



MarelliMotori
Inspired solutions



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GENERATORE SINCRONO TRIFASE
THREE - PHASE SYNCHRONOUS
GENERATOR

MXB 225 MB4

Project: _____

Reference: _____

CLASSE DI SOVRATEMPERATURA - TEMPERATURE RISE CLASS	H		
CLASSE DI ISOLAMENTO - INSULATION CLASS	H		
PASSO DI AVVOLGIMENTO - WINDING PITCH	2/3		
FORMA COSTRUTTIVA - MOUNTING	B2		
TEMPERATURA AMBIENTE (°C) - AMBIENT TEMPERATURE (°C)	40		
ALTITUDINE (m s.l.m) - ALTITUDE (m a.s.l.)	1000		
SISTEMA DI RAFFREDDAMENTO - COOLING SYSTEM / PROTEZIONE - PROTECTION DEGREE	IC01 / IP23		
FATTORE DI POTENZA - POWER FACTOR	0.80		
NUMERO DI POLI - NUMBER OF POLES	4		
VELOCITA' NOMINALE (r.p.m.) - RATED SPEED (r.p.m.)	1500		
SOVRAVELOCITA' (r.p.m.) - OVERSPEED (r.p.m.)	2250		
NUMERO DI TERMINALI - NUMBER OF TERMINALS	12		
PESO (kg) - WEIGHT (kg)	Approx. 401		
MOMENTO D'INERZIA (J) (kg*m ²) - INERTIA (J) (kg*m ²)	Approx. 1.15		
TEMPERATURA ACQUA RAFFREDDAMENTO (°C) - COOLING WATER TEMPERATURE (°C)			
PORTATA D'ACQUA (m ³ /h) - WATER FLOW RATE (m ³ /h)			
CADUTA DI PRESSIONE (kPa) - PRESSURE DROP (kPa)			
AUMENTO TEMPERATURA ACQUA (°C) - WATER TEMPERATURE INCREASE (°C)			
TA DI CENTRO STELLA - NEUTRAL POINT CURRENT TRANSFORMER			
CUSCINETTI - BEARINGS			
FREQUENZA - FREQUENCY	Hz	50	
TENSIONE - VOLTAGE	V	400	
CORRENTE NOMINALE - RATED CURRENT	A	173.2	
POTENZA - RATING	kVA	120	
RENDIMENTO - EFFICIENCY - (%)	4/4	94.2	
P.F.= 1.0	3/4	95.0	
	2/4	95.5	
RENDIMENTO - EFFICIENCY - (%)	4/4	92.3	
P.F.= 0.8	3/4	93.2	
	2/4	93.9	
Rapporto di corto circuito - short circuit ratio	SCR	0.40	
reattanza - reactance (%)	sincrona diretta - synchronous direct axis	X _{d uns}	354
	sincrona in quadratura - synchr. quadrature axis	X _{q uns}	196
	transitoria diretta - transient direct axis	X' _{d sat}	28.7
	transitoria in quadratura - transient quadrature axis	X' _{q uns}	196
	subtransitoria diretta - subtransient direct axis	X'' _{d sat}	10.6
	subtransitoria in quad. - subtransient quadr. axis	X'' _{q sat}	13.3
	di sequenza negativa - negative sequence	X _{2 sat}	11.9
	di sequenza zero - zero sequence	X _{0 sat}	2.2
costanti di tempo - time constants (s)	a vuoto - open circuit	T' _{do}	0.990
	transitoria - transient	T' _d	0.080
	subtransitoria - subtransient	T'' _d	0.010
	unidirezionale - armature	T _a	0.010
Coppia di corto circuito bifase - Phase to Phase short circuit torque	kN*m	10.8	
Coppia di corto circuito trifase - Three phase short circuit torque	kN*m	7.2	



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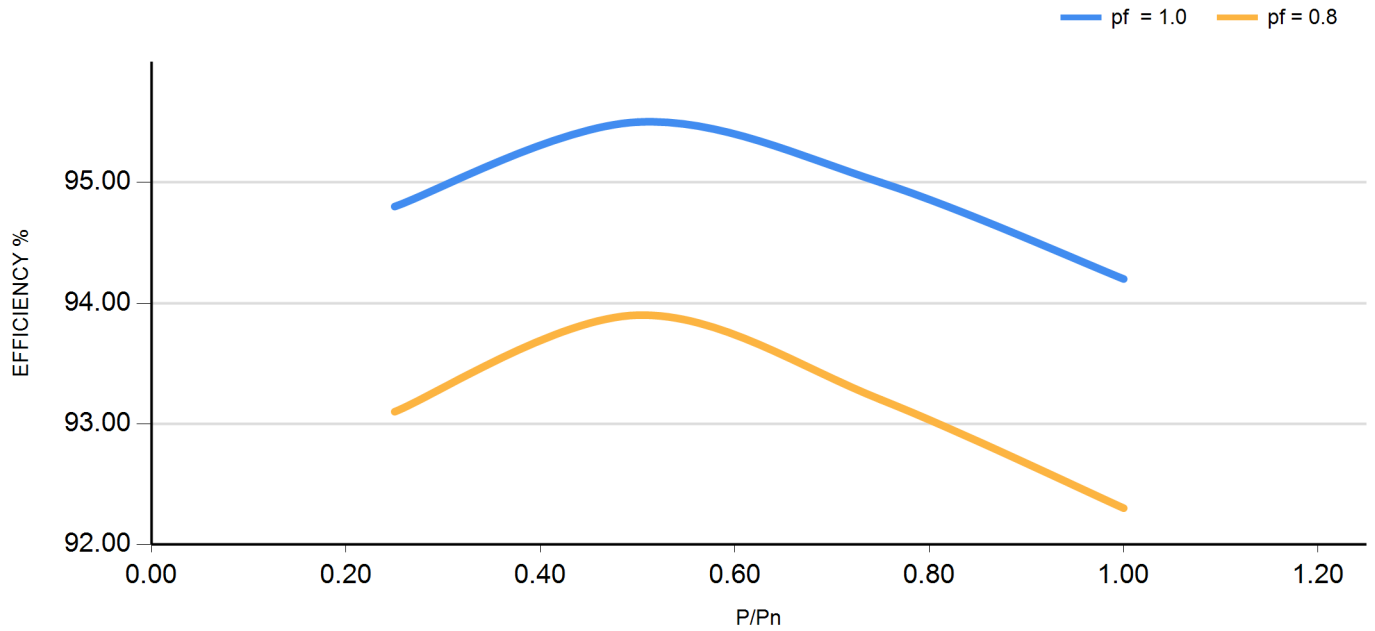
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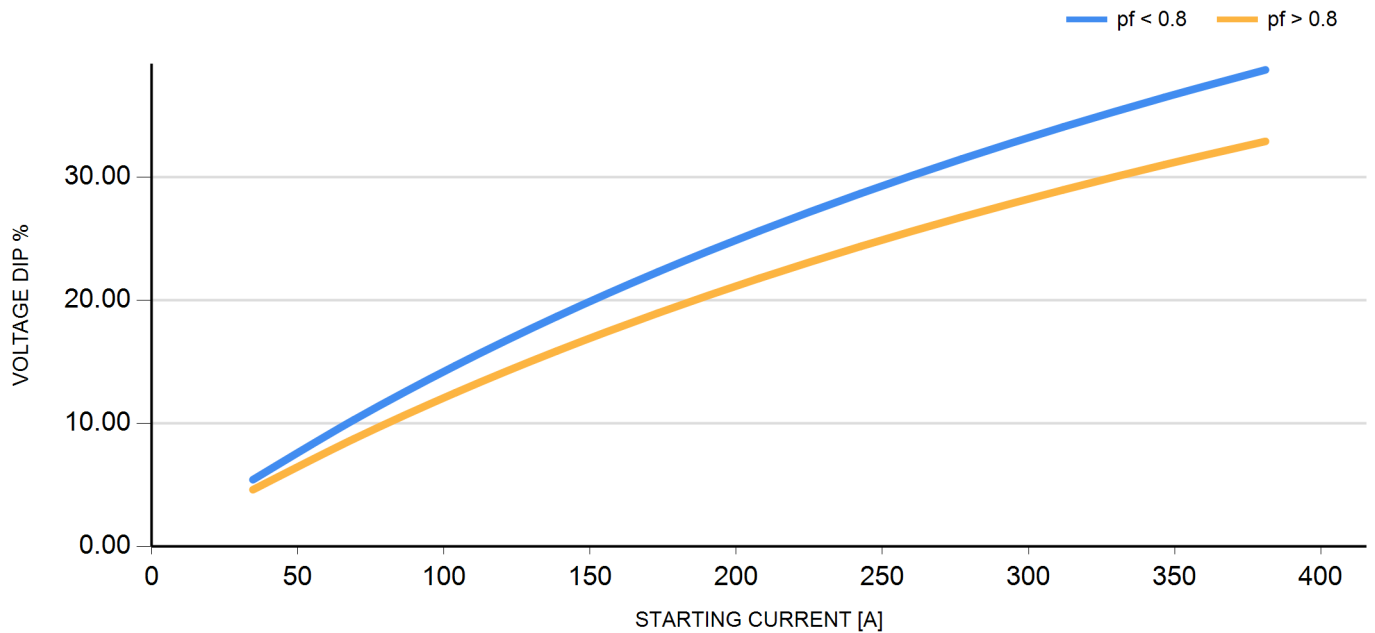
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CURVA DI RENDIMENTO - EFFICIENCY CURVE



CADUTA DI TENSIONE - VOLTAGE DIP





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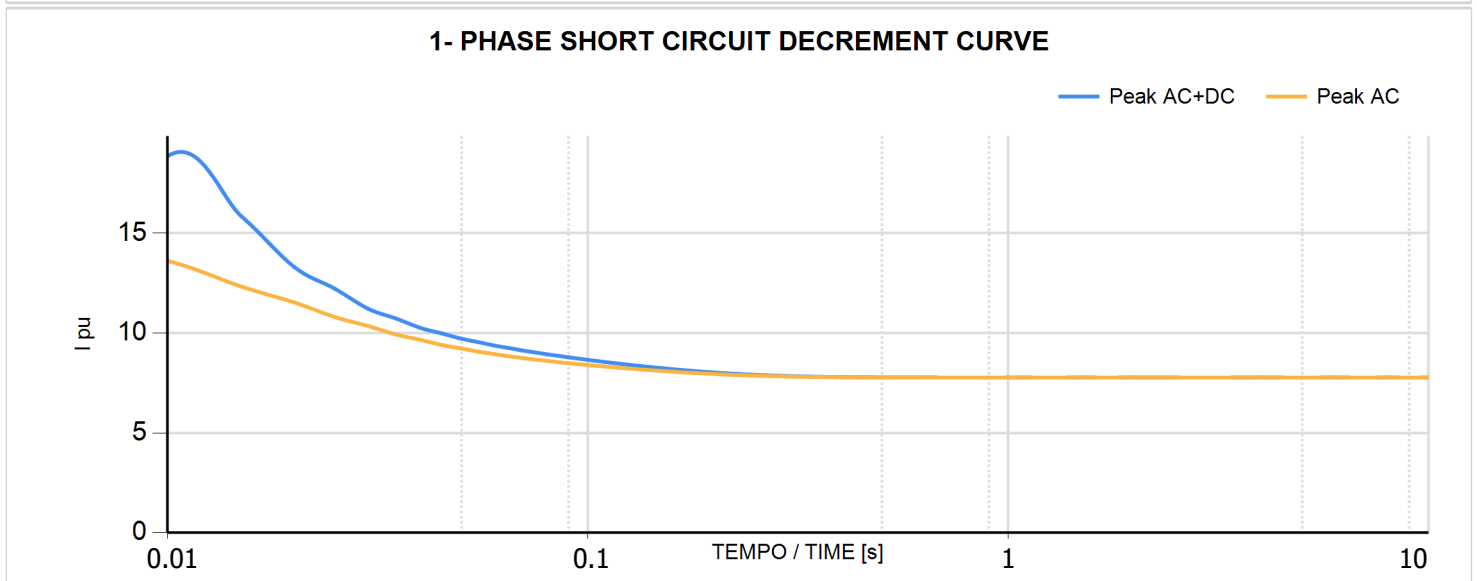
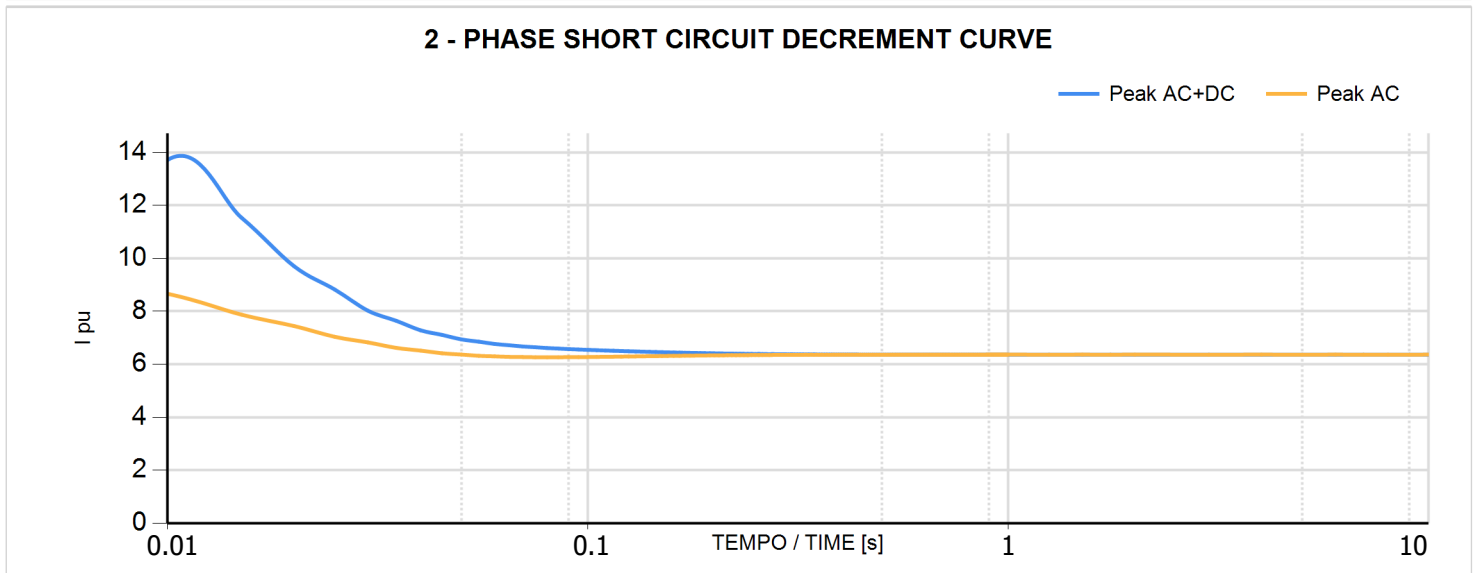
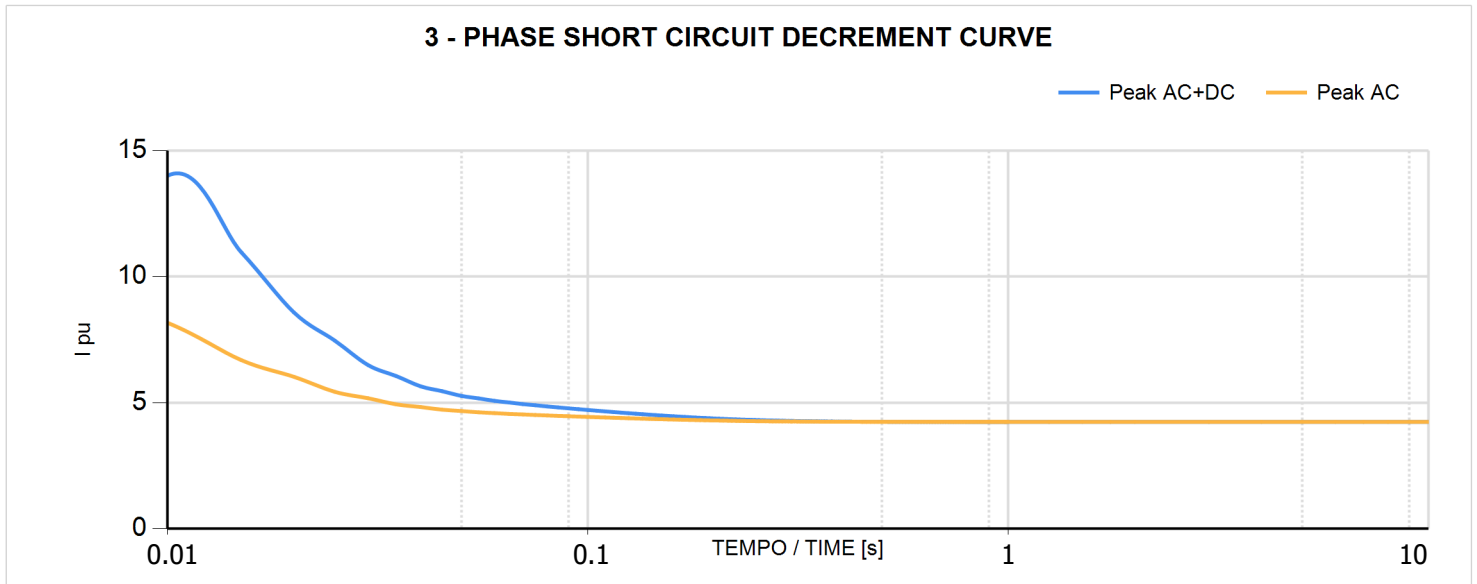
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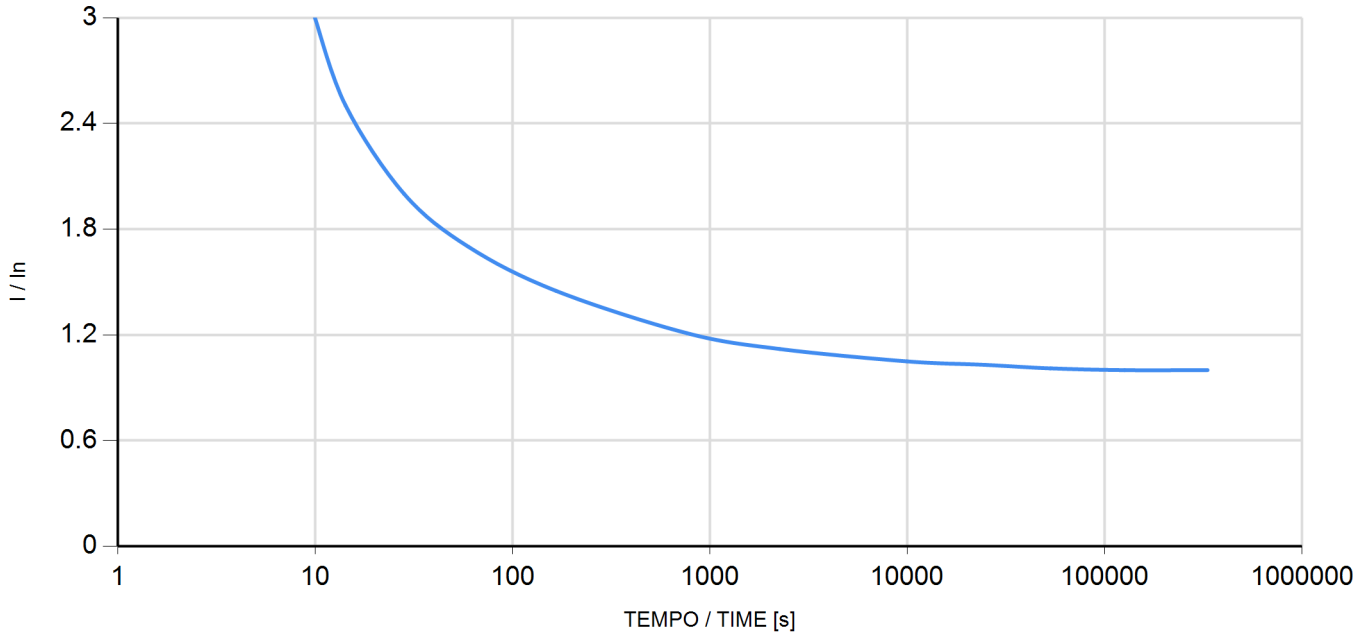
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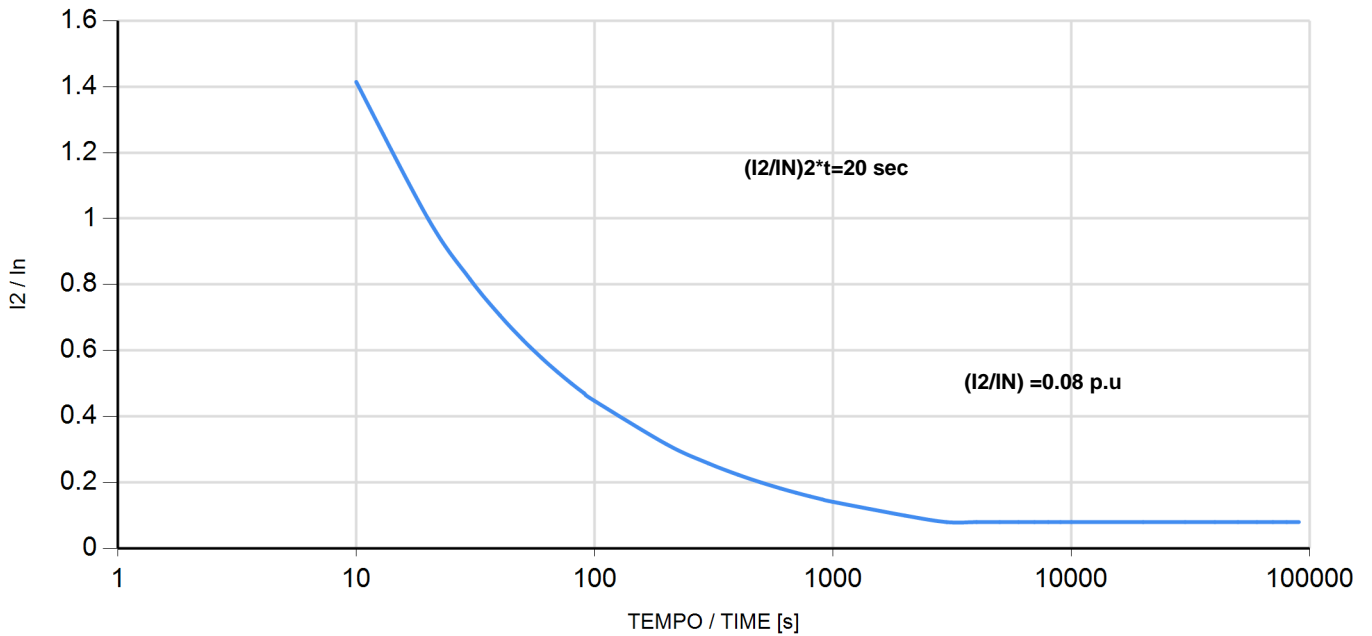
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CURVA DI LIMITE TERMICO - THERMAL DAMAGE CURVE



CORRENTE SEQUENZA INVERSA - NEGATIVE SEQUENCE CURRENT





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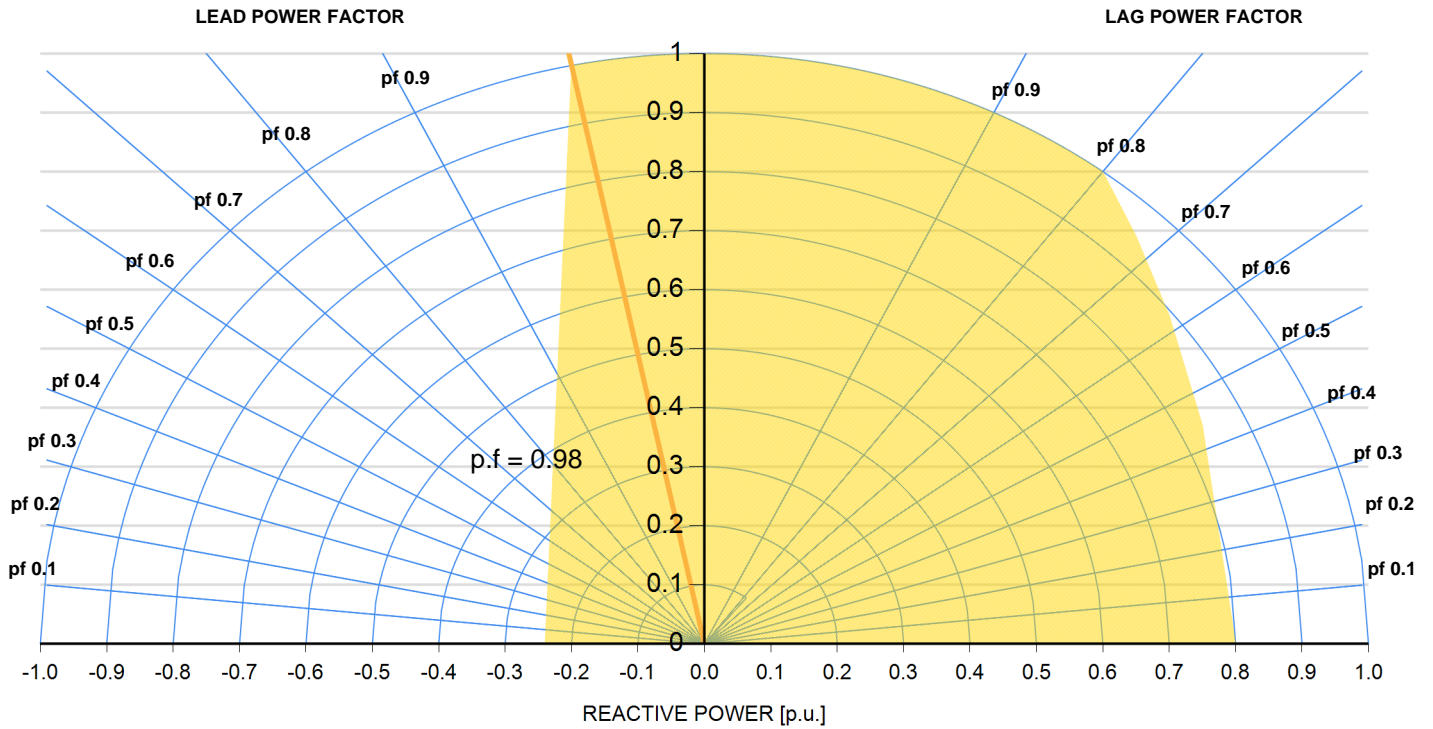
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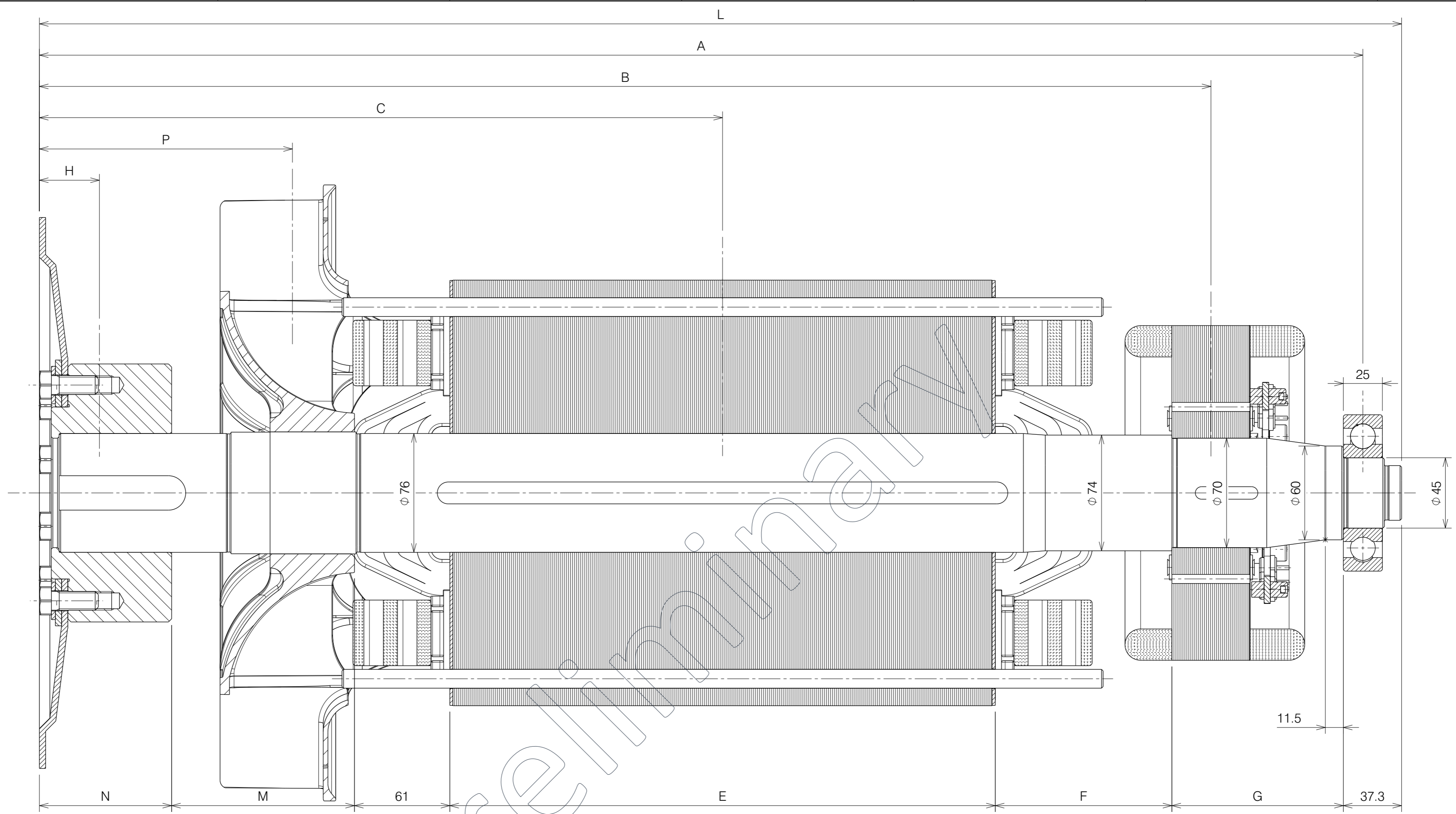
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CURVA DI CAPABILITY - CAPABILITY CURVE

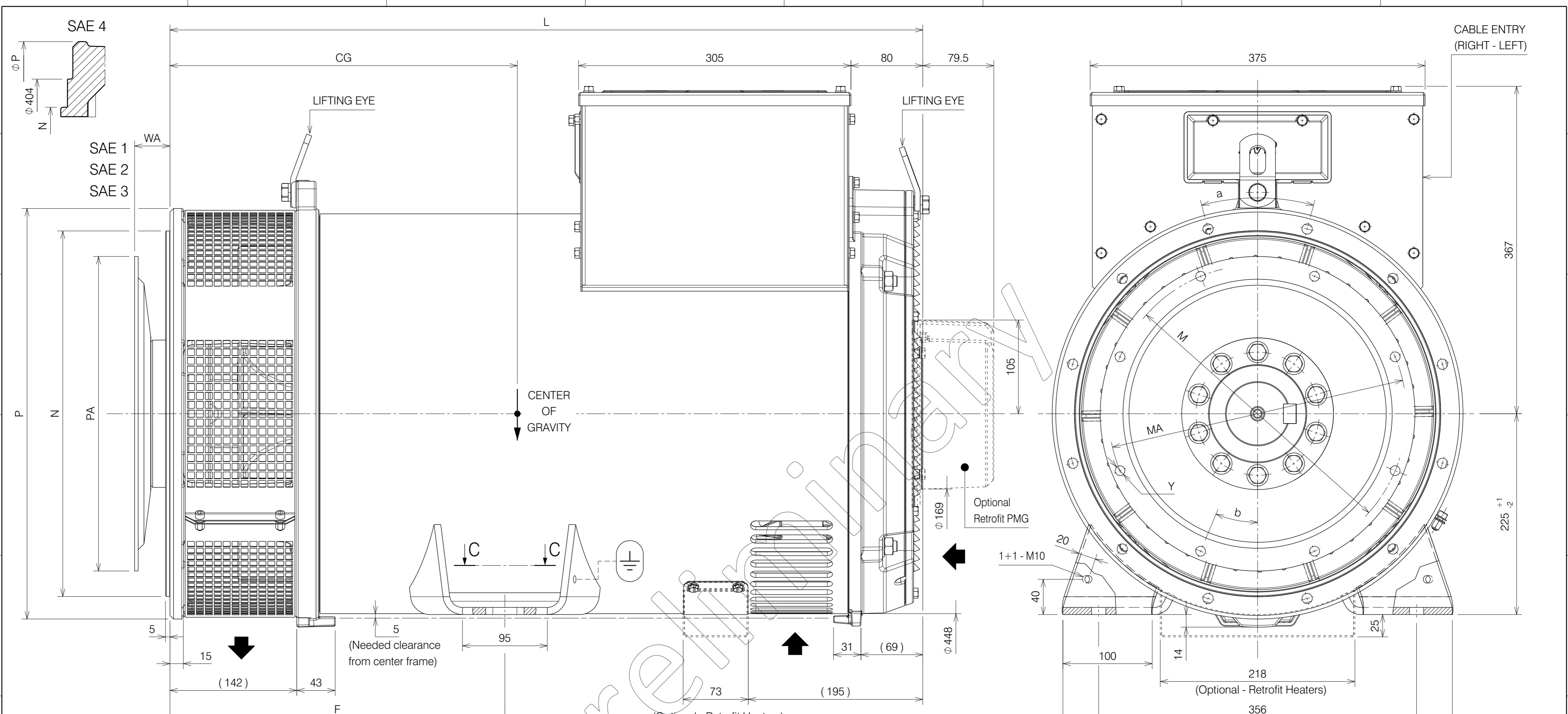




SIZE	DIMENSIONS mm												FAN		SHAFT		MAIN CORE		EXCITER CORE		TOTAL				
	A			B			C			E	F	G	L			m [kg]	J [kgm ²]	m [kg]	J [kgm ²]	m [kg]	J [kgm ²]	m [kg]	J [kgm ²]		
	SAE 14	SAE 11 1/2	SAE 10	SAE 14	SAE 11 1/2	SAE 10	SAE 14	SAE 11 1/2	SAE 10				SAE 14	SAE 11 1/2	SAE 10										
SA	681.8	696	710.2	600.4	614.6	628.8	340.4	354.6	368.8	184	143		722.4	736.6	750.8			23.7	0.016	70	0.65			109.3	0.794
SB							355.4	369.6	383.8	214	113									81.4	0.756			120.7	0.9
MA							375.4	389.6	403.8	254	143									96.8	0.898			138.6	1.044
MC	781.8	796	810.2	670.4	684.6	698.8	390.4	404.6	418.8	284	113	109.7	792.4	806.6	820.8	3.1	0.047	26.2	0.018	108.2	1.004	12.5	0.081	150	1.15
LA							412.9	417.1	431.3	309	153									116.7	1.09			160.3	1.238
LB	832.6	846.8	861	735.4	749.6	763.8	422.9	437.1	451.3	349	113		857.4	871.6	885.8			28	0.02	131	1.21			174	1.358
LC																									

COUPLING	H	M	N	P	m [kg]	J [kgm ²]
SAE 10	52.3	117	98.8	176.1	12.1	0.045
SAE 11 1/2	38.4	117	84.6	161.9	12.5	0.052
SAE 14	22.3	117	70.4	147.7	14.7	0.098

C	ADDED SIZE LC	D.Pegoraro	F.Saggin	I.Graizzaro	19/10/2017
B	MODIFIED DATA FOR SIZE LA-LB	D.Pegoraro	F.Saggin	I.Graizzaro	24/03/2017
A	UPDATED SHAFT PROFILE	P.Innocente	M.Groppo		09/03/2017
REV	DESCRIPTION	PREP'D	CHK'D	APPR'D	DATE
ECO:	HEAT TREATMENT:	MAT:		IND. ENG. CHK'D:	
JOB:	SURFACE TREATMENT:	RAW MAT.CODE:			
MarelliMotori Inspired solutions		DIMENSIONS WITHOUT TOLERANCES PRECISION DEGREE: (TN F 3661)		DIMENSION: mm SCALE: 1:2	WEIGHT (kg): n/a
TORSIONAL ANALYSIS DATA MXB 225 SYNCHRONOUS GENERATORS				M22AV000C	C SHEET: 1 OF: 1
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TYPE	DIMENSIONS			
	L	F	CG SAE4-SAE3	CG SAE2-SAE1
MXB 225 SA 4	708	325	303	310
MXB 225 SB 4			352	348
MXB 225 MA 4	778	375	344	331
MXB 225 MB 4			386	372
MXB 225 LA 4	843	375	389	377
MXB 225 LB 4			436	423
MXB 225 LC 4				

DIMENSIONS													
FLANGE							COUPLING						
SAE	N	P	M	Z		a	SAE	PA	MA	Y		b	WA
J617				No	DIA		J620			No	DIA		
4	361.95	460	381.00	12	11	30°	10	314.32	295.28	8	11	45°	53.8
3	409.58	460	428.62	12	11	30°	11 1/2	352.42	333.38	8	11	45°	39.6
2	447.68	495	466.72	12	11	30°	14	466.72	438.15	8	14	45°	25.4
1	511.18	552.5	530.22	12	11	30°							

CONNECTINGS				
COUPLING	FLANGE			
SAE J620	SAE J 617			
	4	3	2	1
10	X	X		
11 1/2		O	X	X
14				X
MOST COMMON O				

SUPPORT BEARINGS	PROTECTION DEGREE	TYPE OF CONSTRUCTION	DIMENSIONS
ROLLING	IP23	IM	B2
			mm

D	ADDED SIZE LC	D.Pegoraro	I.Graizzaro	F.Savegnago	24/10/2017
C	ADDED DETAILS FOR HEATERS AND CLEARANCE FROM CENTER FRAME; MODIFIED TOL. ON DIMENSION 225	D.Pegoraro	I.Graizzaro	F.Savegnago	16/05/2017
B	ADDED SAE 4 FLANGE DETAILS; UPDATED 'P' VALUE; REVISED DESCRIPTION	D.Pegoraro	I.Graizzaro	F.Savegnago	11/04/2017
REV	DESCRIPTION	PREP'D	CHK'D	APPR'D	DATE
ECO:	HEAT TREATMENT:	MAT:		IND. ENG. CHK'D:	
JOB:	SURFACE TREATMENT:	RAW MAT.CODE:		S.Fanton	
24/10/2017					
MarelliMotori Inspired solutions		DIMENSIONS WITHOUT TOLERANCES PRECISION DEGREE: (TN F 3661)		ATEX APPR'D:	
		A2		SCALE: 1:3	
OVERALL DIMENSIONS MXB 225 SYNCHRONOUS GENERATOR				M22AD200C	
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