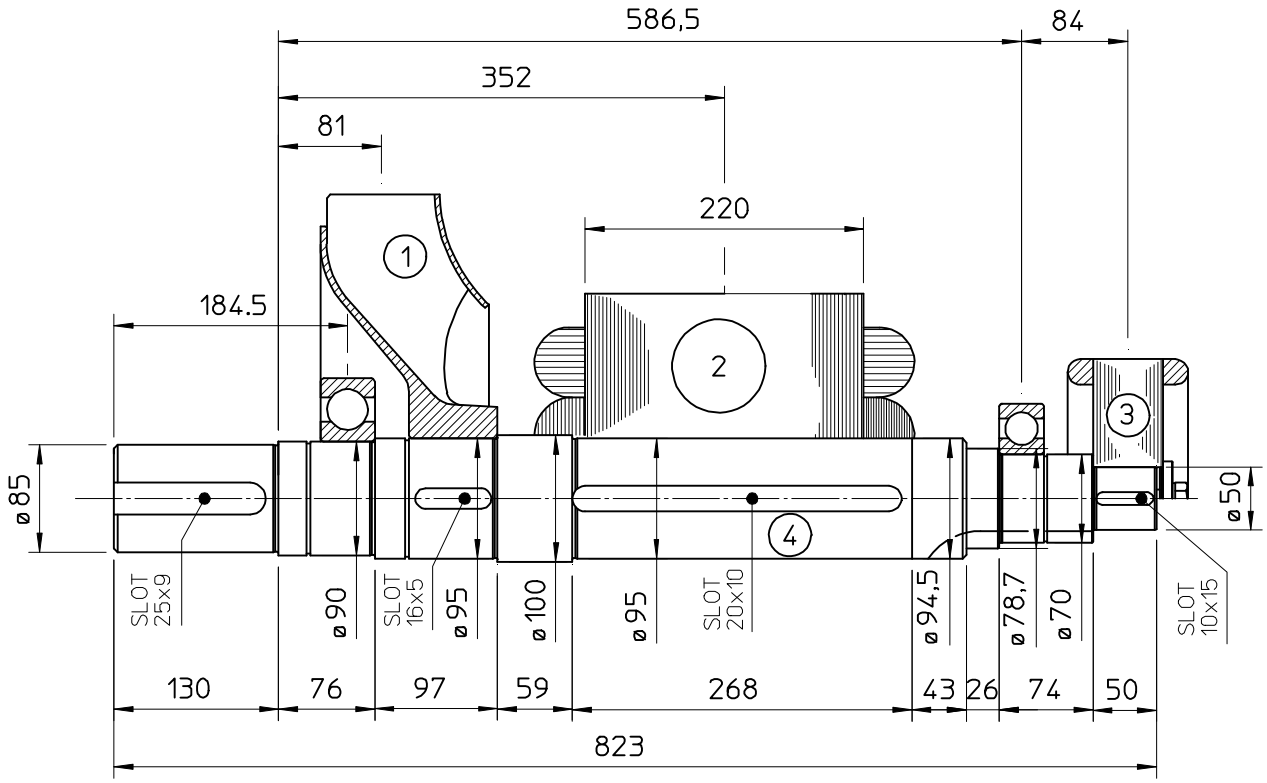






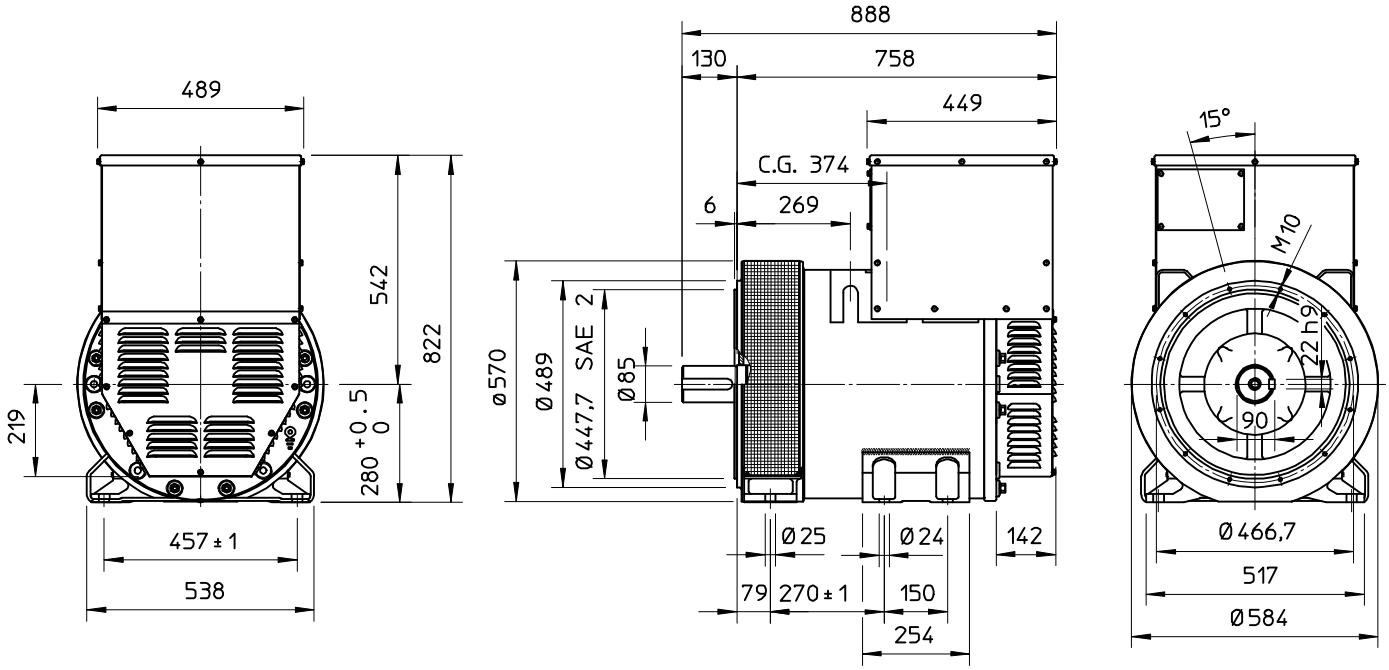


TWO BEARING MOMENTS OF INERTIA



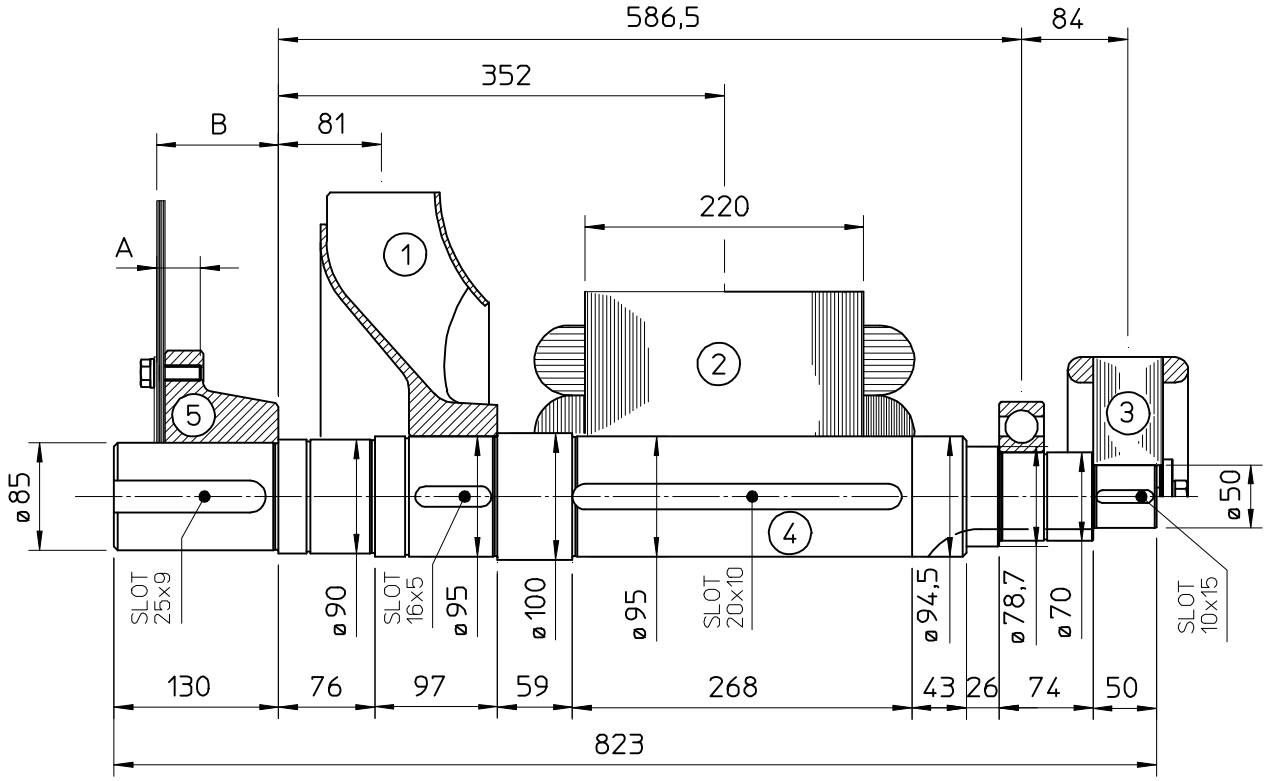
	COMPONENT	WEIGHT kg	J kgm²
1	FAN	6,1	0,1887
2	MAIN ROTOR	118	1,5878
3	EX. ROTOR	14,5	0,0874
4	SHAFT	38,5	0.0397
	TOTAL	177,1	1,9036

TWO BEARING DIMENSIONS



C.G = GRAVITY CENTER

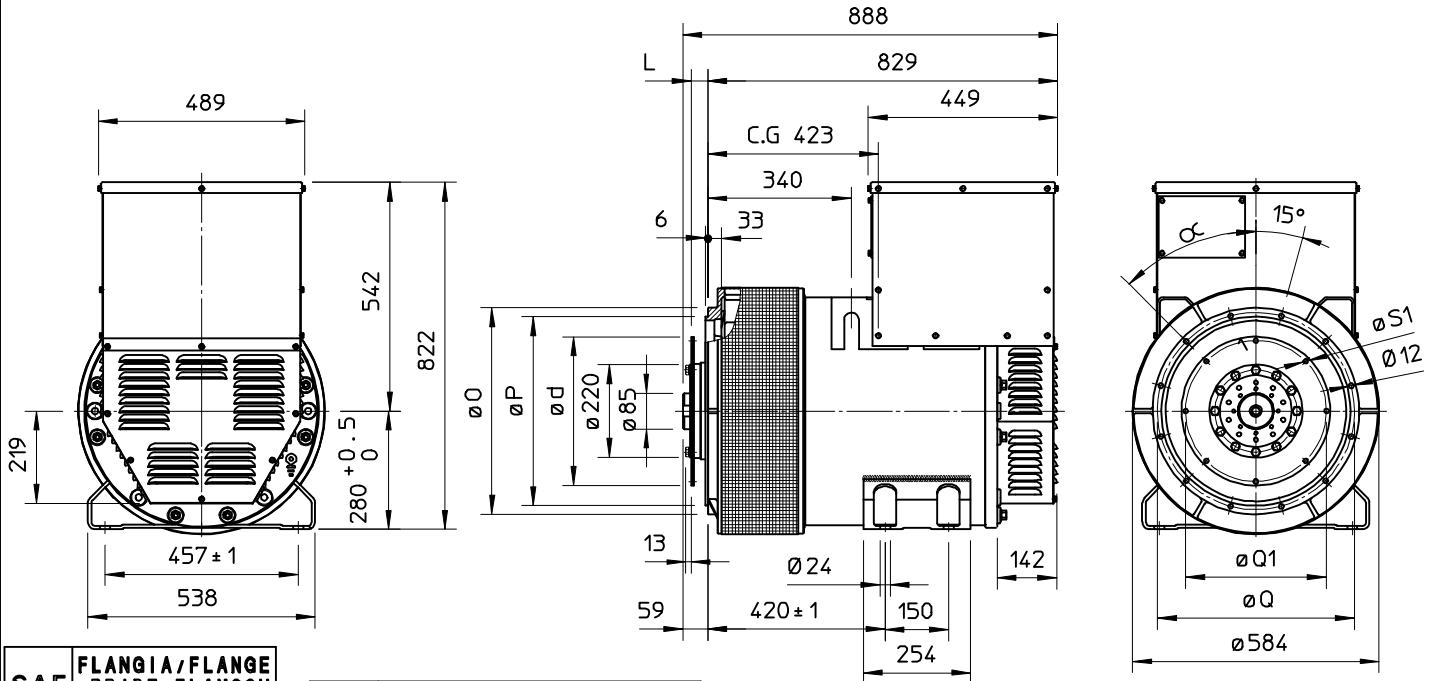
SINGLE BEARING MOMENTS OF INERTIA



	COMPONENT	WEIGHT kg	J kgm²
1	FAN	6,1	0,1887
2	MAIN ROTOR	118	1,5878
3	EX. ROTOR	14,5	0,0874
4	SHAFT	38,5	0.0397
	TOTAL	177,1	1,9036

SAE No	5 SHAFTS COUPLING FLEX PLATE			
	A	B	WEIGHT kg	J kgm²
11.5	41.1	110.4	22,7	0,306
14	34.7	96.4	22,7	0,306

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
1/2	648	584,2	619,1

SAE N.	GIUNTI A DISCHI DISC COUPLING DISQUE DE MONOPALIER SCHEIBENKUPPLUNG					
	L	d	Q1	n. fori	S1	∝1
11 1/2	39,6	352,42	333,37	8	11	45°
14	25,4	466,72	438,15	8	14	45°

C.G = GRAVITY CENTER

mecc alte spa

GENERATOR TYPE ECO 38-3S/4

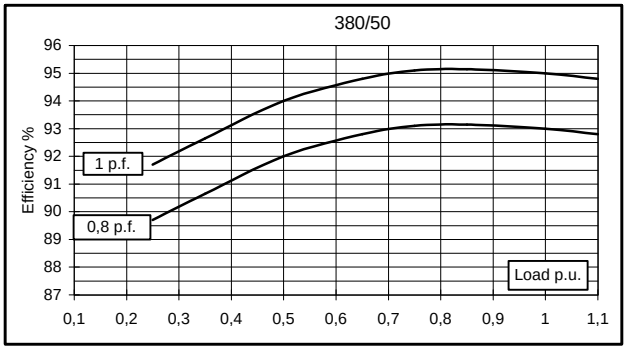
Document :**DS072A/1**
issue 001 date 05/03/2004

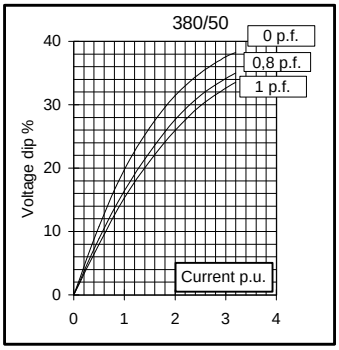
Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	225	225	225	210	260	270	270	270
		kW	180	180	180	168	208	216	216	216
Rated power class F		kVA	207	207	207	190	240	250	250	250
		kW	166	166	166	152	192	200	200	200
Regulation with		UVR6	±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	93,1	92,8	92,6	93,6	94,1	94,2	94,3
(see graph. for details)	3/4	%	93,1	93,4	93,3	93	94	94,2	94,4	94,6
	2/4	%	92	92,1	92,1	91,9	93,2	93,3	93,4	93,5
	1/4	%	89,7	89,5	89,3	89,1	90,7	90,7	90,7	90,5
Reactances (f. l.cl. F)	Xd	%	221,6	200	185,8	154,3	257,6	238,0	217,8	200
	Xd'	%	14,2	12,8	11,9	9,9	16,5	15,2	13,9	12,8
	Xd"	%	7,5	6,8	6,3	5,2	8,8	8,1	7,4	6,8
	Xq	%	121,9	110	102,2	84,8	141,7	130,9	119,8	110
	Xq'	%	121,9	110	102,2	84,8	141,7	130,9	119,8	110
	Xq"	%	25,6	23,1	21,5	17,8	29,8	27,5	25,2	23,1
	X_2	%	17,7	16,0	14,9	12,3	20,6	19,0	17,4	16,0
	X_0	%	3,0	2,7	2,5	2,1	3,5	3,2	2,9	2,7
Short Circuit Ratio	Kcc		0,40	0,43	0,65	1,10	0,30	0,35	0,40	0,43
Time Constants	Td'	sec.	0,085							
	Td"	sec.	0,0135							
	Tdo'	sec.	1,20							
	Tα	sec.	0,0185							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0,55	0,67	0,8	1,1	0,3	0,4	0,5	0,65
Excitation at full load		Amp.	2,7	2,9	3,1	3,2	2,3	2,4	2,6	2,8
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,0089							
Rotor Winding Resistance (20°C)		Ω	4,992							
Exciter Resistance (20 °C)		Ω	Rotor : 0,685				Stator : 15,28			
Heat dissipation at f.l.cl.H		W	13548	13340	13966	13425	14222	13543	13299	13056
Telephone Interference			FHT < 2%				TIF < 40			
Radio interference			EN50081-1, EN50082-1, VDE0875K. For others standards apply to factory							
Waveform Distors.(THD) at f. load		LL/LN %	2,8 / 2,9							
Waveform Distors.(THD) at no load		LL/LN %	2,6 / 2,8							
Mechanical characteristics										
Protection			IP 21 (other protection on request)							
DE bearing			6318.2RS							
NDE bearing			6314.2RS							
Weight of wound stator assembly		kg	201							
Weight of wound rotor assembly		kg	132,8							
Weight of complete generator		kg	602							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	5,7							
Cooling air requirement		m^3/min	32				39			
Inertia Constant (H)		sec.	0,115				0,138			
Noise level at 1m/7m		dB(A)	82 / 69				86 / 73			

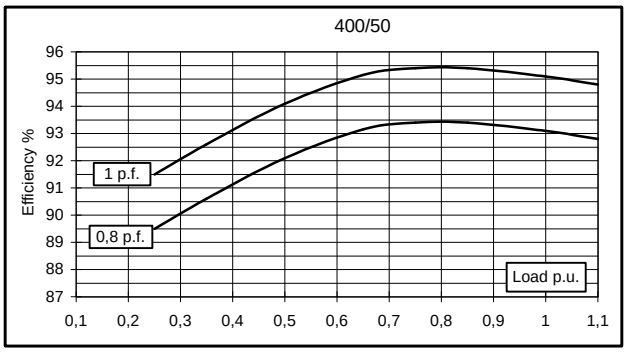
GENERATOR TYPE ECO 38-3S/4

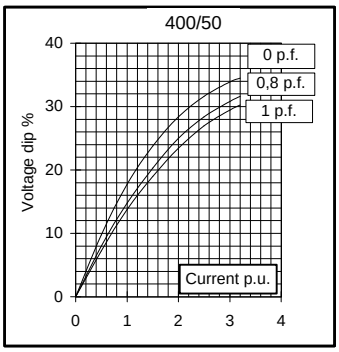
Document : **DS072A/2**
issue 000 date : 01/07/03

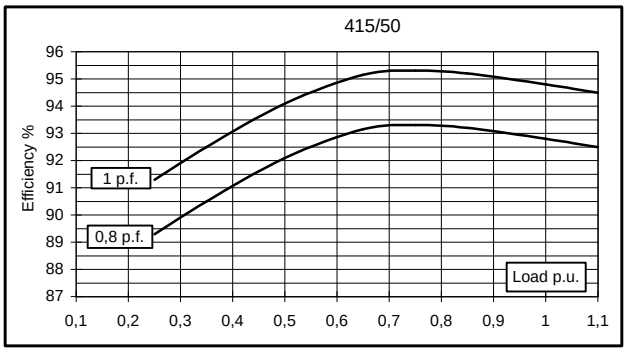
50 Hz

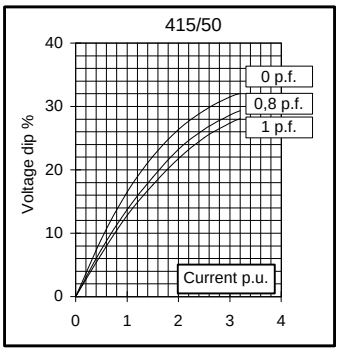


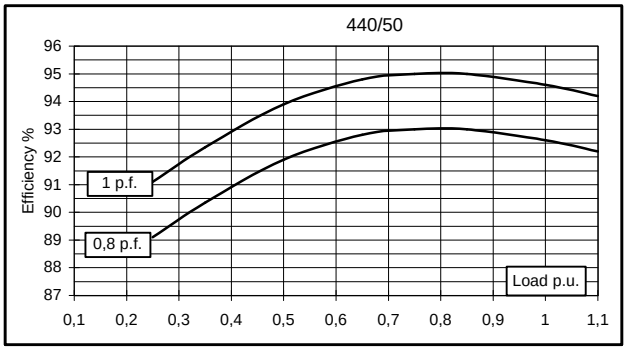


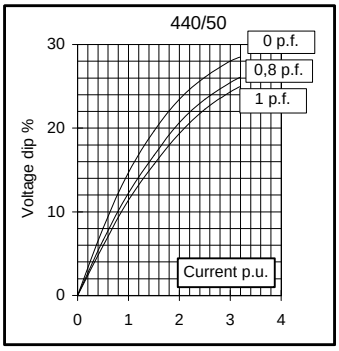


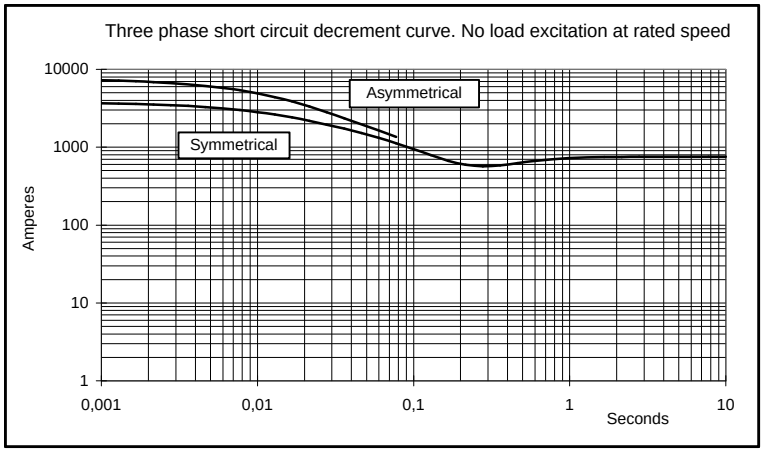








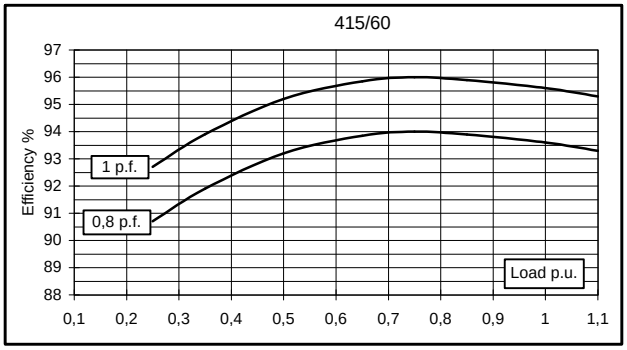


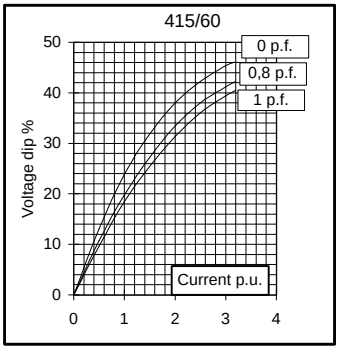


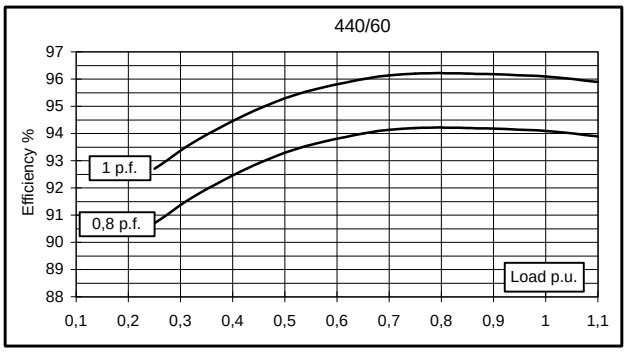
GENERATOR TYPE ECO 38-3S/4

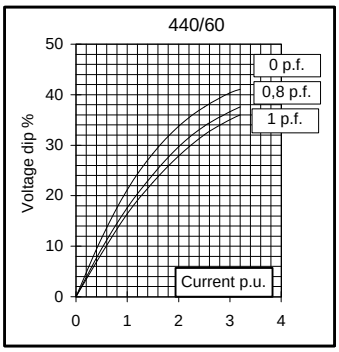
Document : **DS072A/3**
issue 000 date : 01/07/03

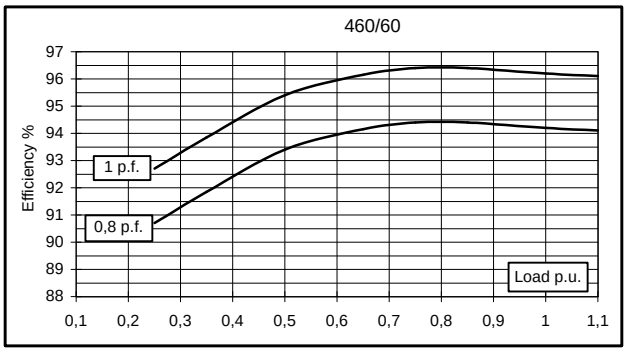
60 Hz

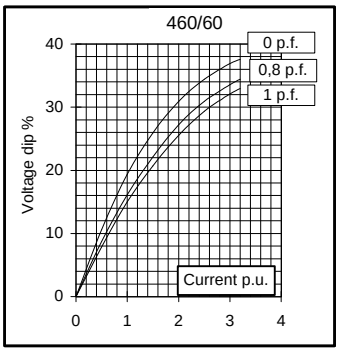


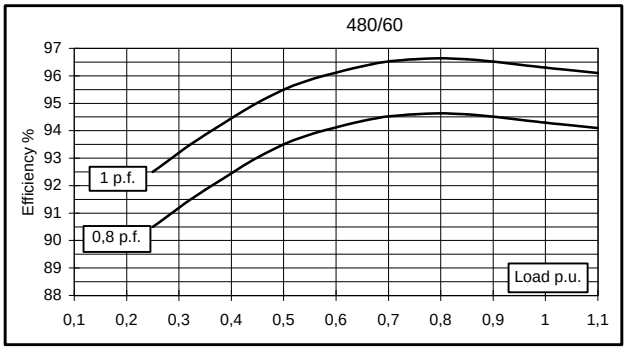


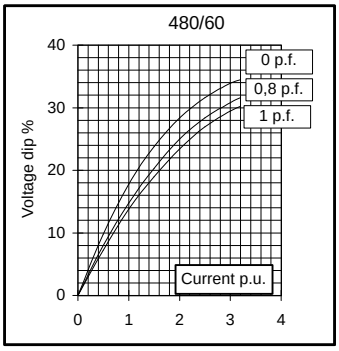


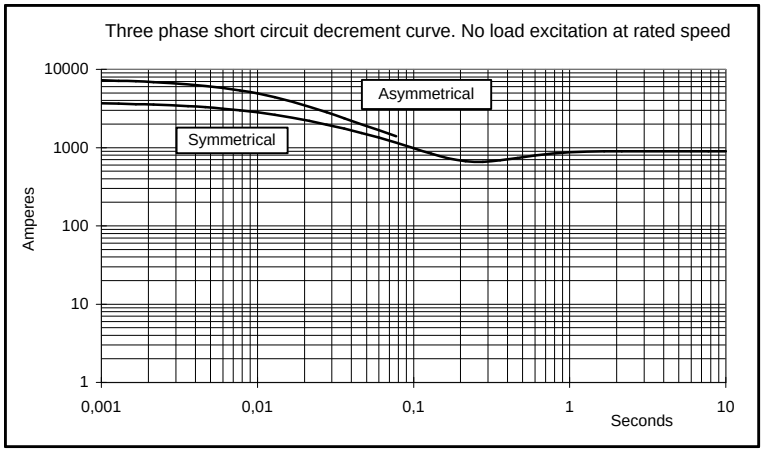




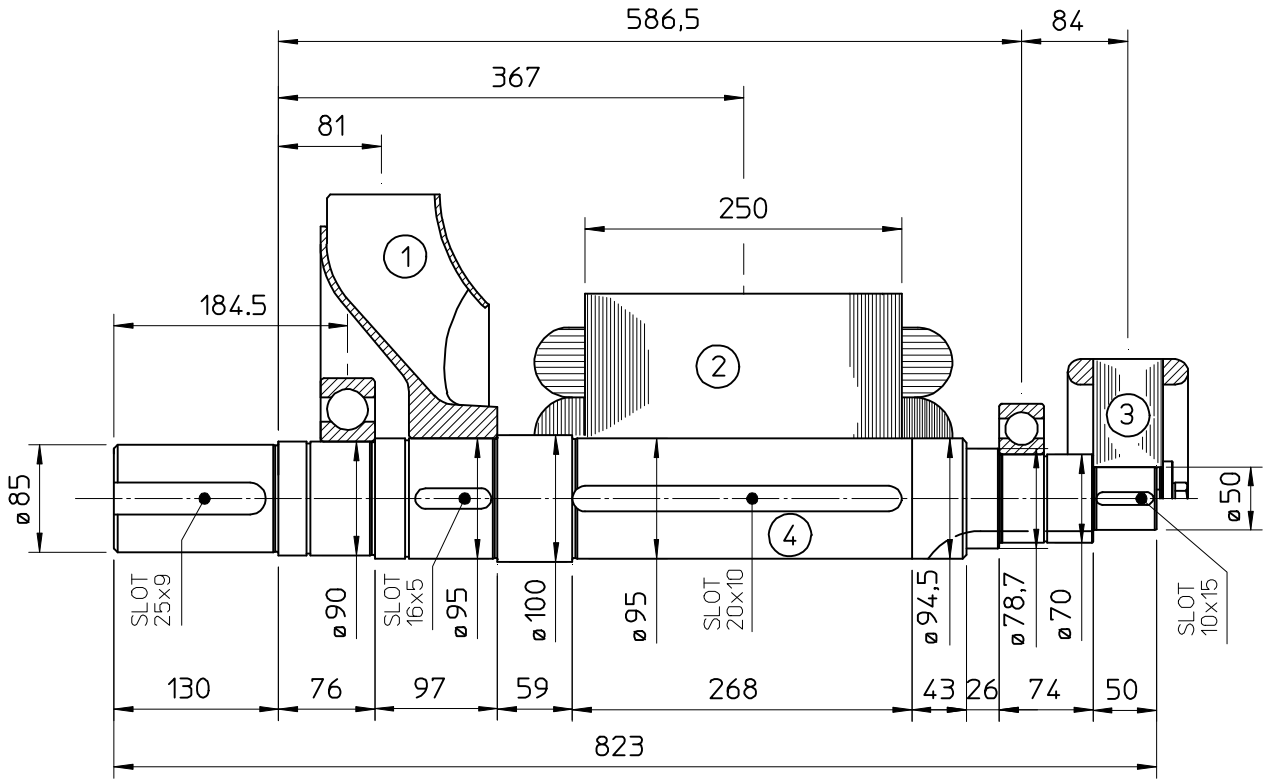






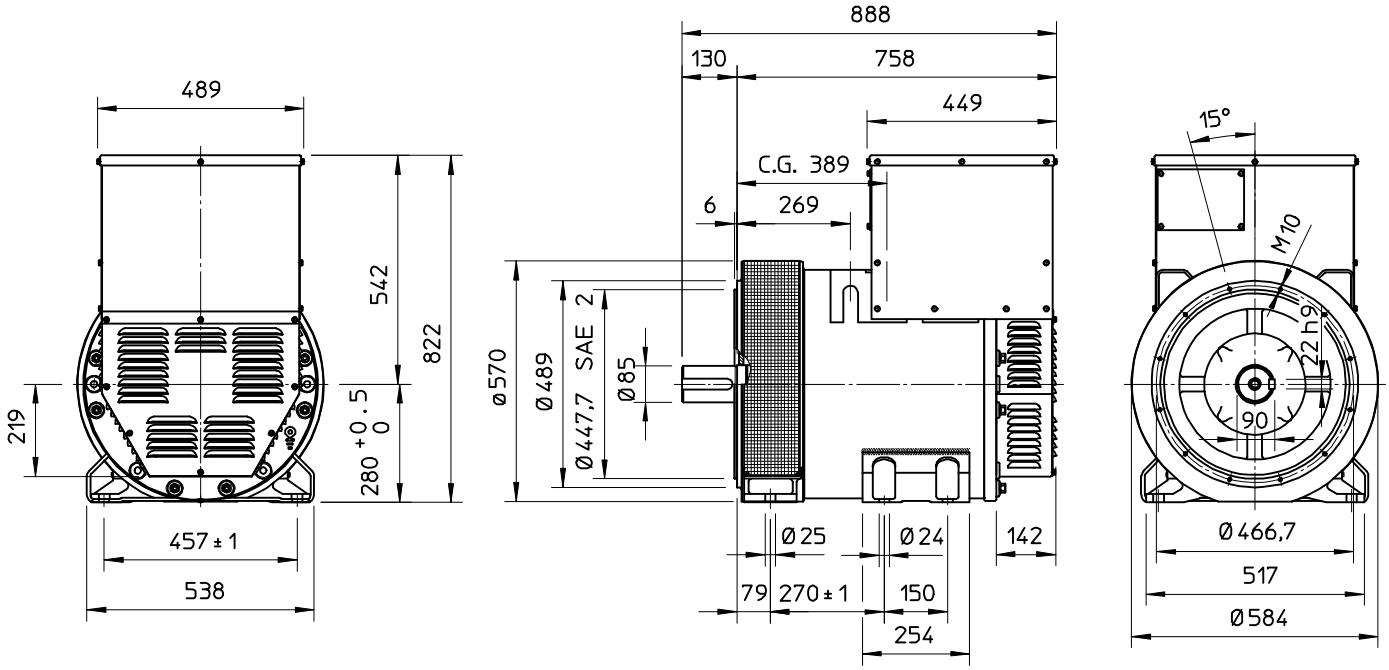


TWO BEARING MOMENTS OF INERTIA



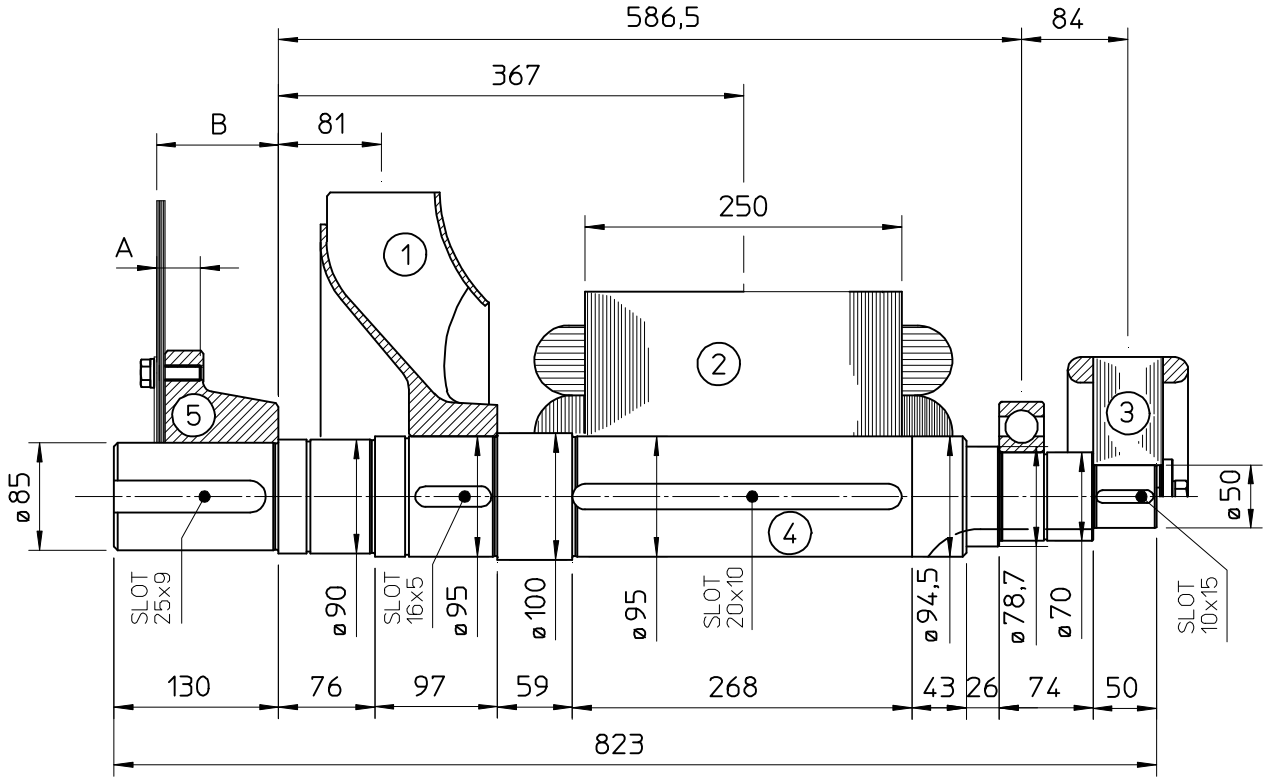
	COMPONENT	WEIGHT kg	J kgm²
1	FAN	6,1	0,1887
2	MAIN ROTOR	132,8	1,7815
3	EX. ROTOR	14,5	0,0874
4	SHAFT	38,5	0.0397
	TOTAL	191,9	2,0973

TWO BEARING DIMENSIONS



C.G = GRAVITY CENTER

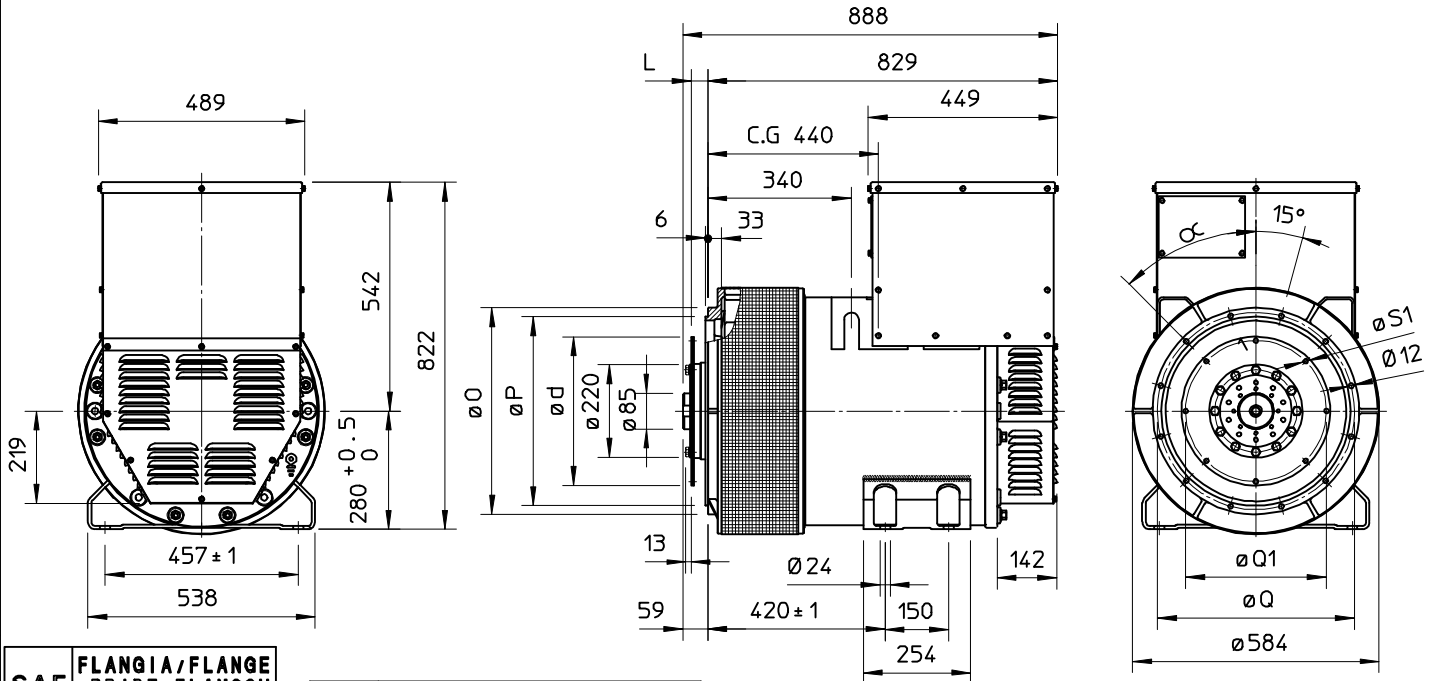
SINGLE BEARING MOMENTS OF INERTIA



	COMPONENT	WEIGHT kg	J kgm²
1	FAN	6,1	0,1887
2	MAIN ROTOR	132,8	1,7815
3	EX. ROTOR	14,5	0,0874
4	SHAFT	38,5	0.0397
	TOTAL	191,9	2,0973

SAE No	5 SHAFTS COUPLING FLEX PLATE			
	A	B	WEIGHT kg	J kgm²
11.5	41.1	110.4	22,7	0,306
14	34.7	96.4	22,7	0,306

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
1/2	648	584,2	619,1

SAE N.	GIUNTI A DISCHI DISC COUPLING DISQUE DE MONOPALIER SCHEIBENKUPPLUNG					
	L	d	Q1	n. fori	S1	∝1
11 1/2	39,6	352,42	333,37	8	11	45°
14	25,4	466,72	438,15	8	14	45°

C.G = GRAVITY CENTER

mecc alte spa

GENERATOR TYPE ECO 38-1L/4

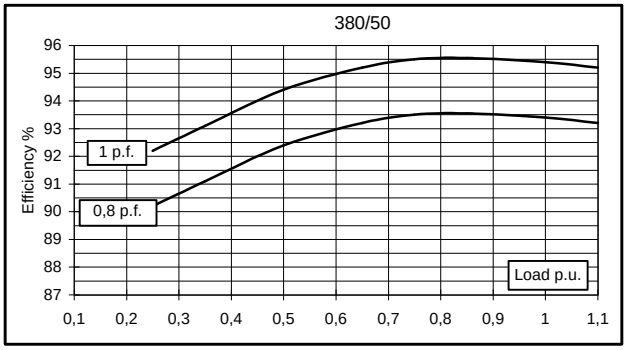
Document :**DS073A/1**
issue 001 date 05/03/2004

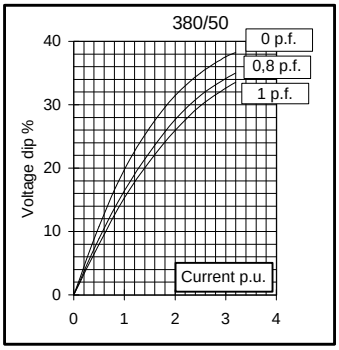
Electrical Characteristics									
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	250	250	250	230	290	300	300	300
		kW	200	200	200	184	232	240	240	240
Rated power class F		kVA	230	230	230	215	270	280	280	280
		kW	184	184	184	172	216	224	224	224
Regulation with		UVR6	±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	%	93,4	93,5	93,2	93	93,9	94,4	94,5	94,6
(see graph. for details)	3/4	%	93,5	93,8	93,7	93,4	94,4	94,6	94,8	95
	2/4	%	92,4	92,5	92,5	92,3	93,5	93,6	93,7	93,8
	1/4	%	90,2	90	89,8	89,6	90,7	90,7	90,7	90,5
Reactances (f. l.cl. F)	Xd	%	238,2	215	199,7	163,5	278,0	255,9	234,1	215
	Xd'	%	16,1	14,5	13,5	11,0	18,8	17,3	15,8	14,5
	Xd"	%	8,3	7,5	7,0	5,7	9,7	8,9	8,2	7,5
	Xq	%	134,1	121	112,4	92,0	156,5	144,0	131,8	121
	Xq'	%	134,1	121	112,4	92,0	156,5	144,0	131,8	121
	Xq"	%	25,3	22,8	21,2	17,3	29,5	27,1	24,8	22,8
	X_2	%	18,4	16,6	15,4	12,6	21,5	19,8	18,1	16,6
	X_0	%	2,8	2,5	2,3	1,9	3,2	3,0	2,7	2,5
Short Circuit Ratio	Kcc		0,40	0,43	0,67	1,10	0,31	0,37	0,40	0,43
Time Constants	Td'	sec.	0,088							
	Td"	sec.	0,014							
	Tdo'	sec.	1,40							
	Tα	sec.	0,0175							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0,6	0,71	0,8	0,95	0,4	0,5	0,58	0,7
Excitation at full load		Amp.	2,6	2,7	2,9	3,1	2,2	2,4	2,5	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	0,0068							
Rotor Winding Resistance (20°C)		Ω	5,489							
Exciter Resistance (20 °C)		Ω	Rotor : 0,685				Stator : 15,28			
Heat dissipation at f.l.cl.H		W	14133	13904	14592	13849	15071	14237	13968	13700
Telephone Interference			FHT < 2%				TIF < 40			
Radio interference			EN50081-1, EN50082-1, VDE0875K. For others standards apply to factory							
Waveform Distors.(THD) at f. load		LL/LN %	2 / 2,1							
Waveform Distors.(THD) at no load		LL/LN %	2,9 / 3,1							
Mechanical characteristics										
Protection			IP 21 (other protection on request)							
DE bearing			6318.2RS							
NDE bearing			6314.2RS							
Weight of wound stator assembly		kg	239							
Weight of wound rotor assembly		kg	152							
Weight of complete generator		kg	692							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	5,1							
Cooling air requirement		m^3/min	32				39			
Inertia Constant (H)		sec.	0,117				0,141			
Noise level at 1m/7m		dB(A)	82 / 69				86 / 73			

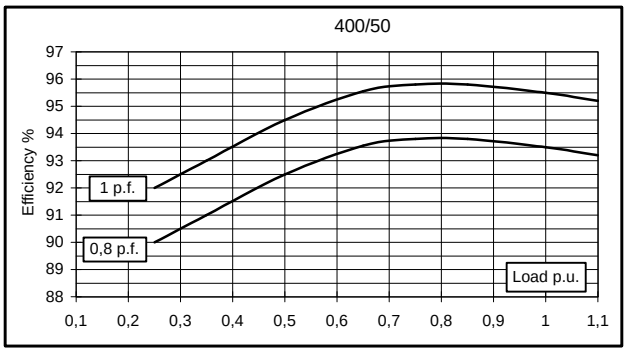
GENERATOR TYPE ECO 38-1L/4

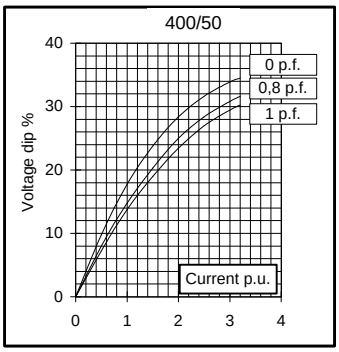
Document : **DS073A/2**
issue 000 date : 01/07/03

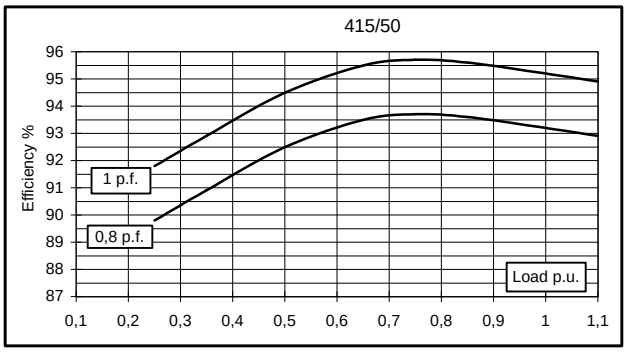
50 Hz

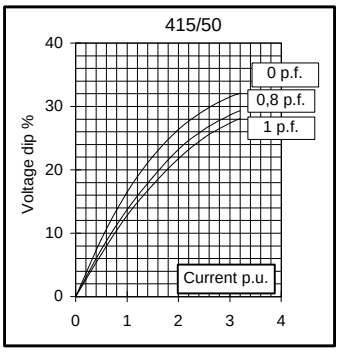


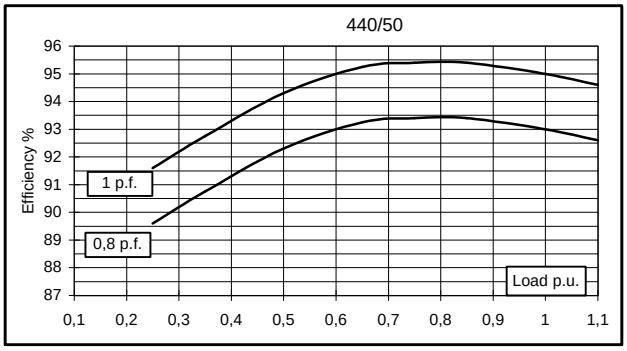


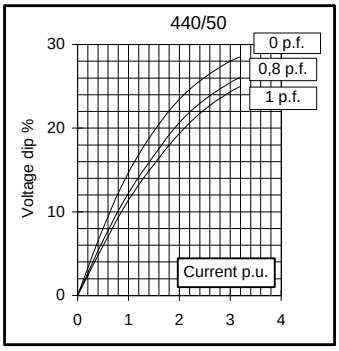


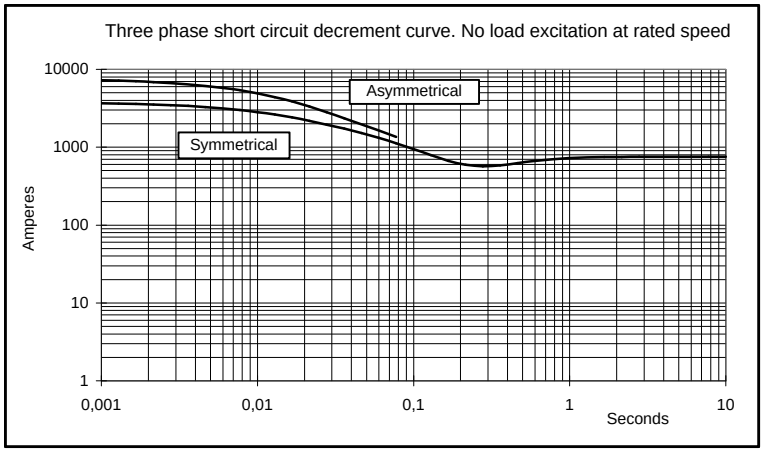








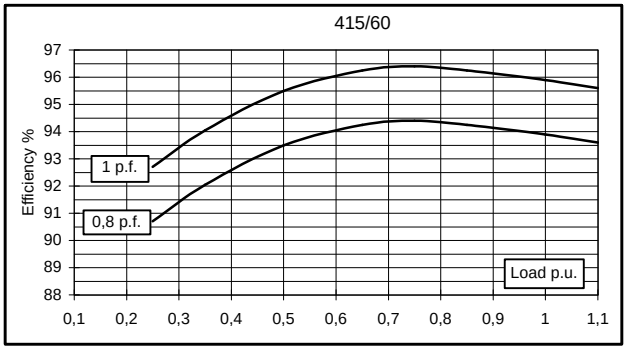


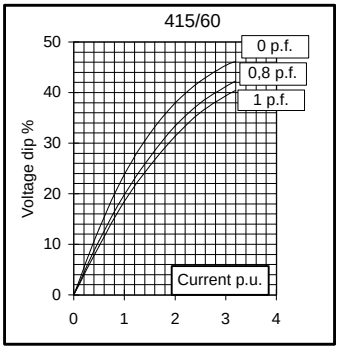


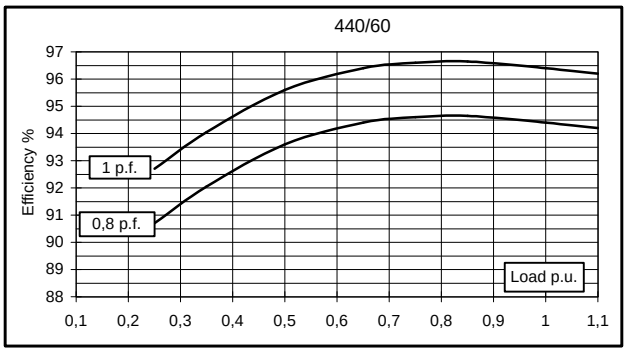
GENERATOR TYPE ECO 38-1L/4

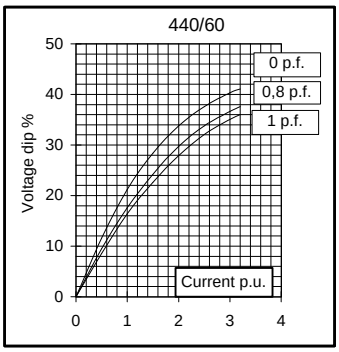
Document : **DS073A/3**
issue 000 date : 01/07/03

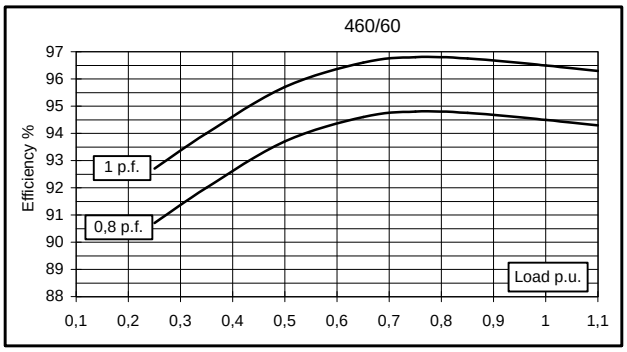
60 Hz

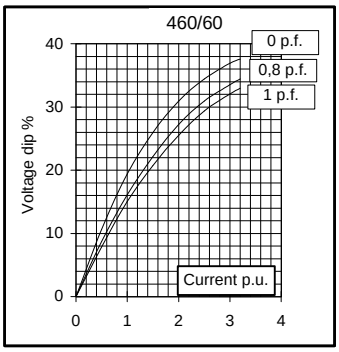


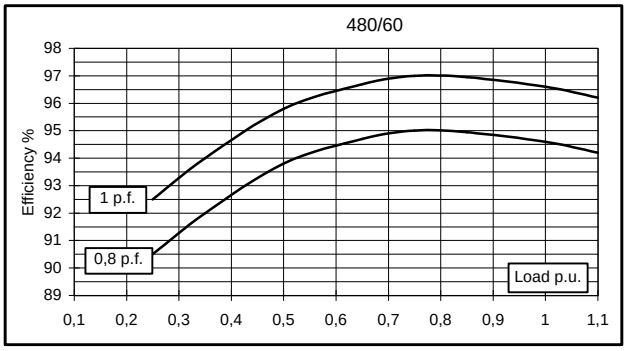


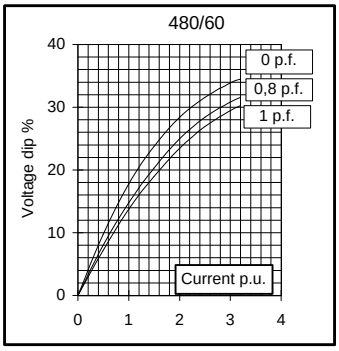




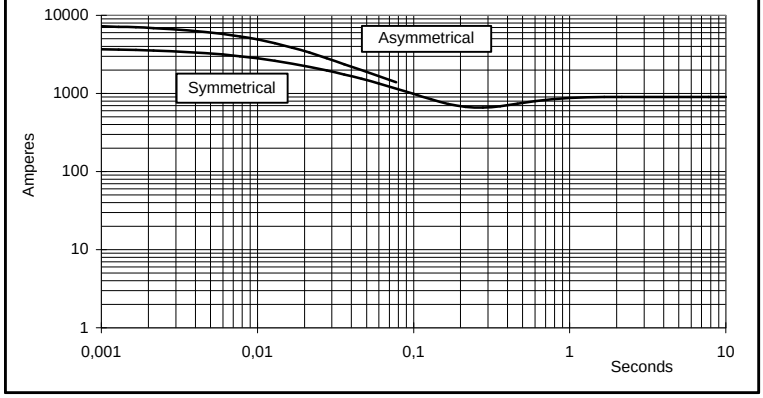




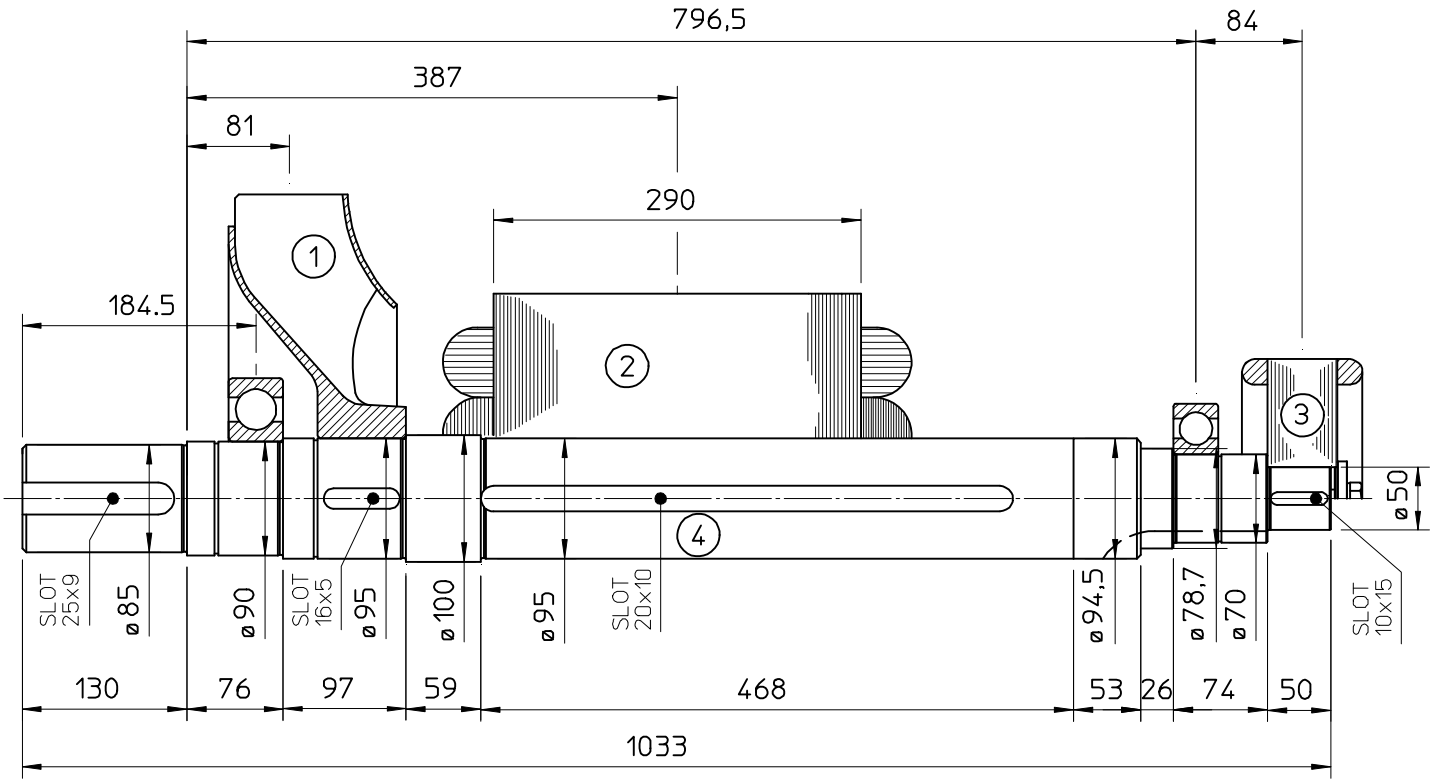




Three phase short circuit decrement curve. No load excitation at rated speed

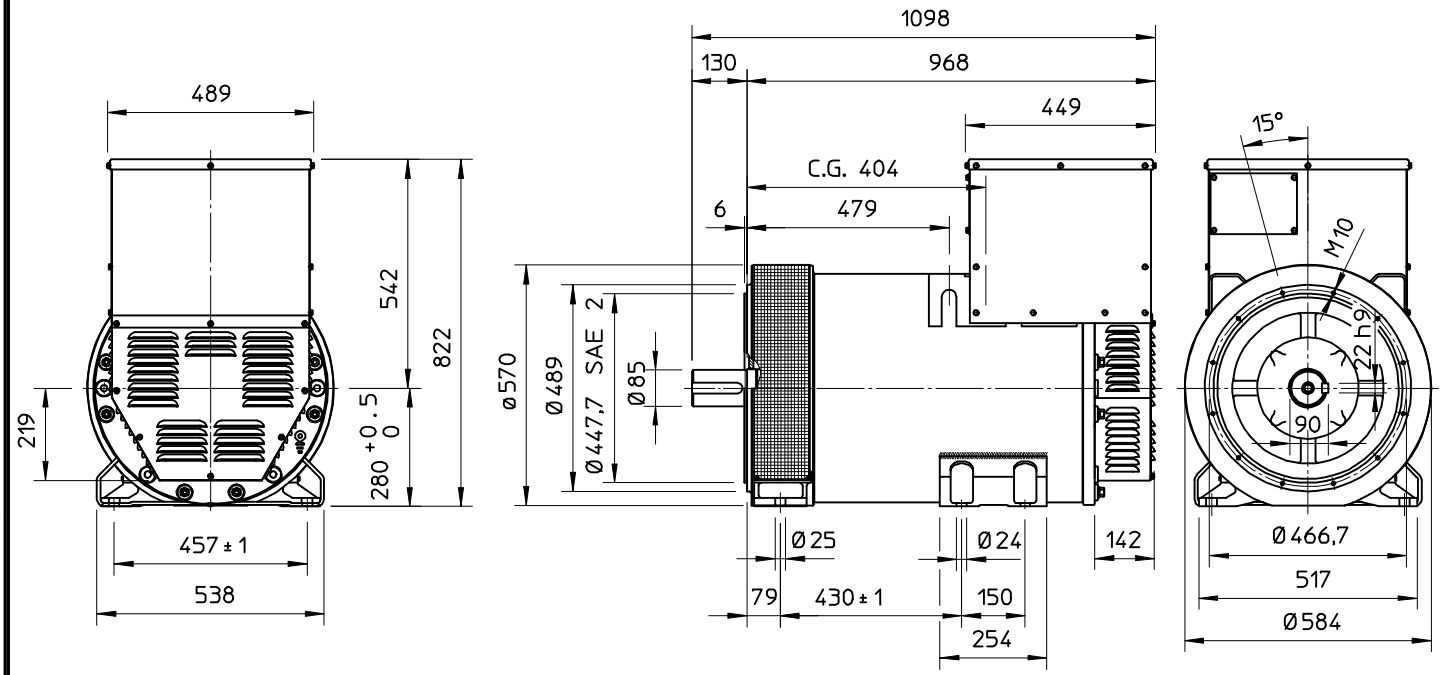


TWO BEARING MOMENTS OF INERTIA



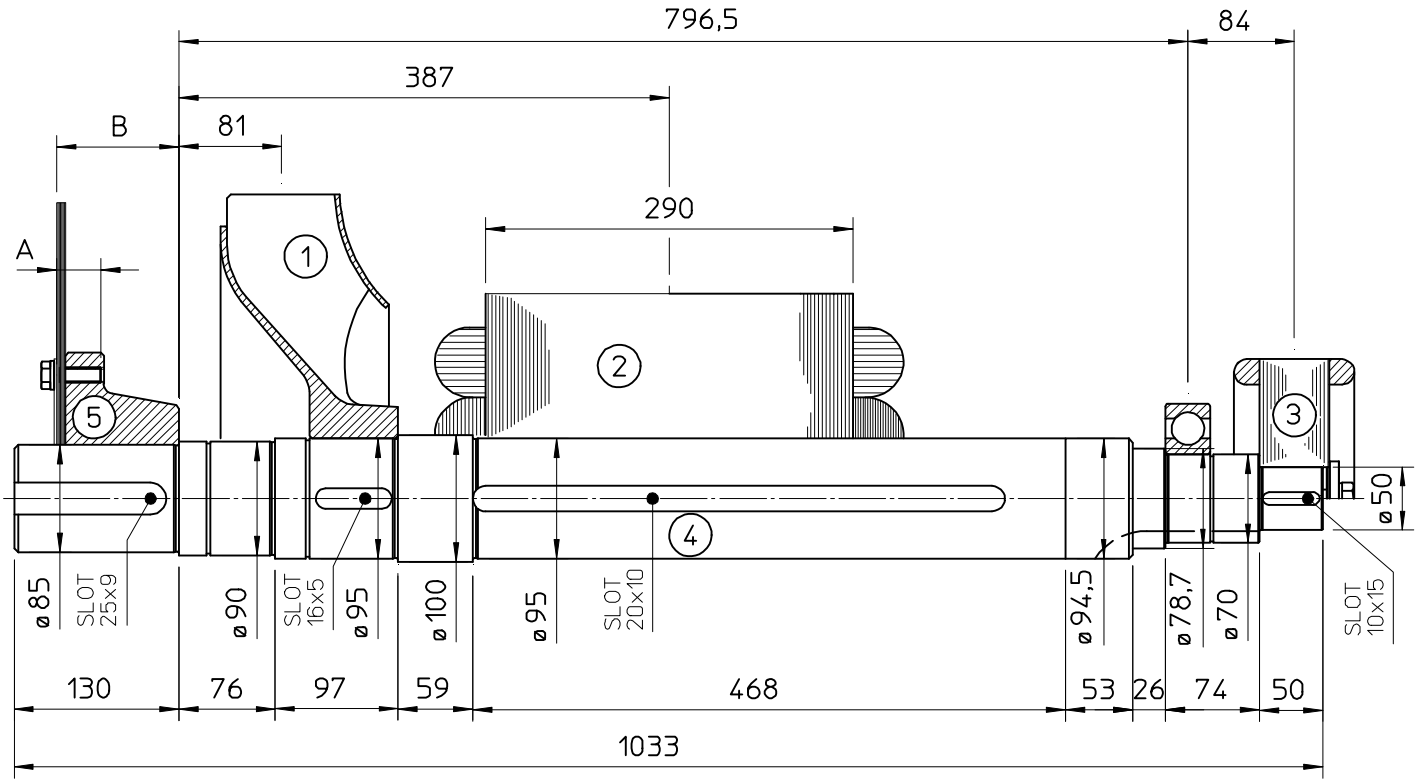
	COMPONENT	WEIGHT kg	J kgm²
1	FAN	6,1	0,1887
2	MAIN ROTOR	152	2,0397
3	EX. ROTOR	14,5	0,0874
4	SHAFT	49,9	0,0525
	TOTAL	222,5	2,3683

TWO BEARING DIMENSIONS



C.G = GRAVITY CENTER

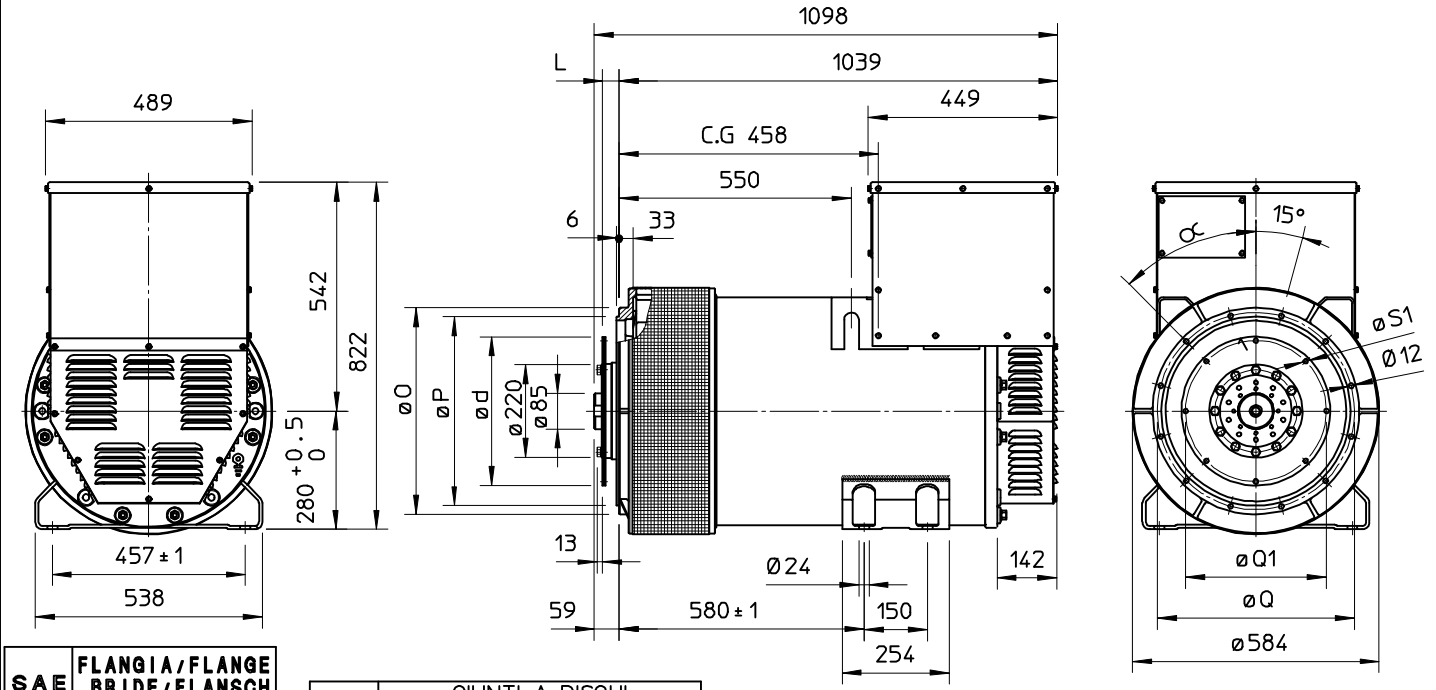
SINGLE BEARING MOMENTS OF INERTIA



	COMPONENT	WEIGHT kg	J kgm²
1	FAN	6,1	0,1887
2	MAIN ROTOR	152	2,0397
3	EX. ROTOR	14,5	0,0874
4	SHAFT	49,9	0,0525
	TOTAL	222,5	2,3683

SAE No	5 SHAFTS COUPLING FLEX PLATE			
	A	B	WEIGHT kg	J kgm²
11.5	41.1	110.4	22,7	0,306
14	34.7	96.4	22,7	0,306

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
1/2	648	584,2	619,1

SAE N.	GIUNTI A DISCHI DISC COUPLING DISQUE DE MONOPALIER SCHEIBENKUPPLUNG					
	L	d	Q1	n. fori	S1	∝1
11 1/2	39,6	352,42	333,37	8	11	45°
14	25,4	466,72	438,15	8	14	45°

C.G = GRAVITY CENTER

mecc alte spa

GENERATOR TYPE ECO 38-2L/4

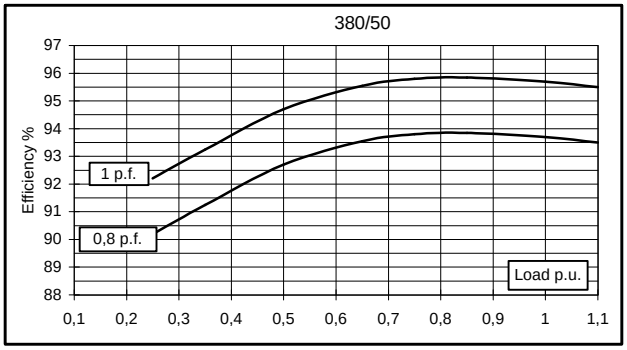
Document :**DS074A/1**
issue 001 date 05/03/2004

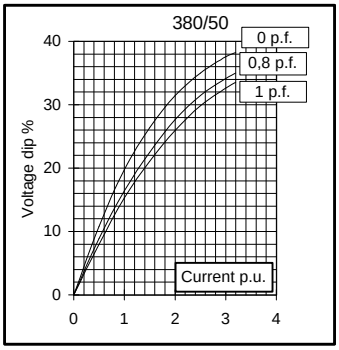
Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	290	300	300	290	325	340	360	360
		kW	232	240	240	232	260	272	288	288
Rated power class F		kVA	265	275	275	265	300	310	330	330
		kW	212	220	220	212	240	248	264	264
Regulation with		UVR6	±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	%	93,7	93,8	93,5	93,3	94,1	94,6	94,7	94,8
(see graph. for details)	3/4	%	93,8	94,1	94	93,7	94,6	94,8	95	95,2
	2/4	%	92,7	92,8	92,8	92,6	93,7	93,8	93,9	94
	1/4	%	90,2	90	89,8	89,6	90,7	90,7	90,7	90,5
Reactances (f. l.cl. F)	Xd	%	235,6	220	204,4	175,8	265,7	247,3	239,5	220
	Xd'	%	17,4	16,2	15,1	12,9	19,6	18,2	17,6	16,2
	Xd"	%	9,2	8,6	8,0	6,9	10,4	9,7	9,4	8,6
	Xq	%	136,0	127	118,0	101,5	153,4	142,7	138,3	127
	Xq'	%	136,0	127	118,0	101,5	153,4	142,7	138,3	127
	Xq"	%	23,6	22	20,4	17,6	26,6	24,7	24,0	22
	X_2	%	18,2	17,0	15,8	13,6	20,5	19,1	18,5	17,0
	X_0	%	2,6	2,4	2,2	1,9	2,9	2,7	2,6	2,4
Short Circuit Ratio	Kcc		0,38	0,41	0,60	0,95	0,30	0,36	0,38	0,41
Time Constants	Td'	sec.	0,093							
	Td"	sec.	0,0136							
	Tdo'	sec.	1,50							
	Tα	sec.	0,0165							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0,6	0,7	0,9	1,2	0,35	0,43	0,55	0,65
Excitation at full load		Amp.	3,6	3,8	3,9	4,1	3,1	3,5	3,5	3,7
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,0058							
Rotor Winding Resistance (20°C)		Ω	7,739							
Exciter Resistance (20 °C)		Ω	Rotor : 0,685				Stator : 15,28			
Heat dissipation at f.l.cl.H		W	15599	15864	16684	16660	16302	15526	16118	15797
Telephone Interference			FHT < 2%				TIF < 40			
Radio interference			EN50081-1, EN50082-1, VDE0875K. For others standards apply to factory							
Waveform Distors.(THD) at f. load		LL/LN %	3 / 2,9							
Waveform Distors.(THD) at no load		LL/LN %	2,6 / 2,8							
Mechanical characteristics										
Protection			IP 21 (other protection on request)							
DE bearing			6318.2RS							
NDE bearing			6314.2RS							
Weight of wound stator assembly		kg	273							
Weight of wound rotor assembly		kg	190							
Weight of complete generator		kg	790							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	5,9							
Cooling air requirement		m^3/min	32				39			
Inertia Constant (H)		sec.	0,119				0,143			
Noise level at 1m/7m		dB(A)	82 / 69				86 / 73			

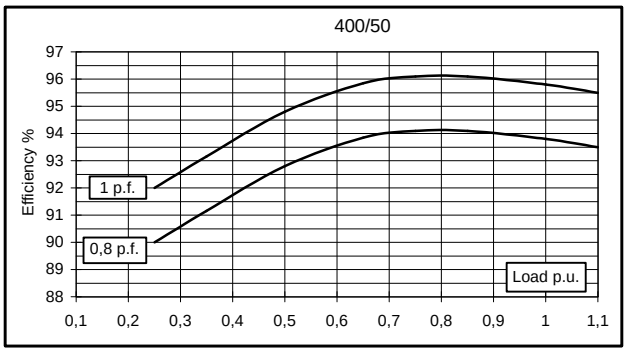
GENERATOR TYPE ECO 38-2L/4

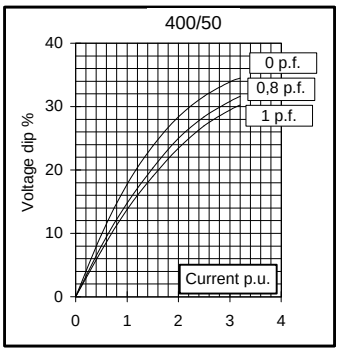
Document : **DS074A/2**
issue 000 date : 01/07/03

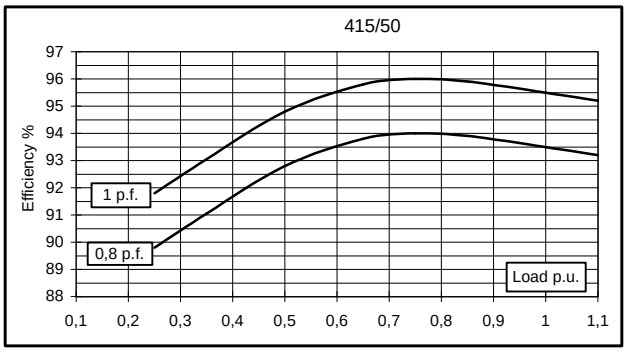
50 Hz

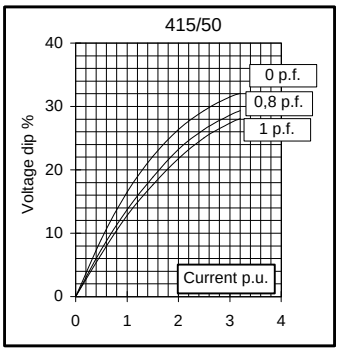


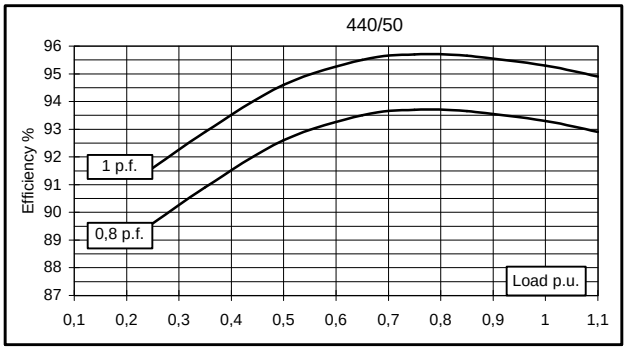


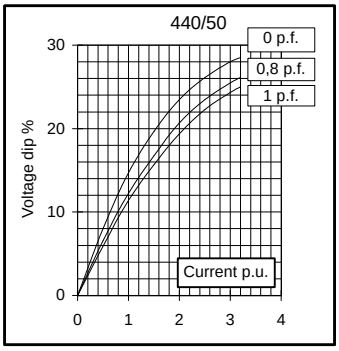


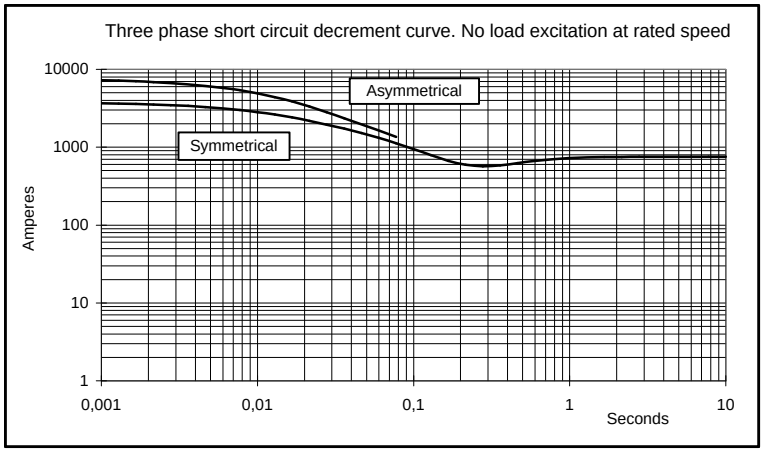








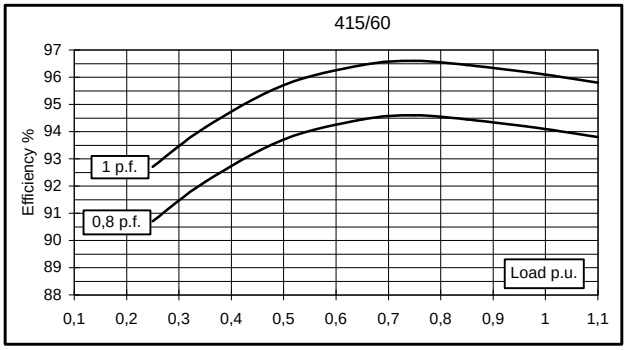


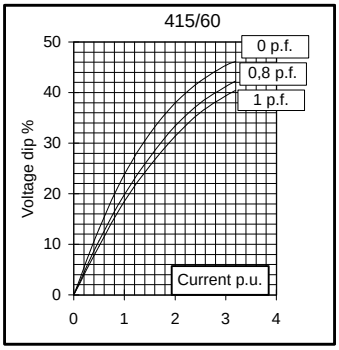


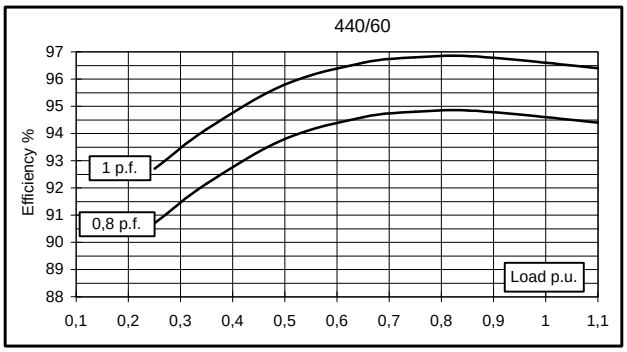
GENERATOR TYPE ECO 38-2L/4

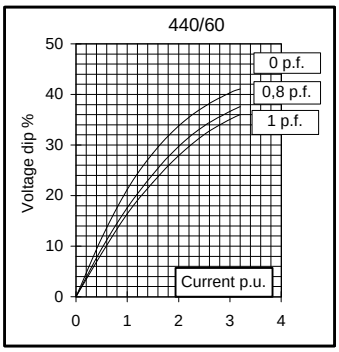
Document : **DS074A/3**
issue 000 date : 01/07/03

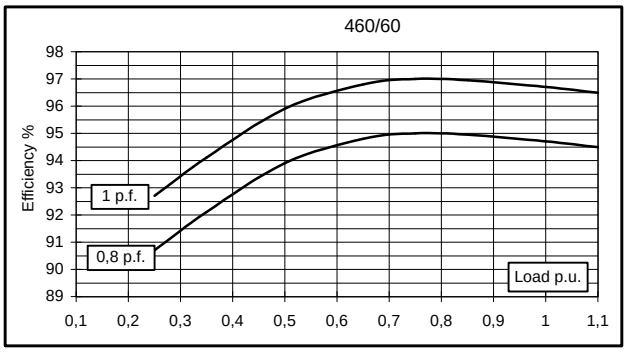
60 Hz

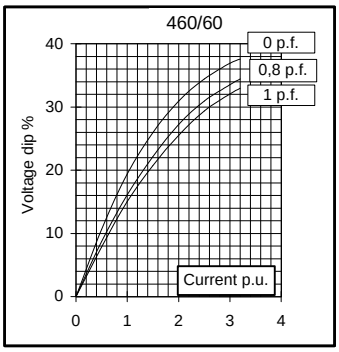


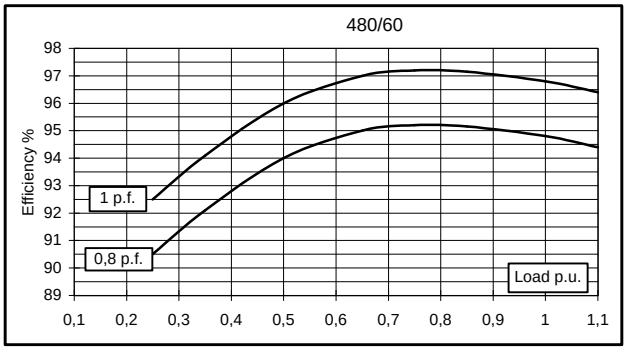


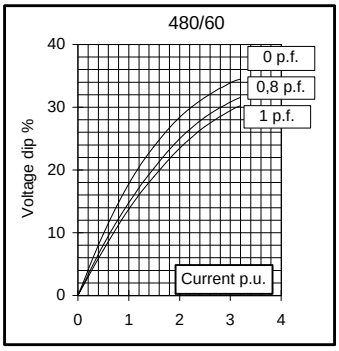


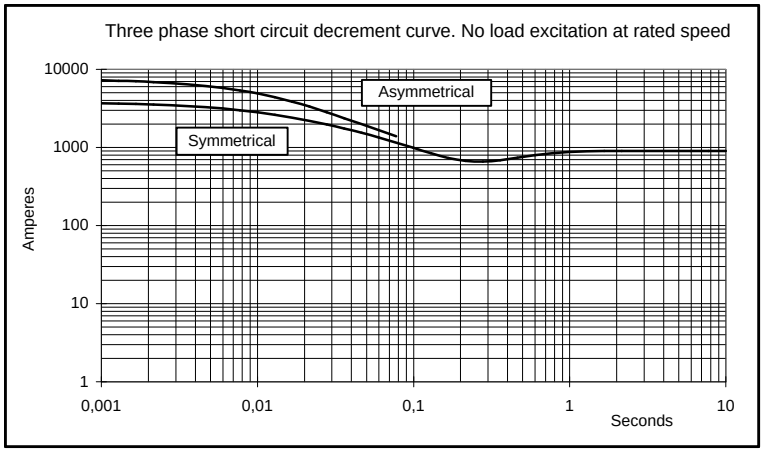




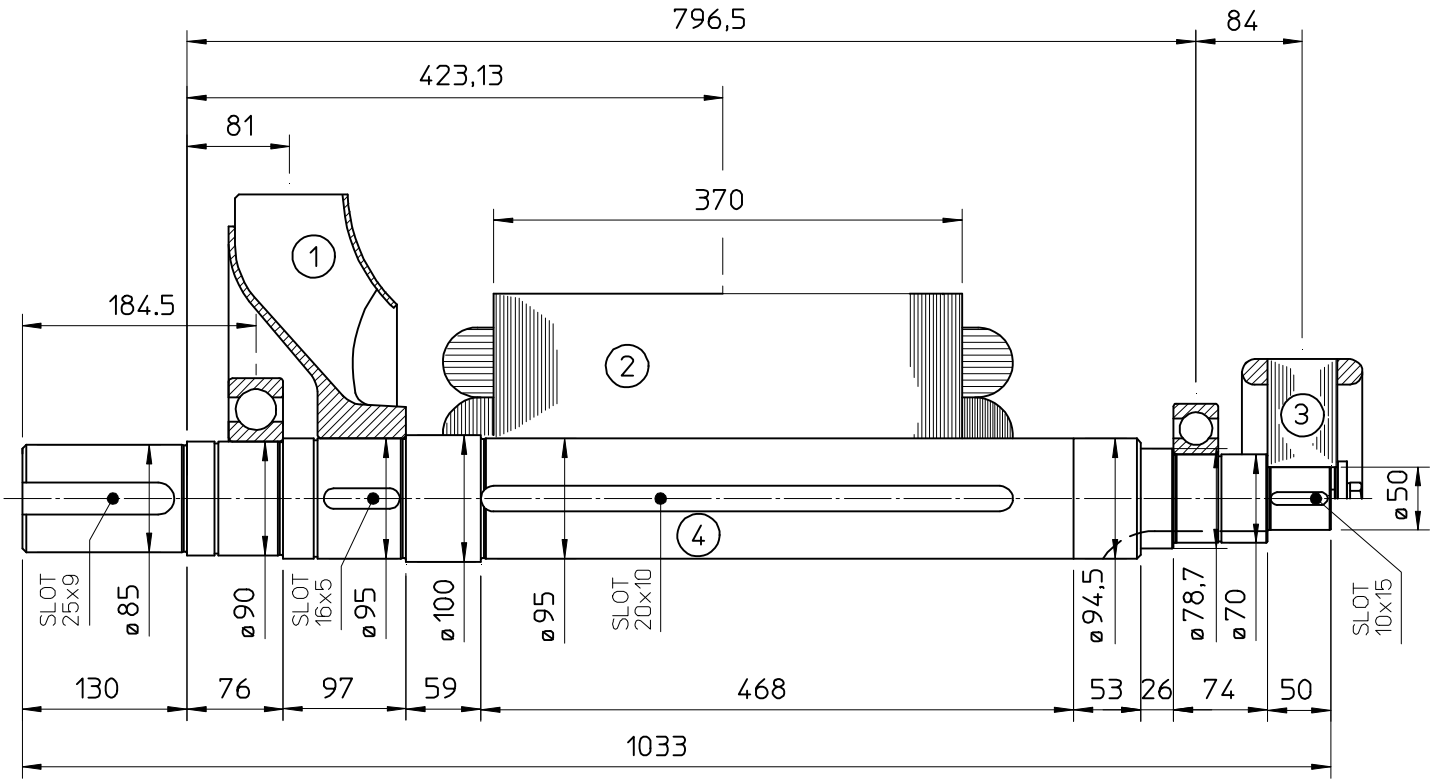






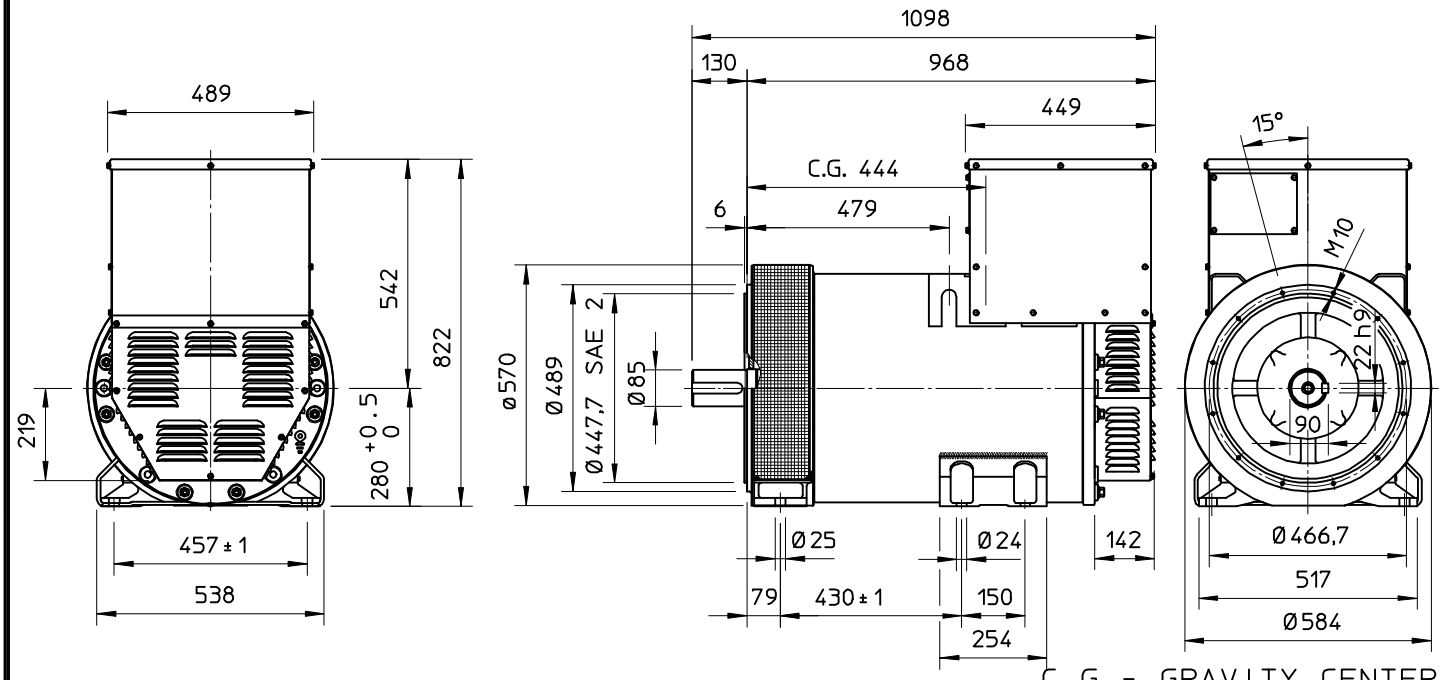


TWO BEARING MOMENTS OF INERTIA



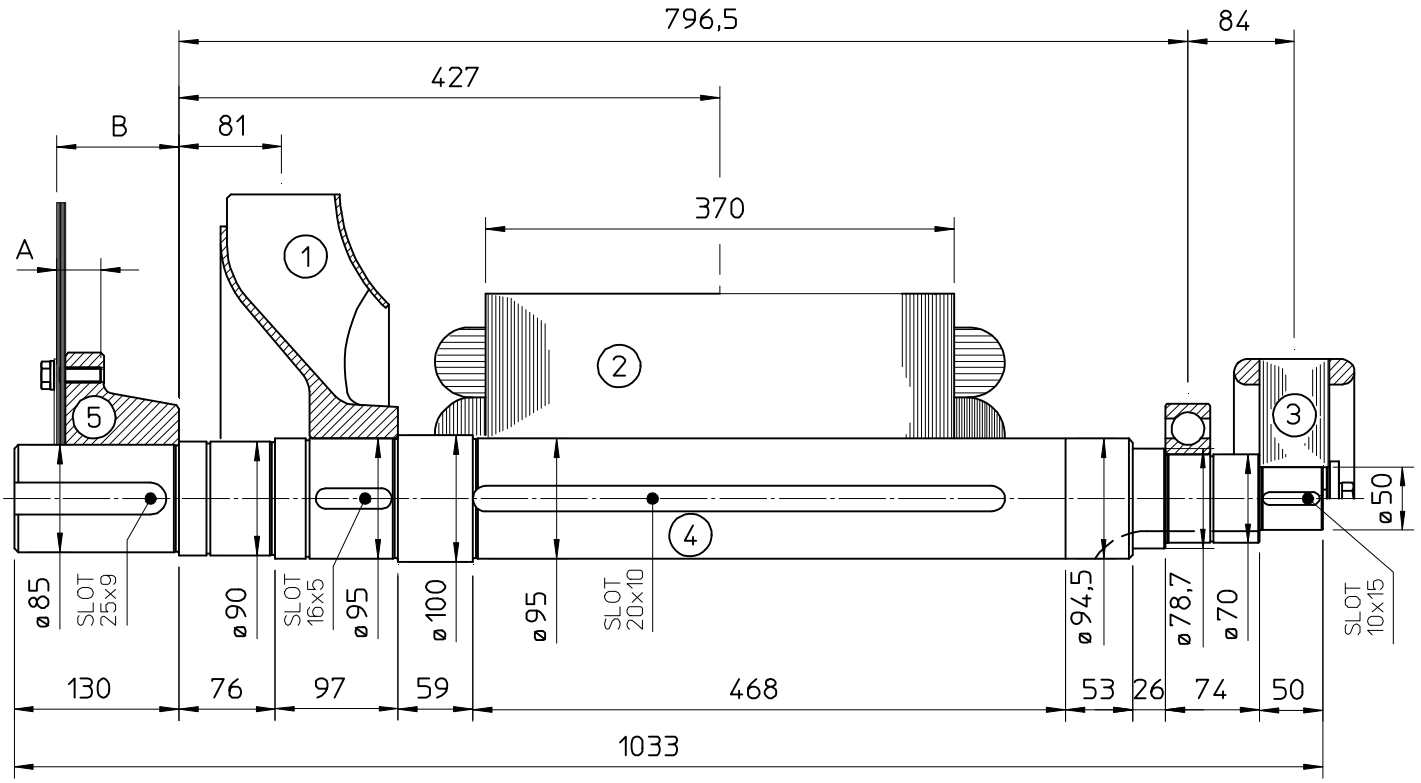
	COMPONENT	WEIGHT kg	J kgm²
1	FAN	6,1	0,1887
2	MAIN ROTOR	190	2,5561
3	EX. ROTOR	14,5	0,0874
4	SHAFT	49,9	0,0525
	TOTAL	260,5	2,8847

TWO BEARING DIMENSIONS



C.G = GRAVITY CENTER

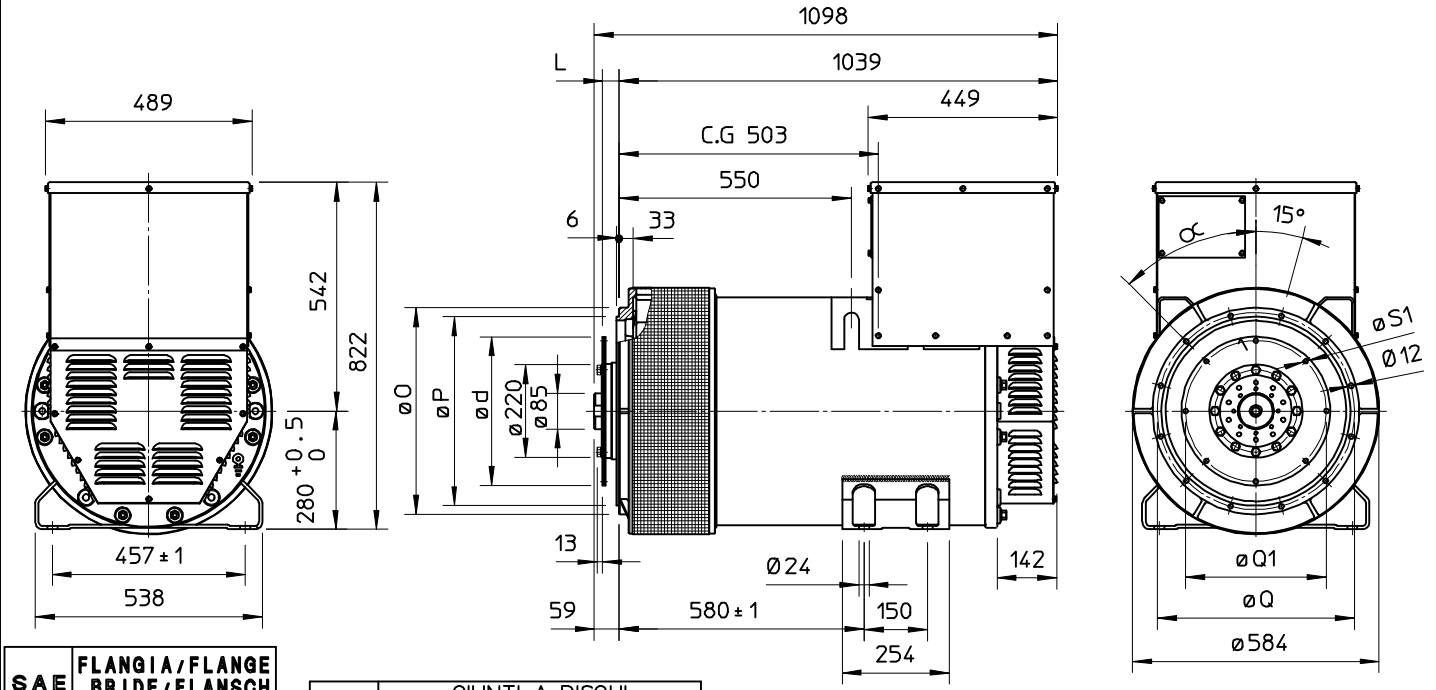
SINGLE BEARING MOMENTS OF INERTIA



	COMPONENT	WEIGHT kg	J kgm²
1	FAN	6,1	0,1887
2	MAIN ROTOR	190	2,5561
3	EX. ROTOR	14,5	0,0874
4	SHAFT	49,9	0,0525
	TOTAL	260,5	2,8847

SAE No	5 SHAFTS COUPLING FLEX PLATE			
	A	B	WEIGHT kg	J kgm²
11.5	41.1	110.4	22,7	0,306
14	34.7	96.4	22,7	0,306

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
1/2	648	584,2	619,1

SAE N.	GIUNTI A DISCHI DISC COUPLING DISQUE DE MONOPALIER SCHEIBENKUPPLUNG					
	L	d	Q1	n. fori	S1	∝1
11 1/2	39,6	352,42	333,37	8	11	45°
14	25,4	466,72	438,15	8	14	45°

C.G = GRAVITY CENTER

mecc alte spa

GENERATOR TYPE ECO 38-3L/4

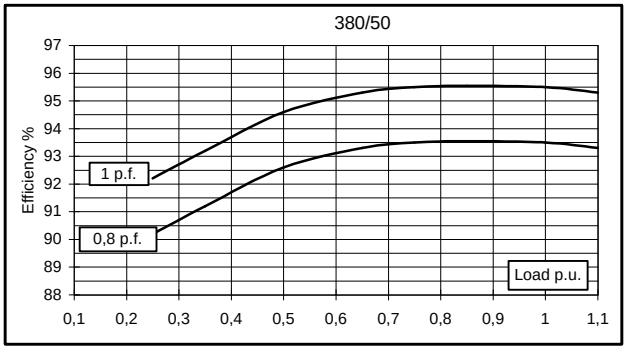
Document :**DS075A/1**
issue 001 date 05/03/2004

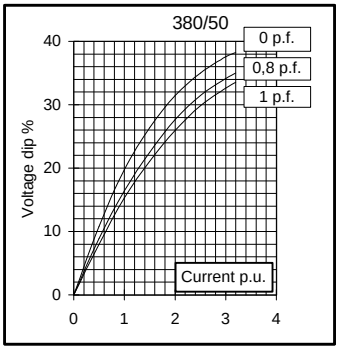
Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	350	350	350	340	380	420	420	420
		kW	280	280	280	272	304	336	336	336
Rated power class F		kVA	320	320	320	310	350	385	385	385
		kW	256	256	256	248	280	308	308	308
Regulation with		UVR6	±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	%	93,5	93,6	93,3	93,1	93,7	94,2	94,3	94,4
(see graph. for details)	3/4	%	93,5	93,8	93,7	93,4	94	94,2	94,4	94,6
	2/4	%	92,6	92,7	92,7	92,5	93,1	93,2	93,3	93,4
	1/4	%	90,2	90	89,8	89,6	90,7	90,7	90,7	90,5
Reactances (f. l.cl. F)	Xd	%	282,5	255	236,9	204,7	308,6	303,5	277,7	255
	Xd'	%	19,9	18,0	16,7	14,5	21,8	21,4	19,6	18,0
	Xd"	%	10,9	9,8	9,1	7,9	11,9	11,7	10,7	9,8
	Xq	%	146,3	132	122,6	106,0	159,8	157,1	143,7	132
	Xq'	%	146,3	132	122,6	106,0	159,8	157,1	143,7	132
	Xq"	%	23,3	21	19,5	16,9	25,4	25,0	22,9	21
	X_2	%	18,2	16,4	15,2	13,2	19,9	19,5	17,9	16,4
	X_0	%	2,5	2,3	2,1	1,8	2,8	2,7	2,5	2,3
Short Circuit Ratio	Kcc		0,35	0,40	0,55	0,90	0,22	0,30	0,35	0,40
Time Constants	Td'	sec.	0,102							
	Td"	sec.	0,0138							
	Tdo'	sec.	1,60							
	Tα	sec.	0,015							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0,5	0,7	0,9	1,2	0,3	0,35	0,47	0,65
Excitation at full load		Amp.	3	3,2	3,4	3,5	2,4	2,6	2,8	3
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,0044							
Rotor Winding Resistance (20°C)		Ω	7,739							
Exciter Resistance (20 °C)		Ω	Rotor : 0,685				Stator : 15,28			
Heat dissipation at f.l.cl.H		W	19465	19145	20107	20159	20440	20688	20310	19932
Telephone Interference			FHT < 2%				TIF < 40			
Radio interference			EN50081-1, EN50082-1, VDE0875K. For others standards apply to factory							
Waveform Distors.(THD) at f. load		LL/LN %	3,1 / 2,9							
Waveform Distors.(THD) at no load		LL/LN %	2,7 / 2,7							
Mechanical characteristics										
Protection			IP 21 (other protection on request)							
DE bearing			6318.2RS							
NDE bearing			6314.2RS							
Weight of wound stator assembly		kg	363							
Weight of wound rotor assembly		kg	240							
Weight of complete generator		kg	930							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	6,2							
Cooling air requirement		m^3/min	32				39			
Inertia Constant (H)		sec.	0,125				0,150			
Noise level at 1m/7m		dB(A)	82 / 69				86 / 73			

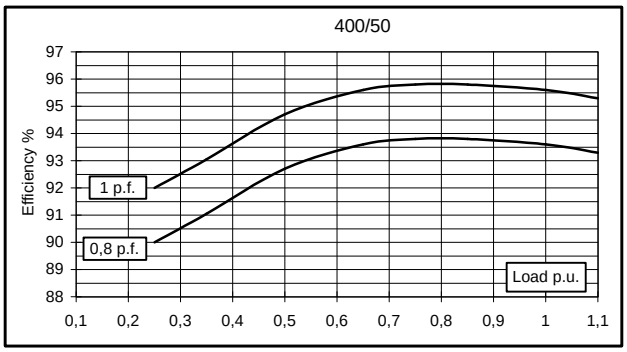
GENERATOR TYPE ECO 38-3L/4

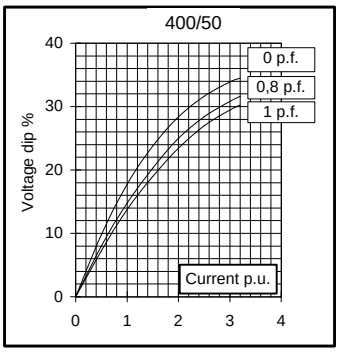
Document : **DS075A/2**
issue 000 date : 01/07/03

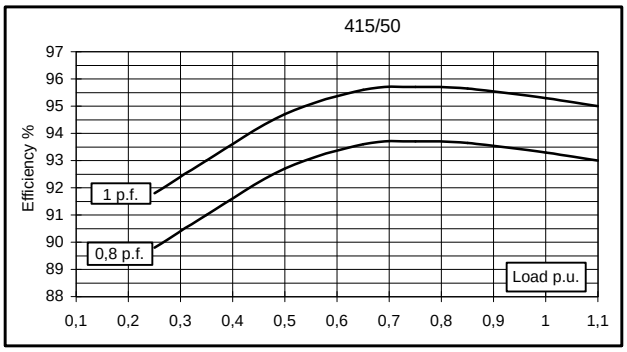
50 Hz

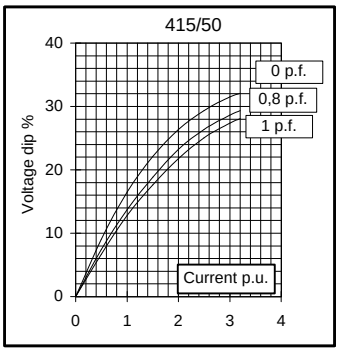


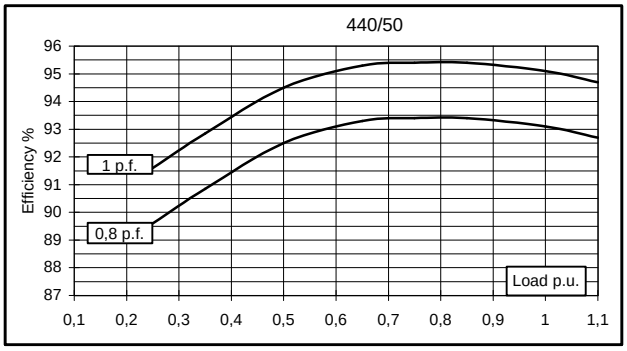


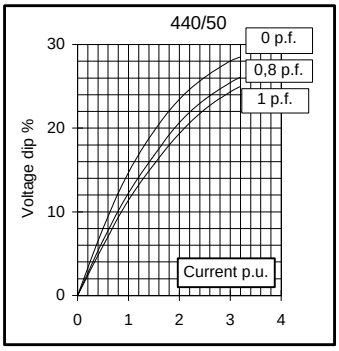


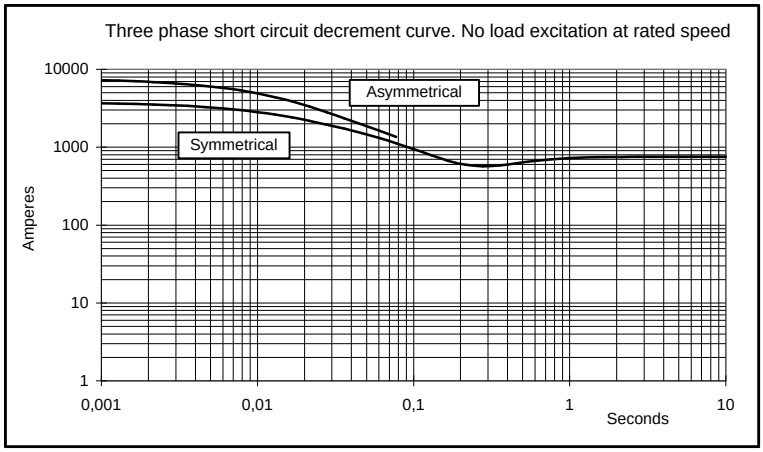








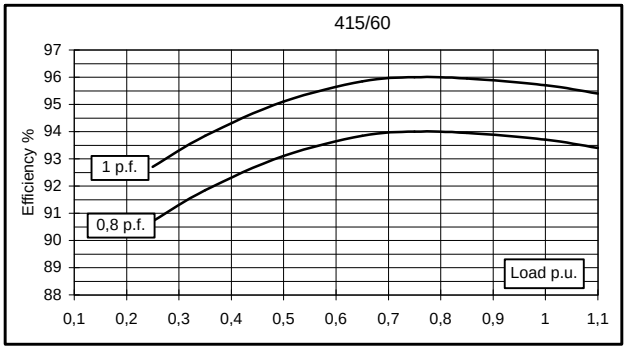


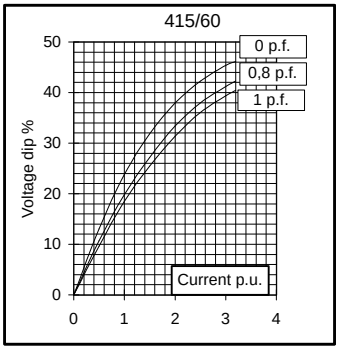


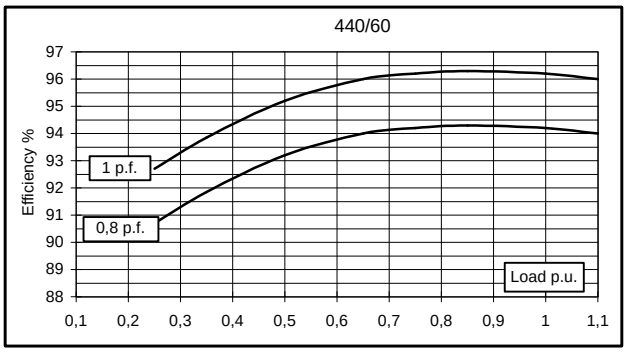
GENERATOR TYPE ECO 38-3L/4

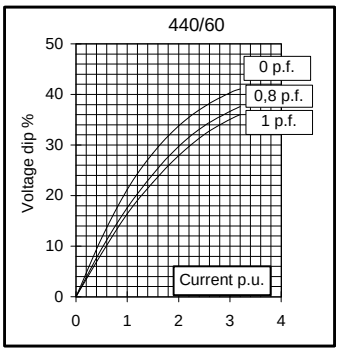
Document : **DS075A/3**
issue 000 date : 01/07/03

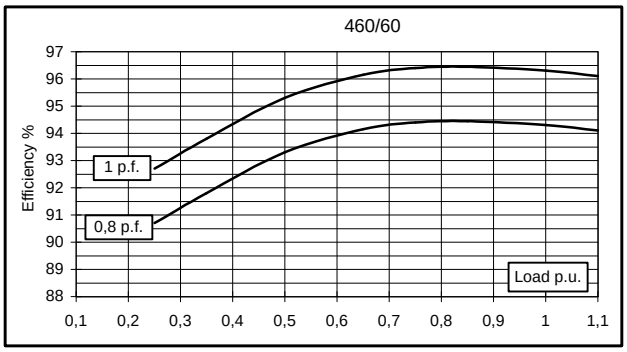
60 Hz

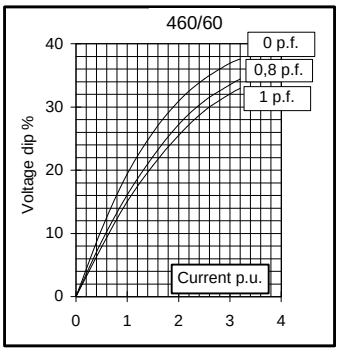


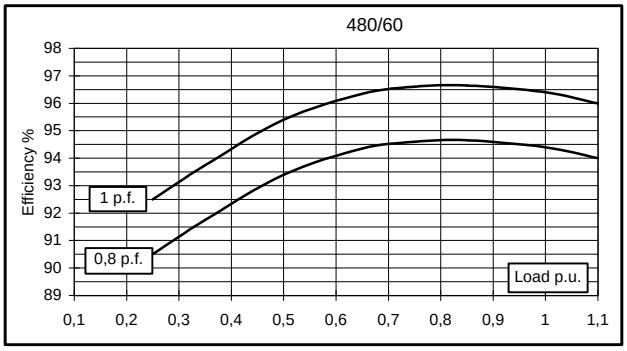


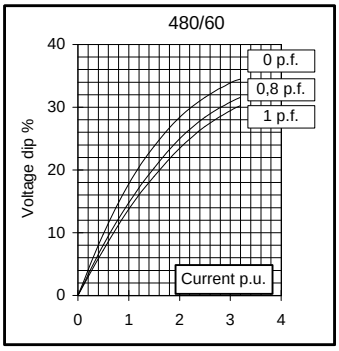


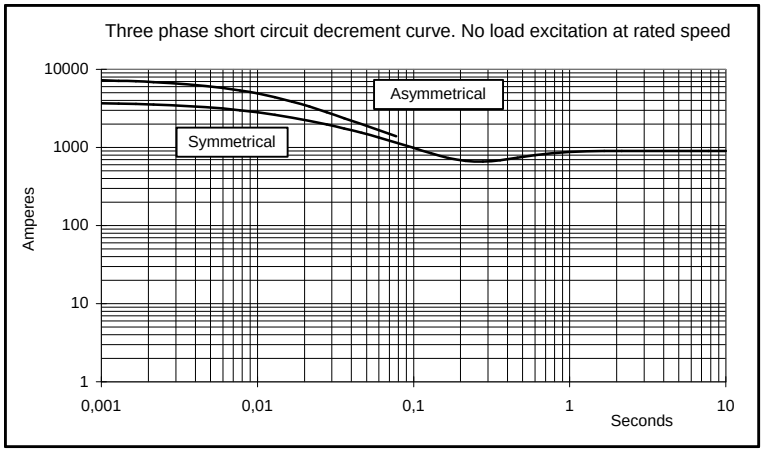




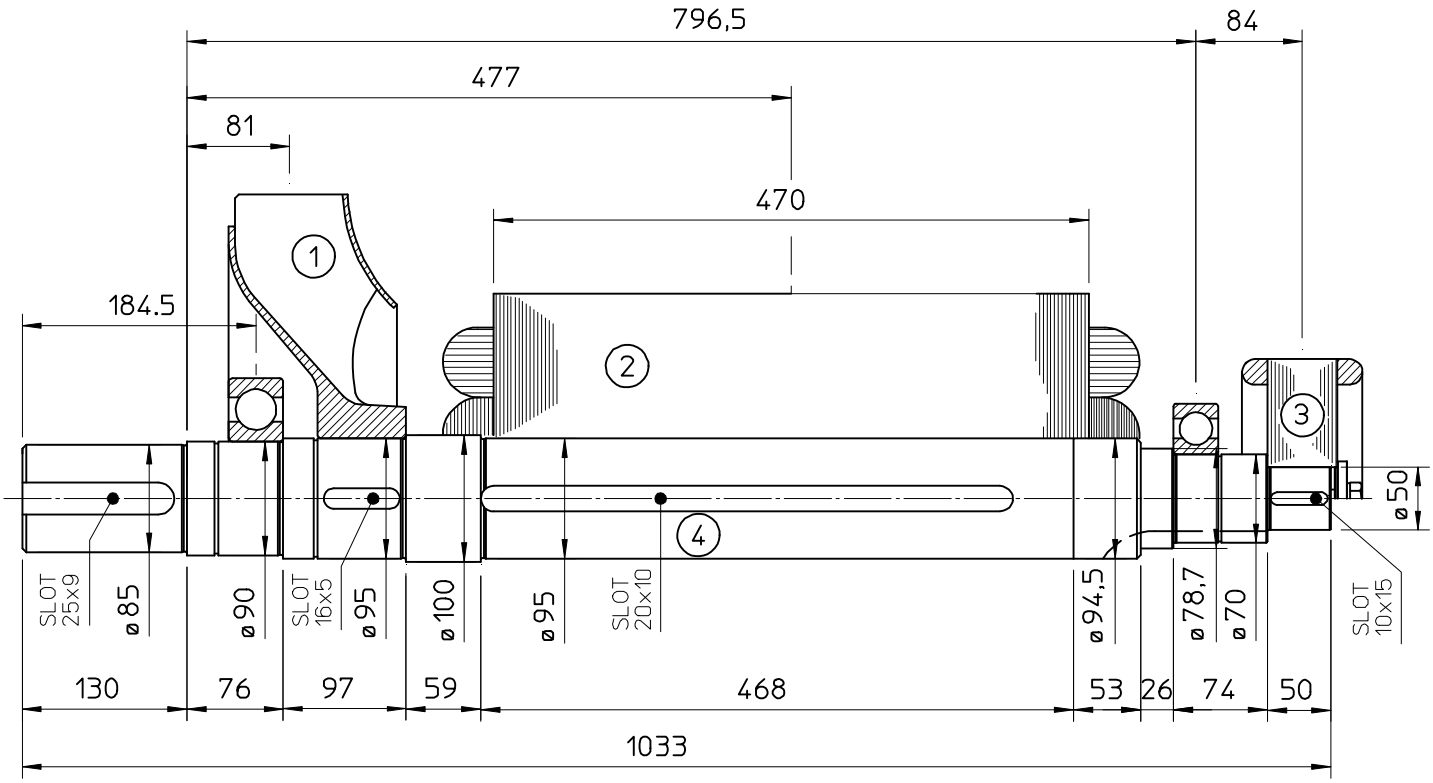






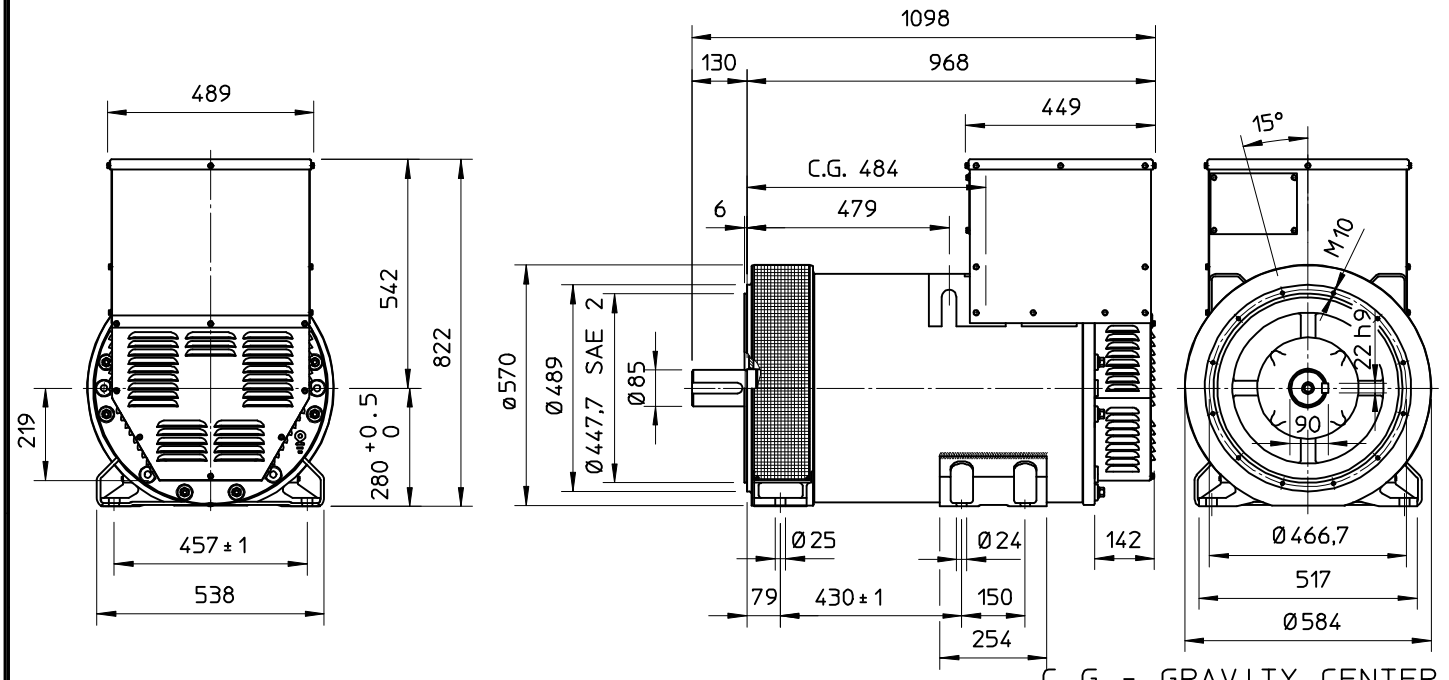


TWO BEARING MOMENTS OF INERTIA



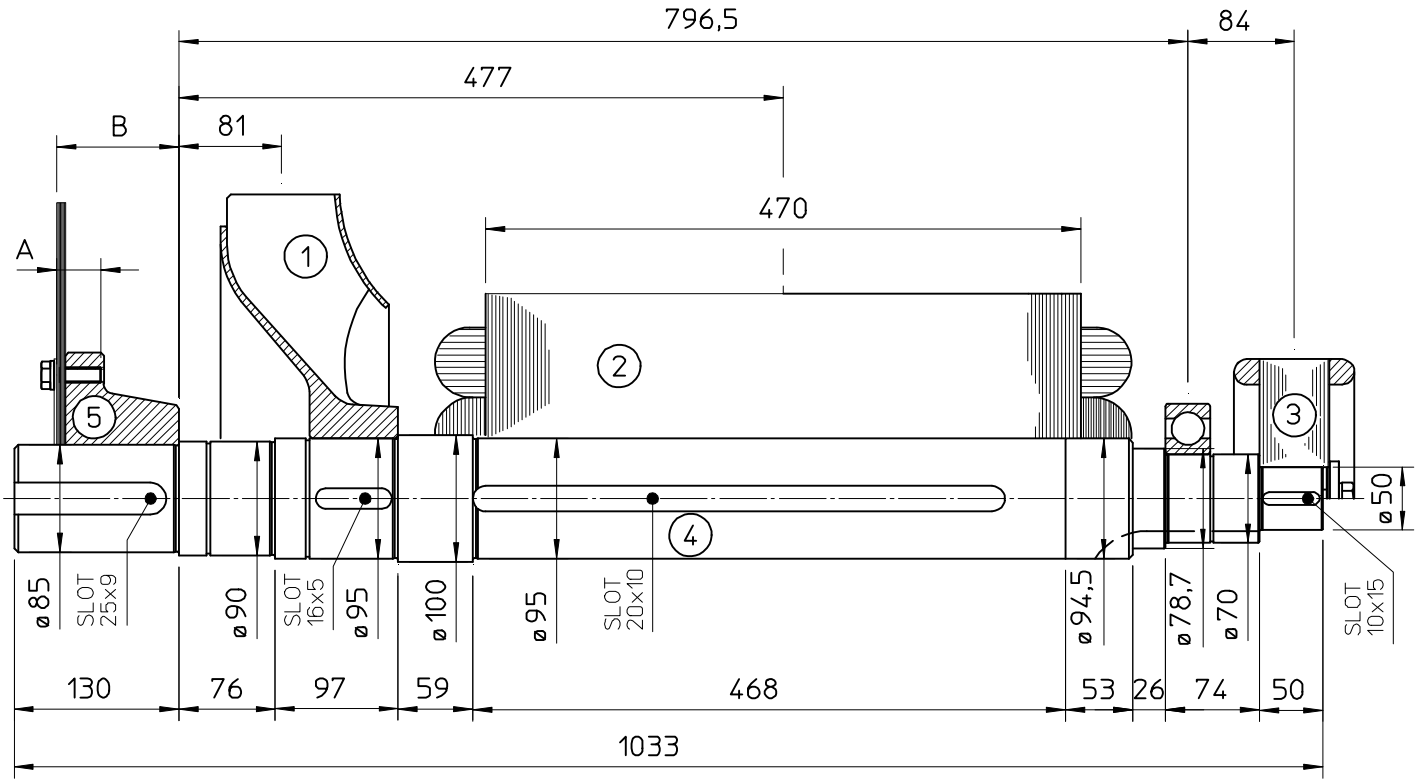
	COMPONENT	WEIGHT kg	J kgm²
1	FAN	6,1	0,1887
2	MAIN ROTOR	240	3,2016
3	EX. ROTOR	14,5	0,0874
4	SHAFT	49,9	0,0525
	TOTAL	310,5	3,5302

TWO BEARING DIMENSIONS



C.G = GRAVITY CENTER

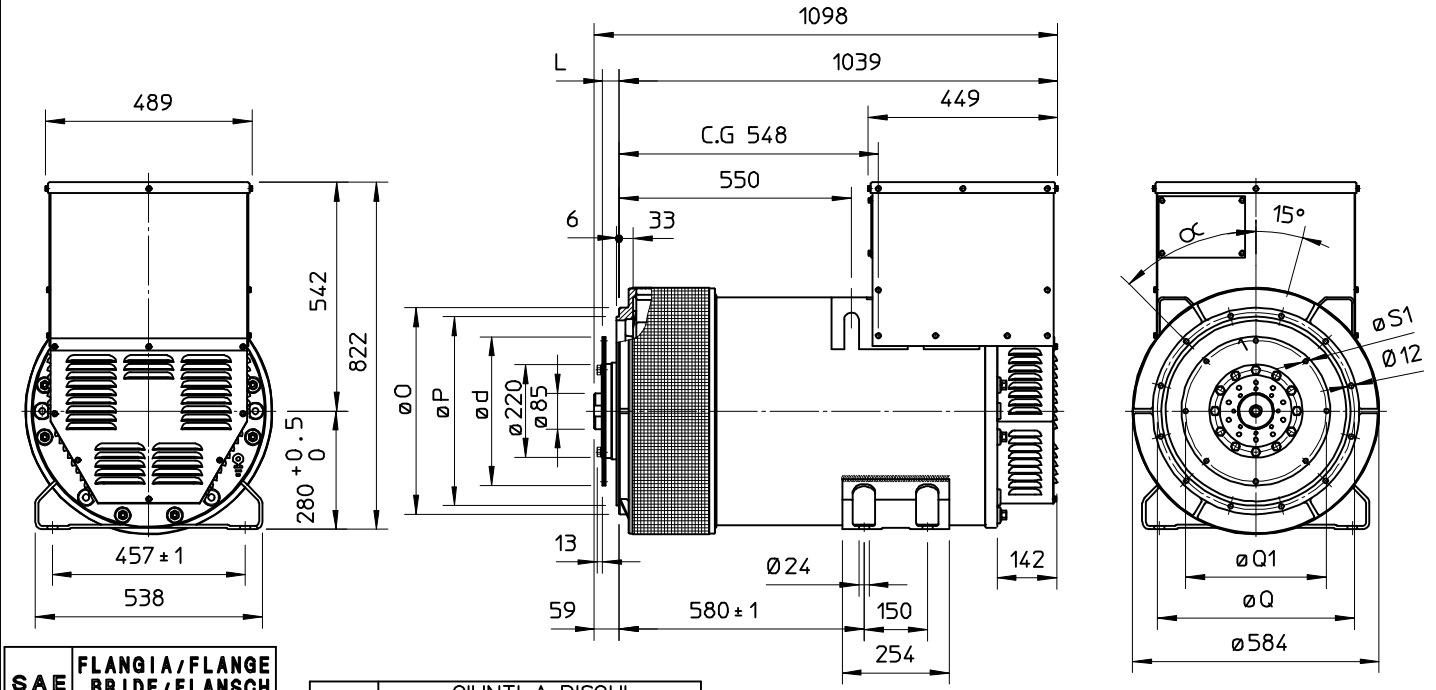
SINGLE BEARING MOMENTS OF INERTIA



	COMPONENT	WEIGHT kg	J kgm²
1	FAN	6,1	0,1887
2	MAIN ROTOR	240	3,2016
3	EX. ROTOR	14,5	0,0874
4	SHAFT	49,9	0,0525
	TOTAL	310,5	3,5302

SAE No	5 SHAFTS COUPLING FLEX PLATE			
	A	B	WEIGHT kg	J kgm²
11.5	41.1	110.4	22,7	0,306
14	34.7	96.4	22,7	0,306

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
1/2	648	584,2	619,1

SAE N.	GIUNTI A DISCHI DISC COUPLING DISQUE DE MONOPALIER SCHEIBENKUPPLUNG					
	L	d	Q1	n. fori	S1	α1
11 1/2	39,6	352,42	333,37	8	11	45°
14	25,4	466,72	438,15	8	14	45°

C.G = GRAVITY CENTER

mecc alte spa

GENERATOR TYPE ECO 40-1.5L/4

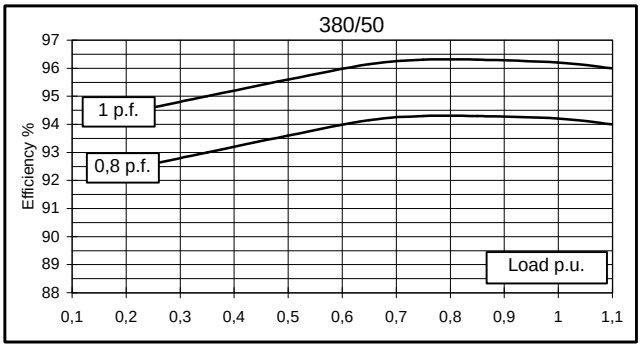
Document :**DS069A/1**
issue 003 date 10/11/2003

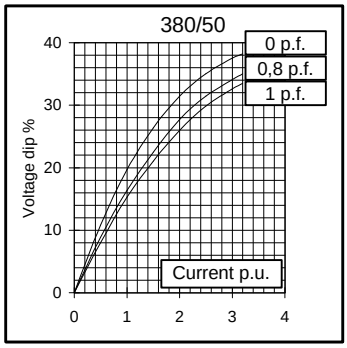
Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (parallel star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	620	620	620	570	660	700	744	744
		kW	496	496	496	456	528	560	595	595
Rated power class F		kVA	560	560	560	515	600	632	672	672
		kW	448	448	448	412	480	506	538	538
Regulation with		UVR6	±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	%	94,2	94,3	94	93,8	95	95,5	95,6	95,7
(see graph. for details)	3/4	%	94,3	94,6	94,5	94,2	95,8	96	96,1	96,4
	2/4	%	93,6	93,7	93,7	93,5	95	95,1	95,2	95,3
	1/4	%	92,6	92,4	92,2	92,1	93,8	93,9	93,9	93,8
Reactances (f. l.cl. F)	Xd	%	300,3	271	251,8	205,9	321,6	303,4	295,1	271
	Xd'	%	29,4	26,5	24,6	20,1	31,4	29,7	28,9	26,5
	Xd''	%	18,2	16,4	15,2	12,5	19,5	18,4	17,9	16,4
	Xq	%	162,9	147	136,6	111,7	174,5	164,6	160,1	147
	Xq'	%	162,9	147	136,6	111,7	174,5	164,6	160,1	147
	Xq''	%	22,5	20,3	18,9	15,4	24,1	22,7	22,1	20,3
	X_2	%	20,5	18,5	17,2	14,1	22,0	20,7	20,1	18,5
	X_0	%	3,2	2,9	2,7	2,2	3,4	3,2	3,2	2,9
Short Circuit Ratio	Kcc		0,35	0,40	0,75	1,30	0,23	0,27	0,35	0,40
Time Constants	Td'	sec.	0,132							
	Td''	sec.	0,0164							
	Tdo'	sec.	2,89							
	Tα	sec.	0,037							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0,65	0,74	0,8	0,95	0,47	0,54	0,6	0,65
Excitation at full load		Amp.	3	3,1	3,5	3,6	2,3	2,5	2,8	3
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,0087							
Rotor Winding Resistance (20°C)		Ω	6,832							
Exciter Resistance (20 °C)		Ω	Rotor : 0,317				Stator : 8,85			
Heat dissipation at f.l.cl.H		W	30539	29981	31660	30141	27789	26387	27394	26744
Telephone Interference			FHT < 2%				TIF < 40			
Radio interference			EN50081-1, EN50082-1, VDE0875K. For others standards apply to factory							
Waveform Distors.(THD) at f. load		LL/LN %	2,2 / 2,4							
Waveform Distors.(THD) at no load		LL/LN %	2,4 / 2,5							
Mechanical characteristics										
Protection			IP 21 (other protection on request)							
DE bearing			6322							
NDE bearing			6318.2RS							
Weight of wound stator assembly		kg	524							
Weight of wound rotor assembly		kg	369							
Weight of complete generator		kg	1380							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	6,1							
Cooling air requirement		m^3/min	54				64,8			
Inertia Constant (H)		sec.	0,179				0,214			
Noise level at 1m/7m		dB(A)	94 / 82				98 / 88			

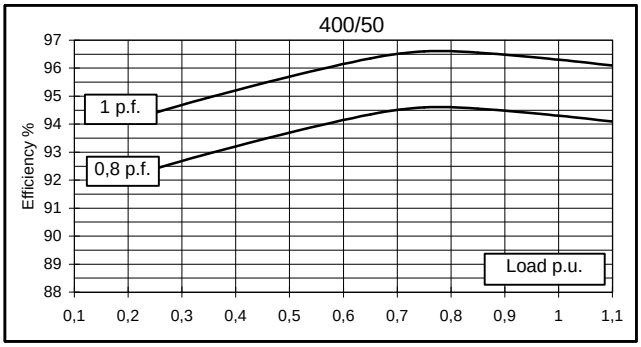
GENERATOR TYPE ECO 40-1.5L/4

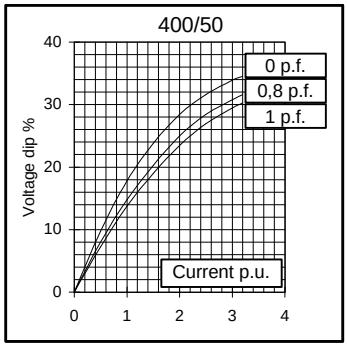
Document : **DS069A/2**
issue 000 date : 16/06/03

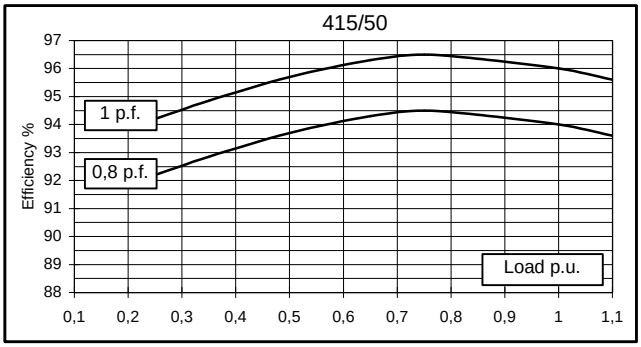
50 Hz

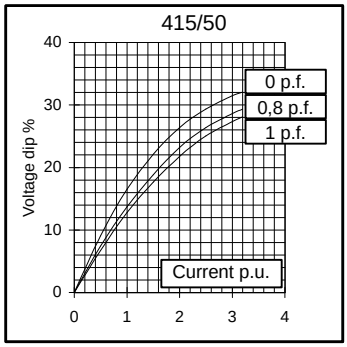


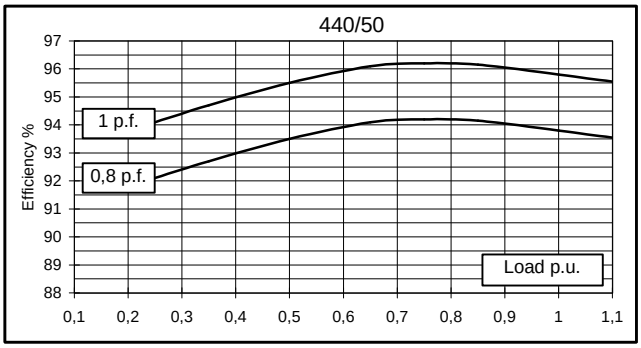


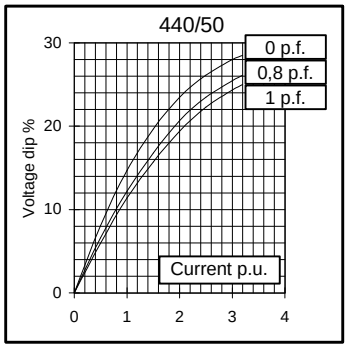


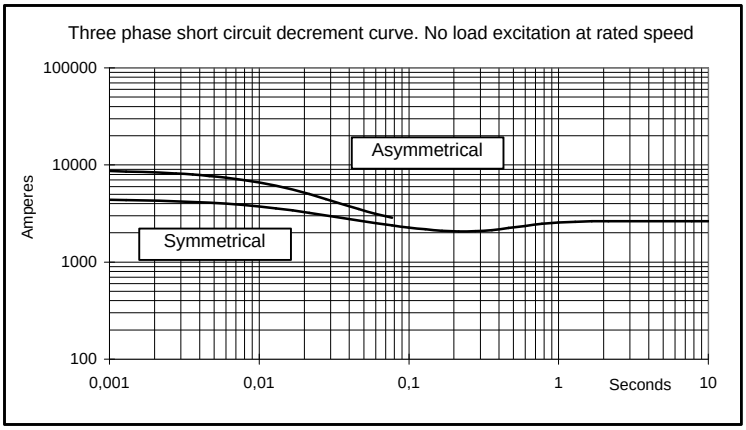








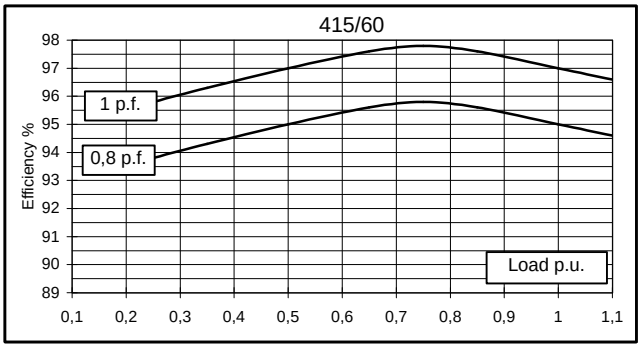


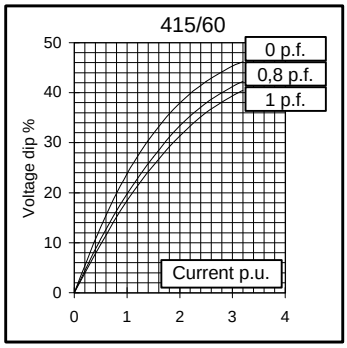


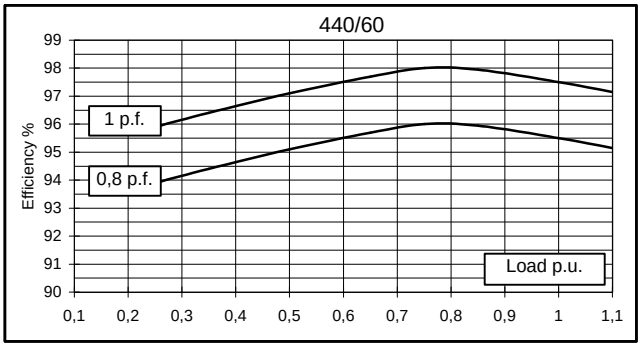
GENERATOR TYPE ECO 40-1.5L/4

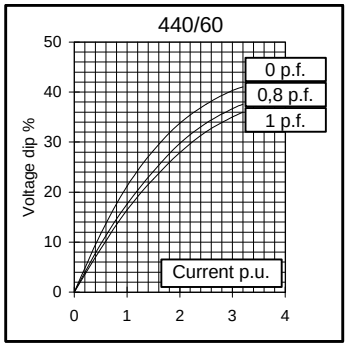
Document : **DS069A/3**
issue 000 date : 16/06/03

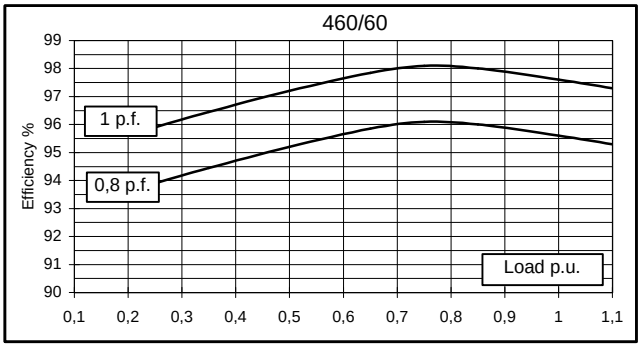
60 Hz

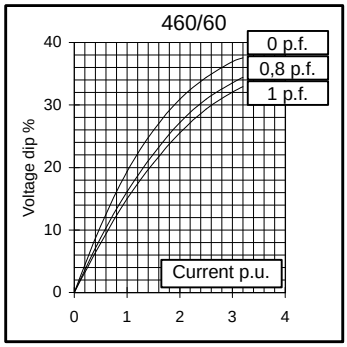


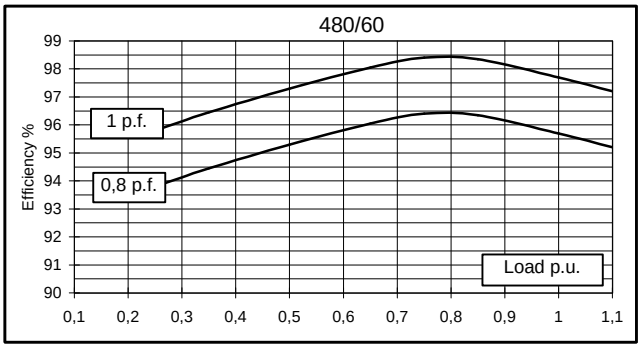


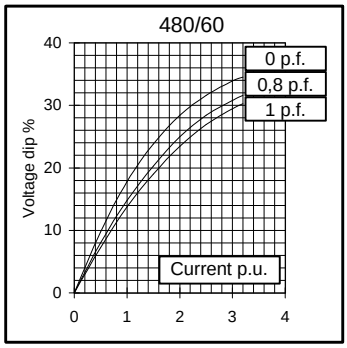


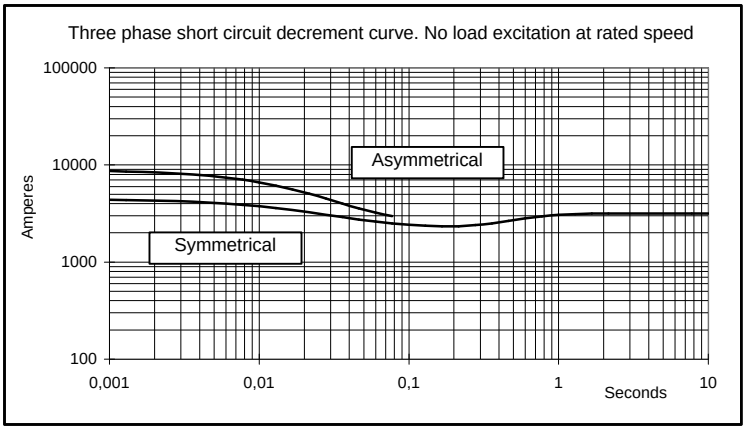




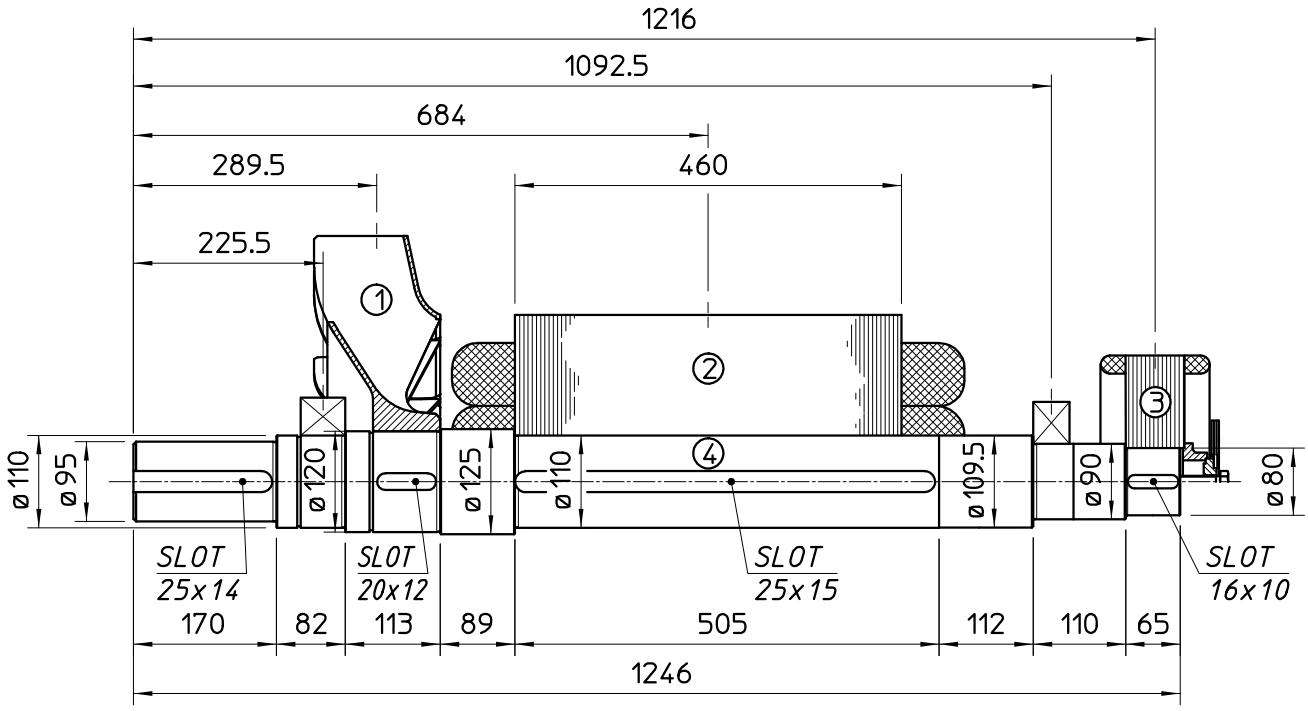






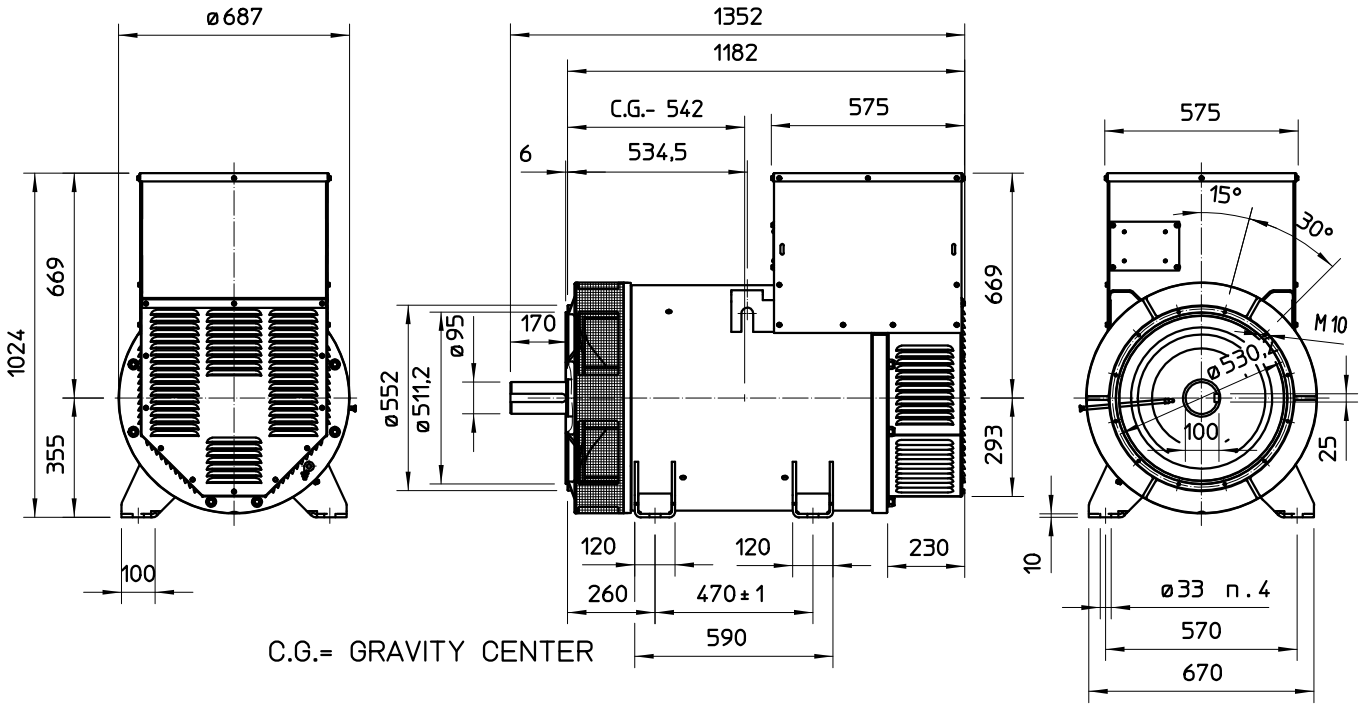


TWO BEARING MOMENTS OF INERTIA



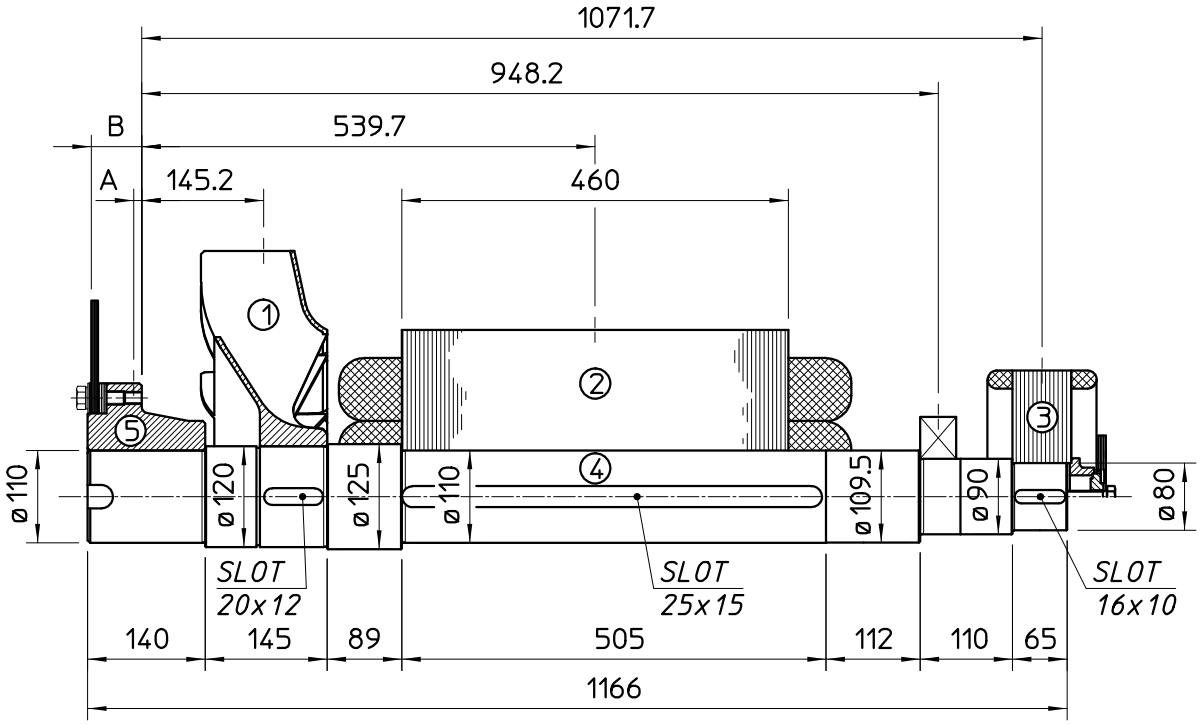
	COMPONENT	WEIGHT kg	J kgm²
1	FAN	16	0,550
2	MAIN ROTOR	369	7,715
3	EX. ROTOR	35	0.562
4	SHAFT	87.3	0.127
	TOTAL	507.5	8.954

TWO BEARING DIMENSIONS



C.G.= GRAVITY CENTER

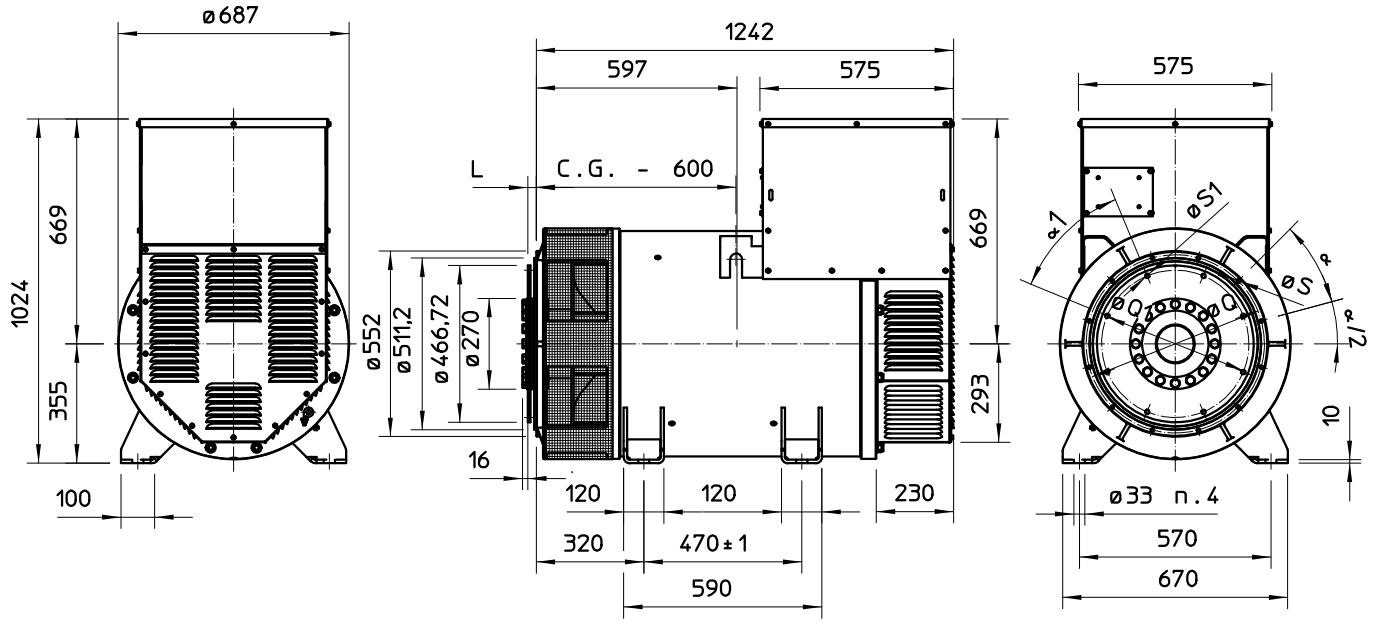
SINGLE BEARING MOMENTS OF INERTIA



	COMPONENT	WEIGHT kg	J kgm ^{2}
1	FAN	16	0,550
2	MAIN ROTOR	369	7.715
3	EX. ROTOR	35	0.562
4	SHAFT	85	0.124
	TOTAL	505	8.951

SAE No	5 SHAFTS COUPLING FLEX PLATE			
	A	B	WEIGHT kg	J kgm ^{2}
14	9,6	60	41,4	0,511
18	6,6	50	45,1	0,858

SINGLE BEARING DIMENSIONS



SAE N.	DISC COUPLING					
	L	d	Q1	N. FORI	S1	α1
14	25,4	466,72	438,15	8	14	45°
18	15,7	571,5	542,92	6	17	60°

SAE N.	FLANGE					
	O	P	Q	N. FORI	S	α
1	552	511,2	530,2	12	11	15°
1/2	648	584,2	619,1	12	14	15°
0	711	647,7	679,5	16	14	11°15'
00	883	787,4	850,9	16	14	11°15'

C.G.= GRAVITY CENTER

mecc alte spa

GENERATOR TYPE ECO 40-3S/4

Document :**DS024A/1**
issue 007 date 10/11/2003

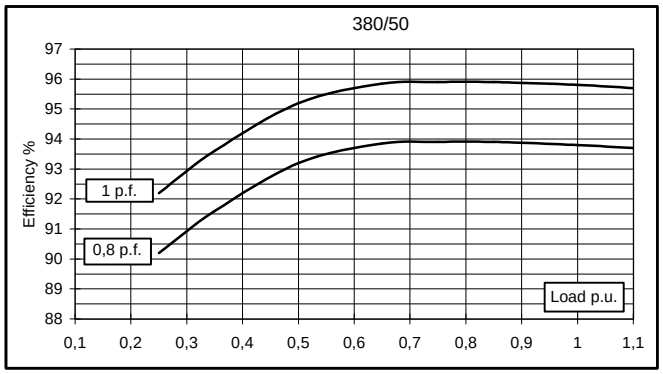
Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (parallel star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	500	500	500	460	540	580	600	600
		kW	400	400	400	368	432	464	480	480
Rated power class F		kVA	450	450	450	414	484	520	540	540
		kW	360	360	360	331	387	416	432	432
Regulation with		UVR6	±1% with any power factor and speed variations between -5% +30%							
Insulation class			H							
Execution			Brushless							
Stator winding			12 ends (nameplate data : 800V-50Hz Series Star, 960V-60Hz Series Star)							
Rotor			with damping cage							
Efficiencies class H	4/4	%	93,8	93,9	93,6	93,4	94,5	95	95,1	95,2
(see graph. for details)	3/4	%	93,9	94,2	94,1	93,8	95	95,2	95,3	95,6
	2/4	%	93,2	93,3	93,3	93,1	94,5	94,6	94,7	94,8
	1/4	%	90,2	90	89,8	89,7	91	91,1	91,1	91
Reactances (f. l.cl. F)	Xd	%	291,3	262,9	244,2	199,9	316,5	302,4	286,3	262,9
	Xd'	%	30,6	27,6	25,6	21,0	33,2	31,8	30,1	27,6
	Xd''	%	20,3	18,3	17,0	13,9	22,0	21,1	19,9	18,3
	Xq	%	179,5	162	150,5	123,2	195,0	186,4	176,4	162
	Xq'	%	179,5	162	150,5	123,2	195,0	186,4	176,4	162
	Xq''	%	25,9	23,4	21,7	17,8	28,2	26,9	25,5	23,4
	X_2	%	23,0	20,8	19,3	15,8	25,0	23,9	22,6	20,8
	X_0	%	3,2	2,9	2,7	2,2	3,5	3,3	3,2	2,9
Short Circuit Ratio	Kcc		0,31	0,40	0,60	0,96	0,23	0,27	0,31	0,40
Time Constants	Td'	sec.	0,125							
	Td''	sec.	0,0193							
	Tdo'	sec.	2,71							
	Tα	sec.	0,0258							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0,6	0,7	1	1,2	0,4	0,5	0,6	0,7
Excitation at full load		Amp.	3,6	3,5	3,9	4	3	3,1	3,2	3,4
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,0106							
Rotor Winding Resistance (20°C)		Ω	5,176							
Exciter Resistance (20 °C)		Ω	Rotor : 0,317				Stator : 8,85			
Heat dissipation at f.l.cl.H		W	26439	25985	27350	26004	25143	24421	24732	24202
Telephone Interference			FHT < 2%				TIF < 40			
Radio interference			EN50081-1, EN50082-1, VDE0875K. For others standards apply to factory							
Waveform Distors.(THD) at f. load		LL/LN %	2,4 / 2,5							
Waveform Distors.(THD) at no load		LL/LN %	2,6 / 2,5							
Mechanical characteristics										
Protection			IP 21 (other protection on request)							
DE bearing			6322							
NDE bearing			6318.2RS							
Weight of wound stator assembly		kg	428							
Weight of wound rotor assembly		kg	274,6							
Weight of complete generator		kg	1171							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	6,5							
Cooling air requirement		m^3/min	54				64,8			
Inertia Constant (H)		sec.	0,175				0,210			
Noise level at 1m/7m		dB(A)	94 / 82				98 / 88			

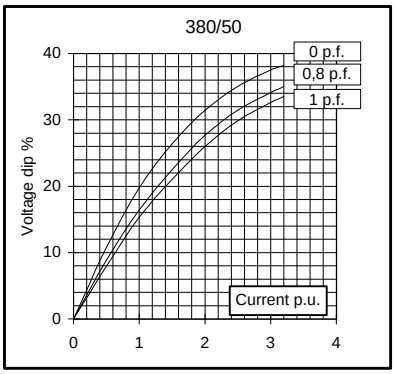
GENERATOR TYPE ECO 40-3S/4

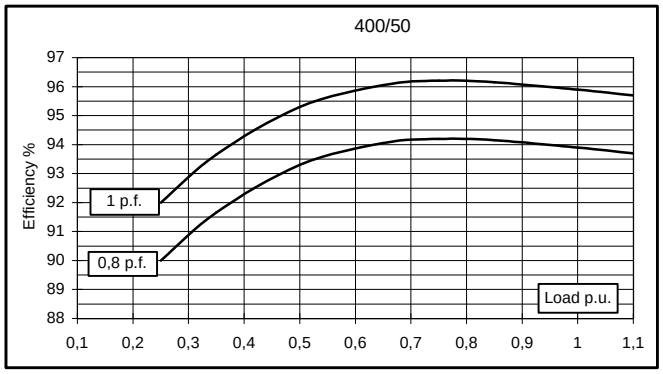
Document : **DS024A/2**

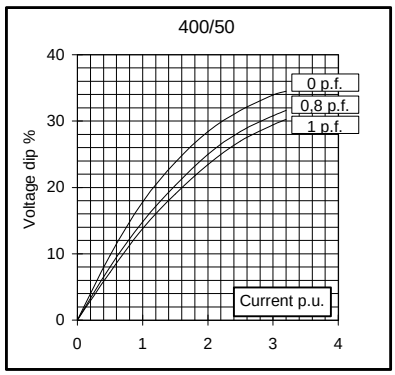
issue 006 date : 15/05/03

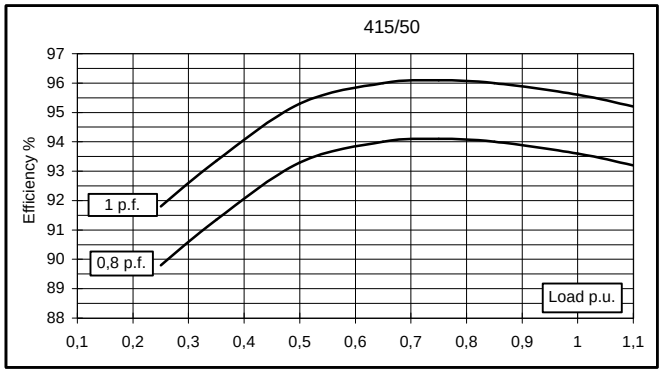
50 Hz

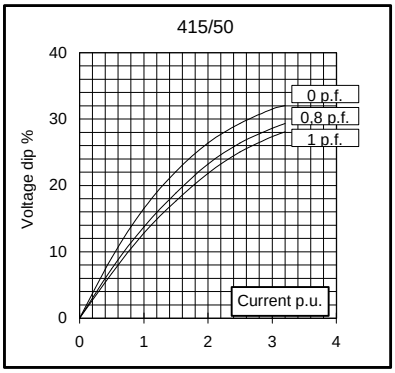


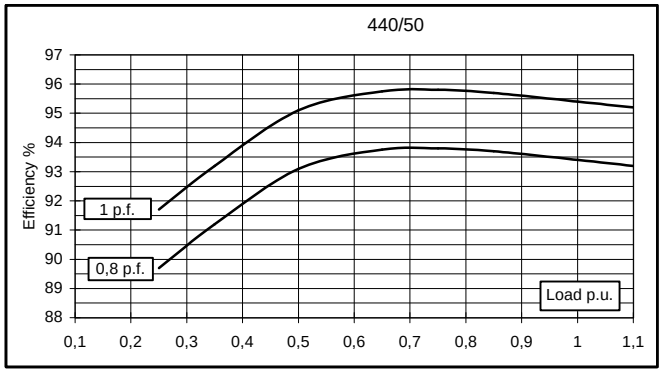


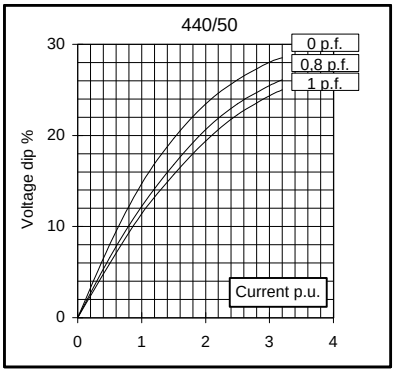


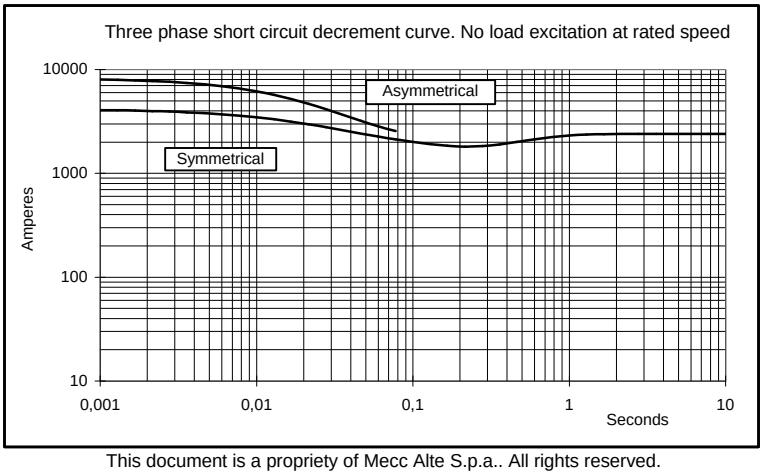












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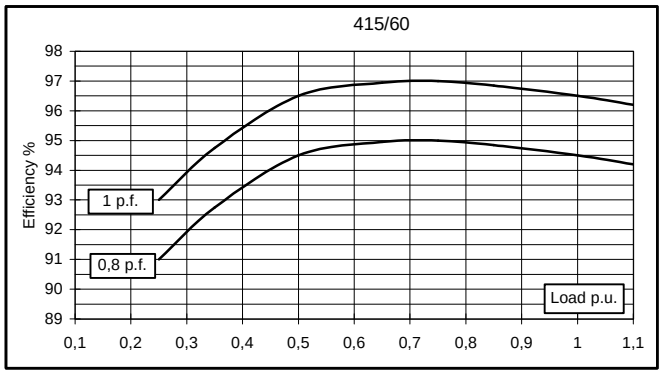
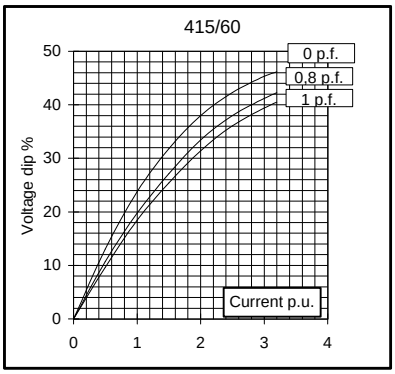
GENERATOR TYPE ECO 40-3S/4

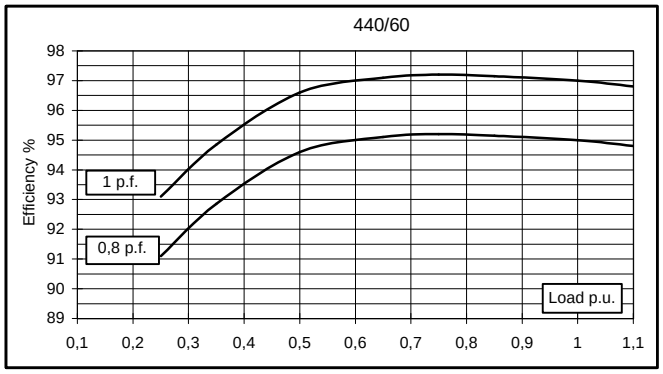
Document : **DS024A/3**

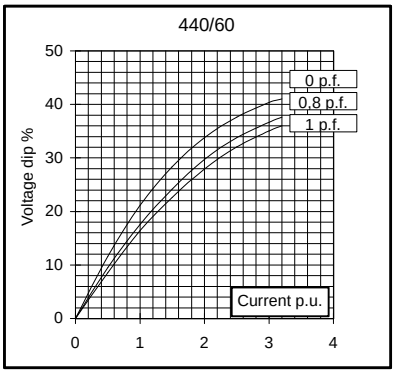
issue 006 date : 15/05/03

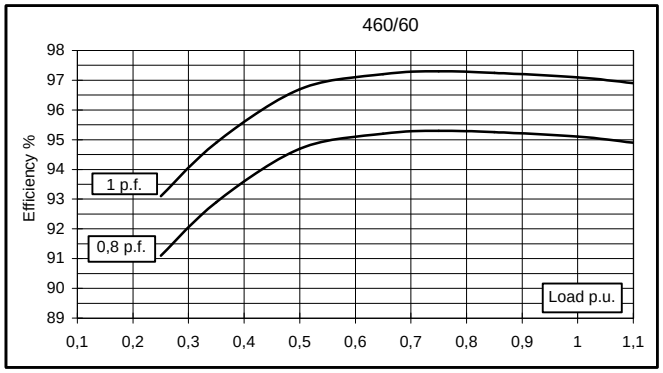
60 Hz

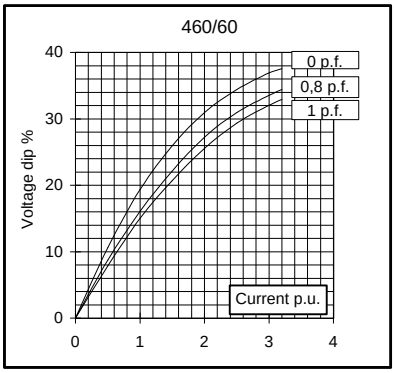


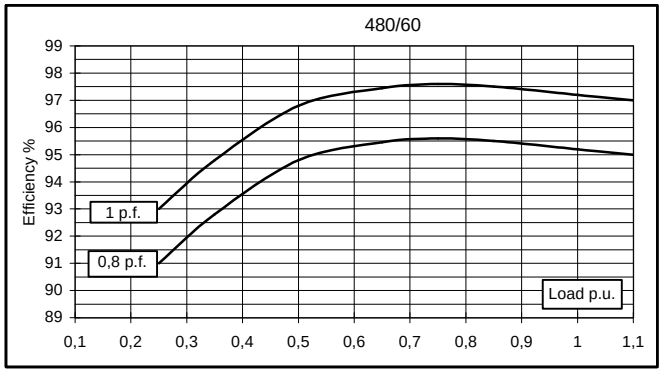


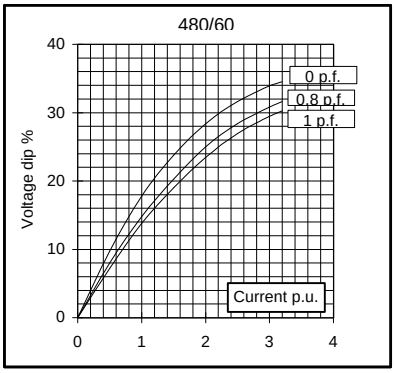


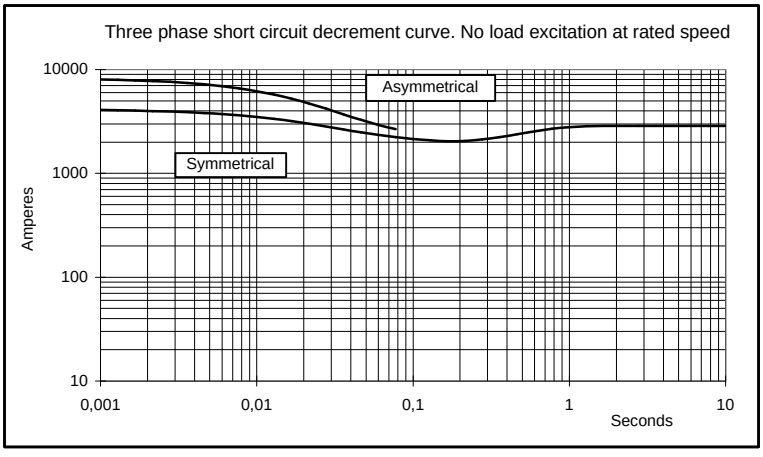




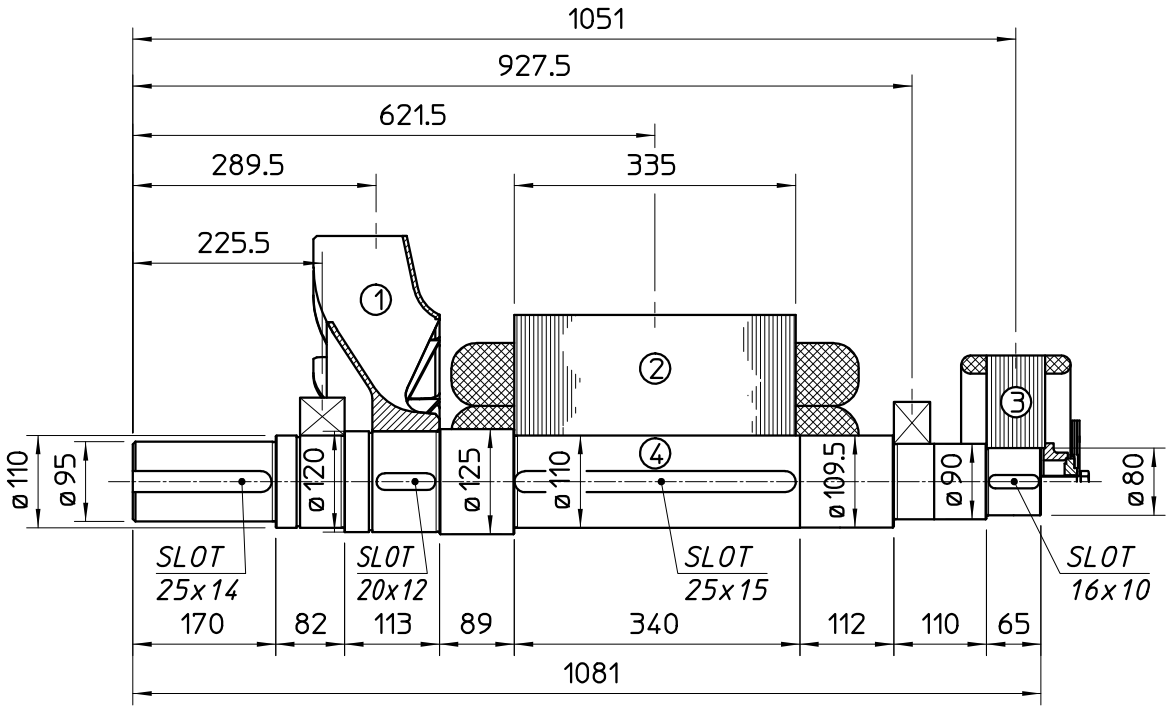






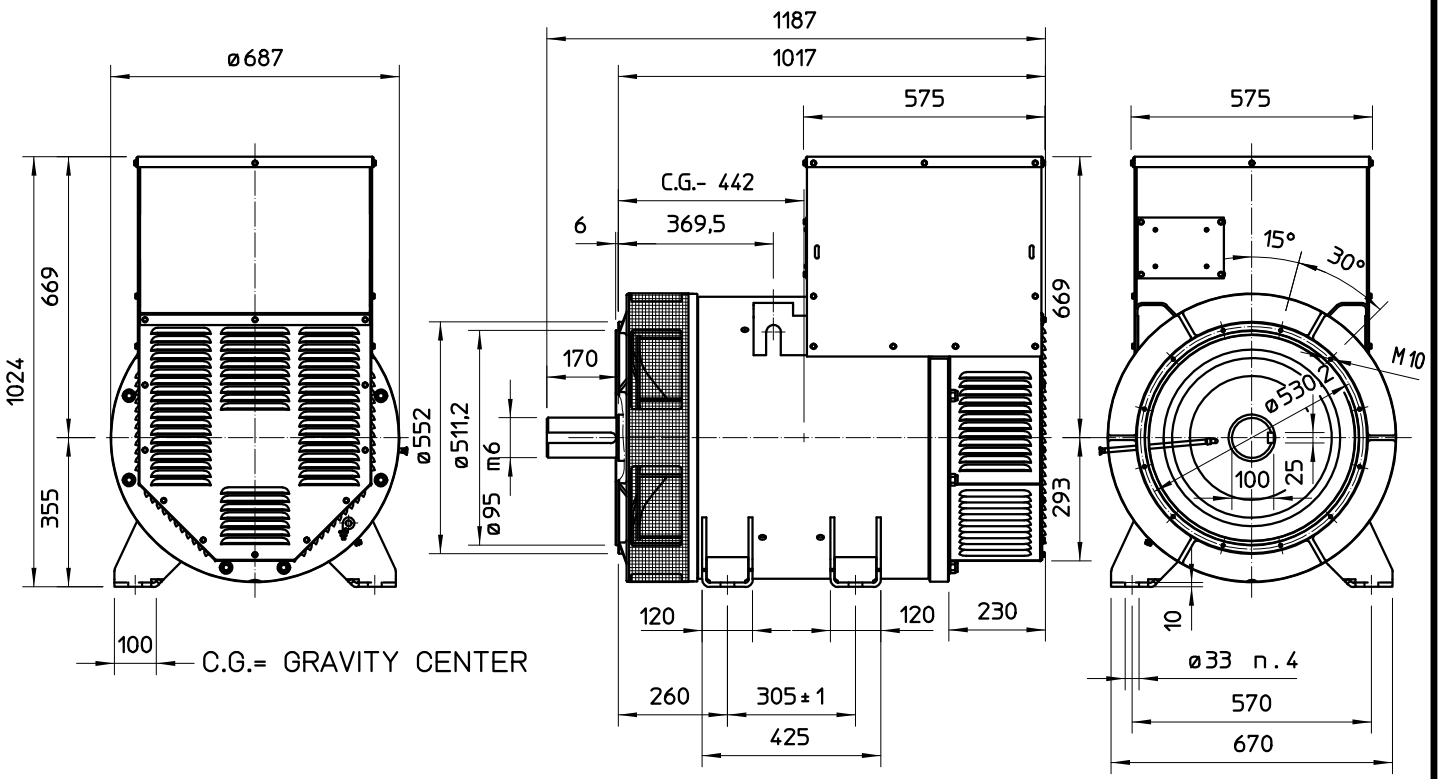


TWO BEARING MOMENTS OF INERTIA

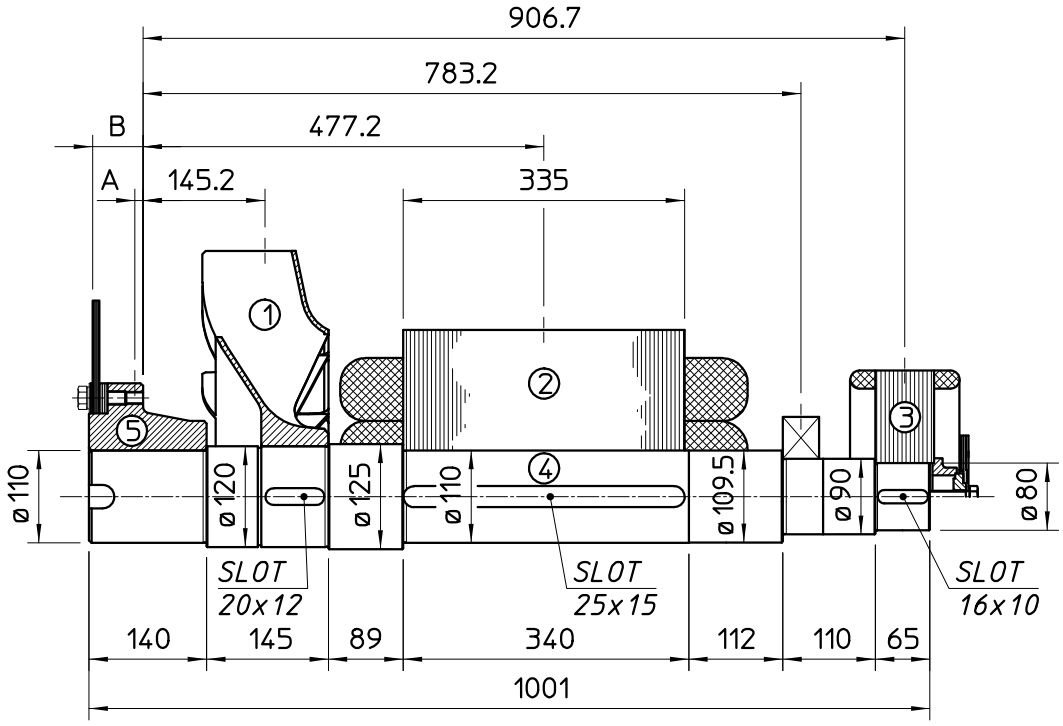


	COMPONENT	WEIGHT kg	J kgm²
1	FAN	16	0,550
2	MAIN ROTOR	274.6	5.846
3	EX. ROTOR	35	0.562
4	SHAFT	75	0.109
	TOTAL	400.6	7.067

TWO BEARING DIMENSIONS



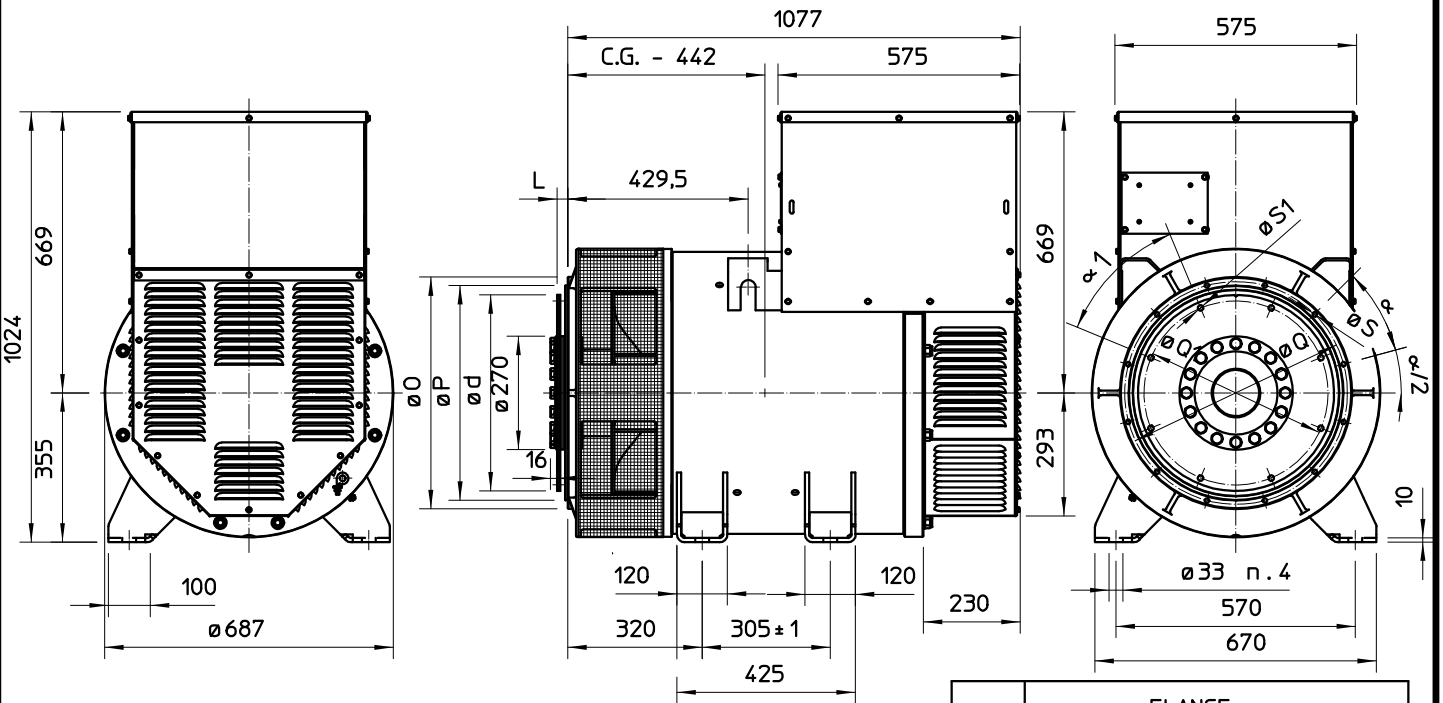
SINGLE BEARING MOMENTS OF INERTIA



	COMPONENT	WEIGHT kg	J kgm ^{2}
1	FAN	16	0,550
2	MAIN ROTOR	274.6	5.846
3	EX. ROTOR	35	0.562
4	SHAFT	72.7	0.106
	TOTAL	398.3	7.064

SAE No	5 SHAFTS COUPLING FLEX PLATE			
	A	B	WEIGHT kg	J kgm ^{2}
14	9,6	60	41,4	0,511
18	6,6	50	45,1	0,858

SINGLE BEARING DIMENSIONS



SAE N.	DISC COUPLING					
	L	d	Q1	N. FORI	S1	α1
14	25,4	466,72	438,15	8	14	45°
18	15,7	571,5	542,92	6	17	60°

SAE N.	FLANGE					
	O	P	Q	N. FORI	S	α
1	552	511,2	530,2	12	11	15°
1/2	648	584,2	619,1	12	14	15°
0	711	647,7	679,5	16	14	11°15'
00	883	787,4	850,9	16	14	11°15'

C.G.= GRAVITY CENTER

GENERATOR TYPE ECO 40-2S/4

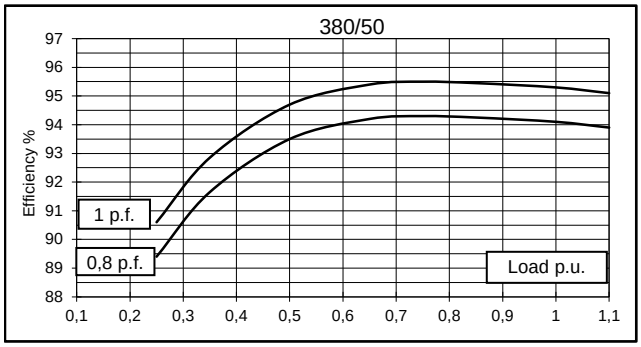
Document : **DS023A/1**
issue 011 date 12/01/2015

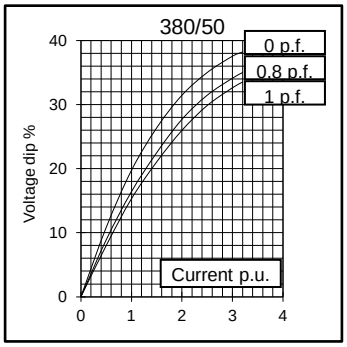
Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (parallel star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	450	450	450	360	480	510	540	540
		kW	360	360	360	288	384	408	432	432
Rated power class F		kVA	410	410	410	330	435	460	490	490
		kW	328	328	328	264	348	368	392	392
Regulation with		DER1	±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	%	94,1	94,4	94,2	93,9	94,5	95	95,2	95,3
(see graph. for details)	3/4	%	94,3	94,6	94,5	94,1	94,6	95,1	95,3	95,5
	2/4	%	93,5	93,8	93,7	93,5	93,5	94	94,2	94,4
	1/4	%	89,4	89,5	89,4	89,2	90,6	90,9	91,1	91,2
Reactances (f. l.cl. F)	Xd	%	312	232	215	155	434	384	312	232
	Xd'	%	22,7	21,4	19,5	14,4	24,6	23,4	22,7	21,4
	Xd"	%	12,9	12,1	11	8,1	14,1	13,2	12,9	12,1
	Xq	%	122	107	101	71,7	147	132	122	107
	Xq'	%	122	107	101	71,7	147	132	122	107
	Xq"	%	29,1	27,4	25,2	18,4	31,7	30,2	29,1	27,4
	X_2	%	18,2	17,6	16,4	11,8	20,2	19,4	18,2	17,6
	X_0	%	3,6	3,1	2,9	2,1	4,1	3,9	3,6	3,1
Short Circuit Ratio	Kcc		0,32	0,43	0,46	0,64	0,23	0,26	0,32	0,43
Time Constants	Td'	sec.	0,13							
	Td"	sec.	0,019							
	Tdo'	sec.	2,70							
	Tα	sec.	0,03							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0,4	0,6	0,8	1,6	0,3	0,4	0,5	0,6
Excitation at full load		Amp.	3,3	3,4	3,7	4,5	2,8	2,9	3	3,2
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,013							
Rotor Winding Resistance (20°C)		Ω	4,881							
Exciter Resistance (20 °C)		Ω	Rotor : 0,317				Stator : 8,85			
Heat dissipation at f.l.cl.H		W	22572	21356	22166	18709	22349	21474	21782	21305
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 %	2,5 / 2,6							
Waveform Distors.(THD) at no load		LL/LN %	2,7 / 2,8							
Mechanical characteristics										
Protection			IP 21 (other protection on request)							
DE bearing			6322							
NDE bearing			6318.2RS							
Weight of wound stator assembly		kg	382							
Weight of wound rotor assembly		kg	245,8							
Weight of complete generator		kg	1118							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	5,9							
Cooling air requirement		m^3/min	54				64,8			
Inertia Constant (H)		sec.	0,177				0,213			
Noise level at 1m/7m		dB(A)	94 / 82				98 / 88			

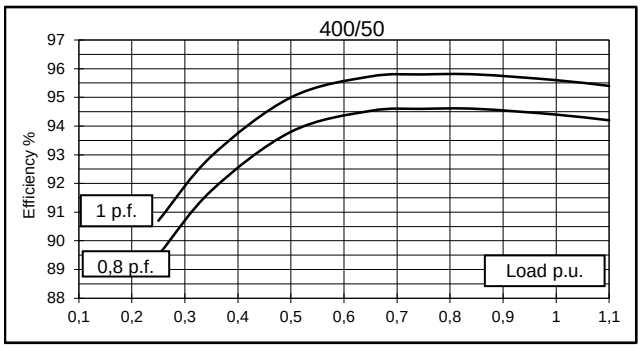
GENERATOR TYPE ECO 40-2S/4

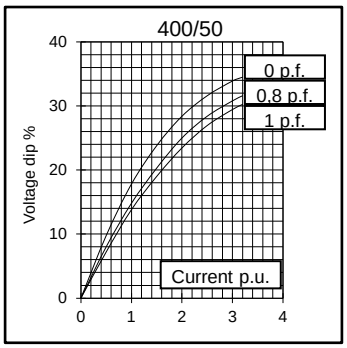
Document : **DS023A/2**
issue 011 date : 12/01/2015

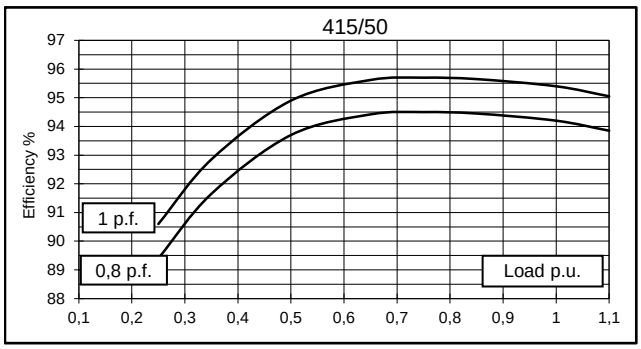
50 Hz

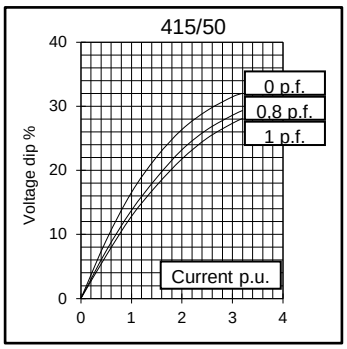


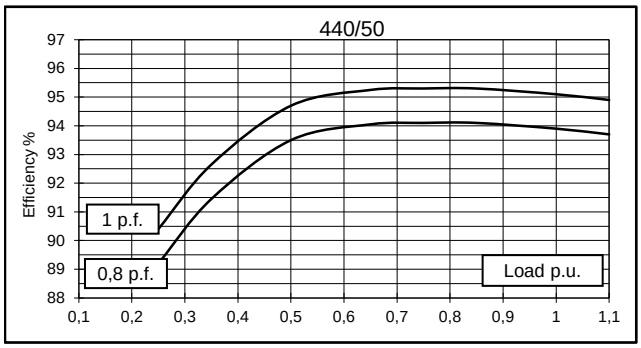


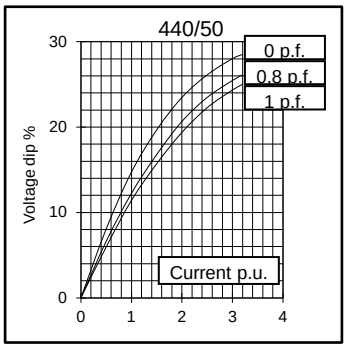


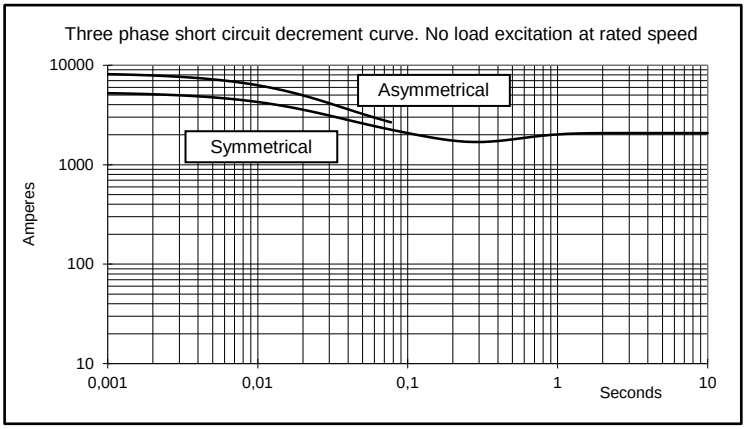






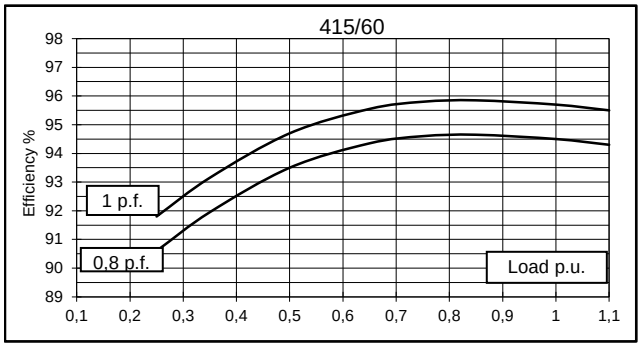


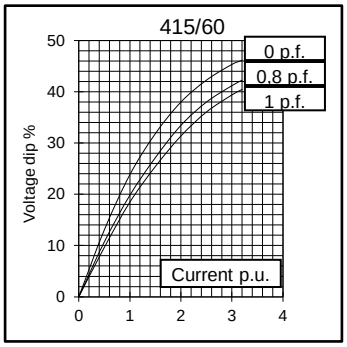


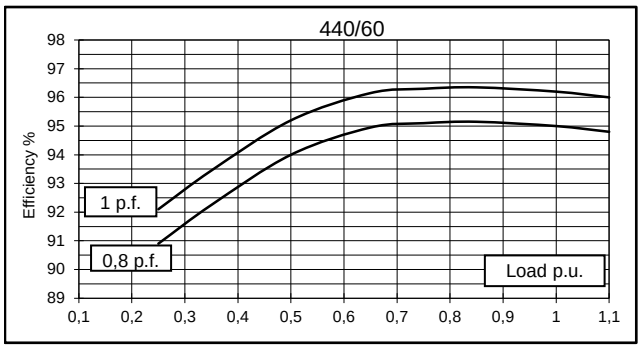


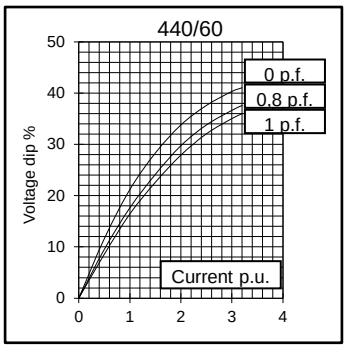
GENERATOR TYPE ECO 40-2S/4

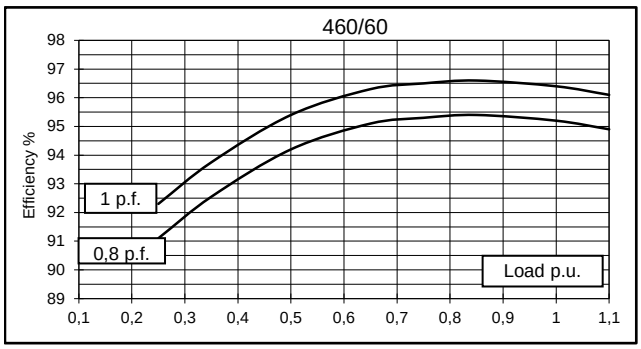
60 Hz

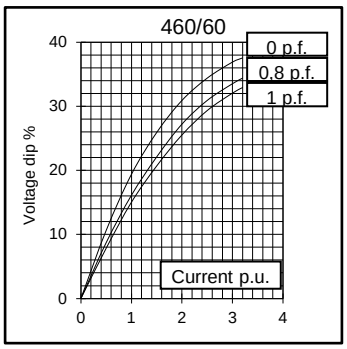


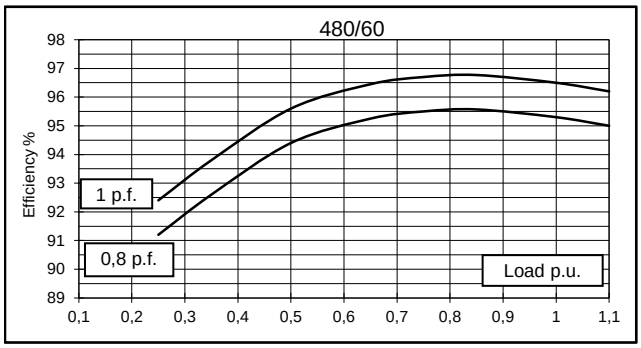


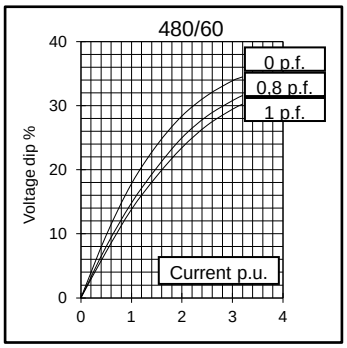


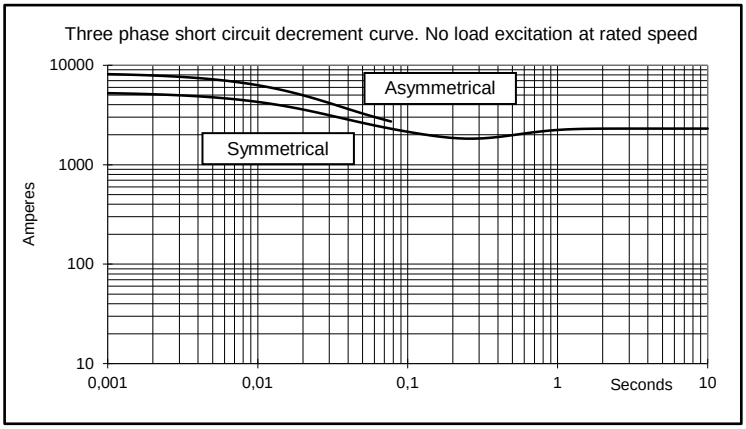




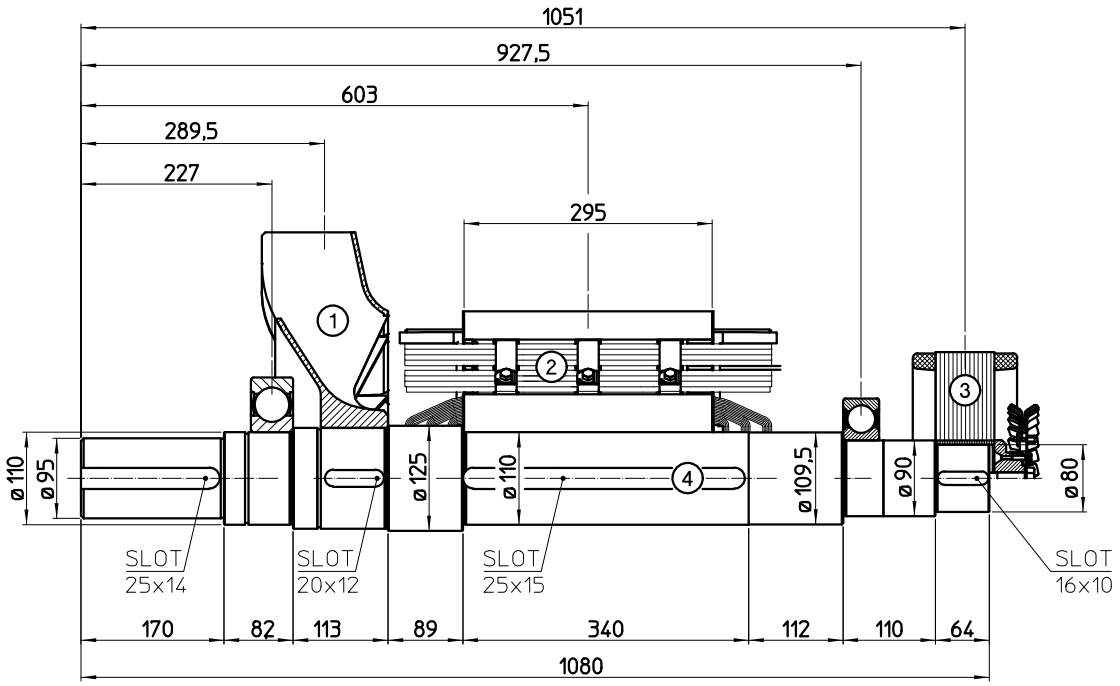






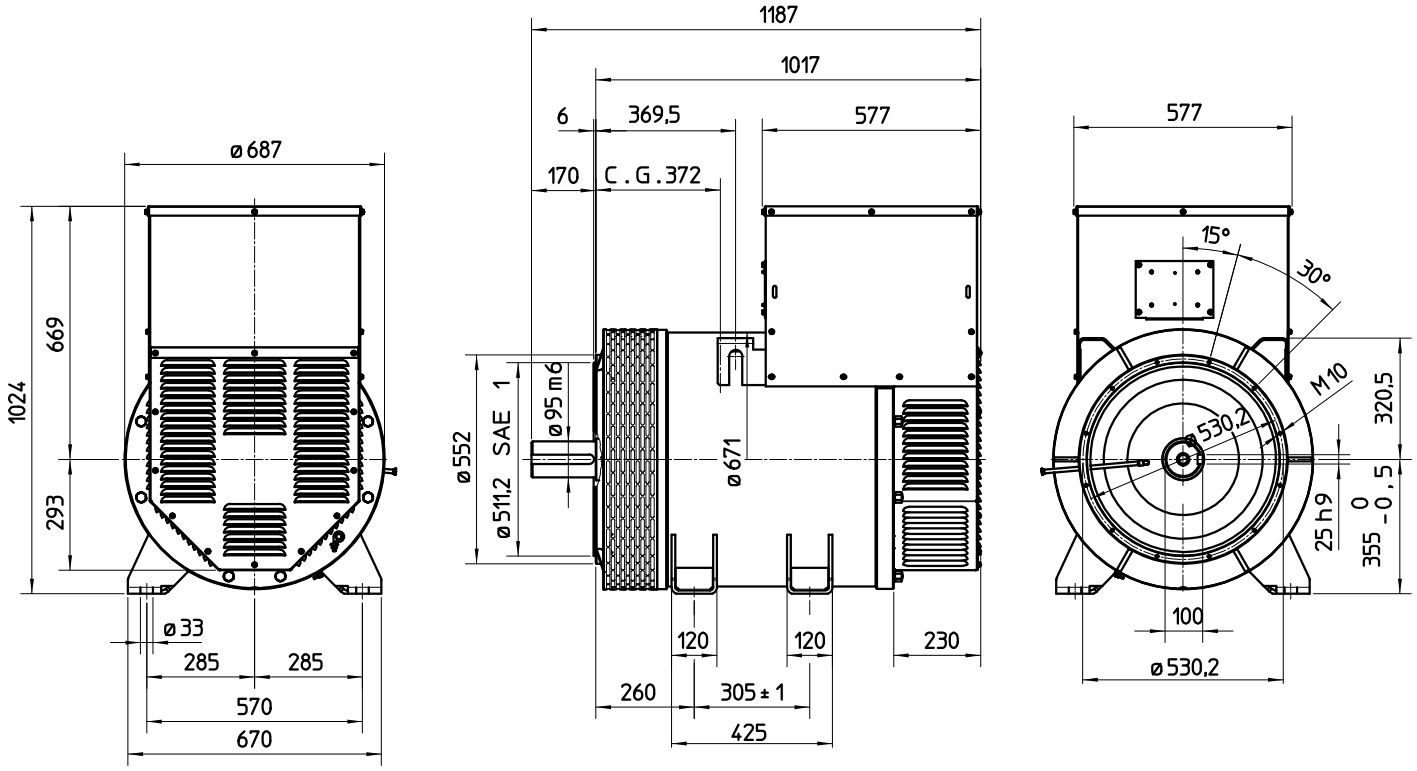


TWO BEARING MOMENTS OF INERTIA



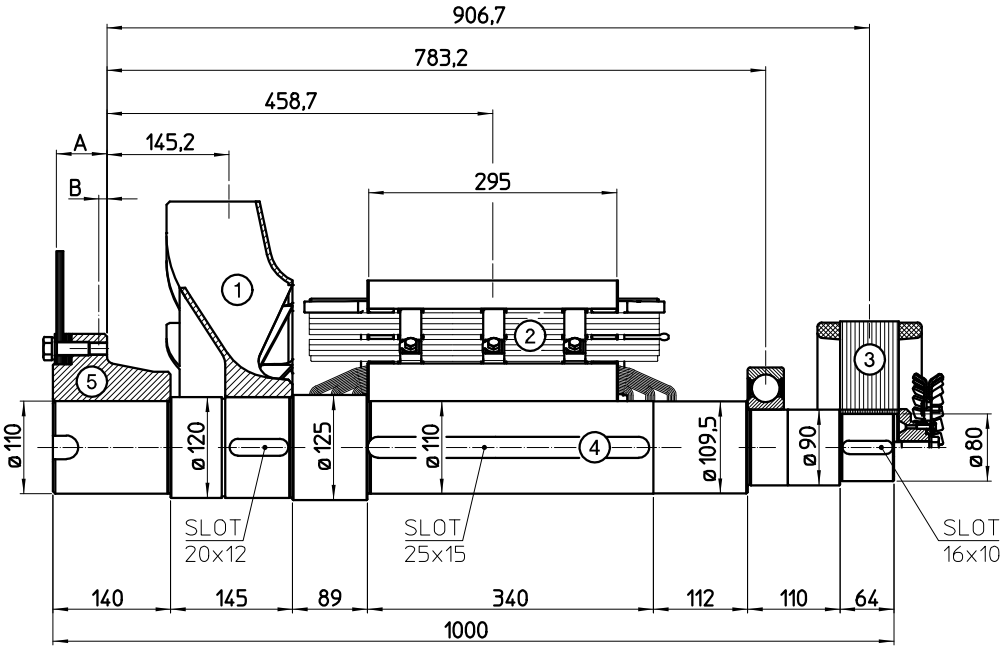
	COMPONENT	WEIGHT kg	J kgm ^{2}
1	FAN	10,2	0,335
2	MAIN ROTOR	245.8	5.234
3	EX. ROTOR	35	0,562
4	SHAFT	73.6	0.109
	TOTAL	364.6	6.24

TWO BEARING DIMENSIONS



C.G.= GRAVITY CENTER

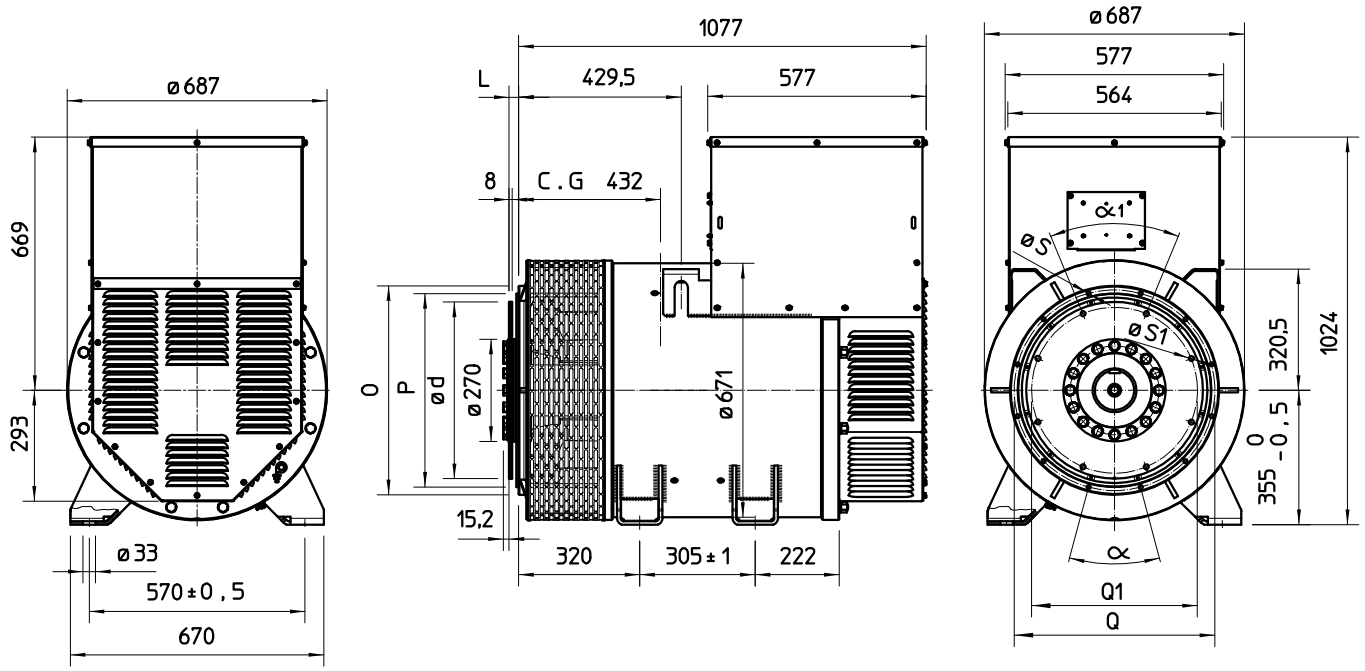
SINGLE BEARING MOMENTS OF INERTIA



	COMPONENT	WEIGHT kg	J kgm ^{2}
1	FAN	10,2	0,335
2	MAIN ROTOR	245.8	5.234
3	EX. ROTOR	35	0,562
4	SHAFT	72	0.111
	TOTAL	363	6.242

Sae No	⑤ SHAFTS COUPLING FLEX PLATE			
	A	B	WEIGHT kg	J kgm^2
14	60	9,6	41,4	0,511
18	50	6,6	45,1	0,858

SINGLE BEARING DIMENSIONS



SAE N.	FLANGIA / FLANGE BRIDE / FLANSCH					
	O	P	Q	N. FORI	S	α
1	552	511,2	530,2	12	11	30°
1/2	648	584,2	619,1	12	14	30°
0	711	647,7	679,5	16	14	22,5°
00	883	787,4	850,9	16	14	22,5°

VOL. N.	GIUNTI A DISCHI / DISC COUPLING DISCQUE DE MONOPALIER / SCHEIBENKUPPLUNG					
	L	d	Q1	N. FORI	S1	α1
14	25,4	466,72	438,15	8	14	45°
18	15,7	571,5	542,92	6	17	60°

C.G.= GRAVITY CENTER

mecc alte spa

GENERATOR TYPE ECO 28-VL/4

Document : **DS004A/1**

issue 004 date 10/05/2006

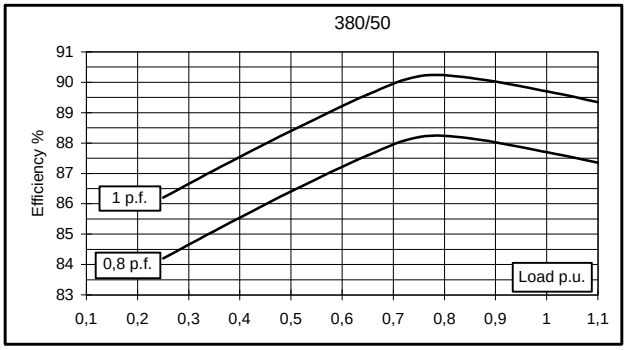
Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	30	30	28	/	33	36	36	36
		kW	24	24	22,4	/	26,4	28,8	28,8	28,8
Rated power class F		kVA	26	26	25	/	29	32	32	32
		kW	20,8	20,8	20	/	23,2	25,6	25,6	25,6
Regulation 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			without damping cage							
Efficiencies class H	4/4	%	87,7	88,1	88,4	/	88,9	89,2	89,4	89,8
(see graph. for details)	3/4	%	88,2	88,5	88,6	/	89,7	89,9	90,1	90,3
	2/4	%	86,4	86,5	86,5	/	88,1	88,2	88,3	88,4
	1/4	%	84,2	84	84	/	86,1	86,1	86	85,9
Reactances (f. l.cl. F)	Xd	%	182,8	165	143,1	/	202,3	196,4	179,7	165
	Xd'	%	17,06	15,4	13,35	/	18,89	18,33	16,77	15,4
	Xd"	%	9,75	8,8	7,63	/	10,79	10,47	9,58	8,8
	Xq	%	78,7	71	61,6	/	87,1	84,5	77,3	71
	Xq'	%	78,7	71	61,6	/	87,1	84,5	77,3	71
	Xq"	%	21,1	19	16,5	/	23,3	22,6	20,7	19
	X_2	%	14,63	13,2	11,45	/	16,19	15,71	14,37	13,2
	X_0	%	3,10	2,8	2,43	/	3,43	3,33	3,05	2,8
Short Circuit Ratio	Kcc		0,55	0,62	0,68	/	0,38	0,44	0,55	0,62
Time Constants	Td'	sec.	0,046							
	Td"	sec.	0,012							
	Tdo'	sec.	0,93							
	$T\alpha$	sec.	0,011							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0,4	0,6	0,8	/	0,35	0,4	0,5	0,55
Excitation at full load		Amp.	1,75	1,96	2,1	/	1,5	1,6	1,8	1,9
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,106							
Rotor Winding Resistance (20°C)		Ω	1,86							
Exciter Resistance (20 °C)		Ω	Rotor : 0,64				Stator : 10,60			
Heat dissipation at f.l.cl.H		W	3366	3242	2939	/	3296	3487	3415	3271
Telephone Interference			FHT < 2%				TIF < 45			
Radio interference			EN60034-1. For others standards apply to factory							
Waveform Distors.(THD) at f. load		LL/LN %	2,1 / 2							
Waveform Distors.(THD) at no load		LL/LN %	3,3 / 3,1							
Mechanical characteristics										
Protection			IP 23 (other protection on request)							
DE bearing			6309.2RS							
NDE bearing			6207.2RS							
Weight of wound stator assembly		kg	57							
Weight of wound rotor assembly		kg	32,4							
Weight of complete generator		kg	155							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	4,7							
Cooling air requirement		m^3/min	5,3				5,8			
Inertia Constant (H)		sec.	0,068				0,081			
Noise level at 1m/7m		dB(A)	68 / 57				71 / 61			

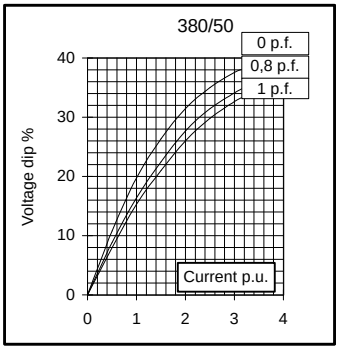
All technical data are to be considered as a reference and they can be modified without any notice

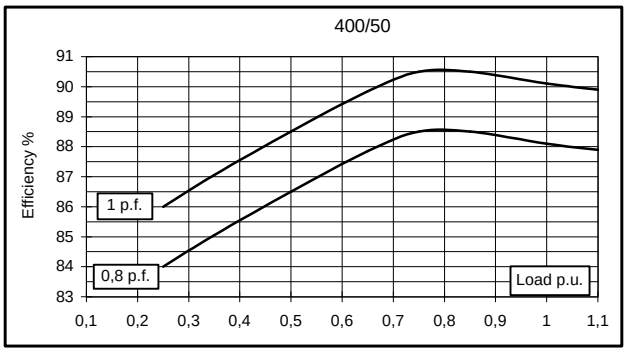
GENERATOR TYPE ECO 28-VL/4

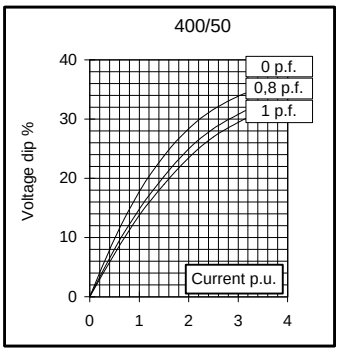
Document : **DS004A/2**
issue 002 date : 15/05/03

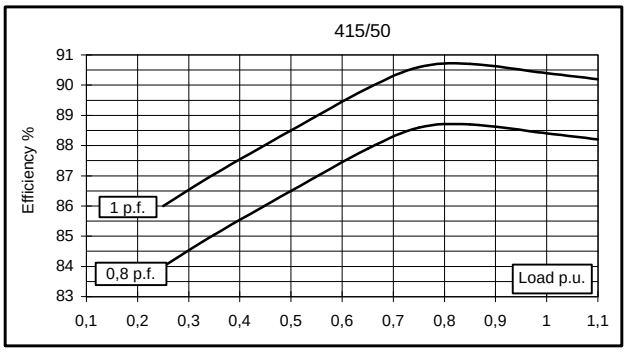
50 Hz

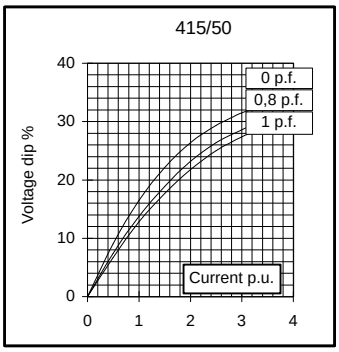


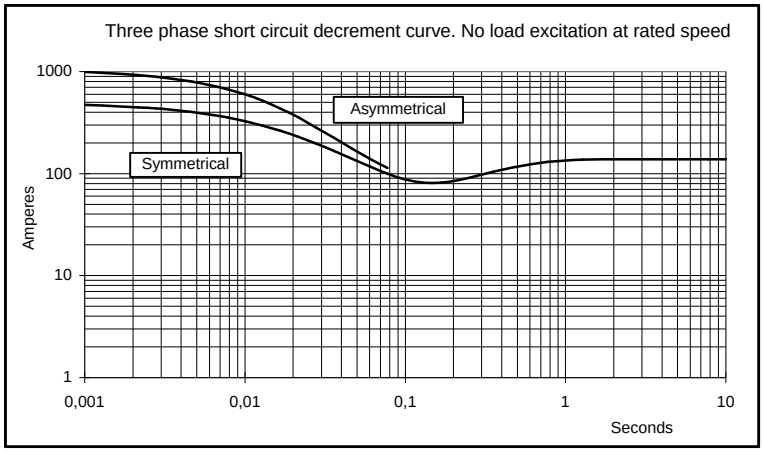








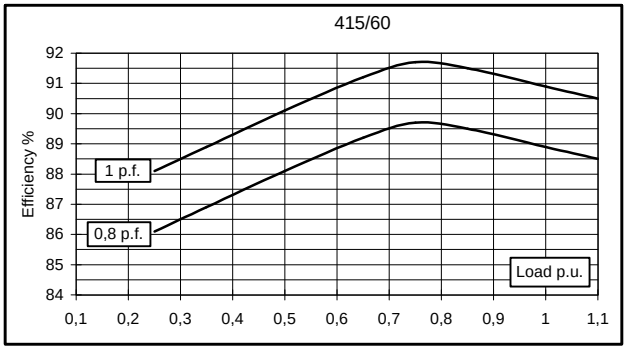


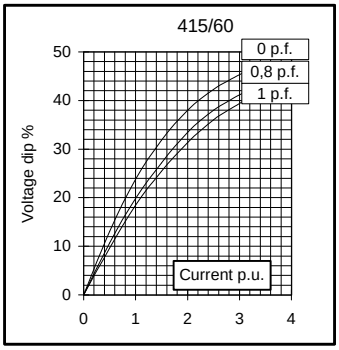


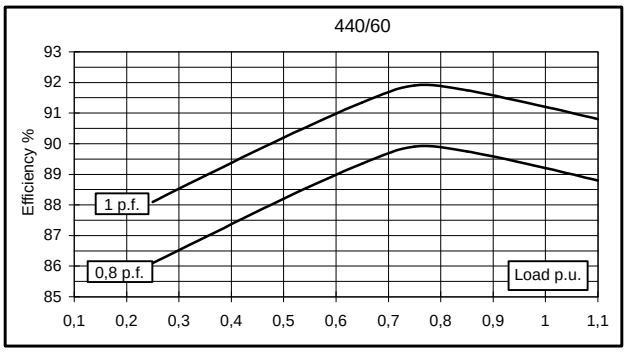
GENERATOR TYPE ECO 28-VL/4

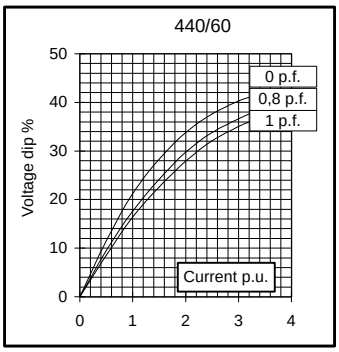
Document : **DS004A/3**
issue 002 date : 15/05/03

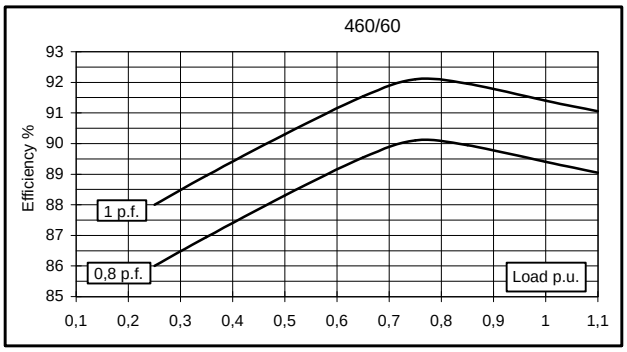
60 Hz

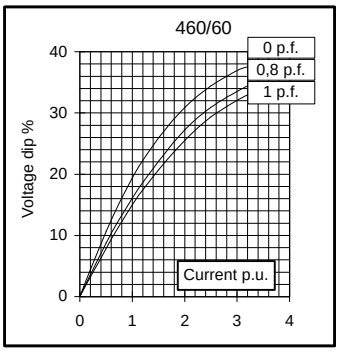


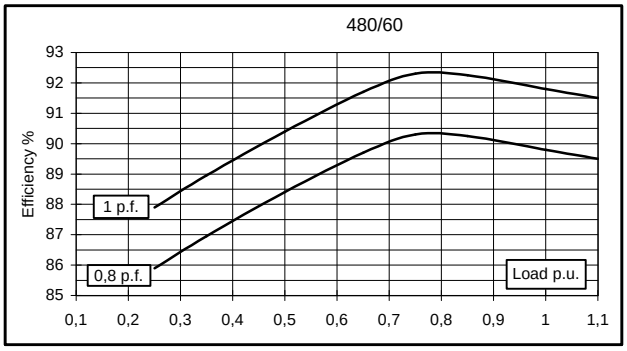


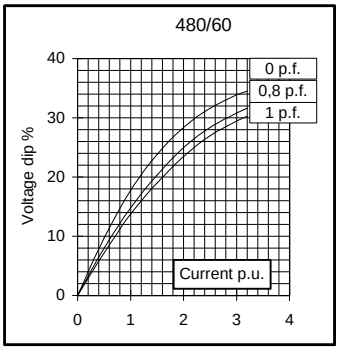


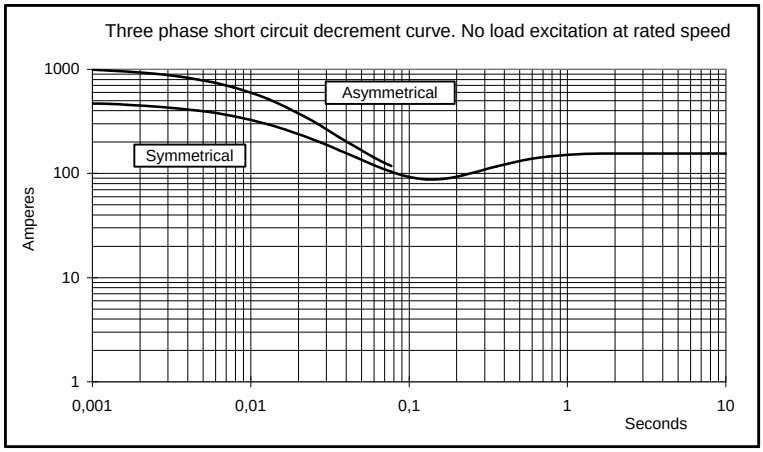




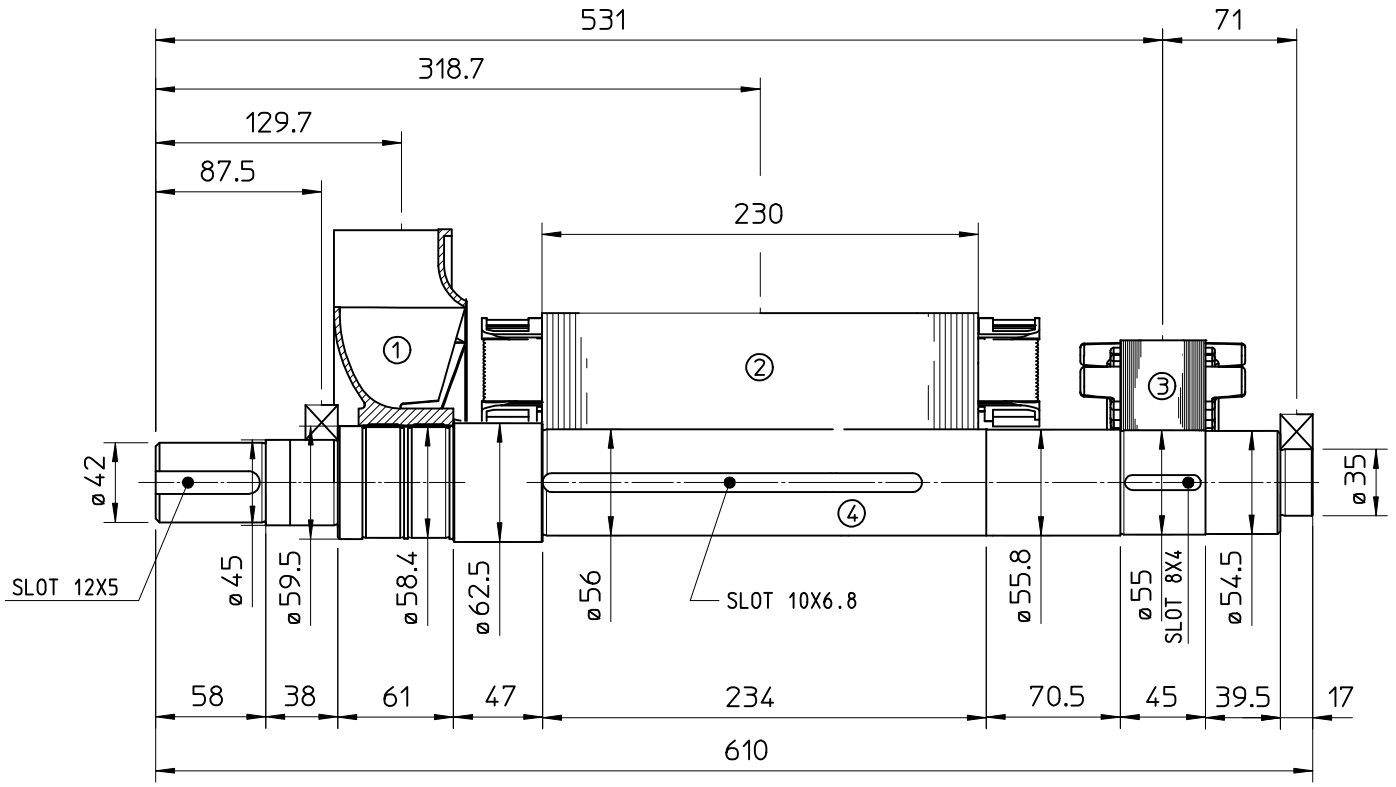






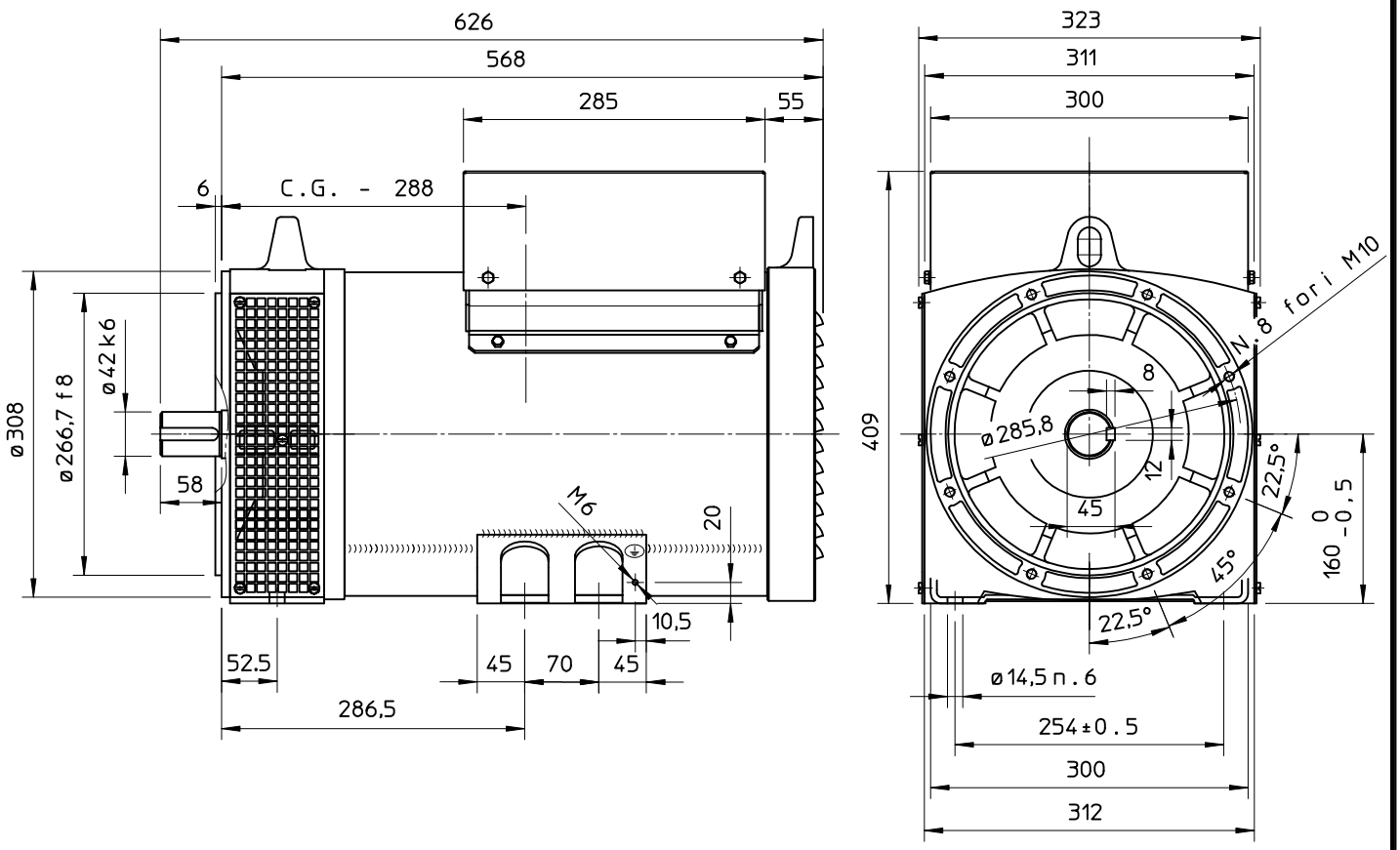


TWO BEARING MOMENTS OF INERTIA



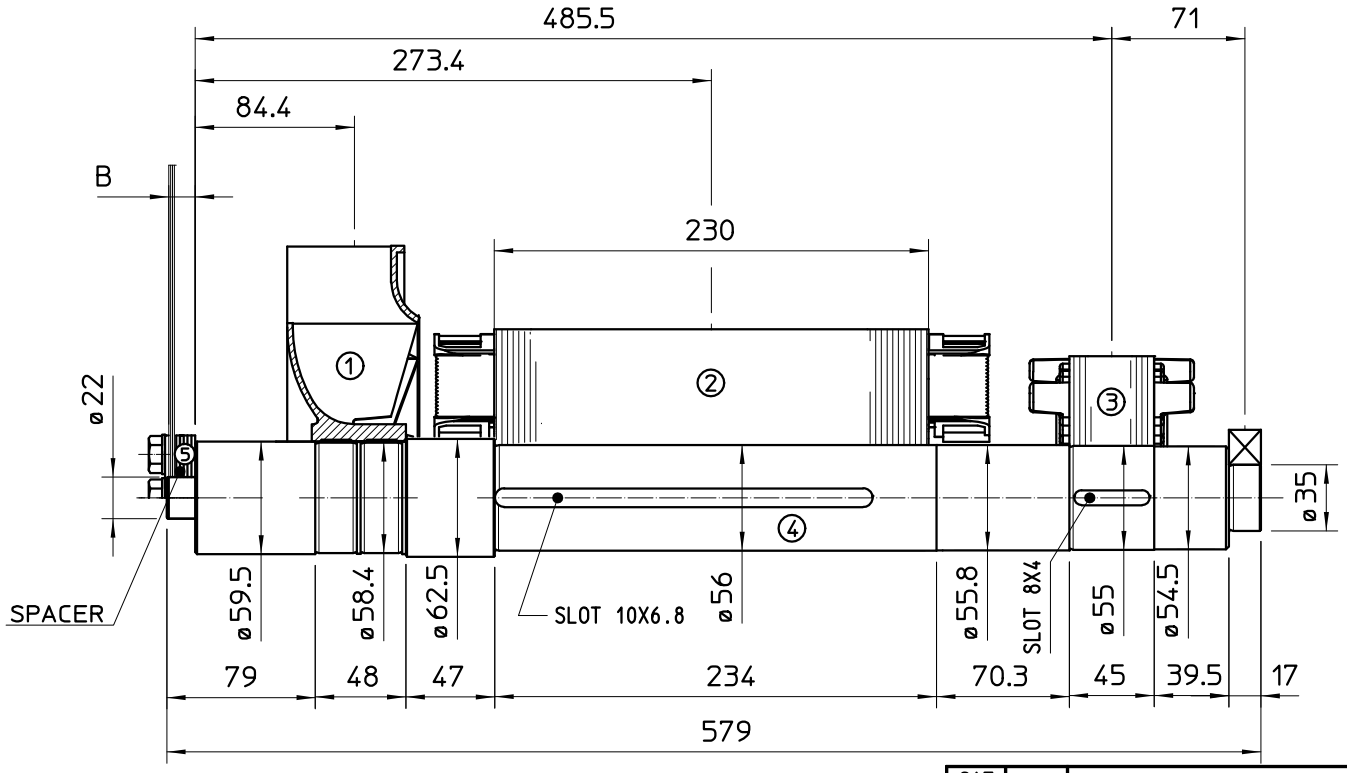
	COMPONENT	WEIGHT Kg	J Kgm²
1	FAN	1.2	0.0102
2	MAIN ROTOR	32.4	0.138
3	EX ROTOR	5.4	0.012
4	SHAFT	11.3	0.0043
6	TOTAL	50.3	0.1645

TWO BEARING DIMENSIONS



C.G. = GRAVITY CENTER

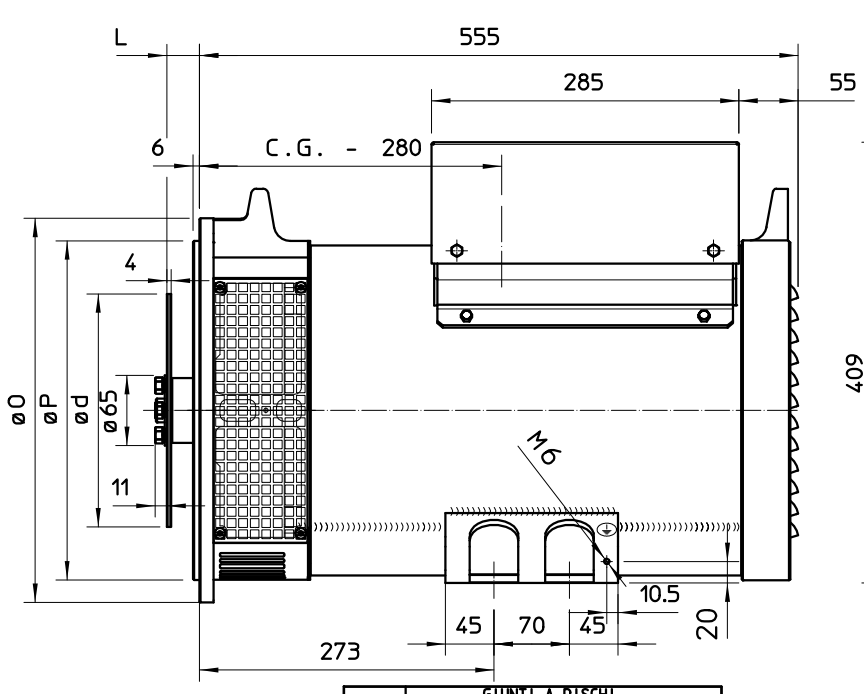
SINGLE BEARING MOMENTS OF INERTIA

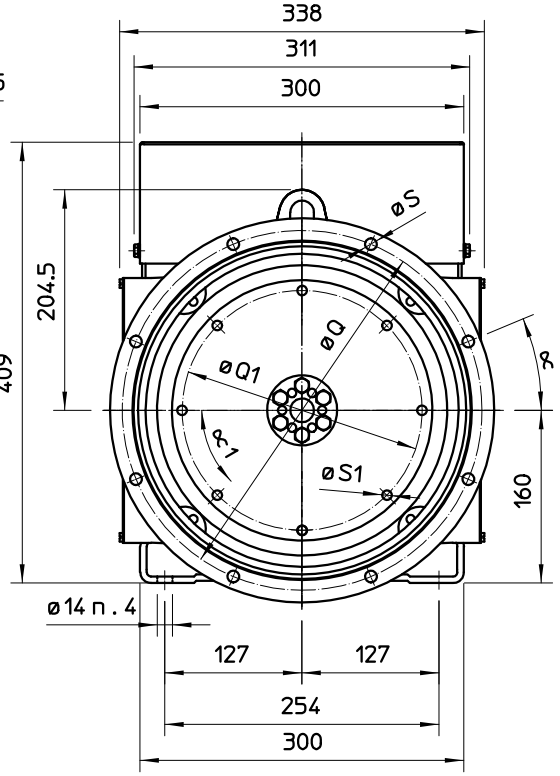


	COMPONENT	WEIGHT Kg	J Kgm²
1	FAN	1.2	0.0102
2	MAIN ROTOR	32.4	0.138
3	EX ROTOR	5.4	0.012
4	SHAFT	11.2	0.0044
6	TOTAL	50.2	0.1646

SAE N.	5	SHAFT COUPLING FLEX PLATE	
	B(mm)	WEIGHT kg	J kgm²
6 1/2	4	1.14	0.0067
7 1/2	4	1.42	0.0103
8	35.6	1.97	0.0171
10	27.6	2.59	0.0319
11 1/2	14	3.1	0.0481

SINGLE BEARING DIMENSIONS

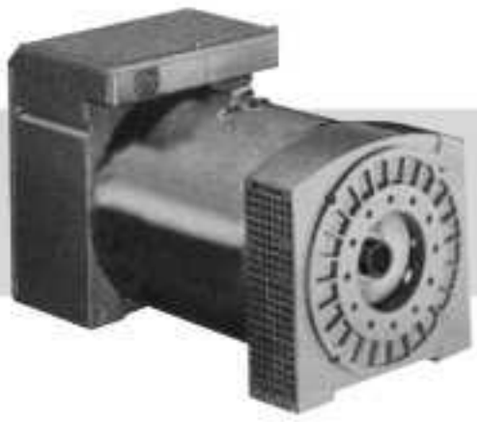




SAE N.	FLANGIA/FLANGE BRIDE/FLANSCH					
	O	P	Q	n. fori	S	α
5	356	314.3	333.4	8	11	22°30'
4	403	362	381	12	11	15°
3	451	409.6	428.6	12	11	15°
2	489	447.7	466.7	12	11	15°

SAE N.	GIUNTI A DISCHI DISC COUPLING DISQUE DE MONOPALIER SCHEIBENKUPPLUNG					
	L	d	Q1	n. fori	S1	α1
6 1/2	30.2	215.9	200	6	9	60°
7 1/2	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 1/2	39.6	352.42	333.37	8	11	45°

C.G. = GRAVITY CENTER



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MECCALTE spa - Via Roma, 20 - 36051 CREAZZO (VI) ITALIA
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web site: www.meccalte.com

3 PHASE
4 POLE
IP 23

CARATTERISTICHE / CHARACTERISTICS / CARACTERISTIQUES / TECNISCHE MERKMALE / CARACTERISTICAS

POTENZE 230/400 V A 1500 giri/min - 50 Hz | **POWER 230/400 V** AT 1500 RPM - 50 Hz | **PUISSANCE 230/400 V** A 1500 T/min - 50 Hz | **LEISTUNG 230/400 V** BEI 1500 UpM - 50 Hz | **POTENCIAS 230/400 V** A 1500 RPM - 50 Hz

Tipo / Type / Type / Typ / Tipo	CL. H (ΔT=125°C)			CL. F (ΔT=105°C)					CL. H (ΔT=125°C)		T.H.D.
	TRIFASE / THREE-PHASE / TRIPHASE / DREIPHASIG / TRIFASICO		CAPACITA' DI SPUNTO / PICKUP CAPACITY / CAPACITE DE DEMARRAGE / ANLAßLEISTUNG / CAPACIDAD DE ARRANQUE	TRIFASE / THREE-PHASE / TRIPHASE / DREIPHASIG / TRIFASICO		RENDIMENTI / EFFICIENCY / RENDEMENT / WIRKUNGSGRAD / RENDIMIENTOS			MONOFASE / SINGLE-PHASE / MONOPHASE / EINPHASIG / MONOFASICO DELTA CONNECTION		
	KVA	KW cos φ 0,8		KVA	KW cos φ 0,8	2/4 %	3/4 %	4/4 %	KVA / KW	CAPACITA' DI SPUNTO / PICKUP CAPACITY / CAPACITE DE DEMARRAGE / ANLAßLEISTUNG / CAPACIDAD DE ARRANQUE	%
BTO3-1S/4	7	5,6	KVA 32,5	6,5	5,2	76	80	79,5	5	KVA 24	< 3,5
BTO3-2S/4	9	7,2	KVA 40	8	6,4	78	82	81,3	6,5	KVA 30	< 3,5
BTO3-1L/4	11	8,8	KVA 50	10	8	82	84,2	84	8	KVA 38	< 3,5
BTO3-2L/4	13	10,4	KVA 62,5	12	9,6	83	85	84	9,5	KVA 45	< 3,5
BTO3-3L/4	15	12	KVA 65	14	11,2	84	85,5	84,5	11	KVA 50	< 3,5

POTENZE 277/480 V A 1800 giri/min - 60 Hz | **POWER 277/480 V** AT 1800 RPM - 60 Hz | **PUISSANCE 277/480 V** A 1800 T/min - 60 Hz | **LEISTUNG 277/480 V** BEI 1800 UpM - 60 Hz | **POTENCIAS 277/480 V** A 1800 RPM - 60 Hz

Tipo / Type / Type / Typ / Tipo	CL. H (ΔT=125°C)			CL. F (ΔT=105°C)					CL. H (ΔT=125°C)		T.H.D.
	TRIFASE / THREE-PHASE / TRIPHASE / DREIPHASIG / TRIFASICO		CAPACITA' DI SPUNTO / PICKUP CAPACITY / CAPACITE DE DEMARRAGE / ANLAßLEISTUNG / CAPACIDAD DE ARRANQUE	TRIFASE / THREE-PHASE / TRIPHASE / DREIPHASIG / TRIFASICO		RENDIMENTI / EFFICIENCY / RENDEMENT / WIRKUNGSGRAD / RENDIMIENTOS			MONOFASE / SINGLE-PHASE / MONOPHASE / EINPHASIG / MONOFASICO DELTA CONNECTION		
	KVA	KW cos φ 0,8		KVA	KW cos φ 0,8	2/4 %	3/4 %	4/4 %	KVA / KW	CAPACITA' DI SPUNTO / PICKUP CAPACITY / CAPACITE DE DEMARRAGE / ANLAßLEISTUNG / CAPACIDAD DE ARRANQUE	%
BTO3-1S/4	8,4	6,7	KVA 39	7,8	6,2	77,5	81,5	81	6	KVA 28	< 3,5
BTO3-2S/4	10,8	8,6	KVA 48	9,6	7,7	79,2	83,1	82,7	7,8	KVA 36	< 3,5
BTO3-1L/4	13,2	10,6	KVA 60	12	9,6	83	85,6	85,4	9,6	KVA 45	< 3,5
BTO3-2L/4	15,6	12,5	KVA 75	14,4	11,5	83,5	85,7	85,5	11,4	KVA 54	< 3,5
BTO3-3L/4	18	14,4	KVA 78	16,8	13,4	85	87	86	13,2	KVA 60	< 3,5

Tipo / Type / Type / Typ / Tipo	J (Kgm²)			Peso/Weight / Poids/Gewicht (Kg)			Vol. d'aria / Air Vol. / Vol. d'air / Luftmenge / Vol. de aire (m³/min)		Rumore - Noise - Bruit - Gerausch - Ruido dB(A)				GIUNTO A DISCHI / COUPLING DISCS / DISQUE DE MENOPALIER / SCHEIBENKUPPLUNG / JUNTA A DISCOS	
									50 Hz		60 Hz			
	B3/B14	B3/B9	MD35	B3/B14	B3/B9	MD35	50HZ	60HZ	1m	7m	1m	7m	SAE N°	J(kgm²)*
BTO3-1S/4	0,0445	0,0444	0,0447	53	51	57	4,2	5,1	72	58	78	60	6 1/2	0,0067
BTO3-2S/4	0,0545	0,0544	0,0547	59	57	63	4,1	5					7 1/2	0,0103
BTO3-1L/4	0,0657	0,0656	0,0658	69	67	73	4	5					8	0,0171
BTO3-2L/4	0,0717	0,0716	0,0718	74	72	78	3,9	4,9					10	0,0319
BTO3-3L/4	0,0817	0,0816	0,0818	79	77	83	3,9	4,9					11 1/2	0,0481

* Il valore totale J della forma MD35 si ottiene sommando il J della forma MD35 con quello del giunto a dischi SAE prescelto.
The J value of form MD35 is obtained by summing the J of the MD35 form with the J of the chosen SAE coupling discs.
La valeur de la form MD35 est obtenue en sommant le J de la form MD35 avec celui du disque de monopalier SAE.
Der Wert J der Form MD35 wird durch die Summe von J der Form MD35 und J der ausgewähiten SAE Scheibenkupplung erreicht.
El valor J de la forma MD35 se obtiene sumando el J forma MD35 con la de la junta a discos SAE seleccionada.

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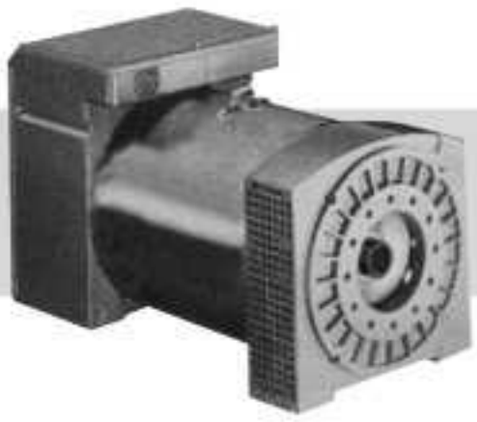

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CARATTERISTICHE / CHARACTERISTICS / CARACTERISTIQUES / TECNISCHE MERKMALE / CARACTERISTICAS

POTENZE 230/400 V A 1500 giri/min - 50 Hz | **POWER 230/400 V** AT 1500 RPM - 50 Hz | **PUISSANCE 230/400 V** A 1500 T/min - 50 Hz | **LEISTUNG 230/400 V** BEI 1500 UpM - 50 Hz | **POTENCIAS 230/400 V** A 1500 RPM - 50 Hz

Tipo / Type / Type / Typ / Tipo	CL. H (ΔT=125°C)			CL. F (ΔT=105°C)					CL. H (ΔT=125°C)		T.H.D.
	TRIFASE / THREE-PHASE / TRIPHASE / DREIPHASIG / TRIFASICO		CAPACITA' DI SPUNTO / PICKUP CAPACITY / CAPACITE DE DEMARRAGE / ANLAßLEISTUNG / CAPACIDAD DE ARRANQUE	TRIFASE / THREE-PHASE / TRIPHASE / DREIPHASIG / TRIFASICO		RENDIMENTI / EFFICIENCY / RENDEMENT / WIRKUNGSGRAD / RENDIMIENTOS			MONOFASE / SINGLE-PHASE / MONOPHASE / EINPHASIG / MONOFASICO DELTA CONNECTION		
	KVA	KW cos φ 0,8		KVA	KW cos φ 0,8	2/4 %	3/4 %	4/4 %	KVA / KW	CAPACITA' DI SPUNTO / PICKUP CAPACITY / CAPACITE DE DEMARRAGE / ANLAßLEISTUNG / CAPACIDAD DE ARRANQUE	%
BTO3-1S/4	7	5,6	KVA 32,5	6,5	5,2	76	80	79,5	5	KVA 24	< 3,5
BTO3-2S/4	9	7,2	KVA 40	8	6,4	78	82	81,3	6,5	KVA 30	< 3,5
BTO3-1L/4	11	8,8	KVA 50	10	8	82	84,2	84	8	KVA 38	< 3,5
BTO3-2L/4	13	10,4	KVA 62,5	12	9,6	83	85	84	9,5	KVA 45	< 3,5
BTO3-3L/4	15	12	KVA 65	14	11,2	84	85,5	84,5	11	KVA 50	< 3,5

POTENZE 277/480 V A 1800 giri/min - 60 Hz | **POWER 277/480 V** AT 1800 RPM - 60 Hz | **PUISSANCE 277/480 V** A 1800 T/min - 60 Hz | **LEISTUNG 277/480 V** BEI 1800 UpM - 60 Hz | **POTENCIAS 277/480 V** A 1800 RPM - 60 Hz

Tipo / Type / Type / Typ / Tipo	CL. H (ΔT=125°C)			CL. F (ΔT=105°C)					CL. H (ΔT=125°C)		T.H.D.
	TRIFASE / THREE-PHASE / TRIPHASE / DREIPHASIG / TRIFASICO		CAPACITA' DI SPUNTO / PICKUP CAPACITY / CAPACITE DE DEMARRAGE / ANLAßLEISTUNG / CAPACIDAD DE ARRANQUE	TRIFASE / THREE-PHASE / TRIPHASE / DREIPHASIG / TRIFASICO		RENDIMENTI / EFFICIENCY / RENDEMENT / WIRKUNGSGRAD / RENDIMIENTOS			MONOFASE / SINGLE-PHASE / MONOPHASE / EINPHASIG / MONOFASICO DELTA CONNECTION		
	KVA	KW cos φ 0,8		KVA	KW cos φ 0,8	2/4 %	3/4 %	4/4 %	KVA / KW	CAPACITA' DI SPUNTO / PICKUP CAPACITY / CAPACITE DE DEMARRAGE / ANLAßLEISTUNG / CAPACIDAD DE ARRANQUE	%
BTO3-1S/4	8,4	6,7	KVA 39	7,8	6,2	77,5	81,5	81	6	KVA 28	< 3,5
BTO3-2S/4	10,8	8,6	KVA 48	9,6	7,7	79,2	83,1	82,7	7,8	KVA 36	< 3,5
BTO3-1L/4	13,2	10,6	KVA 60	12	9,6	83	85,6	85,4	9,6	KVA 45	< 3,5
BTO3-2L/4	15,6	12,5	KVA 75	14,4	11,5	83,5	85,7	85,5	11,4	KVA 54	< 3,5
BTO3-3L/4	18	14,4	KVA 78	16,8	13,4	85	87	86	13,2	KVA 60	< 3,5

Tipo / Type / Type / Typ / Tipo	J (Kgm²)			Peso/Weight / Poids/Gewicht (Kg)			Vol. d'aria / Air Vol. / Vol. d'air / Luftmenge / Vol. de aire (m³/min)		Rumore - Noise - Bruit - Gerausch - Ruido dB(A)				GIUNTO A DISCHI / COUPLING DISCS / DISQUE DE MENOPALIER / SCHEIBENKUPPLUNG / JUNTA A DISCOS	
									50 Hz		60 Hz			
	B3/B14	B3/B9	MD35	B3/B14	B3/B9	MD35	50HZ	60HZ	1m	7m	1m	7m	SAE N°	J(kgm²)*
BTO3-1S/4	0,0445	0,0444	0,0447	53	51	57	4,2	5,1	72	58	78	60	6 1/2	0,0067
BTO3-2S/4	0,0545	0,0544	0,0547	59	57	63	4,1	5					7 1/2	0,0103
BTO3-1L/4	0,0657	0,0656	0,0658	69	67	73	4	5					8	0,0171
BTO3-2L/4	0,0717	0,0716	0,0718	74	72	78	3,9	4,9					10	0,0319
BTO3-3L/4	0,0817	0,0816	0,0818	79	77	83	3,9	4,9					11 1/2	0,0481

* Il valore totale J della forma MD35 si ottiene sommando il J della forma MD35 con quello del giunto a dischi SAE prescelto.
The J value of form MD35 is obtained by summing the J of the MD35 form with the J of the chosen SAE coupling discs.
La valeur de la form MD35 est obtenue en sommant le J de la form MD35 avec celui du disque de monopalier SAE.
Der Wert J der Form MD35 wird durch die Summe von J der Form MD35 und J der ausgewähiten SAE Scheibenkupplung erreicht.
El valor J de la forma MD35 se obtiene sumando el J forma MD35 con la de la junta a discos SAE seleccionada.

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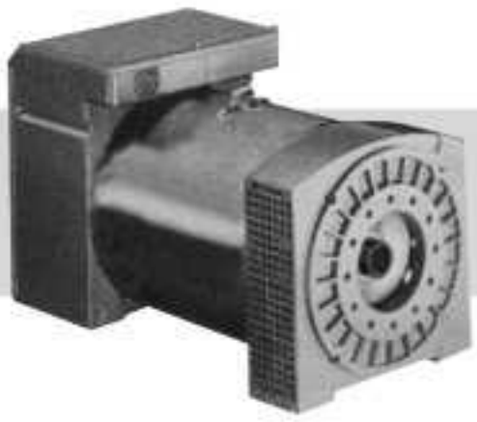

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POTENZE 230/400 V A 1500 giri/min - 50 Hz | **POWER 230/400 V** AT 1500 RPM - 50 Hz | **PUISSANCE 230/400 V** A 1500 T/min - 50 Hz | **LEISTUNG 230/400 V** BEI 1500 UpM - 50 Hz | **POTENCIAS 230/400 V** A 1500 RPM - 50 Hz

Tipo / Type / Type / Typ / Tipo	CL. H (ΔT=125°C)			CL. F (ΔT=105°C)					CL. H (ΔT=125°C)		T.H.D.
	TRIFASE / THREE-PHASE / TRIPHASE / DREIPHASIG / TRIFASICO		CAPACITA' DI SPUNTO / PICKUP CAPACITY / CAPACITE DE DEMARRAGE / ANLAßLEISTUNG / CAPACIDAD DE ARRANQUE	TRIFASE / THREE-PHASE / TRIPHASE / DREIPHASIG / TRIFASICO		RENDIMENTI / EFFICIENCY / RENDEMENT / WIRKUNGSGRAD / RENDIMIENTOS			MONOFASE / SINGLE-PHASE / MONOPHASE / EINPHASIG / MONOFASICO DELTA CONNECTION		
	KVA	KW cos φ 0,8		KVA	KW cos φ 0,8	2/4 %	3/4 %	4/4 %	KVA / KW	CAPACITA' DI SPUNTO / PICKUP CAPACITY / CAPACITE DE DEMARRAGE / ANLAßLEISTUNG / CAPACIDAD DE ARRANQUE	%
BTO3-1S/4	7	5,6	KVA 32,5	6,5	5,2	76	80	79,5	5	KVA 24	< 3,5
BTO3-2S/4	9	7,2	KVA 40	8	6,4	78	82	81,3	6,5	KVA 30	< 3,5
BTO3-1L/4	11	8,8	KVA 50	10	8	82	84,2	84	8	KVA 38	< 3,5
BTO3-2L/4	13	10,4	KVA 62,5	12	9,6	83	85	84	9,5	KVA 45	< 3,5
BTO3-3L/4	15	12	KVA 65	14	11,2	84	85,5	84,5	11	KVA 50	< 3,5

POTENZE 277/480 V A 1800 giri/min - 60 Hz | **POWER 277/480 V** AT 1800 RPM - 60 Hz | **PUISSANCE 277/480 V** A 1800 T/min - 60 Hz | **LEISTUNG 277/480 V** BEI 1800 UpM - 60 Hz | **POTENCIAS 277/480 V** A 1800 RPM - 60 Hz

Tipo / Type / Type / Typ / Tipo	CL. H (ΔT=125°C)			CL. F (ΔT=105°C)					CL. H (ΔT=125°C)		T.H.D.
	TRIFASE / THREE-PHASE / TRIPHASE / DREIPHASIG / TRIFASICO		CAPACITA' DI SPUNTO / PICKUP CAPACITY / CAPACITE DE DEMARRAGE / ANLAßLEISTUNG / CAPACIDAD DE ARRANQUE	TRIFASE / THREE-PHASE / TRIPHASE / DREIPHASIG / TRIFASICO		RENDIMENTI / EFFICIENCY / RENDEMENT / WIRKUNGSGRAD / RENDIMIENTOS			MONOFASE / SINGLE-PHASE / MONOPHASE / EINPHASIG / MONOFASICO DELTA CONNECTION		
	KVA	KW cos φ 0,8		KVA	KW cos φ 0,8	2/4 %	3/4 %	4/4 %	KVA / KW	CAPACITA' DI SPUNTO / PICKUP CAPACITY / CAPACITE DE DEMARRAGE / ANLAßLEISTUNG / CAPACIDAD DE ARRANQUE	%
BTO3-1S/4	8,4	6,7	KVA 39	7,8	6,2	77,5	81,5	81	6	KVA 28	< 3,5
BTO3-2S/4	10,8	8,6	KVA 48	9,6	7,7	79,2	83,1	82,7	7,8	KVA 36	< 3,5
BTO3-1L/4	13,2	10,6	KVA 60	12	9,6	83	85,6	85,4	9,6	KVA 45	< 3,5
BTO3-2L/4	15,6	12,5	KVA 75	14,4	11,5	83,5	85,7	85,5	11,4	KVA 54	< 3,5
BTO3-3L/4	18	14,4	KVA 78	16,8	13,4	85	87	86	13,2	KVA 60	< 3,5

Tipo / Type / Type / Typ / Tipo	J (Kgm²)			Peso/Weight / Poids/Gewicht (Kg)			Vol. d'aria / Air Vol. / Vol. d'air / Luftmenge / Vol. de aire (m³/min)		Rumore - Noise - Bruit - Gerausch - Ruido dB(A)				GIUNTO A DISCHI / COUPLING DISCS / DISQUE DE MENOPALIER / SCHEIBENKUPPLUNG / JUNTA A DISCOS	
									50 Hz		60 Hz			
	B3/B14	B3/B9	MD35	B3/B14	B3/B9	MD35	50HZ	60HZ	1m	7m	1m	7m	SAE N°	J(kgm²)*
BTO3-1S/4	0,0445	0,0444	0,0447	53	51	57	4,2	5,1	72	58	78	60	6 1/2	0,0067
BTO3-2S/4	0,0545	0,0544	0,0547	59	57	63	4,1	5					7 1/2	0,0103
BTO3-1L/4	0,0657	0,0656	0,0658	69	67	73	4	5					8	0,0171
BTO3-2L/4	0,0717	0,0716	0,0718	74	72	78	3,9	4,9					10	0,0319
BTO3-3L/4	0,0817	0,0816	0,0818	79	77	83	3,9	4,9					11 1/2	0,0481

* Il valore totale J della forma MD35 si ottiene sommando il J della forma MD35 con quello del giunto a dischi SAE prescelto.
The J value of form MD35 is obtained by summing the J of the MD35 form with the J of the chosen SAE coupling discs.
La valeur de la form MD35 est obtenue en sommant le J de la form MD35 avec celui du disque de monopalier SAE.
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El valor J de la forma MD35 se obtiene sumando el J forma MD35 con la de la junta a discos SAE seleccionada.

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GENERATOR TYPE ECO 32-2L/4

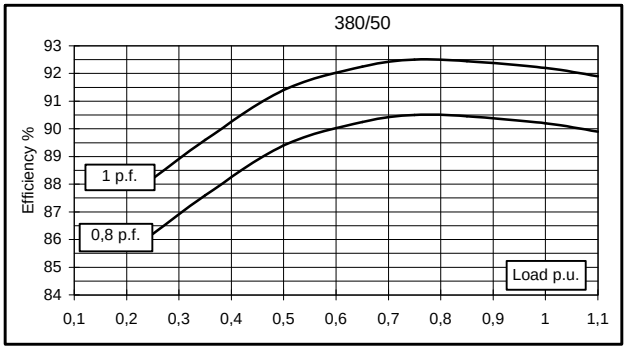
Document :**DS009A/1**
issue 006 date 15/05/2003

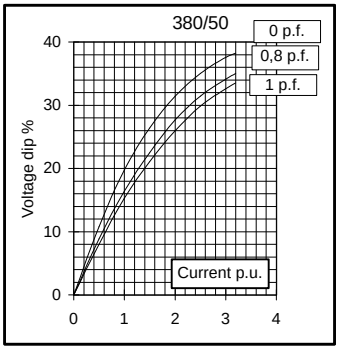
Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	60	60	60	50	60	68	72	72
		kW	48	48	48	40	48	54,4	57,6	57,6
Rated power class F		kVA	57	57	57	45	55	65	69	69
		kW	45,6	45,6	45,6	36	44	52	55,2	55,2
Regulation 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	%	90,2	90,3	90	89,5	92,2	92,7	92,8	92,9
(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	%	299,2	270	250,8	186,0	301,0	303,5	294,0	270
	Xd'	%	14,18	12,8	11,89	8,82	14,27	14,39	13,94	12,8
	Xd"	%	7,53	6,8	6,32	4,68	7,58	7,64	7,40	6,8
	Xq	%	117,5	106	98,5	73,0	118,2	119,1	115,4	106
	Xq'	%	117,5	106	98,5	73,0	118,2	119,1	115,4	106
	Xq"	%	36,6	33	30,7	22,7	39,6	34,9	33,0	33
	X_2	%	24,71	22,3	20,72	15,36	24,86	25,06	24,28	22,3
	X_0	%	3,32	3	2,79	2,07	3,34	3,37	3,27	3
Short Circuit Ratio	Kcc		0,48	0,60	0,70	1,30	0,35	0,40	0,48	0,60
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.	1,9	1,9	2,4	2,8	1,6	1,7	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	0,041							
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	5215	5156	5333	4693	4061	4284	4469	4402
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 %	3,8 / 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							
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		m^3/min	11,8				14,5			
Inertia Constant (H)		sec.	0,104				0,125			
Noise level at 1m/7m		dB(A)	75 / 60				79 / 64			

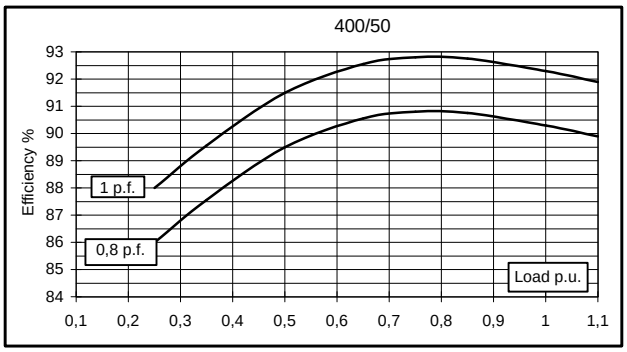
GENERATOR TYPE ECO 32-2L/4

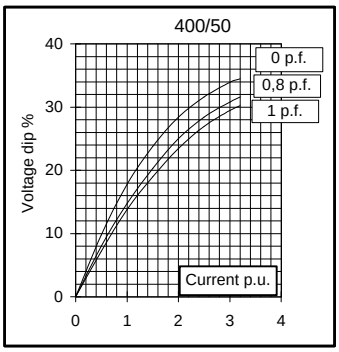
Document : **DS009A/2**
issue 005 date : 05/05/03

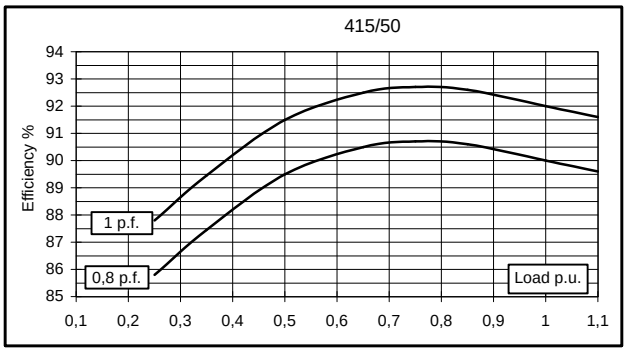
50 Hz

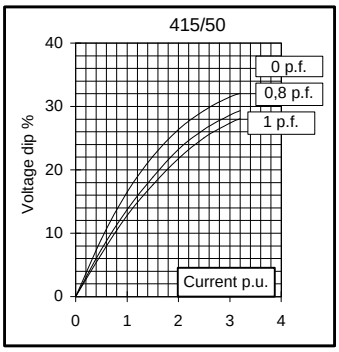


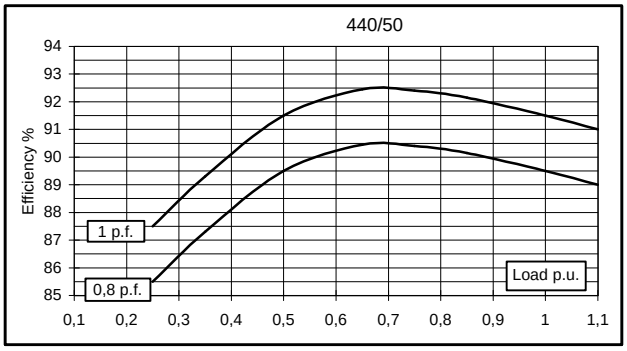


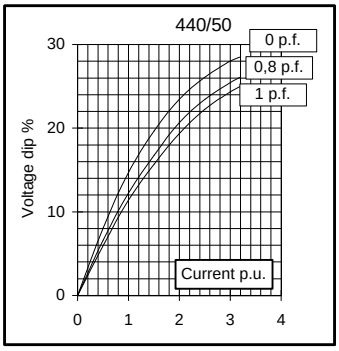


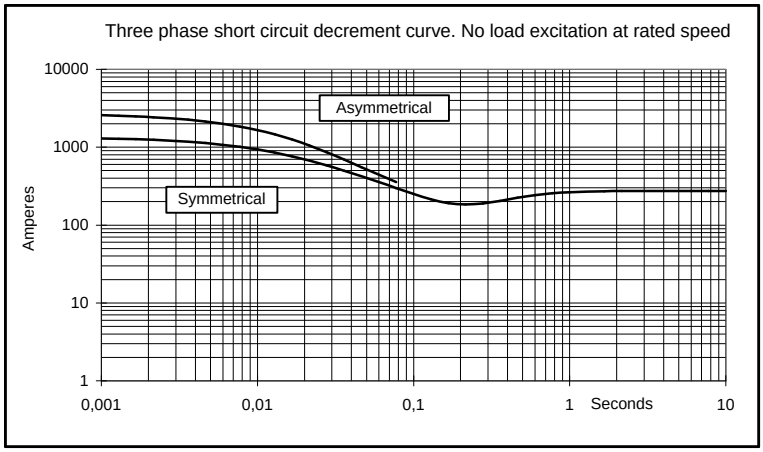










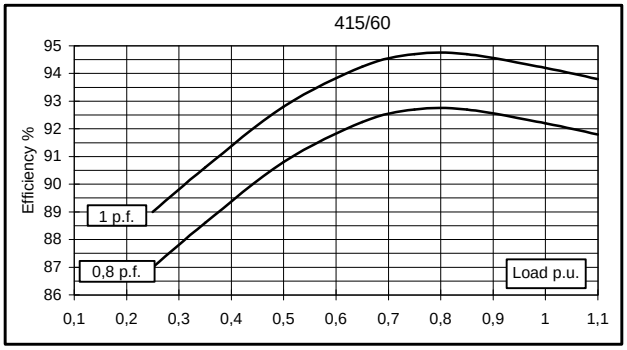


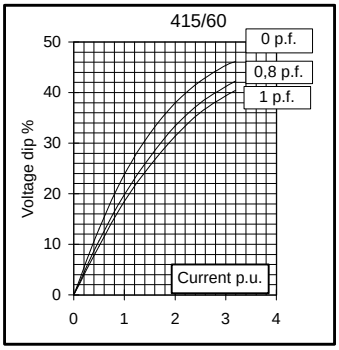
GENERATOR TYPE ECO 32-2L/4

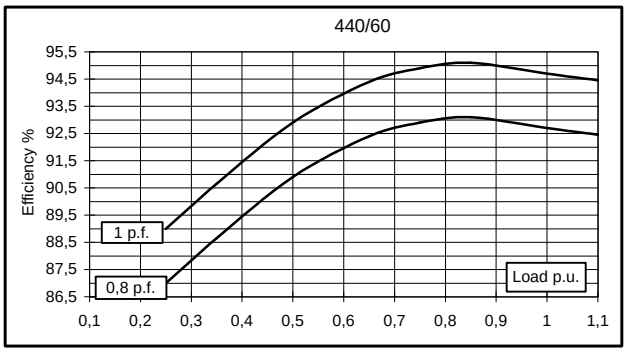
Document : **DS009A/3**

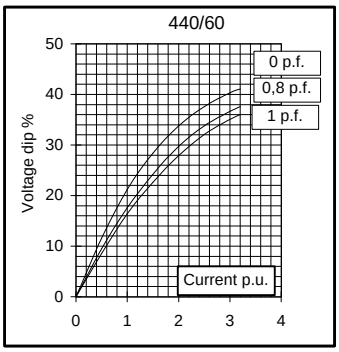
issue 005 date : 15/05/03

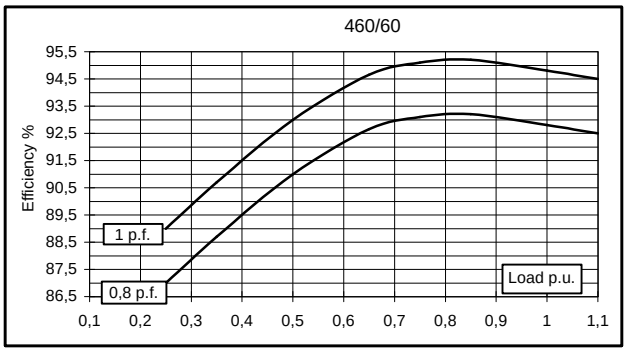
60 Hz

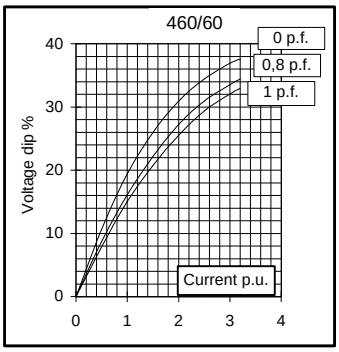


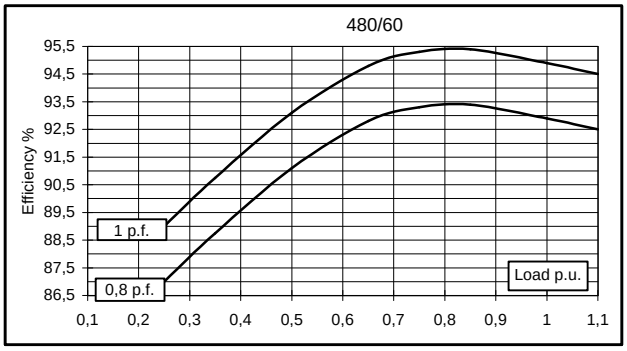


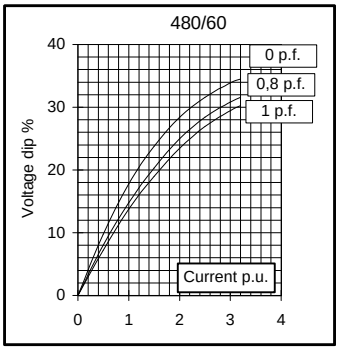


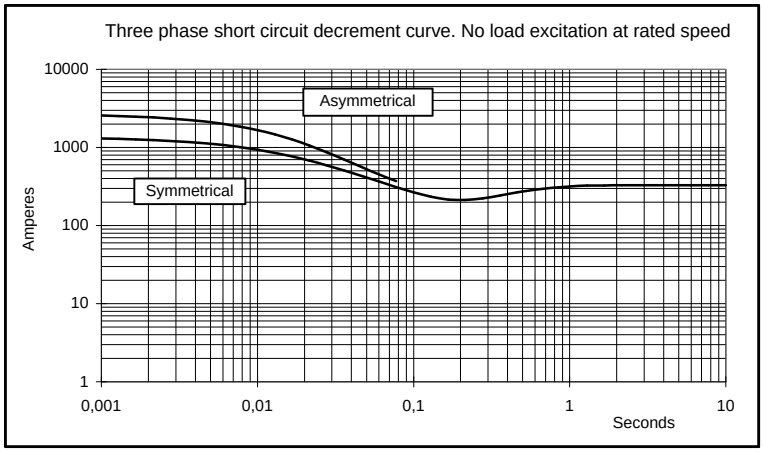




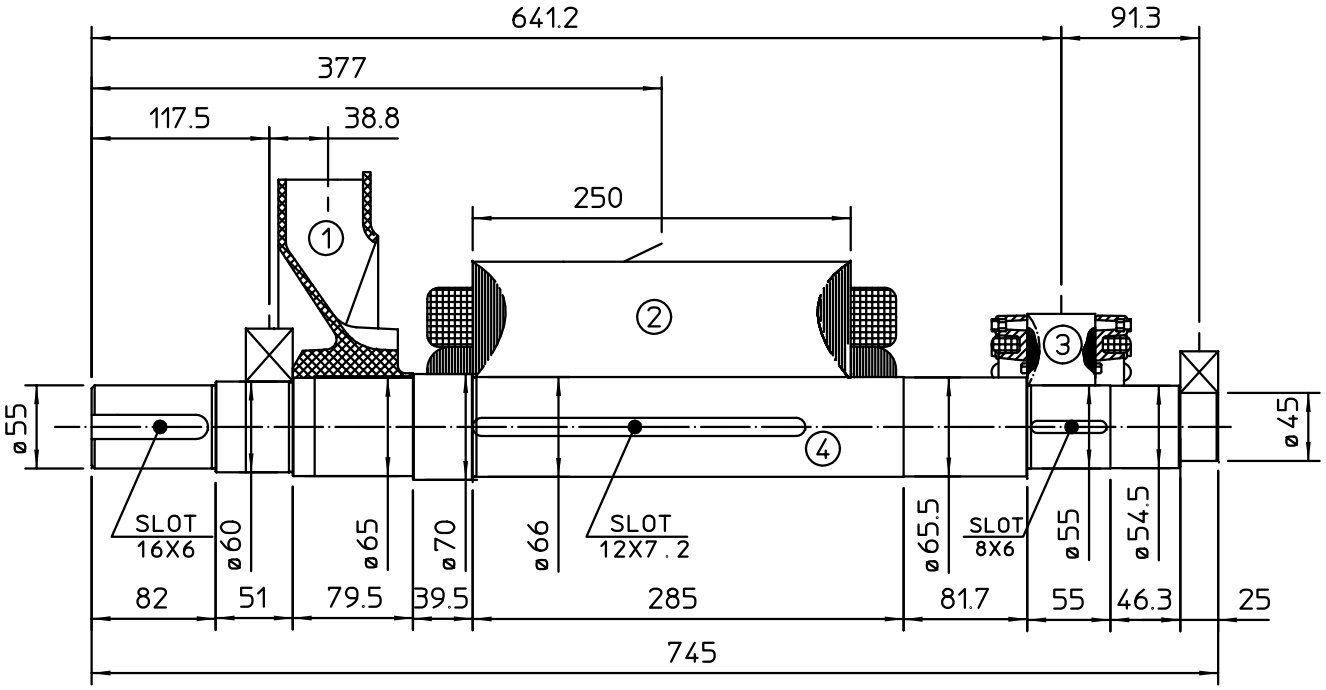








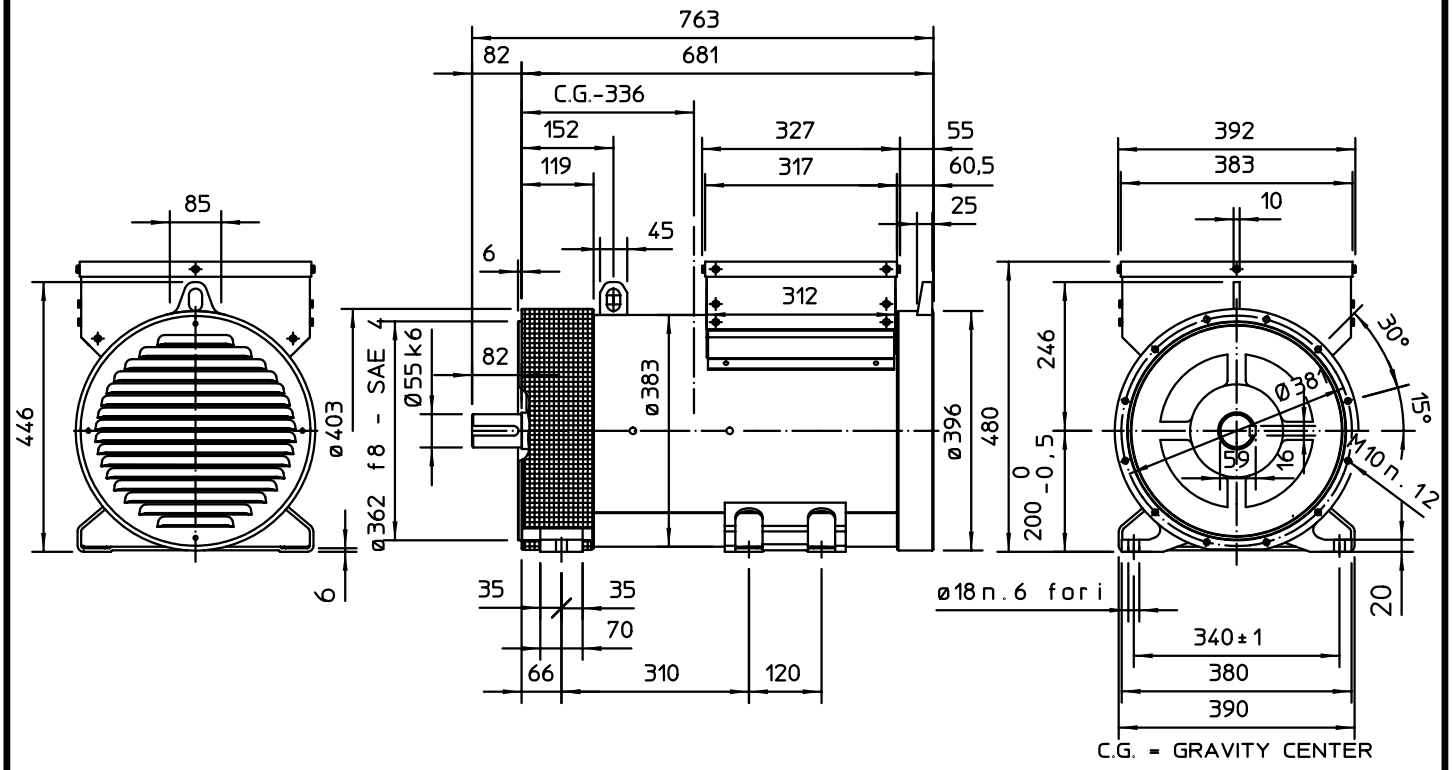
TWO BEARING MOMENTS OF INERTIA



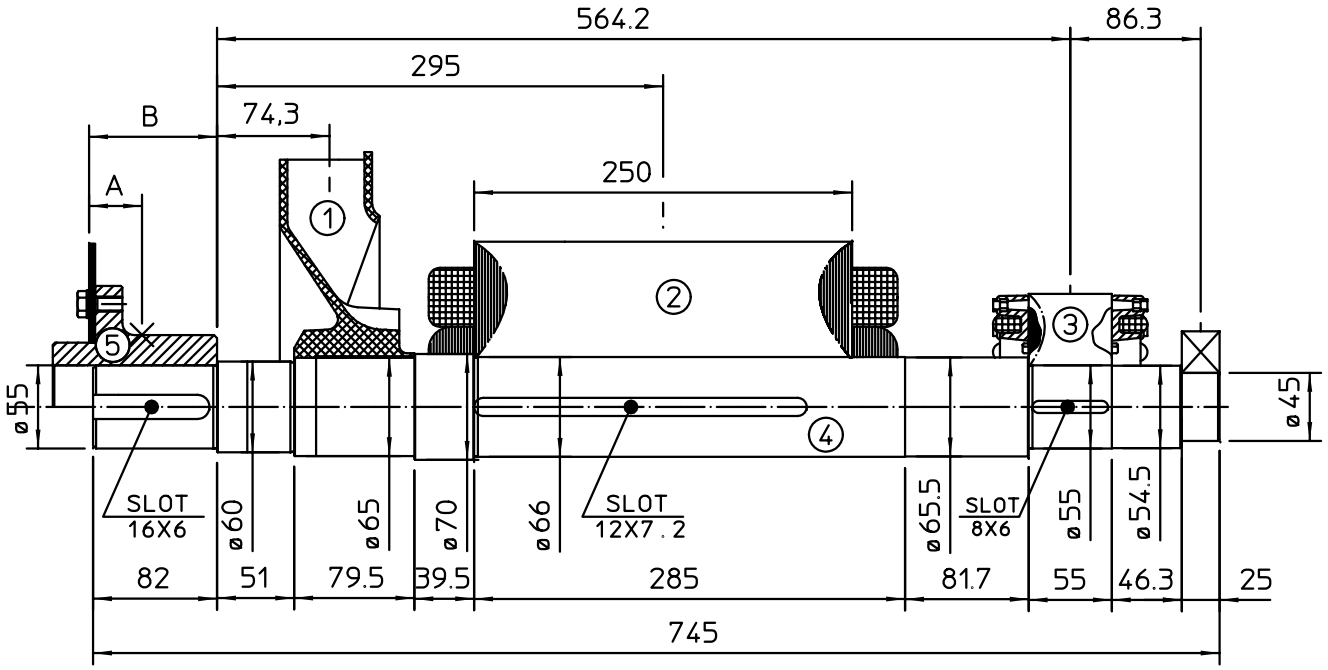
	COMPONENT	WEIGHT kg	J kgm²
1	FAN	2.3	0,0224
2	MAIN ROTOR	64.5	0.4579
3	EX. ROTOR	7	0.016
4	SHAFT	17.5	0.008
	TOTAL	91.3	0.5043

DIMENSIONS

TWO BEARING



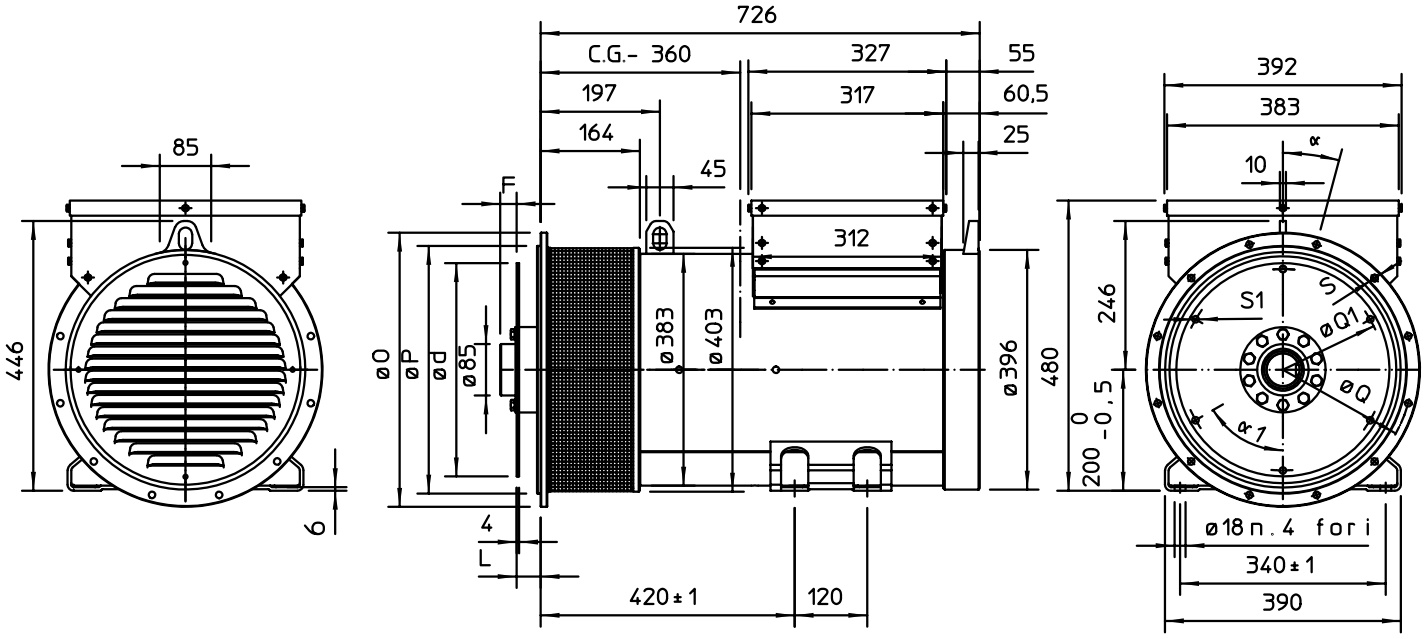
SINGLE BEARING MOMENTS OF INERTIA



	COMPONENT	WEIGHT kg	J kgm²
1	FAN	2,3	0,0224
2	MAIN ROTOR	64.5	0.4579
3	EX. ROTOR	7	0.016
4	SHAFT	17.5	0.008
	TOTAL	91.3	0.5043

SAE No	5 SHAFTS COUPLING FLEX PLATE			
	A	B	WEIGHT kg	J kgm²
6,5	26.1	75,2	4.2	0.0225
7,5	25.7	75,2	4.4	0.0256
8	38.25	106,9	7.2	0.0314
10	32.7	98,7	8.7	0.0485
11,5	24	84,5	8.3	0.0372

SINGLE BEARING DIMENSIONS



SAE No	DISC COUPLING						
	L	d	Q1	No holes	S1	α1	F
6,5	30,2	215.9	200	6	9	60°	7
7,5	30,2	241,3	222,25	8	9	45°	7
8	62	263,52	244,47	6	11	60°	2
10	53,8	314,32	295,27	8	11	45°	10
11,5	39,6	352,42	333,37	8	11	45°	24

SAE No	FLANGE					
	O	P	Q	No holes	S	α
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

mecc alte spa

GENERATOR TYPE ECO 40-1S/4

Document :**DS022A/1**
issue 007 date 10/11/2003

Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	400	400	400	370	420	450	480	480
		kW	320	320	320	296	336	360	384	384
Rated power class F		kVA	370	370	370	342	383	410	440	440
		kW	296	296	296	274	306	328	352	352
Regulation with		UVR6	±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	%	93,4	93,5	93,2	93	94,3	94,8	94,9	95
(see graph. for details)	3/4	%	93,5	93,8	93,7	93,4	94,6	94,8	94,9	95,2
	2/4	%	92,8	92,9	92,9	92,7	94,1	94,2	94,3	94,4
	1/4	%	89,2	89	88,8	88,7	90	90,1	90,1	90
Reactances (f. l.cl. F)	Xd	%	319,3	288,2	267,7	220,3	337,4	321,5	313,8	288
	Xd'	%	32,4	29,2	27,1	22,3	34,2	32,6	31,8	29,2
	Xd''	%	21,1	19,0	17,7	14,5	22,2	21,2	20,7	19,0
	Xq	%	144,9	130,8	121,5	100,0	153,1	145,9	142,4	130,8
	Xq'	%	144,9	130,8	121,5	100,0	153,1	145,9	142,4	130,8
	Xq''	%	39,2	35,4	32,9	27,1	41,4	39,5	38,5	35,4
	X_2	%	30,1	27,2	25,3	20,8	31,8	30,3	29,6	27,2
	X_0	%	4,18	3,77	3,50	2,88	4,41	4,21	4,10	3,77
Short Circuit Ratio	Kcc		0,30	0,36	0,55	0,90	0,24	0,27	0,30	0,36
Time Constants	Td'	sec.	0,11							
	Td''	sec.	0,014							
	Tdo'	sec.	2,50							
	Tα	sec.	0,013							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0,7	0,8	0,9	1,1	0,5	0,6	0,7	0,8
Excitation at full load		Amp.	3,4	3,6	3,7	3,8	3,1	3,3	3,4	3,5
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,0048							
Rotor Winding Resistance (20°C)		Ω	4,488							
Exciter Resistance (20 °C)		Ω	Rotor : 0,317				Stator : 8,85			
Heat dissipation at f.l.cl.H		W	22612	22246	23348	22280	20310	19747	20636	20211
Telephone Interference			FHT < 2%				TIF < 40			
Radio interference			EN50081-1, EN50082-1, VDE0875K. For others standards apply to factory							
Waveform Distors.(THD) at f. load		LL/LN %	2,6 / 2,6							
Waveform Distors.(THD) at no load		LL/LN %	2,9 / 2,9							
Mechanical characteristics										
Protection			IP 21 (other protection on request)							
DE bearing			6322							
NDE bearing			6318.2RS							
Weight of wound stator assembly		kg	327							
Weight of wound rotor assembly		kg	211							
Weight of complete generator		kg	1040							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	5							
Cooling air requirement		m^3/min	54				64,8			
Inertia Constant (H)		sec.	0,176				0,212			
Noise level at 1m/7m		dB(A)	94 / 82				98 / 88			

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

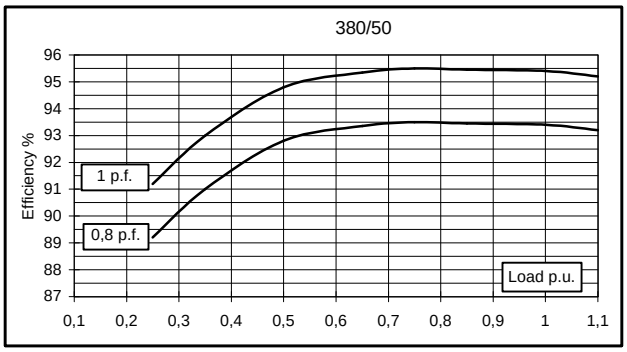
mecc alte spa

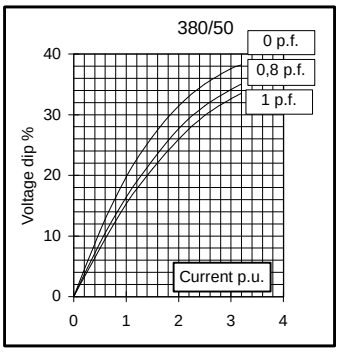
GENERATOR TYPE ECO 40-1S/4

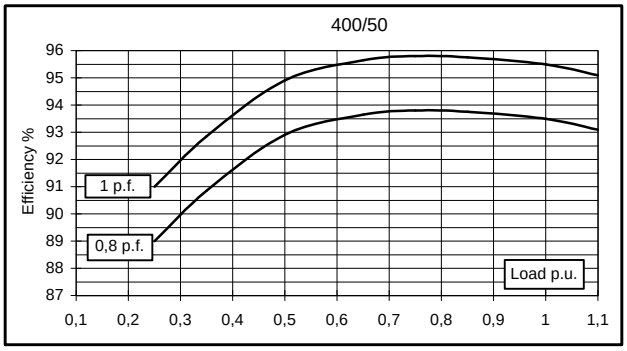
Document : **DS022A/2**

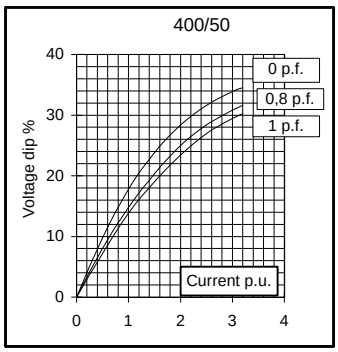
issue 006 date : 15/05/03

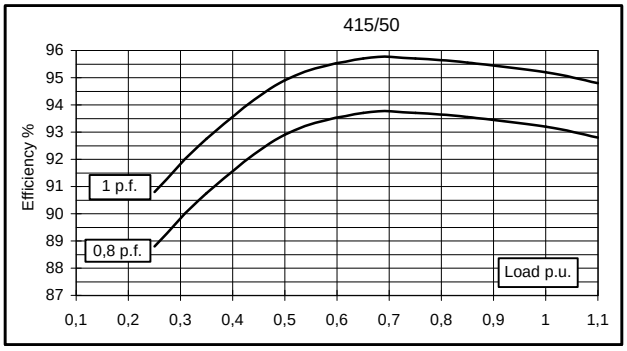
50 Hz

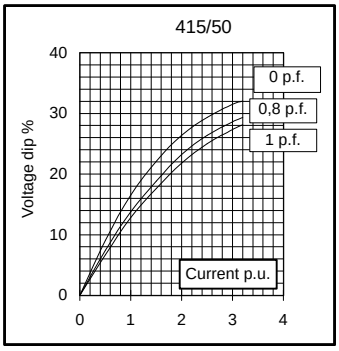


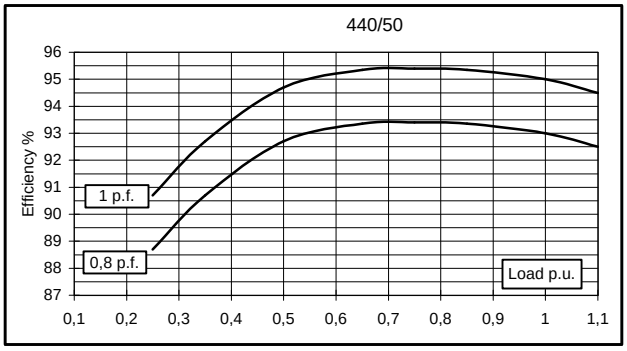


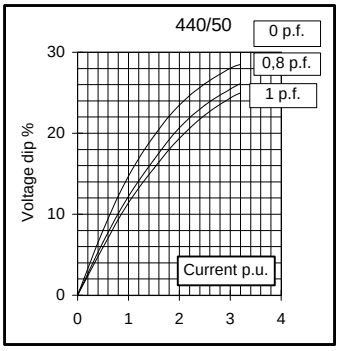


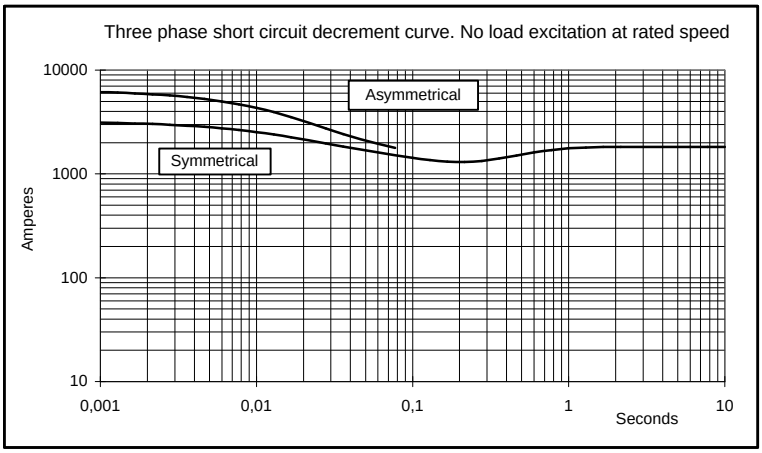










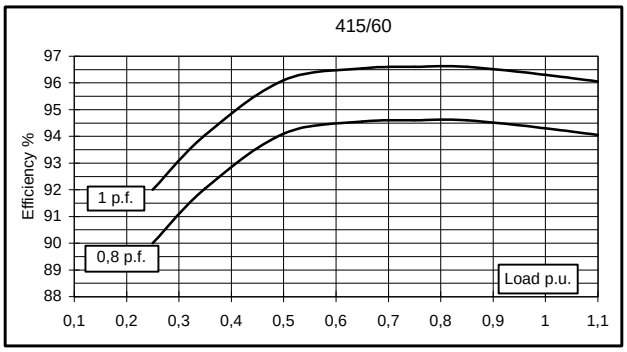


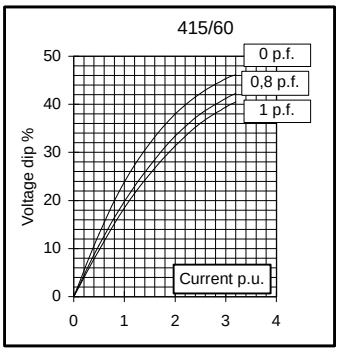
GENERATOR TYPE ECO 40-1S/4

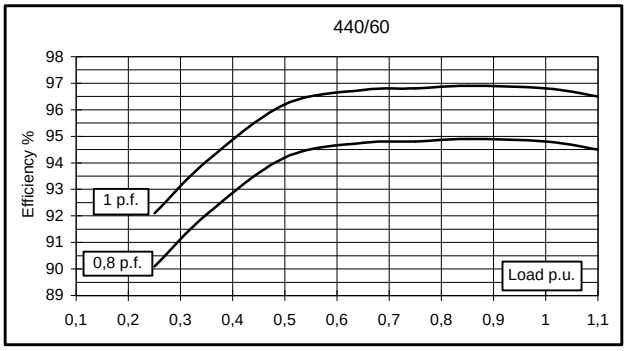
Document : **DS022A/3**

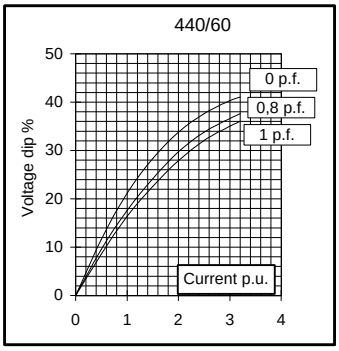
issue 006 date : 15/05/03

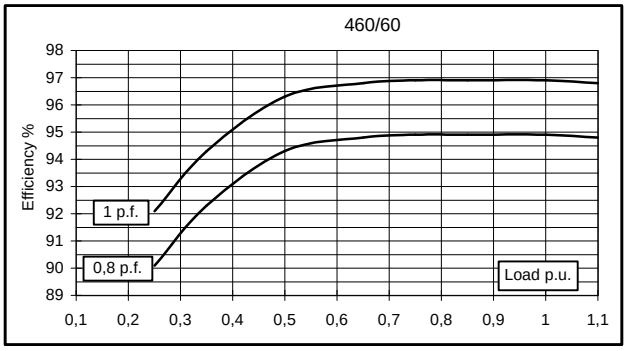
60 Hz

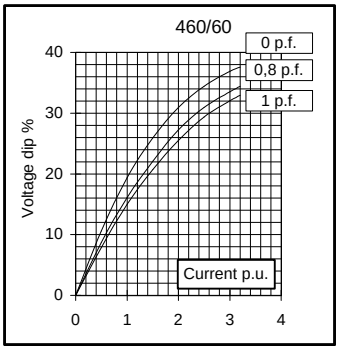


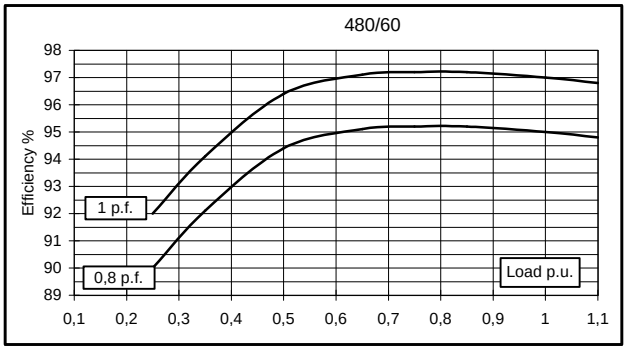


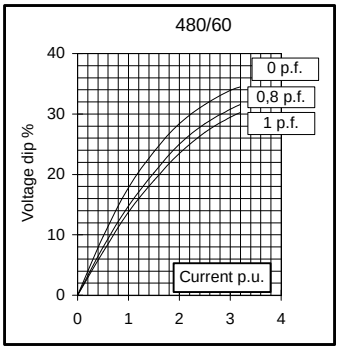


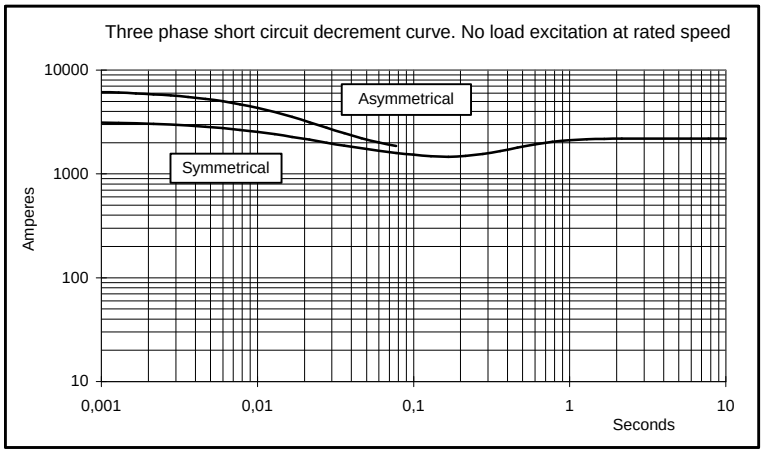




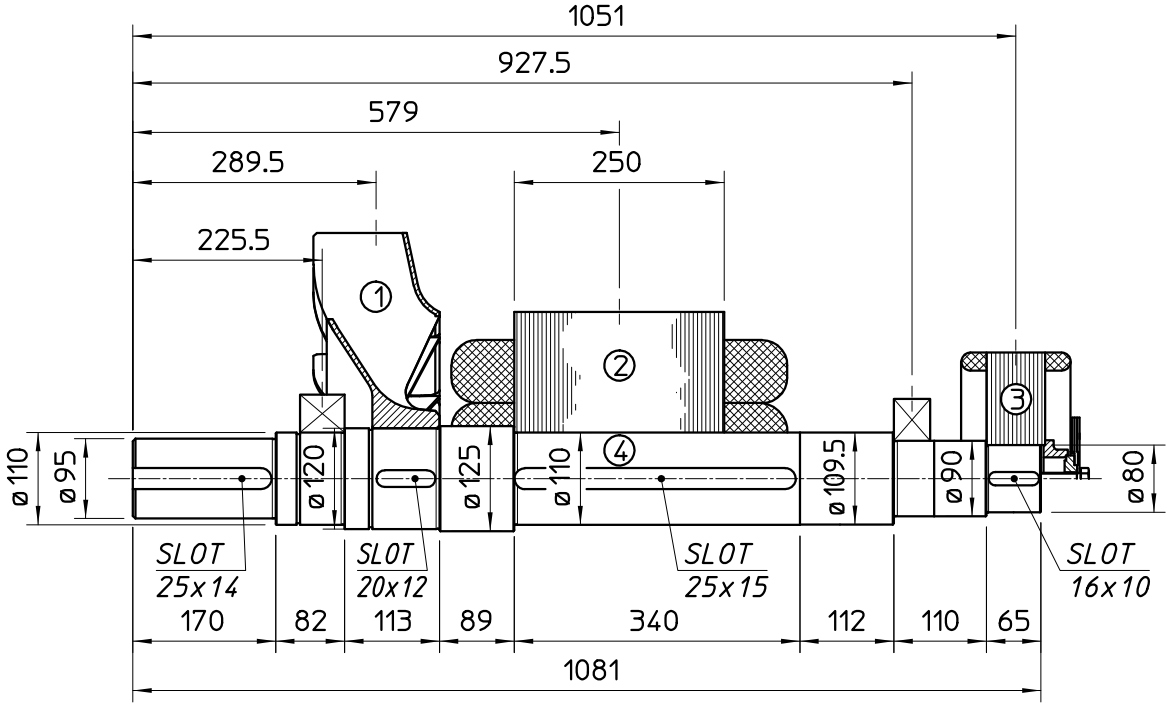






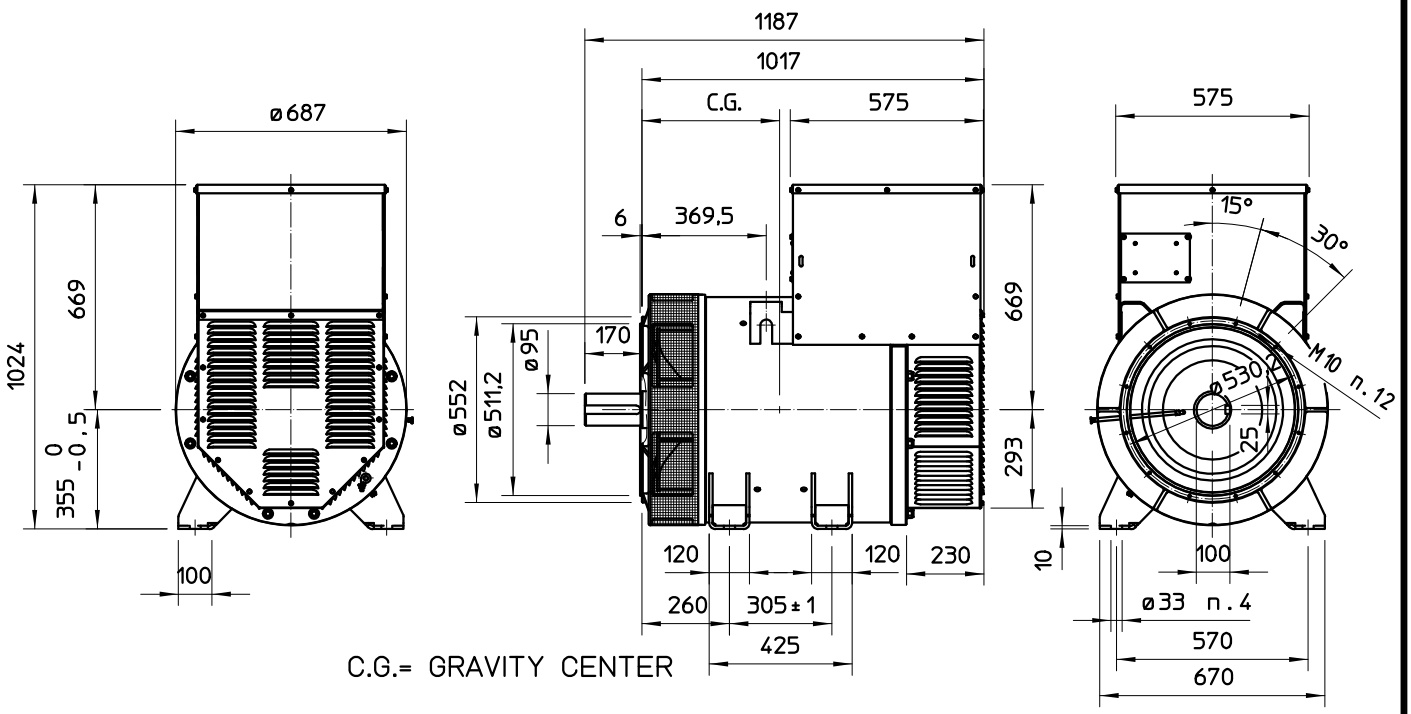


TWO BEARING MOMENTS OF INERTIA



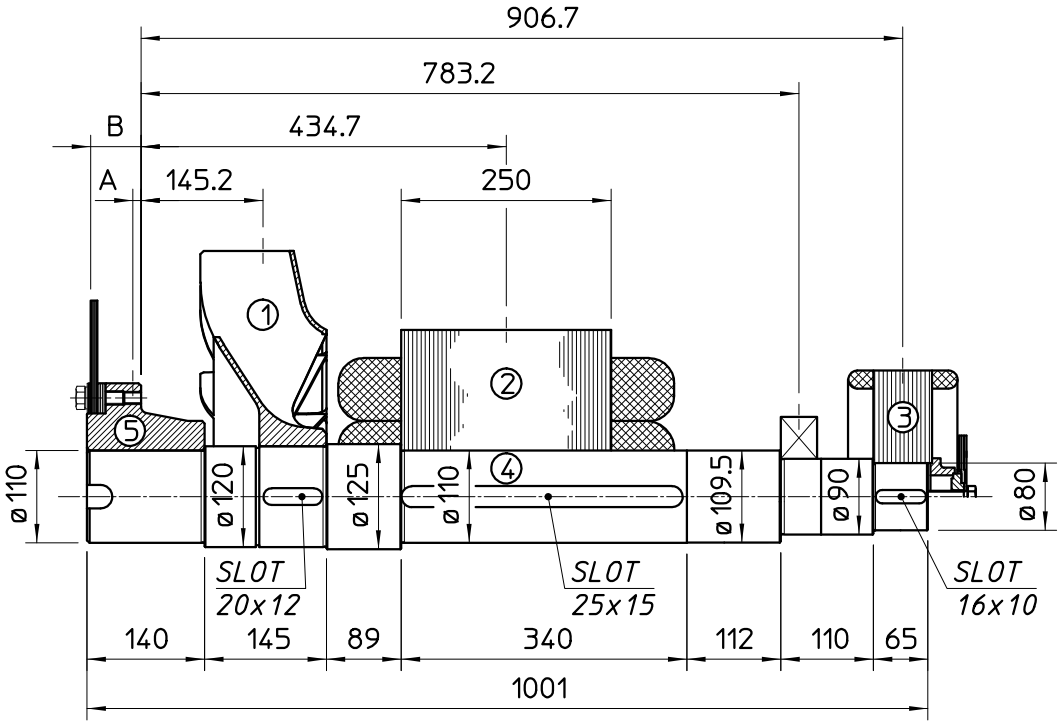
	COMPONENT	WEIGHT kg	J kgm²
1	FAN	16	0,550
2	MAIN ROTOR	211	4.498
3	EX. ROTOR	35	0.562
4	SHAFT	75	0.109
	TOTAL	337	5.719

TWO BEARING DIMENSIONS



C.G.= GRAVITY CENTER

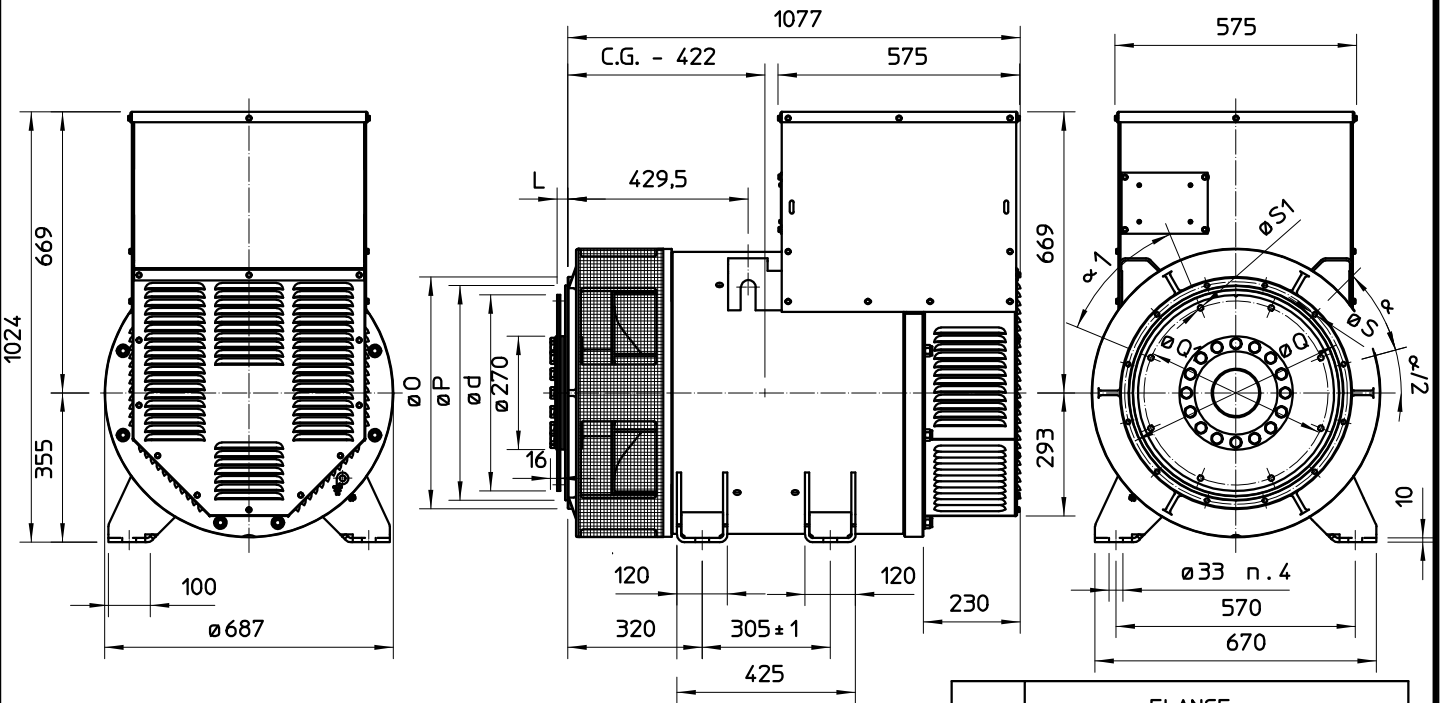
SINGLE BEARING MOMENTS OF INERTIA



	COMPONENT	WEIGHT kg	J kgm ^{2}
1	FAN	16	0,550
2	MAIN ROTOR	211	4.498
3	EX. ROTOR	35	0.562
4	SHAFT	72.7	0.106
	TOTAL	334.7	5.716

SAE No	5 SHAFTS COUPLING FLEX PLATE			
	A	B	WEIGHT kg	J kgm ^{2}
14	9,6	60	41,4	0,511
18	6,6	50	45,1	0,858

SINGLE BEARING DIMENSIONS



SAE N.	DISC COUPLING					
	L	d	Q1	N. FORI	S1	α1
14	25,4	466,72	438,15	8	14	45°
18	15,7	571,5	542,92	6	17	60°

SAE N.	FLANGE					
	O	P	Q	N. FORI	S	α
1	552	511,2	530,2	12	11	15°
1/2	648	584,2	619,1	12	14	15°
0	711	647,7	679,5	16	14	11°15'
00	883	787,4	850,9	16	14	11°15'

C.G.= GRAVITY CENTER

GENERATOR TYPE ECO 32-2S/4

Document : **DS006A/1**
issue 008 date 24/07/2012

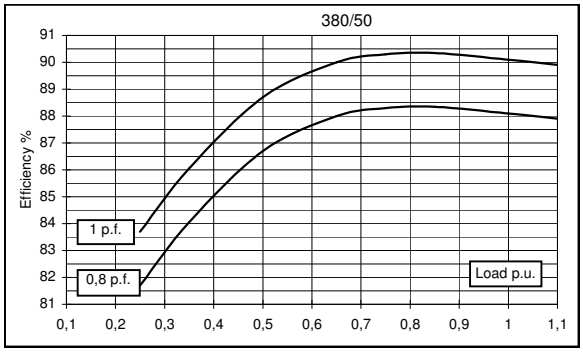
Electrical Characteristics									
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	35	35	35	28	41	42	42	42
		kW	28	28	28	22,4	32,8	34	33,6	33,6
Rated power class F		kVA	33	33	33	26	39	40	40	40
		kW	26,4	26,4	26,4	20,8	31,2	32	32	32
Regulation 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	%	88,1	88,2	87,9	87,7	89,1	89,6	89,7	89,8
(see graph. for details)	3/4	%	88,3	88,6	88,5	88,2	89,6	90	90	90,2
	2/4	%	86,7	86,8	86,8	86,8	88,5	88,8	88,9	89
	1/4	%	81,7	81,5	81,3	81,2	85,1	85,3	85,4	85,5
Reactances (f. l.cl. F)	Xd	%	277,0	250	232,3	165,3	326,5	297,5	272,2	250
	Xd'	%	16,62	15	13,94	9,92	19,59	17,85	16,33	15
	Xd"	%	11,75	10,6	9,85	7,01	13,84	12,61	11,54	10,6
	Xq	%	100,8	91	84,5	60,2	118,8	108,3	99,1	91
	Xq'	%	100,8	91	84,5	60,2	118,8	108,3	99,1	91
	Xq"	%	34,3	31	28,8	20,5	40,5	36,9	33,8	31
	X_2	%	24,38	22	20,44	14,55	28,73	26,18	23,95	22
	X_0	%	3,10	2,8	2,60	1,85	3,66	3,33	3,05	2,8
Short Circuit Ratio	Kcc		0,60	0,70	0,86	1,38	0,40	0,50	0,60	0,70
Time Constants	Td'	sec.	0,058							
	Td"	sec.	0,012							
	Tdo'	sec.	1,35							
	Tα	sec.	0,025							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0,47	0,64	0,73	1,1	0,3	0,4	0,46	0,6
Excitation at full load		Amp.	2,1	2,2	2	2,5	1,9	1,7	1,6	1,7
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,097							
Rotor Winding Resistance (20°C)		Ω	2,01							
Exciter Resistance (20 °C)		Ω	Rotor : 0,417				Stator : 10,6			
Heat dissipation at f.l.cl.H		W	3782	3746	3854	3142	4013	3900	3858	3816
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 %	4 / 3,9							
Waveform Distors.(THD) at no load		LL/LN %	3,5 / 3,4							
Mechanical characteristics										
Protection			IP 21 (other protection on request)							
DE bearing			6312-2RS							
NDE bearing			6309-2RS							
Weight of wound stator assembly		kg	56							
Weight of wound rotor assembly		kg	39,5							
Weight of complete generator		kg	199							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	4,5							
Cooling air requirement		m^3/min	11,8				14,5			
Inertia Constant (H)		sec.	0,113				0,136			
Noise level at 1m/7m		dB(A)	75 / 60				79 / 64			

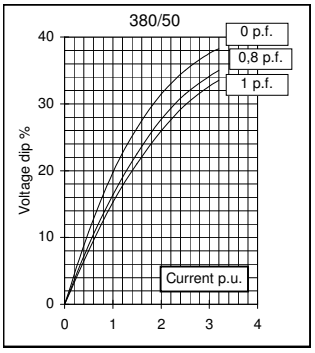
All technical data are to be considered as a reference and they can be modified without notice

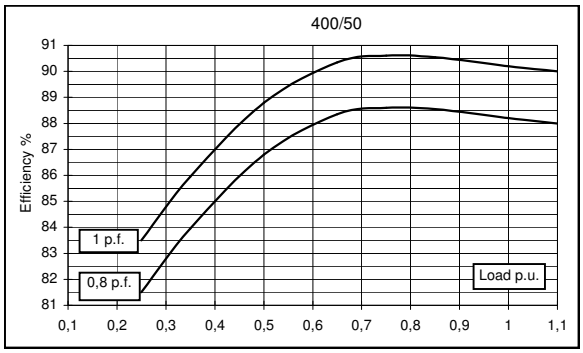
GENERATOR TYPE ECO 32-2S/4

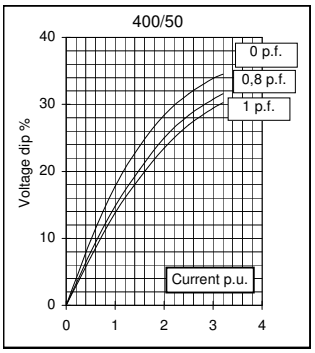
Document : **DS006A/2**
issue 008 date : 24/07/2012

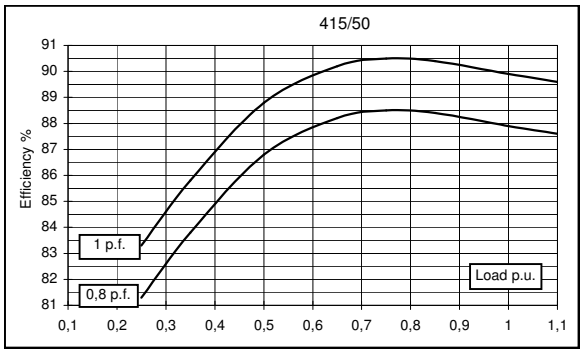
50 Hz

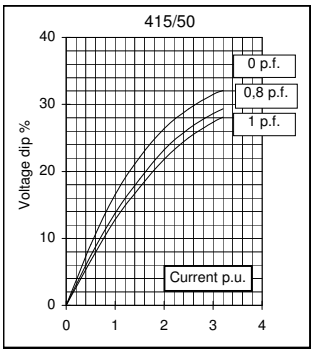


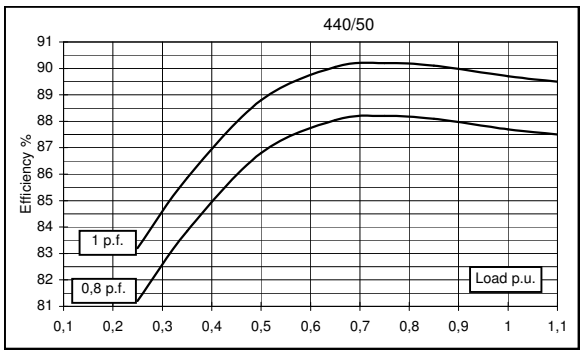


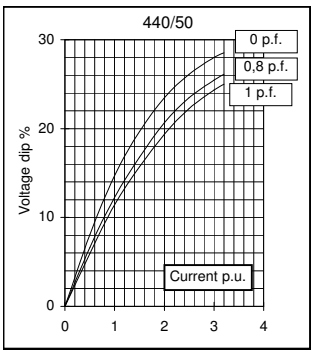


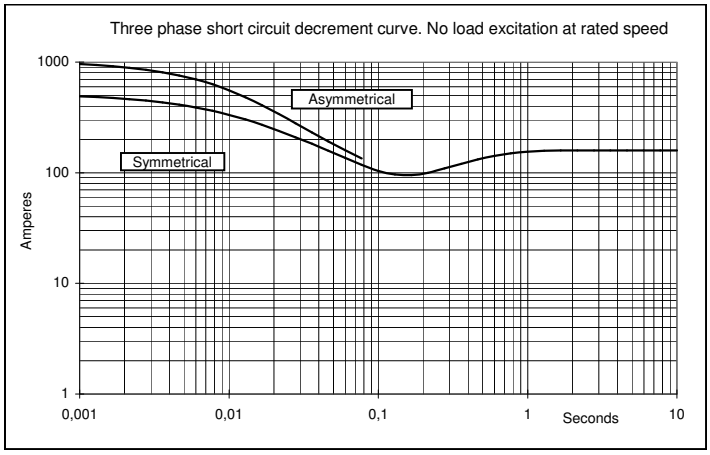










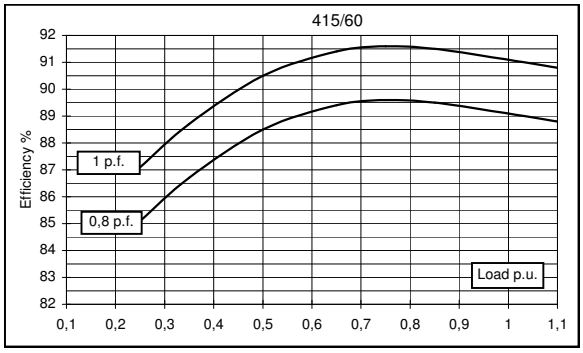


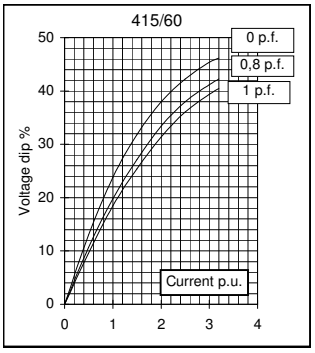
GENERATOR TYPE ECO 32-2S/4

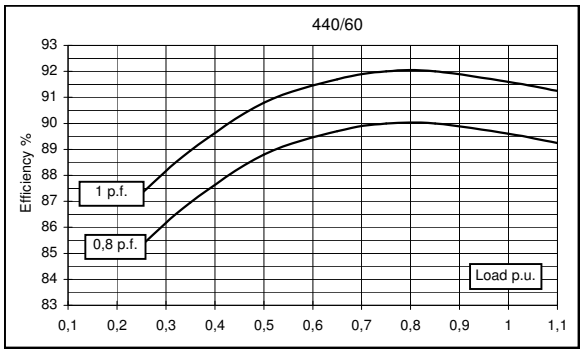
Document : **DS006A/3**

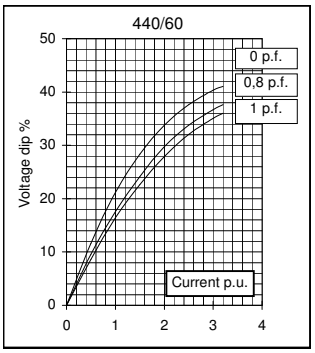
issue 008 date : 24/07/2012

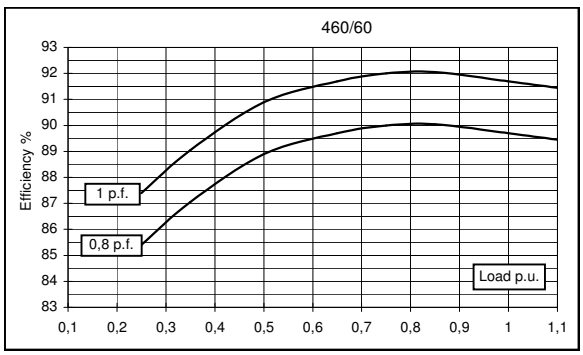
60 Hz

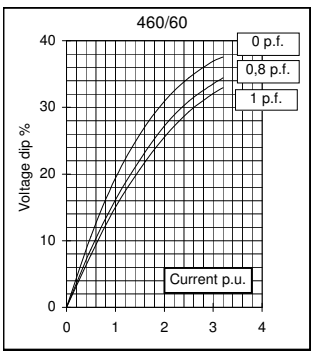


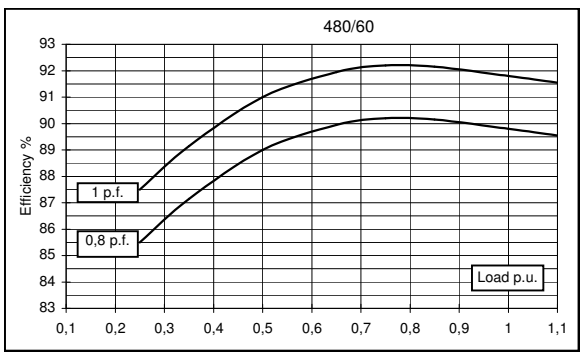


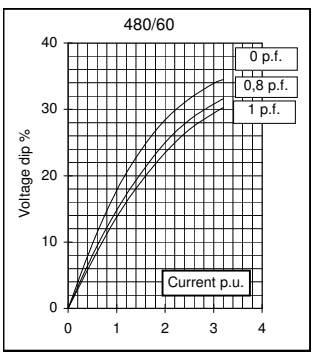


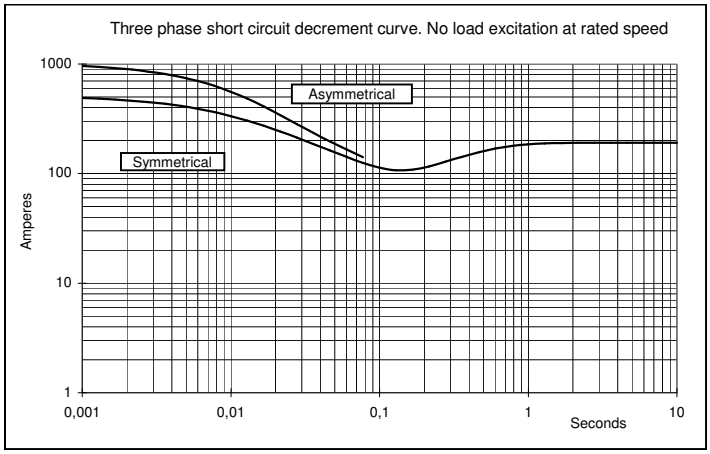




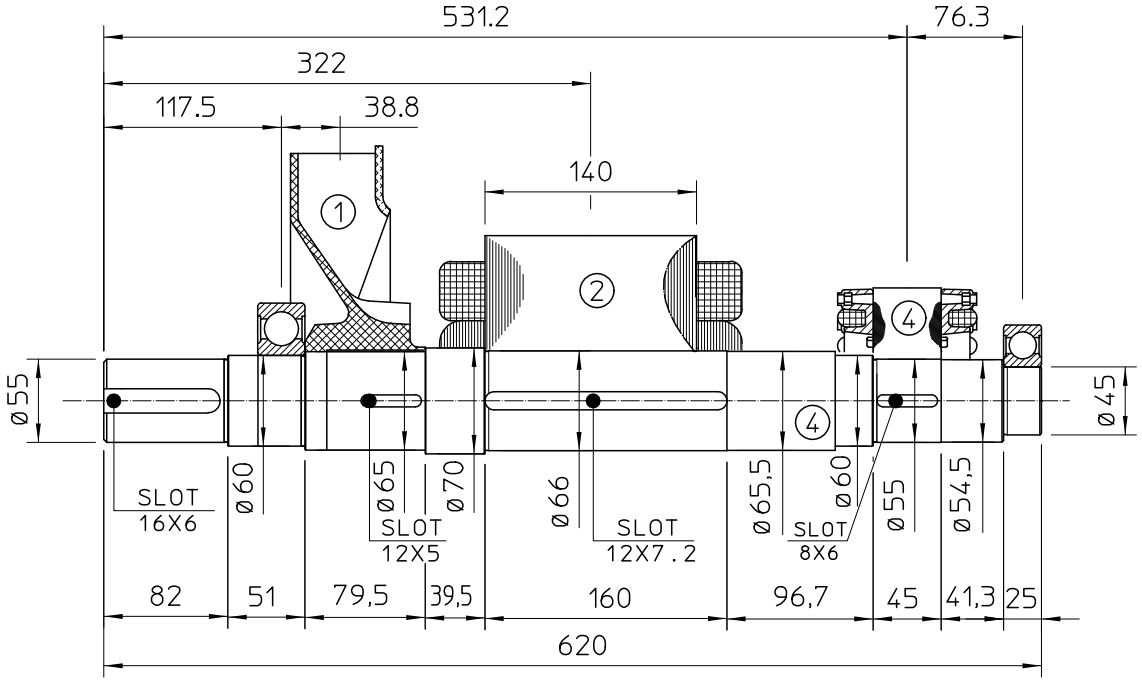






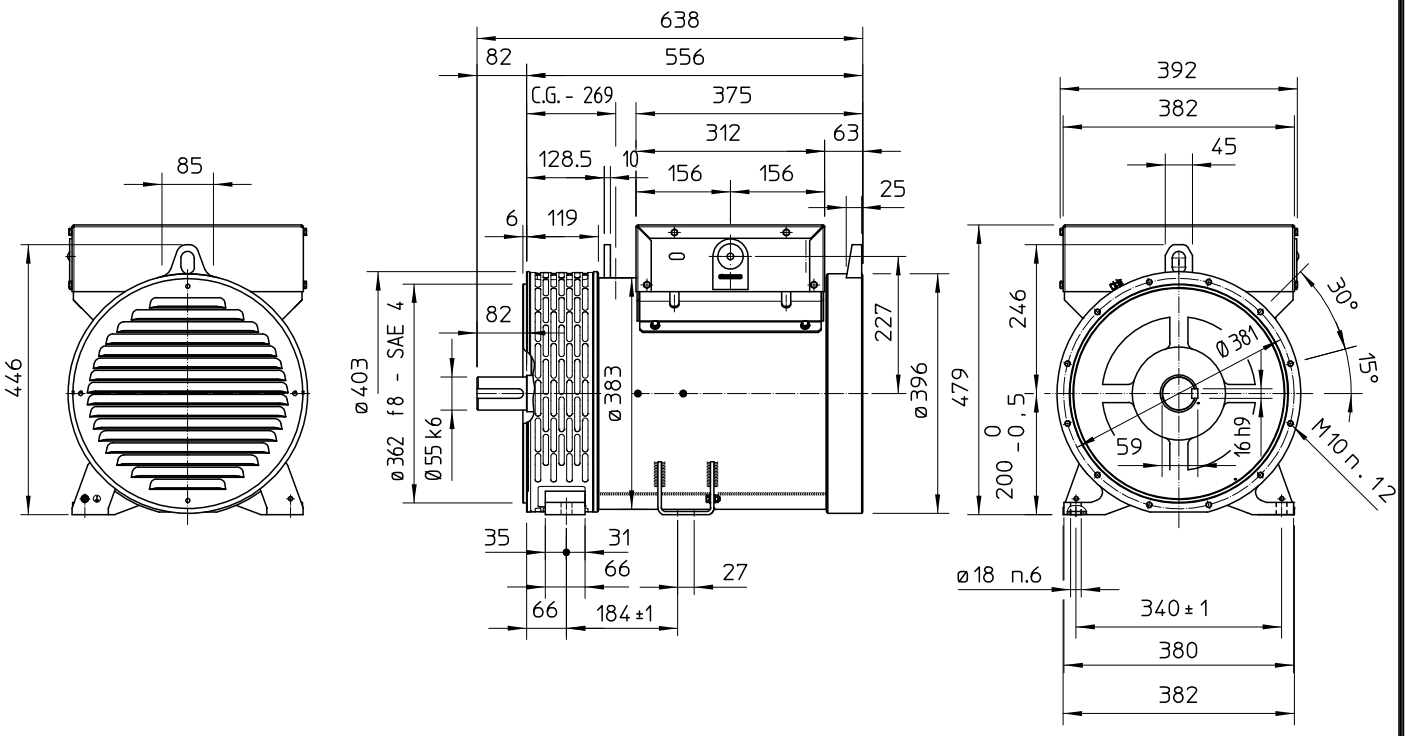


TWO BEARING MOMENTS OF INERTIA



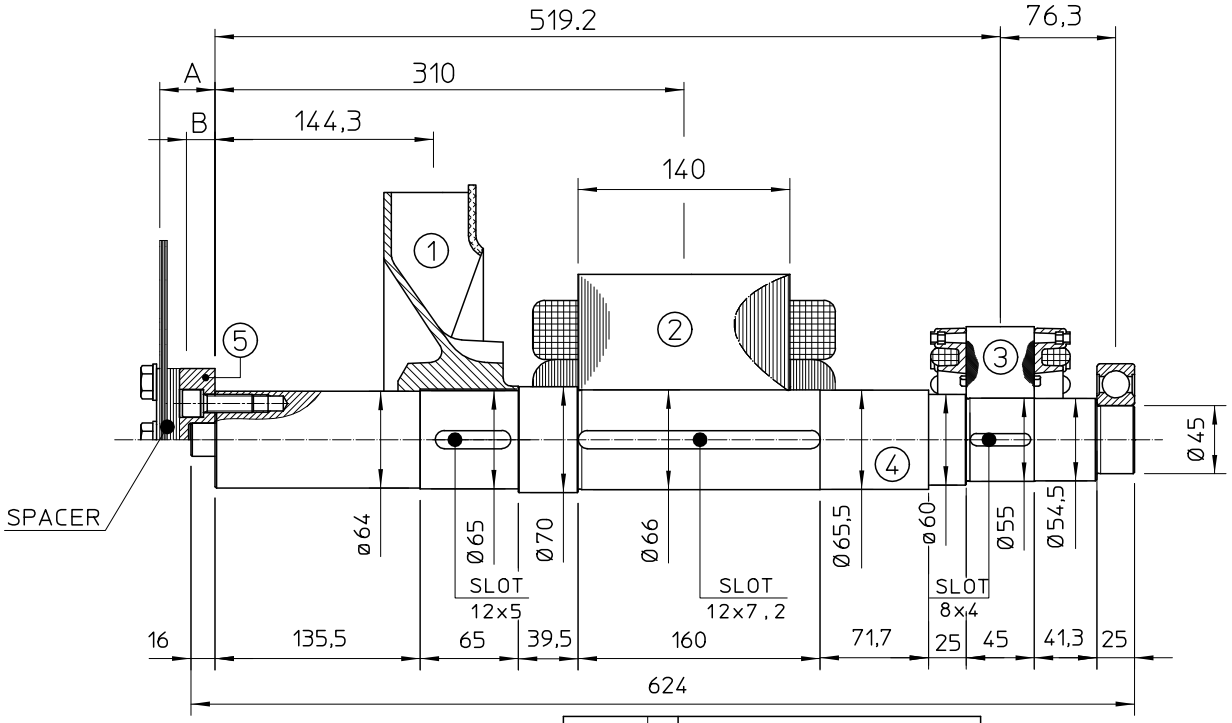
POS.	COMPONENT	WEIGHT (kg)	J (kgm^2)
1	FAN	2.3	0.0224
2	MAIN ROTOR	39.5	0.2804
3	EX. ROTOR	5.4	0.012
4	SHAFT	14.1	0.0069
TOTAL		61.3	0.3217

TWO BEARING DIMENSIONS



C.G.= GRAVITY CENTER

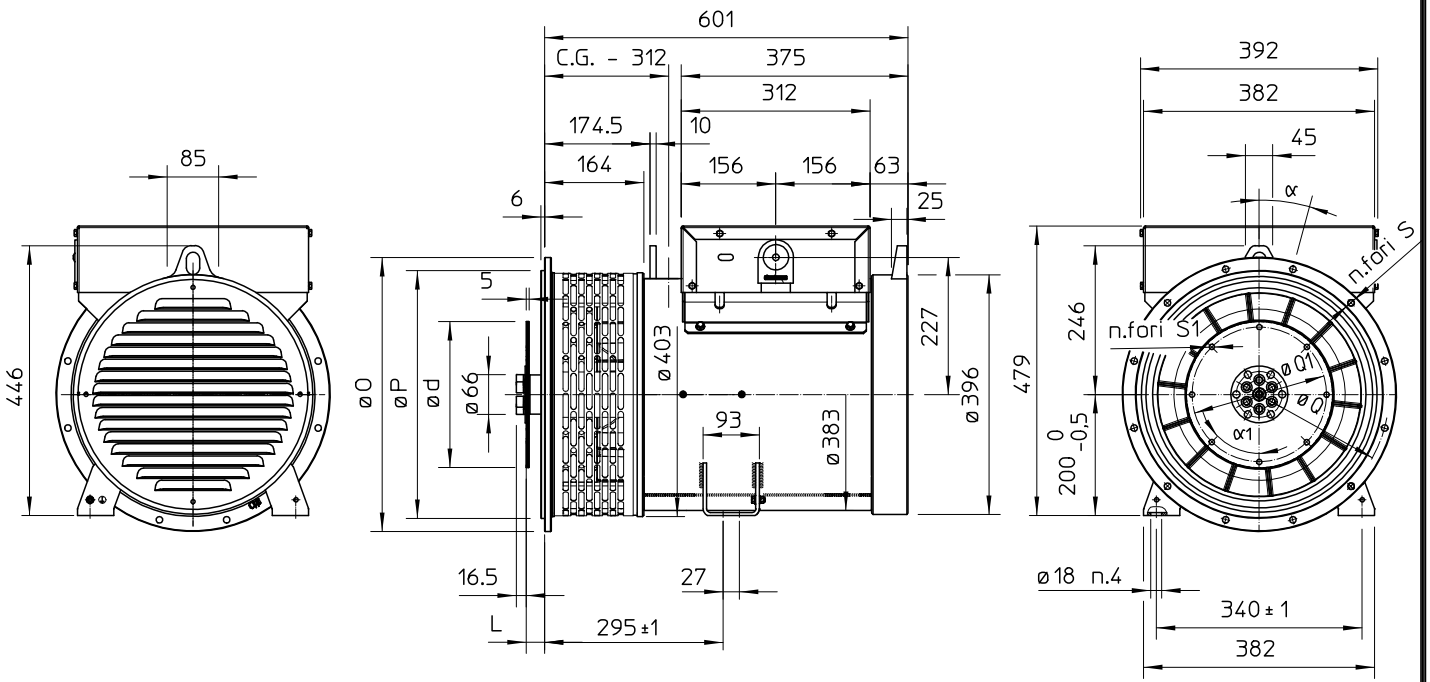
SINGLE BEARING MOMENTS OF INERTIA



POS.	COMPONENT	WEIGHT (kg)	J (kgm^2)
1	FAN	2.3	0.0224
2	MAIN ROTOR	39.5	0.2804
3	EX. ROTOR	5.4	0.012
4	SHAFT	14.5	0.0074
TOTAL		61.7	0.3222

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

GENERATOR TYPE ECO 32-3L/4

Document : **DS010A/1**
issue 008 date 03/04/2013

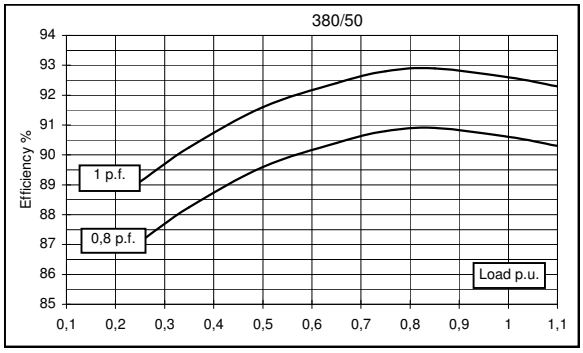
Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	75	75	75	70	80	86	90	90
		kW	60	60	60	56	64	69	72	72
Rated power class F		kVA	67	67	67	62	73	80	83	83
		kW	53,6	53,6	53,6	49,6	58,4	64	66,4	66,4
Regulation 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	%	90,6	90,7	90,4	90,2	92,5	93	93,1	93,2
(see graph. for details)	3/4	%	90,8	91,1	91	90,7	92,8	93	93,2	93,4
	2/4	%	89,6	89,7	89,7	89,7	90,8	90,9	91	91,1
	1/4	%	87,1	86,9	86,7	86,4	88,1	88,1	88,1	87,9
Reactances (f. l.cl. F)	Xd	%	338,3	305,4	283,7	235,5	363,1	347,2	332,5	305,4
	Xd'	%	14,84	13,4	12,44	10,33	15,93	15,23	14,58	13,4
	Xd"	%	7,72	7	6,47	5,37	8,28	7,92	7,58	7
	Xq	%	130,6	117,9	109,5	90,9	140,1	134,0	128,3	117,9
	Xq'	%	130,6	117,9	109,5	90,9	140,1	134,0	128,3	117,9
	Xq"	%	38,0	34,3	31,9	26,4	40,8	39,0	37,3	34,3
	X_2	%	25,88	23,4	21,70	18,02	27,77	26,56	25,43	23,4
	X_0	%	3,68	3,3	3,09	2,56	3,95	3,78	3,62	3,3
Short Circuit Ratio	Kcc		0,48	0,57	0,64	1,19	0,36	0,40	0,48	0,57
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.	2,1	2,2	2,4	2,8	1,8	1,7	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	0,035							
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	6225	6152	6372	6084	5189	5178	5336	5253
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 %	3,9 / 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	74							
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.	0,094				0,113			
Noise level at 1m/7m		dB(A)	75 / 60				79 / 64			

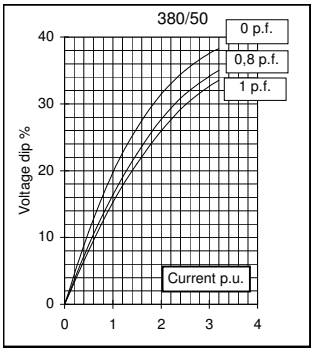
All technical data are to be considered as a reference and they can be modified without any notice.

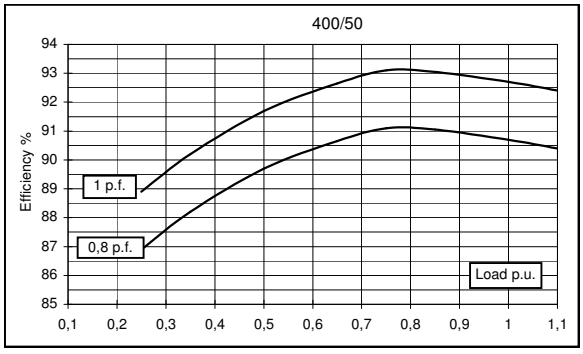
GENERATOR TYPE ECO 32-3L/4

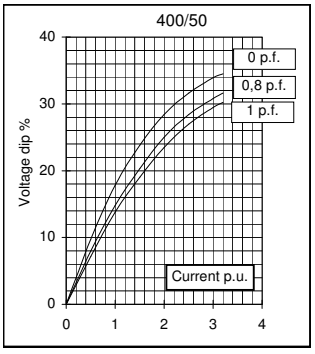
Document : **DS010A/2**
issue 008 date : 03/04/2013

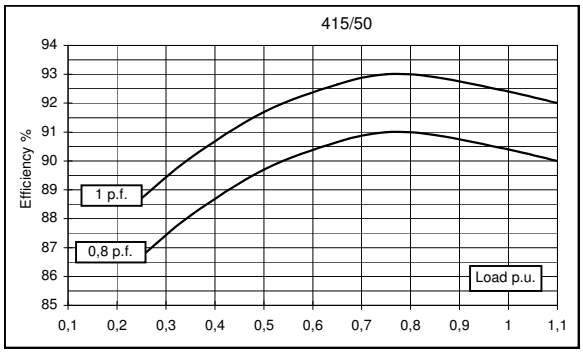
50 Hz

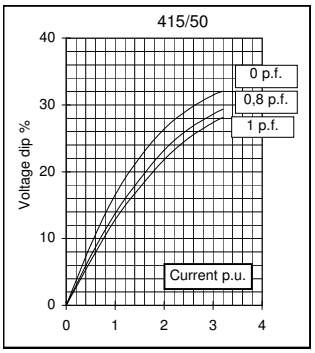


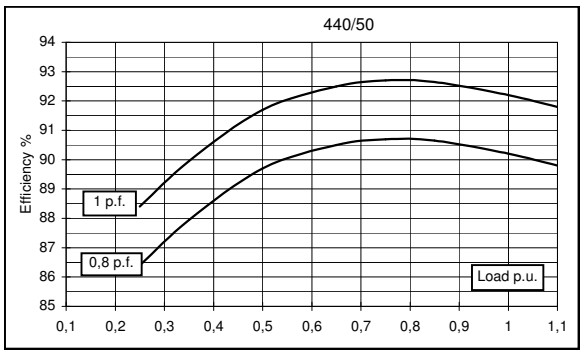


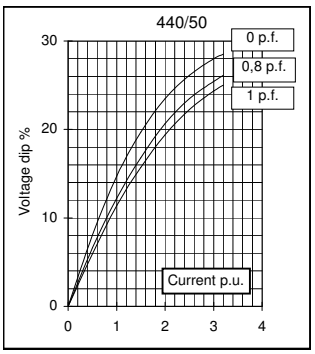


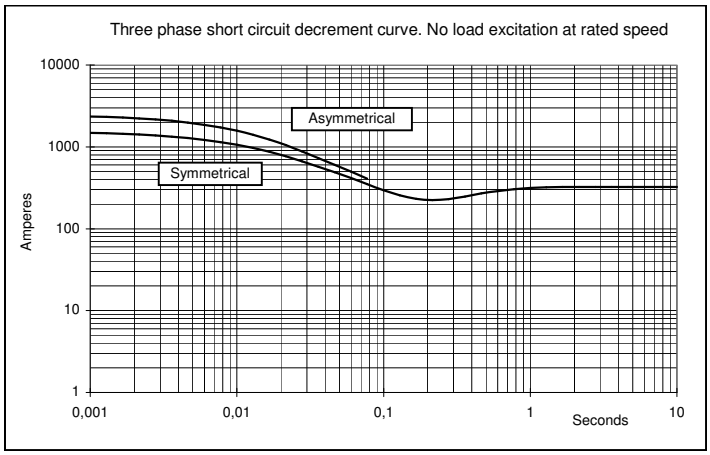








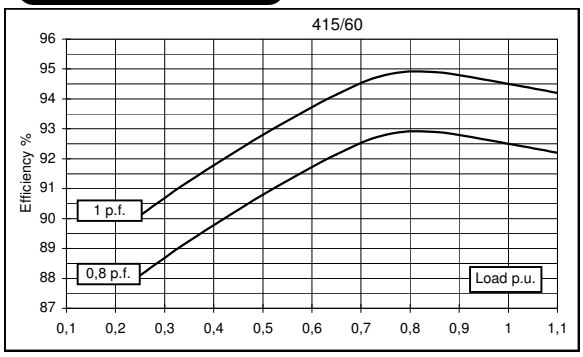


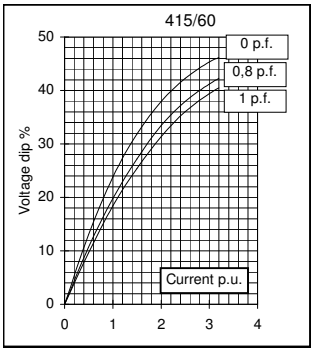


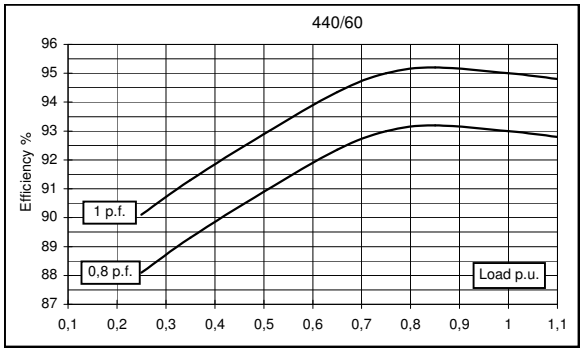
GENERATOR TYPE ECO 32-3L/4

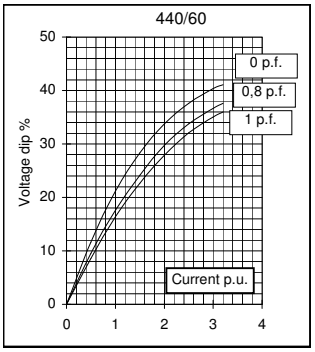
Document : **DS010A/3**
issue 008 date : 03/04/2013

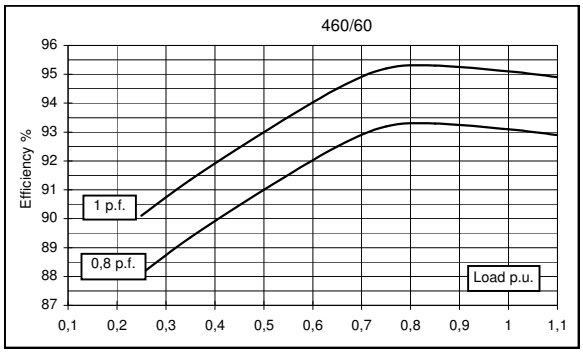
60 Hz

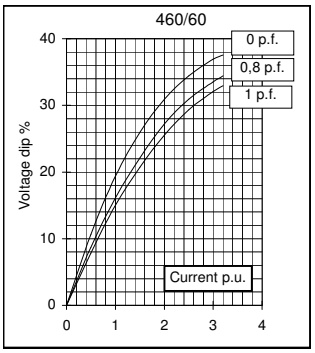


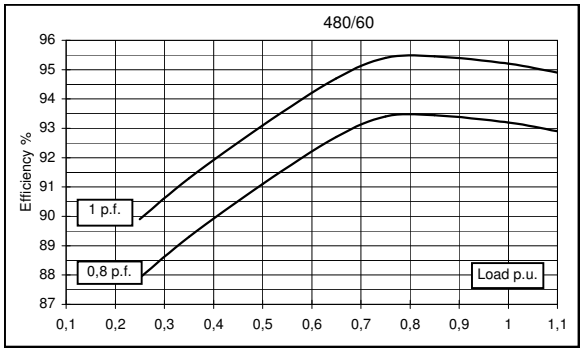


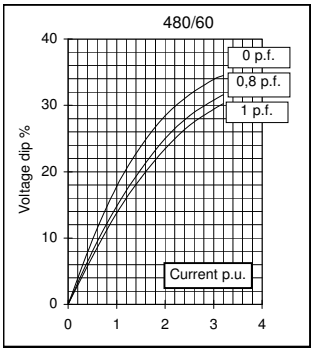


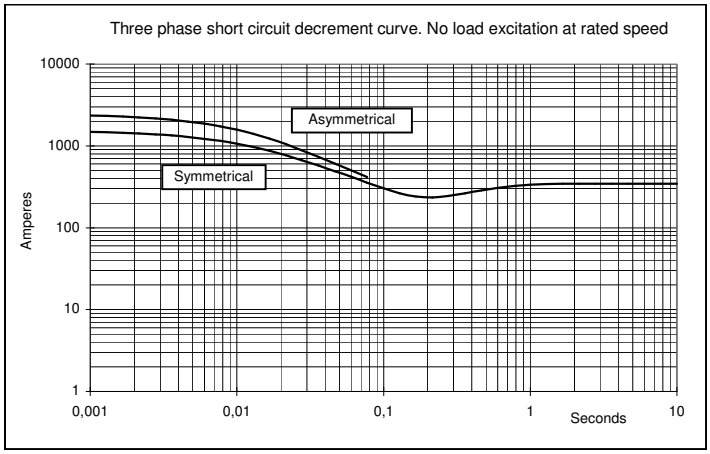




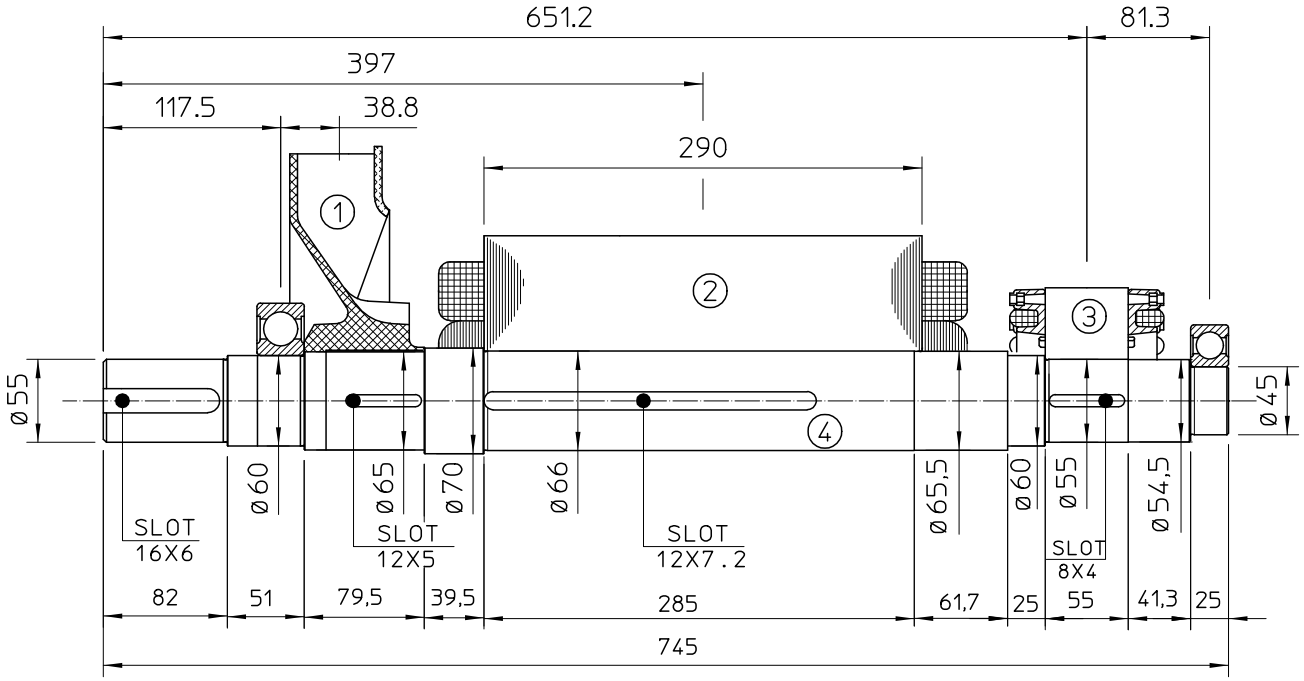






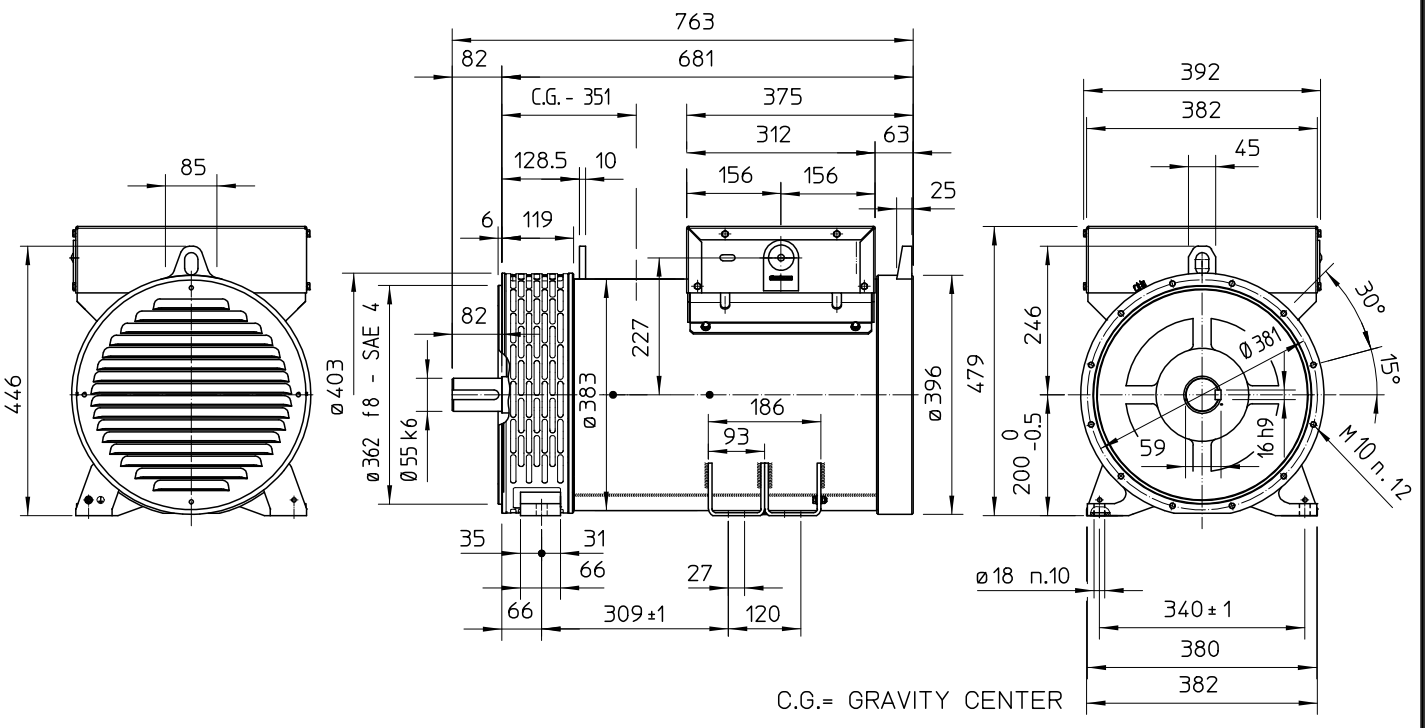


TWO BEARING MOMENTS OF INERTIA

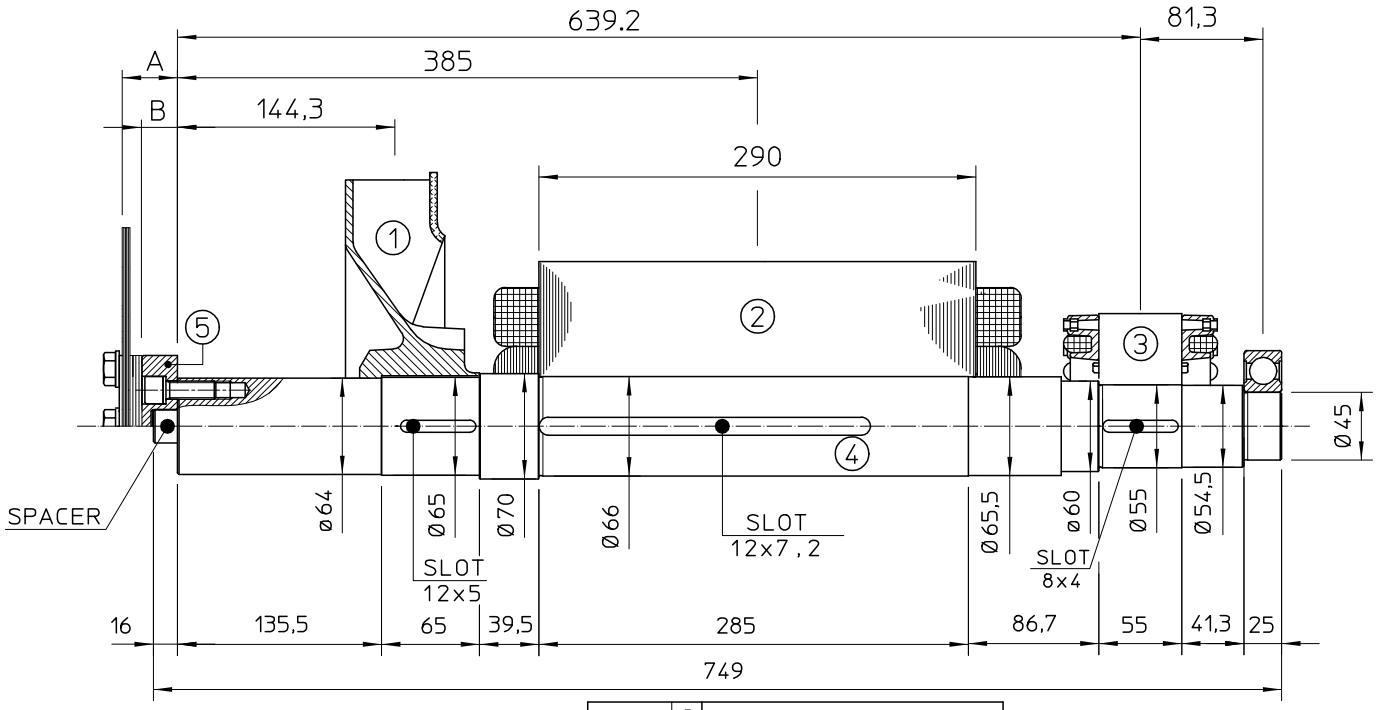


POS.	COMPONENT	WEIGHT (kg)	J (kgm^2)
1	FAN	2.3	0.0224
2	MAIN ROTOR	74	0.5254
3	EX. ROTOR	7	0.016
4	SHAFT	17.3	0.0067
TOTAL		100.6	0.5705

TWO BEARING DIMENSIONS



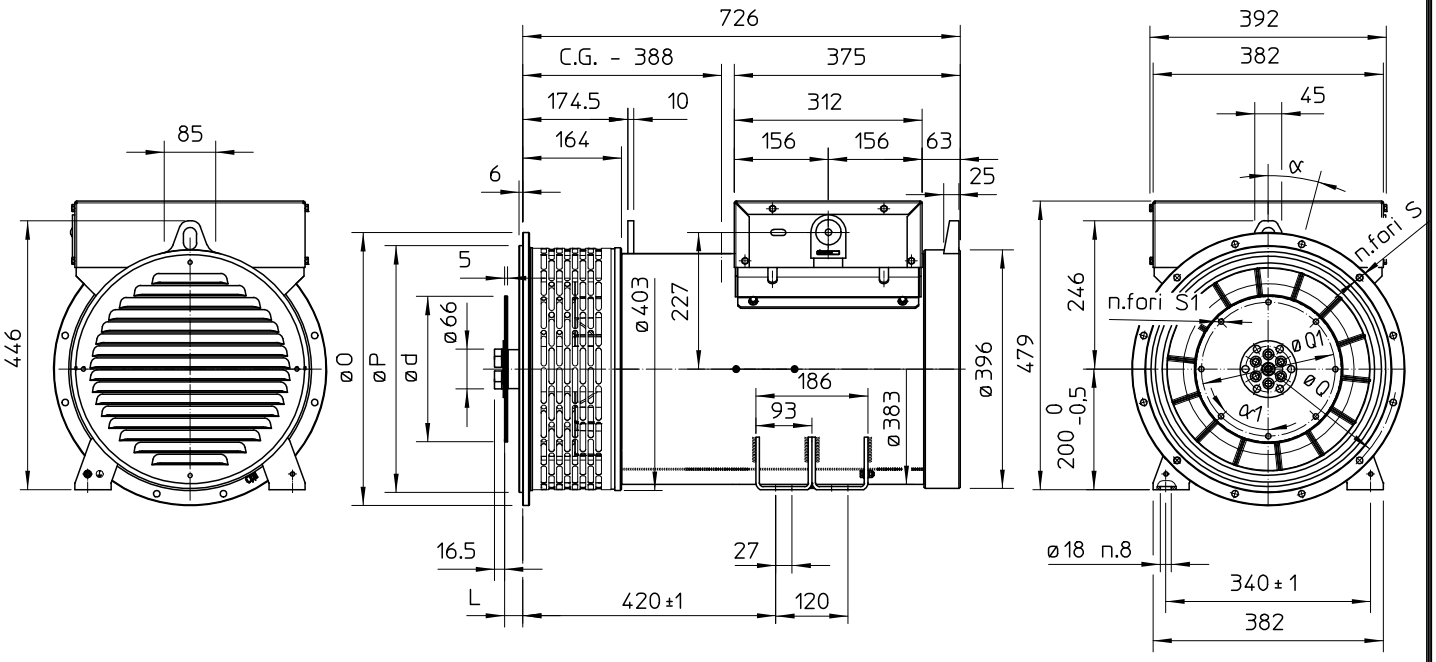
SINGLE BEARING MOMENTS OF INERTIA



POS.	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	17.6	0.0090
TOTAL		100.9	0.5728

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

GENERATOR TYPE ECO 32-3S/4

Document : **DS007A/1**
issue 007 date 24/07/2012

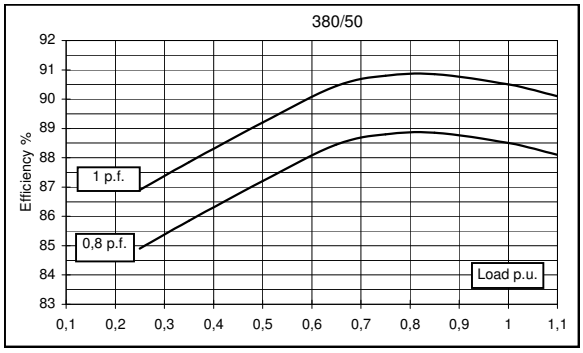
Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	42,5	42,5	42,5	34	50	51	51	51
		kW	34	34	34	27,2	40	40,8	40,8	40,8
Rated power class F		kVA	39	39	39	31	46	49	49	49
		kW	31,2	31,2	31,2	25	37	39,2	39,2	39,2
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	%	88,5	88,6	88,3	88,1	89,1	89,6	89,8	90
(see graph. for details)	3/4	%	88,8	89,1	89	88,7	89,9	90,2	90,4	90,6
	2/4	%	87,2	87,3	87,3	87,3	88,7	88,8	88,9	89
	1/4	%	84,9	85	84,8	84,3	87	87	87	87
Reactances (f. l.cl. F)	Xd	%	210,5	190	176,5	125,6	249,2	226,1	206,9	190
	Xd'	%	15,84	14,3	13,28	9,45	18,76	17,02	15,57	14,3
	Xd"	%	11,08	10	9,29	6,61	13,12	11,90	10,89	10
	Xq	%	108,6	98	91,0	64,8	128,5	116,6	106,7	98
	Xq'	%	108,6	98	91,0	64,8	128,5	116,6	106,7	98
	Xq"	%	33,9	30,6	28,4	20,2	40,1	36,4	33,3	30,6
	X_2	%	23,82	21,5	19,97	14,21	28,20	25,59	23,41	21,5
	X_0	%	2,99	2,7	2,51	1,79	3,54	3,21	2,94	2,7
Short Circuit Ratio	Kcc		0,70	0,80	0,90	1,30	0,40	0,60	0,70	0,80
Time Constants	Td'	sec.	0,061							
	Td"	sec.	0,015							
	Tdo'	sec.	1,32							
	Tα	sec.	0,031							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0,6	0,7	1	1,3	0,3	0,4	0,5	0,6
Excitation at full load		Amp.	2,3	2,4	2,6	2,9	2,1	2	2,2	2,3
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,078							
Rotor Winding Resistance (20°C)		Ω	2,163							
Exciter Resistance (20 °C)		Ω	Rotor : 0,417				Stator : 10,6			
Heat dissipation at f.l.cl.H		W	4418	4375	4505	3674	4893	4736	4634	4533
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 %	3,7 / 3,6							
Waveform Distors.(THD) at no load		LL/LN %	3,2 / 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	62,5							
Weight of wound rotor assembly		kg	43,5							
Weight of complete generator		kg	214							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	4,5							
Cooling air requirement		m^3/min	11,8				14,5			
Inertia Constant (H)		sec.	0,102				0,122			
Noise level at 1m/7m		dB(A)	75 / 60				79 / 64			

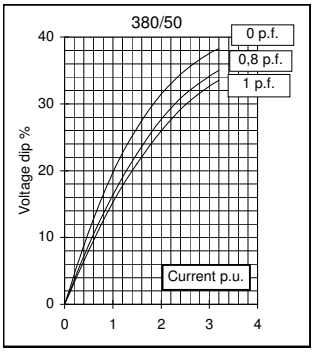
All technical data are to be considered as a reference and they can be modified without any notice.

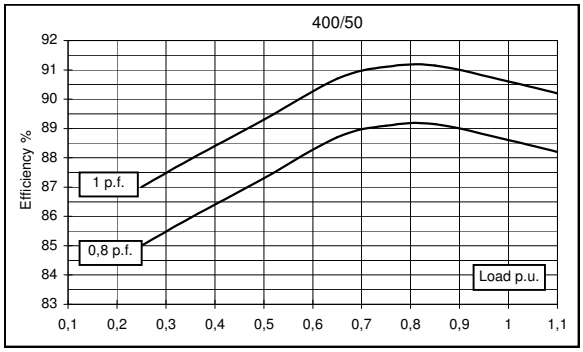
GENERATOR TYPE ECO 32-3S/4

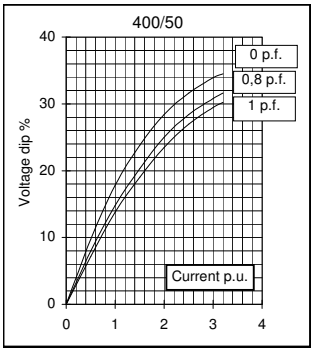
Document : **DS007A/2**
issue 007 date : 24/07/2012

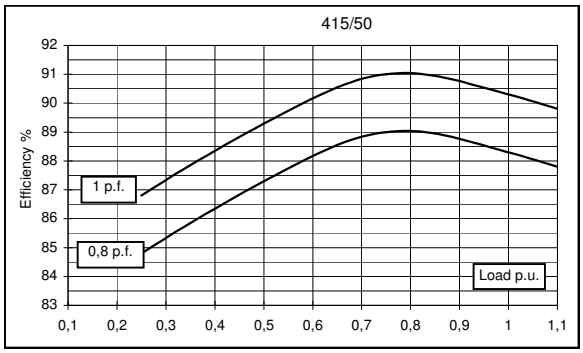
50 Hz

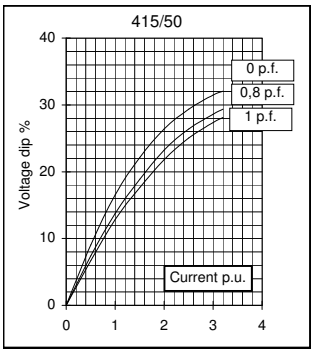


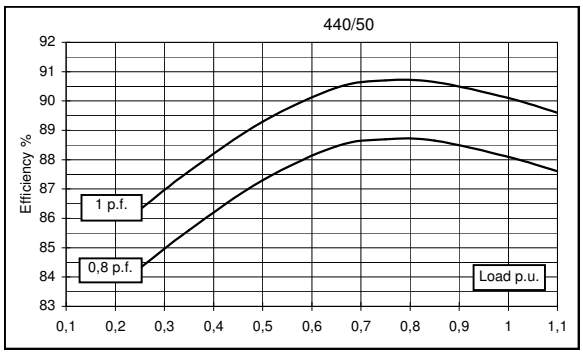


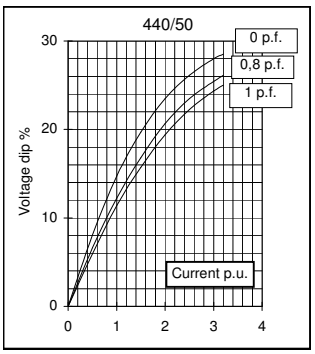


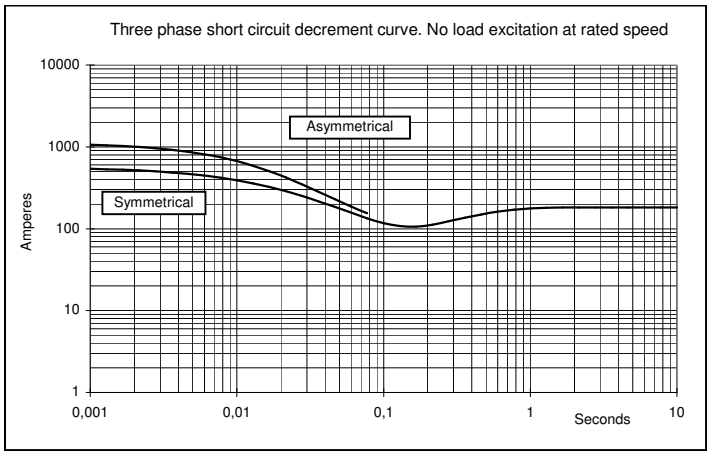








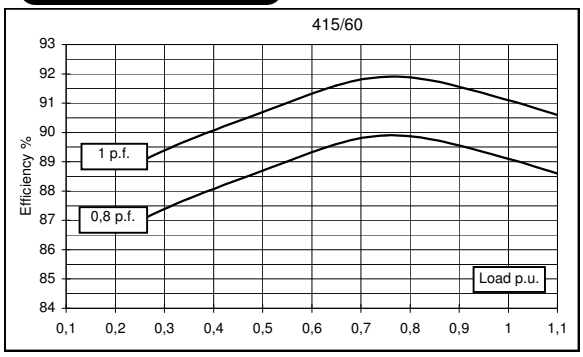


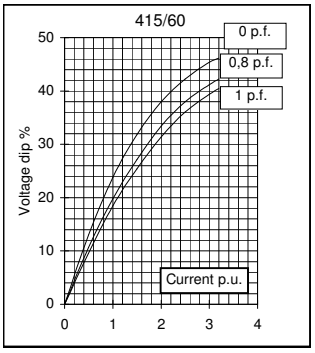


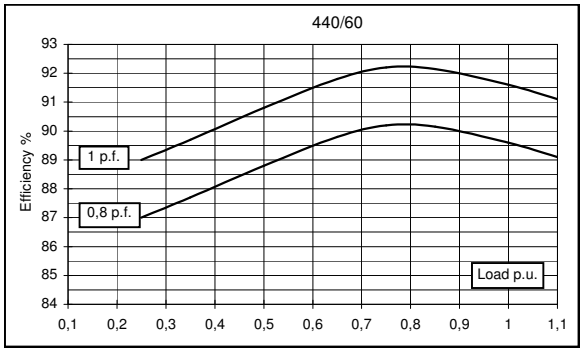
GENERATOR TYPE ECO 32-3S/4

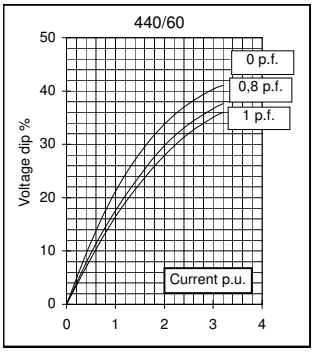
Document : **DS007A/3**
issue 007 date : 24/07/2012

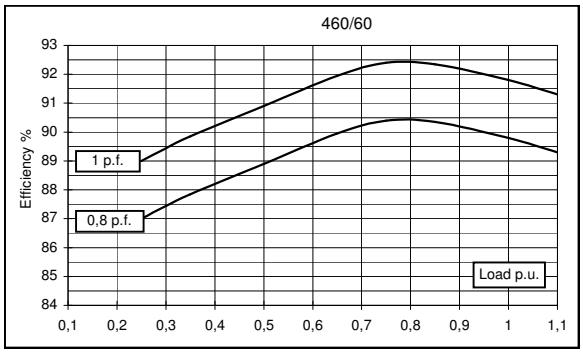
60 Hz

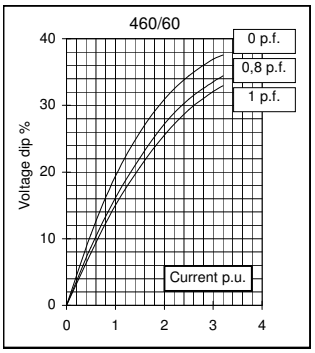


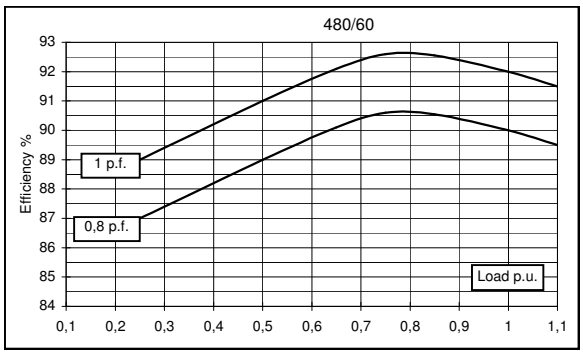


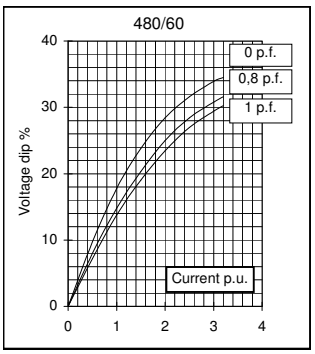


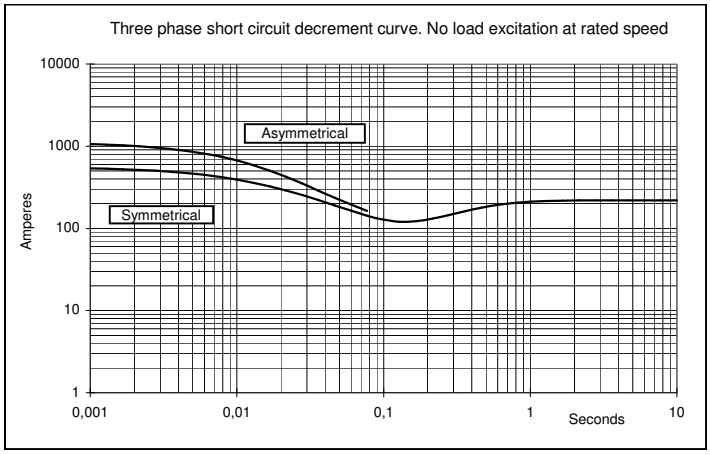




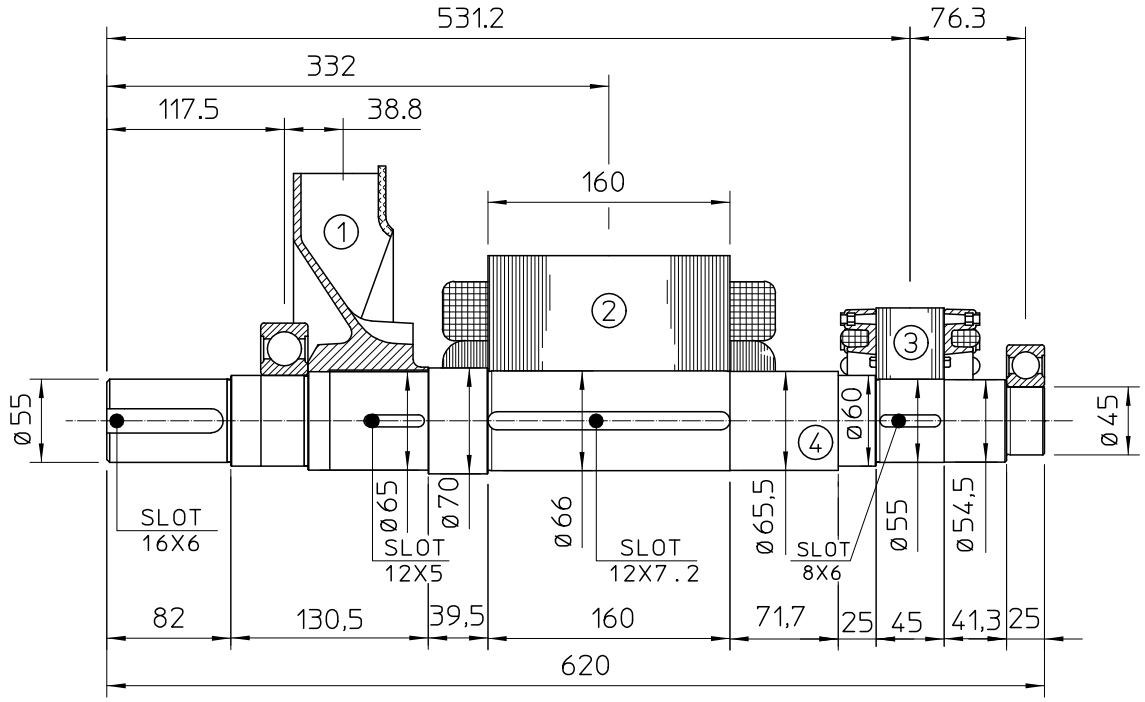






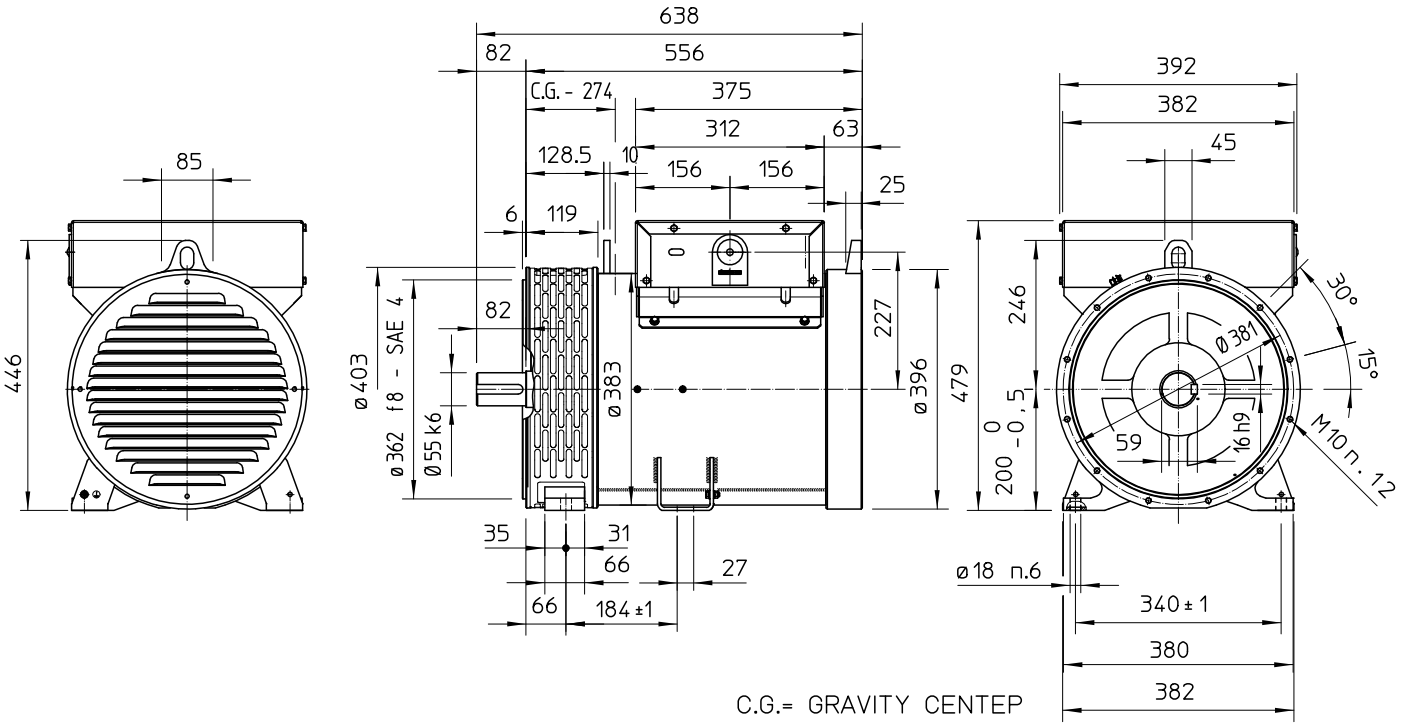


TWO BEARING MOMENTS OF INERTIA

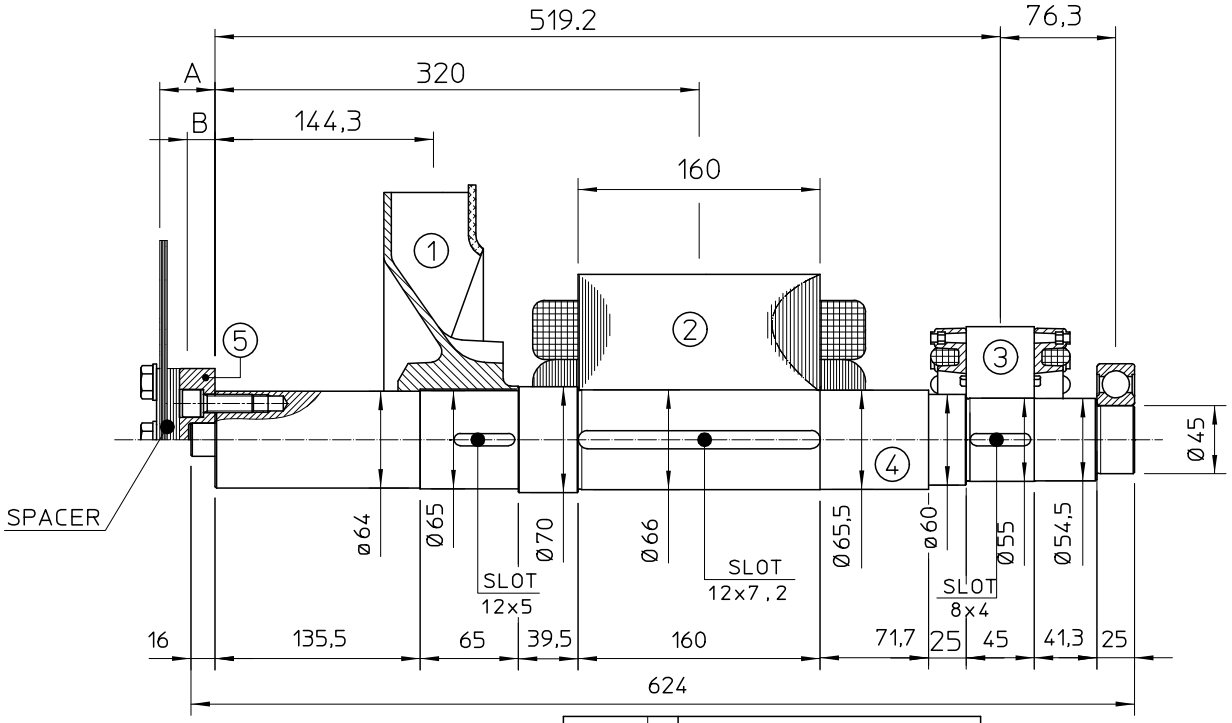


POS.	COMPONENT	WEIGHT (kg)	J (kgm^2)
1	FAN	2.3	0.0224
2	MAIN ROTOR	43.5	0.3088
3	EX. ROTOR	5.4	0.012
4	SHAFT	14.1	0.0069
TOTAL		65.3	0.3501

TWO BEARING DIMENSIONS



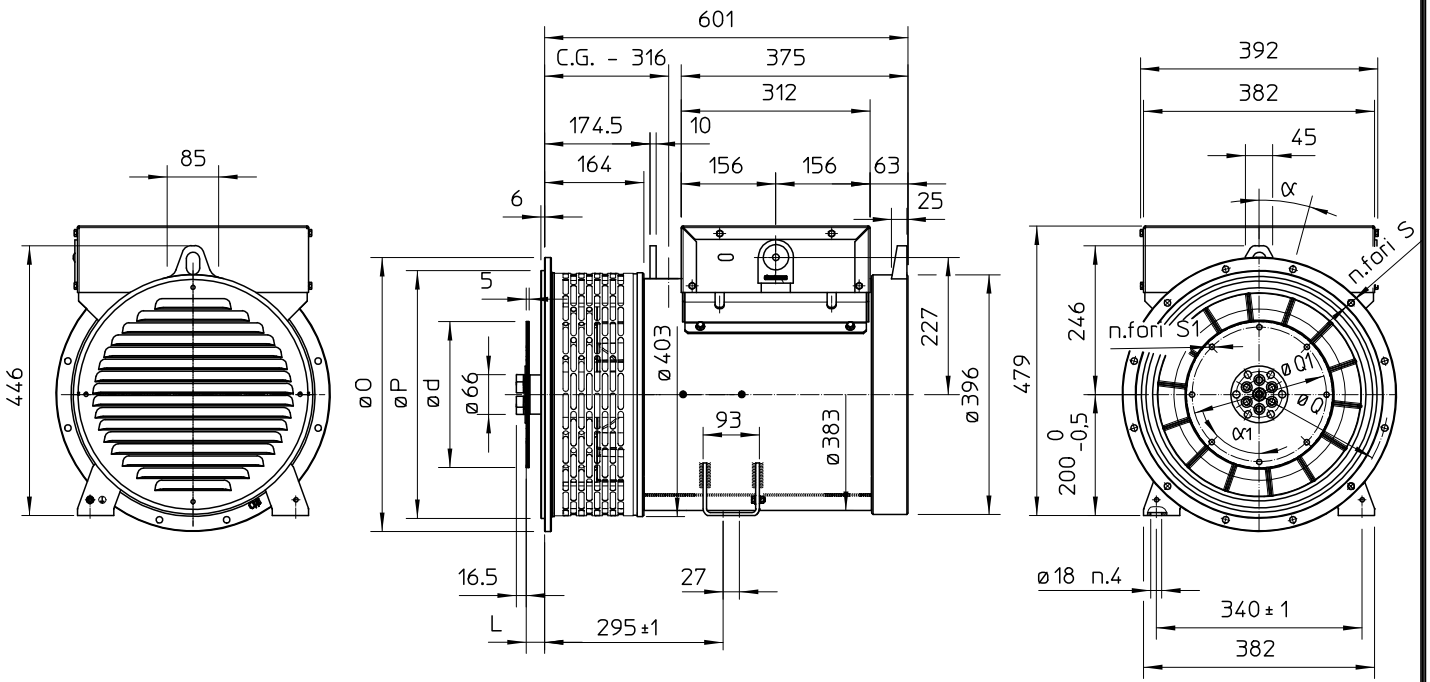
SINGLE BEARING MOMENTS OF INERTIA



POS.	COMPONENT	WEIGHT (kg)	J (kgm^2)
1	FAN	2.3	0.0224
2	MAIN ROTOR	43.5	0.3088
3	EX. ROTOR	5.4	0.012
4	SHAFT	14.5	0.0074
TOTAL		65.7	0.3506

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

mecc alte spa

GENERATOR TYPE ECP 34-1S/4

Document : **DS012A/1**

issue 001 date 14/06/2005

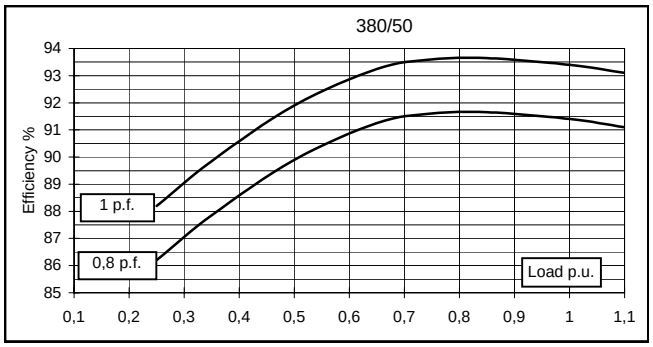
Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	85	85	85	70	95	102	102	102
		kW	68	68	68	56	76	81,6	81,6	81,6
Rated power class F		kVA	77	77	77	63	85,5	92	92	92
		kW	61,6	61,6	61,6	50,4	68,4	73,6	73,6	73,6
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	%	91,4	91,5	91,2	91	92,7	93,2	93,3	93,4
(see graph. for details)	3/4	%	91,6	91,9	91,8	91,5	93,3	93,5	93,6	93,8
	2/4	%	89,9	90	90	89,8	91,5	91,6	91,7	91,8
	1/4	%	86,2	86	85,8	85,8	87,7	87,7	87,7	87,5
Reactances (f. l.cl. F)	Xd	%	360,1	325	301,9	221,2	404,9	386,8	353,9	325
	Xd'	%	24,7	22,3	20,7	15,2	27,8	26,5	24,3	22,3
	Xd"	%	8,2	7,4	6,9	5,0	9,2	8,8	8,1	7,4
	Xq	%	188,9	170,5	158,4	116,0	212,4	202,9	185,6	170,5
	Xq'	%	188,9	170,5	158,4	116,0	212,4	202,9	185,6	170,5
	Xq"	%	32,7	29,5	27,4	20,1	36,8	35,1	32,1	29,5
	X_2	%	21,3	19,2	17,8	13,1	23,9	22,8	20,9	19,2
	X_0	%	4,0	3,6	3,3	2,5	4,5	4,3	3,9	3,6
Short Circuit Ratio	Kcc		0,45	0,50	0,62	1,07	0,35	0,40	0,45	0,50
Time Constants	Td'	sec.	0,04192							
	Td"	sec.	0,00575							
	Tdo'	sec.	1,50							
	$T\alpha$	sec.	0,0154							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0,4	0,5	0,7	1	0,2	0,3	0,4	0,7
Excitation at full load		Amp.	2,2	2,3	2,5	2,8	1,9	2	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	0,03							
Rotor Winding Resistance (20°C)		Ω	2,477							
Exciter Resistance (20 °C)		Ω	Rotor : 0,410				Stator : 15,28			
Heat dissipation at f.l.cl.H		W	6398	6317	6561	5538	5985	5954	5860	5766
Telephone Interference			THF < 2%				TIF < 40			
Radio interference			EN50081-1; EN50082-1; VDE0875K. For others standards apply to factory							
Waveform Distors.(THD) at f. load		LL/LN %	1,6 / 1,8							
Waveform Distors.(THD) at no load		LL/LN %	2,9 / 3							
Mechanical characteristics										
Protection			IP 21 (other protection on request)							
DE bearing			6314.2RS							
NDE bearing			6311.2RS							
Weight of wound stator assembly		kg	97							
Weight of wound rotor assembly		kg	63							
Weight of complete generator		kg	341							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	4,9							
Cooling air requirement		m^3/min	19,3				23			
Inertia Constant (H)		sec.	0,111				0,133			
Noise level at 1m/7m		dB(A)	79 / 65				83 / 69			

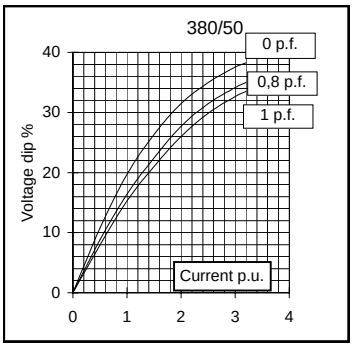
All technical data are to be considered as a reference and they can be modified without any notice.

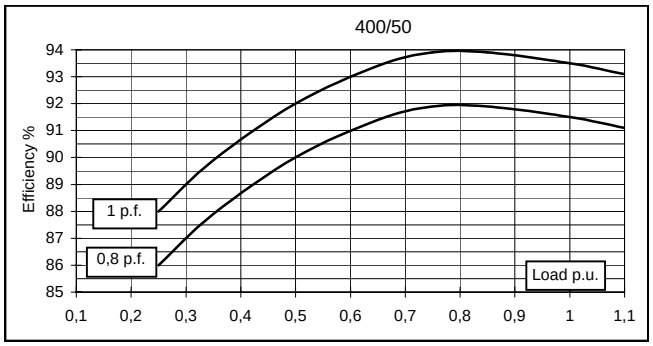
GENERATOR TYPE ECP 34-1S/4

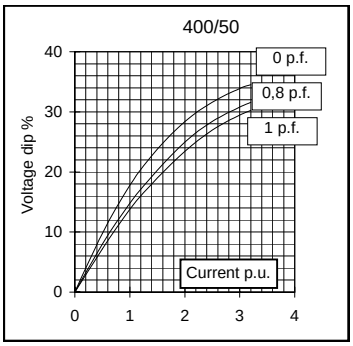
Document : **DS012A/2**
issue 000 date : 14/06/05

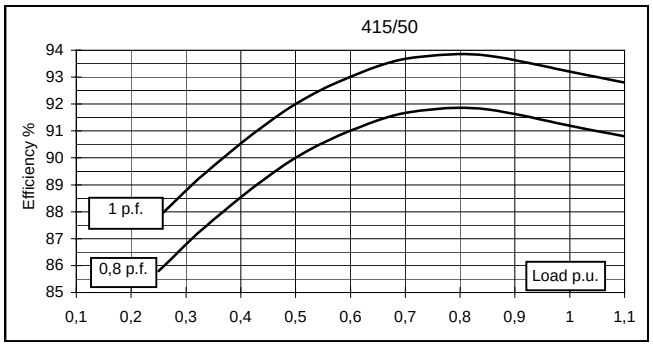
50 Hz

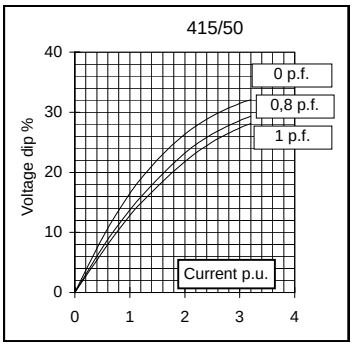


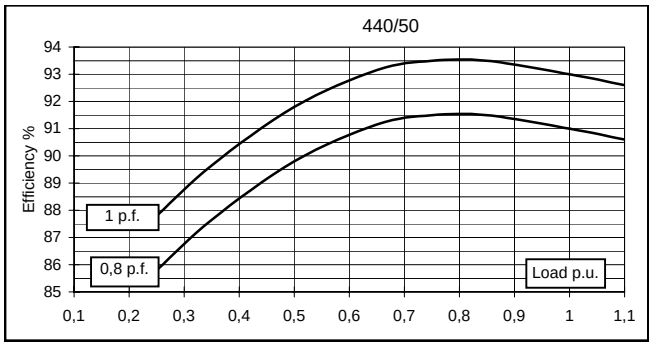


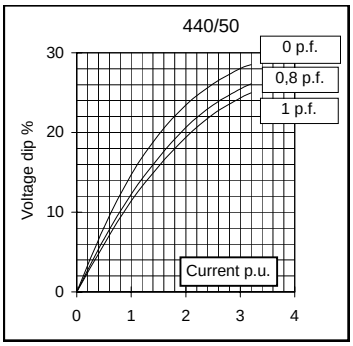


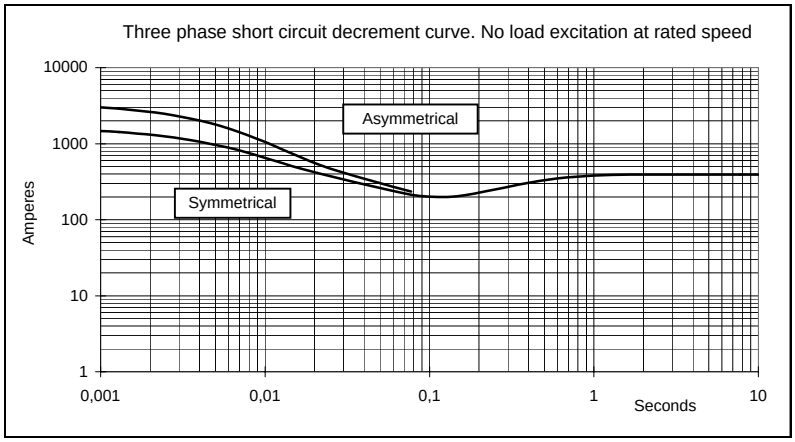








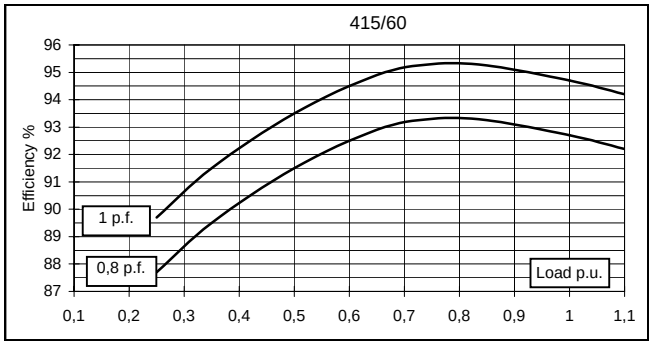


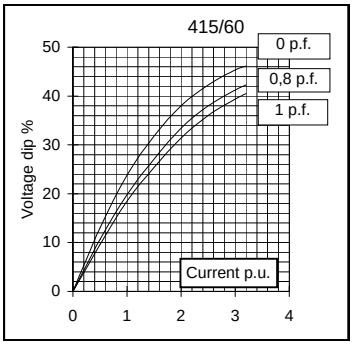


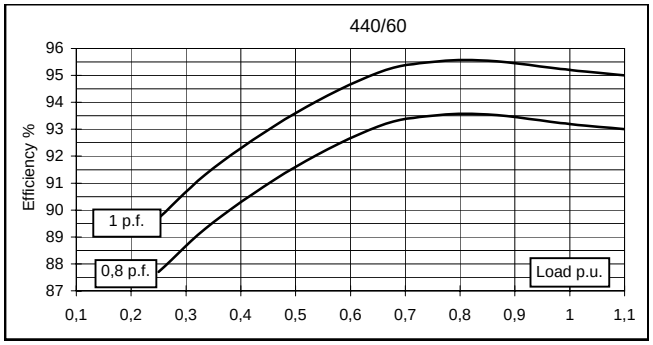
GENERATOR TYPE ECP 34-1S/4

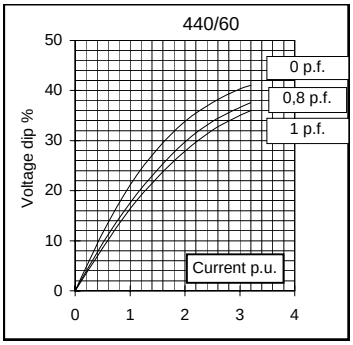
Document : **DS012A/3**
issue 000 date : 14/06/05

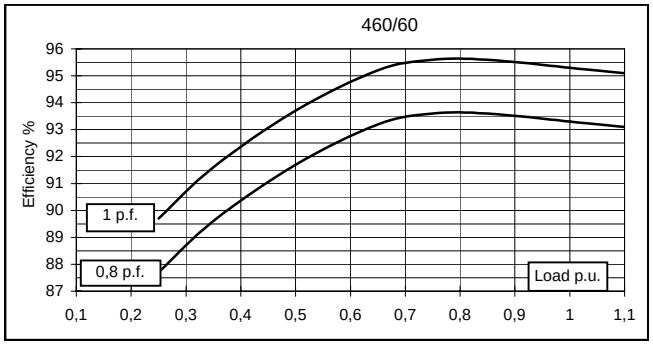
60 Hz

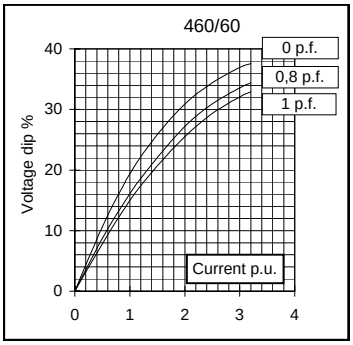


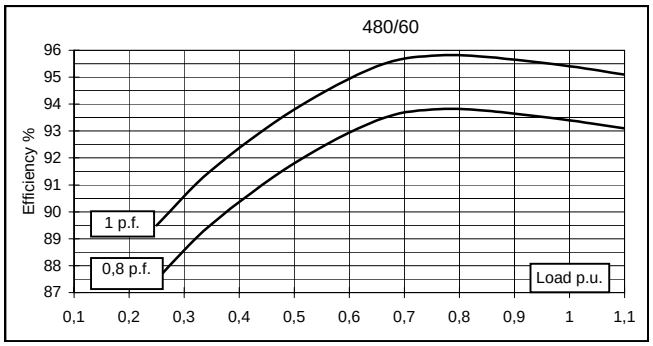


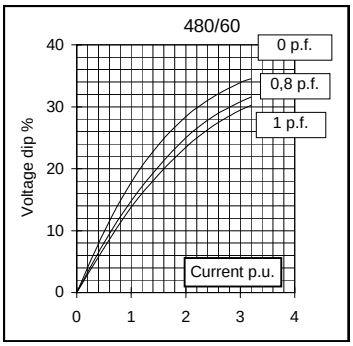


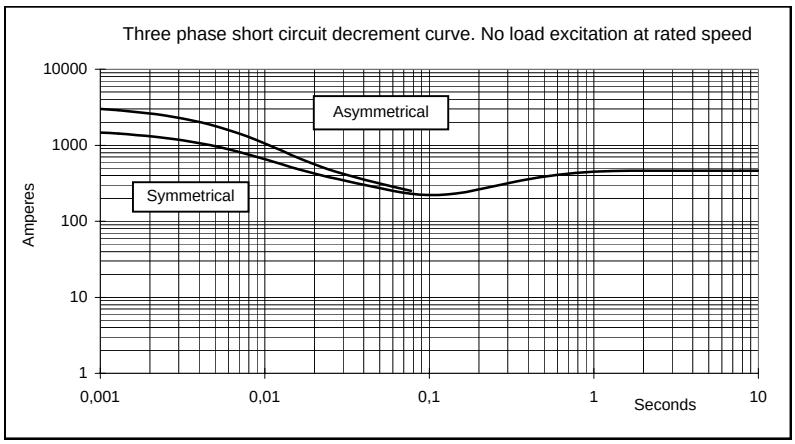




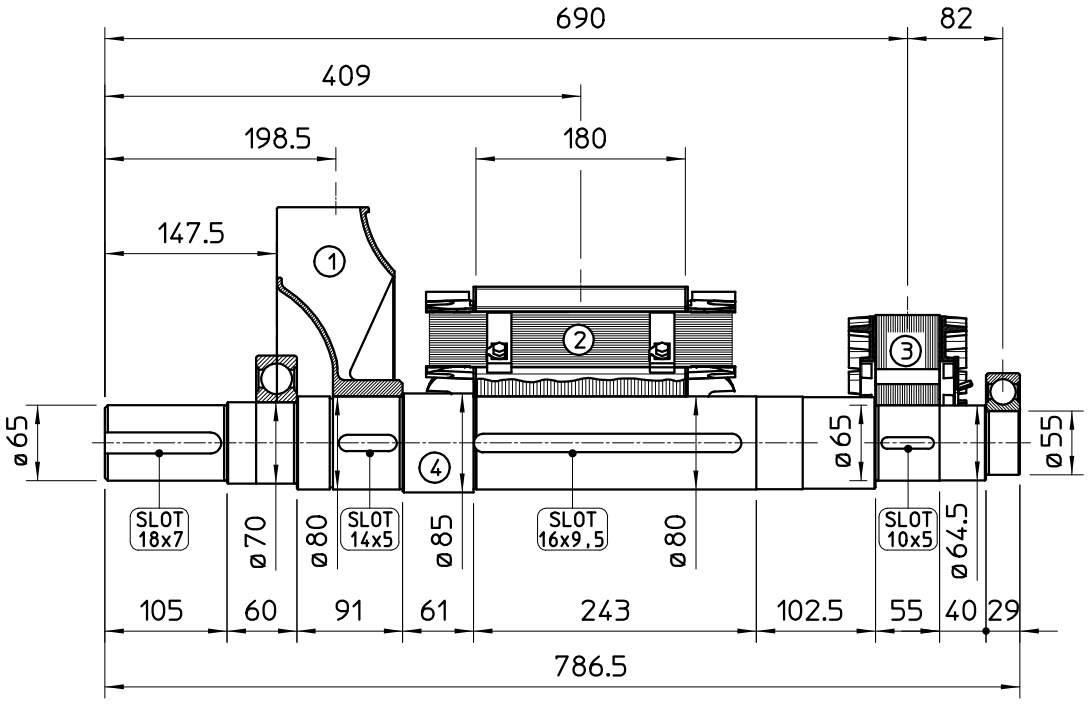






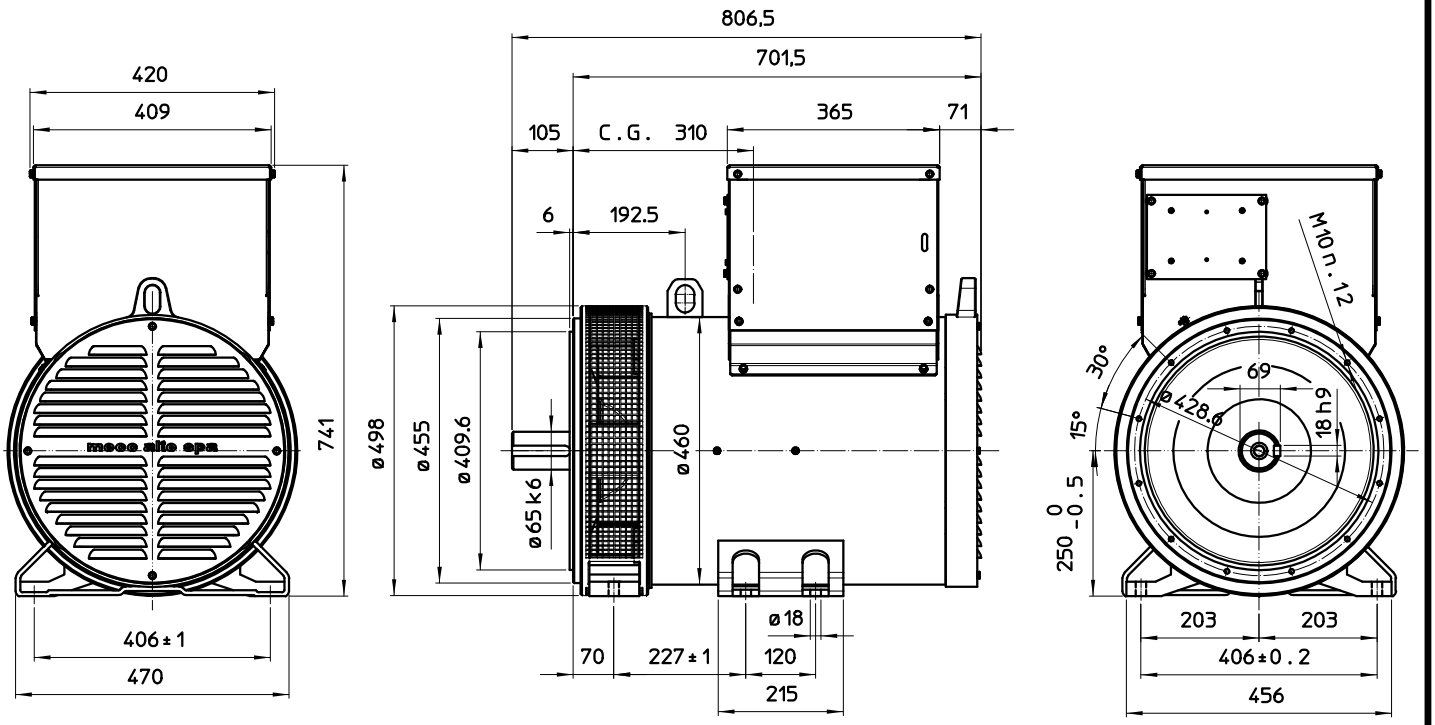


TWO BEARING MOMENTS OF INERTIA



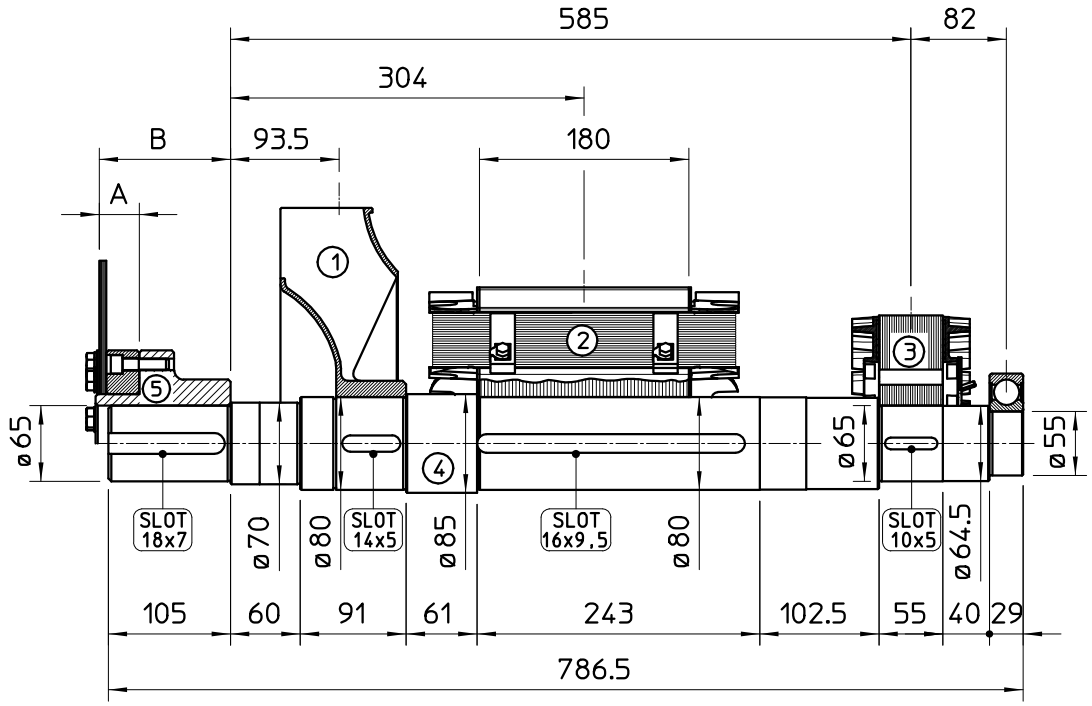
	COMPONENT	WEIGHT kg	J kgm^2
1	FAN	3,3	0,0451
2	MAIN ROTOR	63	0,6144
3	EX. ROTOR	14,5	0,0874
4	SHAFT	26,6	0,0194
	TOTAL	107,4	0,7663

TWO BEARING DIMENSIONS



C.G.= GRAVITY CENTER

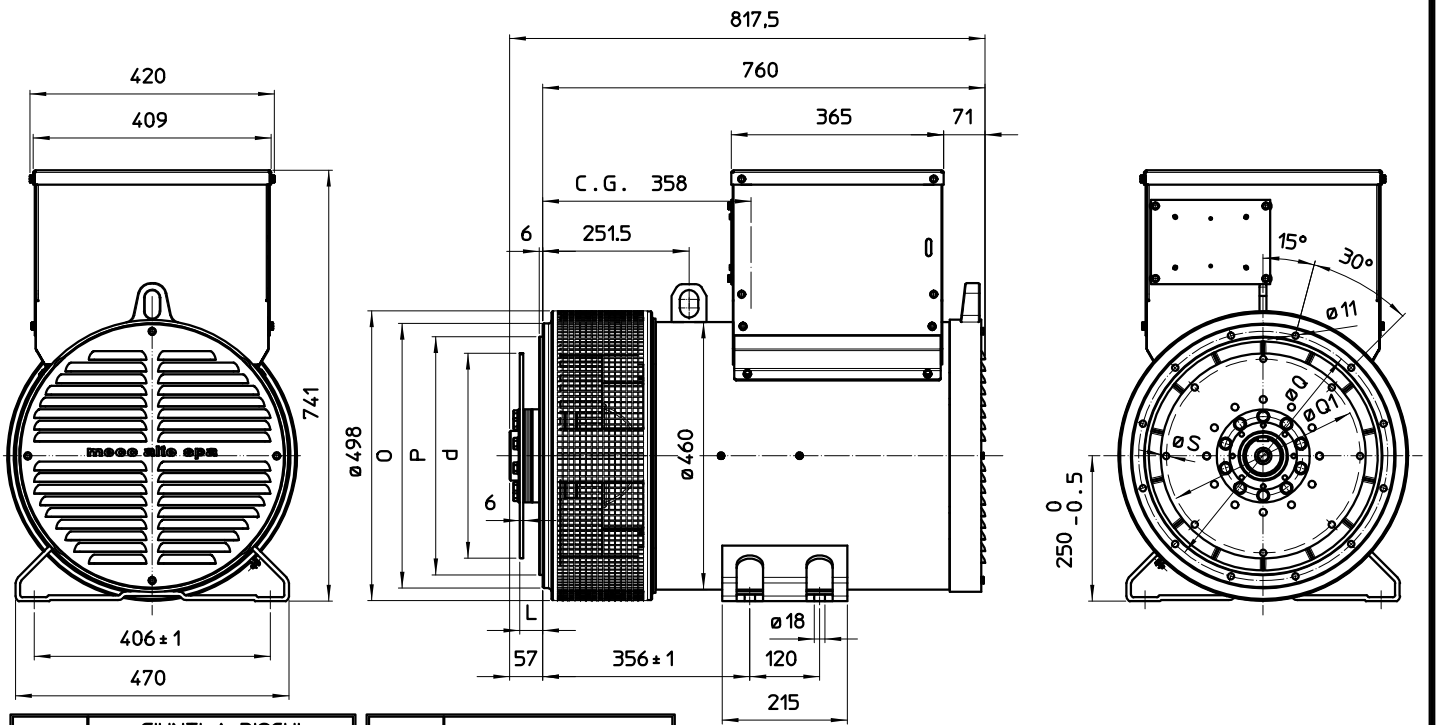
SINGLE BEARING MOMENTS OF INERTIA



	COMPONENT	WEIGHT kg	J kgm^2
1	FAN	3,3	0,0451
2	MAIN ROTOR	63	0,6144
3	EX. ROTOR	14,5	0,0874
4	SHAFT	26,6	0,0194
	TOTAL	107,4	0,7663

SAE N°	5 SHAFTS COUPLING FLEX PLATE			
	A	B	WEIGHT Kg	J kgm^2
10	34,4	112,8	13,5	0,0770
11,5	20	98,6	12,5	0,0956
14	6	84,4	14,8	0,2360

SINGLE BEARING DIMENSIONS



SAE N.	GIUNTI A DISCHI DISC COUPLING DISQUE DE MONOPALIER SCHEIBENKUPPLUNG				
	L	d	Q1	N. fori	S
10	53,8	314,32	295,27	8	11
11 1/2	39,6	352,42	333,37	8	11
14	25,4	466,72	438,15	8	14

SAE N.	FLANGIA/FLANGE BRIDE/FLANSCH			
	O	P	Q	N. fori
3	451	409,6	428,6	12
2	489	447,7	466,7	12
1	552	511,2	530,2	12

C.G.= GRAVITY CENTER

mecc alte spa

GENERATOR TYPE ECO 32-1L/4

Document :**DS008A/1**
issue 005 date 15/05/2003

Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	50	50	50	40	58	60	60	60
		kW	40	40	40	32,0	46,4	48	48	48
Rated power class F		kVA	48	48	48	38	56	58	58	58
		kW	38,4	38,4	38,4	30,4	44,8	46,4	46,4	46,4
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	%	89	89,1	88,8	88,6	91,1	91,6	91,7	91,8
(see graph. for details)	3/4	%	89,2	89,5	89,4	89,1	91,5	91,7	91,9	92,1
	2/4	%	87,5	87,6	87,6	87,4	88,8	88,9	89	89,1
	1/4	%	85,5	85,3	85,1	84,6	85,4	85	85,5	85,4
Reactances (f. l.cl. F)	Xd	%	271,5	245	227,6	162,0	316,8	291,6	266,8	245
	Xd'	%	14,96	13,5	12,54	8,93	17,46	16,07	14,70	13,5
	Xd"	%	8,20	7,4	6,87	4,89	9,57	8,81	8,06	7,4
	Xq	%	113,0	102	94,8	67,4	131,9	121,4	111,1	102
	Xq'	%	113,0	102	94,8	67,4	131,9	121,4	111,1	102
	Xq"	%	34,9	31,5	29,3	20,8	40,7	37,5	34,3	31,5
	X_2	%	23,27	21	19,51	13,88	27,16	24,99	22,87	21
	X_0	%	3,21	2,9	2,69	1,92	3,75	3,45	3,16	2,9
Short Circuit Ratio	Kcc		0,62	0,71	0,73	1,30	0,40	0,48	0,62	0,71
Time Constants	Td'	sec.	0,059							
	Td"	sec.	0,013							
	Tdo'	sec.	1,40							
	Tα	sec.	0,035							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0,6	0,7	0,8	1,2	0,3	0,4	0,5	0,6
Excitation at full load		Amp.	2,2	2,4	2,3	2,7	2,1	1,9	2,1	2,3
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,061							
Rotor Winding Resistance (20°C)		Ω	2,473							
Exciter Resistance (20 °C)		Ω	Rotor : 0,442				Stator : 11,35			
Heat dissipation at f.l.cl.H		W	4944	4893	5045	4117	4533	4402	4345	4288
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 %	3,8 / 3,6							
Waveform Distors.(THD) at no load		LL/LN %	3,3 / 3,2							
Mechanical characteristics										
Protection			IP 21 (other protection on request)							
DE bearing			6312-2RS							
NDE bearing			6309-2RS							
Weight of wound stator assembly		kg	78							
Weight of wound rotor assembly		kg	53							
Weight of complete generator		kg	248							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	4,1							
Cooling air requirement		m^3/min	11,8				14,5			
Inertia Constant (H)		sec.	0,105				0,125			
Noise level at 1m/7m		dB(A)	75 / 60				79 / 64			

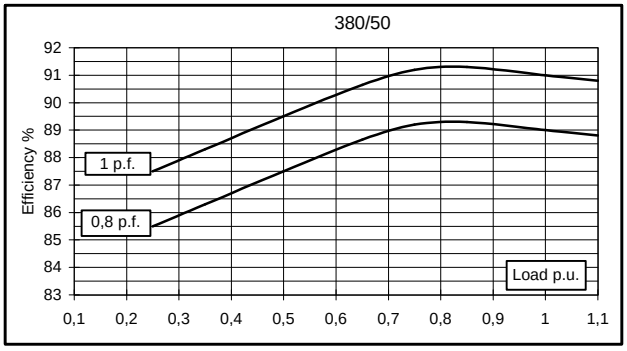
mecc alte spa

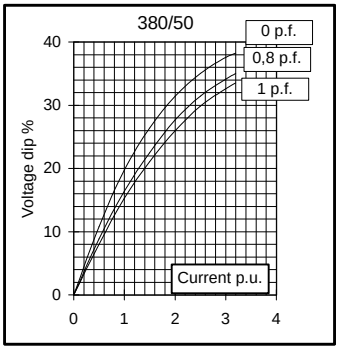
GENERATOR TYPE ECO 32-1L/4

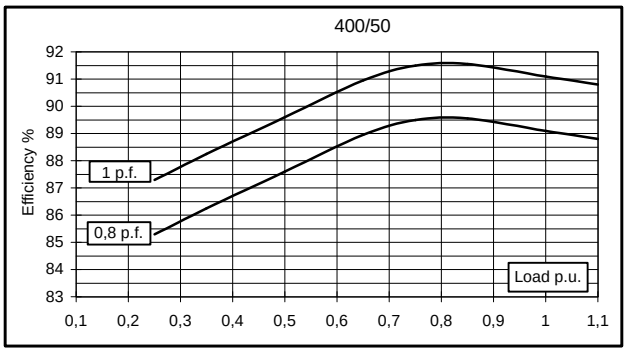
Document : **DS008A/2**

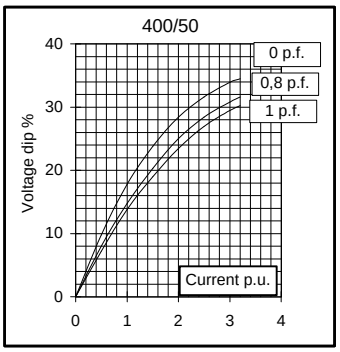
issue 005 date : 15/05/03

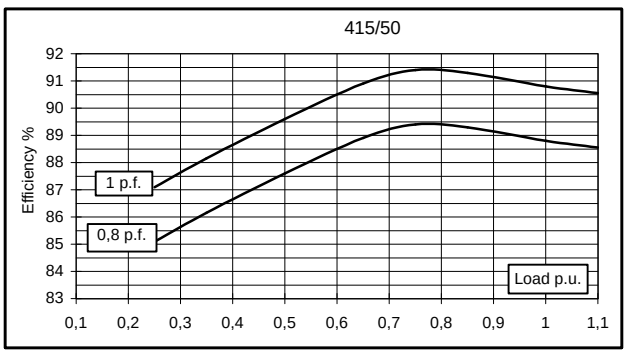
50 Hz

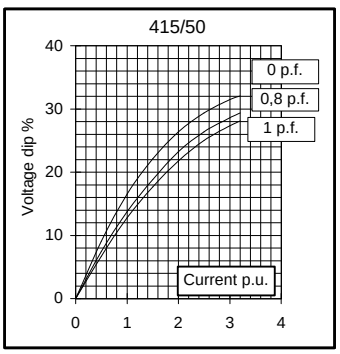


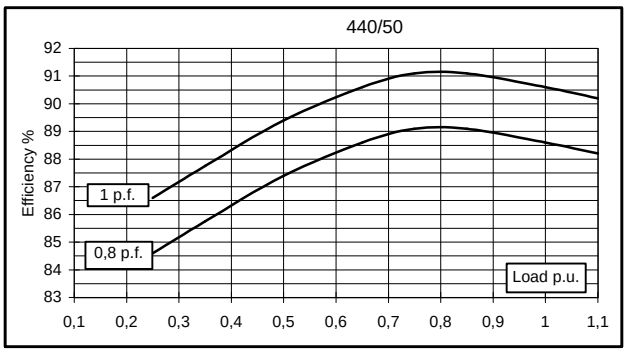


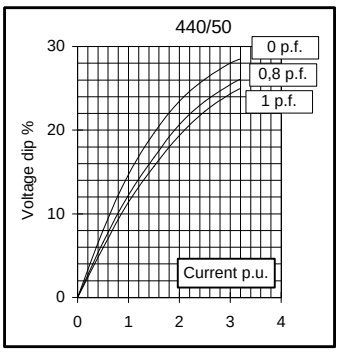


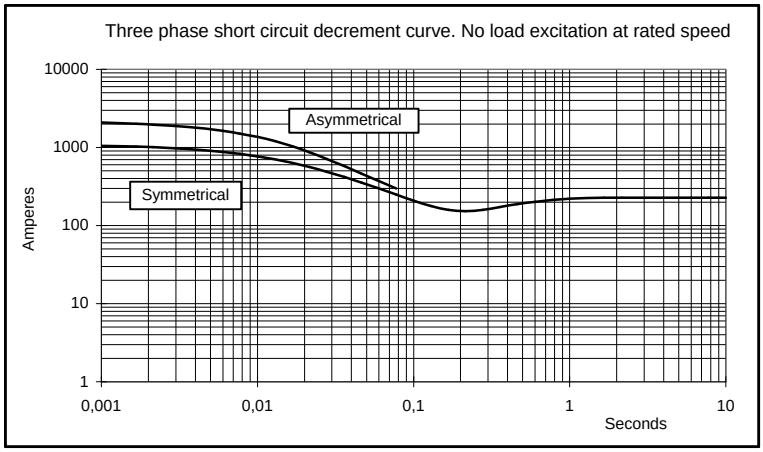








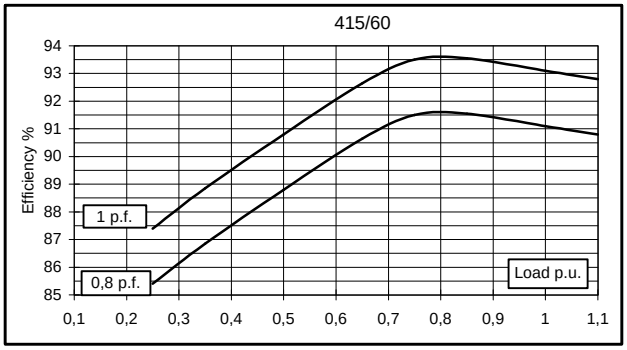


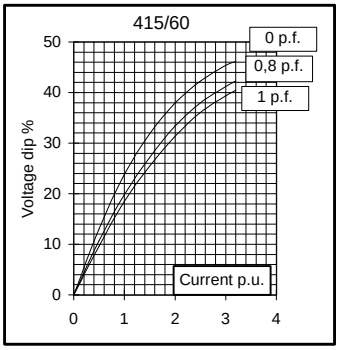


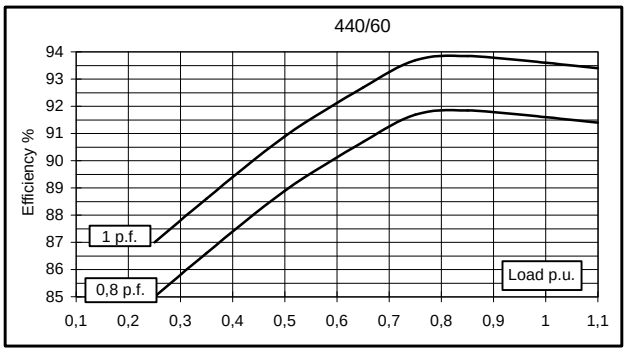
GENERATOR TYPE ECO 32-1L/4

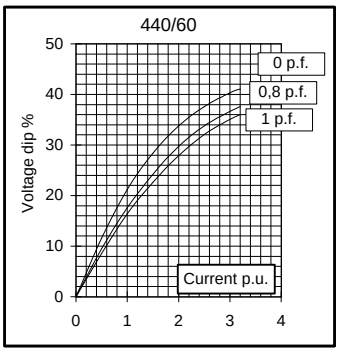
Document : **DS008A/3**
issue 005 date : 15/05/03

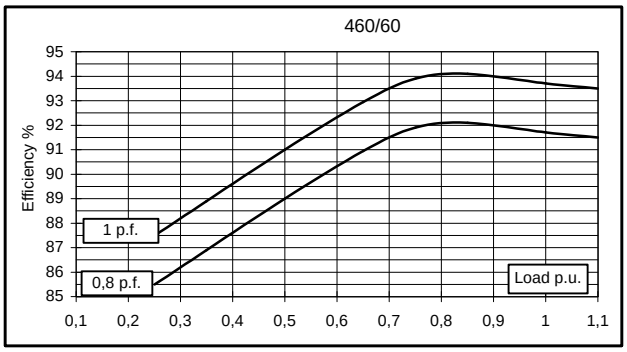
60 Hz

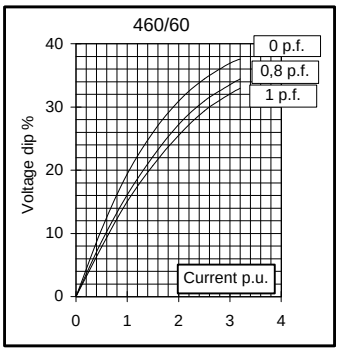


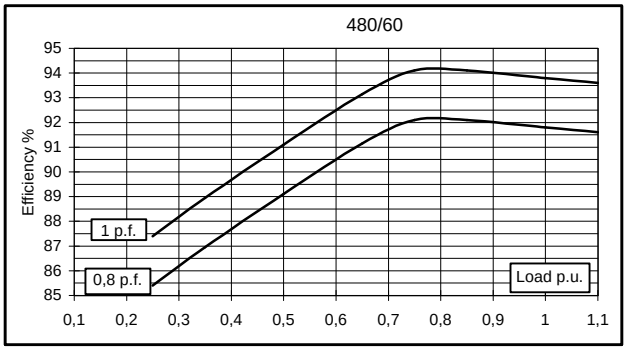


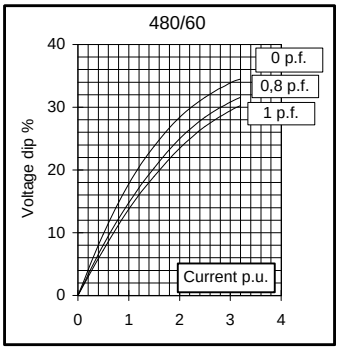


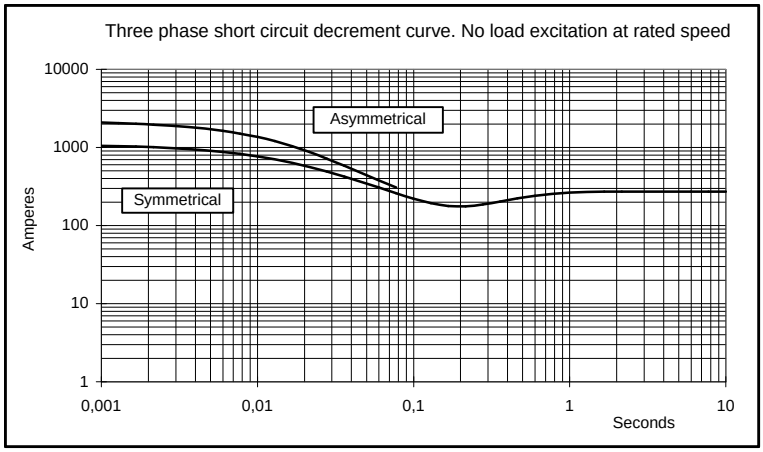




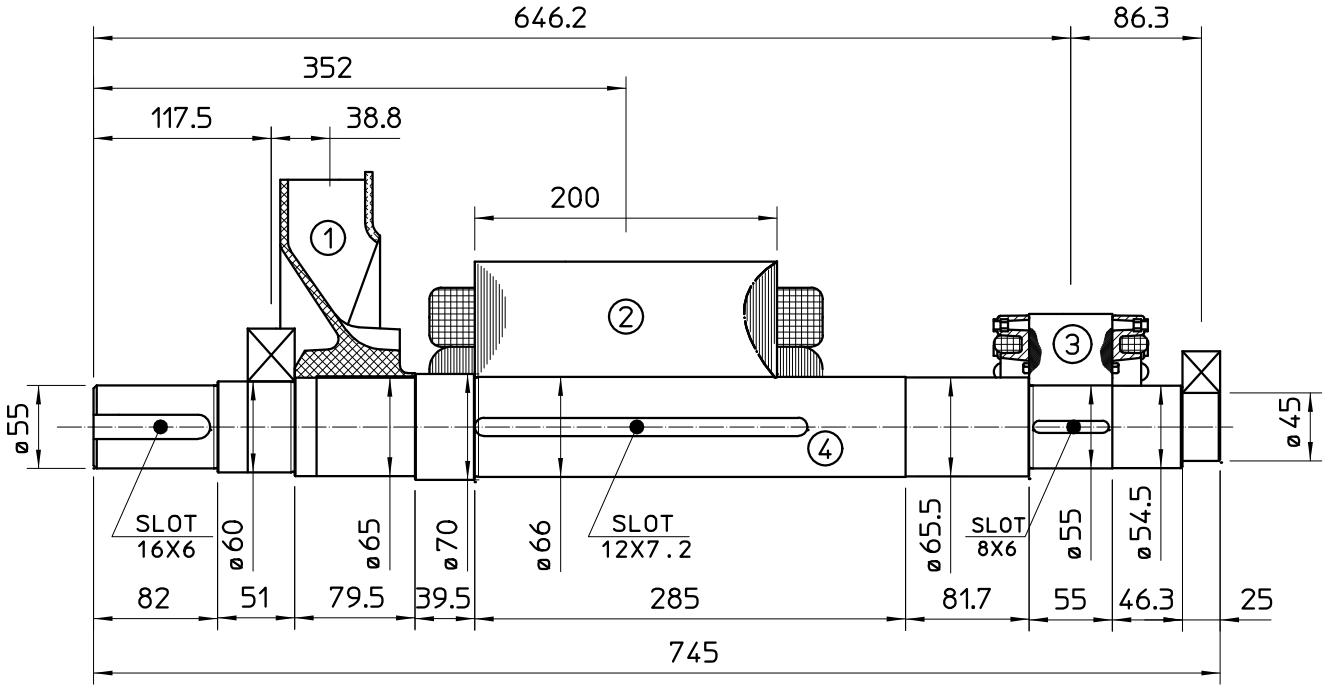






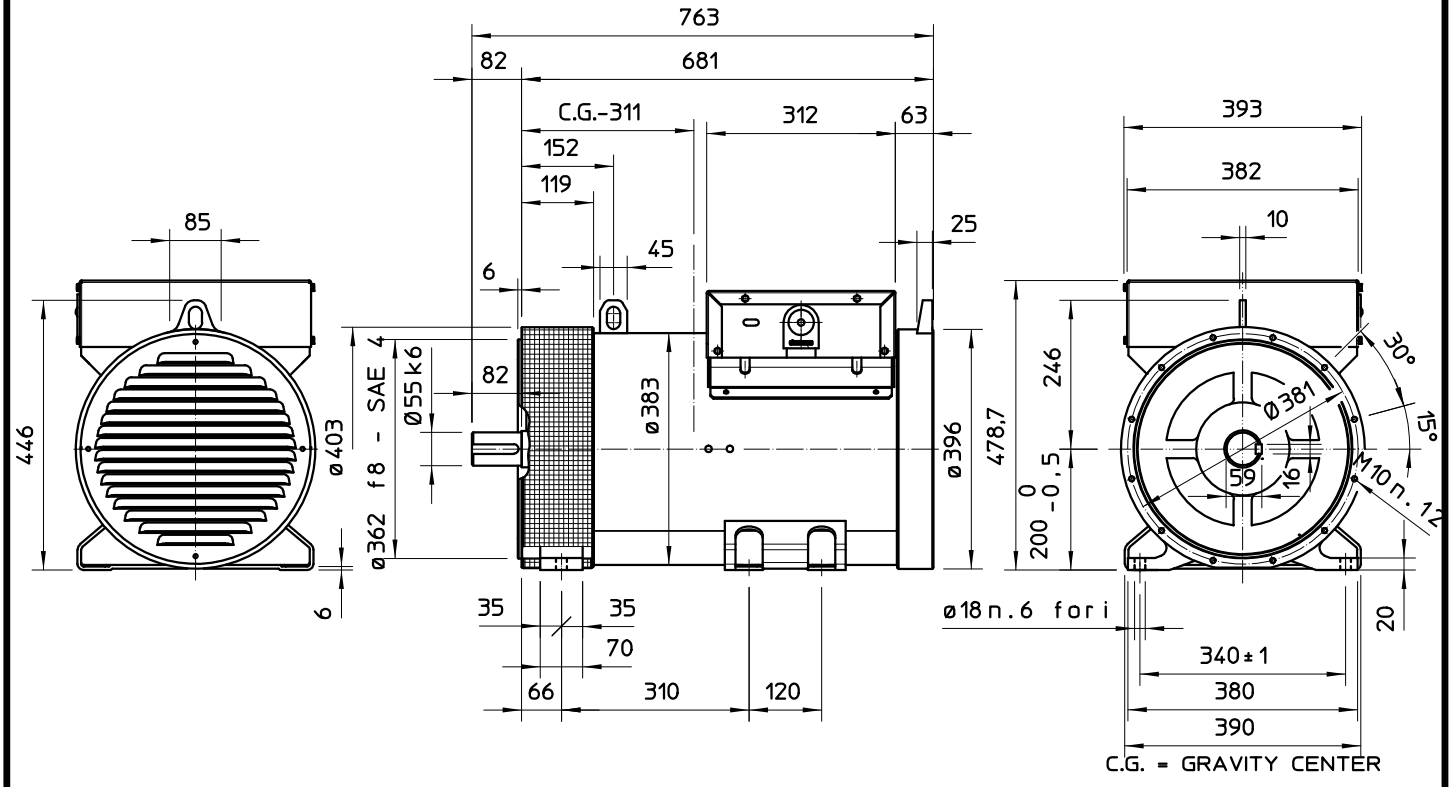


TWO BEARING MOMENTS OF INERTIA

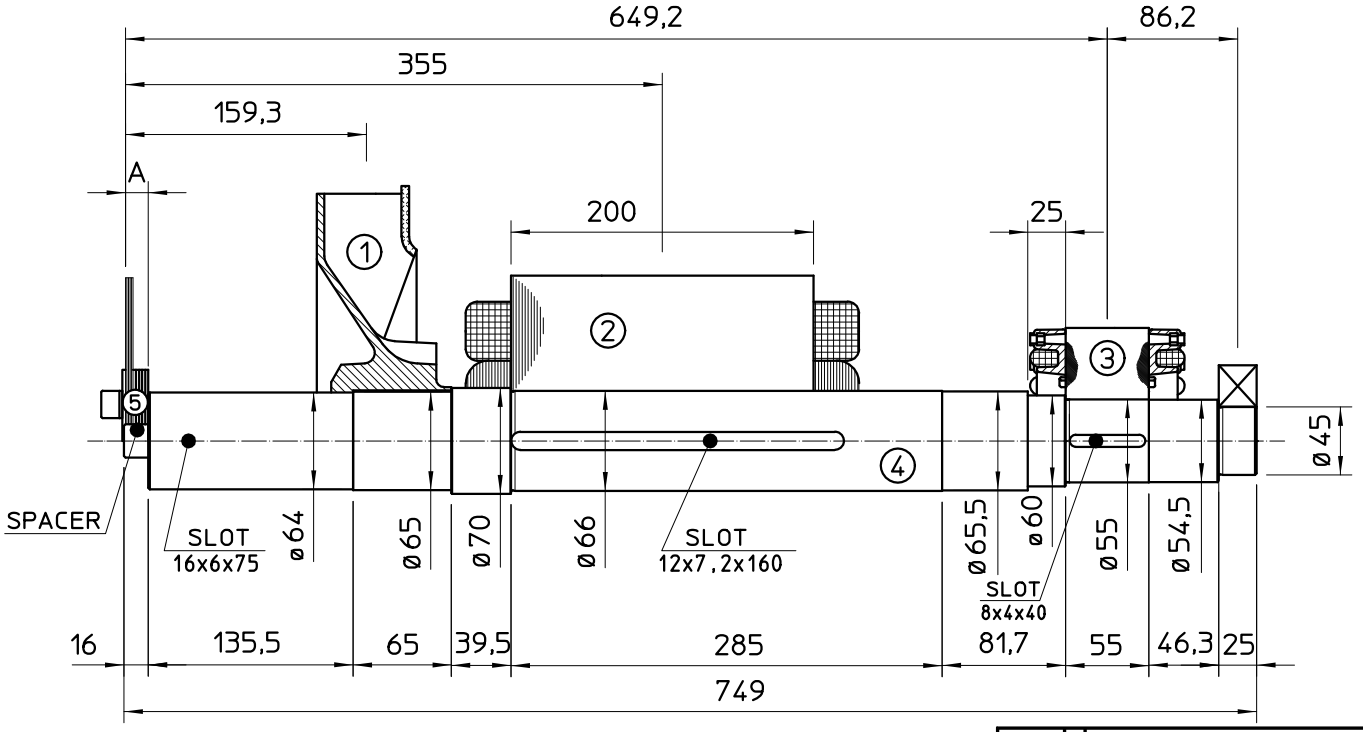


	COMPONENT	WEIGHT kg	J kgm²
1	FAN	2,3	0.0224
2	MAIN ROTOR	53	0.3763
3	EX. ROTOR	7	0.016
4	SHAFT	17.5	0.008
	TOTAL	79.8	0.4227

TWO BEARING DIMENSIONS



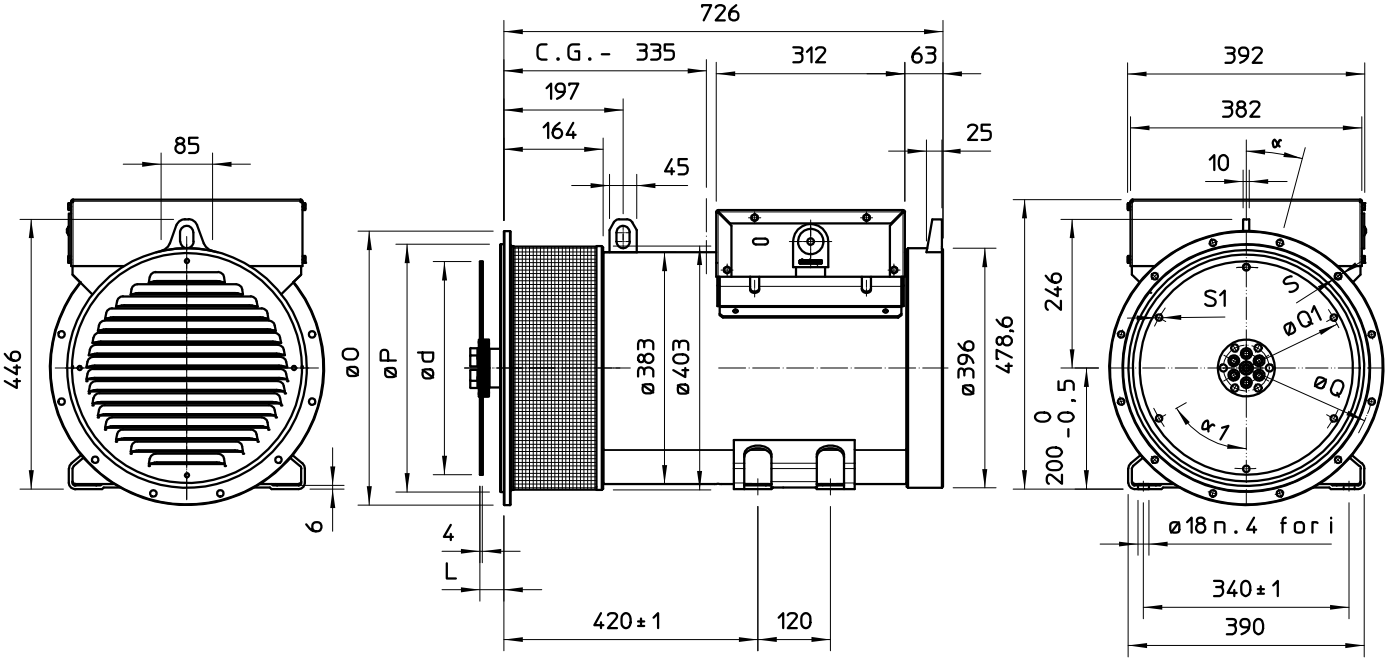
SINGLE BEARING MOMENTS OF INERTIA



	COMPONENT	WEIGHT kg	J kgm²
1	FAN	2,3	0,0224
2	MAIN ROTOR	53	0,3763
3	EX. ROTOR	7	0,016
4	SHAFT	18.3	0.0094
	TOTAL	80.6	0.4241

SAE No	S	SHAFTS COUPLING FLEX PLATE	
	A (mm)	WEIGHT kg	J kgm²
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

GENERATOR TYPE ECO 38-2SN/4

Document : **DS071A/1**

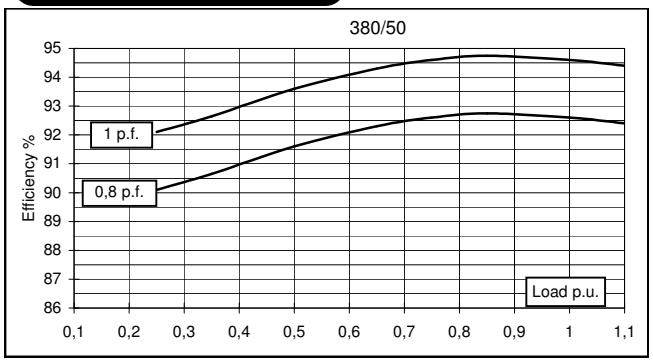
issue 004 date 28/10/2013

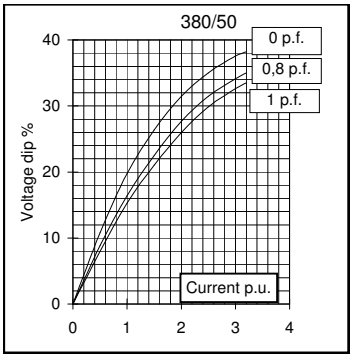
Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	200	200	200	190	230	240	240	240
		kW	160	160	160	152	184	192	192	192
Rated power class F		kVA	185	185	185	175	210	220	220	220
		kW	148	148	148	140	168	176	176	176
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	%	92,6	92,7	92,4	92,2	93,1	93,6	93,7	93,8
(see graph. for details)	3/4	%	92,6	92,9	92,8	92,5	93,4	93,6	93,8	94
	2/4	%	91,6	91,7	91,7	91,5	92,5	92,6	92,7	92,8
	1/4	%	90,1	89,9	89,7	89,5	90,6	90,6	90,6	90,4
Reactances (f. l.cl. F)	Xd	%	221,6	200	185,8	157,0	256,4	238,0	217,8	200
	Xd'	%	12,2	11,0	10,2	8,6	14,1	13,1	12,0	11,0
	Xd"	%	6,5	5,9	5,5	4,6	7,6	7,0	6,4	5,9
	Xq	%	121,9	110	102,2	86,4	141,0	130,9	119,8	110
	Xq'	%	121,9	110	102,2	86,4	141,0	130,9	119,8	110
	Xq"	%	23,8	21,5	20,0	16,9	27,6	25,6	23,4	21,5
	X_2	%	15,8	14,3	13,3	11,2	18,3	17,0	15,6	14,3
	X_0	%	2,8	2,5	2,3	2,0	3,2	3,0	2,7	2,5
Short Circuit Ratio	Kcc		0,43	0,46	0,64	1,02	0,32	0,39	0,43	0,46
Time Constants	Td'	sec.	0,078							
	Td"	sec.	0,012							
	Tdo'	sec.	0,90							
	Tα	sec.	0,016							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0,5	0,7	0,9	1,2	0,3	0,35	0,45	0,65
Excitation at full load		Amp.	2,9	3	3,2	3,4	2,4	2,6	2,8	2,9
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,0105							
Rotor Winding Resistance (20°C)		Ω	4,133							
Exciter Resistance (20 °C)		Ω	Rotor : 0,685				Stator : 15,28			
Heat dissipation at f.l.cl.H		W	12786	12600	13160	12859	13637	13128	12909	12691
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 %	2,7 / 2,6							
Waveform Distors.(THD) at no load		LL/LN %	3 / 2,9							
Mechanical characteristics										
Protection			IP 21 (other protection on request)							
DE bearing			6318.2RS							
NDE bearing			6314.2RS							
Weight of wound stator assembly		kg	174							
Weight of wound rotor assembly		kg	113							
Weight of complete generator		kg	560							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	5,2							
Cooling air requirement		m^3/min	32				39			
Inertia Constant (H)		sec.	0,116				0,140			
Noise level at 1m/7m		dB(A)	82 / 69				86 / 73			

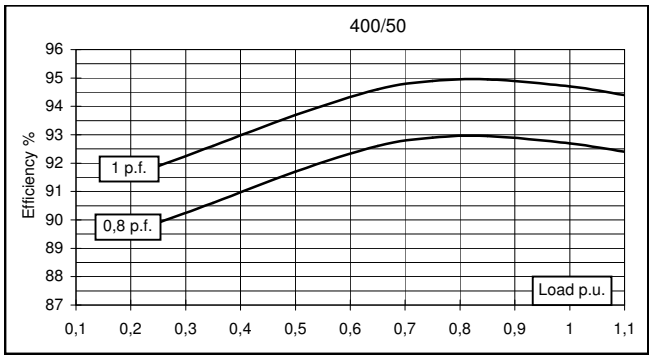
GENERATOR TYPE ECO 38-2SN/4

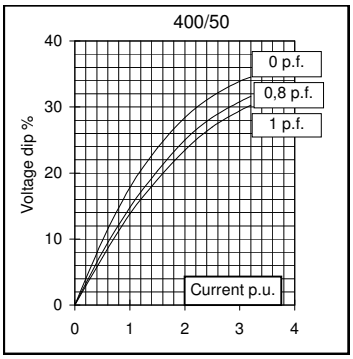
Document : **DS071A/2**
issue 004 date : 28/10/2013

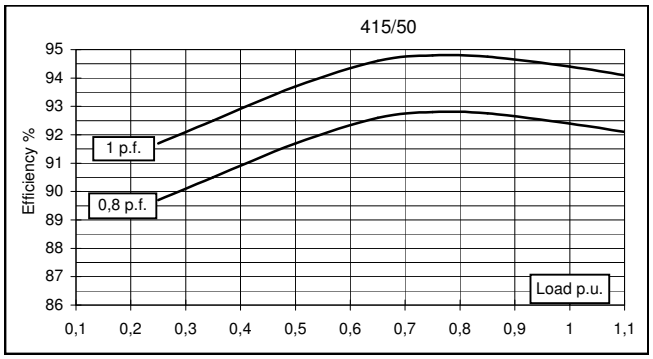
50 Hz

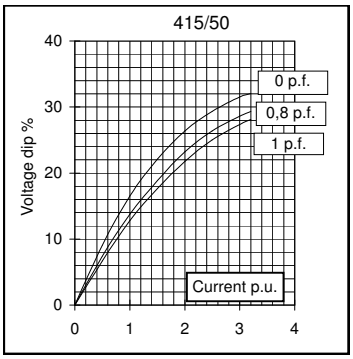


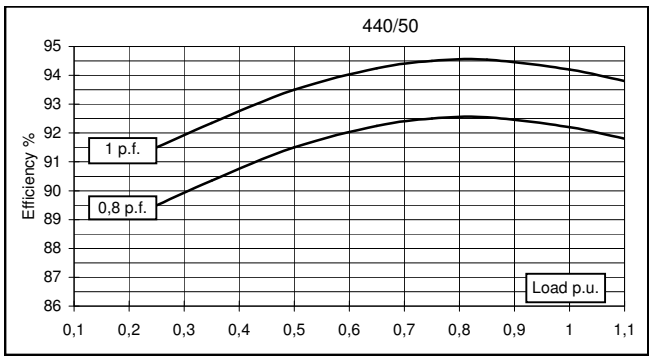


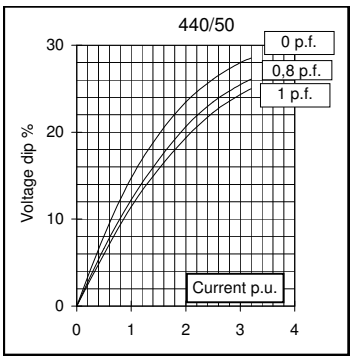


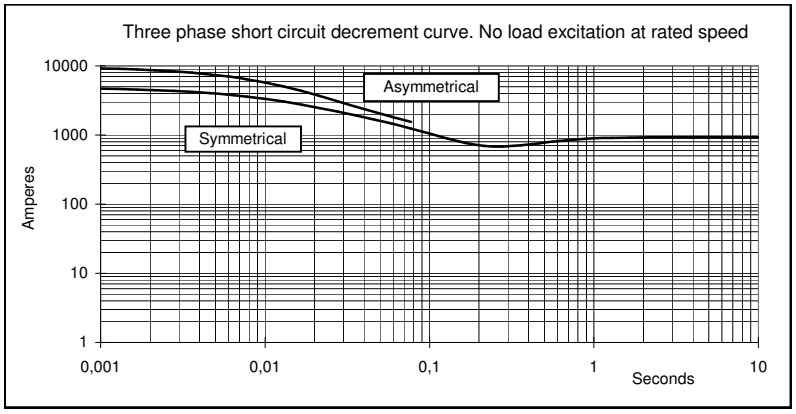










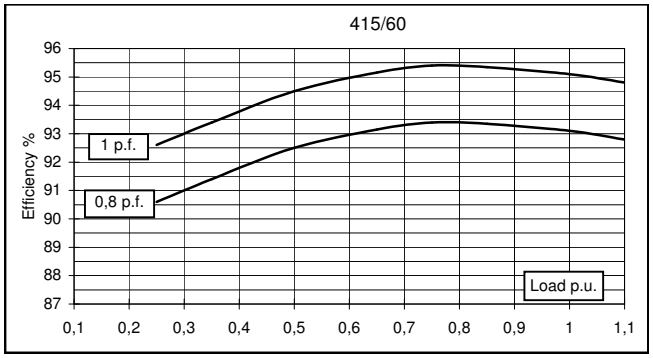


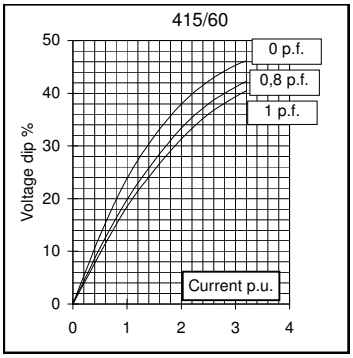
GENERATOR TYPE ECO 38-2SN/4

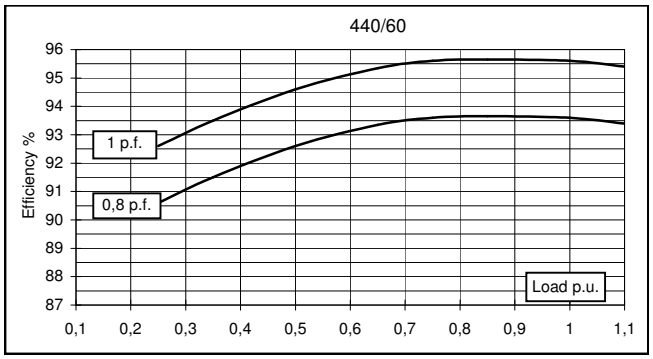
Document : **DS071A/3**

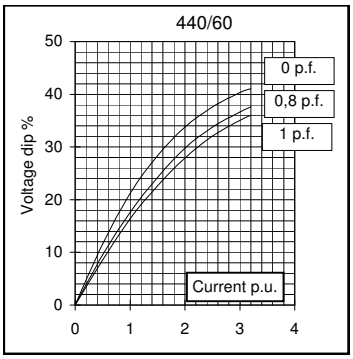
issue 004 date : 28/10/2013

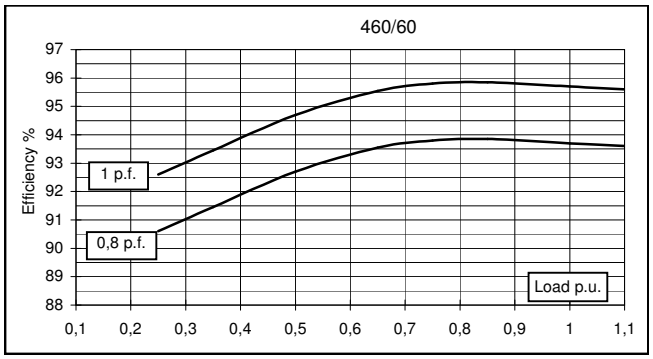
60 Hz

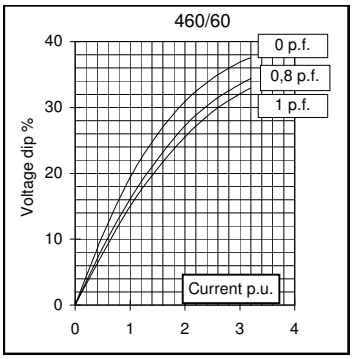


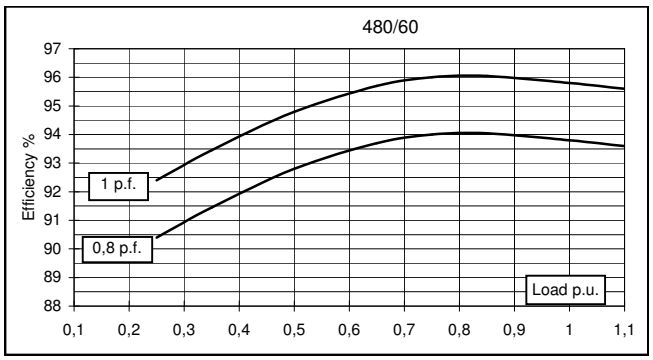


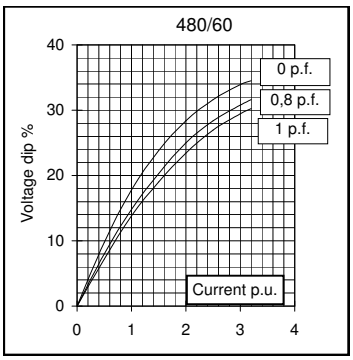


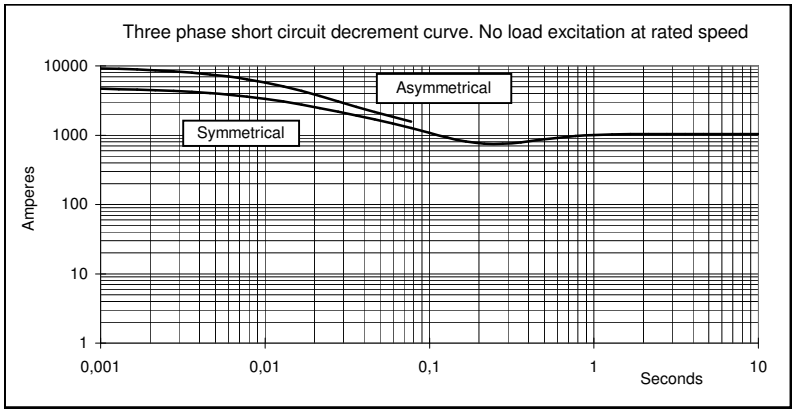




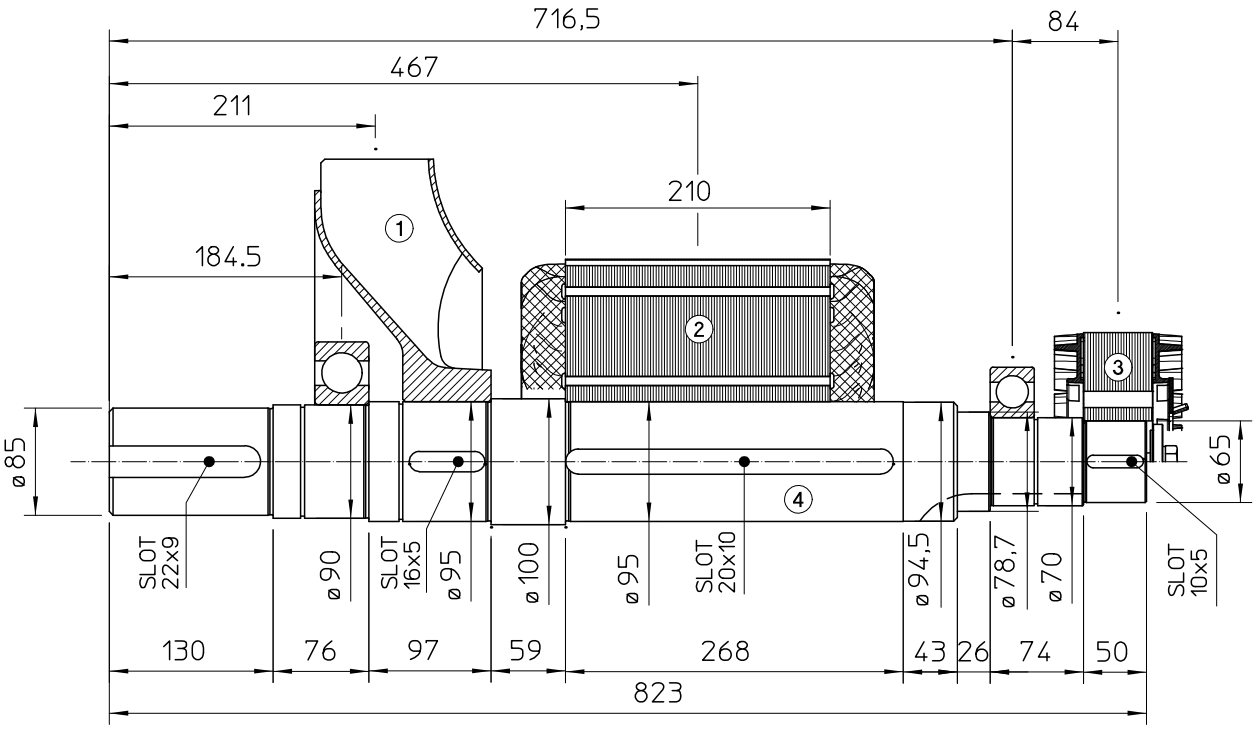






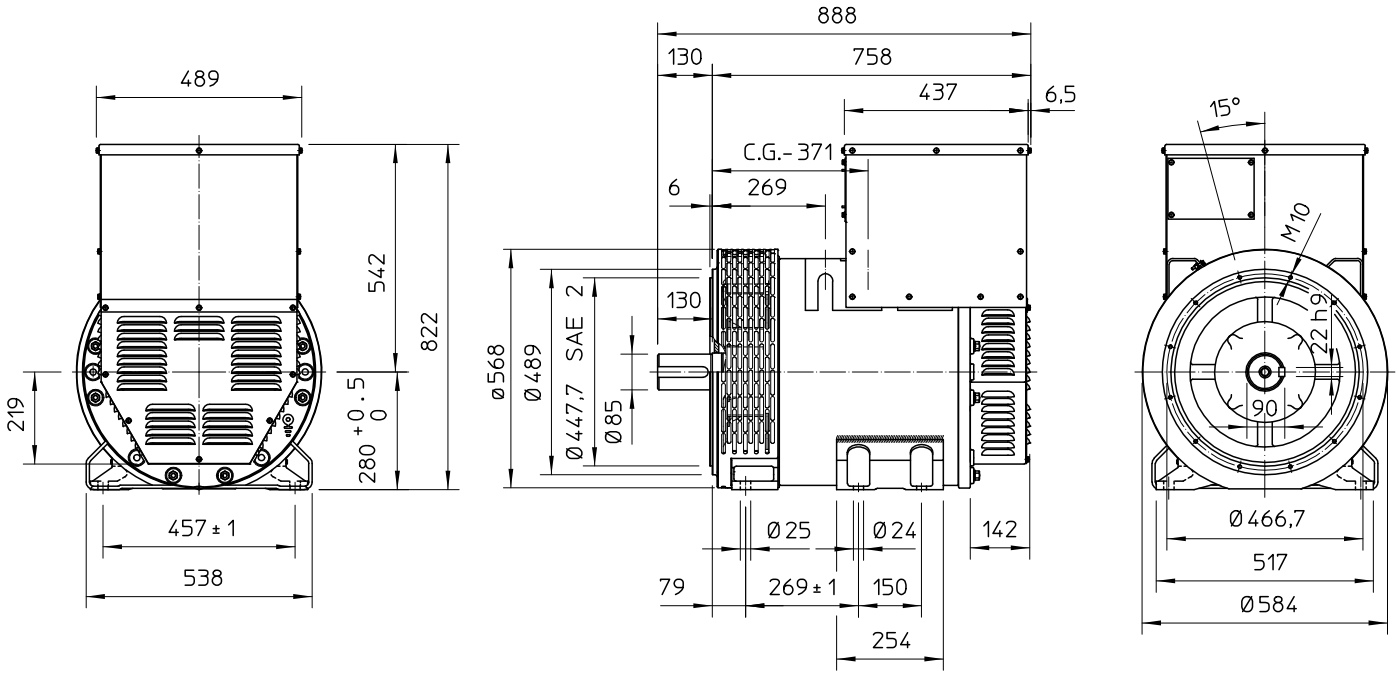


TWO BEARING MOMENTS OF INERTIA



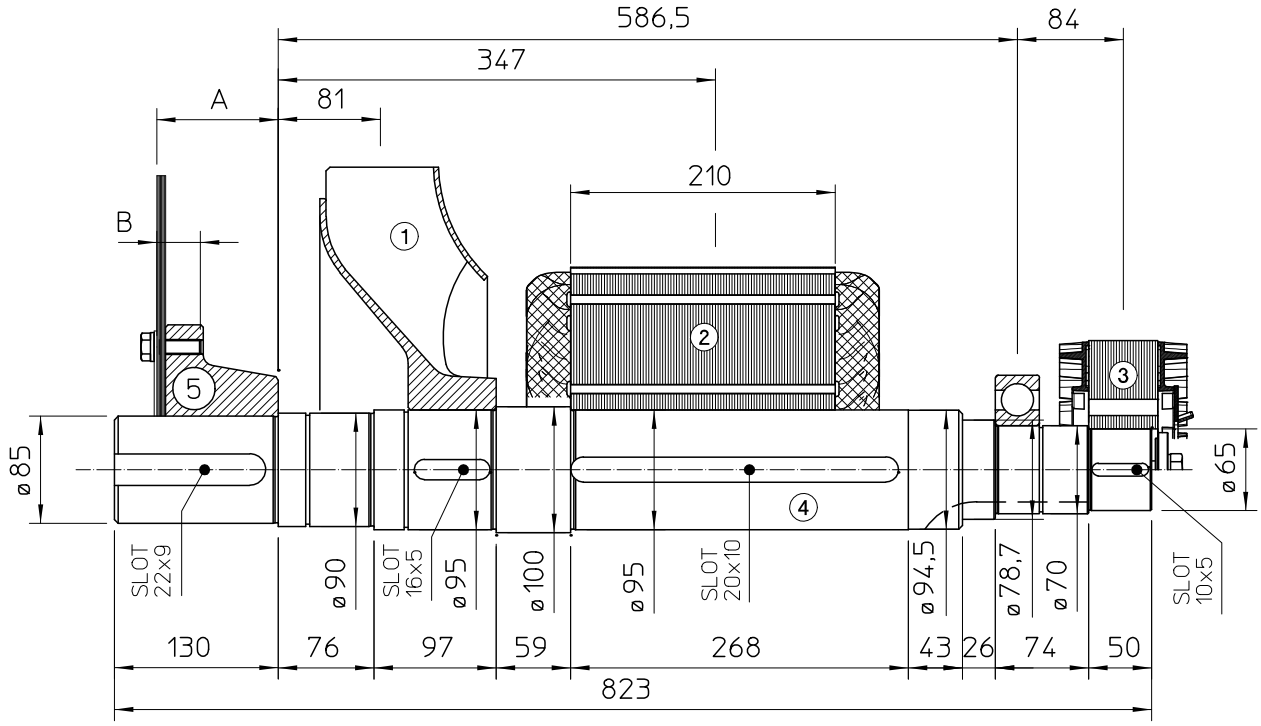
POS.	COMPONENT	WEIGHT (kg)	J (kgm^2)
1	FAN	6.1	0.1887
2	MAIN ROTOR	113	1.5641
3	EX. ROTOR	14.5	0.0874
4	SHAFT	38.5	0.0397
TOTAL		172.1	1.8799

TWO BEARING DIMENSIONS



C.G.= GRAVITY CENTER

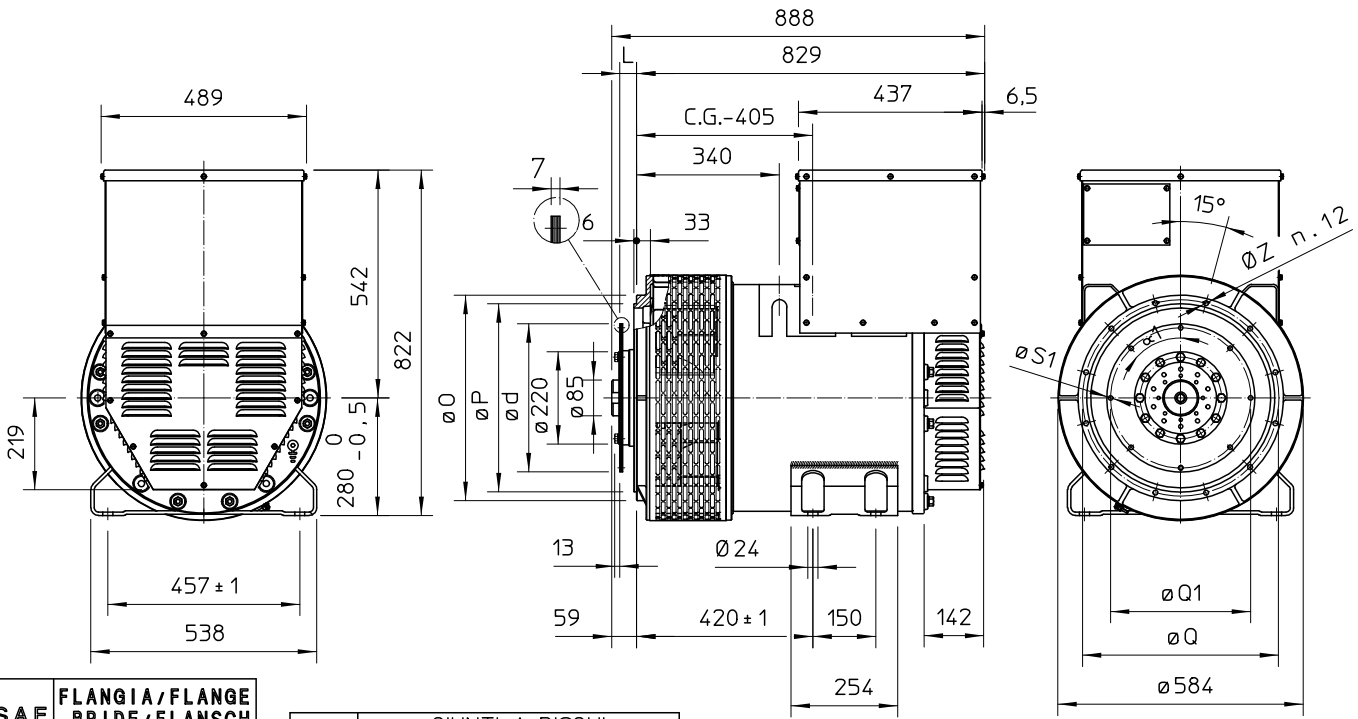
SINGLE BEARING MOMENTS OF INERTIA



POS.	COMPONENT	WEIGHT (kg)	J (kgm^2)
1	FAN	6.1	0.1887
2	MAIN ROTOR	113	1.5641
3	EX. ROTOR	14.5	0.0874
4	SHAFT	38.5	0.0397
TOTAL		172.1	1.8799

SAE	5	SHAFTS COUPLING FLEX PLATE		
N°	A	B	WEIGHT kg	J kgm^2
11.5	110.4	41.1	20.5	0.174
14	96.4	34.7	23.5	0.275

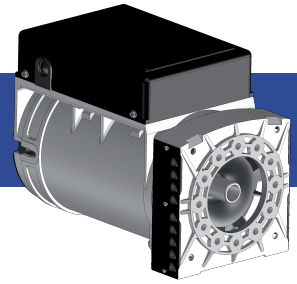
SINGLE BEARING DIMENSIONS



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
1/2	648	584,2	619,1

SAE N.	GIUNTI A DISCHI DISC COUPLING DISQUE DE MONOPALIER SCHEIBENKUPPLUNG					
	L	d	Q1	n. fori	S1	∝1
11 1/2	39,6	352,42	333,37	8	11	45°
14	25,4	466,72	438,15	8	14	45°

C.G.= GRAVITY CENTER



S16F

MECCALTE spa - Via Roma, 20 - 36051 CREAZZO (VI) ITALY
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website: www.meccalte.com

2 POLE
1 PHASE
IP23

CHARACTERISTICS

50 Hz

Type	115/230V 50Hz 3000 RPM									
	kVA	η 2/4 1 p.f.	η 3/4 1 p.f.	η 4/4 1 p.f.	T.H.D.	Air volume	Noise		Weight	J
	CL. H	%	%	%	%	m³/min	7m dBA	1m dBA	Kg	Kgm²
S16F -150	5,5	76,4	79,2	79	< 6	3,4	60	78	28	0,0105
S16F -180	6,5	76,8	79,7	79,5	< 6	3,4	60	78	31	0,0174

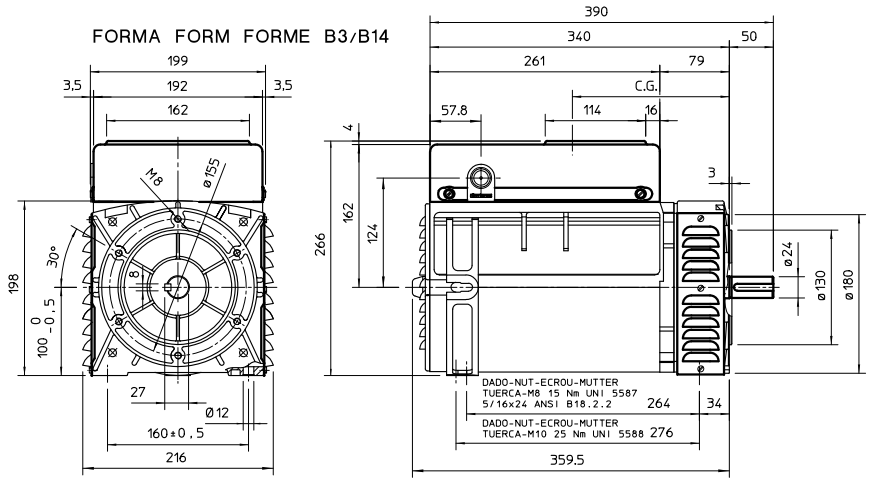
60 Hz

Type	120/240V 60Hz 3600 RPM									
	kVA	η 2/4 1 p.f.	η 3/4 1 p.f.	η 4/4 1 p.f.	T.H.D.	Air volume	Noise		Weight	J
	CL. H	%	%	%	%	m³/min	7m dBA	1m dBA	Kg	Kgm²
S16F -150	6,6	76,8	79,7	79,6	< 6	4,3	62	80	28	0,0105
S16F -180	7,8	77,1	80,3	80,1	< 6	4,3	62	80	31	0,0174

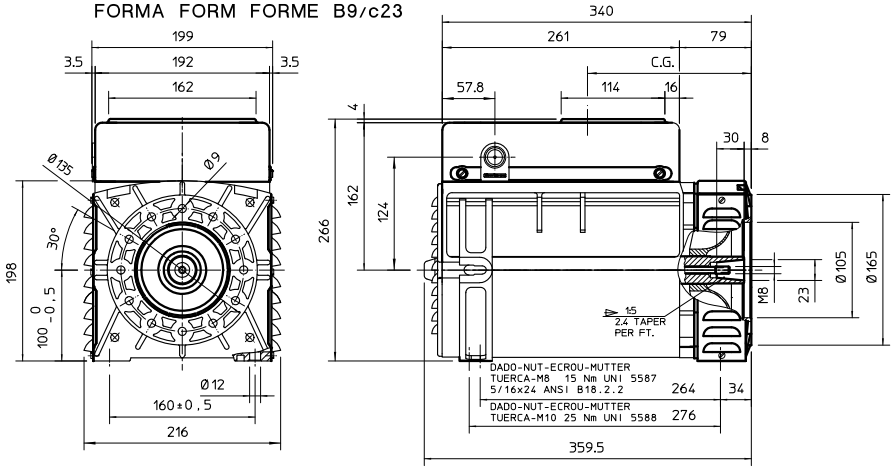
OVERALL DIMENSIONS

dimensions in mm.

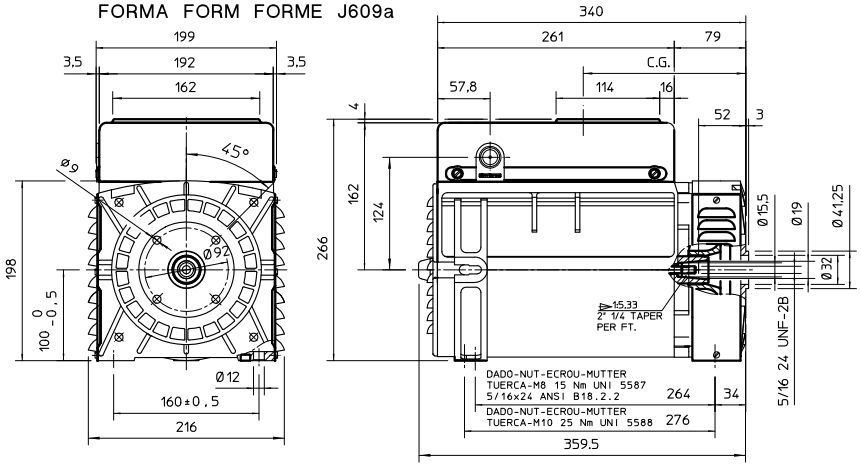
FORMA FORM FORME B3/B14



FORMA FORM FORME B9/c23



FORMA FORM FORME J609a



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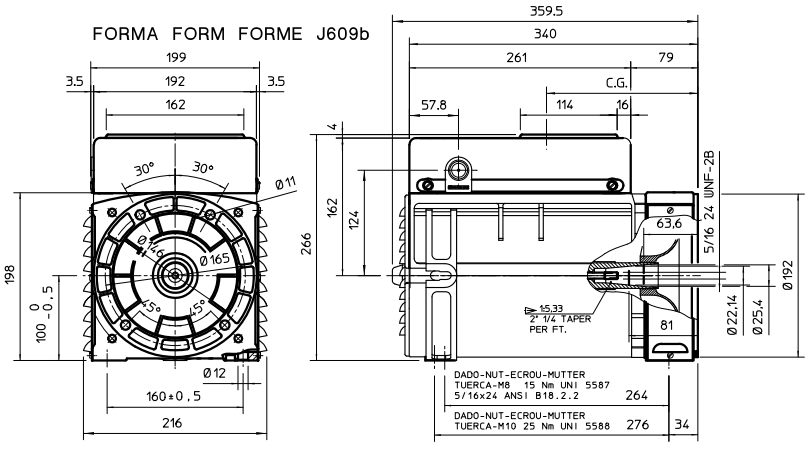


FORM	CG	
	150	180
B14	178	163
B9	180	165
J609a	179	164
J609b	179	164

GENERATOR TYPE ECP 34-2S/4 A

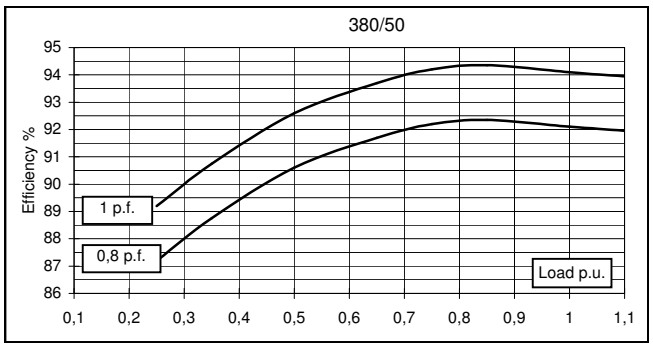
Document : **DS273A/1**
issue 000 date 11/11/2013

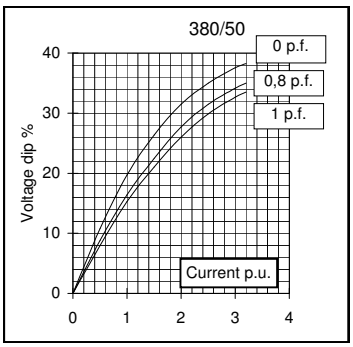
Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	105	105	105	85	115	126	126	126
		kW	84	84	84	68	92	101	101	101
Rated power class F		kVA	95	95	95	77	104	114	114	114
		kW	76	76	76	61,6	83,2	91,2	91,2	91,2
Regulation 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	%	92,1	92,2	91,9	91,7	93,1	93,6	93,7	93,8
(see graph. for details)	3/4	%	92,2	92,5	92,4	92,1	93,6	93,8	93,9	94,1
	2/4	%	90,6	90,7	90,7	90,5	92	92,1	92,2	92,3
	1/4	%	87,2	87	86,8	86,8	88,2	88,2	88,2	88
Reactances (f. l.cl. F)	Xd	%	254,8	230	213,7	153,9	280,8	273,7	250,4	230
	Xd'	%	19,5	17,6	16,4	11,8	21,5	20,9	19,2	17,6
	Xd"	%	6,3	5,7	5,3	3,8	7,0	6,8	6,2	5,7
	Xq	%	165,8	149,6	139,0	100,1	182,7	178,0	162,9	149,6
	Xq'	%	165,8	149,6	139,0	100,1	182,7	178,0	162,9	149,6
	Xq"	%	34,6	31,2	29,0	20,9	38,1	37,1	34,0	31,2
	X_2	%	20,5	18,5	17,2	12,4	22,6	22,0	20,1	18,5
	X_0	%	3,9	3,5	3,3	2,3	4,3	4,2	3,8	3,5
Short Circuit Ratio	Kcc		0,41	0,47	0,61	0,90	0,32	0,35	0,41	0,47
Time Constants	Td'	sec.	0,0393							
	Td"	sec.	0,0055							
	Tdo'	sec.	1,70							
	Tα	sec.	0,0146							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0,5	0,6	0,8	1,1	0,2	0,3	0,4	0,5
Excitation at full load		Amp.	2	2,2	2,3	2,6	1,7	1,9	2	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	0,02							
Rotor Winding Resistance (20°C)		Ω	2,951							
Exciter Resistance (20 °C)		Ω	Rotor : 0,410				Stator : 15,28			
Heat dissipation at f.l.cl.H		W	7205	7106	7404	6155	6818	6892	6777	6663
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 %	1,8 / 1,9							
Waveform Distors.(THD) at no load		LL/LN %	2,8 / 2,9							
Mechanical characteristics										
Protection			IP 21 (other protection on request)							
DE bearing			6314.2RS							
NDE bearing			6311.2RS							
Weight of wound stator assembly		kg	126							
Weight of wound rotor assembly		kg	81							
Weight of complete generator		kg	409							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	5,1							
Cooling air requirement		m³/min	19,3				23			
Inertia Constant (H)		sec.	0,111				0,133			
Noise level at 1m/7m		dB(A)	79 / 65				83 / 69			

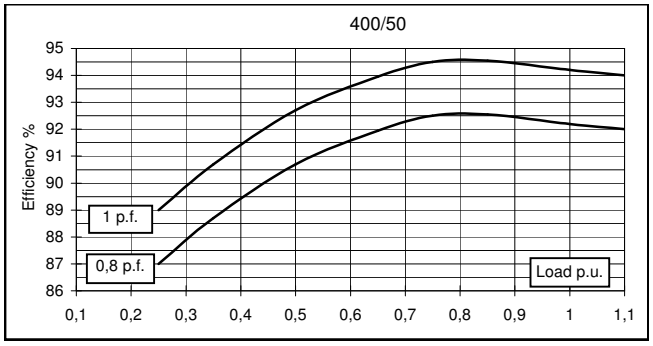
GENERATOR TYPE ECP 34-2S/4 A

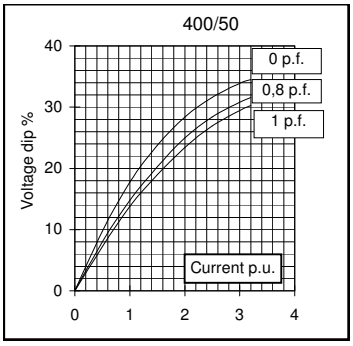
Document : **DS273A/2**
issue 000 date : 11/11/2013

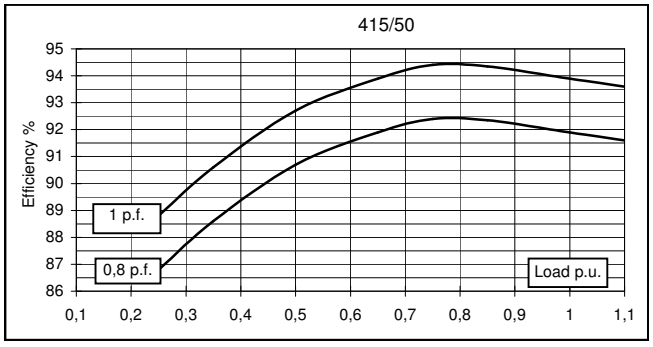
50 Hz

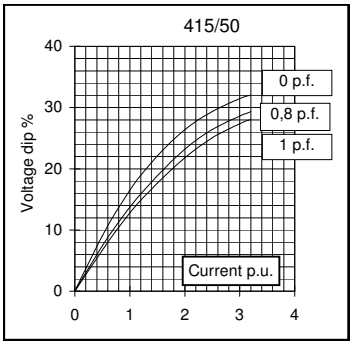


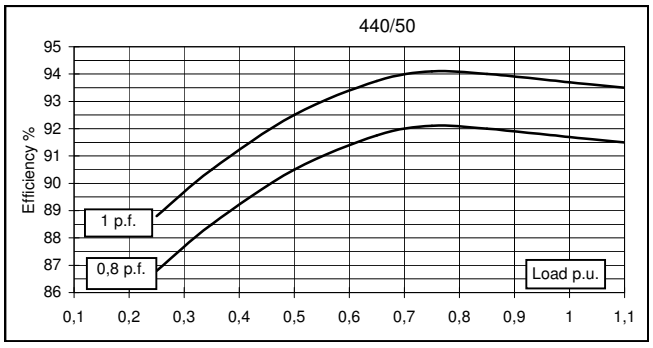


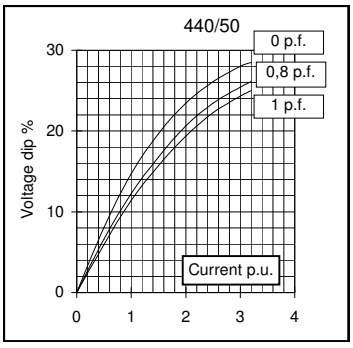


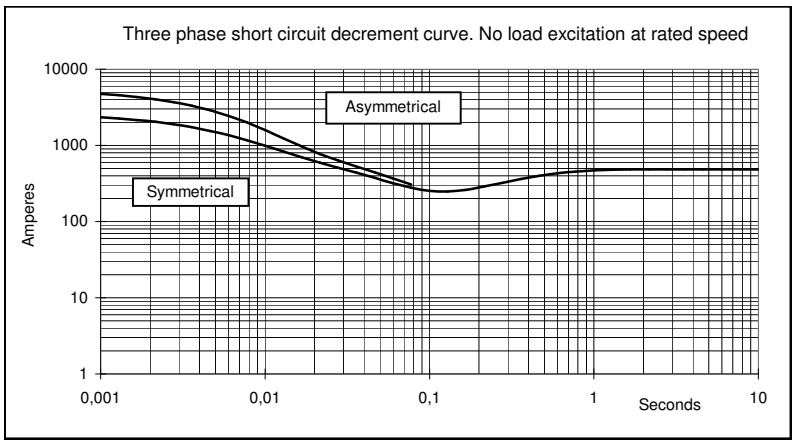








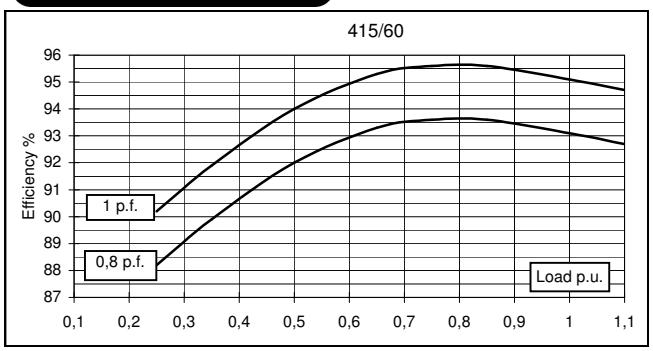


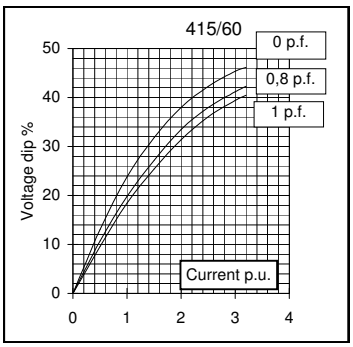


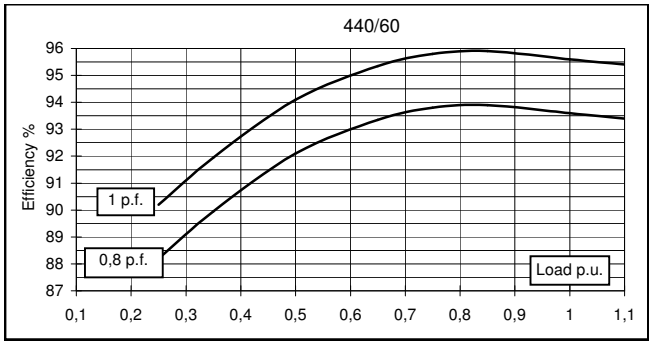
GENERATOR TYPE ECP 34-2S/4 A

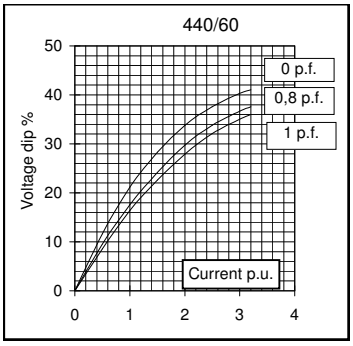
Document : **DS273A/3**
issue 000 date : 11/11/2013

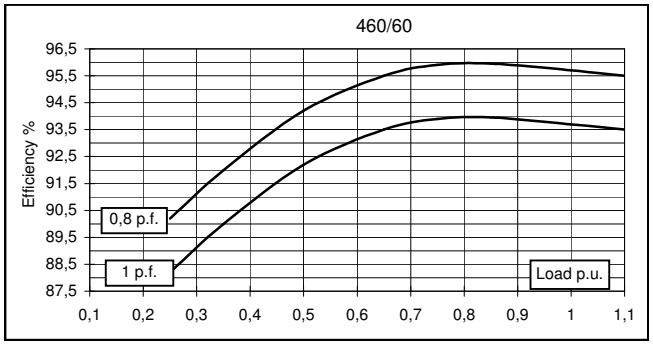
60 Hz

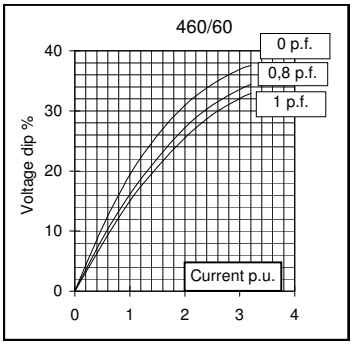


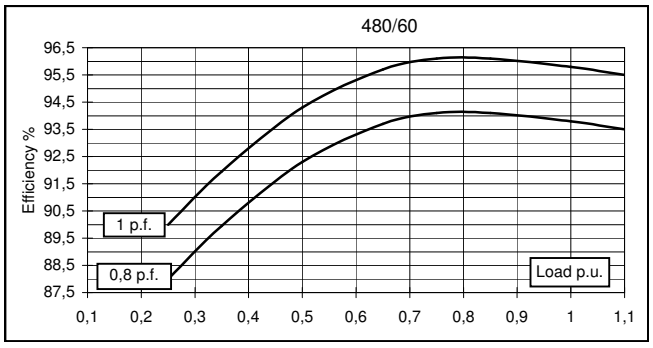


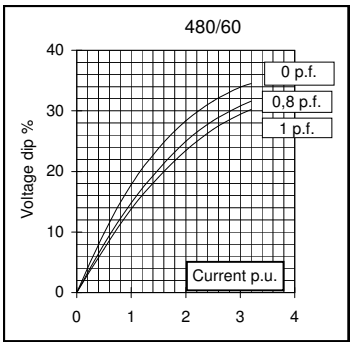


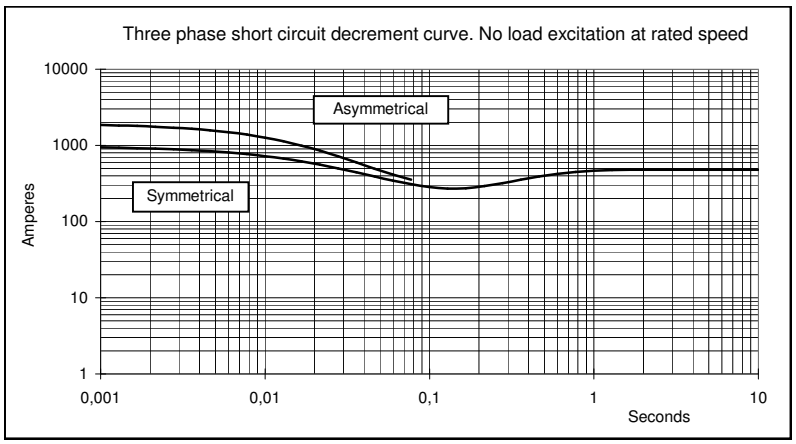




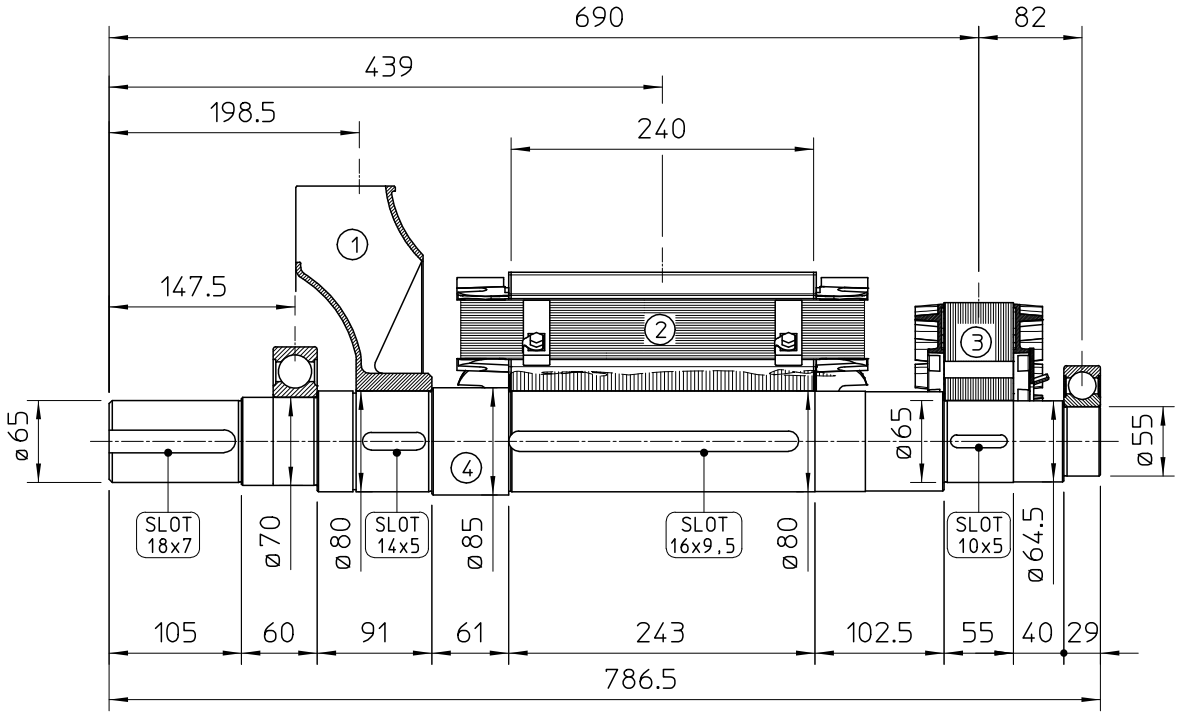






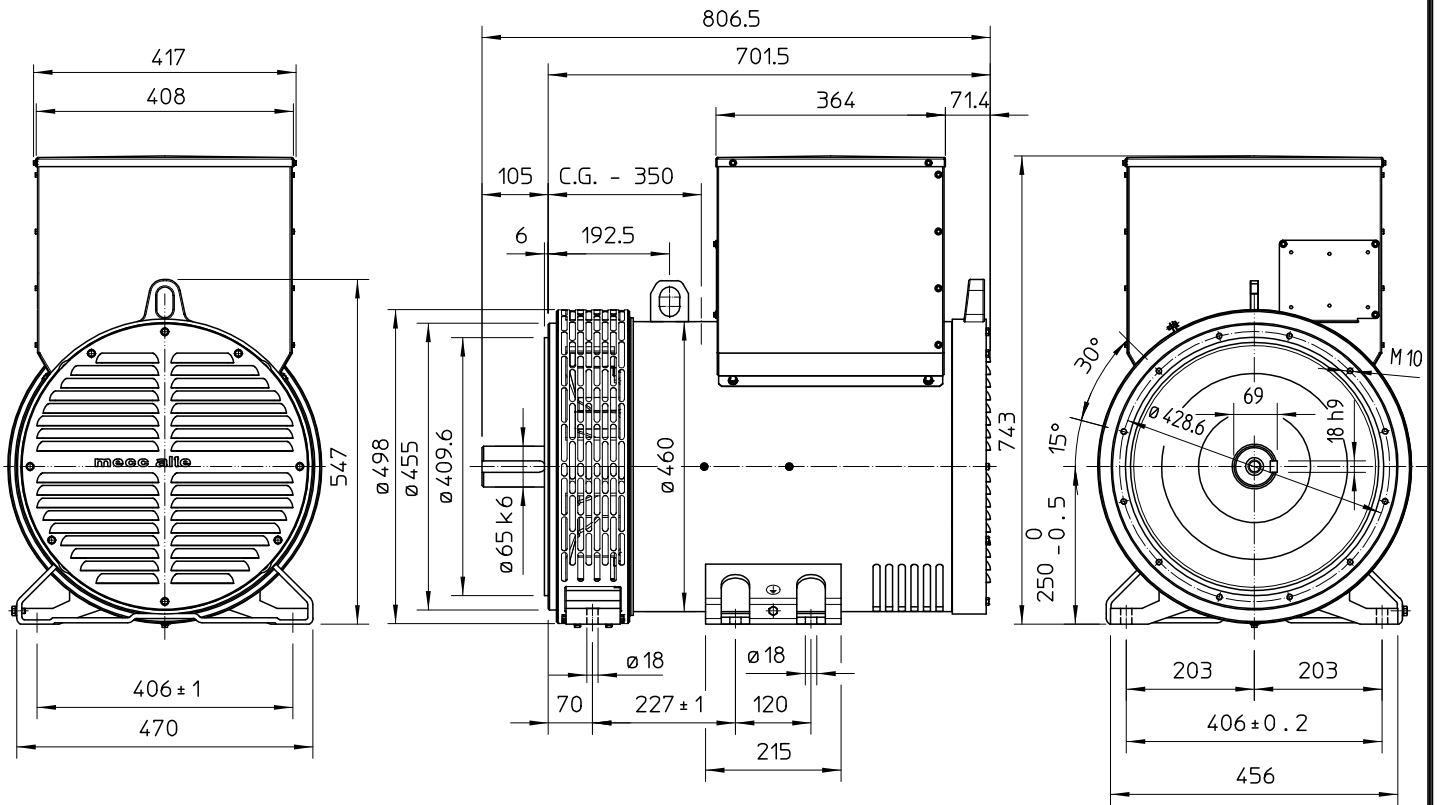


TWO BEARING MOMENTS OF INERTIA



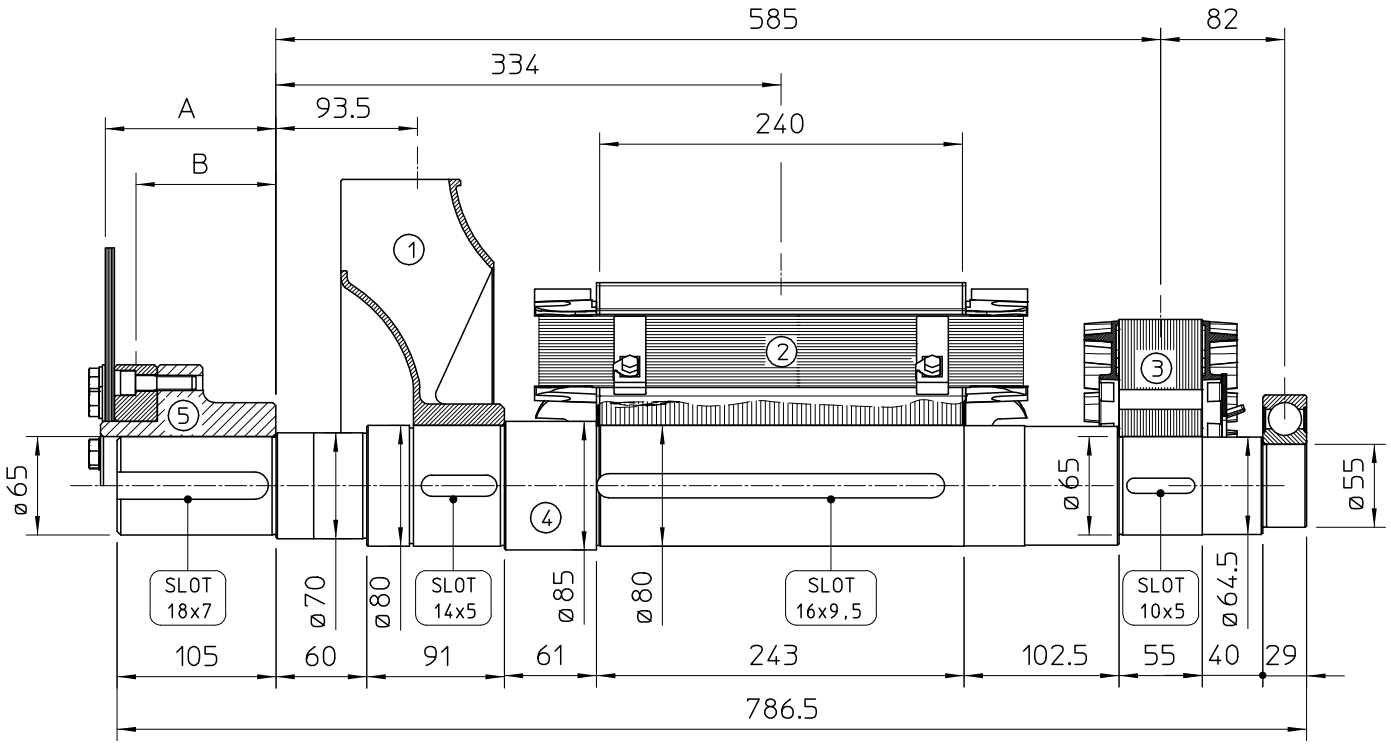
POS.	COMPONENT	WEIGHT (kg)	J (kgm^2)
1	FAN	3.6	0.0451
2	MAIN ROTOR	83.7	0.7539
3	EX. ROTOR	14.5	0.0874
4	SHAFT	26.8	0.0196
TOTAL		128.6	0.906

TWO BEARING DIMENSIONS



C.G.= GRAVITY CENTER

SINGLE BEARING MOMENTS OF INERTIA



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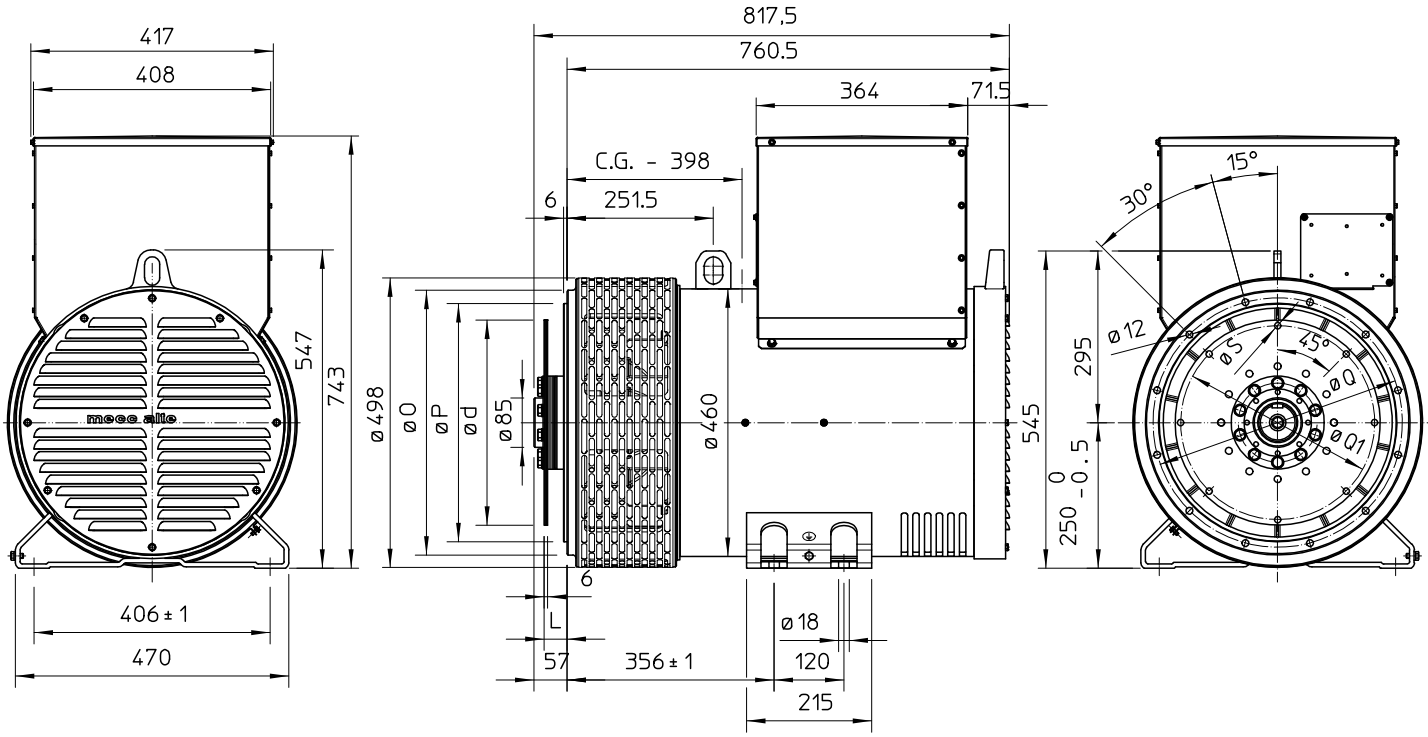
1	FAN	3.6	0.0451
2	MAIN ROTOR	83.7	0.7539
3	EX. ROTOR	14.5	0.0874
4	SHAFT	26.8	0.0196
TOTAL		128.6	0.906

SAE	5	SHAFTS COUPLING FLEX PLATE		
N°	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 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

GENERATOR TYPE ECP 34-1L/4 A

Document : **DS274A/1**
issue 002 date 27/01/2014

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			

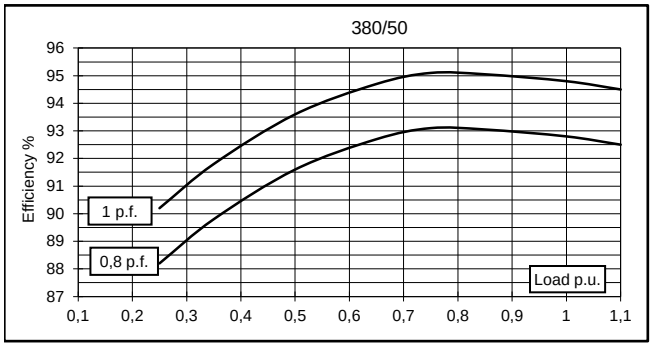
All technical data are to be considered as a reference and they can be modified without any notice.

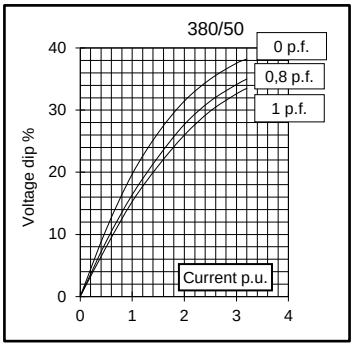
GENERATOR TYPE ECP 34-1L/4 A

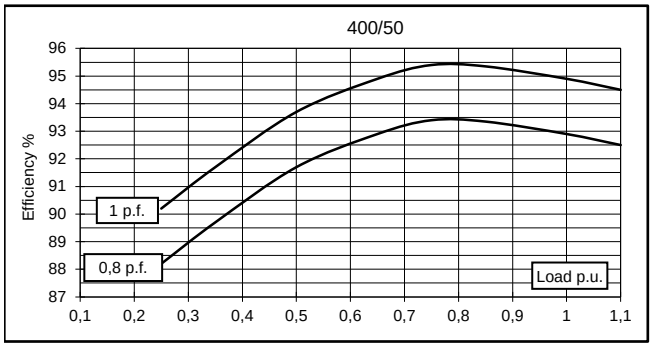
Document : **DS274A/2**

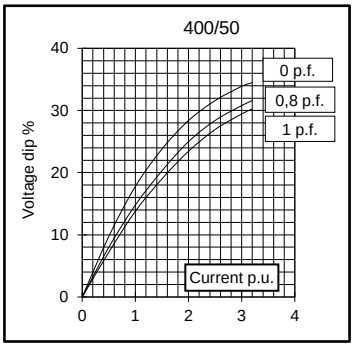
issue 002 date : 27/01/2014

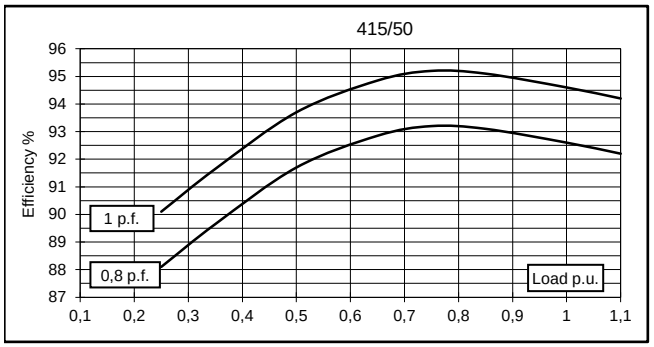
50 Hz

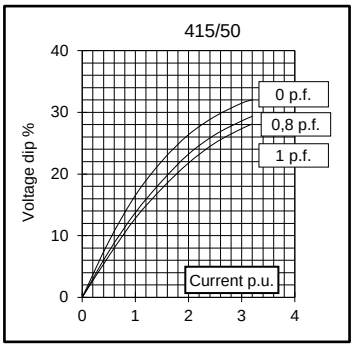


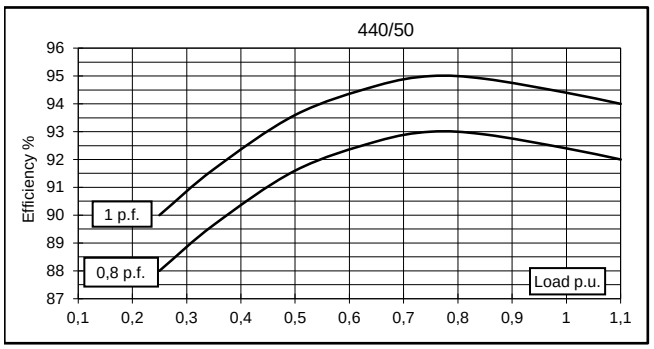


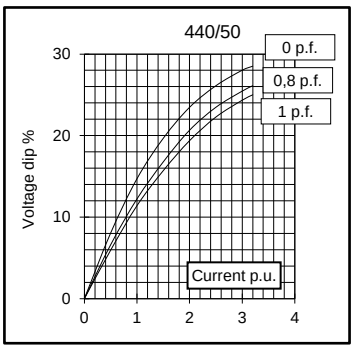


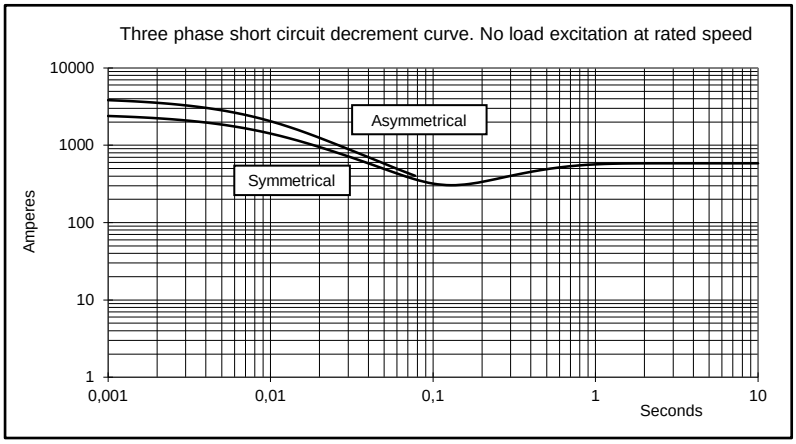










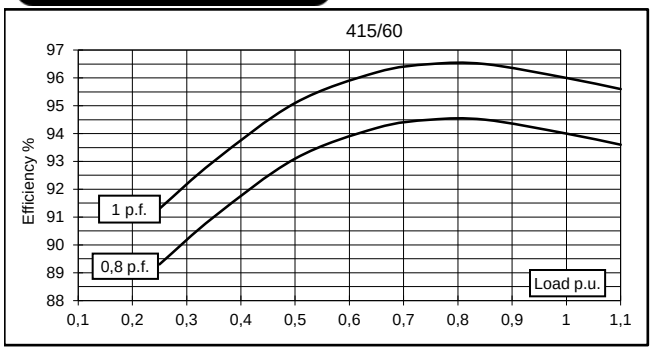


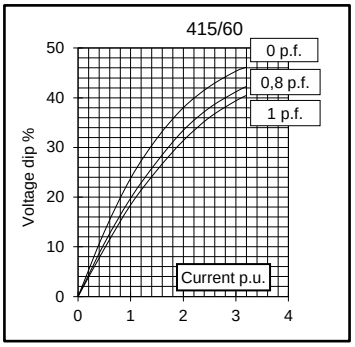
GENERATOR TYPE ECP 34-1L/4 A

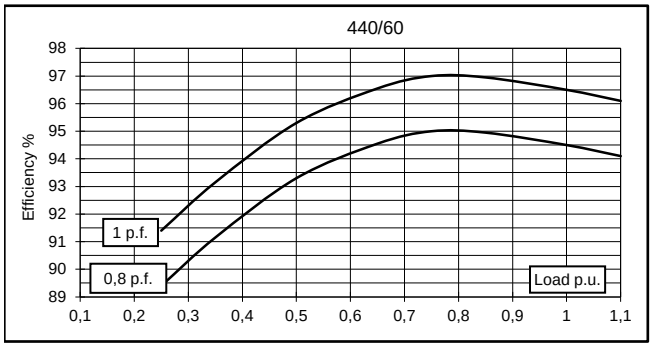
Document : **DS274A/3**

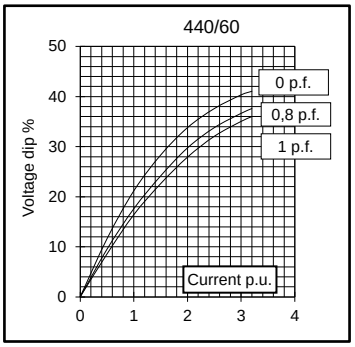
issue 002 date : 27/01/2014

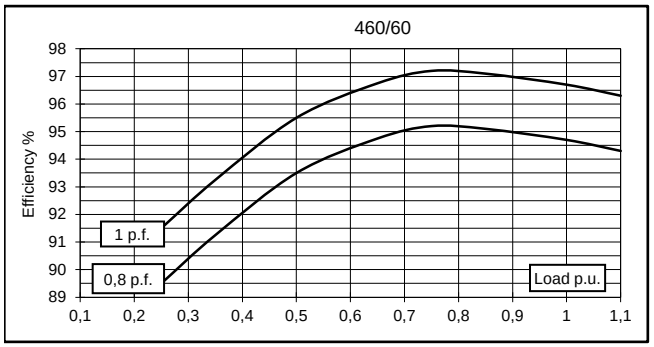
60 Hz

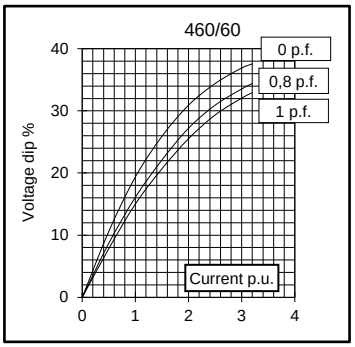


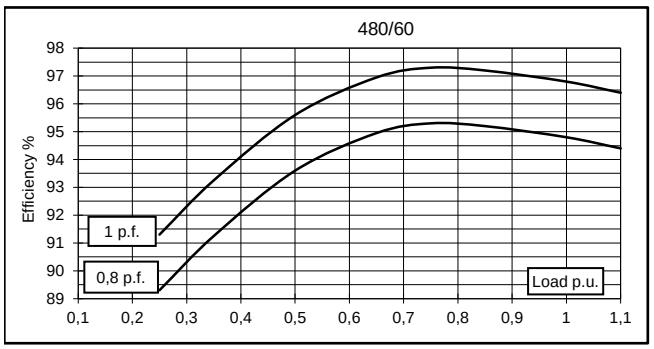


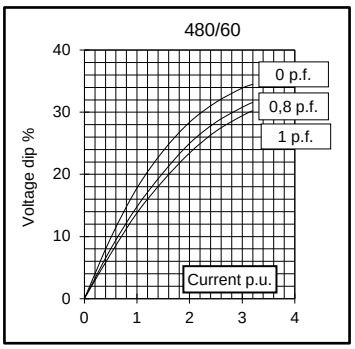


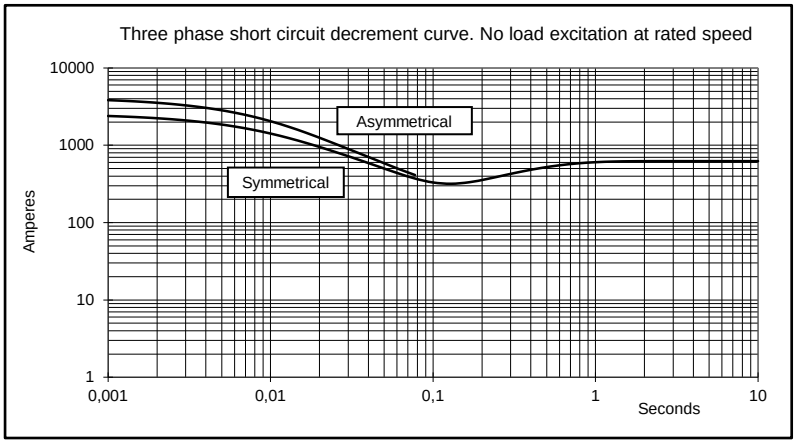




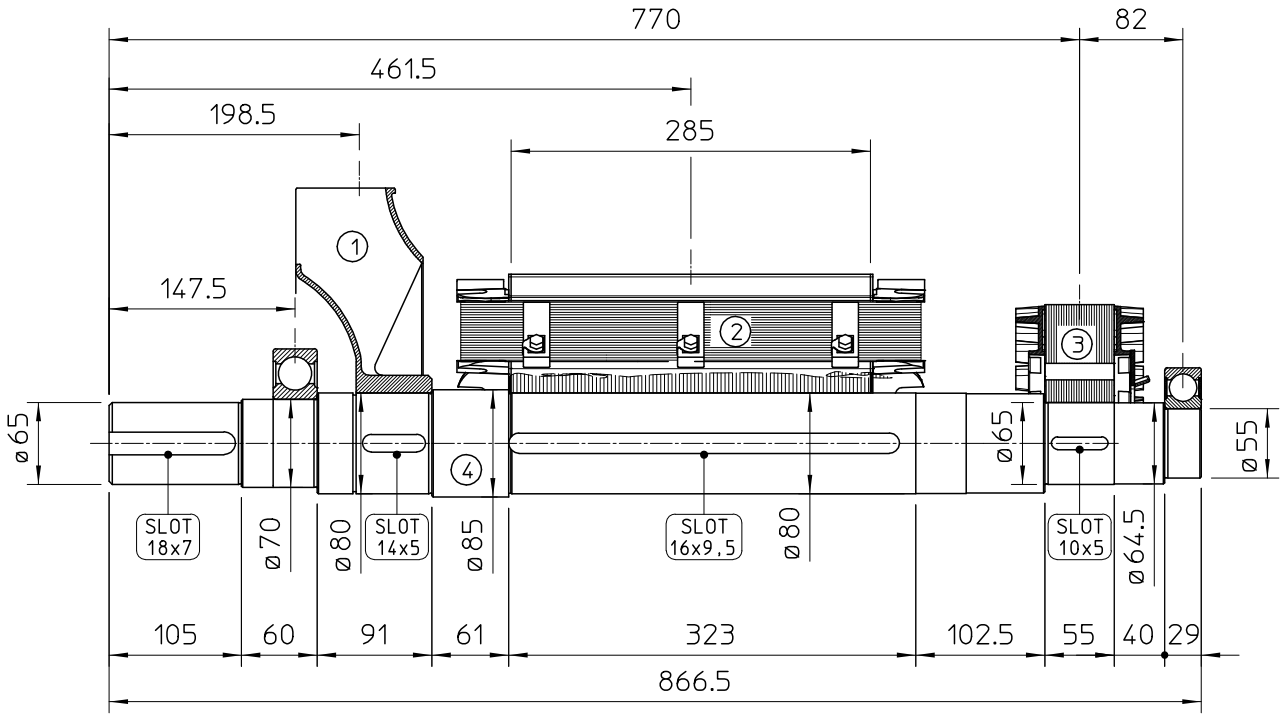






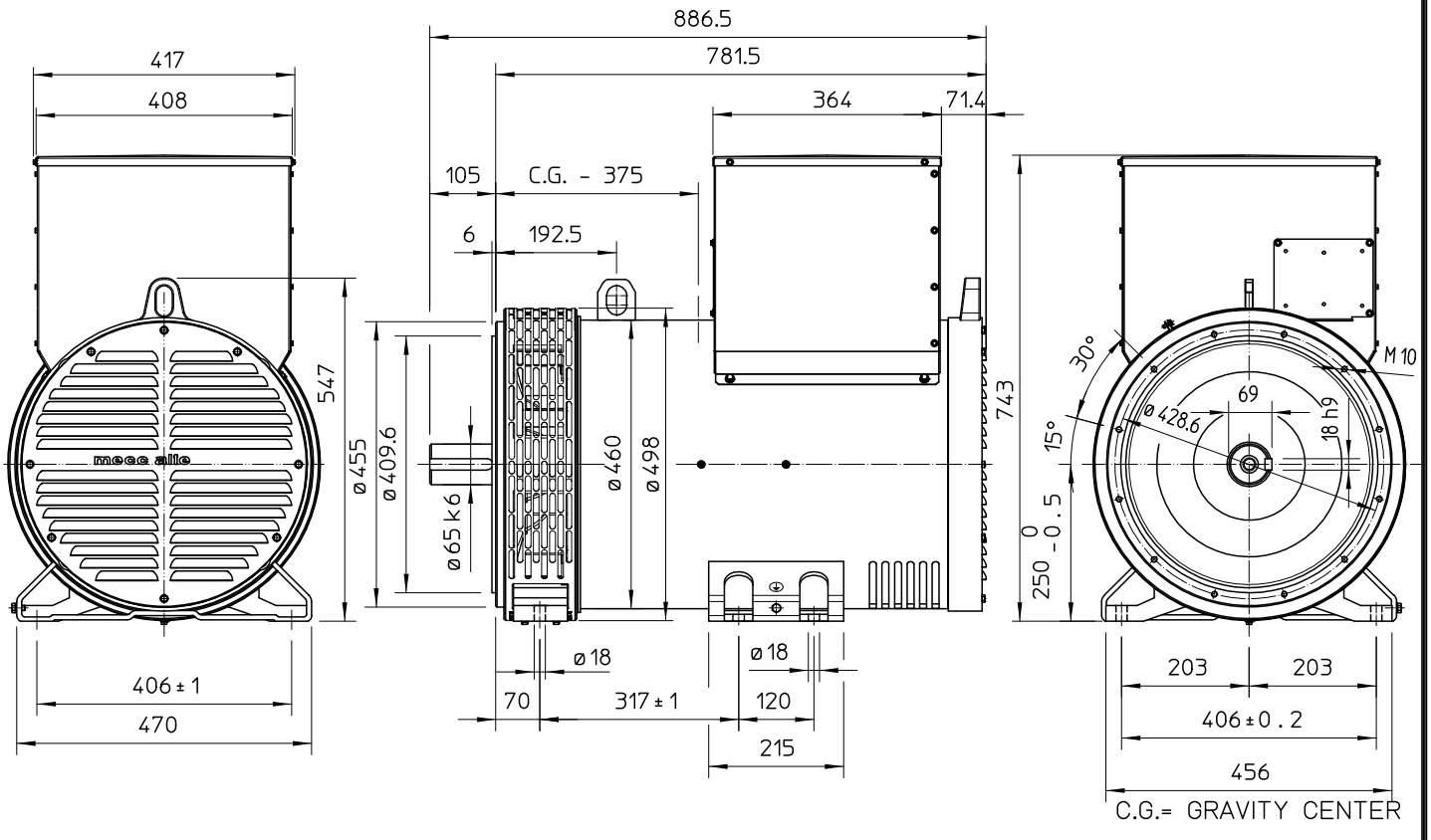


TWO BEARING MOMENTS OF INERTIA

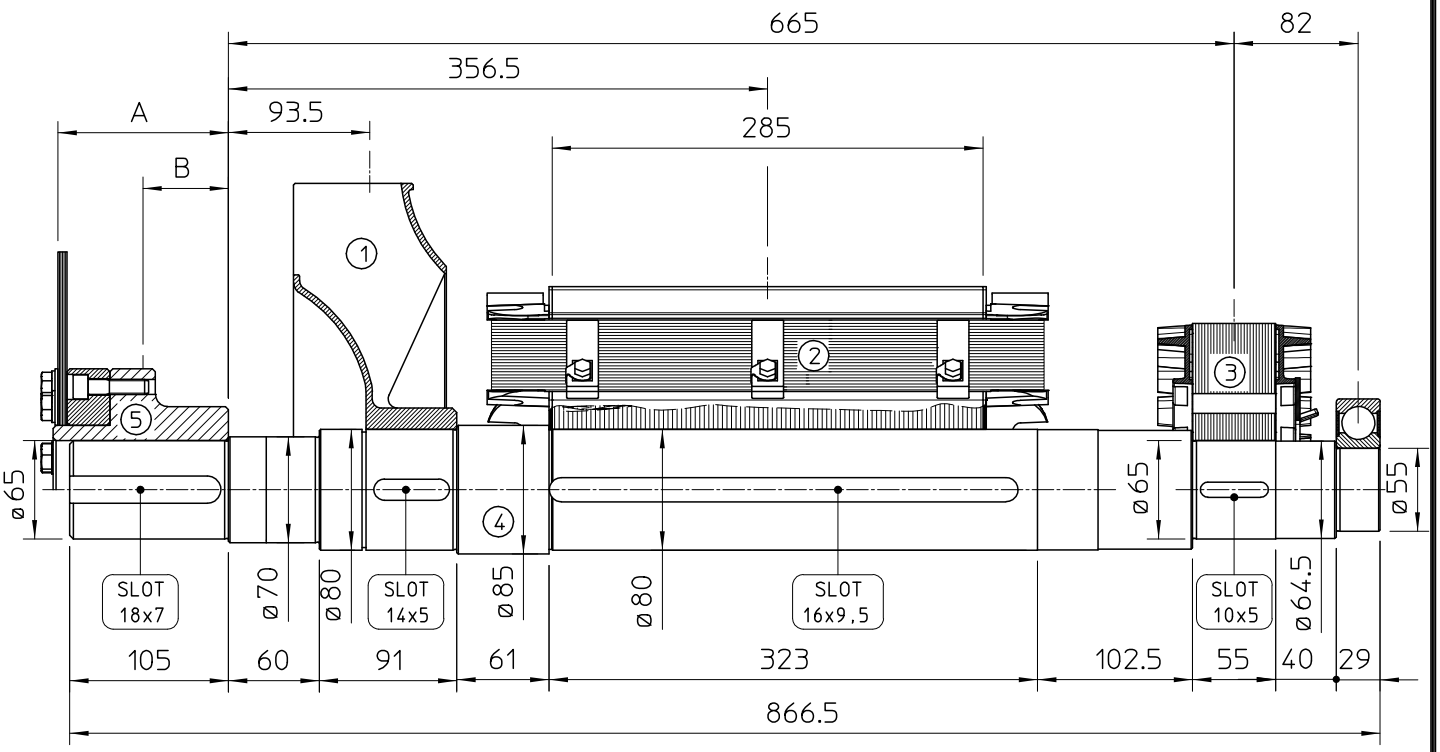


POS.	COMPONENT	WEIGHT (kg)	J (kgm^2)
1	FAN	3.6	0.0451
2	MAIN ROTOR	101.3	0.9153
3	EX. ROTOR	14.5	0.0874
4	SHAFT	29.6	0.0218
TOTAL		149	1.0696

TWO BEARING DIMENSIONS



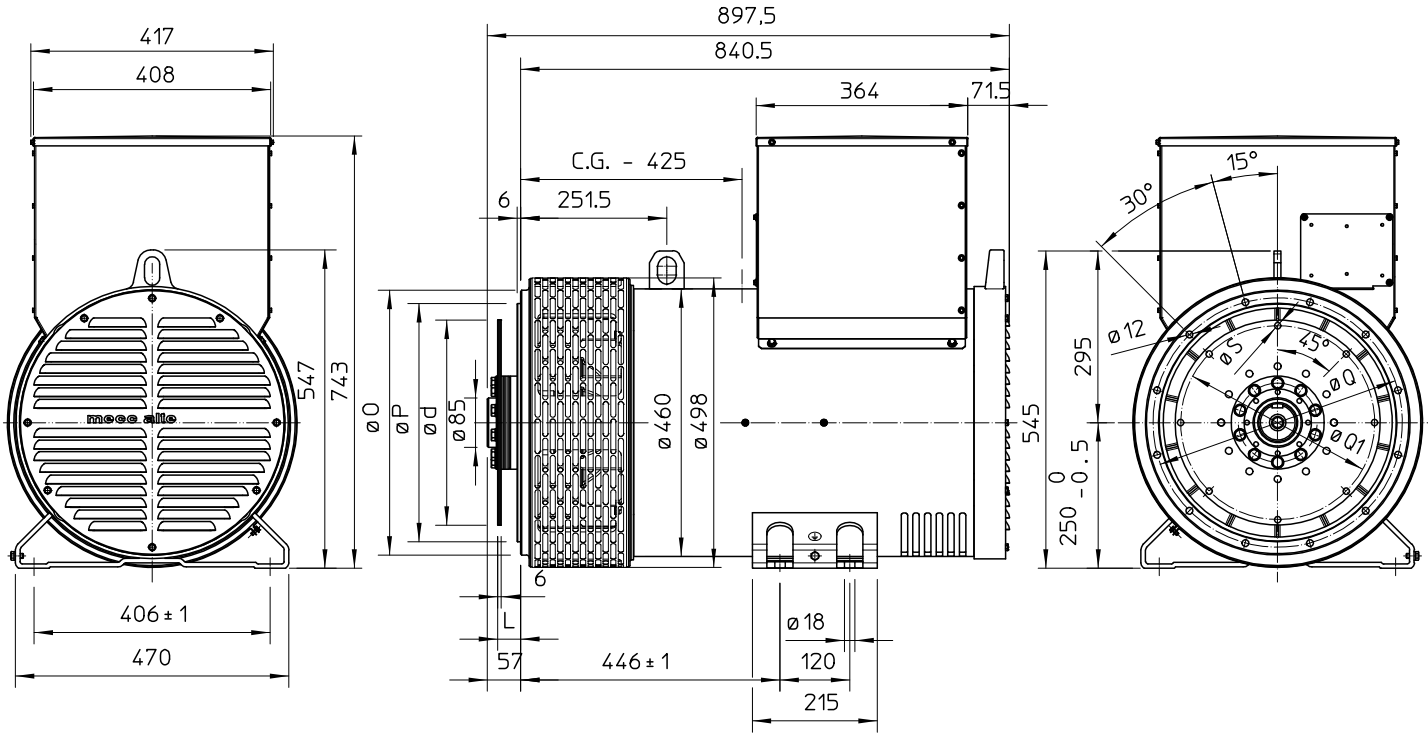
SINGLE BEARING MOMENTS OF INERTIA



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	5	SHAFTS COUPLING FLEX PLATE		
N°	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 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

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GENERATOR TYPE ECO 28-2LN/4

Document : **DS003A/1**

issue 008 date 10/05/2006

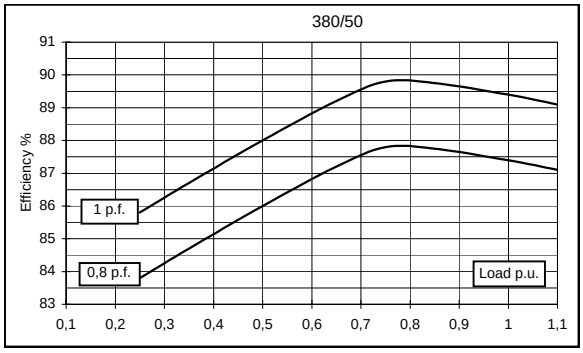
Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	25	25	25	-	26	27,5	30	30
		kW	20	20	20	-	20,8	22	24	24
Rated power class F		kVA	23	23	23	-	24	25,5	27,5	27,5
		kW	18,4	18,4	18,4	-	19,2	20,4	22	22
Regulation 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			without damping cage							
Efficiencies class H	4/4	%	87,4	87,8	88,1	-	88,8	89,1	89,3	89,7
(see graph. for details)	3/4	%	87,8	88,1	88,2	-	89,4	89,6	89,8	90
	2/4	%	86	86,1	86,1	-	87,7	87,8	87,9	88
	1/4	%	83,8	83,6	83,6	-	85,9	85,7	85,9	85,8
Reactances (f. l.cl. F)	Xd	%	205,0	185	171,9	-	214,5	201,8	201,4	185
	Xd'	%	17,95	16,2	15,05	-	18,78	17,67	17,64	16,2
	Xd''	%	10,19	9,2	8,55	-	10,67	10,04	10,02	9,2
	Xq	%	84,2	76	70,6	-	88,1	82,9	82,8	76
	Xq'	%	84,2	76	70,6	-	88,1	82,9	82,8	76
	Xq''	%	23,3	21	19,5	-	24,3	22,9	22,9	21
	X_2	%	15,18	13,7	12,73	-	15,88	14,95	14,92	13,7
	X_0	%	3,43	3,1	2,88	-	3,59	3,38	3,38	3,1
Short Circuit Ratio	Kcc		0,50	0,58	0,80	-	0,38	0,43	0,50	0,58
Time Constants	Td'	sec.	0,047							
	Td''	sec.	0,013							
	Tdo'	sec.	0,93							
	$T\alpha$	sec.	0,011							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0,45	0,6	0,7	-	0,3	0,4	0,5	0,55
Excitation at full load		Amp.	1,4	1,6	1,8	-	1,3	1,4	1,5	1,6
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,128							
Rotor Winding Resistance (20°C)		Ω	1,67							
Exciter Resistance (20 °C)		Ω	Rotor : 0,417				Stator : 10,60			
Heat dissipation at f.l.cl.H		W	2883	2779	2701	-	2623	2691	2876	2756
Telephone Interference			FHT < 2%				TIF < 45			
Radio interference			EN60034-1. For others standards apply to factory							
Waveform Distors.(THD) at f. load		LL/LN %	2 / 2							
Waveform Distors.(THD) at no load		LL/LN %	3,4 / 3,2							
Mechanical characteristics										
Protection			IP 23 (other protection on request)							
DE bearing			6309-2RS							
NDE bearing			6209-2RS							
Weight of wound stator assembly		kg	50							
Weight of wound rotor assembly		kg	27							
Weight of complete generator		kg	139							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	4,5							
Cooling air requirement		m^3/min	5,3				5,8			
Inertia Constant (H)		sec.	0,082				0,099			
Noise level at 1m/7m		dB(A)	68 / 57				71 / 61			

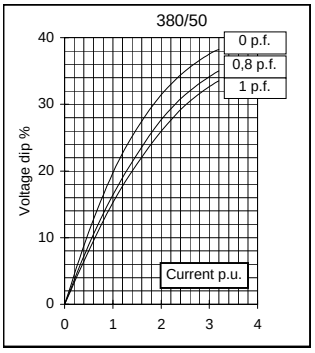
GENERATOR TYPE ECO 28-2LN/4

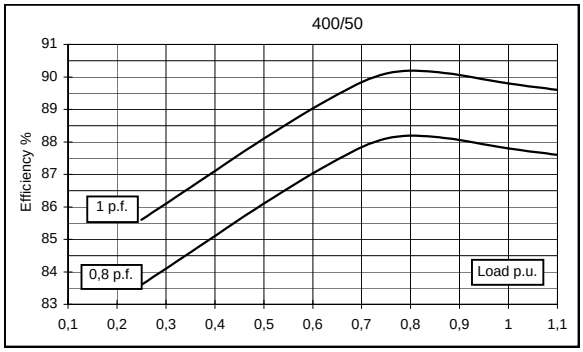
Document : **DS003A/2**

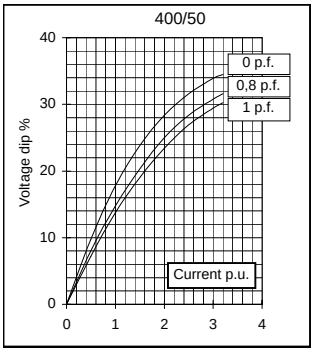
issue 007 date : 10/05/06

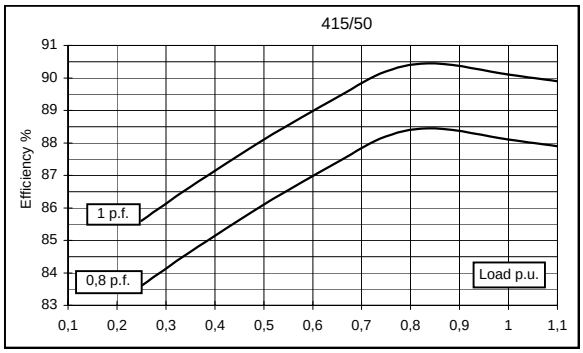
50 Hz

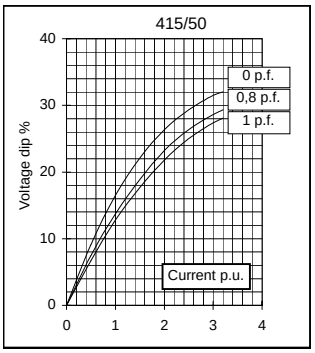


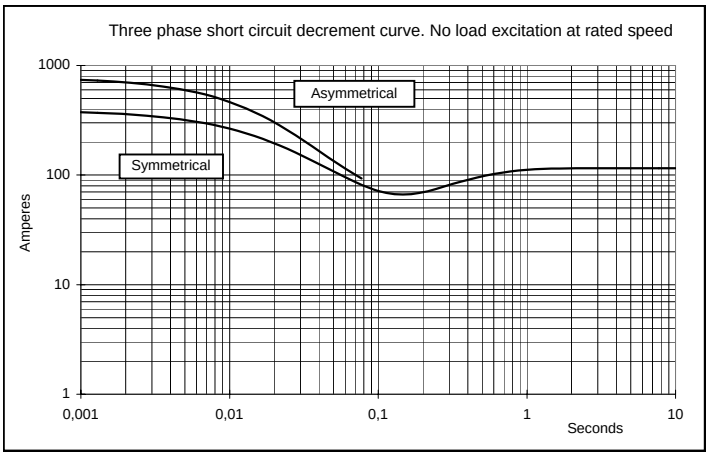




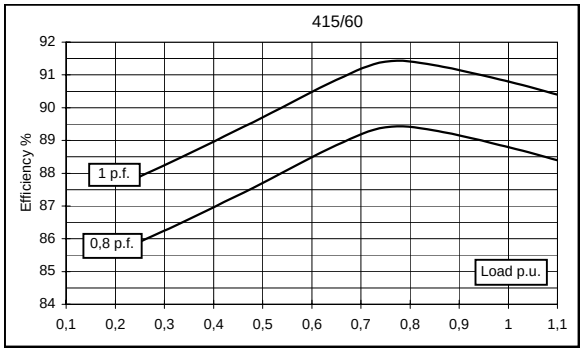


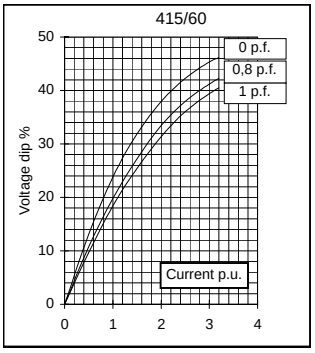


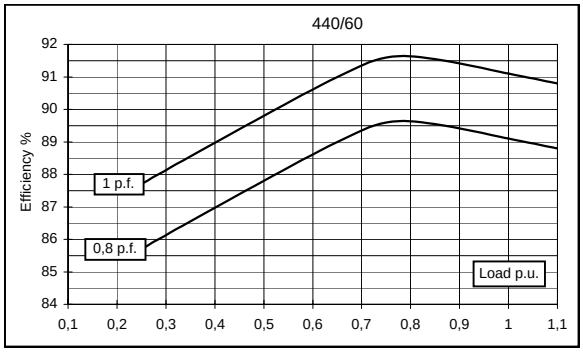


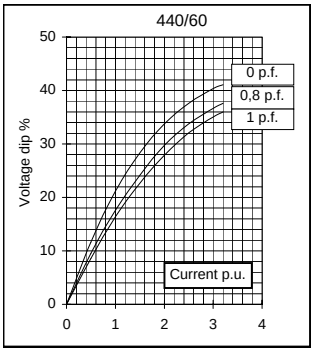


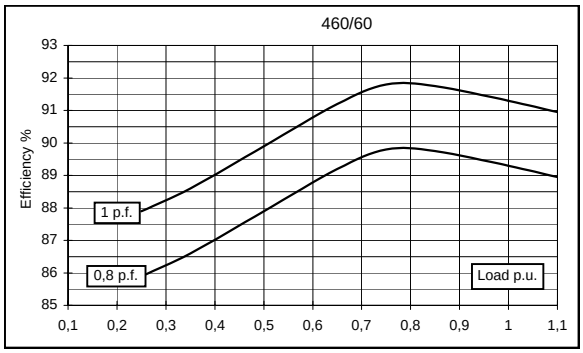
60 Hz

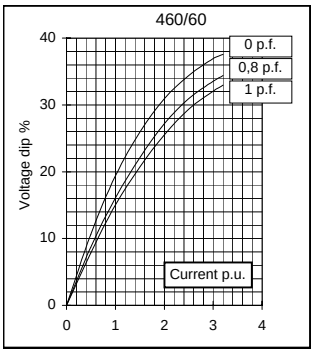


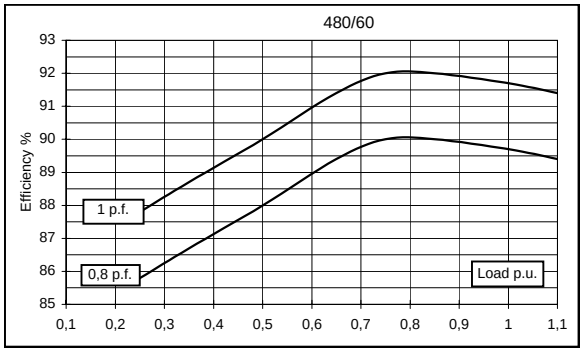


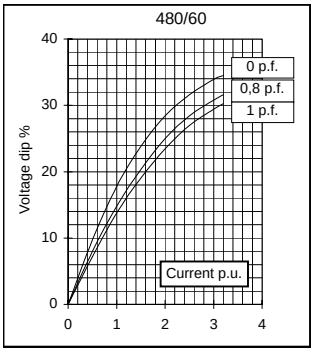


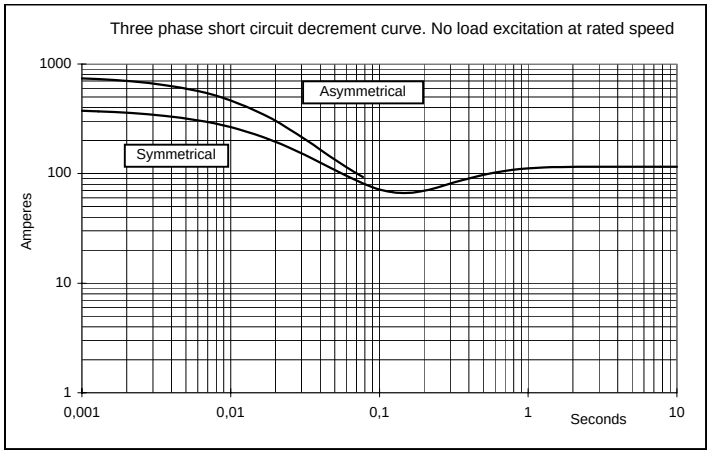




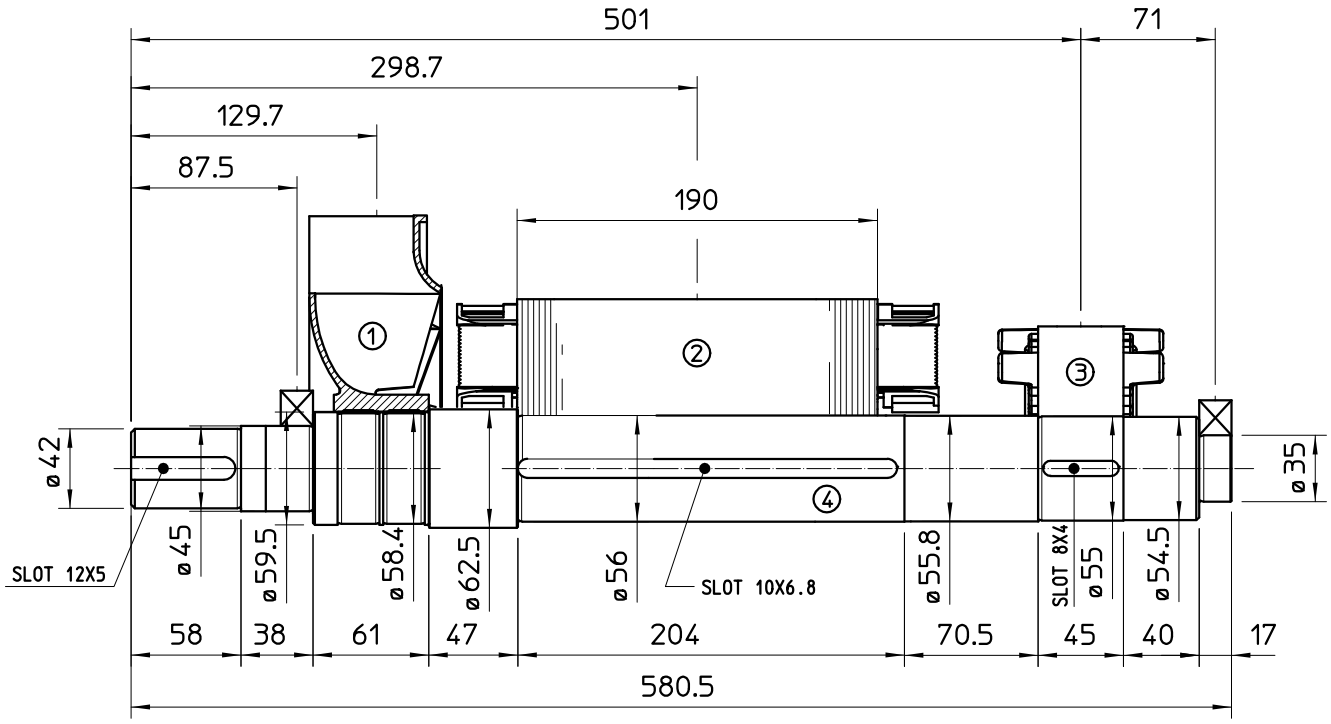






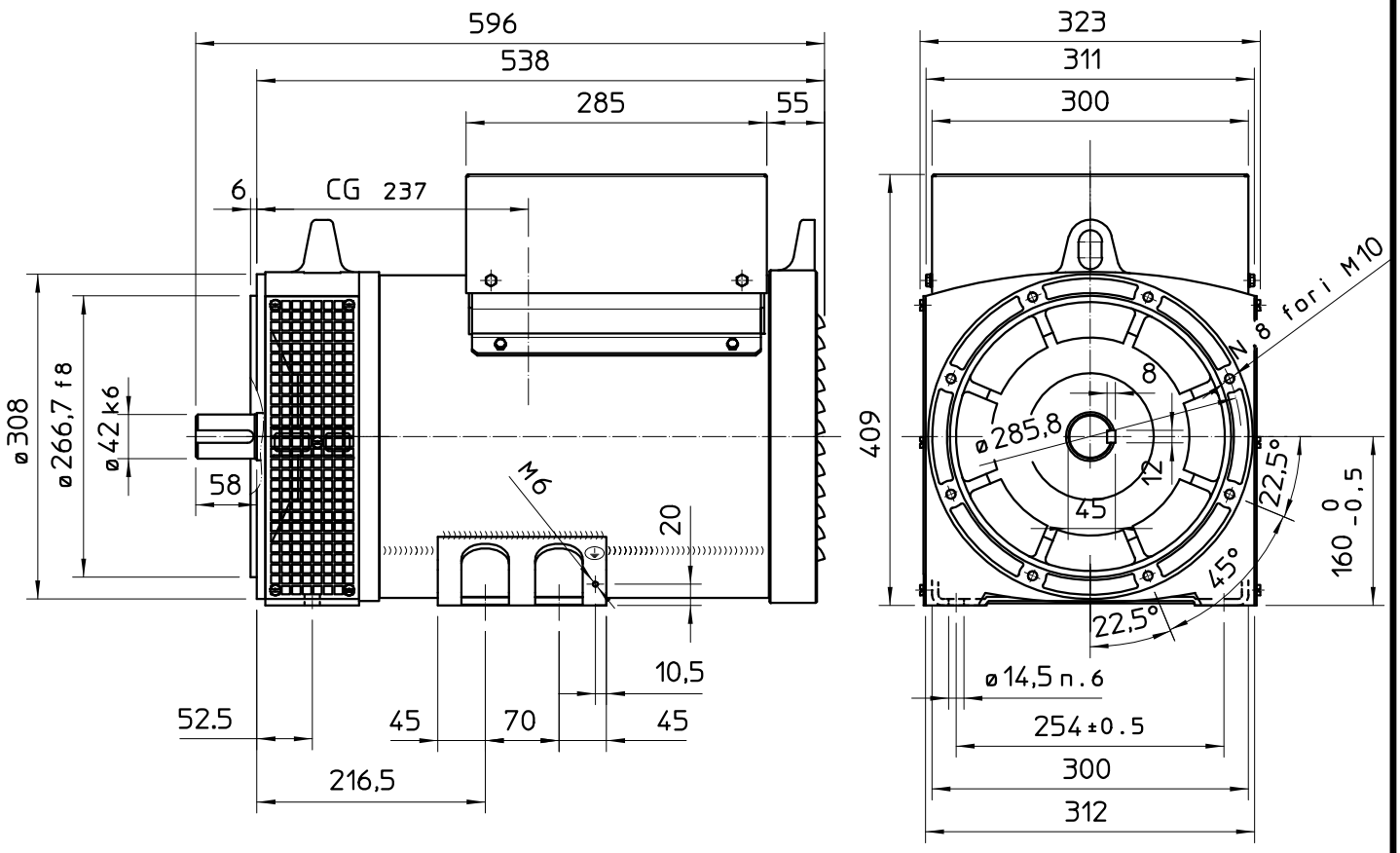


TWO BEARING MOMENTS OF INERTIA



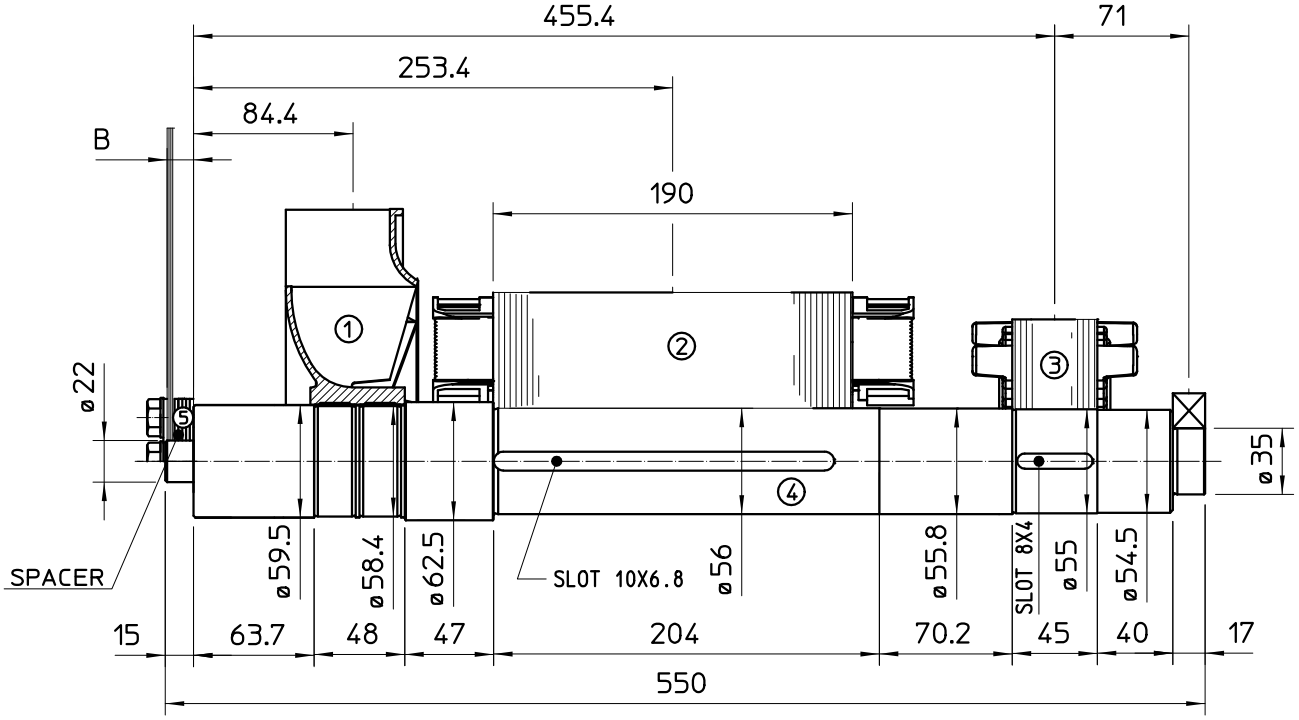
	COMPONENT	WEIGHT Kg	J Kgm²
1	FAN	1.2	0.0102
2	MAIN ROTOR	26.8	0.117
3	EX ROTOR	5.4	0.012
4	SHAFT	10.6	0.004
6	TOTAL	44	0.1432

TWO BEARING DIMENSIONS



C.G. = GRAVITY CENTER

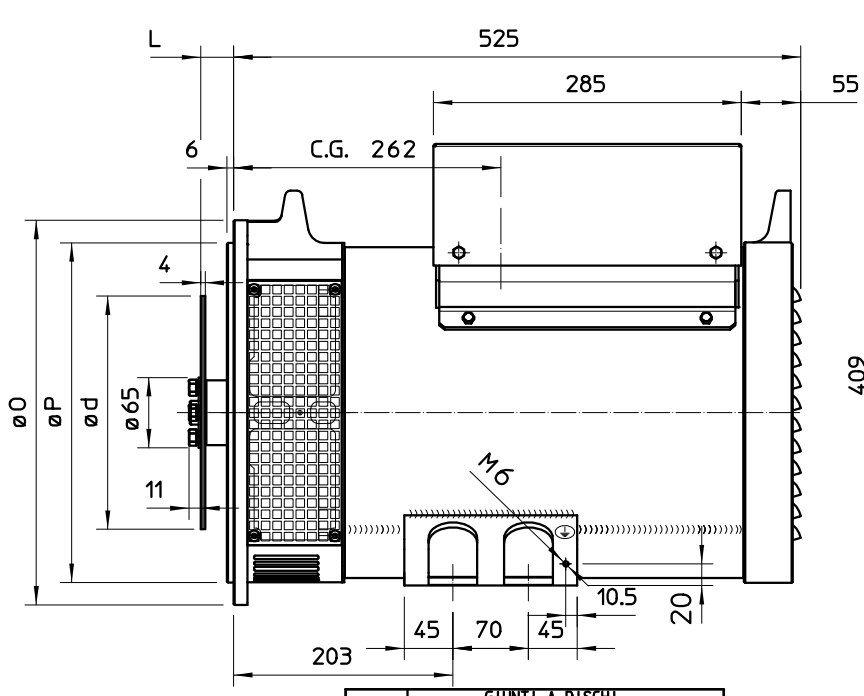
SINGLE BEARING MOMENTS OF INERTIA

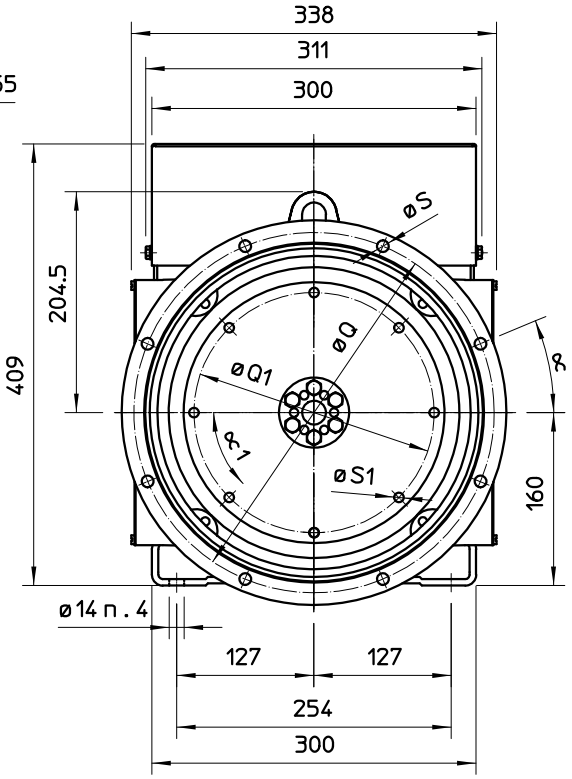


	COMPONENT	WEIGHT Kg	J Kgm²
1	FAN	1.2	0.0102
2	MAIN ROTOR	26.8	0.117
3	EX ROTOR	5.4	0.012
4	SHAFT	10.5	0.0041
6	TOTAL	43.9	0.1433

SAE N.	5	SHAFT COUPLING FLEX PLATE	
	B(mm)	WEIGHT kg	J kgm²
6 1/2	4	1.14	0.0067
7 1/2	4	1.42	0.0103
8	35.6	1.97	0.0171
10	27.6	2.59	0.0319
11 1/2	14	3.1	0.0481

SINGLE BEARING DIMENSIONS





SAE N.	FLANGIA/FLANGE BRIDE/FLANSCH					
	O	P	Q	n. fori	S	α
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°

SAE N.	GIUNTI A DISCHI DISC COUPLING DISQUE DE MONOPALIER SCHEIBENKUPPLUNG					
	L	d	Q1	n. fori	S1	α1
6 1/2	30.2	215.9	200	6	9	60°
7 1/2	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 1/2	39.6	352.42	333.37	8	11	45°

C.G. = GRAVITY CENTER

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GENERATOR TYPE ECO 28-1LN/4

Document : **DS002A/1**

issue 008 date 10/05/2006

Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	20	20	20	18	21	23	24	24
		kW	16	16	16	14,4	16,8	18,4	19,2	19,2
Rated power class F		kVA	18,5	18,5	18,5	17	19	20	22	22
		kW	14,8	14,8	14,8	13,6	15,2	16	17,6	17,6
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			without damping cage							
Efficiencies class H	4/4	%	87,3	87,4	87,1	86,9	88,8	89,3	89,4	89,5
(see graph. for details)	3/4	%	87,5	87,8	87,5	87,4	88,9	89,1	89,3	89,5
	2/4	%	85,5	85,6	85,6	85,5	87,2	87,3	87,4	87,5
	1/4	%	83,1	83	82,8	82,3	85,1	85,1	85,1	85
Reactances (f. l.cl. F)	Xd	%	199,4	180	167,2	133,9	210,7	205,3	196,0	180
	Xd'	%	18,61	16,8	15,61	12,50	19,67	19,16	18,29	16,8
	Xd"	%	10,64	9,6	8,92	7,14	11,24	10,95	10,45	9,6
	Xq	%	86,4	78	72,5	58,0	91,3	89,0	84,9	78
	Xq'	%	86,4	78	72,5	58,0	91,3	89,0	84,9	78
	Xq"	%	24,4	22	20,4	16,4	25,8	25,1	24,0	22
	X_2	%	15,96	14,4	13,38	10,71	16,86	16,42	15,68	14,4
	X_0	%	3,66	3,3	3,07	2,45	3,86	3,76	3,59	3,3
Short Circuit Ratio	Kcc		0,53	0,62	0,87	1,45	0,41	0,48	0,53	0,62
Time Constants	Td'	sec.	0,044							
	Td"	sec.	0,014							
	Tdo'	sec.	0,85							
	$T\alpha$	sec.	0,012							
Short Circuit Current Capacity		%	>300				>320			
Excitation at no load		Amp.	0,4	0,5	0,6	0,8	0,3	0,35	0,4	0,5
Excitation at full load		Amp.	1,4	1,5	1,7	1,9	1,2	1,3	1,4	1,5
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,198							
Rotor Winding Resistance (20°C)		Ω	1,396							
Exciter Resistance (20 °C)		Ω	Rotor : 0,417				Stator : 10,60			
Heat dissipation at f.l.cl H		W	2328	2307	2370	2171	2119	2205	2277	2253
Telephone Interference			THF < 2%				TIF <45			
Radio interference			EN60034-1. For others standards apply to factory							
Waveform Distors.(THD) at f. load		LL/LN %	2 / 2							
Waveform Distors.(THD) at no load		LL/LN %	3,6 / 3,5							
Mechanical characteristics										
Protection			IP 23 (other protection on request)							
DE bearing			6309-2RS							
NDE bearing			6209-2RS							
Weight of wound stator assembly		kg	41							
Weight of wound rotor assembly		kg	21							
Weight of complete generator		kg	122							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	3,8							
Cooling air requirement		m^3/min	5,3				5,8			
Inertia Constant (H)		sec.	0,087				0,104			
Noise level at 1m/7m		dB(A)	68 / 57				71 / 61			

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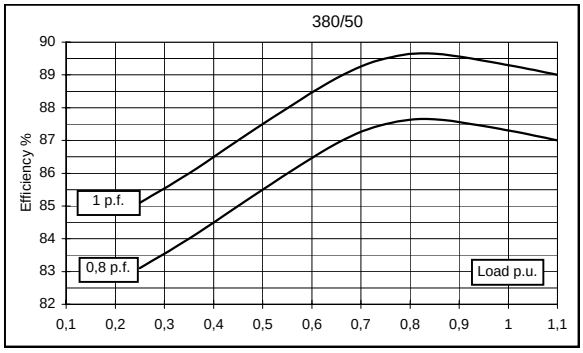
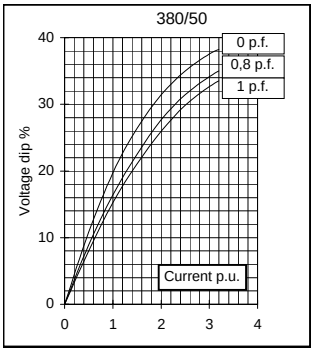
GENERATOR TYPE ECO 28-1LN/4

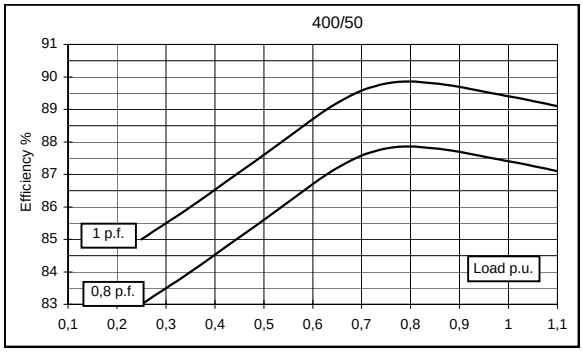
Document : **DS002A/2**

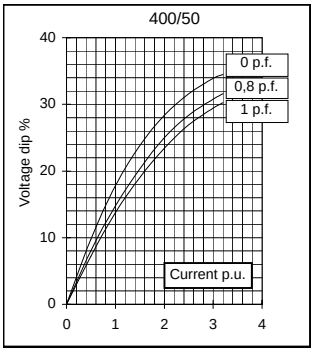
issue 007 date : 10/05/06

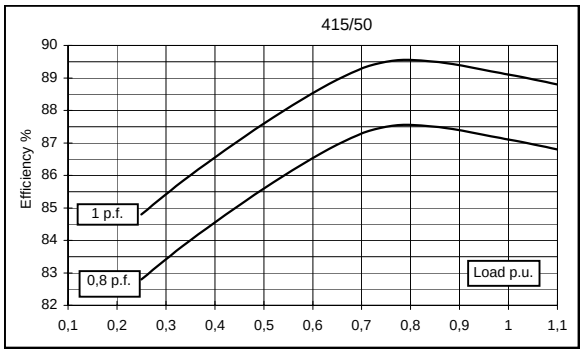
50 Hz

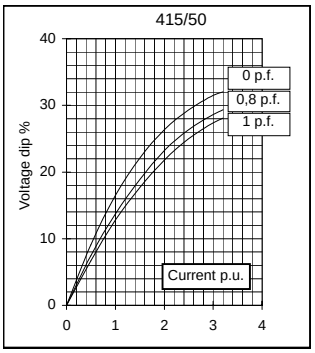


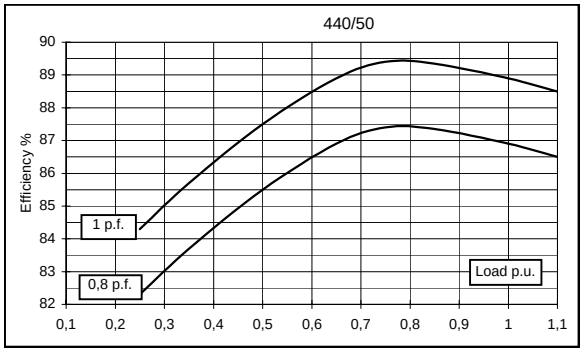


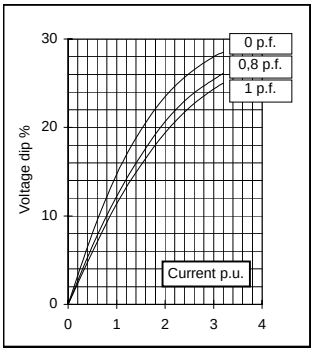


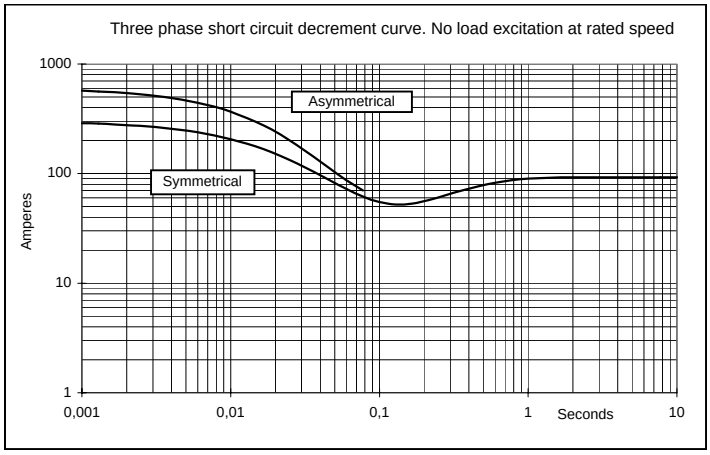












mecc alte spa

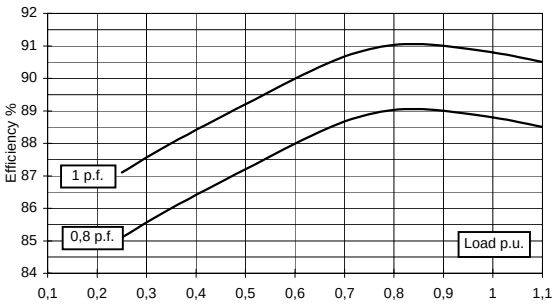
GENERATOR TYPE ECO 28-1LN/4

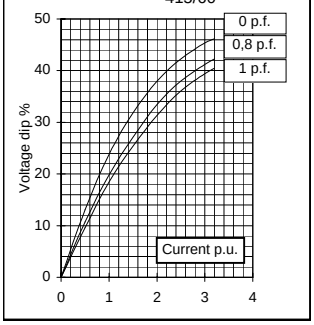
Document : **DS002A/3**

issue 007 date : 10/05/06

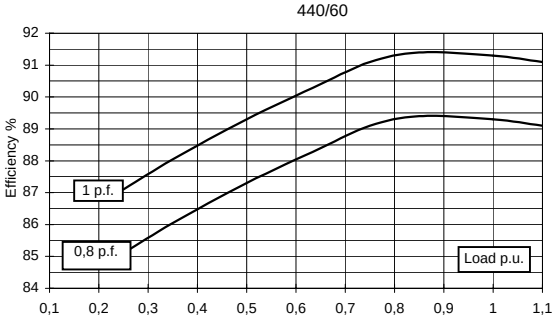
60 Hz

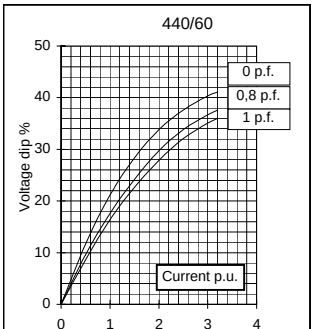
415/60



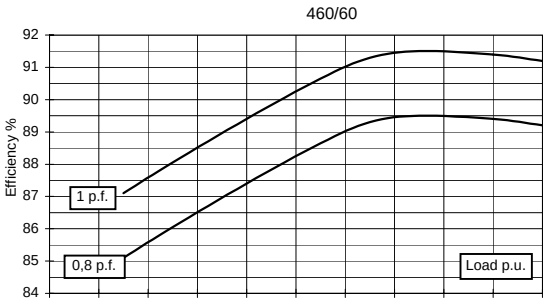


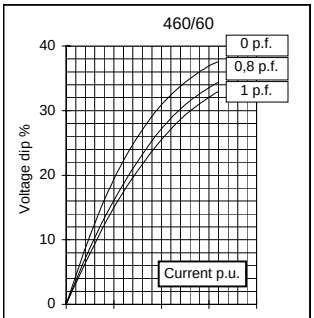
440/60



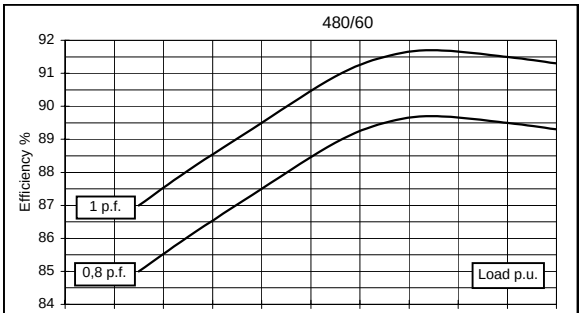


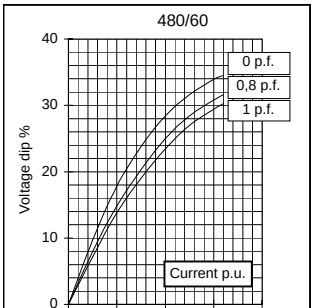
460/60



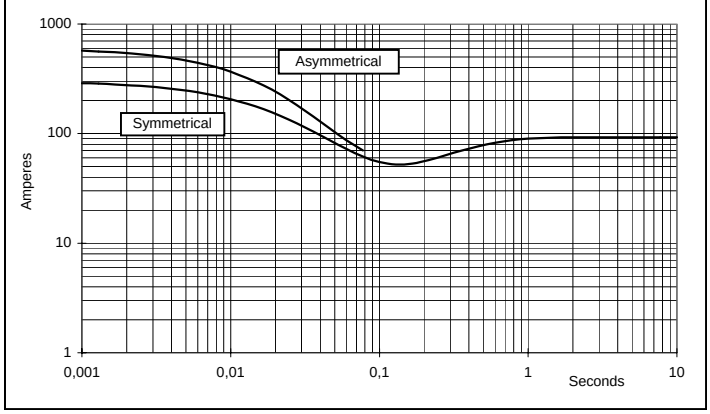


480/60

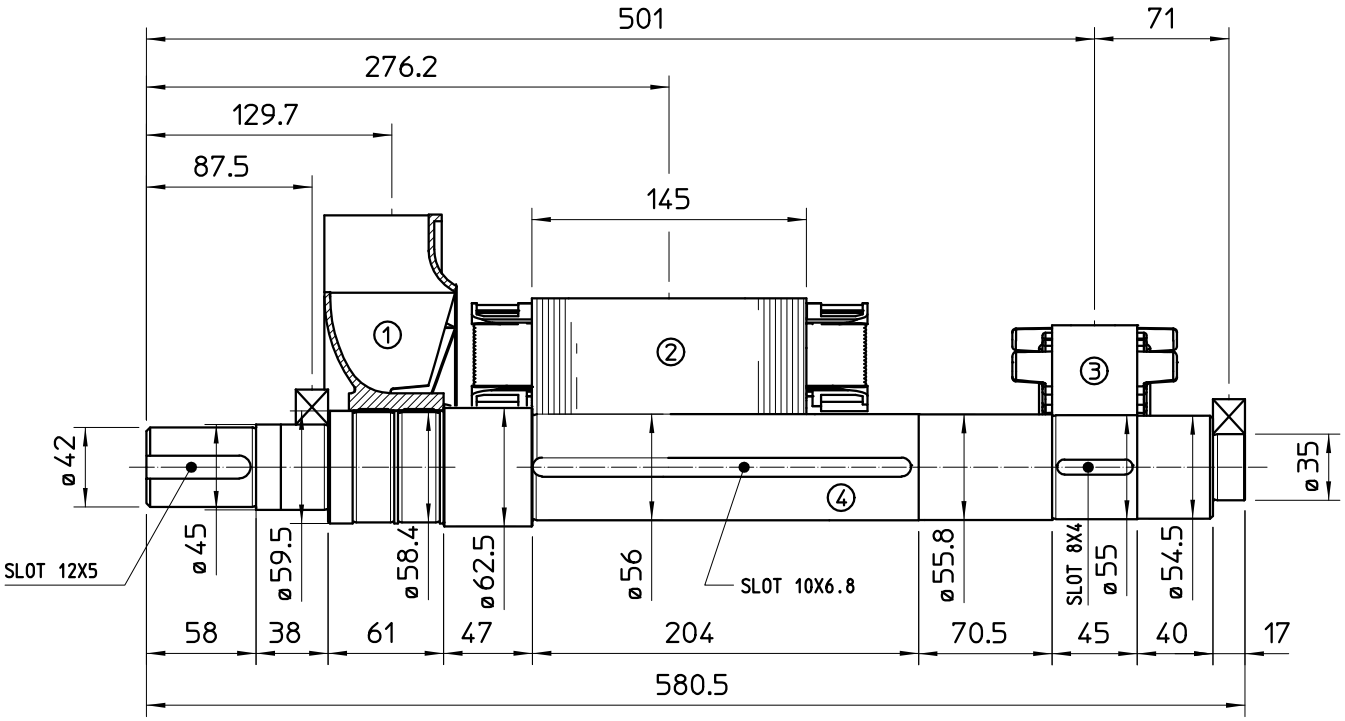




Three phase short circuit decrement curve. No load excitation at rated speed

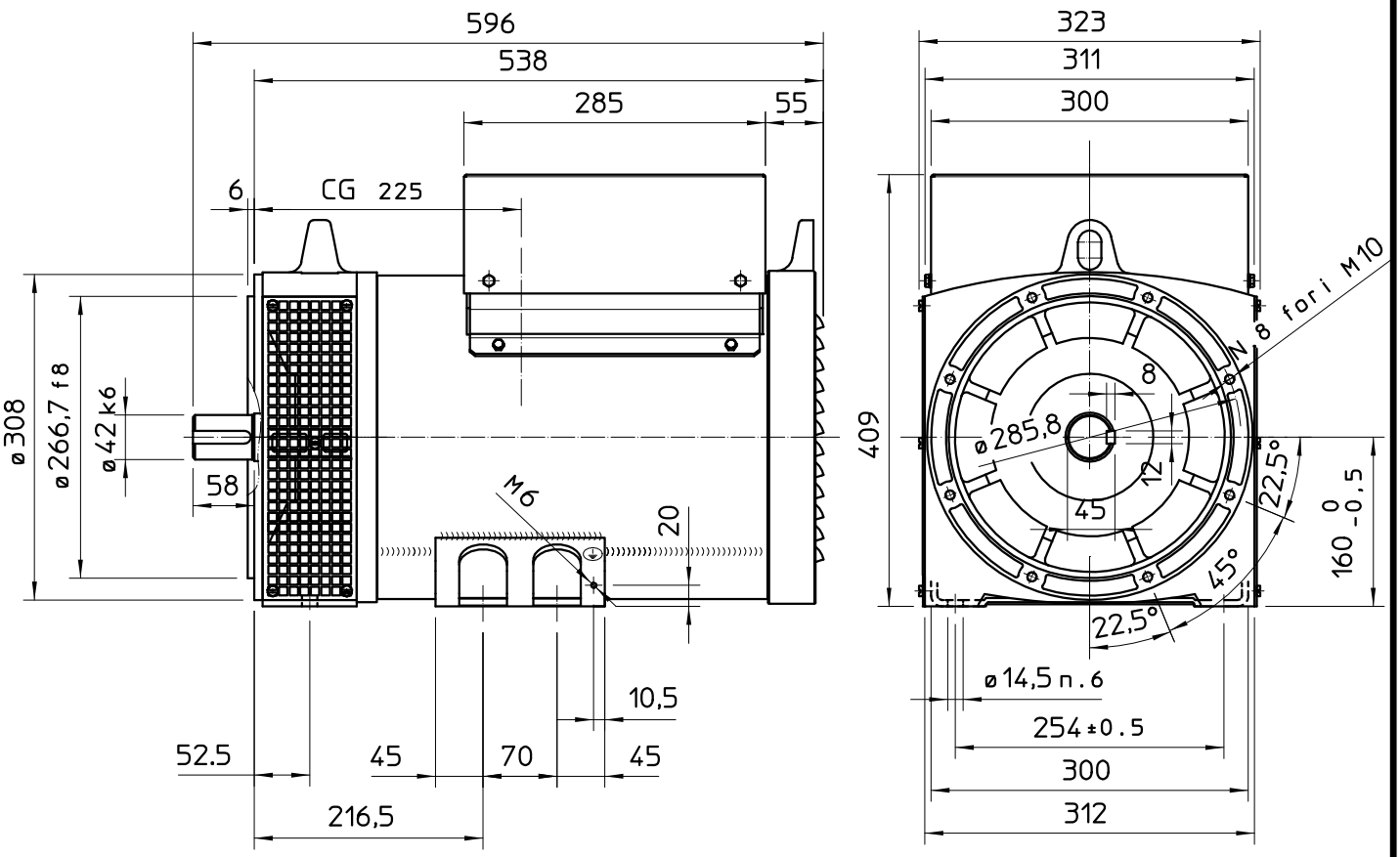


TWO BEARING MOMENTS OF INERTIA



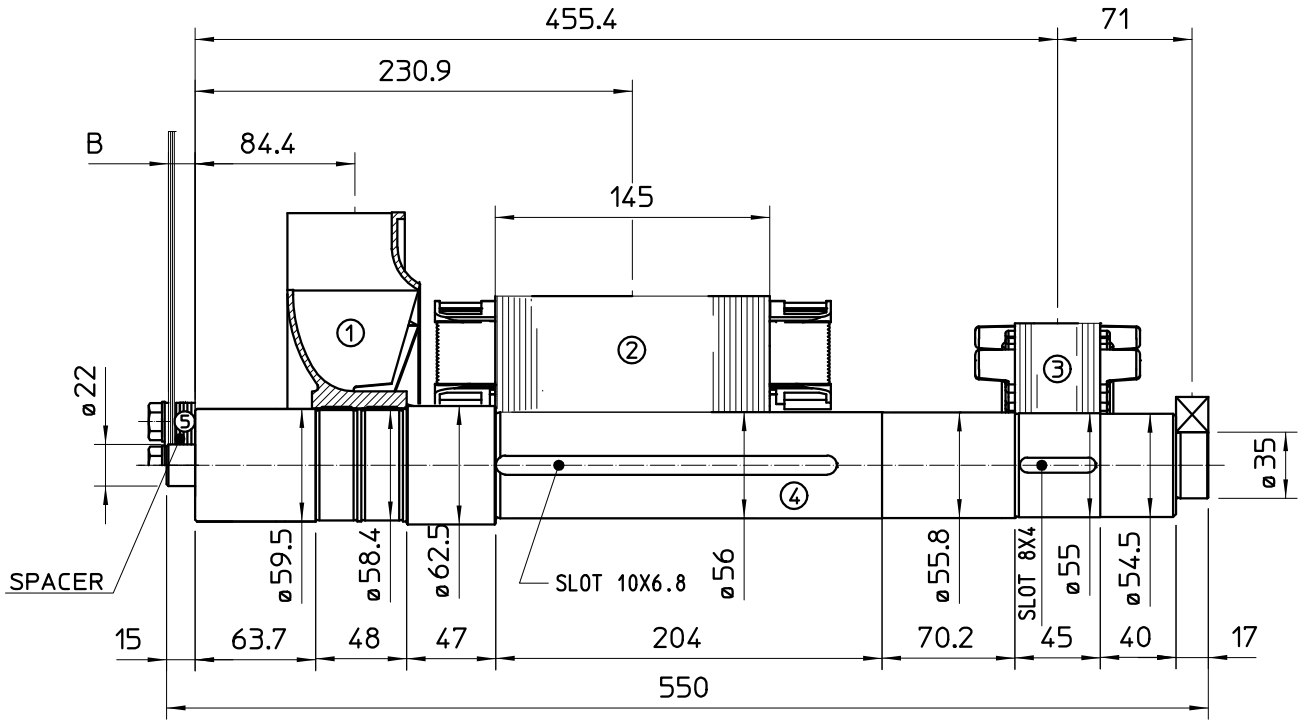
	COMPONENT	WEIGHT Kg	J Kgm²
1	FAN	1.2	0.0102
2	MAIN ROTOR	20.9	0.0914
3	EX ROTOR	5.4	0.012
4	SHAFT	10.6	0.004
6	TOTAL	38.1	0.1176

TWO BEARING DIMENSIONS



C.G. = GRAVITY CENTER

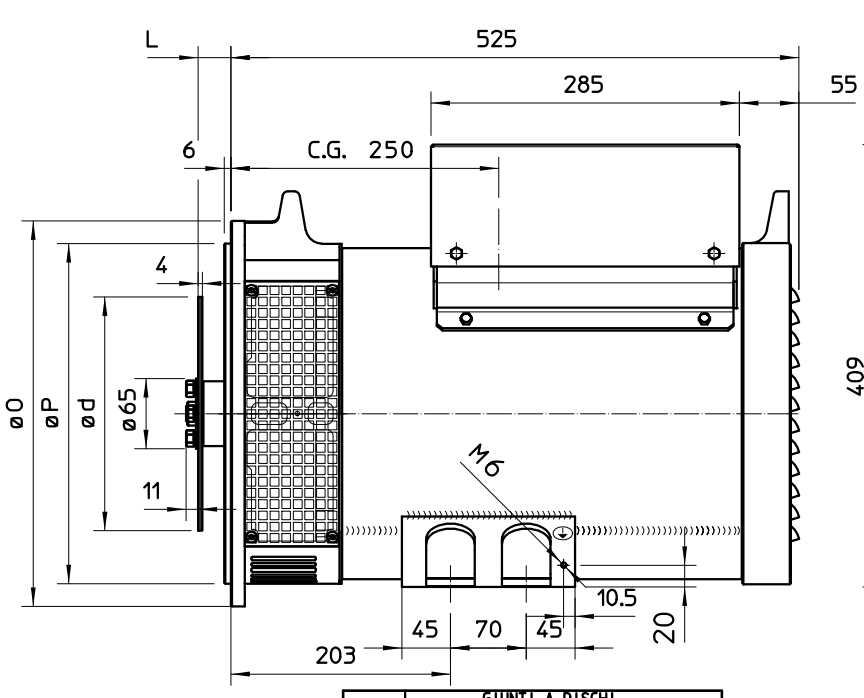
SINGLE BEARING MOMENTS OF INERTIA

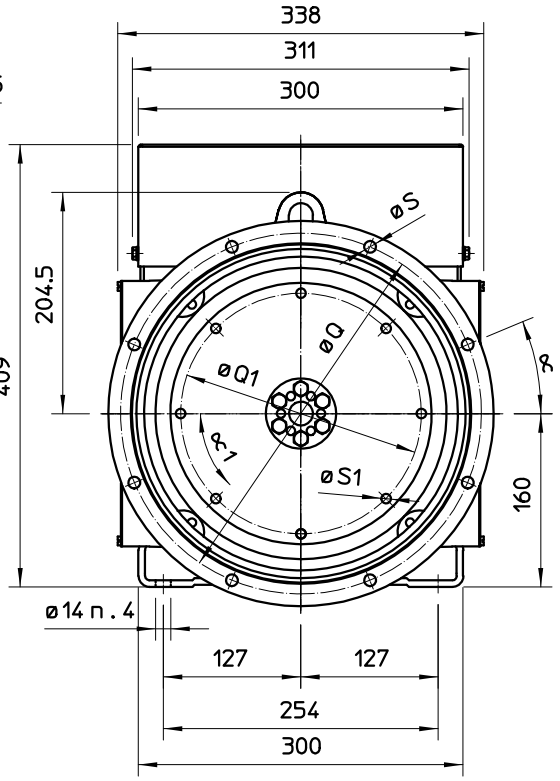


	COMPONENT	WEIGHT Kg	J Kgm²
1	FAN	1.2	0.0102
2	MAIN ROTOR	20.9	0.0914
3	EX ROTOR	5.4	0.012
4	SHAFT	10.5	0.0041
6	TOTAL	38	0.1177

SAE N.	5 B(mm)	SHAFT COUPLING FLEX PLATE WEIGHT kg	J kgm²
6 1/2	4	1.14	0.0067
7 1/2	4	1.42	0.0103
8	35.6	1.97	0.0171
10	27.6	2.59	0.0319
11 1/2	14	3.1	0.0481

SINGLE BEARING DIMENSIONS





SAE N.	FLANGIA/FLANGE BRIDE/FLANSCH O	P	Q	n. fori	S	α
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°

SAE N.	GIUNTI A DISCHI DISC COUPLING DISQUE DE MONOPALIER SCHEIBENKUPPLUNG L	d	Q1	n. fori	S1	α1
6 1/2	30.2	215.9	200	6	9	60°
7 1/2	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 1/2	39.6	352.42	333.37	8	11	45°

C.G. = GRAVITY CENTER