

THREE-PHASE SYNCHRONOUS GENERATOR MJB 315 MB 4

4 POLES

50 Hz-1500 min⁻¹ / 60 Hz-1800 min⁻¹

CONTINUOUS DUTY

AMBIENT TEMPERATURE	40°C		WINDING DATA
TEMPERATURE RISE	H		Winding code
INSULATION CLASS	H		Number of leads
POWER FACTOR	0,8		Winding pitch
			M0
			12
			2/3

FREQUENCY	Hz	50				60					
VOLTAGE	Star series	V	380	400	415	440	380	416	440	460	480
	Star parallel	V	190	200	208	220	190	208	220	230	240
RATING		kVA	450	450	450	430	460	480	520	540	550
		kW	360	360	360	344	368	384	416	432	440
EFFICIENCY (%) @ 0,8 p.f.	4/4		93,9	94,0	94,1	94,3	94,1	94,4	94,5	94,7	94,8
	3/4		94,6	94,6	94,7	94,7	94,5	94,8	94,9	95,0	95,0
	2/4		94,9	94,7	94,8	94,7	94,6	94,8	94,9	95,0	94,9
EFFICIENCY (%) @ 1,0 p.f.	4/4		95,2	95,3	95,3	95,5	95,3	95,6	95,7	95,8	95,9
	3/4		95,7	95,7	95,8	95,8	95,7	95,9	96,0	96,0	96,1
	2/4		96,0	95,8	95,9	95,8	95,7	95,9	96,0	96,1	96,0
SHORT CIRCUIT RATIO			0,36	0,40	0,43	0,51	0,29	0,34	0,35	0,37	0,39
REACTANCES (%)											
Direct axis synchronous	xd		345	310	290	245	420	365	355	340	315
Quadrature axis synchronous	xq		175	160	150	125	215	190	185	175	165
Direct axis transient	x'd		29,9	27,0	25,1	21,3	36,7	32,0	30,9	29,4	27,5
Direct axis subtransient	x" d		13,3	12,0	11,1	9,5	16,3	14,2	13,8	13,1	12,2
Quadrature axis subtransient	x" q		15,7	14,2	13,2	11,2	19,3	16,8	16,3	15,5	14,5
Negative sequence	x ₂		14,5	13,1	12,2	10,3	17,8	15,5	15,0	14,3	13,3
Zero sequence	x ₀		3,3	3,0	2,8	2,4	4,1	3,6	3,4	3,3	3,1

TIME CONSTANTS [s]

Open circuit (T'do)	1,65	Subtransient (T"d)	0,014
Transient (T'd)	0,145	Armature (Ta)	0,018

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6319 2RS C3 / Prelubricated
N-end bearing/Lubrication	6315 2RS C3 / Prelubricated
Weight (IM B34) [kg]	1200
Inertia (J) (IM B34) [kgm ²]	5,68
Overspeed [min ⁻¹]	2250
Method of cooling	IC 01
Cooling air required [m ³ /s] @ 50/60 Hz	0,83 / 1,0
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C - Star series	7,2
Overloads	10% for 1 hour
3-phase short circuit current	>= 300% (3 I _n)
Voltage regulation accuracy	+/- 0,5 % (in steady state condition, speed from -2% to +5%, p.f. from 0,8 to 1)
Radio interference	EN 55011 Class B Group 1
Wave form THF	< 2%
Total harmonic content	< 2% (at no load)

STANDARDS

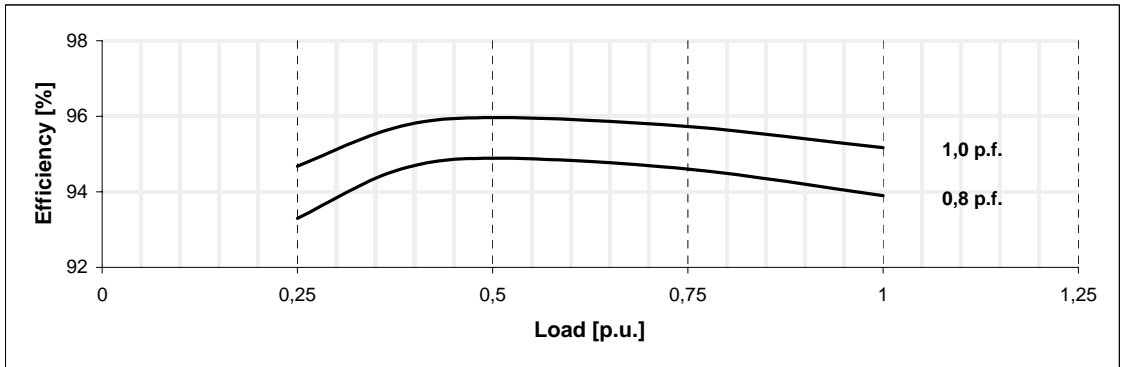
IEC 60034-1; CEI 2-3; BS 4999-5000; VDE 0530; NF 51-100,111; OVE M-10, NEMA MG 1.22.

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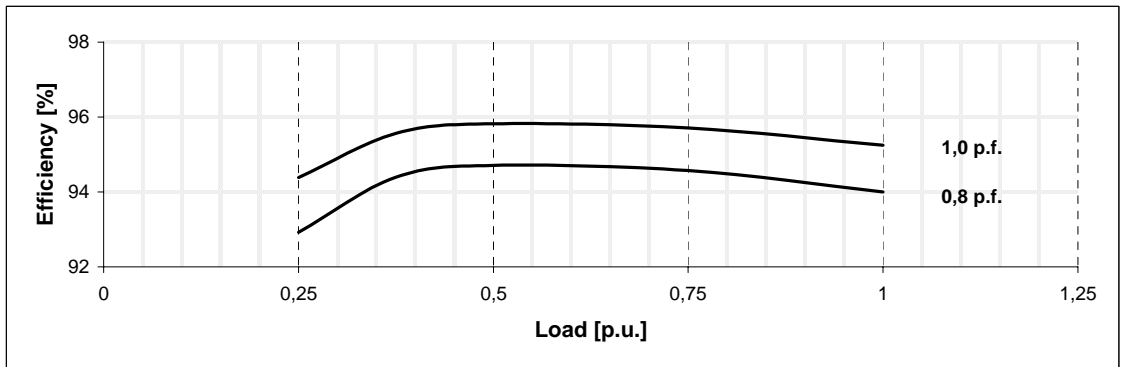
Typical efficiency curves

50 Hz - 1500 min⁻¹

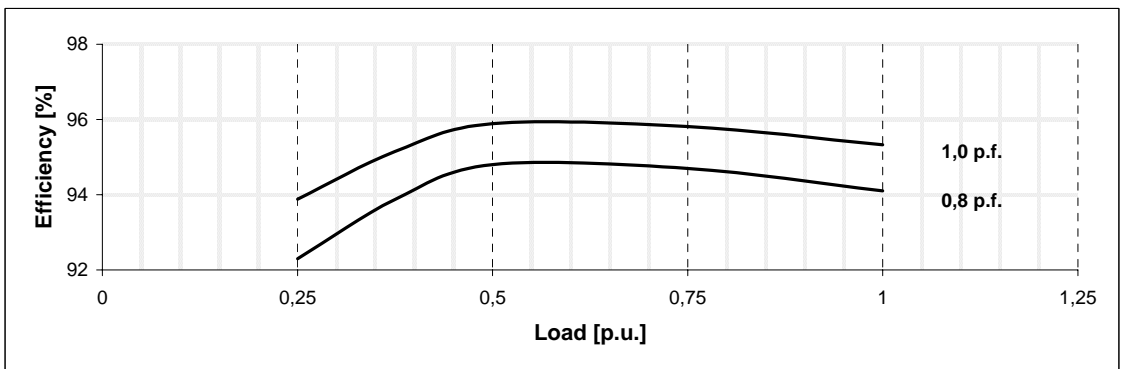
380 V



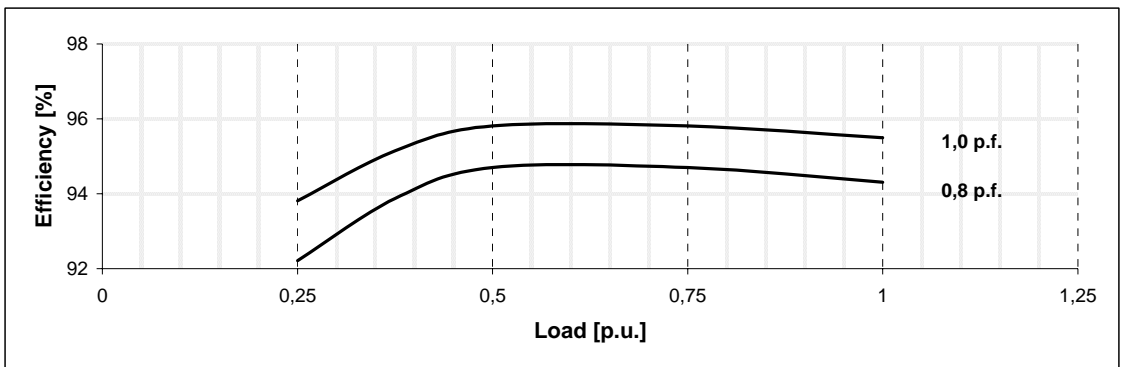
400 V



415 V



440 V

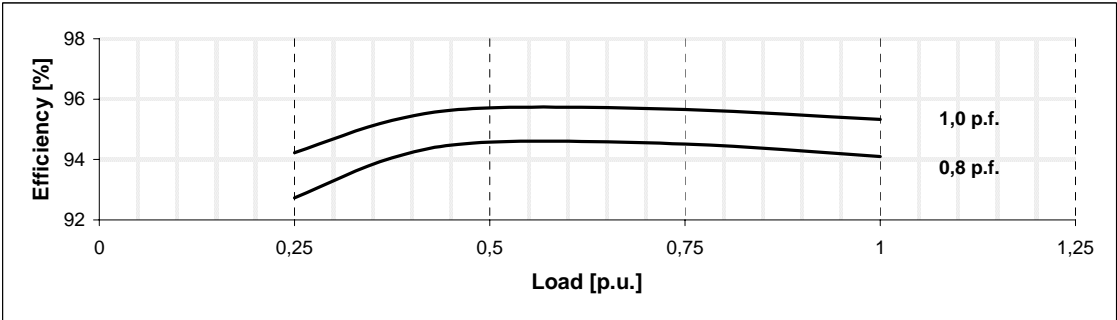


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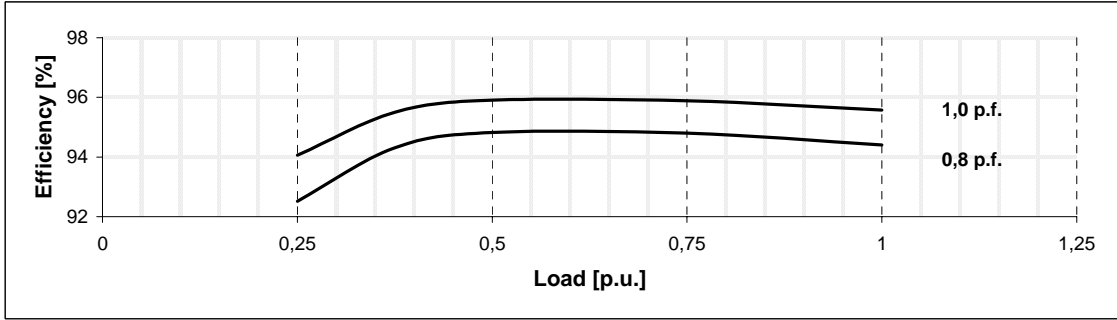
Typical efficiency curves

60 Hz - 1800 min⁻¹

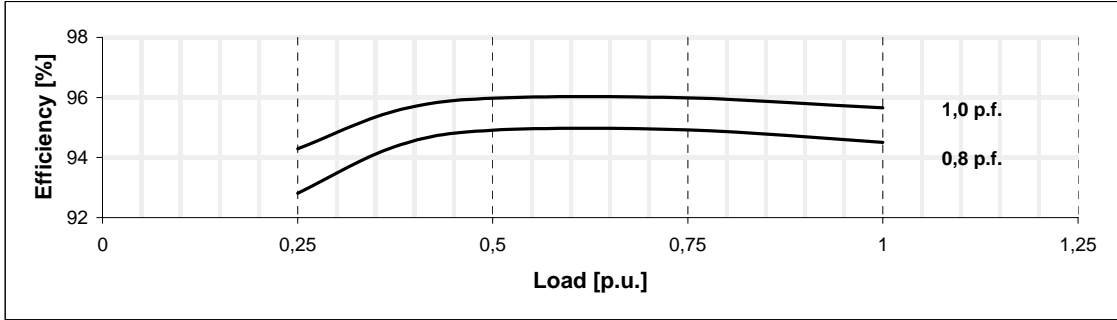
380 V



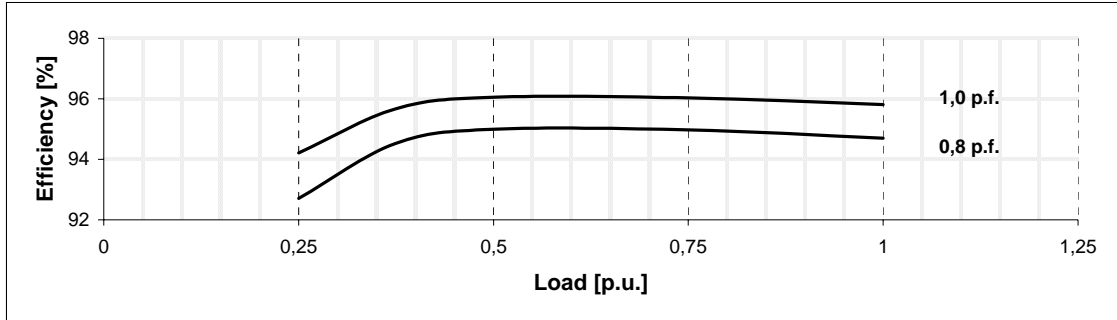
416 V



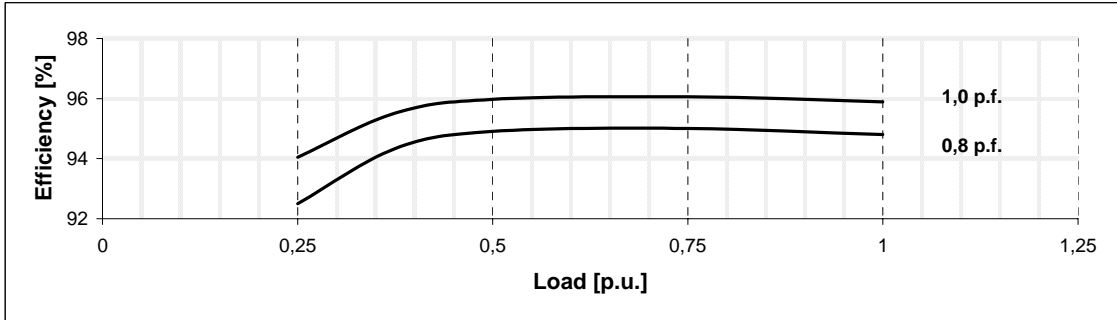
440 V



460 V



480 V

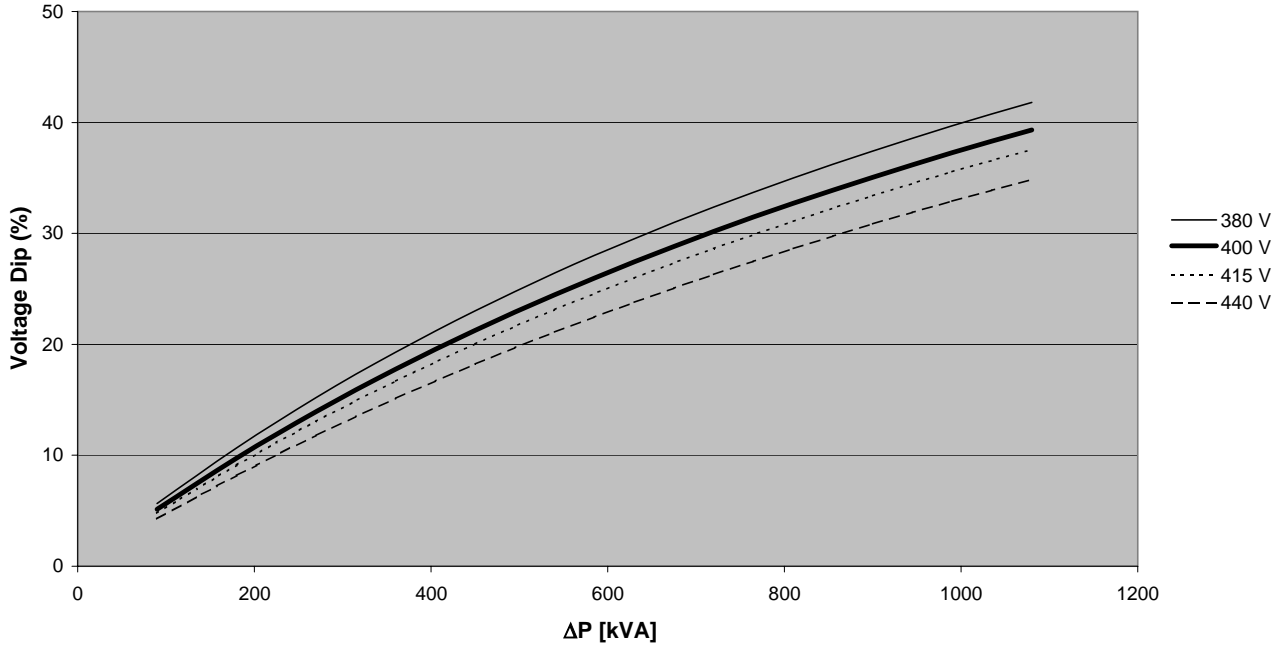


Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

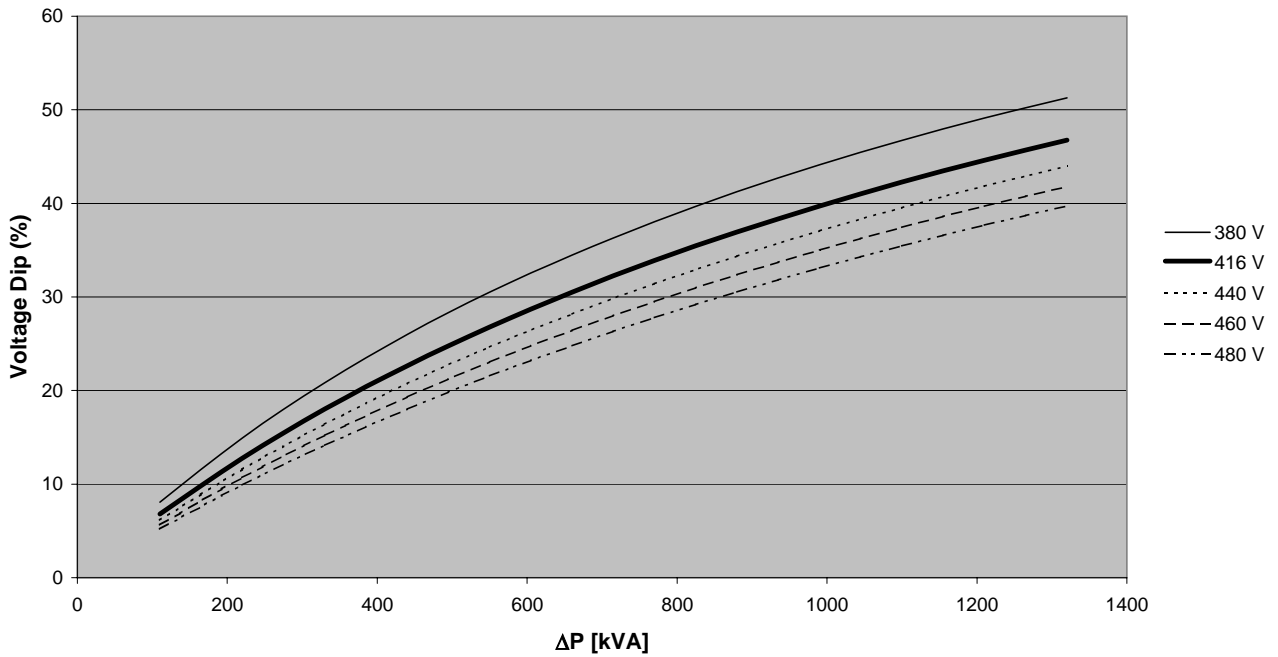
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Locked rotor motor starting curves (*)

50 Hz - 1500 min⁻¹



60 Hz - 1800 min⁻¹



$$\Delta P = P_n \times (I_s / I_n) / (\cos\phi_n \times \eta_n)$$

(*): 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.

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