MarelliGenerators®

THREE PHASE SYNCRONOUS GENERATOR

MJB 450 MB4

CONTINUOUS DUTY

4 poles
50 Hz - 1500 rpm / 60 Hz - 1800 rpm

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	Winding code	**80**
TEMPERATURE RISE	**H**		Number of leads	**6**
INSULATION CLASS	**H**		Winding pitch	**2/3**
POWER FACTOR	**0,8**			

FREQUENCY	**Hz**	**50 Hz**			**60 Hz**			
VOLTAGE Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
RATING	**kVA**	**1460**	**1500**	**1500**	**1620**	**1720**	**1800**	**1800**
	kW	***1168***	***1200***	***1200***	***1296***	***1376***	***1440***	***1440***
EFFICIENCY [%] @ 0,8 p.f.	**4/4**	95,7	95,9	96,0	96,0	96,1	96,3	96,3
	3/4	95,8	96,0	96,0	96,2	96,3	96,4	96,4
	2/4	95,9	96,1	95,8	96,2	96,3	96,4	96,4
EFFICIENCY [%] @ 1 p.f.	**4/4**	96,6	96,8	96,8	96,8	96,9	97,1	97,1
	3/4	96,7	96,8	96,8	97,0	97,1	97,2	97,2
	2/4	96,8	96,9	96,7	97,0	97,1	97,2	97,2
SHORT CIRCUIT RATIO	SCR	0,34	0,37	0,40	0,31	0,33	0,34	0,37
REACTANCES [%]								
Direct axis synchronous	Xd	348	323	300	387	367	352	323
Quadrature axis synchronous	Xq	194	180	167	216	205	196	180
Direct axis transient	X'd	34,1	31,6	29,4	37,9	35,9	34,4	31,6
Direct axis subtransient	X"d	16,0	14,8	13,7	17,7	16,8	16,1	14,8
Quadrature axis subtransient	X"q	16,4	15,2	14,1	18,2	17,3	16,6	15,2
Negative sequence	X_2	16,2	15,0	13,9	18,0	17,1	16,3	15,0
Zero sequence	X_0	4,4	4,1	3,8	4,9	4,7	4,5	4,1
TIME CONSTANTS [s]								
Open circuit	T'do	3,37						
Transient	T'd	0,33						
Subtransient	T"d	0,02						
Armature	T_a	0,36						

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication		6326 C3 / With grease nipple
N-end bearing/Lubrication		6320 C3 / With grease nipple
Overspeed [r.p.m.]		2250
Inertia (J) [kgm2]	Refer to B34 construction	29
Weight [kg]	Refer to B34 construction	3200
Method of cooling		IC01
Cooling air required [m3/s] @ 50/60 Hz		1,50 / 1,80
Degree of protection		IP23
Types of construction available		B2 (SAE) - IM B34 - IM B20
Direction of rotation (Standard)		CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	1,6
Overloads	10% for 1 hour every 12 hours
3-phase short circuit sustained current	≥ 300 % (3 In) with auxiliary winding
Voltage regulation accuracy	± 0,5 % In steady state condition
Radio interference	EN 55011 - Class B Group 1
Wave form THF	< 2%
Total harmonic content	< 2% - At no load

STANDARDS

IEC 60034-1; CEI 2-3; BS 4999-5000; VDE 0530; NF 51-100,111; OVE M-10, NEMA MG 1.22.

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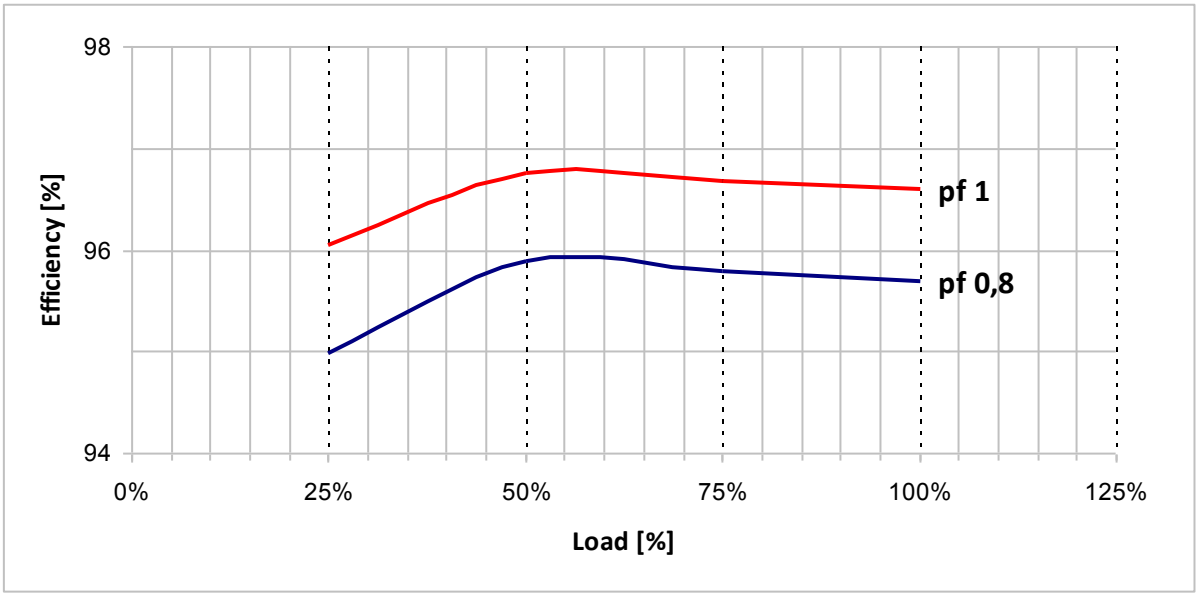
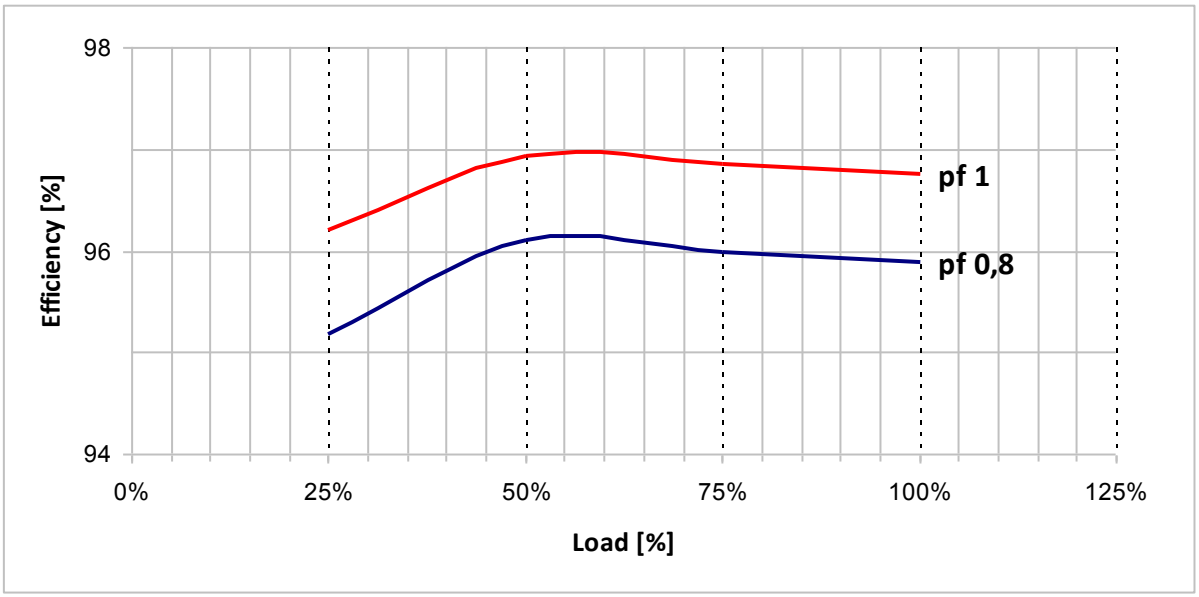
Typical efficiency curves

50 Hz - 1500 rpm

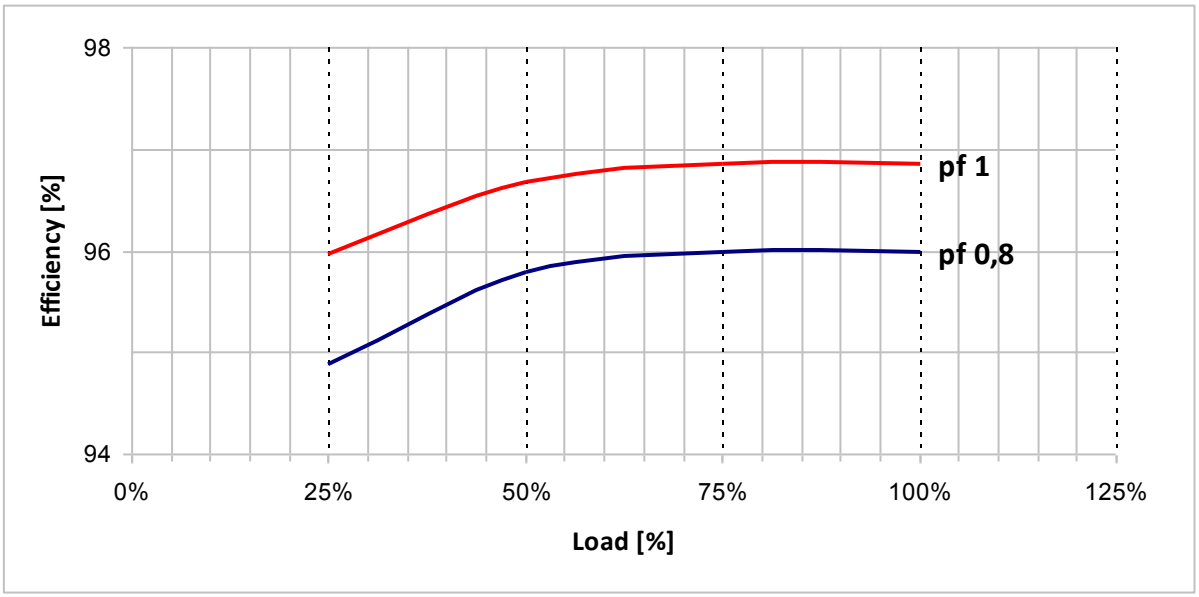
380 V



400 V



415 V



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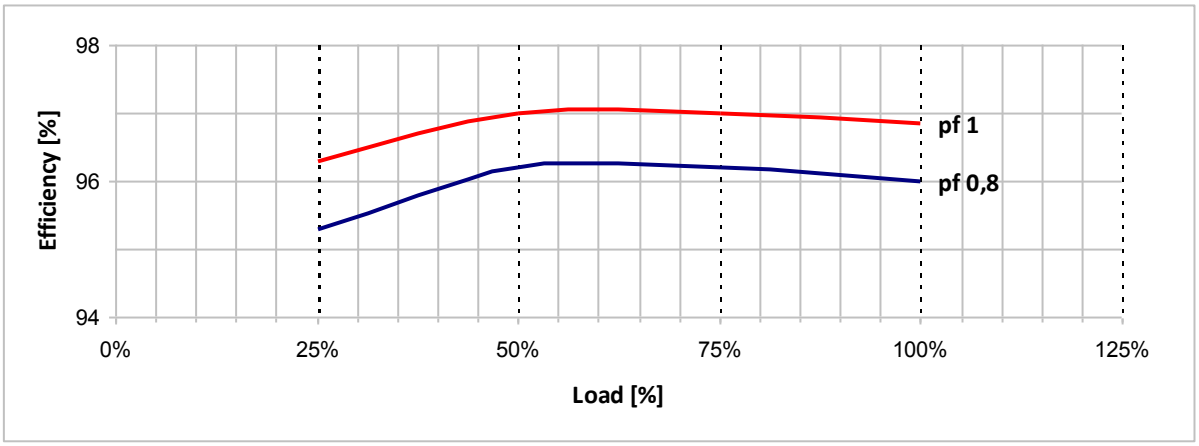
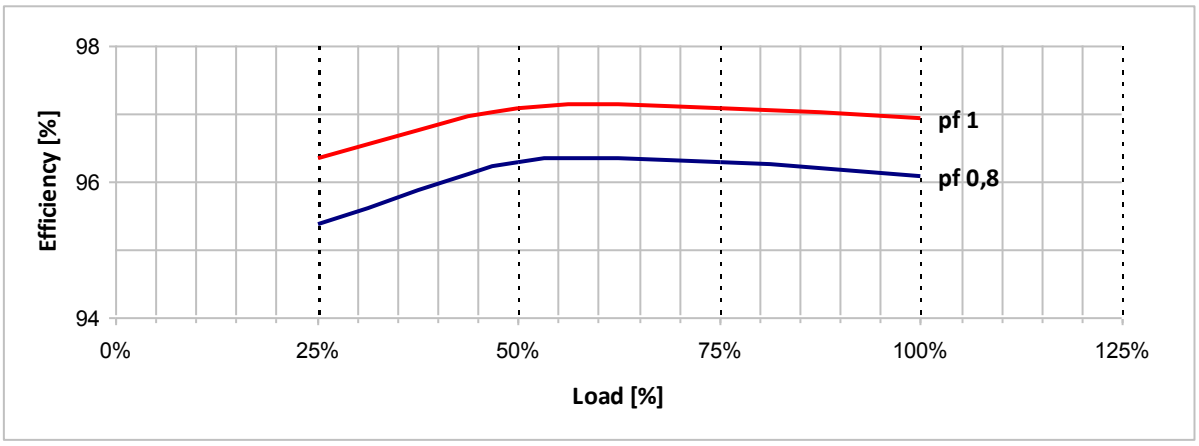
Typical efficiency curves

60 Hz - 1800 rpm

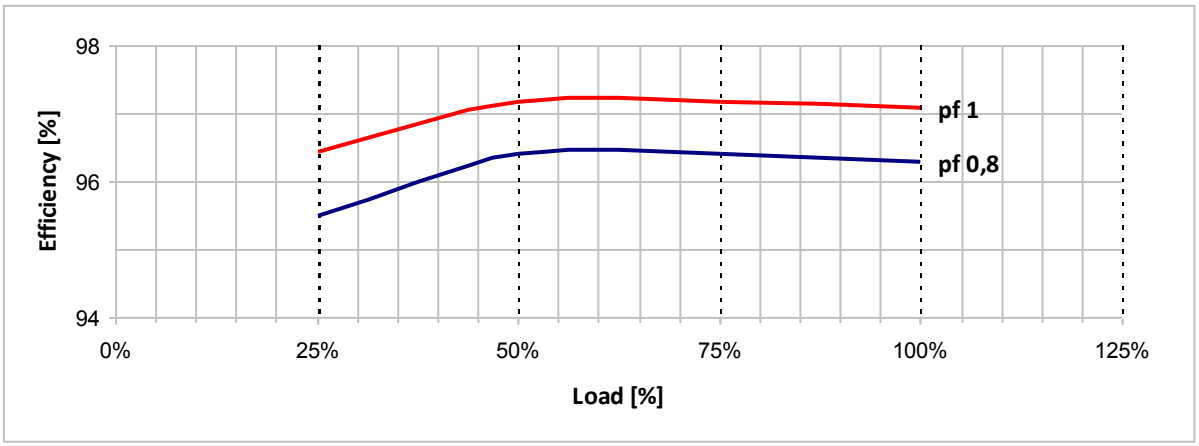
416 V



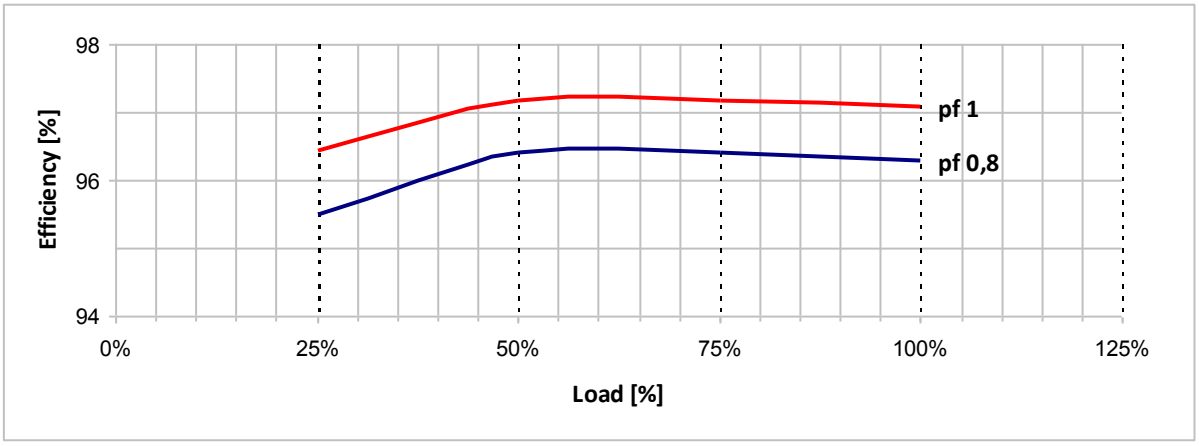
440 V



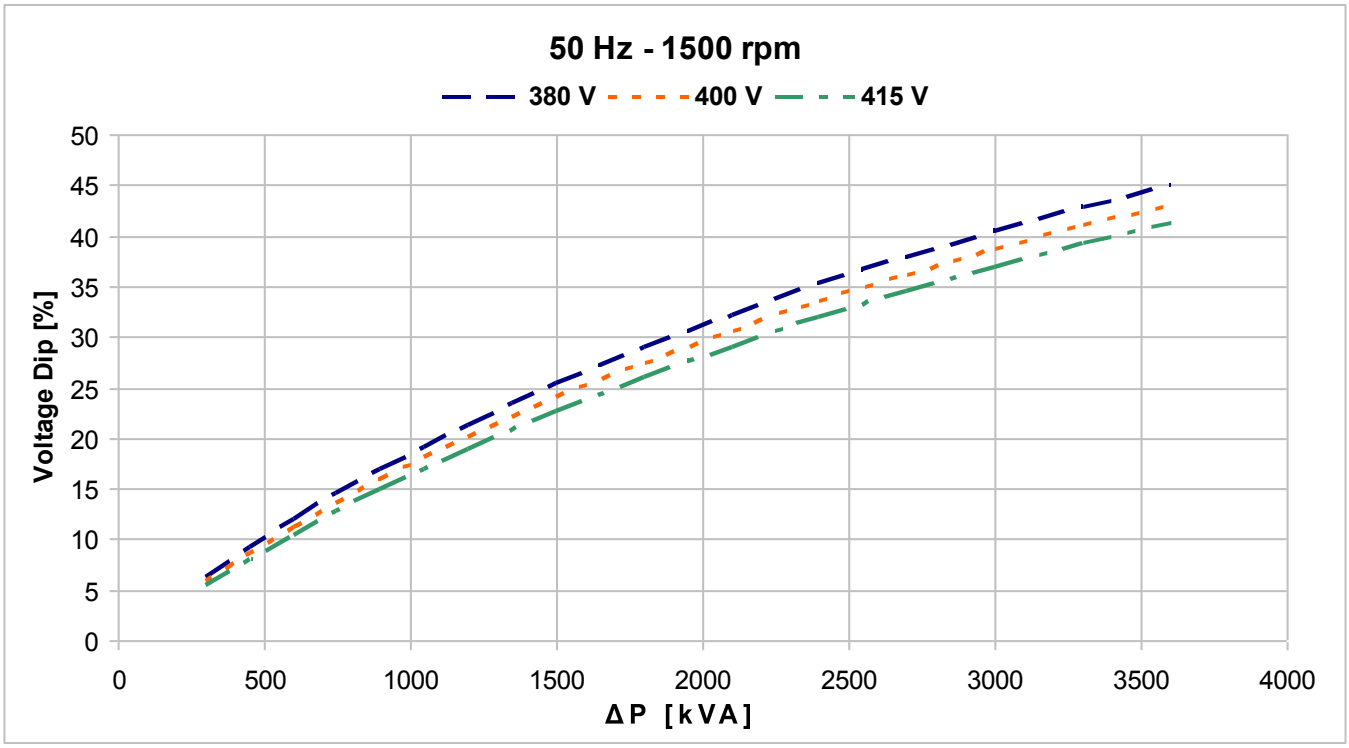
460 V

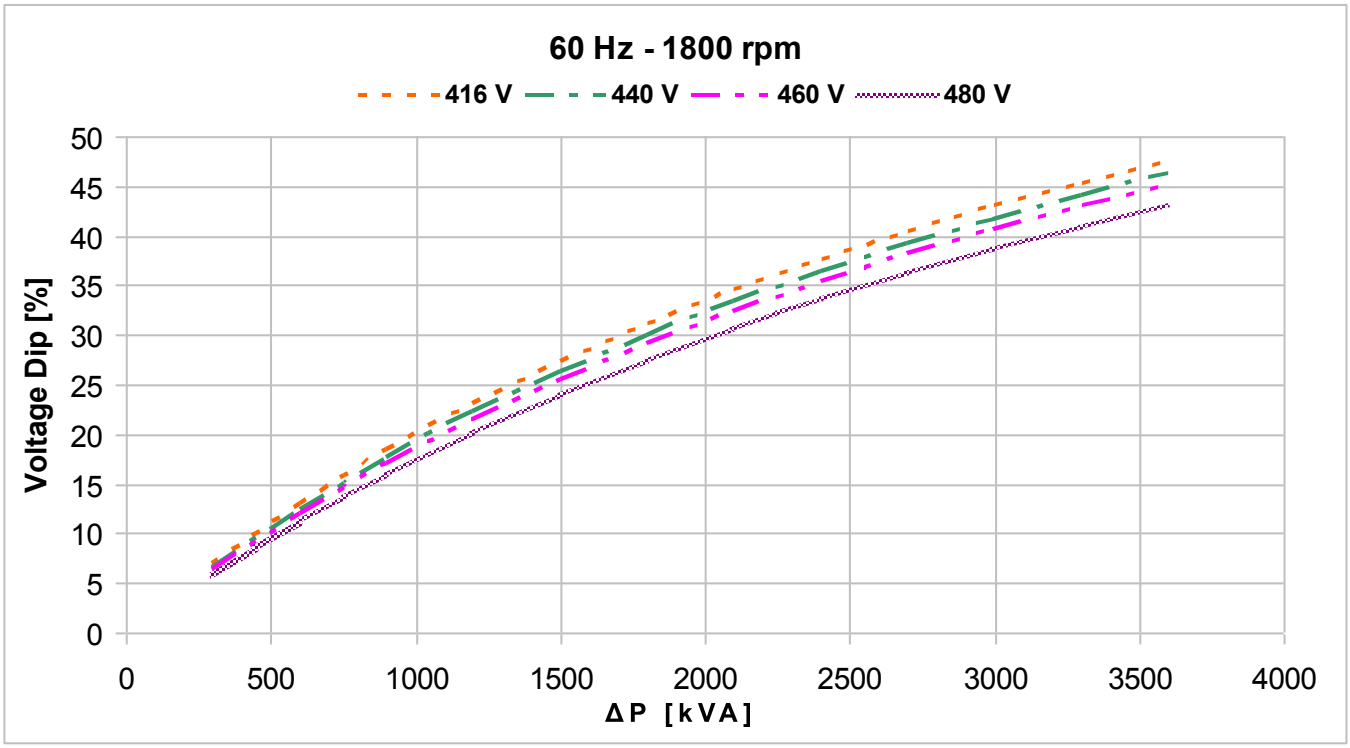


480 V



Locked rotor motor starting curves (*)





$$\Delta P = P_n \times \frac{I_s/I_n}{\cos\varphi_n \times \eta_n}$$

(*): A coefficient of 0,85 must be applied to the voltage dip if the load has a power factor equal or greater than 0,8.