

THREE-PHASE SYNCHRONOUS GENERATOR MJB 315 SA 4

4 POLES

CONTINUOUS DUTY

50 Hz-1500 min⁻¹ / 60 Hz-1800 min⁻¹

AMBIENT TEMPERATURE	40°C	WINDING DATA	
TEMPERATURE RISE	H	Winding code	M0
INSULATION CLASS	H	Number of leads	12
POWER FACTOR	0,8	Winding pitch	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	kVA	300	300	300	280	310	320	350	360	370
	kW	kW	240	240	240	224	248	256	280	288	296
EFFICIENCY (%) @ 0,8 p.f.	4/4	%	92,7	93,1	93,0	93,4	92,5	93,1	93,4	93,5	93,8
	3/4	%	93,4	93,7	93,6	93,7	93,1	93,5	93,8	93,9	94,1
	2/4	%	93,9	93,9	93,9	93,8	93,3	93,6	93,9	94,0	94,1
EFFICIENCY (%) @ 1,0 p.f.	4/4	%	94,2	94,5	94,5	94,8	94,0	94,5	94,8	94,8	95,1
	3/4	%	94,8	95,0	94,9	95,0	94,5	94,9	95,1	95,2	95,3
	2/4	%	95,2	95,2	95,2	95,1	94,7	94,9	95,2	95,3	95,3
SHORT CIRCUIT RATIO			0,30	0,33	0,36	0,43	0,24	0,28	0,29	0,30	0,32
REACTANCES (%)											
Direct axis synchronous	xd	%	400	360	335	280	495	425	415	390	370
Quadrature axis synchronous	xq	%	200	180	165	140	245	215	210	195	185
Direct axis transient	x'd	%	35,5	32,0	29,7	24,7	44,0	37,9	37,0	34,8	32,9
Direct axis subtransient	x''d	%	17,2	15,5	14,4	12,0	21,3	18,3	17,9	16,9	15,9
Quadrature axis subtransient	x''q	%	19,4	17,5	16,3	13,5	24,0	20,7	20,2	19,1	18,0
Negative sequence	x ₂	%	18,3	16,5	15,3	12,7	22,7	19,5	19,1	18,0	17,0
Zero sequence	x ₀	%	4,4	4,0	3,7	3,1	5,5	4,7	4,6	4,4	4,1

TIME CONSTANTS [s]

Open circuit (T'do)	1,6	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]	830
Inertia (J) (IM B34) [kgm ²]	3,66
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	16
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

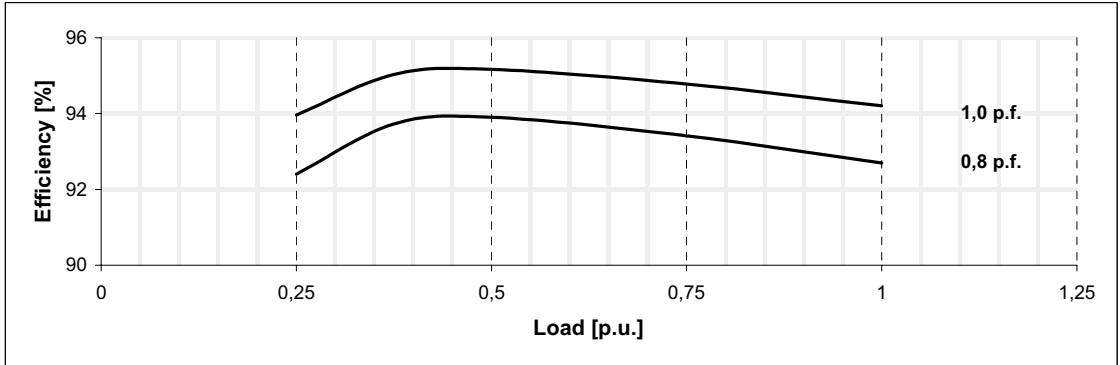
IEC 60034-1; CEI 2-3; BS 4999-5000; VDE 0530; NF 51-100,111; OVE M-10, NEMA MG 1.22.

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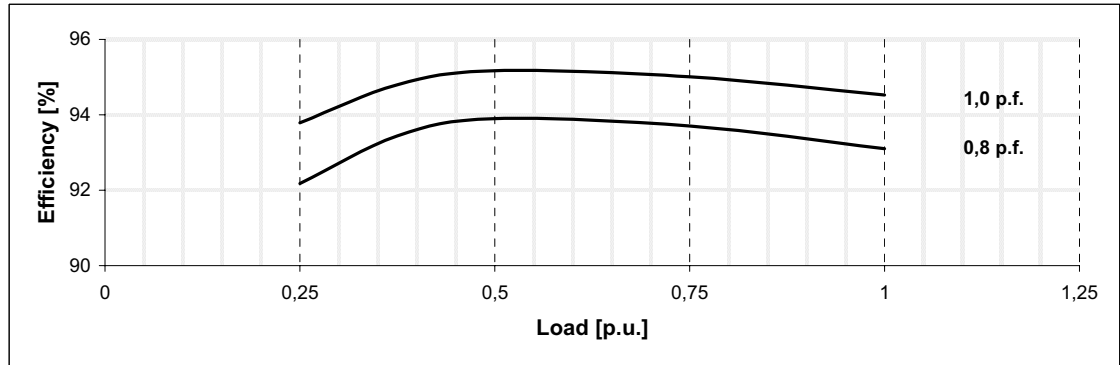
Typical efficiency curves

50 Hz - 1500 min⁻¹

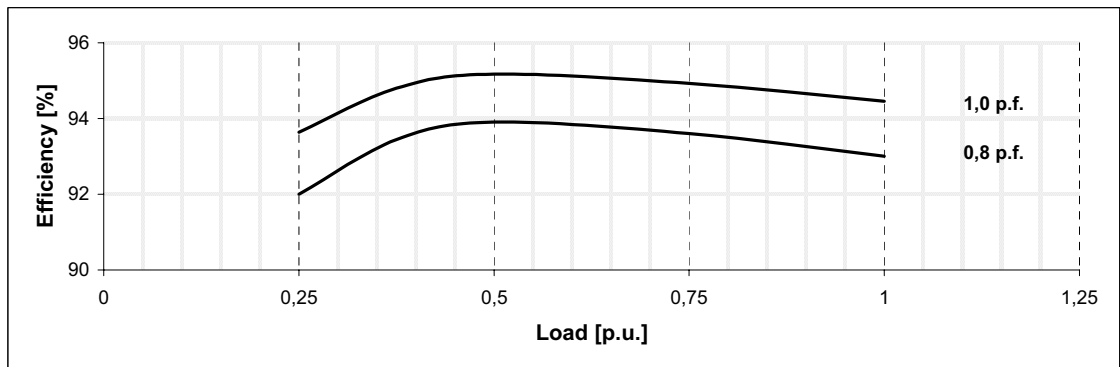
380 V



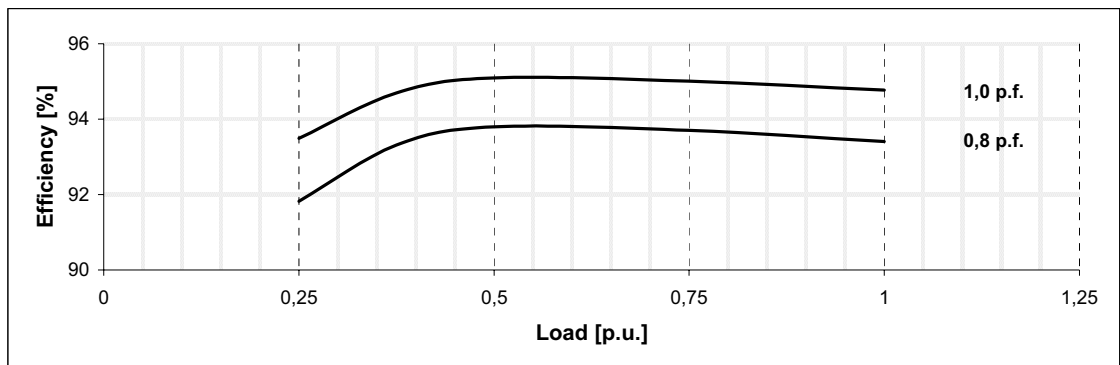
400 V



415 V



440 V



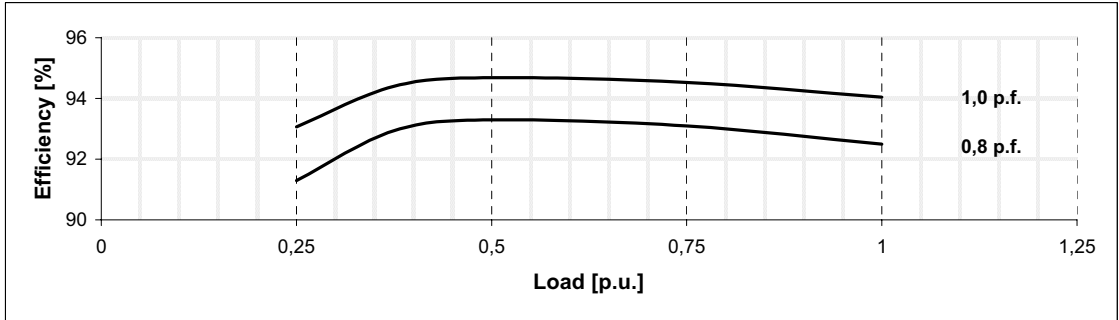
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

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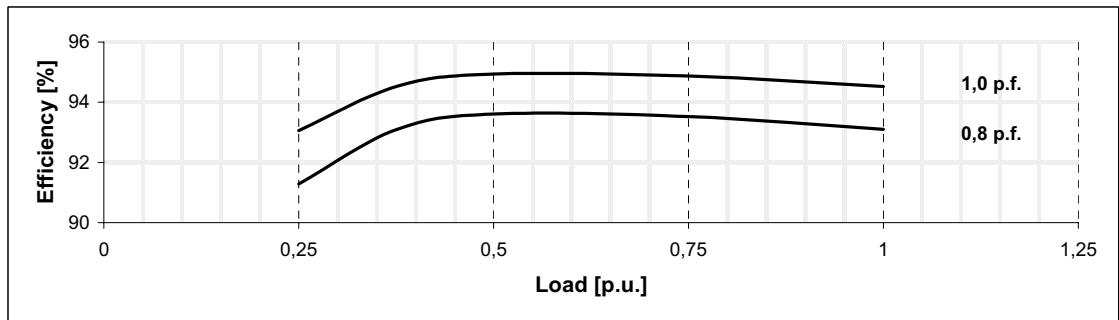
Typical efficiency curves

60 Hz - 1800 min⁻¹

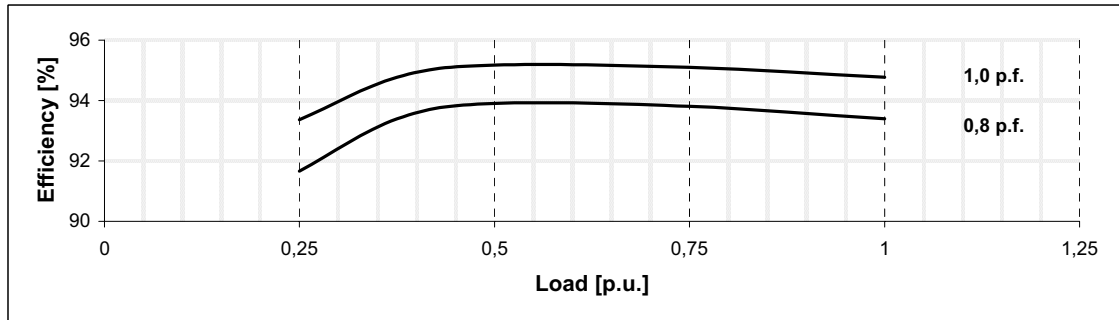
380 V



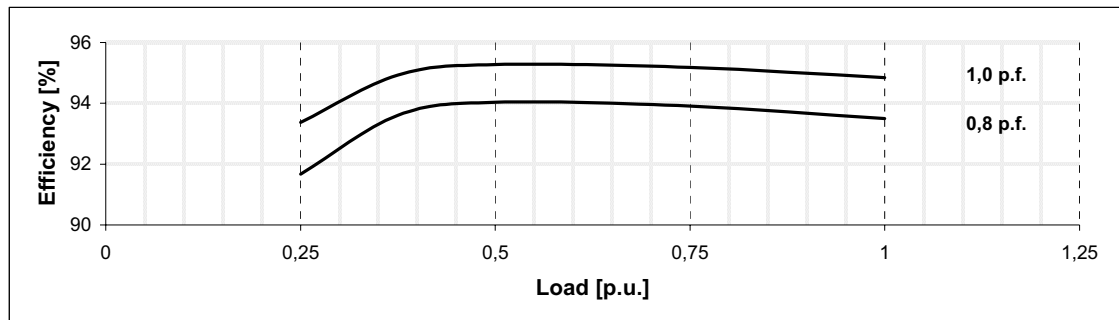
416 V



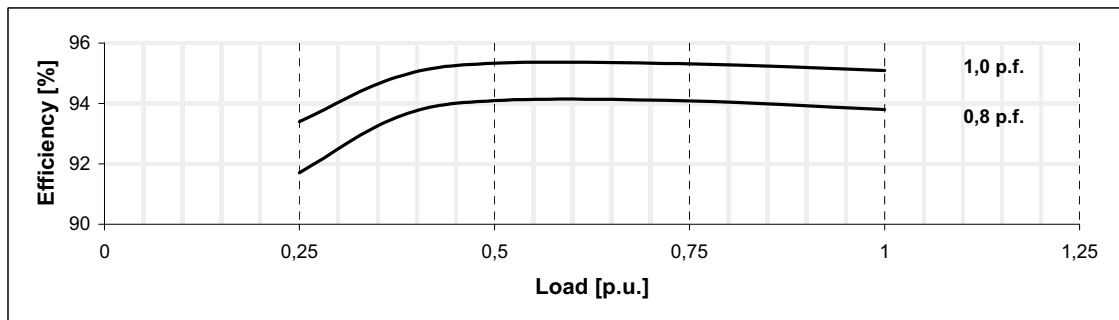
440 V



460 V



480 V

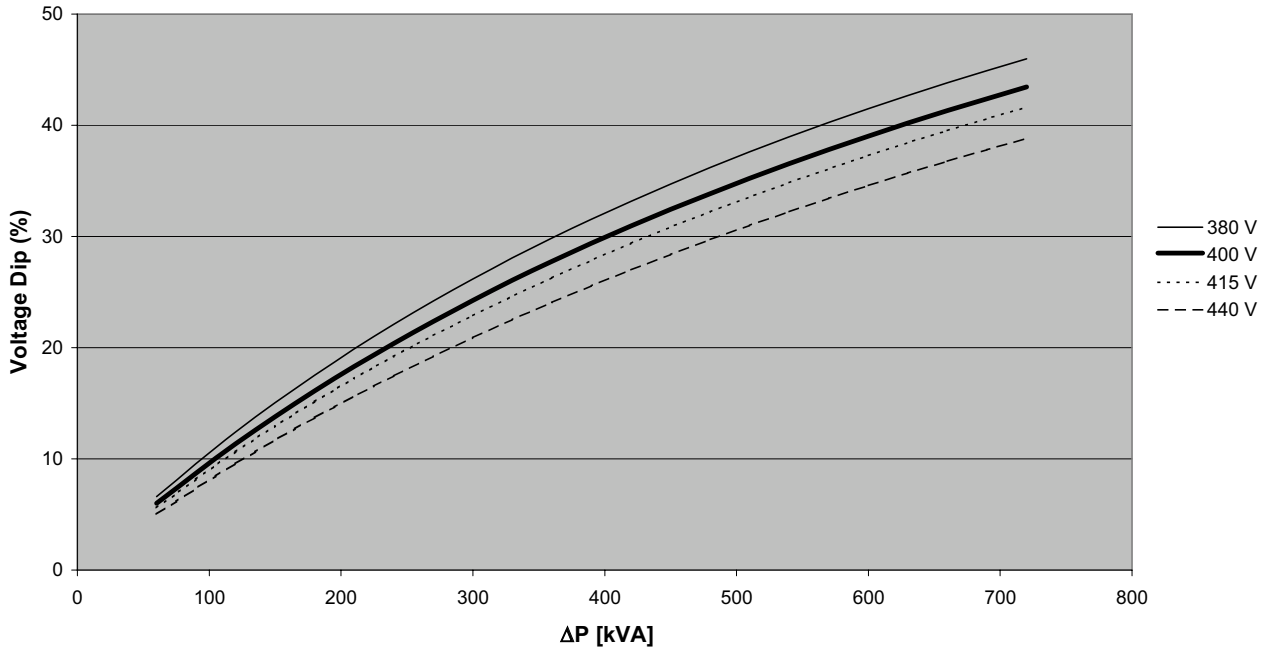


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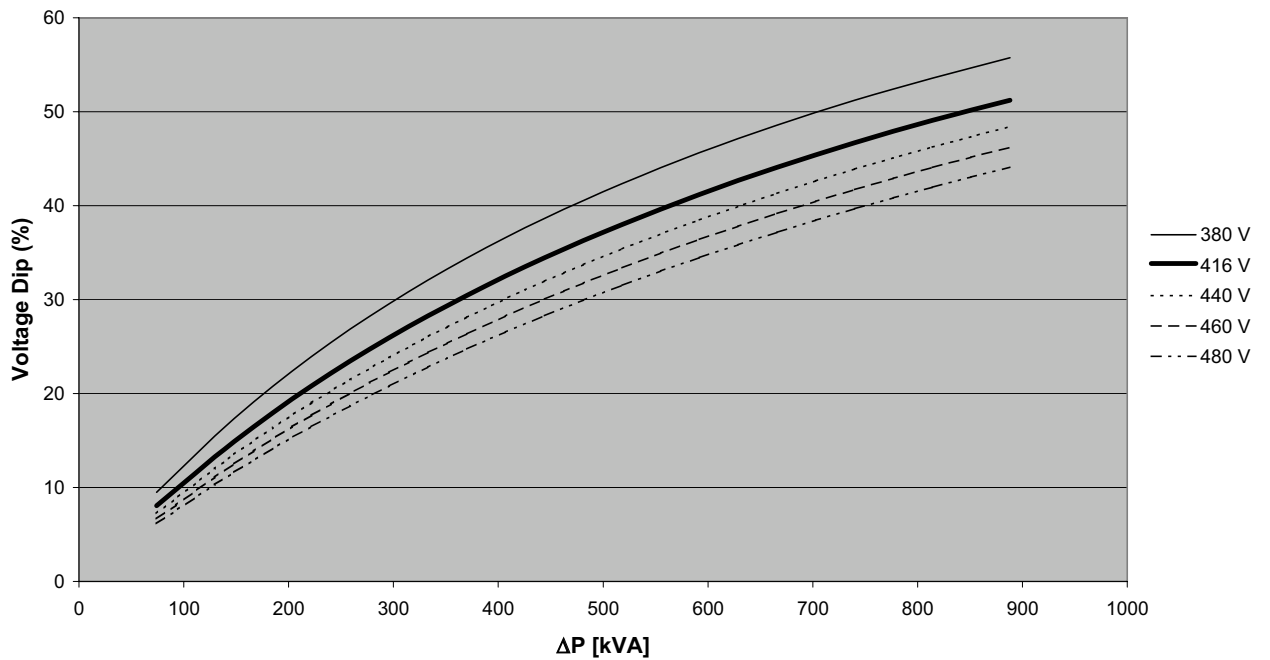
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Locked rotor motor starting curves (*)

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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