Data Sheets Three phase Synchronous Generators

160 - 630 FRAME SIZES
INDUSTRIAL APPLICATION

FKI Energy Technology

MarelliGenerators®

FKI Energy Technology

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MarelliGenerators

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THREE-PHASE SYNCHRONOUS GENERATOR

MJB 160 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		**190**	**200**	**208**	**220**	**190**	**208**	**220**	**230**	**240**
RATING		**kVA**	**17,0**	**17,0**	**17,0**	**17,0**	**17,6**	**18,9**	**20,1**	**20,1**	**21,4**
		kW	***13,6***	***13,6***	***13,6***	***13,6***	***14,1***	***15,1***	***16,1***	***16,1***	***17,1***
EFFICIENCY (%) @ 0,8 p.f.		4/4	83,3	85,6	85,3	84,2	82,8	83,8	84,6	85,5	86,4
		3/4	85,8	87,1	86,7	86,4	85,8	86,5	87,0	87,6	88,3
		2/4	87,2	87,6	87,4	87,3	87,8	87,8	88,1	88,3	88,8
EFFICIENCY (%) @ 1,0 p.f.		4/4	86,5	88,4	88,1	87,2	86,0	86,8	87,6	88,3	89,0
		3/4	88,6	89,6	89,3	89,0	88,6	89,2	89,5	90,0	90,6
		2/4	89,7	90,1	89,9	89,8	90,2	90,2	90,4	90,6	91,0
SHORT CIRCUIT RATIO			0,41	0,45	0,48	0,54	0,33	0,37	0,38	0,42	0,43
REACTANCES (%)											
Direct axis synchronous		xd	275	250	230	205	345	310	295	270	260
Quadrature axis synchronous		xq	155	140	130	115	195	175	165	150	145
Direct axis transient		x'd	27,1	24,5	22,8	20,2	33,8	30,2	28,8	26,3	25,7
Direct axis subtransient		x''d	13,3	12,0	11,1	9,9	16,5	14,8	14,1	12,9	12,6
Quadrature axis subtransient		x''q	14,6	13,2	12,3	10,9	18,2	16,3	15,5	14,2	13,9
Negative sequence		x_2	13,4	12,1	11,2	10,0	16,7	14,9	14,2	13,0	12,7
Zero sequence		x_0	1,8	1,6	1,5	1,3	2,2	2,0	1,9	1,7	1,7

TIME CONSTANTS [s]

Open circuit (T'do)	0,4	Subtransient (T''d)	0,008
Transient (T'd)	0,035	Armature (Ta)	0,005

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6310 2RS C3 / Prelubricated
N-end bearing/Lubrication	6309 2RS C3 / Prelubricated
Weight (IM B34) [kg]	120
Inertia (J) (IM B34) [kgm^2]	0,109
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	0,11 / 0,14
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	1,5
Overloads	10% for 1 hour
3-phase short circuit current	>= 300% (3 I_n)
Voltage regulation accuracy	+/- 1 % (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

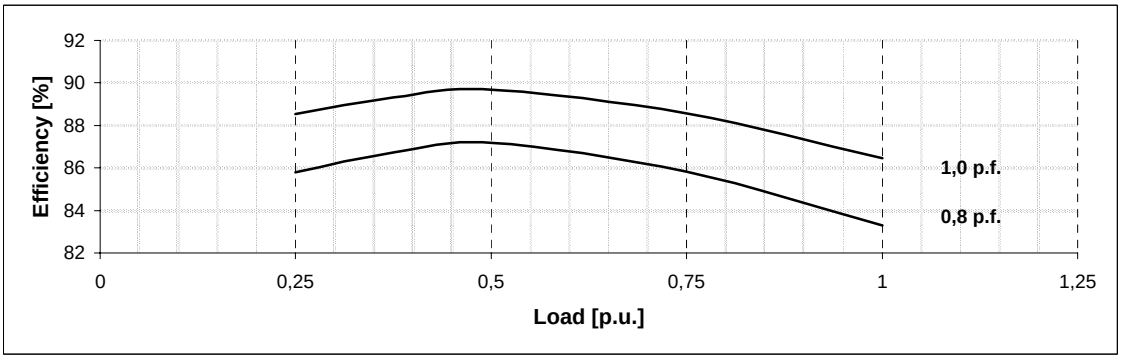
IEC 60034-1; CEI 2-3; BS 4999-5000; VDE 0530; NF 51-100,111; OVE M-10, NEMA MG 1.22.

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

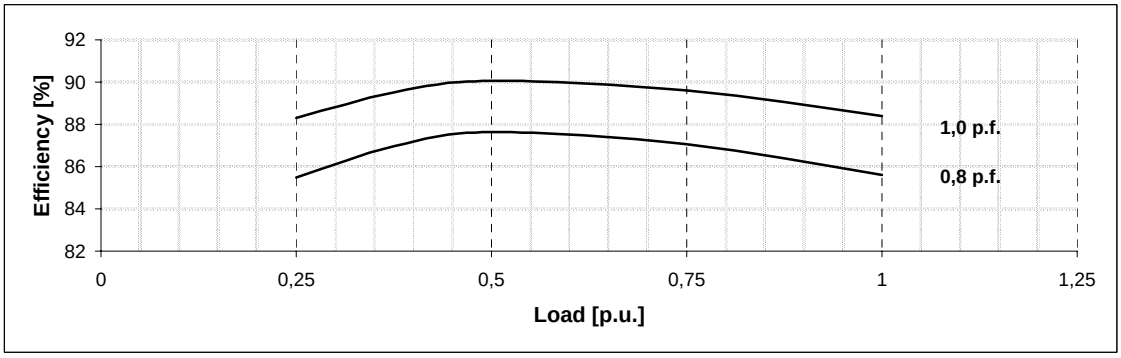
Typical efficiency curves

50 Hz - 1500 min^{-1}

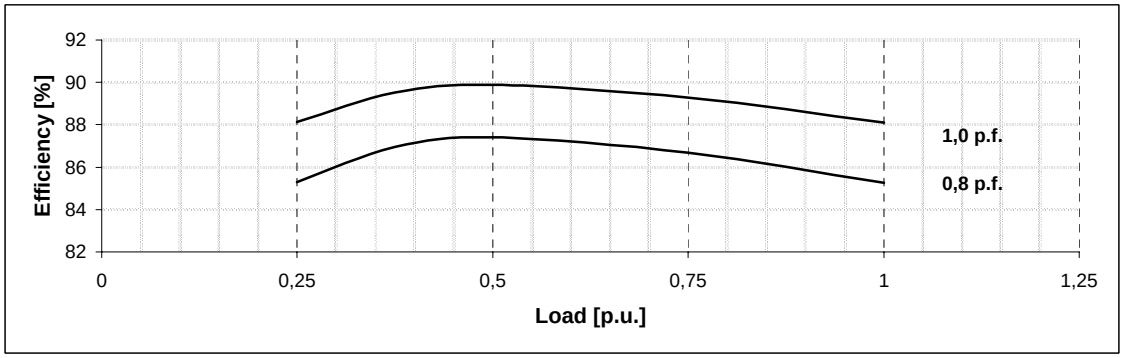
380 V



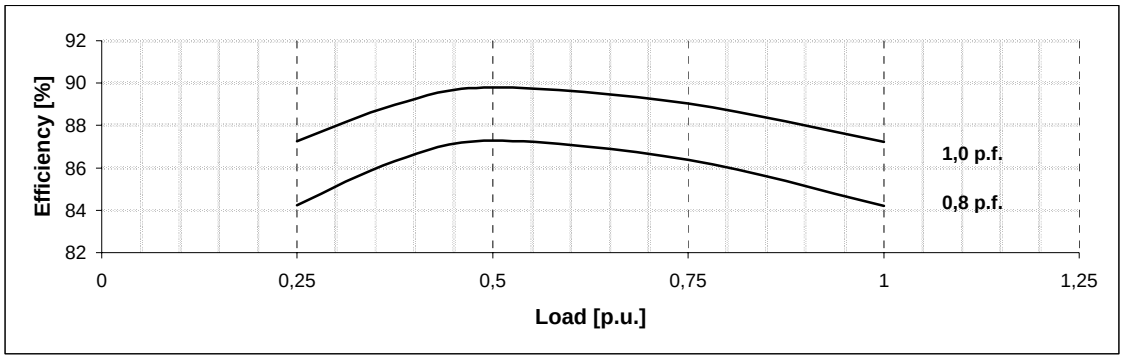
400 V



415 V



440 V



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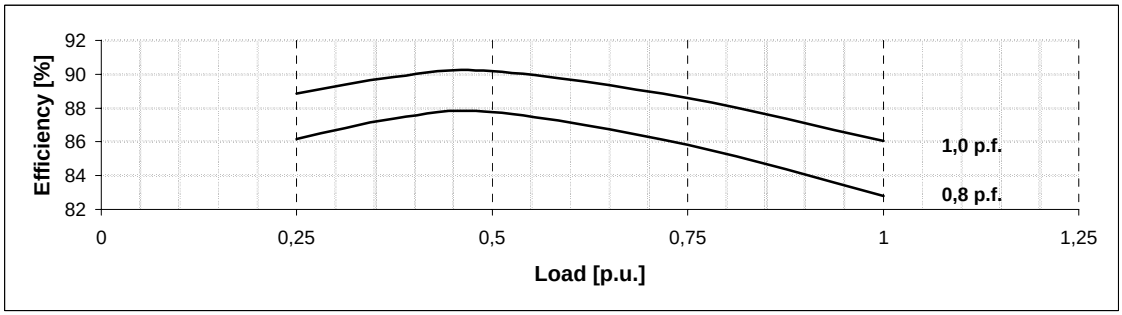
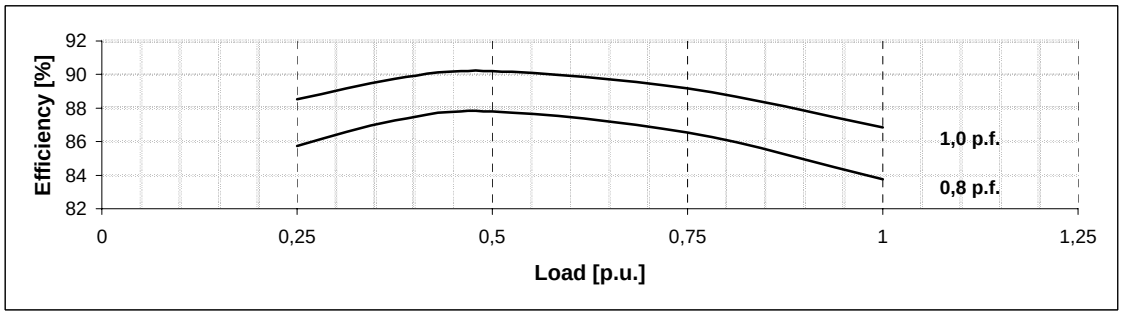
Typical efficiency curves

60 Hz - 1800 min^{-1}

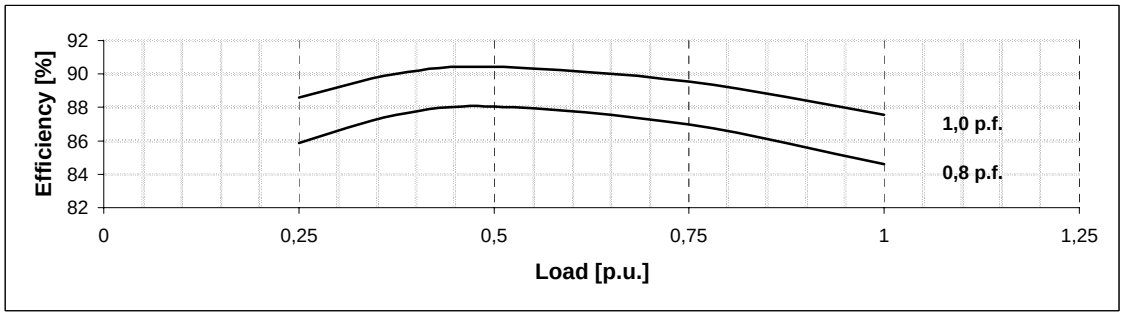
380 V



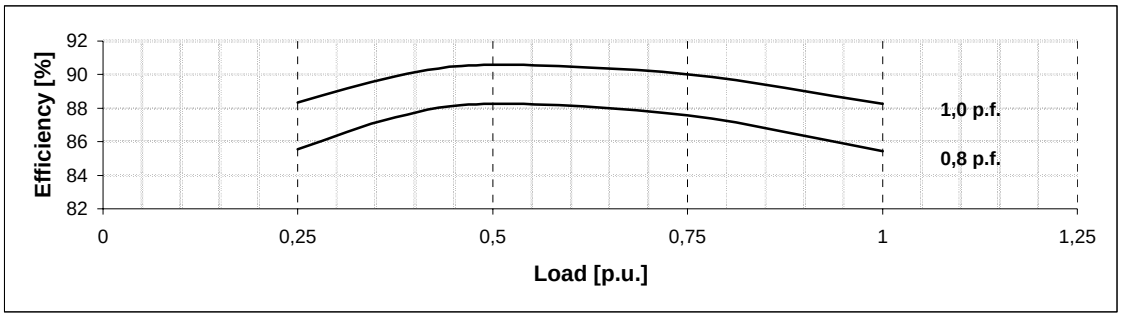
416 V



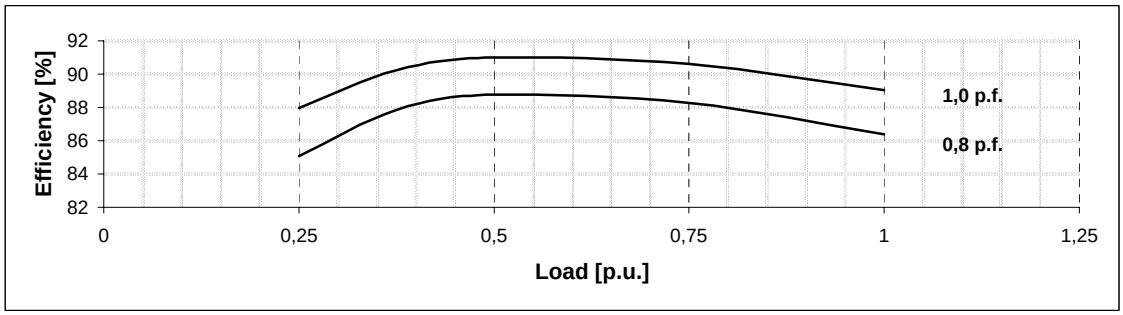
440 V



460 V



480 V



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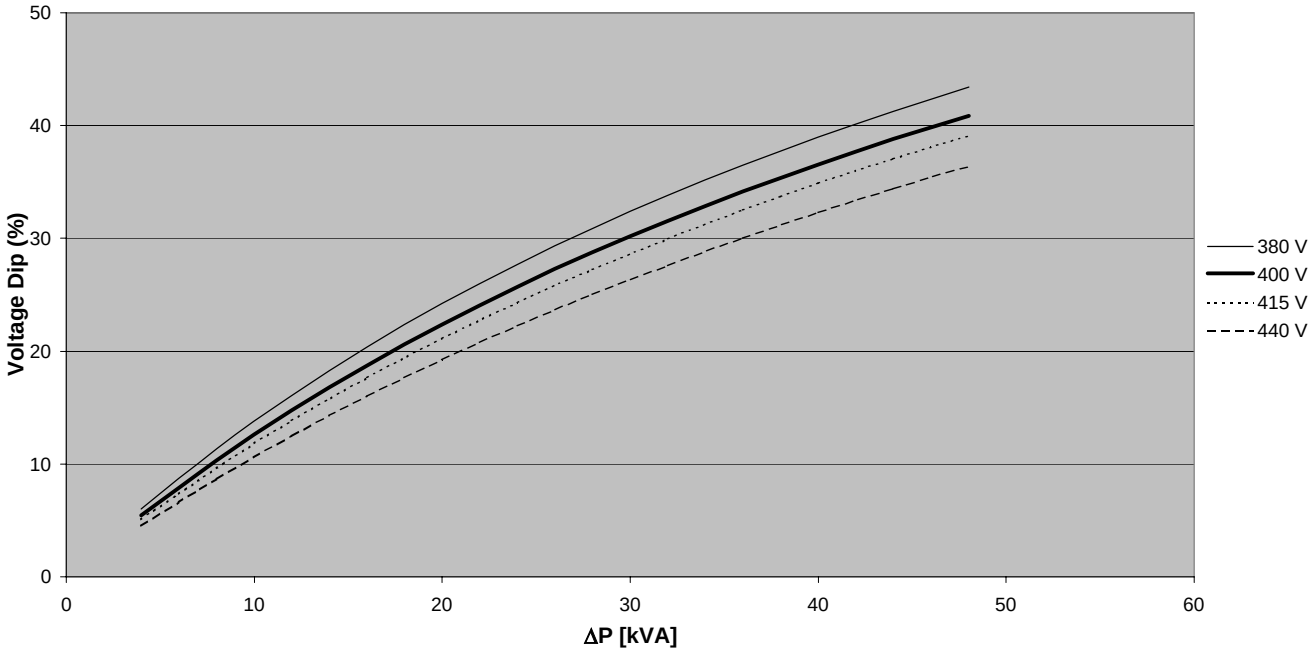
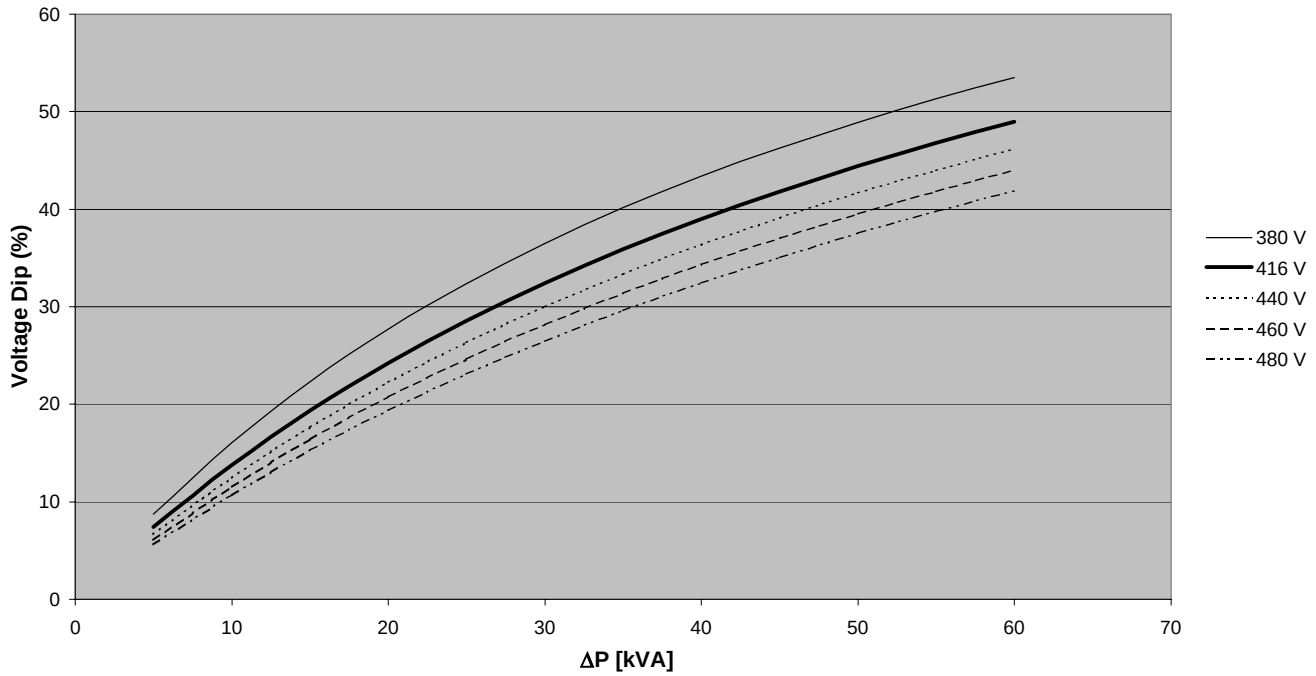
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

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

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THREE-PHASE SYNCHRONOUS GENERATOR

MJB 160 SB 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		**190**	**200**	**208**	**220**	**190**	**208**	**220**	**230**	**240**
RATING		**kVA**	**18,8**	**20,0**	**20,0**	**20,0**	**21,2**	**22,4**	**23,5**	**23,5**	**24,7**
		kW	***15,1***	***16,0***	***16,0***	***16,0***	***16,9***	***17,9***	***18,8***	***18,8***	***19,8***
EFFICIENCY (%) @ 0,8 p.f.		4/4	85,9	87,4	87,2	86,4	84,8	86,1	86,7	87,5	88,2
		3/4	88,3	89,1	88,9	88,5	87,6	88,5	88,7	89,4	89,8
		2/4	89,4	89,6	89,7	89,6	89,3	89,7	90,0	90,0	90,3
EFFICIENCY (%) @ 1,0 p.f.		4/4	88,6	89,9	89,7	89,0	87,8	88,8	89,3	89,9	90,6
		3/4	90,7	91,3	91,1	90,7	90,0	90,8	91,0	91,5	91,9
		2/4	91,5	91,7	91,7	91,6	91,5	91,8	92,0	92,0	92,3
SHORT CIRCUIT RATIO			0,48	0,50	0,54	0,61	0,36	0,40	0,43	0,47	0,49
REACTANCES (%)											
Direct axis synchronous		xd	240	230	215	190	325	285	270	245	235
Quadrature axis synchronous		xq	135	130	120	105	185	160	150	140	135
Direct axis transient		x'd	23,5	22,5	20,9	18,6	31,7	27,9	26,3	24,0	23,2
Direct axis subtransient		x''d	11,3	10,8	10,0	8,9	15,2	13,4	12,6	11,5	11,1
Quadrature axis subtransient		x''q	13,3	12,8	11,9	10,6	18,0	15,9	14,9	13,7	13,2
Negative sequence		x_2	12,3	11,8	11,0	9,8	16,6	14,6	13,8	12,6	12,1
Zero sequence		x_0	1,4	1,3	1,2	1,1	1,8	1,6	1,5	1,4	1,3

TIME CONSTANTS [s]

Open circuit (T'do)	0,46	Subtransient (T''d)	0,008
Transient (T'd)	0,035	Armature (Ta)	0,005

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6310 2RS C3 / Prelubricated
N-end bearing/Lubrication	6309 2RS C3 / Prelubricated
Weight (IM B34) [kg]	130
Inertia (J) (IM B34) [kgm^2]	0,124
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	0,11 / 0,14
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,9
Overloads	10% for 1 hour
3-phase short circuit current	>= 300% (3 I_n)
Voltage regulation accuracy	+/- 1 % (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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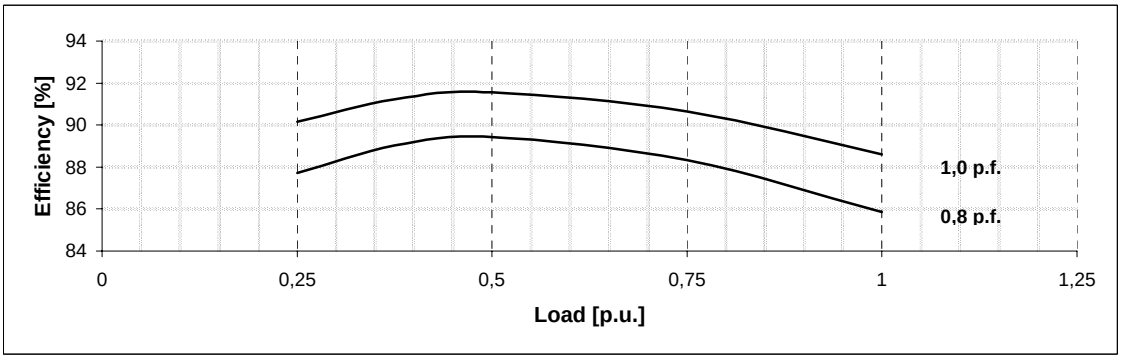
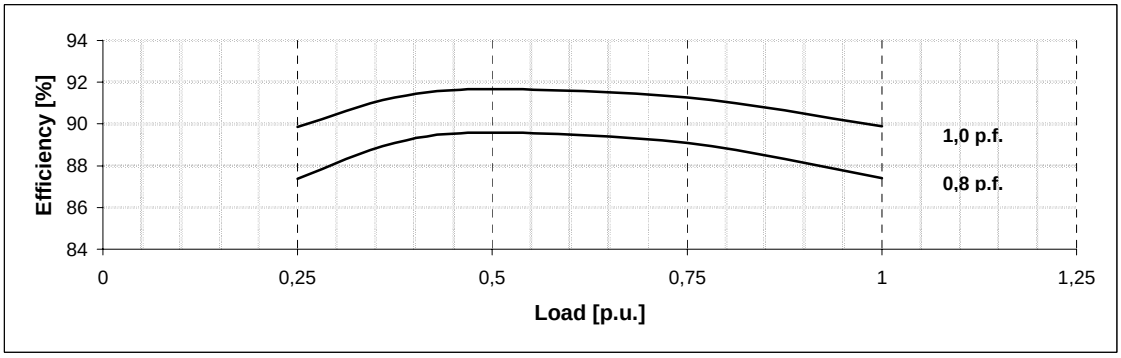
Typical efficiency curves

50 Hz - 1500 min^{-1}

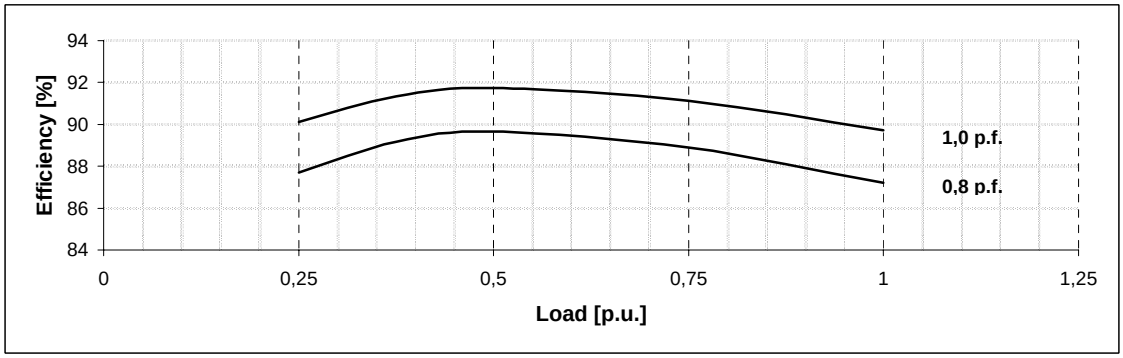
380 V



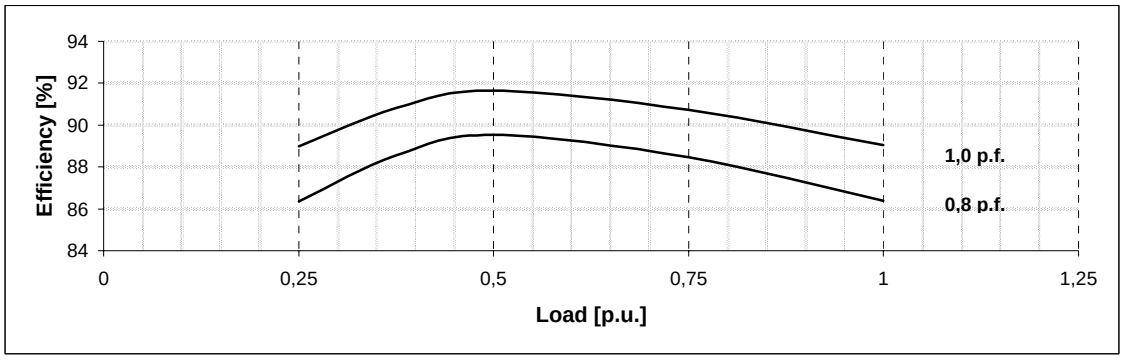
400 V



415 V



440 V



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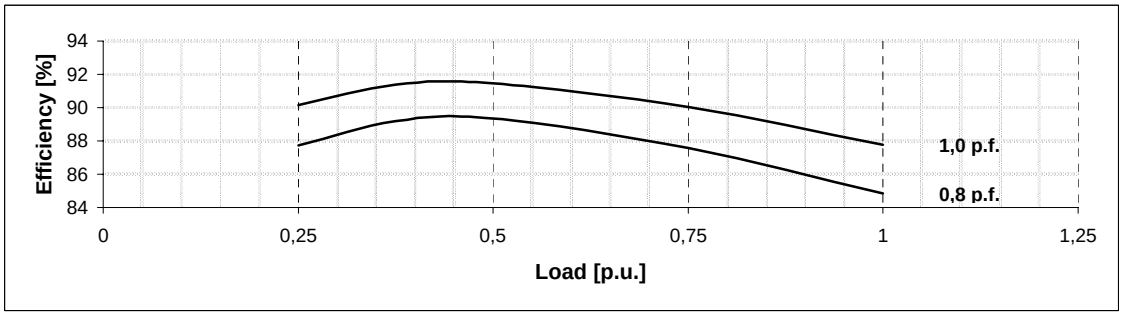
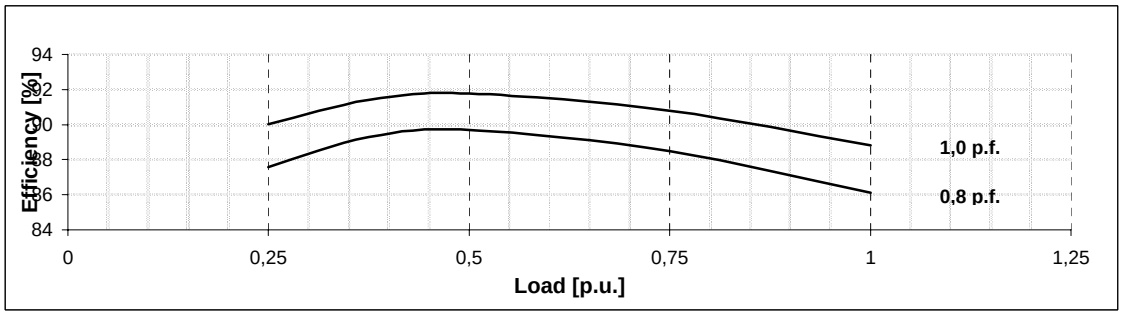
Typical efficiency curves

60 Hz - 1800 min^{-1}

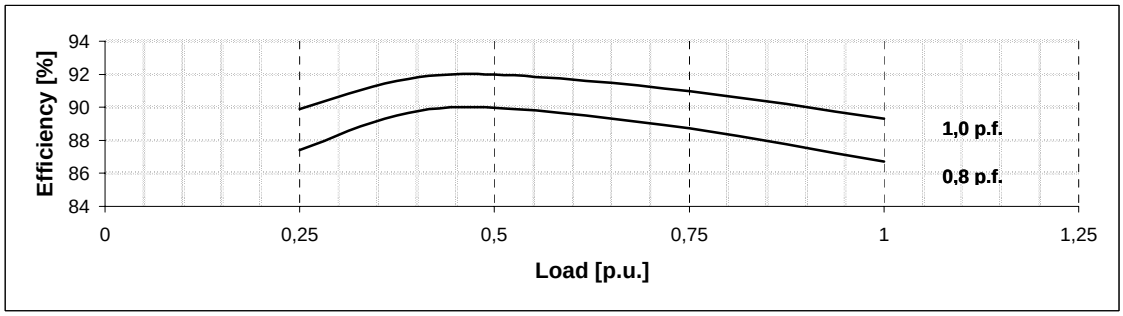
380 V



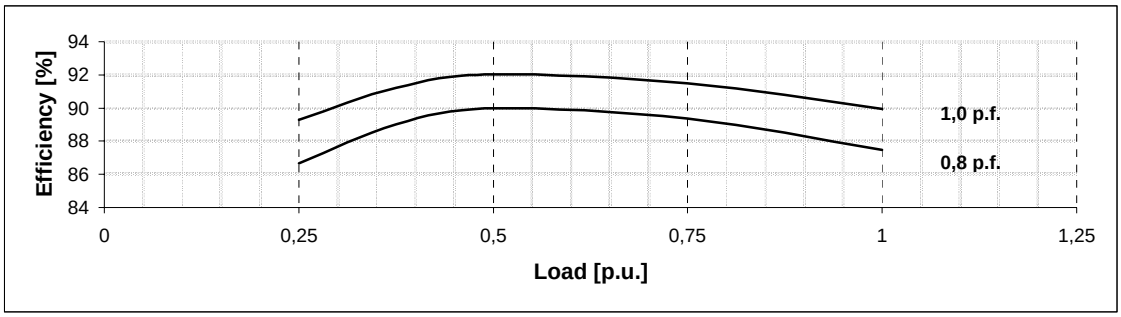
416 V



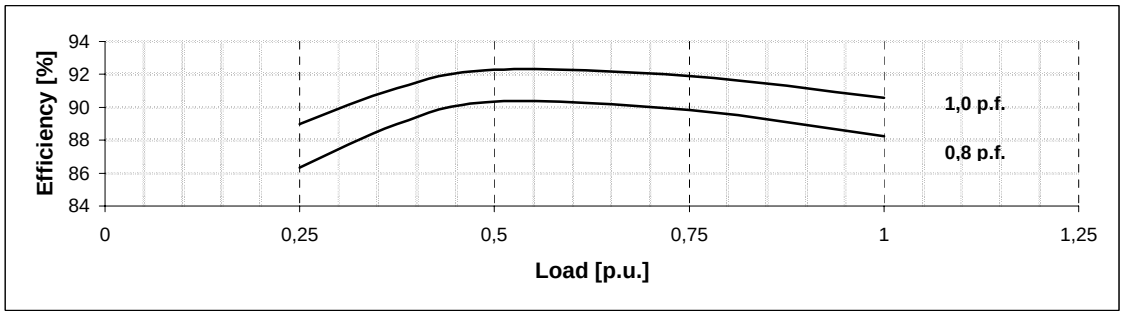
440 V



460 V



480 V



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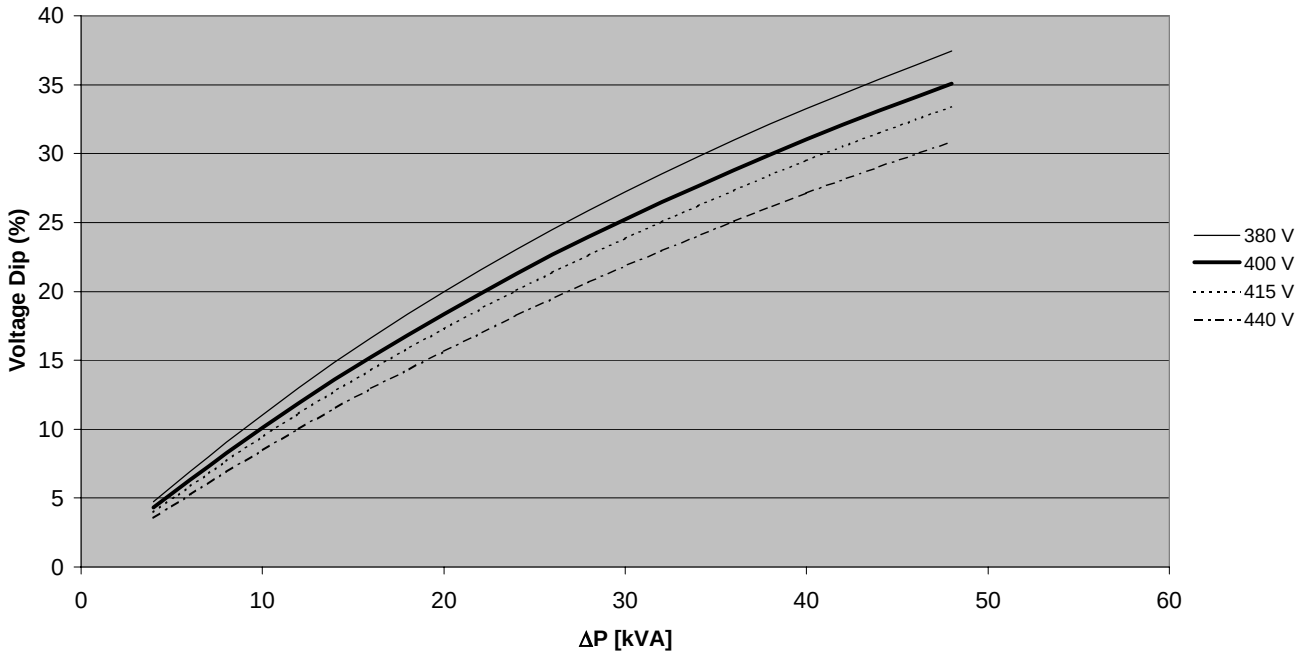
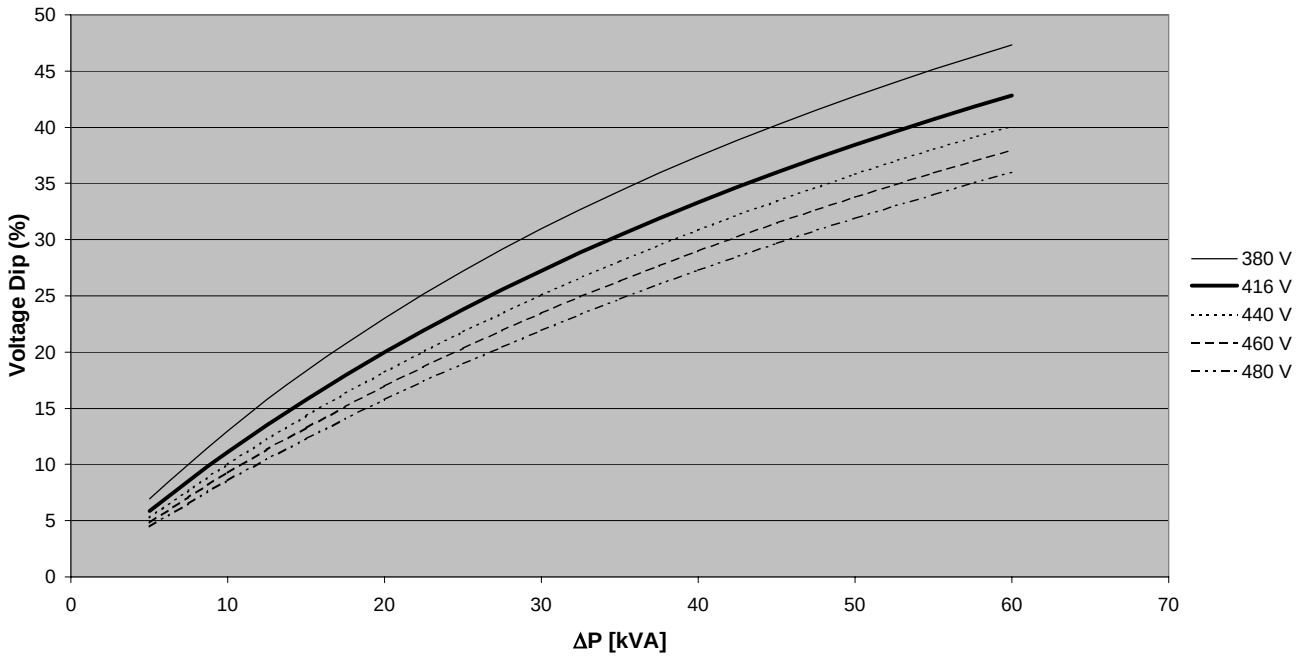
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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THREE-PHASE SYNCHRONOUS GENERATOR

MJB 160 SC 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		**190**	**200**	**208**	**220**	**190**	**208**	**220**	**230**	**240**
RATING		**kVA**	**24,7**	**26,0**	**26,0**	**26,0**	**28,6**	**30,6**	**31,2**	**31,2**	**33,8**
		kW	***19,8***	***20,8***	***20,8***	***20,8***	***22,9***	***24,4***	***25,0***	***25,0***	***27,0***
EFFICIENCY (%) @ 0,8 p.f.		4/4	86,2	87,5	87,1	86,8	85,9	86,5	86,9	87,7	88,3
		3/4	88,4	88,9	88,9	88,7	88,3	88,6	89,0	89,5	89,9
		2/4	89,5	89,4	89,4	89,4	89,5	89,7	90,1	90,1	90,4
EFFICIENCY (%) @ 1,0 p.f.		4/4	88,9	90,0	89,6	89,4	88,6	89,1	89,5	90,1	90,7
		3/4	90,7	91,1	91,1	90,9	90,6	90,9	91,2	91,6	91,9
		2/4	91,6	91,5	91,5	91,5	91,6	91,8	92,1	92,1	92,3
SHORT CIRCUIT RATIO			0,43	0,45	0,48	0,54	0,31	0,35	0,38	0,41	0,42
REACTANCES (%)											
Direct axis synchronous		xd	240	230	215	190	335	300	275	250	250
Quadrature axis synchronous		xq	135	130	120	105	190	170	155	140	140
Direct axis transient		x'd	23,2	22,0	20,4	18,2	32,2	28,7	26,2	24,0	23,8
Direct axis subtransient		x"d	10,5	10,0	9,3	8,3	14,6	13,0	11,9	10,9	10,8
Quadrature axis subtransient		x"q	12,6	12,0	11,1	9,9	17,6	15,6	14,3	13,1	13,0
Negative sequence		x_2	11,6	11,0	10,2	9,1	16,1	14,3	13,1	12,0	11,9
Zero sequence		x_0	2,2	2,1	2,0	1,7	3,1	2,7	2,5	2,3	2,3

TIME CONSTANTS [s]

Open circuit (T'do)	0,35	Subtransient (T"d)	0,005
Transient (T'd)	0,035	Armature (Ta)	0,004

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6310 2RS C3 / Prelubricated
N-end bearing/Lubrication	6309 2RS C3 / Prelubricated
Weight (IM B34) [kg]	140
Inertia (J) (IM B34) [kgm^2]	0,135
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	0,11 / 0,14
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,65
Overloads	10% for 1 hour
3-phase short circuit current	>= 300% (3 I_n)
Voltage regulation accuracy	+/- 1 % (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.

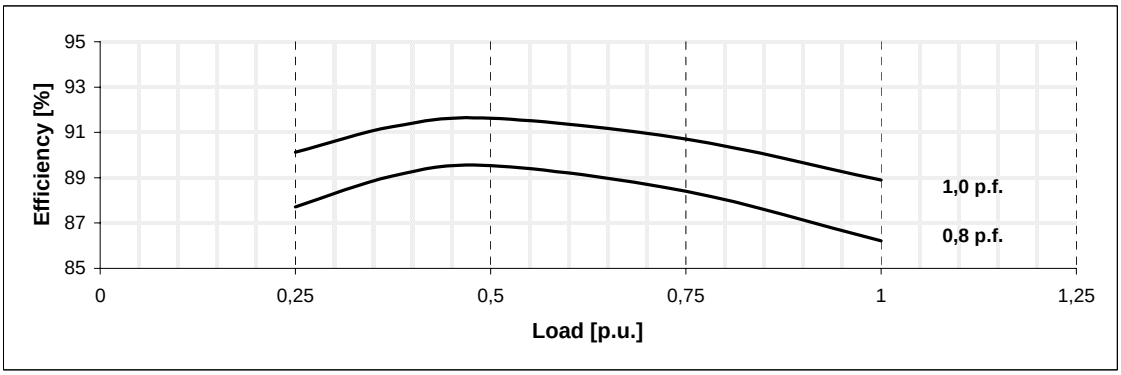
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

MarelliGenerators

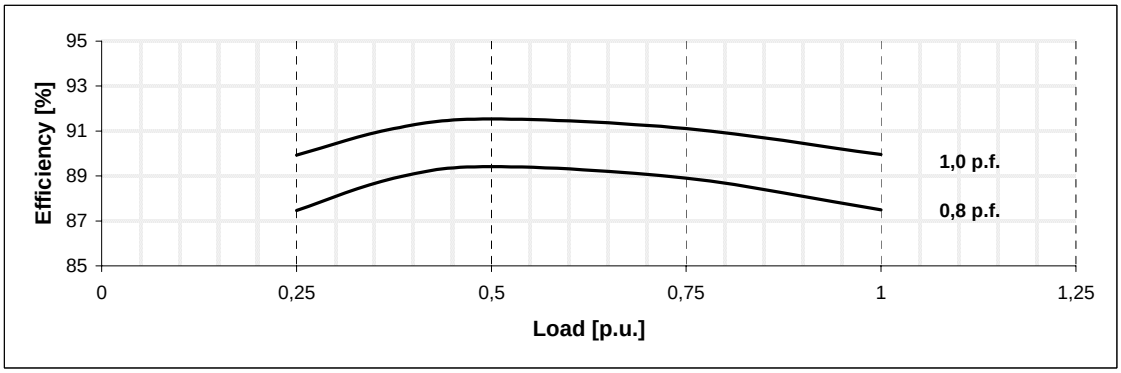
Typical efficiency curves

50 Hz - 1500 min^{-1}

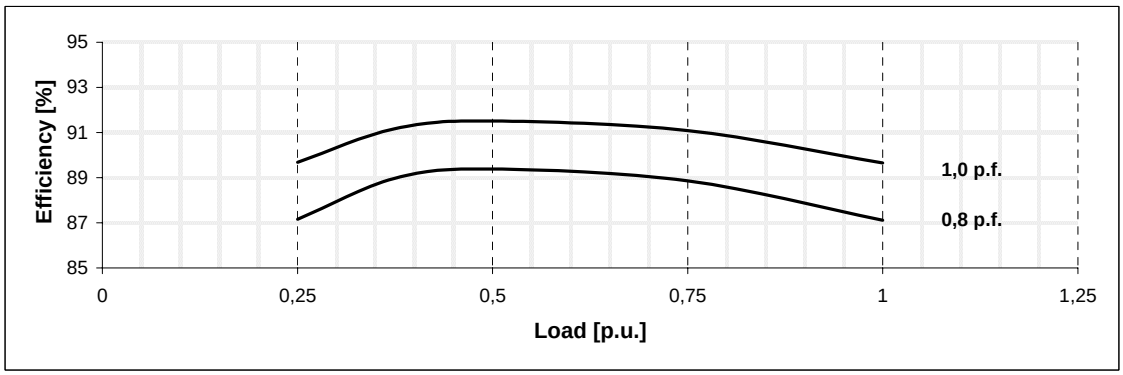
380 V



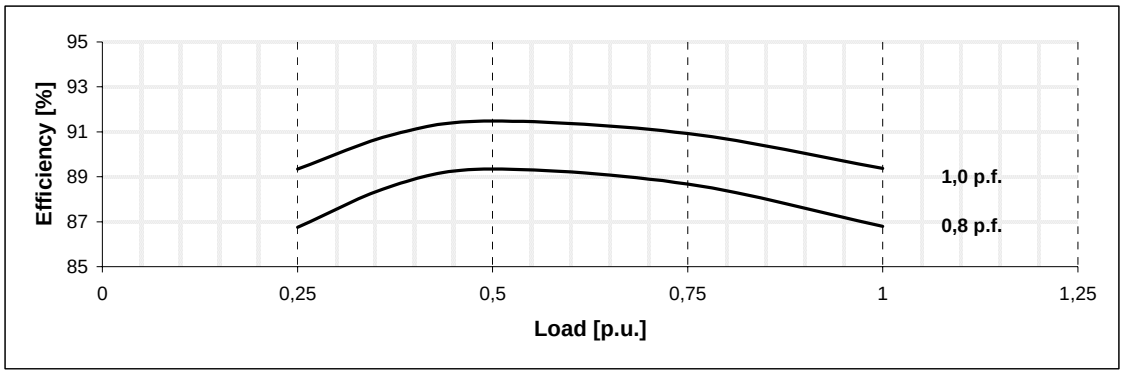
400 V



415 V



440 V



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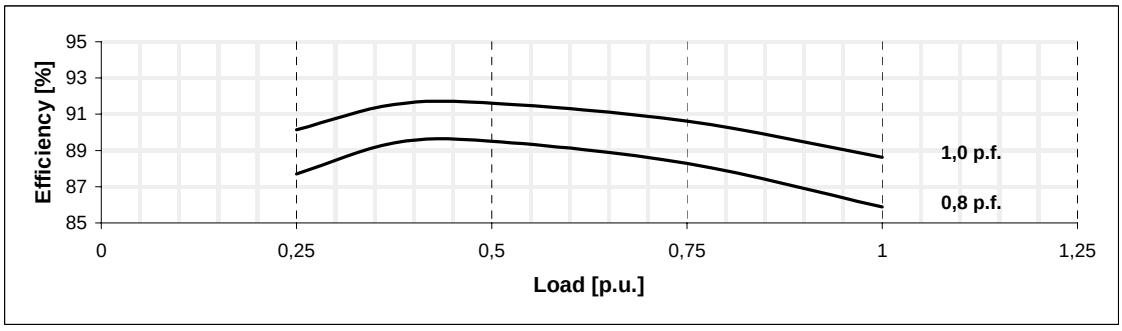
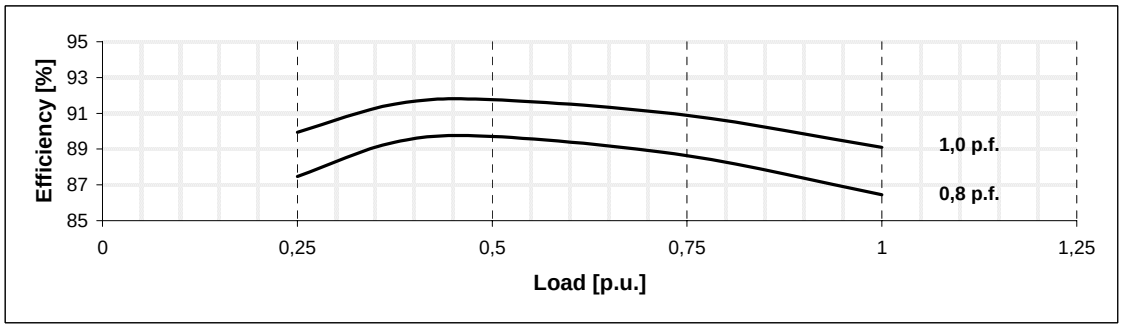
Typical efficiency curves

60 Hz - 1800 min^{-1}

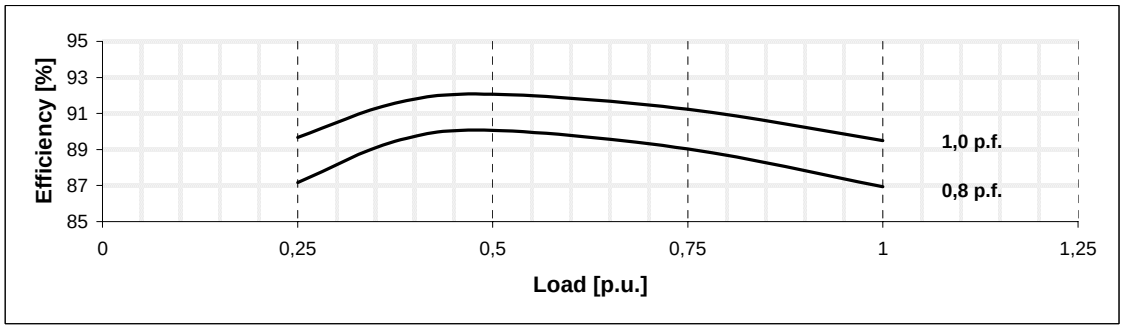
380 V



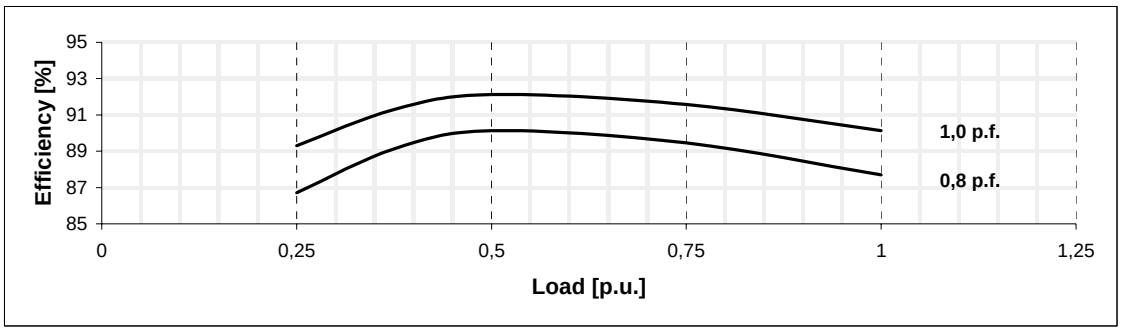
416 V



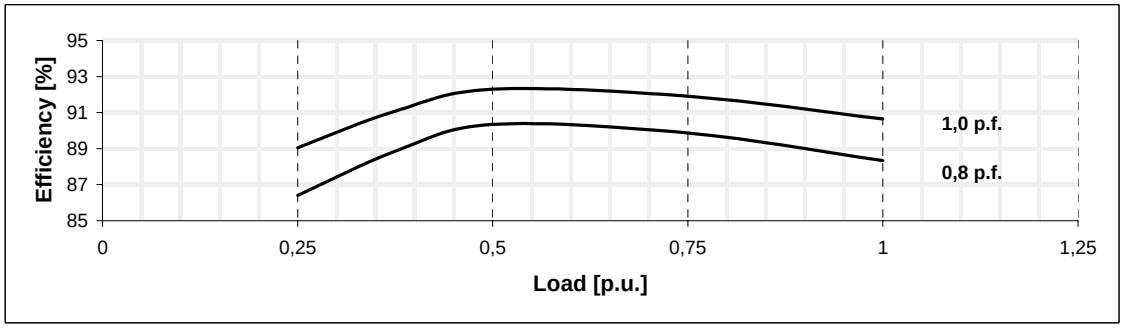
440 V



460 V



480 V



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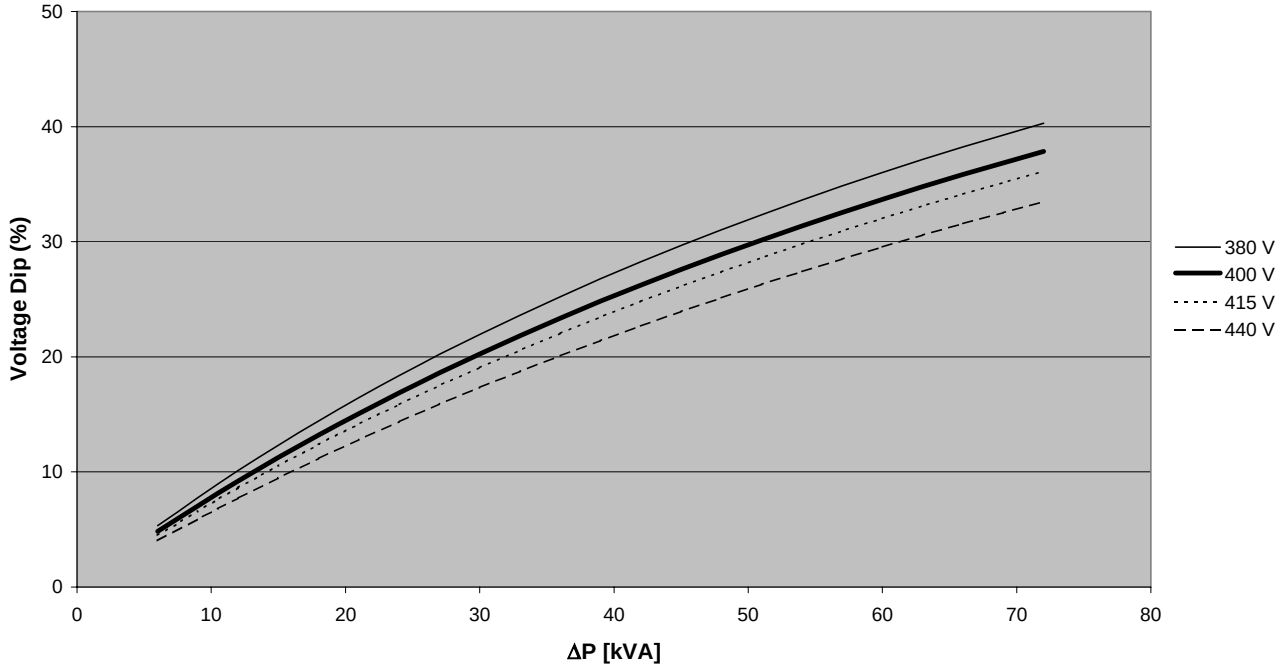
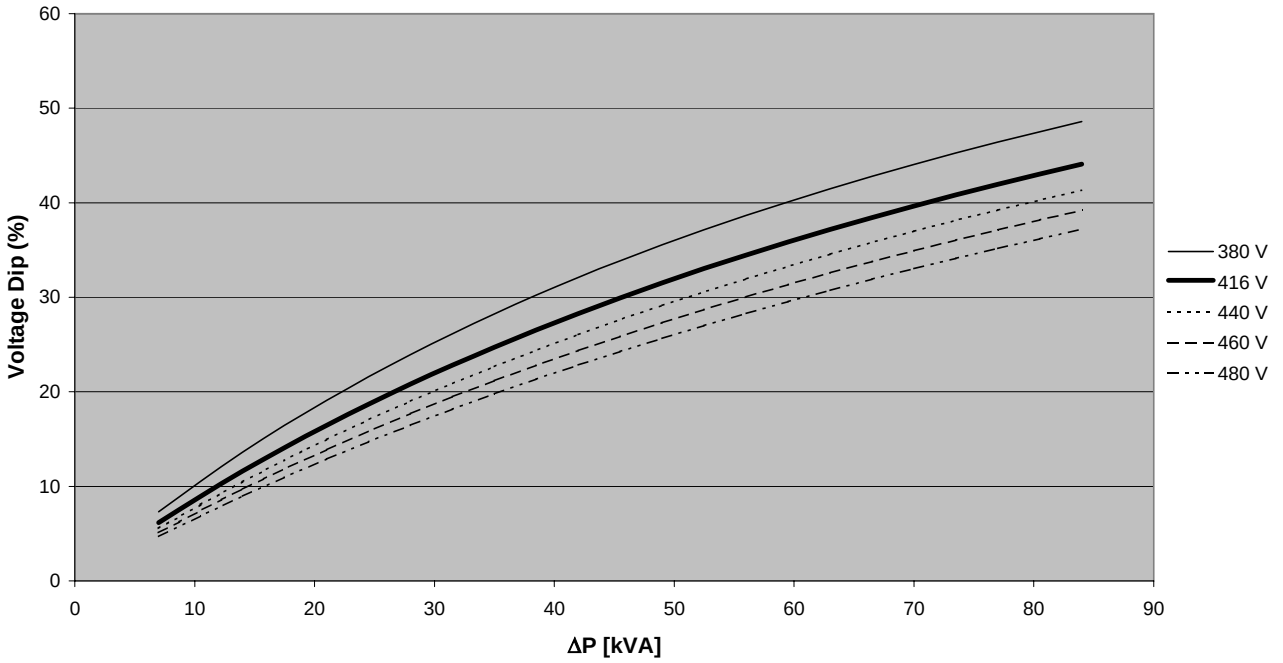
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 160 MA 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		**190**	**200**	**208**	**220**	**190**	**208**	**220**	**230**	**240**
RATING		**kVA**	**25,9**	**28,0**	**28,0**	**28,0**	**29,0**	**31,1**	**33,2**	**33,2**	**34,2**
		kW	***20,7***	***22,4***	***22,4***	***22,4***	***23,2***	***24,9***	***26,5***	***26,5***	***27,4***
EFFICIENCY (%) @ 0,8 p.f.		4/4	87,0	88,2	87,7	87,3	86,9	87,4	87,9	88,4	89,2
		3/4	89,0	89,6	89,1	89,1	89,0	89,4	89,6	90,0	90,4
		2/4	90,2	90,4	89,9	89,9	90,3	90,3	90,4	90,6	90,8
EFFICIENCY (%) @ 1,0 p.f.		4/4	89,5	90,5	90,2	89,8	89,5	89,9	90,3	90,7	91,4
		3/4	91,2	91,6	91,3	91,3	91,2	91,5	91,7	92,0	92,3
		2/4	92,1	92,3	91,9	92,0	92,2	92,3	92,4	92,5	92,7
SHORT CIRCUIT RATIO			0,39	0,40	0,43	0,48	0,29	0,32	0,34	0,37	0,39
REACTANCES (%)											
Direct axis synchronous		xd	230	225	210	185	310	275	265	240	230
Quadrature axis synchronous		xq	130	125	115	105	170	155	145	135	125
Direct axis transient		x'd	20,0	19,5	18,1	16,1	26,9	24,0	22,9	21,0	19,9
Direct axis subtransient		x"d	9,6	9,4	8,7	7,8	13,0	11,6	11,0	10,1	9,6
Quadrature axis subtransient		x"q	11,5	11,2	10,4	9,3	15,4	13,8	13,2	12,0	11,4
Negative sequence		x_2	10,6	10,3	9,6	8,5	14,2	12,7	12,1	11,1	10,5
Zero sequence		x_0	1,2	1,2	1,1	1,0	1,7	1,5	1,4	1,3	1,2

TIME CONSTANTS [s]

Open circuit (T'do)	0,64	Subtransient (T"d)	0,008
Transient (T'd)	0,045	Armature (Ta)	0,006

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6310 2RS C3 / Prelubricated
N-end bearing/Lubrication	6309 2RS C3 / Prelubricated
Weight (IM B34) [kg]	165
Inertia (J) (IM B34) [kgm^2]	0,160
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	0,11 / 0,14
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,38
Overloads	10% for 1 hour
3-phase short circuit current	>= 300% (3 I_n)
Voltage regulation accuracy	+/- 1 % (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.

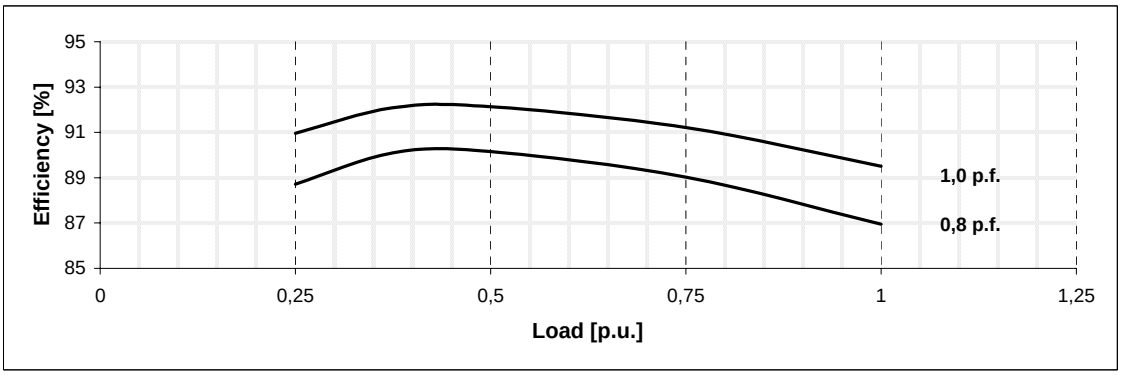
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

MarelliGenerators

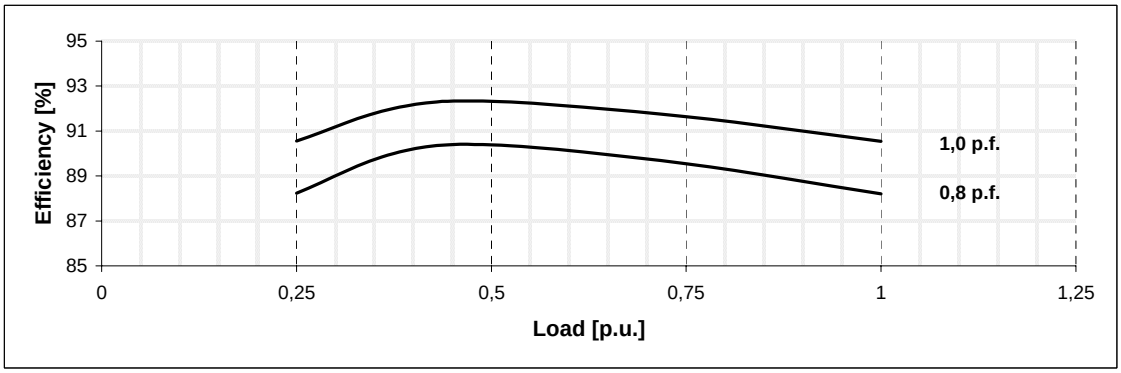
Typical efficiency curves

50 Hz - 1500 min^{-1}

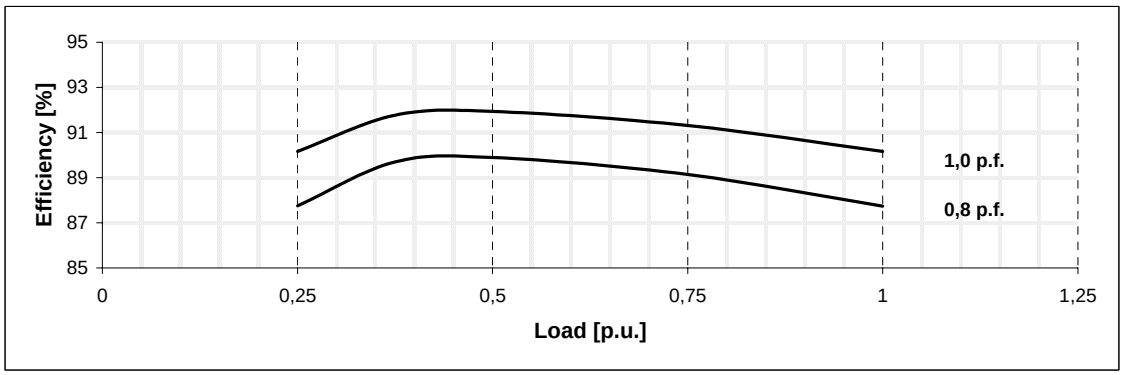
380 V



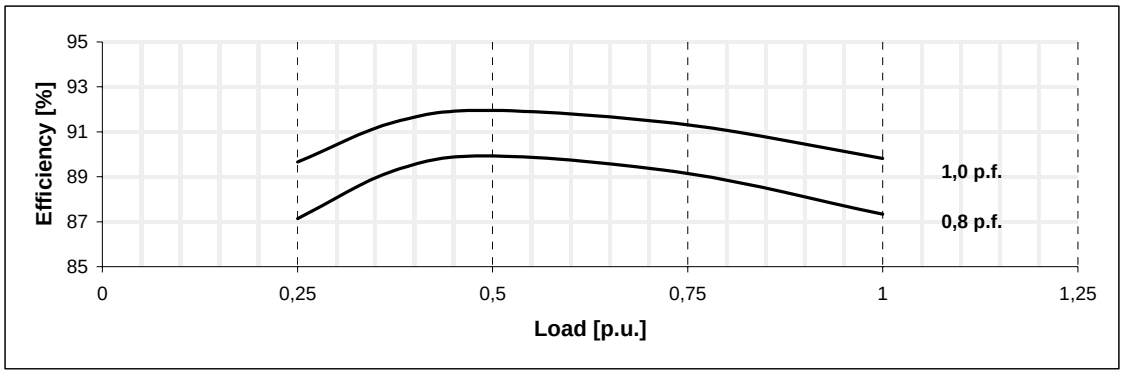
400 V



415 V



440 V



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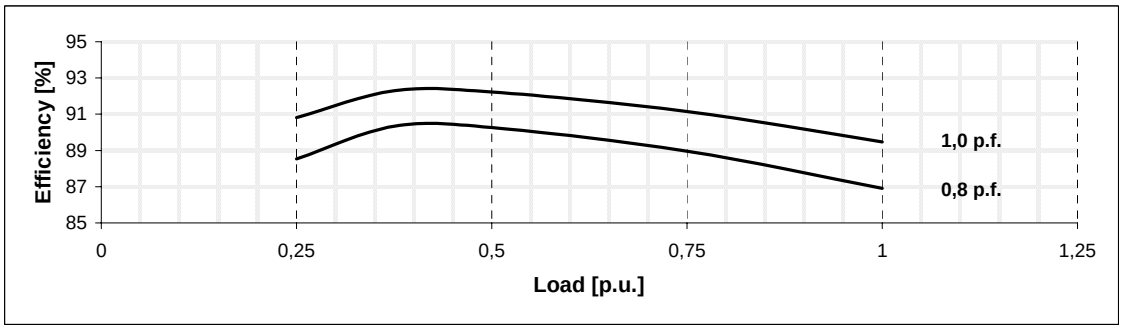
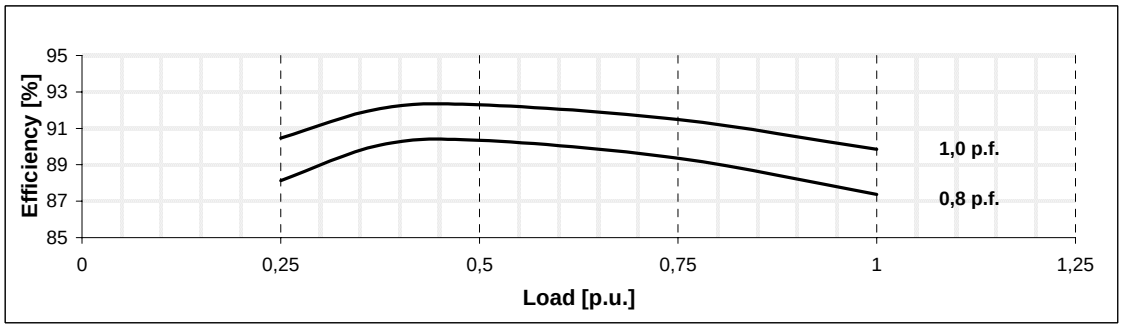
Typical efficiency curves

60 Hz - 1800 min^{-1}

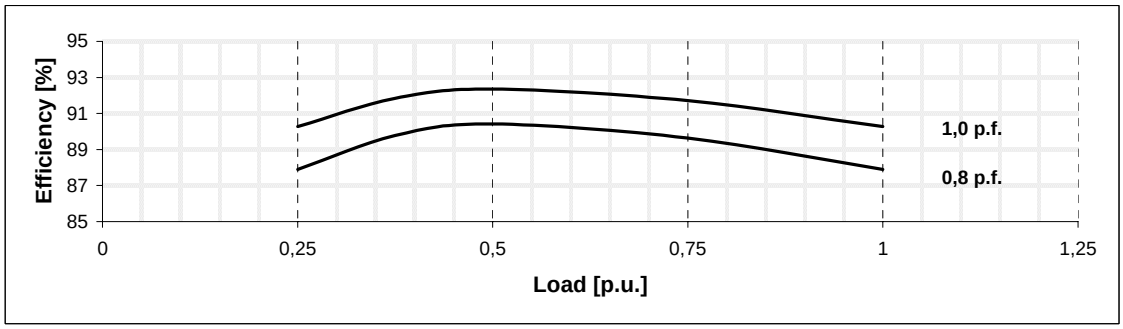
380 V



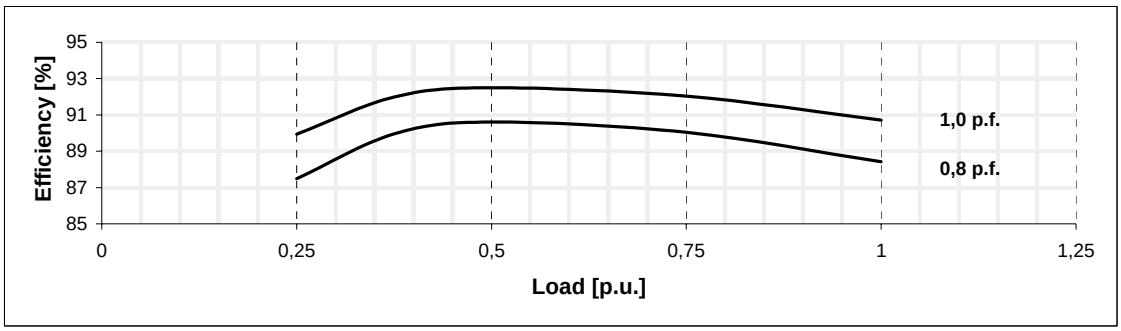
416 V



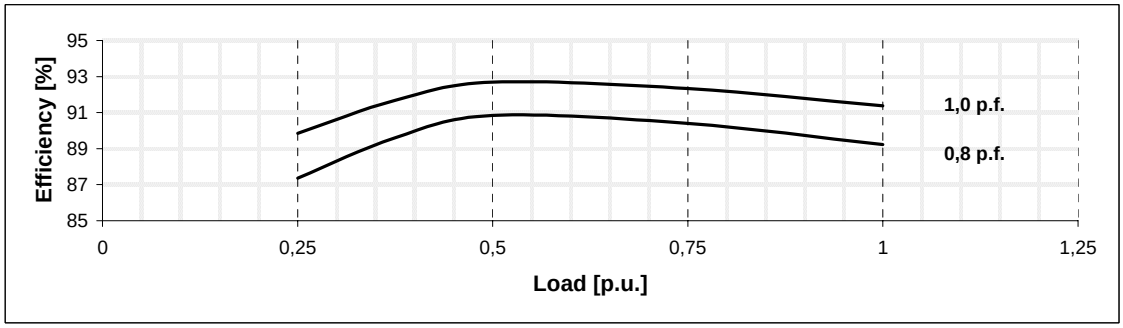
440 V



460 V



480 V



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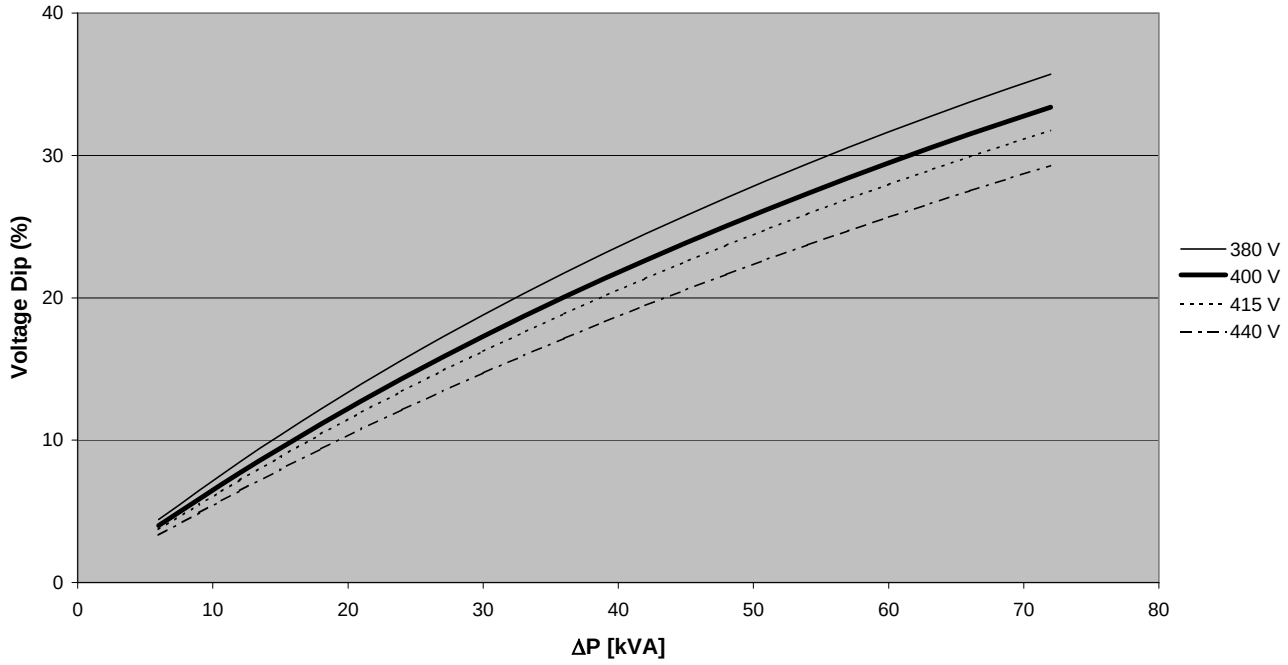
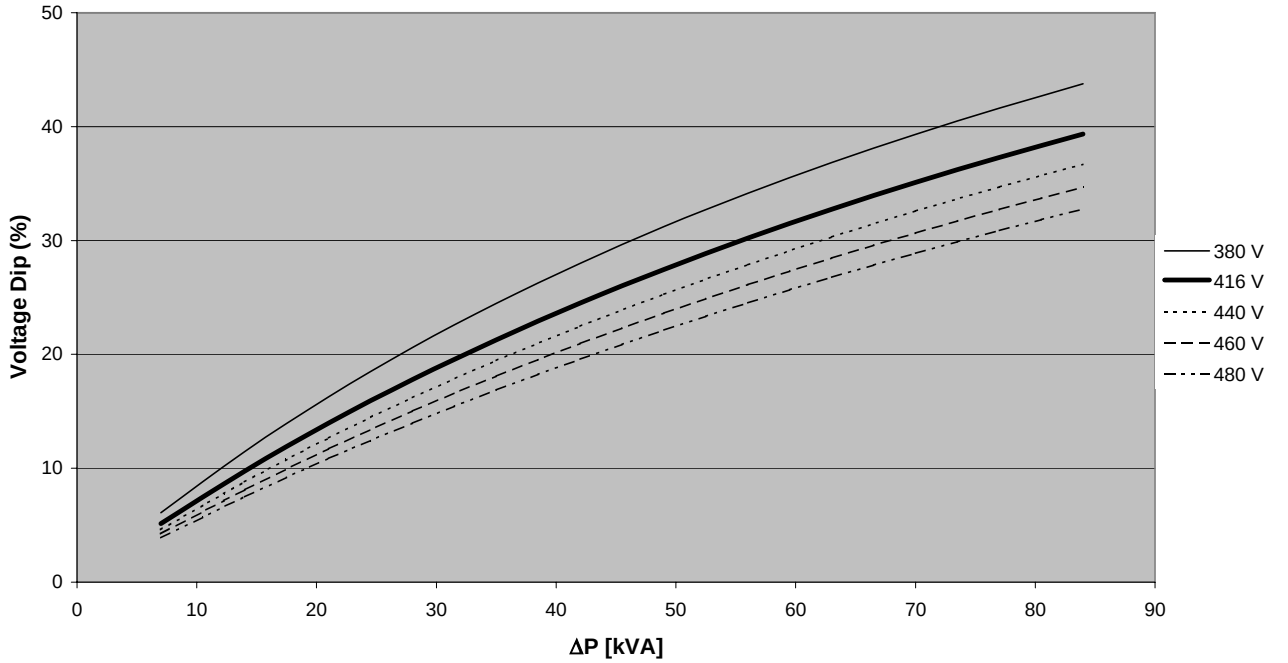
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 160 MB 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		**190**	**200**	**208**	**220**	**190**	**208**	**220**	**230**	**240**
RATING		**kVA**	**30,9**	**32,0**	**32,0**	**32,0**	**33,1**	**35,2**	**38,4**	**38,4**	**40,0**
		kW	***24,7***	***25,6***	***25,6***	***25,6***	***26,5***	***28,2***	***30,7***	***30,7***	***32,0***
EFFICIENCY (%) @ 0,8 p.f.		4/4	87,4	88,3	87,9	87,7	87,2	87,8	88,3	88,8	89,1
		3/4	89,2	89,8	89,3	89,3	89,1	89,4	89,8	90,3	90,7
		2/4	90,3	90,6	89,9	90,1	90,3	90,5	90,6	90,8	91,0
EFFICIENCY (%) @ 1,0 p.f.		4/4	89,9	90,6	90,3	90,1	89,7	90,2	90,6	91,1	91,3
		3/4	91,3	91,8	91,5	91,4	91,2	91,5	91,9	92,2	92,6
		2/4	92,2	92,5	92,0	92,1	92,3	92,4	92,5	92,7	92,8
SHORT CIRCUIT RATIO			0,43	0,46	0,50	0,56	0,33	0,38	0,39	0,42	0,44
REACTANCES (%)											
Direct axis synchronous		xd	260	245	230	200	335	300	290	265	255
Quadrature axis synchronous		xq	145	135	125	110	185	165	160	145	140
Direct axis transient		x'd	22,0	20,5	19,0	16,9	28,2	25,0	24,4	22,3	21,4
Direct axis subtransient		x''d	10,5	9,8	9,1	8,1	13,5	12,0	11,7	10,7	10,2
Quadrature axis subtransient		x''q	12,4	11,6	10,8	9,6	15,9	14,2	13,8	12,6	12,1
Negative sequence		x_2	11,5	10,7	9,9	8,8	14,7	13,1	12,7	11,7	11,1
Zero sequence		x_0	1,5	1,4	1,3	1,2	1,9	1,7	1,7	1,5	1,5

TIME CONSTANTS [s]

Open circuit (T'do)	0,66	Subtransient (T''d)	0,008
Transient (T'd)	0,045	Armature (Ta)	0,007

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6310 2RS C3 / Prelubricated
N-end bearing/Lubrication	6309 2RS C3 / Prelubricated
Weight (IM B34) [kg]	175
Inertia (J) (IM B34) [kgm^2]	0,170
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	0,11 / 0,14
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,33
Overloads	10% for 1 hour
3-phase short circuit current	>= 300% (3 I_n)
Voltage regulation accuracy	+/- 1 % (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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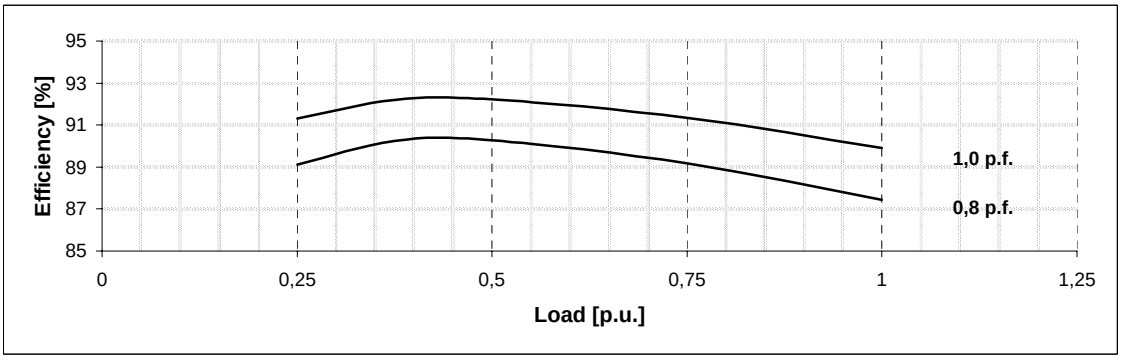
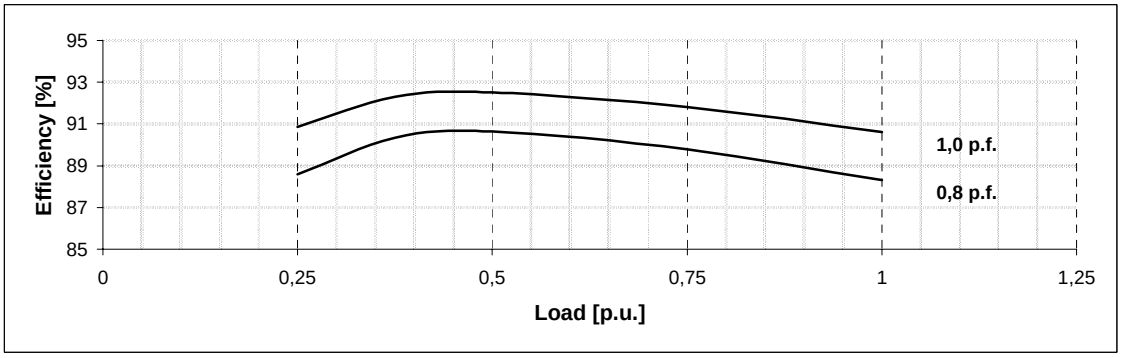
Typical efficiency curves

50 Hz - 1500 min^{-1}

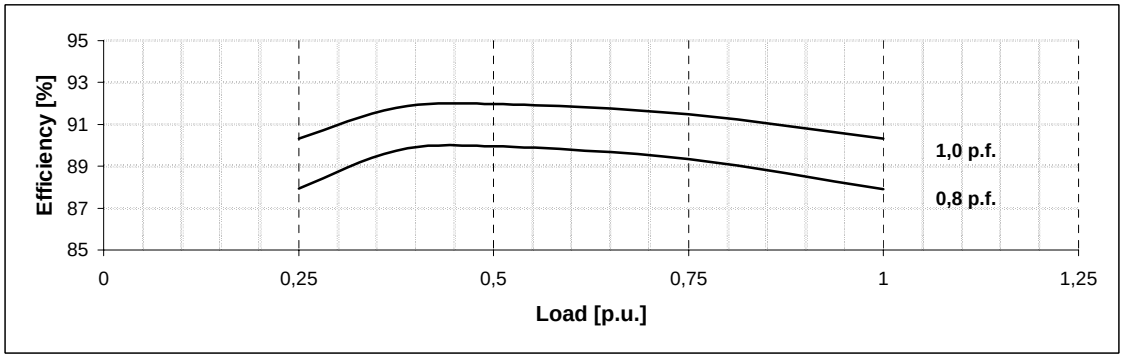
380 V



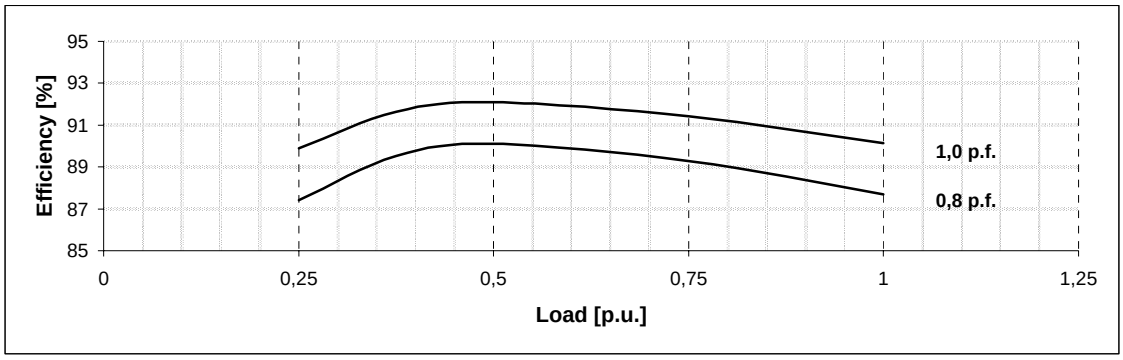
400 V



415 V



440 V



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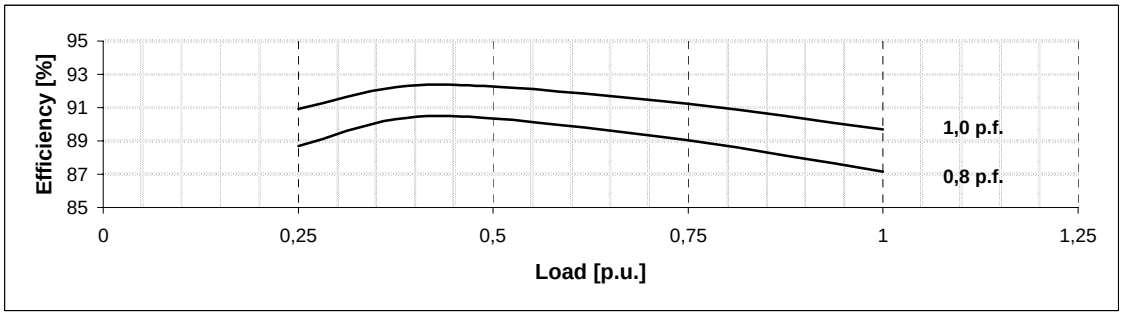
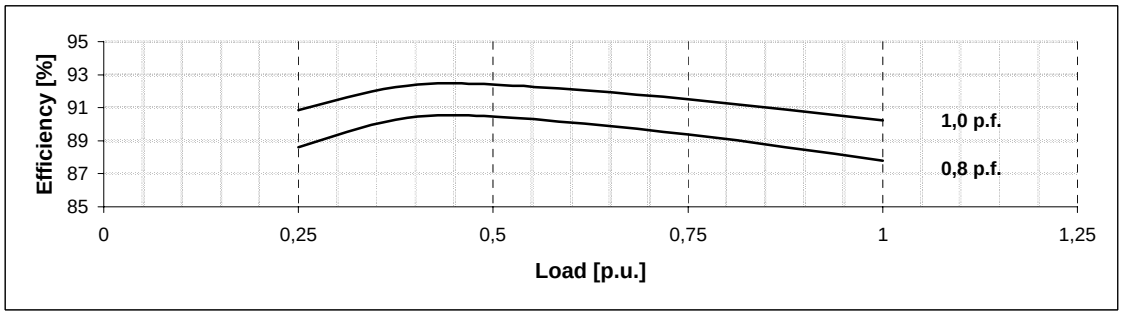
Typical efficiency curves

60 Hz - 1800 min^{-1}

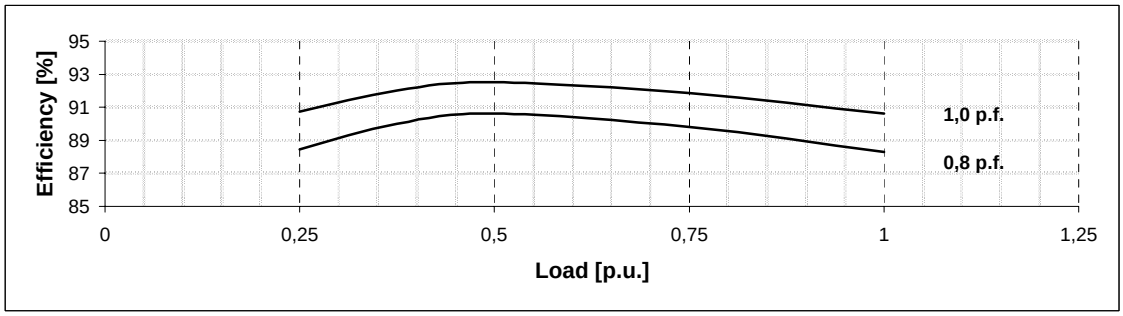
380 V



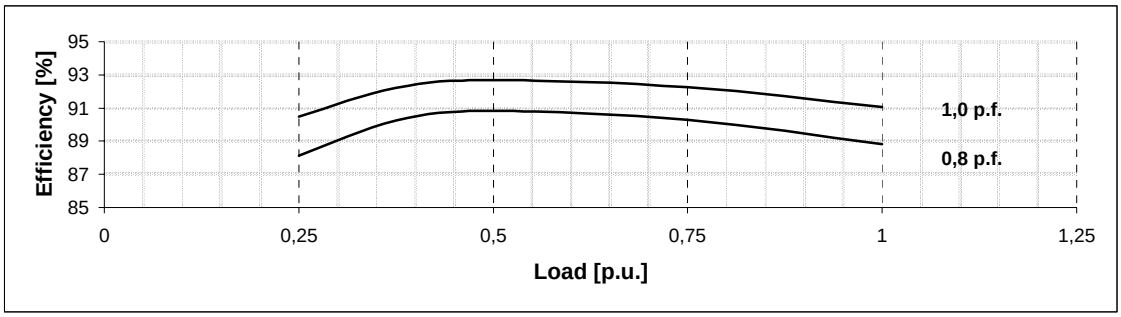
416 V



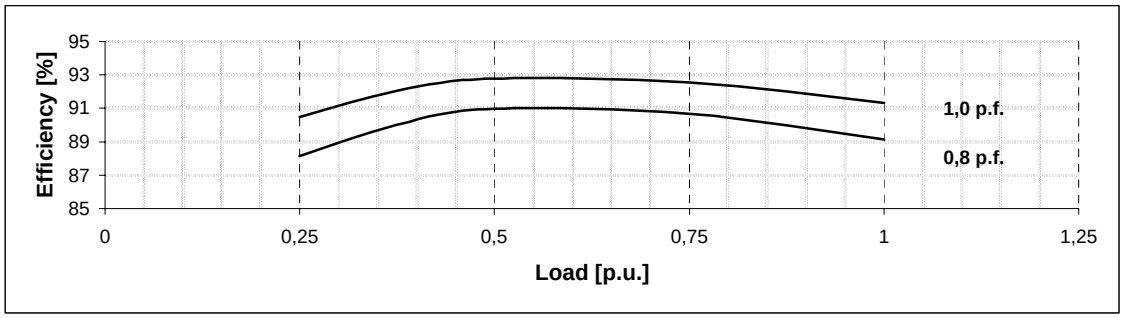
440 V



460 V



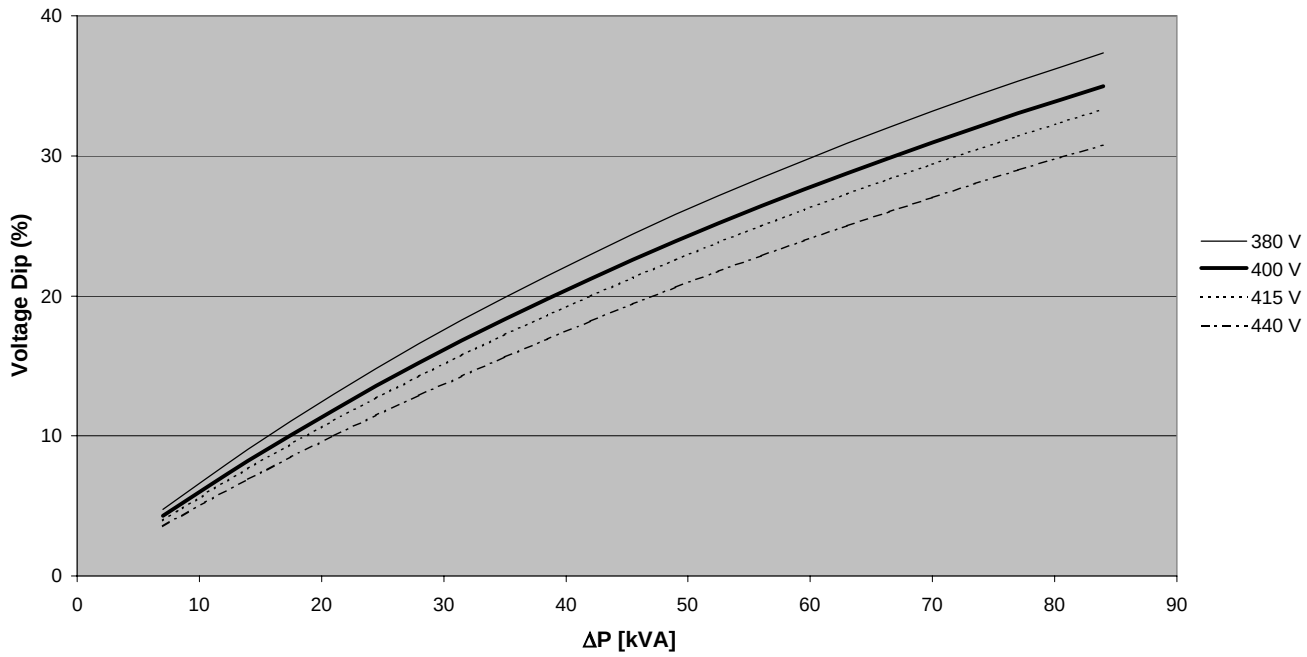
480 V



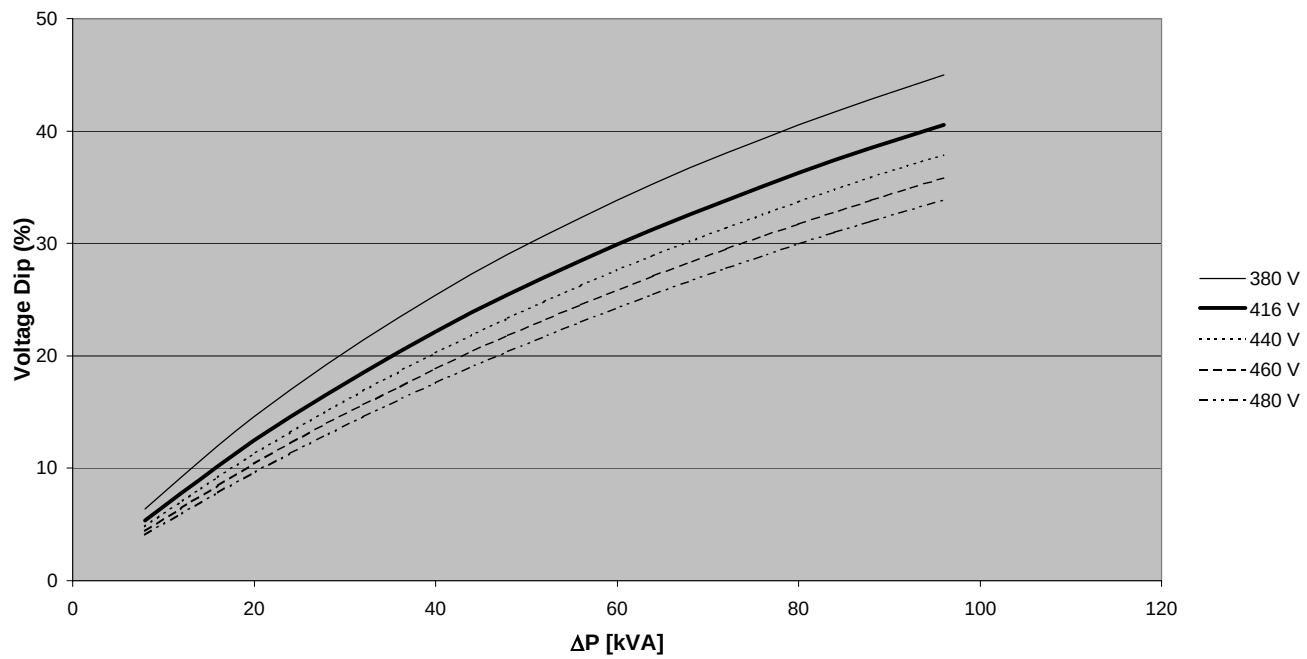
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

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

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 200 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		**190**	**200**	**208**	**220**	**190**	**208**	**220**	**230**	**240**
RATING		**kVA**	**40,0**	**42,0**	**42,0**	**42,0**	**45,5**	**48,0**	**51,0**	**51,0**	**51,0**
		kW	***32,0***	***33,6***	***33,6***	***33,6***	***36,4***	***38,4***	***40,8***	***40,8***	***40,8***
EFFICIENCY (%) @ 0,8 p.f.		4/4	87,7	88,5	88,5	88,0	87,3	88,4	88,9	89,3	89,5
		3/4	89,5	89,8	89,7	89,2	89,0	89,9	90,2	90,6	90,6
		2/4	90,4	90,5	90,4	89,9	90,2	90,8	90,9	91,2	91,3
EFFICIENCY (%) @ 1,0 p.f.		4/4	90,1	90,8	90,7	90,3	89,8	90,7	91,1	91,5	91,6
		3/4	91,6	91,9	91,8	91,4	91,2	91,9	92,1	92,5	92,5
		2/4	92,4	92,4	92,3	91,9	92,2	92,6	92,7	93,0	93,0
SHORT CIRCUIT RATIO			0,40	0,42	0,45	0,51	0,29	0,33	0,35	0,38	0,42
REACTANCES (%)											
Direct axis synchronous		xd	290	275	255	225	395	350	330	305	280
Quadrature axis synchronous		xq	165	155	145	130	225	195	185	170	155
Direct axis transient		x'd	24,6	23,3	21,6	19,3	33,6	29,5	28,1	25,7	23,6
Direct axis subtransient		x''d	12,6	11,9	11,1	9,8	17,1	15,1	14,3	13,1	12,0
Quadrature axis subtransient		x''q	14,5	13,7	12,7	11,3	19,7	17,4	16,5	15,1	13,9
Negative sequence		x_2	13,5	12,8	11,9	10,6	18,4	16,2	15,4	14,1	13,0
Zero sequence		x_0	2,7	2,6	2,4	2,1	3,7	3,3	3,1	2,9	2,6

TIME CONSTANTS [s]

Open circuit (T'do)	0,52	Subtransient (T''d)	0,010
Transient (T'd)	0,055	Armature (Ta)	0,009

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6313 2RS C3 / Prelubricated
N-end bearing/Lubrication	6309 2RS C3 / Prelubricated
Weight (IM B34) [kg]	205
Inertia (J) (IM B34) [kgm^2]	0,275
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	0,21 / 0,25
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,32
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

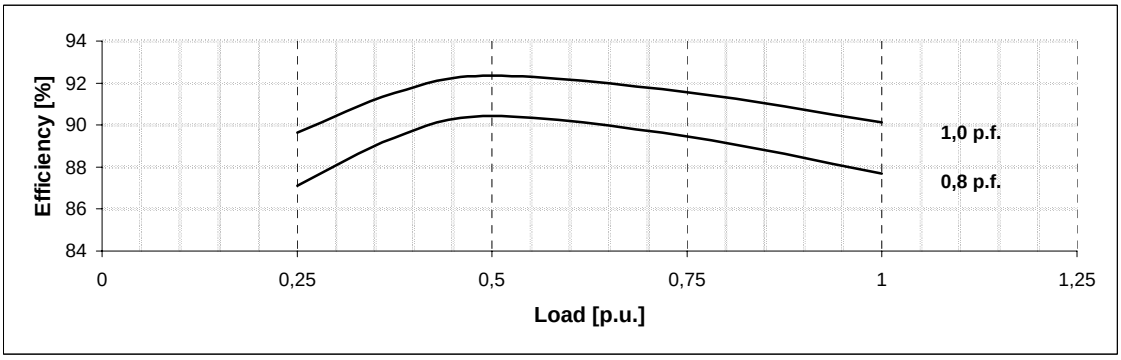
IEC 60034-1; CEI 2-3; BS 4999-5000; VDE 0530; NF 51-100,111; OVE M-10, NEMA MG 1.22.

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

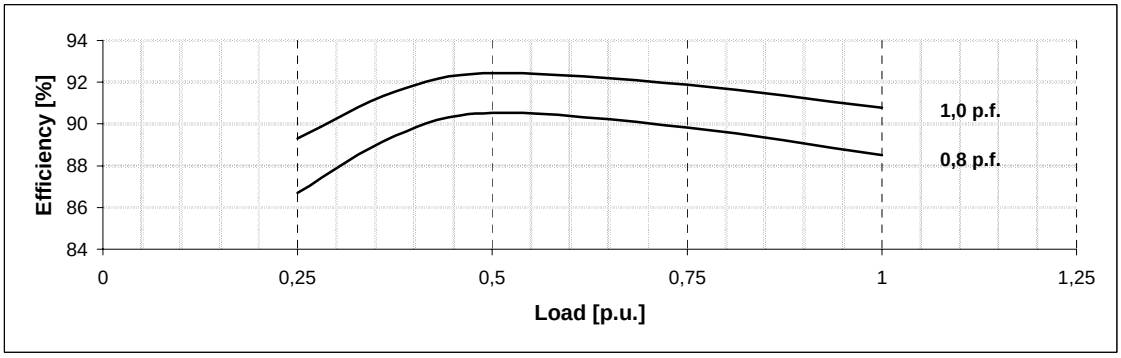
Typical efficiency curves

50 Hz - 1500 min^{-1}

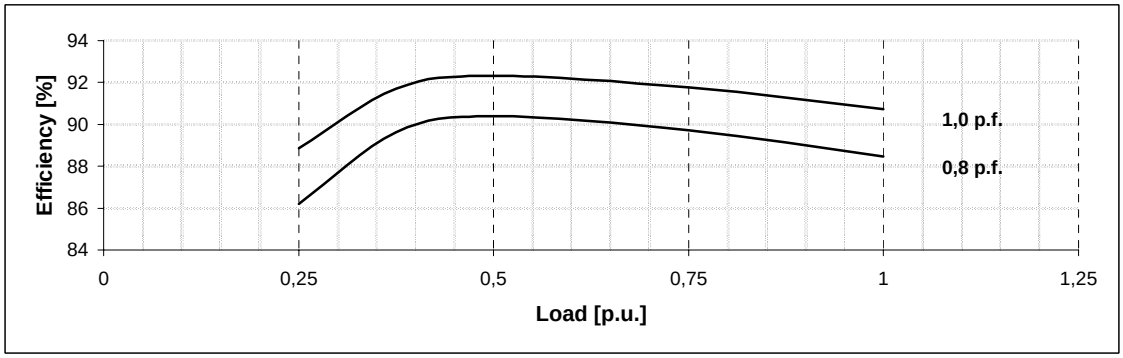
380 V



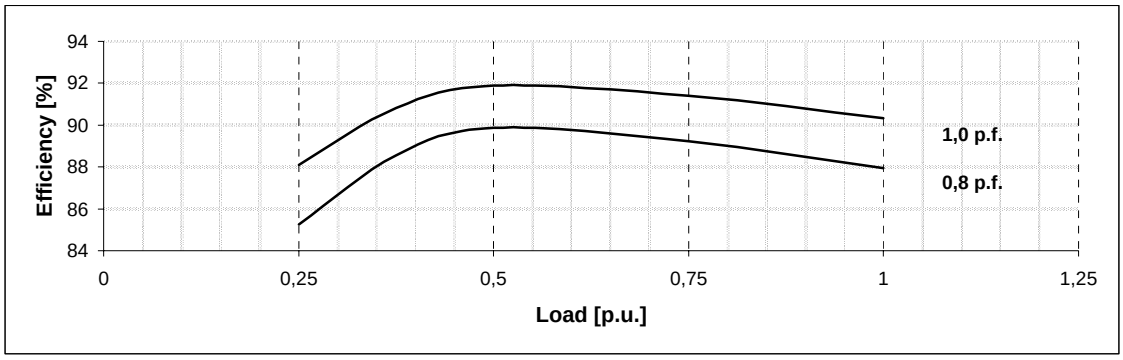
400 V



415 V



440 V



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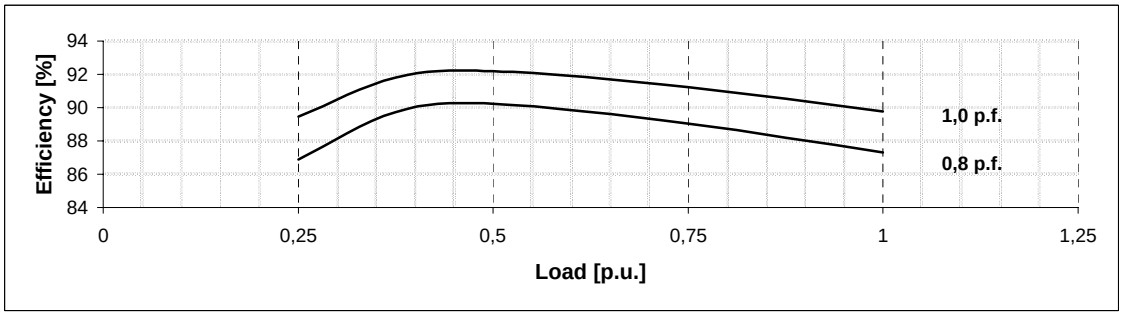
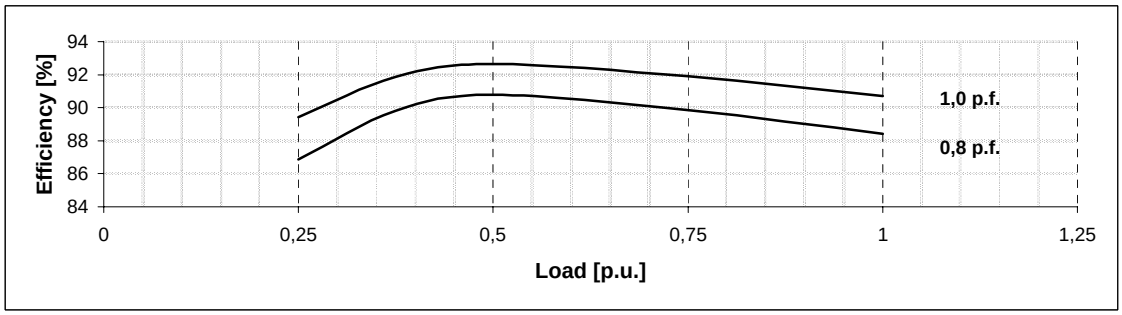
Typical efficiency curves

60 Hz - 1800 min^{-1}

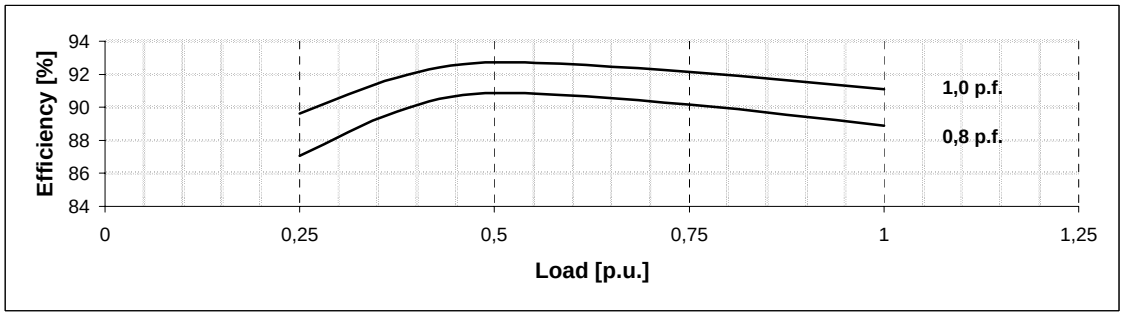
380 V



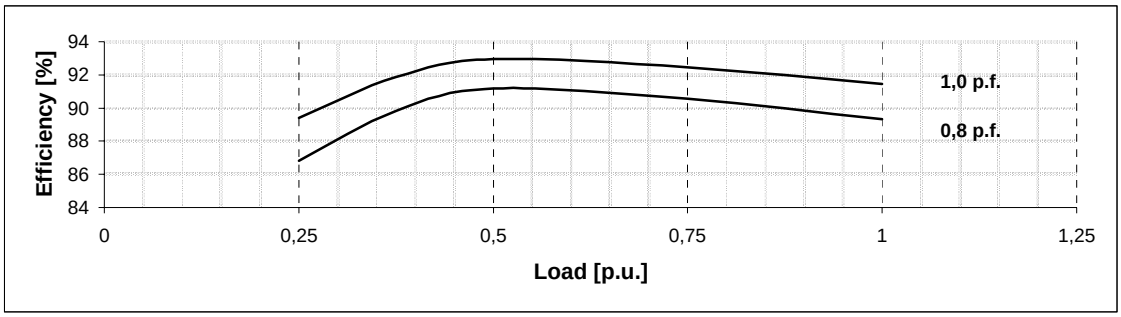
416 V



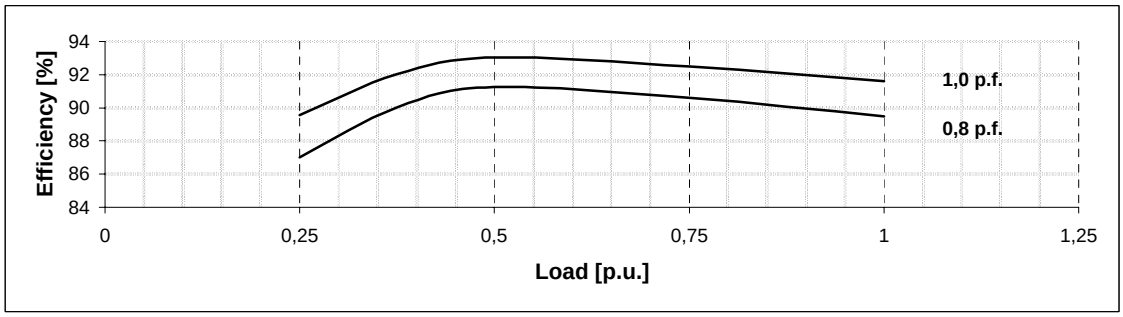
440 V



460 V



480 V



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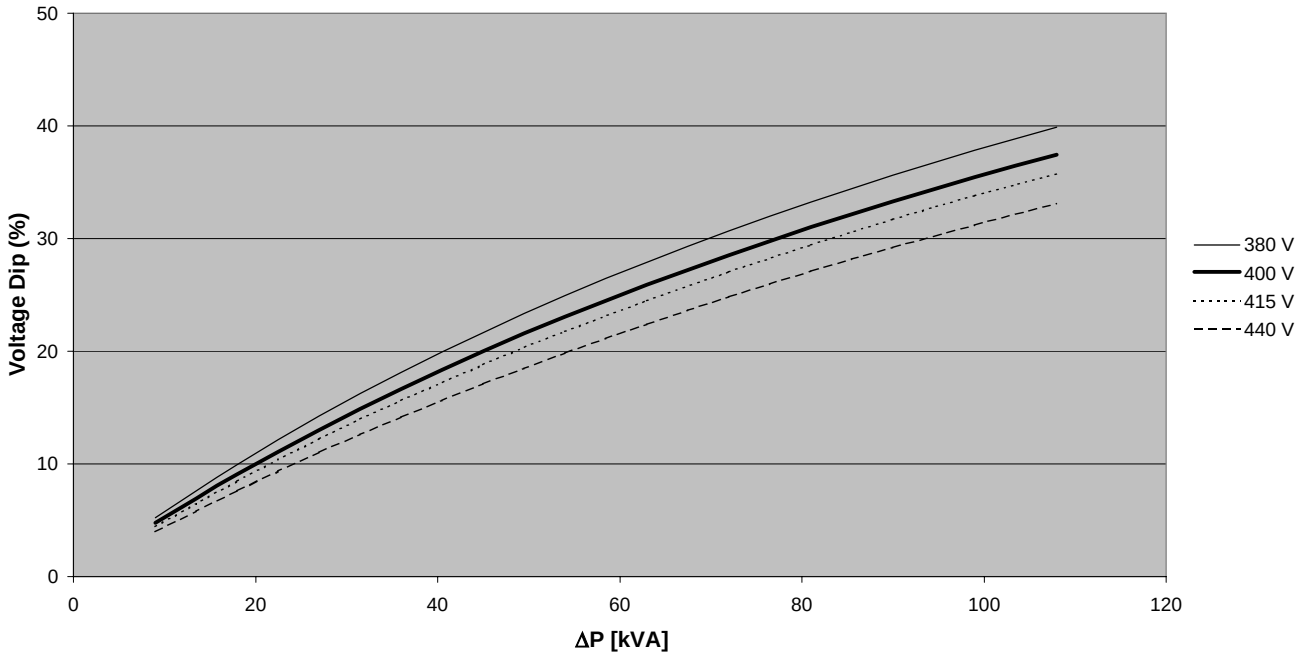
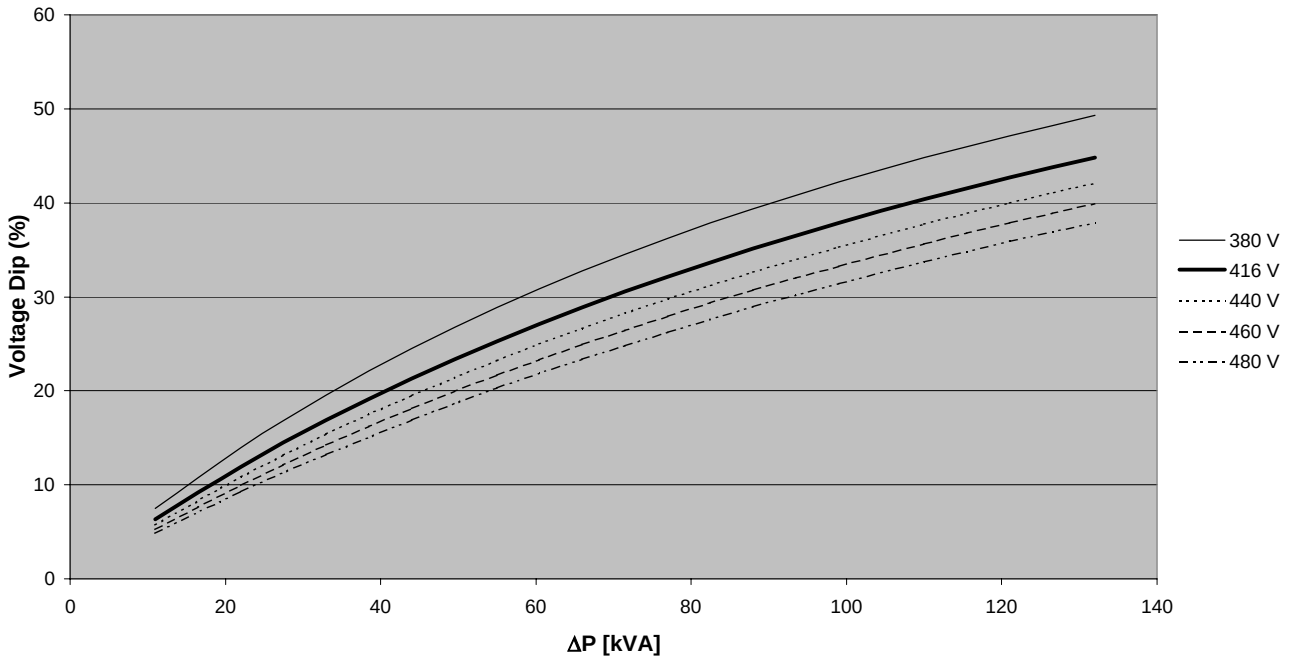
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

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

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 200 SB 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		**190**	**200**	**208**	**220**	**190**	**208**	**220**	**230**	**240**
RATING		**kVA**	**46,5**	**48,0**	**48,0**	**48,0**	**51,0**	**56,5**	**59,5**	**59,5**	**59,5**
		kW	***37,2***	***38,4***	***38,4***	***38,4***	***40,8***	***45,2***	***47,6***	***47,6***	***47,6***
EFFICIENCY (%) @ 0,8 p.f.		4/4	88,1	88,7	88,7	88,1	87,8	88,6	89,1	89,2	89,3
		3/4	89,8	90,0	89,9	89,5	89,3	89,8	90,2	90,3	90,4
		2/4	90,6	90,6	90,5	90,1	90,3	90,5	90,7	90,9	91,0
EFFICIENCY (%) @ 1,0 p.f.		4/4	90,5	90,9	91,0	90,5	90,2	90,8	91,3	91,3	91,4
		3/4	91,8	92,0	92,0	91,6	91,4	91,8	92,1	92,3	92,3
		2/4	92,5	92,5	92,4	92,1	92,2	92,4	92,6	92,7	92,8
SHORT CIRCUIT RATIO			0,37	0,40	0,43	0,48	0,28	0,31	0,33	0,36	0,39
REACTANCES (%)											
Direct axis synchronous		xd	290	270	250	225	380	355	330	305	280
Quadrature axis synchronous		xq	160	150	140	125	210	195	185	170	155
Direct axis transient		x'd	24,2	22,5	20,9	18,6	31,8	29,4	27,7	25,3	23,2
Direct axis subtransient		x"d	12,2	11,4	10,6	9,4	16,1	14,9	14,0	12,8	11,8
Quadrature axis subtransient		x"q	14,2	13,2	12,3	10,9	18,6	17,2	16,2	14,8	13,6
Negative sequence		x_2	13,2	12,3	11,4	10,2	17,4	16,1	15,1	13,8	12,7
Zero sequence		x_0	2,8	2,6	2,4	2,1	3,7	3,4	3,2	2,9	2,7

TIME CONSTANTS [s]

Open circuit (T'do)	0,57	Subtransient (T"d)	0,010
Transient (T'd)	0,055	Armature (Ta)	0,010

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6313 2RS C3 / Prelubricated
N-end bearing/Lubrication	6309 2RS C3 / Prelubricated
Weight (IM B34) [kg]	215
Inertia (J) (IM B34) [kgm^2]	0,301
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	0,21 / 0,25
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,23
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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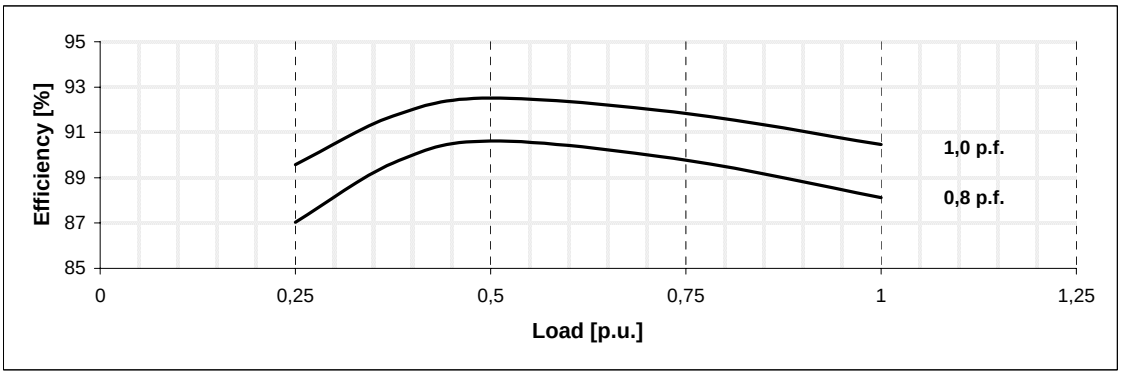
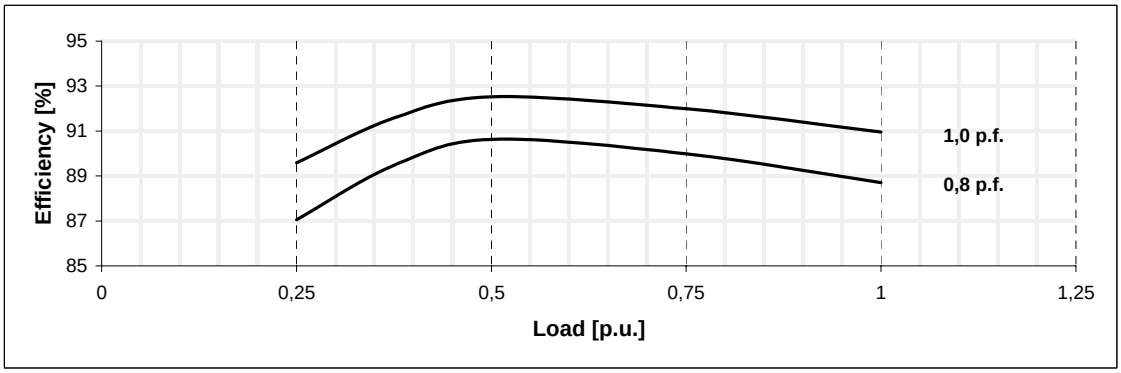
Typical efficiency curves

50 Hz - 1500 min^{-1}

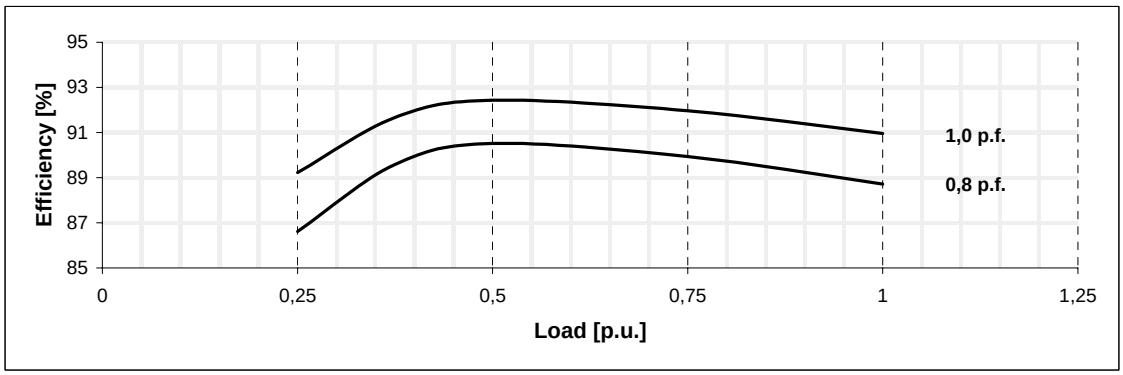
380 V



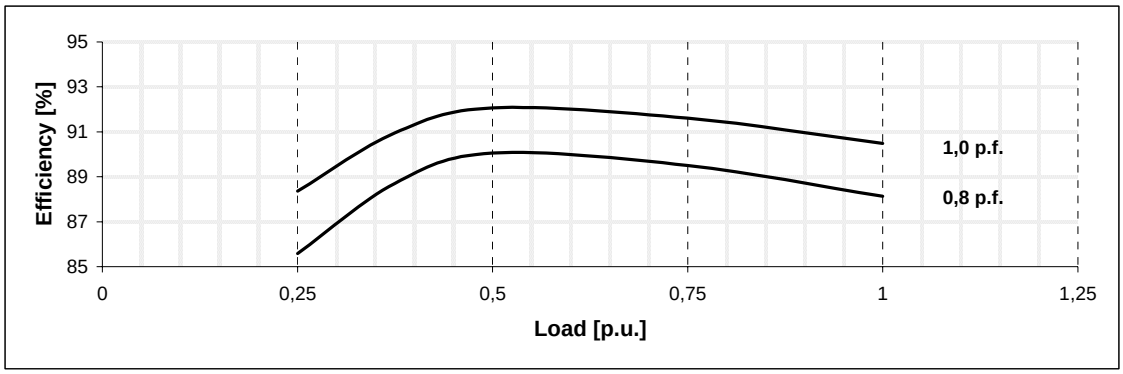
400 V



415 V



440 V



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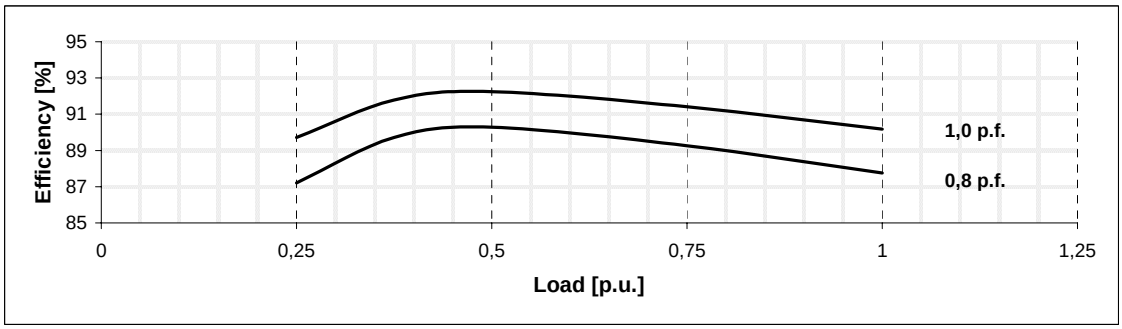
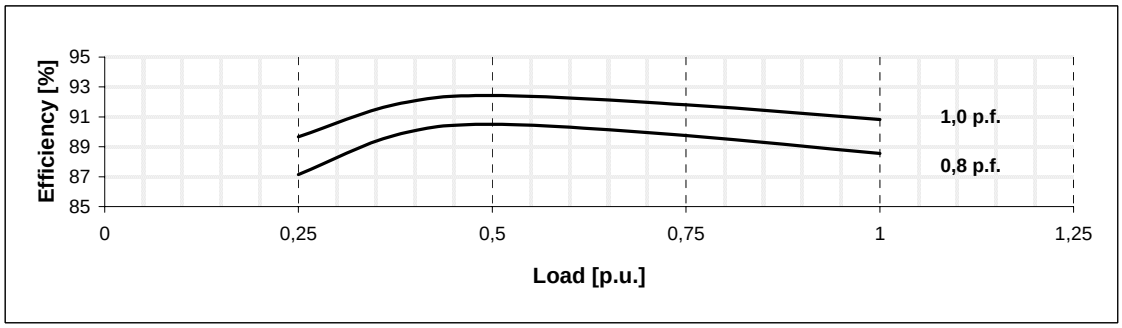
Typical efficiency curves

60 Hz - 1800 min^{-1}

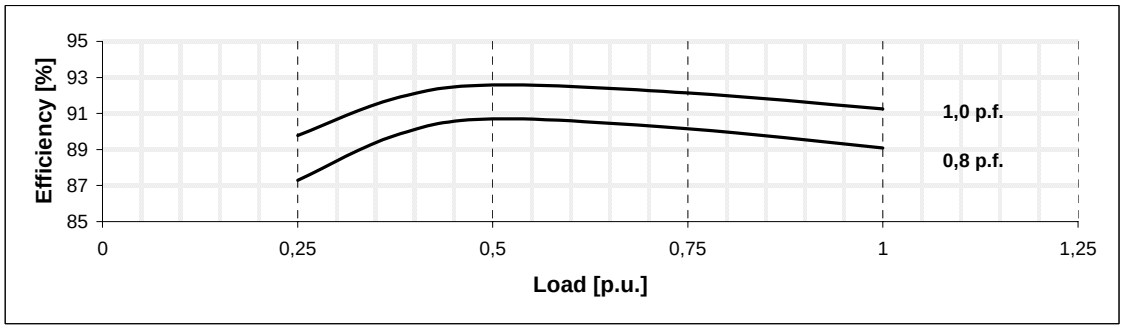
380 V



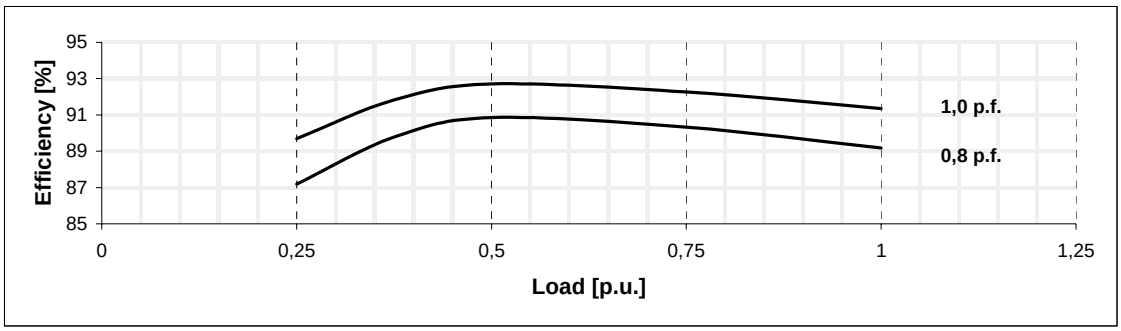
416 V



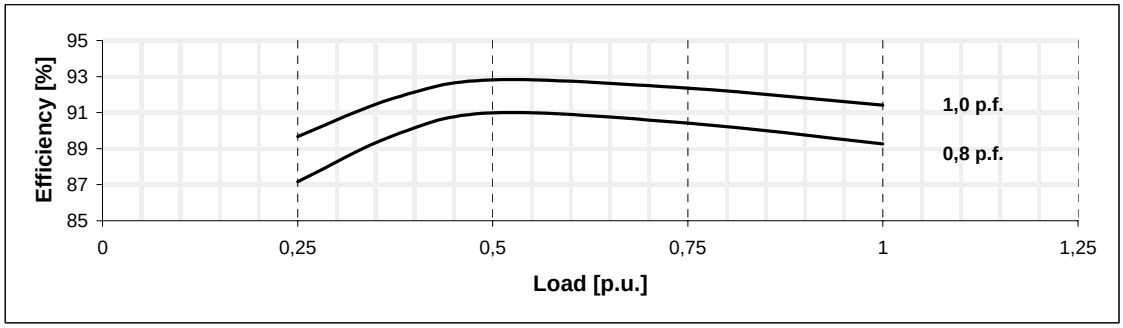
440 V



460 V



480 V



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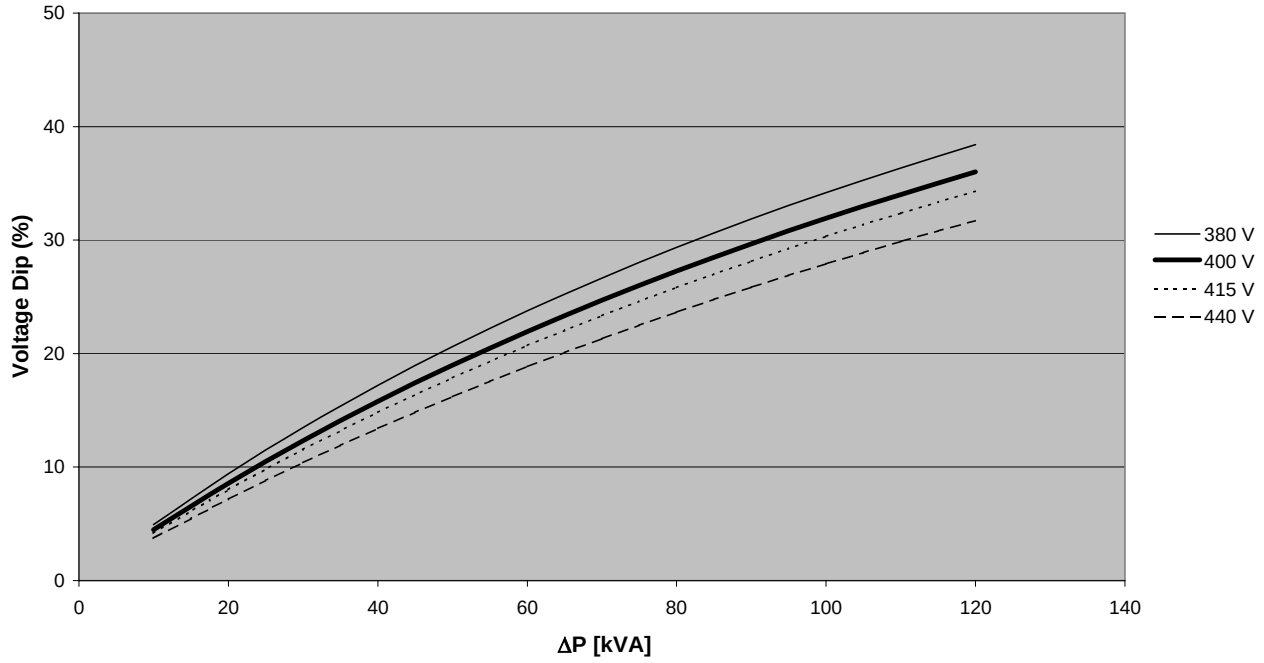
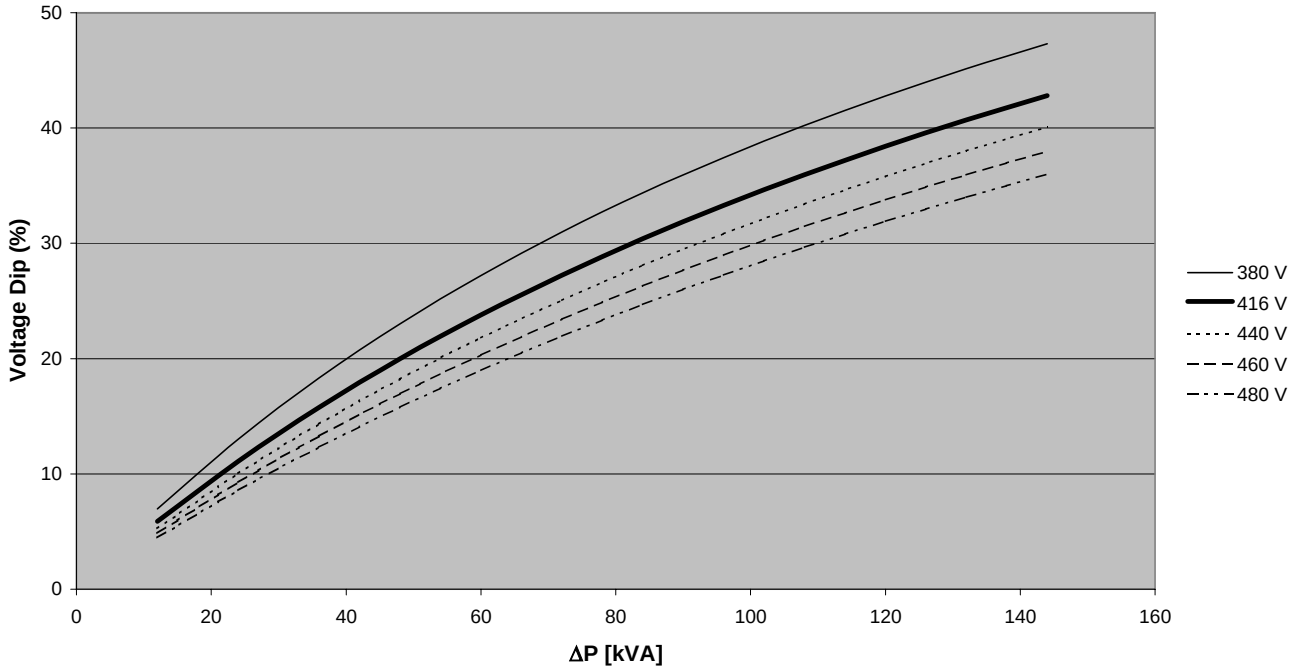
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 200 MA 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		**190**	**200**	**208**	**220**	**190**	**208**	**220**	**230**	**240**
RATING		**kVA**	**59,5**	**62,0**	**62,0**	**62,0**	**64,5**	**70,0**	**73,5**	**73,5**	**76,0**
		kW	***47,6***	***49,6***	***49,6***	***49,6***	***51,6***	***56,0***	***58,8***	***58,8***	***60,8***
EFFICIENCY (%) @ 0,8 p.f.		4/4	89,7	90,1	90,1	89,7	89,0	89,8	90,2	90,6	90,7
		3/4	91,0	91,2	91,0	90,6	90,4	91,0	91,2	91,5	91,5
		2/4	91,7	91,7	91,5	91,0	91,1	91,5	91,6	91,9	91,8
EFFICIENCY (%) @ 1,0 p.f.		4/4	91,8	92,1	92,1	91,8	91,2	91,9	92,2	92,5	92,6
		3/4	92,8	93,0	92,9	92,5	92,3	92,8	93,0	93,2	93,2
		2/4	93,4	93,4	93,2	92,8	92,9	93,3	93,3	93,6	93,5
SHORT CIRCUIT RATIO			0,39	0,41	0,44	0,50	0,30	0,33	0,35	0,38	0,40
REACTANCES (%)											
Direct axis synchronous		xd	285	270	250	225	375	340	315	290	275
Quadrature axis synchronous		xq	160	150	140	125	205	190	175	160	155
Direct axis transient		x'd	23,4	22,0	20,4	18,2	30,4	27,6	25,9	23,7	22,5
Direct axis subtransient		x"d	11,6	10,9	10,1	9,0	15,1	13,7	12,8	11,7	11,1
Quadrature axis subtransient		x"q	13,8	13,0	12,1	10,7	18,0	16,3	15,3	14,0	13,3
Negative sequence		x_2	12,7	11,9	11,1	9,8	16,5	14,9	14,0	12,8	12,2
Zero sequence		x_0	2,7	2,5	2,3	2,1	3,5	3,1	2,9	2,7	2,6

TIME CONSTANTS [s]

Open circuit (T'do)	0,60	Subtransient (T"d)	0,010
Transient (T'd)	0,06	Armature (Ta)	0,011

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6313 2RS C3 / Prelubricated
N-end bearing/Lubrication	6309 2RS C3 / Prelubricated
Weight (IM B34) [kg]	260
Inertia (J) (IM B34) [kgm^2]	0,361
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	0,21 / 0,25
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,14
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.

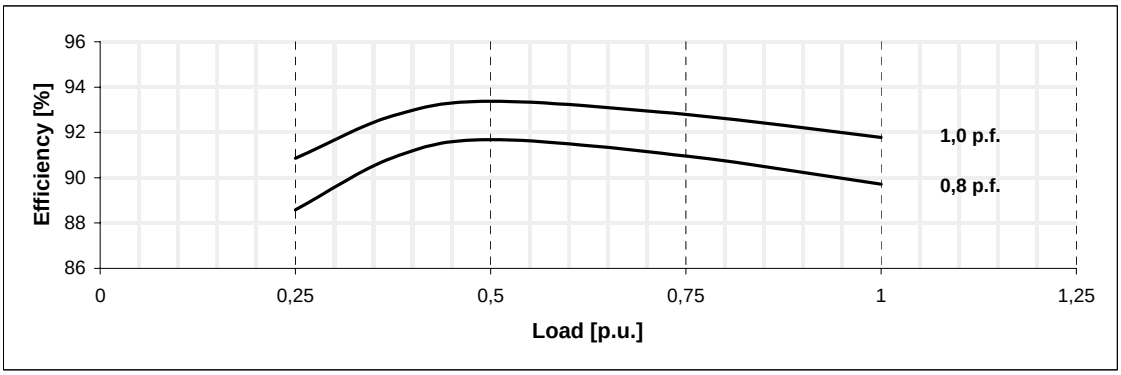
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

MarelliGenerators

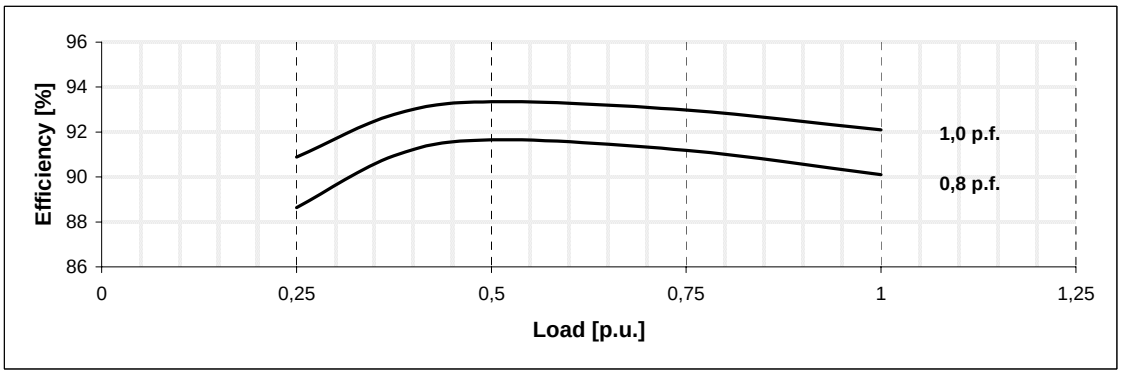
Typical efficiency curves

50 Hz - 1500 min^{-1}

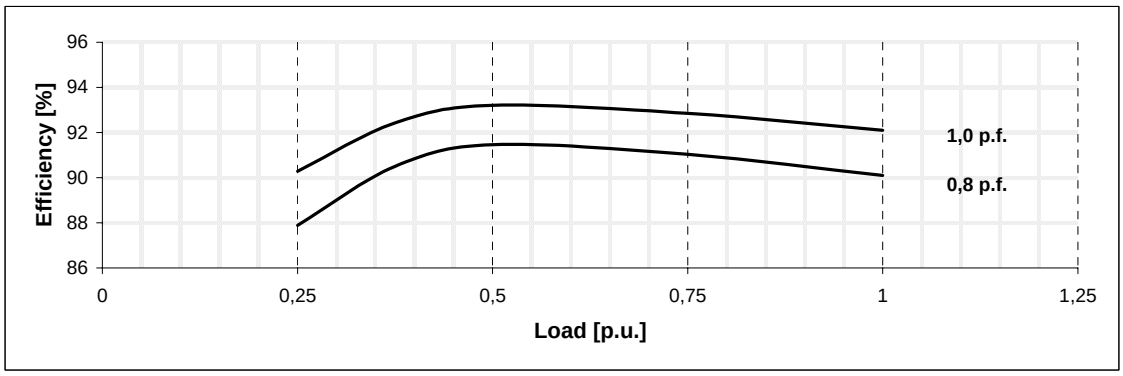
380 V



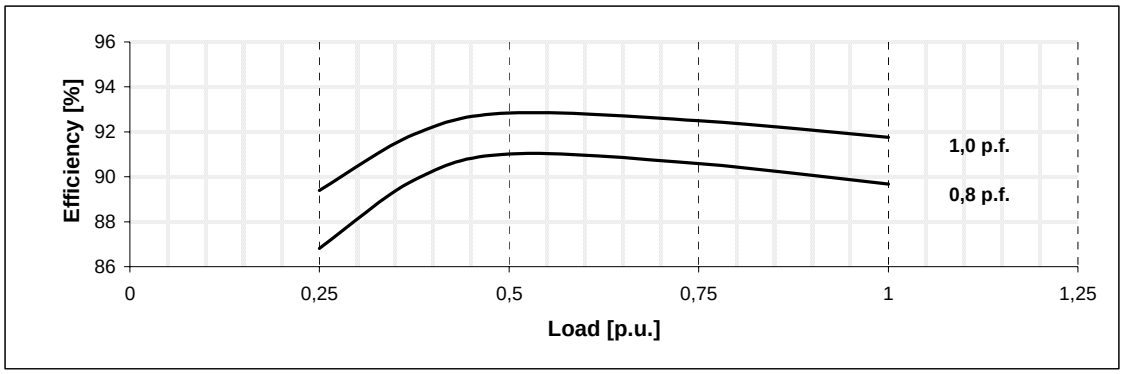
400 V



415 V



440 V



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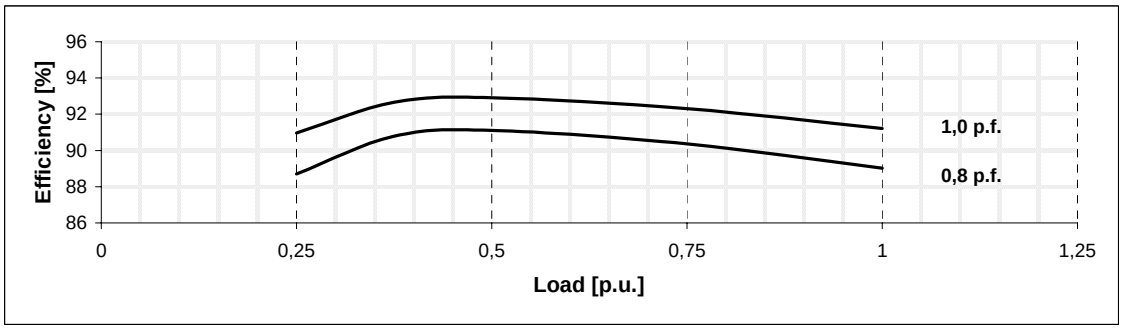
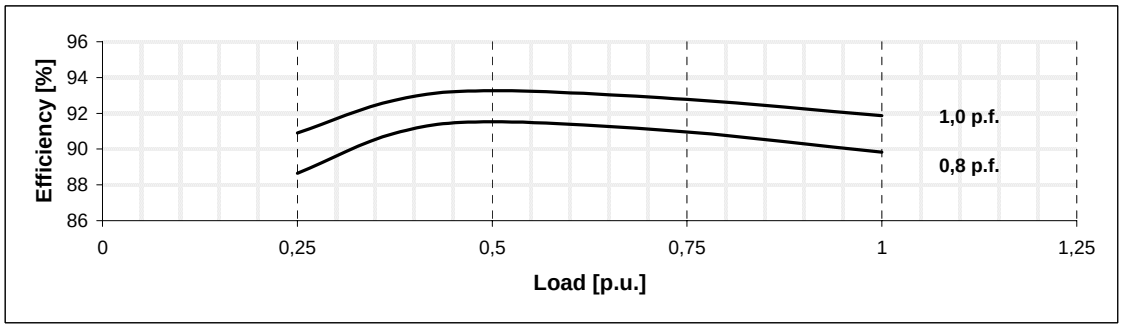
Typical efficiency curves

60 Hz - 1800 min^{-1}

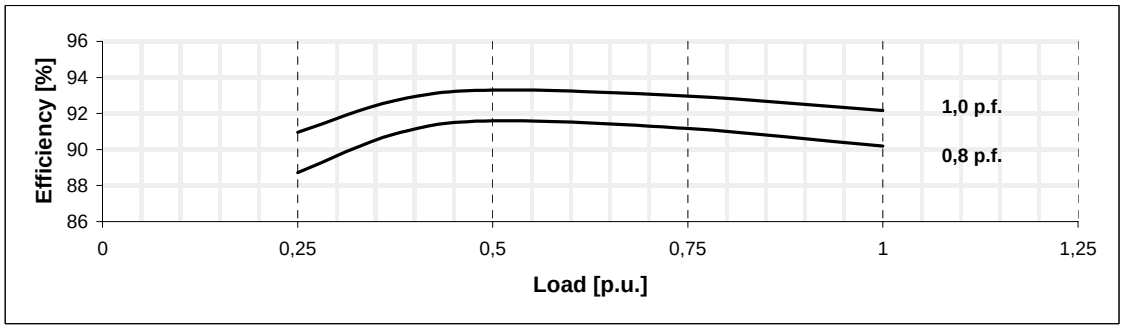
380 V



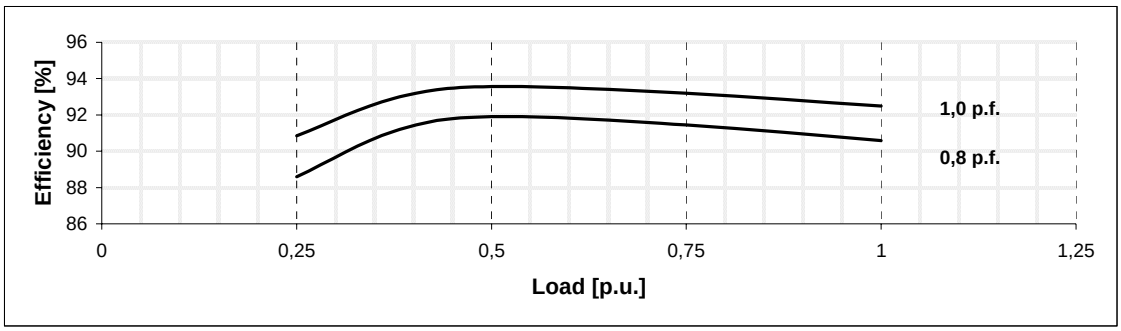
416 V



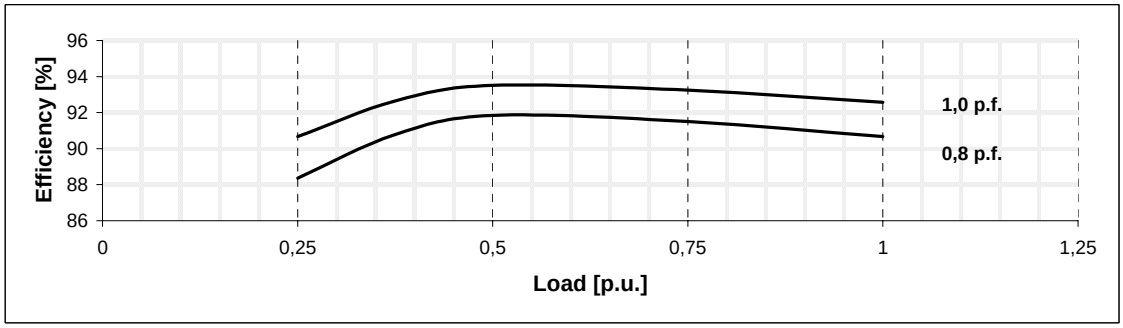
440 V



460 V



480 V



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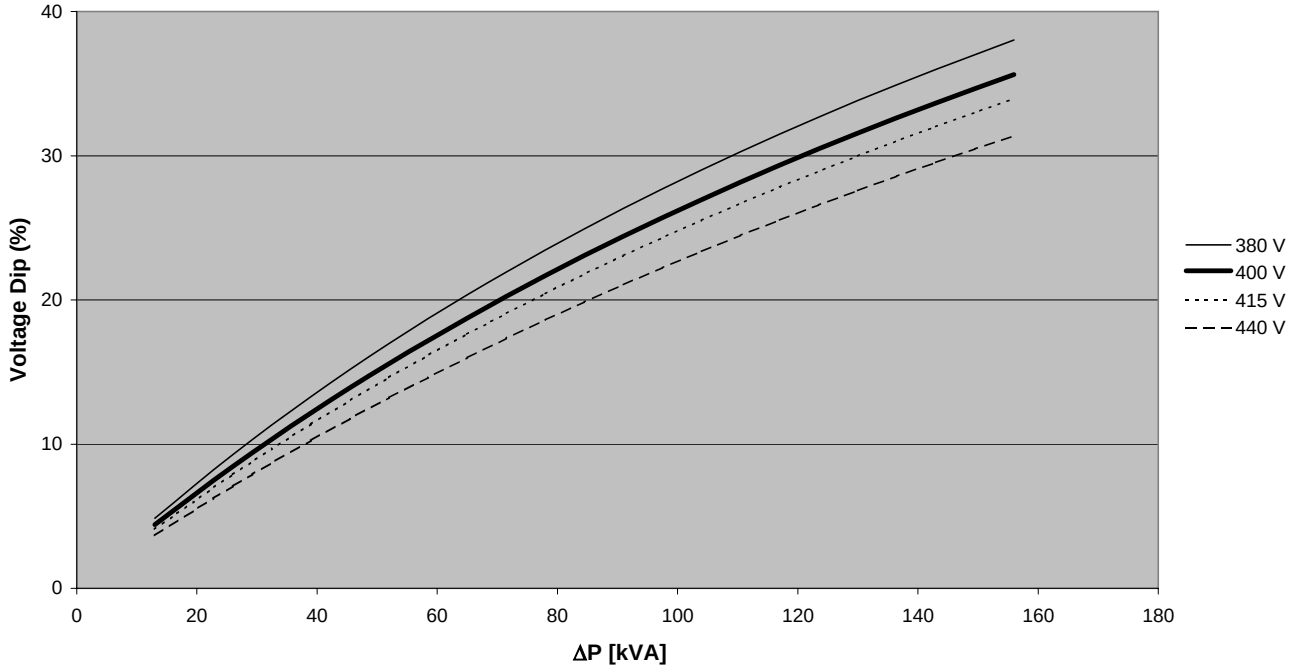
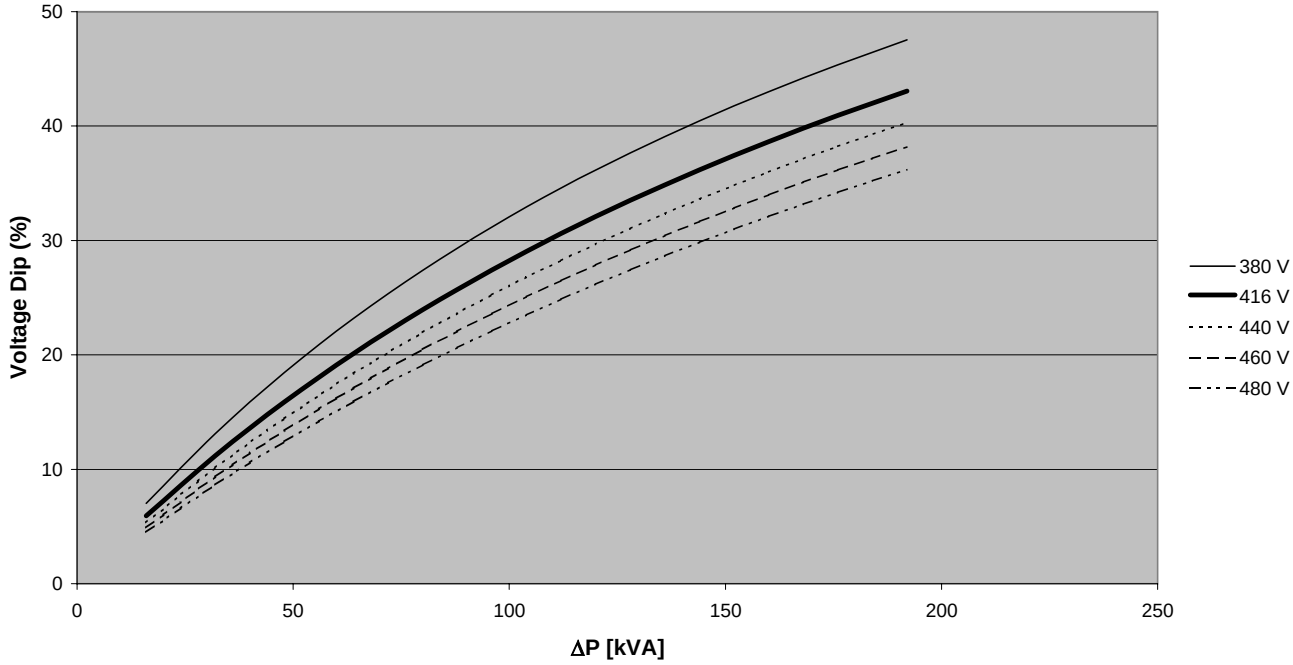
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 200 MB 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		**190**	**200**	**208**	**220**	**190**	**208**	**220**	**230**	**240**
RATING		**kVA**	**68,5**	**72,0**	**72,0**	**72,0**	**77,5**	**83,5**	**87,0**	**87,0**	**87,0**
		kW	***54,8***	***57,6***	***57,6***	***57,6***	***62,0***	***66,8***	***69,6***	***69,6***	***69,6***
EFFICIENCY (%) @ 0,8 p.f.		4/4	89,9	90,5	90,4	89,8	89,3	90,0	90,5	90,8	90,9
		3/4	91,1	91,4	91,1	90,6	90,6	91,0	91,3	91,5	91,6
		2/4	91,7	91,7	91,4	90,9	91,2	91,4	91,7	91,8	91,7
EFFICIENCY (%) @ 1,0 p.f.		4/4	91,9	92,4	92,3	91,8	91,5	92,0	92,4	92,6	92,8
		3/4	92,9	93,2	92,9	92,5	92,5	92,8	93,1	93,2	93,3
		2/4	93,4	93,4	93,1	92,7	93,0	93,2	93,4	93,5	93,4
SHORT CIRCUIT RATIO			0,40	0,42	0,45	0,51	0,29	0,33	0,35	0,38	0,42
REACTANCES (%)											
Direct axis synchronous		xd	280	265	245	220	380	340	320	290	265
Quadrature axis synchronous		xq	155	145	135	120	210	185	175	160	145
Direct axis transient		x'd	22,5	21,3	19,8	17,6	30,5	27,4	25,5	23,4	21,4
Direct axis subtransient		x''d	11,1	10,5	9,8	8,7	15,0	13,5	12,6	11,5	10,6
Quadrature axis subtransient		x''q	13,3	12,6	11,7	10,4	18,0	16,2	15,1	13,8	12,7
Negative sequence		x_2	12,1	11,5	10,7	9,5	16,5	14,8	13,8	12,6	11,6
Zero sequence		x_0	2,3	2,2	2,0	1,8	3,1	2,8	2,6	2,4	2,2

TIME CONSTANTS [s]

Open circuit (T'do)	0,76	Subtransient (T''d)	0,01
Transient (T'd)	0,062	Armature (Ta)	0,012

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6313 2RS C3 / Prelubricated
N-end bearing/Lubrication	6309 2RS C3 / Prelubricated
Weight (IM B34) [kg]	300
Inertia (J) (IM B34) [kgm^2]	0,426
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	0,21 / 0,25
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,1
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

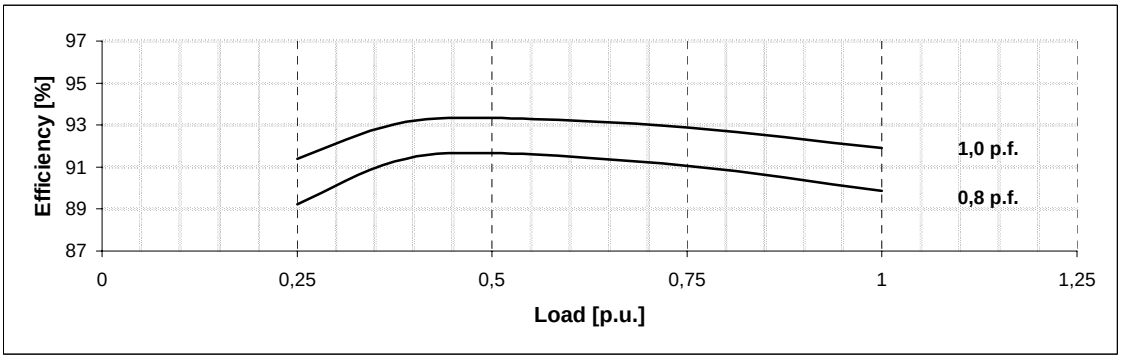
IEC 60034-1; CEI 2-3; BS 4999-5000; VDE 0530; NF 51-100,111; OVE M-10, NEMA MG 1.22.

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

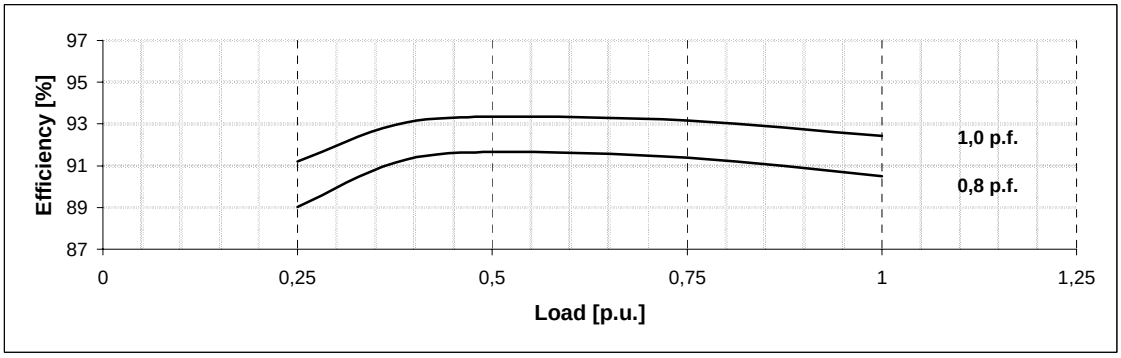
Typical efficiency curves

50 Hz - 1500 min^{-1}

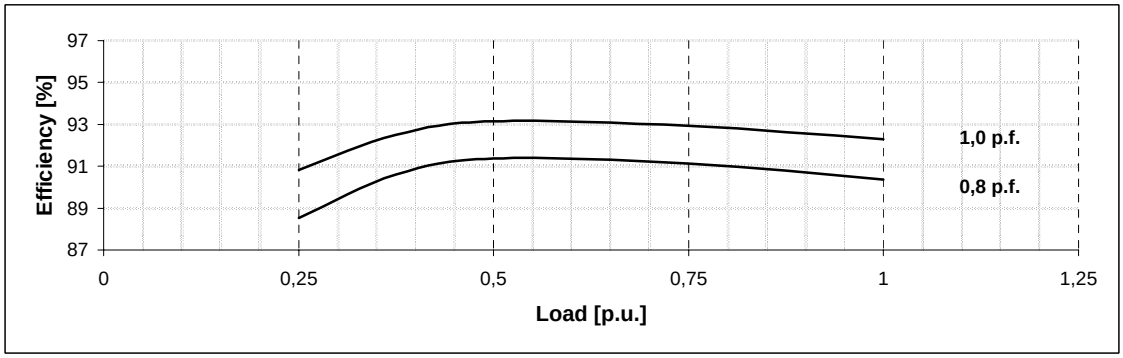
380 V



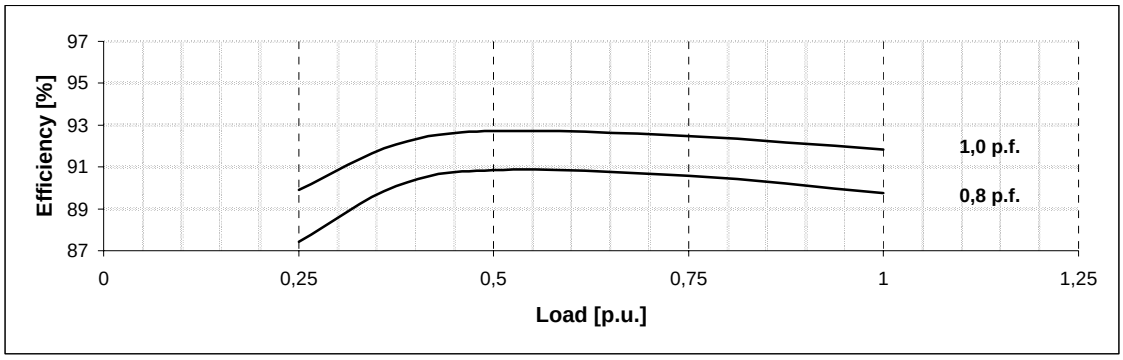
400 V



415 V



440 V



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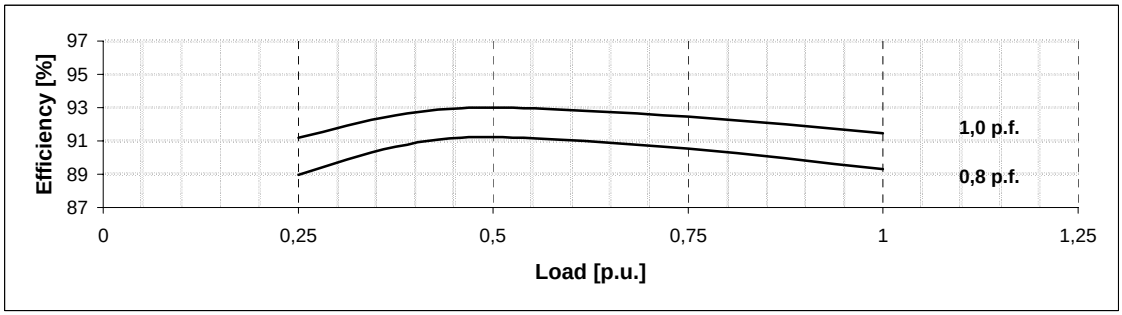
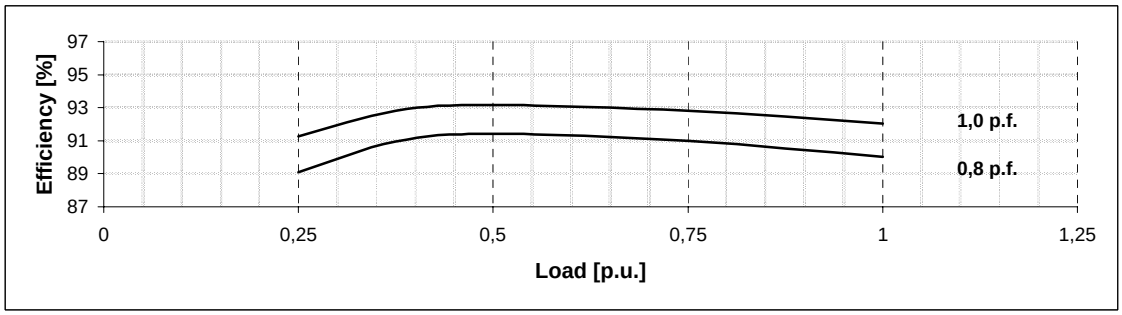
Typical efficiency curves

60 Hz - 1800 min^{-1}

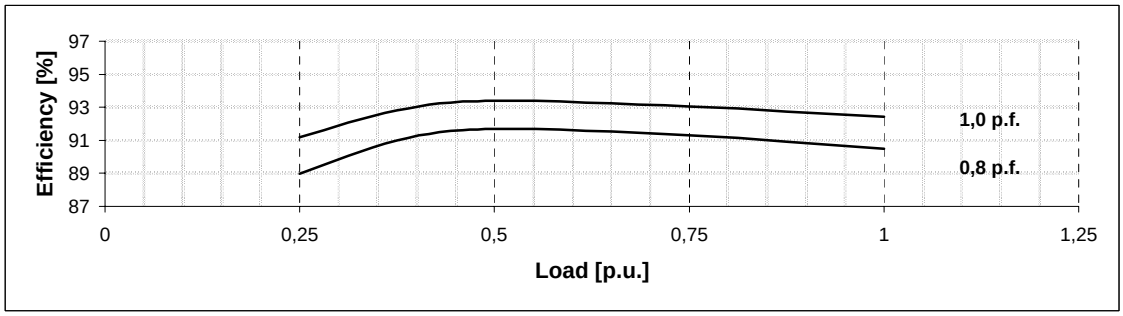
380 V



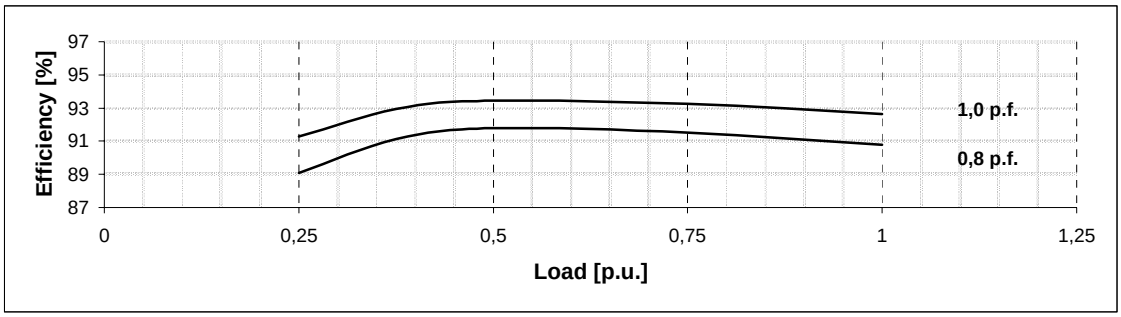
416 V



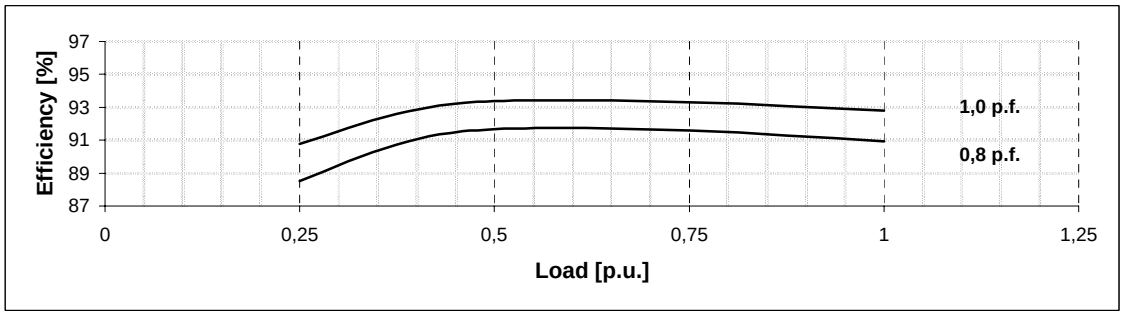
440 V



460 V



480 V



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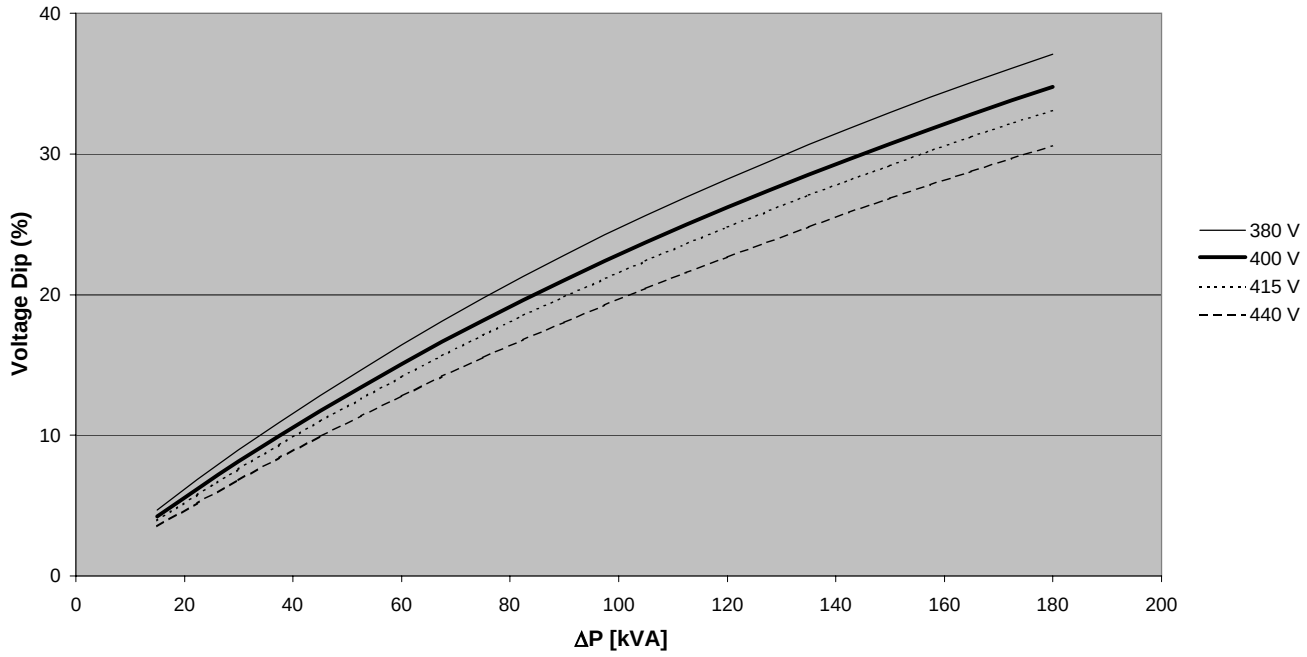
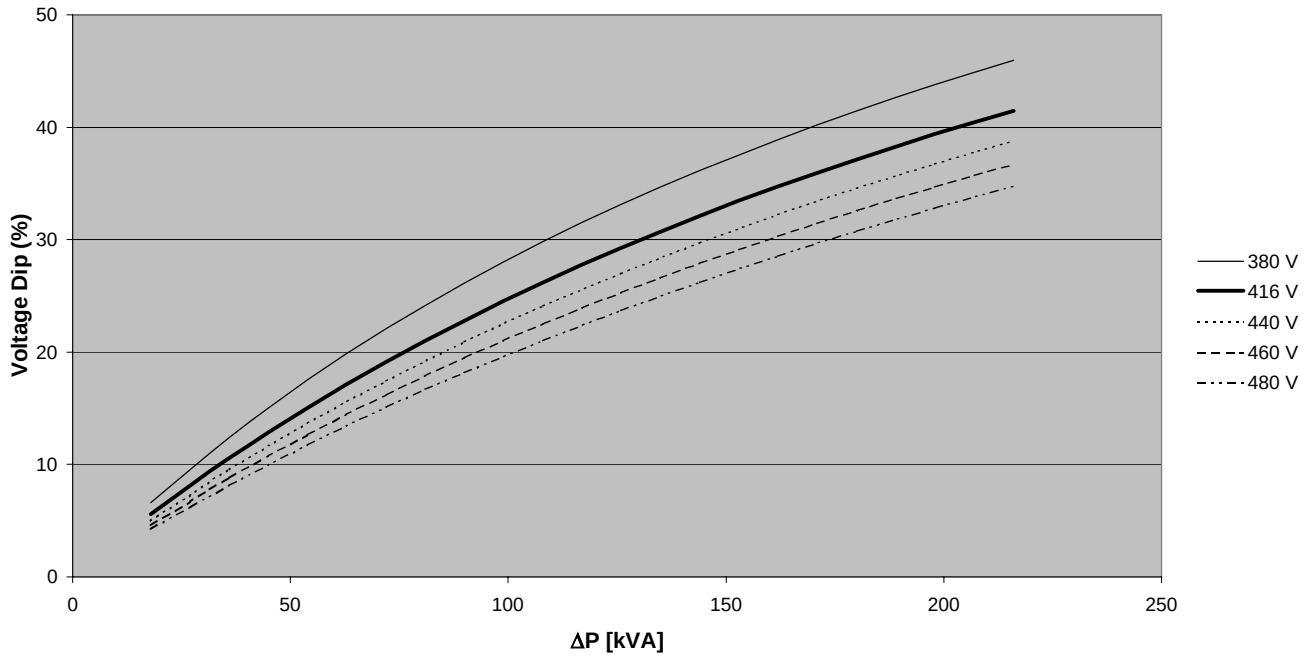
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

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

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 225 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		**190**	**200**	**208**	**220**	**190**	**208**	**220**	**230**	**240**
RATING		**kVA**	**85**	**85**	**85**	**85**	**91**	**102**	**102**	**108**	**108**
		kW	***68***	***68***	***68***	***68***	***73***	***82***	***82***	***86***	***86***
EFFICIENCY (%) @ 0,8 p.f.		4/4	90,5	91,0	90,9	90,8	90,2	90,5	91,0	91,2	91,5
		3/4	91,5	91,8	91,8	91,8	91,5	91,7	92,1	92,3	92,5
		2/4	91,9	92,1	92,0	92,1	92,1	92,4	92,8	92,8	92,9
EFFICIENCY (%) @ 1,0 p.f.		4/4	92,4	92,8	92,8	92,7	92,2	92,4	92,8	93,0	93,2
		3/4	93,2	93,5	93,5	93,5	93,2	93,4	93,7	93,9	94,1
		2/4	93,6	93,8	93,6	93,8	93,7	94,0	94,3	94,3	94,4
SHORT CIRCUIT RATIO			0,34	0,38	0,41	0,46	0,27	0,29	0,32	0,33	0,36
REACTANCES (%)											
Direct axis synchronous		xd	315	285	265	235	405	380	340	330	300
Quadrature axis synchronous		xq	175	160	150	130	225	215	190	185	170
Direct axis transient		x'd	24,9	22,5	20,9	18,6	31,9	30,0	26,8	25,9	23,8
Direct axis subtransient		x"d	12,0	10,8	10,0	8,9	15,3	14,4	12,9	12,4	11,4
Quadrature axis subtransient		x"q	13,3	12,0	11,1	9,9	17,0	16,0	14,3	13,8	12,7
Negative sequence		x_2	12,6	11,4	10,6	9,4	16,2	15,2	13,6	13,1	12,0
Zero sequence		x_0	2,8	2,5	2,3	2,1	3,5	3,3	3,0	2,9	2,6

TIME CONSTANTS [s]

Open circuit (T'do)	0,82	Subtransient (T"d)	0,005
Transient (T'd)	0,071	Armature (Ta)	0,005

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6215 2RS C3 / Prelubricated
N-end bearing/Lubrication	6311 2RS C3 / Prelubricated
Weight (IM B34) [kg]	305
Inertia (J) (IM B34) [kgm^2]	0,632
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	0,31 / 0,39
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,11
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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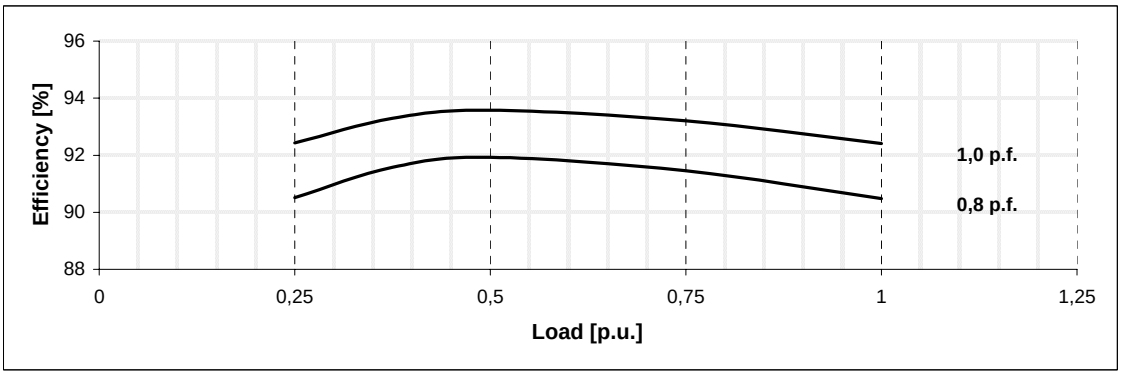
MarelliGenerators

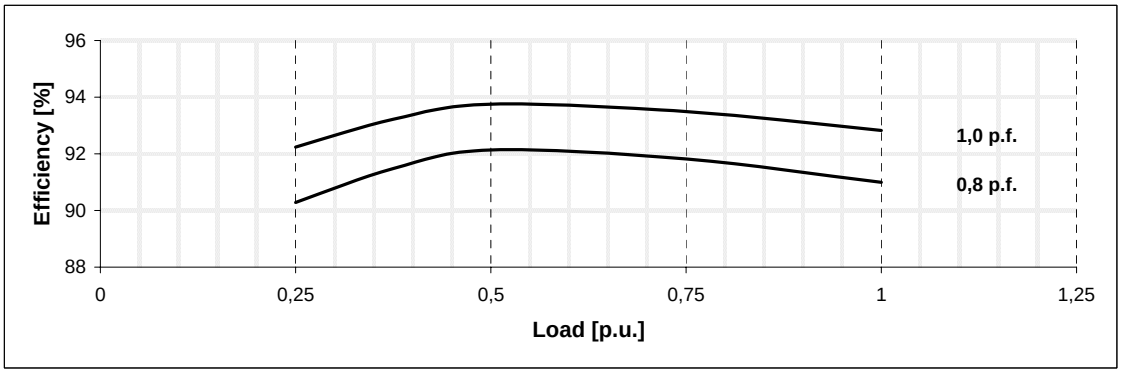
Typical efficiency curves

50 Hz - 1500 min^{-1}

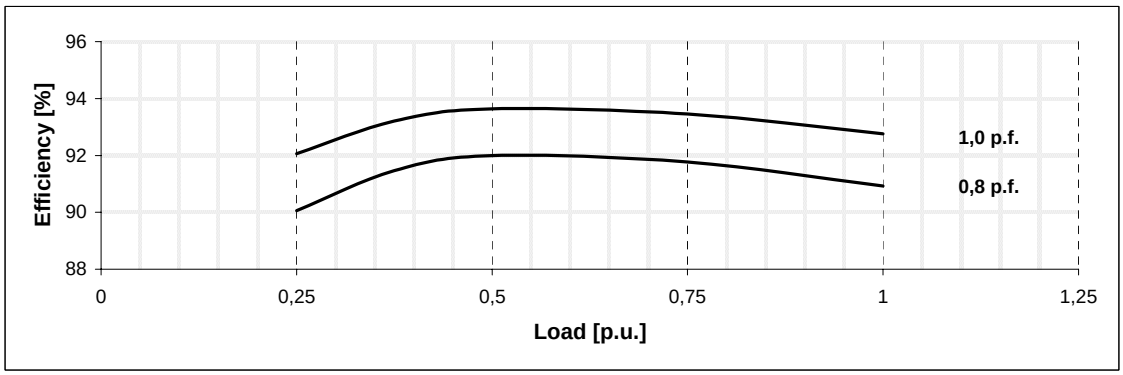
380 V



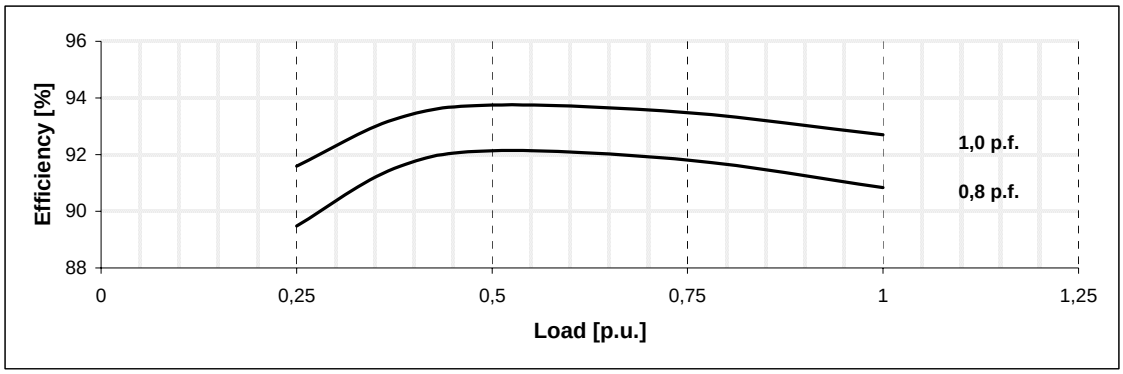
400 V



415 V



440 V



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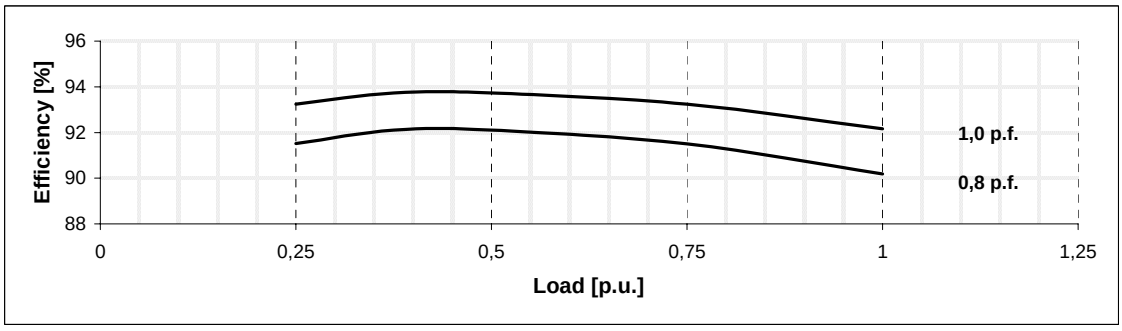
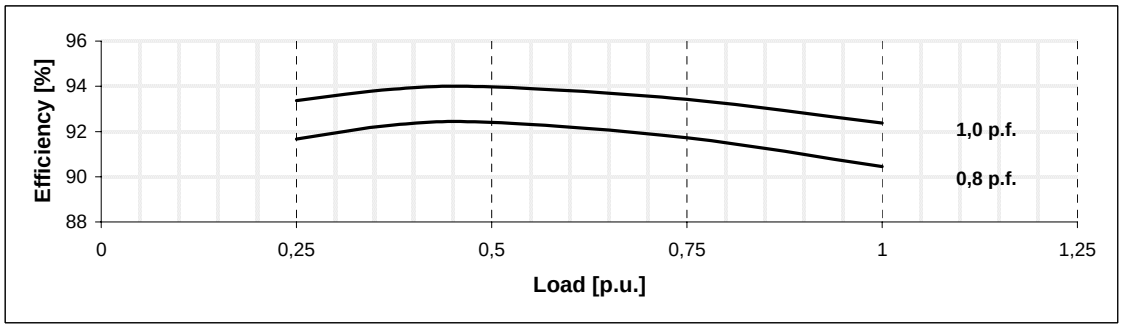
Typical efficiency curves

60 Hz - 1800 min^{-1}

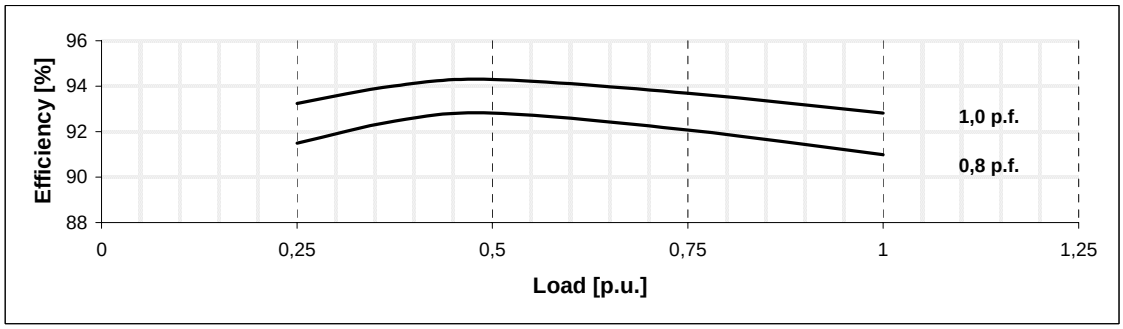
380 V



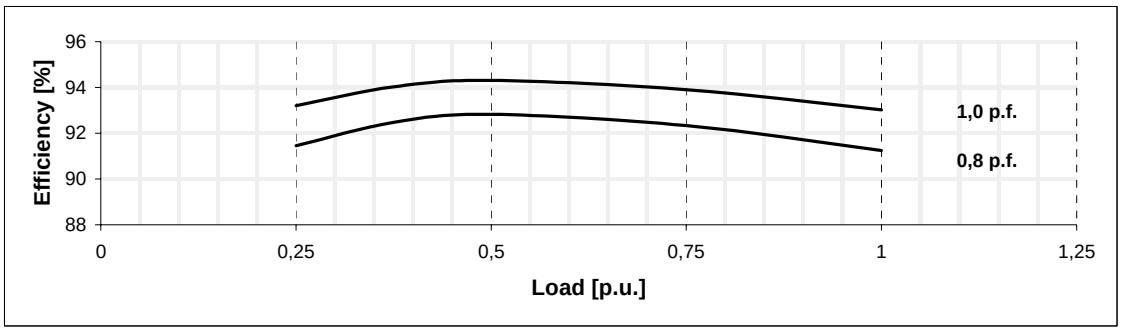
416 V



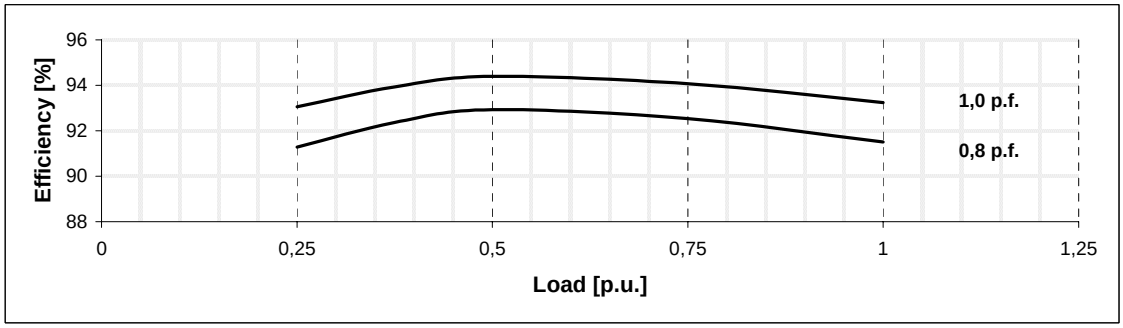
440 V



460 V



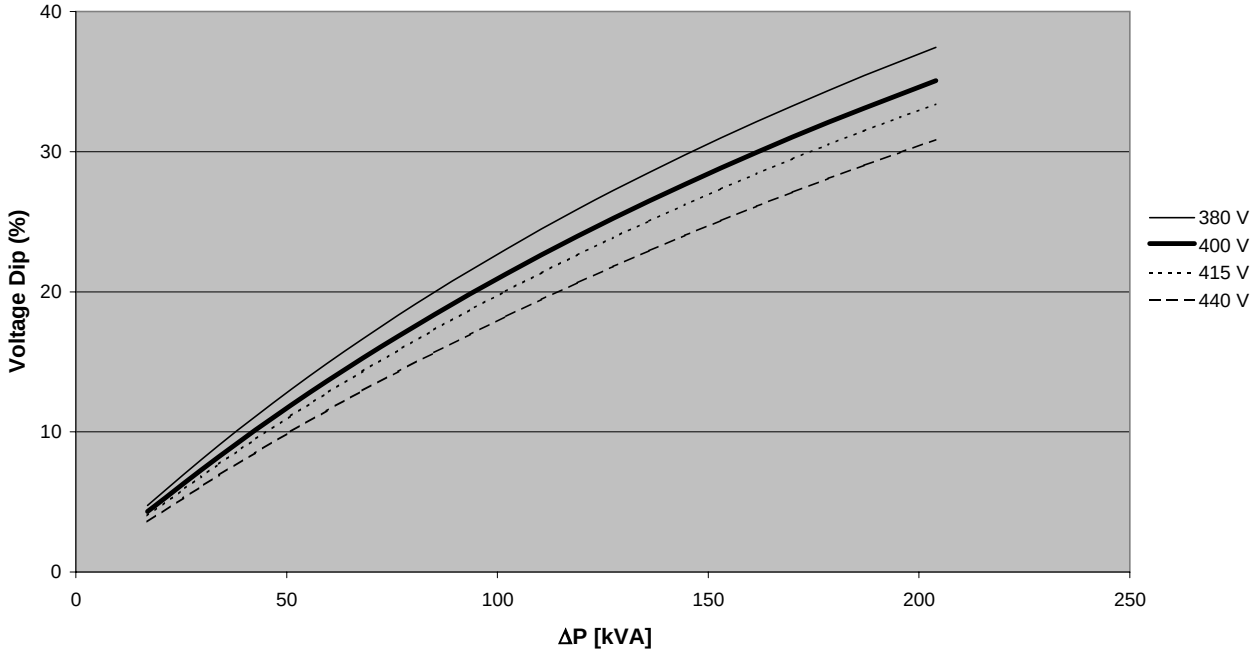
480 V



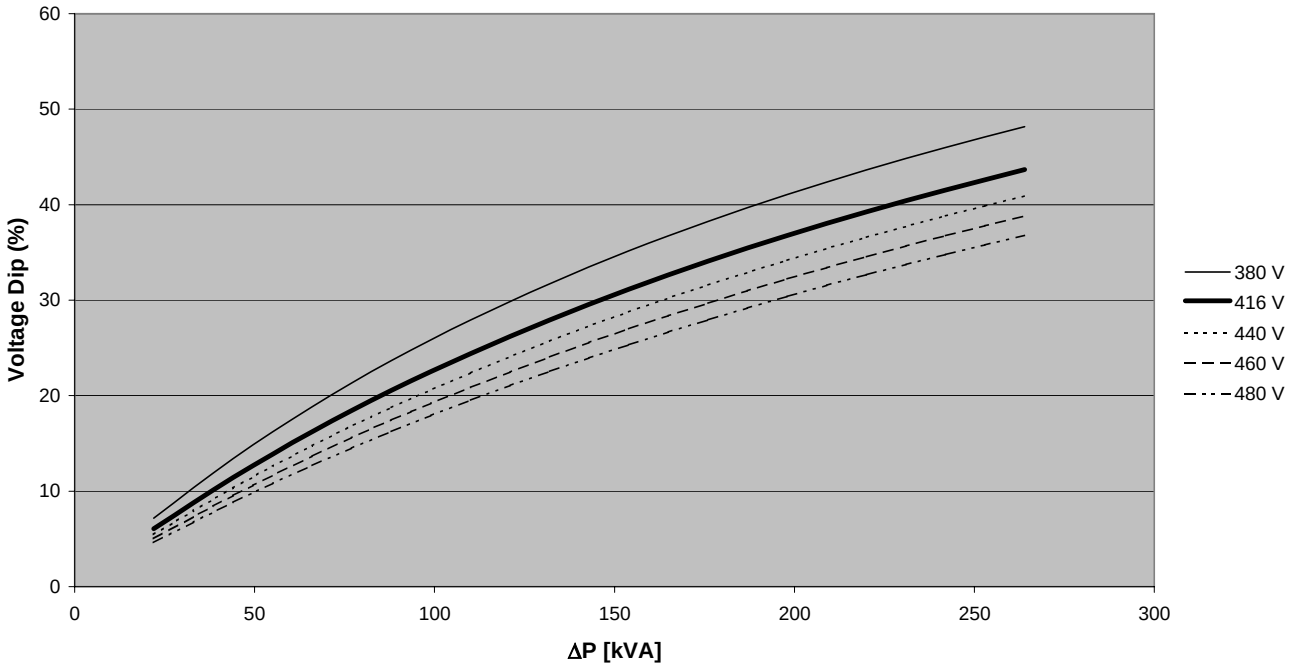
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 225 SB 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		**190**	**200**	**208**	**220**	**190**	**208**	**220**	**230**	**240**
RATING		**kVA**	**92**	**92**	**92**	**92**	**97**	**108**	**114**	**114**	**114**
		kW	***74***	***74***	***74***	***74***	***78***	***87***	***91***	***91***	***91***
EFFICIENCY (%) @ 0,8 p.f.		4/4	91,0	91,5	91,4	91,4	90,9	91,1	91,4	91,8	92,0
		3/4	91,9	92,3	92,2	92,2	92,0	92,3	92,6	92,8	93,0
		2/4	92,3	92,5	92,4	92,5	92,6	92,9	93,1	93,2	93,2
EFFICIENCY (%) @ 1,0 p.f.		4/4	92,8	93,2	93,2	93,1	92,7	92,9	93,2	93,5	93,6
		3/4	93,5	93,8	93,8	93,8	93,6	93,9	94,1	94,3	94,4
		2/4	93,9	94,1	94,0	94,0	94,1	94,4	94,5	94,6	94,6
SHORT CIRCUIT RATIO			0,35	0,39	0,42	0,47	0,28	0,30	0,32	0,35	0,38
REACTANCES (%)											
Direct axis synchronous		xd	305	275	255	225	385	360	335	310	285
Quadrature axis synchronous		xq	165	150	140	125	210	195	185	170	155
Direct axis transient		x'd	23,8	21,5	20,0	17,8	30,3	28,1	26,3	24,1	22,1
Direct axis subtransient		x"d	11,3	10,2	9,5	8,4	14,4	13,3	12,5	11,4	10,5
Quadrature axis subtransient		x"q	12,5	11,3	10,5	9,3	15,9	14,7	13,8	12,7	11,6
Negative sequence		x_2	11,9	10,7	9,9	8,8	15,1	14,0	13,1	12,0	11,0
Zero sequence		x_0	2,5	2,3	2,1	1,9	3,2	3,0	2,8	2,6	2,4

TIME CONSTANTS [s]

Open circuit (T'do)	0,90	Subtransient (T"d)	0,006
Transient (T'd)	0,075	Armature (Ta)	0,006

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6215 2RS C3 / Prelubricated
N-end bearing/Lubrication	6311 2RS C3 / Prelubricated
Weight (IM B34) [kg]	355
Inertia (J) (IM B34) [kgm^2]	0,698
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	0,31 / 0,39
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,085
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.

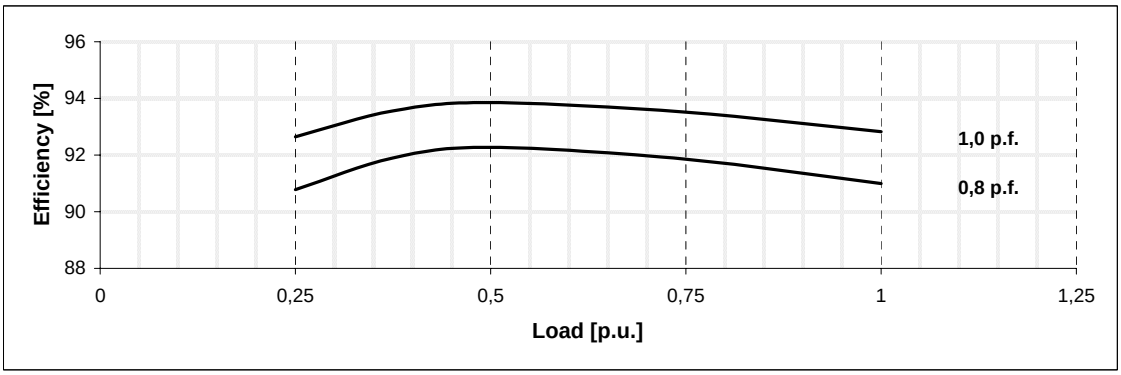
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

MarelliGenerators

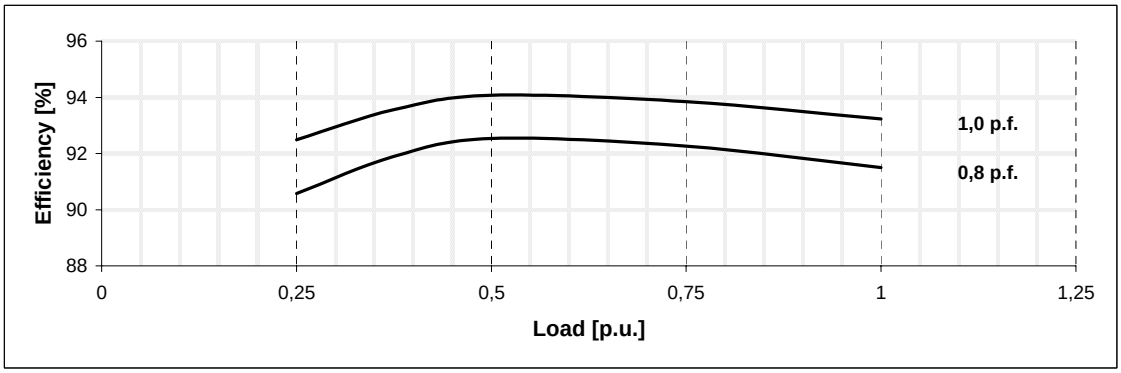
Typical efficiency curves

50 Hz - 1500 min^{-1}

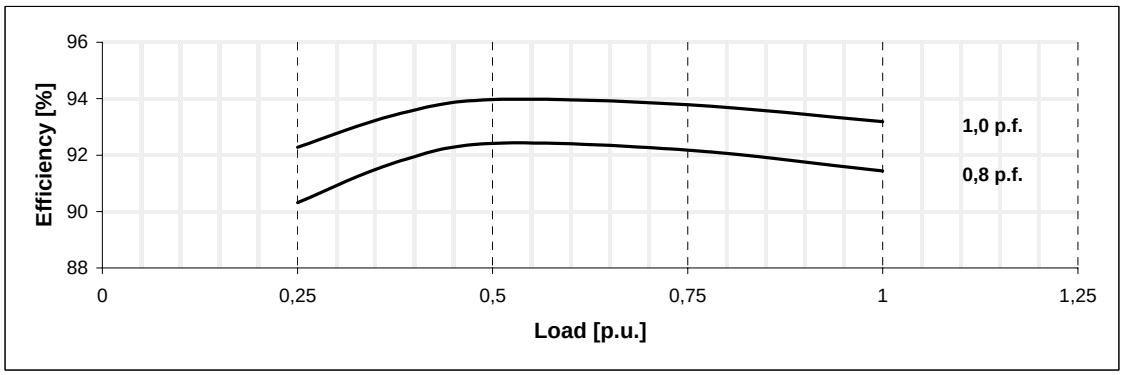
380 V



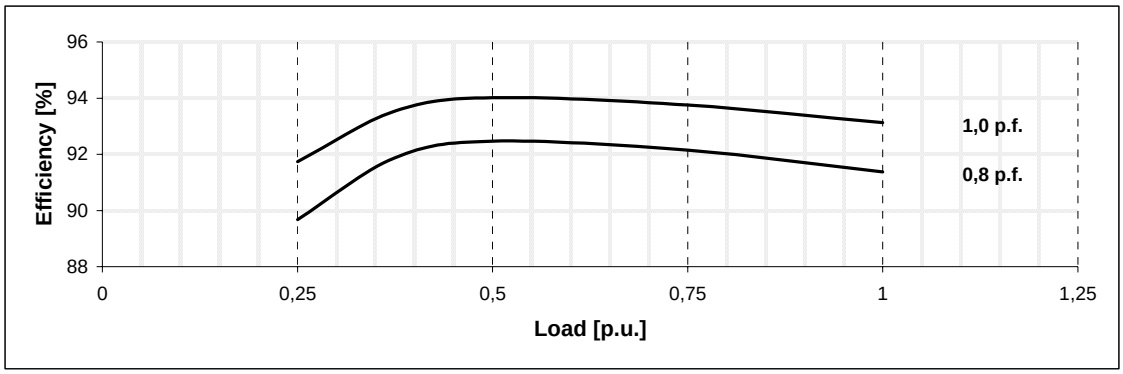
400 V



415 V



440 V



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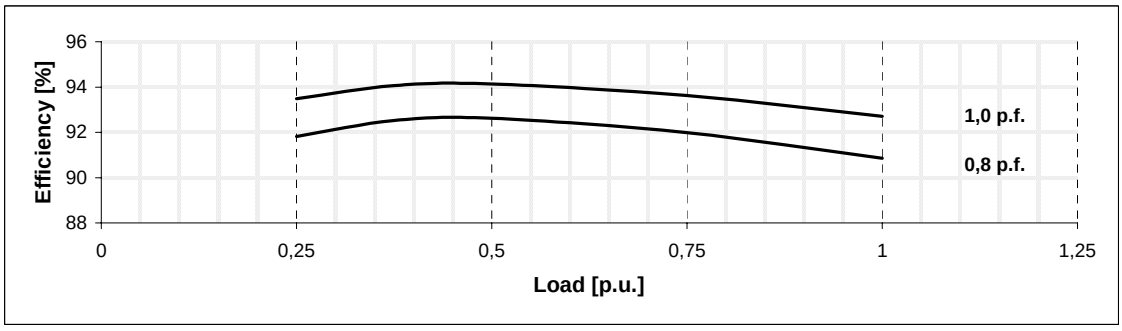
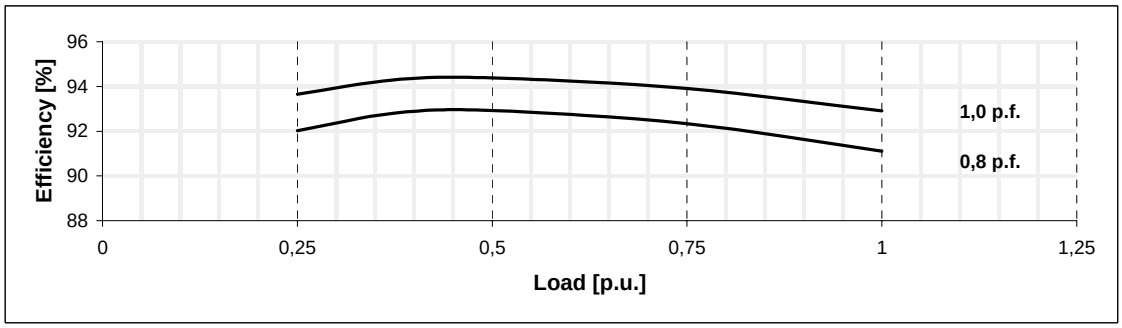
Typical efficiency curves

60 Hz - 1800 min^{-1}

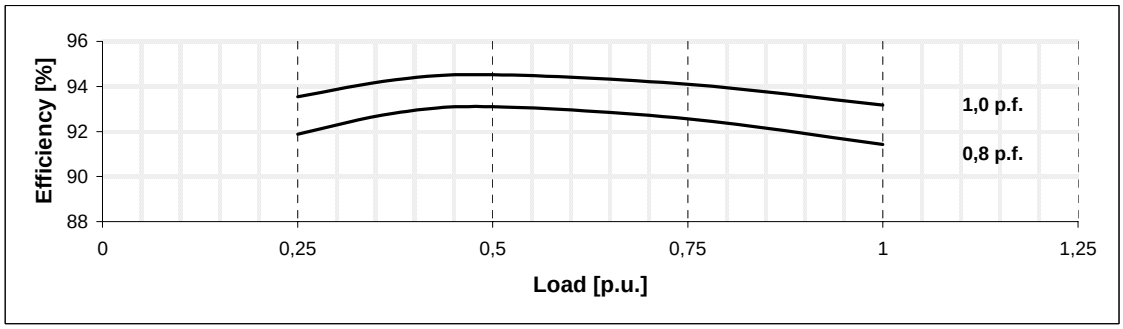
380 V



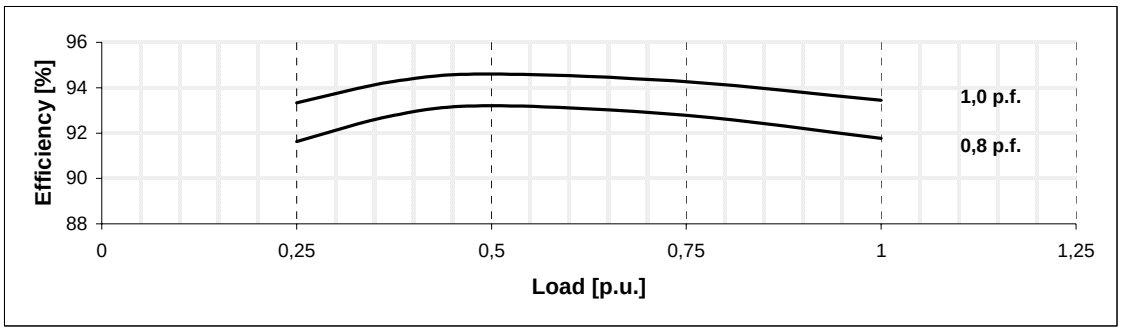
416 V



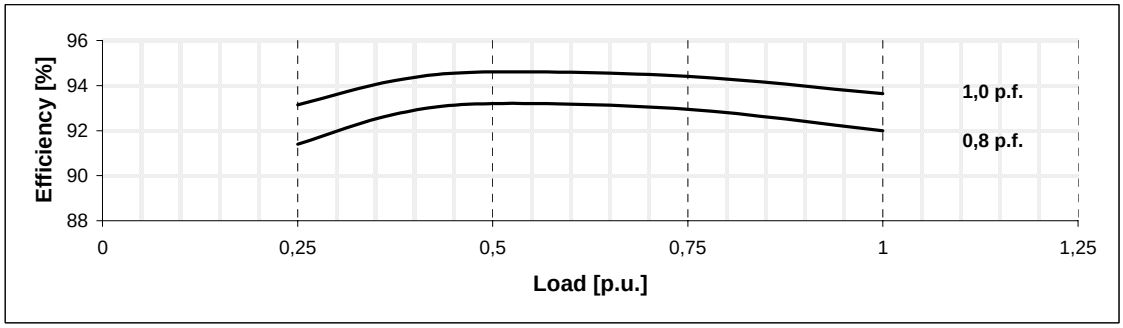
440 V



460 V



480 V



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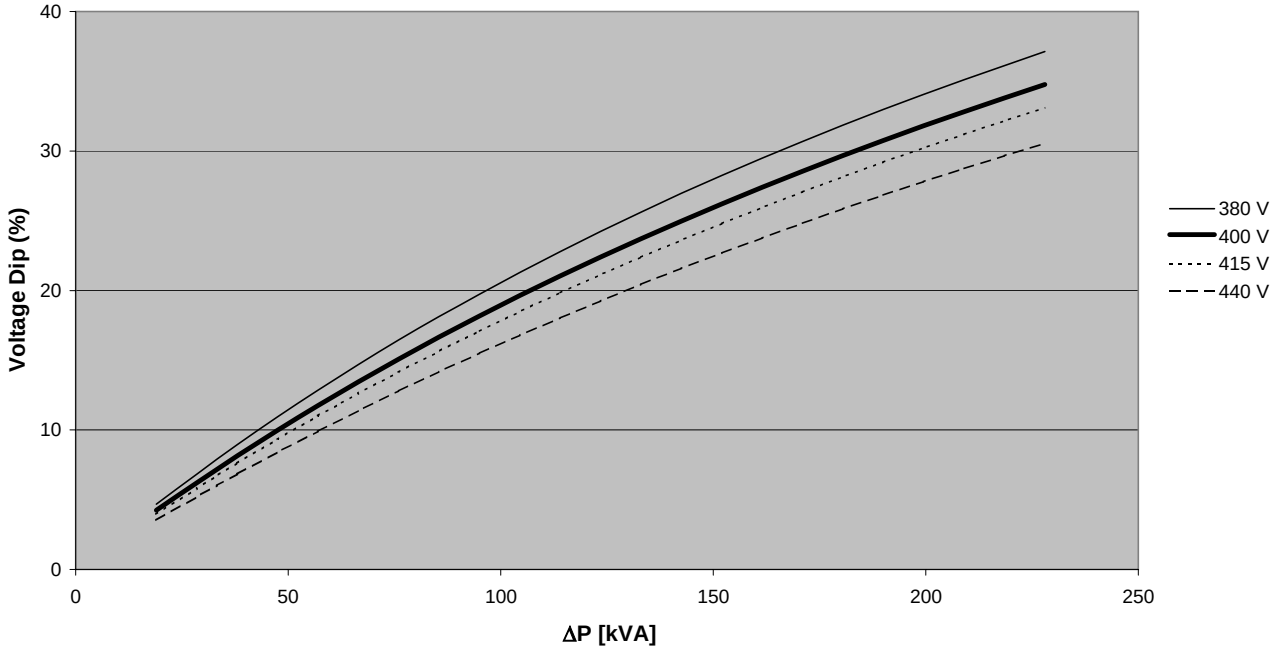
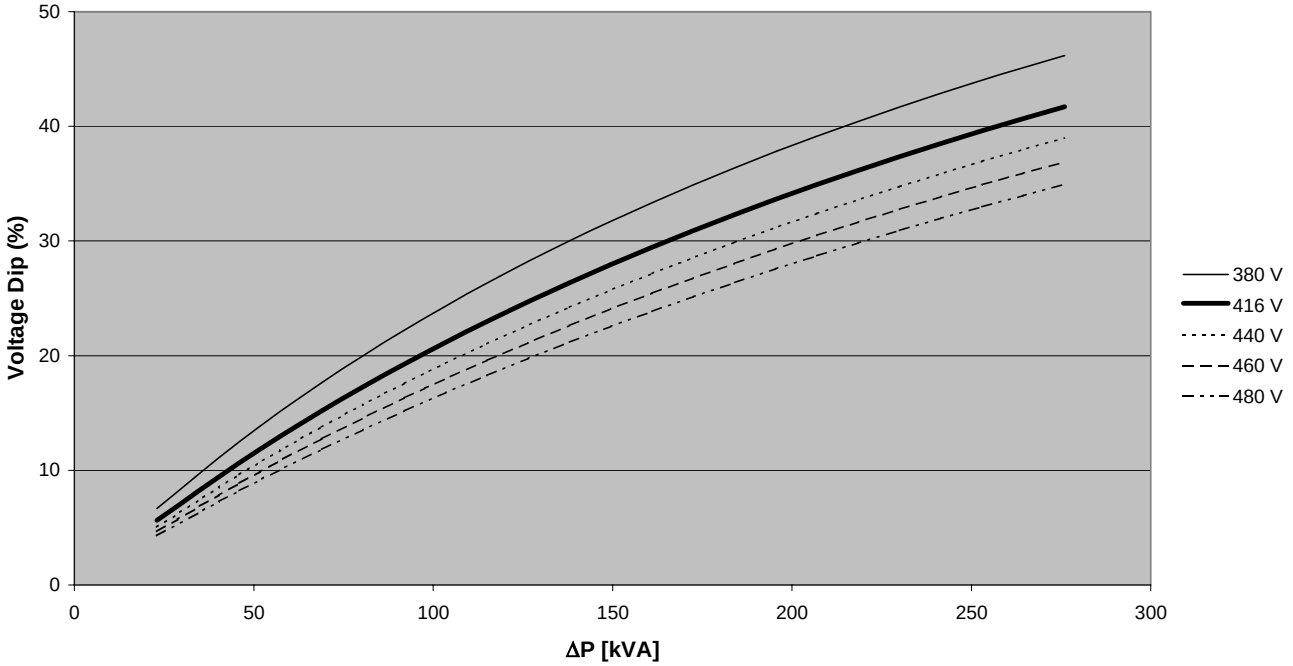
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 225 MA 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		**190**	**200**	**208**	**220**	**190**	**208**	**220**	**230**	**240**
RATING		**kVA**	**100**	**105**	**105**	**105**	**110**	**121**	**126**	**131**	**131**
		kW	***80***	***84***	***84***	***84***	***88***	***97***	***101***	***105***	***105***
EFFICIENCY (%) @ 0,8 p.f.		4/4	91,3	91,8	91,7	91,5	91,1	91,4	91,9	92,2	92,6
		3/4	92,1	92,4	92,3	92,2	92,2	92,5	92,7	92,9	93,1
		2/4	92,5	92,6	92,5	92,5	92,6	92,8	93,0	93,1	93,2
EFFICIENCY (%) @ 1,0 p.f.		4/4	93,1	93,5	93,4	93,2	92,9	93,1	93,6	93,8	94,1
		3/4	93,7	93,9	93,8	93,8	93,8	94,0	94,2	94,4	94,5
		2/4	94,0	94,1	94,1	94,0	94,1	94,3	94,5	94,5	94,6
SHORT CIRCUIT RATIO			0,38	0,40	0,43	0,48	0,29	0,31	0,34	0,35	0,38
REACTANCES (%)											
Direct axis synchronous		xd	290	275	255	225	385	350	325	310	285
Quadrature axis synchronous		xq	160	150	140	125	210	190	180	170	155
Direct axis transient		x'd	22,1	21,0	19,5	17,4	29,3	26,8	25,0	23,8	21,9
Direct axis subtransient		x"d	10,4	9,9	9,2	8,2	13,8	12,6	11,8	11,2	10,3
Quadrature axis subtransient		x"q	11,5	10,9	10,1	9,0	15,2	13,9	13,0	12,4	11,4
Negative sequence		x_2	10,9	10,4	9,7	8,6	14,5	13,3	12,4	11,8	10,8
Zero sequence		x_0	2,3	2,2	2,0	1,8	3,1	2,8	2,6	2,5	2,3

TIME CONSTANTS [s]

Open circuit (T'do)	0,95	Subtransient (T"d)	0,006
Transient (T'd)	0,078	Armature (Ta)	0,006

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6215 2RS C3 / Prelubricated
N-end bearing/Lubrication	6311 2RS C3 / Prelubricated
Weight (IM B34) [kg]	370
Inertia (J) (IM B34) [kgm^2]	0,789
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	0,31 / 0,39
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,075
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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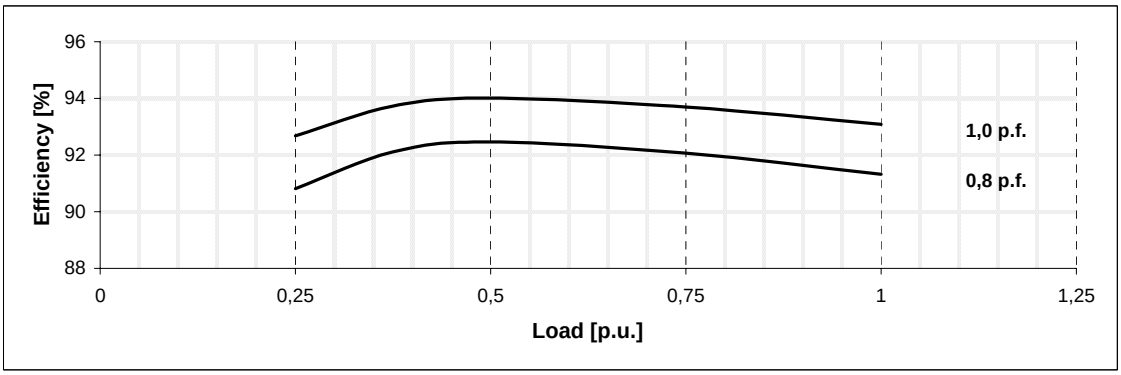
MarelliGenerators

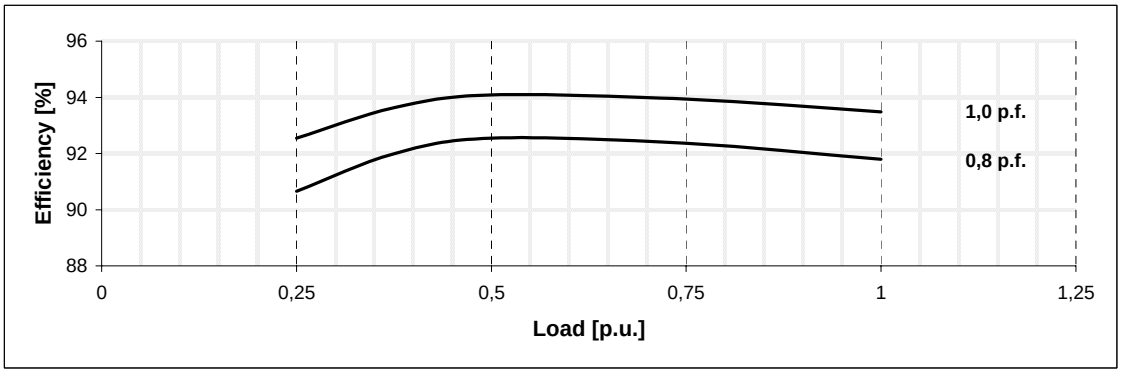
Typical efficiency curves

50 Hz - 1500 min^{-1}

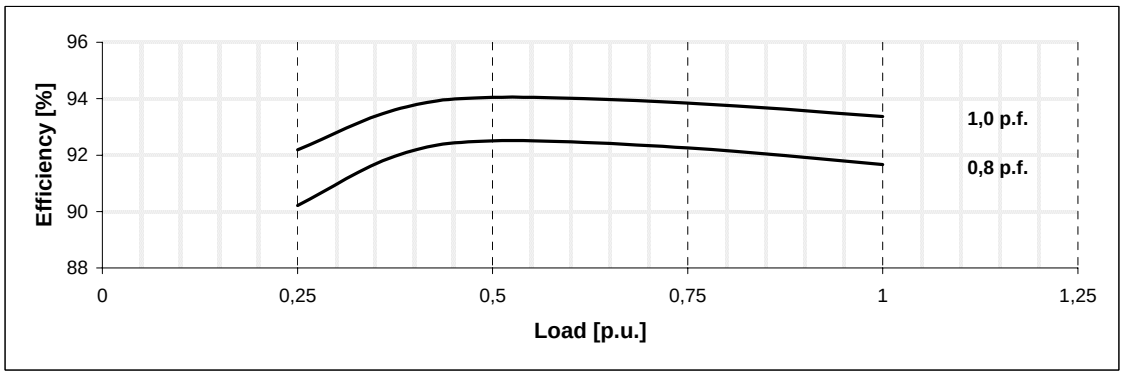
380 V



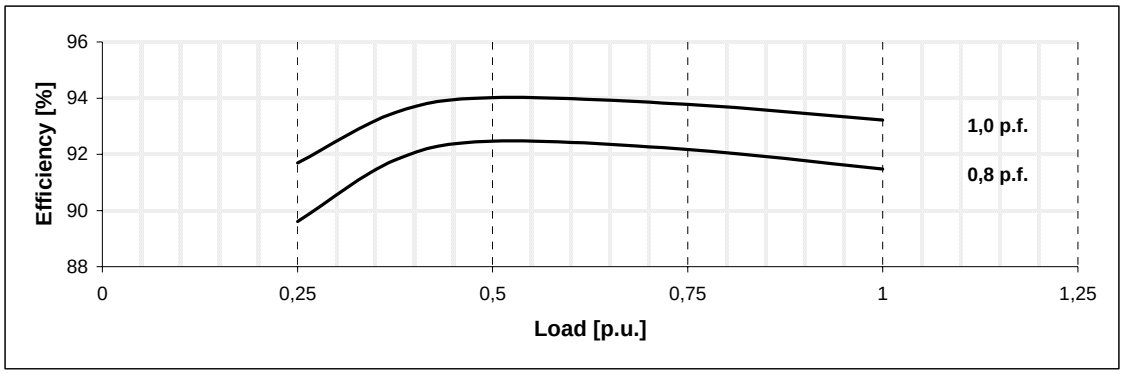
400 V



415 V



440 V



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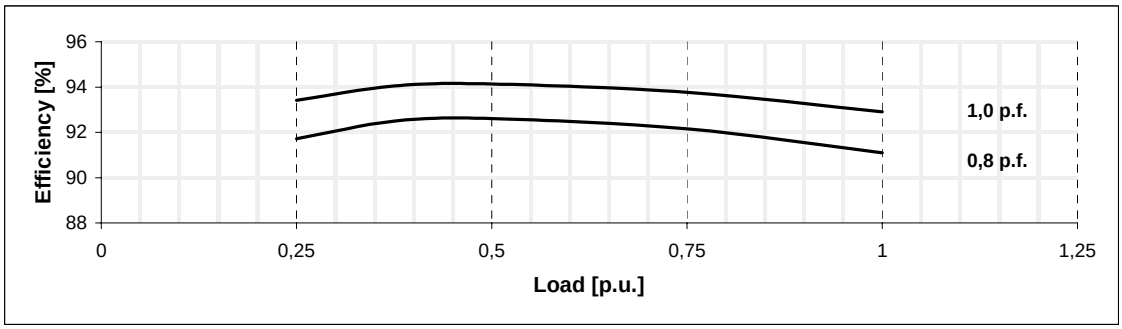
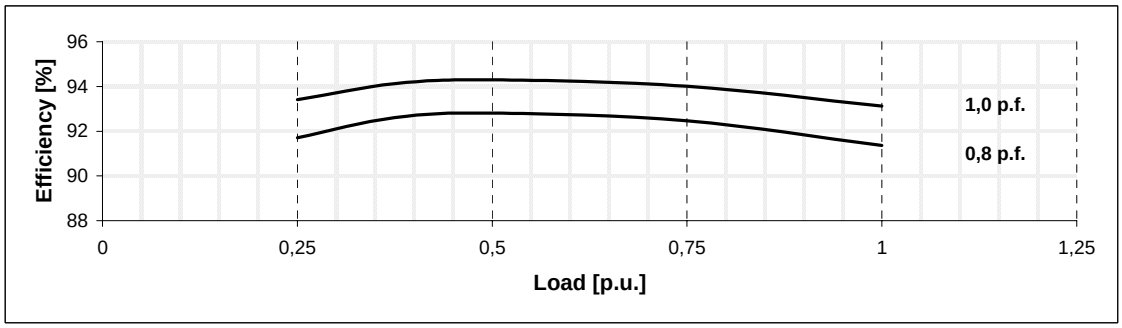
Typical efficiency curves

60 Hz - 1800 min^{-1}

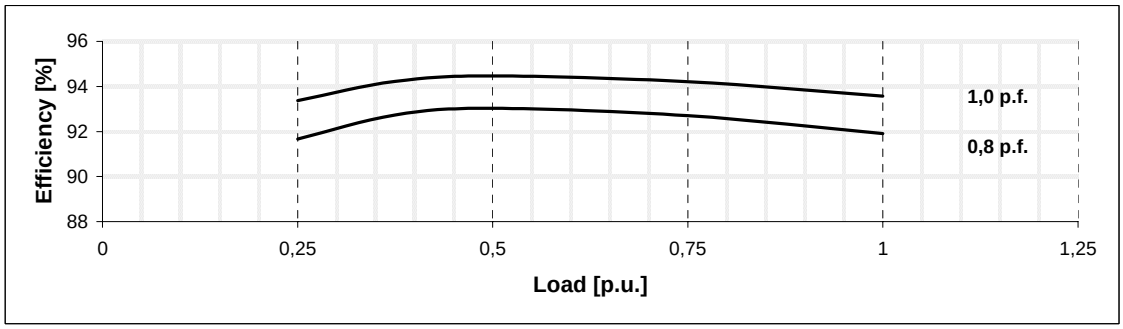
380 V



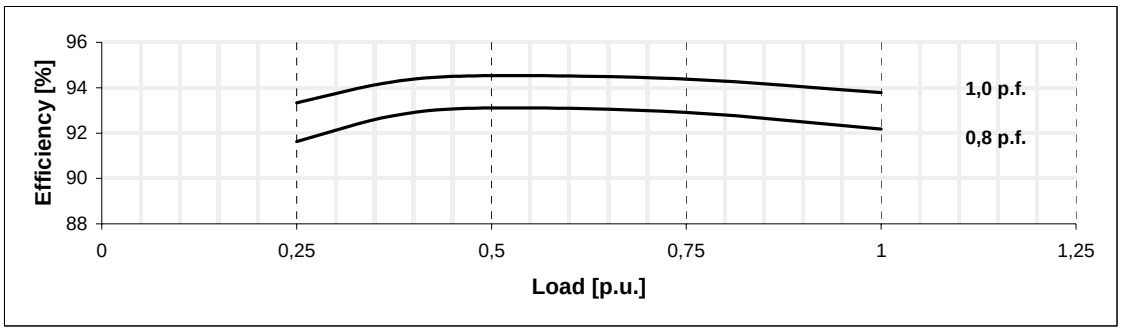
416 V



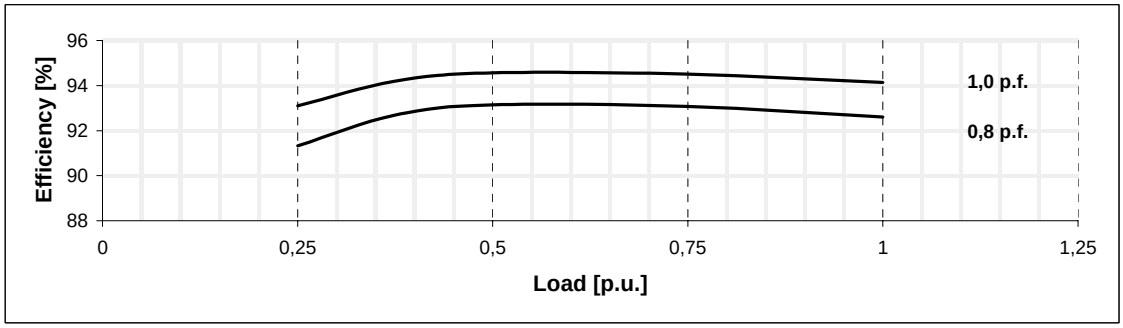
440 V



460 V



480 V



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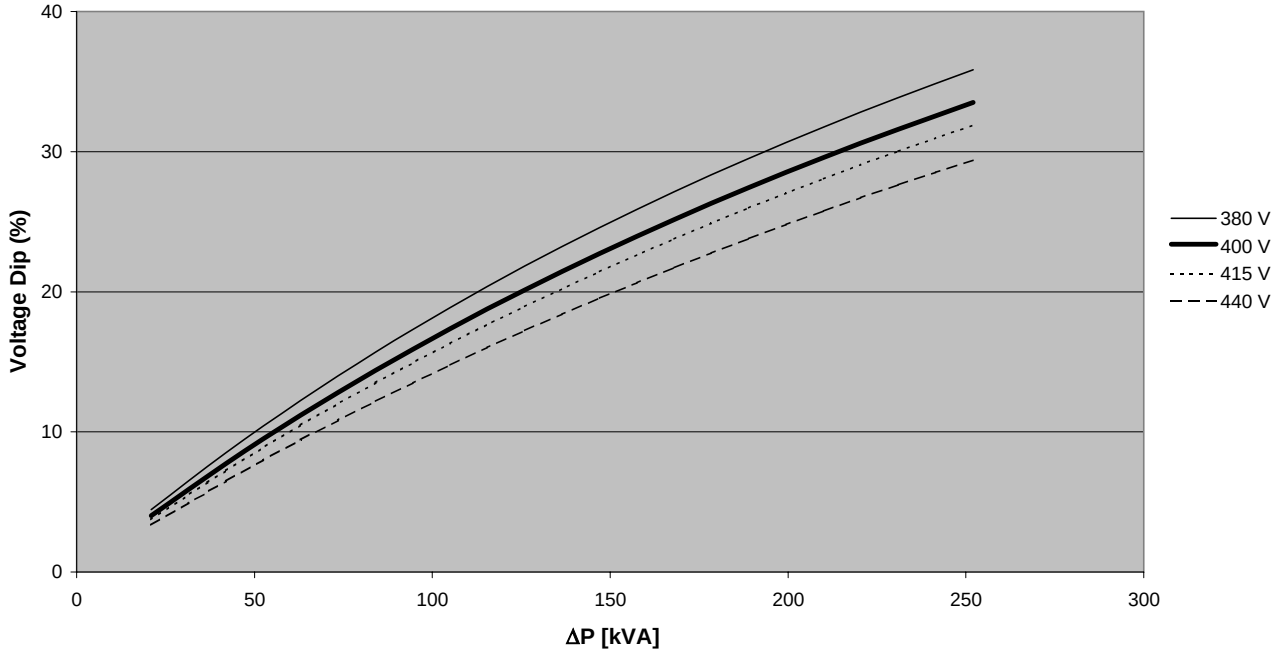
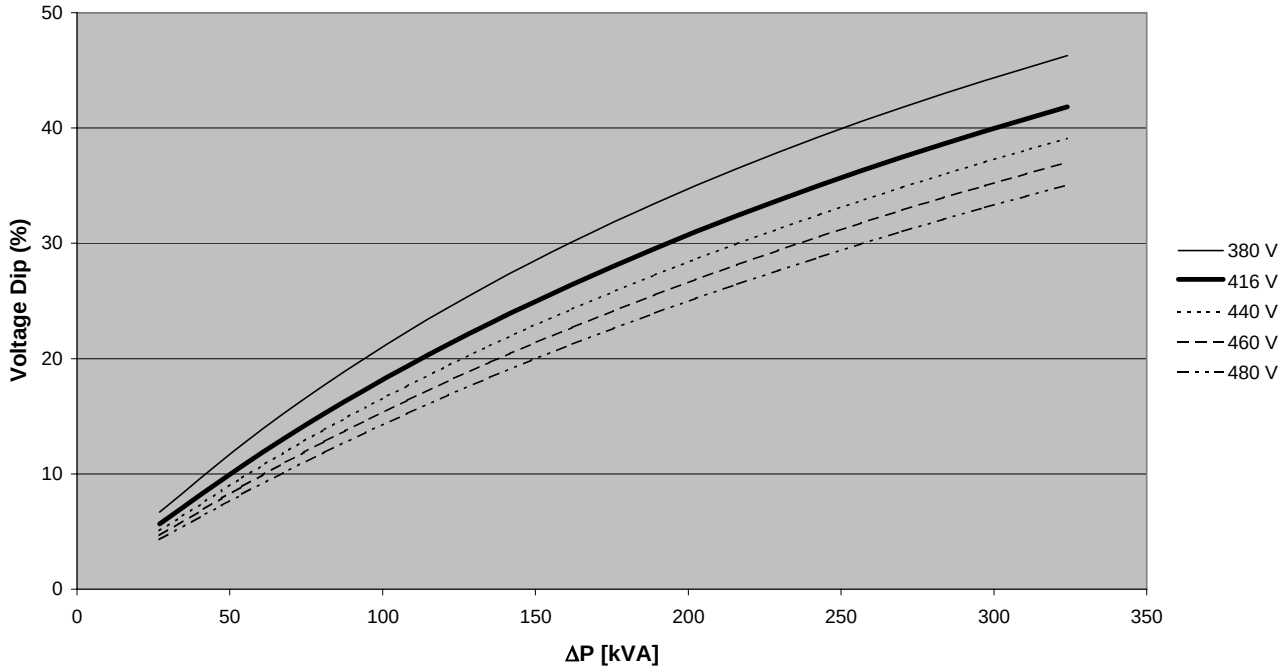
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 225 LA 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		**190**	**200**	**208**	**220**	**190**	**208**	**220**	**230**	**240**
RATING		**kVA**	**127**	**132**	**132**	**132**	**137**	**148**	**153**	**158**	**158**
		kW	***101***	***106***	***106***	***106***	***110***	***118***	***122***	***127***	***127***
EFFICIENCY (%) @ 0,8 p.f.		4/4	91,9	92,2	91,8	91,7	91,7	92,1	92,5	92,7	93,0
		3/4	92,5	92,6	92,4	92,3	92,7	93,0	93,1	93,3	93,3
		2/4	92,7	92,7	92,6	92,5	93,0	93,2	93,3	93,4	93,3
EFFICIENCY (%) @ 1,0 p.f.		4/4	93,5	93,8	93,4	93,4	93,4	93,8	94,0	94,2	94,4
		3/4	94,0	94,1	94,0	93,9	94,2	94,4	94,5	94,6	94,7
		2/4	94,2	94,2	94,1	94,0	94,4	94,6	94,7	94,8	94,7
SHORT CIRCUIT RATIO			0,39	0,42	0,45	0,51	0,30	0,34	0,37	0,39	0,42
REACTANCES (%)											
Direct axis synchronous		xd	280	265	245	220	365	330	305	290	265
Quadrature axis synchronous		xq	155	145	135	120	200	180	165	160	145
Direct axis transient		x'd	20,5	19,3	17,9	16,0	26,7	24,0	22,2	21,0	19,3
Direct axis subtransient		x"d	10,1	9,5	8,8	7,9	13,1	11,8	10,9	10,3	9,5
Quadrature axis subtransient		x"q	11,3	10,6	9,8	8,8	14,7	13,2	12,2	11,5	10,6
Negative sequence		x_2	10,7	10,1	9,4	8,3	14,0	12,6	11,6	11,0	10,1
Zero sequence		x_0	2,3	2,2	2,0	1,8	3,0	2,7	2,5	2,4	2,2

TIME CONSTANTS [s]

Open circuit (T'do)	1,08	Subtransient (T"d)	0,006
Transient (T'd)	0,087	Armature (Ta)	0,007

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6215 2RS C3 / Prelubricated
N-end bearing/Lubrication	6311 2RS C3 / Prelubricated
Weight (IM B34) [kg]	405
Inertia (J) (IM B34) [kgm^2]	0,924
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	0,31 / 0,39
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,045
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.

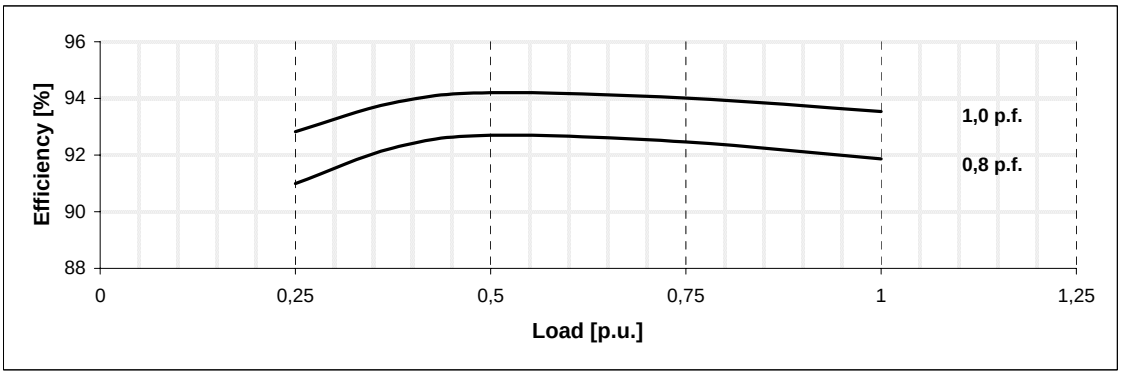
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

MarelliGenerators

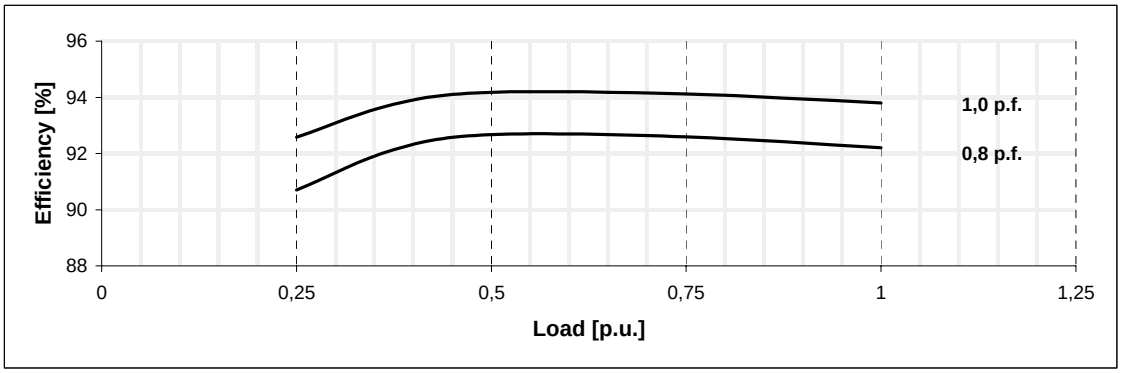
Typical efficiency curves

50 Hz - 1500 min^{-1}

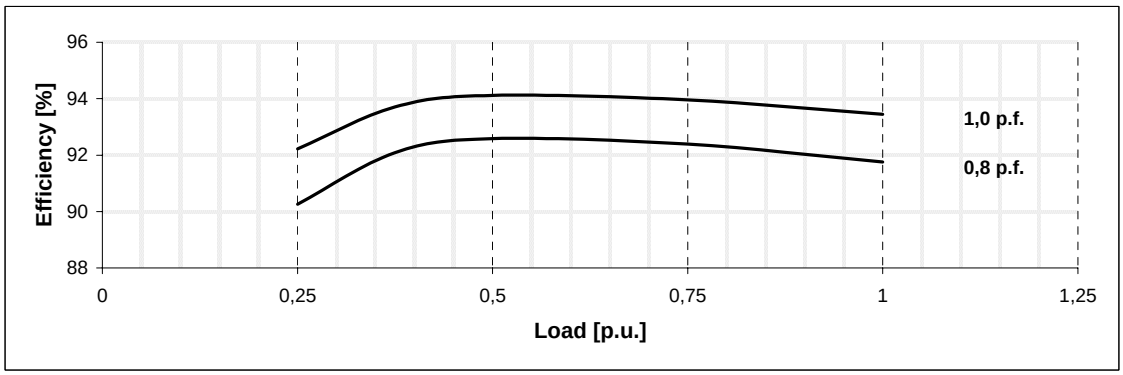
380 V



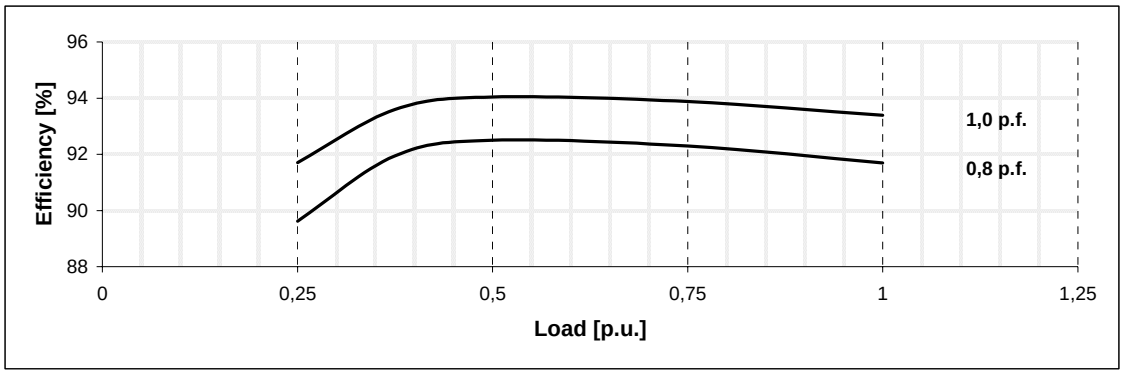
400 V



415 V



440 V



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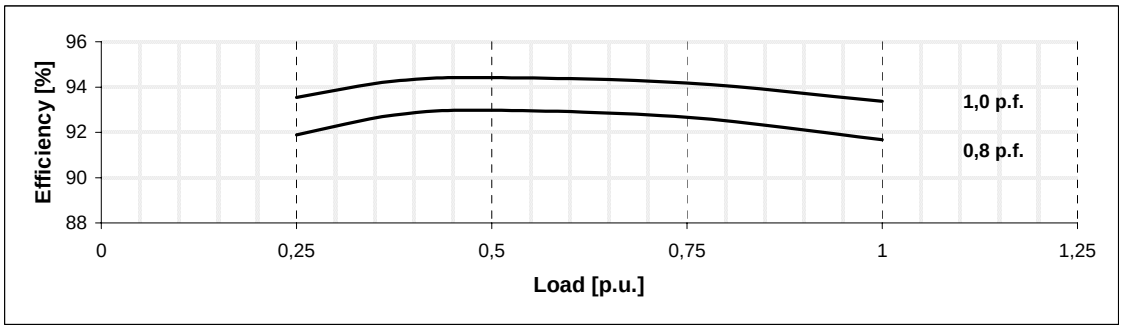
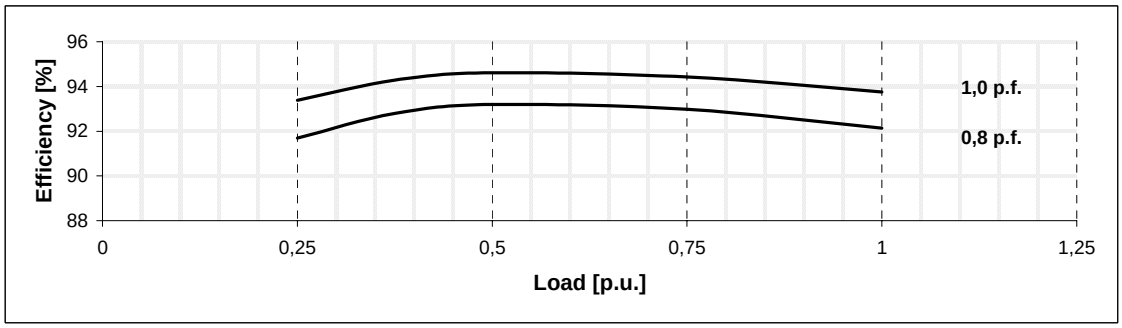
Typical efficiency curves

60 Hz - 1800 min^{-1}

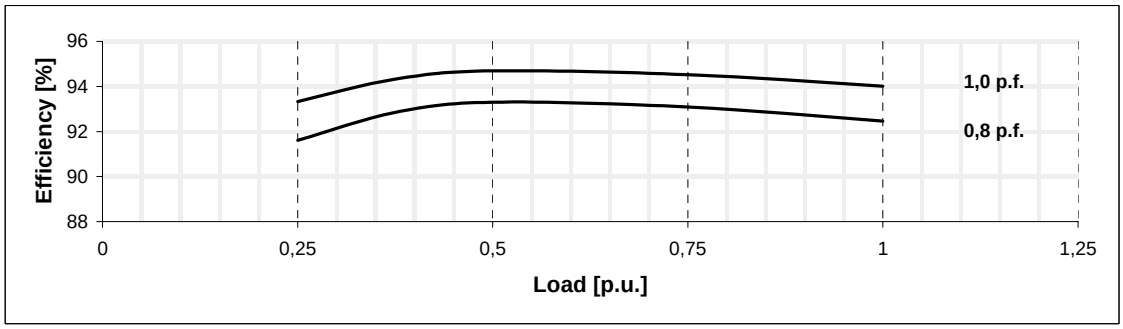
380 V



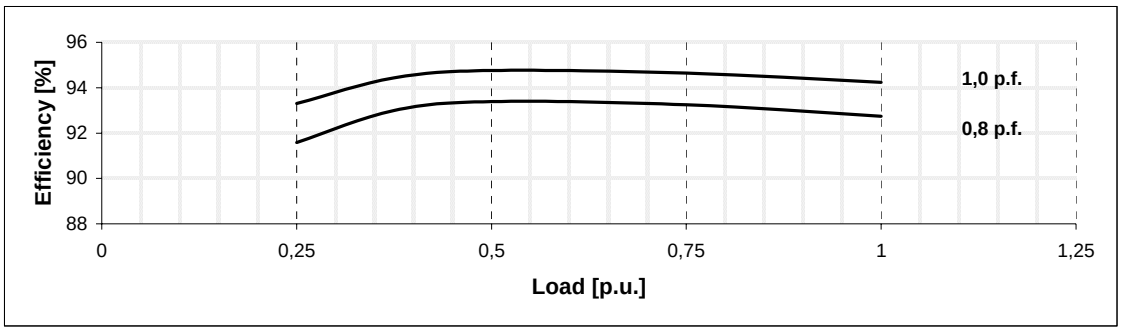
416 V



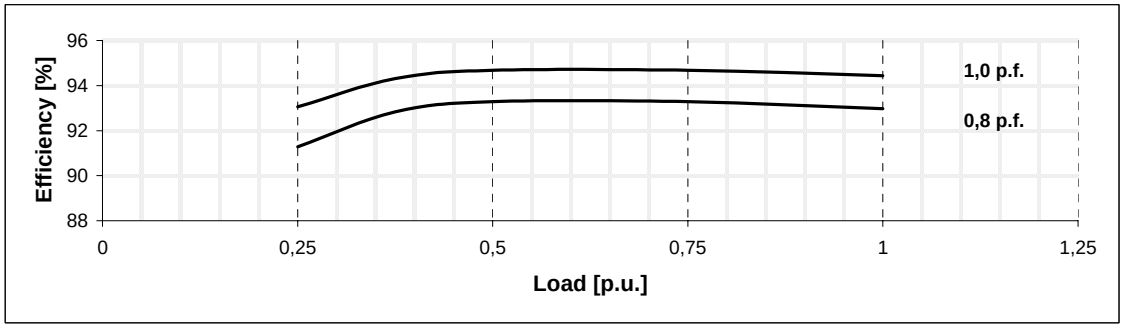
440 V



460 V



480 V



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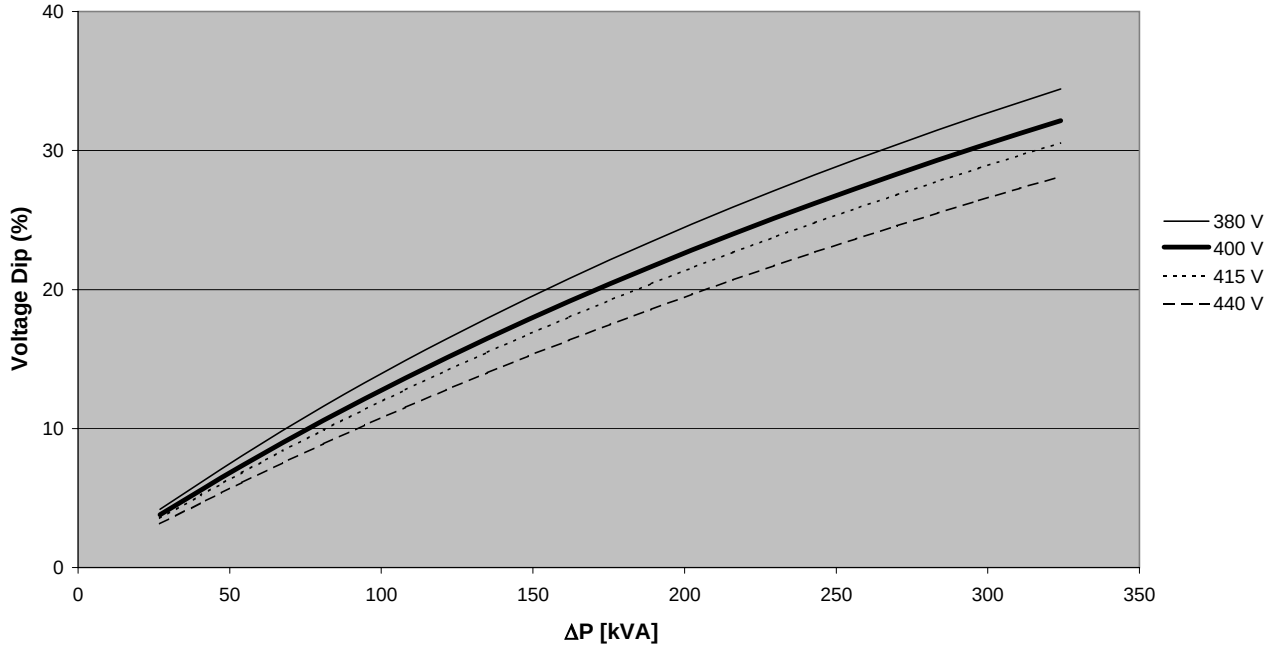
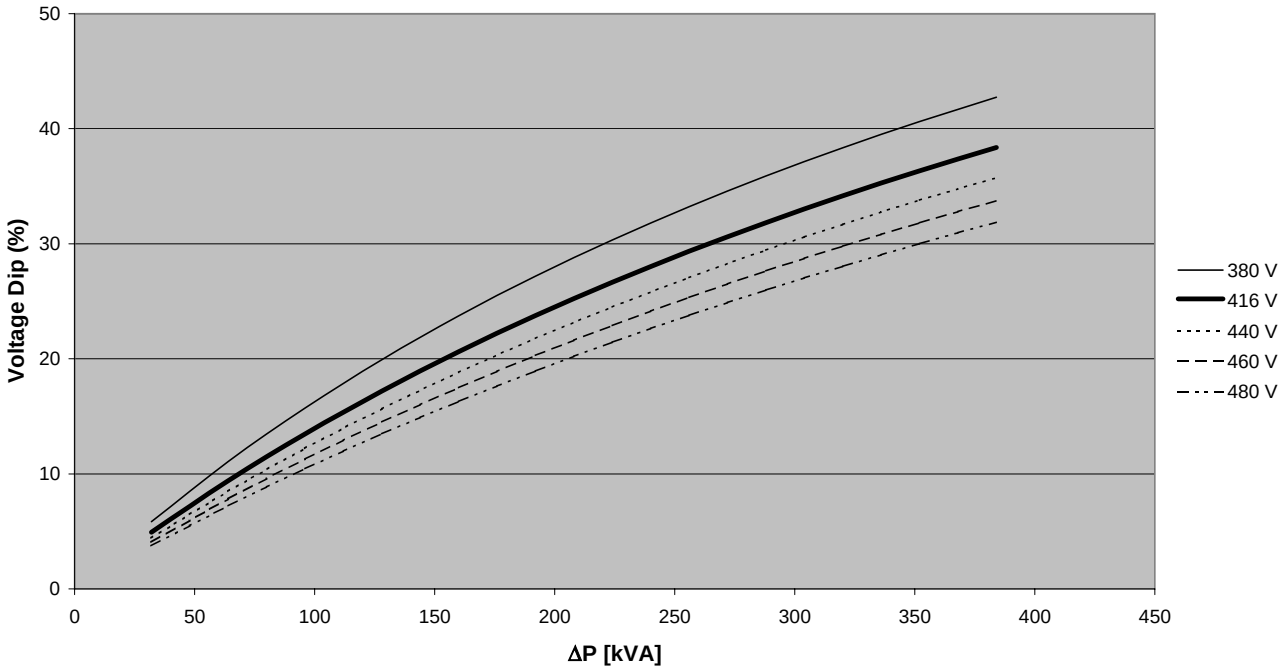
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 250 MA 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		**190**	**200**	**208**	**220**	**190**	**208**	**220**	**230**	**240**
RATING		**kVA**	**165**	**165**	**165**	**165**	**170**	**175**	**185**	**195**	**205**
		kW	***132***	***132***	***132***	***132***	***136***	***140***	***148***	***156***	***164***
EFFICIENCY (%) @ 0,8 p.f.		4/4	92,5	92,9	92,8	92,7	91,7	92,2	92,4	92,6	93,6
		3/4	93,0	93,2	93,1	93,0	92,7	93,1	93,1	93,3	93,8
		2/4	93,2	93,1	93,0	92,8	93,1	93,2	93,3	93,4	93,4
EFFICIENCY (%) @ 1,0 p.f.		4/4	94,0	94,4	94,3	94,2	93,4	93,8	94,0	94,1	94,9
		3/4	94,4	94,6	94,5	94,5	94,2	94,5	94,6	94,7	95,1
		2/4	94,6	94,5	94,5	94,3	94,5	94,6	94,7	94,8	94,8
SHORT CIRCUIT RATIO			0,42	0,47	0,51	0,57	0,34	0,40	0,42	0,44	0,45
REACTANCES (%)											
Direct axis synchronous		xd	310	280	260	230	385	330	310	300	290
Quadrature axis synchronous		xq	150	135	125	110	185	160	150	145	140
Direct axis transient		x'd	27,1	24,5	22,8	20,2	33,6	28,8	27,2	26,3	25,4
Direct axis subtransient		x"d	15,0	13,5	12,5	11,2	18,5	15,9	15,0	14,5	14,0
Quadrature axis subtransient		x"q	16,5	14,9	13,8	12,3	20,4	17,5	16,6	16,0	15,4
Negative sequence		x_2	15,7	14,2	13,2	11,7	19,5	16,7	15,8	15,2	14,7
Zero sequence		x_0	3,2	2,9	2,7	2,4	4,0	3,4	3,2	3,1	3,0

TIME CONSTANTS [s]

Open circuit (T'do)	0,95	Subtransient (T"d)	0,011
Transient (T'd)	0,09	Armature (Ta)	0,012

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6218 2RS C3 / Prelubricated
N-end bearing/Lubrication	6323 2RS C3 / Prelubricated
Weight (IM B34) [kg]	530
Inertia (J) (IM B34) [kgm^2]	1,41
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	0,42 / 0,52
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,032
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.

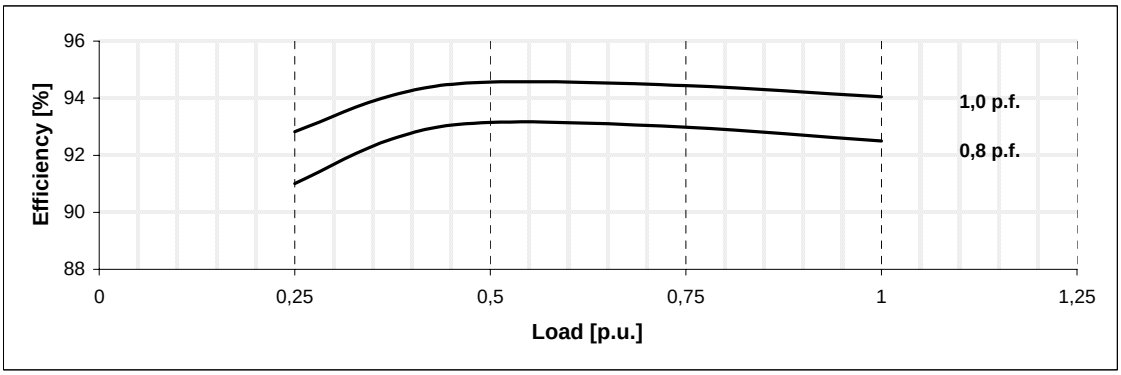
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

MarelliGenerators

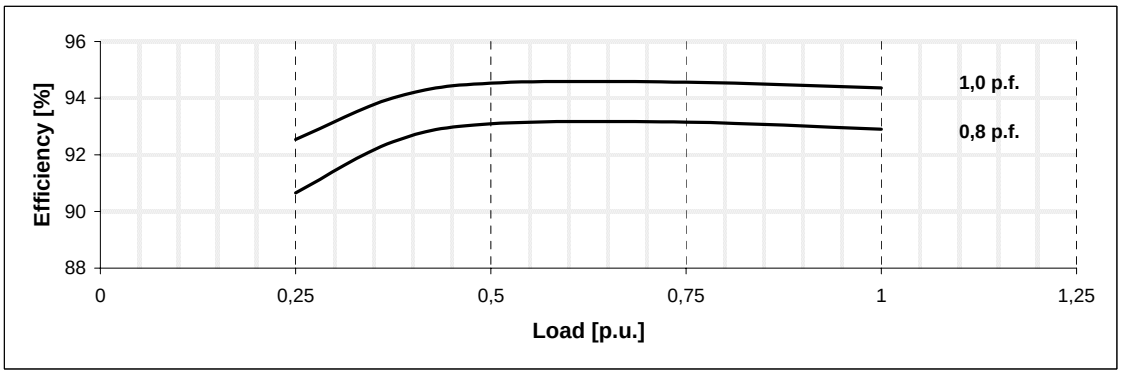
Typical efficiency curves

50 Hz - 1500 min^{-1}

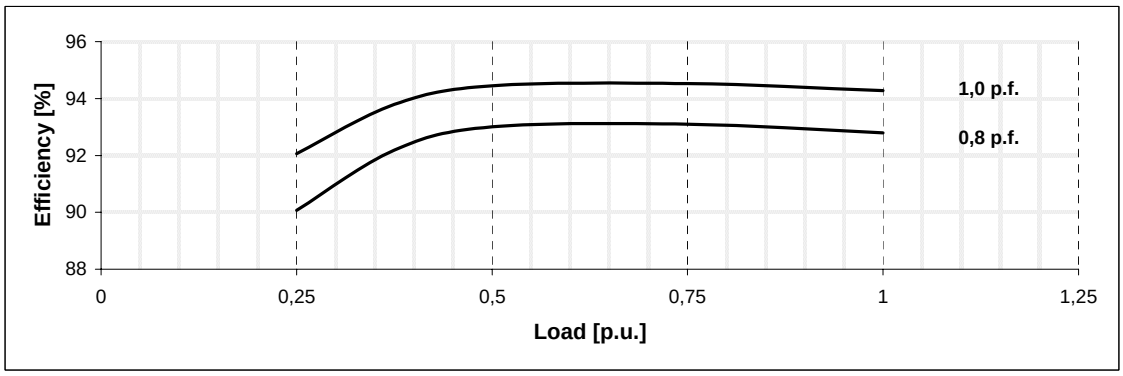
380 V



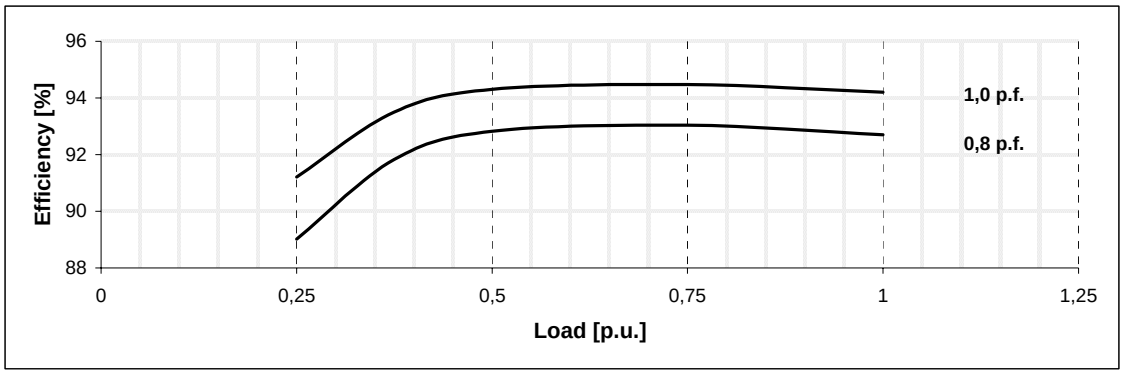
400 V



415 V



440 V



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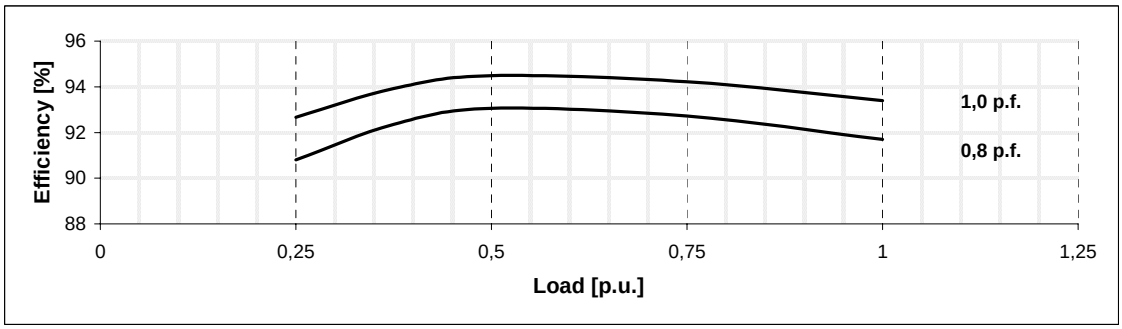
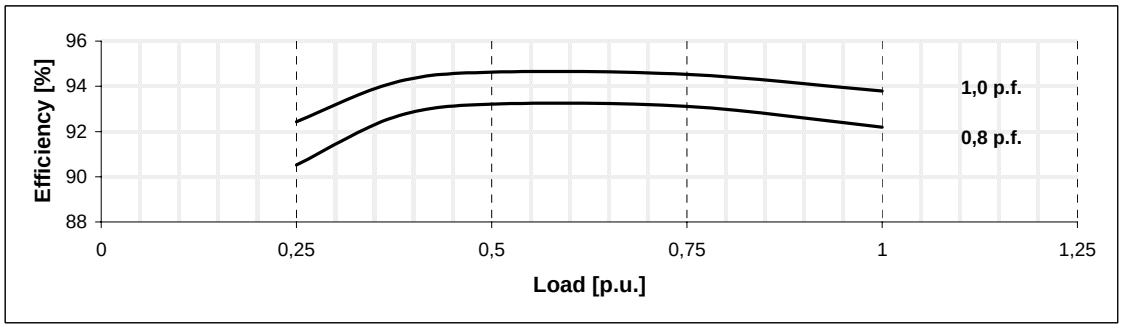
Typical efficiency curves

60 Hz - 1800 min^{-1}

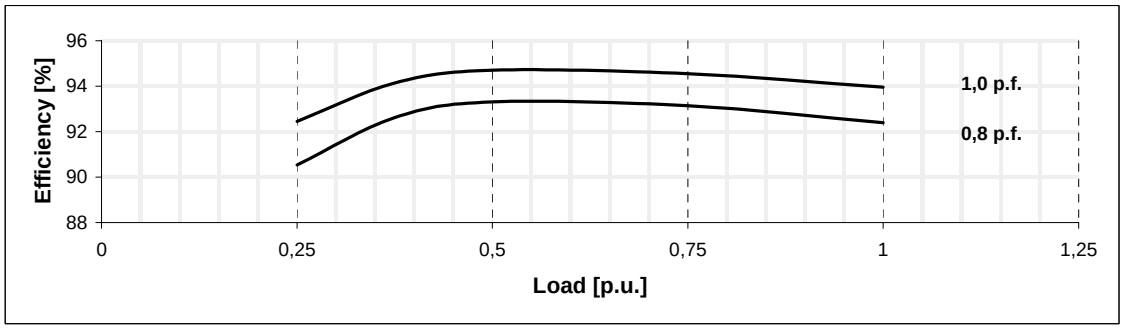
380 V



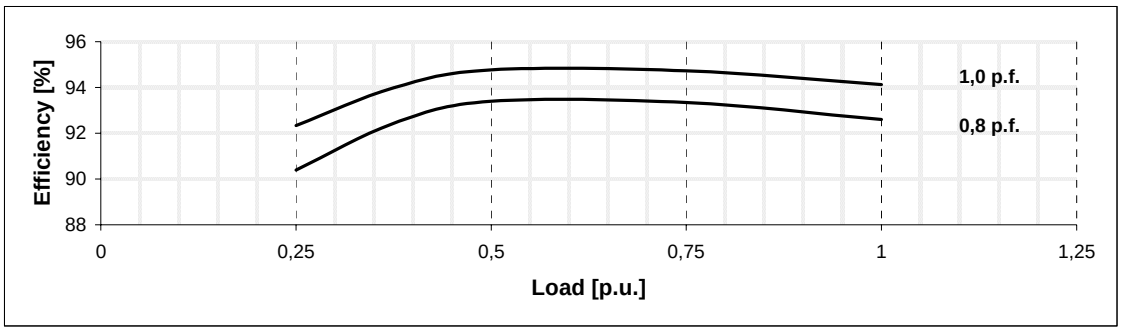
416 V



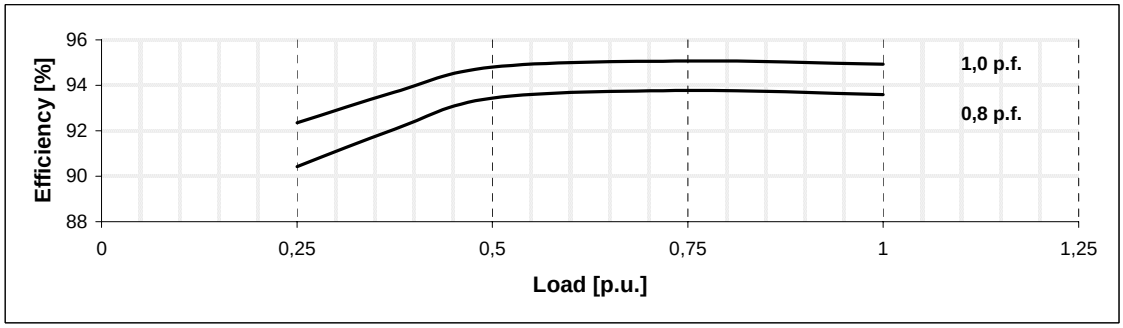
440 V



460 V



480 V



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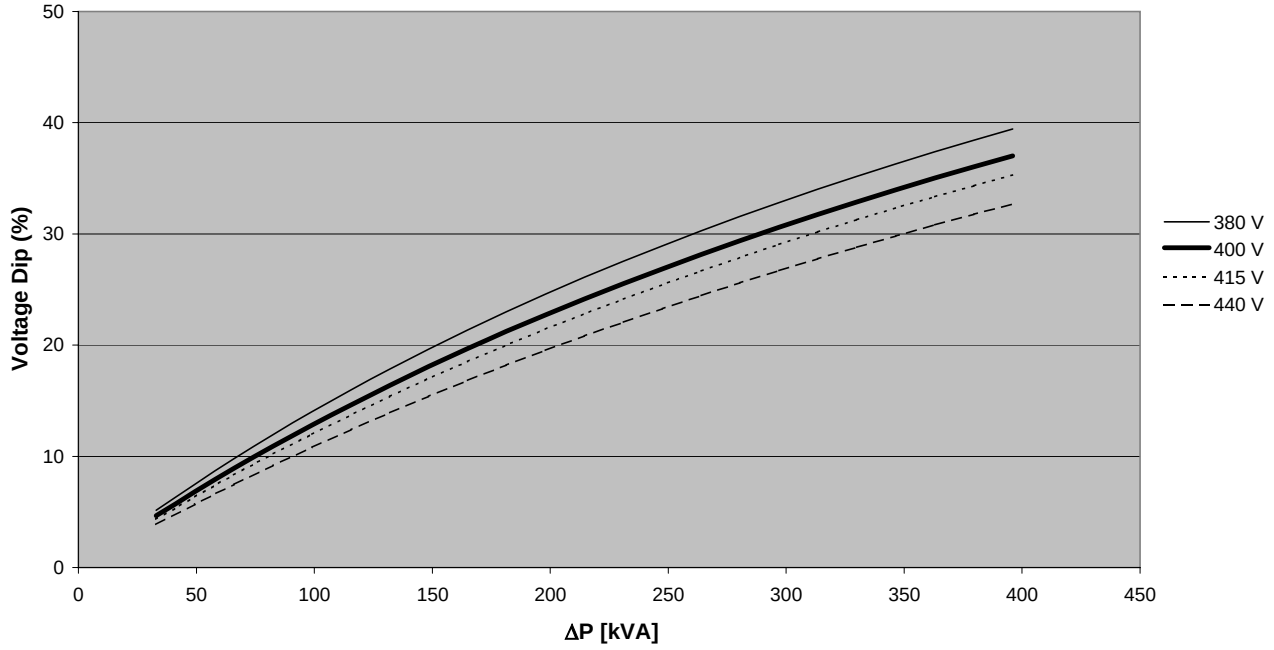
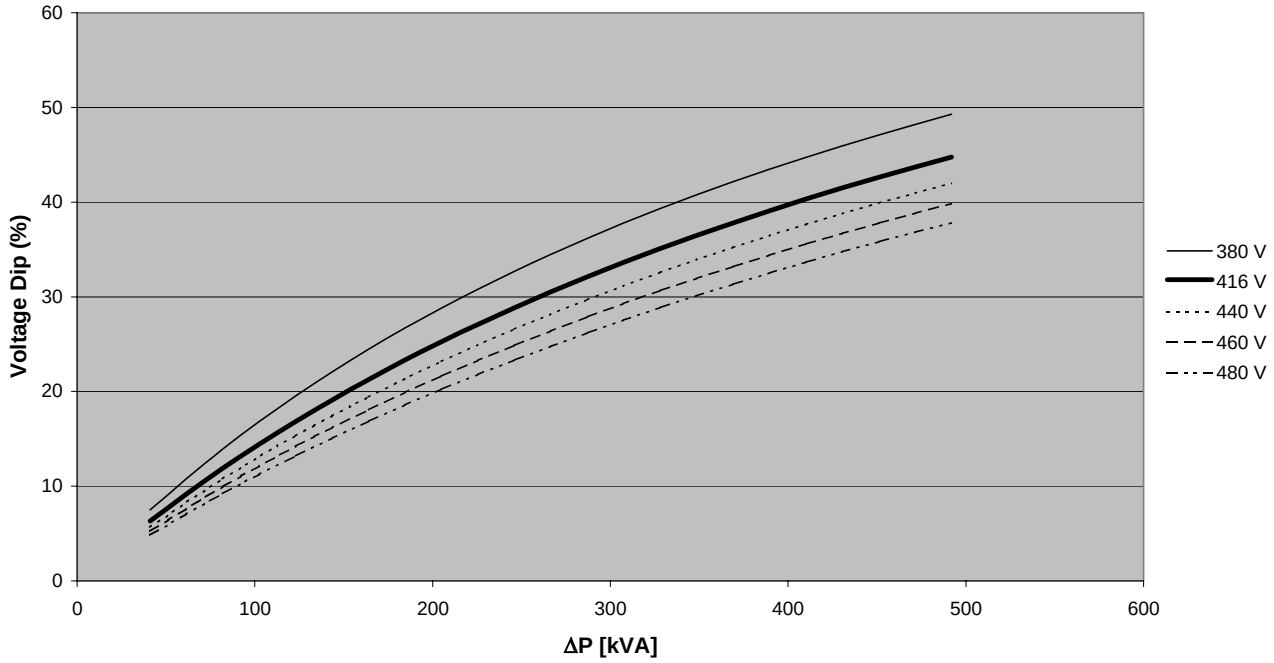
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 250 MB 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		**190**	**200**	**208**	**220**	**190**	**208**	**220**	**230**	**240**
RATING		**kVA**	**185**	**185**	**185**	**185**	**195**	**205**	**215**	**220**	**230**
		kW	***148***	***148***	***148***	***148***	***156***	***164***	***172***	***176***	***184***
EFFICIENCY (%) @ 0,8 p.f.		4/4	92,6	93,0	92,9	92,9	92,0	92,4	92,6	92,8	93,6
		3/4	93,1	93,2	93,1	93,1	93,0	93,4	93,4	93,6	93,9
		2/4	93,3	93,2	93,1	93,0	93,5	93,7	93,7	93,6	93,9
EFFICIENCY (%) @ 1,0 p.f.		4/4	94,1	94,4	94,4	94,4	93,6	94,0	94,1	94,3	94,9
		3/4	94,5	94,6	94,6	94,5	94,4	94,8	94,8	94,9	95,2
		2/4	94,7	94,6	94,5	94,5	94,8	95,0	95,0	95,0	95,1
SHORT CIRCUIT RATIO			0,41	0,45	0,48	0,54	0,32	0,37	0,39	0,42	0,43
REACTANCES (%)											
Direct axis synchronous		xd	300	270	250	225	380	330	310	290	280
Quadrature axis synchronous		xq	145	130	120	105	180	160	150	140	135
Direct axis transient		x'd	26,6	24,0	22,3	19,8	33,6	29,5	27,7	25,9	24,9
Direct axis subtransient		x"d	13,9	12,5	11,6	10,3	17,5	15,4	14,4	13,5	13,0
Quadrature axis subtransient		x"q	15,4	13,9	12,9	11,5	19,5	17,1	16,0	15,0	14,4
Negative sequence		x_2	14,6	13,2	12,3	10,9	18,5	16,2	15,2	14,2	13,7
Zero sequence		x_0	2,7	2,4	2,2	2,0	3,4	3,0	2,8	2,6	2,5

TIME CONSTANTS [s]

Open circuit (T'do)	0,95	Subtransient (T"d)	0,011
Transient (T'd)	0,09	Armature (Ta)	0,013

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6218 2RS C3 / Prelubricated
N-end bearing/Lubrication	6313 2RS C3 / Prelubricated
Weight (IM B34) [kg]	590
Inertia (J) (IM B34) [kgm^2]	1,660
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	0,42 / 0,52
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,027
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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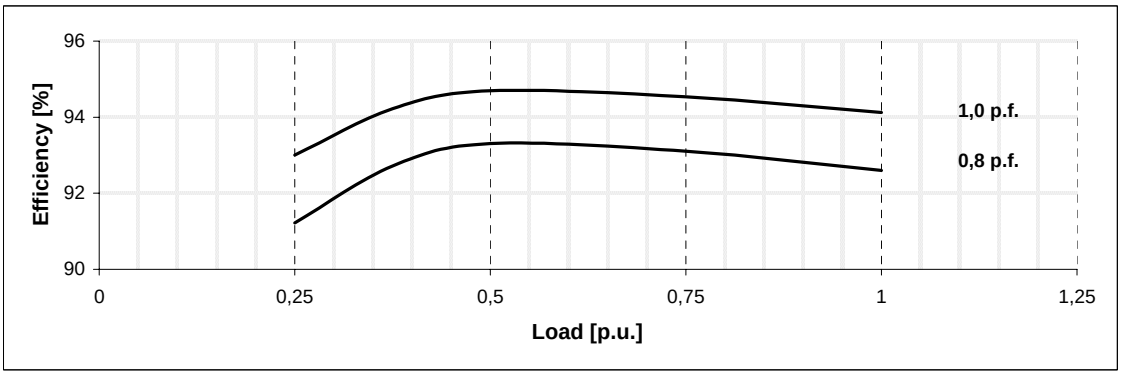
MarelliGenerators

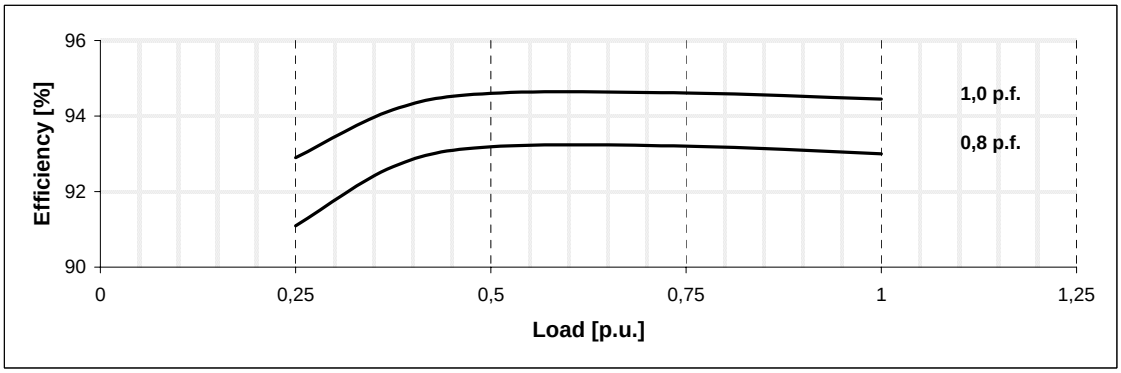
Typical efficiency curves

50 Hz - 1500 min^{-1}

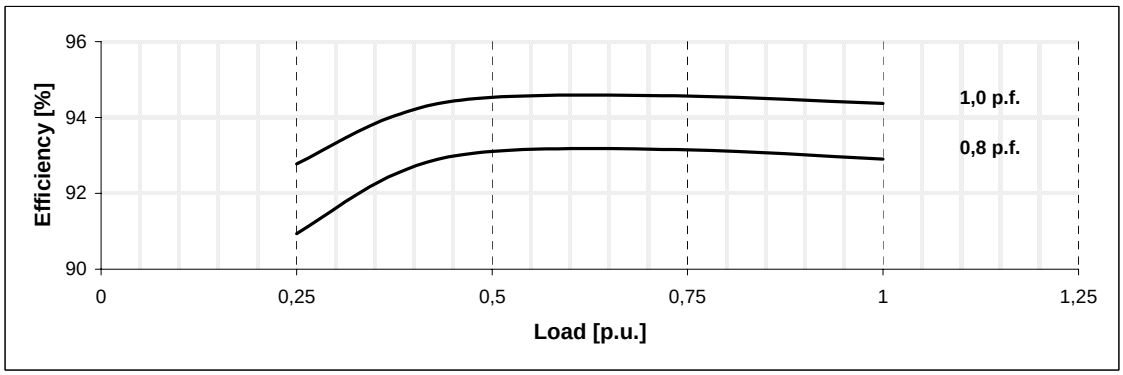
380 V



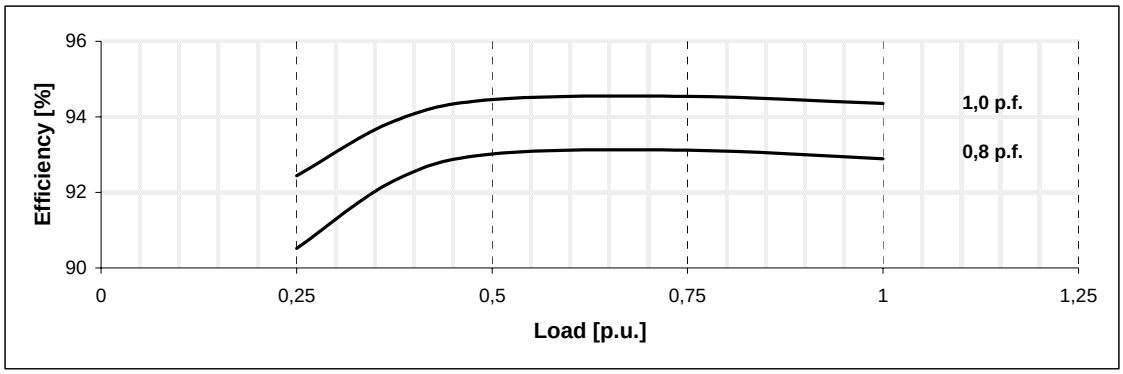
400 V



415 V



440 V



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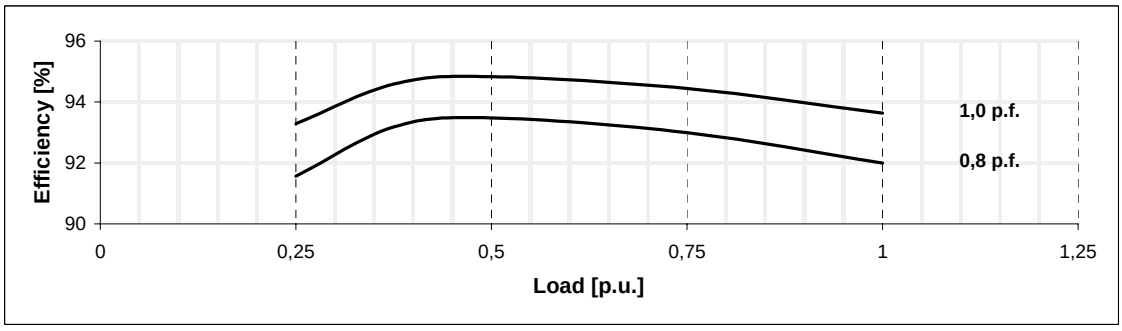
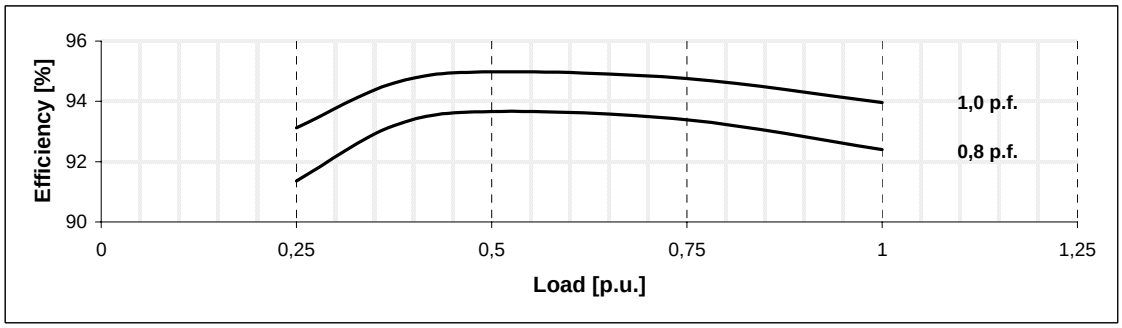
Typical efficiency curves

60 Hz - 1800 min^{-1}

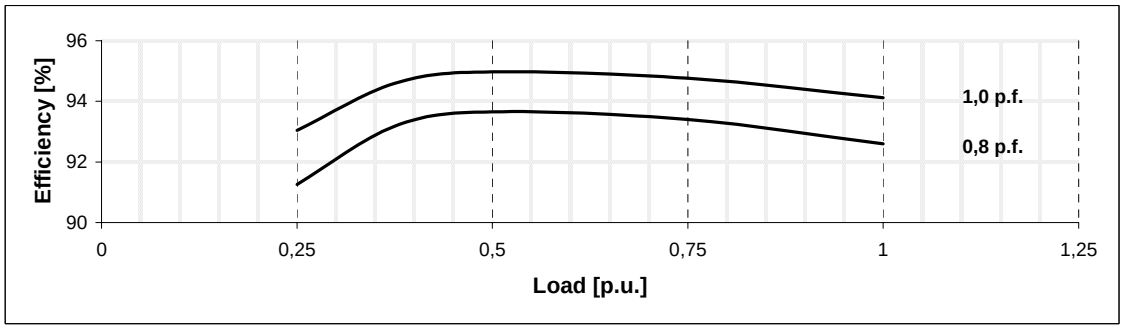
380 V



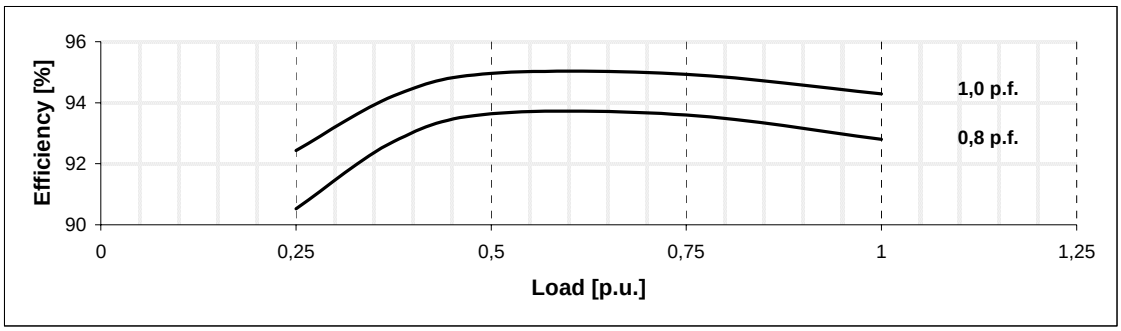
416 V



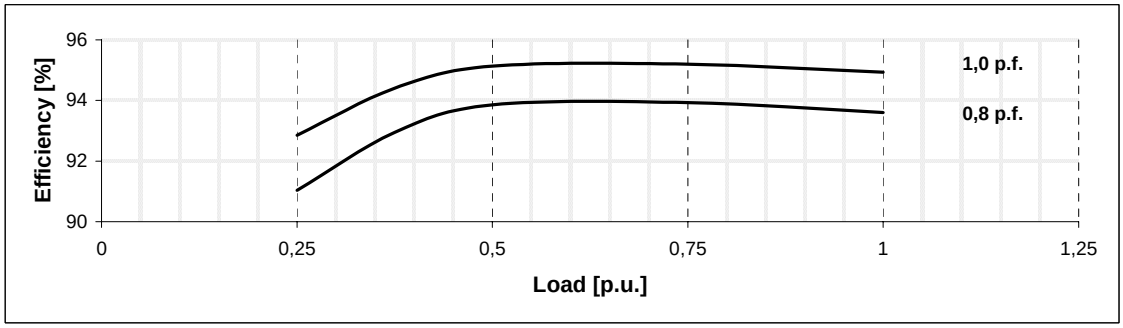
440 V



460 V



480 V



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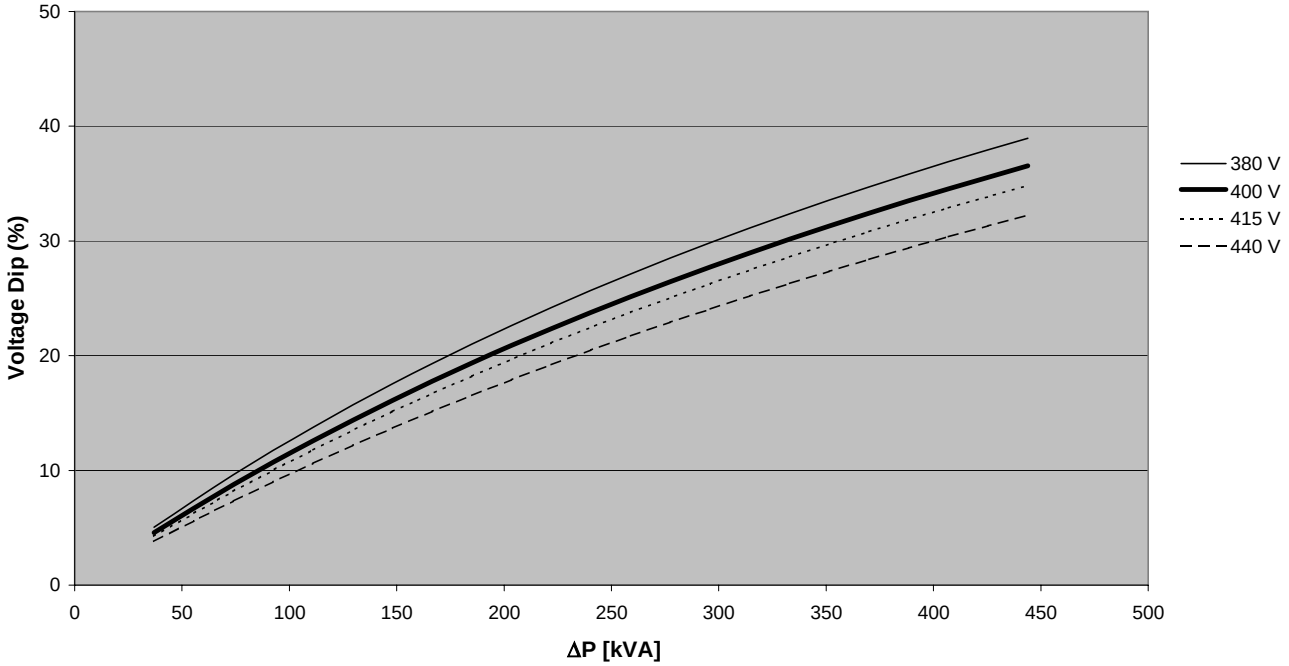
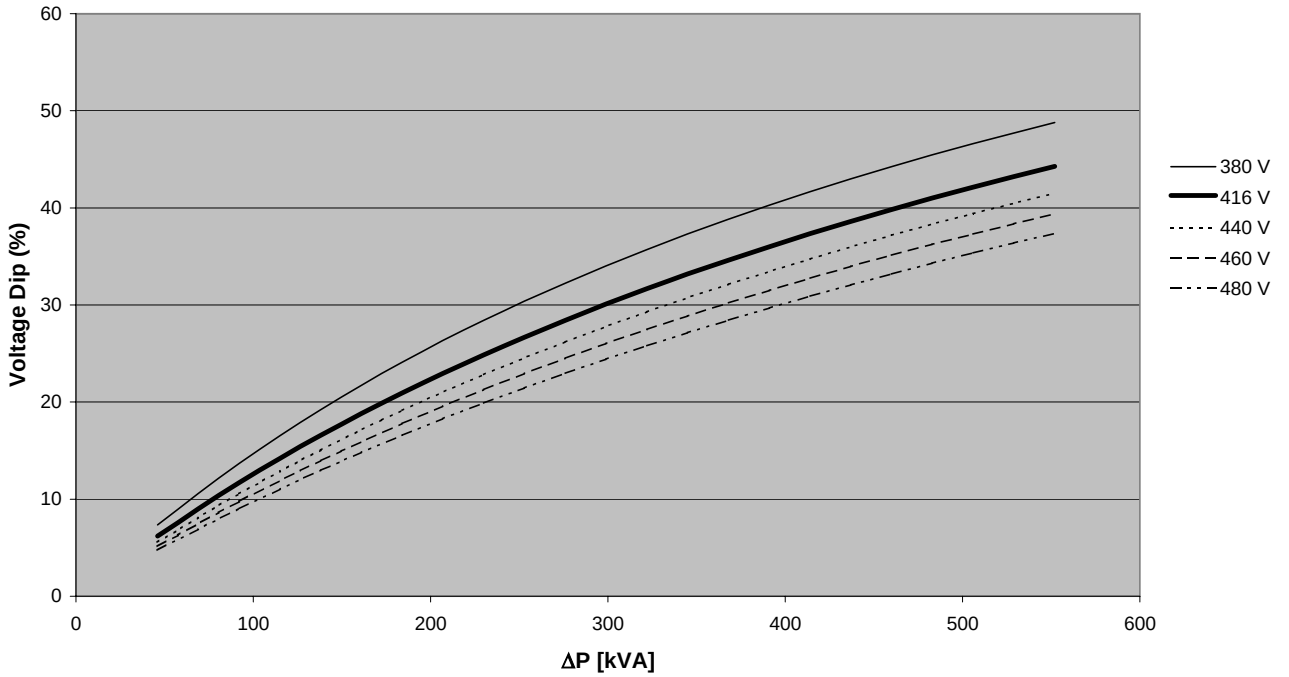
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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

FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 250 LA 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		**190**	**200**	**208**	**220**	**190**	**208**	**220**	**230**	**240**
RATING		**kVA**	**220**	**220**	**220**	**210**	**225**	**235**	**245**	**255**	**270**
		kW	***176***	***176***	***176***	***168***	***180***	***188***	***196***	***204***	***216***
EFFICIENCY (%) @ 0,8 p.f.		4/4	92,8	93,2	93,1	93,2	92,7	93,0	93,3	93,4	93,9
		3/4	93,4	93,6	93,5	93,5	93,7	94,0	94,1	94,2	94,4
		2/4	93,6	93,7	93,6	93,5	94,1	94,3	94,4	94,4	94,4
EFFICIENCY (%) @ 1,0 p.f.		4/4	94,3	94,6	94,5	94,6	94,2	94,4	94,7	94,8	95,2
		3/4	94,8	94,9	94,8	94,8	95,0	95,2	95,3	95,4	95,6
		2/4	95,0	95,0	94,9	94,9	95,4	95,5	95,6	95,6	95,6
SHORT CIRCUIT RATIO			0,36	0,40	0,43	0,51	0,29	0,34	0,36	0,38	0,39
REACTANCES (%)											
Direct axis synchronous		xd	340	305	285	240	415	360	335	320	310
Quadrature axis synchronous		xq	165	150	140	120	205	180	165	160	155
Direct axis transient		x'd	26,6	24,0	22,3	18,9	32,6	28,4	26,5	25,2	24,5
Direct axis subtransient		x"d	12,5	11,3	10,5	8,9	15,4	13,4	12,5	11,9	11,6
Quadrature axis subtransient		x"q	14,0	12,6	11,7	9,9	17,1	14,9	13,9	13,3	12,9
Negative sequence		x_2	13,3	12,0	11,1	9,5	16,3	14,2	13,3	12,6	12,3
Zero sequence		x_0	2,7	2,4	2,2	1,9	3,3	2,8	2,7	2,5	2,5

TIME CONSTANTS [s]

Open circuit (T'do)	1,00	Subtransient (T"d)	0,011
Transient (T'd)	0,095	Armature (Ta)	0,013

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6218 2RS C3 / Prelubricated
N-end bearing/Lubrication	6313 2RS C3 / Prelubricated
Weight (IM B34) [kg]	660
Inertia (J) (IM B34) [kgm^2]	1,890
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	0,42 / 0,52
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,021
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.

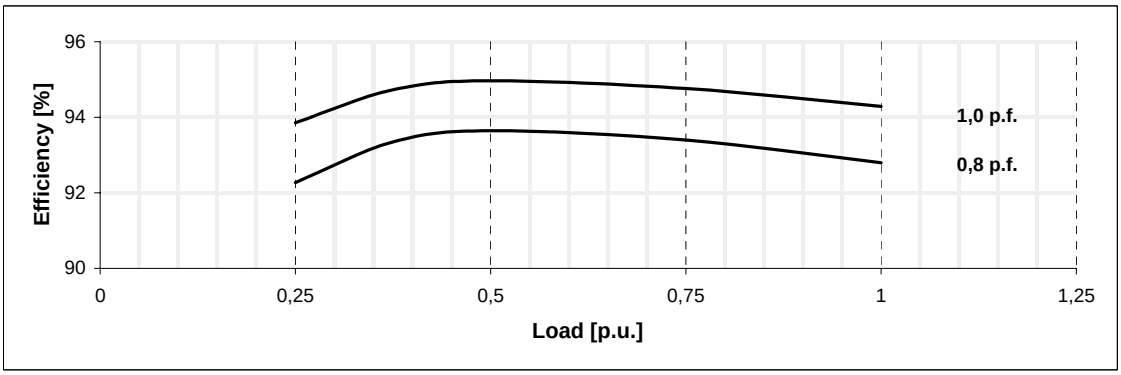
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

MarelliGenerators

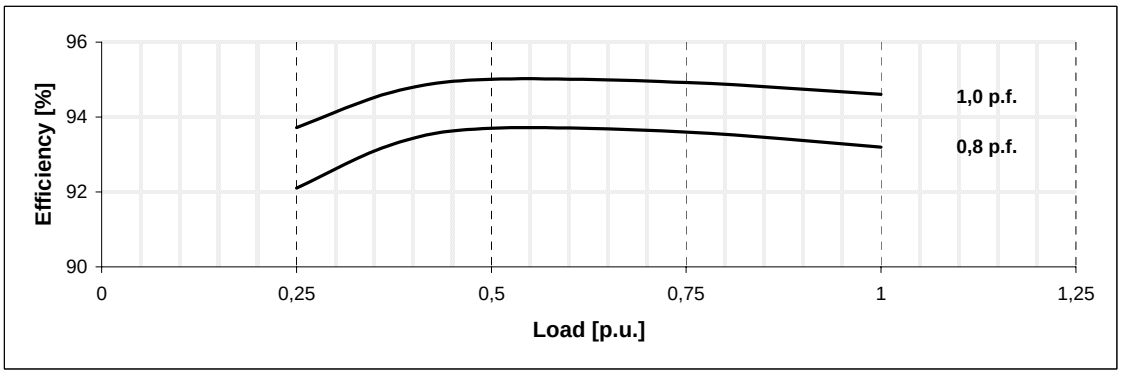
Typical efficiency curves

50 Hz - 1500 min^{-1}

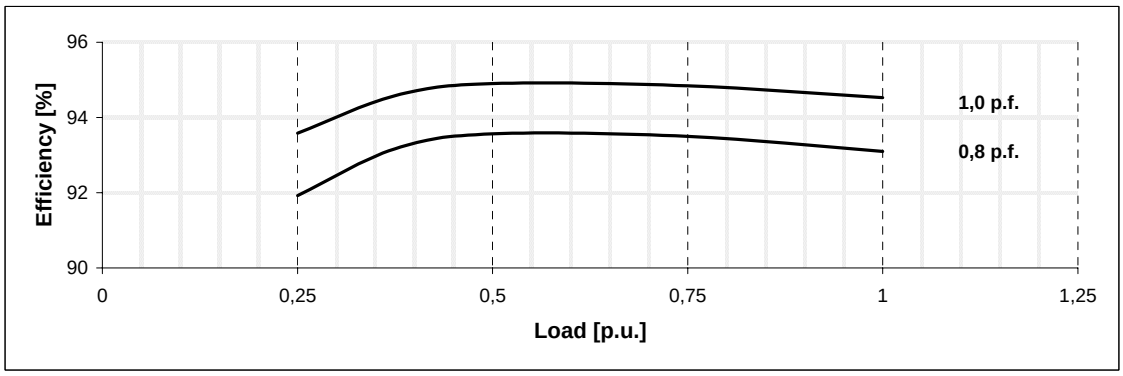
380 V



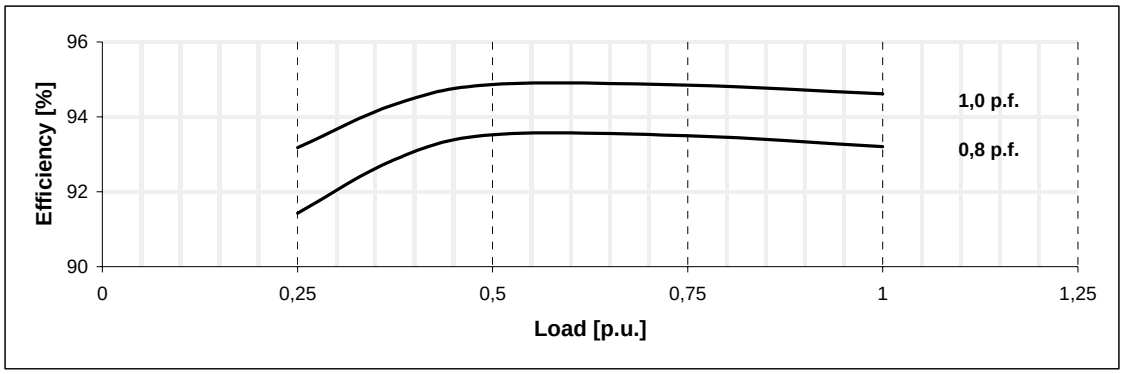
400 V



415 V



440 V



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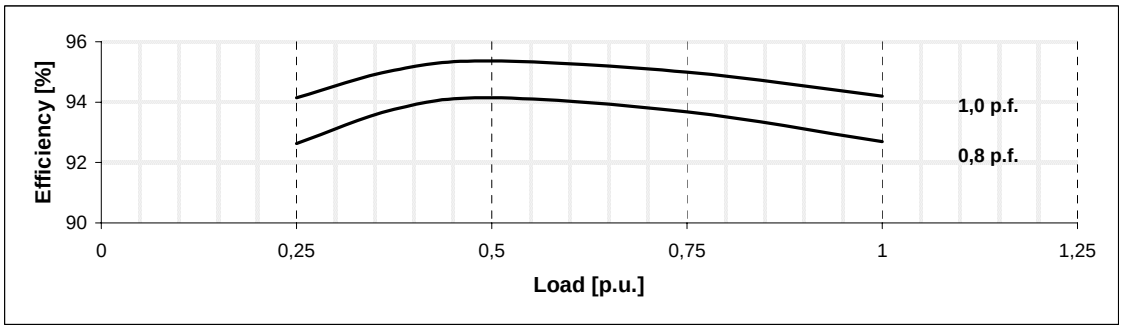
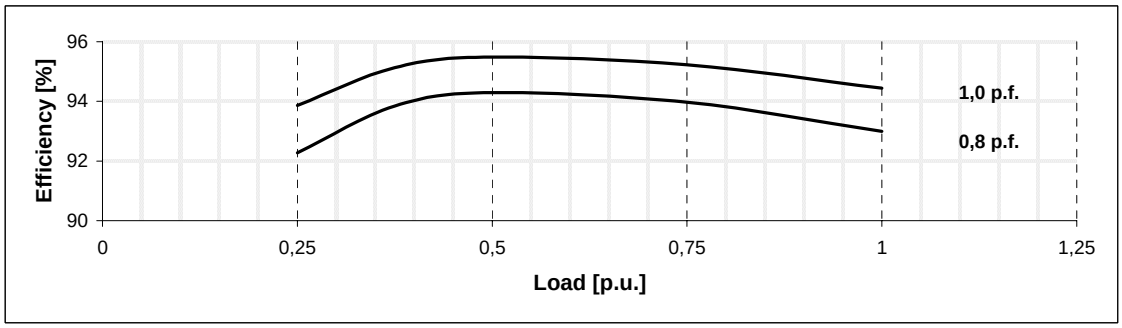
Typical efficiency curves

60 Hz - 1800 min^{-1}

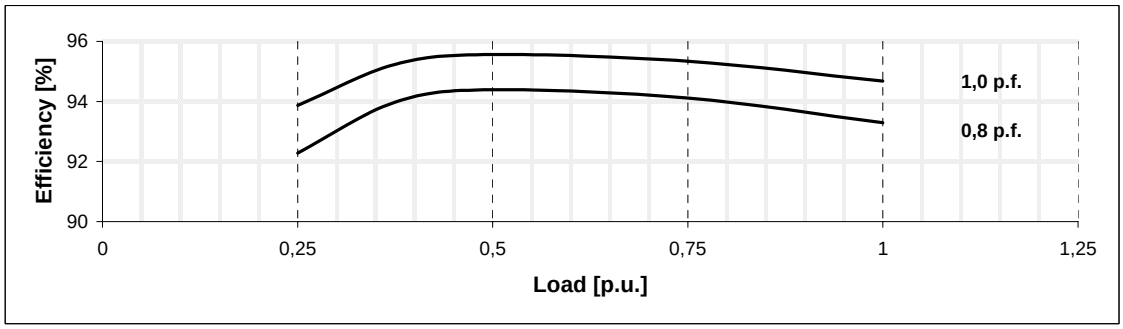
380 V



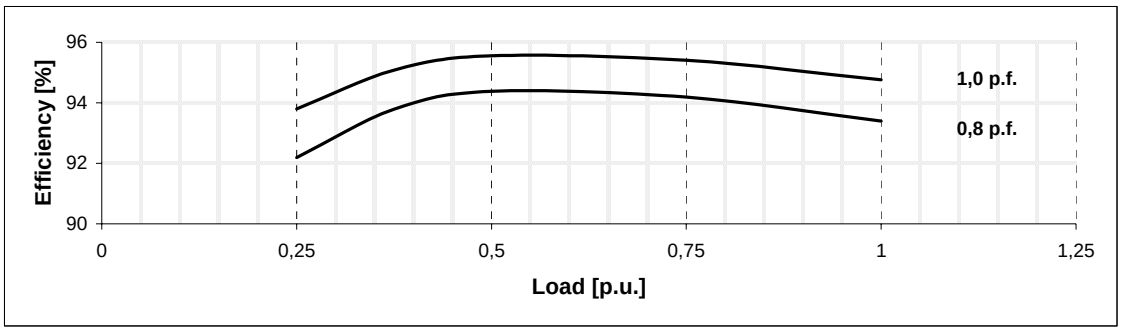
416 V



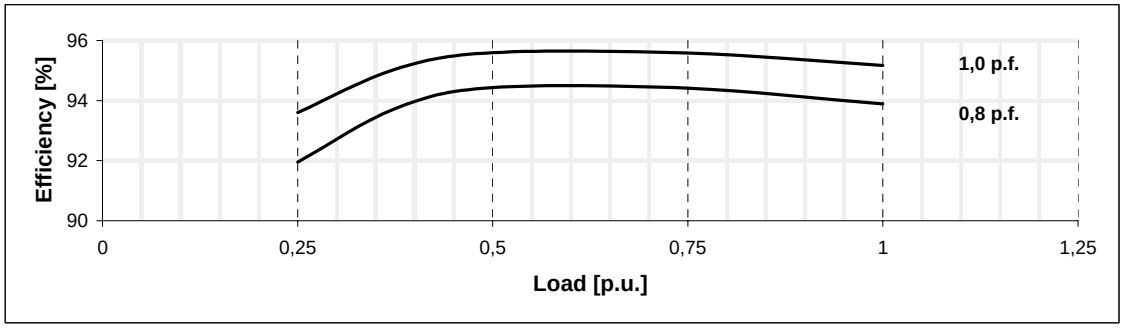
440 V



460 V



480 V



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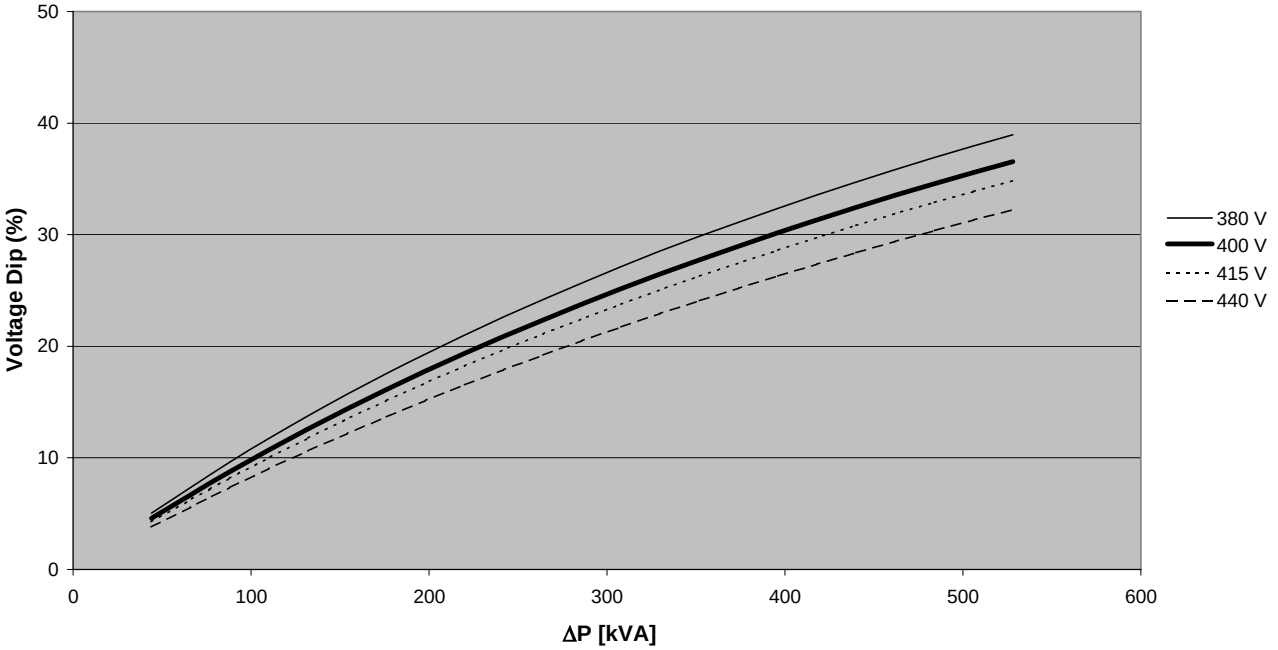
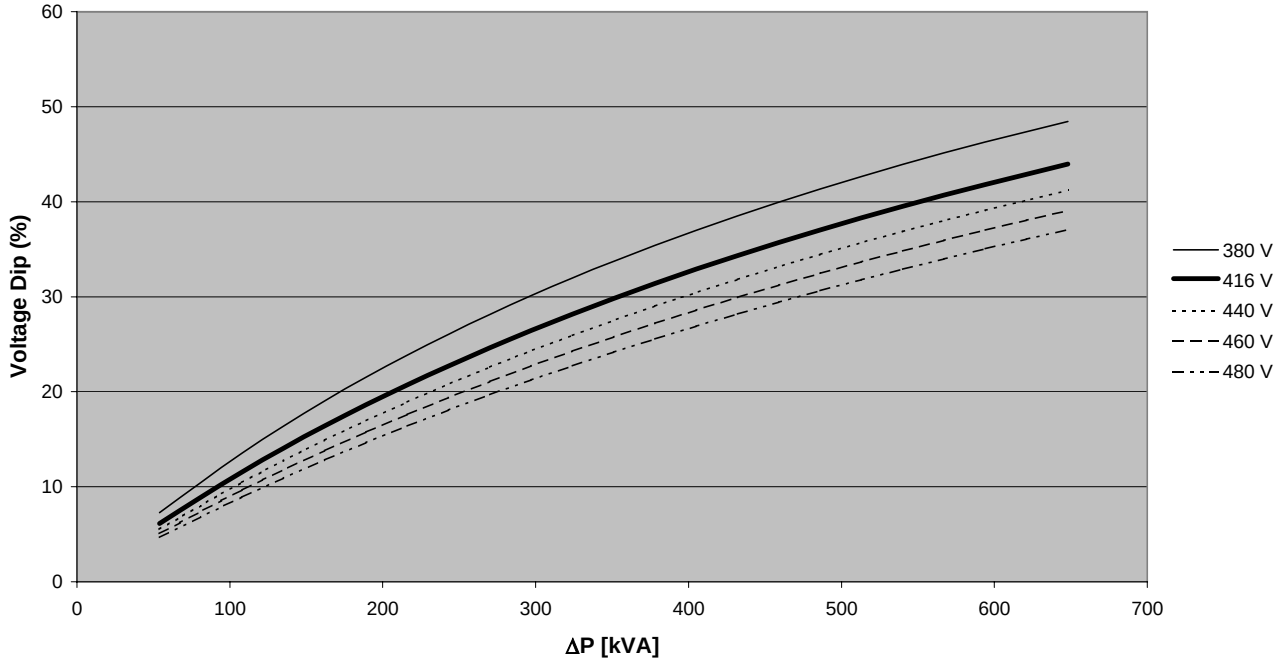
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 250 LB 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		**190**	**200**	**208**	**220**	**190**	**208**	**220**	**230**	**240**
RATING		**kVA**	**240**	**250**	**235**	**220**	**250**	**260**	**275**	**290**	**300**
		kW	***192***	***200***	***188***	***176***	***200***	***208***	***220***	***232***	***240***
EFFICIENCY (%) @ 0,8 p.f.		4/4	93,0	93,4	93,3	93,3	93,1	93,6	93,7	93,8	93,9
		3/4	93,4	93,7	93,6	93,5	94,0	94,3	94,4	94,5	94,5
		2/4	93,6	93,7	93,6	93,5	94,3	94,5	94,5	94,5	94,5
EFFICIENCY (%) @ 1,0 p.f.		4/4	94,4	94,8	94,7	94,7	94,5	94,9	95,0	95,1	95,2
		3/4	94,8	95,0	94,9	94,9	95,2	95,5	95,6	95,6	95,6
		2/4	94,9	95,0	94,9	94,9	95,5	95,7	95,6	95,7	95,6
SHORT CIRCUIT RATIO			0,39	0,42	0,48	0,58	0,32	0,36	0,39	0,40	0,42
REACTANCES (%)											
Direct axis synchronous		xd	310	290	255	210	385	335	315	305	290
Quadrature axis synchronous		xq	150	140	120	100	185	160	155	145	140
Direct axis transient		x'd	26,1	24,5	21,4	17,8	32,6	28,3	26,7	25,8	24,5
Direct axis subtransient		x"d	12,2	11,5	10,0	8,4	15,3	13,3	12,5	12,1	11,5
Quadrature axis subtransient		x"q	13,5	12,7	11,1	9,2	16,9	14,7	13,9	13,4	12,7
Negative sequence		x_2	12,9	12,1	10,6	8,8	16,1	14,0	13,2	12,7	12,1
Zero sequence		x_0	3,0	2,8	2,4	2,0	3,7	3,2	3,1	2,9	2,8

TIME CONSTANTS [s]

Open circuit (T'do)	1,02	Subtransient (T"d)	0,011
Transient (T'd)	0,098	Armature (Ta)	0,013

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6218 2RS C3 / Prelubricated
N-end bearing/Lubrication	6313 2RS C3 / Prelubricated
Weight (IM B34) [kg]	710
Inertia (J) (IM B34) [kgm^2]	2,06
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	0,42 / 0,52
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,0155
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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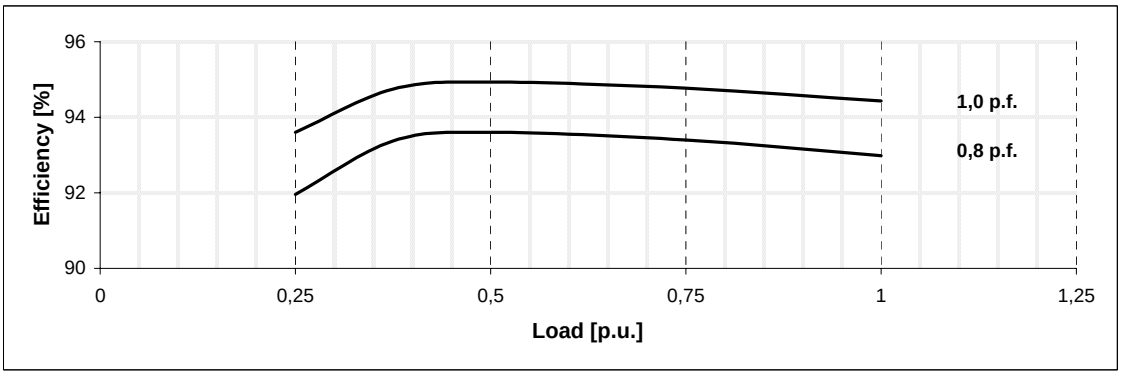
MarelliGenerators

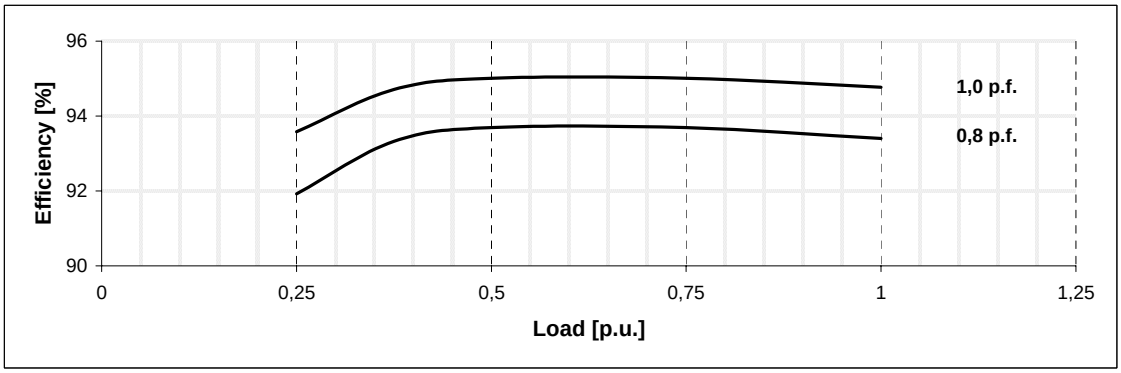
Typical efficiency curves

50 Hz - 1500 min^{-1}

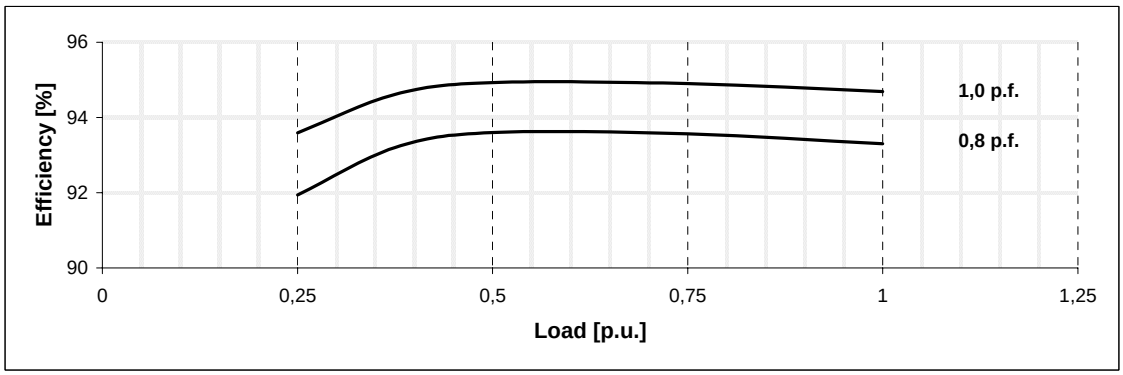
380 V



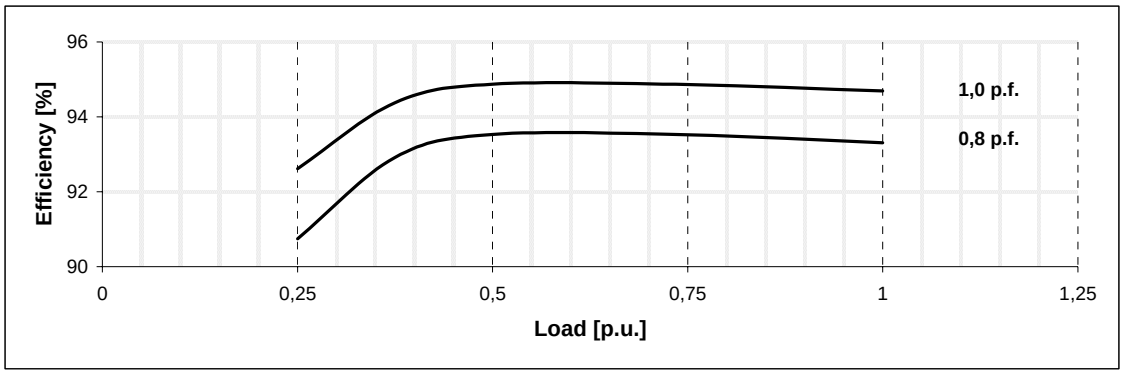
400 V



415 V



440 V



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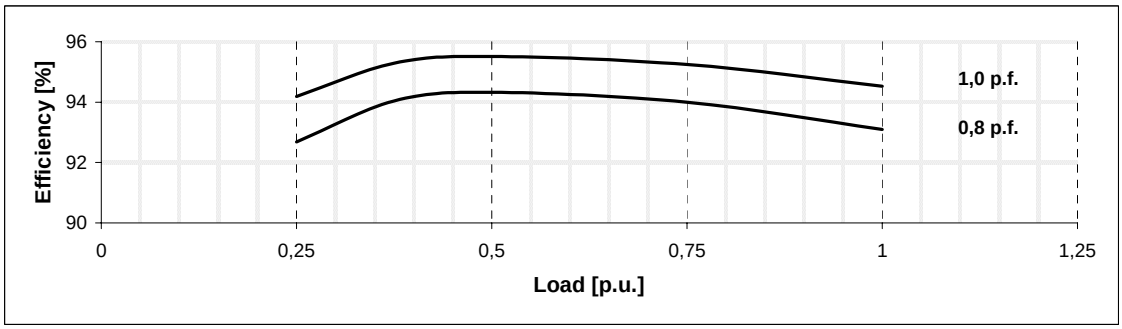
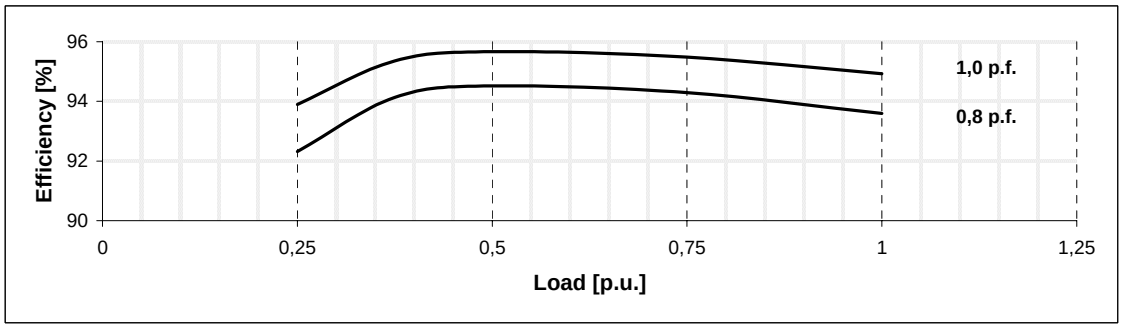
Typical efficiency curves

60 Hz - 1800 min^{-1}

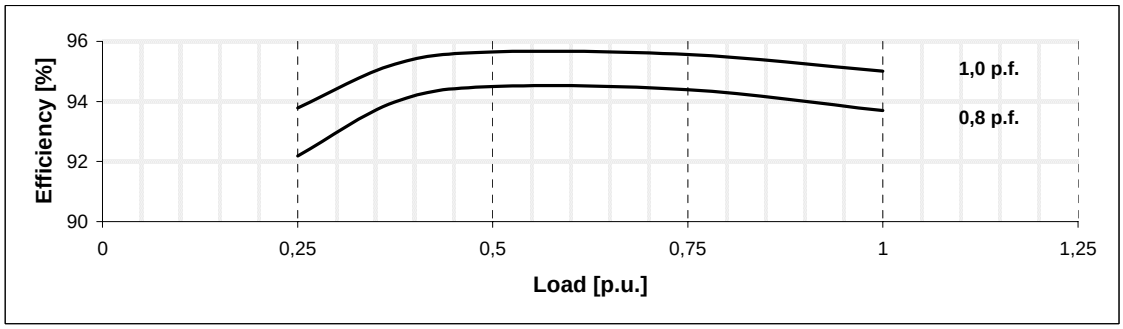
380 V



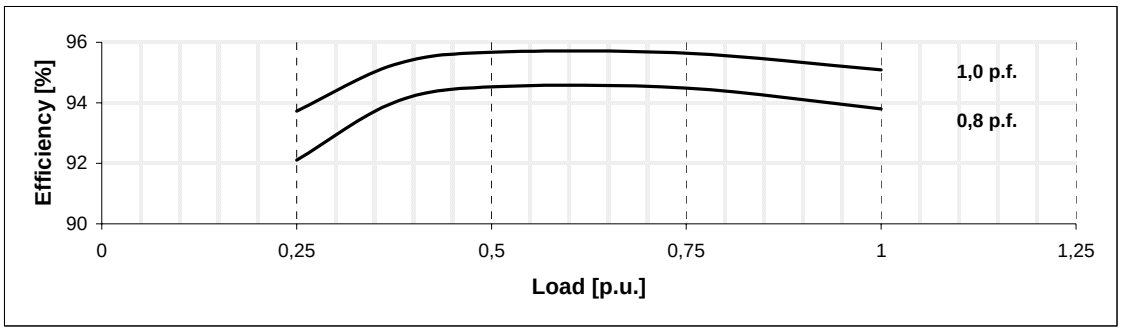
416 V



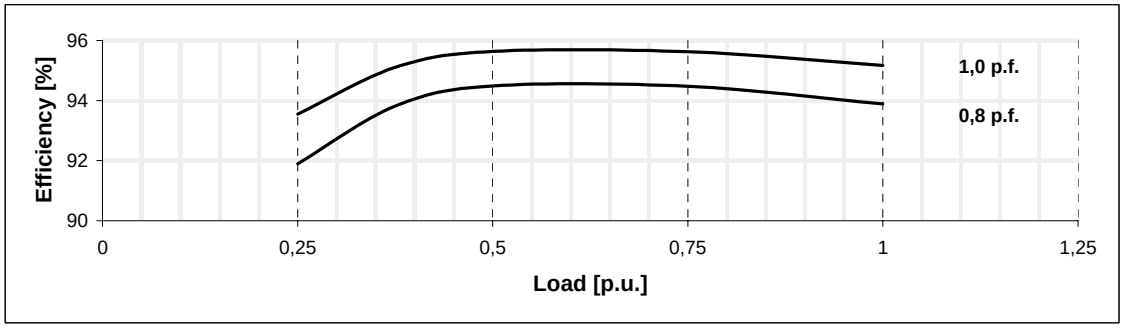
440 V



460 V



480 V



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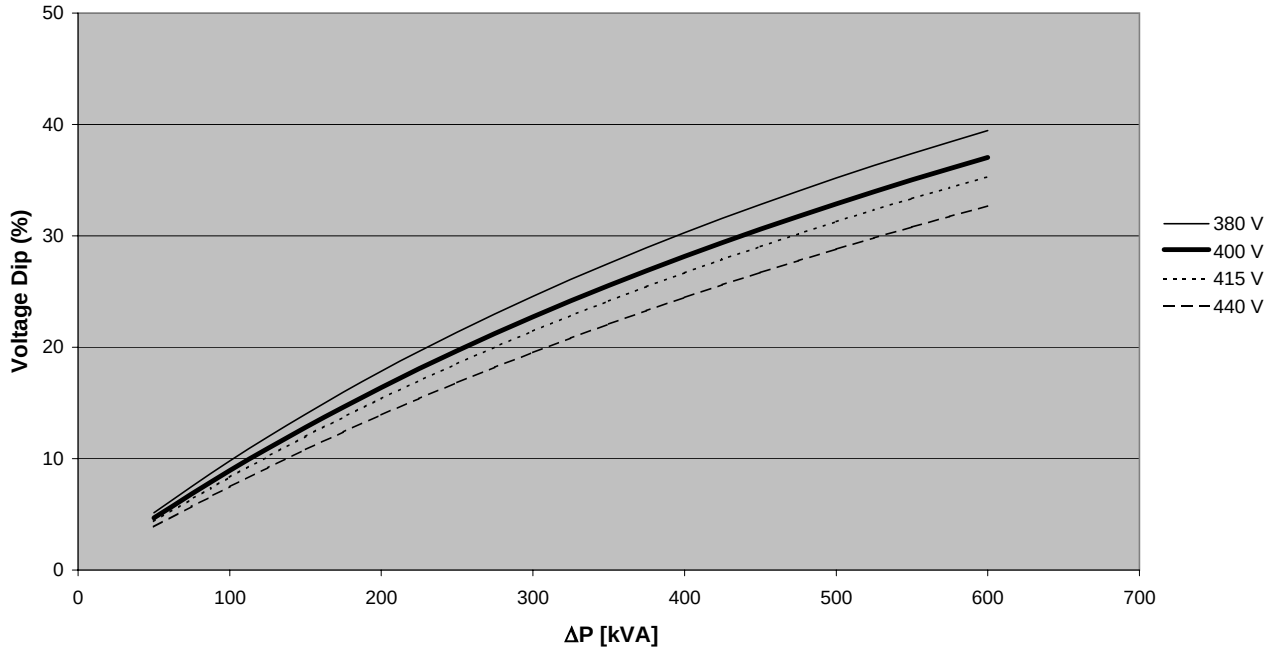
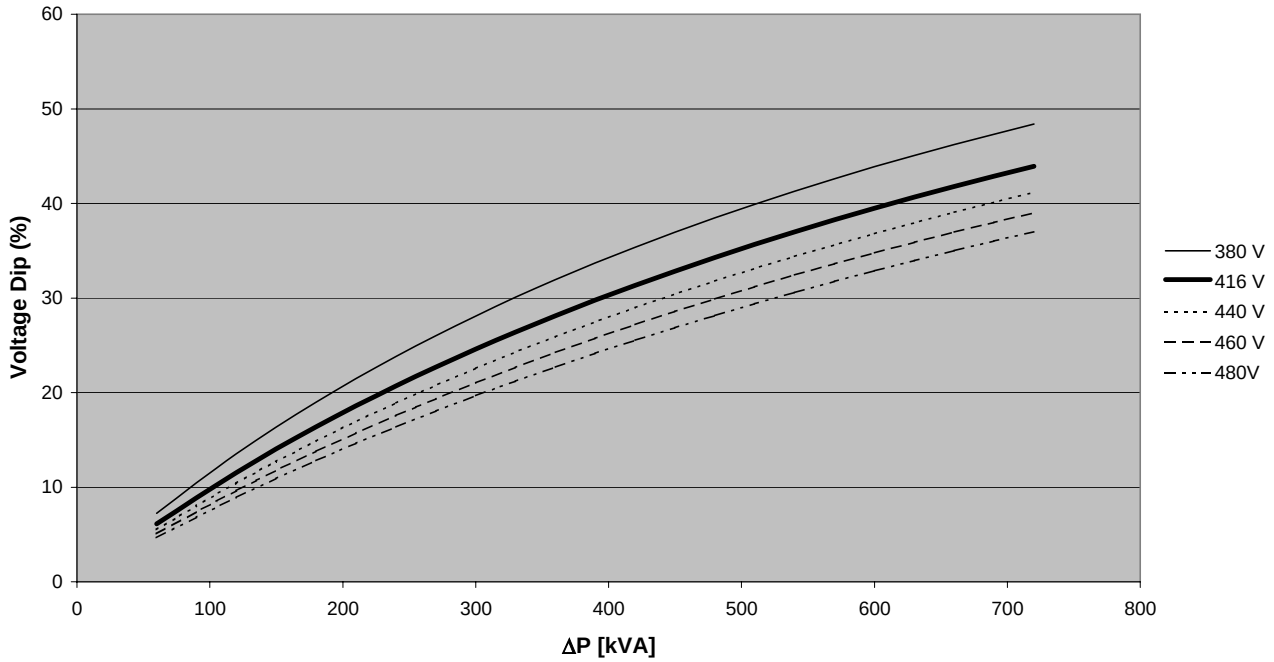
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

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		**190**	**200**	**208**	**220**	**190**	**208**	**220**	**230**	**240**
RATING		**kVA**	**300**	**300**	**300**	**280**	**310**	**320**	**350**	**360**	**370**
		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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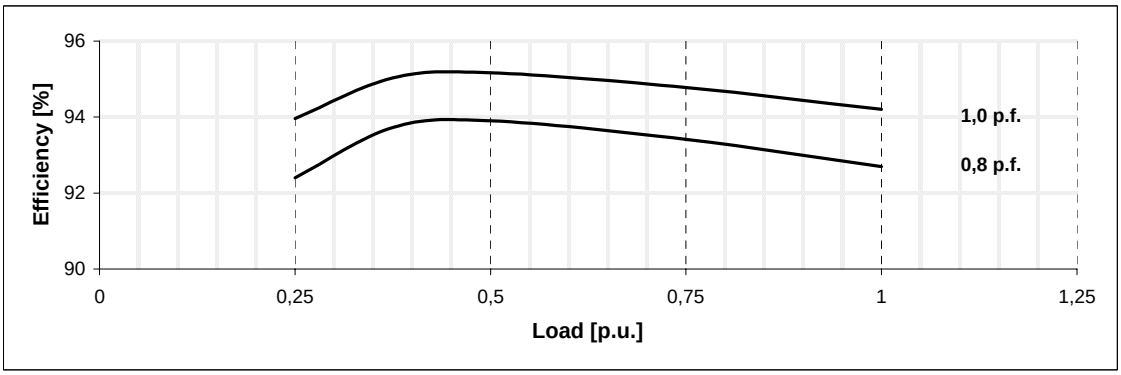
MarelliGenerators

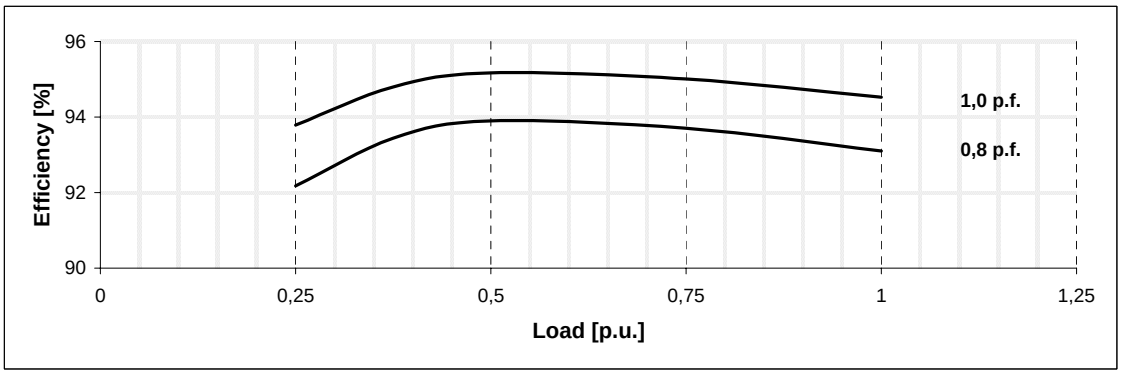
Typical efficiency curves

50 Hz - 1500 min^{-1}

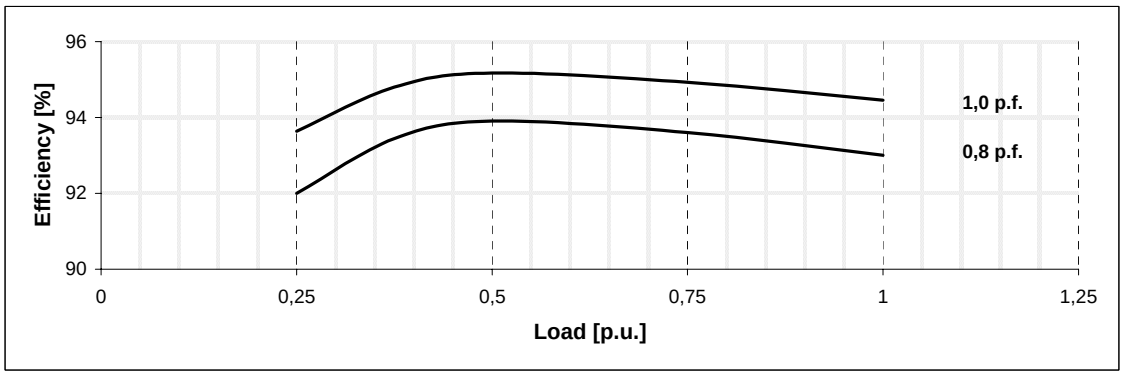
380 V



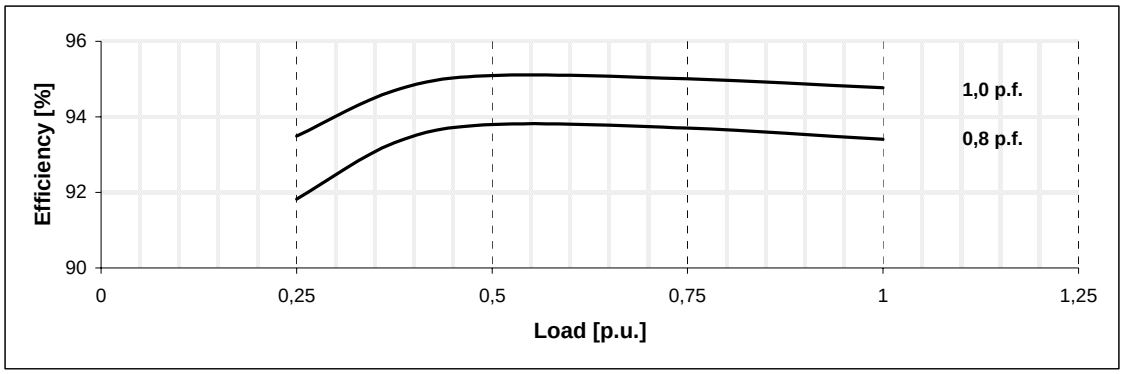
400 V



415 V



440 V



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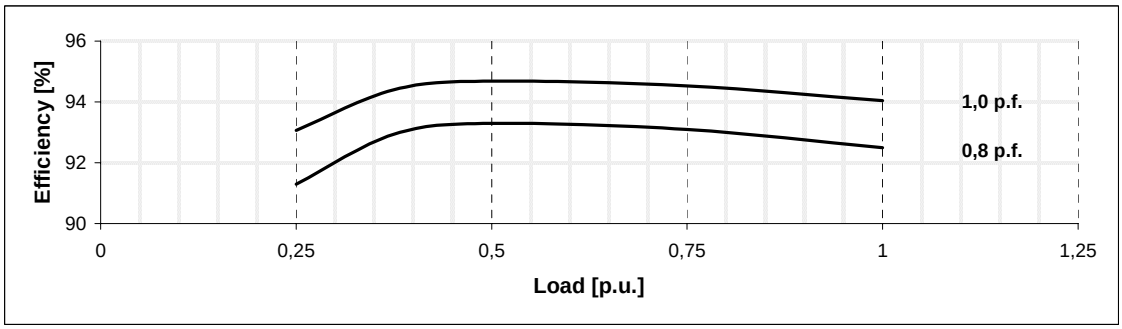
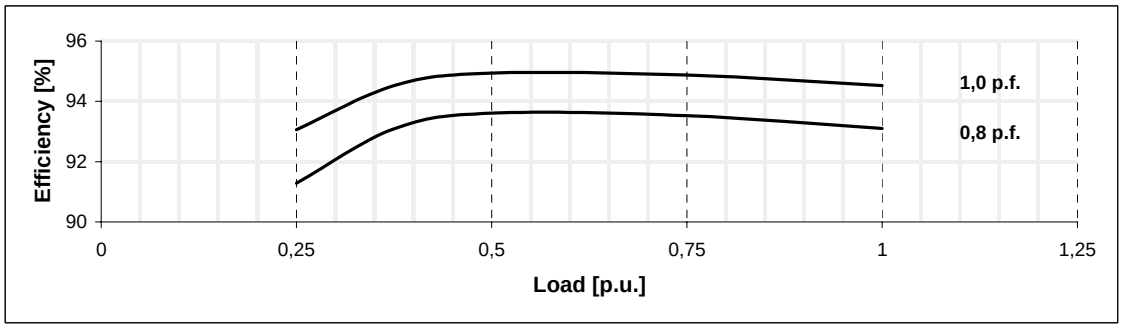
Typical efficiency curves

60 Hz - 1800 min^{-1}

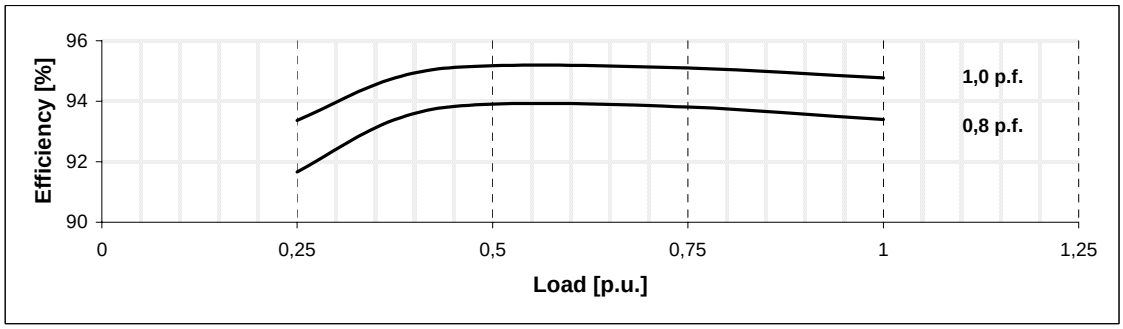
380 V



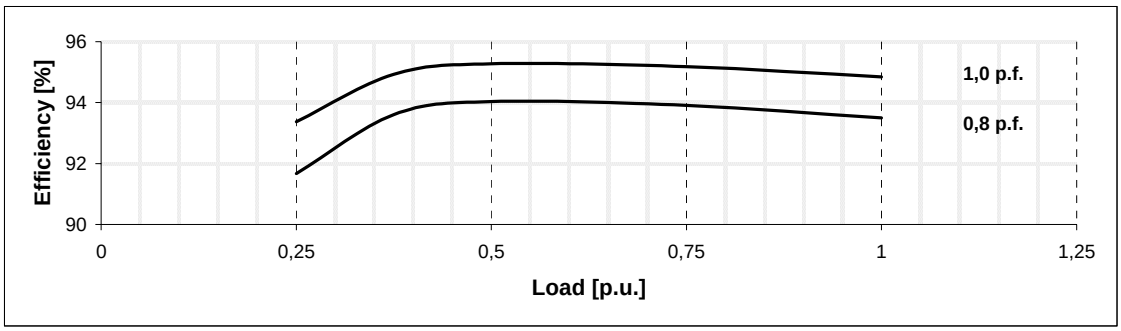
416 V



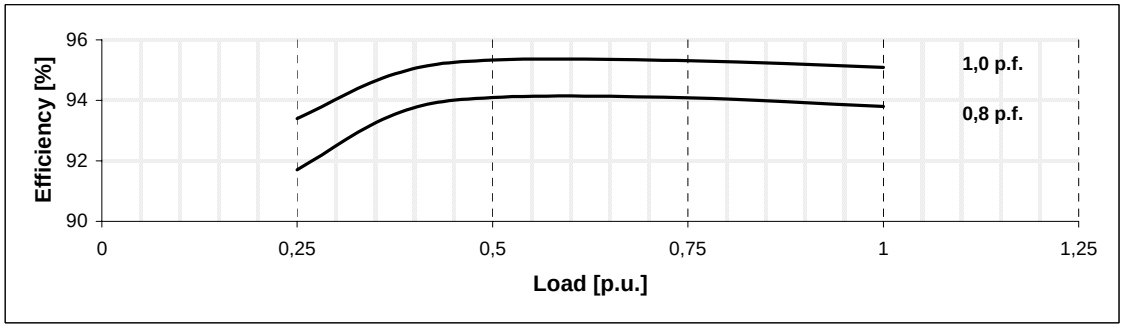
440 V



460 V



480 V



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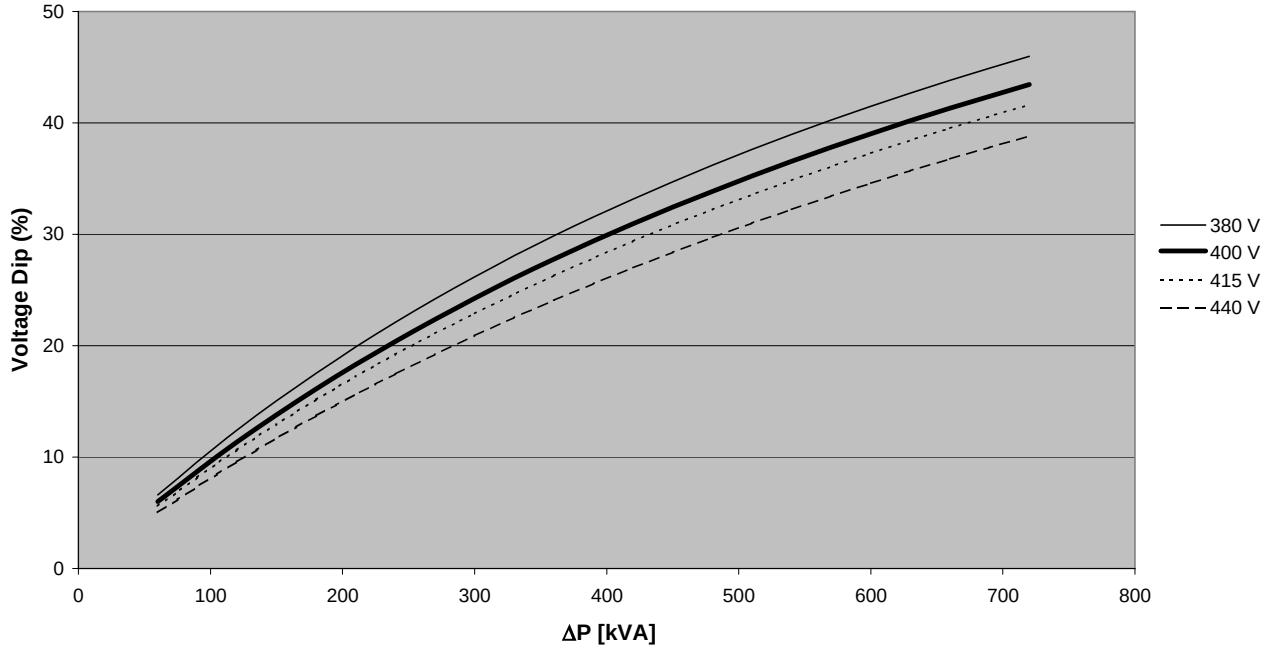
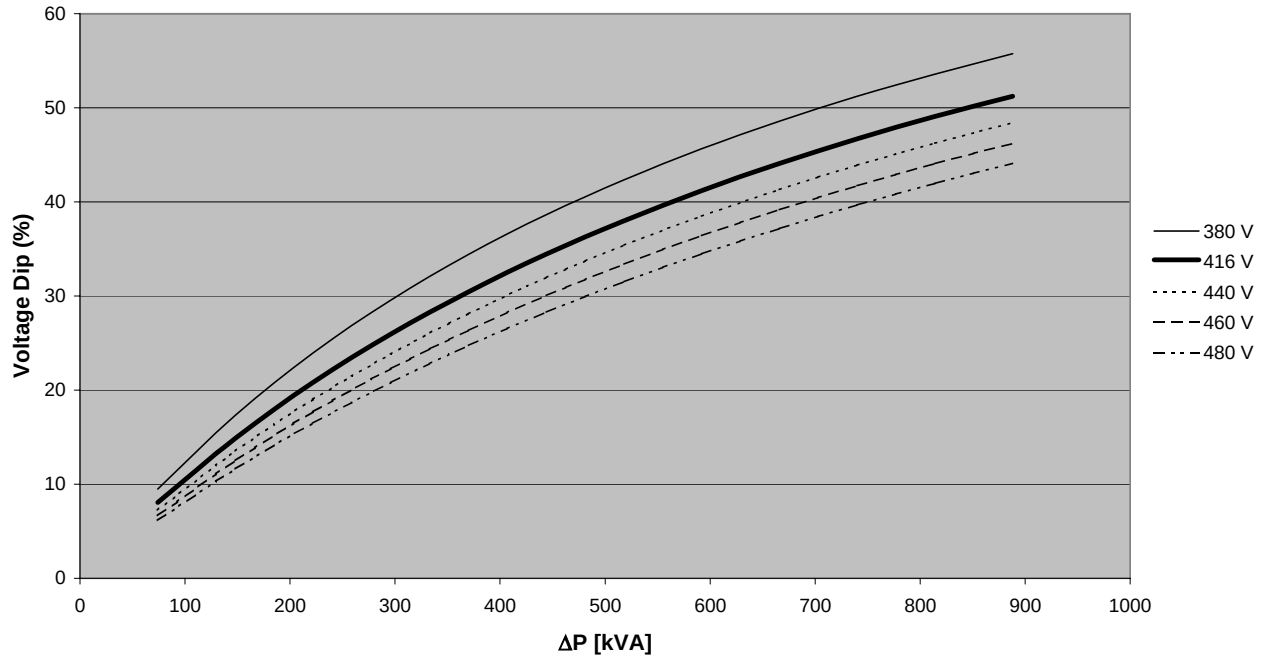
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 315 SB 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		**190**	**200**	**208**	**220**	**190**	**208**	**220**	**230**	**240**
RATING		**kVA**	**350**	**350**	**350**	**340**	**360**	**370**	**400**	**420**	**425**
		kW	***280***	***280***	***280***	***272***	***288***	***296***	***320***	***336***	***340***
EFFICIENCY (%) @ 0,8 p.f.		4/4	93,2	93,4	93,4	93,4	92,8	93,3	93,5	93,7	94,0
		3/4	93,8	93,9	93,9	93,9	93,4	93,7	93,9	94,0	94,2
		2/4	94,1	94,1	94,1	94,1	93,5	93,8	94,0	94,1	94,1
EFFICIENCY (%) @ 1,0 p.f.		4/4	94,6	94,8	94,8	94,8	94,3	94,7	94,8	95,0	95,3
		3/4	95,1	95,2	95,2	95,2	94,8	95,0	95,2	95,3	95,4
		2/4	95,3	95,3	95,3	95,3	94,8	95,1	95,2	95,3	95,4
SHORT CIRCUIT RATIO			0,32	0,35	0,38	0,44	0,26	0,30	0,31	0,32	0,35
REACTANCES (%)											
Direct axis synchronous		xd	380	345	320	275	470	405	390	375	350
Quadrature axis synchronous		xq	195	175	165	140	240	205	200	190	175
Direct axis transient		x'd	33,2	30,0	27,9	24,1	41,0	35,2	34,0	32,7	30,4
Direct axis subtransient		x"d	15,5	14,0	13,0	11,2	19,1	16,4	15,9	15,2	14,2
Quadrature axis subtransient		x"q	18,2	16,4	15,2	13,2	22,4	19,2	18,6	17,9	16,6
Negative sequence		x_2	16,8	15,2	14,1	12,2	20,8	17,8	17,2	16,6	15,4
Zero sequence		x_0	4,2	3,8	3,5	3,1	5,2	4,5	4,3	4,1	3,8

TIME CONSTANTS [s]

Open circuit (T'do)	1,42	Subtransient (T"d)	0,014
Transient (T'd)	0,14	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]	920
Inertia (J) (IM B34) [kgm^2]	4,25
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	12,5
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.

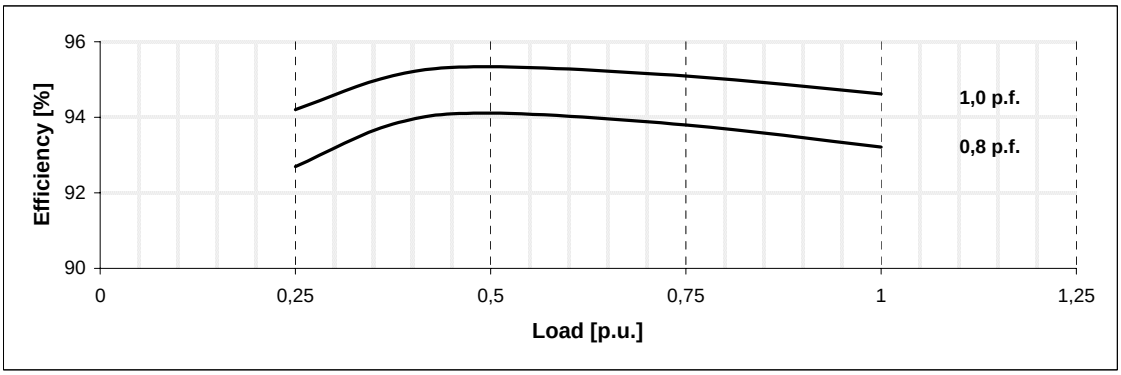
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

MarelliGenerators

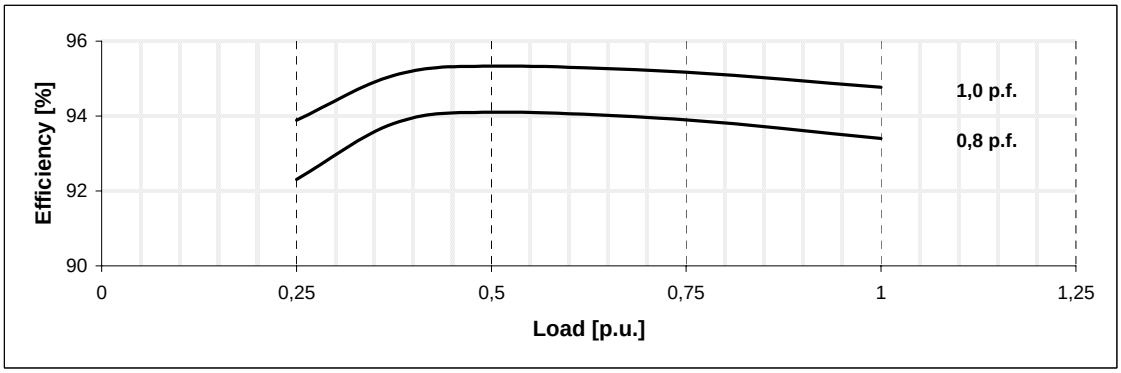
Typical efficiency curves

50 Hz - 1500 min^{-1}

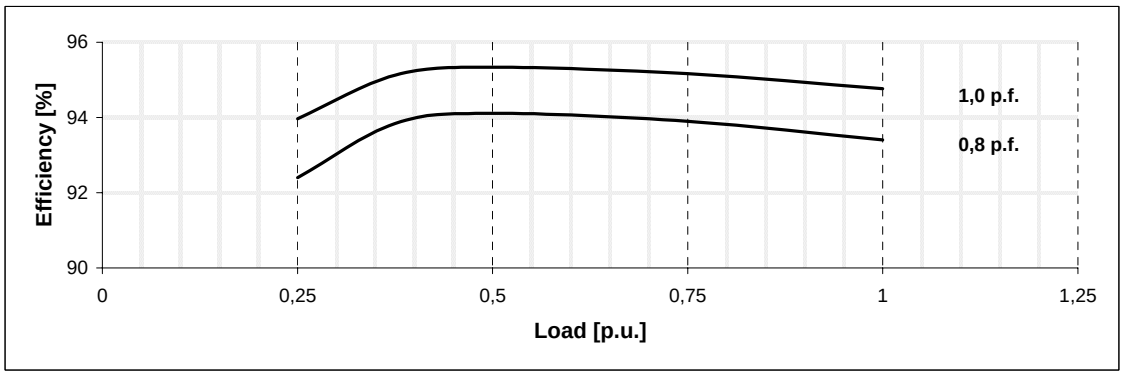
380 V



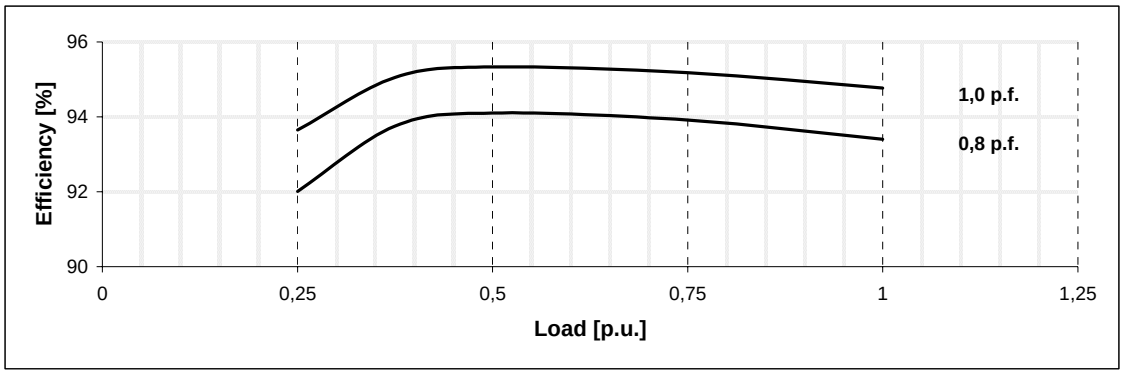
400 V



415 V



440 V



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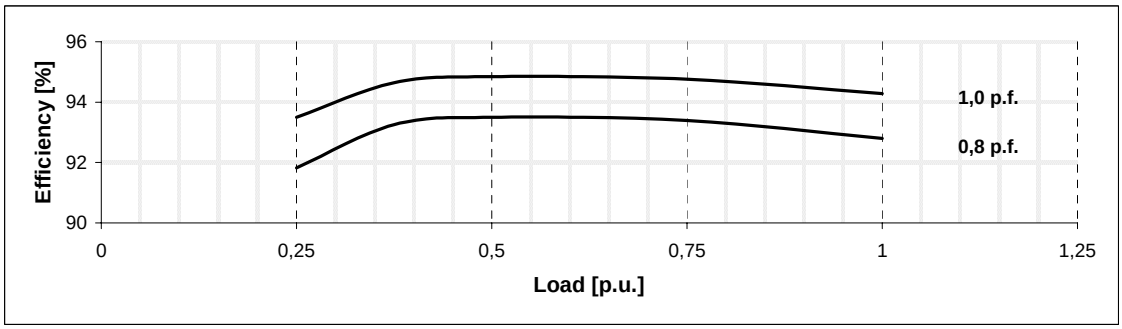
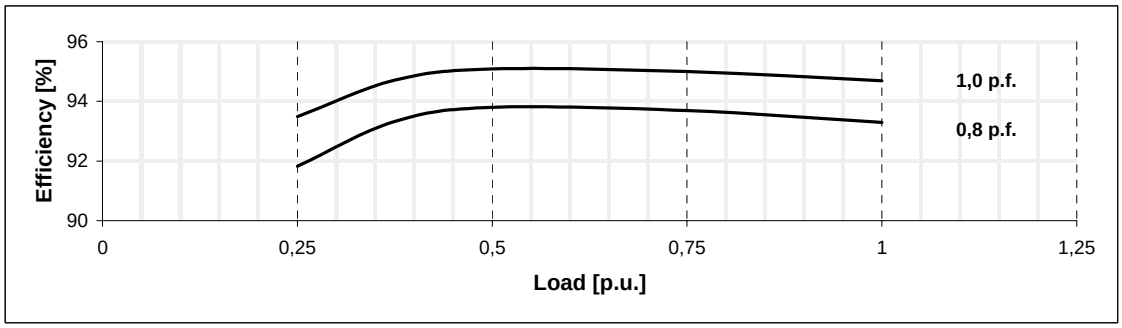
Typical efficiency curves

60 Hz - 1800 min^{-1}

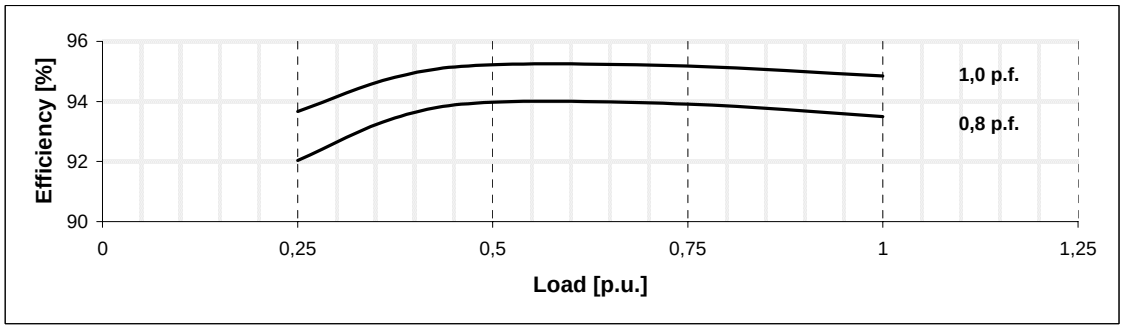
380 V



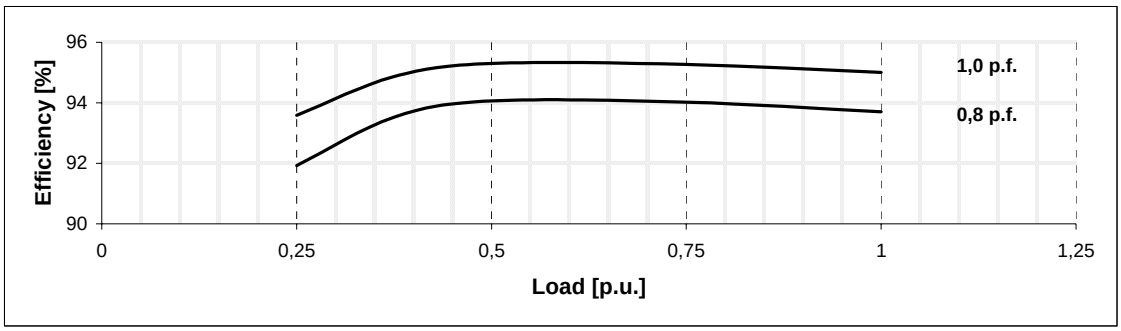
416 V



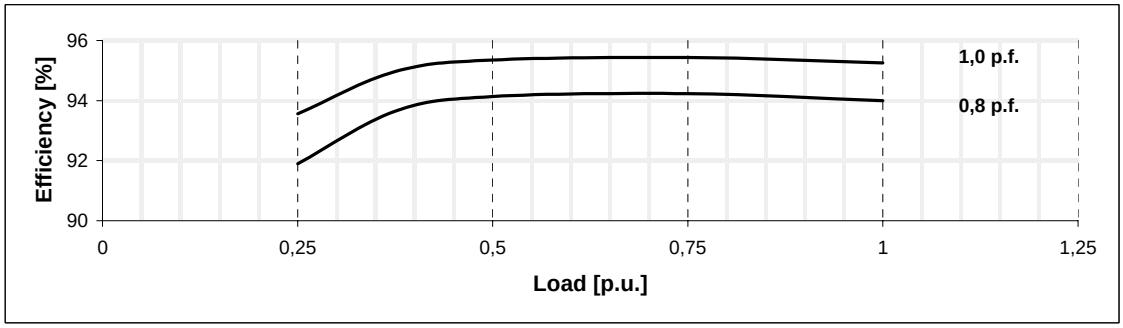
440 V



460 V



480 V



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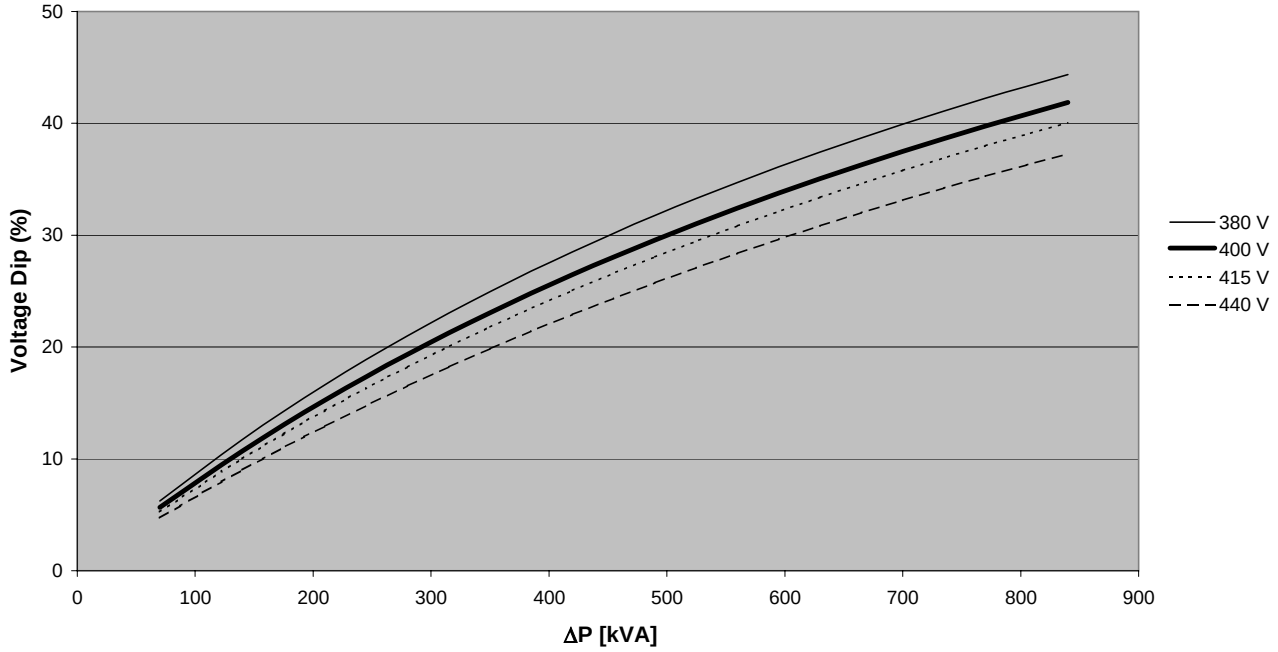
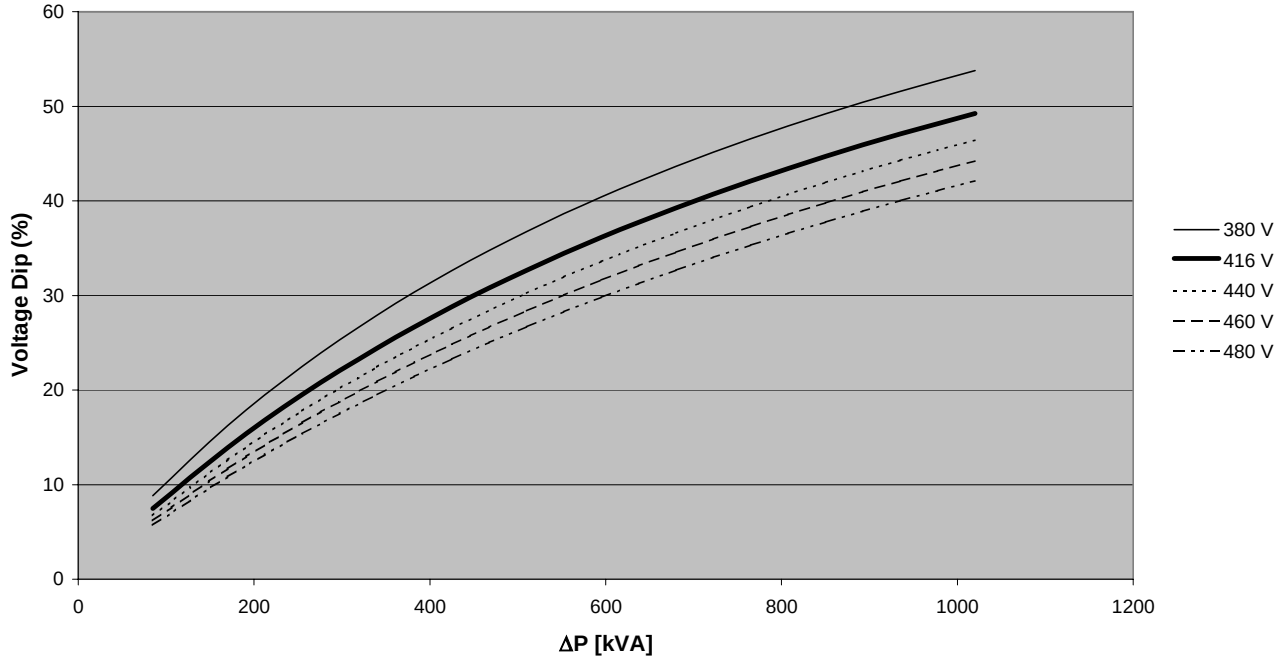
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 315 MA 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		**190**	**200**	**208**	**220**	**190**	**208**	**220**	**230**	**240**
RATING		**kVA**	**410**	**410**	**410**	**410**	**420**	**430**	**470**	**490**	**500**
		kW	***328***	***328***	***328***	***328***	***336***	***344***	***376***	***392***	***400***
EFFICIENCY (%) @ 0,8 p.f.		4/4	93,4	93,7	93,6	93,7	93,3	93,7	93,9	94,1	94,2
		3/4	94,0	94,1	94,1	94,2	93,8	94,0	94,2	94,3	94,5
		2/4	94,4	94,3	94,3	94,3	94,0	94,2	94,3	94,4	94,5
EFFICIENCY (%) @ 1,0 p.f.		4/4	94,8	95,0	94,9	95,0	94,7	95,0	95,2	95,3	95,4
		3/4	95,3	95,3	95,3	95,4	95,1	95,3	95,4	95,5	95,7
		2/4	95,6	95,5	95,5	95,5	95,3	95,4	95,5	95,6	95,7
SHORT CIRCUIT RATIO			0,34	0,38	0,41	0,46	0,28	0,33	0,33	0,35	0,37
REACTANCES (%)											
Direct axis synchronous		xd	365	330	305	275	450	385	375	360	335
Quadrature axis synchronous		xq	195	175	165	145	240	205	200	190	180
Direct axis transient		x'd	32,7	29,5	27,4	24,4	40,2	34,3	33,5	32,0	30,0
Direct axis subtransient		x"d	14,6	13,2	12,3	10,9	18,0	15,4	15,0	14,3	13,4
Quadrature axis subtransient		x"q	17,3	15,6	14,5	12,9	21,2	18,2	17,7	16,9	15,9
Negative sequence		x_2	16,0	14,4	13,4	11,9	19,6	16,8	16,4	15,6	14,6
Zero sequence		x_0	3,7	3,3	3,1	2,7	4,5	3,8	3,8	3,6	3,4

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]	1060
Inertia (J) (IM B34) [kgm^2]	4,80
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	10,0
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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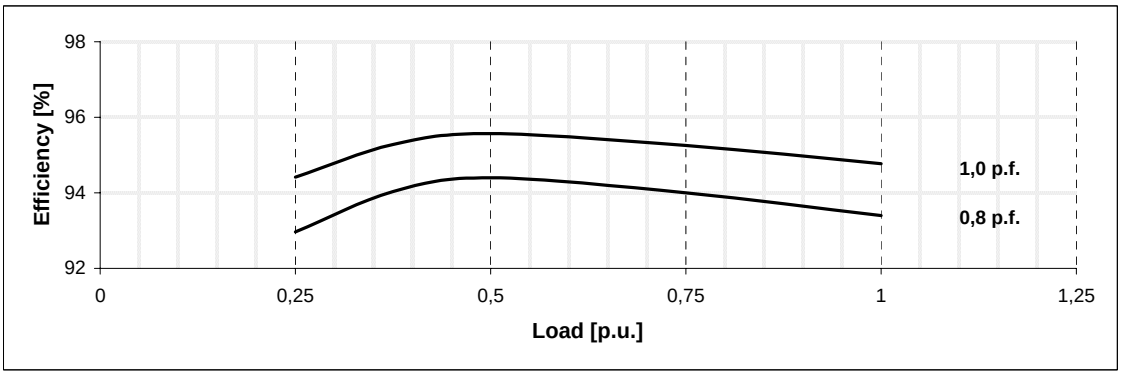
MarelliGenerators

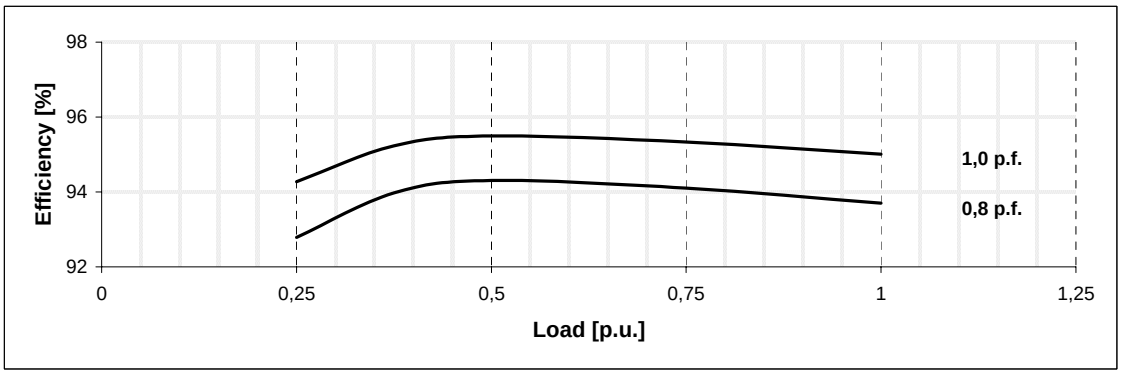
Typical efficiency curves

50 Hz - 1500 min^{-1}

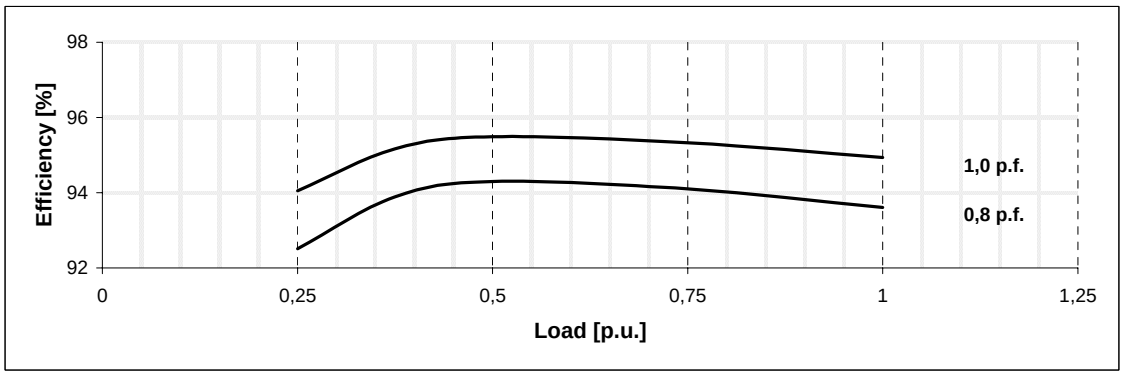
380 V



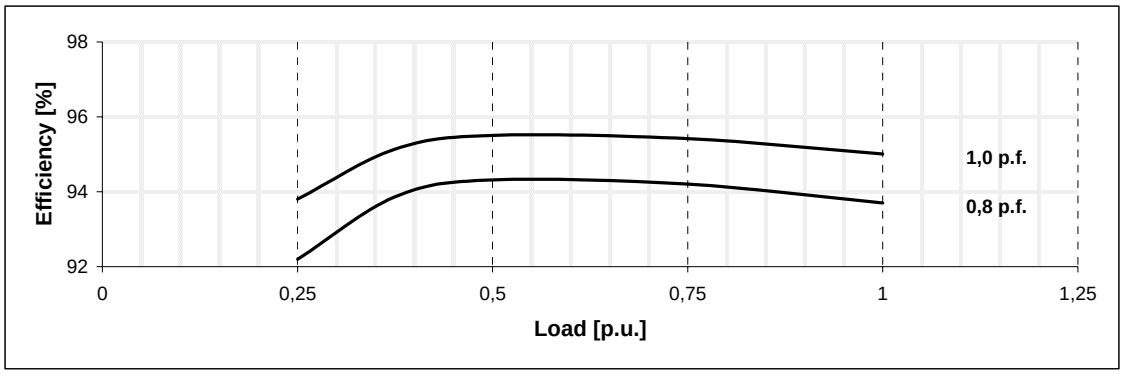
400 V



415 V



440 V



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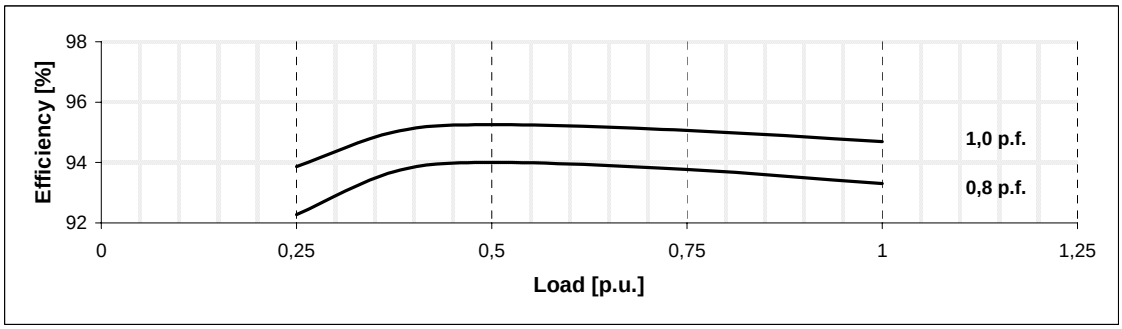
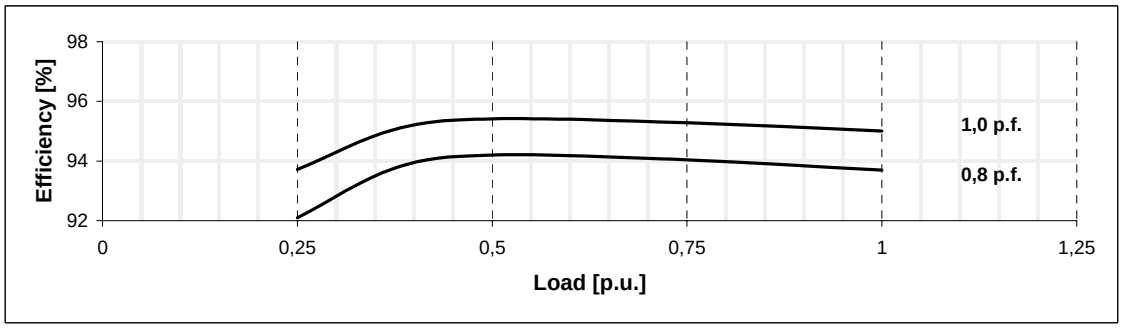
Typical efficiency curves

60 Hz - 1800 min^{-1}

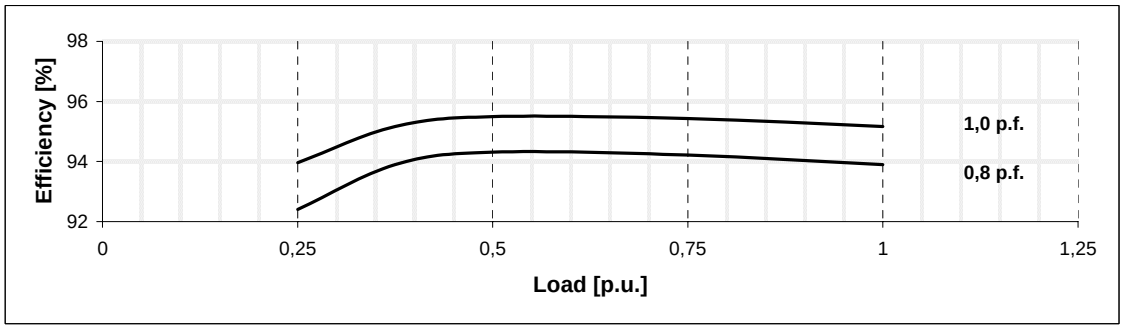
380 V



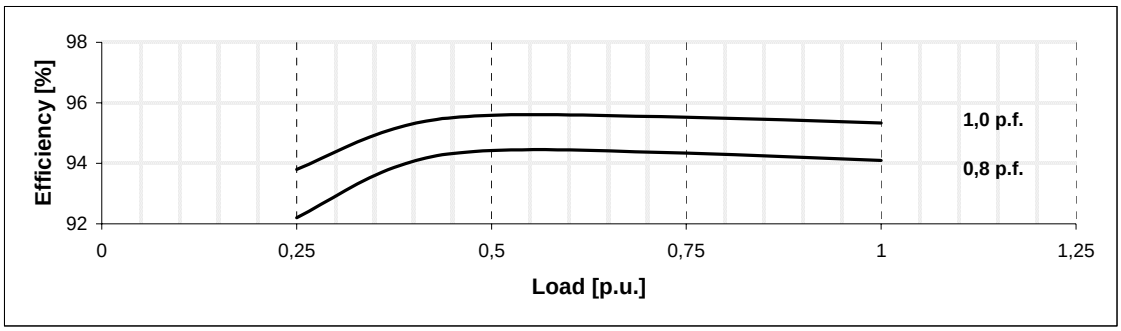
416 V



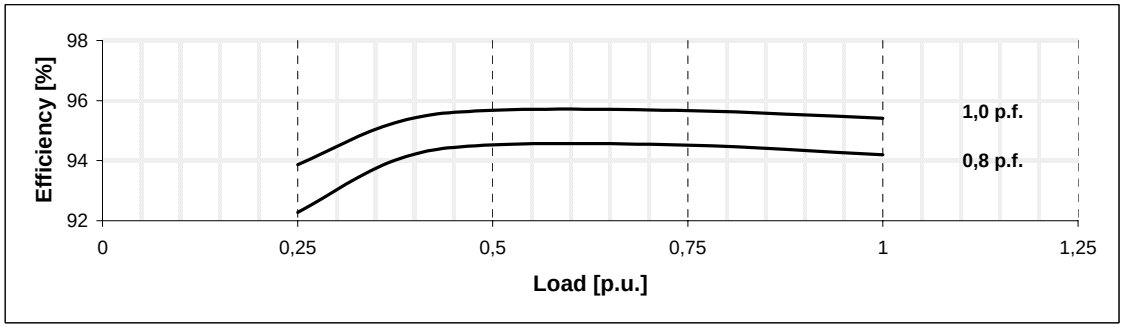
440 V



460 V



480 V



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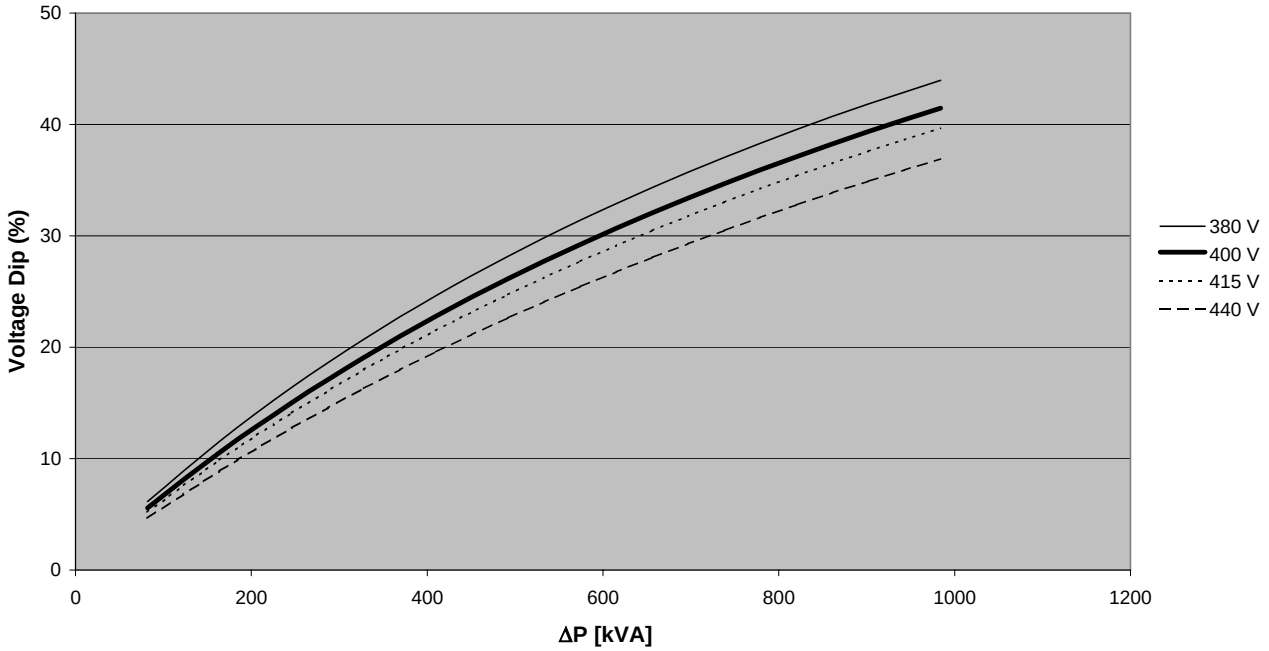
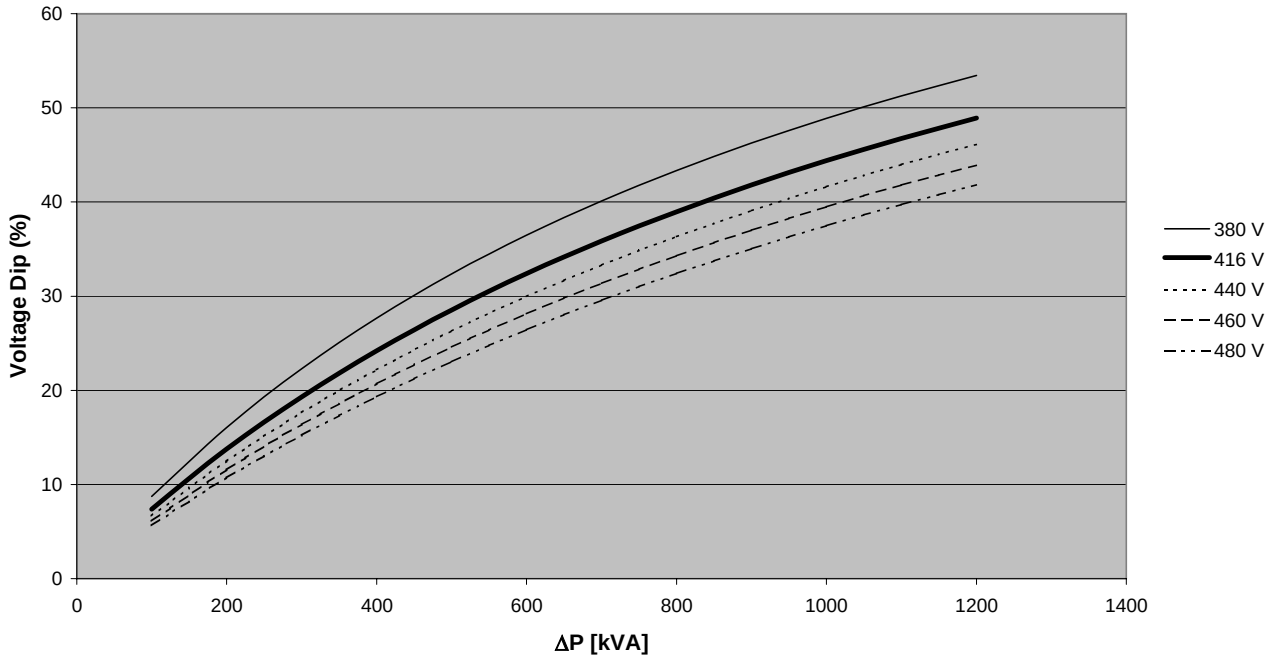
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 315 MB 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		**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.

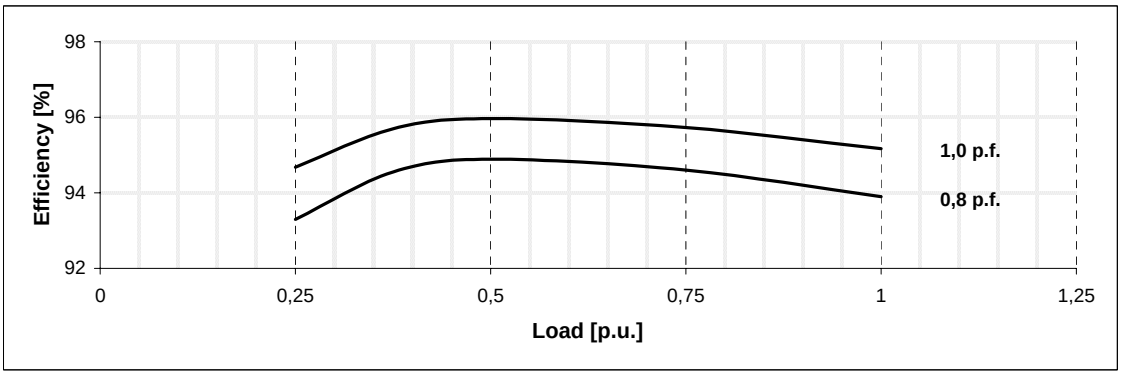
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

MarelliGenerators

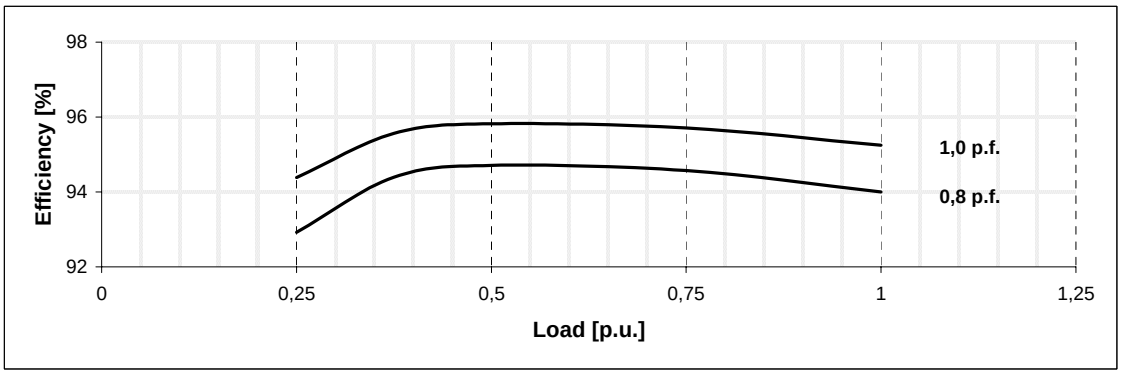
Typical efficiency curves

50 Hz - 1500 min^{-1}

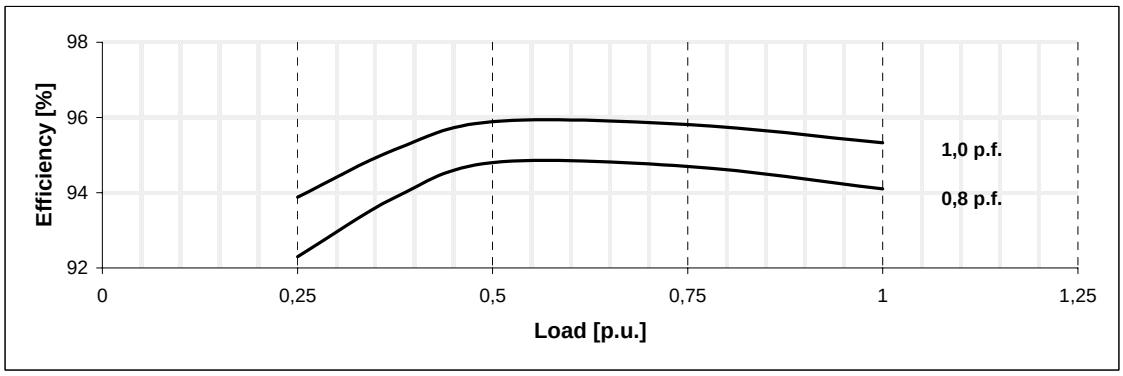
380 V



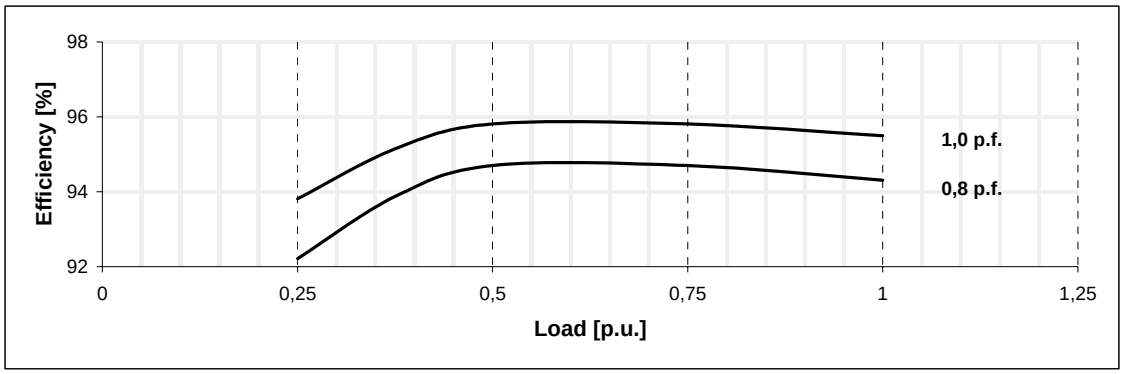
400 V



415 V



440 V



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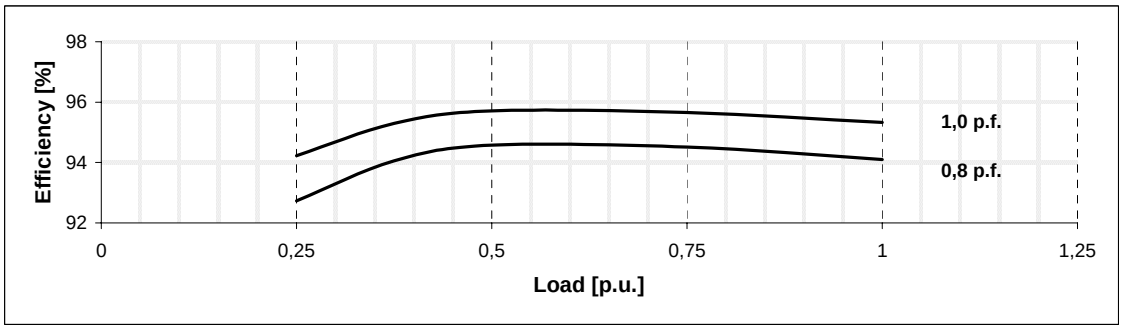
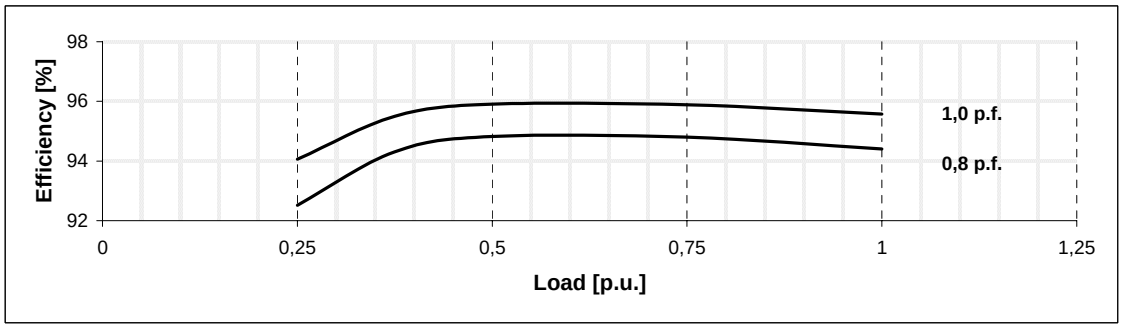
Typical efficiency curves

60 Hz - 1800 min^{-1}

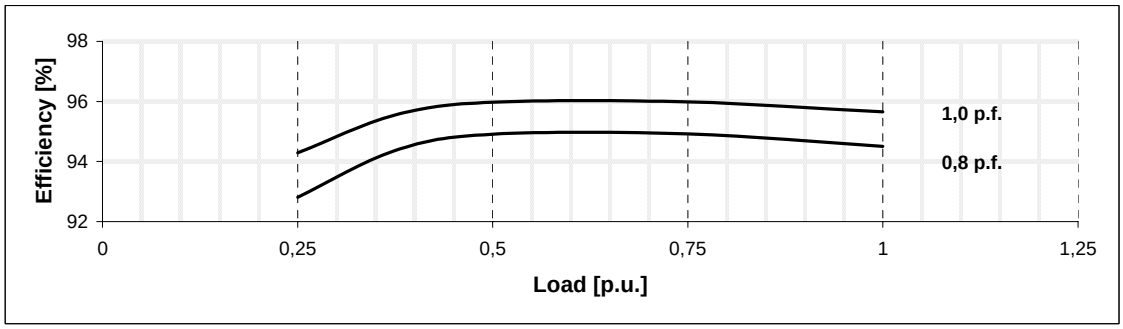
380 V



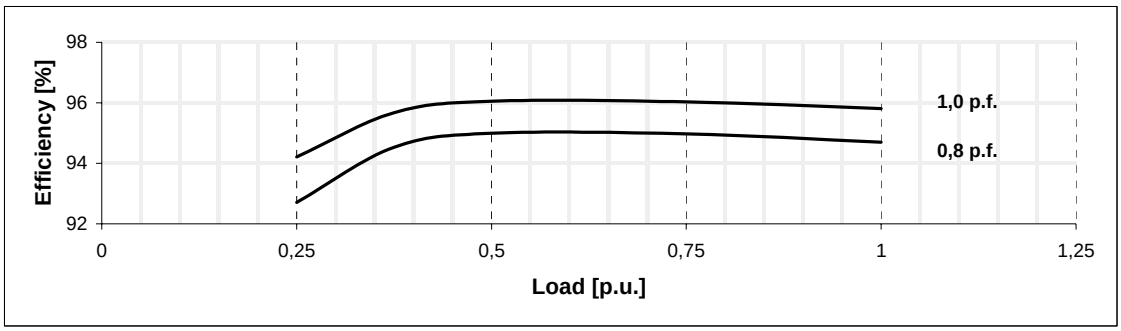
416 V



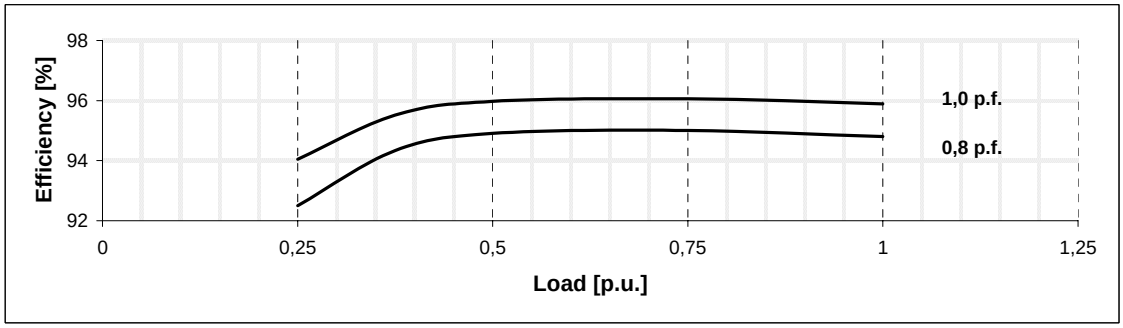
440 V



460 V



480 V



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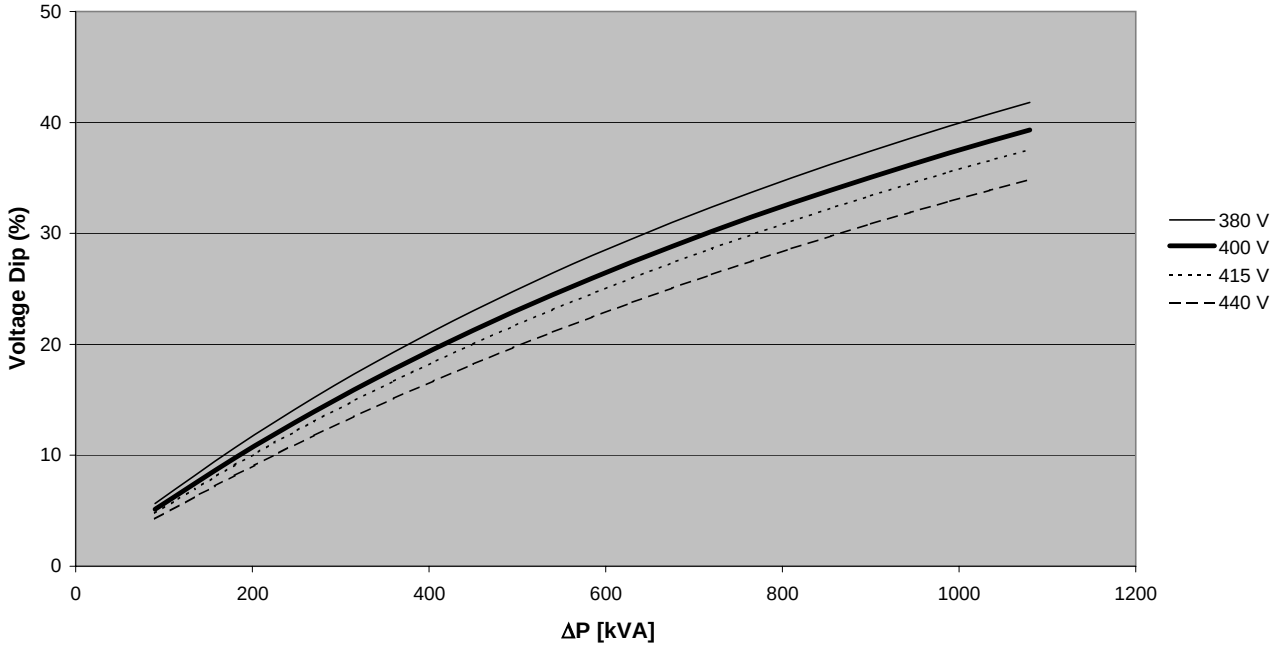
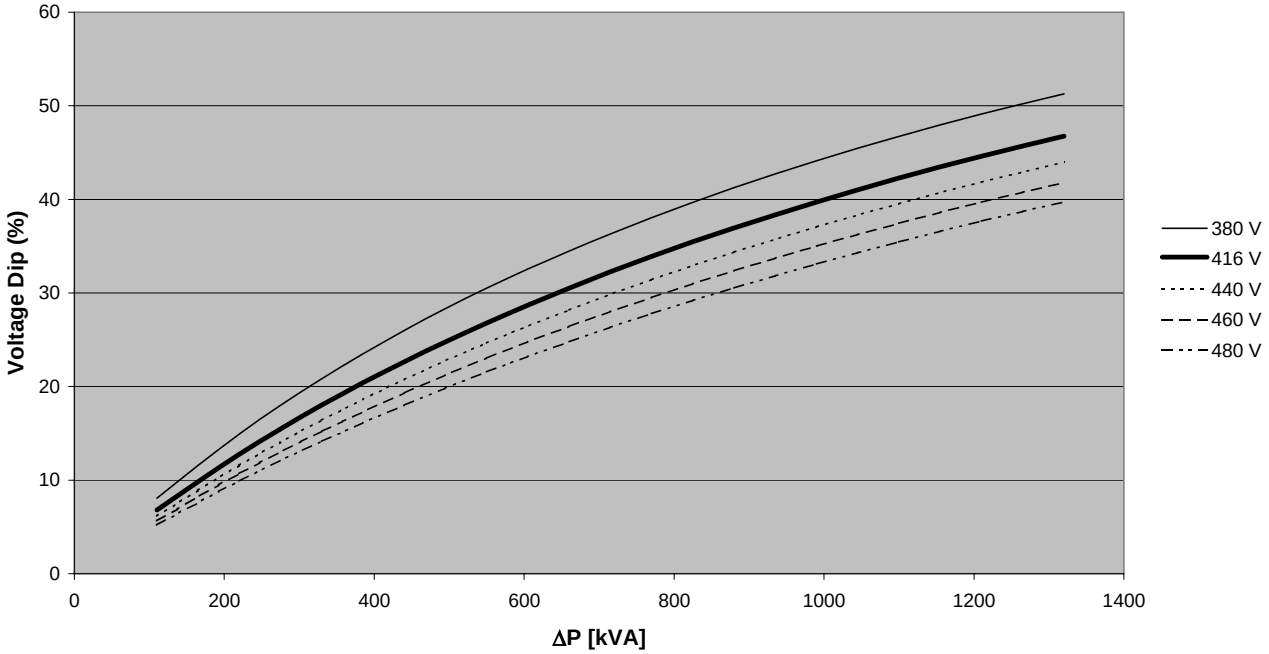
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 355 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		**190**	**200**	**208**	**220**	**190**	**208**	**220**	**230**	**240**
RATING		**kVA**	**490**	**510**	**510**	**510**	**510**	**540**	**570**	**610**	**625**
		kW	***392***	***408***	***408***	***408***	***408***	***432***	***456***	***488***	***500***
EFFICIENCY (%) @ 0,8 p.f.		4/4	93,5	94,0	94,1	94,2	93,0	93,4	93,7	94,0	94,5
		3/4	94,4	94,6	94,7	94,7	93,9	94,0	94,4	94,6	94,9
		2/4	94,9	94,9	94,9	94,9	94,3	94,4	94,7	94,9	95,1
EFFICIENCY (%) @ 0,8 p.f.		4/4	94,8	95,3	95,3	95,4	94,5	94,7	95,0	95,3	95,7
		3/4	95,6	95,7	95,8	95,8	95,2	95,3	95,6	95,7	96,0
		2/4	96,0	96,0	96,0	96,0	95,5	95,6	95,8	96,0	96,1
SHORT CIRCUIT RATIO			0,33	0,35	0,38	0,42	0,26	0,30	0,32	0,32	0,34
REACTANCES (%)											
Direct axis synchronous		xd	350	330	305	275	440	390	365	360	335
Quadrature axis synchronous		xq	200	190	175	155	255	225	210	205	195
Direct axis transient		x'd	28,7	27,0	25,1	22,3	35,9	31,7	29,9	29,3	27,6
Direct axis subtransient		x''d	16,4	15,4	14,3	12,7	20,5	18,1	17,1	16,7	15,7
Quadrature axis subtransient		x''q	18,6	17,5	16,3	14,5	23,3	20,6	19,4	19,0	17,9
Negative sequence		x_2	17,5	16,4	15,2	13,6	21,8	19,3	18,2	17,8	16,7
Zero sequence		x_0	4,4	4,1	3,8	3,4	5,5	4,8	4,5	4,4	4,2

TIME CONSTANTS [s]

Open circuit (T'do)	1,65	Subtransient (T''d)	0,015
Transient (T'd)	0,135	Armature (Ta)	0,021

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6322 2RS C3 / Prelubricated
N-end bearing/Lubrication	6317 2RS C3 / Prelubricated
Weight (IM B34) [kg]	1250
Inertia (J) (IM B34) [kgm^2]	7,97
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	0,93 / 1,12
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	8,6
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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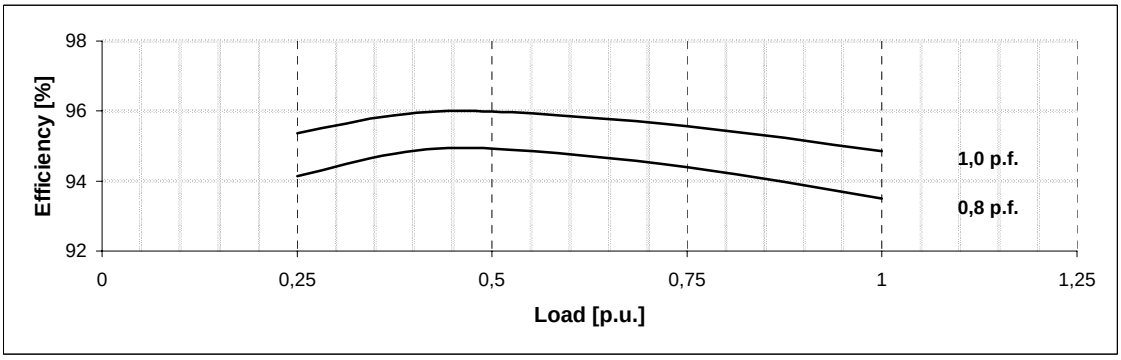
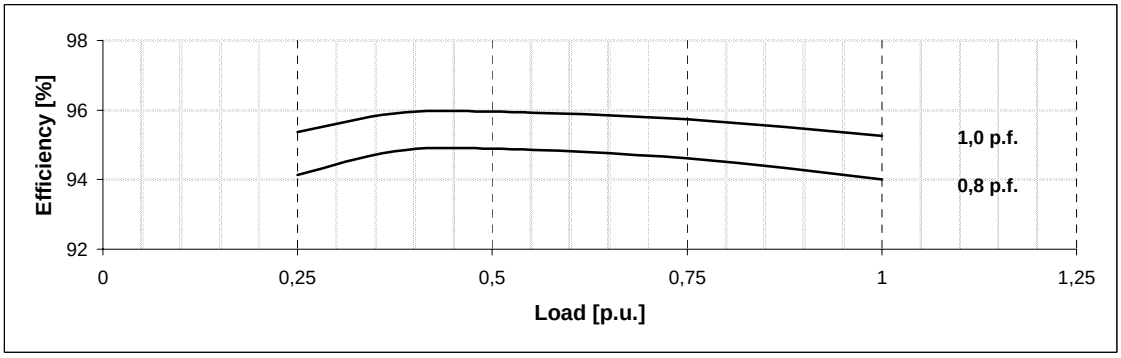
Typical efficiency curves

50 Hz - 1500 min^{-1}

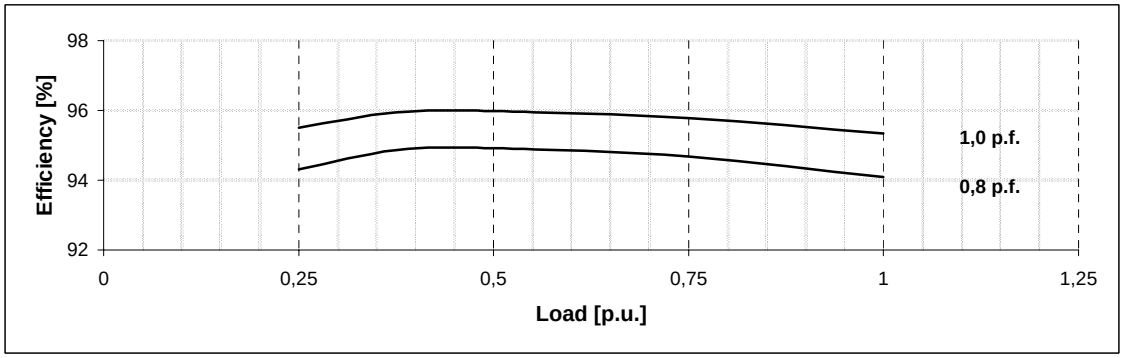
380 V



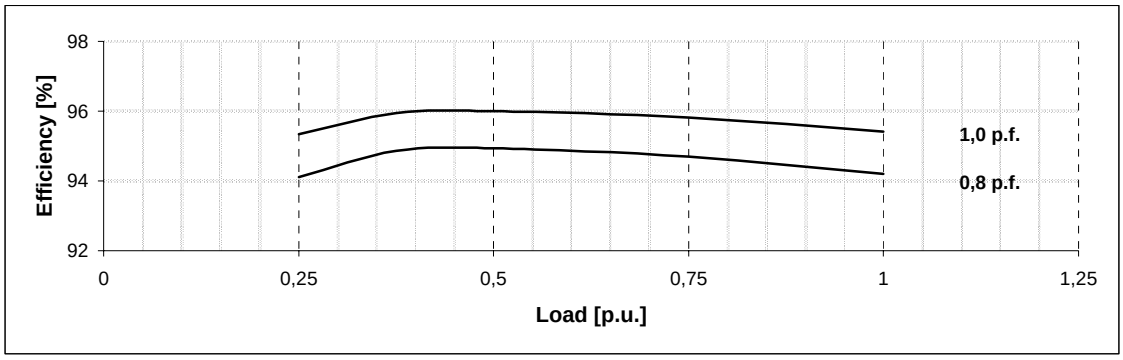
400 V



415 V



440 V



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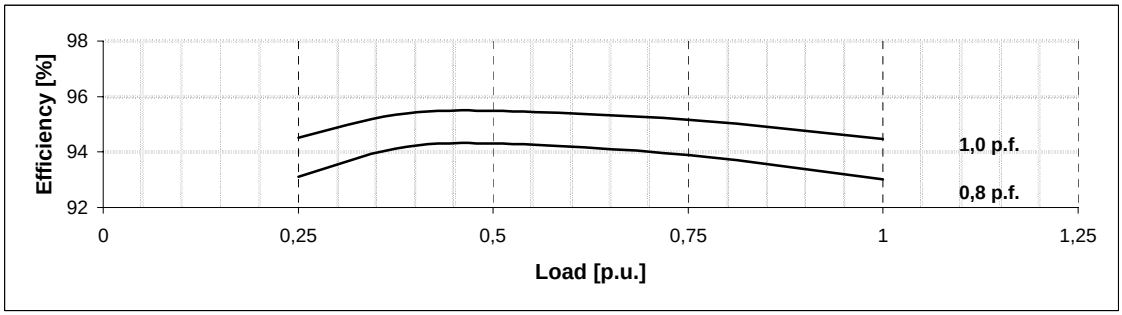
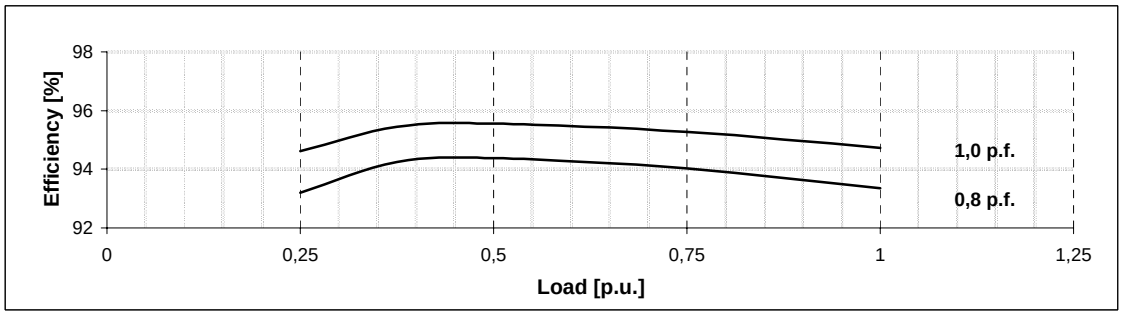
Typical efficiency curves

60 Hz - 1800 min^{-1}

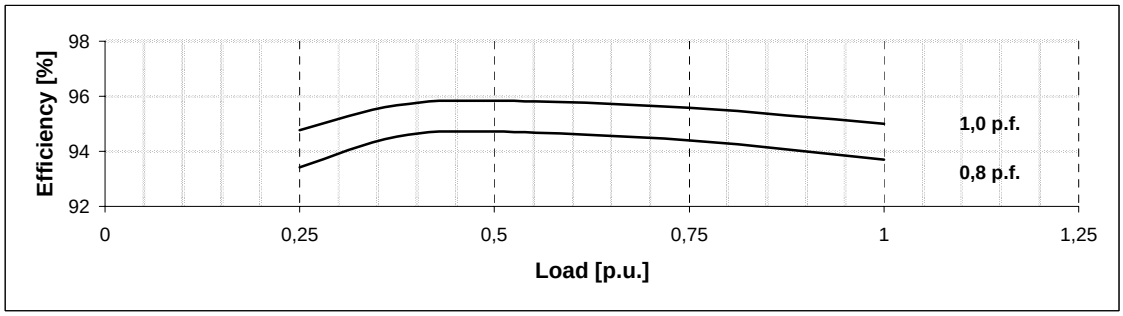
380 V



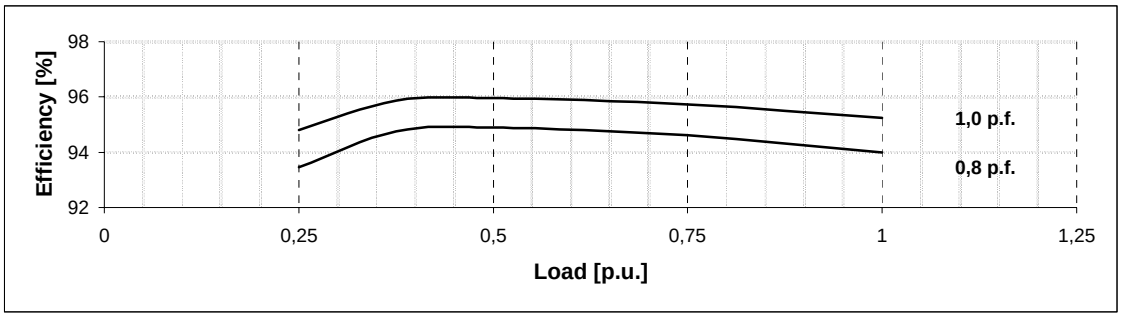
416 V



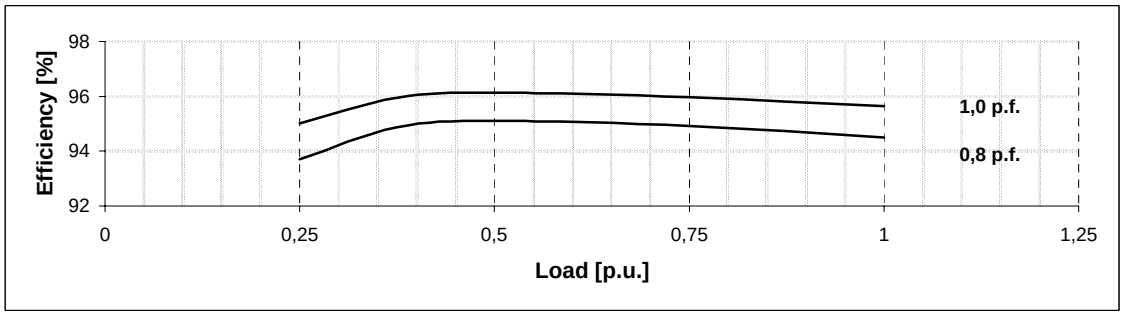
440 V



460 V



480 V



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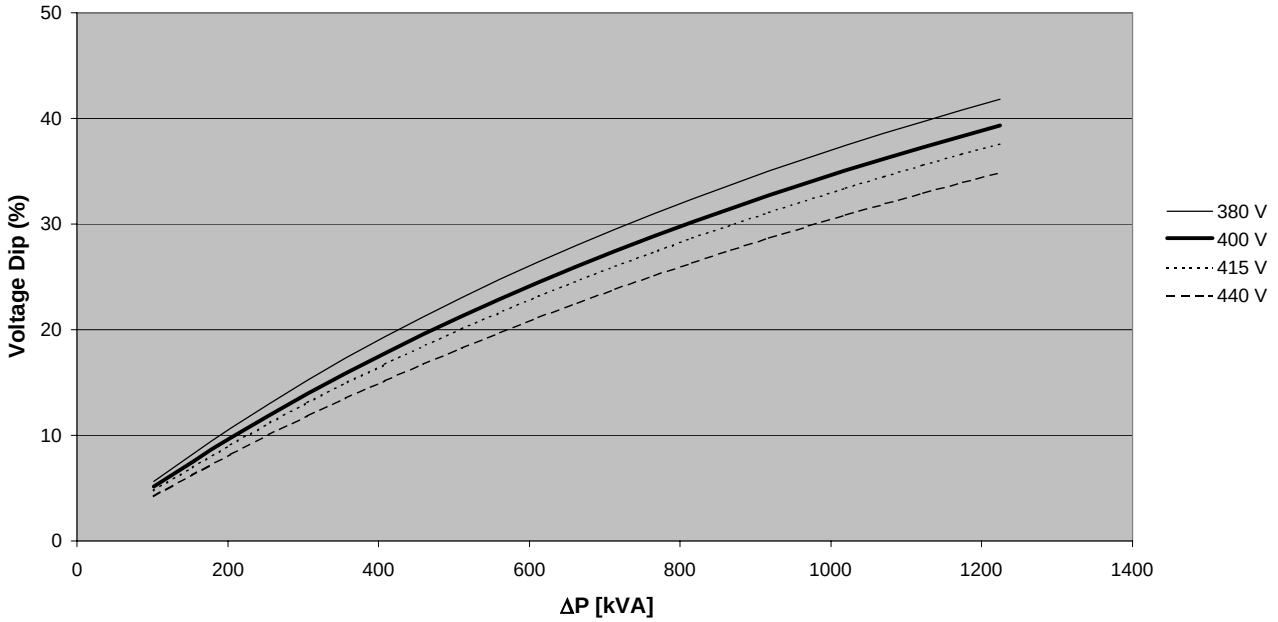
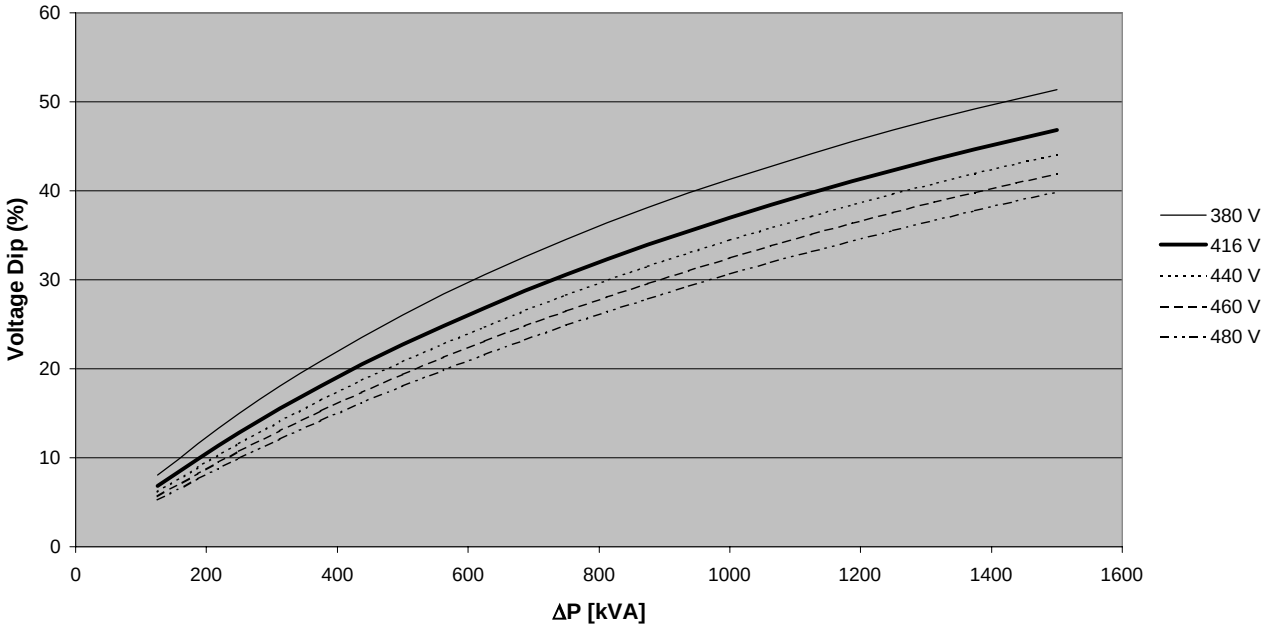
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

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

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 355 SB 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		**190**	**200**	**208**	**220**	**190**	**208**	**220**	**230**	**240**
RATING		**kVA**	**570**	**570**	**570**	**570**	**600**	**645**	**665**	**685**	**695**
		kW	***456***	***456***	***456***	***456***	***480***	***516***	***532***	***548***	***556***
EFFICIENCY (%) @ 0,8 p.f.		4/4	94,2	94,6	94,7	94,8	93,9	94,4	94,7	94,9	95,1
		3/4	95,1	95,1	95,2	95,2	94,6	94,9	95,1	95,3	95,4
		2/4	95,4	95,3	95,3	95,3	94,9	95,1	95,4	95,4	95,5
EFFICIENCY (%) @ 1,0 p.f.		4/4	95,4	95,7	95,8	95,9	95,2	95,6	95,8	96,0	96,1
		3/4	96,1	96,1	96,2	96,2	95,7	96,0	96,1	96,3	96,4
		2/4	96,3	96,3	96,3	96,3	96,0	96,1	96,3	96,4	96,5
SHORT CIRCUIT RATIO			0,32	0,35	0,38	0,42	0,25	0,28	0,30	0,32	0,34
REACTANCES (%)											
Direct axis synchronous		xd	320	290	270	240	405	365	335	315	295
Quadrature axis synchronous		xq	175	160	150	130	225	200	185	175	165
Direct axis transient		x'd	26,6	24,0	22,3	19,8	33,6	30,1	27,8	26,2	24,4
Direct axis subtransient		x"d	13,5	12,2	11,3	10,1	17,1	15,3	14,1	13,3	12,4
Quadrature axis subtransient		x"q	16,1	14,5	13,5	12,0	20,3	18,2	16,8	15,8	14,7
Negative sequence		x_2	14,8	13,4	12,4	11,1	18,8	16,8	15,5	14,6	13,6
Zero sequence		x_0	3,9	3,5	3,3	2,9	4,9	4,4	4,0	3,8	3,6

TIME CONSTANTS [s]

Open circuit (T'do)	1,95	Subtransient (T"d)	0,016
Transient (T'd)	0,16	Armature (Ta)	0,022

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6322 2RS C3 / Prelubricated
N-end bearing/Lubrication	6317 2RS C3 / Prelubricated
Weight (IM B34) [kg]	1550
Inertia (J) (IM B34) [kgm^2]	9,29
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	0,93 / 1,12
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	6,0
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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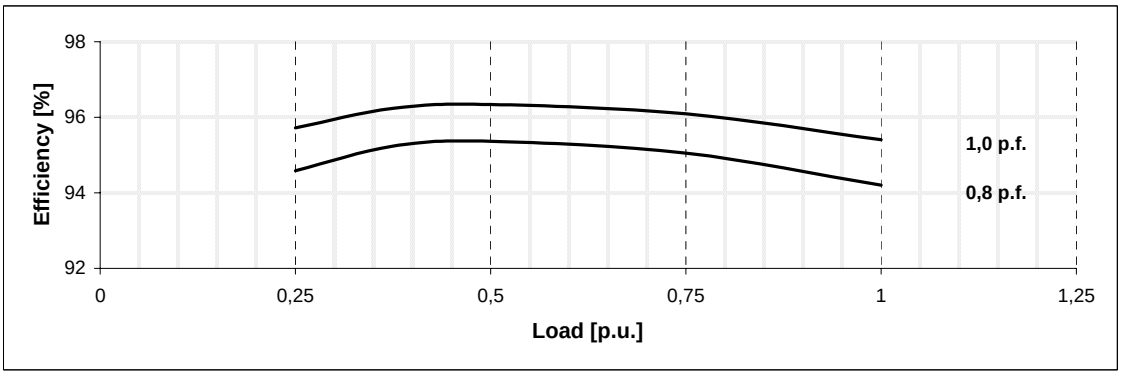
MarelliGenerators

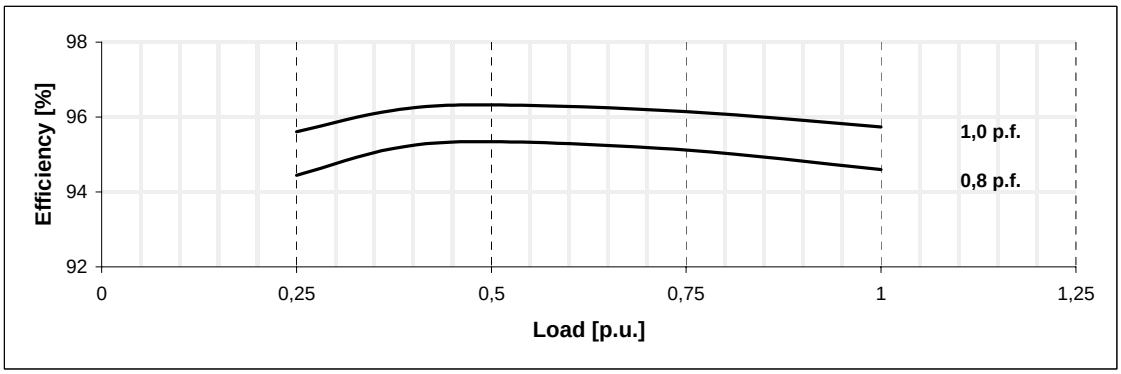
Typical efficiency curves

50 Hz - 1500 min^{-1}

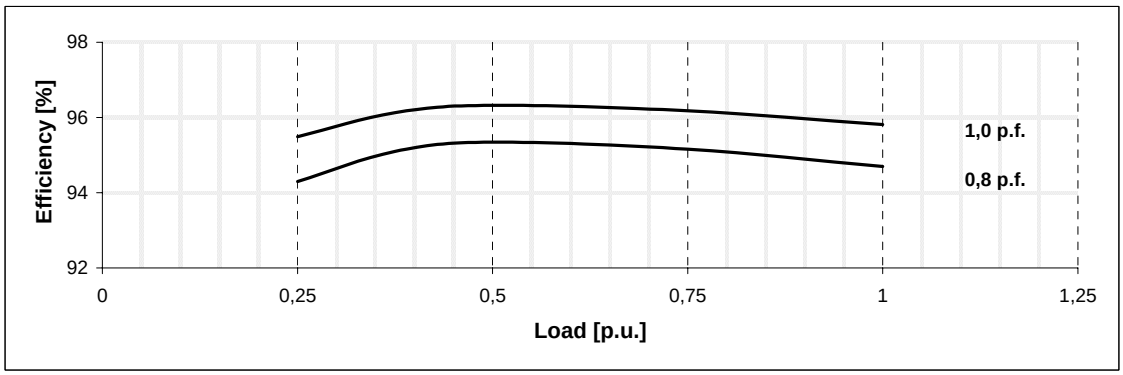
380 V



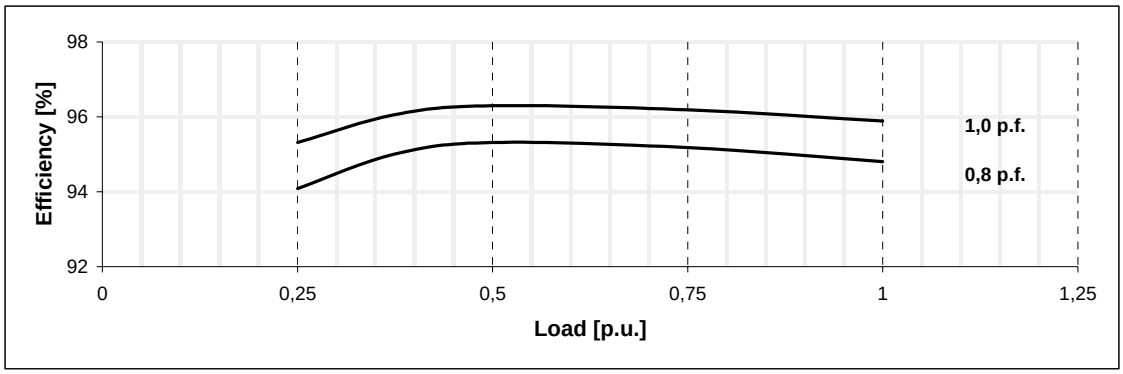
400 V



415 V



440 V

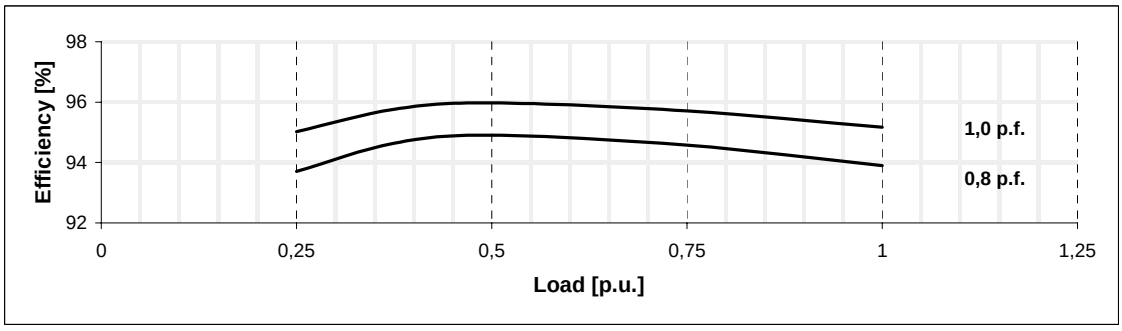


Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

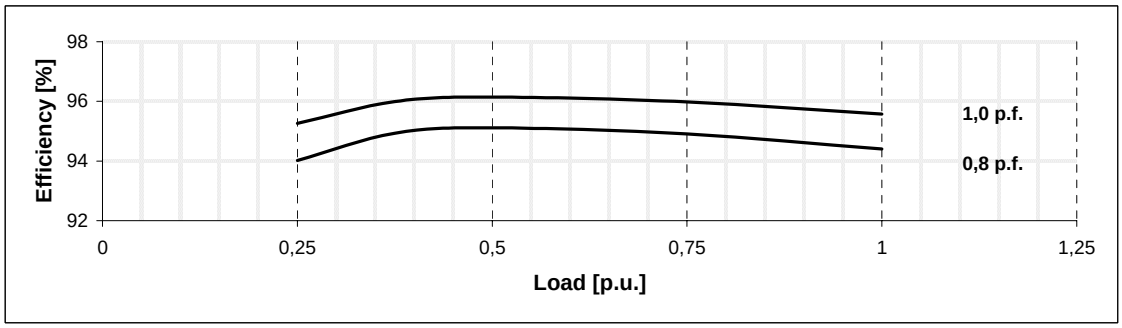
Typical efficiency curves

60 Hz - 1800 min^{-1}

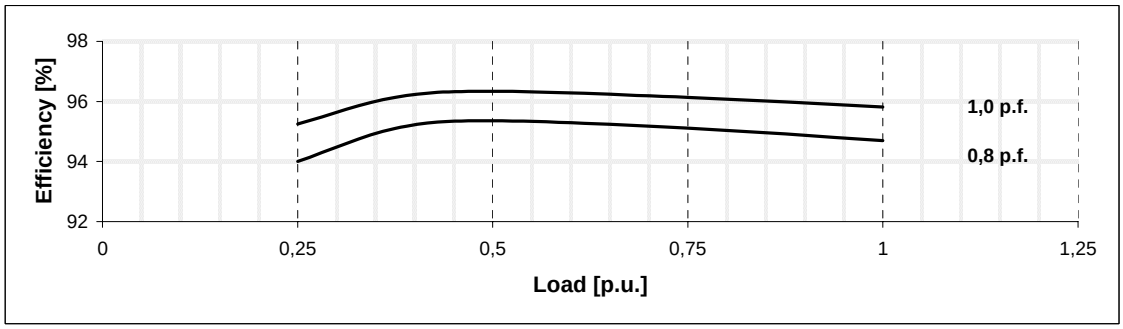
380 V



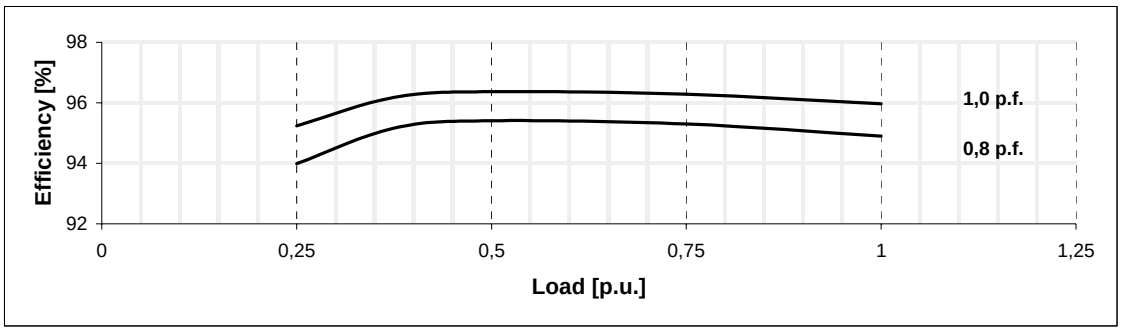
416 V



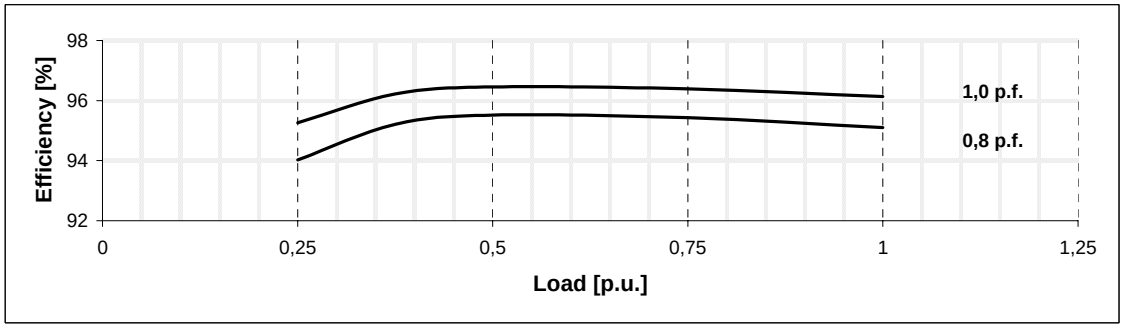
440 V



460 V



480 V



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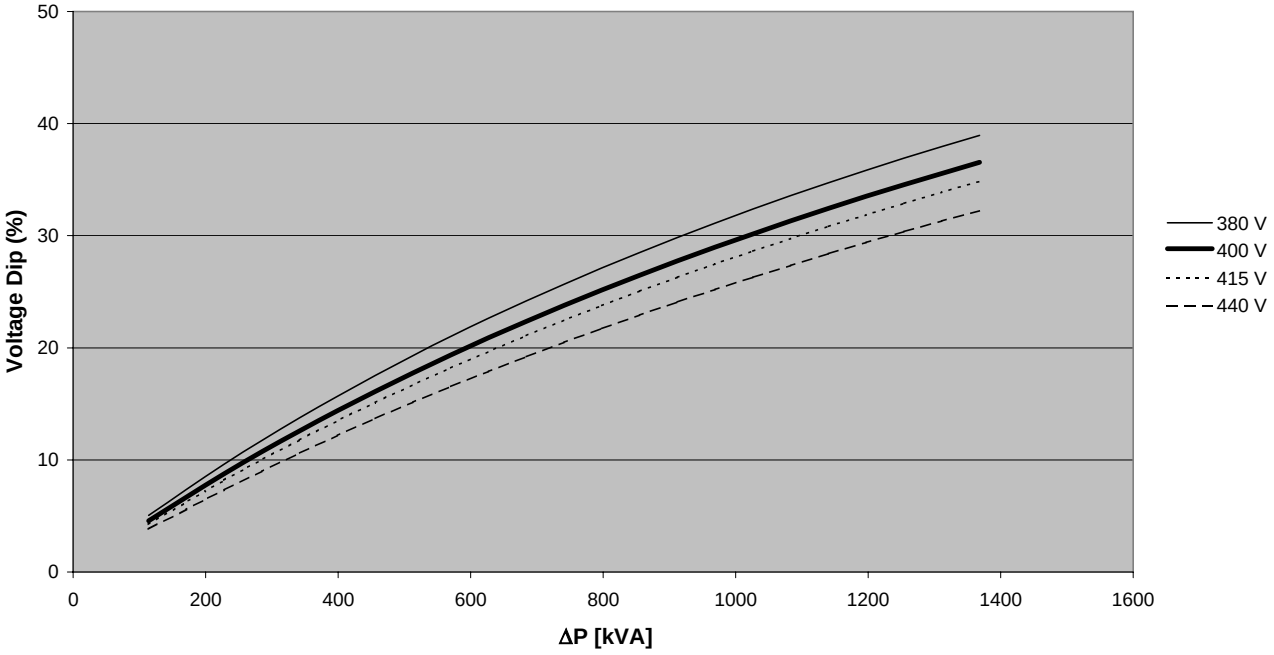
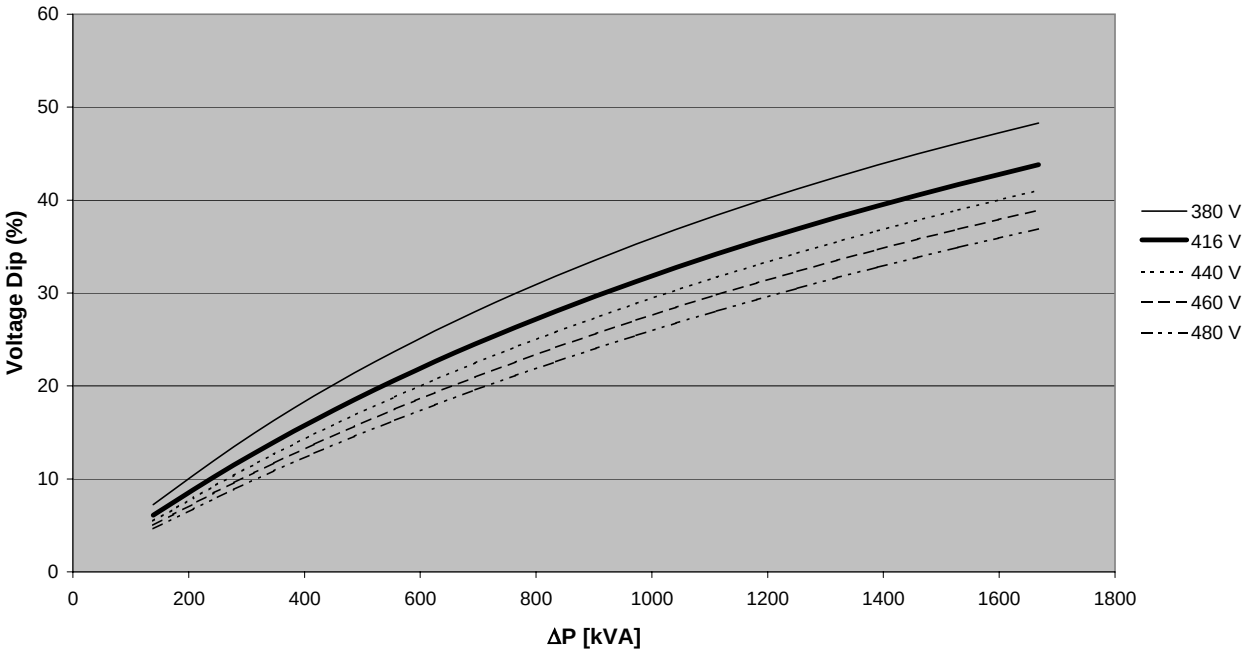
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 355 MA 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		**190**	**200**	**208**	**220**	**190**	**208**	**220**	**230**	**240**
RATING		**kVA**	**680**	**680**	**680**	**680**	**700**	**740**	**775**	**805**	**825**
		kW	***544***	***544***	***544***	***544***	***560***	***592***	***620***	***644***	***660***
EFFICIENCY (%) @ 0,8 p.f.		4/4	94,4	94,7	94,8	94,8	94,3	94,6	94,9	95,0	95,1
		3/4	95,2	95,3	95,3	95,2	94,8	95,1	95,3	95,4	95,4
		2/4	95,5	95,4	95,4	95,4	95,0	95,2	95,4	95,5	95,5
EFFICIENCY (%) @ 1,0 p.f.		4/4	95,6	95,8	95,9	95,9	95,5	95,7	96,0	96,1	96,1
		3/4	96,2	96,3	96,3	96,2	95,9	96,1	96,3	96,3	96,4
		2/4	96,4	96,4	96,4	96,3	96,1	96,2	96,4	96,4	96,4
SHORT CIRCUIT RATIO			0,32	0,35	0,38	0,42	0,26	0,29	0,31	0,33	0,35
REACTANCES (%)											
Direct axis synchronous		xd	320	290	270	240	395	350	330	310	295
Quadrature axis synchronous		xq	175	160	150	130	220	195	180	170	160
Direct axis transient		x'd	26,6	24,0	22,3	19,8	32,8	29,0	27,1	25,8	24,3
Direct axis subtransient		x"d	13,5	12,2	11,3	10,1	16,7	14,7	13,8	13,1	12,3
Quadrature axis subtransient		x"q	16,1	14,5	13,5	12,0	19,8	17,5	16,4	15,6	14,7
Negative sequence		x_2	14,8	13,4	12,4	11,1	18,3	16,2	15,1	14,4	13,5
Zero sequence		x_0	3,9	3,5	3,3	2,9	4,8	4,2	4,0	3,8	3,5

TIME CONSTANTS [s]

Open circuit (T'do)	1,95	Subtransient (T"d)	0,016
Transient (T'd)	0,16	Armature (Ta)	0,022

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6322 2RS C3 / Prelubricated
N-end bearing/Lubrication	6317 2RS C3 / Prelubricated
Weight (IM B34) [kg]	1800
Inertia (J) (IM B34) [kgm^2]	11,69
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	0,93 / 1,12
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	4,0
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.

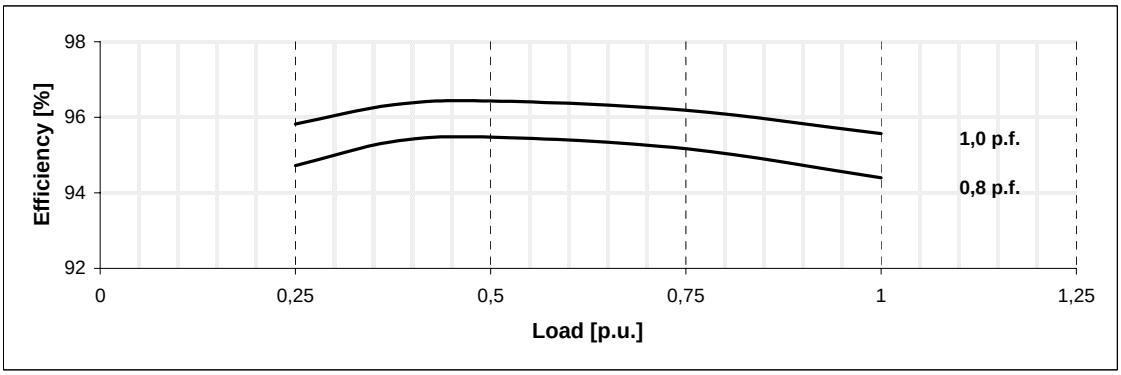
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

MarelliGenerators

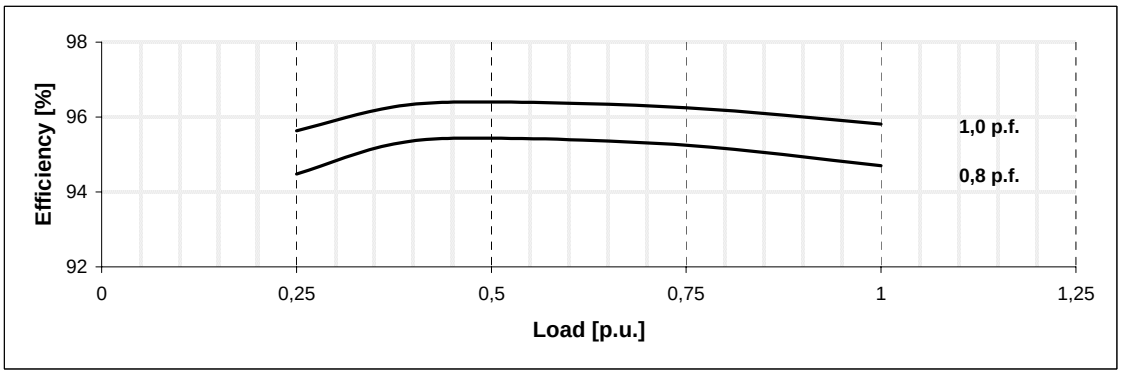
Typical efficiency curves

50 Hz - 1500 min^{-1}

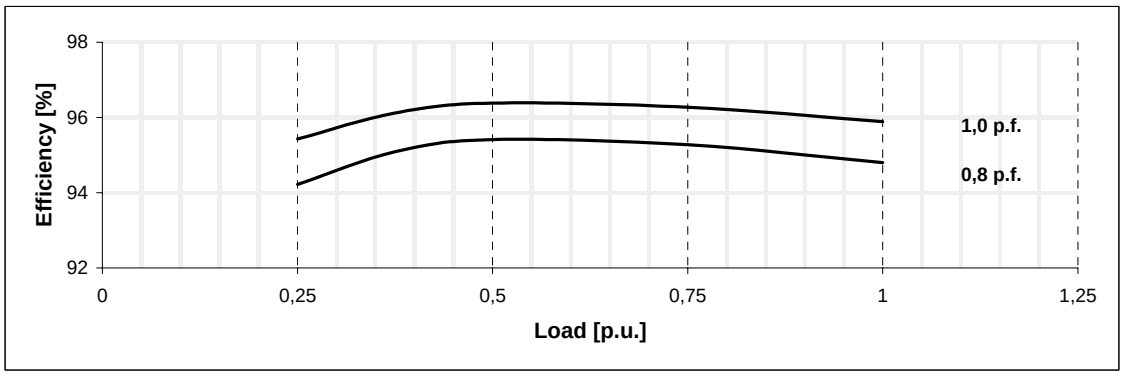
380 V



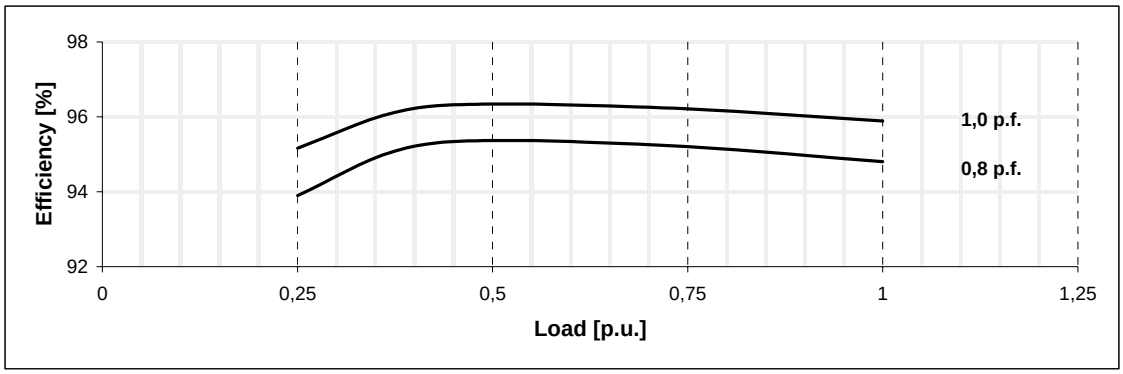
400 V



415 V



440 V

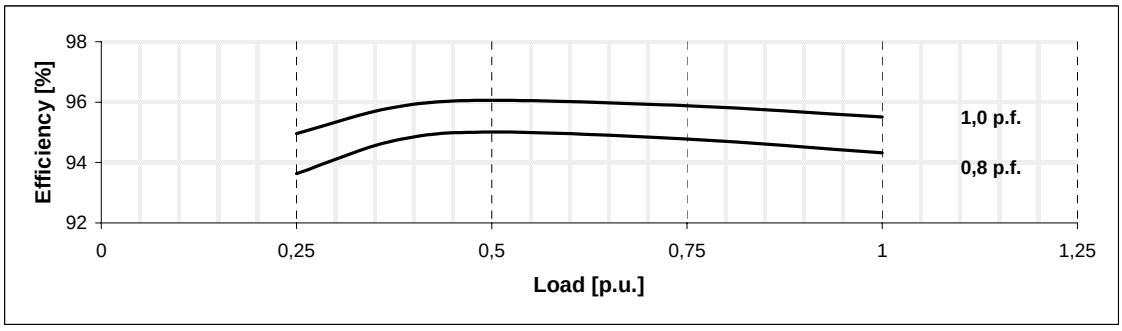


Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

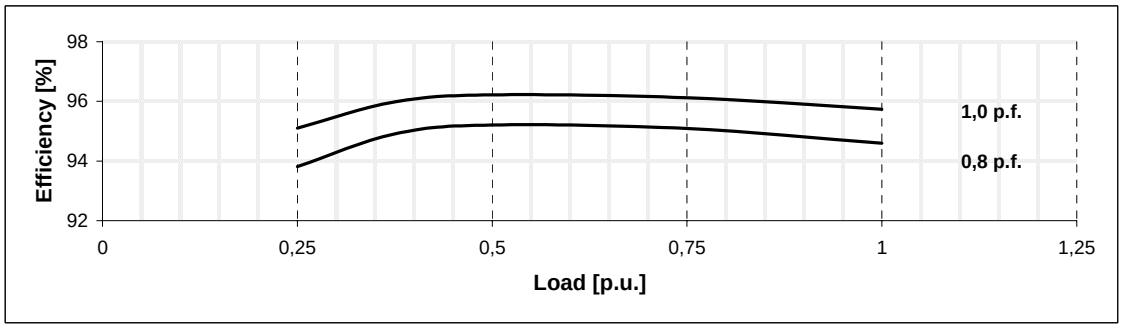
Typical efficiency curves

60 Hz - 1800 min^{-1}

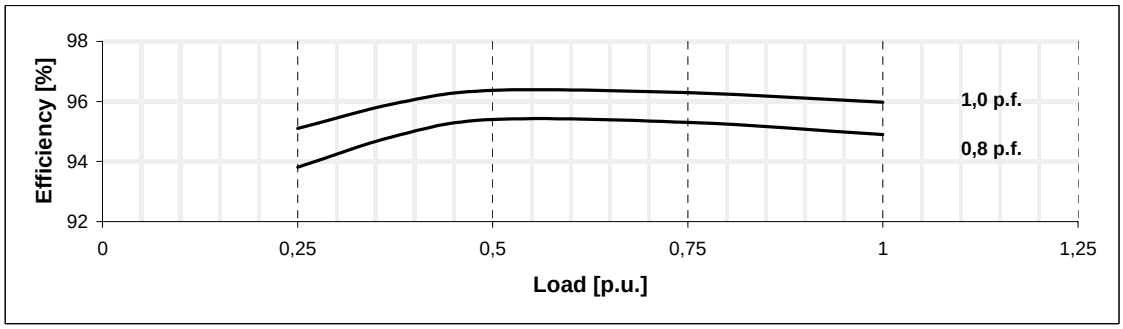
380 V



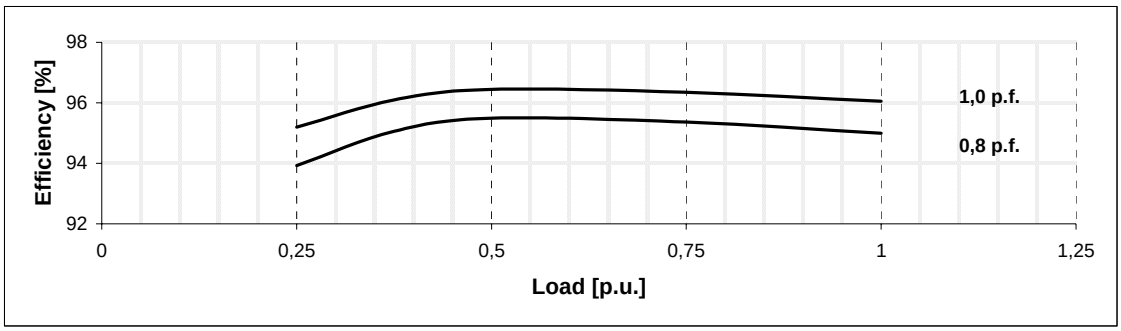
416 V



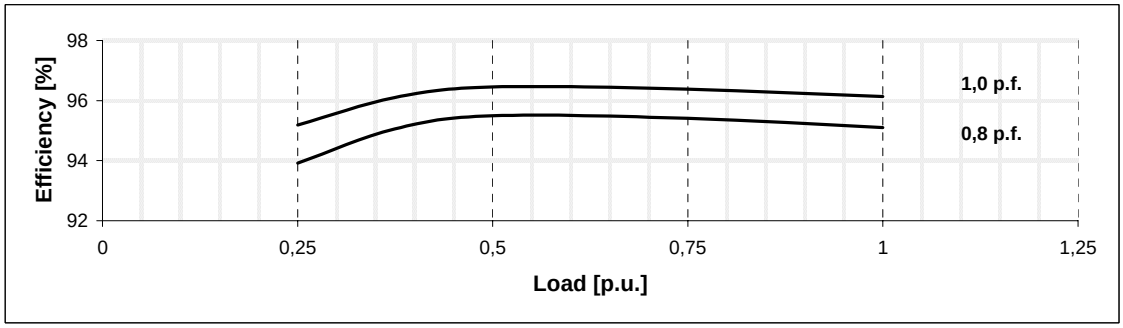
440 V



460 V



480 V



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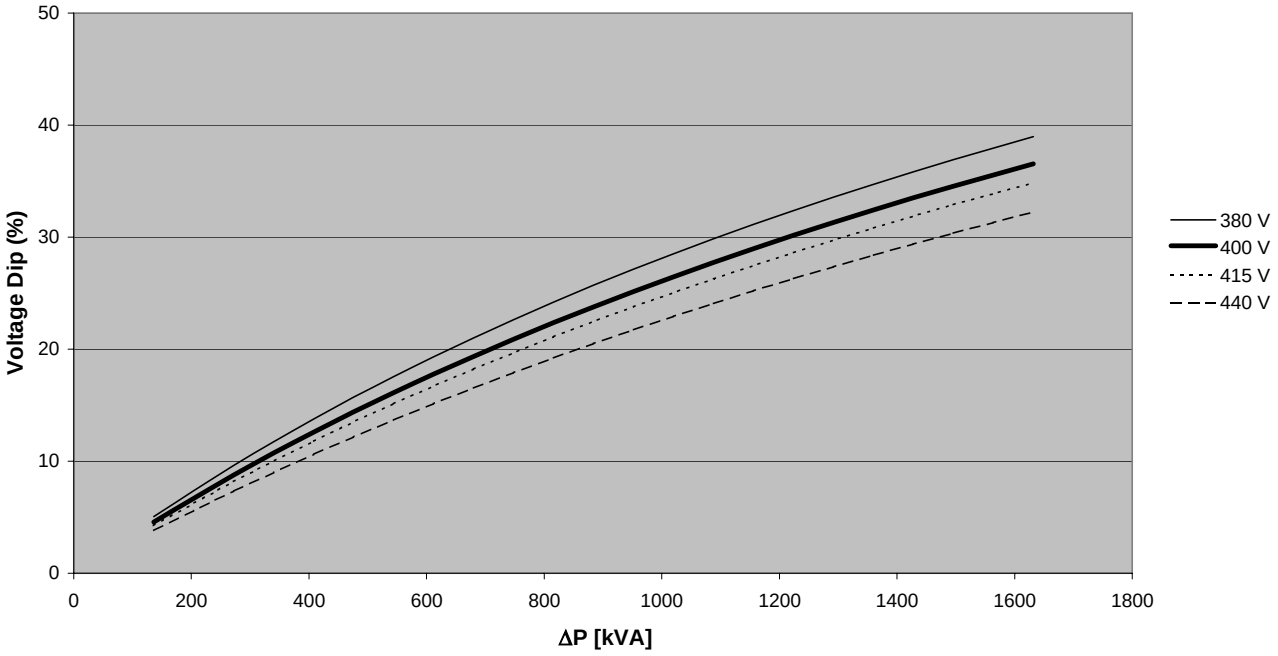
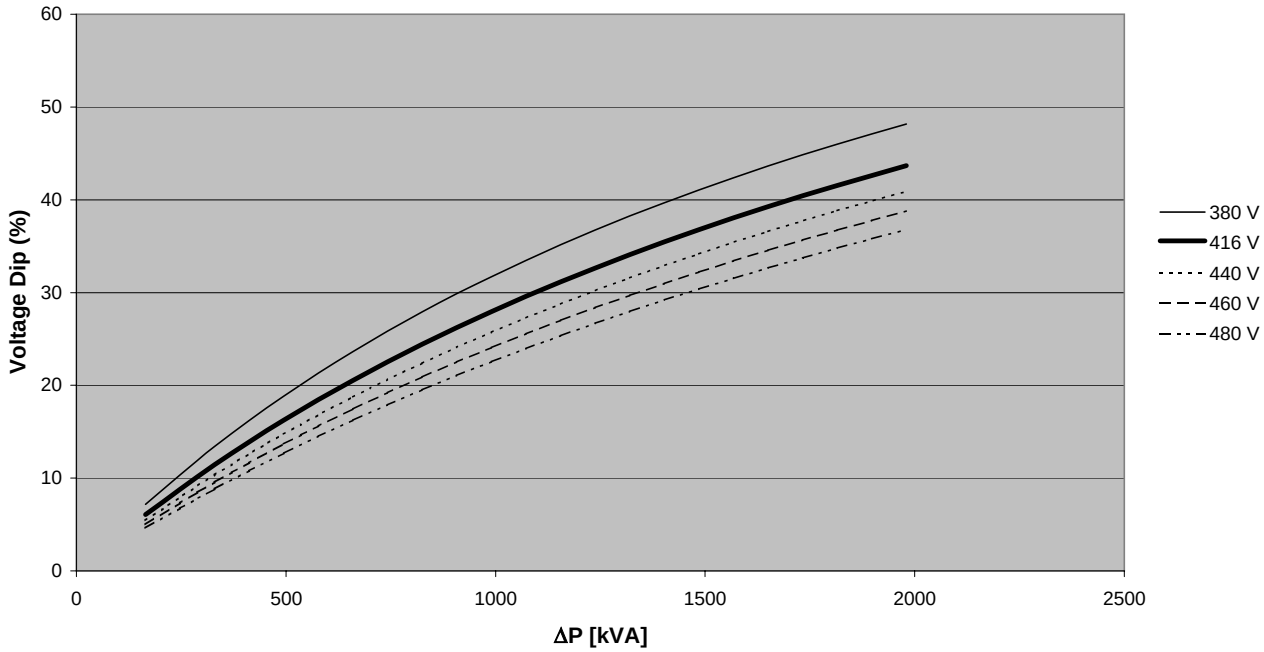
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 355 MB 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	**17**
INSULATION CLASS	**H**	Number of leads	**6**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**800**	**800**	**800**	**880**	**920**	**950**	**960**
		kW	***640***	***640***	***640***	***704***	***736***	***760***	***768***
EFFICIENCY (%) @ 0,8 p.f.		4/4	94,9	95,0	95,1	95,2	95,2	95,2	95,3
		3/4	95,4	95,5	95,6	95,5	95,6	95,6	95,7
		2/4	95,7	95,6	95,6	95,6	95,7	95,8	95,8
EFFICIENCY (%) @ 1,0 p.f.		4/4	96,0	96,1	96,1	96,2	96,2	96,2	96,3
		3/4	96,4	96,4	96,5	96,4	96,5	96,6	96,6
		2/4	96,6	96,6	96,6	96,5	96,6	96,7	96,7
SHORT CIRCUIT RATIO			0,38	0,42	0,45	0,34	0,37	0,39	0,42
REACTANCES (%)									
Direct axis synchronous		xd	285	255	240	310	290	275	255
Quadrature axis synchronous		xq	155	140	130	170	155	150	140
Direct axis transient		x'd	23,0	20,8	19,3	25,4	23,7	22,4	20,8
Direct axis subtransient		x"d	11,0	9,9	9,2	12,1	11,3	10,7	9,9
Quadrature axis subtransient		x"q	13,6	12,3	11,4	15,0	14,0	13,3	12,3
Negative sequence		x_2	12,3	11,1	10,3	13,5	12,7	12,0	11,1
Zero sequence		x_0	3,1	2,8	2,6	3,4	3,2	3,0	2,8

TIME CONSTANTS [s]

Open circuit (T'do)	2,2	Subtransient (T"d)	0,016
Transient (T'd)	0,18	Armature (Ta)	0,026

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6322 C3 / With grease nipple
N-end bearing/Lubrication	6317 2Z C3 / Prelubricated
Weight (IM B34) [kg]	2050
Inertia (J) (IM B34) [kgm^2]	13,12
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m3/s] @ 50/60 Hz	0,93 / 1,12
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	3,1
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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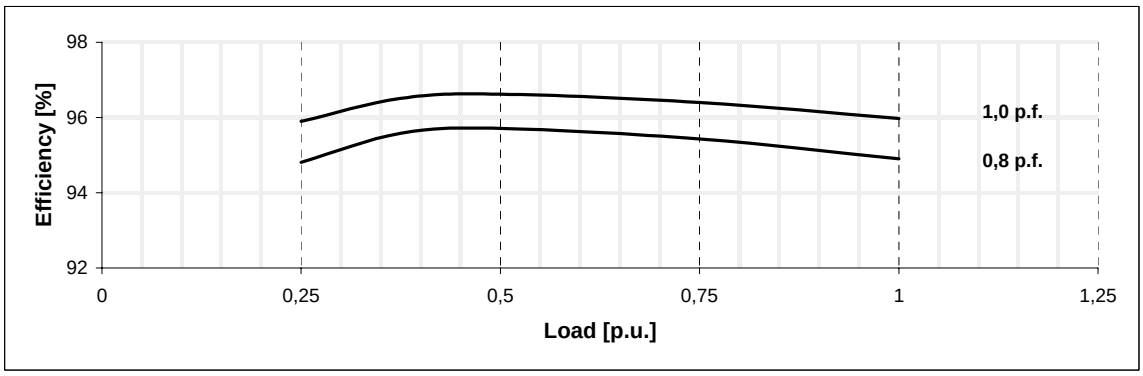
MarelliGenerators

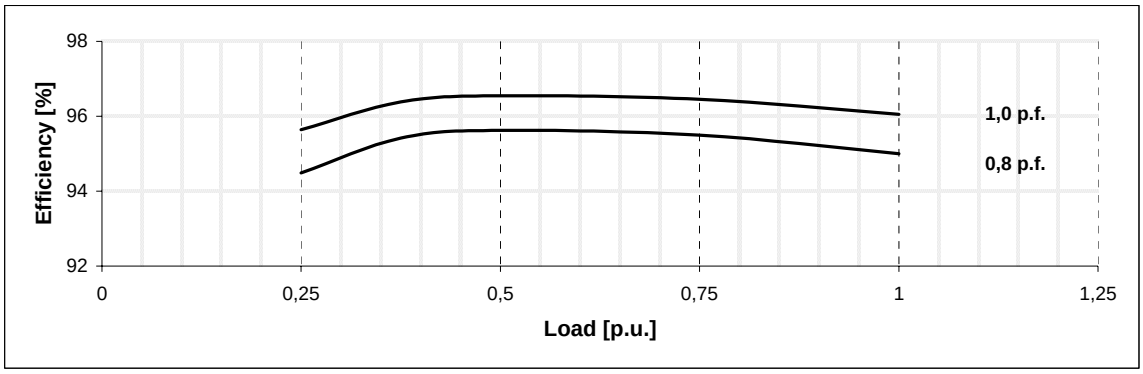
Typical efficiency curves

50 Hz - 1500 min^{-1}

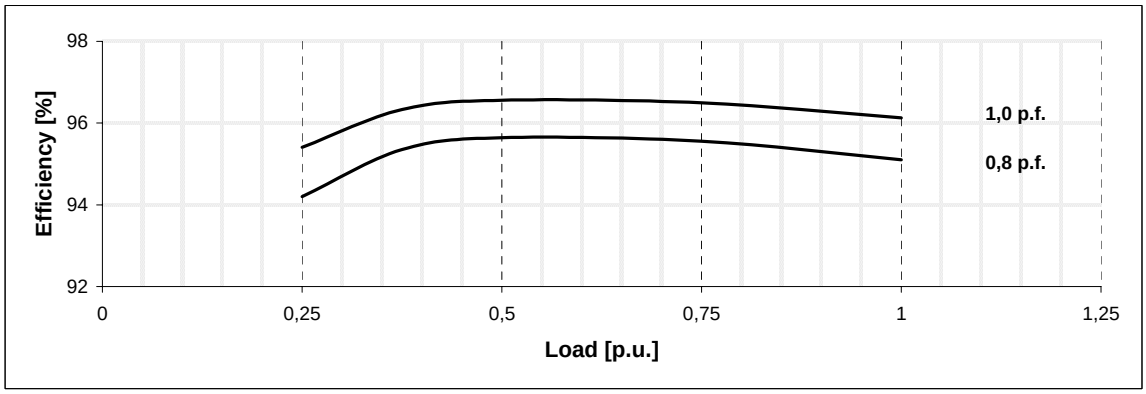
380 V



400 V



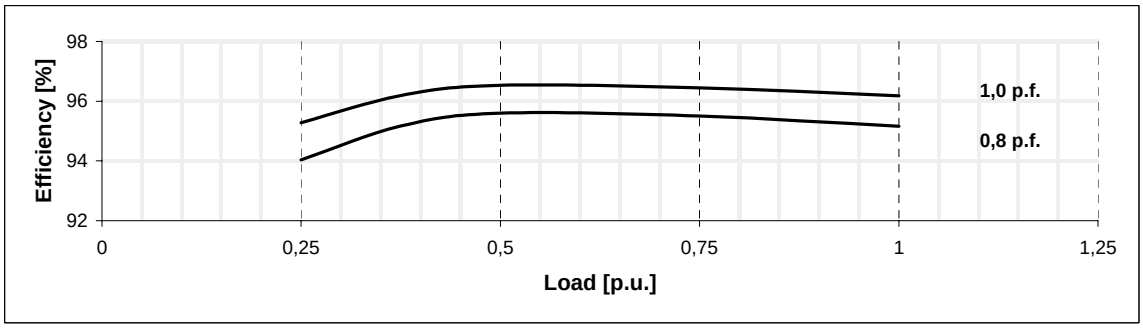
415 V



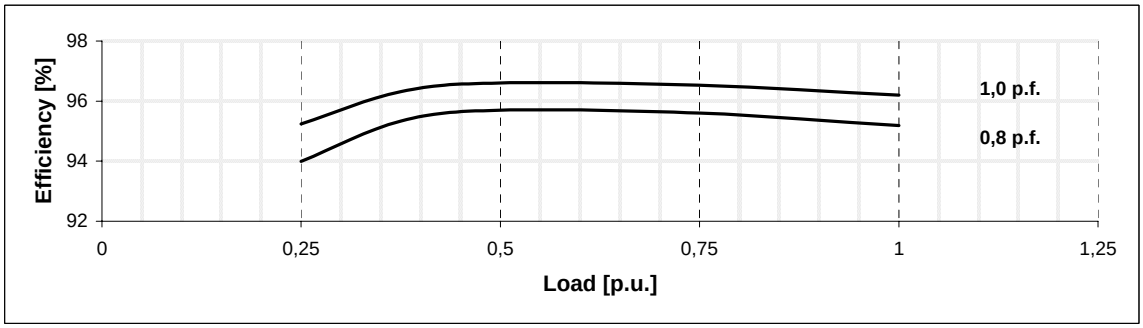
Typical efficiency curves

60 Hz - 1800 min^{-1}

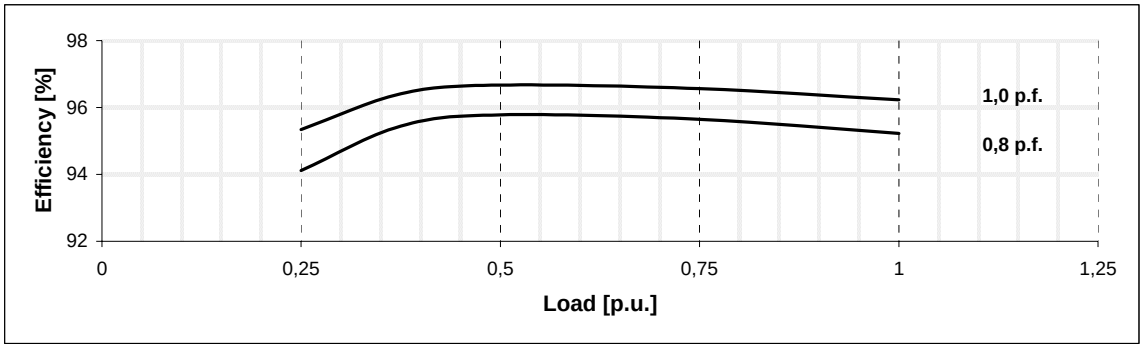
416 V



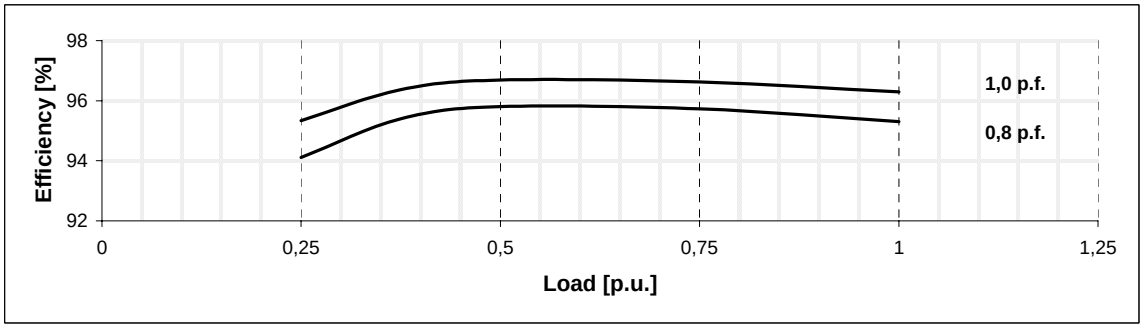
440 V



460 V



480 V



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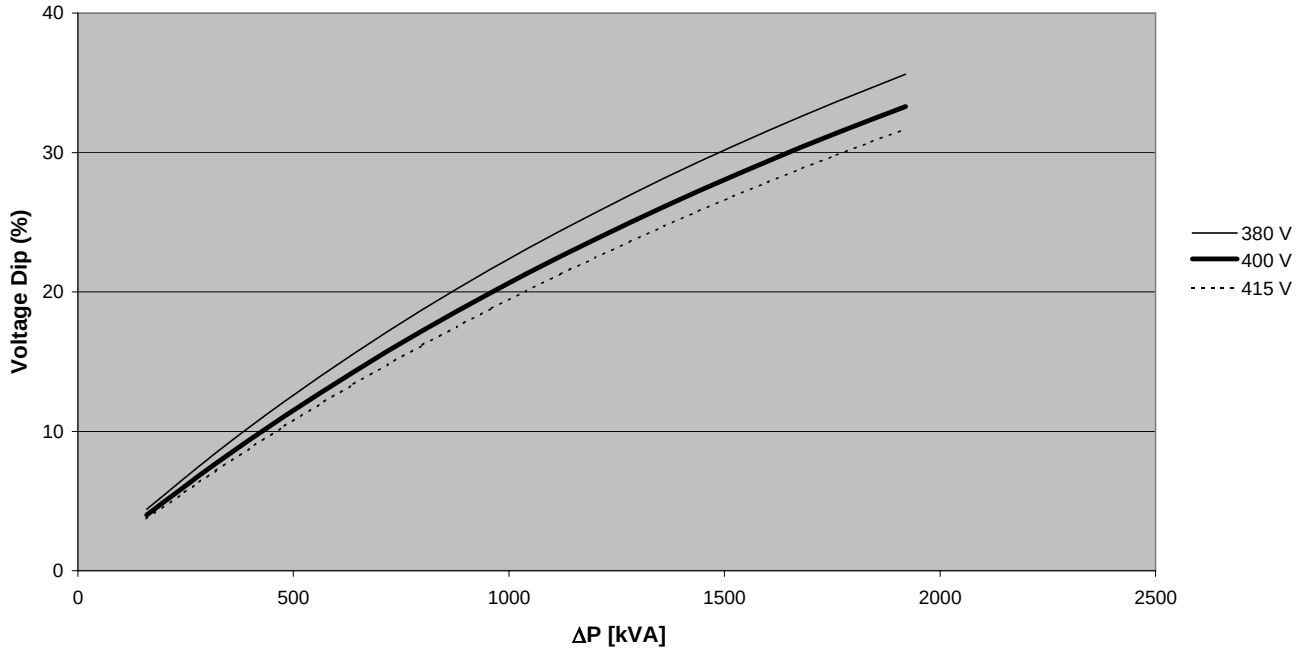
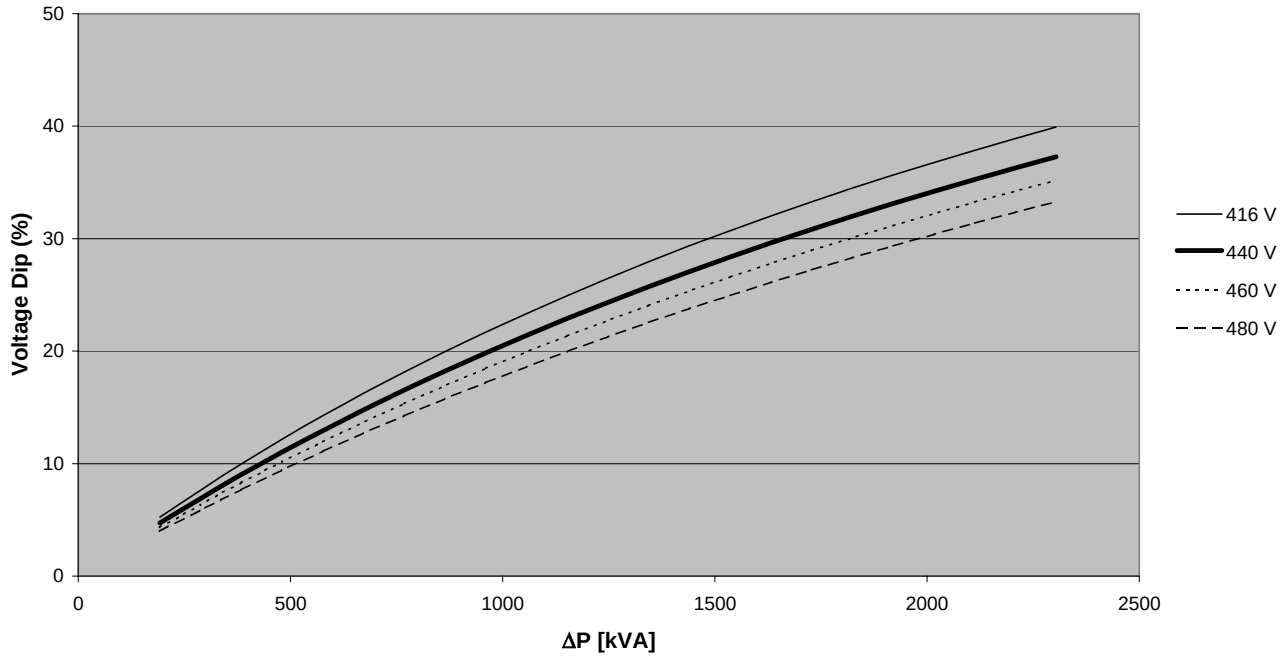
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 MA 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	**80**
INSULATION CLASS	**H**	Number of leads	**6**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**930**	**930**	**930**	**1070**	**1120**	**1120**	**1175**
		kW	***744***	***744***	***744***	***856***	***896***	***896***	***940***
EFFICIENCY (%) @ 0,8 p.f.		4/4	94,9	95,2	95,2	95,0	95,3	95,5	95,7
		3/4	95,3	95,5	95,4	95,3	95,5	95,7	95,9
		2/4	95,4	95,6	95,4	95,4	95,6	95,7	95,8
EFFICIENCY (%) @ 1,0 p.f.		4/4	96,0	96,2	96,2	96,1	96,3	96,4	96,6
		3/4	96,3	96,4	96,4	96,3	96,5	96,6	96,7
		2/4	96,4	96,5	96,4	96,4	96,5	96,6	96,7
SHORT CIRCUIT RATIO			0,40	0,44	0,47	0,34	0,37	0,40	0,45
REACTANCES (%)									
Direct axis synchronous		xd	300	270	250	345	320	295	265
Quadrature axis synchronous		xq	165	150	140	190	180	165	145
Direct axis transient		x'd	28,4	25,6	23,8	32,7	30,6	28,0	25,0
Direct axis subtransient		x"d	13,3	12,0	11,1	15,3	14,3	13,1	11,7
Quadrature axis subtransient		x"q	14,0	12,6	11,7	16,1	15,0	13,8	12,3
Negative sequence		x_2	13,6	12,3	11,4	15,7	14,7	13,4	12,0
Zero sequence		x_0	3,3	3,0	2,8	3,8	3,6	3,3	2,9

TIME CONSTANTS [s]

Open circuit (T'do)	2,21	Subtransient (T"d)	0,018
Transient (T'd)	0,18	Armature (Ta)	0,025

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	2100
Inertia (J) (IM B34) [kgm^2]	16,3
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,30 / 1,55
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34 (IM 2101) / IM B20 (IM 1101)
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	2,2
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.

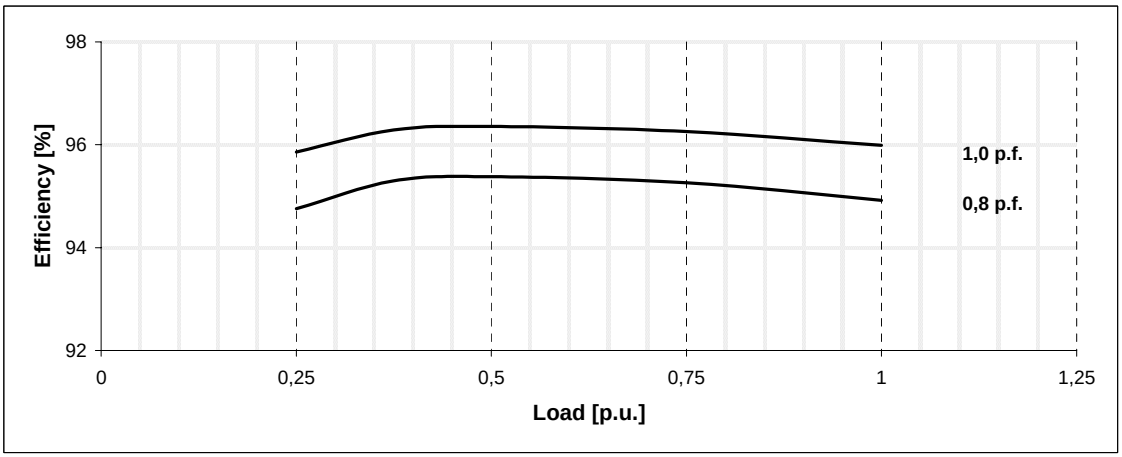
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

MarelliGenerators

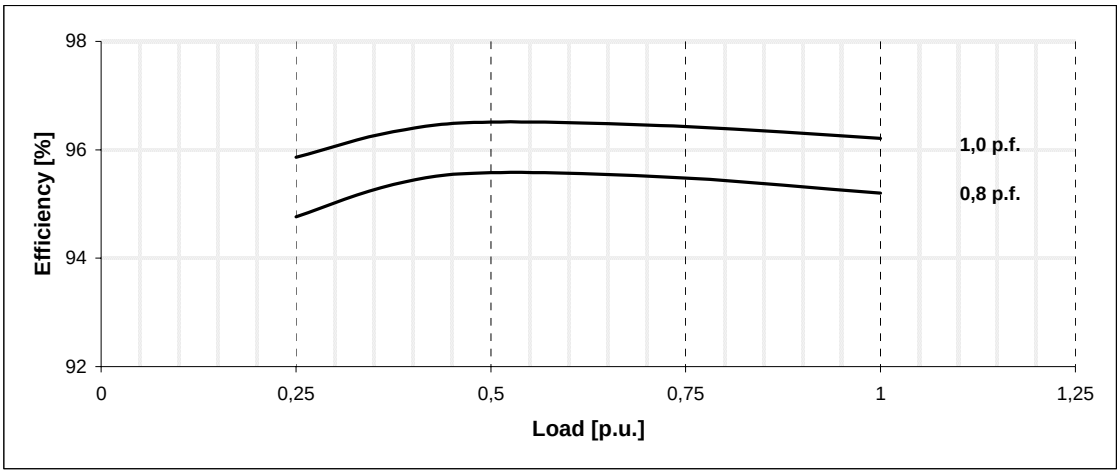
Typical efficiency curves

50 Hz - 1500 min^{-1}

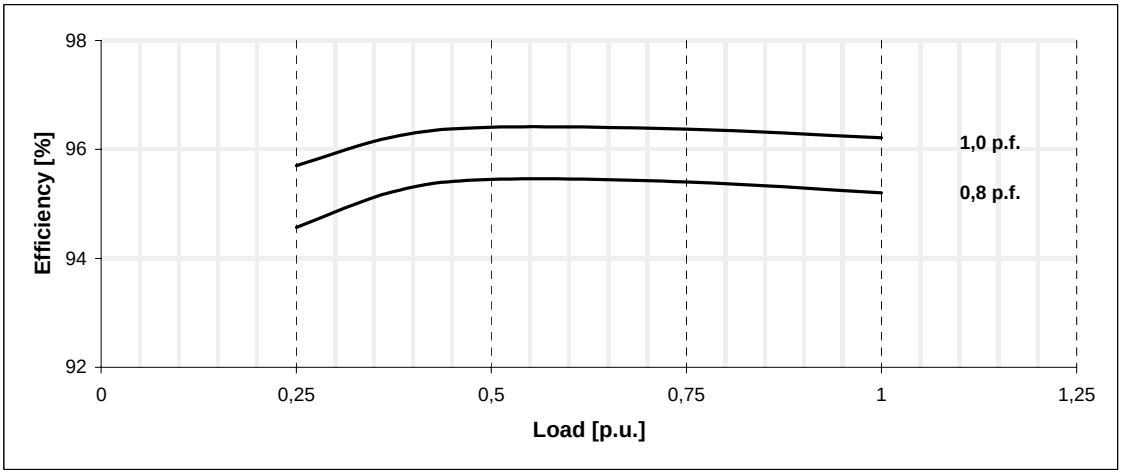
380 V



400 V



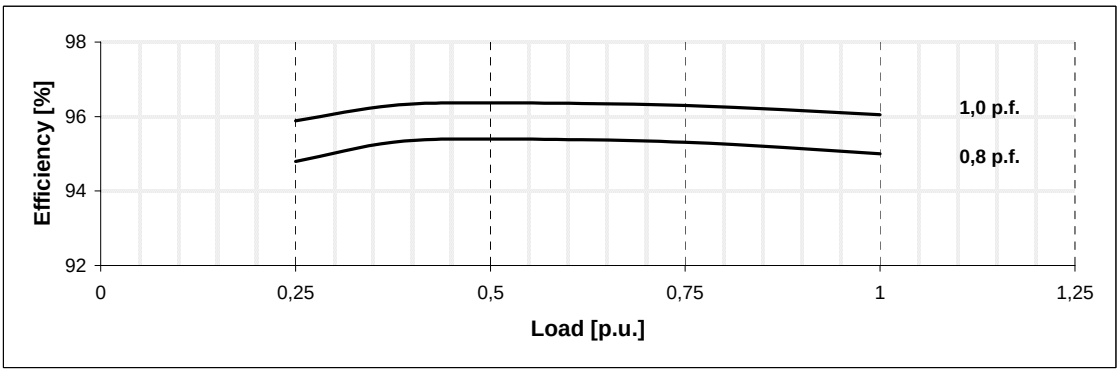
415 V



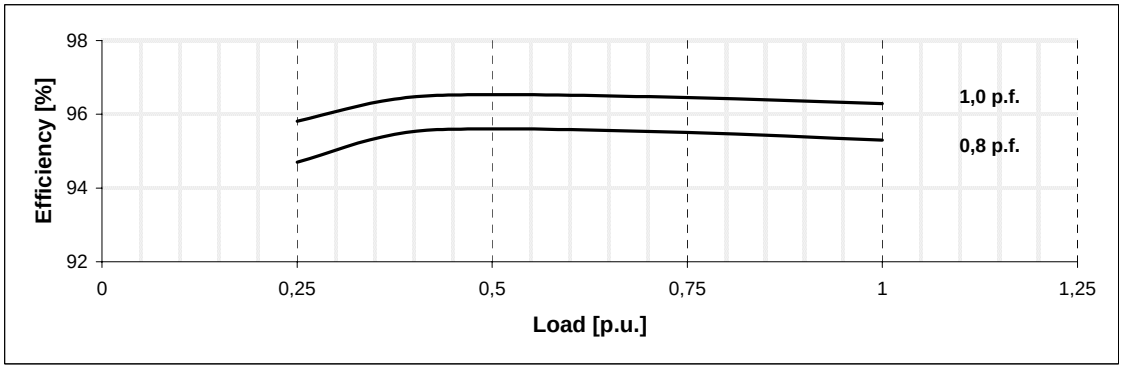
Typical efficiency curves

60 Hz - 1800 min^{-1}

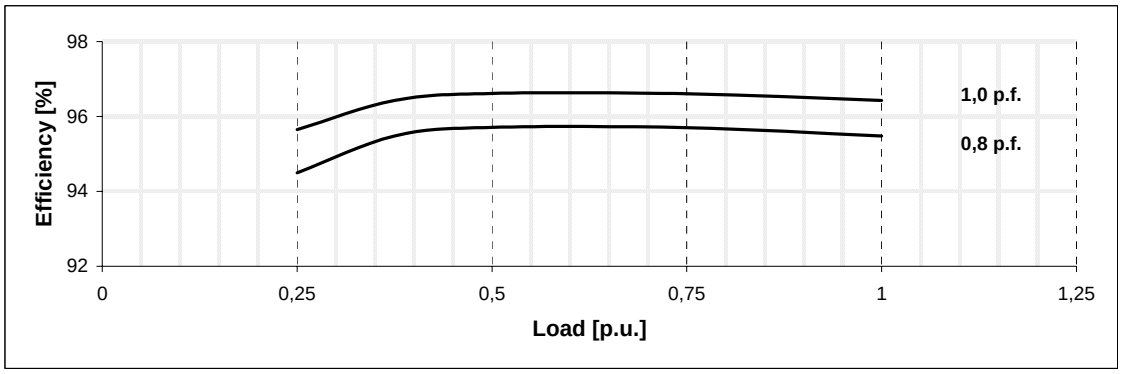
416 V



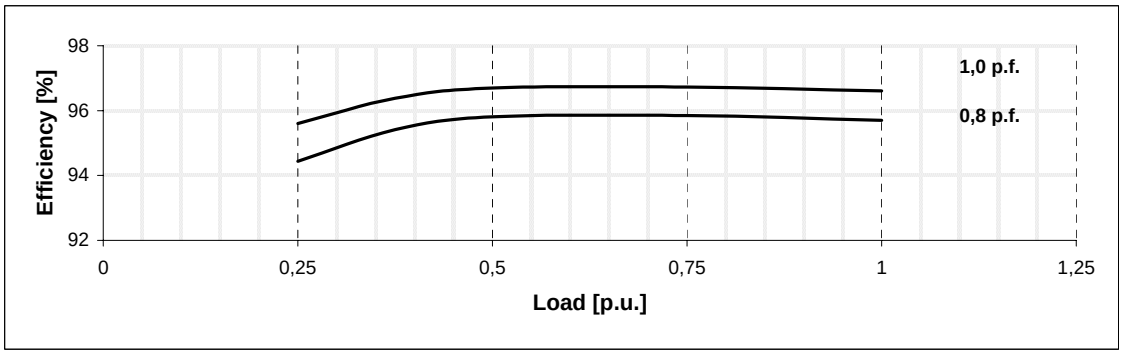
440 V



460 V

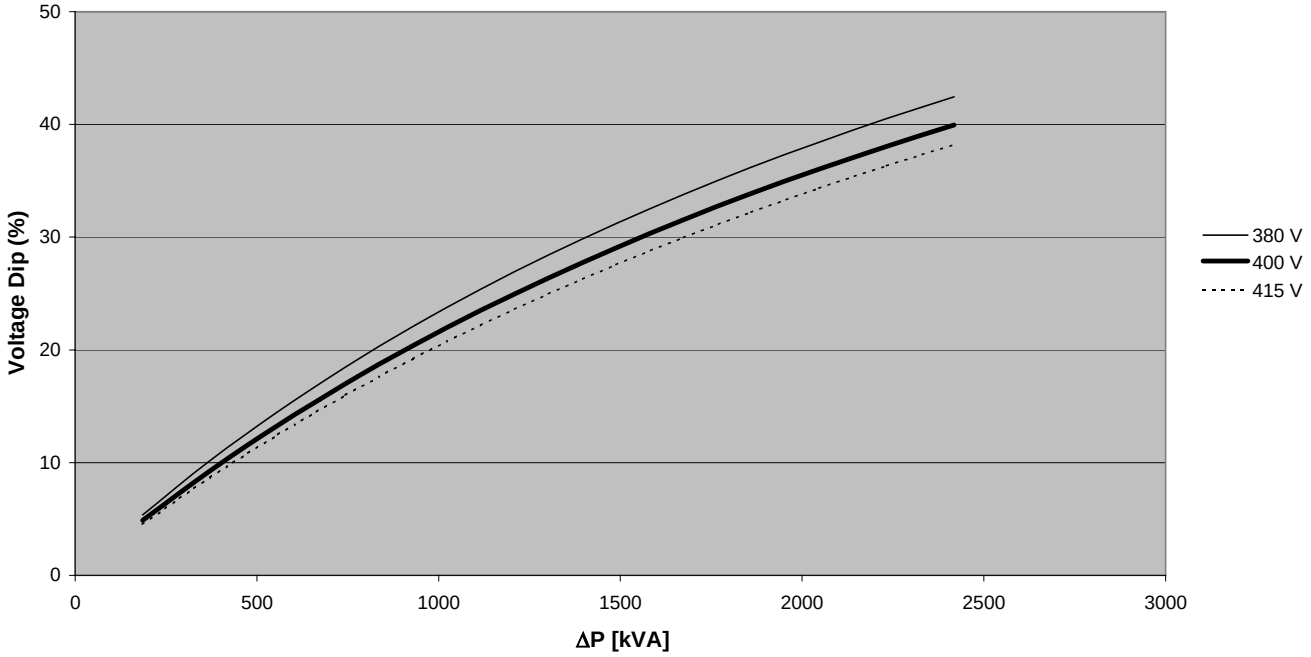


480 V

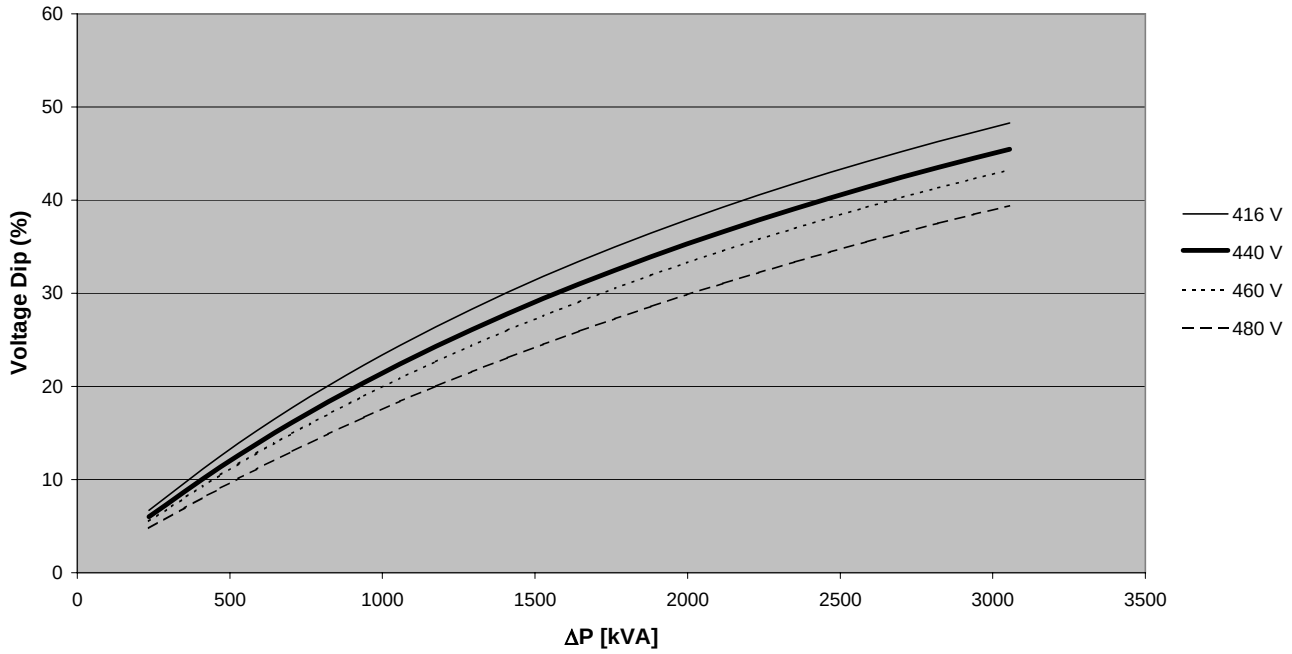


Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 MB 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	**80**
INSULATION CLASS	**H**	Number of leads	**6**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**1020**	**1050**	**1050**	**1200**	**1250**	**1250**	**1320**
		kW	***816***	***840***	***840***	***960***	***1000***	***1000***	***1056***
EFFICIENCY (%) @ 0,8 p.f.		4/4	95,1	95,3	95,4	95,3	95,5	95,6	95,7
		3/4	95,5	95,5	95,5	95,6	95,7	95,8	95,9
		2/4	95,6	95,6	95,6	95,7	95,7	95,8	95,9
EFFICIENCY (%) @ 1,0 p.f.		4/4	96,2	96,3	96,3	96,3	96,4	96,5	96,6
		3/4	96,5	96,5	96,5	96,5	96,6	96,7	96,8
		2/4	96,6	96,5	96,5	96,6	96,6	96,7	96,8
SHORT CIRCUIT RATIO			0,40	0,43	0,46	0,34	0,36	0,40	0,44
REACTANCES (%)									
Direct axis synchronous		xd	300	280	260	355	330	300	275
Quadrature axis synchronous		xq	165	155	145	195	185	165	150
Direct axis transient		x'd	26,4	24,5	22,8	31,1	28,9	26,5	23,8
Direct axis subtransient		x"d	12,7	11,8	11,0	15,0	13,9	12,7	11,5
Quadrature axis subtransient		x"q	13,5	12,5	11,6	15,8	14,8	13,5	12,2
Negative sequence		x_2	13,0	12,1	11,2	15,3	14,3	13,1	11,8
Zero sequence		x_0	3,0	2,8	2,6	3,6	3,3	3,0	2,7

TIME CONSTANTS [s]

Open circuit (T'do)	2,40	Subtransient (T"d)	0,018
Transient (T'd)	0,18	Armature (Ta)	0,025

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	2300
Inertia (J) (IM B34) [kgm^2]	17,0
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,30 / 1,55
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34 (IM 2101) / IM B20 (IM 1101)
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	2,4
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.

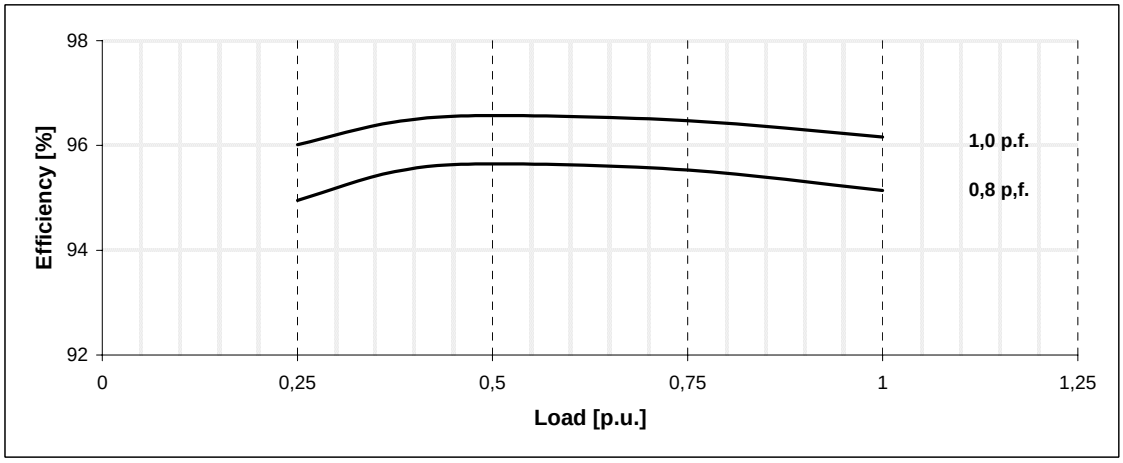
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

MarelliGenerators

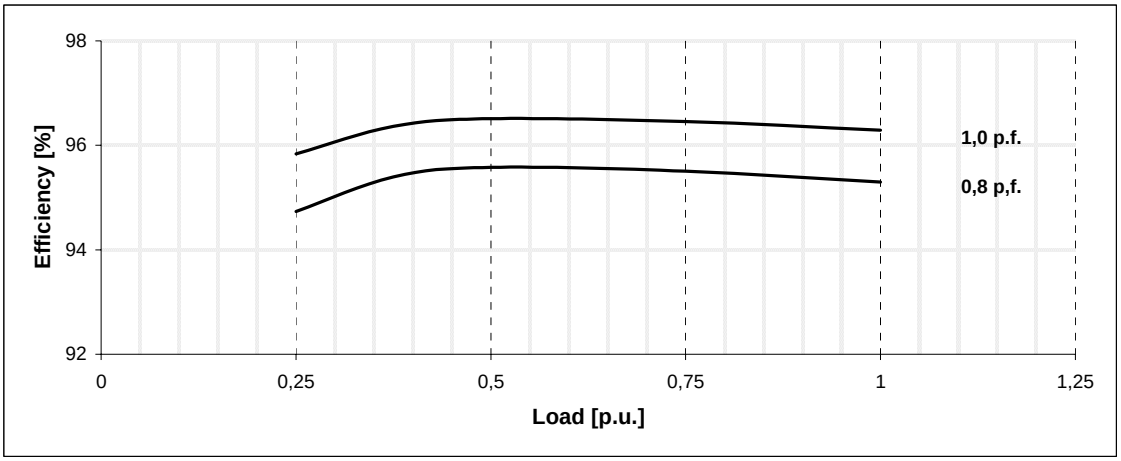
Typical efficiency curves

50 Hz - 1500 min^{-1}

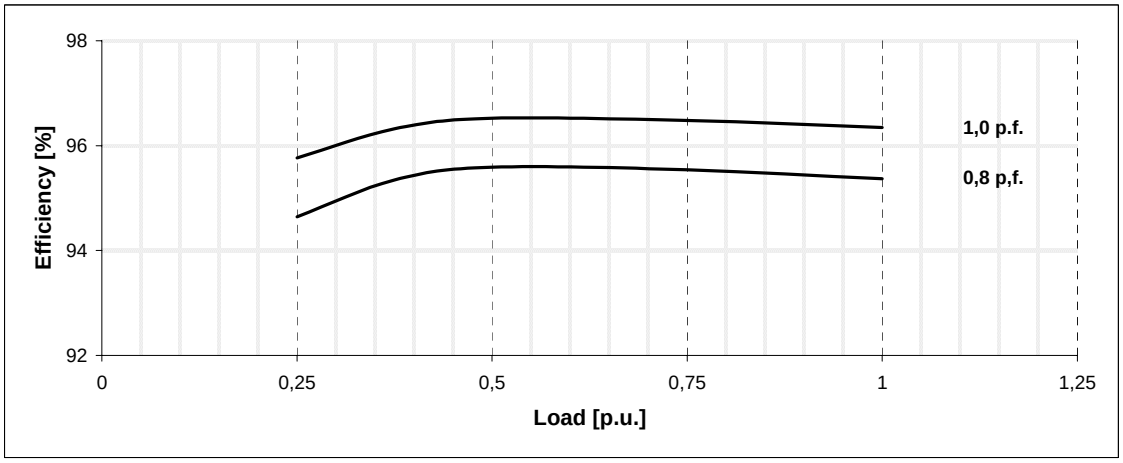
380 V



400 V



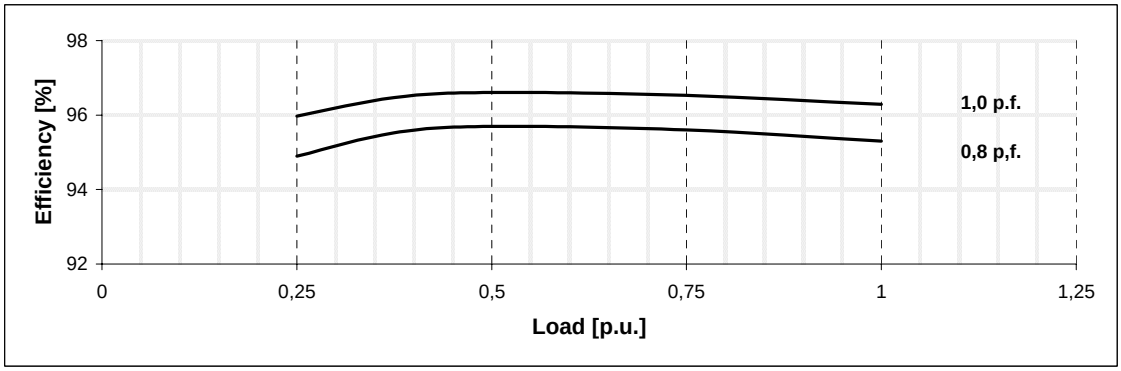
415 V



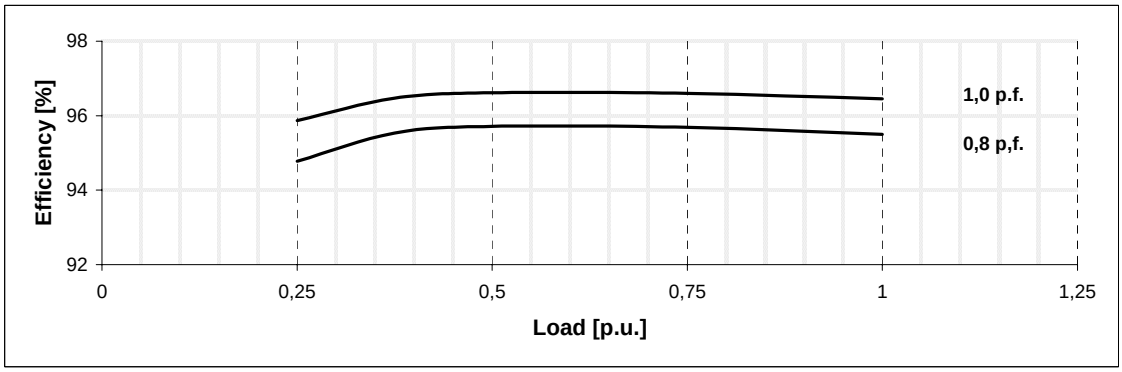
Typical efficiency curves

60 Hz - 1800 min^{-1}

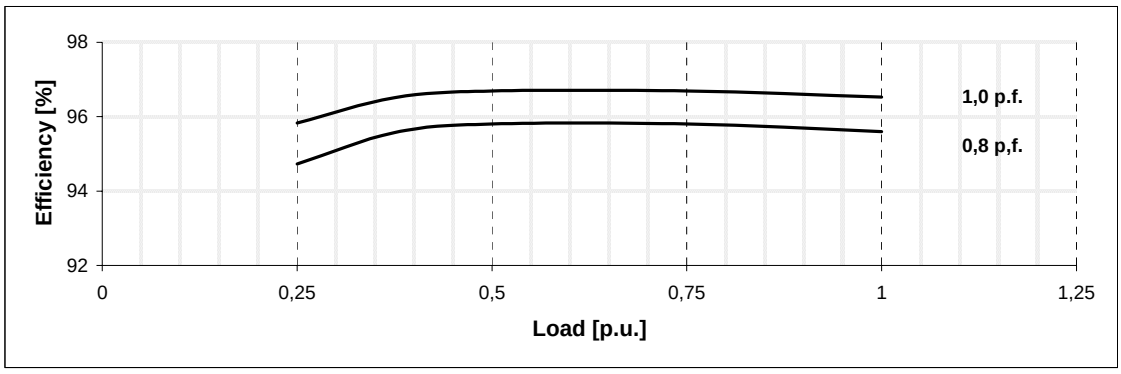
416 V



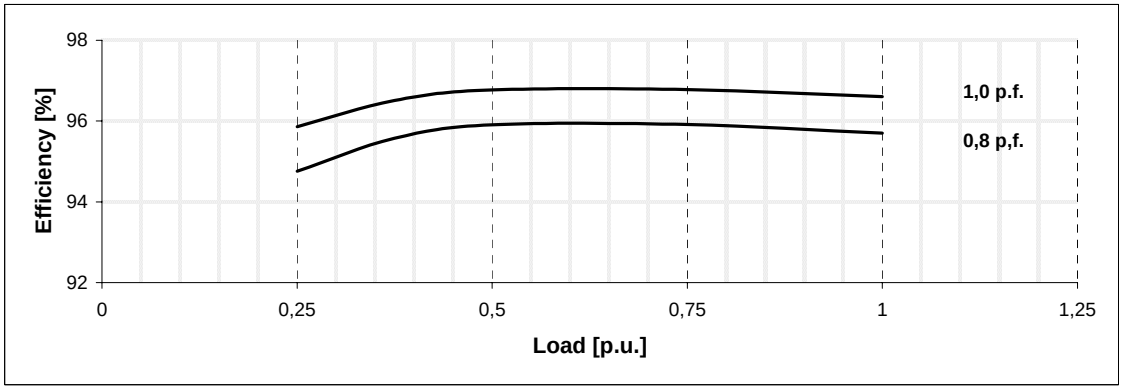
440 V



460 V

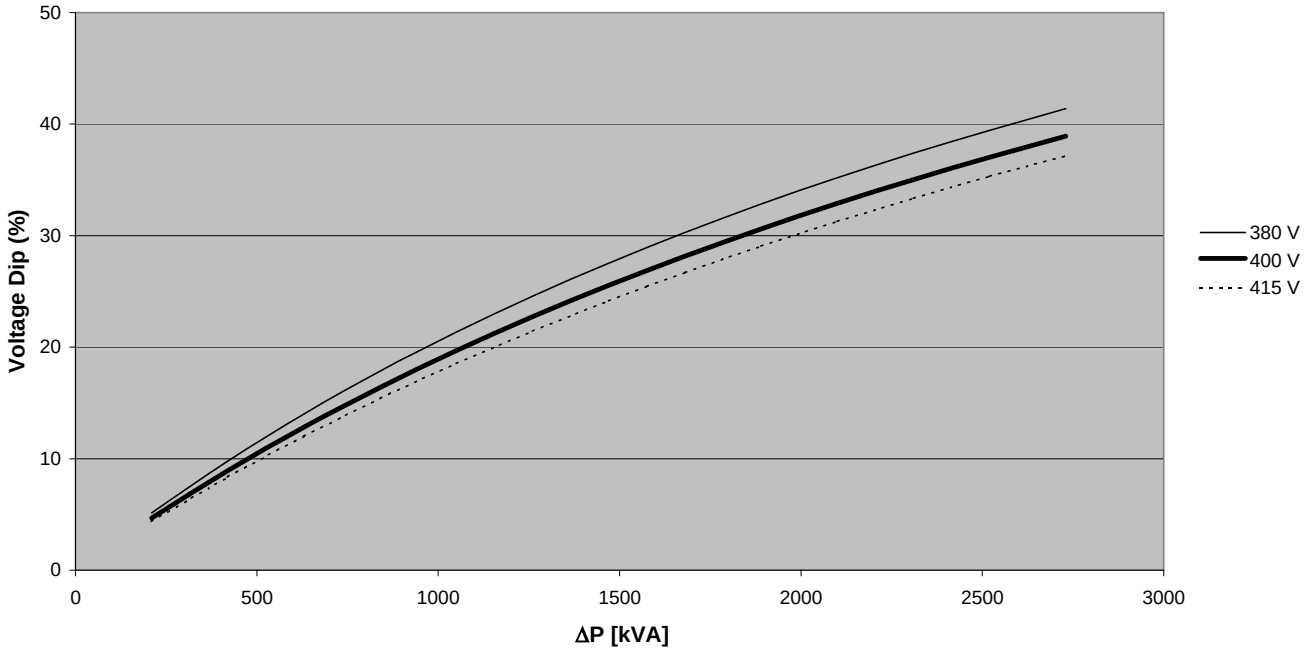


480 V

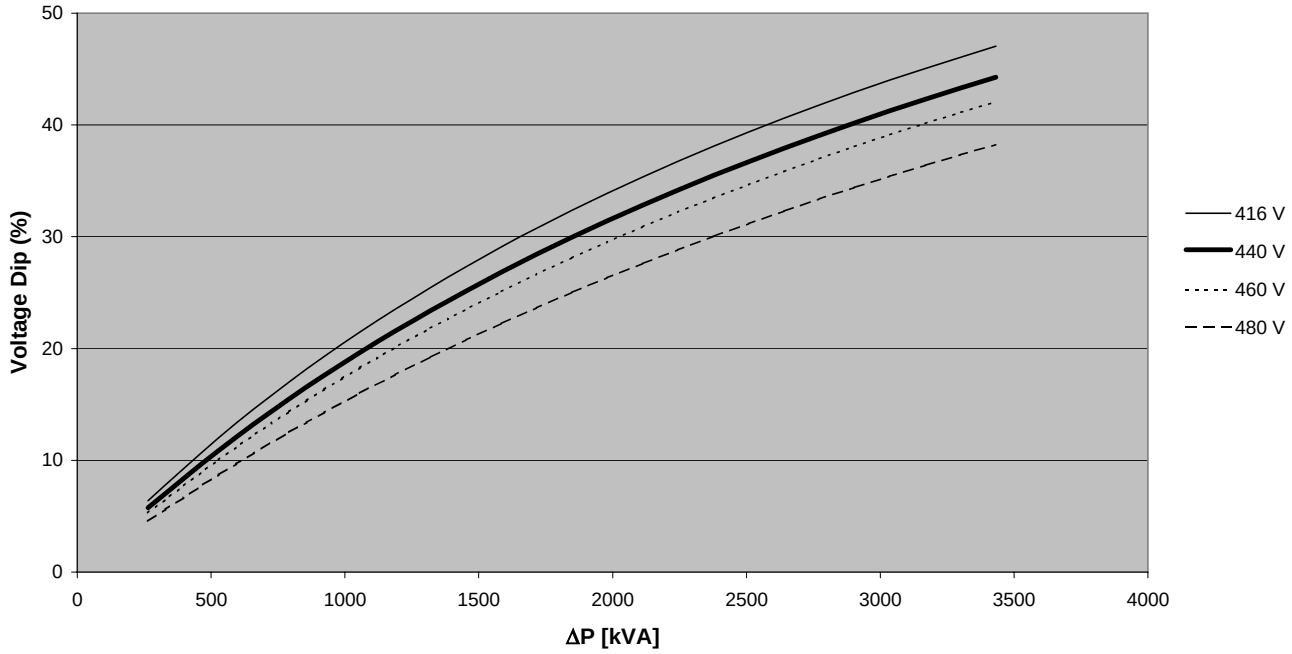


Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 LA 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	**80**
INSULATION CLASS	**H**	Number of leads	**6**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**1150**	**1150**	**1150**	**1320**	**1370**	**1400**	**1420**
		kW	***920***	***920***	***920***	***1056***	***1096***	***1120***	***1136***
EFFICIENCY (%) @ 0,8 p.f.		4/4	95,5	95,6	95,7	95,6	95,8	95,9	96,0
		3/4	95,8	95,8	95,8	95,9	96,0	96,2	96,2
		2/4	95,9	95,8	95,8	96,0	96,1	96,2	96,2
EFFICIENCY (%) @ 1,0 p.f.		4/4	96,4	96,5	96,6	96,5	96,7	96,7	96,8
		3/4	96,7	96,7	96,7	96,7	96,8	97,0	97,0
		2/4	96,8	96,7	96,7	96,8	96,9	97,0	97,0
SHORT CIRCUIT RATIO			0,45	0,50	0,54	0,39	0,42	0,45	0,52
REACTANCES (%)									
Direct axis synchronous		xd	275	250	230	320	295	275	240
Quadrature axis synchronous		xq	155	140	130	180	165	155	135
Direct axis transient		x'd	24,4	22,0	20,4	28,0	26,0	24,3	21,0
Direct axis subtransient		x"d	11,4	10,3	9,6	13,1	12,2	11,4	9,8
Quadrature axis subtransient		x"q	12,7	11,5	10,7	14,6	13,6	12,7	11,0
Negative sequence		x_2	12,1	10,9	10,1	13,9	12,9	12,0	10,4
Zero sequence		x_0	2,8	2,5	2,3	3,2	3,0	2,8	2,4

TIME CONSTANTS [s]

Open circuit (T'do)	2,60	Subtransient (T"d)	0,018
Transient (T'd)	0,20	Armature (Ta)	0,027

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	2550
Inertia (J) (IM B34) [kgm^2]	19,3
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,30 / 1,55
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34 (IM 2101) / IM B20 (IM 1101)
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	1,8
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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MarelliGenerators

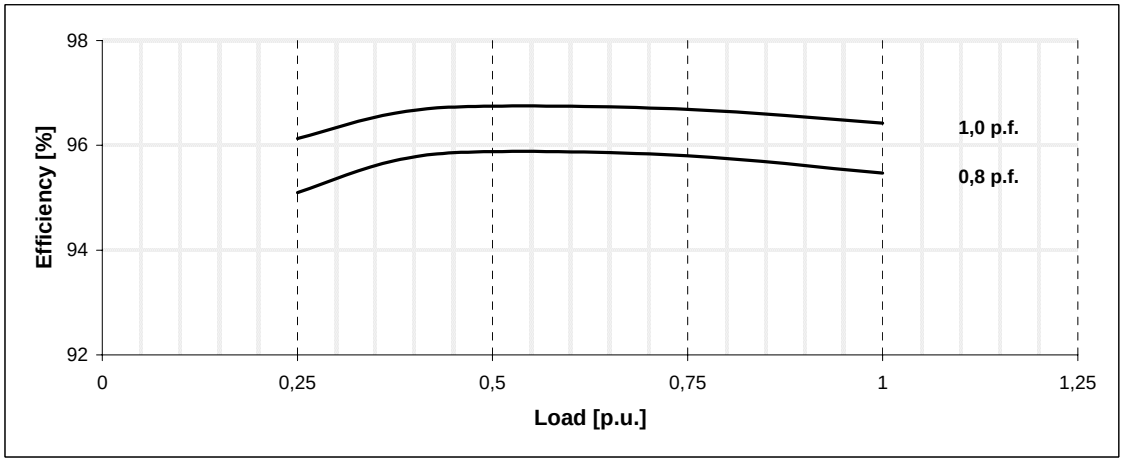
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 LA 4

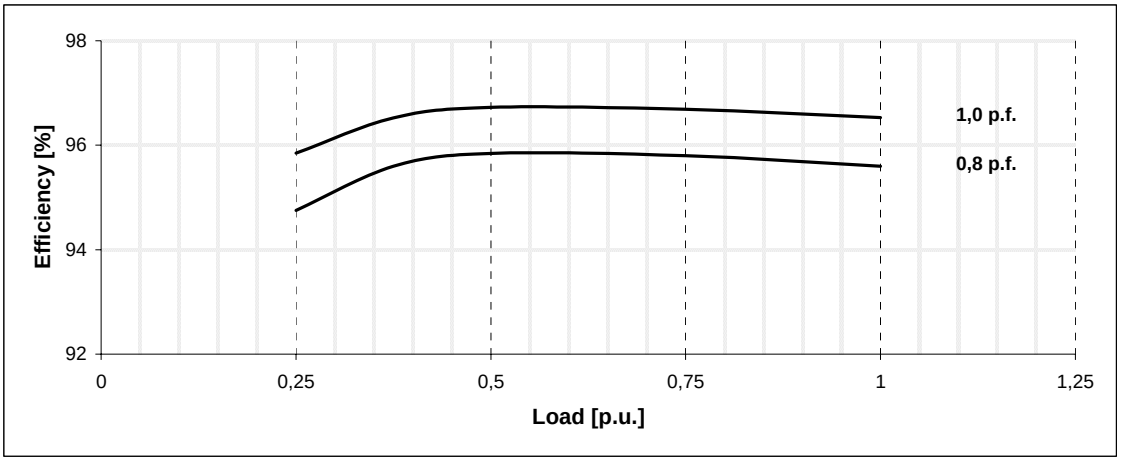
Typical efficiency curves

50 Hz - 1500 min^{-1}

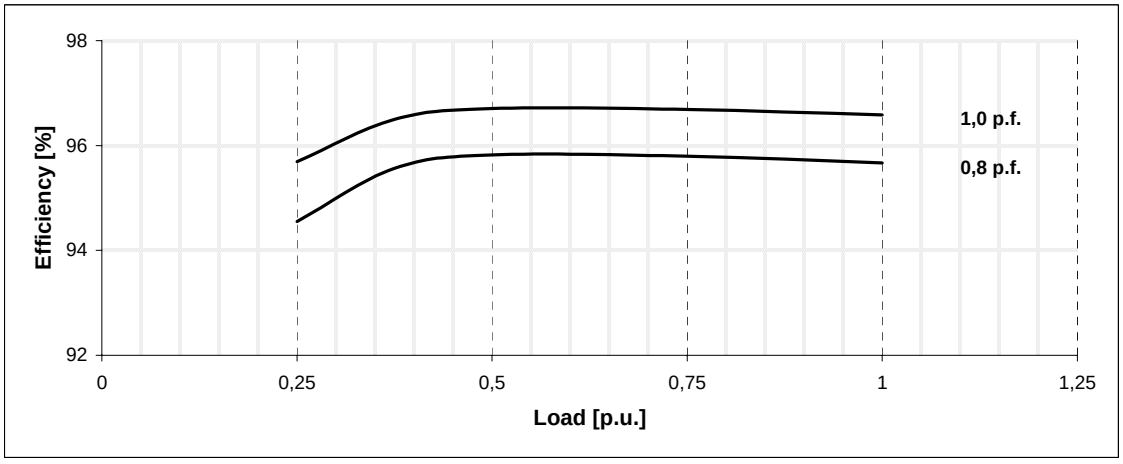
380 V



400 V



415 V



MarelliMotori reserves the right to change the data in order to update or improve its products without prior notice

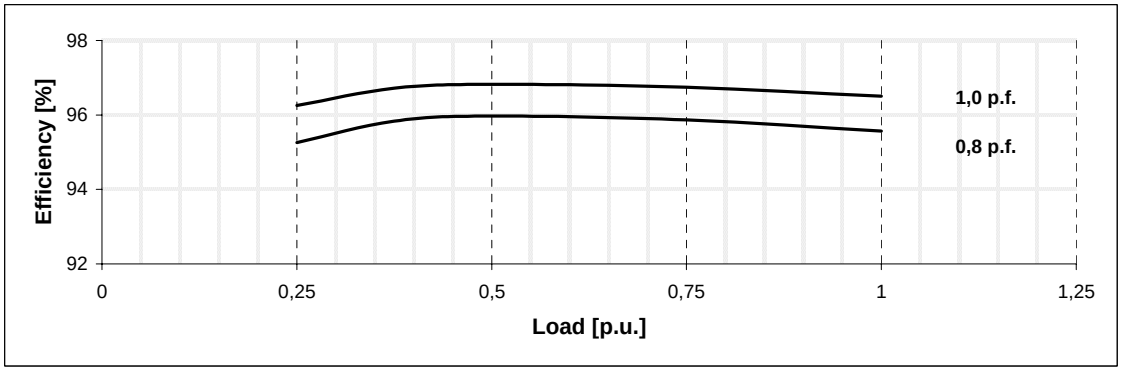
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 LA 4

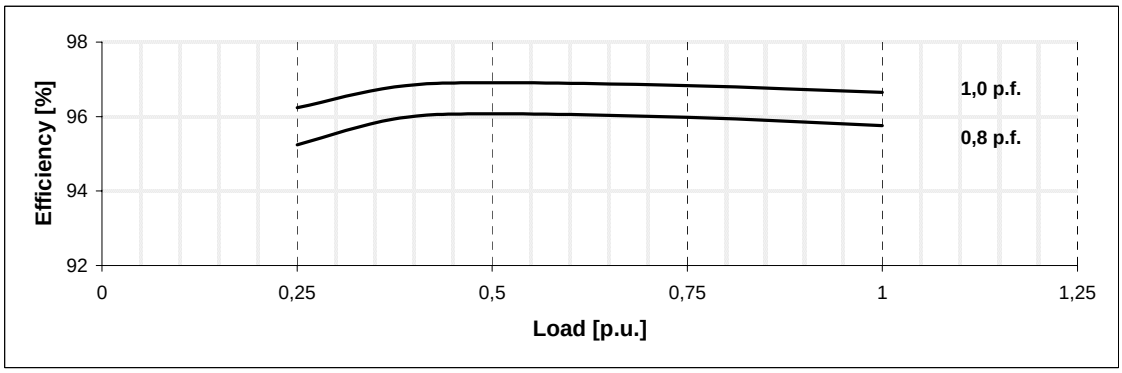
Typical efficiency curves

60 Hz - 1800 min^{-1}

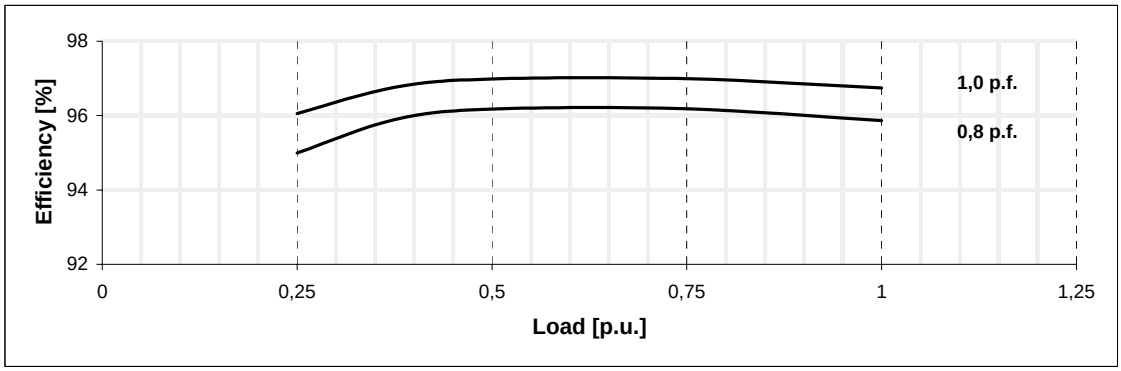
416 V



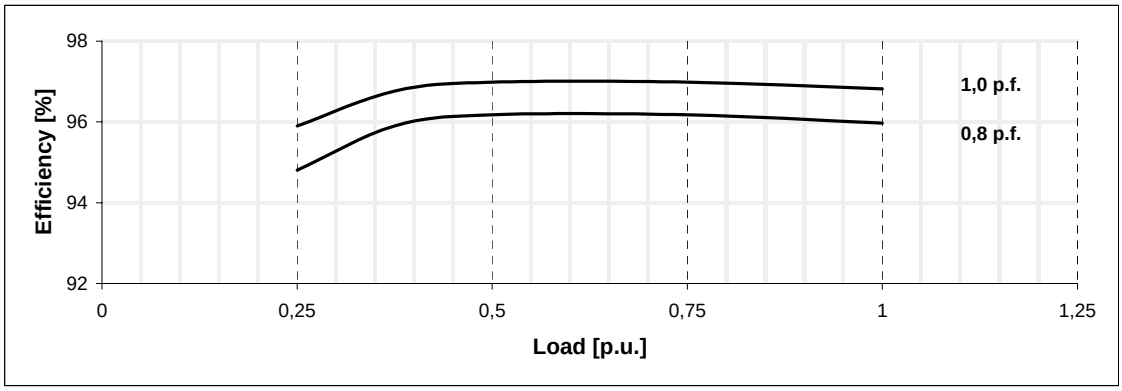
440 V



460 V



480 V



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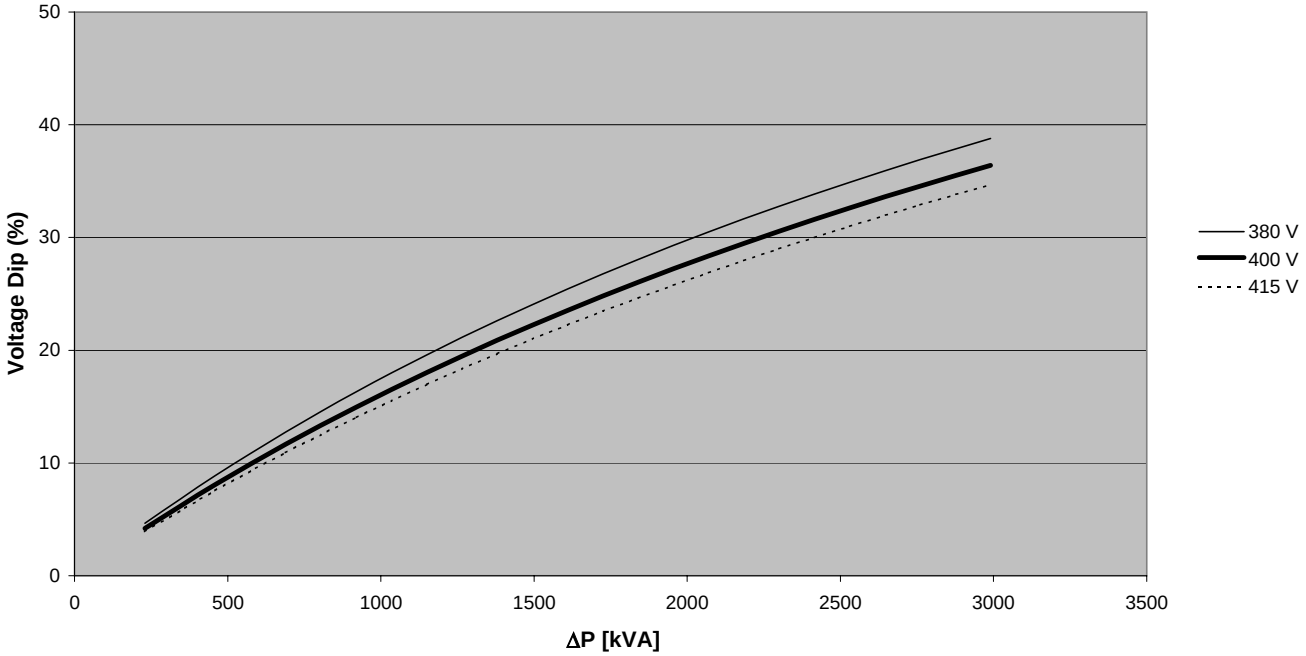
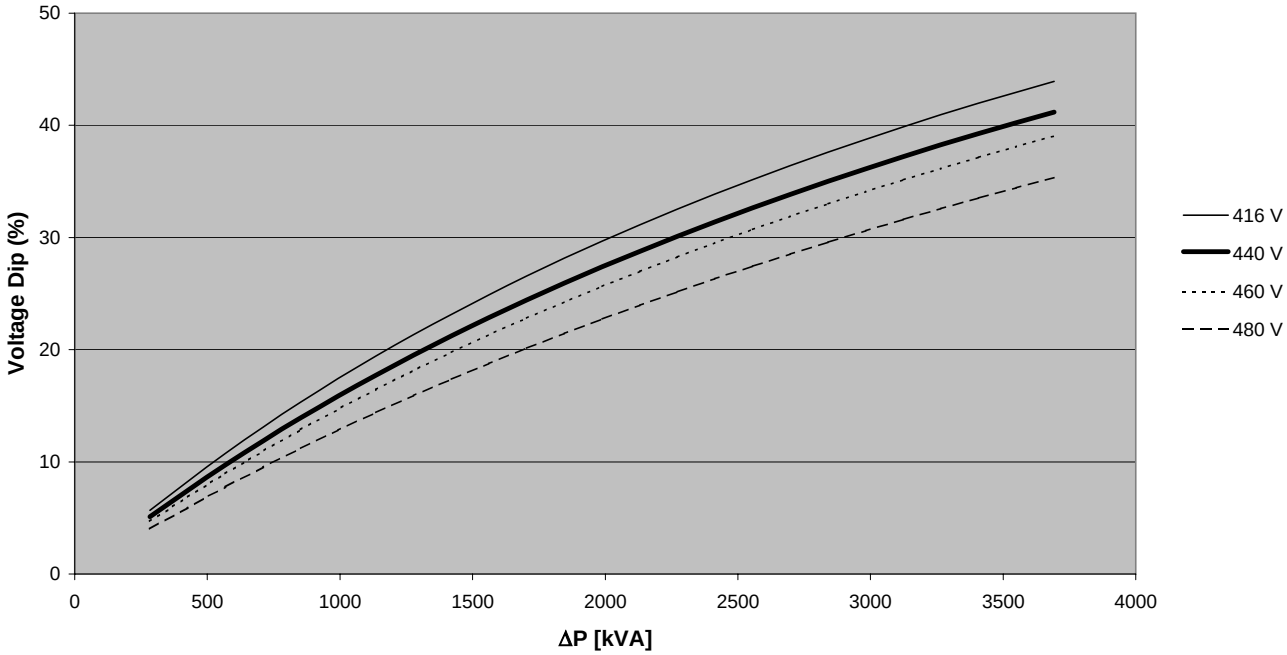
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 LB 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	**80**
INSULATION CLASS	**H**	Number of leads	**6**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**1300**	**1300**	**1300**	**1450**	**1520**	**1560**	**1625**
		kW	***1040***	***1040***	***1040***	***1160***	***1216***	***1248***	***1300***
EFFICIENCY (%) @ 0,8 p.f.		4/4	95,6	95,8	95,9	95,8	96,0	96,2	96,3
		3/4	96,0	96,0	96,0	96,1	96,3	96,4	96,5
		2/4	96,1	96,0	96,0	96,2	96,4	96,5	96,5
EFFICIENCY (%) @ 1,0 p.f.		4/4	96,5	96,7	96,8	96,7	96,8	97,0	97,1
		3/4	96,8	96,8	96,8	96,9	97,1	97,2	97,2
		2/4	96,9	96,9	96,9	97,0	97,2	97,2	97,2
SHORT CIRCUIT RATIO			0,45	0,50	0,54	0,40	0,43	0,46	0,52
REACTANCES (%)									
Direct axis synchronous		xd	265	240	225	295	280	260	230
Quadrature axis synchronous		xq	155	140	130	175	160	150	135
Direct axis transient		x'd	22,7	20,5	19,0	25,4	23,8	22,3	19,8
Direct axis subtransient		x"d	10,2	9,2	8,5	11,4	10,7	10,0	8,9
Quadrature axis subtransient		x"q	11,3	10,2	9,5	12,6	11,8	11,1	9,9
Negative sequence		x_2	10,8	9,7	9,0	12,0	11,3	10,6	9,4
Zero sequence		x_0	2,8	2,5	2,3	3,1	2,9	2,7	2,4

TIME CONSTANTS [s]

Open circuit (T'do)	2,70	Subtransient (T"d)	0,018
Transient (T'd)	0,21	Armature (Ta)	0,027

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	2800
Inertia (J) (IM B34) [kgm^2]	22,5
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,30 / 1,55
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34 (IM 2101) / IM B20 (IM 1101)
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	1,4
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.

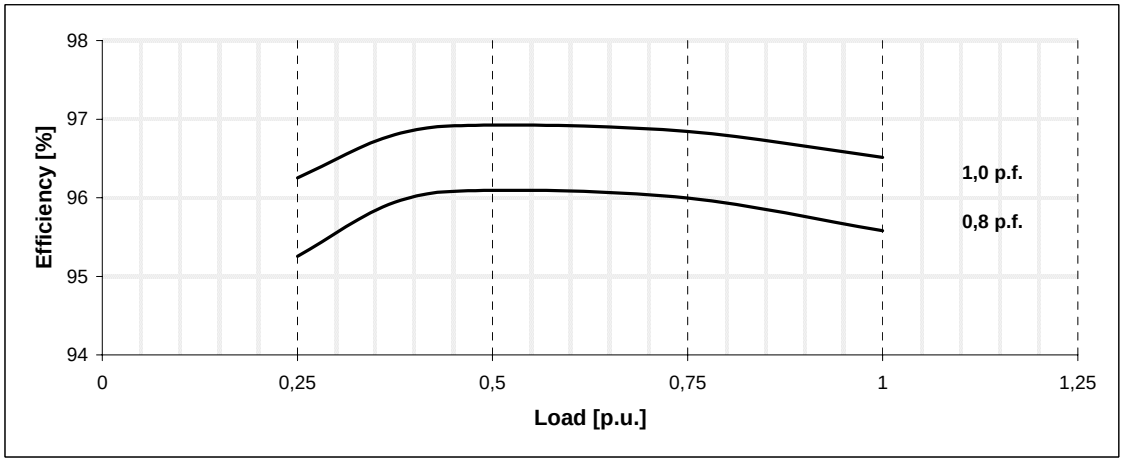
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

MarelliGenerators

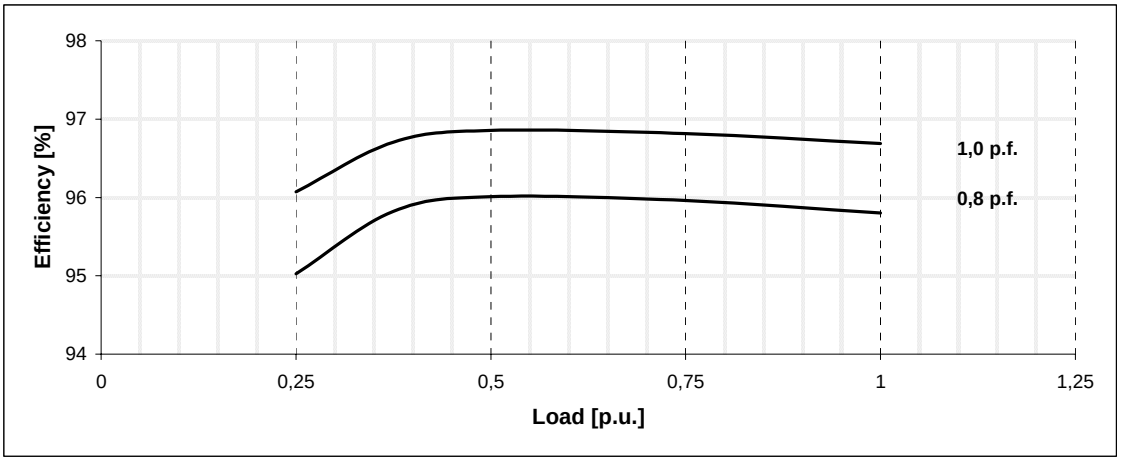
Typical efficiency curves

50 Hz - 1500 min^{-1}

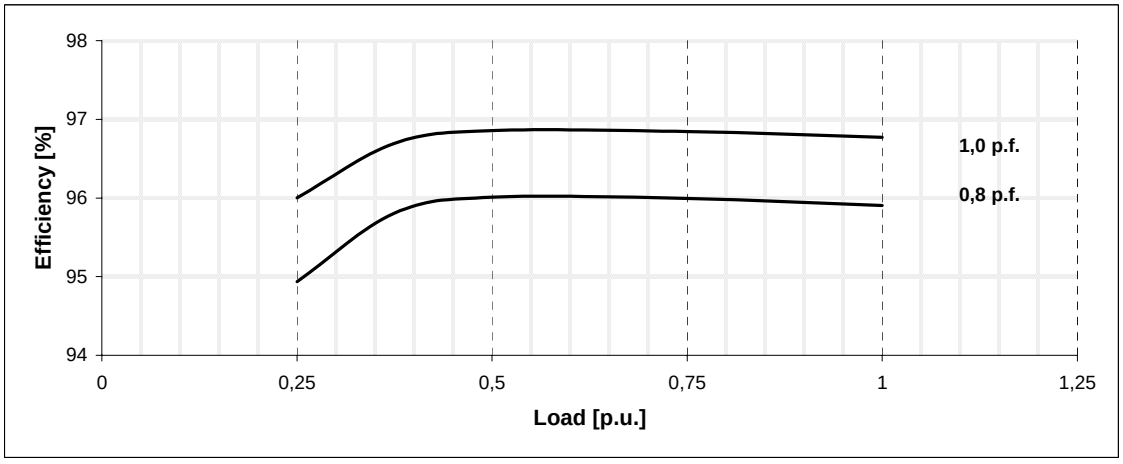
380 V



400 V



415 V



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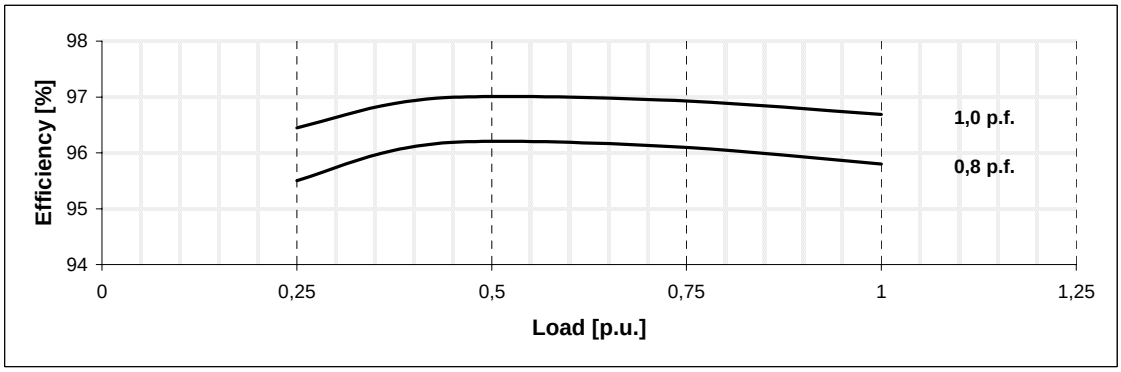
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 LB 4

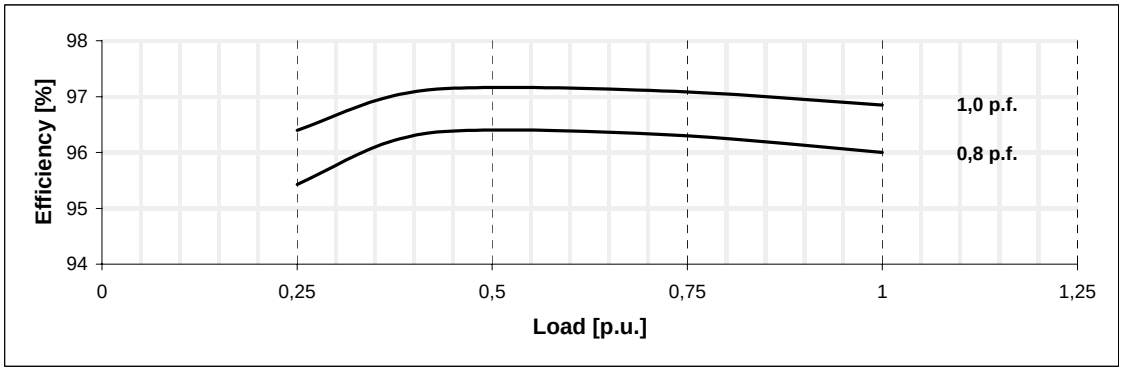
Typical efficiency curves

60 Hz - 1800 min^{-1}

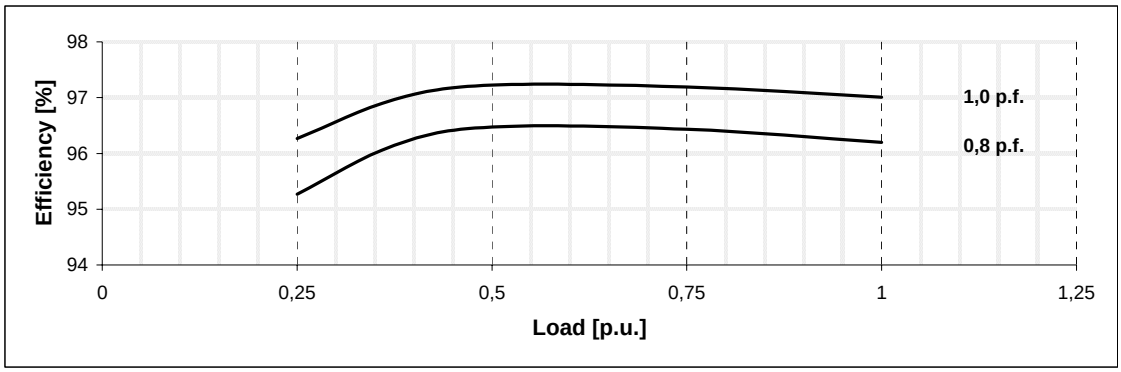
416 V



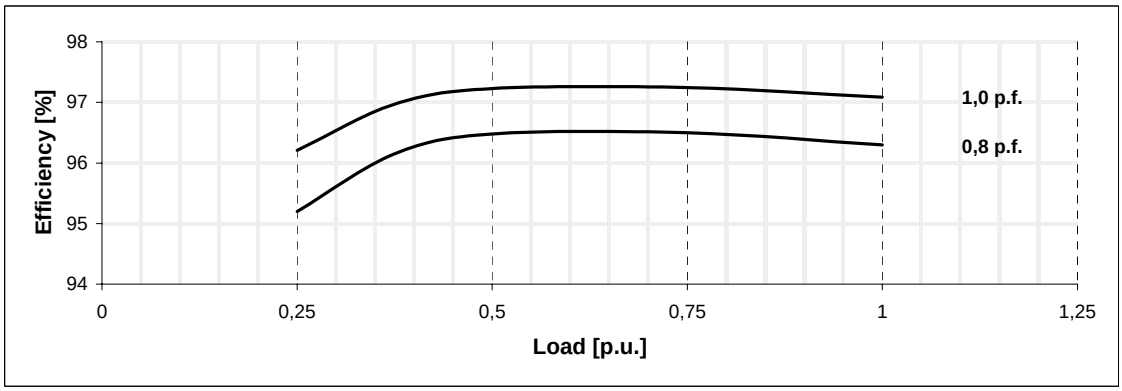
440 V



460 V



480 V



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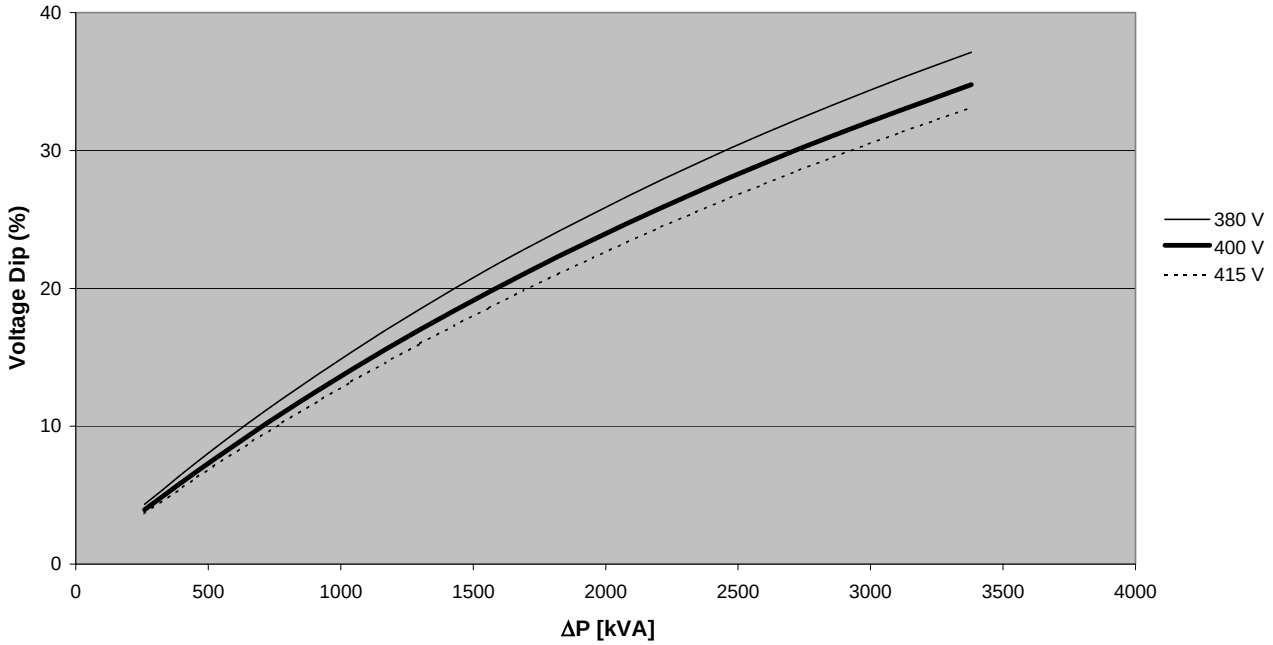
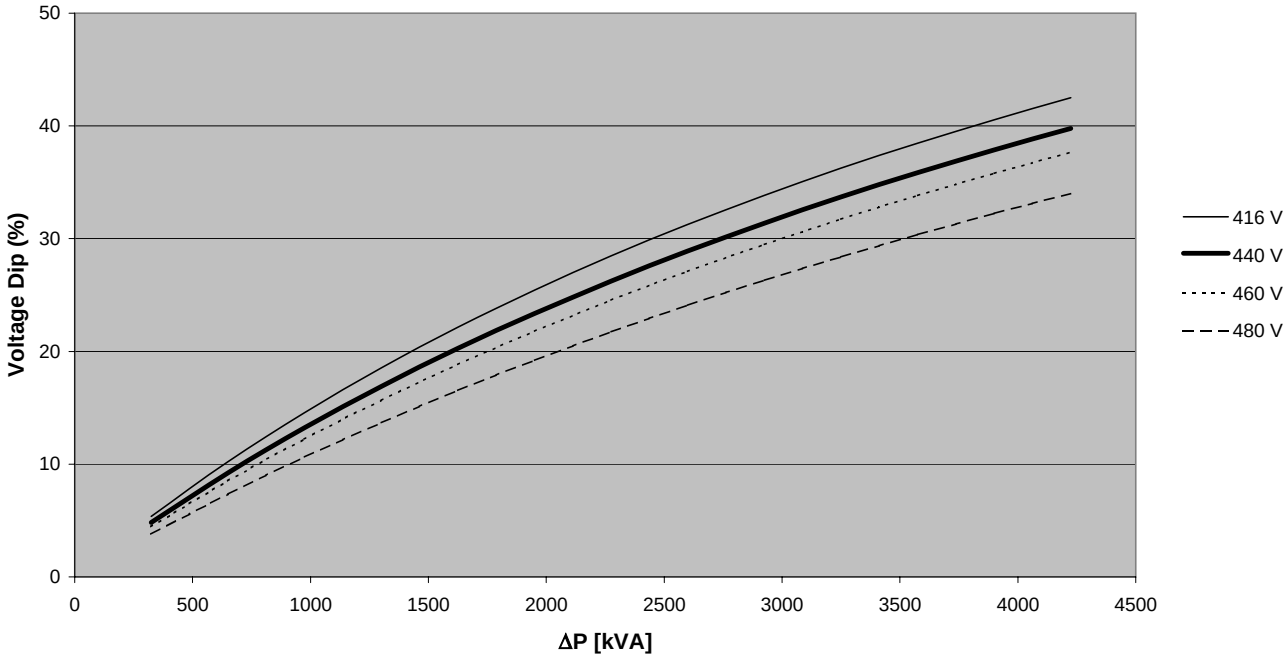
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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

FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 500 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	80
INSULATION CLASS	H	Number of leads	6
POWER FACTOR	0,8	Winding pitch	2/3

FREQUENCY		Hz	50			60			
VOLTAGE	Star	V	380	400	415	416	440	460	480
	Delta		220	230	240	240	254	265	277
RATING		kVA	1600	1600	1600	1845	1900	1925	1950
		kW	1280	1280	1280	1476	1520	1540	1560
EFFICIENCY (%) @ 0,8 p.f.		4/4	95,1	95,8	95,9	95,9	96,1	96,2	96,3
		3/4	96,0	96,1	96,2	95,8	96,0	96,1	96,2
		2/4	95,9	96,0	96,1	95,4	95,6	95,7	95,8
EFFICIENCY (%) @ 1,0 p.f.		4/4	96,6	96,7	96,8	96,8	96,9	97,0	97,1
		3/4	96,9	96,9	97,0	96,7	96,8	96,9	97,0
		2/4	96,8	96,8	96,9	96,4	96,5	96,6	96,7
SHORT CIRCUIT RATIO			0,32	0,35	0,38	0,27	0,30	0,32	0,37
REACTANCES (%)									
Direct axis synchronous		xd	360	325	300	415	385	355	305
Quadrature axis synchronous		xq	205	185	170	235	220	200	175
Direct axis transient		x'd	34,3	31,0	28,8	39,7	36,5	33,8	29,2
Direct axis subtransient		x"d	17,2	15,5	14,4	19,8	18,3	16,9	14,6
Quadrature axis subtransient		x"q	19,1	17,2	16,0	22,0	20,3	18,8	16,2
Negative sequence		x_2	18,2	16,4	15,2	21,0	19,3	17,9	15,5
Zero sequence		x_0	4,0	3,6	3,3	4,6	4,2	3,9	3,4

TIME CONSTANTS [s]

Open circuit (T'do)	3,10	Subtransient (T"d)	0,018
Transient (T'd)	0,3	Armature (Ta)	0,034

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6328 C3 / With grease nipple
N-end bearing/Lubrication	6326 C3 / With grease nipple
Weight (IM B34) [kg]	3100
Inertia (J) (IM B34) [kgm^2]	37,5
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	2,6 / 3,1
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34 (IM 2101) / IM B20 (IM 1101)
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	1,1
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 5% (under no-load or non-distorting-load condition)

STANDARDS

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

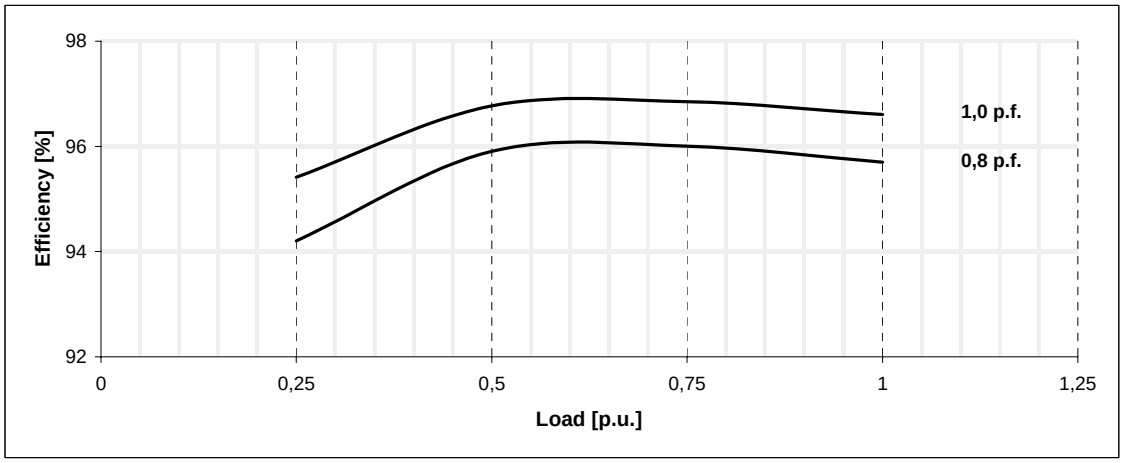
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

MarelliGenerators

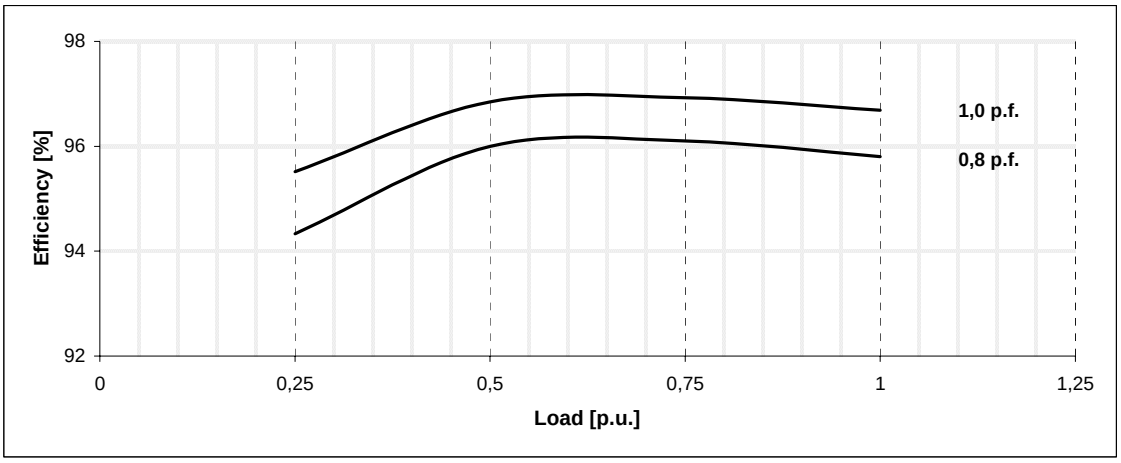
Typical efficiency curves

50 Hz - 1500 min^{-1}

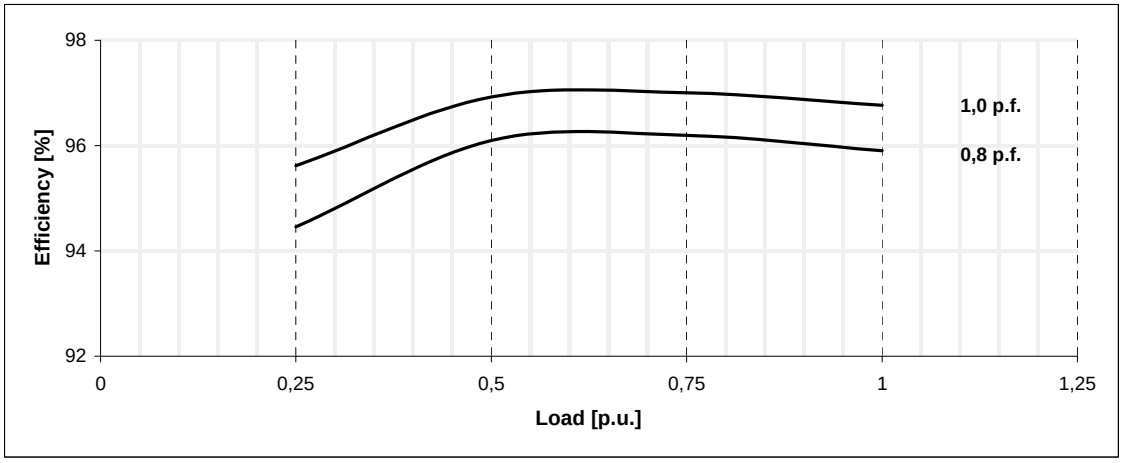
380 V



400 V



415 V



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

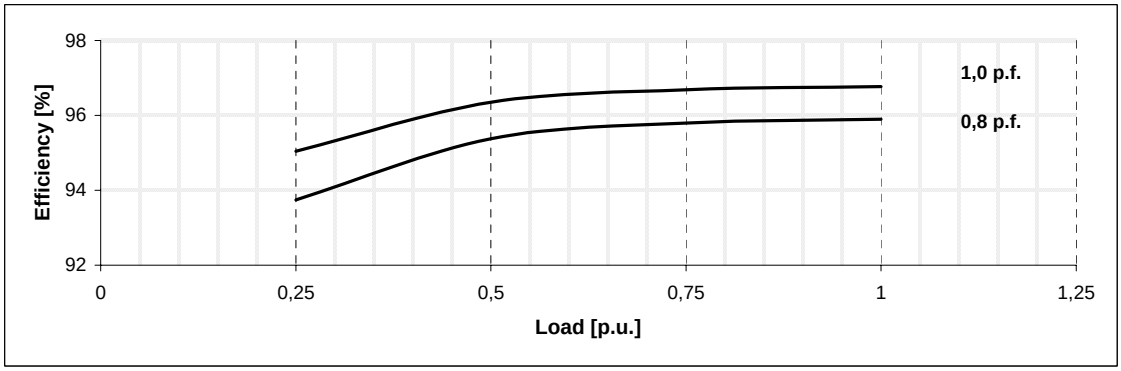
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 500 SA 4

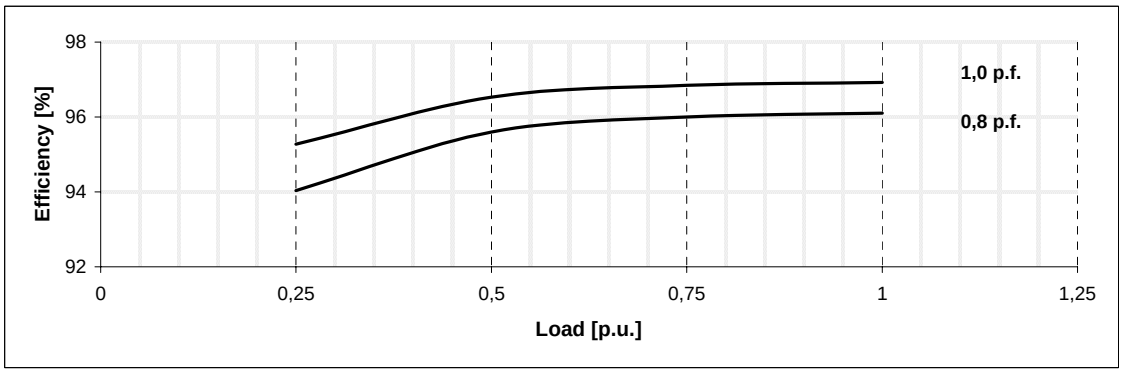
Typical efficiency curves

60 Hz - 1800 min^{-1}

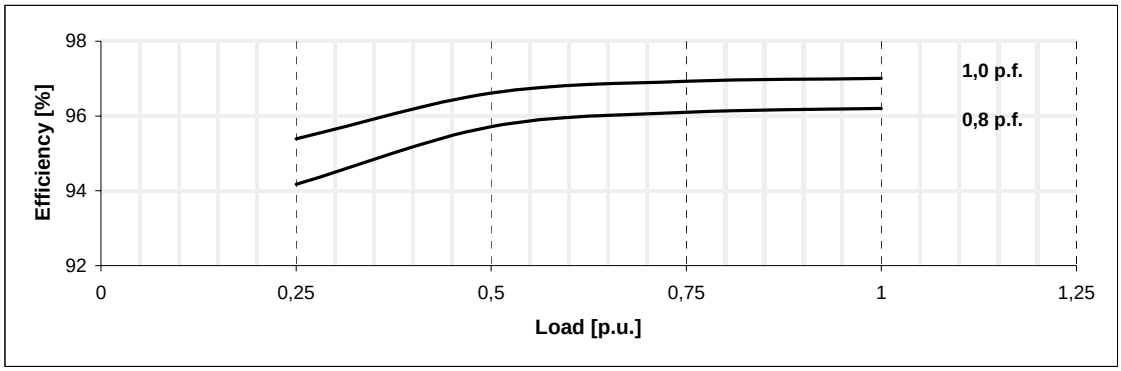
416 V



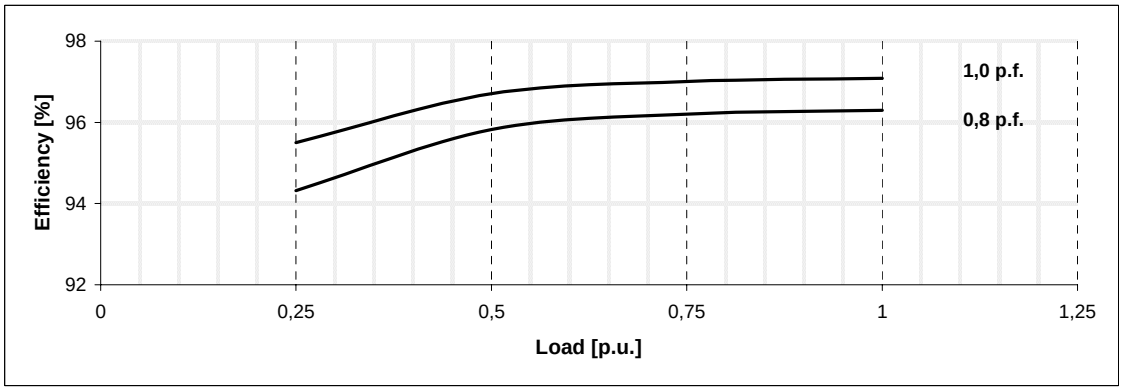
440 V



460 V



480 V



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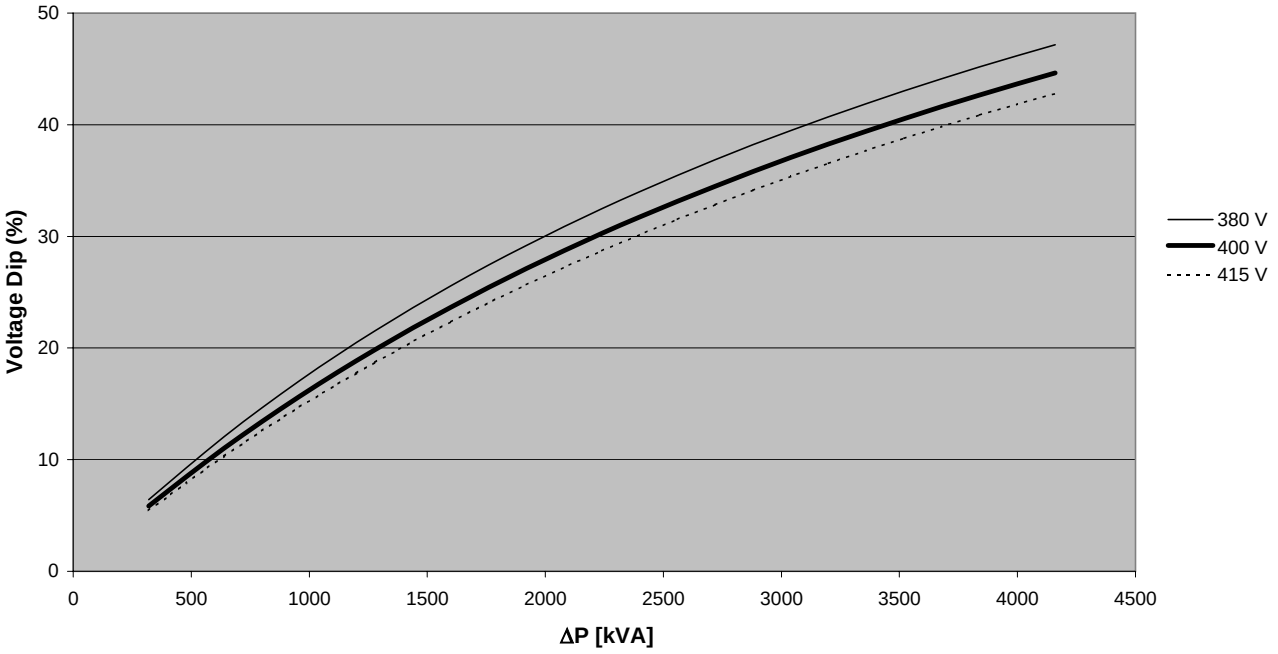
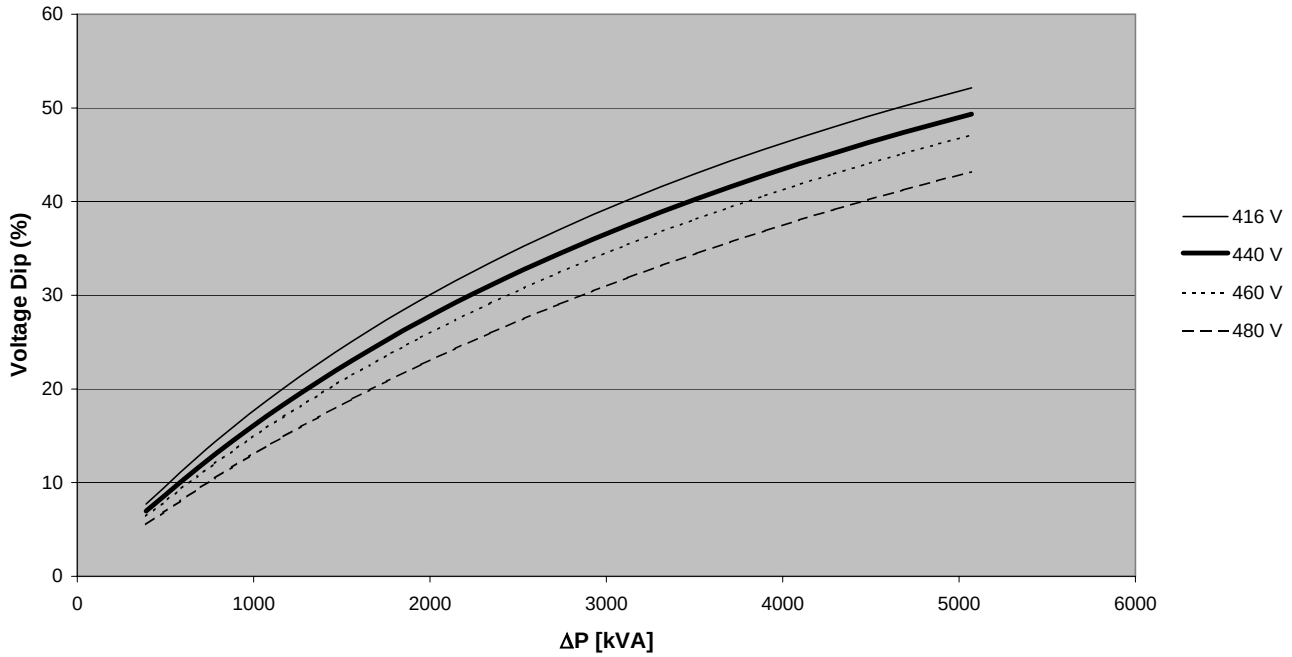
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 500 SC 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	**80**
INSULATION CLASS	**H**	Number of leads	**6**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**1875**	**1875**	**1875**	**2085**	**2150**	**2200**	**2250**
		kW	**1500**	**1500**	**1500**	**1668**	**1720**	**1760**	**1800**
EFFICIENCY (%) @ 0,8 p.f.		4/4	96,1	96,1	96,2	96,1	96,3	96,4	96,5
		3/4	96,4	96,4	96,5	96,1	96,3	96,4	96,5
		2/4	96,2	96,2	96,3	95,7	95,9	96,0	96,1
EFFICIENCY (%) @ 1,0 p.f.		4/4	96,9	96,9	97,0	96,9	97,1	97,2	97,2
		3/4	97,2	97,2	97,2	96,9	97,1	97,2	97,2
		2/4	97,0	97,0	97,1	96,6	96,8	96,9	96,9
SHORT CIRCUIT RATIO			0,33	0,37	0,40	0,30	0,33	0,35	0,40
REACTANCES (%)									
Direct axis synchronous		xd	330	300	280	370	340	320	280
Quadrature axis synchronous		xq	190	170	160	210	195	180	160
Direct axis transient		x'd	29,9	27,0	25,1	33,3	30,7	28,7	25,1
Direct axis subtransient		x"d	13,9	12,5	11,6	15,4	14,2	13,3	11,6
Quadrature axis subtransient		x"q	15,6	14,1	13,1	17,4	16,0	15,0	13,1
Negative sequence		x_2	14,7	13,3	12,4	16,4	15,1	14,2	12,4
Zero sequence		x_0	3,3	3,0	2,8	3,7	3,4	3,2	2,8

TIME CONSTANTS [s]

Open circuit (T'do)	3,30	Subtransient (T"d)	0,018
Transient (T'd)	0,3	Armature (Ta)	0,037

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6328 C3 / With grease nipple
N-end bearing/Lubrication	6326 C3 / With grease nipple
Weight (IM B34) [kg]	3700
Inertia (J) (IM B34) [kgm^2]	46,7
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	2,6 / 3,1
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34 (IM 2101) / IM B20 (IM 1101)
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	0,85
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 5% (under no-load or non-distorting-load condition)

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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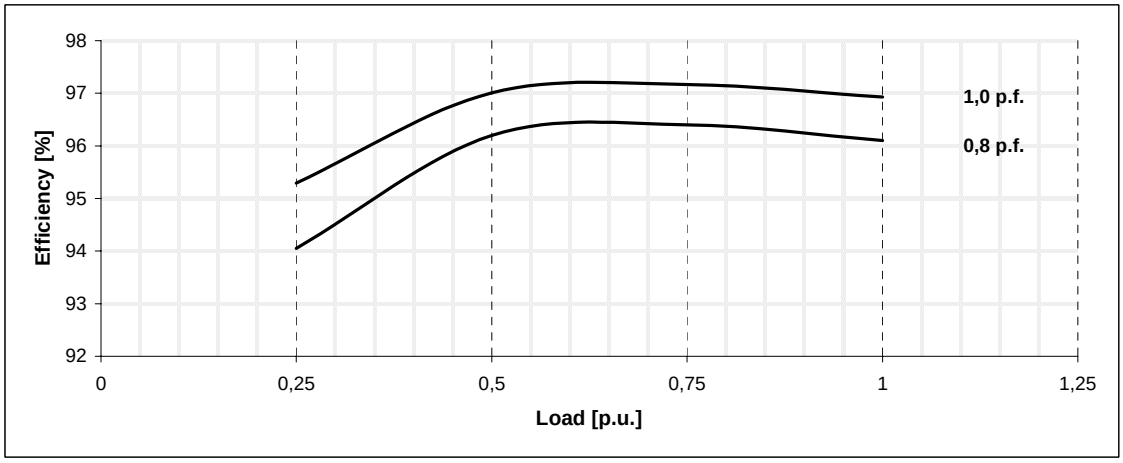
MarelliGenerators

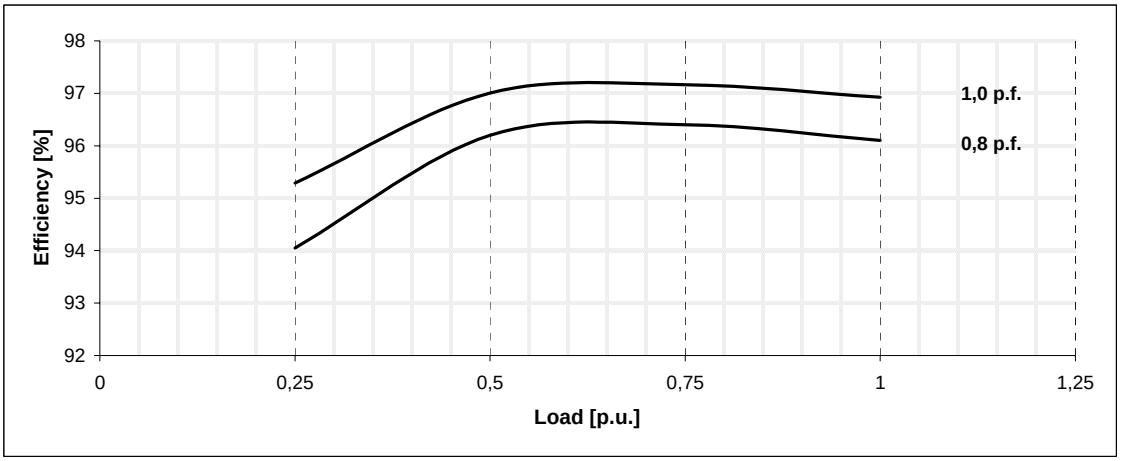
Typical efficiency curves

50 Hz - 1500 min^{-1}

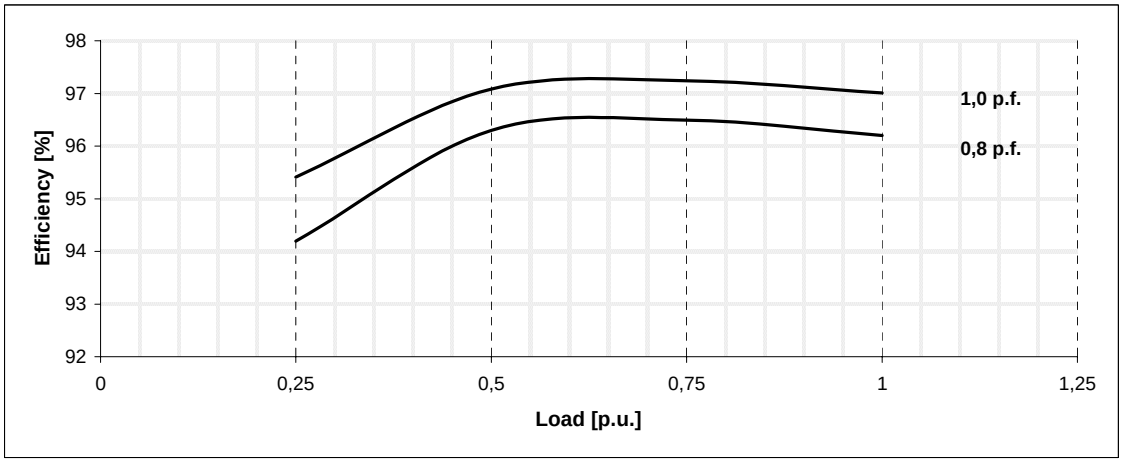
380 V



400 V



415 V



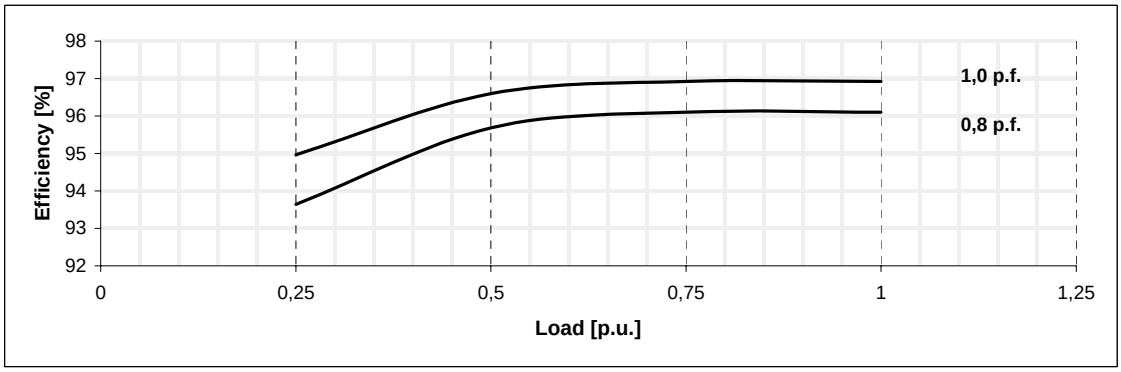
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 500 SC 4

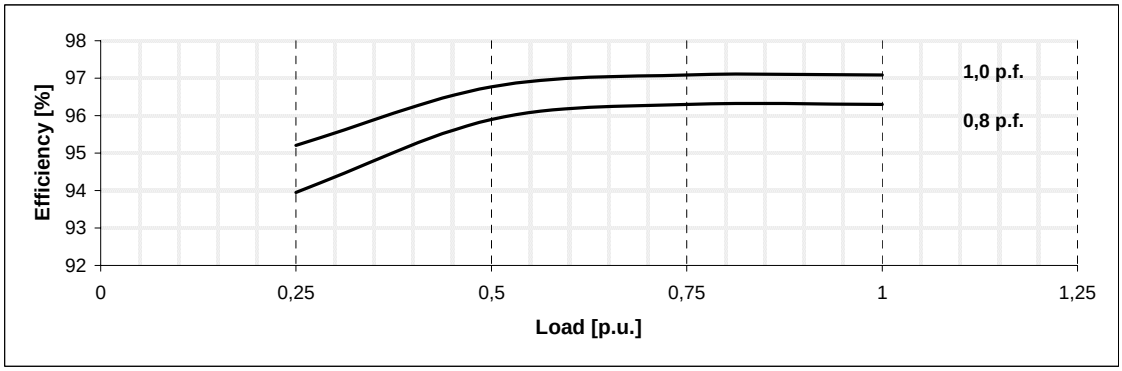
Typical efficiency curves

60 Hz - 1800 min^{-1}

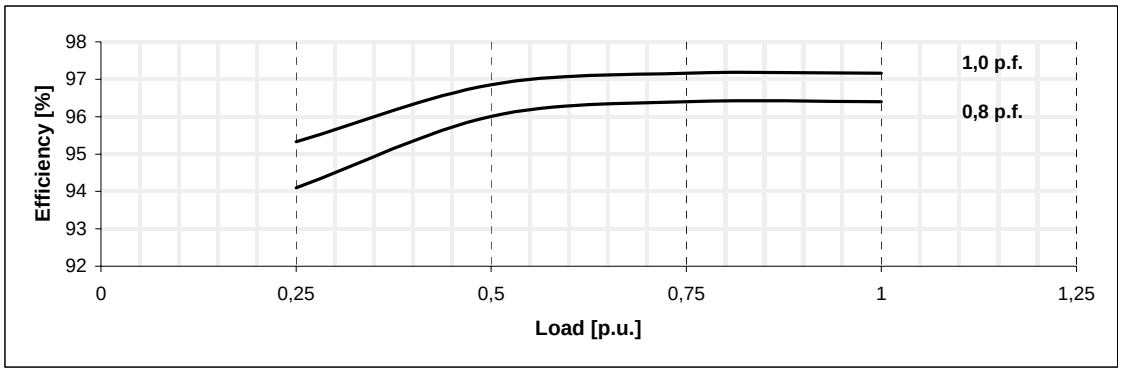
416 V



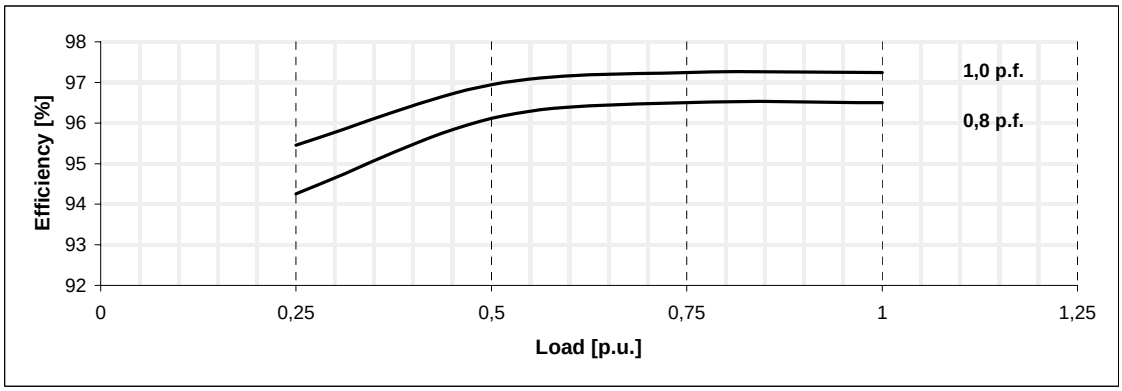
440 V



460 V



480 V



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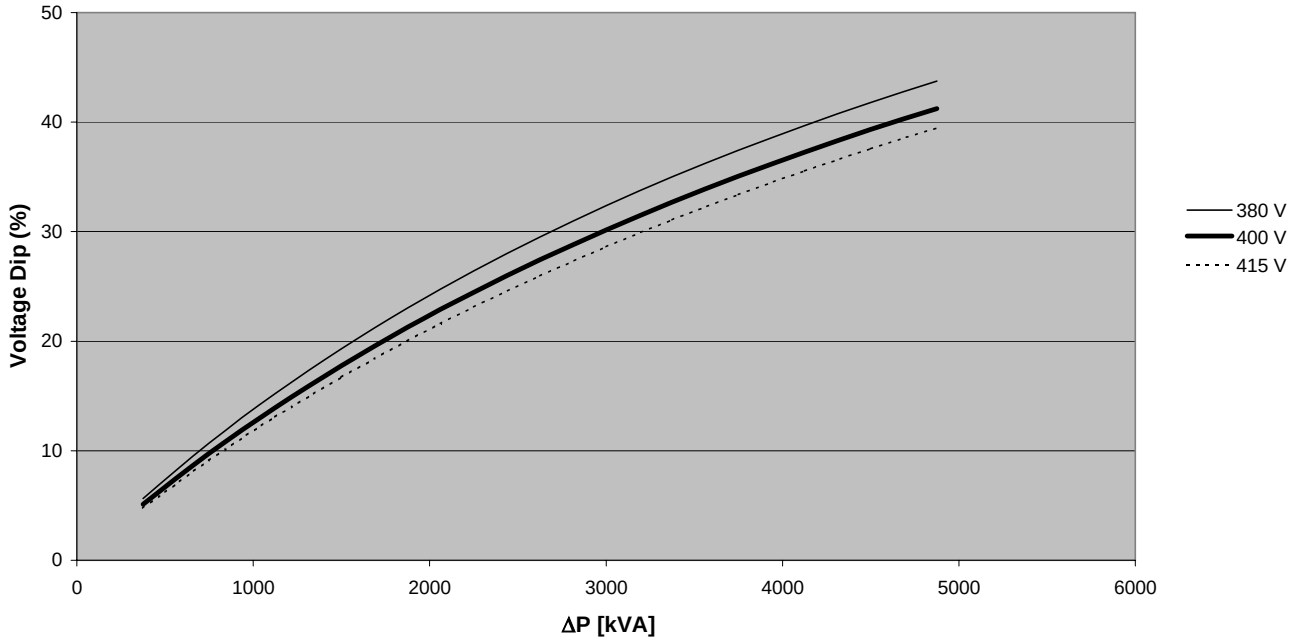
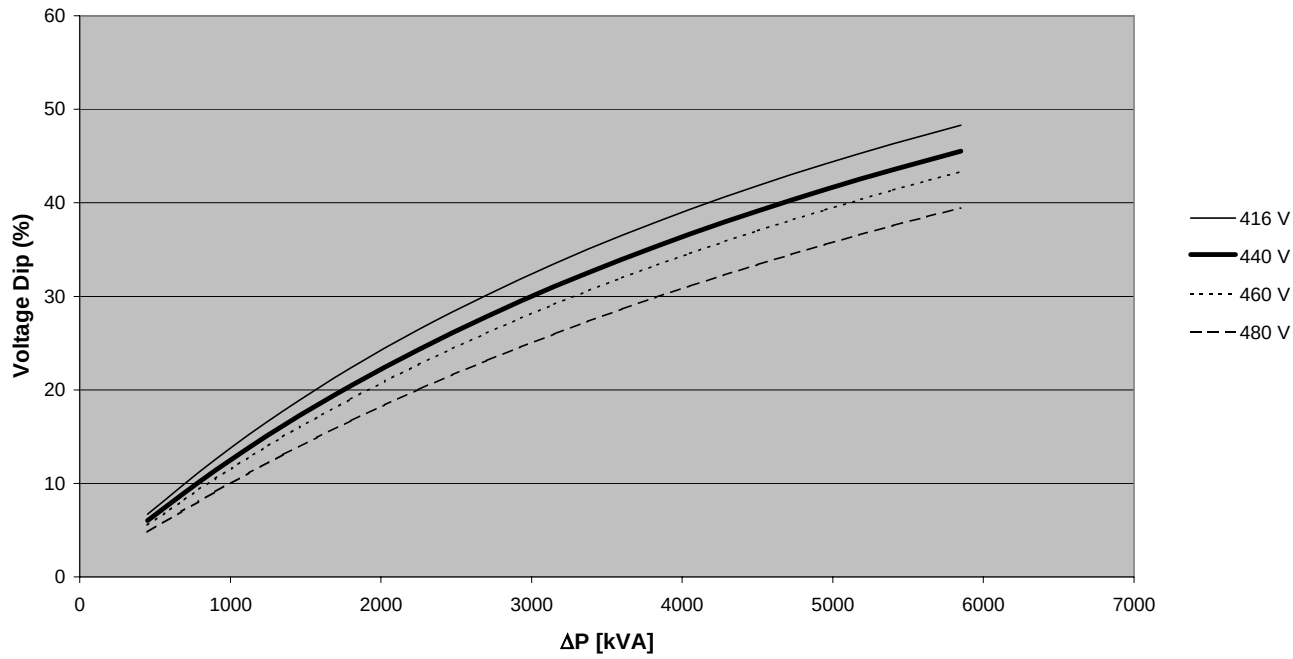
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 500 MB 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	**80**
INSULATION CLASS	**H**	Number of leads	**6**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**2150**	**2150**	**2150**	**2380**	**2450**	**2500**	**2575**
		kW	**1720**	**1720**	**1720**	**1904**	**1960**	**2000**	**2060**
EFFICIENCY (%) @ 0,8 p.f.		4/4	96,2	96,2	96,2	96,3	96,4	96,5	96,5
		3/4	96,5	96,5	96,5	96,3	96,4	96,5	96,5
		2/4	96,3	96,3	96,3	95,9	96,0	96,1	96,1
EFFICIENCY (%) @ 1,0 p.f.		4/4	97,0	97,0	97,0	97,1	97,2	97,2	97,2
		3/4	97,2	97,2	97,2	97,1	97,2	97,2	97,2
		2/4	97,1	97,1	97,1	96,8	96,8	96,9	96,9
SHORT CIRCUIT RATIO			0,32	0,36	0,39	0,29	0,32	0,34	0,39
REACTANCES (%)									
Direct axis synchronous		xd	340	305	285	375	345	320	285
Quadrature axis synchronous		xq	195	175	165	215	200	185	160
Direct axis transient		x'd	33,2	30,0	27,9	36,8	33,9	31,7	27,8
Direct axis subtransient		x"d	16,6	15,0	13,9	18,4	17,0	15,8	13,9
Quadrature axis subtransient		x"q	18,6	16,8	15,6	20,6	19,0	17,7	15,6
Negative sequence		x_2	17,5	15,8	14,7	19,4	17,9	16,7	14,7
Zero sequence		x_0	3,9	3,5	3,3	4,3	4,0	3,7	3,2

TIME CONSTANTS [s]

Open circuit (T'do)	3,60	Subtransient (T"d)	0,018
Transient (T'd)	0,35	Armature (Ta)	0,043

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6328 C3 / With grease nipple
N-end bearing/Lubrication	6326 C3 / With grease nipple
Weight (IM B34) [kg]	4400
Inertia (J) (IM B34) [kgm^2]	52,5
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	2,6 / 3,1
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34 (IM 2101) / IM B20 (IM 1101)
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	0,75
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 5% (under no-load or non-distorting-load condition)

STANDARDS

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

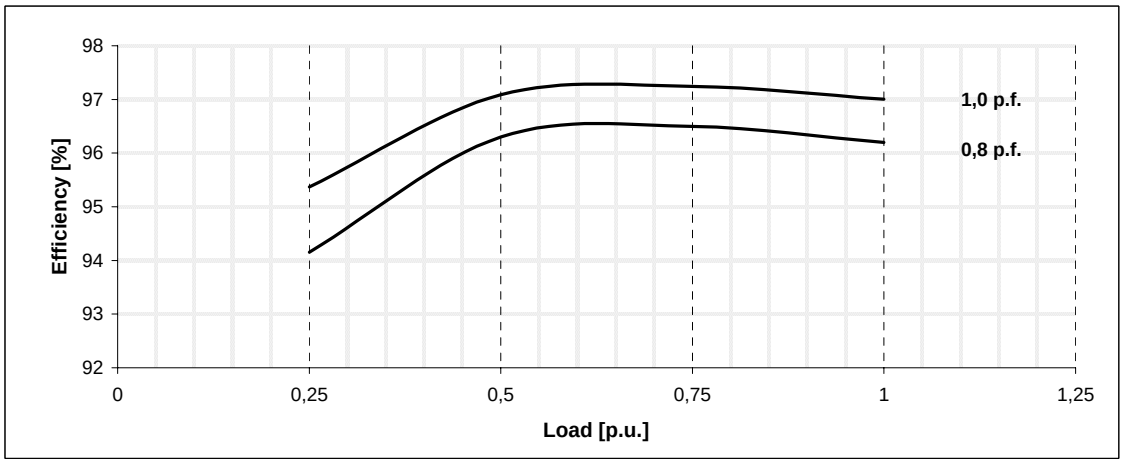
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

MarelliGenerators

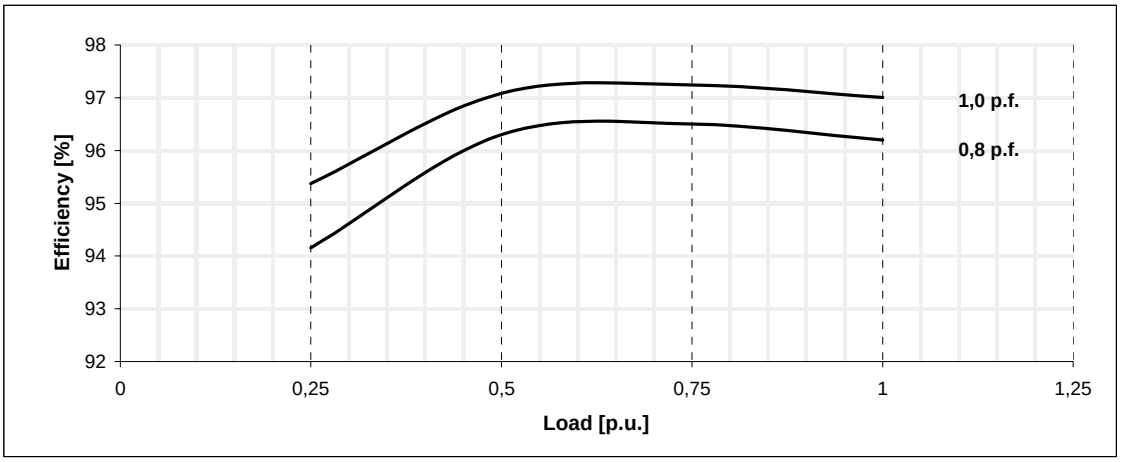
Typical efficiency curves

50 Hz - 1500 min^{-1}

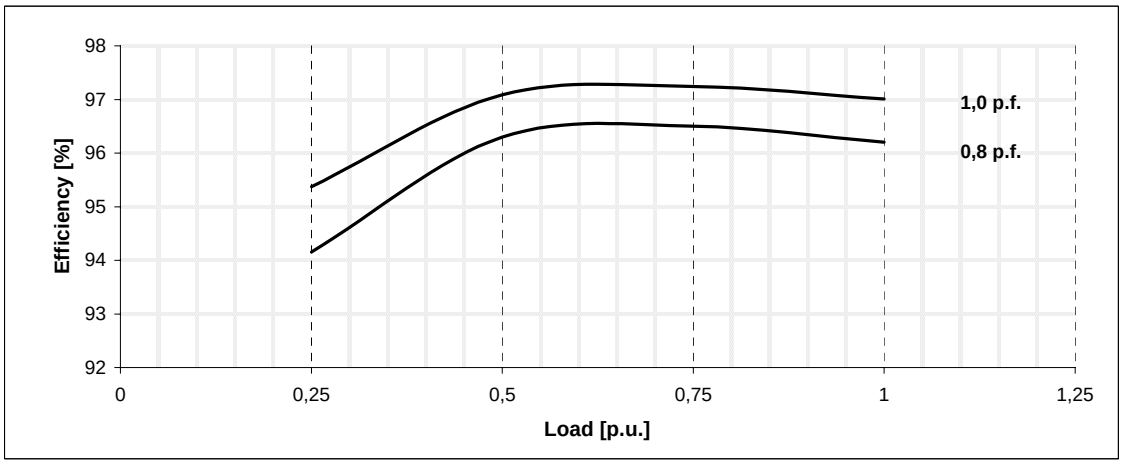
380 V



400 V



415 V



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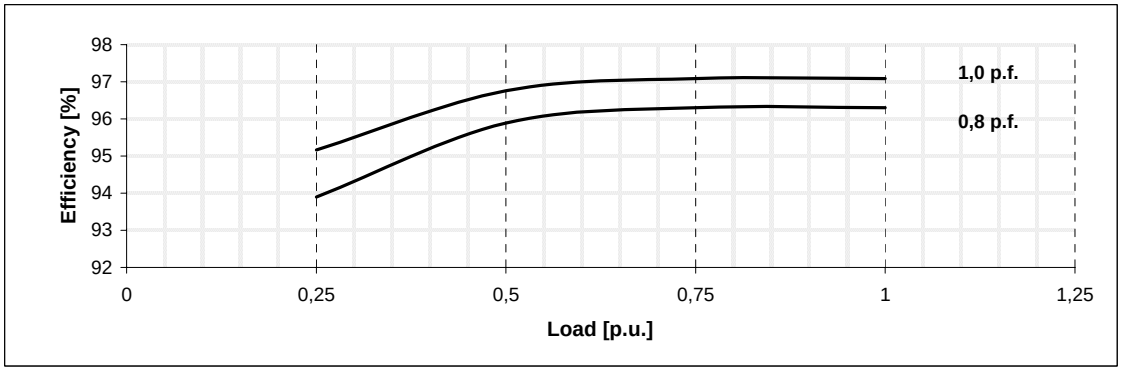
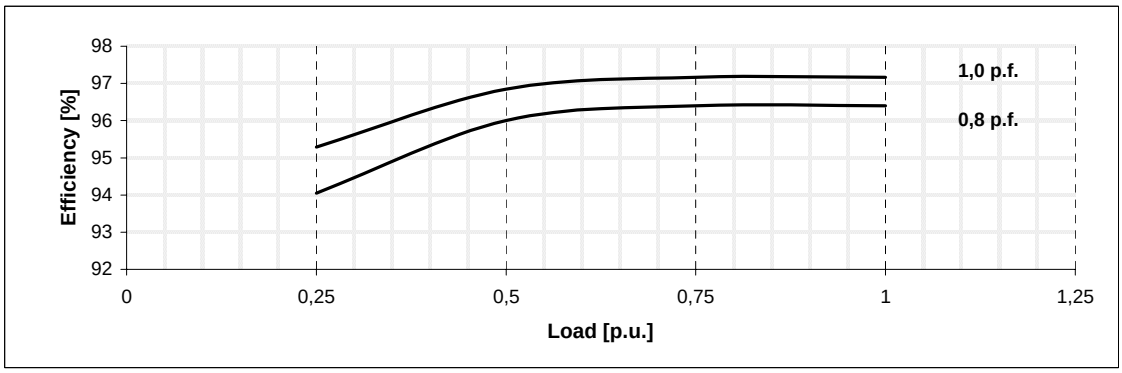
Typical efficiency curves

60 Hz - 1800 min^{-1}

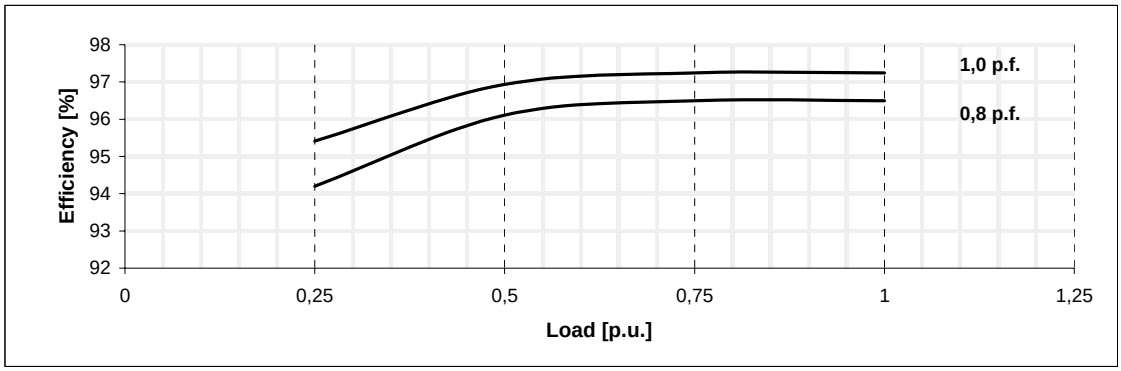
416 V



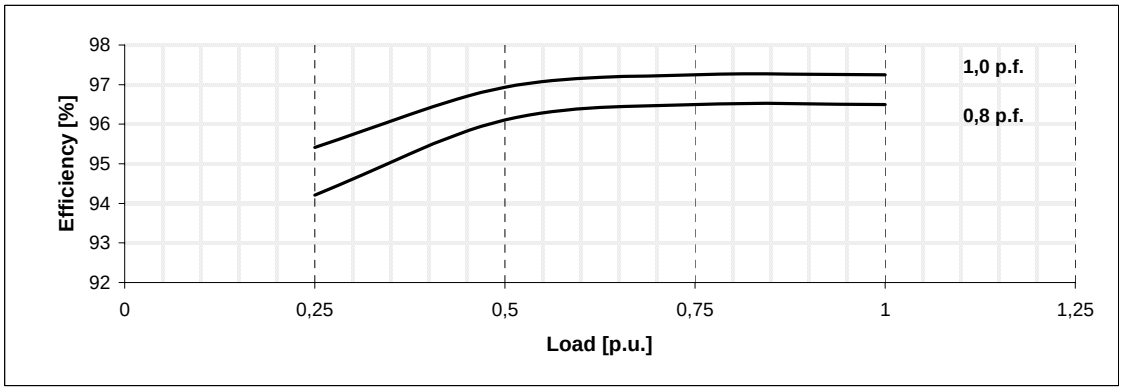
440 V



460 V



480 V



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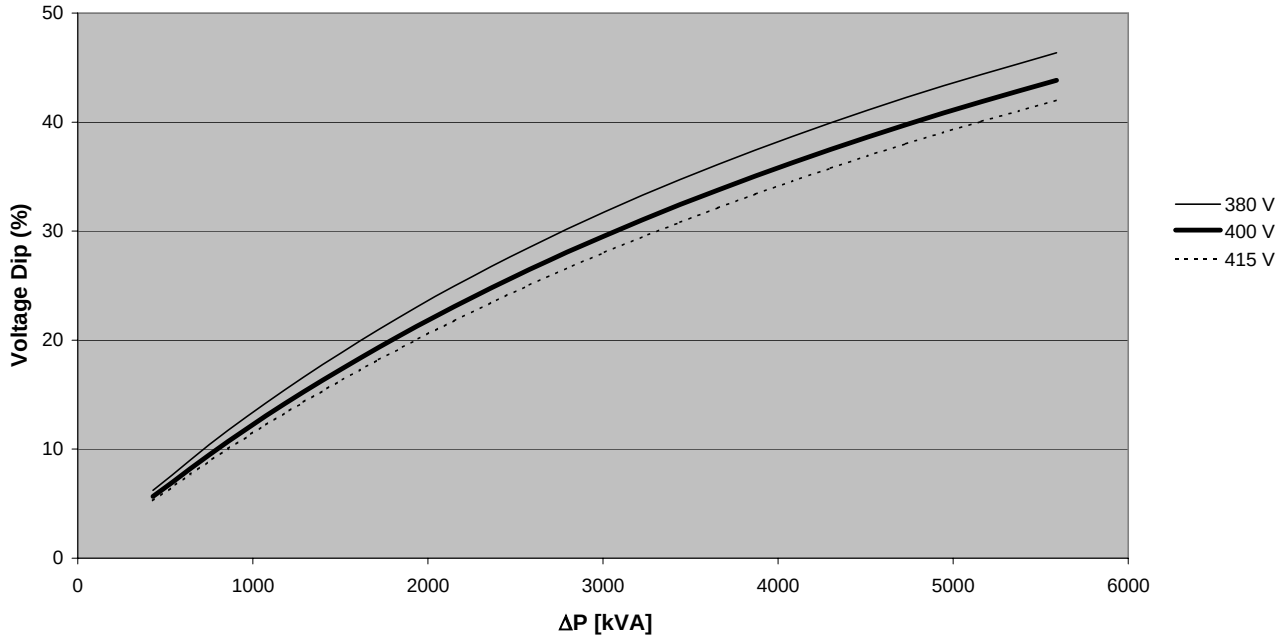
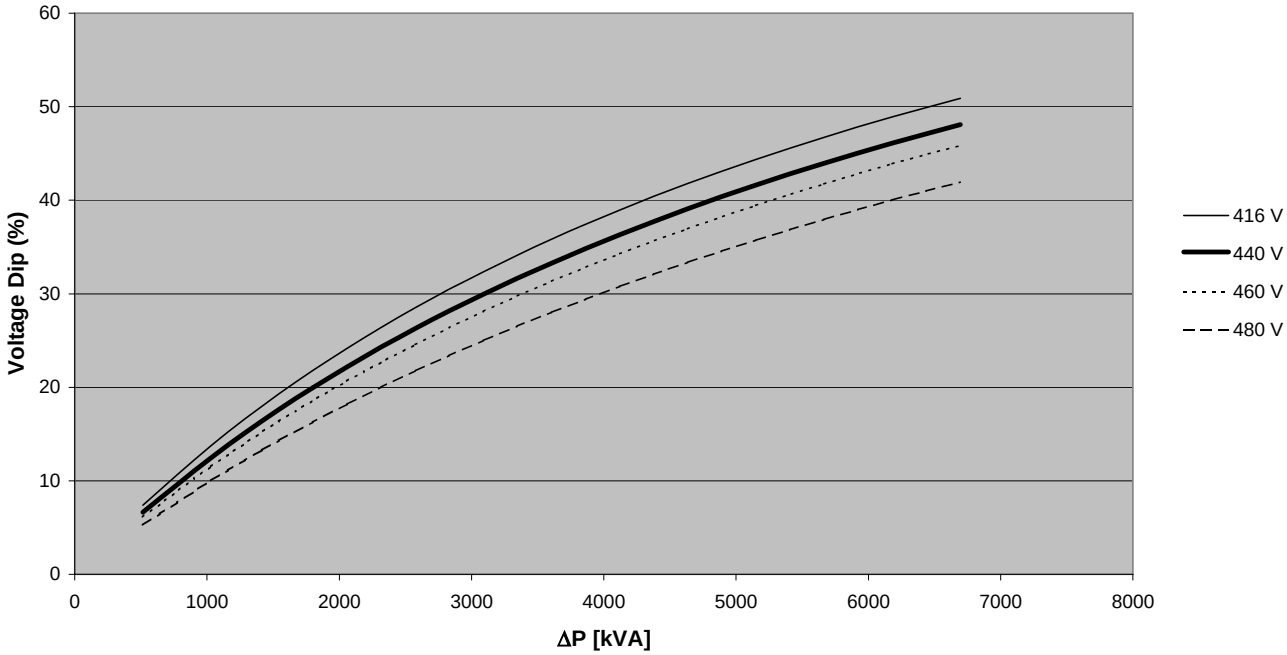
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 500 LA 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	**80**
INSULATION CLASS	**H**	Number of leads	**6**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**2500**	**2500**	**2500**	**2810**	**2900**	**3000**	**3000**
		kW	**2000**	**2000**	**2000**	**2248**	**2320**	**2400**	**2400**
EFFICIENCY (%) @ 0,8 p.f.		4/4	96,0	96,4	96,5	96,5	96,6	96,6	96,7
		3/4	96,7	96,7	96,8	96,4	96,5	96,5	96,6
		2/4	96,5	96,5	96,6	96,2	96,3	96,3	96,4
EFFICIENCY (%) @ 1,0 p.f.		4/4	97,2	97,2	97,2	97,2	97,3	97,3	97,4
		3/4	97,4	97,4	97,5	97,2	97,2	97,2	97,3
		2/4	97,2	97,2	97,3	97,0	97,1	97,1	97,2
SHORT CIRCUIT RATIO			0,38	0,42	0,45	0,34	0,37	0,39	0,45
REACTANCES (%)									
Direct axis synchronous		xd	330	300	280	375	345	325	280
Quadrature axis synchronous		xq	190	170	160	210	195	185	160
Direct axis transient		x'd	30,5	27,5	25,5	34,3	31,6	29,9	25,5
Direct axis subtransient		x"d	14,0	12,6	11,7	15,7	14,5	13,7	11,7
Quadrature axis subtransient		x"q	15,7	14,2	13,2	17,7	16,3	15,5	13,2
Negative sequence		x_2	14,8	13,4	12,4	16,7	15,4	14,6	12,4
Zero sequence		x_0	3,8	3,4	3,2	4,2	3,9	3,7	3,2

TIME CONSTANTS [s]

Open circuit (T'do)	3,70	Subtransient (T"d)	0,018
Transient (T'd)	0,34	Armature (Ta)	0,048

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6328 C3 / With grease nipple
N-end bearing/Lubrication	6326 C3 / With grease nipple
Weight (IM B34) [kg]	5100
Inertia (J) (IM B34) [kgm^2]	61,5
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	2,6 / 3,1
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34 (IM 2101) / IM B20 (IM 1101)
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	0,50
Overloads	10% for 1 hour
3-phase short circuit current	>= 300% 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	< 5%
Total harmonic content	< 5% (under no-load or non-distorting-load condition)

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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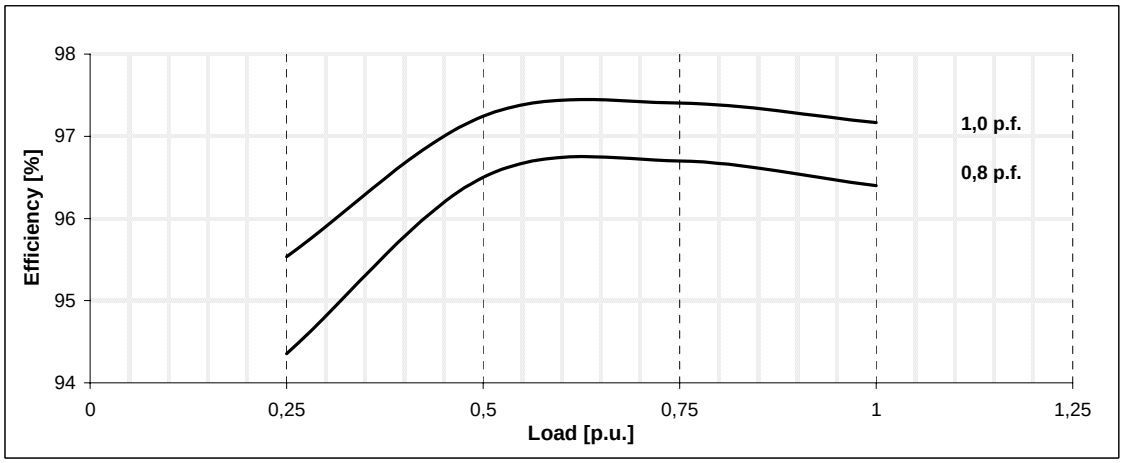
MarelliGenerators

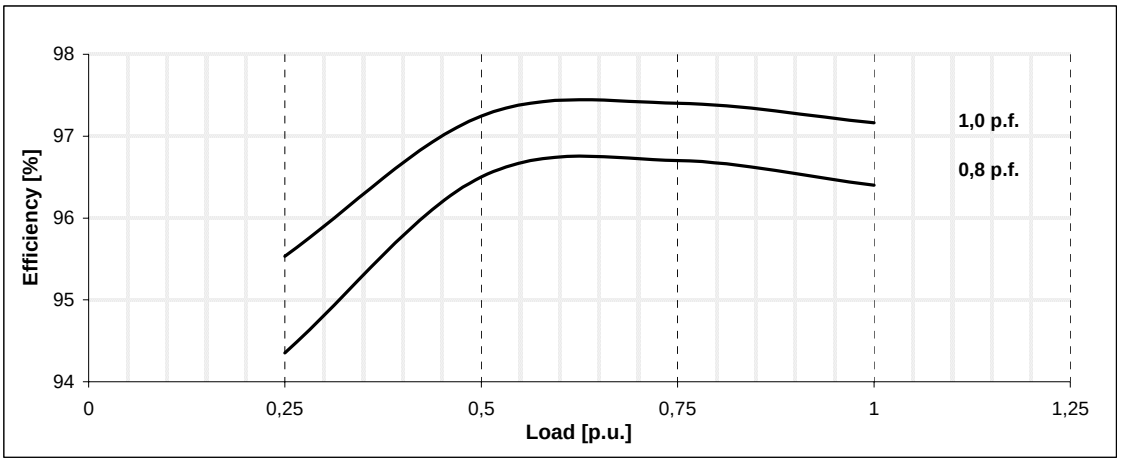
Typical efficiency curves

50 Hz - 1500 min^{-1}

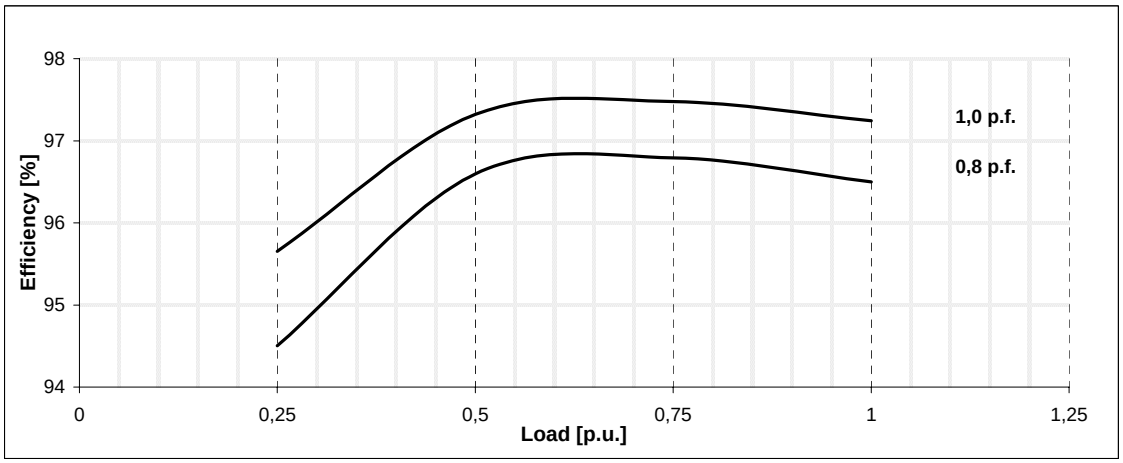
380 V



400 V



415 V



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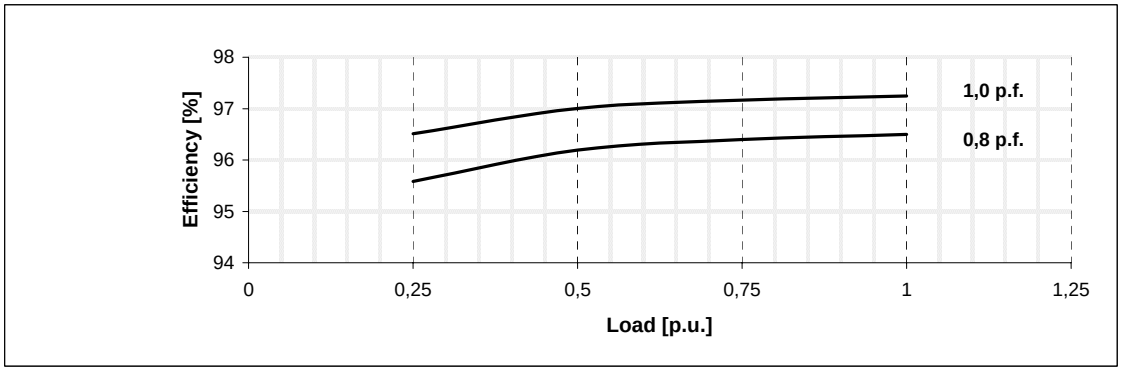
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 500 LA 4

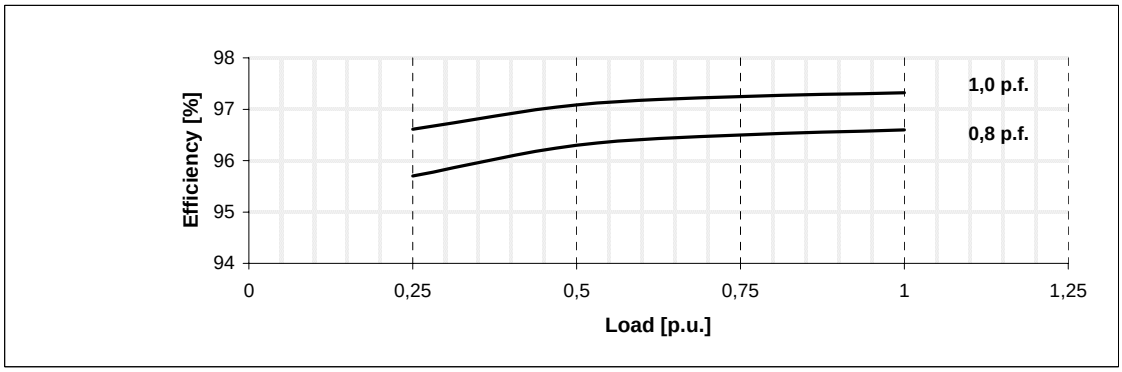
Typical efficiency curves

60 Hz - 1800 min^{-1}

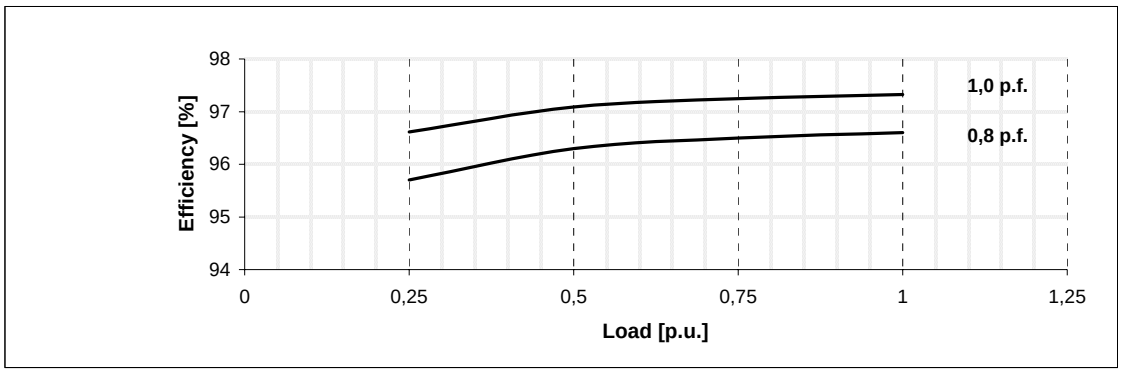
416 V



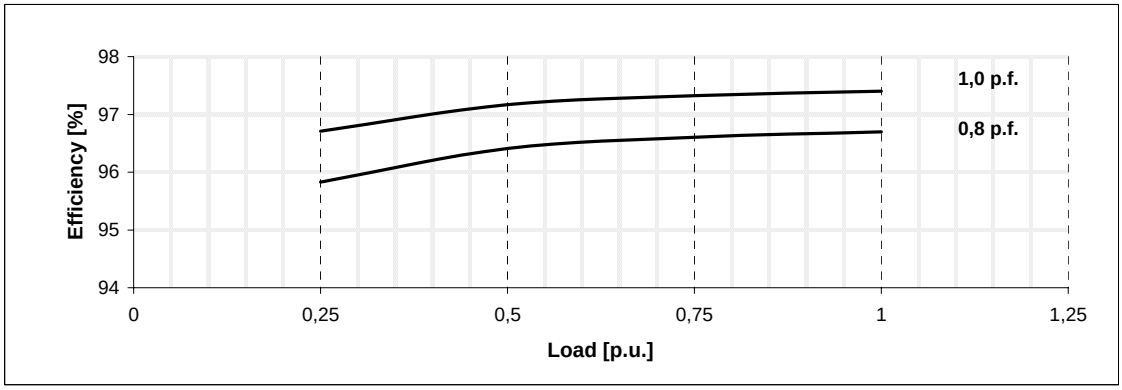
440 V



460 V



480 V



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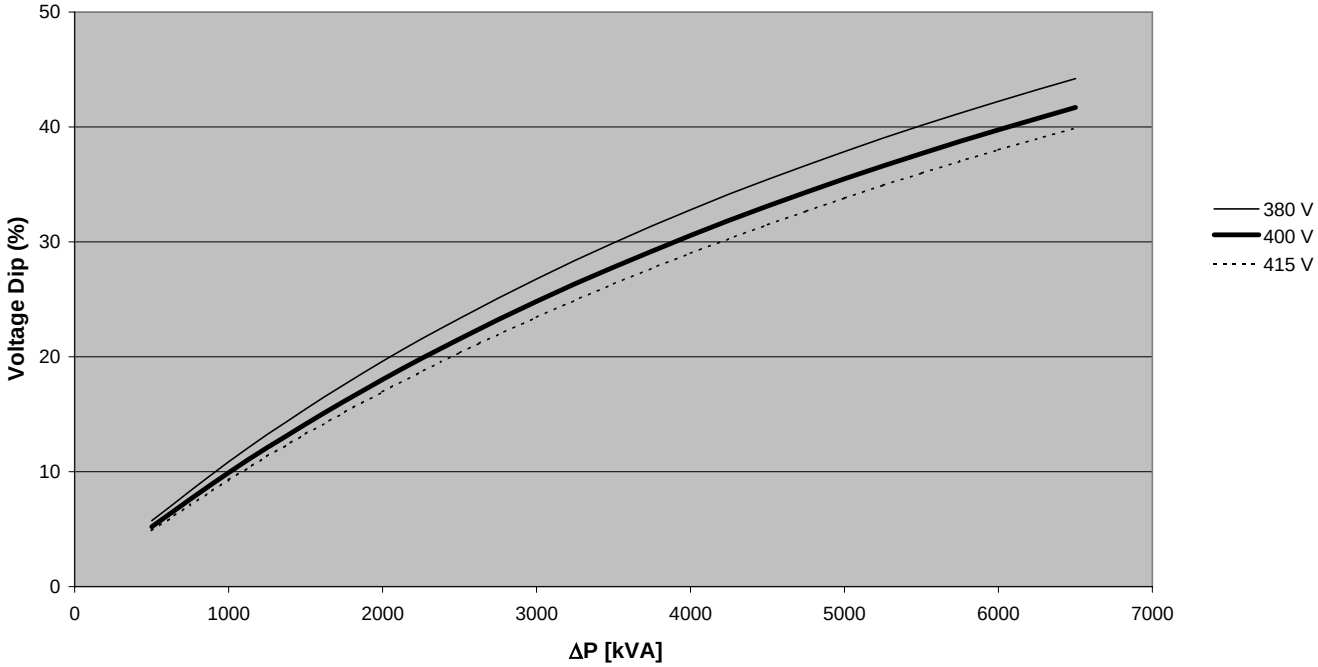
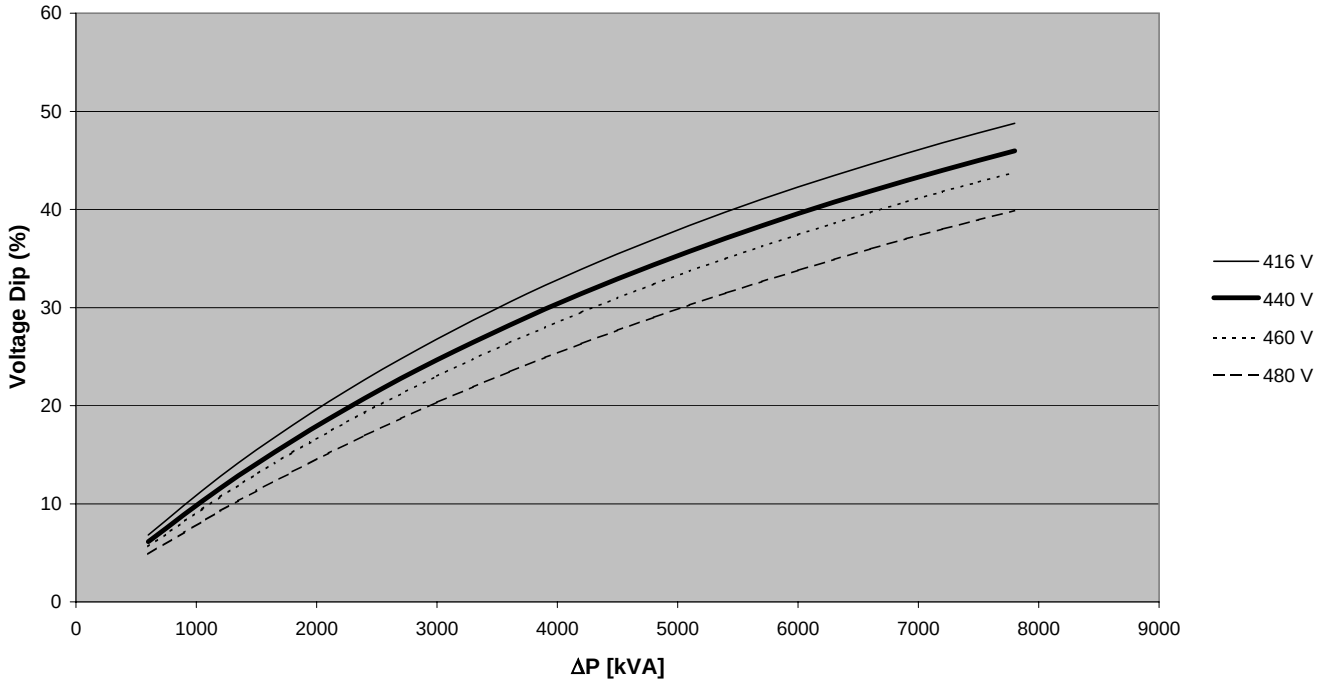
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 560 MA 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	**80**
INSULATION CLASS	**H**	Number of leads	**6**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**2500**	**2600**	**2600**	**2700**	**2850**	**2990**	**2990**
		kW	***2000***	***2080***	***2080***	***2160***	***2280***	***2392***	***2392***
EFFICIENCY (%) @ 0,8 p.f.		4/4	96,3	96,4	96,4	96,2	96,3	96,4	96,5
		3/4	96,4	96,4	96,4	96,2	96,3	96,4	96,4
		2/4	96,4	96,4	96,3	96,0	96,1	96,2	96,2
EFFICIENCY (%) @ 1,0 p.f.		4/4	97,1	97,2	97,2	97,0	97,1	97,2	97,2
		3/4	97,2	97,2	97,2	97,0	97,1	97,2	97,2
		2/4	97,1	97,1	97,1	96,8	96,9	97,0	97,0
SHORT CIRCUIT RATIO			0,37	0,39	0,42	0,34	0,36	0,37	0,41
REACTANCES (%)									
Direct axis synchronous		xd	300	280	260	325	305	290	270
Quadrature axis synchronous		xq	170	160	150	185	175	165	155
Direct axis transient		x'd	28,8	27,0	25,1	31,1	29,4	28,2	25,9
Direct axis subtransient		x"d	13,2	12,4	11,5	14,3	13,5	12,9	11,9
Quadrature axis subtransient		x"q	13,9	13,0	12,1	15,0	14,1	13,6	12,5
Negative sequence		x_2	13,4	12,6	11,7	14,5	13,7	13,1	12,1
Zero sequence		x_0	4,2	3,9	3,6	4,5	4,2	4,1	3,7

TIME CONSTANTS [s]

Open circuit (T'do)	5,9	Subtransient (T"d)	0,025
Transient (T'd)	0,57	Armature (Ta)	0,052

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6332 C3 / With grease nipple
N-end bearing/Lubrication	6330 C3 / With grease nipple
Weight (IM B34) [kg]	5000
Inertia (J) (IM B34) [kgm^2]	83
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	3,0 / 3,4
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	0,46
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 5% (under no-load or non-distorting-load condition)

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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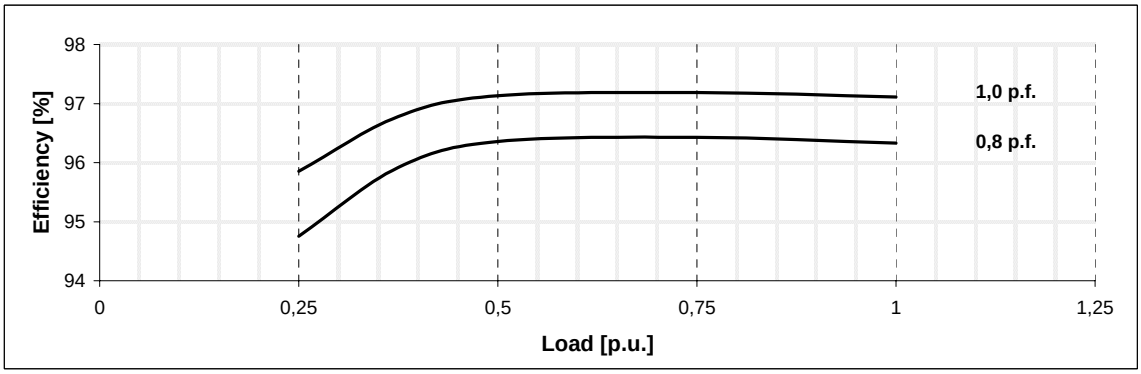
MarelliGenerators

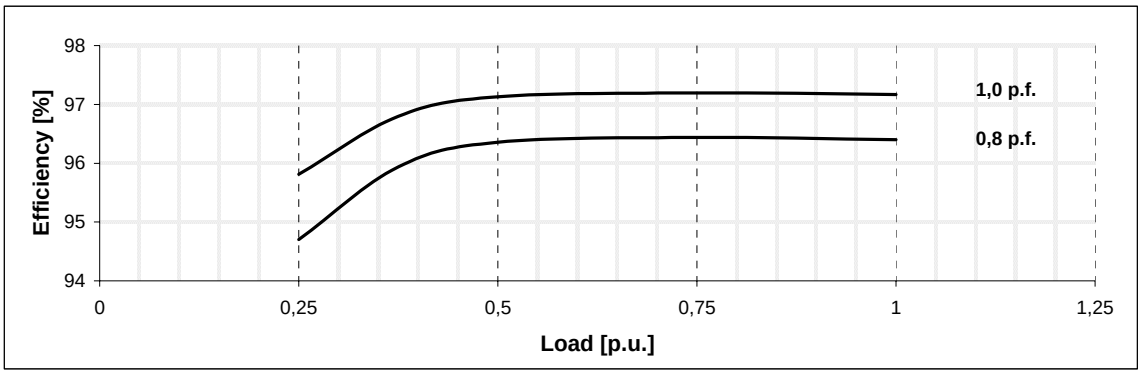
Typical efficiency curves

50 Hz - 1500 min^{-1}

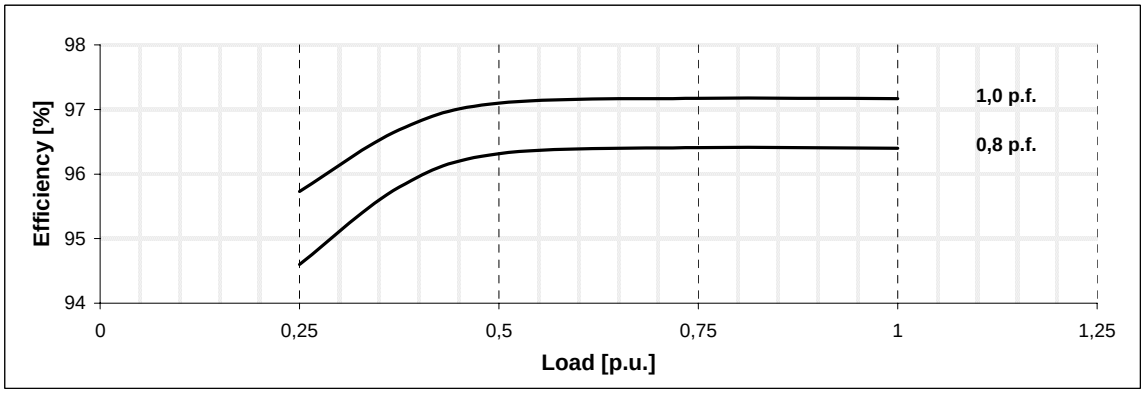
380 V



400 V



415 V



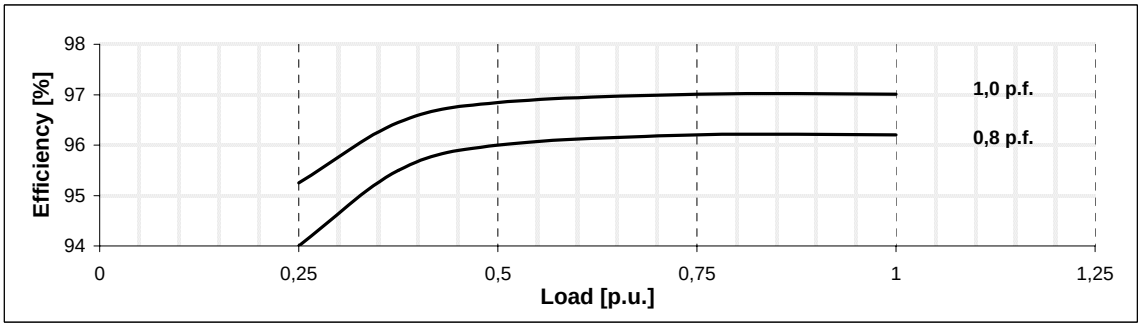
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 560 MA 4

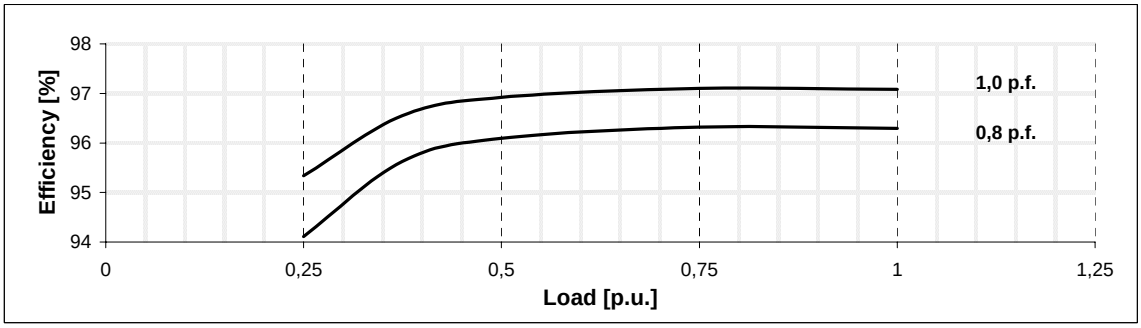
Typical efficiency curves

60 Hz - 1800 min^{-1}

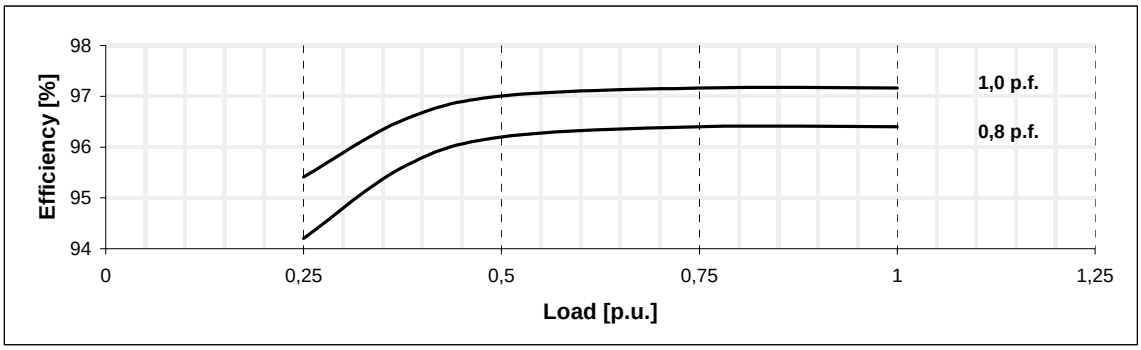
416 V



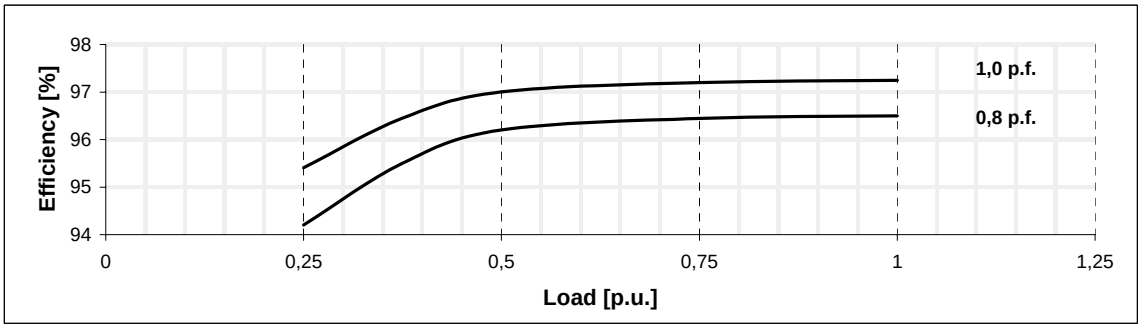
440 V



460 V

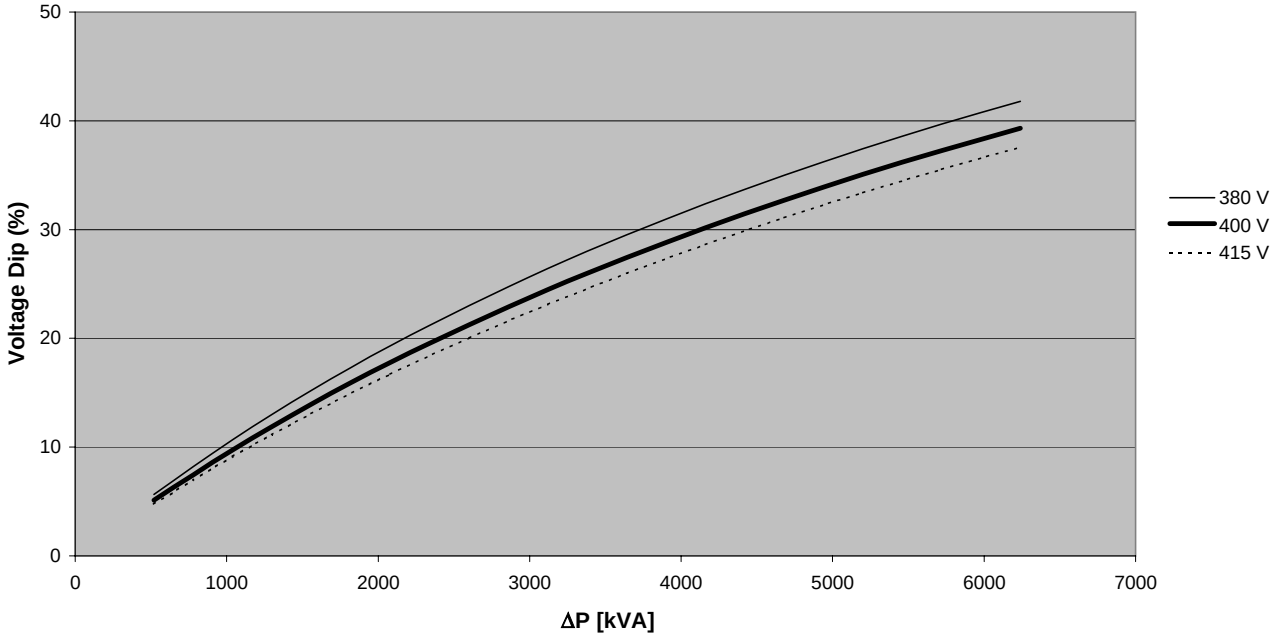


480 V

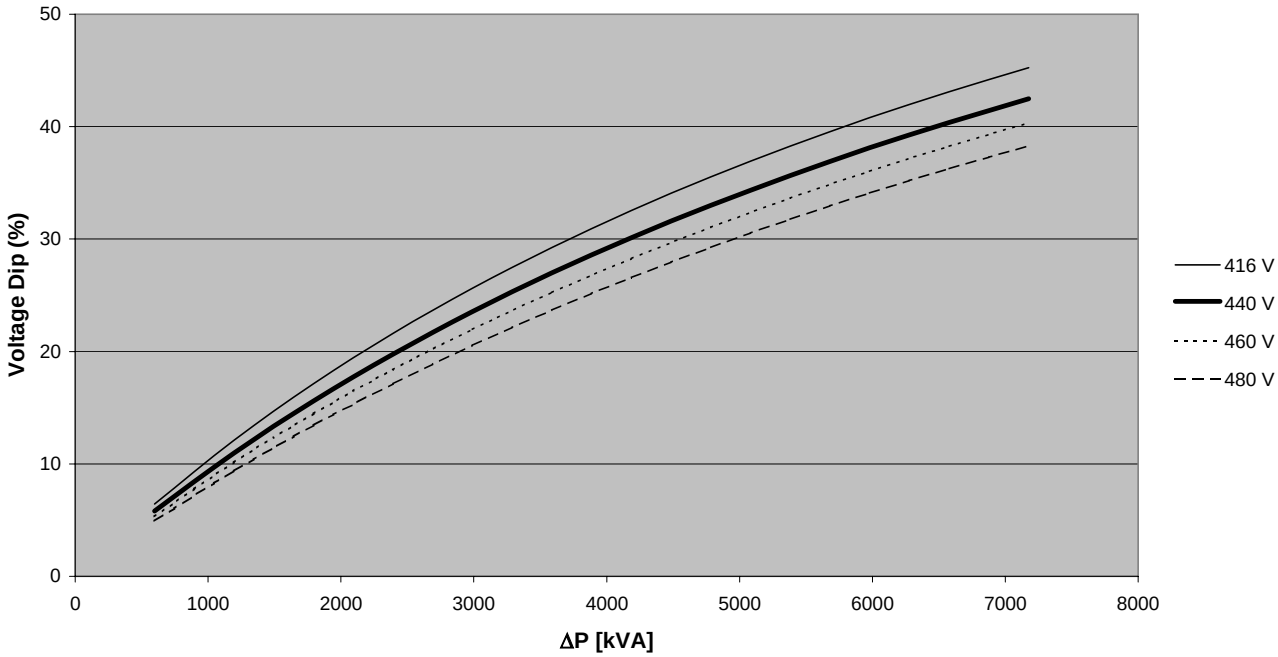


Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 560 LA 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	**80**
INSULATION CLASS	**H**	Number of leads	**6**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**3000**	**3100**	**3100**	**3220**	**3400**	**3565**	**3565**
		kW	***2400***	***2480***	***2480***	***2576***	***2720***	***2852***	***2852***
EFFICIENCY (%) @ 0,8 p.f.		4/4	96,4	96,5	96,5	96,4	96,4	96,5	96,6
		3/4	96,5	96,6	96,6	96,4	96,5	96,5	96,6
		2/4	96,5	96,5	96,5	96,3	96,3	96,4	96,4
EFFICIENCY (%) @ 1,0 p.f.		4/4	97,2	97,2	97,2	97,2	97,2	97,2	97,3
		3/4	97,3	97,3	97,3	97,2	97,2	97,3	97,3
		2/4	97,2	97,3	97,2	97,1	97,1	97,2	97,2
SHORT CIRCUIT RATIO			0,36	0,39	0,42	0,34	0,36	0,37	0,41
REACTANCES (%)									
Direct axis synchronous		xd	310	290	270	335	315	305	280
Quadrature axis synchronous		xq	170	160	150	185	175	165	155
Direct axis transient		x'd	30,0	28,0	26,0	32,3	30,5	29,2	26,8
Direct axis subtransient		x"d	15,4	14,4	13,4	16,6	15,7	15,0	13,8
Quadrature axis subtransient		x"q	16,3	15,2	14,1	17,5	16,5	15,9	14,6
Negative sequence		x_2	15,9	14,8	13,7	17,1	16,1	15,4	14,2
Zero sequence		x_0	6,4	6,0	5,6	6,9	6,5	6,3	5,8

TIME CONSTANTS [s]

Open circuit (T'do)	5,9	Subtransient (T"d)	0,025
Transient (T'd)	0,58	Armature (Ta)	0,052

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6332 C3 / With grease nipple
N-end bearing/Lubrication	6330 C3 / With grease nipple
Weight (IM B34) [kg]	5700
Inertia (J) (IM B34) [kgm^2]	95
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	3,0 / 3,4
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	0,37
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 5% (under no-load or non-distorting-load condition)

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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MarelliGenerators

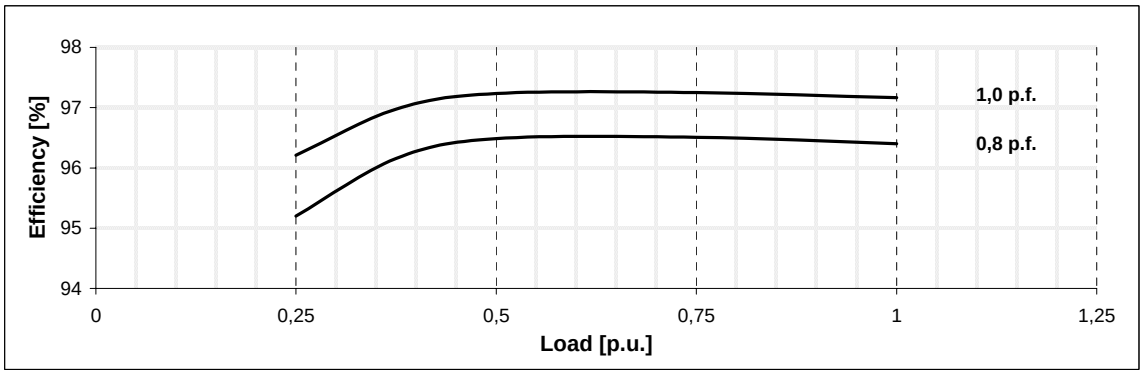
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 560 LA 4

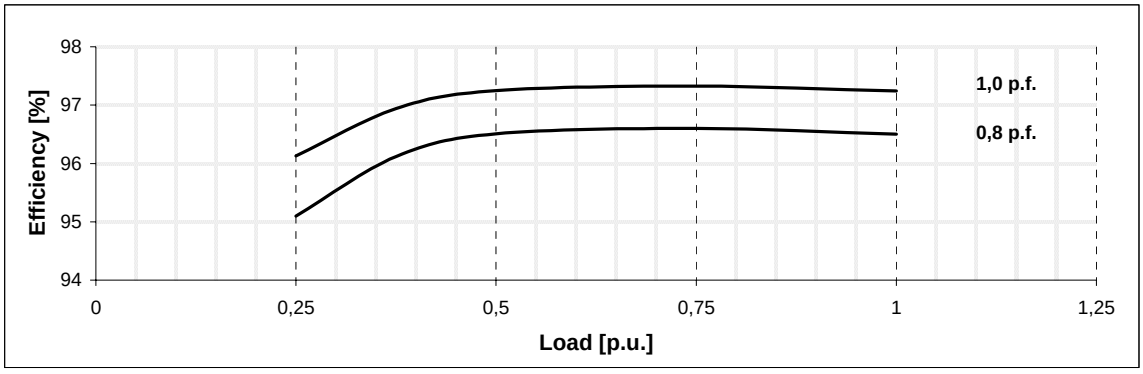
Typical efficiency curves

50 Hz - 1500 min^{-1}

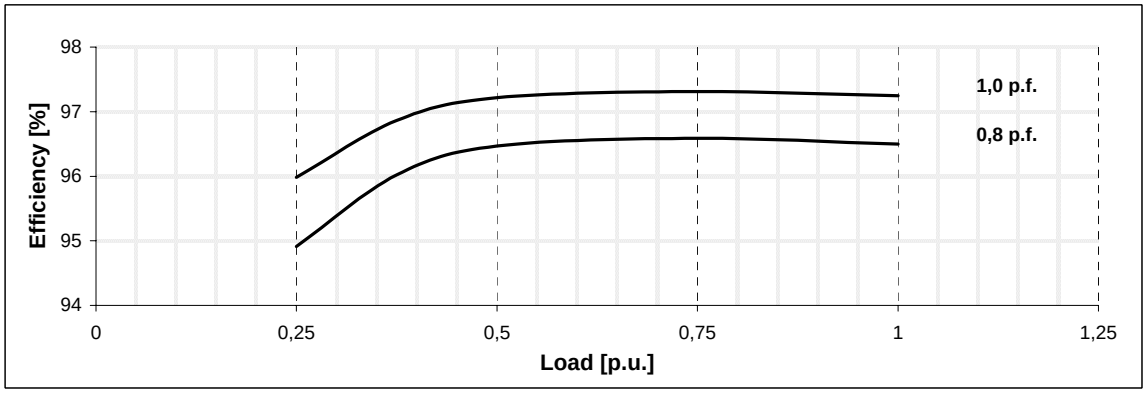
380 V



400 V



415 V



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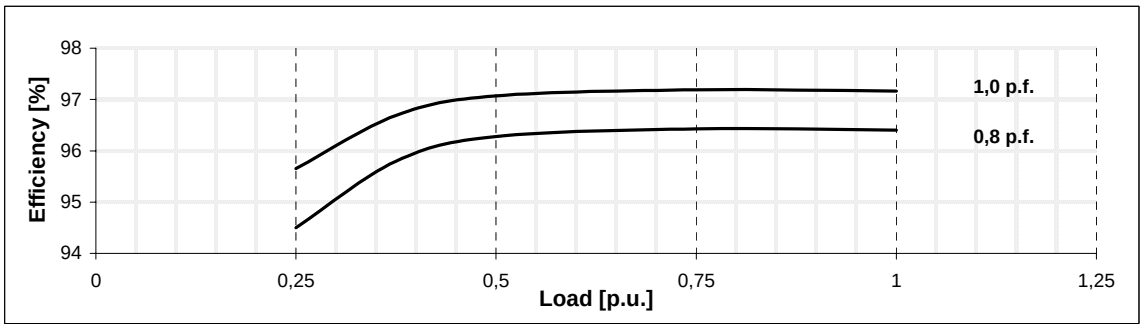
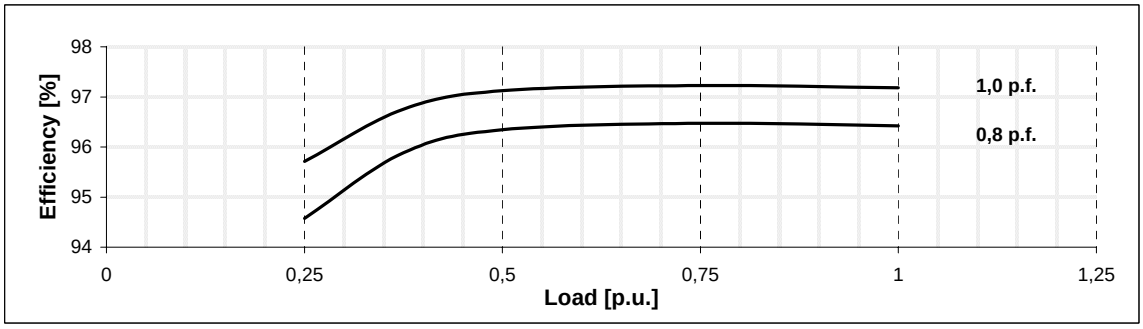
Typical efficiency curves

60 Hz - 1800 min^{-1}

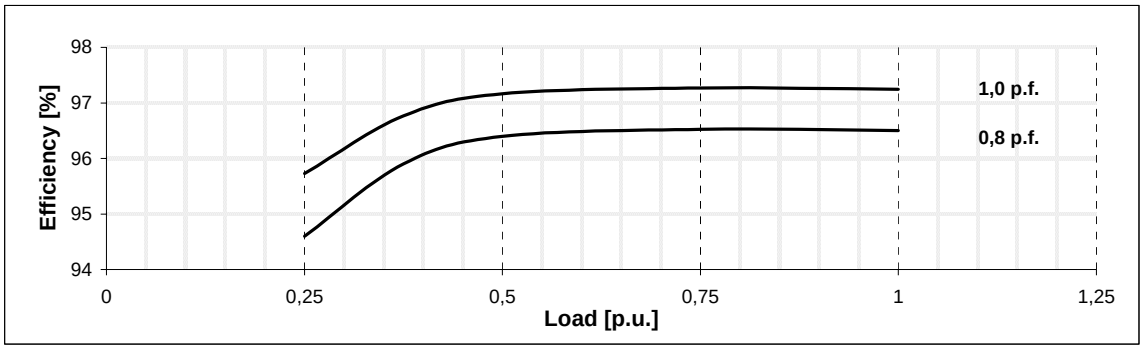
416 V



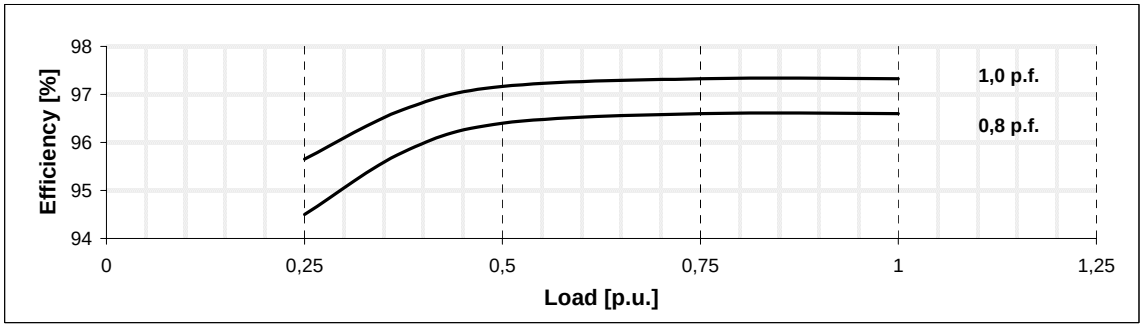
440 V



460 V



480 V



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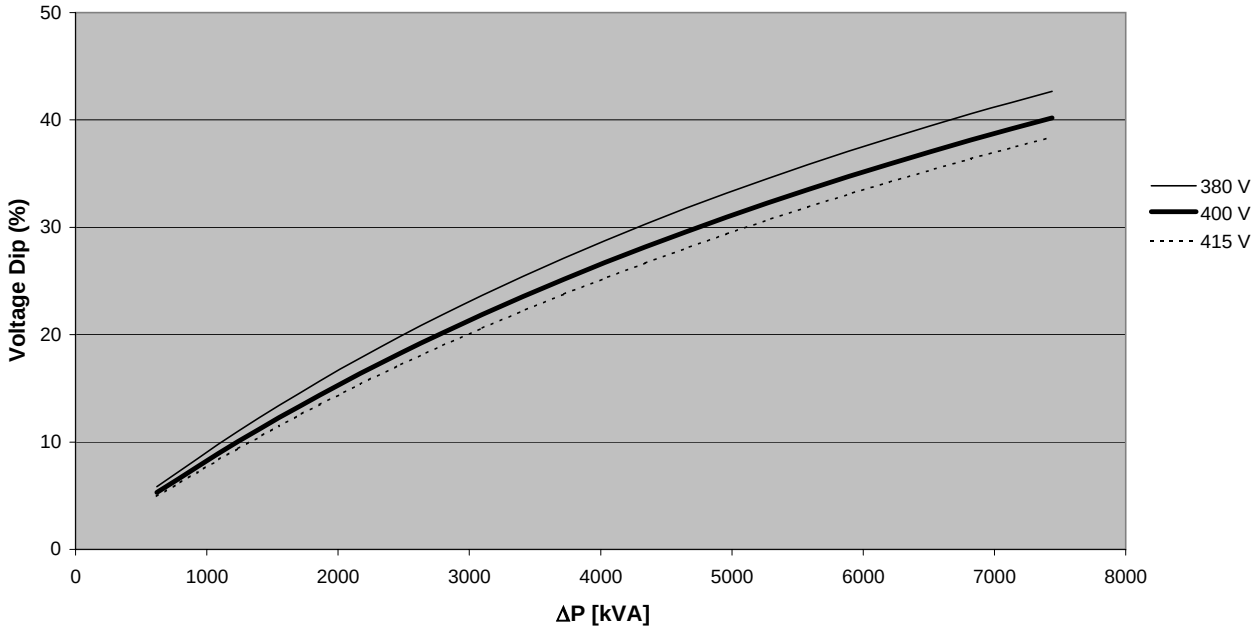
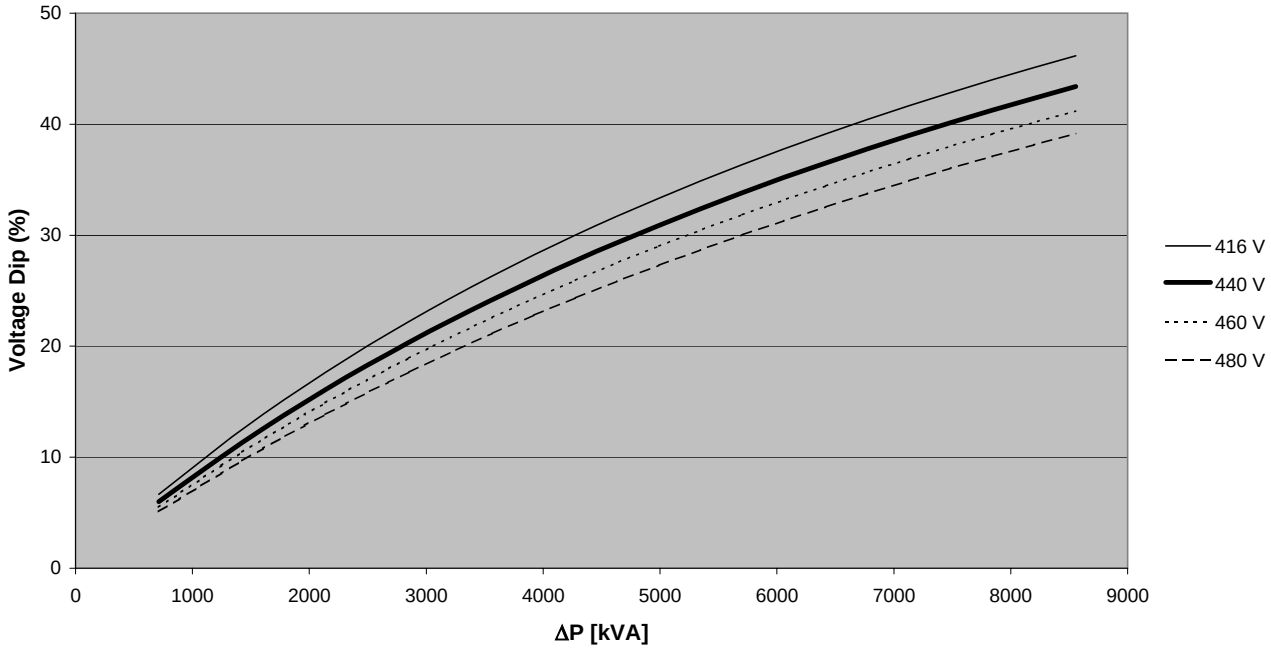
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 630 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	**80**
INSULATION CLASS	**H**	Number of leads	**6**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**3000**	**3000**	**3000**	**3270**	**3450**	**3450**	**3450**
		kW	***2400***	***2400***	***2400***	***2616***	***2760***	***2760***	***2760***
EFFICIENCY (%) @ 0,8 p.f.		4/4	96,0	96,2	96,1	96,1	96,3	96,4	96,5
		3/4	96,1	96,3	96,2	96,2	96,4	96,5	96,6
		2/4	95,9	96,1	96,0	95,9	96,1	96,2	96,3
EFFICIENCY (%) @ 1,0 p.f.		4/4	96,8	97,0	96,9	96,9	97,1	97,2	97,2
		3/4	96,9	97,1	97,0	97,0	97,2	97,2	97,3
		2/4	96,8	96,9	96,8	96,8	96,9	97,0	97,1
SHORT CIRCUIT RATIO			0,36	0,40	0,43	0,33	0,35	0,38	0,42
REACTANCES (%)									
Direct axis synchronous		xd	360	325	300	395	370	340	310
Quadrature axis synchronous		xq	205	185	170	225	210	195	175
Direct axis transient		x'd	36,6	33,0	30,7	39,9	37,6	34,4	31,6
Direct axis subtransient		x"d	16,6	15,0	13,9	18,1	17,1	15,7	14,4
Quadrature axis subtransient		x"q	18,8	17,0	15,8	20,6	19,4	17,7	16,3
Negative sequence		x_2	17,7	16,0	14,9	19,3	18,2	16,7	15,3
Zero sequence		x_0	6,1	5,5	5,1	6,7	6,3	5,7	5,3

TIME CONSTANTS [s]

Open circuit (T'do)	4,70	Subtransient (T"d)	0,018
Transient (T'd)	0,49	Armature (Ta)	0,045

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 M C3 / With grease nipple
N-end bearing/Lubrication	6324 M C3 / With grease nipple
Weight (IM B34) [kg]	6350
Inertia (J) (IM B34) [kgm^2]	117
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	3,8 / 4,3
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34 (IM 2101) / IM B20 (IM 1101)
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	0,25
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 5% (under no-load or non-distorting-load condition)

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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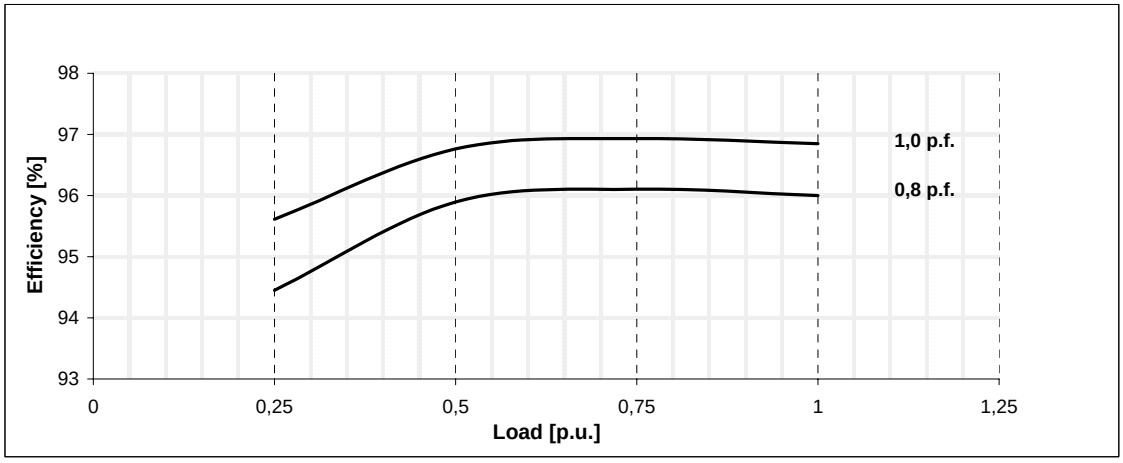
MarelliGenerators

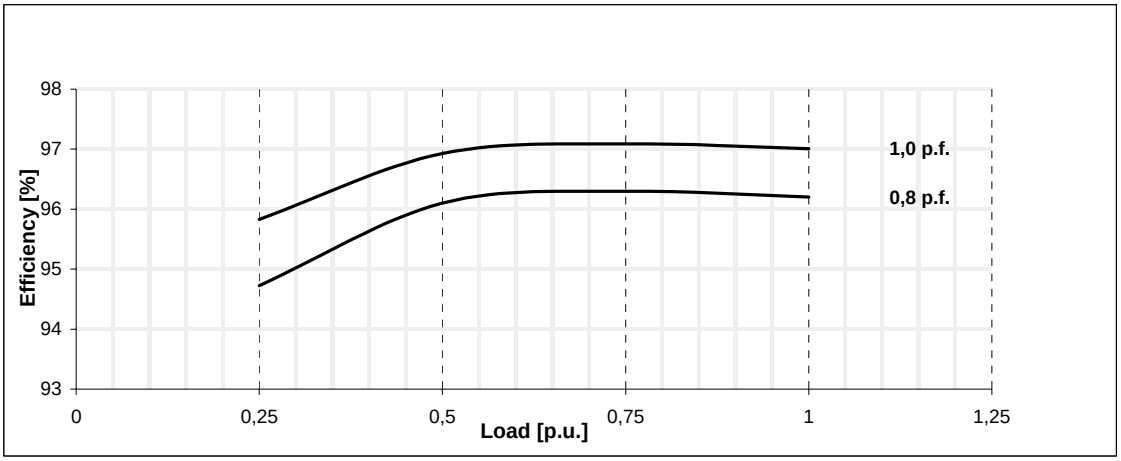
Typical efficiency curves

50 Hz - 1500 min^{-1}

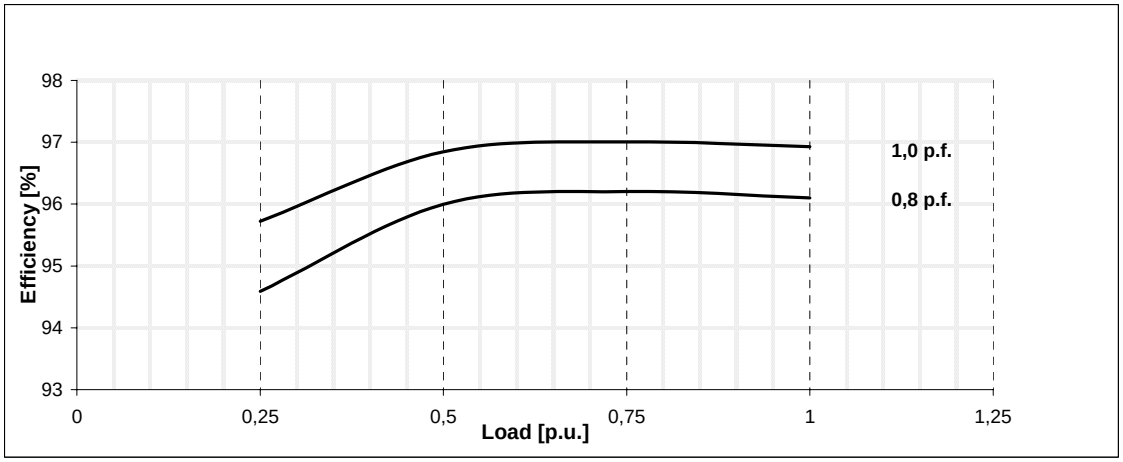
380 V



400 V



415 V



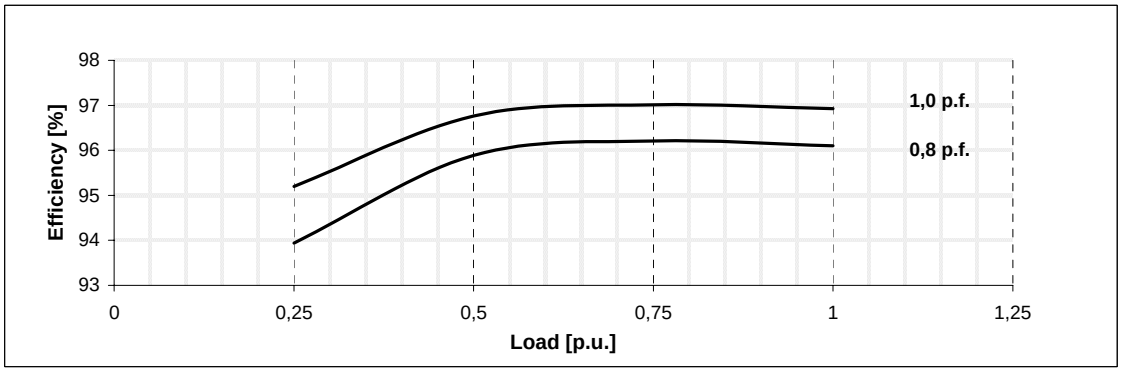
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 630 SA 4

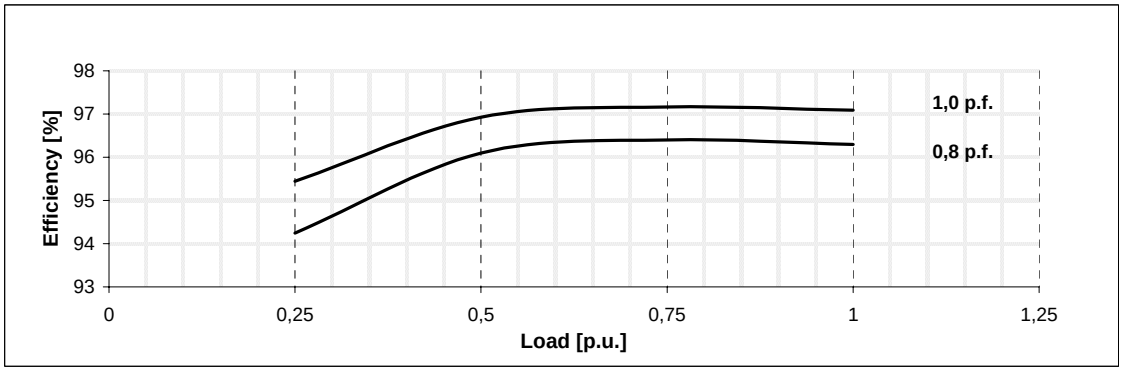
Typical efficiency curves

60 Hz - 1800 min^{-1}

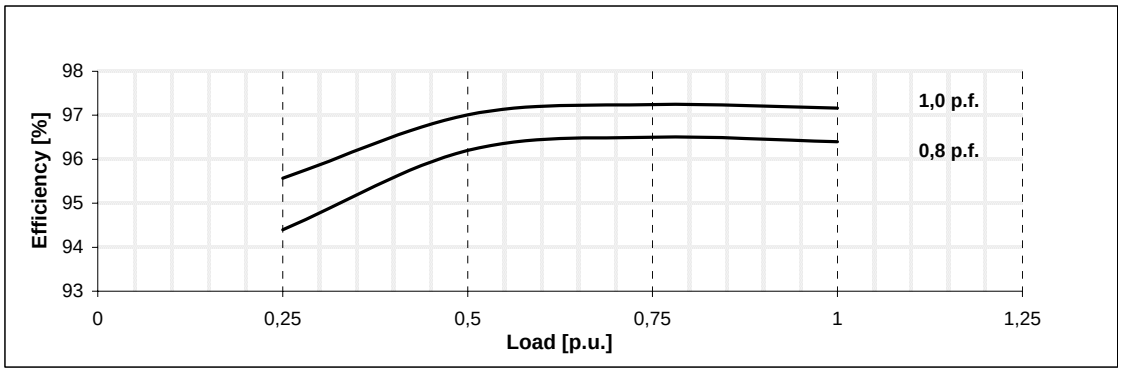
416 V



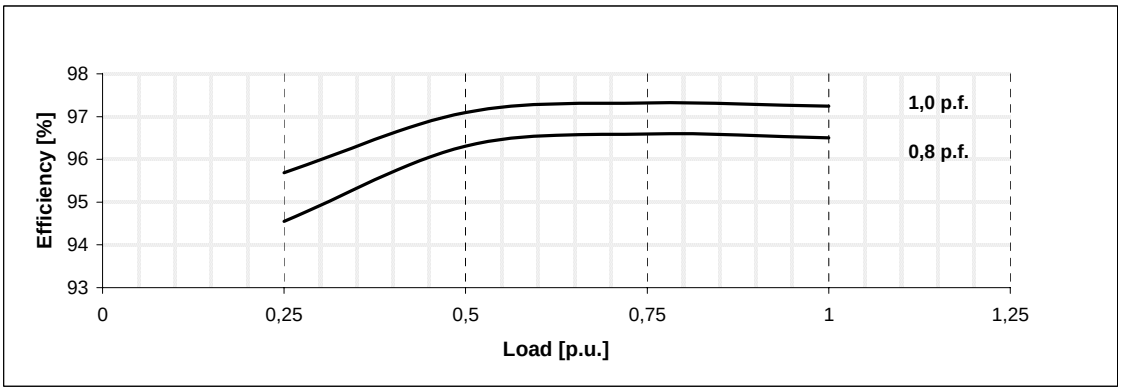
440 V



460 V



480 V



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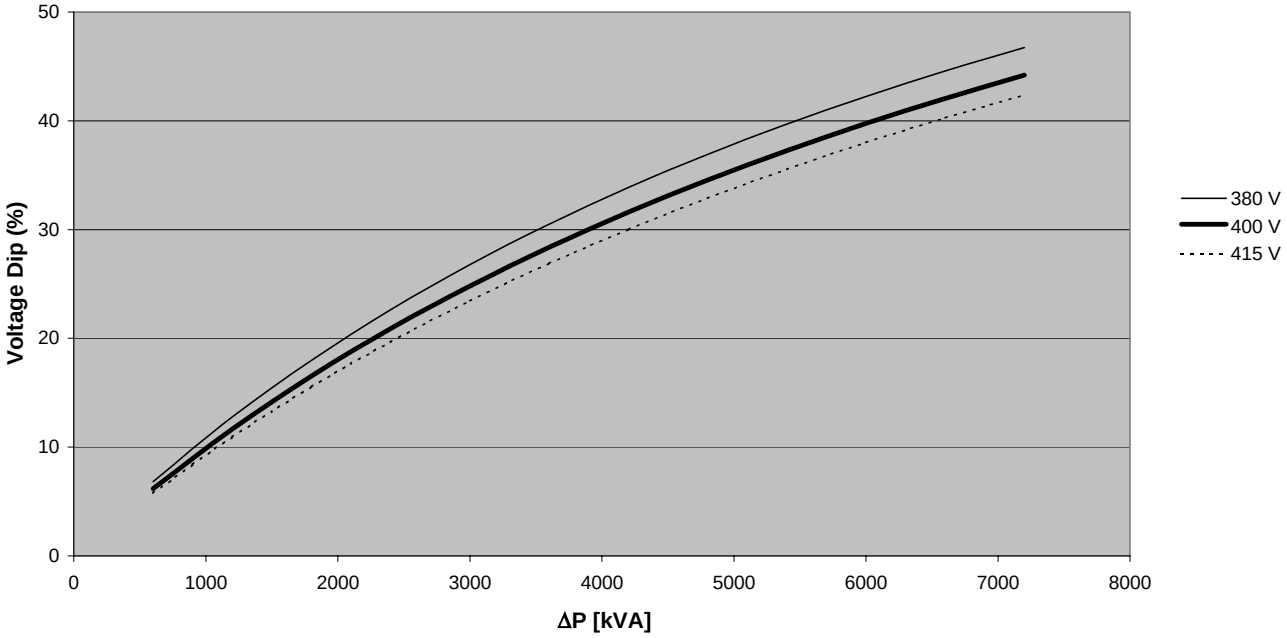
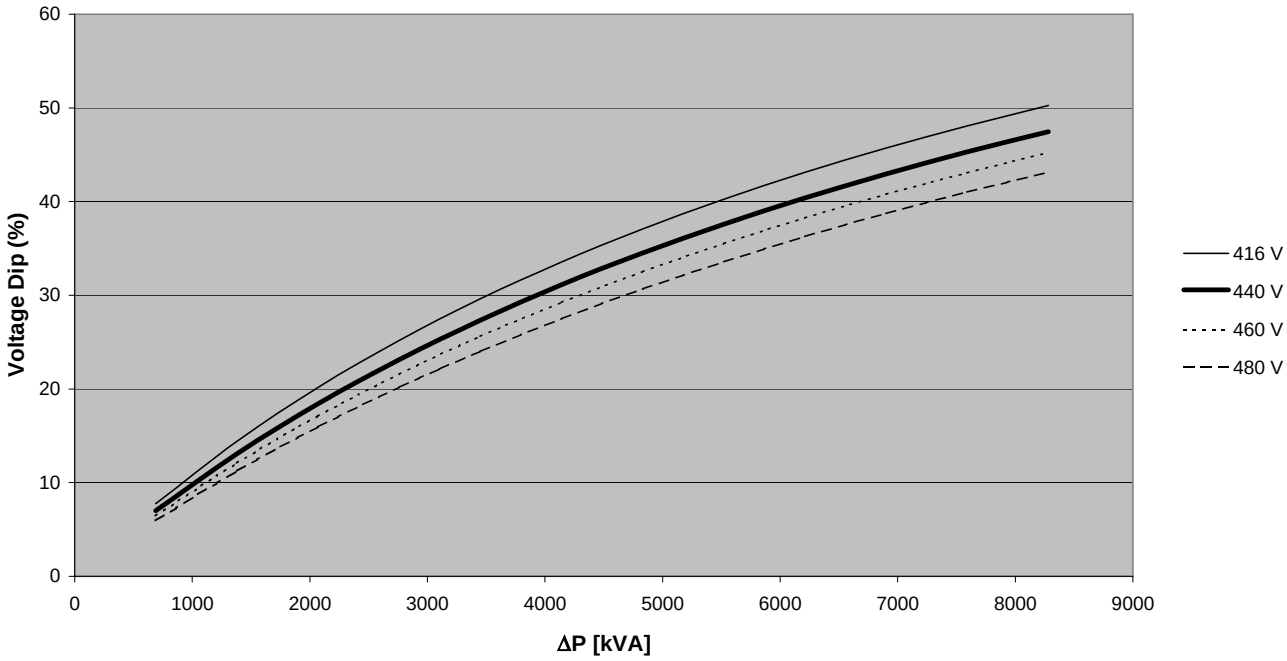
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 630 MA 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	**80**
INSULATION CLASS	**H**	Number of leads	**6**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**3250**	**3250**	**3250**	**3545**	**3735**	**3735**	**3735**
		kW	***2600***	***2600***	***2600***	***2836***	***2988***	***2988***	***2988***
EFFICIENCY (%) @ 0,8 p.f.		4/4	96,2	96,4	96,3	96,3	96,5	96,6	96,7
		3/4	96,3	96,5	96,4	96,4	96,6	96,7	96,8
		2/4	96,1	96,3	96,2	96,1	96,3	96,4	96,5
EFFICIENCY (%) @ 1,0 p.f.		4/4	97,0	97,2	97,1	97,1	97,2	97,3	97,4
		3/4	97,1	97,2	97,2	97,2	97,3	97,4	97,5
		2/4	96,9	97,1	97,0	96,9	97,1	97,2	97,3
SHORT CIRCUIT RATIO			0,40	0,44	0,47	0,36	0,39	0,42	0,46
REACTANCES (%)									
Direct axis synchronous		xd	345	310	290	375	355	325	295
Quadrature axis synchronous		xq	200	180	165	220	205	190	170
Direct axis transient		x'd	35,5	32,0	29,7	38,7	36,5	33,4	30,6
Direct axis subtransient		x"d	17,7	16,0	14,9	19,4	18,2	16,7	15,3
Quadrature axis subtransient		x"q	19,9	18,0	16,7	21,8	20,5	18,8	17,2
Negative sequence		x_2	17,7	16,0	14,9	19,4	18,2	16,7	15,3
Zero sequence		x_0	6,4	5,8	5,4	7,0	6,6	6,0	5,6

TIME CONSTANTS [s]

Open circuit (T'do)	4,80	Subtransient (T"d)	0,018
Transient (T'd)	0,48	Armature (Ta)	0,045

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 M C3 / With grease nipple
N-end bearing/Lubrication	6324 M C3 / With grease nipple
Weight (IM B34) [kg]	7000
Inertia (J) (IM B34) [kgm^2]	140
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	3,8 / 4,3
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34 (IM 2101) / IM B20 (IM 1101)
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	0,14
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 5% (under no-load or non-distorting-load condition)

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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MarelliGenerators

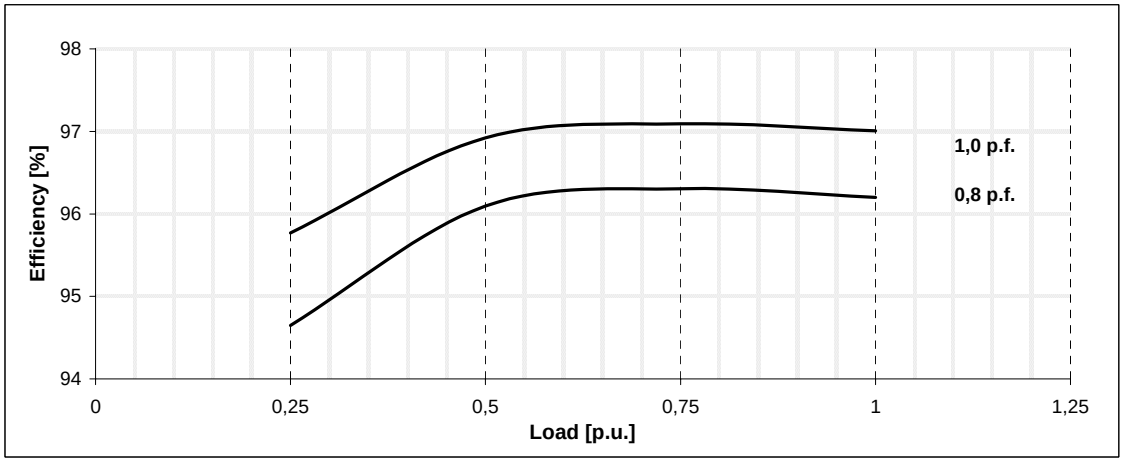
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 630 MA 4

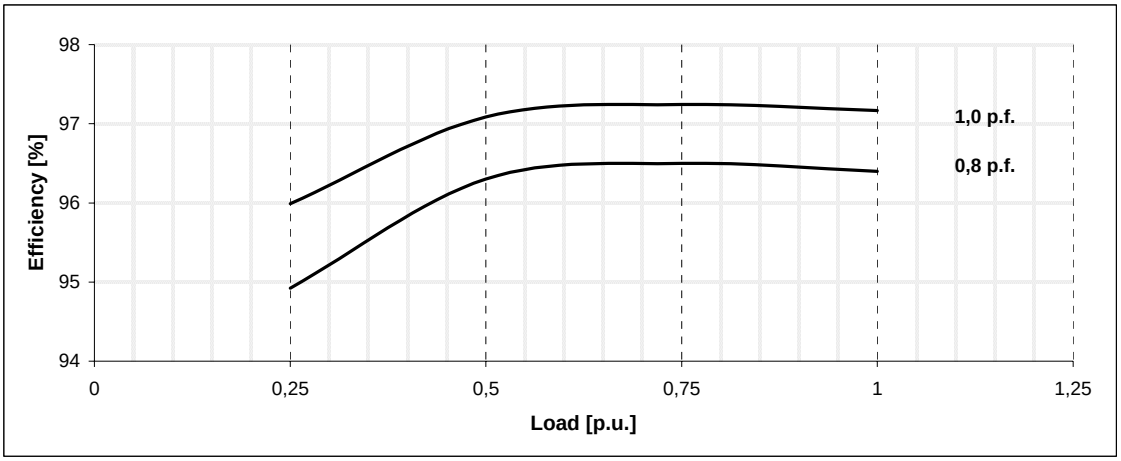
Typical efficiency curves

50 Hz - 1500 min^{-1}

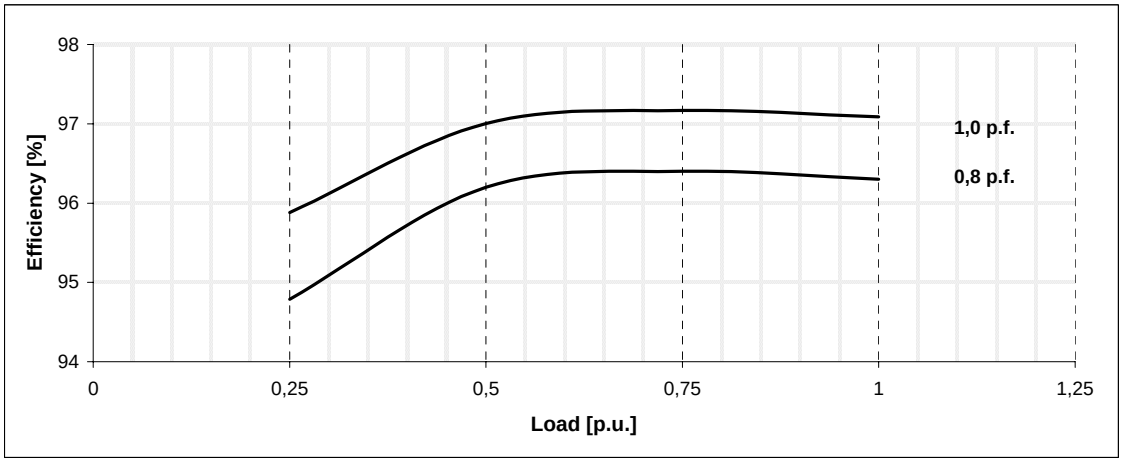
380 V



400 V



415 V



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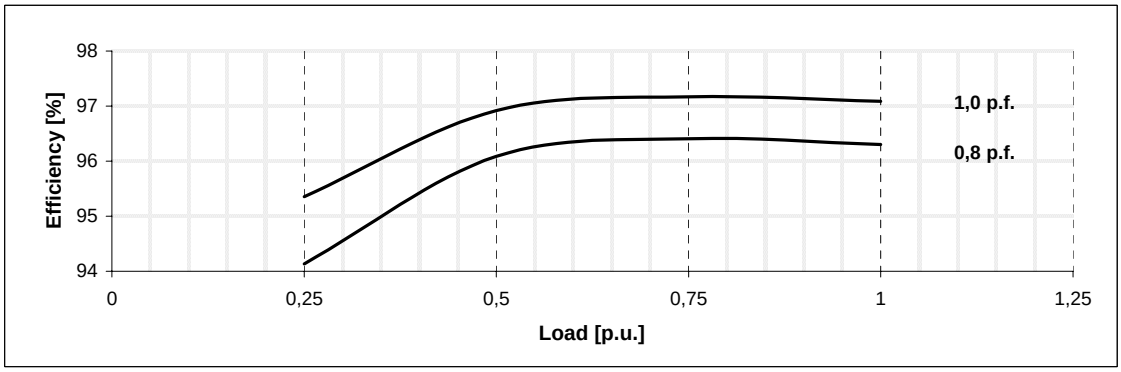
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 630 MA 4

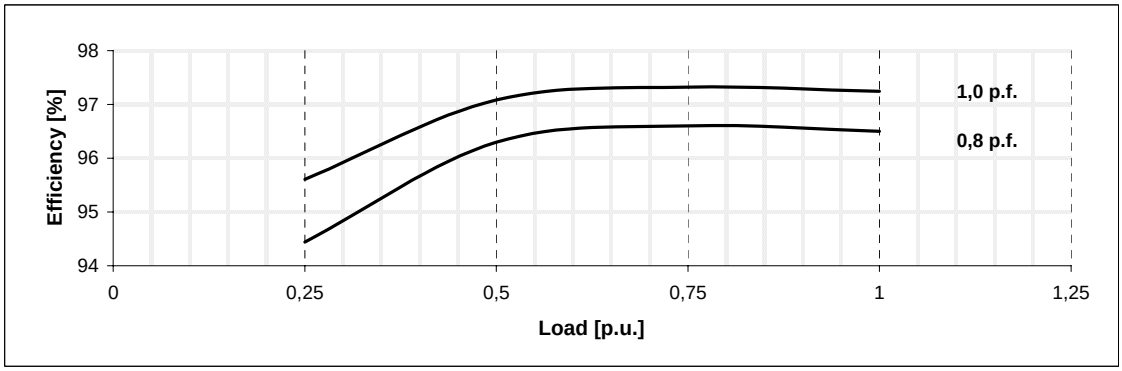
Typical efficiency curves

60 Hz - 1800 min^{-1}

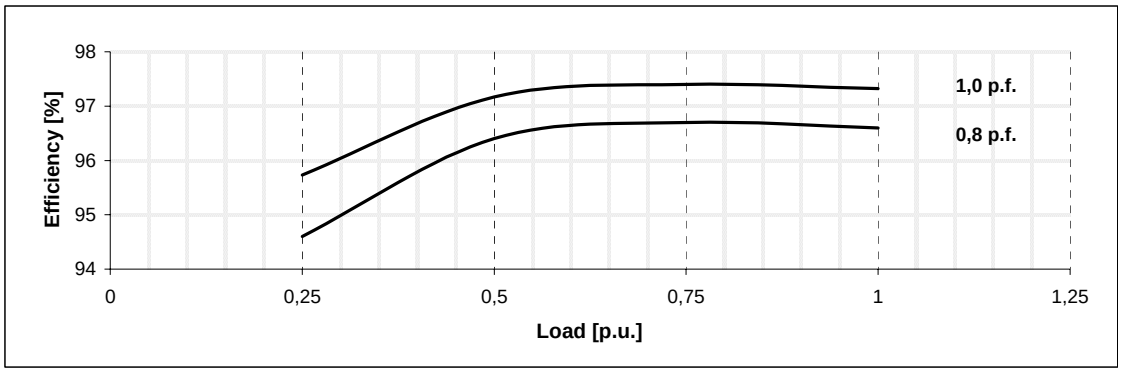
416 V



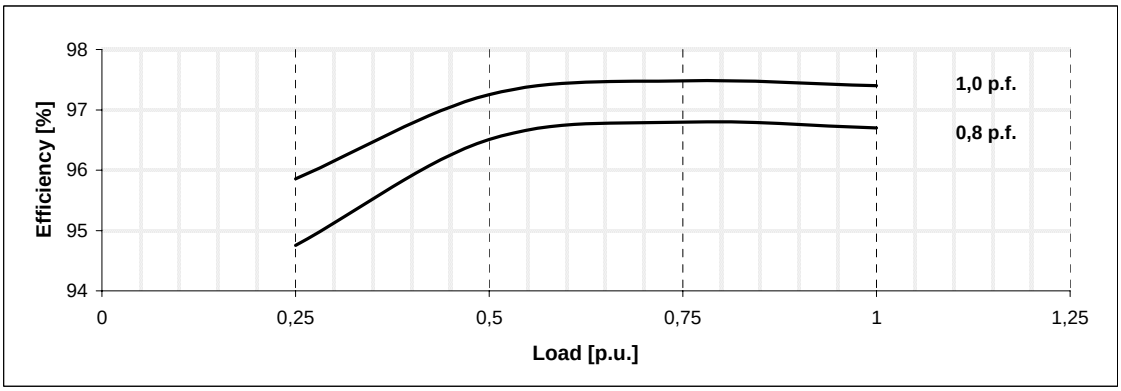
440 V



460 V



480 V



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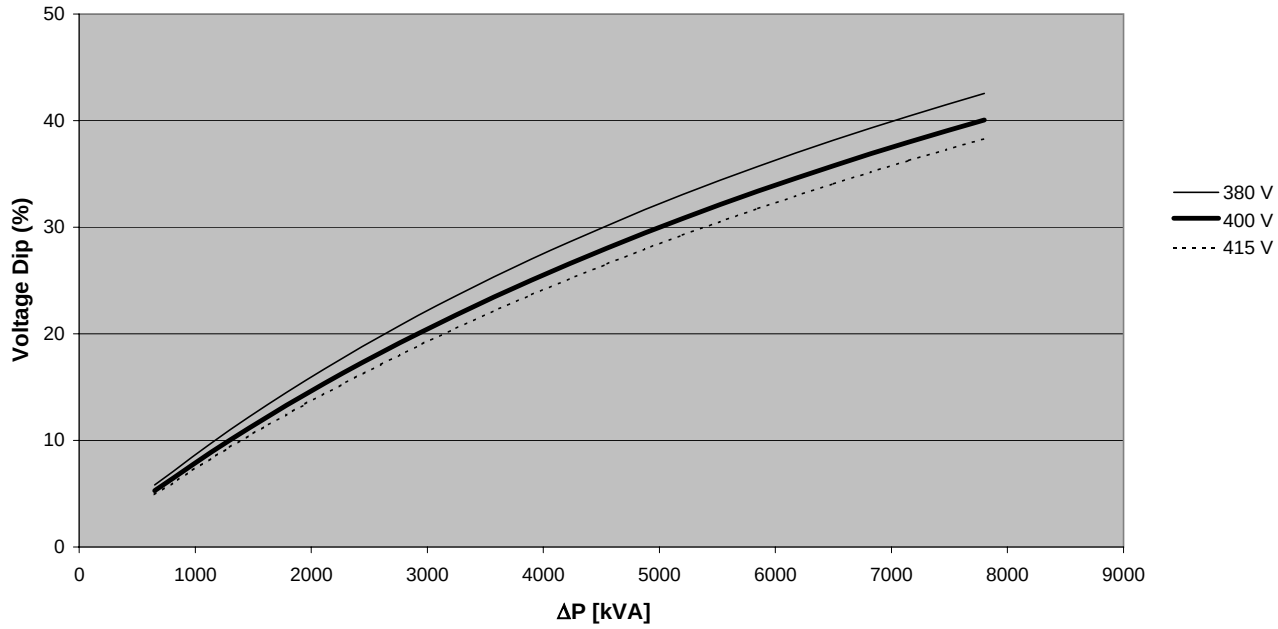
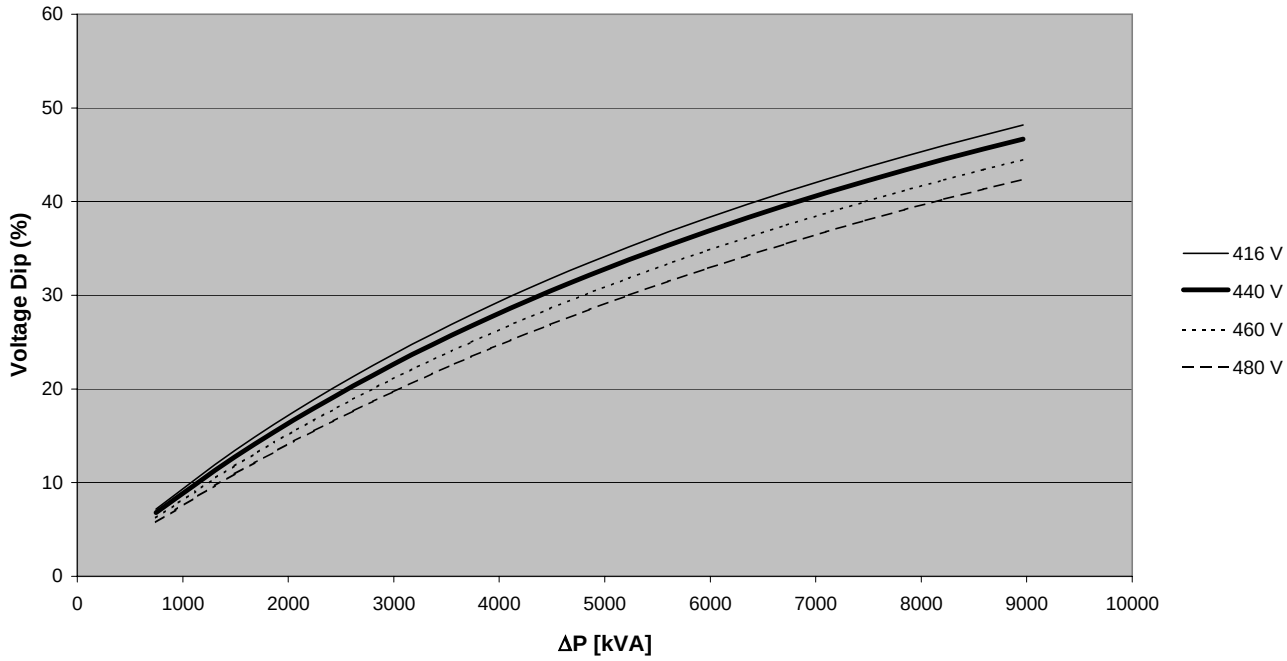
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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

FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 630 LA 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	**80**
INSULATION CLASS	**H**	Number of leads	**6**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**3550**	**3550**	**3550**	**3870**	**4080**	**4080**	**4080**
		kW	***2840***	***2840***	***2840***	***3096***	***3264***	***3264***	***3264***
EFFICIENCY (%) @ 0,8 p.f.		4/4	96,3	96,5	96,4	96,4	96,6	96,7	96,8
		3/4	96,4	96,6	96,5	96,5	96,7	96,8	96,9
		2/4	96,2	96,4	96,3	96,2	96,4	96,5	96,6
EFFICIENCY (%) @ 1,0 p.f.		4/4	97,1	97,2	97,2	97,2	97,3	97,4	97,5
		3/4	97,2	97,3	97,2	97,2	97,4	97,5	97,6
		2/4	97,0	97,2	97,1	97,0	97,2	97,2	97,3
SHORT CIRCUIT RATIO			0,38	0,42	0,45	0,35	0,37	0,40	0,44
REACTANCES (%)									
Direct axis synchronous		xd	355	320	295	385	365	335	305
Quadrature axis synchronous		xq	210	190	175	230	215	200	180
Direct axis transient		x'd	33,2	30,0	27,9	36,3	34,2	31,3	28,7
Direct axis subtransient		x"d	15,5	14,0	13,0	16,9	16,0	14,6	13,4
Quadrature axis subtransient		x"q	17,7	16,0	14,9	19,4	18,2	16,7	15,3
Negative sequence		x_2	16,6	15,0	13,9	18,1	17,1	15,6	14,4
Zero sequence		x_0	5,9	5,3	4,9	6,4	6,0	5,5	5,1

TIME CONSTANTS [s]

Open circuit (T'do)	4,80	Subtransient (T"d)	0,018
Transient (T'd)	0,48	Armature (Ta)	0,045

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 M C3 / With grease nipple
N-end bearing/Lubrication	6324 M C3 / With grease nipple
Weight (IM B34) [kg]	7800
Inertia (J) (IM B34) [kgm^2]	158
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	3,8 / 4,3
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34 (IM 2101) / IM B20 (IM 1101)
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	0,14
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 5% (under no-load or non-distorting-load condition)

STANDARDS

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

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

MarelliGenerators

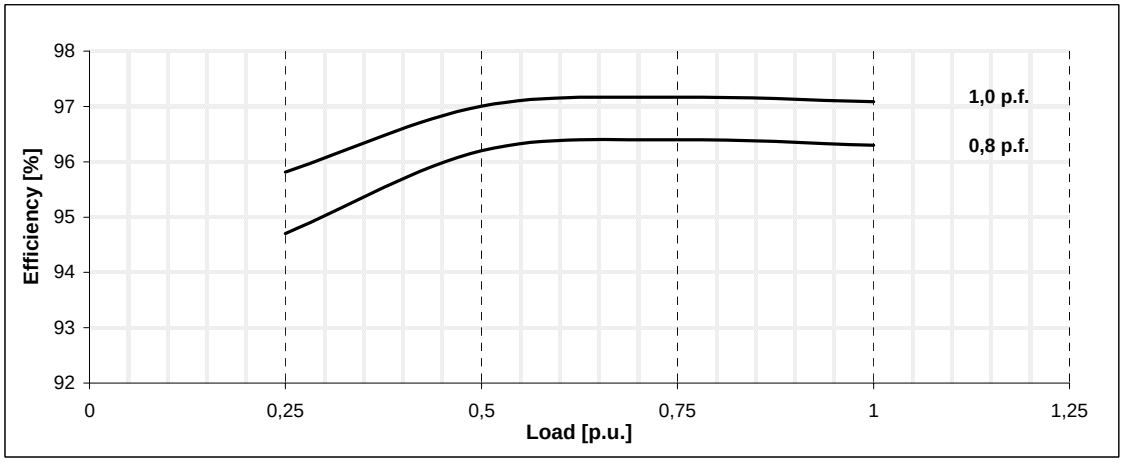
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 630 LA 4

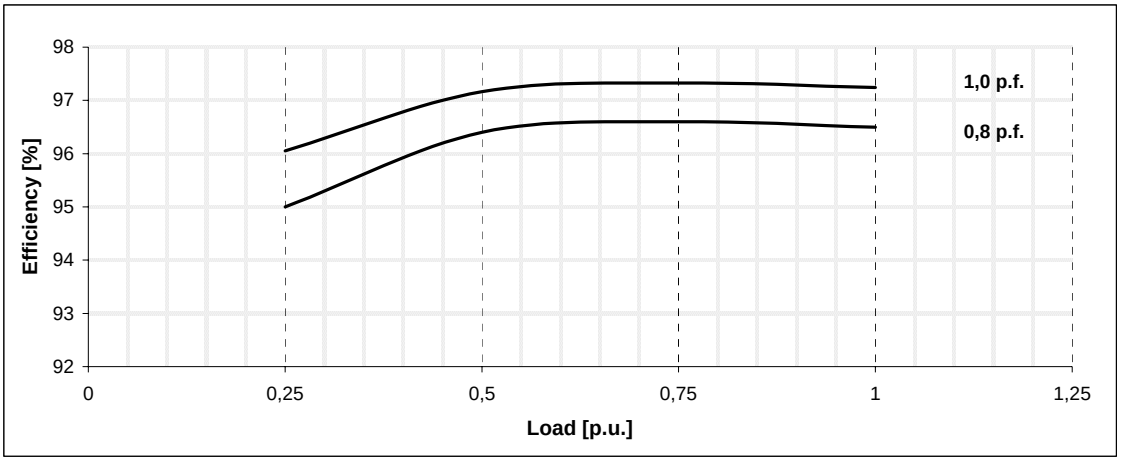
Typical efficiency curves

50 Hz - 1500 min^{-1}

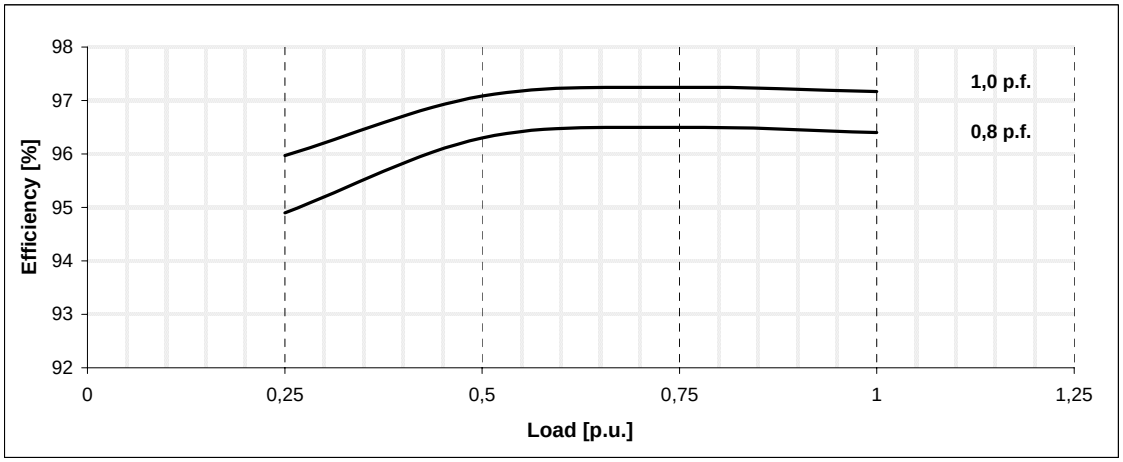
380 V



400 V



415 V



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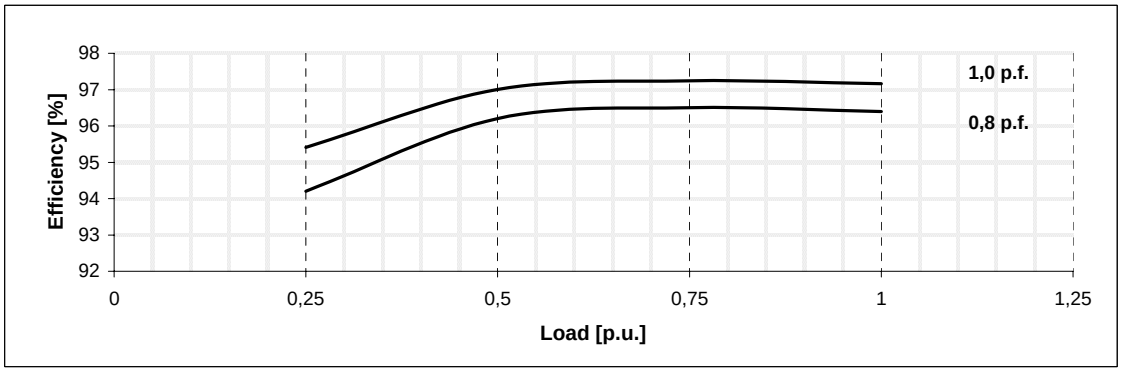
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 630 LA 4

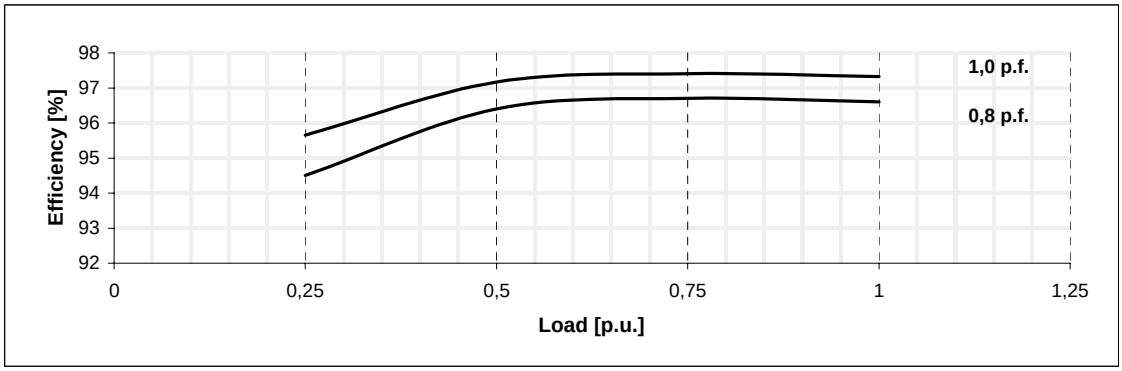
Typical efficiency curves

60 Hz - 1800 min^{-1}

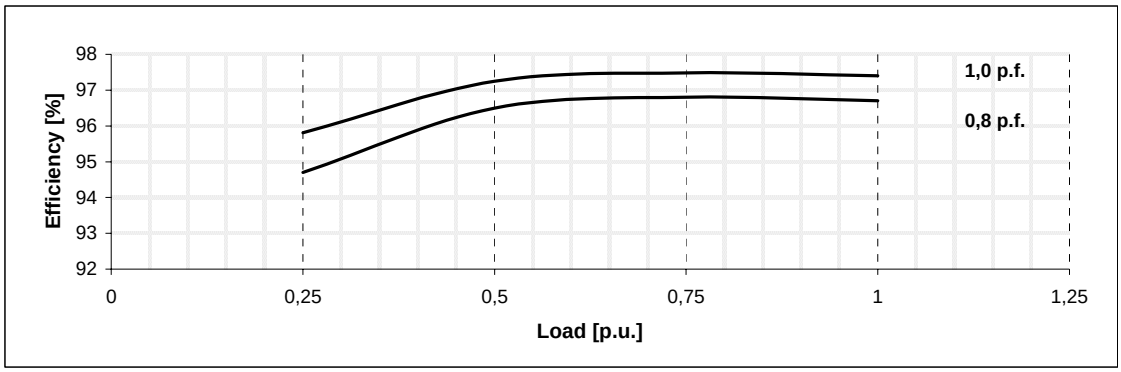
416 V



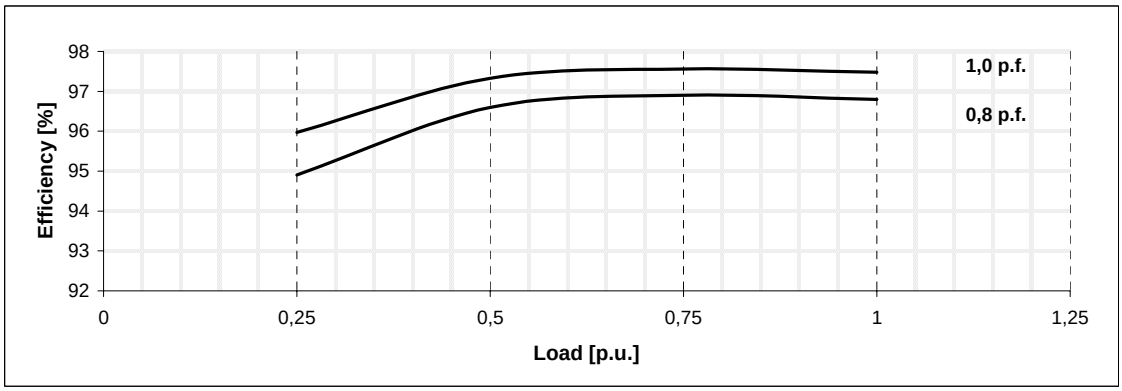
440 V



460 V



480 V



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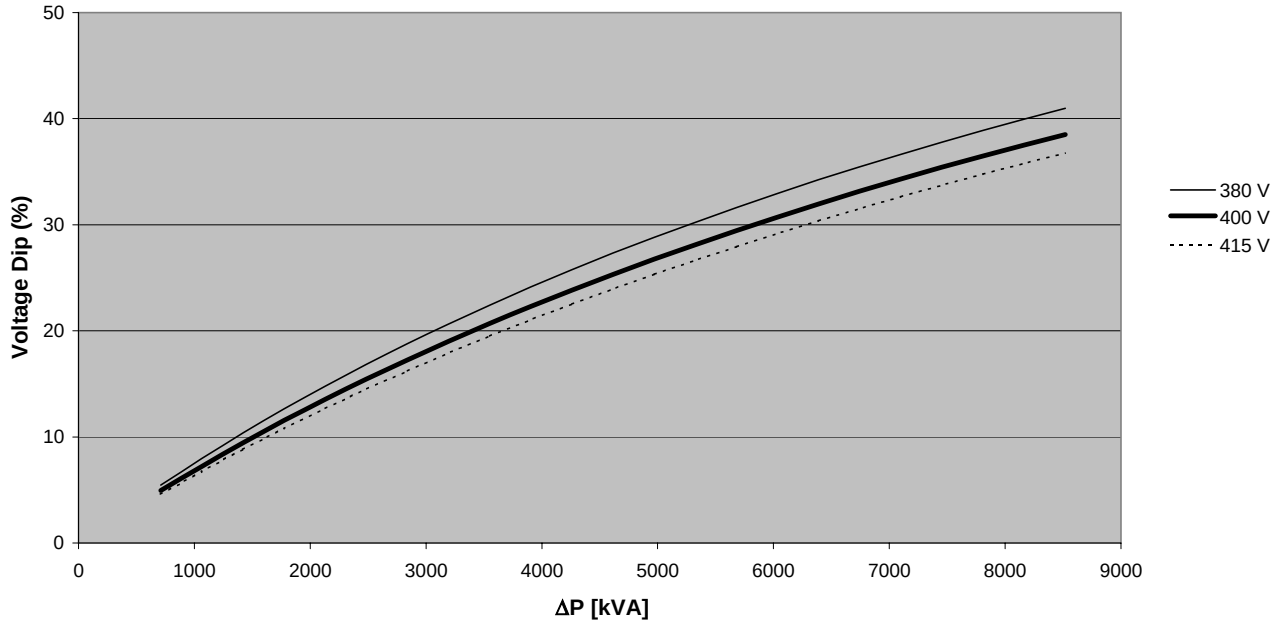
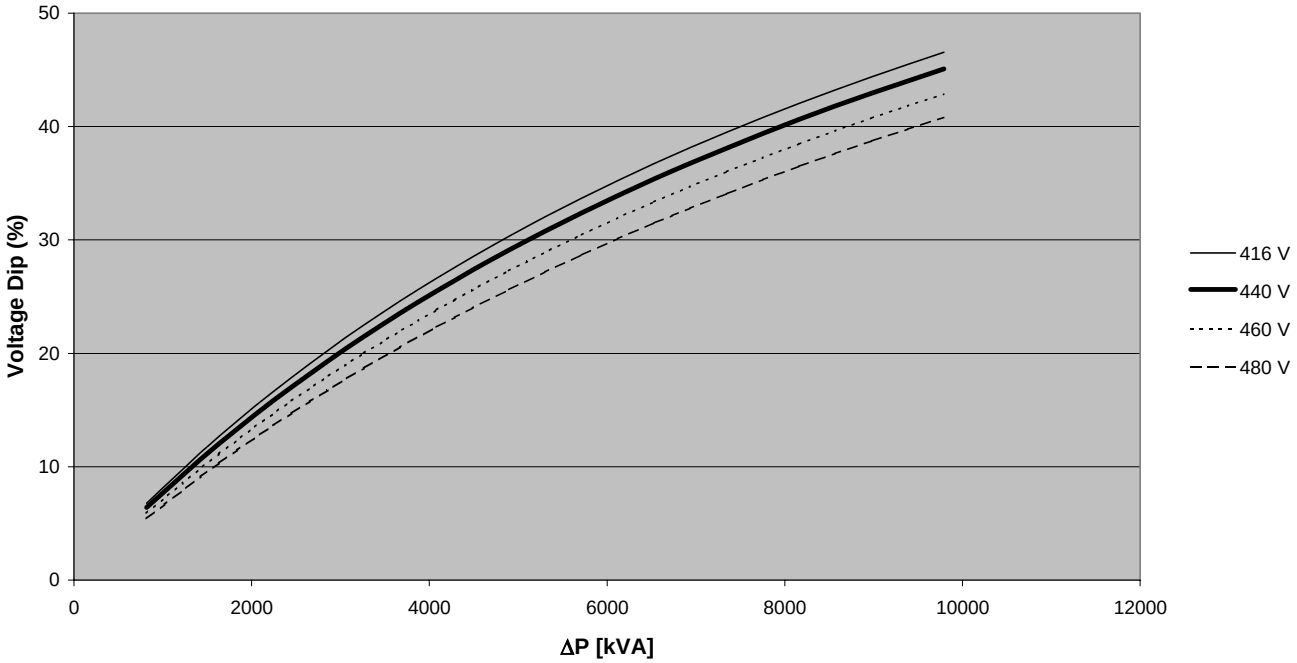
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 MB 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**	**416**	**440**	**460**	**480**
	Star parallel		**190**	**200**	**208**	**220**	**208**	**220**	**230**	**240**
RATING		**kVA**	**1000**	**1030**	**1030**	**980**	**1160**	**1220**	**1250**	**1300**
		kW	***800***	***824***	***824***	***784***	***928***	***976***	***1000***	***1040***
EFFICIENCY (%) @ 0,8 p.f.		4/4	95,1	95,2	95,3	95,4	95,1	95,4	95,4	95,4
		3/4	95,5	95,6	95,6	95,6	95,5	95,6	95,7	95,7
		2/4	95,6	95,7	95,7	95,7	95,6	95,6	95,8	95,8
EFFICIENCY (%) @ 1,0 p.f.		4/4	96,1	96,2	96,3	96,4	96,1	96,4	96,4	96,4
		3/4	96,5	96,5	96,5	96,5	96,4	96,5	96,6	96,6
		2/4	96,6	96,6	96,6	96,6	96,5	96,5	96,7	96,7
SHORT CIRCUIT RATIO			0,41	0,44	0,47	0,56	0,35	0,37	0,40	0,42
REACTANCES (%)										
Direct axis synchronous		xd	295	275	255	215	345	325	305	290
Quadrature axis synchronous		xq	160	150	140	120	185	175	165	160
Direct axis transient		x'd	25,8	24,0	22,3	18,9	30,0	28,2	26,4	25,2
Direct axis subtransient		x''d	12,5	11,6	10,8	9,1	14,5	13,6	12,8	12,2
Quadrature axis subtransient		x''q	13,2	12,3	11,4	9,7	15,4	14,4	13,5	12,9
Negative sequence		x_2	12,9	12,0	11,1	9,4	15,0	14,1	13,2	12,6
Zero sequence		x_0	2,8	2,6	2,4	2,0	3,2	3,1	2,9	2,7

TIME CONSTANTS [s]

Open circuit (T'do)	2,4	Subtransient (T''d)	0,018
Transient (T'd)	0,18	Armature (Ta)	0,025

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	2300
Inertia (J) (IM B34) [kgm^2]	17,0
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,30 / 1,55
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	1,7
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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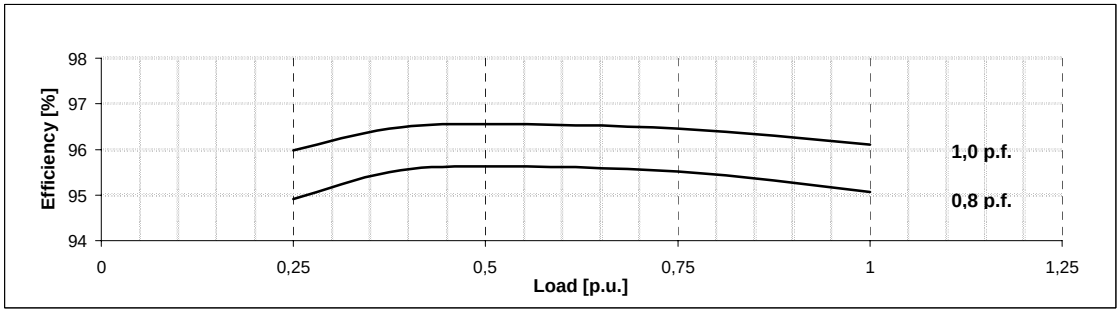
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 MB 4

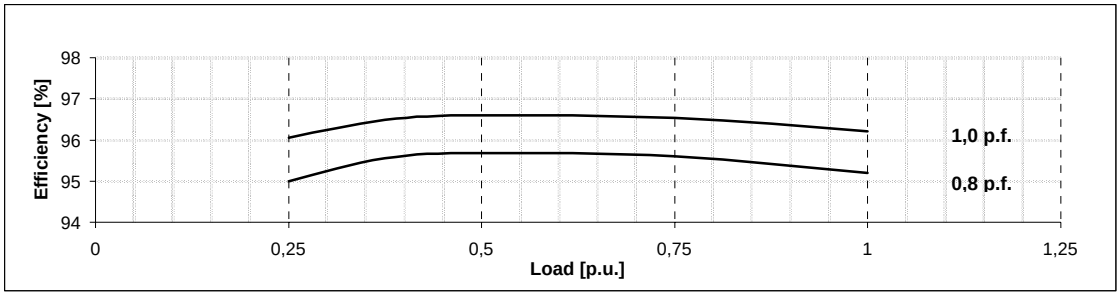
Typical efficiency curves

50 Hz - 1500 min^{-1}

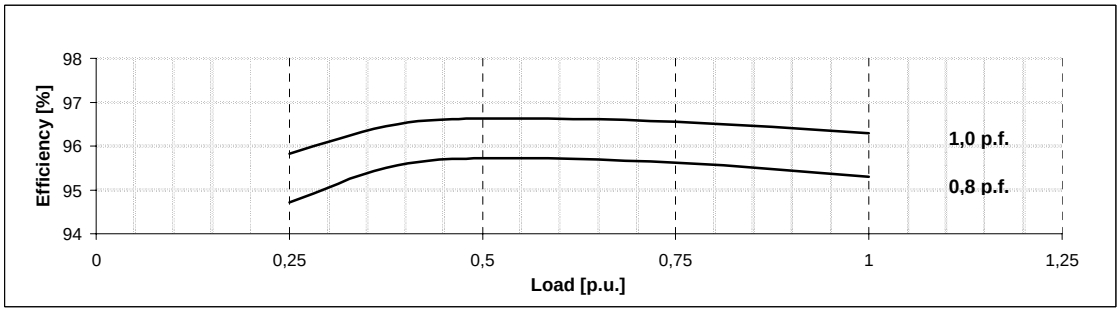
380 V



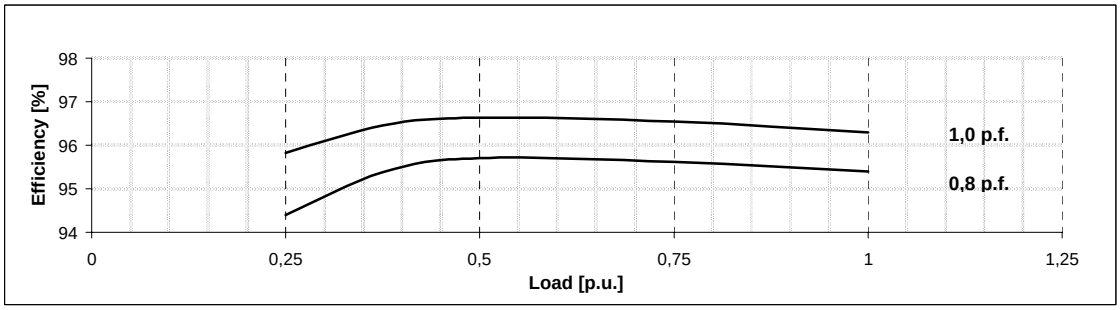
400 V



415 V



440 V



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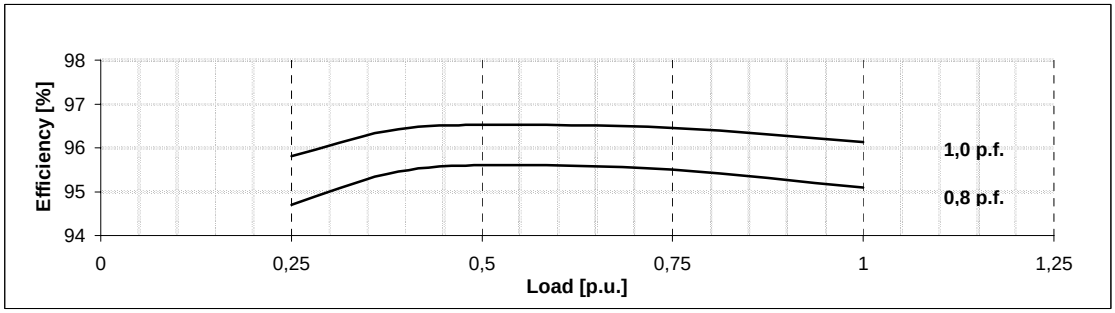
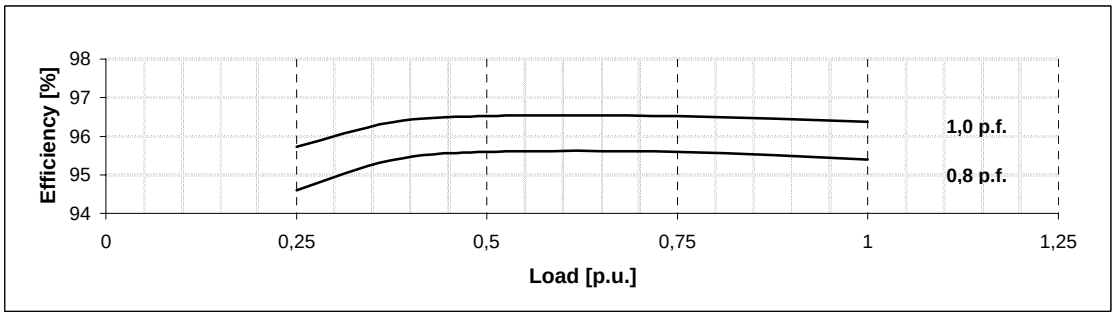
Typical efficiency curves

60 Hz - 1800 min^{-1}

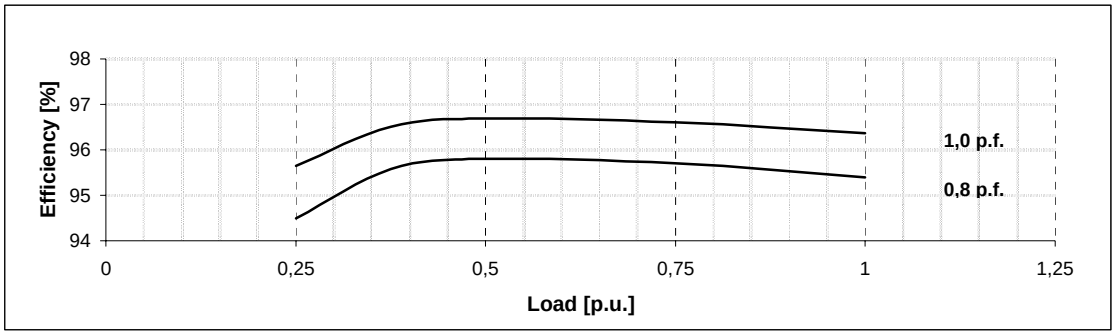
416 V



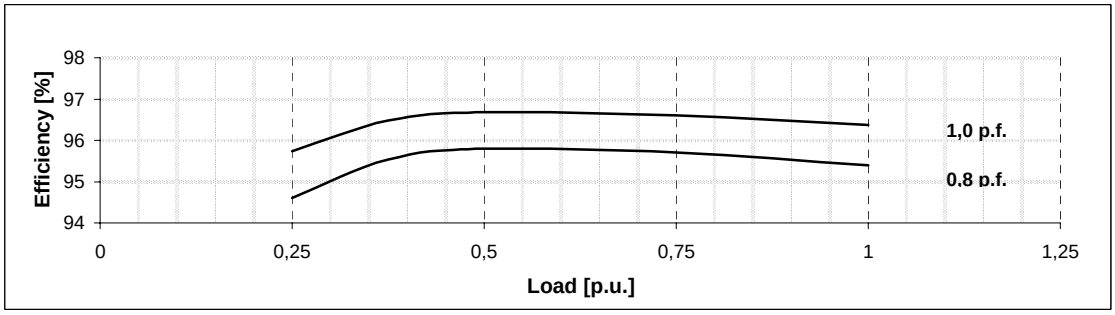
440 V



460 V



480 V



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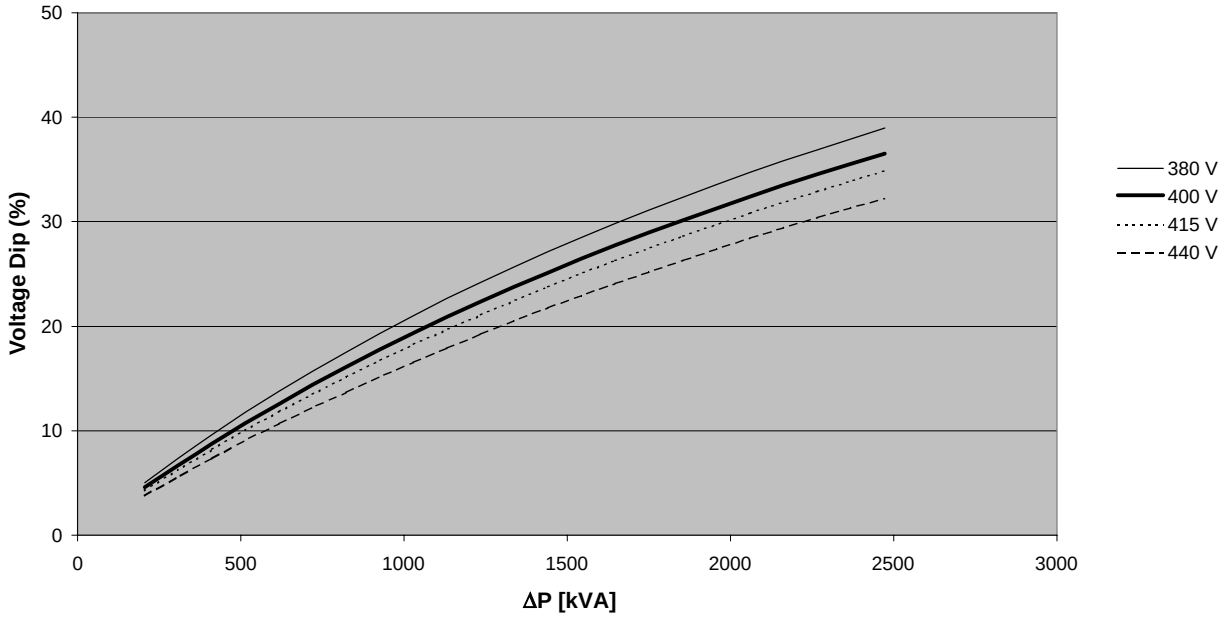
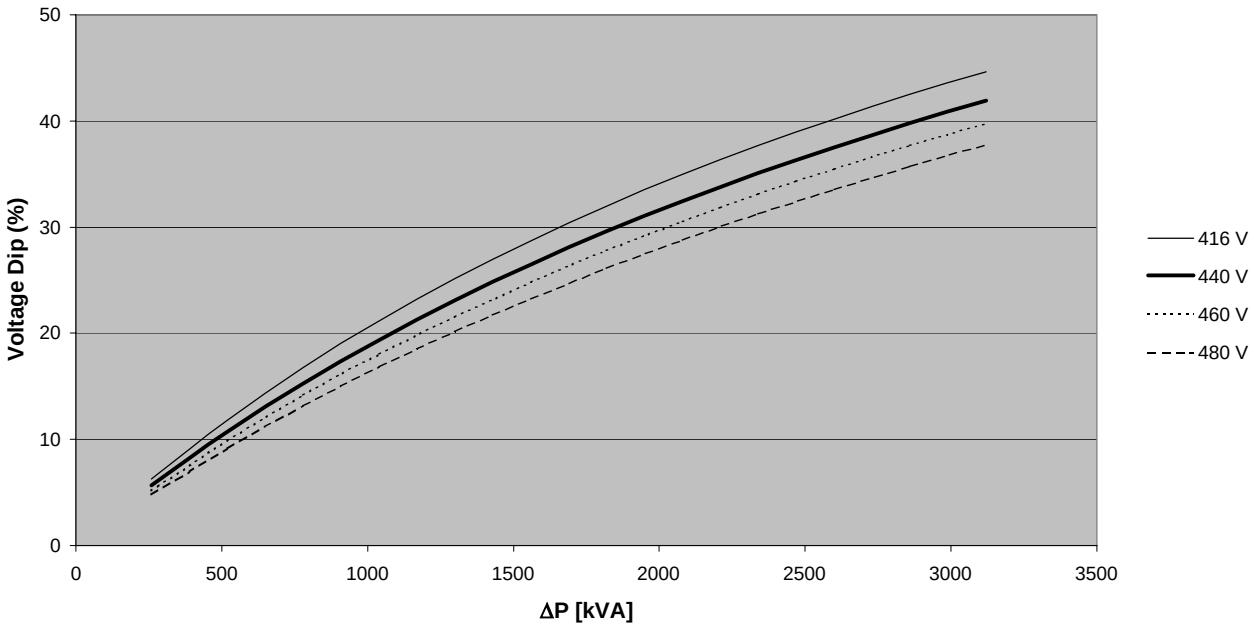
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

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

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 LA 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**	**416**	**440**	**460**	**480**
	Star parallel		**190**	**200**	**208**	**220**	**208**	**220**	**230**	**240**
RATING		**kVA**	**1140**	**1140**	**1130**	**1050**	**1250**	**1310**	**1360**	**1380**
		kW	***912***	***912***	***904***	***840***	***1000***	***1048***	***1088***	***1104***
EFFICIENCY (%) @ 0,8 p.f.		4/4	95,4	95,6	95,6	95,6	95,5	95,7	95,9	95,9
		3/4	95,8	95,8	95,9	95,8	95,8	96,0	96,1	96,1
		2/4	95,9	95,9	95,9	95,8	95,9	96,0	96,2	96,2
EFFICIENCY (%) @ 1,0 p.f.		4/4	96,3	96,5	96,5	96,5	96,4	96,6	96,7	96,7
		3/4	96,7	96,7	96,8	96,7	96,7	96,8	96,9	96,9
		2/4	96,8	96,8	96,8	96,7	96,7	96,8	97,0	97,0
SHORT CIRCUIT RATIO			0,45	0,50	0,54	0,66	0,41	0,44	0,46	0,50
REACTANCES (%)										
Direct axis synchronous		xd	275	250	230	190	305	285	270	250
Quadrature axis synchronous		xq	155	140	130	105	170	160	150	140
Direct axis transient		x'd	24,4	22,0	20,3	16,7	26,8	25,1	23,8	22,2
Direct axis subtransient		x''d	11,4	10,3	9,5	7,8	12,5	11,7	11,1	10,4
Quadrature axis subtransient		x''q	12,7	11,5	10,6	8,8	14,0	13,1	12,4	11,6
Negative sequence		x_2	12,1	10,9	10,0	8,3	13,3	12,4	11,8	11,0
Zero sequence		x_0	2,8	2,5	2,3	1,9	3,0	2,8	2,7	2,5

TIME CONSTANTS [s]

Open circuit (T'do)	2,6	Subtransient (T''d)	0,018
Transient (T'd)	0,20	Armature (Ta)	0,027

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	2550
Inertia (J) (IM B34) [kgm^2]	19,3
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,30 / 1,55
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	1,4
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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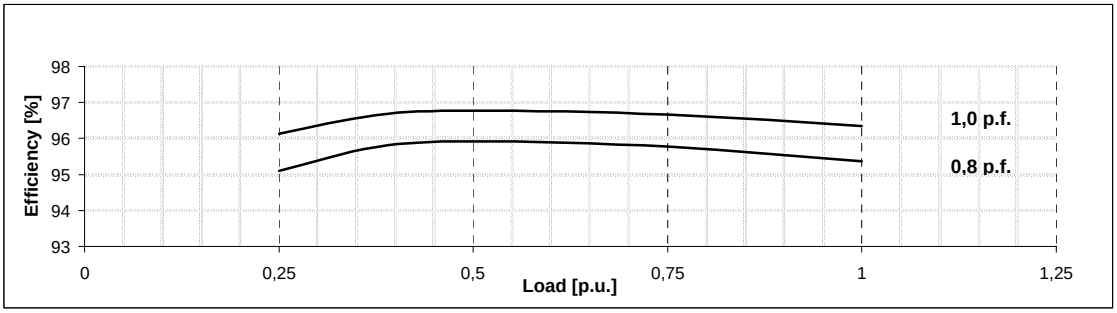
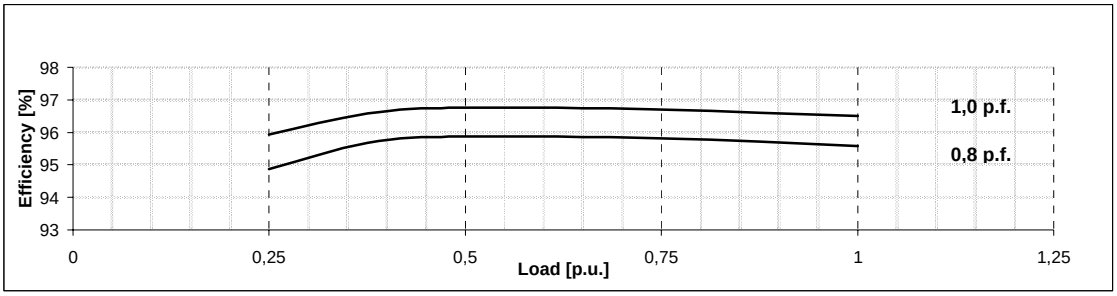
Typical efficiency curves

50 Hz - 1500 min^{-1}

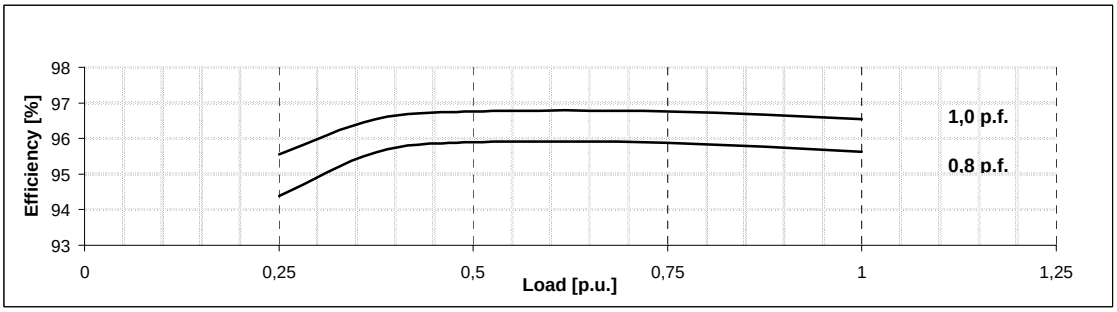
380 V



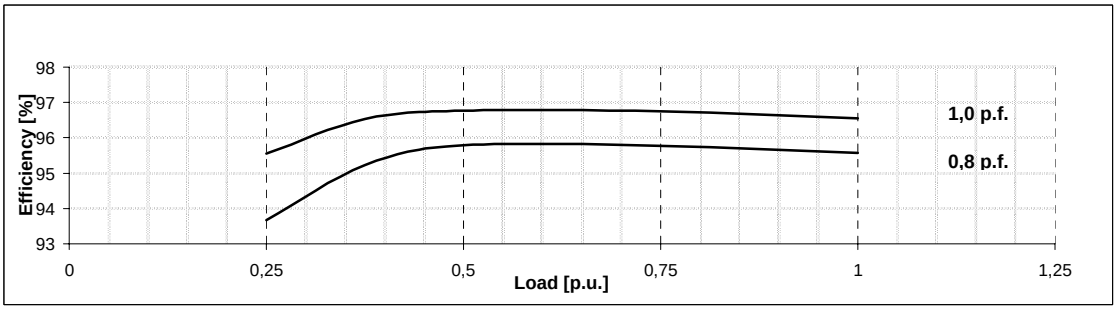
400 V



415 V



440 V

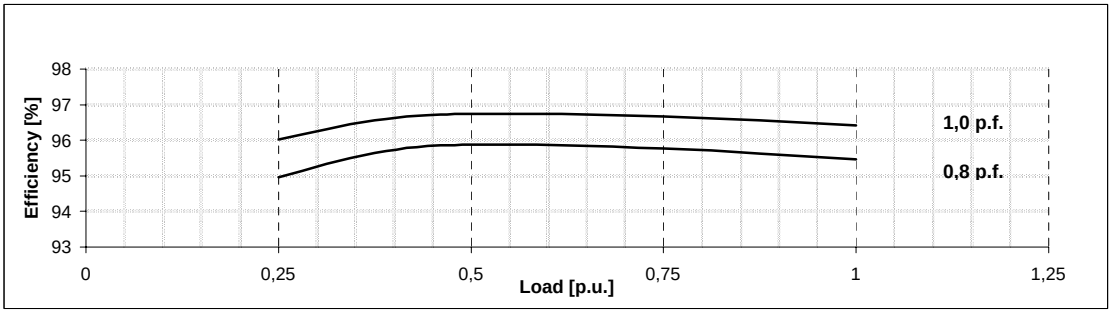


Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

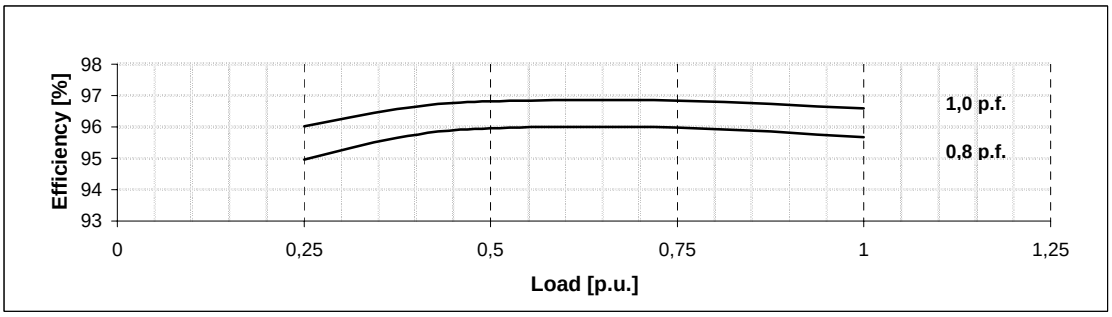
Typical efficiency curves

60 Hz - 1800 min^{-1}

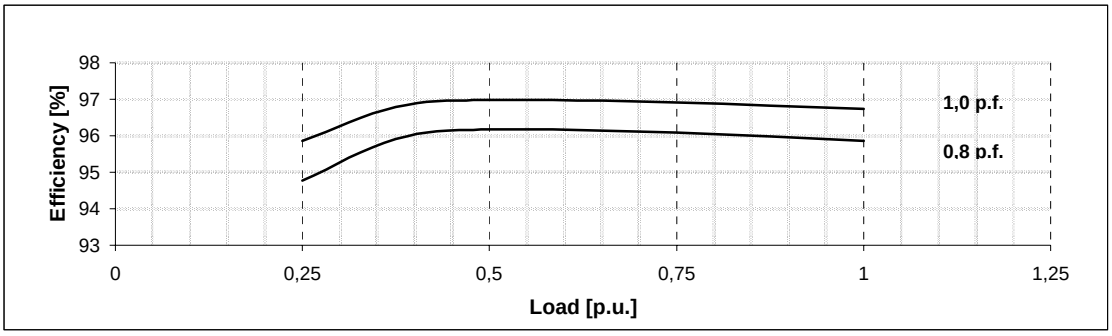
416 V



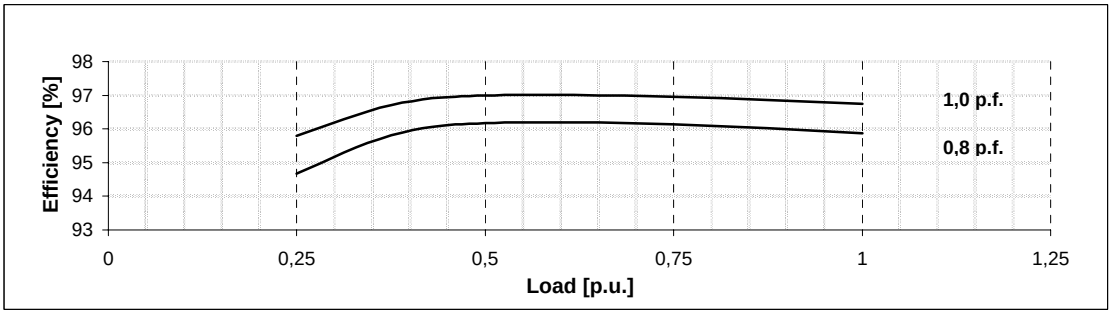
440 V



460 V



480 V



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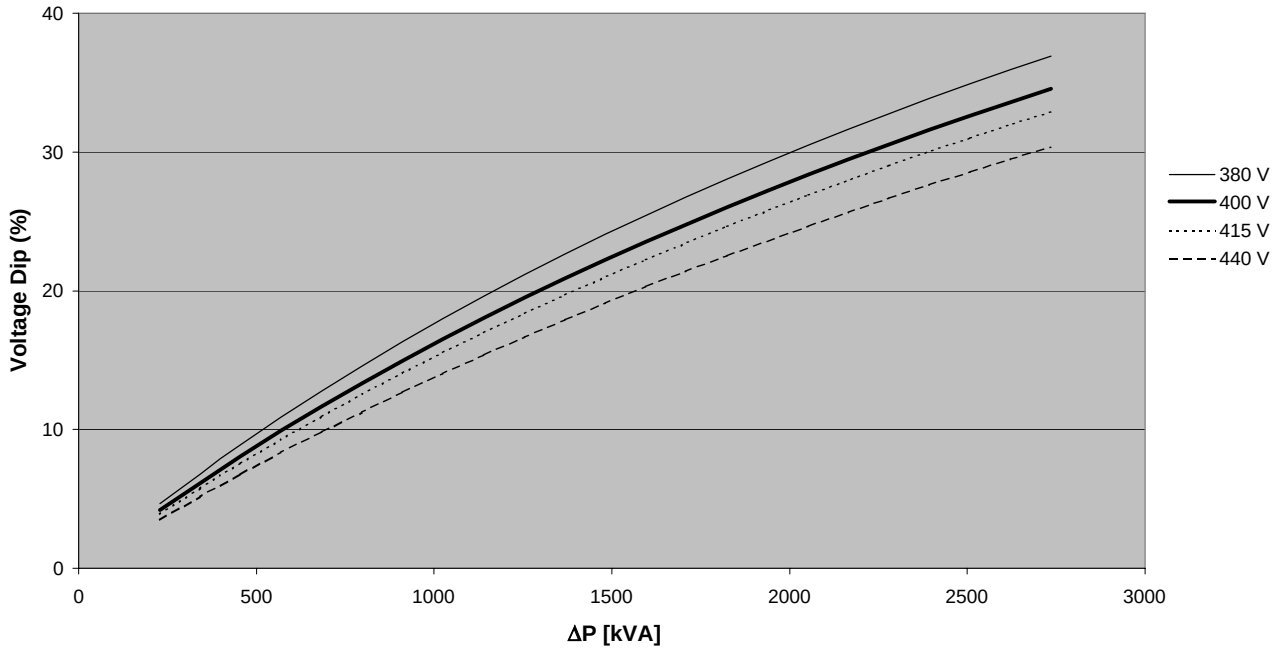
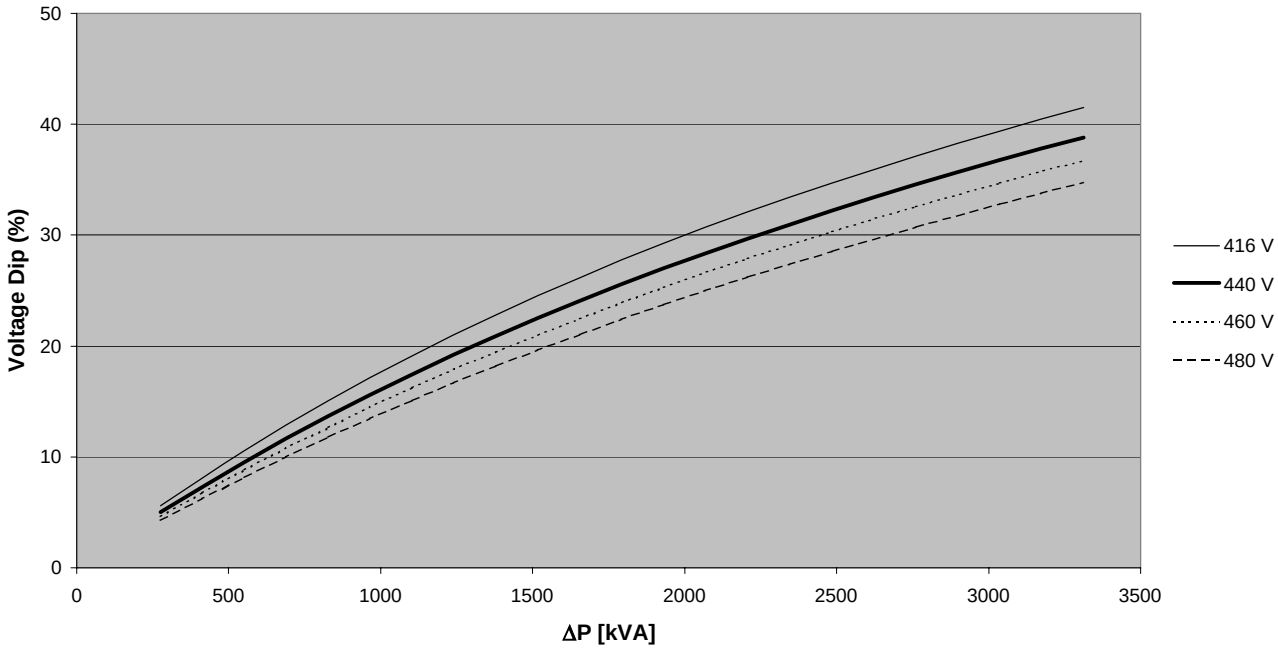
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

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

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 LB 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**	**416**	**440**	**460**	**480**
	Star parallel		**190**	**200**	**208**	**220**	**208**	**220**	**230**	**240**
RATING		**kVA**	**1160**	**1200**	**1200**	**1200**	**1300**	**1380**	**1420**	**1450**
		kW	***928***	***960***	***960***	***960***	***1040***	***1104***	***1136***	***1160***
EFFICIENCY (%) @ 0,8 p.f.		4/4	95,7	95,8	95,8	95,9	95,7	95,9	96,1	96,2
		3/4	96,0	96,0	96,0	96,0	96,0	96,2	96,3	96,4
		2/4	96,1	96,0	96,0	96,0	96,1	96,2	96,3	96,3
EFFICIENCY (%) @ 1,0 p.f.		4/4	96,6	96,7	96,7	96,8	96,6	96,8	96,9	97,0
		3/4	96,8	96,9	96,9	96,9	96,8	97,0	97,1	97,2
		2/4	96,9	96,9	96,8	96,9	96,9	97,0	97,1	97,1
SHORT CIRCUIT RATIO			0,45	0,48	0,52	0,58	0,40	0,42	0,45	0,48
REACTANCES (%)										
Direct axis synchronous		xd	280	260	240	215	315	295	280	260
Quadrature axis synchronous		xq	155	145	135	120	175	165	155	145
Direct axis transient		x'd	24,6	23,0	21,4	19,0	27,6	26,2	24,7	23,2
Direct axis subtransient		x''d	11,5	10,7	9,9	8,8	12,9	12,2	11,5	10,8
Quadrature axis subtransient		x''q	12,9	12,0	11,1	9,9	14,4	13,7	12,9	12,1
Negative sequence		x_2	12,1	11,3	10,5	9,3	13,6	12,9	12,1	11,4
Zero sequence		x_0	2,8	2,6	2,4	2,1	3,1	3,0	2,8	2,6

TIME CONSTANTS [s]

Open circuit (T'do)	2,7	Subtransient (T''d)	0,018
Transient (T'd)	0,21	Armature (Ta)	0,027

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	2800
Inertia (J) (IM B34) [kgm^2]	22,5
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,30 / 1,55
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	1,4
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

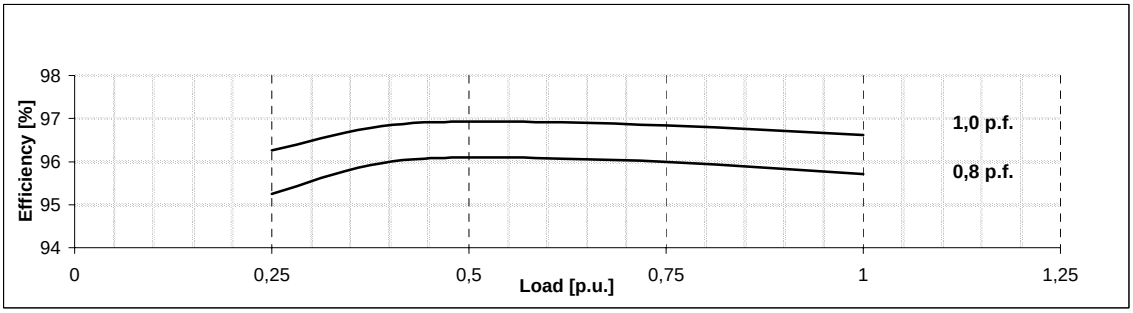
IEC 60034-1; CEI 2-3; BS 4999-5000; VDE 0530; NF 51-100,111; OVE M-10, NEMA MG 1.22.

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

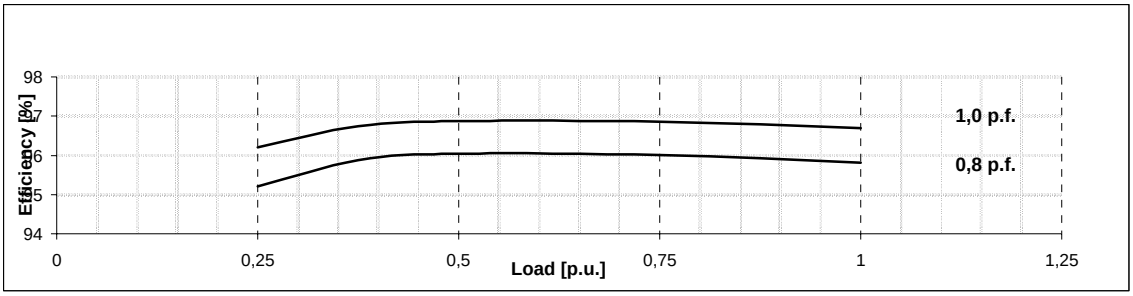
Typical efficiency curves

50 Hz - 1500 min^{-1}

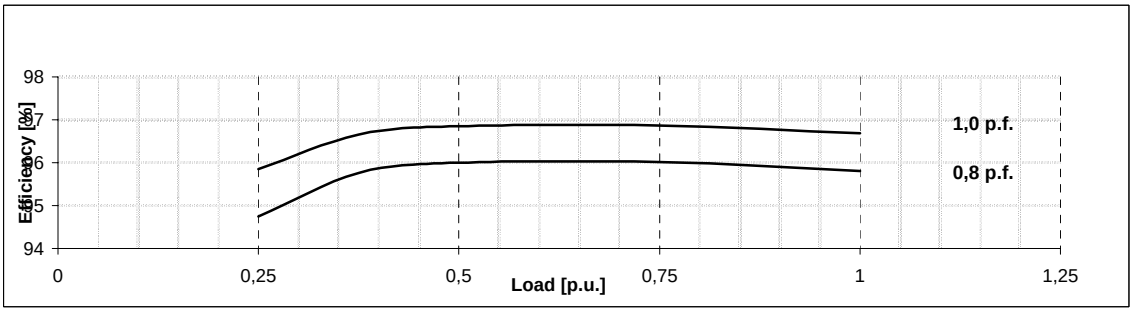
380 V



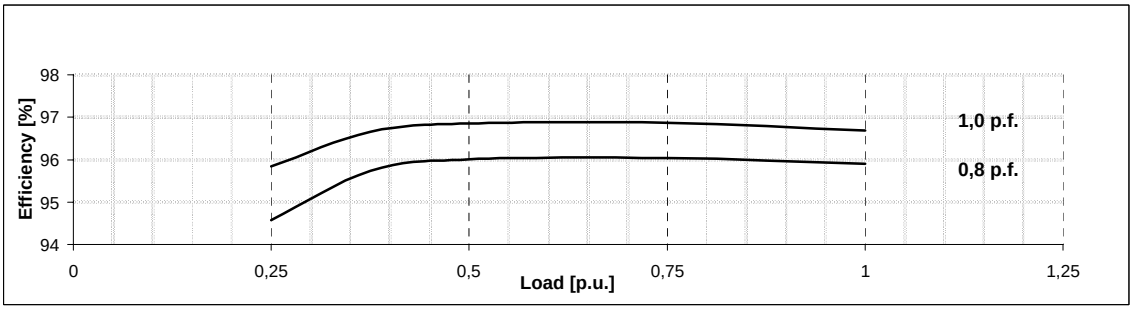
400 V



415 V



440 V



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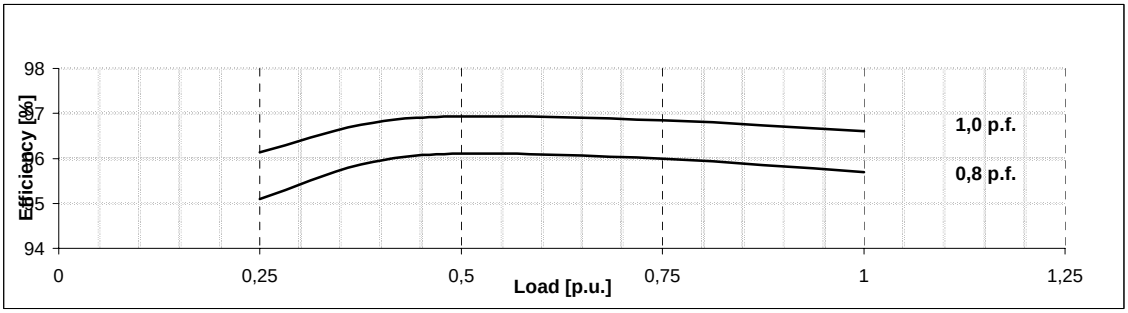
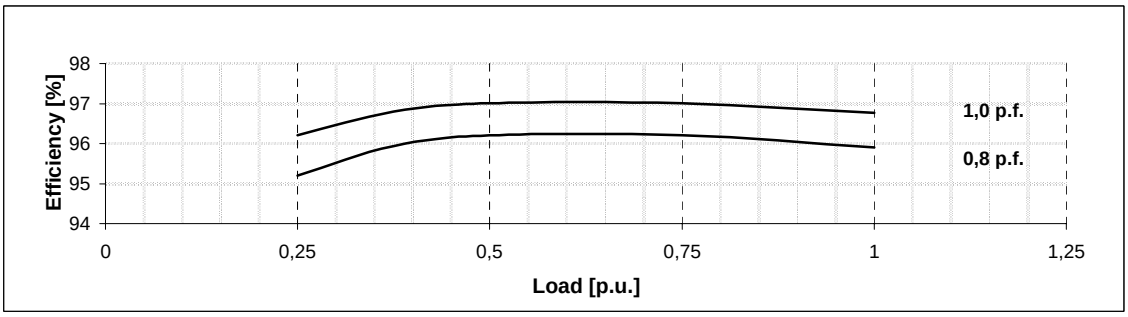
Typical efficiency curves

60 Hz - 1800 min^{-1}

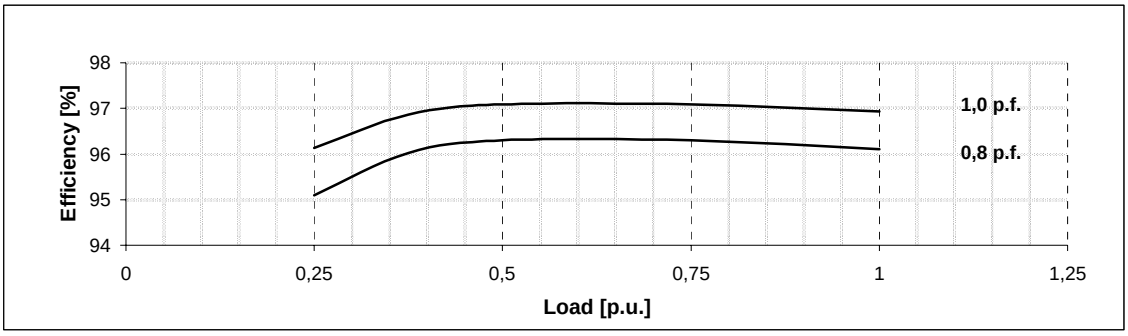
416 V



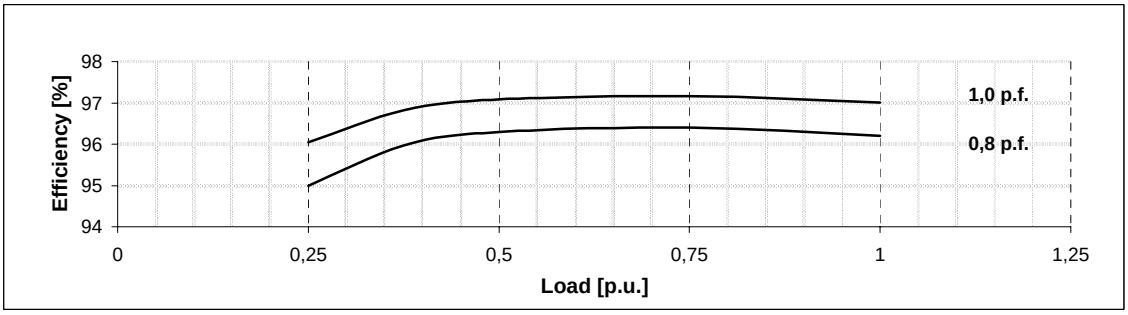
440 V



460 V



480 V



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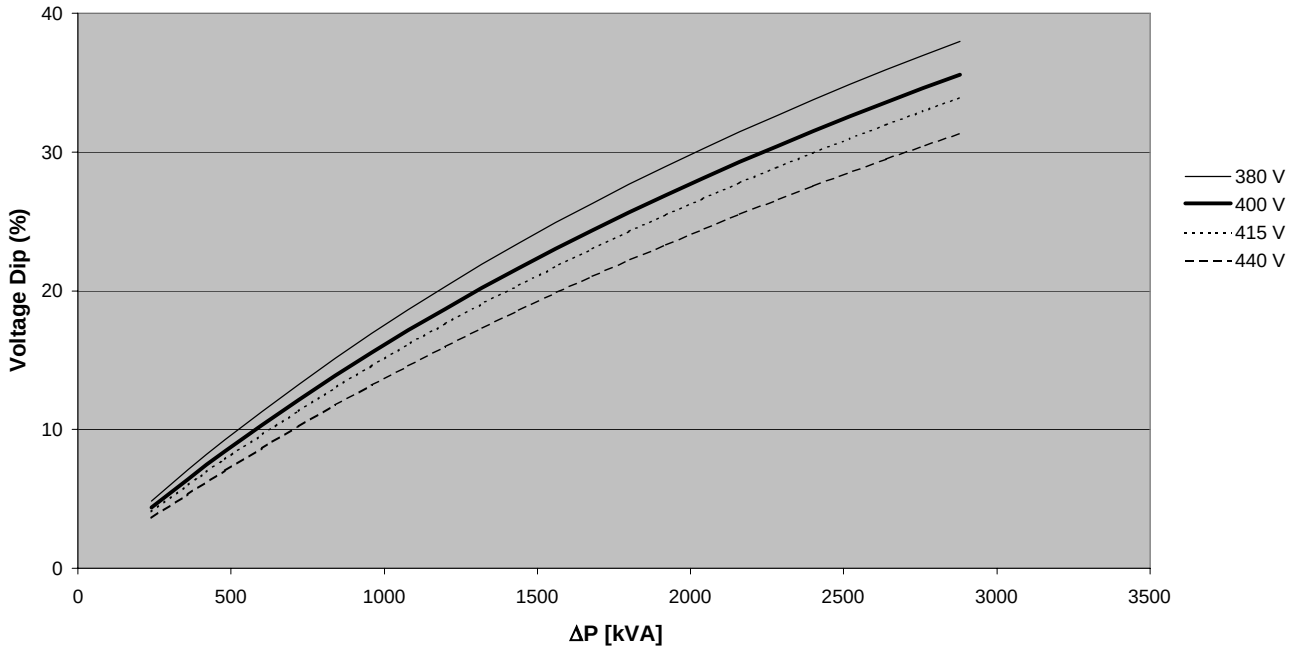
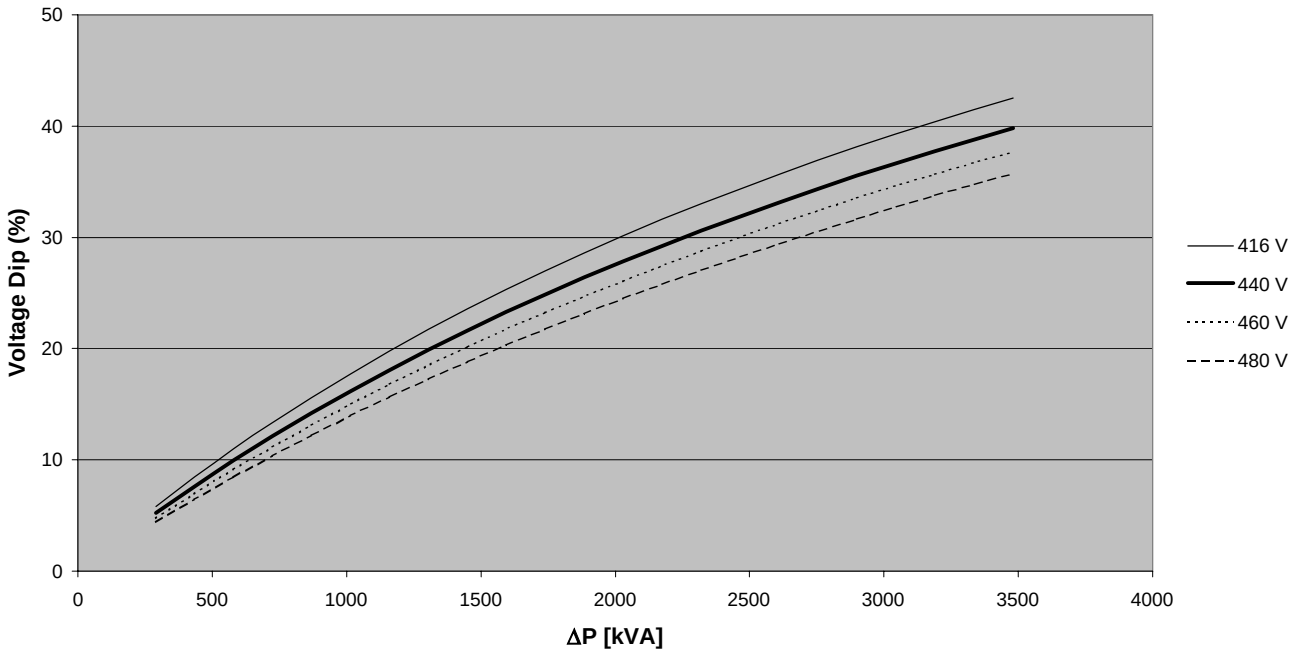
Locked rotor motor starting curves (*)

50 Hz - 1500 min^{-1}



60 Hz - 1800 min^{-1}



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

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

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 160 SA 4

4 POLES

60 Hz-1800 min^{-1}

CONTINUOUS DUTY

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**		**60**	
VOLTAGE	Star series	**V**	**380**	**416**	**440**
	Star parallel		**190**	**208**	**220**
RATING		**kVA**	**19,5**	**21,4**	**21,4**
		kW	***15,6***	***17,1***	***17,1***
EFFICIENCY (%) @ 0,8 p.f.		4/4	78,9	80,7	80,8
		3/4	81,5	82,9	83,2
		2/4	83,1	83,5	84,3
EFFICIENCY (%) @ 1,0 p.f.		4/4	82,7	84,2	84,4
		3/4	85,0	86,1	86,4
		2/4	86,3	86,7	87,3
SHORT CIRCUIT RATIO			0,40	0,44	0,49
REACTANCES (%)					
Direct axis synchronous		xd	285	260	230
Quadrature axis synchronous		xq	165	150	135
Direct axis transient		x'd	27,9	25,5	22,8
Direct axis subtransient		x"d	13,7	12,5	11,2
Quadrature axis subtransient		x"q	15,1	13,8	12,3
Negative sequence		x_2	13,8	12,6	11,3
Zero sequence		x_0	2,0	1,8	1,6

TIME CONSTANTS [s]

Open circuit (T'do)	0,4	Subtransient (T"d)	0,008
Transient (T'd)	0,035	Armature (Ta)	0,005

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6310 2RS C3 / Prelubricated
N-end bearing/Lubrication	6309 2RS C3 / Prelubricated
Weight (IM B34) [kg]	120
Inertia (J) (IM B34) [kgm^2]	0,109
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	0,14
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	1,13
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.

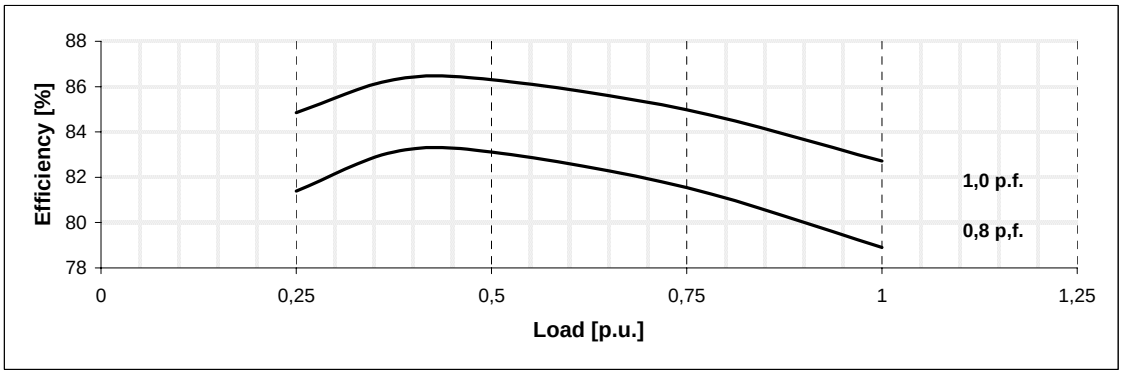
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

MarelliGenerators

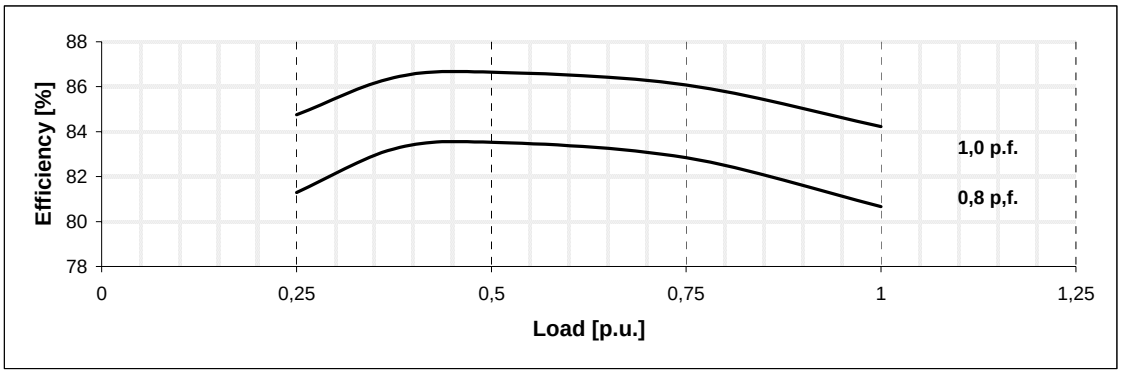
Typical efficiency curves

60 Hz - 1800 min^{-1}

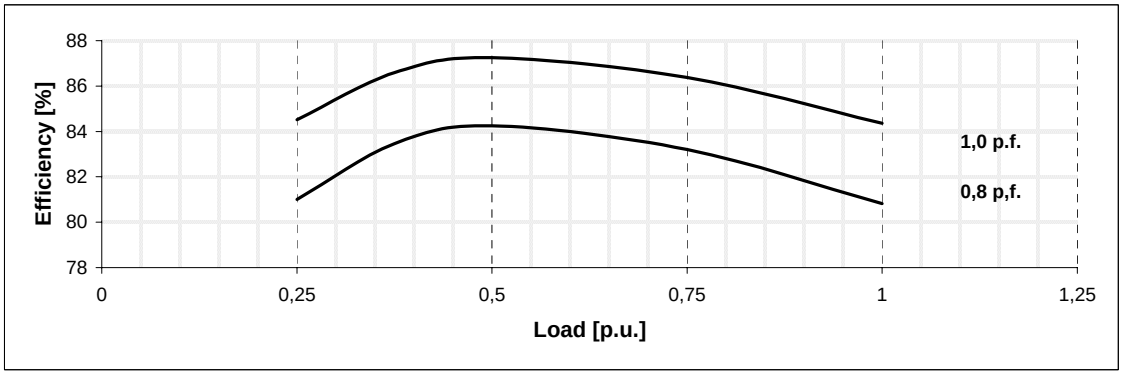
380 V



416 V



440 V



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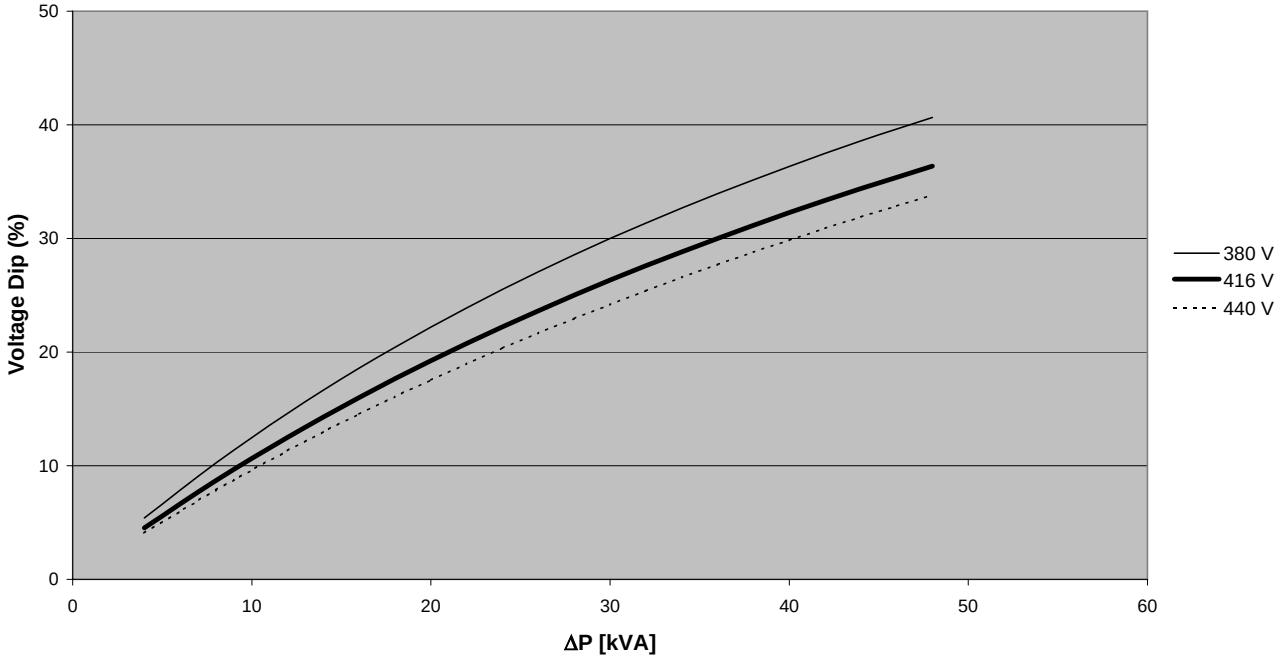
Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 160 SB 4

4 POLES

60 Hz-1800 min^{-1}

CONTINUOUS DUTY

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**		**60**	
VOLTAGE	Star series	**V**	**380**	**416**	**440**
	Star parallel		**190**	**208**	**220**
RATING		**kVA**	**23,5**	**24,7**	**24,7**
		kW	***18,8***	***19,8***	***19,8***
EFFICIENCY (%) @ 0,8 p.f.		4/4	84,8	86,1	86,9
		3/4	87,6	88,5	89,0
		2/4	89,3	89,7	90,0
EFFICIENCY (%) @ 1,0 p.f.		4/4	87,8	88,8	89,5
		3/4	90,0	90,8	91,2
		2/4	91,5	91,8	92,0
SHORT CIRCUIT RATIO			0,42	0,48	0,54
REACTANCES (%)					
Direct axis synchronous		xd	270	235	210
Quadrature axis synchronous		xq	155	135	120
Direct axis transient		x'd	26,3	23,0	20,6
Direct axis subtransient		x"d	12,7	11,1	9,9
Quadrature axis subtransient		x"q	15,0	13,1	11,7
Negative sequence		x_2	13,8	12,1	10,8
Zero sequence		x_0	1,5	1,3	1,2

TIME CONSTANTS [s]

Open circuit (T'do)	0,46	Subtransient (T"d)	0,008
Transient (T'd)	0,035	Armature (Ta)	0,005

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6310 2RS C3 / Prelubricated
N-end bearing/Lubrication	6309 2RS C3 / Prelubricated
Weight (IM B34) [kg]	130
Inertia (J) (IM B34) [kgm^2]	0,124
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	0,14
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,75
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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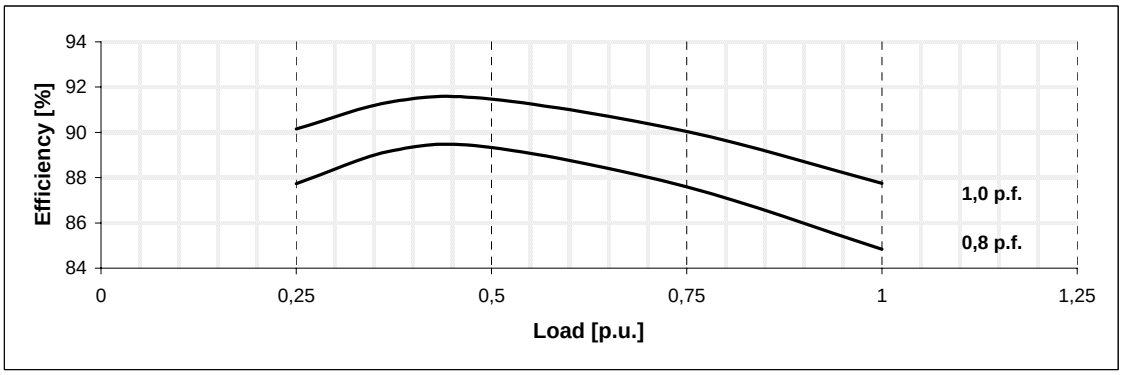
MarelliGenerators

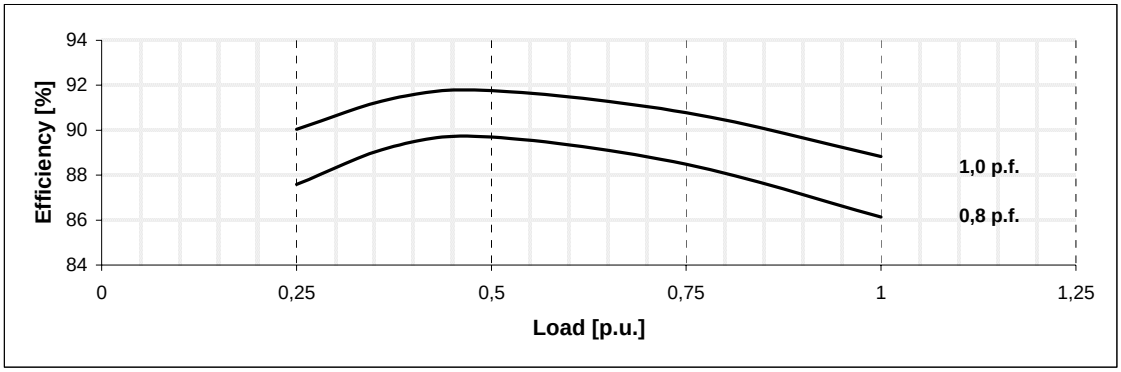
Typical efficiency curves

60 Hz - 1800 min^{-1}

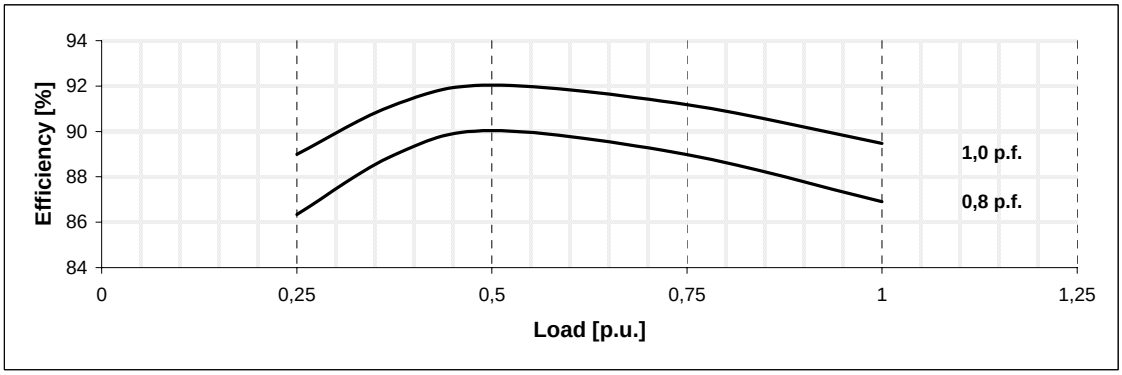
380 V



416 V



440 V



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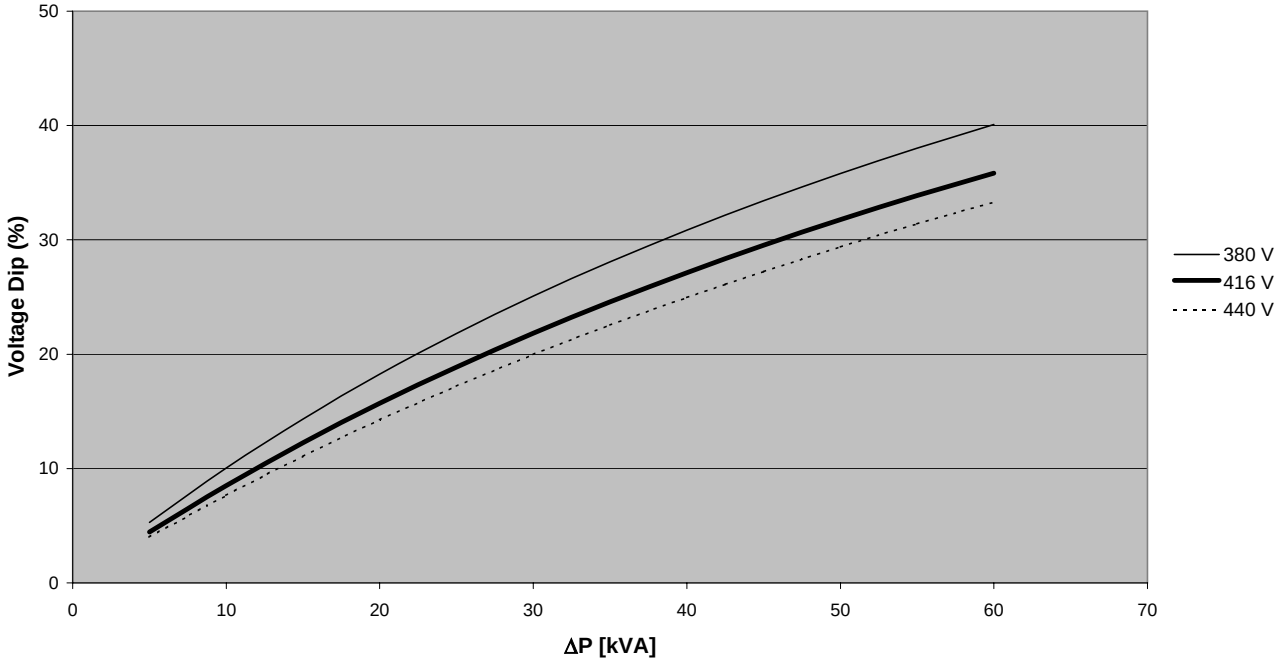
Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 160 SC 4

4 POLES

60 Hz-1800 min^{-1}

CONTINUOUS DUTY

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**		**60**	
VOLTAGE	Star series	**V**	**380**	**416**	**440**
	Star parallel		**190**	**208**	**220**
RATING		**kVA**	**31,2**	**32,5**	**32,5**
		kW	***25,0***	***26,0***	***26,0***
EFFICIENCY (%) @ 0,8 p.f.		4/4	85,9	86,5	87,1
		3/4	88,3	88,6	89,2
		2/4	89,5	89,7	90,1
EFFICIENCY (%) @ 1,0 p.f.		4/4	88,6	89,1	89,6
		3/4	90,6	90,9	91,4
		2/4	91,6	91,8	92,1
SHORT CIRCUIT RATIO			0,33	0,38	0,43
REACTANCES (%)					
Direct axis synchronous		xd	295	255	230
Quadrature axis synchronous		xq	165	145	130
Direct axis transient		x'd	27,6	24,0	21,5
Direct axis subtransient		x"d	12,7	11,0	9,8
Quadrature axis subtransient		x"q	15,2	13,2	11,8
Negative sequence		x_2	13,9	12,1	10,8
Zero sequence		x_0	2,6	2,3	2,1

TIME CONSTANTS [s]

Open circuit (T'do)	0,35	Subtransient (T"d)	0,005
Transient (T'd)	0,035	Armature (Ta)	0,004

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6310 2RS C3 / Prelubricated
N-end bearing/Lubrication	6309 2RS C3 / Prelubricated
Weight (IM B34) [kg]	140
Inertia (J) (IM B34) [kgm^2]	0,135
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	0,14
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,52
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.

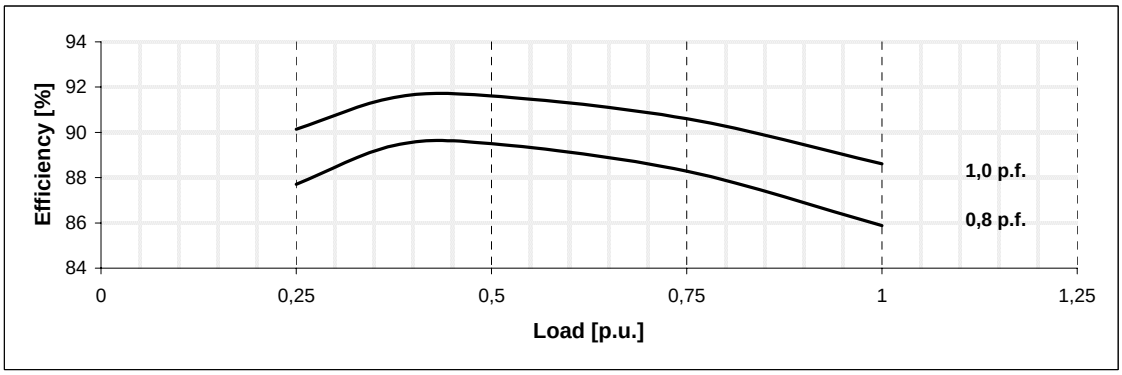
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice.

MarelliGenerators

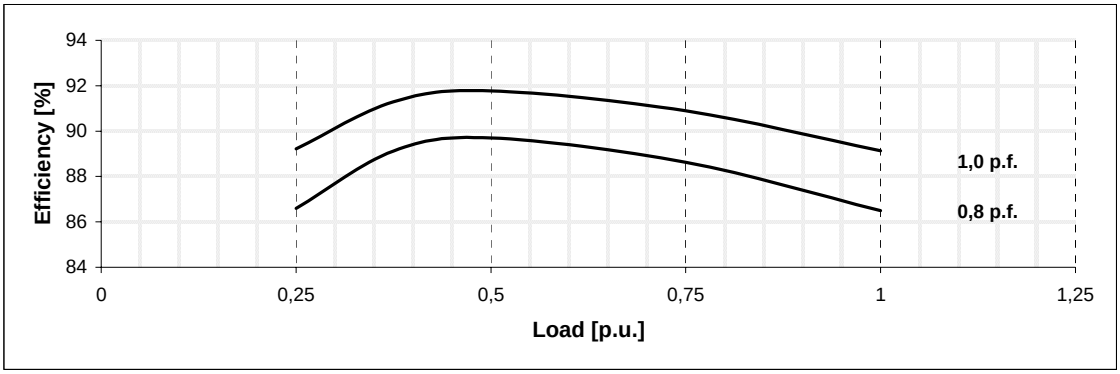
Typical efficiency curves

60 Hz - 1800 min^{-1}

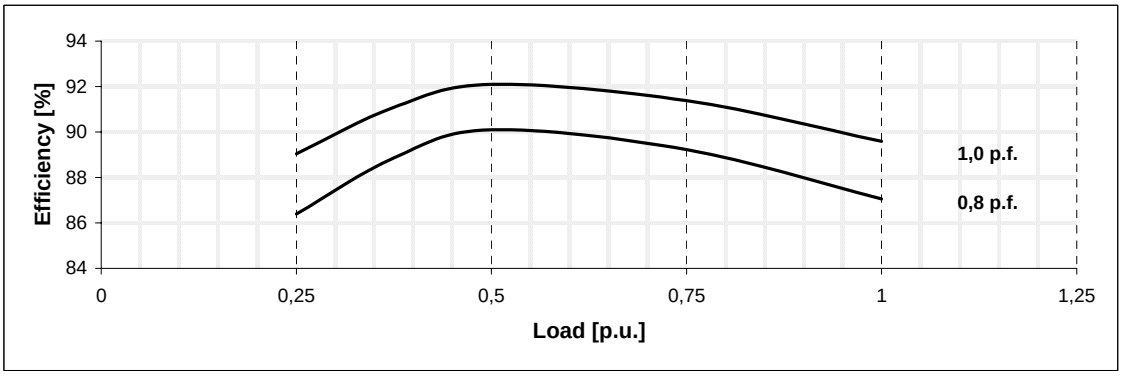
380 V



416 V



440 V



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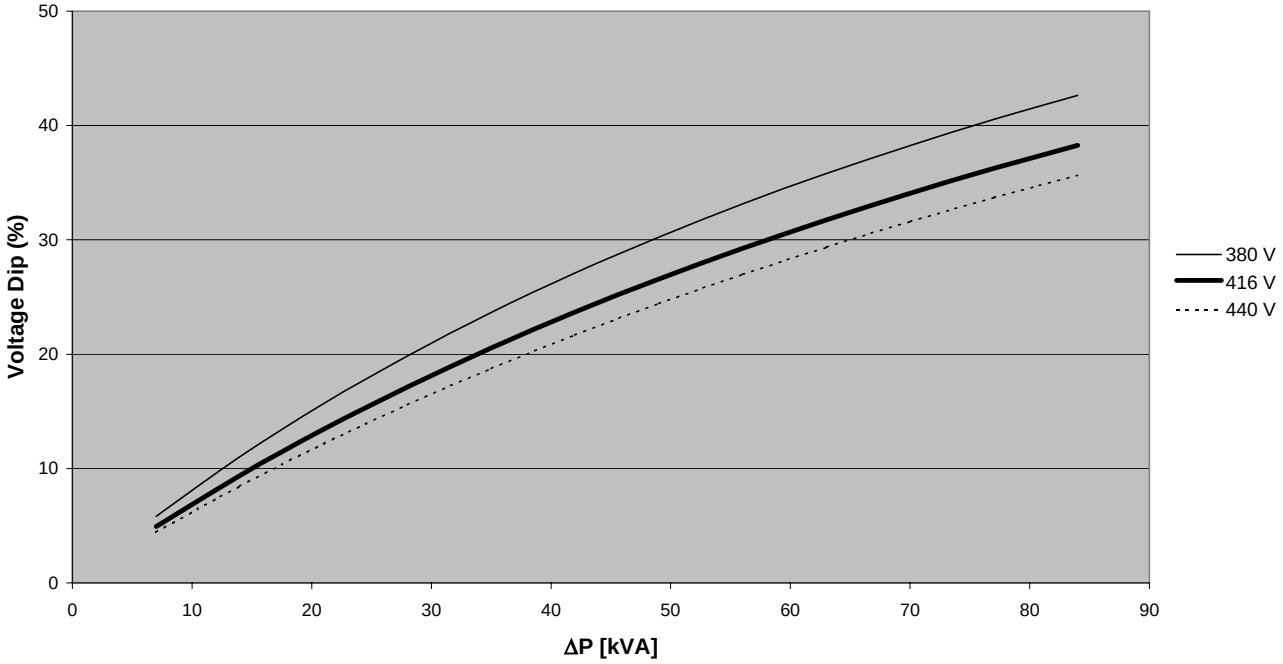
Transient voltage variation [%]

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 160 MA 4

4 POLES

CONTINUOUS DUTY

60 Hz-1800 min^{-1}

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**		**60**	
VOLTAGE	Star series	**V**	**380**	**416**	**440**
	Star parallel		**190**	**208**	**220**
RATING		**kVA**	**33,7**	**34,7**	**34,7**
		kW	***27,0***	***27,8***	***27,8***
EFFICIENCY (%) @ 0,8 p.f.		4/4	87,1	88,1	88,0
		3/4	89,2	89,6	89,7
		2/4	90,0	90,2	90,4
EFFICIENCY (%) @ 1,0 p.f.		4/4	89,6	90,5	90,4
		3/4	91,3	91,6	91,8
		2/4	92,0	92,1	92,4
SHORT CIRCUIT RATIO			0,34	0,40	0,45
REACTANCES (%)					
Direct axis synchronous		xd	285	245	220
Quadrature axis synchronous		xq	165	140	125
Direct axis transient		x'd	24,4	21,0	18,8
Direct axis subtransient		x"d	12,0	10,3	9,2
Quadrature axis subtransient		x"q	14,4	12,4	11,1
Negative sequence		x_2	13,1	11,3	10,1
Zero sequence		x_0	1,6	1,4	1,3

TIME CONSTANTS [s]

Open circuit (T'do)	0,64	Subtransient (T"d)	0,008
Transient (T'd)	0,045	Armature (Ta)	0,006

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6310 2RS C3 / Prelubricated
N-end bearing/Lubrication	6309 2RS C3 / Prelubricated
Weight (IM B34) [kg]	165
Inertia (J) (IM B34) [kgm^2]	0,160
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	0,14
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,28
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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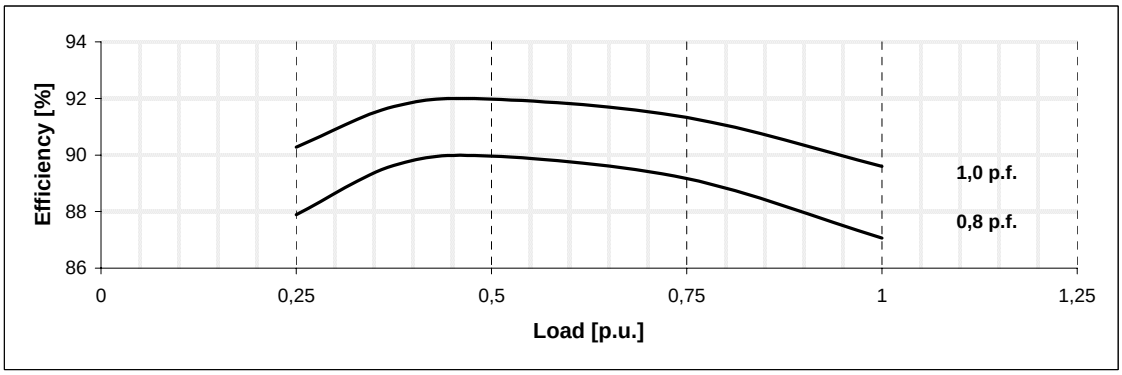
MarelliGenerators

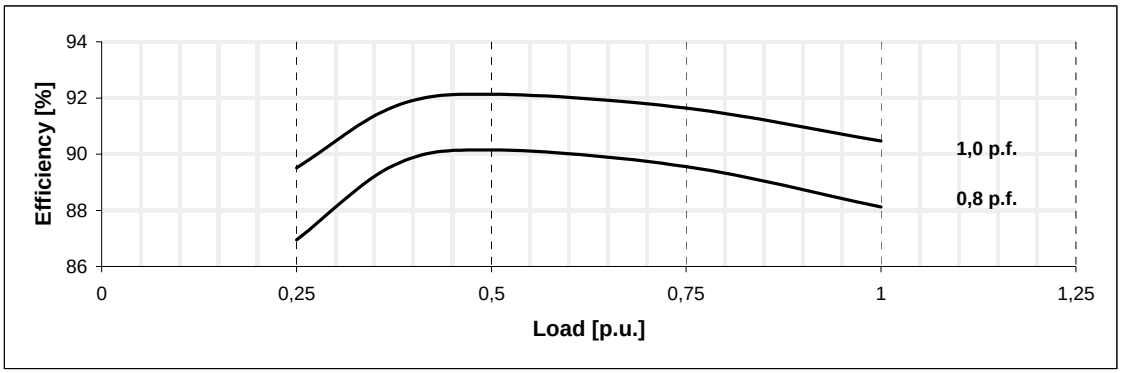
Typical efficiency curves

60 Hz - 1800 min^{-1}

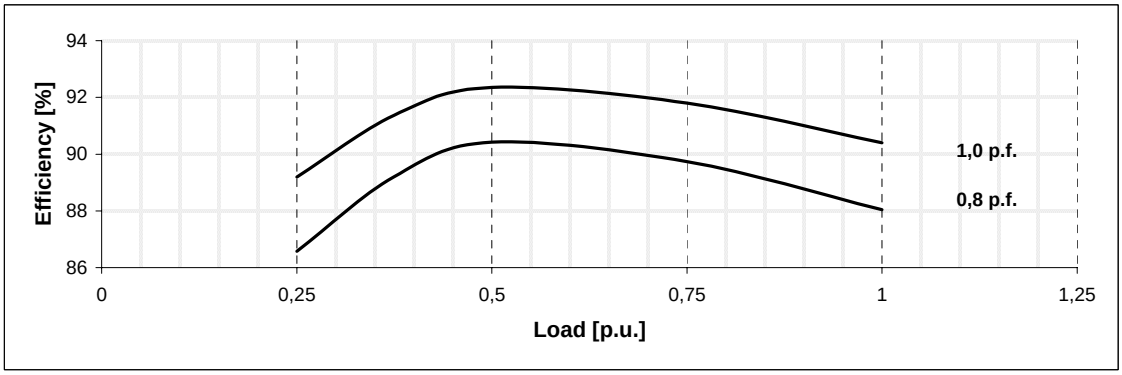
380 V



416 V



440 V



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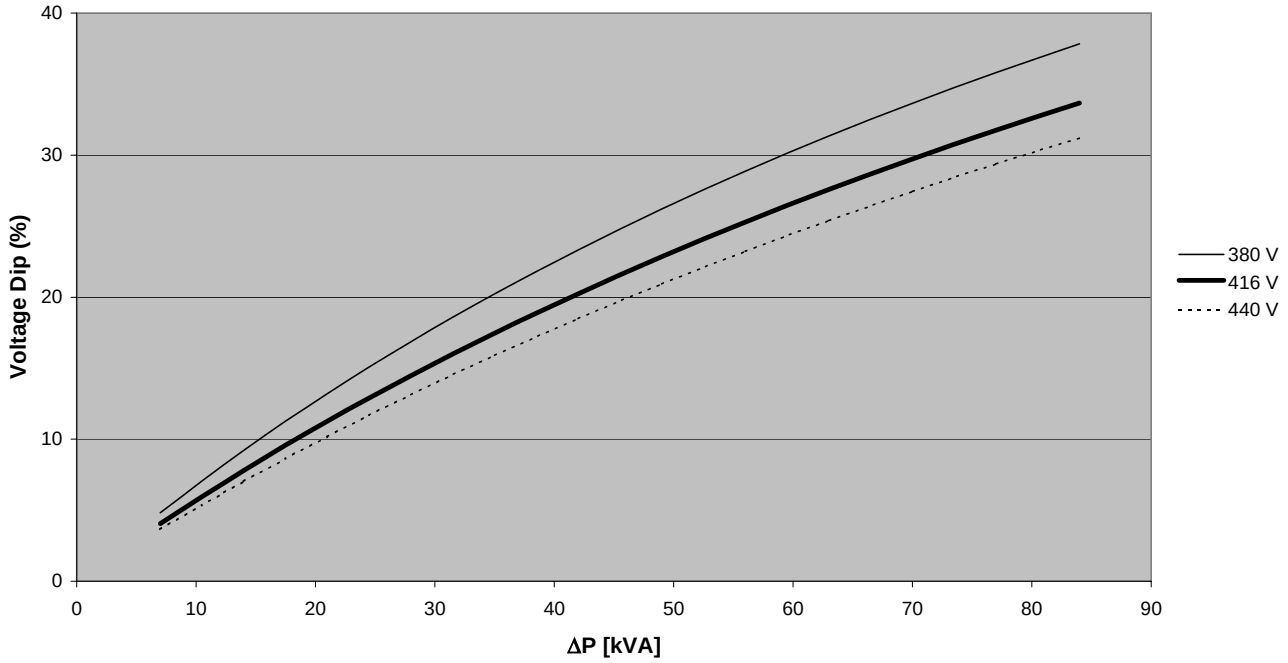
Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 160 MB 4

4 POLES

60 Hz-1800 min^{-1}

CONTINUOUS DUTY

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**		**60**	
VOLTAGE	Star series	**V**	**380**	**416**	**440**
	Star parallel		**190**	**208**	**220**
RATING		**kVA**	**39,5**	**40,0**	**40,0**
		kW	***31,6***	***32,0***	***32,0***
EFFICIENCY (%) @ 0,8 p.f.		4/4	87,9	88,6	88,7
		3/4	89,7	89,8	90,2
		2/4	90,5	90,5	90,9
EFFICIENCY (%) @ 1,0 p.f.		4/4	90,3	90,8	90,9
		3/4	91,8	91,9	92,2
		2/4	92,4	92,4	92,8
SHORT CIRCUIT RATIO			0,40	0,47	0,53
REACTANCES (%)					
Direct axis synchronous		xd	290	245	220
Quadrature axis synchronous		xq	160	135	120
Direct axis transient		x'd	24,2	20,5	18,3
Direct axis subtransient		x"d	11,6	9,8	8,8
Quadrature axis subtransient		x"q	13,7	11,6	10,4
Negative sequence		x_2	12,7	10,7	9,6
Zero sequence		x_0	1,7	1,4	1,3

TIME CONSTANTS [s]

Open circuit (T'do)	0,66	Subtransient (T"d)	0,008
Transient (T'd)	0,045	Armature (Ta)	0,007

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6310 2RS C3 / Prelubricated
N-end bearing/Lubrication	6309 2RS C3 / Prelubricated
Weight (IM B34) [kg]	175
Inertia (J) (IM B34) [kgm^2]	0,170
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	0,14
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,24
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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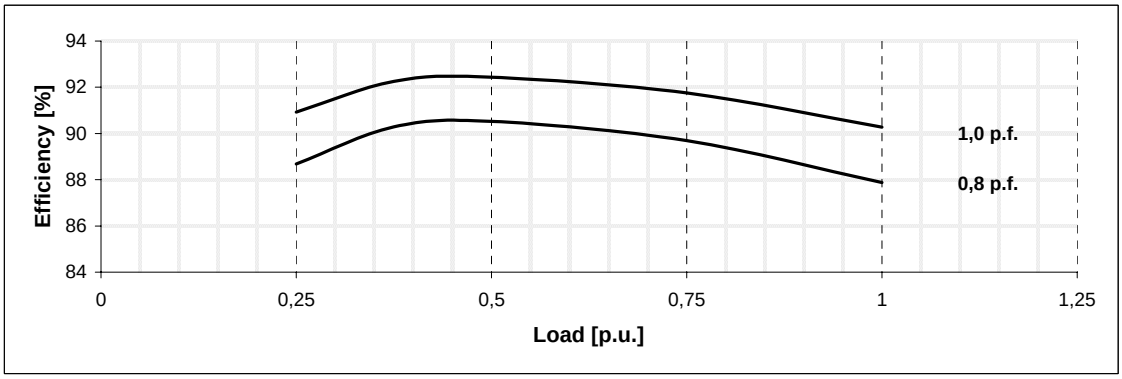
MarelliGenerators

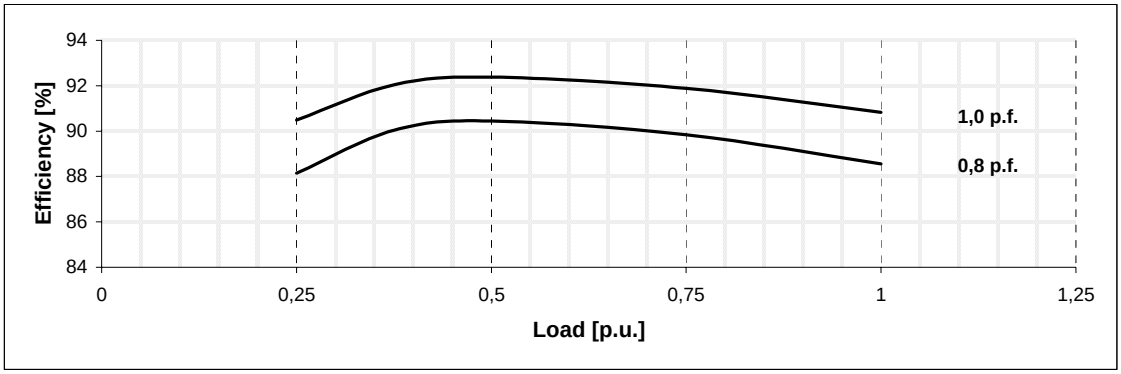
Typical efficiency curves

60 Hz - 1800 min^{-1}

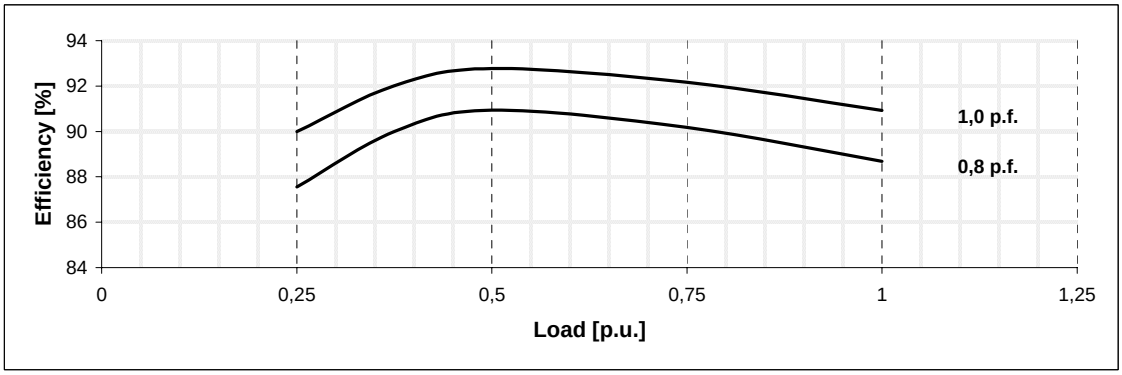
380 V



416 V



440 V



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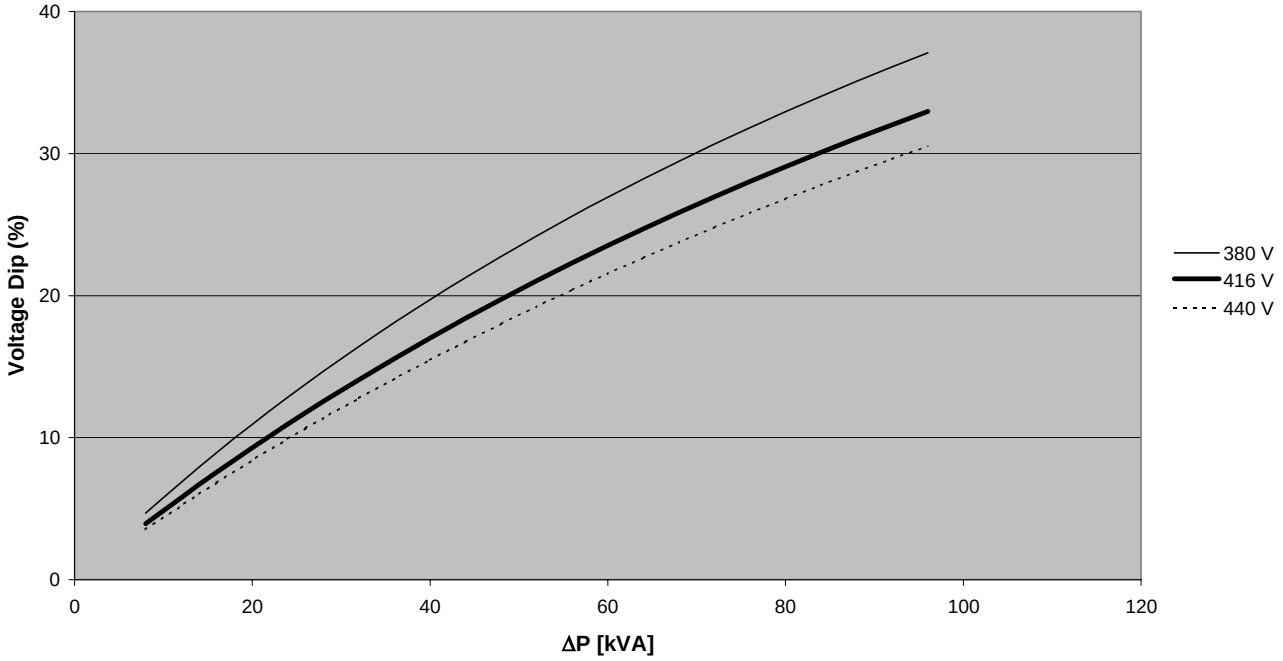
Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 200 SA 4

4 POLES

60 Hz-1800 min^{-1}

CONTINUOUS DUTY

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**60**		
VOLTAGE	Star series	**V**	**380**	**416**	**440**
	Star parallel		**190**	**208**	**220**
RATING		**kVA**	**51,0**	**51,0**	**51,0**
		kW	***40,8***	***40,8***	***40,8***
EFFICIENCY (%) @ 0,8 p.f.		4/4	88,5	89,3	89,4
		3/4	90,1	90,7	90,6
		2/4	91,0	91,2	91,1
EFFICIENCY (%) @ 1,0 p.f.		4/4	90,8	91,5	91,6
		3/4	92,1	92,6	92,5
		2/4	92,8	93,0	92,9
SHORT CIRCUIT RATIO			0,35	0,42	0,47
REACTANCES (%)					
Direct axis synchronous		xd	330	275	245
Quadrature axis synchronous		xq	185	155	140
Direct axis transient		x'd	27,9	23,3	20,8
Direct axis subtransient		x"d	14,3	11,9	10,6
Quadrature axis subtransient		x"q	16,4	13,7	12,2
Negative sequence		x_2	15,3	12,8	11,4
Zero sequence		x_0	3,1	2,6	2,3

TIME CONSTANTS [s]

Open circuit (T'do)	0,52	Subtransient (T"d)	0,010
Transient (T'd)	0,055	Armature (Ta)	0,009

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6313 2RS C3 / Prelubricated
N-end bearing/Lubrication	6309 2RS C3 / Prelubricated
Weight (IM B34) [kg]	205
Inertia (J) (IM B34) [kgm^2]	0,275
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	0,25
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,24
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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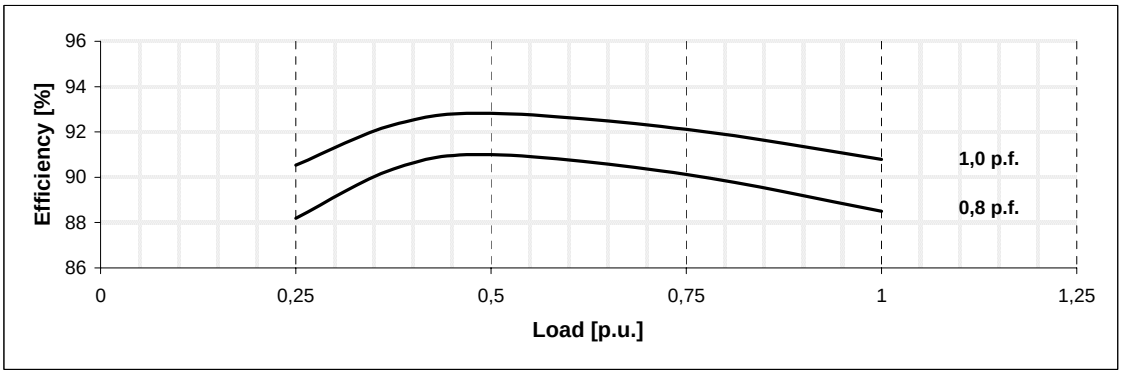
MarelliGenerators

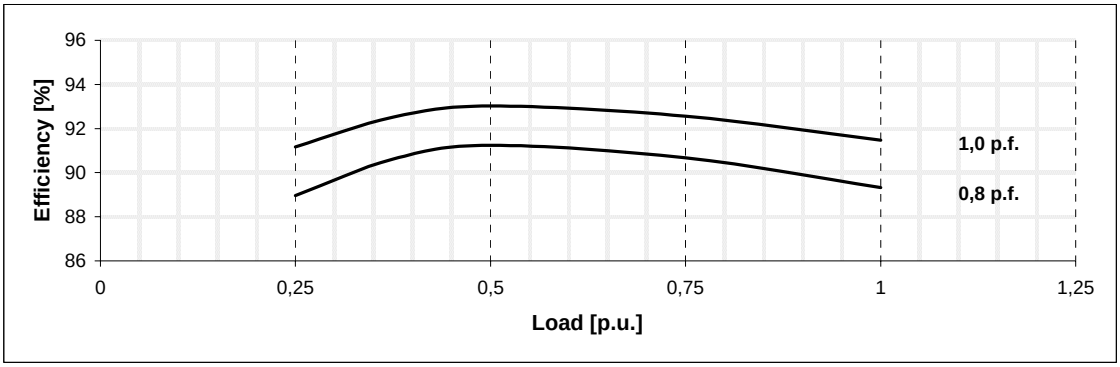
Typical efficiency curves

60 Hz - 1800 min^{-1}

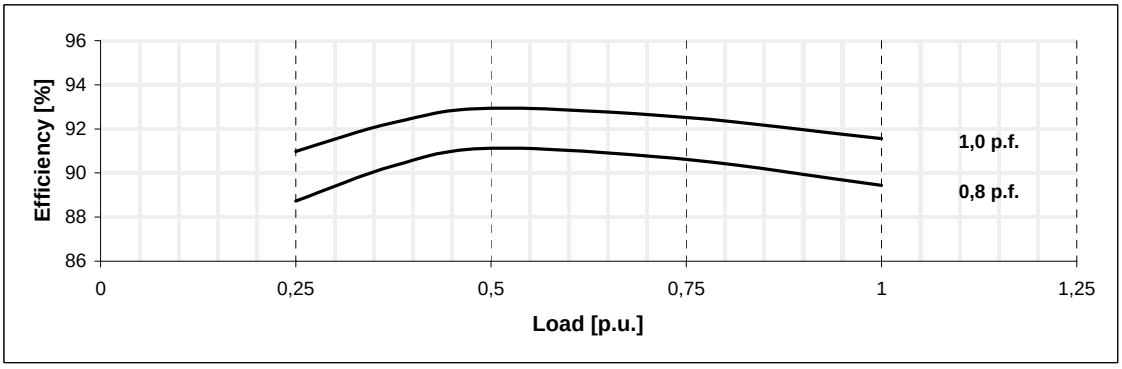
380 V



416 V



440 V



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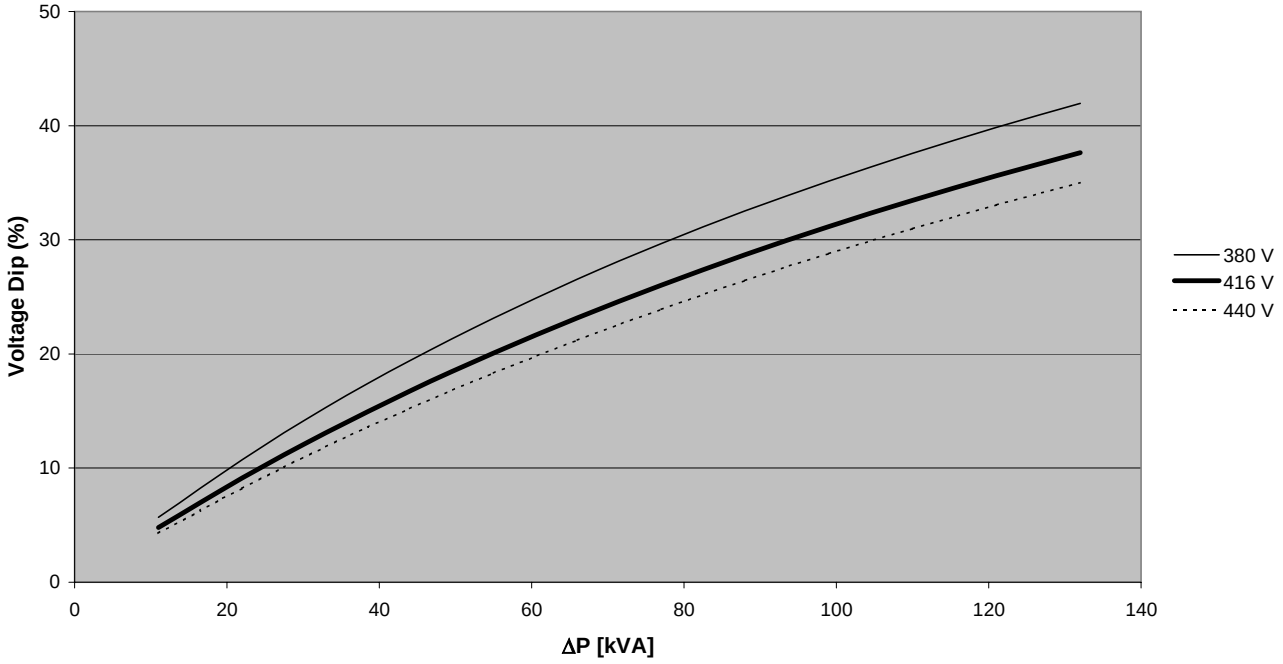
Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 200 SB 4

4 POLES

60 Hz-1800 min^{-1}

CONTINUOUS DUTY

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**60**		
VOLTAGE	Star series	**V**	**380**	**416**	**440**
	Star parallel		**190**	**208**	**220**
RATING		**kVA**	**59,5**	**59,5**	**59,5**
		kW	***47,6***	***47,6***	***47,6***
EFFICIENCY (%) @ 0,8 p.f.		4/4	88,7	89,0	89,1
		3/4	90,1	90,3	90,4
		2/4	91,0	90,9	91,1
EFFICIENCY (%) @ 1,0 p.f.		4/4	90,9	91,2	91,2
		3/4	92,1	92,3	92,3
		2/4	92,8	92,8	92,9
SHORT CIRCUIT RATIO			0,33	0,39	0,44
REACTANCES (%)					
Direct axis synchronous		xd	330	275	245
Quadrature axis synchronous		xq	185	155	140
Direct axis transient		x'd	27,3	22,8	20,4
Direct axis subtransient		x"d	14,0	11,7	10,5
Quadrature axis subtransient		x"q	16,2	13,5	12,1
Negative sequence		x_2	15,1	12,6	11,3
Zero sequence		x_0	3,2	2,7	2,4

TIME CONSTANTS [s]

Open circuit (T'do)	0,57	Subtransient (T"d)	0,010
Transient (T'd)	0,055	Armature (Ta)	0,010

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6313 2RS C3 / Prelubricated
N-end bearing/Lubrication	6309 2RS C3 / Prelubricated
Weight (IM B34) [kg]	215
Inertia (J) (IM B34) [kgm^2]	0,301
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	0,25
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,19
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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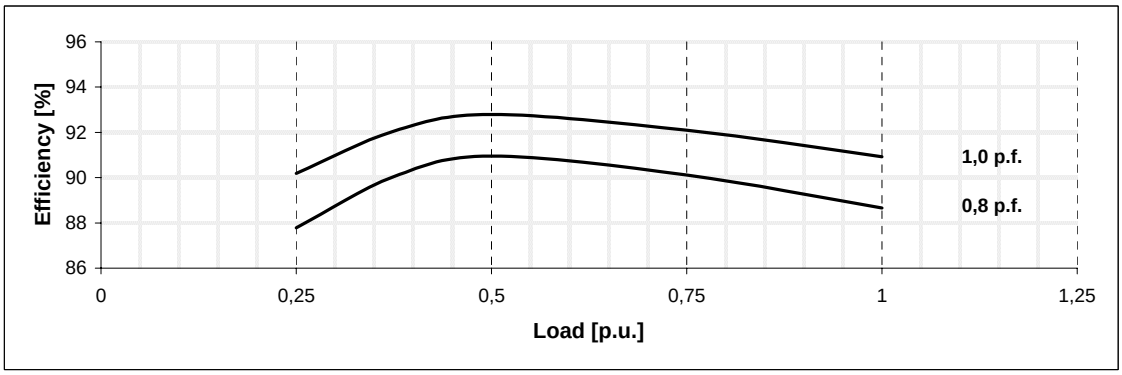
MarelliGenerators

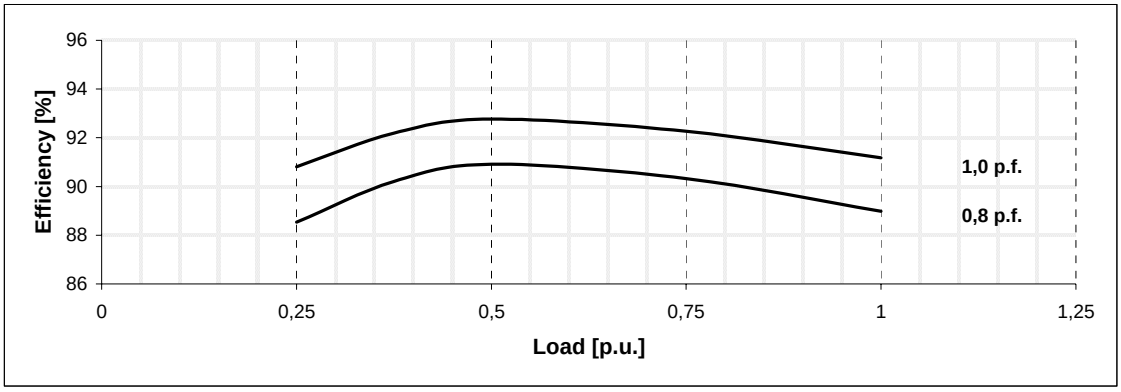
Typical efficiency curves

60 Hz - 1800 min^{-1}

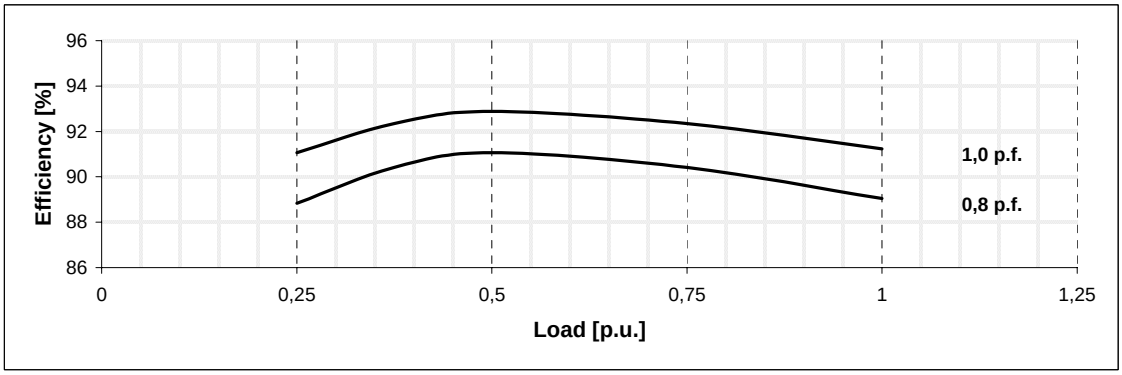
380 V



416 V



440 V



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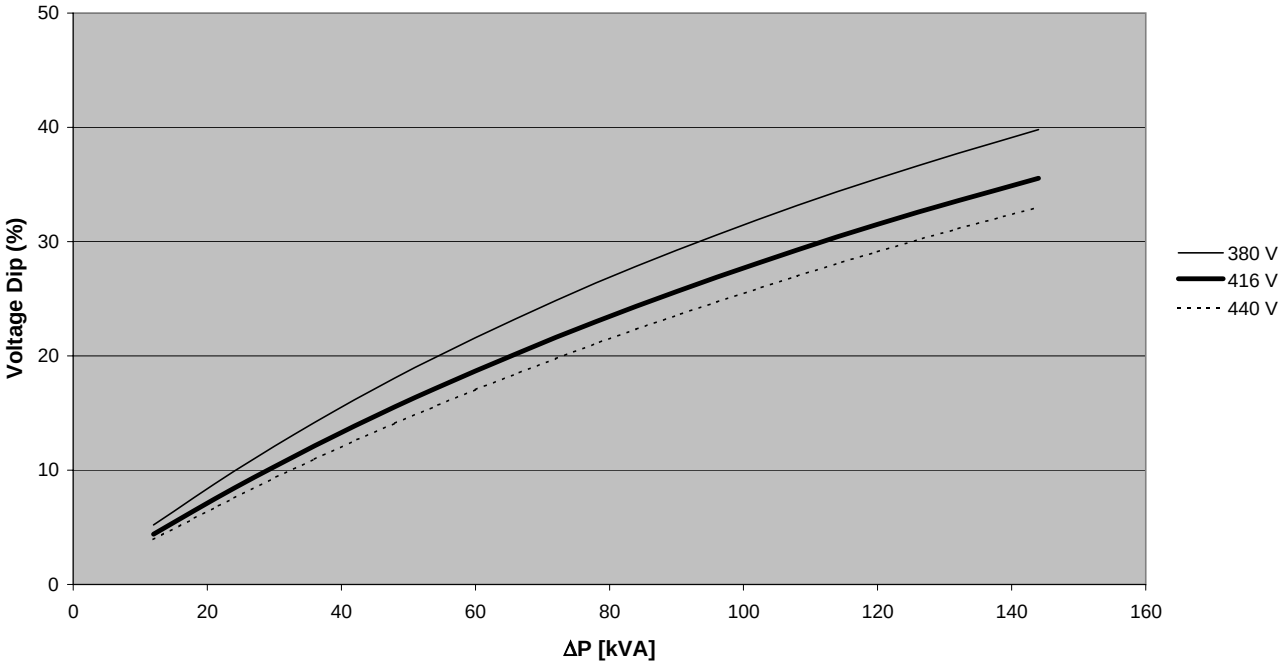
Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 200 MA 4

4 POLES

CONTINUOUS DUTY

60 Hz-1800 min^{-1}

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**		**60**	
VOLTAGE	Star series	**V**	**380**	**416**	**440**
	Star parallel		**190**	**208**	**220**
RATING		**kVA**	**76,0**	**76,0**	**76,0**
		kW	***60,8***	***60,8***	***60,8***
EFFICIENCY (%) @ 0,8 p.f.		4/4	89,7	90,1	90,4
		3/4	91,2	91,2	91,3
		2/4	91,9	91,8	91,8
EFFICIENCY (%) @ 1,0 p.f.		4/4	91,7	92,1	92,3
		3/4	93,0	93,0	93,1
		2/4	93,6	93,4	93,5
SHORT CIRCUIT RATIO			0,33	0,40	0,45
REACTANCES (%)					
Direct axis synchronous		xd	330	275	245
Quadrature axis synchronous		xq	185	155	140
Direct axis transient		x'd	26,6	22,2	19,8
Direct axis subtransient		x"d	13,2	11,0	9,8
Quadrature axis subtransient		x"q	15,7	13,1	11,7
Negative sequence		x_2	14,4	12,0	10,7
Zero sequence		x_0	3,0	2,5	2,2

TIME CONSTANTS [s]

Open circuit (T'do)	0,60	Subtransient (T"d)	0,010
Transient (T'd)	0,06	Armature (Ta)	0,011

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6313 2RS C3 / Prelubricated
N-end bearing/Lubrication	6309 2RS C3 / Prelubricated
Weight (IM B34) [kg]	260
Inertia (J) (IM B34) [kgm^2]	0,361
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	0,25
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,11
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.

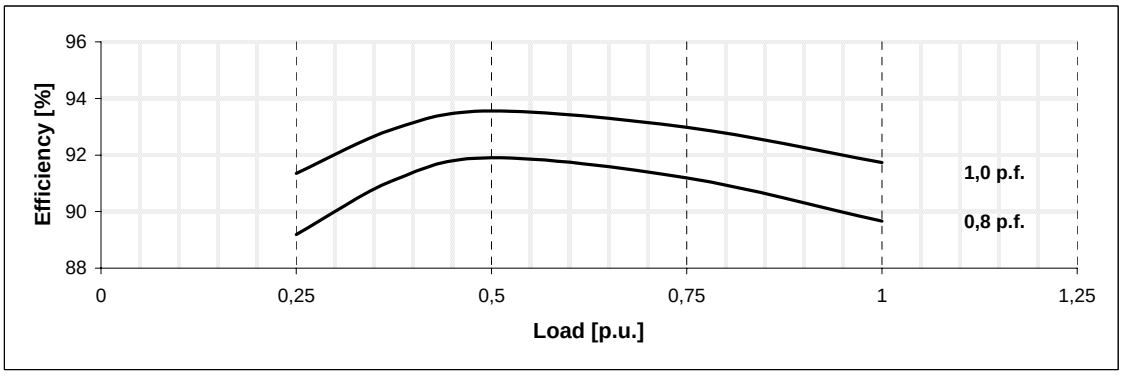
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice.

MarelliGenerators

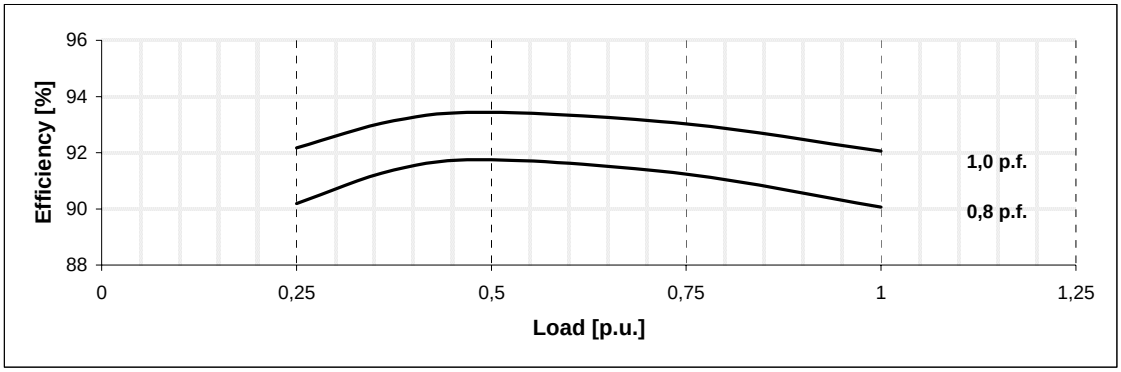
Typical efficiency curves

60 Hz - 1800 min^{-1}

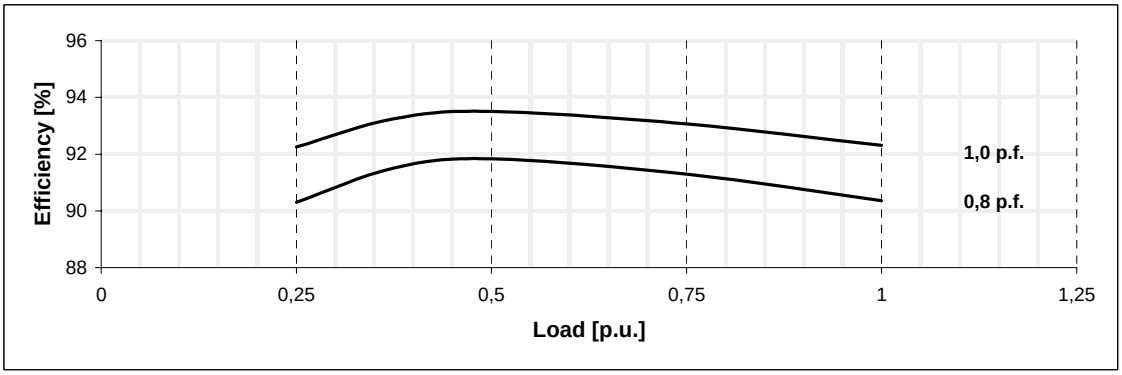
380 V



416 V



440 V



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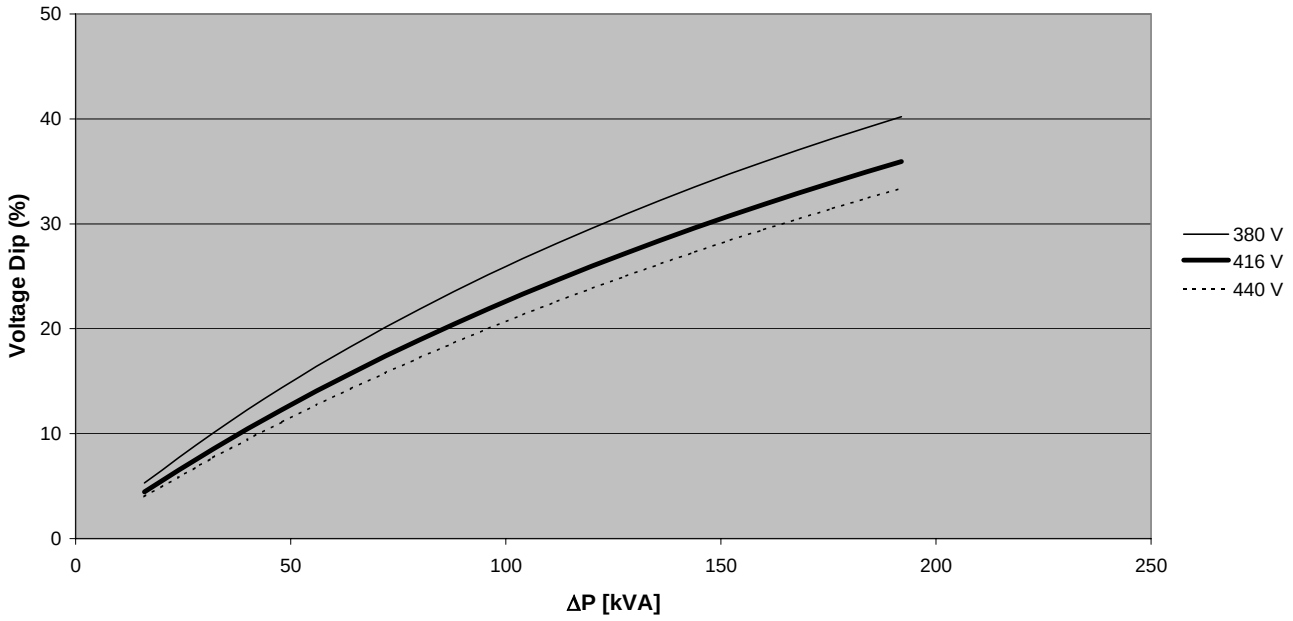
Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 200 MB 4

4 POLES

CONTINUOUS DUTY

60 Hz-1800 min^{-1}

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**		**60**	
VOLTAGE	Star series	**V**	**380**	**416**	**440**
	Star parallel		**190**	**208**	**220**
RATING		**kVA**	**87,0**	**87,0**	**87,0**
		kW	***69,6***	***69,6***	***69,6***
EFFICIENCY (%) @ 0,8 p.f.		4/4	90,4	91,0	91,0
		3/4	91,4	91,8	91,7
		2/4	91,8	91,9	91,7
EFFICIENCY (%) @ 1,0 p.f.		4/4	92,3	92,8	92,8
		3/4	93,2	93,5	93,4
		2/4	93,5	93,5	93,4
SHORT CIRCUIT RATIO			0,35	0,42	0,47
REACTANCES (%)					
Direct axis synchronous		xd	320	265	235
Quadrature axis synchronous		xq	175	145	130
Direct axis transient		x'd	25,5	21,3	19,0
Direct axis subtransient		x"d	12,6	10,5	9,4
Quadrature axis subtransient		x"q	15,1	12,6	11,3
Negative sequence		x_2	13,8	11,5	10,3
Zero sequence		x_0	2,6	2,2	2,0

TIME CONSTANTS [s]

Open circuit (T'do)	0,76	Subtransient (T"d)	0,010
Transient (T'd)	0,062	Armature (Ta)	0,012

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6313 2RS C3 / Prelubricated
N-end bearing/Lubrication	6309 2RS C3 / Prelubricated
Weight (IM B34) [kg]	300
Inertia (J) (IM B34) [kgm^2]	0,426
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	0,25
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,08
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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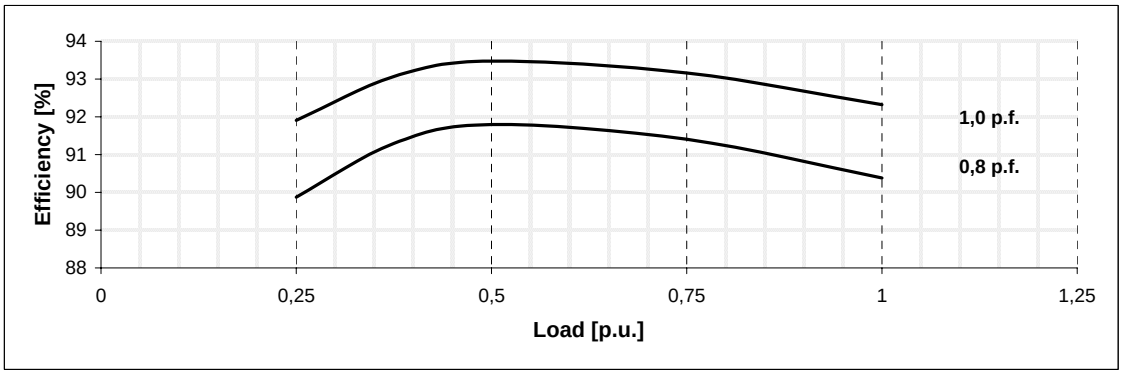
MarelliGenerators

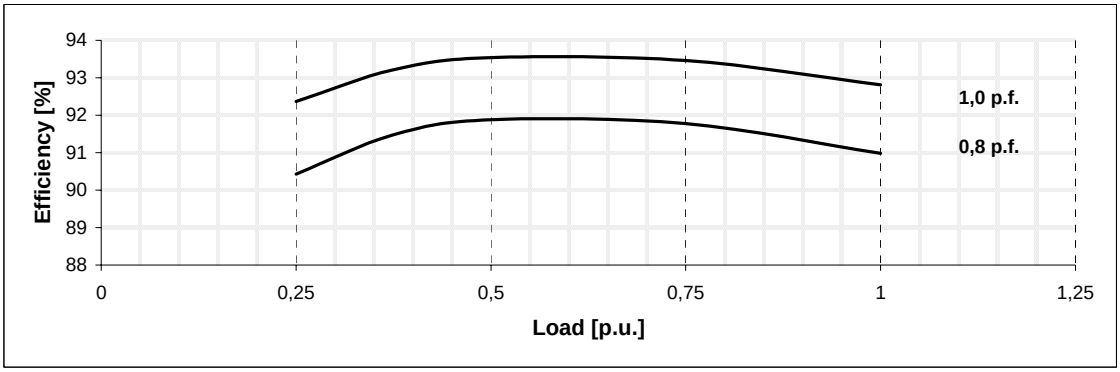
Typical efficiency curves

60 Hz - 1800 min^{-1}

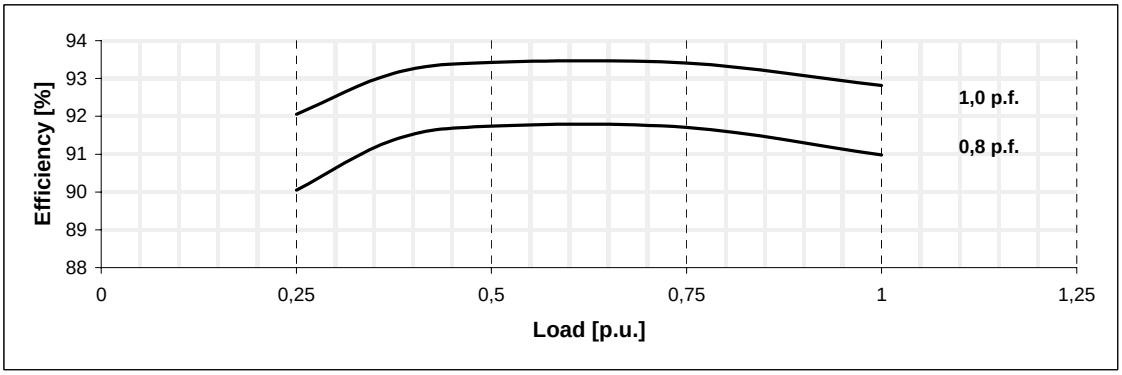
380 V



416 V



440 V



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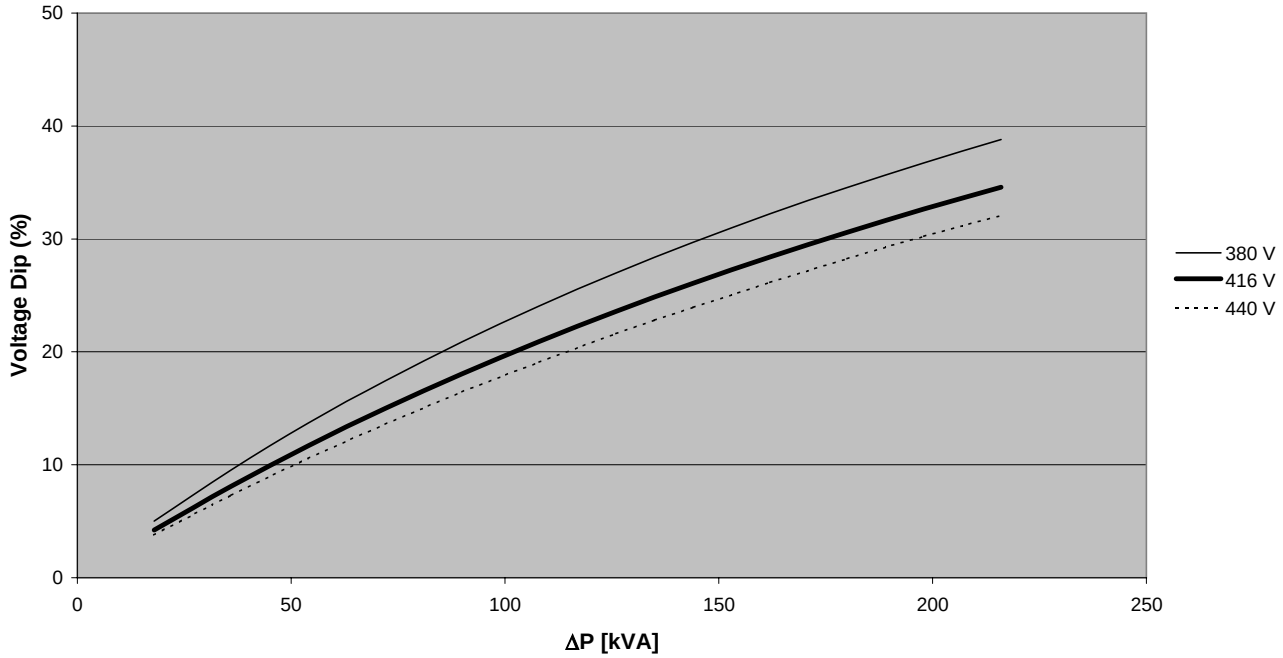
Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 225 SA 4

4 POLES

60 Hz-1800 min^{-1}

CONTINUOUS DUTY

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**		**60**	
VOLTAGE	Star series	**V**	**380**	**416**	**440**
	Star parallel		**190**	**208**	**220**
RATING		**kVA**	**99**	**108**	**108**
		kW	***79***	***86***	***86***
EFFICIENCY (%) @ 0,8 p.f.		4/4	90,9	91,3	91,6
		3/4	92,0	92,4	92,5
		2/4	92,5	92,7	92,8
EFFICIENCY (%) @ 1,0 p.f.		4/4	92,8	93,0	93,3
		3/4	93,7	93,9	94,1
		2/4	94,1	94,2	94,3
SHORT CIRCUIT RATIO			0,33	0,36	0,40
REACTANCES (%)					
Direct axis synchronous		xd	330	300	270
Quadrature axis synchronous		xq	185	170	150
Direct axis transient		x'd	25,8	23,5	21,0
Direct axis subtransient		x"d	12,5	11,4	10,2
Quadrature axis subtransient		x"q	13,8	12,6	11,3
Negative sequence		x_2	13,2	12,0	10,7
Zero sequence		x_0	2,9	2,6	2,3

TIME CONSTANTS [s]

Open circuit (T'do)	0,82	Subtransient (T"d)	0,005
Transient (T'd)	0,071	Armature (Ta)	0,005

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6215 2RS C3 / Prelubricated
N-end bearing/Lubrication	6311 2RS C3 / Prelubricated
Weight (IM B34) [kg]	305
Inertia (J) (IM B34) [kgm^2]	0,632
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	0,39
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,08
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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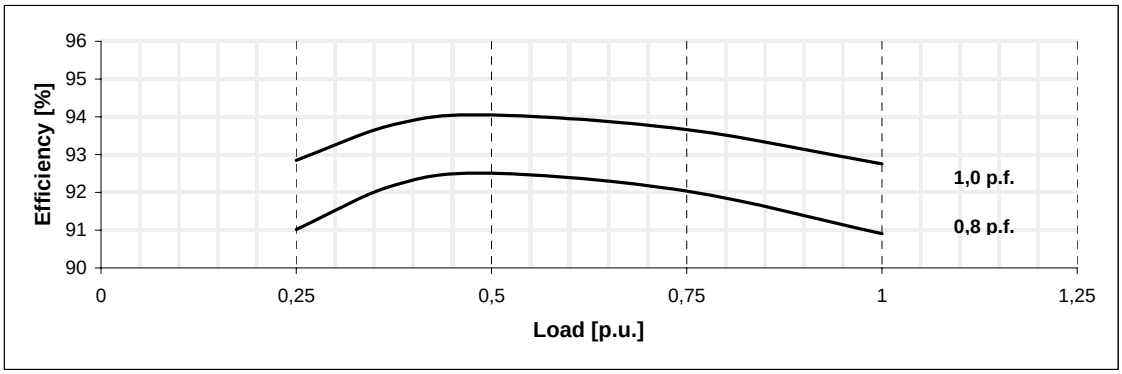
MarelliGenerators

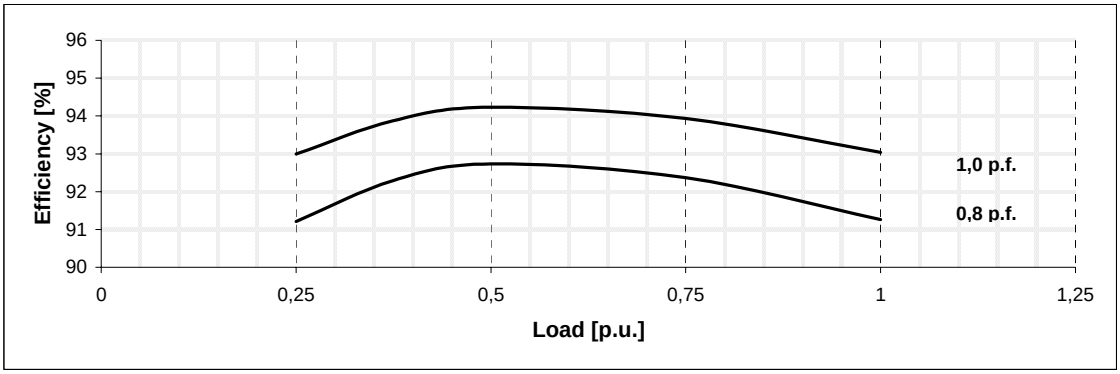
Typical efficiency curves

60 Hz - 1800 min^{-1}

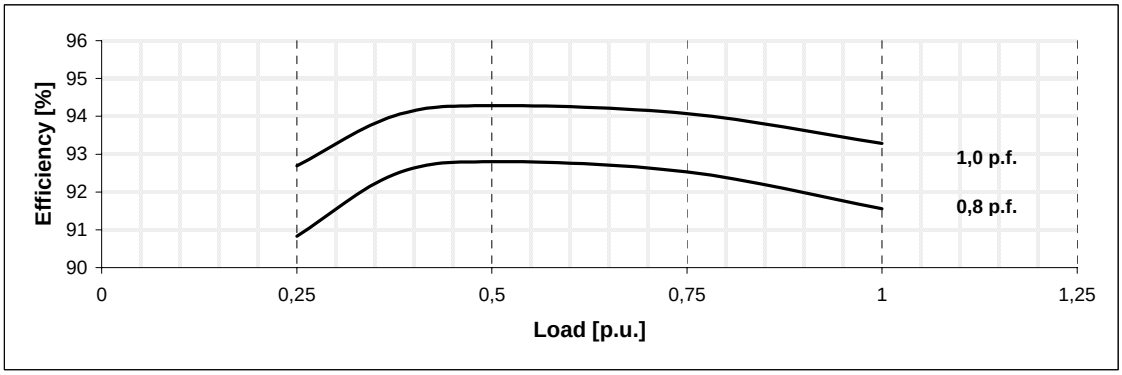
380 V



416 V



440 V



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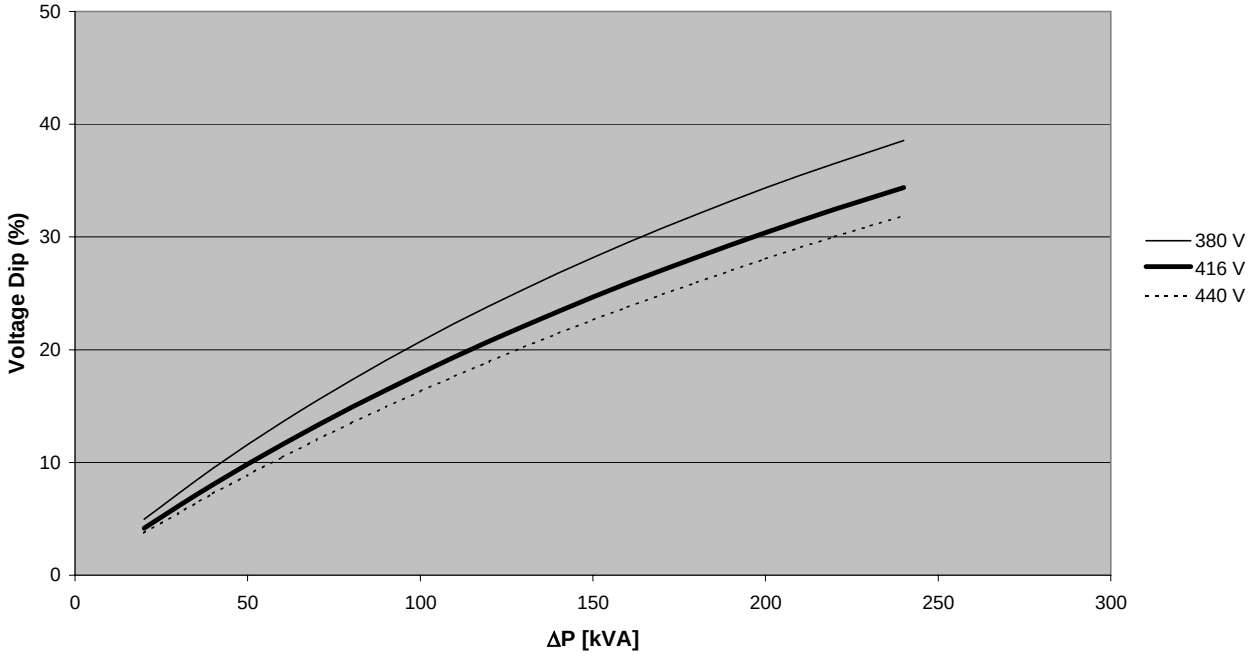
Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 225 SB 4

4 POLES

60 Hz-1800 min^{-1}

CONTINUOUS DUTY

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**		**60**	
VOLTAGE	Star series	**V**	**380**	**416**	**440**
	Star parallel		**190**	**208**	**220**
RATING		**kVA**	**103**	**114**	**114**
		kW	***82***	***91***	***91***
EFFICIENCY (%) @ 0,8 p.f.		4/4	91,8	92,1	92,2
		3/4	92,6	93,0	93,1
		2/4	93,0	93,3	93,3
EFFICIENCY (%) @ 1,0 p.f.		4/4	93,5	93,7	93,8
		3/4	94,2	94,5	94,5
		2/4	94,5	94,7	94,7
SHORT CIRCUIT RATIO			0,35	0,38	0,43
REACTANCES (%)					
Direct axis synchronous		xd	305	280	250
Quadrature axis synchronous		xq	170	155	140
Direct axis transient		x'd	23,9	22,0	19,7
Direct axis subtransient		x"d	11,3	10,4	9,3
Quadrature axis subtransient		x"q	12,6	11,6	10,4
Negative sequence		x_2	11,9	11,0	9,8
Zero sequence		x_0	2,6	2,4	2,1

TIME CONSTANTS [s]

Open circuit (T'do)	0,90	Subtransient (T"d)	0,006
Transient (T'd)	0,075	Armature (Ta)	0,006

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6215 2RS C3 / Prelubricated
N-end bearing/Lubrication	6311 2RS C3 / Prelubricated
Weight (IM B34) [kg]	335
Inertia (J) (IM B34) [kgm^2]	0,698
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	0,39
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,063
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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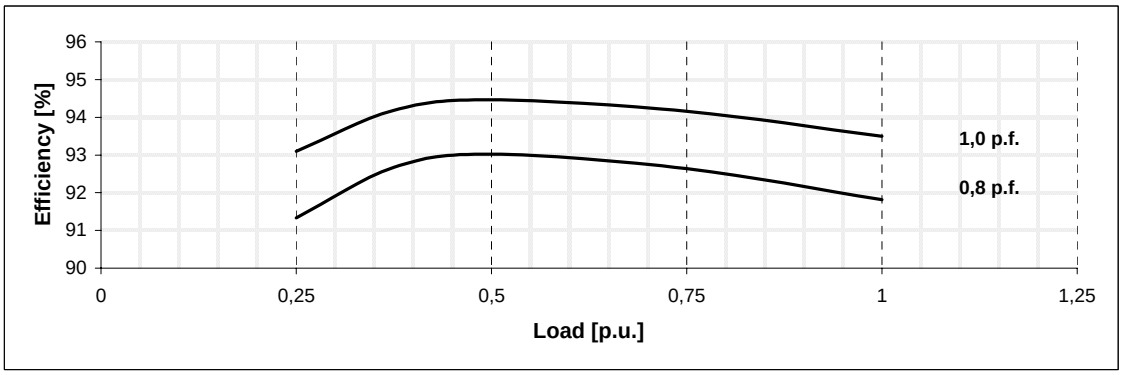
MarelliGenerators

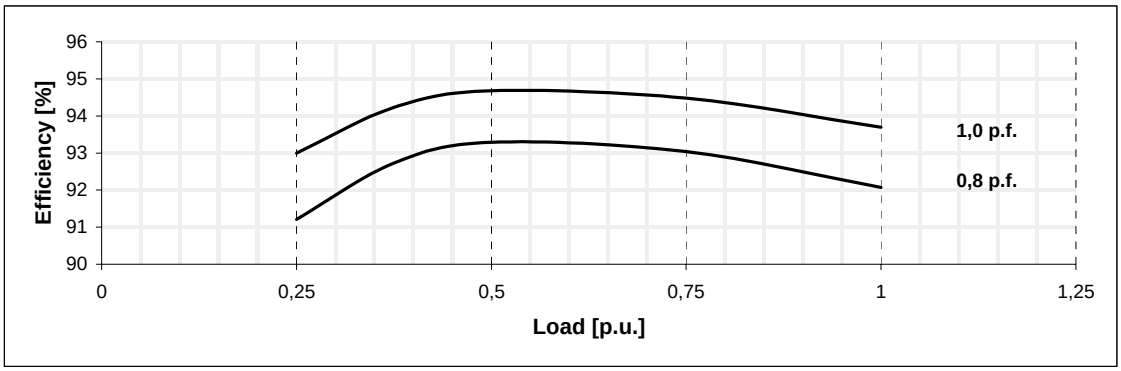
Typical efficiency curves

60 Hz - 1800 min^{-1}

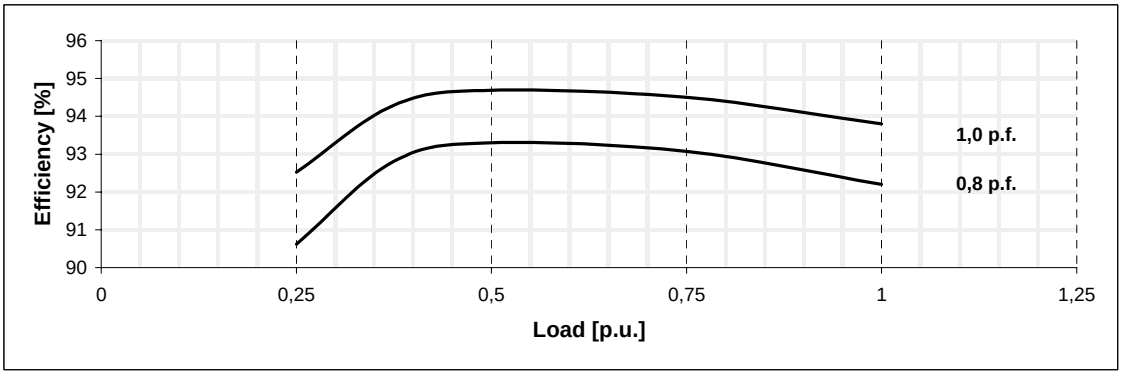
380 V



416 V



440 V



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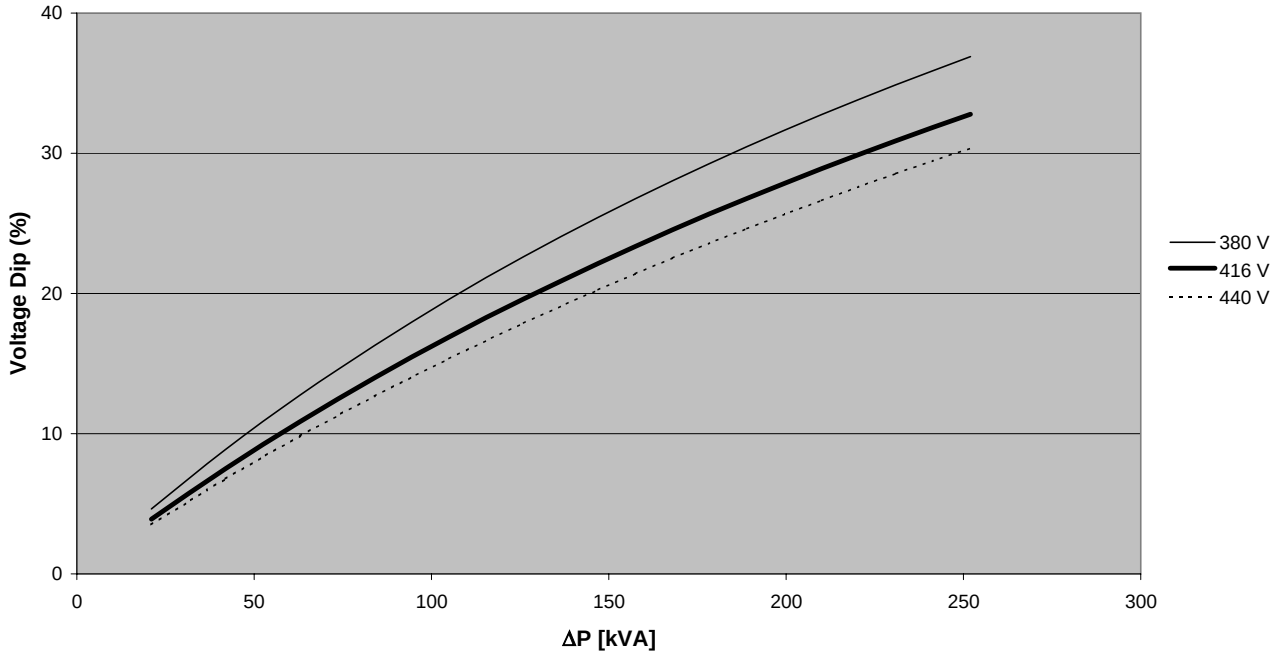
Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 225 MA 4

4 POLES

CONTINUOUS DUTY

60 Hz-1800 min^{-1}

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY	**Hz**	**60**		
VOLTAGE Star series	**V**	**380**	**416**	**440**
Star parallel		**190**	**208**	**220**
RATING	**kVA**	**116**	**121**	**131**
	kW	***92***	***97***	***105***
EFFICIENCY (%) @ 0,8 p.f.	4/4	91,9	92,2	92,4
	3/4	92,7	93,0	93,0
	2/4	93,0	93,3	93,2
EFFICIENCY (%) @ 1,0 p.f.	4/4	93,6	93,8	94,0
	3/4	94,2	94,4	94,5
	2/4	94,5	94,7	94,6
SHORT CIRCUIT RATIO		0,32	0,37	0,38
REACTANCES (%)				
Direct axis synchronous	xd	330	290	280
Quadrature axis synchronous	xq	185	160	155
Direct axis transient	x'd	25,4	22,1	21,5
Direct axis subtransient	x"d	11,9	10,4	10,1
Quadrature axis subtransient	x"q	13,1	11,4	11,1
Negative sequence	x_2	12,5	10,9	10,6
Zero sequence	x_0	2,7	2,4	2,3

TIME CONSTANTS [s]

Open circuit (T'do)	0,95	Subtransient (T"d)	0,006
Transient (T'd)	0,078	Armature (Ta)	0,006

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6215 2RS C3 / Prelubricated
N-end bearing/Lubrication	6311 2RS C3 / Prelubricated
Weight (IM B34) [kg]	370
Inertia (J) (IM B34) [kgm^2]	0,789
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	0,39
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,06
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

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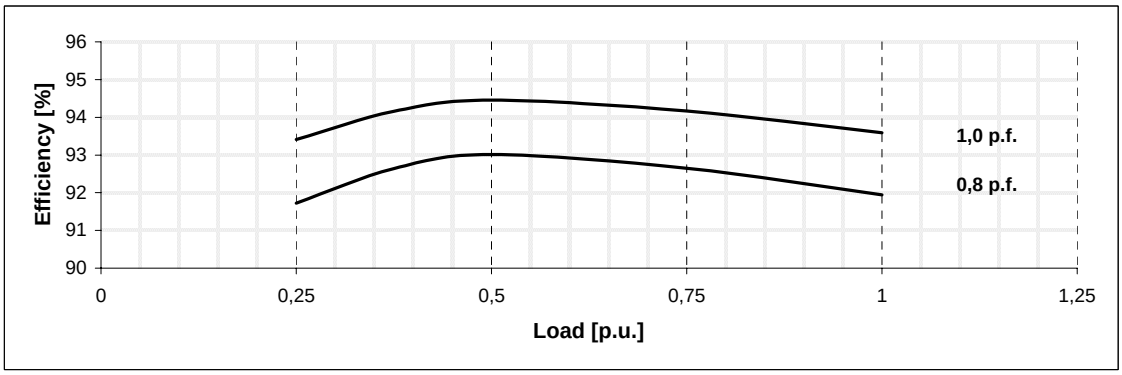
MarelliGenerators

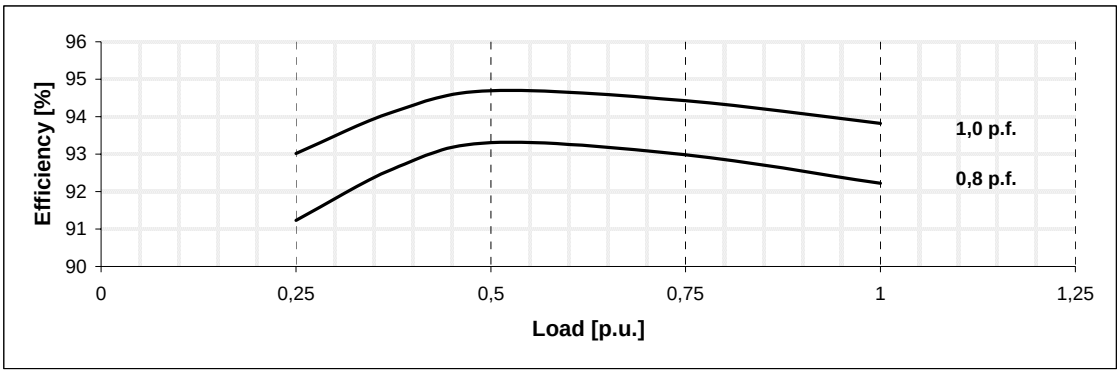
Typical efficiency curves

60 Hz - 1800 min^{-1}

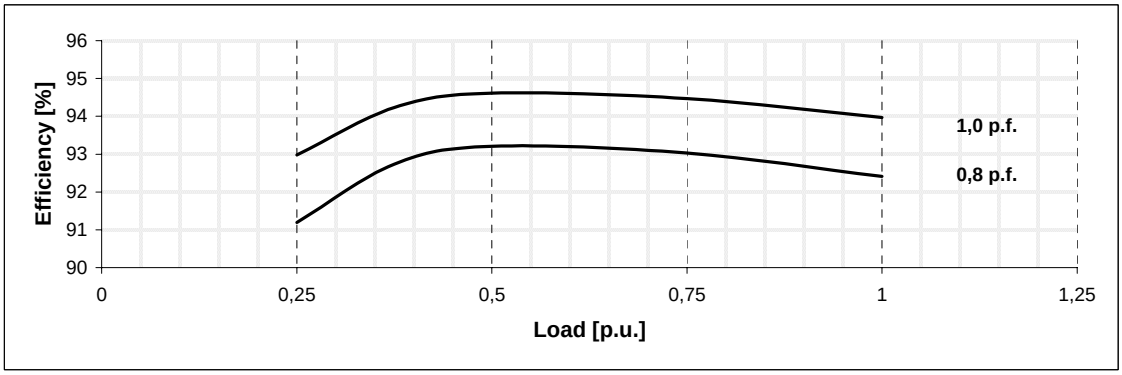
380 V



416 V



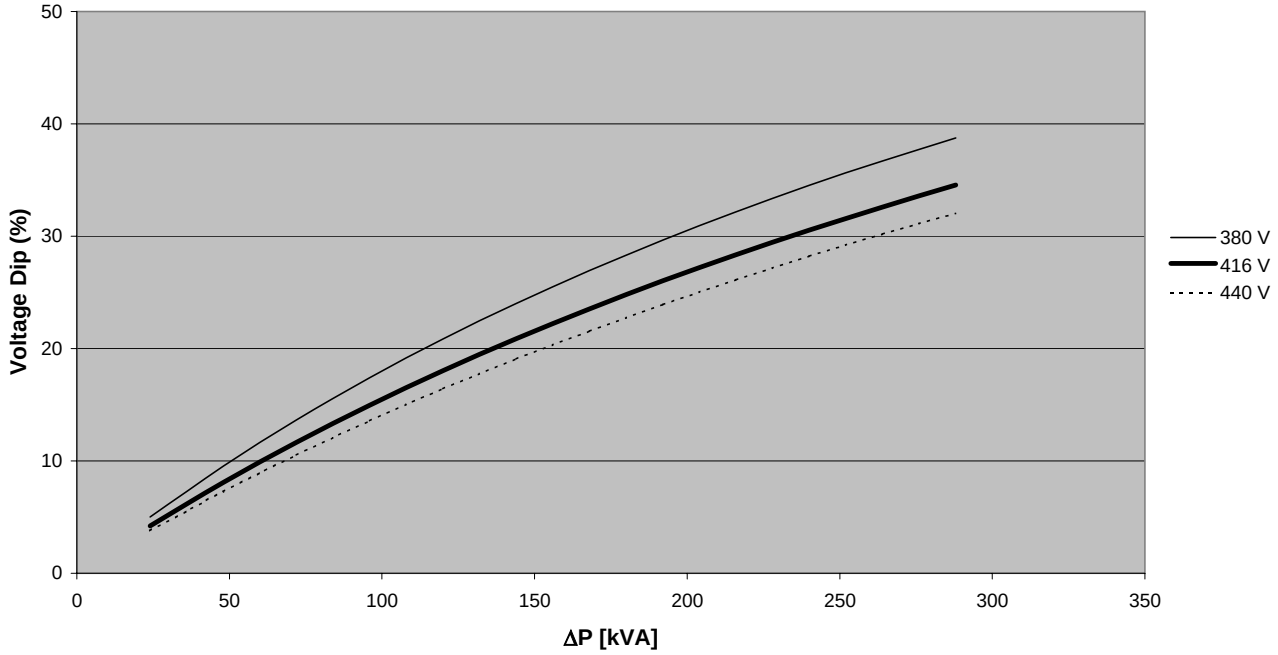
440 V



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

Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 225 LA 4

4 POLES

CONTINUOUS DUTY

60 Hz-1800 min^{-1}

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**60**		
VOLTAGE	Star series	**V**	**380**	**416**	**440**
	Star parallel		**190**	**208**	**220**
RATING		**kVA**	**153**	**164**	**164**
		kW	***122***	***131***	***131***
EFFICIENCY (%) @ 0,8 p.f.		4/4	92,2	92,4	92,5
		3/4	92,9	93,1	93,2
		2/4	93,2	93,4	93,3
EFFICIENCY (%) @ 1,0 p.f.		4/4	93,8	94,0	94,0
		3/4	94,4	94,5	94,6
		2/4	94,6	94,8	94,7
SHORT CIRCUIT RATIO			0,37	0,41	0,46
REACTANCES (%)					
Direct axis synchronous		xd	310	275	245
Quadrature axis synchronous		xq	170	150	135
Direct axis transient		x'd	22,6	20,2	18,1
Direct axis subtransient		x"d	11,2	10,0	8,9
Quadrature axis subtransient		x"q	12,4	11,1	9,9
Negative sequence		x_2	11,8	10,5	9,4
Zero sequence		x_0	2,6	2,3	2,1

TIME CONSTANTS [s]

Open circuit (T'do)	1,08	Subtransient (T"d)	0,006
Transient (T'd)	0,087	Armature (Ta)	0,007

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6215 2RS C3 / Prelubricated
N-end bearing/Lubrication	6311 2RS C3 / Prelubricated
Weight (IM B34) [kg]	405
Inertia (J) (IM B34) [kgm^2]	0,924
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	0,39
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,027
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.

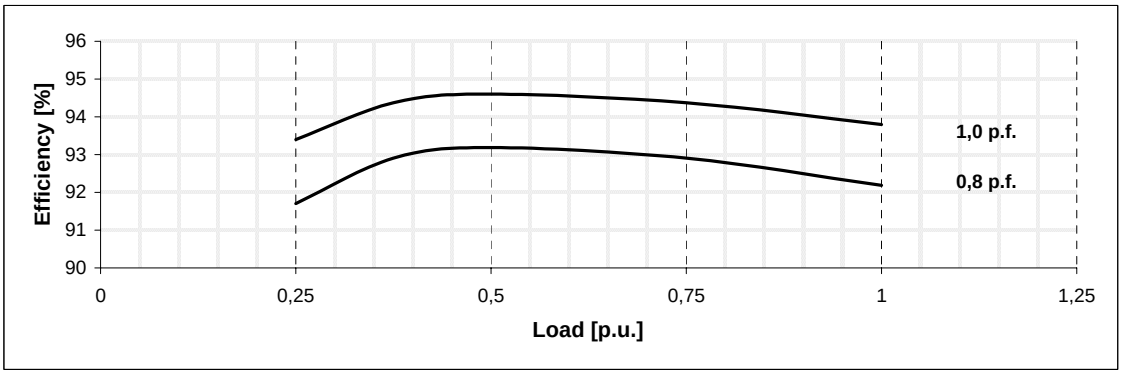
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice.

MarelliGenerators

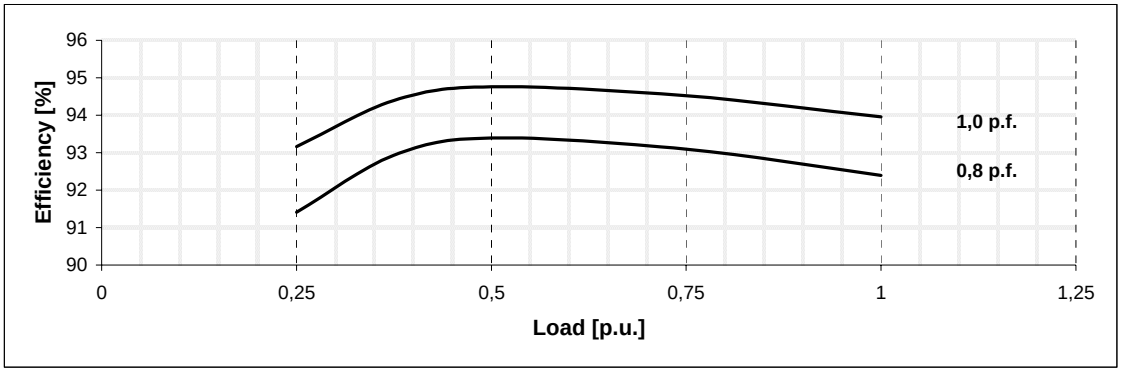
Typical efficiency curves

60 Hz - 1800 min^{-1}

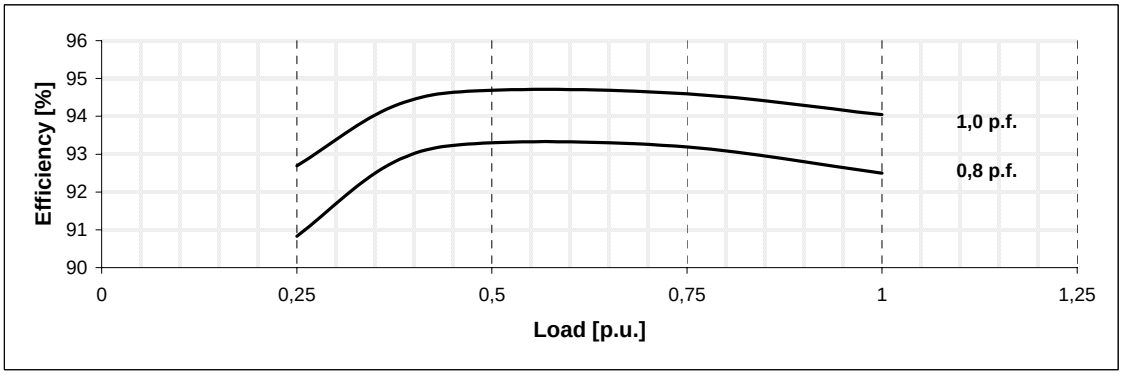
380 V



416 V



440 V



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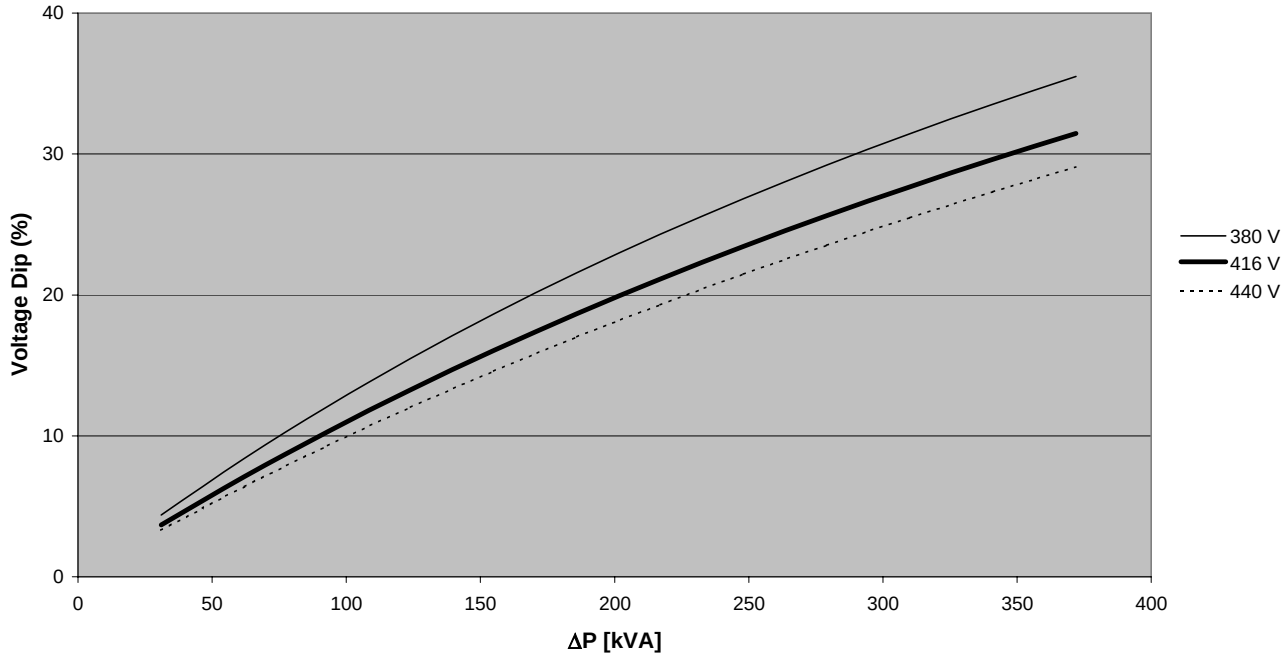
Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 250 MA 4

4 POLES

CONTINUOUS DUTY

60 Hz-1800 min^{-1}

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**		**60**	
VOLTAGE	Star series	**V**	**380**	**416**	**440**
	Star parallel		**190**	**208**	**220**
RATING		**kVA**	**205**	**205**	**205**
		kW	***164***	***164***	***164***
EFFICIENCY (%) @ 0,8 p.f.		4/4	92,7	92,8	93,5
		3/4	93,3	93,4	93,7
		2/4	93,5	93,4	93,3
EFFICIENCY (%) @ 1,0 p.f.		4/4	94,2	94,3	94,8
		3/4	94,7	94,8	95,0
		2/4	94,9	94,8	94,7
SHORT CIRCUIT RATIO			0,38	0,46	0,51
REACTANCES (%)					
Direct axis synchronous		xd	350	290	260
Quadrature axis synchronous		xq	170	140	125
Direct axis transient		x'd	30,0	25,0	22,3
Direct axis subtransient		x"d	16,7	13,9	12,4
Quadrature axis subtransient		x"q	18,3	15,3	13,7
Negative sequence		x_2	17,5	14,6	13,1
Zero sequence		x_0	3,6	3,0	2,7

TIME CONSTANTS [s]

Open circuit (T'do)	0,95	Subtransient (T"d)	0,011
Transient (T'd)	0,09	Armature (Ta)	0,012

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6218 2RS C3 / Prelubricated
N-end bearing/Lubrication	6313 2RS C3 / Prelubricated
Weight (IM B34) [kg]	530
Inertia (J) (IM B34) [kgm^2]	1,410
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	0,52
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,024
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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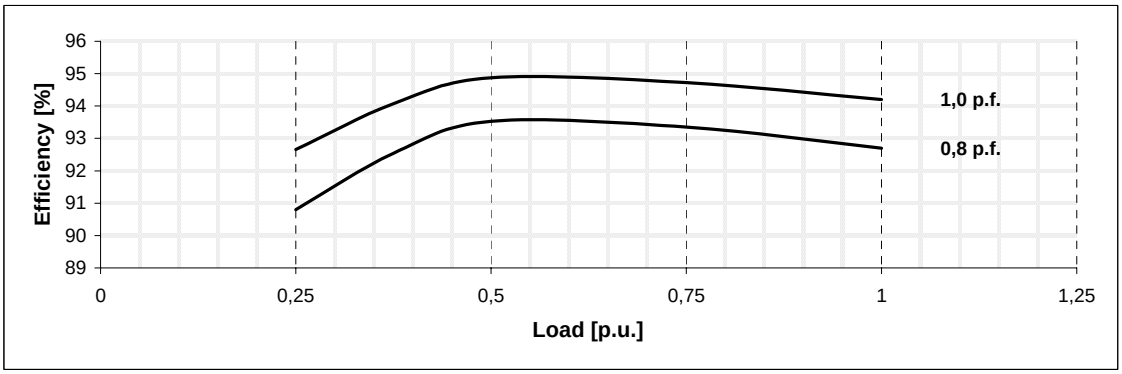
MarelliGenerators

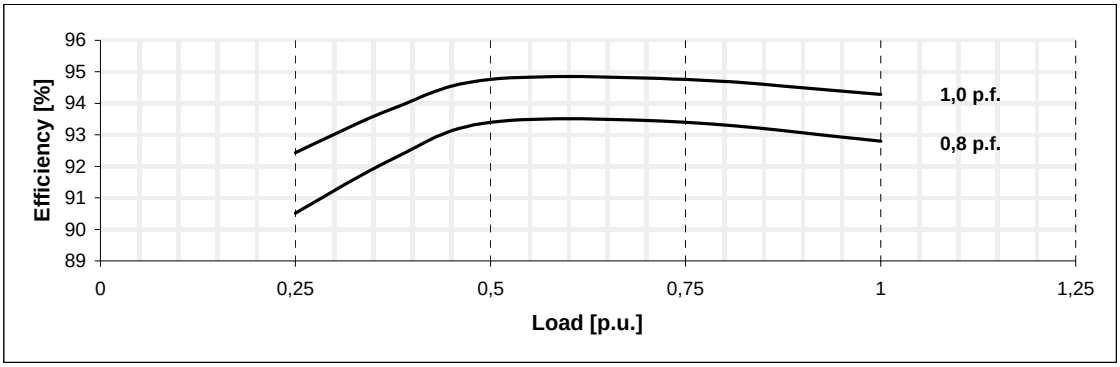
Typical efficiency curves

60 Hz - 1800 min^{-1}

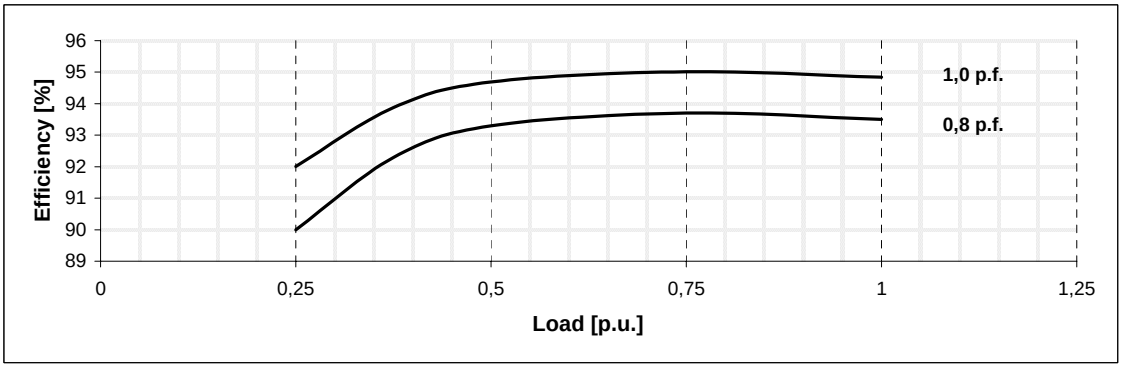
380 V



416 V



440 V



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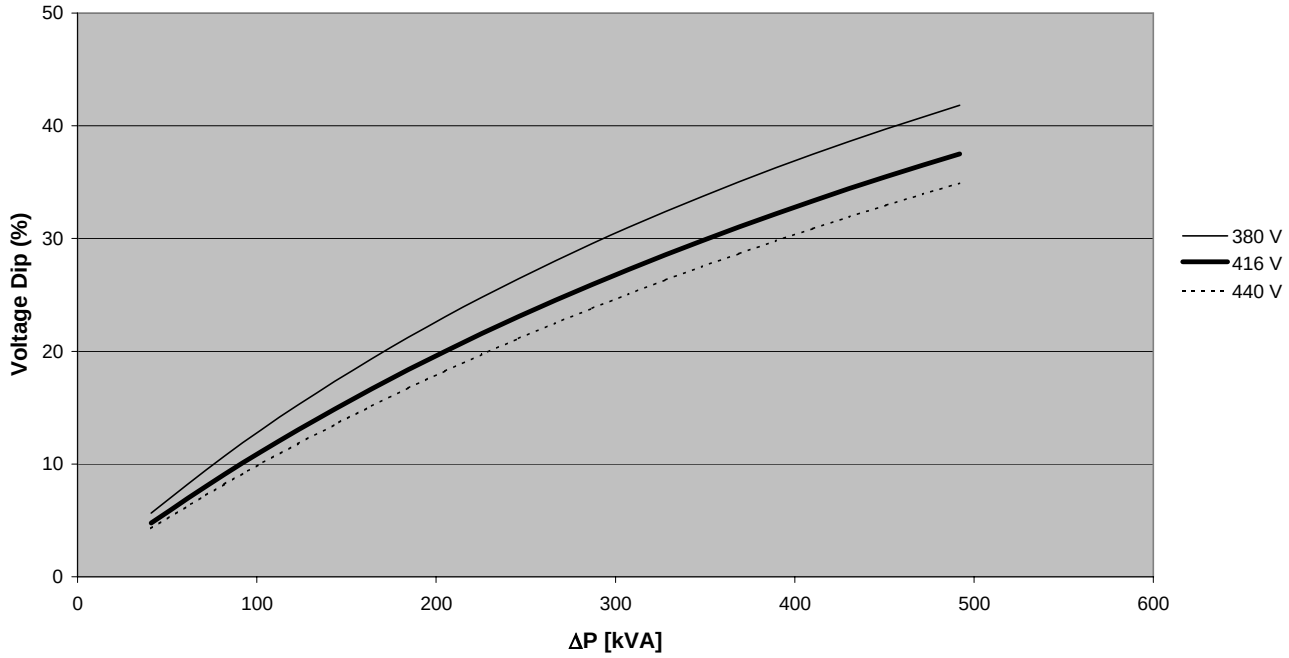
Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 250 MB 4

4 POLES

CONTINUOUS DUTY

60 Hz-1800 min^{-1}

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**		**60**	
VOLTAGE	Star series	**V**	**380**	**416**	**440**
	Star parallel		**190**	**208**	**220**
RATING		**kVA**	**230**	**230**	**230**
		kW	***184***	***184***	***184***
EFFICIENCY (%) @ 0,8 p.f.		4/4	92,8	93,0	93,5
		3/4	93,5	93,6	93,8
		2/4	93,7	93,7	93,5
EFFICIENCY (%) @ 1,0 p.f.		4/4	94,3	94,4	94,8
		3/4	94,9	94,9	95,1
		2/4	95,0	95,0	94,9
SHORT CIRCUIT RATIO			0,37	0,44	0,49
REACTANCES (%)					
Direct axis synchronous		xd	335	280	250
Quadrature axis synchronous		xq	160	135	120
Direct axis transient		x'd	29,2	24,4	21,8
Direct axis subtransient		x"d	15,2	12,7	11,4
Quadrature axis subtransient		x"q	16,9	14,1	12,6
Negative sequence		x_2	16,1	13,4	12,0
Zero sequence		x_0	3,0	2,5	2,2

TIME CONSTANTS [s]

Open circuit (T'do)	0,95	Subtransient (T"d)	0,011
Transient (T'd)	0,09	Armature (Ta)	0,013

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6218 2RS C3 / Prelubricated
N-end bearing/Lubrication	6313 2RS C3 / Prelubricated
Weight (IM B34) [kg]	590
Inertia (J) (IM B34) [kgm^2]	1,66
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	0,52
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,020
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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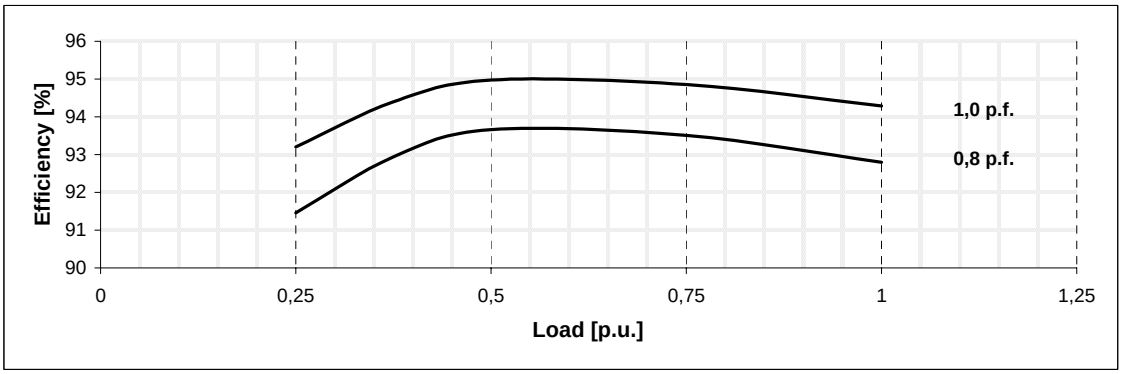
MarelliGenerators

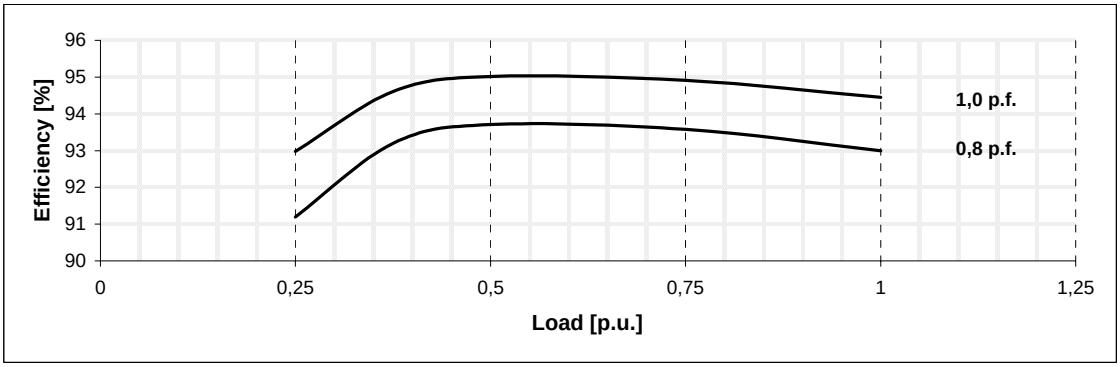
Typical efficiency curves

60 Hz - 1800 min^{-1}

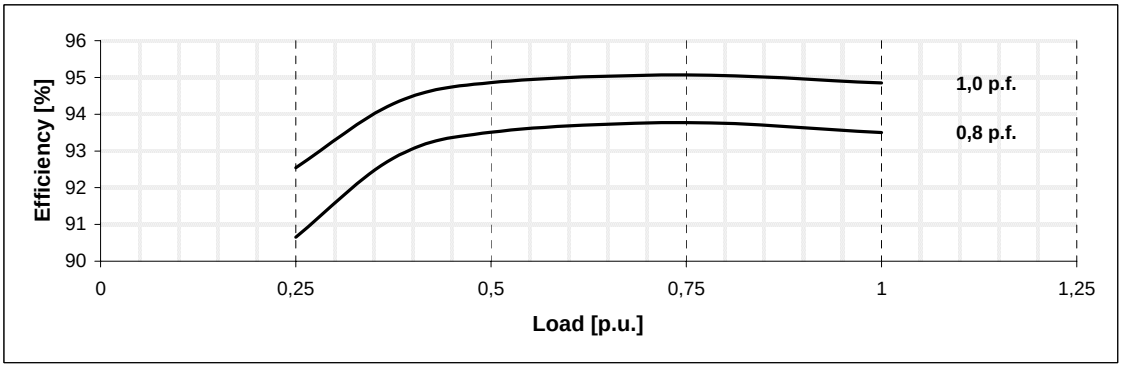
380 V



416 V



440 V



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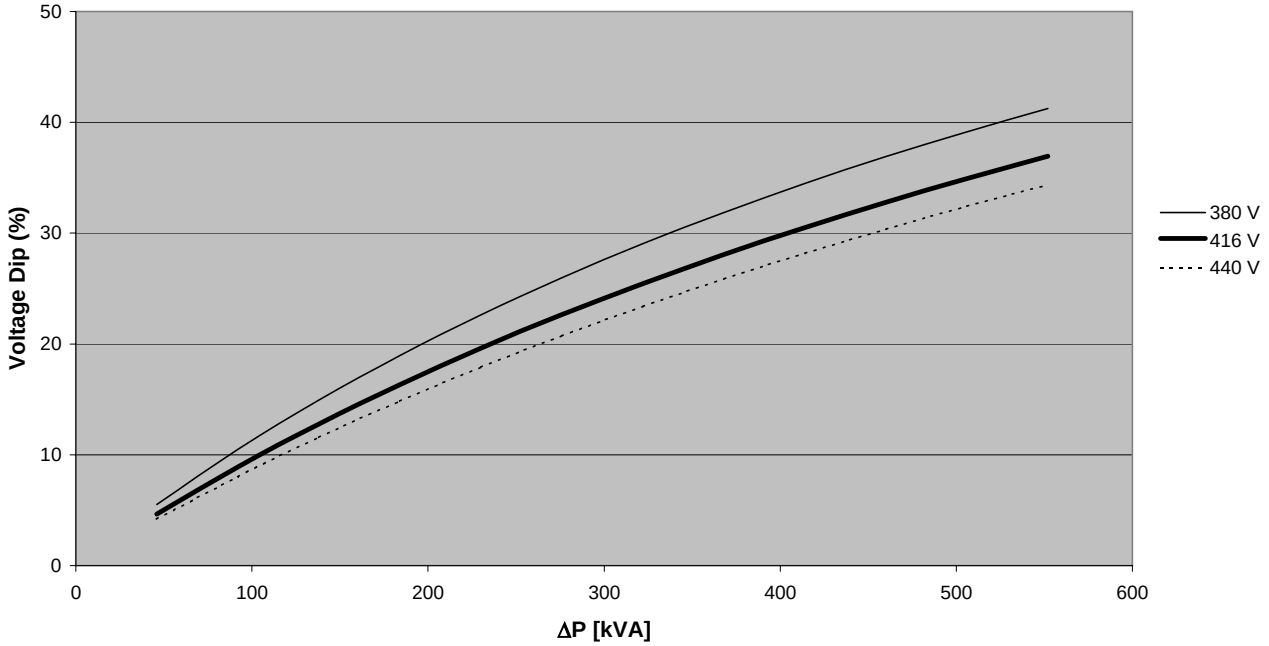
Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 250 LA 4

4 POLES

CONTINUOUS DUTY

60 Hz-1800 min^{-1}

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**		**60**	
VOLTAGE	Star series	**V**	**380**	**416**	**440**
	Star parallel		**190**	**208**	**220**
RATING		**kVA**	**260**	**270**	**270**
		kW	***208***	***216***	***216***
EFFICIENCY (%) @ 0,8 p.f.		4/4	93,4	93,5	93,8
		3/4	94,1	94,2	94,2
		2/4	94,2	94,4	94,0
EFFICIENCY (%) @ 1,0 p.f.		4/4	94,8	94,8	95,1
		3/4	95,3	95,4	95,4
		2/4	95,4	95,6	95,3
SHORT CIRCUIT RATIO			0,35	0,40	0,45
REACTANCES (%)					
Direct axis synchronous		xd	350	305	275
Quadrature axis synchronous		xq	175	150	135
Direct axis transient		x'd	27,7	24,0	21,5
Direct axis subtransient		x"d	13,0	11,3	10,1
Quadrature axis subtransient		x"q	14,5	12,6	11,3
Negative sequence		x_2	13,8	12,0	10,7
Zero sequence		x_0	2,8	2,4	2,1

TIME CONSTANTS [s]

Open circuit (T'do)	1,00	Subtransient (T"d)	0,011
Transient (T'd)	0,095	Armature (Ta)	0,013

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6218 2RS C3 / Prelubricated
N-end bearing/Lubrication	6313 2RS C3 / Prelubricated
Weight (IM B34) [kg]	660
Inertia (J) (IM B34) [kgm^2]	1,89
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	0,52
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,014
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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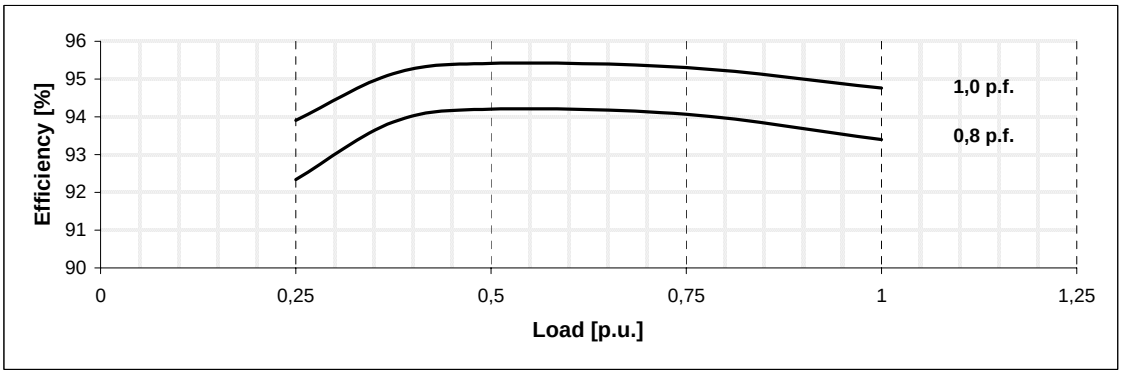
MarelliGenerators

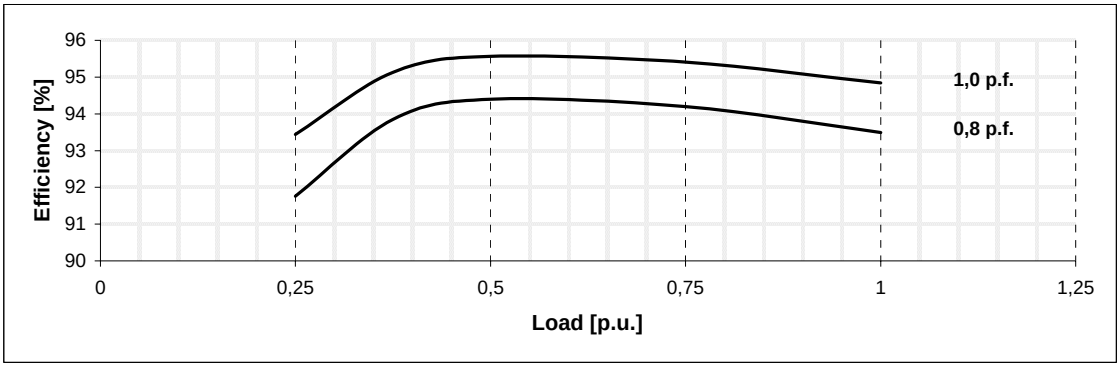
Typical efficiency curves

60 Hz - 1800 min^{-1}

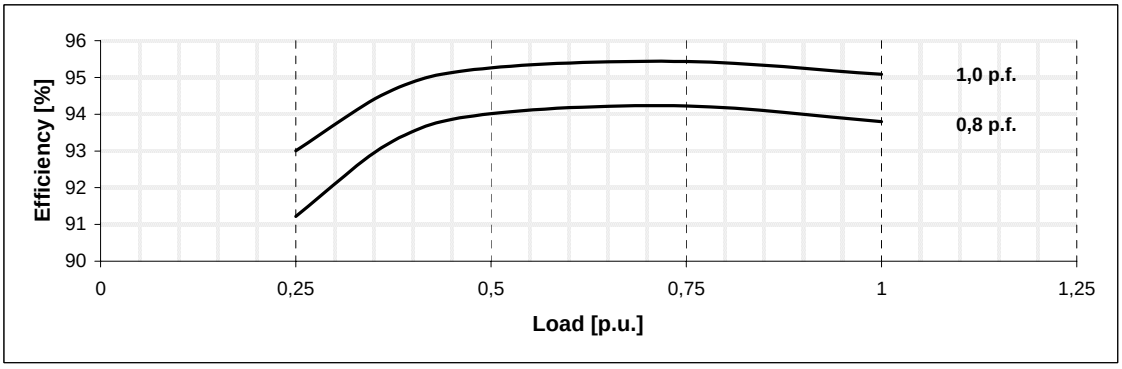
380 V



416 V



440 V



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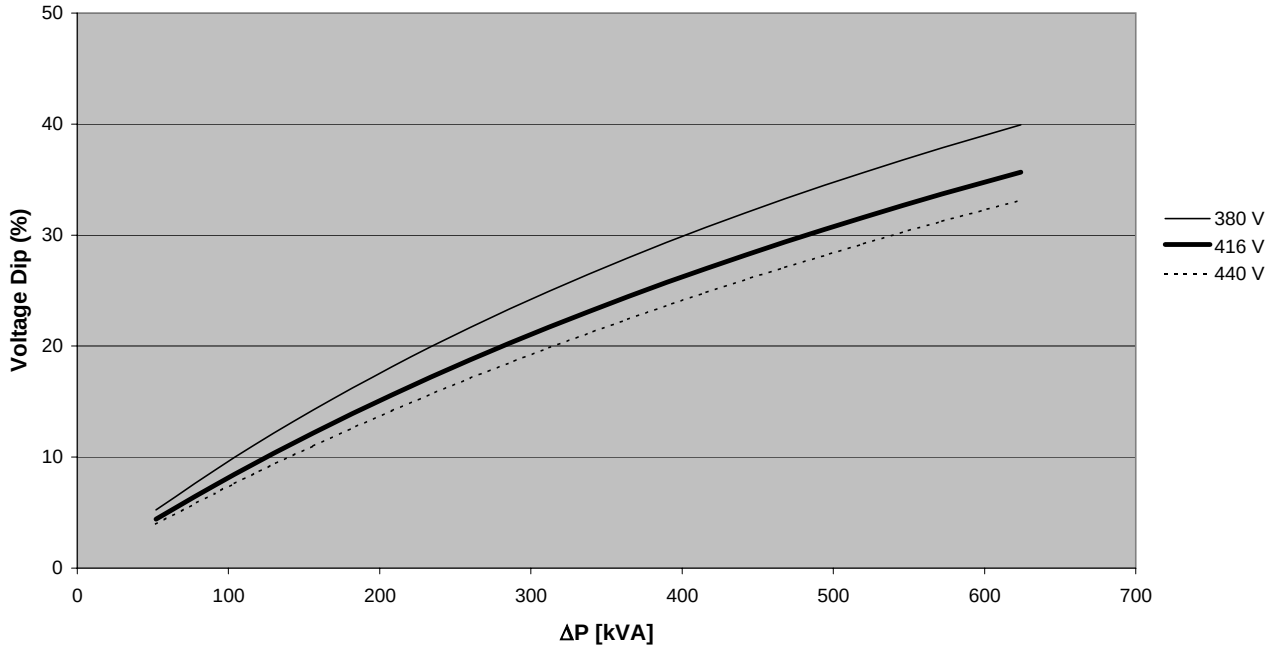
Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 315 SA 4

4 POLES

60 Hz-1800 min^{-1}

CONTINUOUS DUTY

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY	**Hz**	**60**		
VOLTAGE Star series	**V**	**380**	**416**	**440**
Star parallel		**190**	**208**	**220**
RATING	**kVA**	**370**	**370**	**370**
	kW	***296***	***296***	***296***
EFFICIENCY (%) @ 0,8 p.f.	4/4	92,4	93,4	93,6
	3/4	93,5	93,8	94,1
	2/4	93,7	93,8	94,1
EFFICIENCY (%) @ 1,0 p.f.	4/4	94,0	94,8	94,9
	3/4	94,9	95,1	95,3
	2/4	95,0	95,1	95,3
SHORT CIRCUIT RATIO		0,27	0,32	0,36
REACTANCES (%)				
Direct axis synchronous	xd	445	370	330
Quadrature axis synchronous	xq	220	185	165
Direct axis transient	x'd	39,5	33,0	29,5
Direct axis subtransient	x"d	19,1	15,9	14,2
Quadrature axis subtransient	x"q	21,6	18,0	16,1
Negative sequence	x_2	20,3	16,9	15,1
Zero sequence	x_0	5,0	4,2	3,8

TIME CONSTANTS [s]

Open circuit (T'do)	1,60	Subtransient (T"d)	0,014
Transient (T'd)	0,145	Armature (Ta)	0,018

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6319 C3 / With grease nipple
N-end bearing/Lubrication	6315 2Z 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]	0,39
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	12
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.

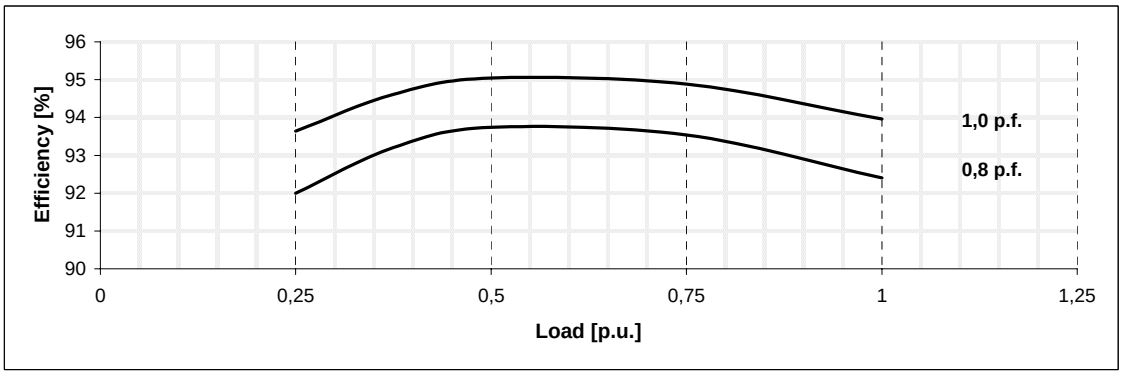
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice.

MarelliGenerators

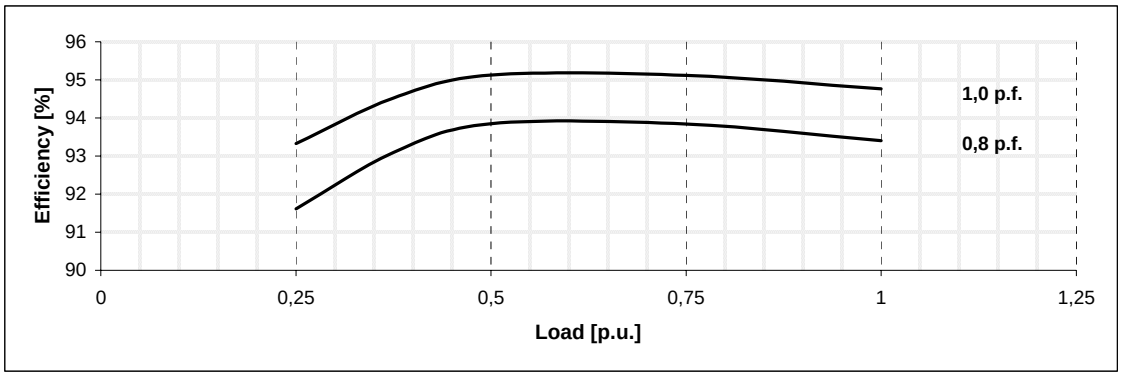
Typical efficiency curves

60 Hz - 1800 min^{-1}

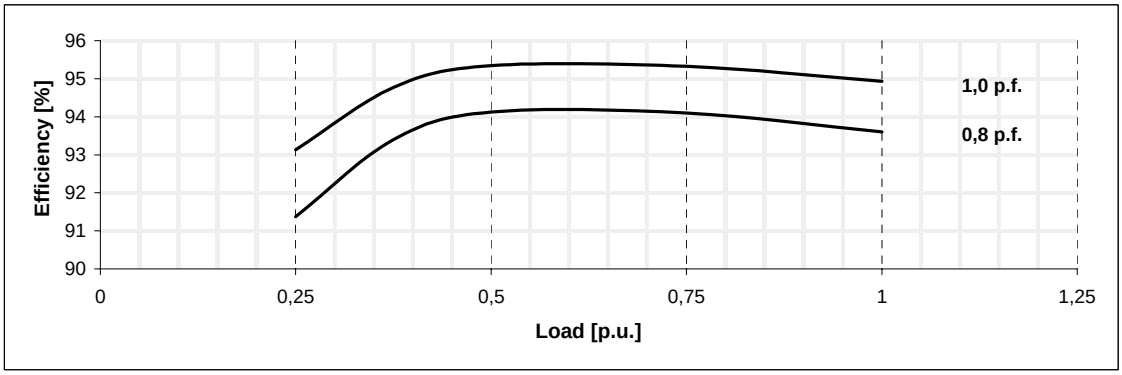
380 V



416 V



440 V



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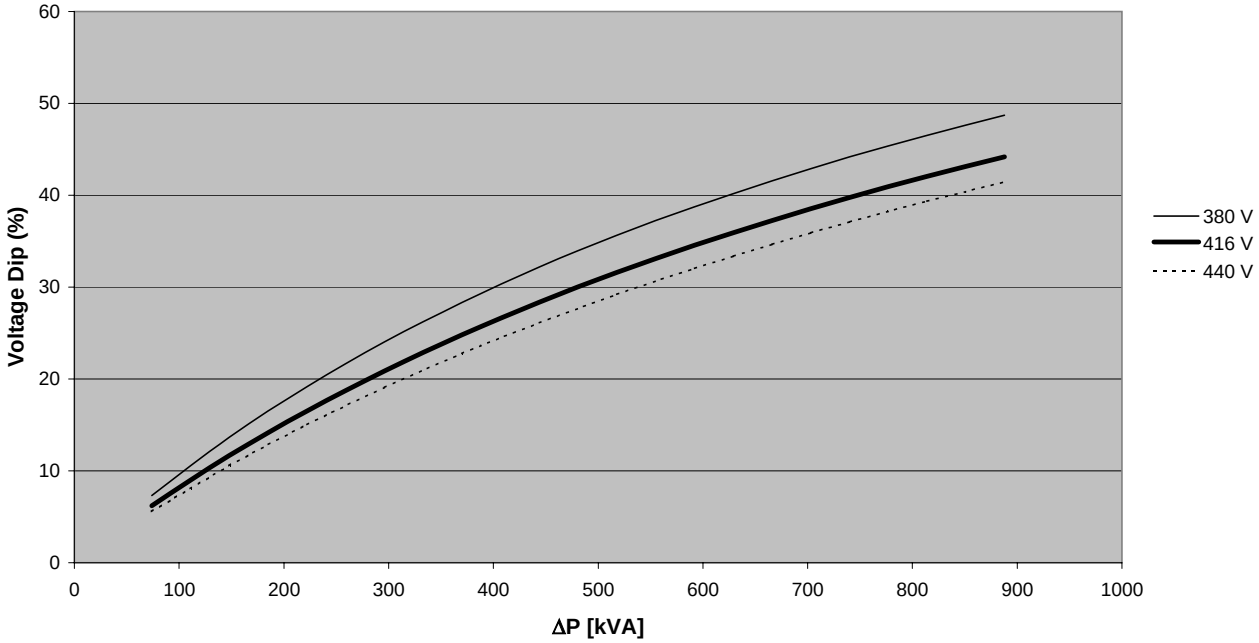
Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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

FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 315 SB 4

4 POLES

60 Hz-1800 min^{-1}

CONTINUOUS DUTY

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY	**Hz**	**60**		
VOLTAGE Star series	**V**	**380**	**416**	**440**
Star parallel		**190**	**208**	**220**
RATING	**kVA**	**425**	**425**	**425**
	kW	***340***	***340***	***340***
EFFICIENCY (%) @ 0,8 p.f.	4/4	92,9	93,7	93,8
	3/4	93,8	94,0	94,2
	2/4	94,1	94,0	94,1
EFFICIENCY (%) @ 1,0 p.f.	4/4	94,4	95,0	95,1
	3/4	95,1	95,2	95,4
	2/4	95,3	95,3	95,4
SHORT CIRCUIT RATIO		0,29	0,35	0,39
REACTANCES (%)				
Direct axis synchronous	xd	415	345	310
Quadrature axis synchronous	xq	210	175	155
Direct axis transient	x'd	36,0	30,0	26,8
Direct axis subtransient	x"d	16,8	14,0	12,5
Quadrature axis subtransient	x"q	19,7	16,4	14,7
Negative sequence	x_2	18,2	15,2	13,6
Zero sequence	x_0	4,6	3,8	3,4

TIME CONSTANTS [s]

Open circuit (T'do)	1,42	Subtransient (T"d)	0,014
Transient (T'd)	0,14	Armature (Ta)	0,018

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6319 C3 / With grease nipple
N-end bearing/Lubrication	6315 2Z C3 / Prelubricated
Weight (IM B34) [kg]	920
Inertia (J) (IM B34) [kgm^2]	4,25
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	0,39
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	8,5
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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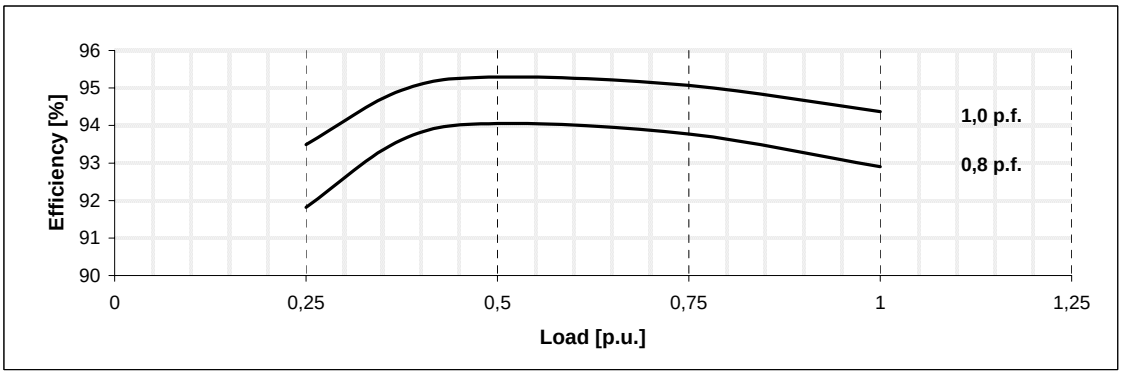
MarelliGenerators

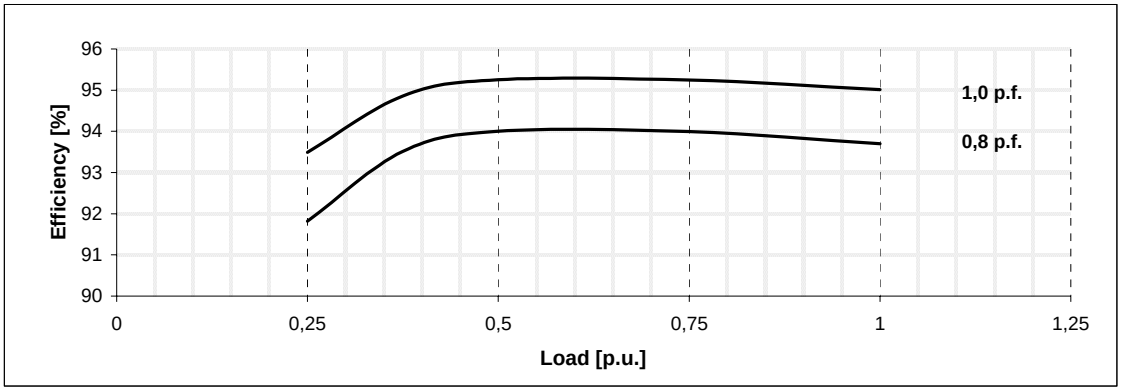
Typical efficiency curves

60 Hz - 1800 min^{-1}

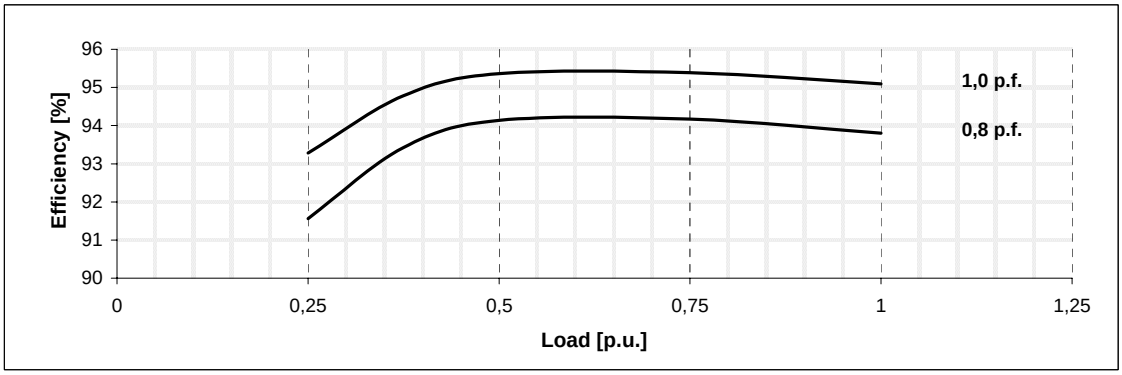
380 V



416 V



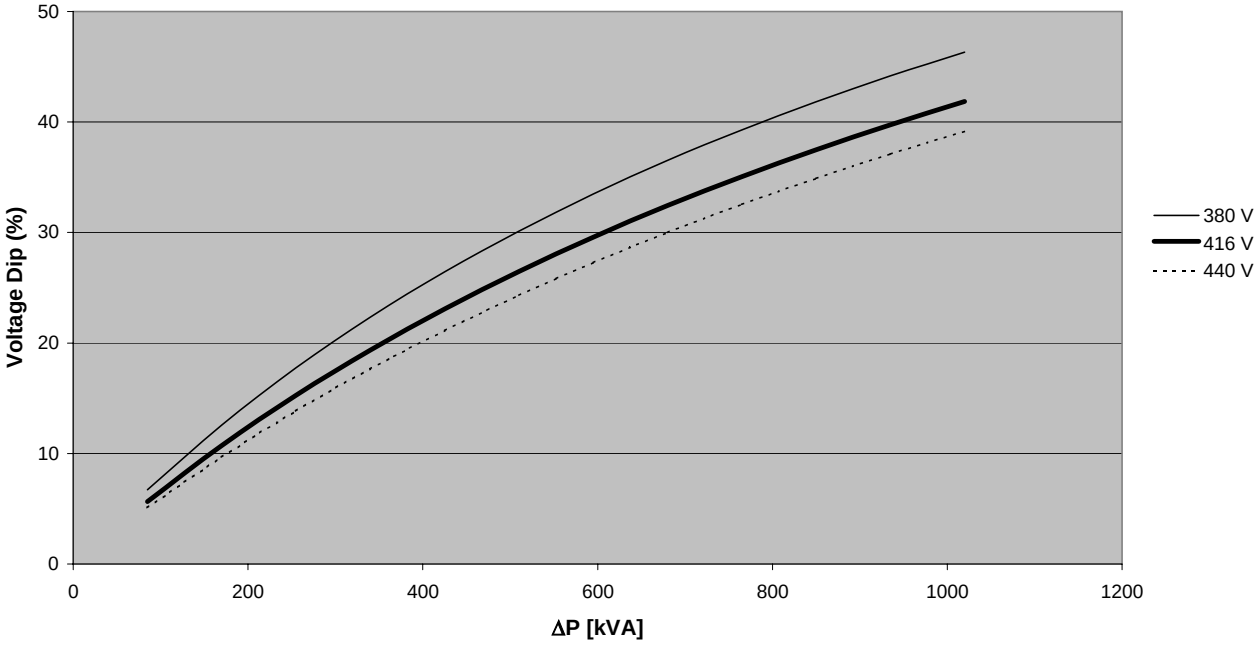
440 V



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

Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 315 MA 4

4 POLES

CONTINUOUS DUTY

60 Hz-1800 min^{-1}

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY	**Hz**	**60**		
VOLTAGE Star series	**V**	**380**	**416**	**440**
Star parallel		**190**	**208**	**220**
RATING	**kVA**	**500**	**500**	**500**
	kW	***400***	***400***	***400***
EFFICIENCY (%) @ 0,8 p.f.	4/4	93,4	93,9	94,1
	3/4	94,2	94,4	94,5
	2/4	94,4	94,4	94,3
EFFICIENCY (%) @ 1,0 p.f.	4/4	94,8	95,2	95,3
	3/4	95,4	95,5	95,7
	2/4	95,6	95,6	95,5
SHORT CIRCUIT RATIO		0,32	0,38	0,43
REACTANCES (%)				
Direct axis synchronous	xd	395	330	295
Quadrature axis synchronous	xq	210	175	155
Direct axis transient	x'd	35,4	29,5	26,4
Direct axis subtransient	x"d	15,8	13,2	11,8
Quadrature axis subtransient	x"q	18,7	15,6	13,9
Negative sequence	x_2	17,3	14,4	12,9
Zero sequence	x_0	4,0	3,3	2,9

TIME CONSTANTS [s]

Open circuit (T'do)	1,60	Subtransient (T"d)	0,014
Transient (T'd)	0,145	Armature (Ta)	0,018

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6319 C3 / With grease nipple
N-end bearing/Lubrication	6315 2Z C3 / Prelubricated
Weight (IM B34) [kg]	1060
Inertia (J) (IM B34) [kgm^2]	4,80
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	0,39
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	7,1
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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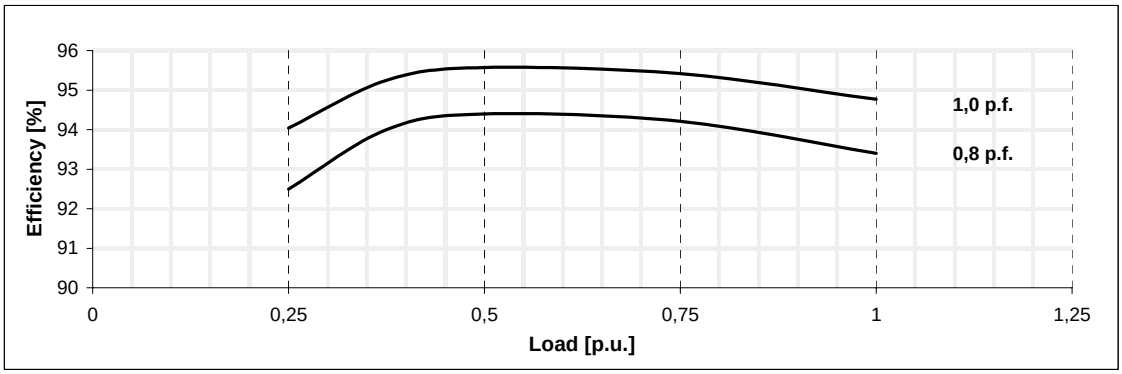
MarelliGenerators

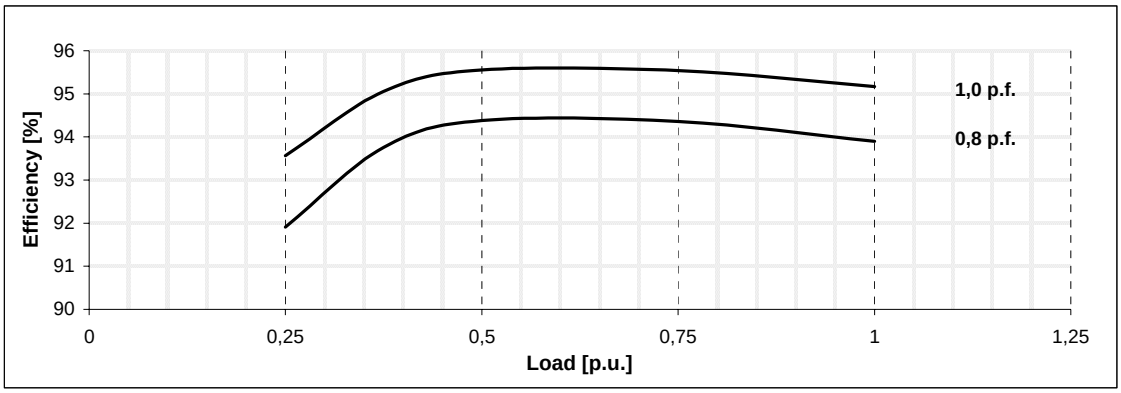
Typical efficiency curves

60 Hz - 1800 min^{-1}

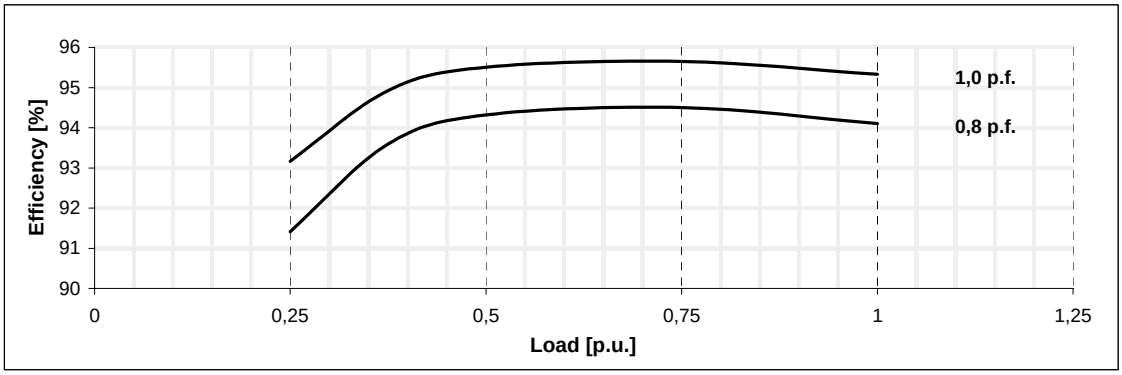
380 V



416 V



440 V



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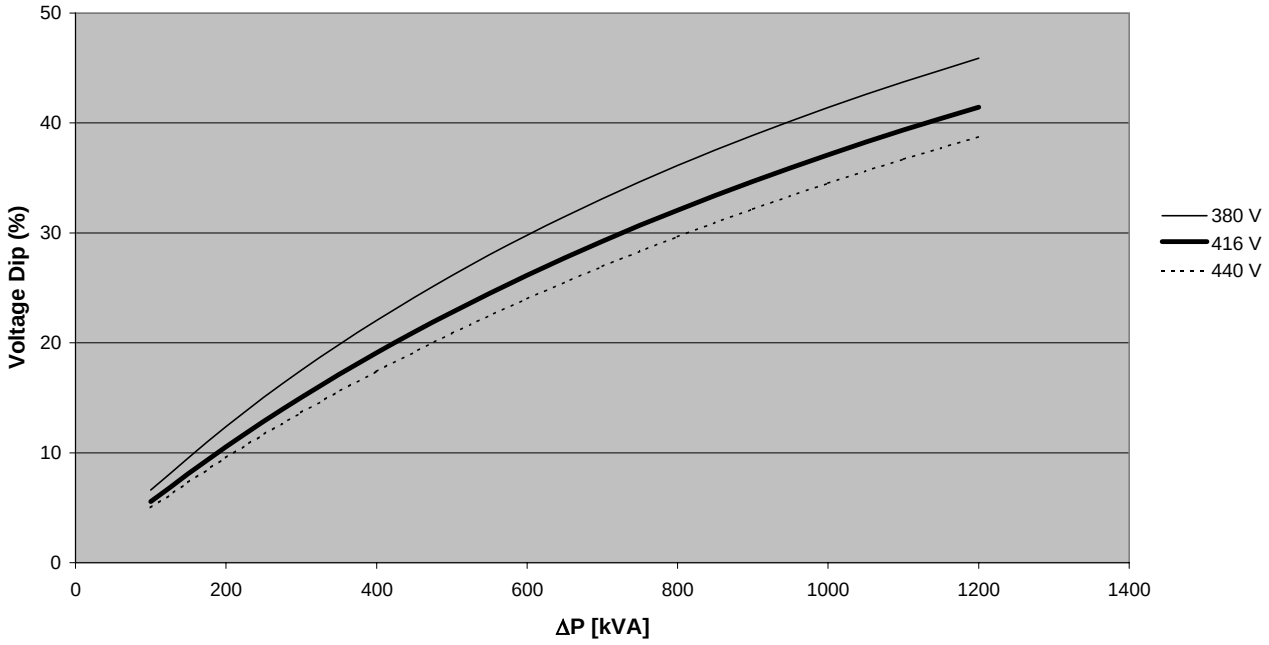
Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 355 SA 4

4 POLES

60 Hz-1800 min^{-1}

CONTINUOUS DUTY

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**60**		
VOLTAGE	Star series	**V**	**380**	**416**	**440**
	Star parallel		**190**	**208**	**220**
RATING		**kVA**	**610**	**625**	**625**
		kW	***488***	***500***	***500***
EFFICIENCY (%) @ 0,8 p.f.		4/4	93,8	94,3	93,5
		3/4	94,8	95,1	94,5
		2/4	95,1	95,2	94,9
EFFICIENCY (%) @ 1,0 p.f.		4/4	95,1	95,5	94,8
		3/4	95,9	96,1	95,6
		2/4	96,1	96,2	96,0
SHORT CIRCUIT RATIO			0,39	0,45	0,50
REACTANCES (%)					
Direct axis synchronous		xd	300	255	230
Quadrature axis synchronous		xq	175	150	130
Direct axis transient		x'd	24,5	21,0	18,8
Direct axis subtransient		x"d	14,0	12,0	10,7
Quadrature axis subtransient		x"q	15,9	13,6	12,2
Negative sequence		x_2	14,9	12,7	11,4
Zero sequence		x_0	3,7	3,2	2,8

TIME CONSTANTS [s]

Open circuit (T'do)	1,65	Subtransient (T"d)	0,015
Transient (T'd)	0,135	Armature (Ta)	0,021

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6322 C3 / With grease nipple
N-end bearing/Lubrication	6317 2Z C3 / Prelubricated
Weight (IM B34) [kg]	1250
Inertia (J) (IM B34) [kgm^2]	7,97
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	1,12
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	6,8
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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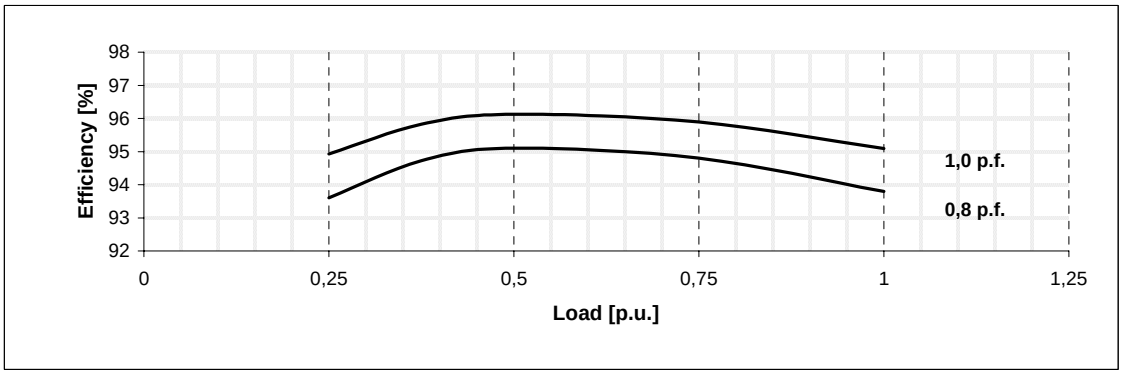
MarelliGenerators

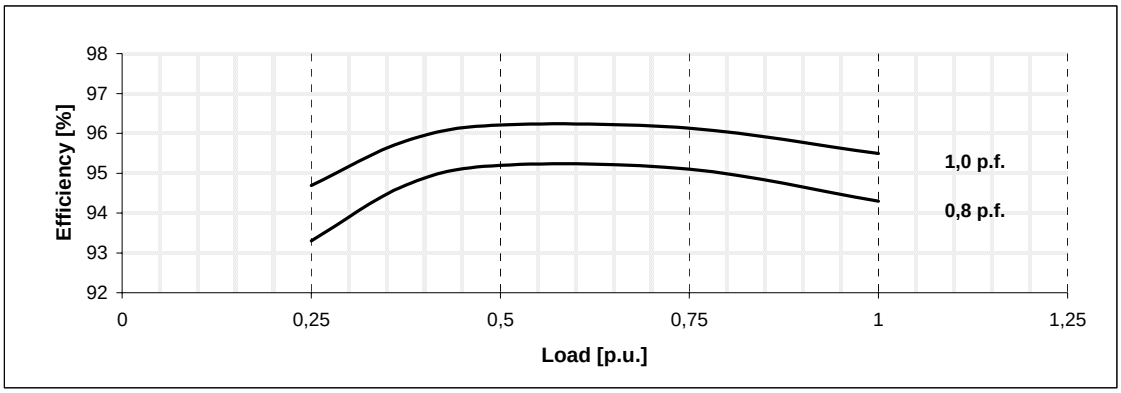
Typical efficiency curves

60 Hz - 1800 min^{-1}

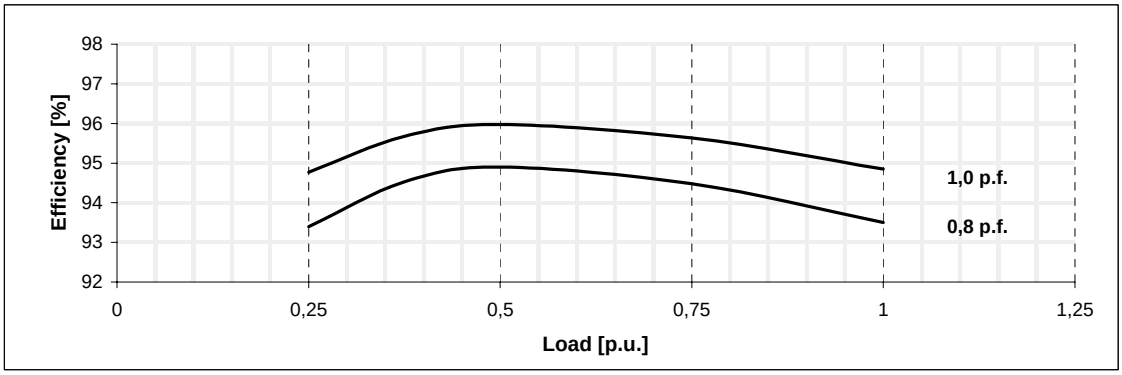
380 V



416 V



440 V



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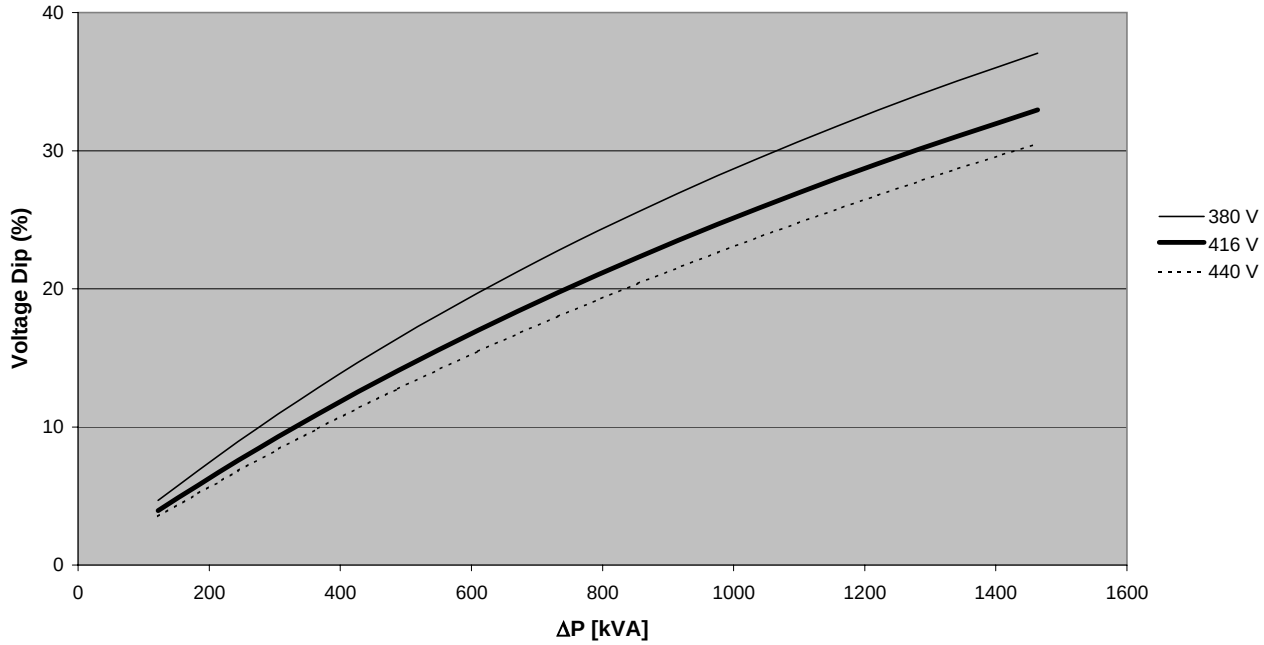
Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 355 SB 4

4 POLES

60 Hz-1800 min^{-1}

CONTINUOUS DUTY

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY	**Hz**	**60**		
VOLTAGE Star series	**V**	**380**	**416**	**440**
Star parallel		**190**	**208**	**220**
RATING	**kVA**	**705**	**705**	**675**
	kW	***564***	***564***	***540***
EFFICIENCY (%) @ 0,8 p.f.	4/4	94,7	95,0	95,0
	3/4	95,3	95,5	95,4
	2/4	95,5	95,6	95,2
EFFICIENCY (%) @ 1,0 p.f.	4/4	95,8	96,1	96,1
	3/4	96,3	96,4	96,4
	2/4	96,4	96,5	96,2
SHORT CIRCUIT RATIO		0,41	0,49	0,57
REACTANCES (%)				
Direct axis synchronous	xd	245	205	175
Quadrature axis synchronous	xq	135	115	95
Direct axis transient	x'd	20,5	17,1	14,6
Direct axis subtransient	x"d	10,4	8,7	7,4
Quadrature axis subtransient	x"q	12,4	10,3	8,8
Negative sequence	x_2	11,4	9,5	8,2
Zero sequence	x_0	3,0	2,5	2,1

TIME CONSTANTS [s]

Open circuit (T'do)	1,95	Subtransient (T"d)	0,016
Transient (T'd)	0,16	Armature (Ta)	0,022

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6322 C3 / With grease nipple
N-end bearing/Lubrication	6317 2Z C3 / Prelubricated
Weight (IM B34) [kg]	1550
Inertia (J) (IM B34) [kgm^2]	9,29
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	1,12
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	3,4
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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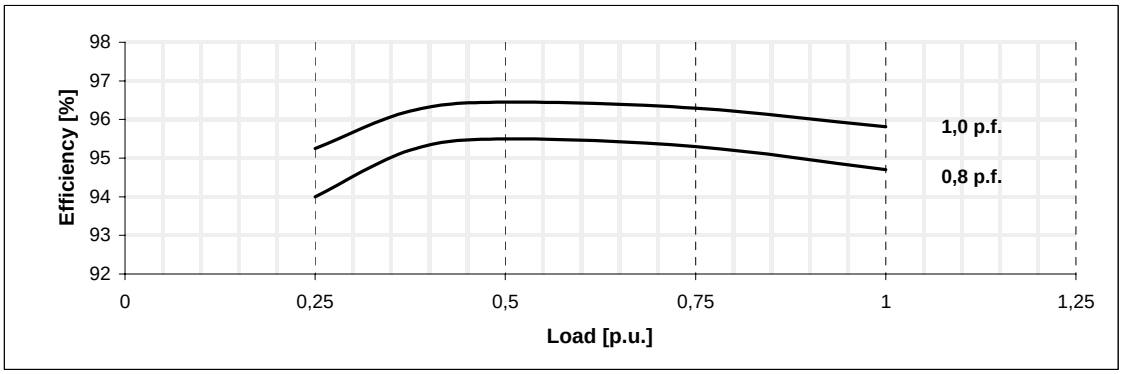
MarelliGenerators

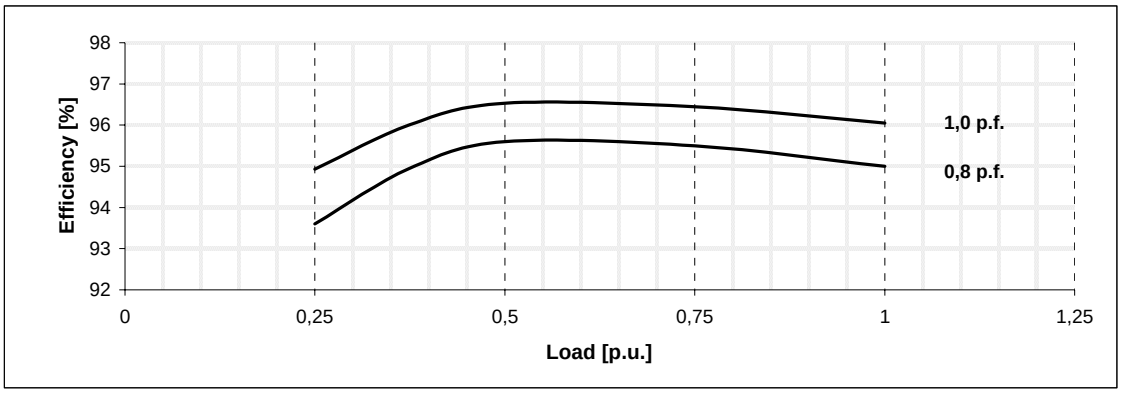
Typical efficiency curves

60 Hz - 1800 min^{-1}

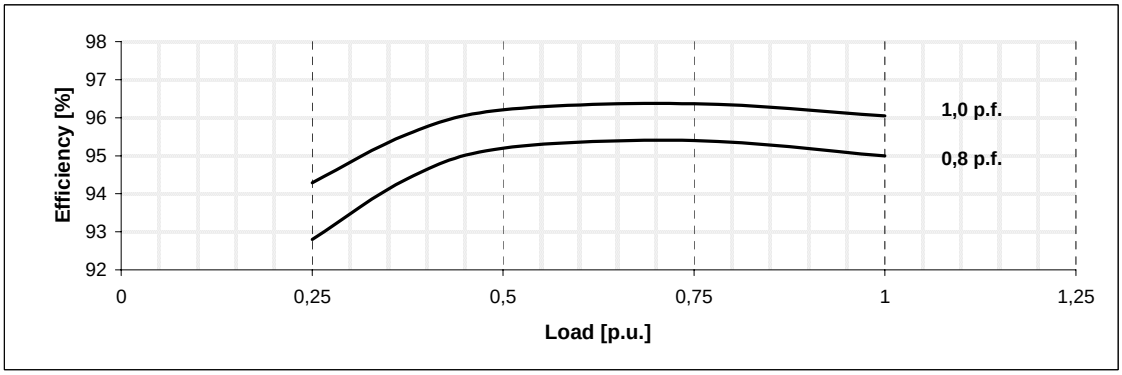
380 V



416 V



440 V



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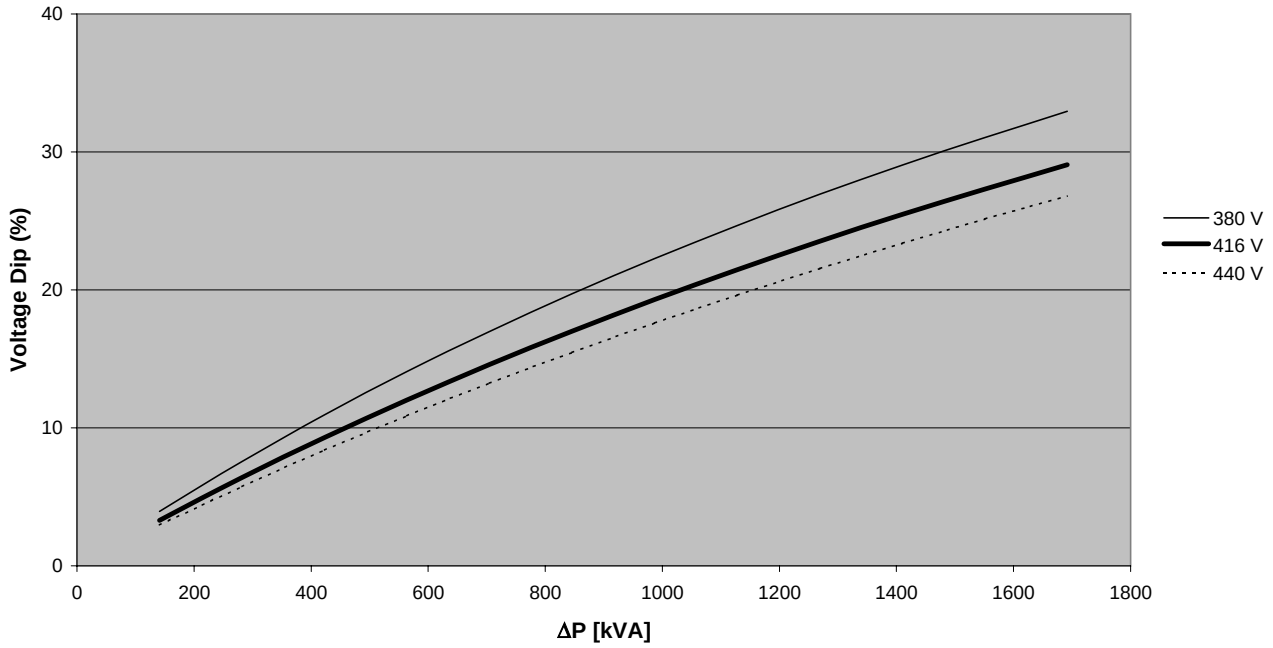
Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 355 MB 4

4 POLES

CONTINUOUS DUTY

60 Hz-1800 min^{-1}

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY	**Hz**	**60**	
VOLTAGE Star series	**V**	**380**	**416**
Star parallel		**190**	**208**
RATING	**kVA**	**900**	**900**
	kW	***720***	***720***
EFFICIENCY (%) @ 0,8 p.f.	4/4	95,2	95,4
	3/4	95,6	95,7
	2/4	95,8	95,9
EFFICIENCY (%) @ 1,0 p.f.	4/4	96,2	96,4
	3/4	96,6	96,6
	2/4	96,7	96,8
SHORT CIRCUIT RATIO		0,53	0,63
REACTANCES (%)			
Direct axis synchronous	xd	205	170
Quadrature axis synchronous	xq	110	90
Direct axis transient	x'd	16,6	13,8
Direct axis subtransient	x''d	7,9	6,6
Quadrature axis subtransient	x''q	9,8	8,2
Negative sequence	x_2	8,9	7,4
Zero sequence	x_0	2,2	1,8

TIME CONSTANTS [s]

Open circuit (T'do)	2,2	Subtransient (T''d)	0,016
Transient (T'd)	0,18	Armature (Ta)	0,026

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6322 C3 / With grease nipple
N-end bearing/Lubrication	6317 2Z C3 / Prelubricated
Weight (IM B34) [kg]	2030
Inertia (J) (IM B34) [kgm^2]	13,12
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	1,12
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	2,0
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.

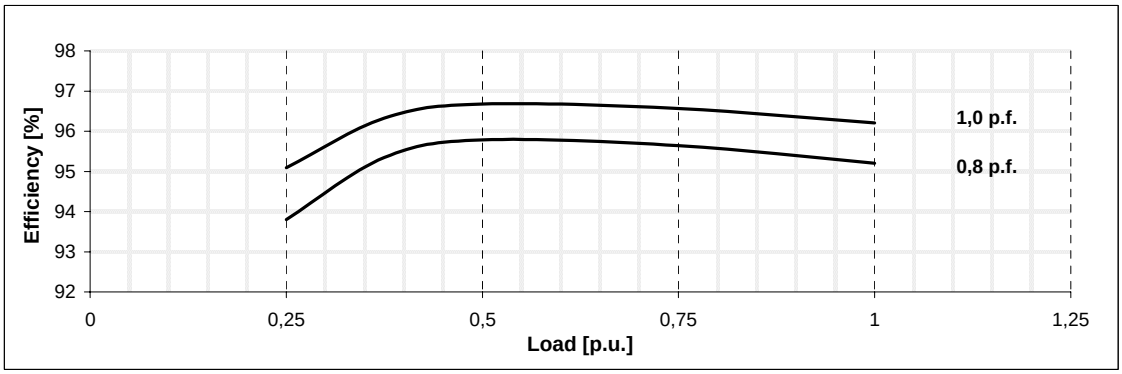
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice.

MarelliGenerators

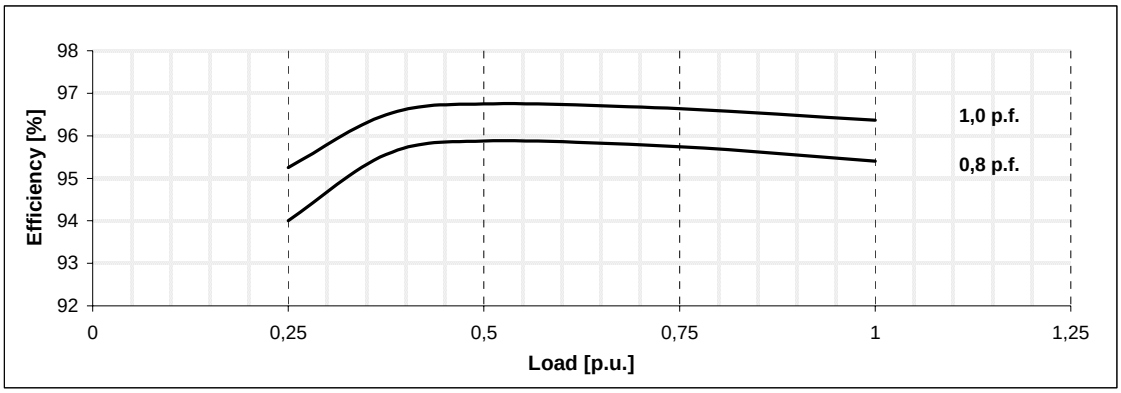
Typical efficiency curves

60 Hz - 1800 min^{-1}

380 V



416 V



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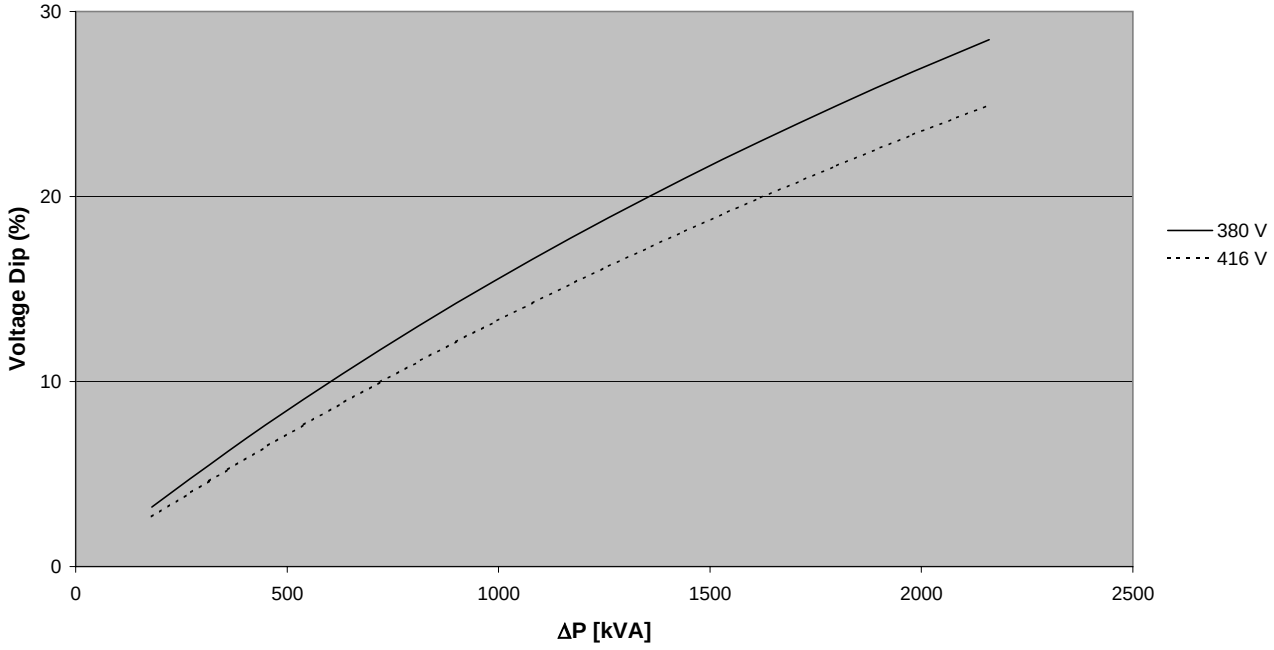
Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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

FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 MA 4

4 POLES

CONTINUOUS DUTY

60 Hz-1800 min^{-1}

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY	**Hz**	**60**		
VOLTAGE Star series	**V**	**380**	**416**	**440**
Star parallel		**190**	**208**	**220**
RATING	**kVA**	**1100**	**1150**	**1090**
	kW	***880***	***920***	***872***
EFFICIENCY (%) @ 0,8 p.f.	4/4	95,3	95,5	95,3
	3/4	95,5	95,7	95,6
	2/4	95,5	95,6	95,5
EFFICIENCY (%) @ 1,0 p.f.	4/4	96,3	96,5	96,3
	3/4	96,5	96,6	96,6
	2/4	96,5	96,5	96,5
SHORT CIRCUIT RATIO		0,46	0,53	0,62
REACTANCES (%)				
Direct axis synchronous	xd	230	200	170
Quadrature axis synchronous	xq	130	115	95
Direct axis transient	x'd	21,4	18,7	15,8
Direct axis subtransient	x"d	10,0	8,7	7,4
Quadrature axis subtransient	x"q	10,7	9,3	7,9
Negative sequence	x_2	10,3	9,0	7,6
Zero sequence	x_0	2,6	2,3	1,9

TIME CONSTANTS [s]

Open circuit (T'do)	2,21	Subtransient (T"d)	0,018
Transient (T'd)	0,18	Armature (Ta)	0,025

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	2100
Inertia (J) (IM B34) [kgm^2]	16,3
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	1,55
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	1,9
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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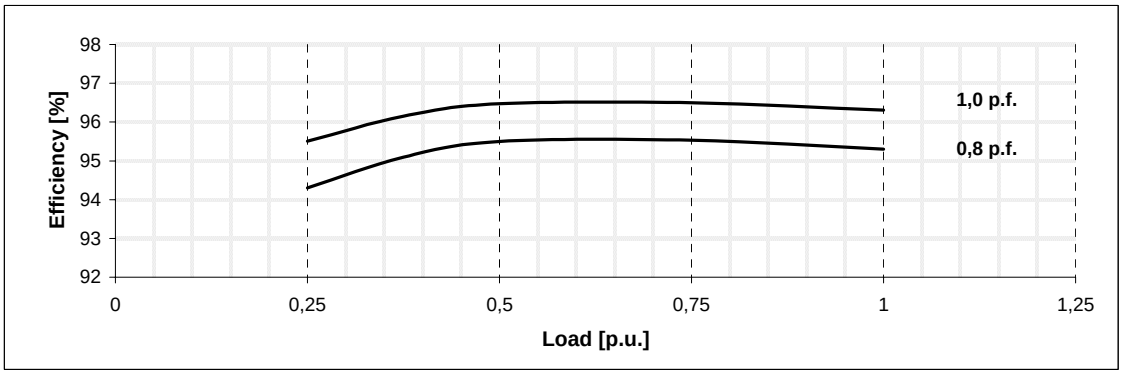
MarelliGenerators

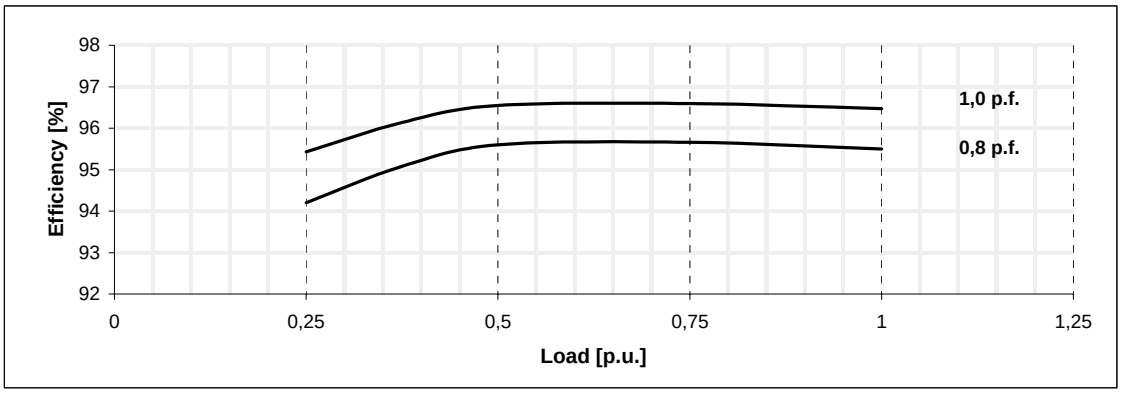
Typical efficiency curves

60 Hz - 1800 min^{-1}

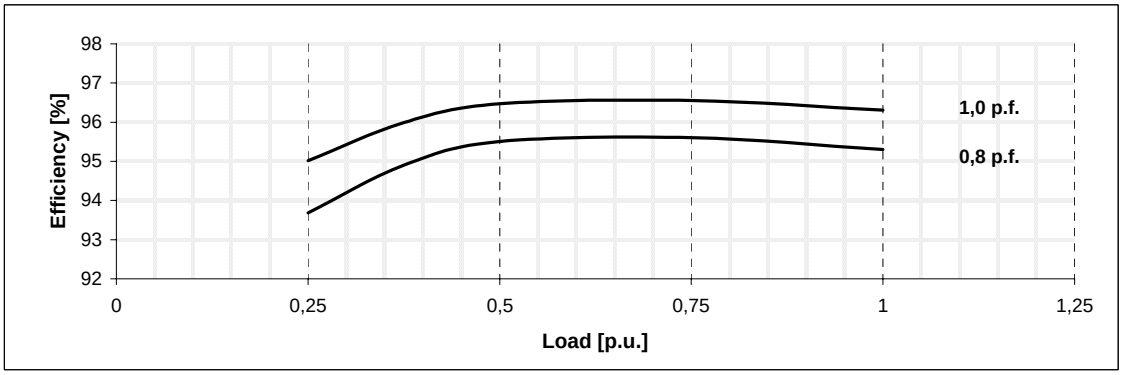
380 V



416 V



440 V



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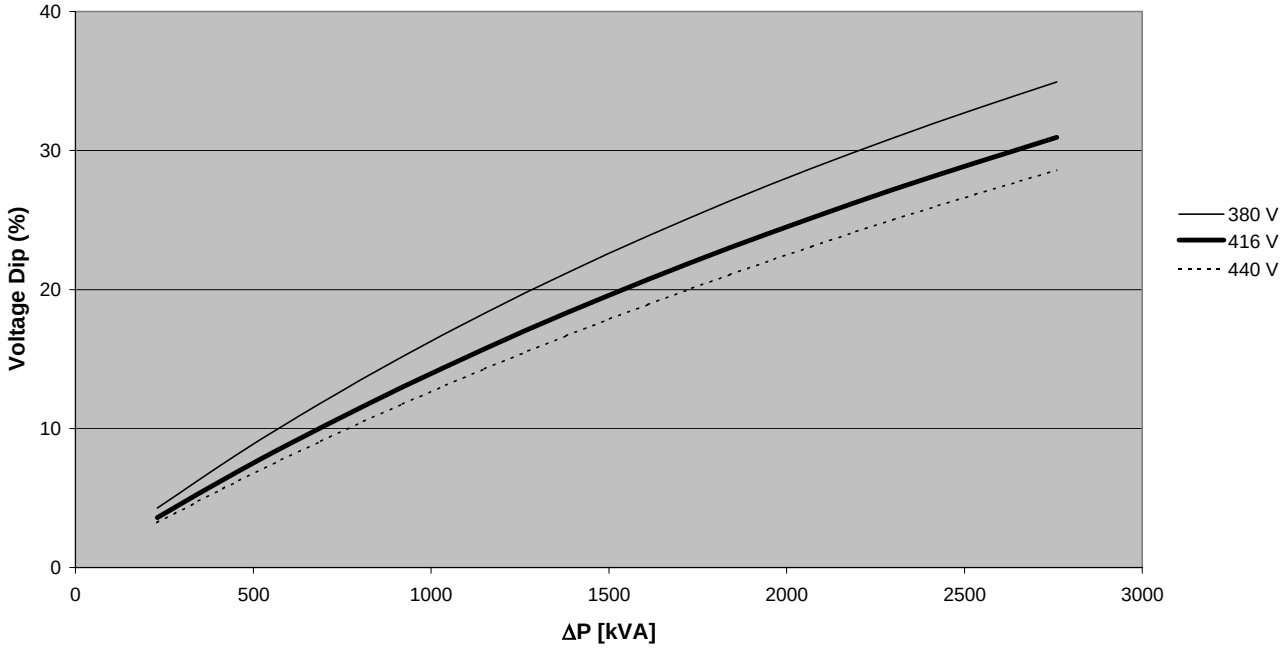
Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 MB 4

4 POLES

CONTINUOUS DUTY

60 Hz-1800 min^{-1}

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**60**	
VOLTAGE	Star series	**V**	**380**	**416**
	Star parallel		**190**	**208**
RATING		**kVA**	**1320**	**1230**
		kW	***1056***	***984***
EFFICIENCY (%) @ 0,8 p.f.		4/4	95,6	95,7
		3/4	95,8	95,9
		2/4	95,8	95,7
EFFICIENCY (%) @ 1,0 p.f.		4/4	96,5	96,6
		3/4	96,7	96,8
		2/4	96,7	96,6
SHORT CIRCUIT RATIO			0,40	0,51
REACTANCES (%)				
Direct axis synchronous		xd	295	230
Quadrature axis synchronous		xq	165	130
Direct axis transient		x'd	25,5	19,8
Direct axis subtransient		x''d	12,4	9,6
Quadrature axis subtransient		x''q	13,1	10,2
Negative sequence		x_2	12,8	10,0
Zero sequence		x_0	2,9	2,3

TIME CONSTANTS [s]

Open circuit (T'do)	2,4	Subtransient (T''d)	0,018
Transient (T'd)	0,18	Armature (Ta)	0,025

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	2300
Inertia (J) (IM B34) [kgm^2]	17,0
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	1,55
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	1,7
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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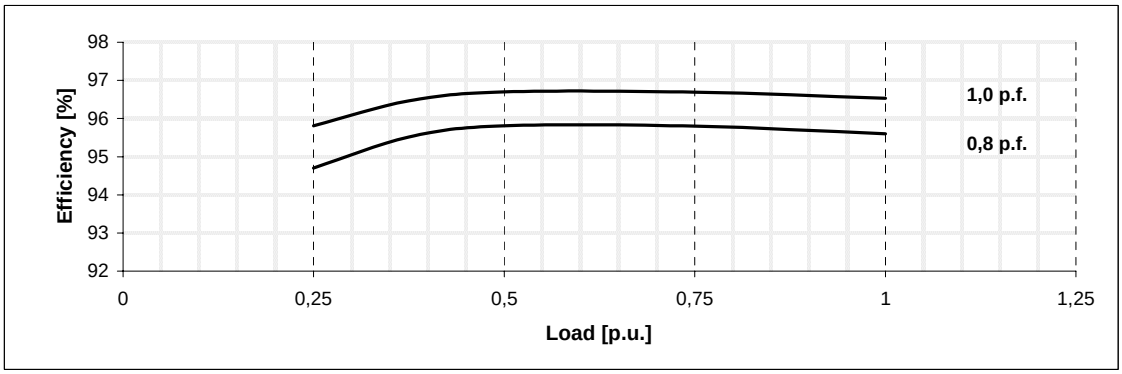
MarelliGenerators

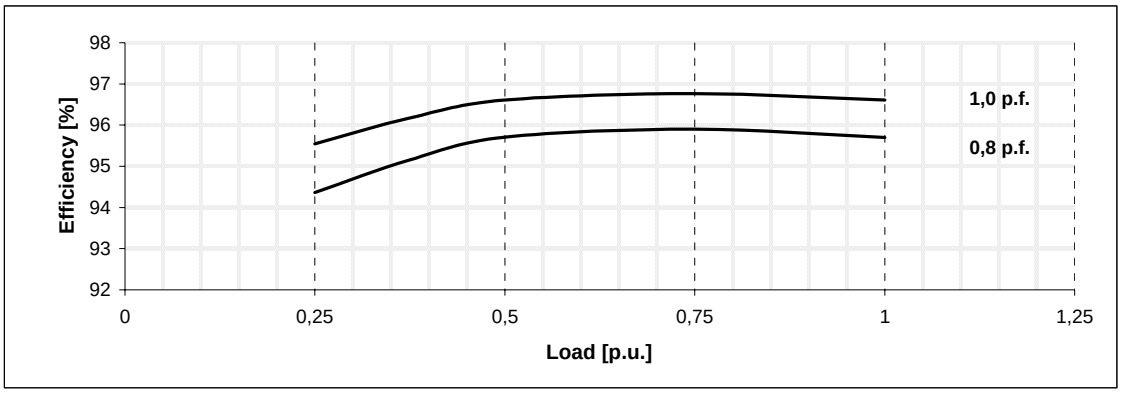
Typical efficiency curves

60 Hz - 1800 min^{-1}

380 V



416 V



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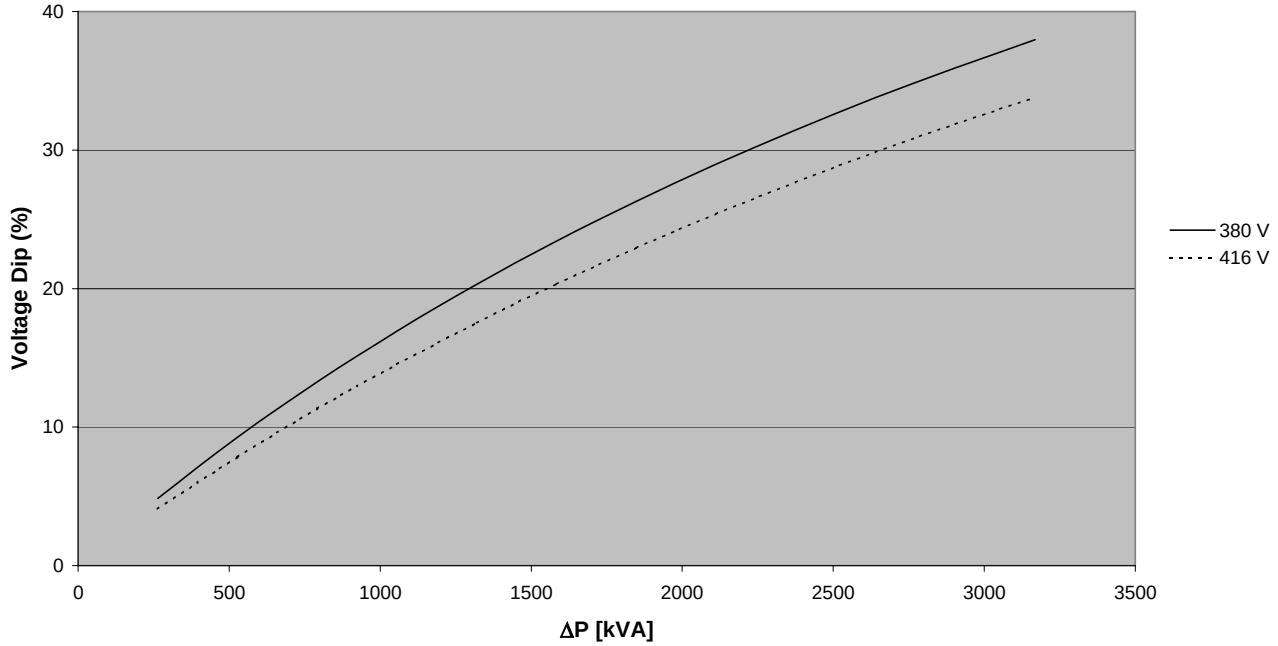
Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 LA 4

4 POLES

CONTINUOUS DUTY

60 Hz-1800 min^{-1}

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**60**	
VOLTAGE	Star series	**V**	**380**	**416**
	Star parallel		**190**	**208**
RATING		**kVA**	**1370**	**1420**
		kW	***1096***	***1136***
EFFICIENCY (%) @ 0,8 p.f.		4/4	95,8	96,0
		3/4	96,0	96,2
		2/4	95,9	96,2
EFFICIENCY (%) @ 1,0 p.f.		4/4	96,7	96,8
		3/4	96,8	97,0
		2/4	96,7	97,0
SHORT CIRCUIT RATIO			0,42	0,48
REACTANCES (%)				
Direct axis synchronous		xd	300	260
Quadrature axis synchronous		xq	170	145
Direct axis transient		x'd	26,0	22,5
Direct axis subtransient		x"d	12,3	10,6
Quadrature axis subtransient		x"q	13,6	11,8
Negative sequence		x_2	12,9	11,2
Zero sequence		x_0	3,0	2,6

TIME CONSTANTS [s]

Open circuit (T'do)	2,6	Subtransient (T"d)	0,018
Transient (T'd)	0,20	Armature (Ta)	0,027

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	2550
Inertia (J) (IM B34) [kgm^2]	19,3
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	1,55
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	1,4
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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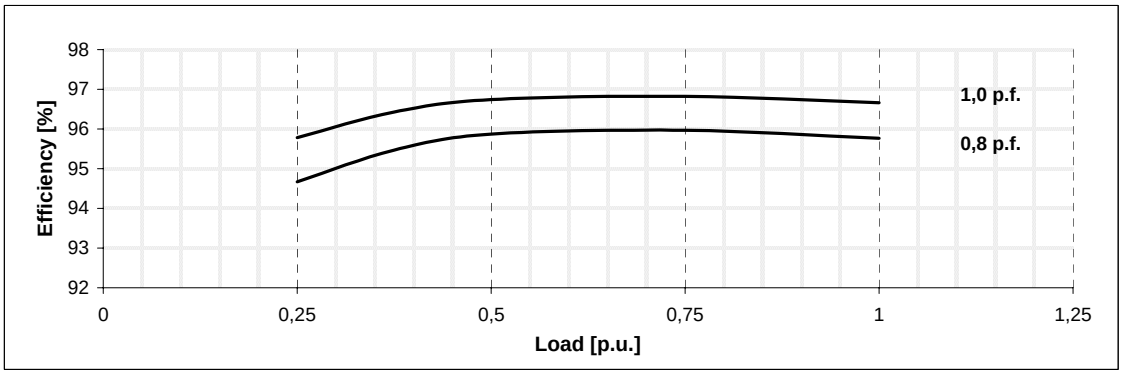
MarelliGenerators

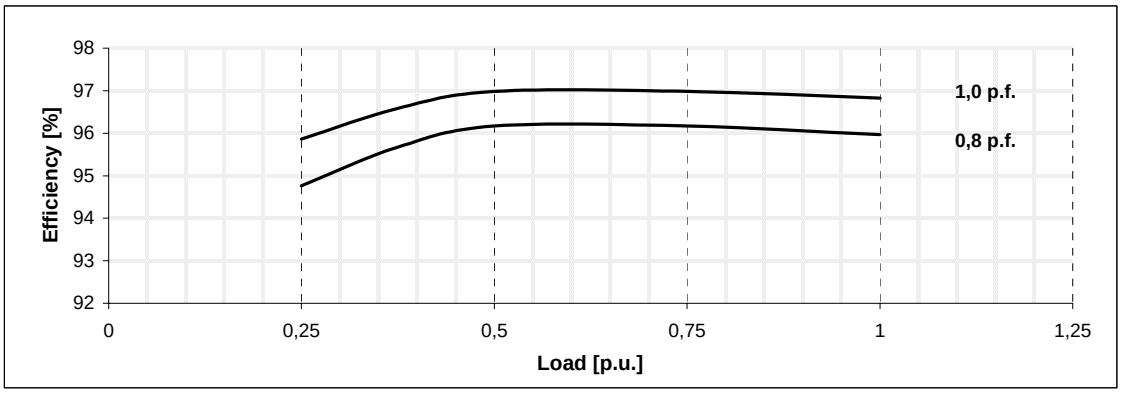
Typical efficiency curves

60 Hz - 1800 min^{-1}

380 V

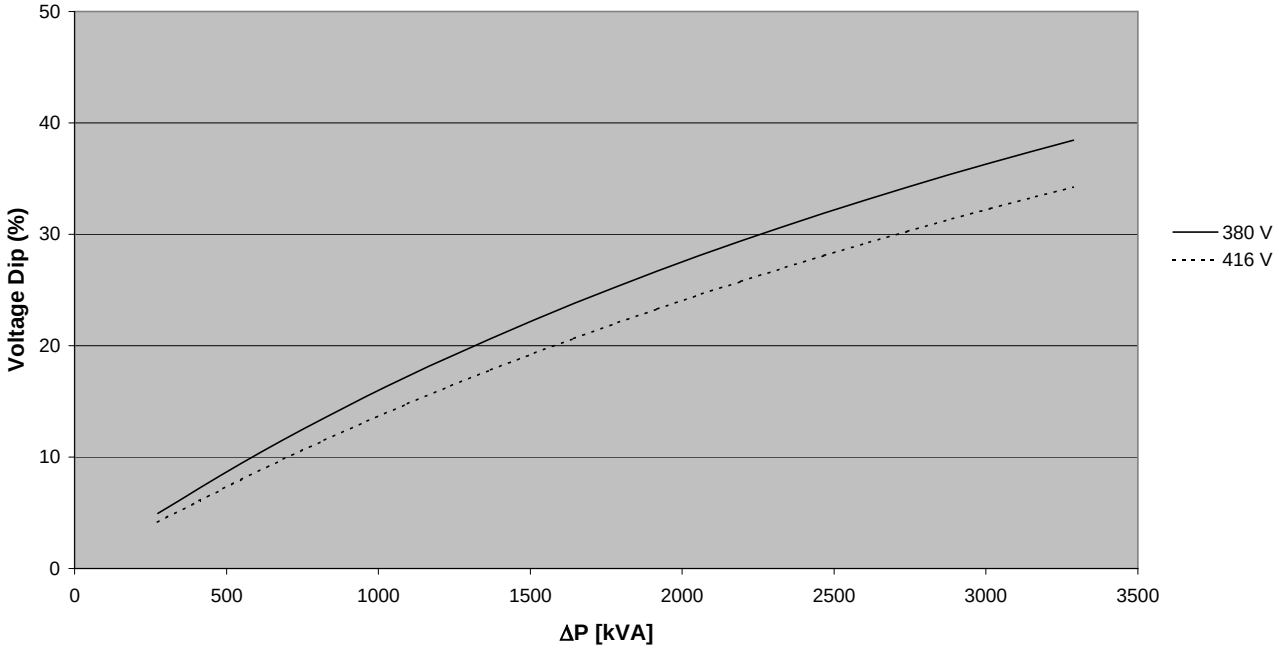


416 V



Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 LB 4

4 POLES

CONTINUOUS DUTY

60 Hz-1800 min^{-1}

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**R3**
INSULATION CLASS	**H**	Number of leads	**12**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY	**Hz**	**60**		
VOLTAGE Star series	**V**	**380**	**416**	**440**
Star parallel		**190**	**208**	**220**
RATING	**kVA**	**1500**	**1520**	**1450**
	kW	***1200***	***1216***	***1160***
EFFICIENCY (%) @ 0,8 p.f.	4/4	96,1	96,2	96,3
	3/4	96,3	96,4	96,4
	2/4	96,3	96,3	96,2
EFFICIENCY (%) @ 1,0 p.f.	4/4	96,9	97,0	97,1
	3/4	97,1	97,2	97,2
	2/4	97,1	97,1	97,0
SHORT CIRCUIT RATIO		0,48	0,57	0,67
REACTANCES (%)				
Direct axis synchronous	xd	250	210	180
Quadrature axis synchronous	xq	145	125	105
Direct axis transient	x'd	21,2	18,0	15,3
Direct axis subtransient	x"d	9,5	8,1	6,9
Quadrature axis subtransient	x"q	10,6	8,9	7,6
Negative sequence	x_2	10,0	8,5	7,2
Zero sequence	x_0	2,6	2,2	1,9

TIME CONSTANTS [s]

Open circuit (T'do)	2,70	Subtransient (T"d)	0,018
Transient (T'd)	0,21	Armature (Ta)	0,027

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	2800
Inertia (J) (IM B34) [kgm^2]	22,5
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	1,55
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	1,2
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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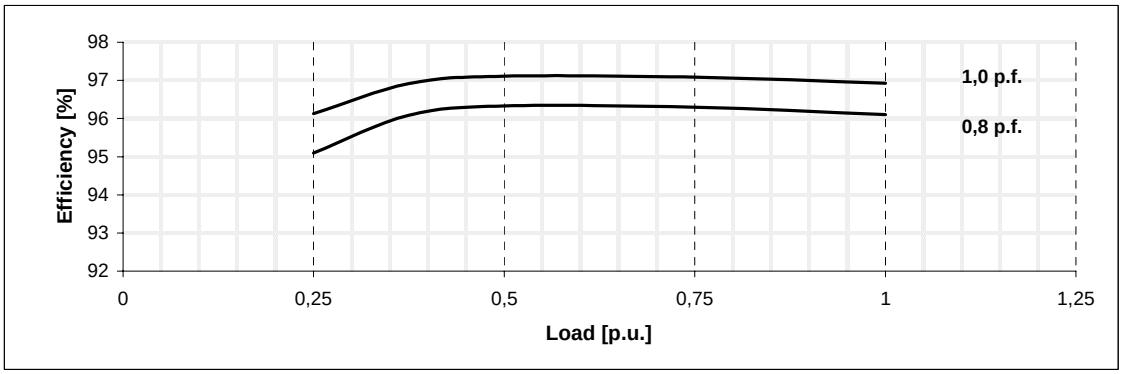
MarelliGenerators

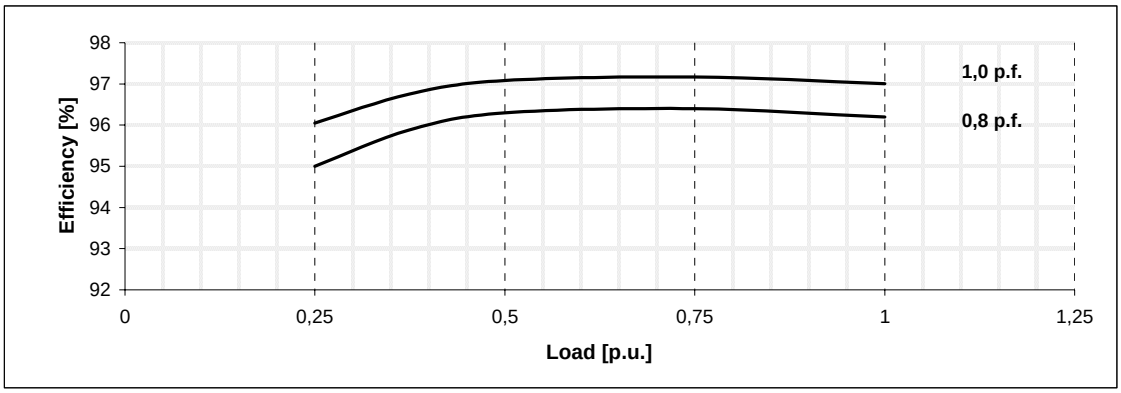
Typical efficiency curves

60 Hz - 1800 min^{-1}

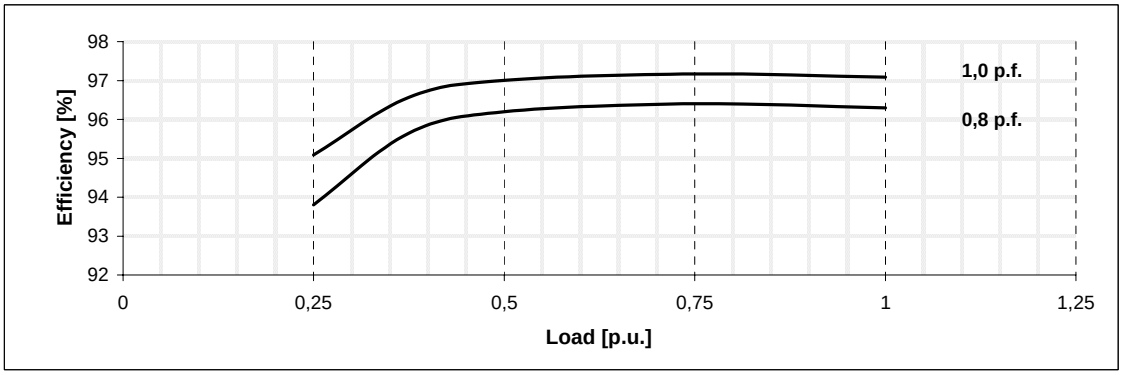
380 V



416 V



440 V



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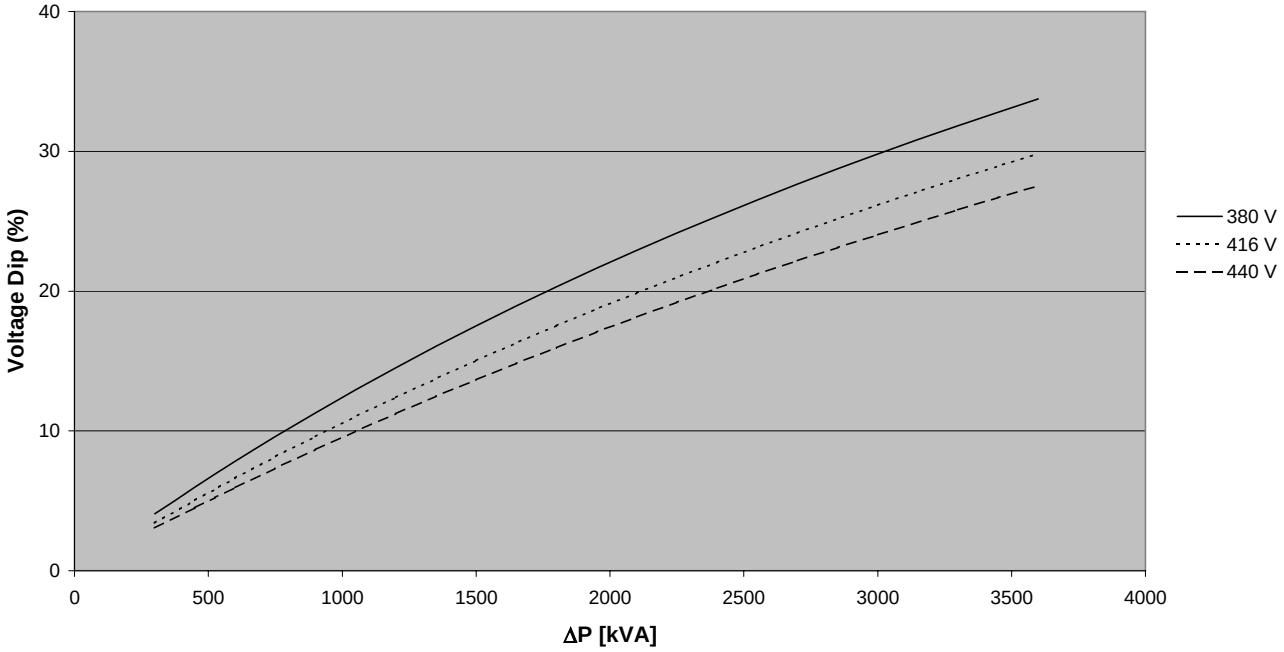
Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 355 MA 4

4 POLES

60 Hz-1800 min^{-1}

CONTINUOUS DUTY

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**08**
INSULATION CLASS	**H**	Number of leads	**6**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**60**		
VOLTAGE	Star	**V**	**380**	**416**	**440**
	Delta		**220**	**240**	**254**
RATING		**kVA**	**800**	**800**	**800**
		kW	***640***	***640***	***640***
EFFICIENCY (%) @ 0,8 p.f.		4/4	94,7	95,1	95,1
		3/4	95,3	95,4	95,5
		2/4	95,5	95,5	95,5
EFFICIENCY (%) @ 1,0 p.f.		4/4	95,8	96,1	96,1
		3/4	96,3	96,4	96,4
		2/4	96,4	96,4	96,4
SHORT CIRCUIT RATIO			0,37	0,45	0,50
REACTANCES (%)					
Direct axis synchronous		xd	275	230	205
Quadrature axis synchronous		xq	150	125	110
Direct axis transient		x'd	22,6	18,9	16,9
Direct axis subtransient		x''d	11,5	9,6	8,6
Quadrature axis subtransient		x''q	13,7	11,4	10,2
Negative sequence		x_2	12,6	10,5	9,4
Zero sequence		x_0	3,3	2,8	2,5

TIME CONSTANTS [s]

Open circuit (T'do)	1,95	Subtransient (T''d)	0,016
Transient (T'd)	0,16	Armature (Ta)	0,022

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6322 C3 / With grease nipple
N-end bearing/Lubrication	6317 2Z C3 / Prelubricated
Weight (IM B34) [kg]	1800
Inertia (J) (IM B34) [kgm^2]	11,69
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	1,12
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	2,7
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

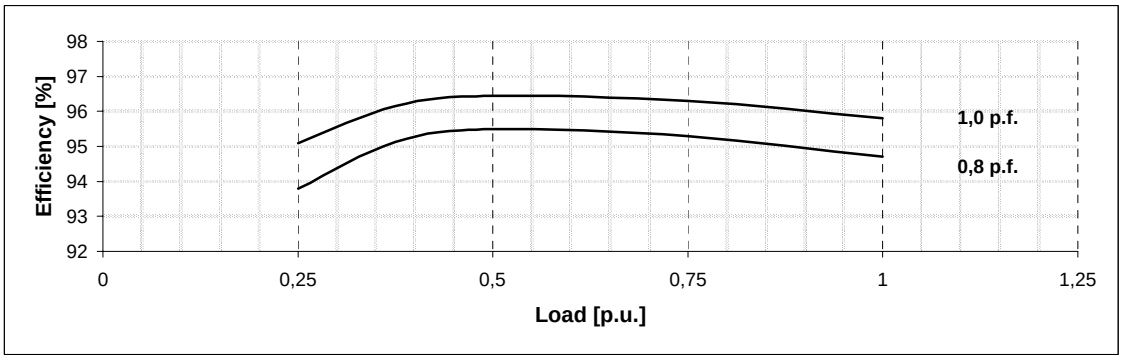
IEC 60034-1; CEI 2-3; BS 4999-5000; VDE 0530; NF 51-100,111; OVE M-10, NEMA MG 1.22.

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

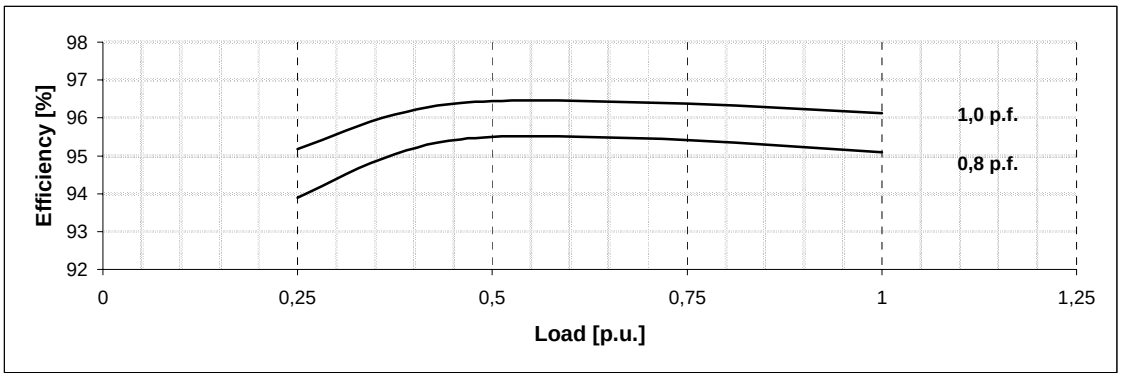
Typical efficiency curves

60 Hz - 1800 min^{-1}

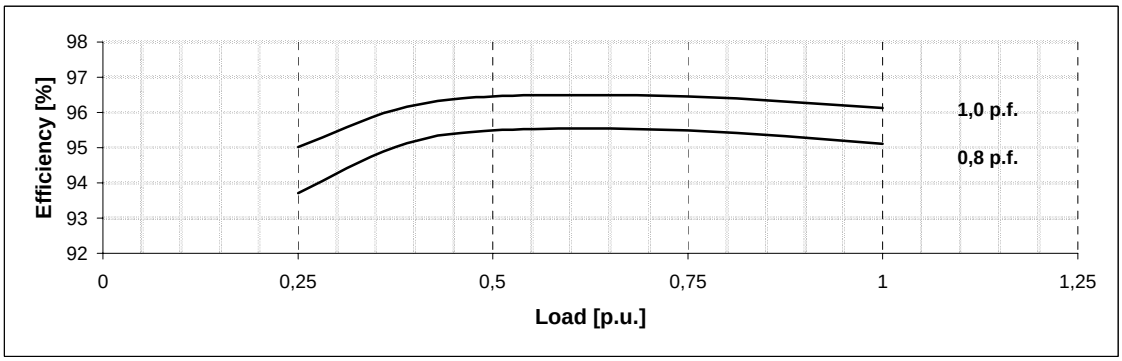
380 V



416 V



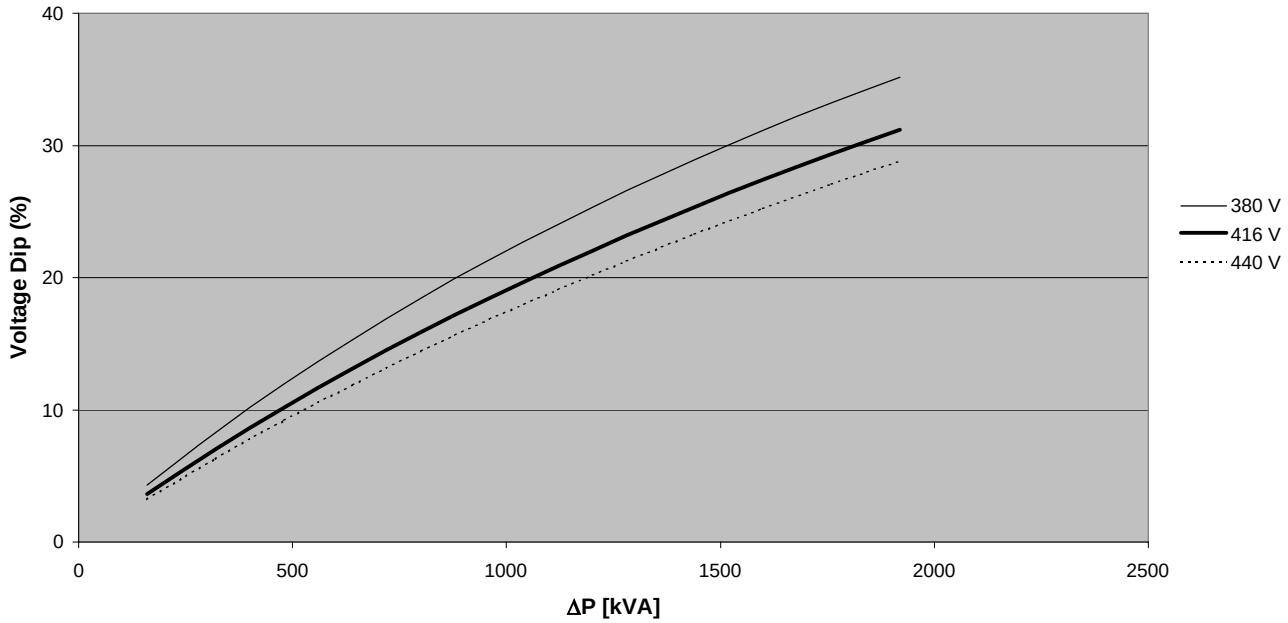
440 V



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

Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 MA 4

4 POLES

60 Hz-1800 min^{-1}

CONTINUOUS DUTY

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**08**
INSULATION CLASS	**H**	Number of leads	**6**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**60**	
VOLTAGE	Star	**V**	**380**	**416**
	Delta		**220**	**240**
RATING		**kVA**	**1100**	**1150**
		kW	***880***	***920***
EFFICIENCY (%) @ 0,8 p.f.		4/4	95,3	95,5
		3/4	95,5	95,7
		2/4	95,5	95,6
EFFICIENCY (%) @ 1,0 p.f.		4/4	96,3	96,5
		3/4	96,5	96,6
		2/4	96,5	96,5
SHORT CIRCUIT RATIO			0,46	0,53
REACTANCES (%)				
Direct axis synchronous		xd	230	200
Quadrature axis synchronous		xq	130	115
Direct axis transient		x'd	21,4	18,7
Direct axis subtransient		x''d	10,0	8,7
Quadrature axis subtransient		x''q	10,7	9,3
Negative sequence		x_2	10,3	9,0
Zero sequence		x_0	2,6	2,3

TIME CONSTANTS [s]

Open circuit (T'do)	2,21	Subtransient (T''d)	0,018
Transient (T'd)	0,18	Armature (Ta)	0,025

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	2100
Inertia (J) (IM B34) [kgm^2]	16,3
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	1,55
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	1,7
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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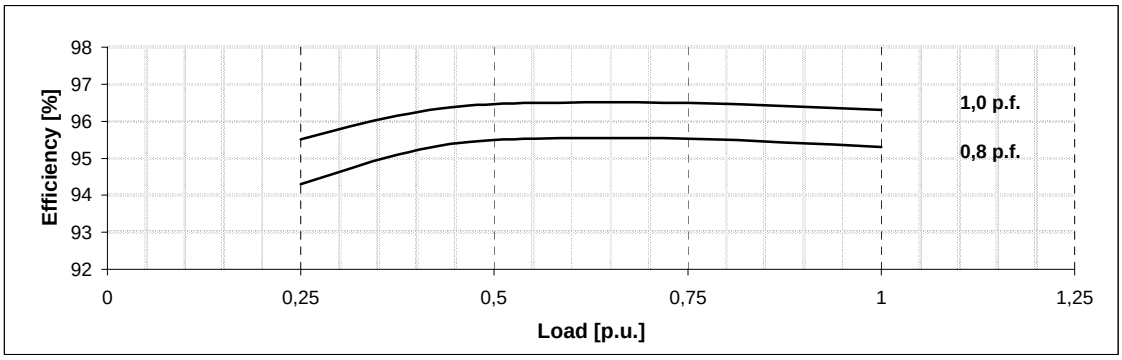
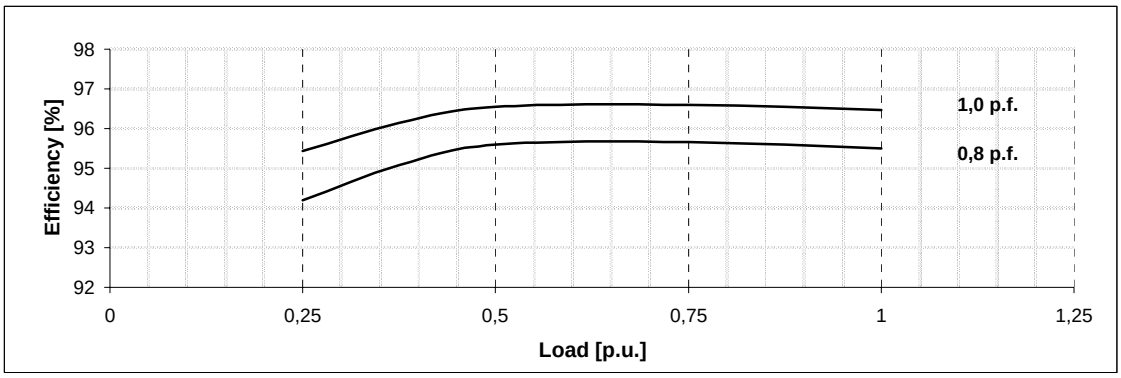
Typical efficiency curves

60 Hz - 1800 min^{-1}

380 V



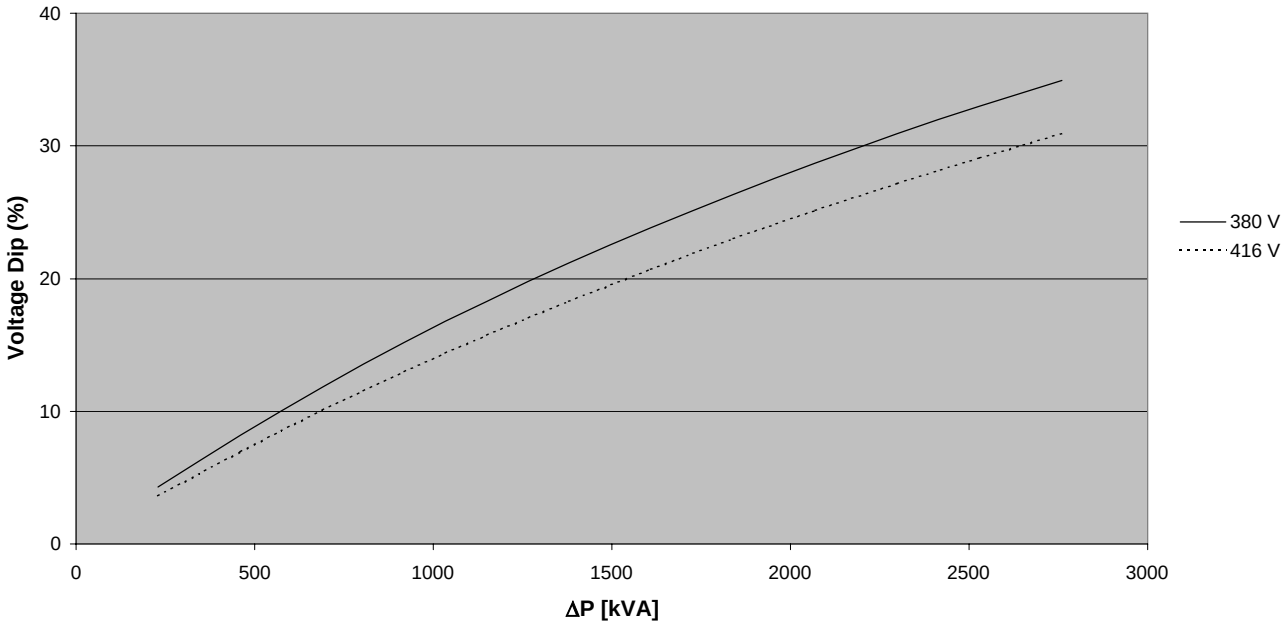
416 V



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

Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 MB 4

4 POLES

CONTINUOUS DUTY

60 Hz-1800 min^{-1}

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**08**
INSULATION CLASS	**H**	Number of leads	**6**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**60**	
VOLTAGE	Star	**V**	**380**	**416**
	Delta		**220**	**240**
RATING		**kVA**	**1320**	**1230**
		kW	***1056***	***984***
EFFICIENCY (%) @ 0,8 p.f.		4/4	95,6	95,7
		3/4	95,8	95,9
		2/4	95,8	95,7
EFFICIENCY (%) @ 1,0 p.f.		4/4	96,5	96,6
		3/4	96,7	96,8
		2/4	96,7	96,6
SHORT CIRCUIT RATIO			0,40	0,51
REACTANCES (%)				
Direct axis synchronous		xd	295	230
Quadrature axis synchronous		xq	165	130
Direct axis transient		x'd	25,5	19,8
Direct axis subtransient		x"d	12,4	9,6
Quadrature axis subtransient		x"q	13,1	10,2
Negative sequence		x_2	12,8	10,0
Zero sequence		x_0	2,9	2,3

TIME CONSTANTS [s]

Open circuit (T'do)	2,4	Subtransient (T"d)	0,018
Transient (T'd)	0,18	Armature (Ta)	0,025

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	2300
Inertia (J) (IM B34) [kgm^2]	17,0
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	1,55
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	1,7
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

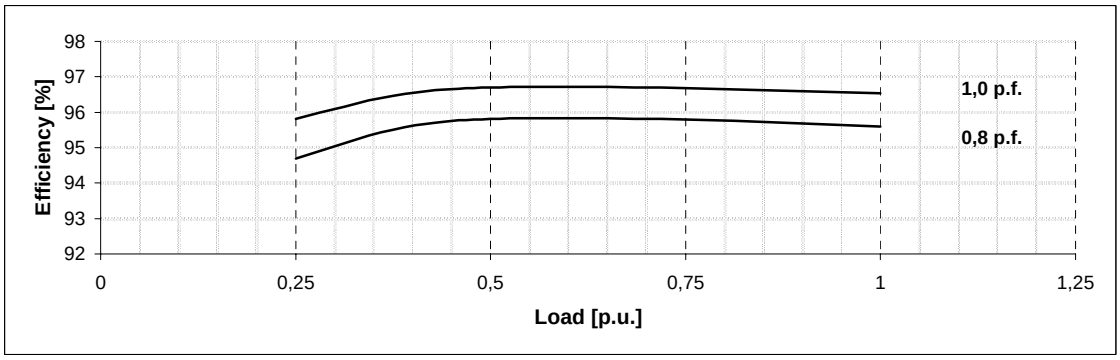
IEC 60034-1; CEI 2-3; BS 4999-5000; VDE 0530; NF 51-100,111; OVE M-10, NEMA MG 1.22.

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

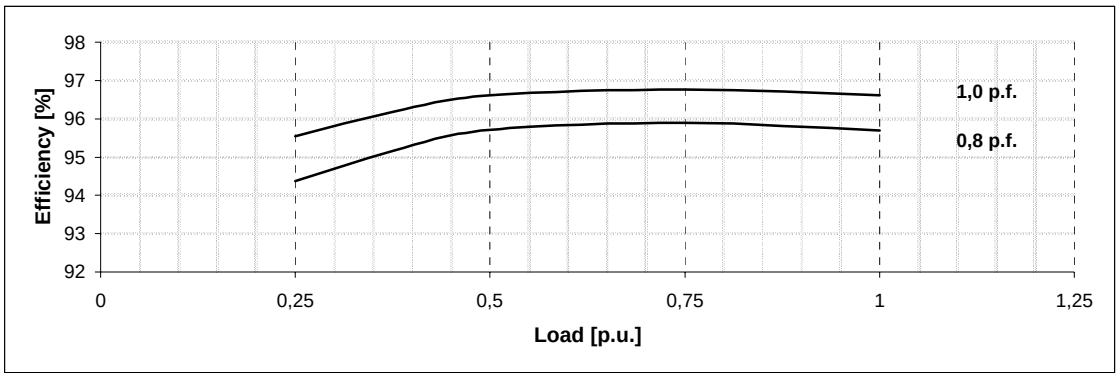
Typical efficiency curves

60 Hz - 1800 min^{-1}

380 V



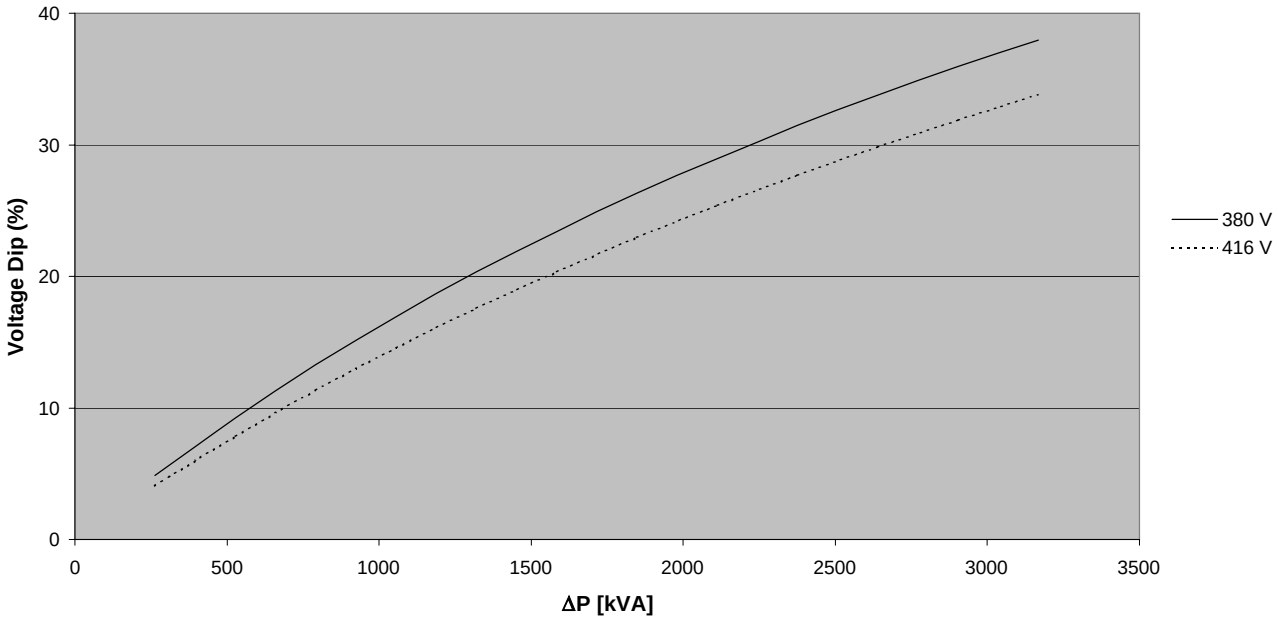
416 V



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

Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 LA 4

4 POLES

60 Hz-1800 min^{-1}

CONTINUOUS DUTY

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**08**
INSULATION CLASS	**H**	Number of leads	**6**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**60**	
VOLTAGE	Star	**V**	**380**	**416**
	Delta		**220**	**240**
RATING		**kVA**	**1370**	**1420**
		kW	***1096***	***1136***
EFFICIENCY (%) @ 0,8 p.f.		4/4	95,8	96,0
		3/4	96,0	96,2
		2/4	95,9	96,2
EFFICIENCY (%) @ 1,0 p.f.		4/4	96,7	96,8
		3/4	96,8	97,0
		2/4	96,7	97,0
SHORT CIRCUIT RATIO			0,42	0,48
REACTANCES (%)				
Direct axis synchronous		xd	300	260
Quadrature axis synchronous		xq	170	145
Direct axis transient		x'd	26,0	22,5
Direct axis subtransient		x''d	12,3	10,6
Quadrature axis subtransient		x''q	13,6	11,8
Negative sequence		x_2	12,9	11,2
Zero sequence		x_0	3,0	2,6

TIME CONSTANTS [s]

Open circuit (T'do)	2,6	Subtransient (T''d)	0,018
Transient (T'd)	0,2	Armature (Ta)	0,027

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	2550
Inertia (J) (IM B34) [kgm^2]	19,3
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	1,55
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	1,4
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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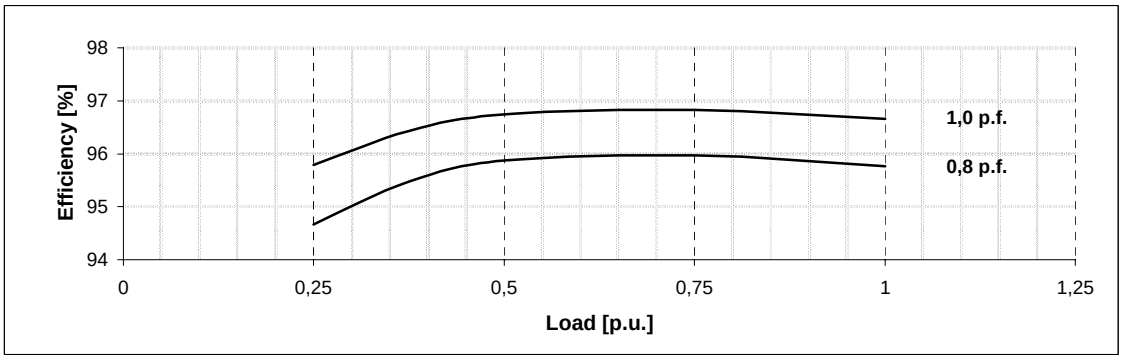
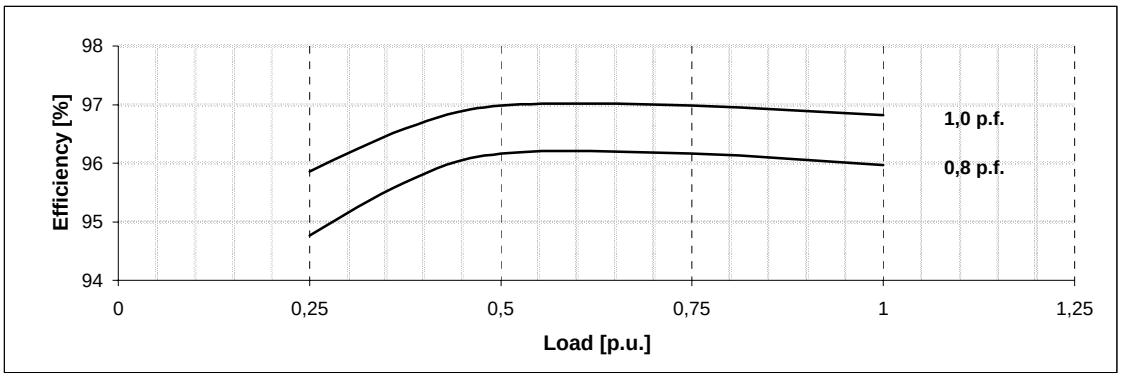
Typical efficiency curves

60 Hz - 1800 min^{-1}

380 V



416 V



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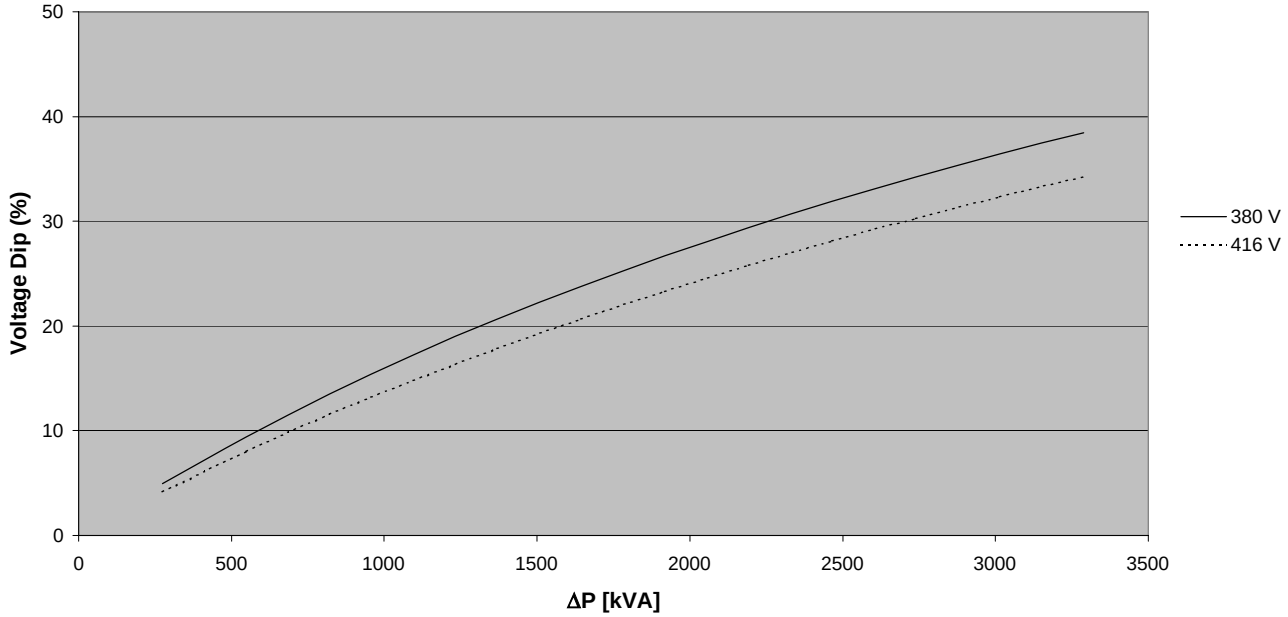
Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 LB 4

4 POLES

60 Hz-1800 min^{-1}

CONTINUOUS DUTY

AMBIENT TEMPERATURE	**40°C**	**WINDING DATA**	
TEMPERATURE RISE	**H**	Winding code	**08**
INSULATION CLASS	**H**	Number of leads	**6**
POWER FACTOR	**0,8**	Winding pitch	**2/3**

FREQUENCY		**Hz**	**60**	
VOLTAGE	Star	**V**	**380**	**416**
	Delta		**220**	**240**
RATING		**kVA**	**1520**	**1625**
		kW	***1216***	***1300***
EFFICIENCY (%) @ 0,8 p.f.		4/4	95,8	96,3
		3/4	96,1	96,5
		2/4	96,1	96,5
EFFICIENCY (%) @ 1,0 p.f.		4/4	96,7	97,1
		3/4	96,9	97,2
		2/4	96,9	97,2
SHORT CIRCUIT RATIO			0,48	0,53
REACTANCES (%)				
Direct axis synchronous		xd	250	225
Quadrature axis synchronous		xq	145	130
Direct axis transient		x'd	21,5	19,2
Direct axis subtransient		x''d	9,7	8,6
Quadrature axis subtransient		x''q	10,7	9,5
Negative sequence		x_2	10,2	9,1
Zero sequence		x_0	2,6	2,3

TIME CONSTANTS [s]

Open circuit (T'do)	2,7	Subtransient (T''d)	0,018
Transient (T'd)	0,21	Armature (Ta)	0,027

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	2800
Inertia (J) (IM B34) [kgm^2]	22,5
Overspeed [min^{-1}]	2250
Method of cooling	IC 01
Cooling air required [m^3/s]	1,55
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	1,2
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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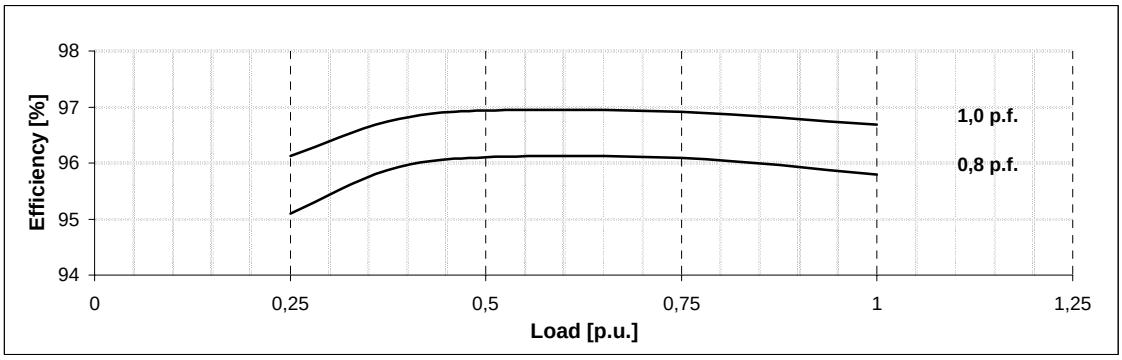
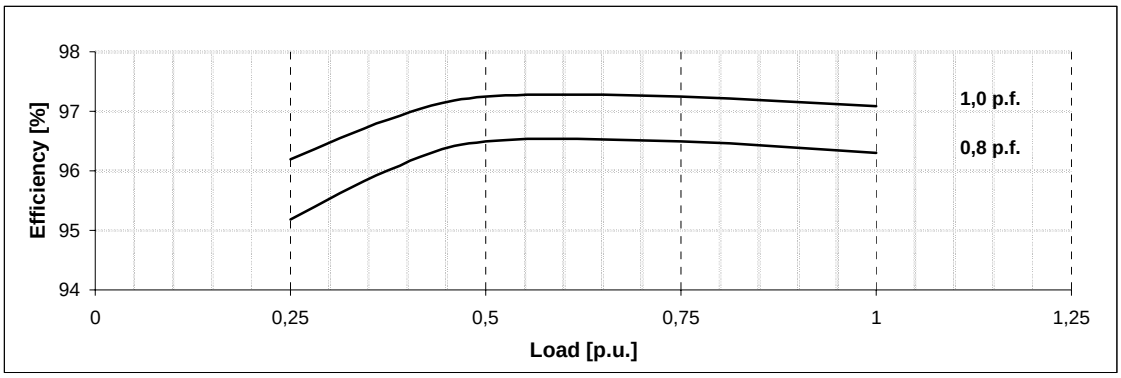
Typical efficiency curves

60 Hz - 1800 min^{-1}

380 V



416 V



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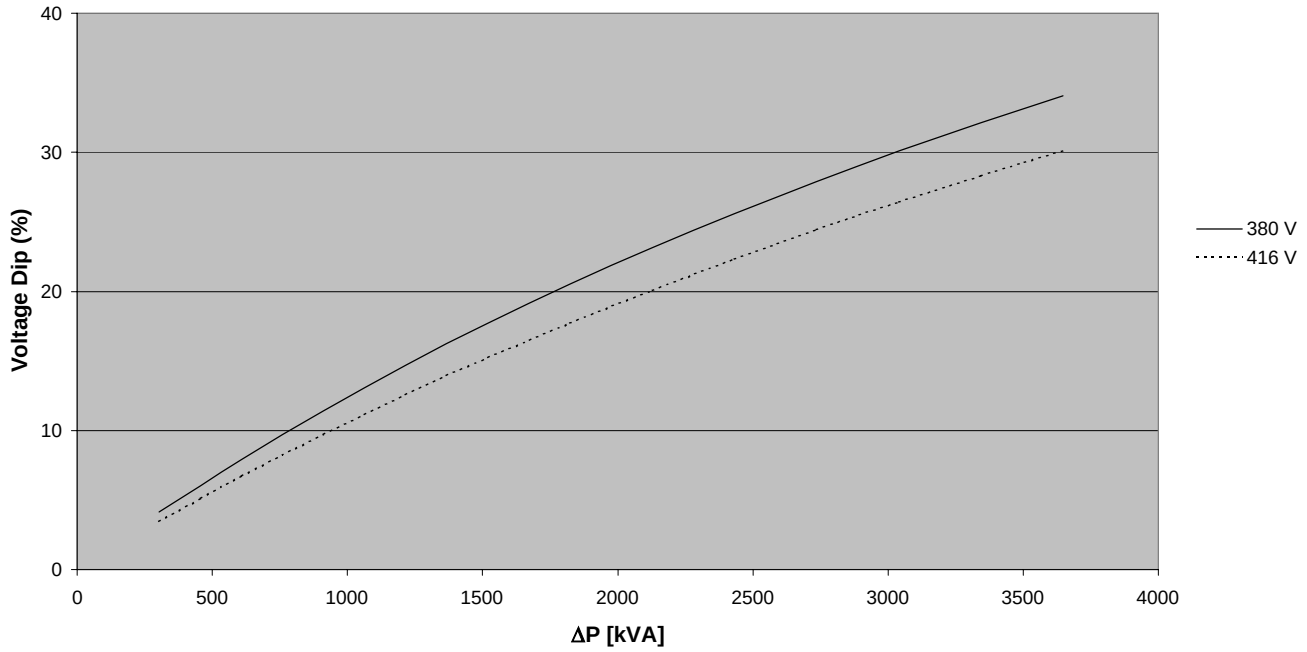
Locked rotor motor starting curves (*)

60 Hz - 1800 min^{-1}



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

(*): 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.

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 SA 6

6 POLES

CONTINUOUS DUTY

50 Hz-1000 min^{-1} / 60 Hz-1200 min^{-1}

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

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**390**	**400**	**380**	**456**	**468**	**480**	**500**
		kW	***312***	***320***	***304***	***365***	***374***	***384***	***400***
EFFICIENCY (%) @ 0,8 p.f.		4/4	92,5	92,6	92,5	92,6	92,8	92,9	93,0
		3/4	92,6	92,7	92,6	93,0	93,2	93,2	93,3
		2/4	92,3	92,4	92,3	93,0	93,2	93,2	93,3
EFFICIENCY (%) @ 1,0 p.f.		4/4	94,0	94,1	94,0	94,1	94,3	94,4	94,4
		3/4	94,1	94,2	94,1	94,4	94,6	94,6	94,7
		2/4	93,9	93,9	93,9	94,4	94,6	94,6	94,7
SHORT CIRCUIT RATIO			0,39	0,42	0,48	0,33	0,36	0,39	0,40
REACTANCES (%)									
Direct axis synchronous		xd	330	305	270	385	355	335	320
Quadrature axis synchronous		xq	185	170	150	215	200	185	180
Direct axis transient		x'd	34,6	32,0	28,2	40,5	37,1	34,8	33,3
Direct axis subtransient		x"d	16,0	14,8	13,1	18,7	17,2	16,1	15,4
Quadrature axis subtransient		x"q	16,6	15,4	13,6	19,5	17,9	16,8	16,0
Negative sequence		x_2	16,2	15,0	13,2	19,0	17,4	16,3	15,6
Zero sequence		x_0	4,0	3,7	3,3	4,7	4,3	4,0	3,9

TIME CONSTANTS [s]

Open circuit (T'do)	1,55	Subtransient (T"d)	0,017
Transient (T'd)	0,15	Armature (Ta)	0,016

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	1450
Inertia (J) (IM B34) [kgm^2]	11,8
Overspeed [min^{-1}]	1500
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,17 / 1,42
Degree of protection	IP 23
Type of construction available	B3
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	5,8
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 3% (under no-load or non-distorting-load condition)

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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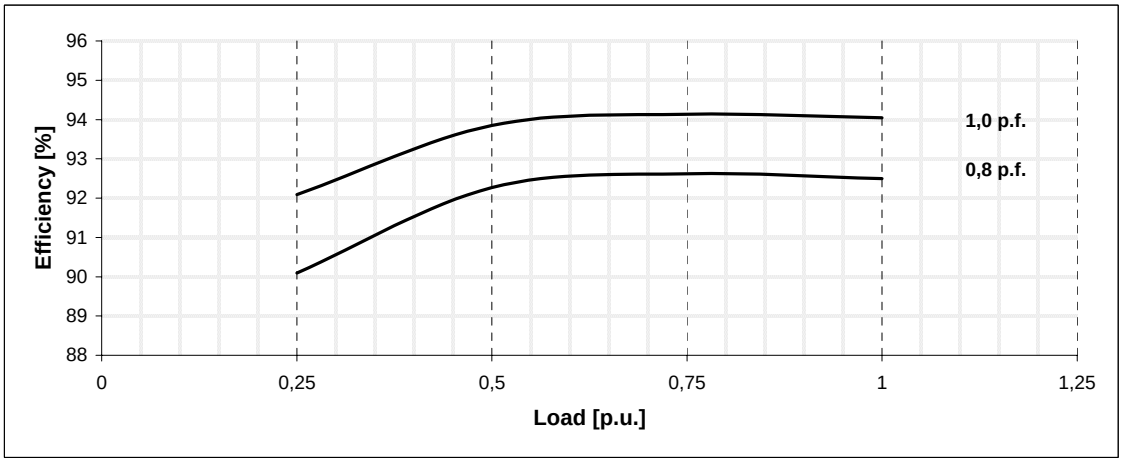
MarelliGenerators

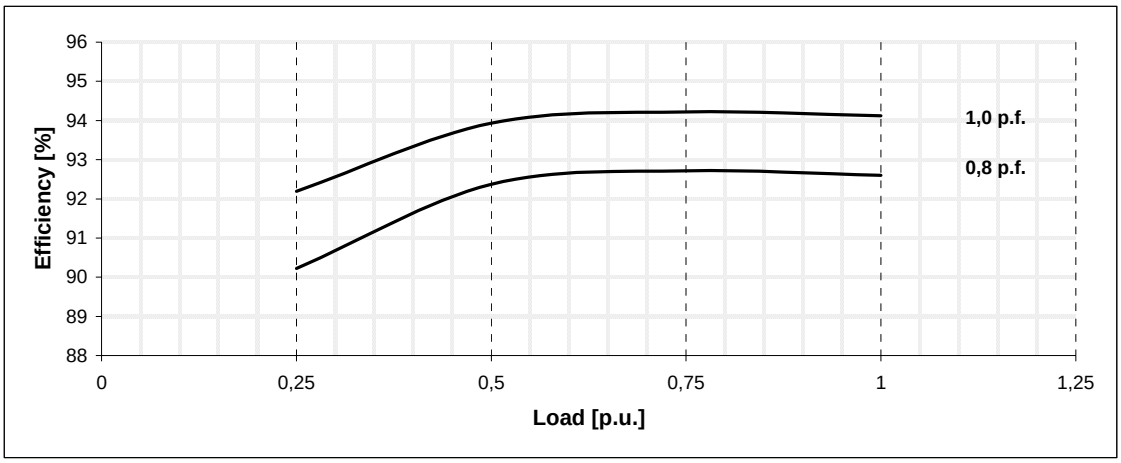
Typical efficiency curves

50 Hz - 1000 min^{-1}

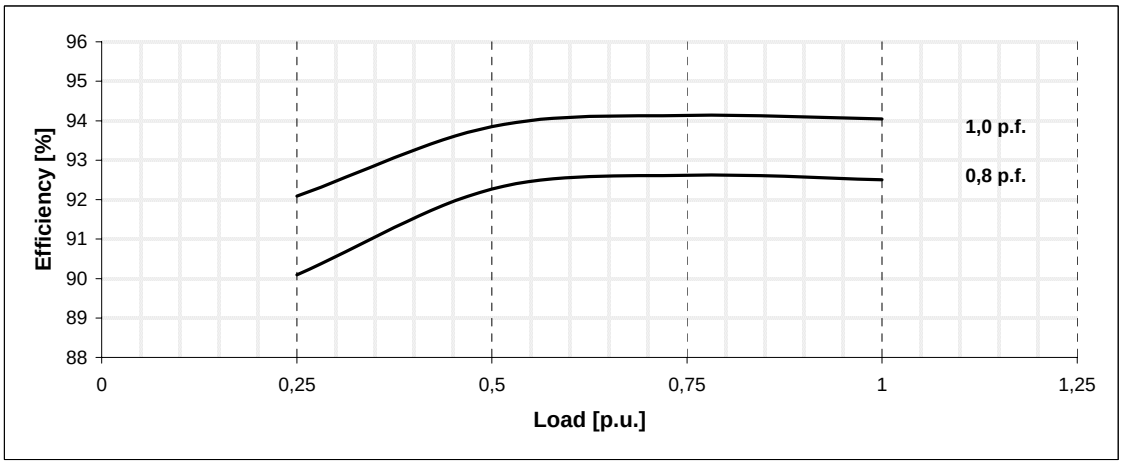
380 V



400 V



415 V



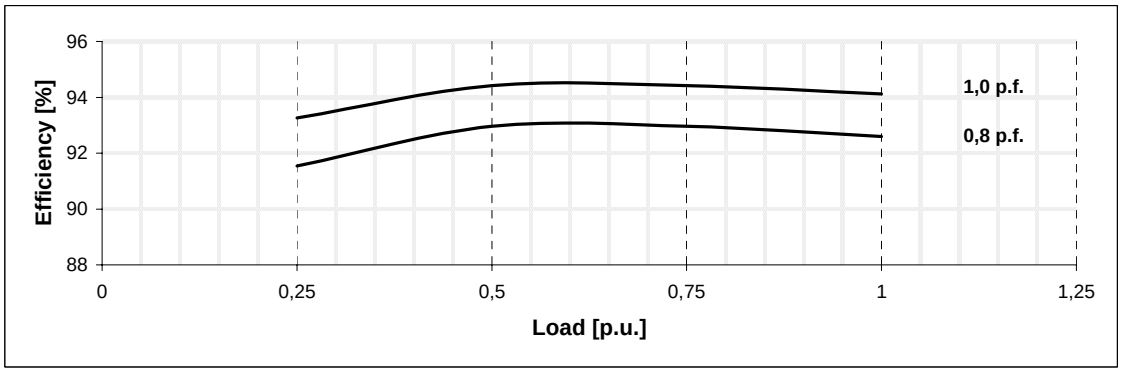
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 SA 6

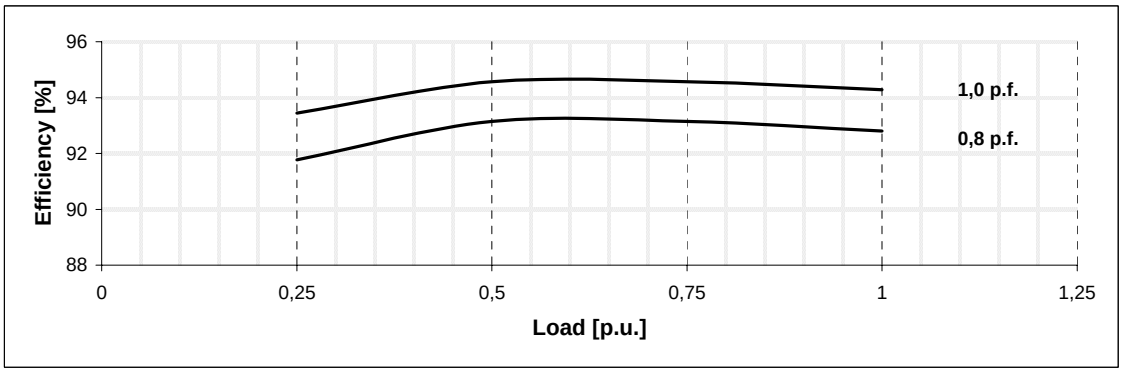
Typical efficiency curves

60 Hz - 1200 min^{-1}

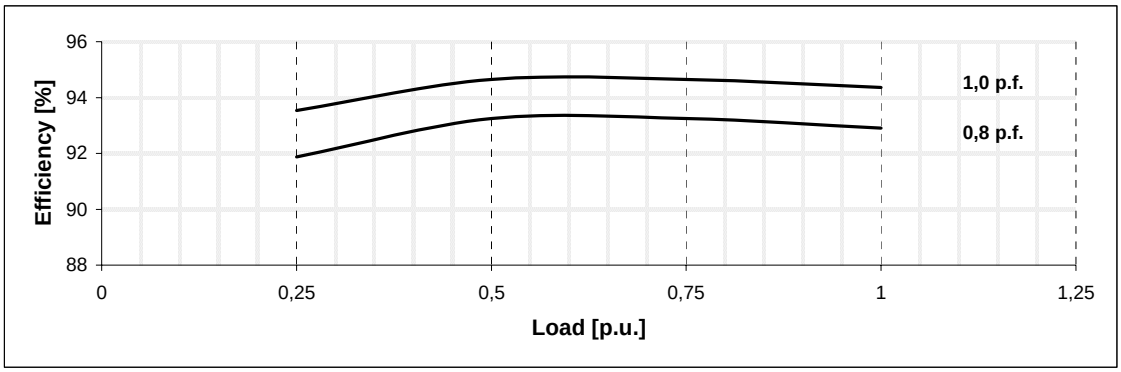
416 V



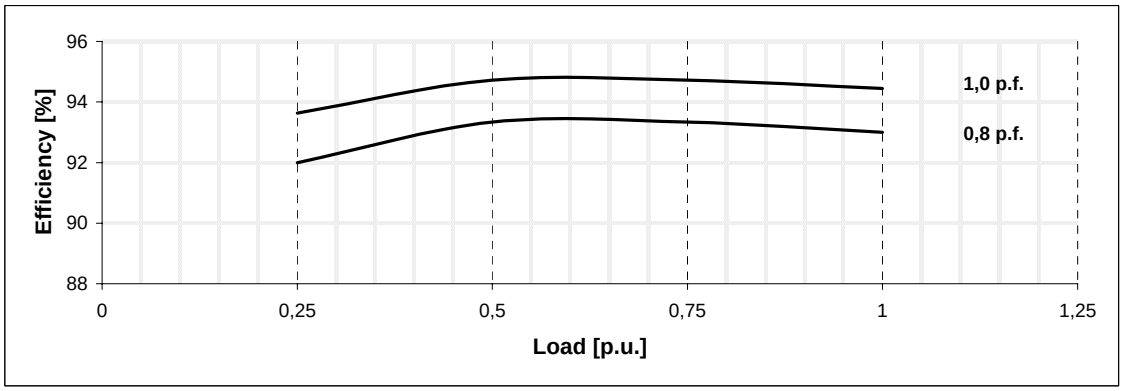
440 V



460 V



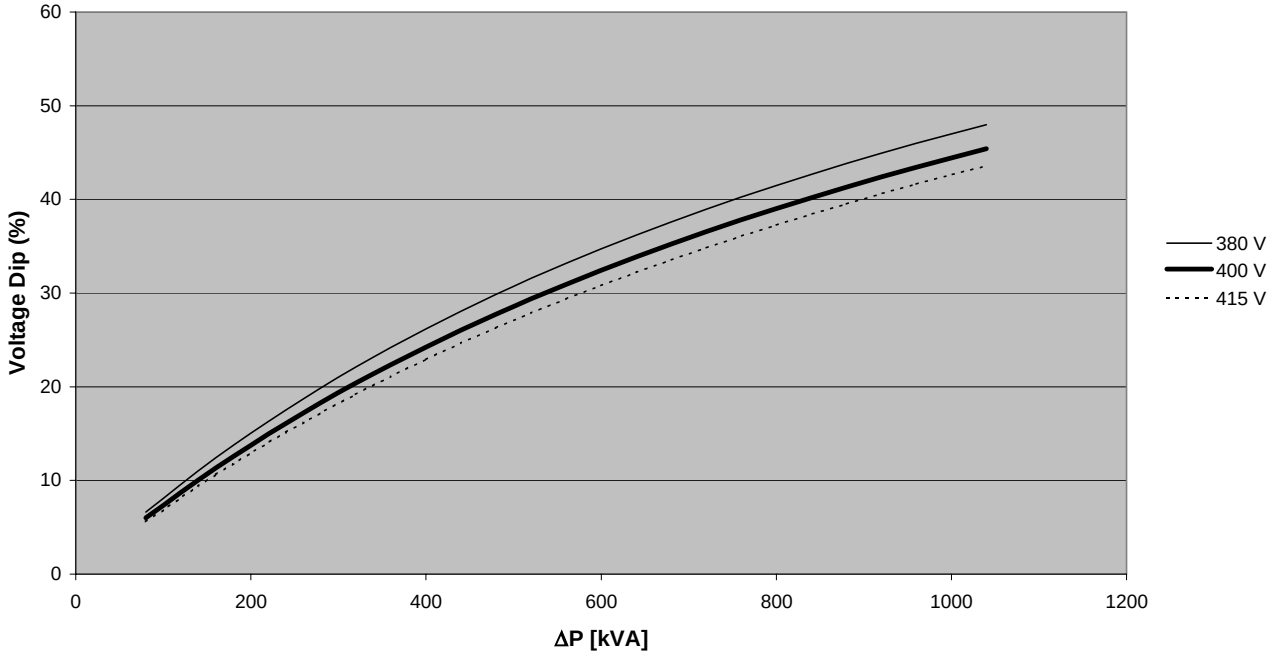
480 V



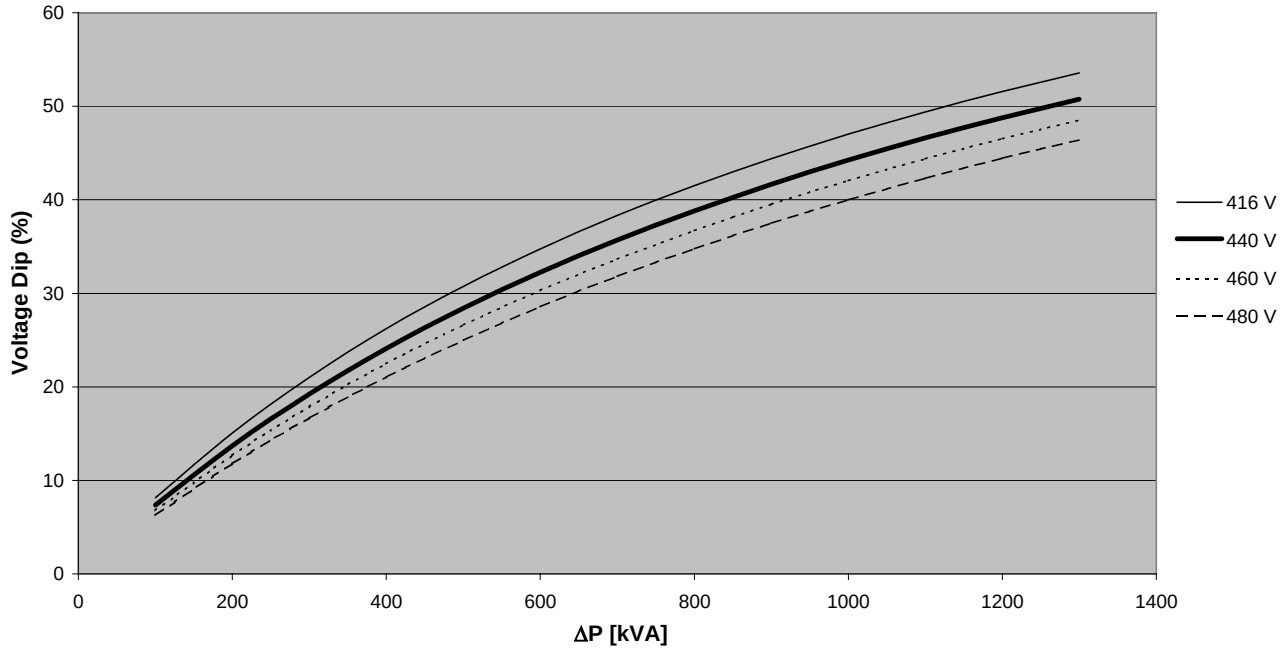
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

Locked rotor motor starting curves (*)

50 Hz - 1000 min^{-1}



60 Hz - 1200 min^{-1}



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

(*): 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.

FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 SB 6

6 POLES

CONTINUOUS DUTY

50 Hz-1000 min^{-1} / 60 Hz-1200 min^{-1}

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

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**440**	**450**	**430**	**513**	**527**	**540**	**565**
		kW	***352***	***360***	***344***	***410***	***422***	***432***	***452***
EFFICIENCY (%) @ 0,8 p.f.		4/4	92,8	92,9	92,8	93,0	93,2	93,3	93,4
		3/4	92,9	93,0	92,9	93,3	93,5	93,6	93,7
		2/4	92,6	92,7	92,6	93,3	93,5	93,6	93,7
EFFICIENCY (%) @ 1,0 p.f.		4/4	94,3	94,4	94,3	94,4	94,6	94,7	94,8
		3/4	94,4	94,5	94,4	94,7	94,9	95,0	95,0
		2/4	94,1	94,2	94,1	94,7	94,9	95,0	95,0
SHORT CIRCUIT RATIO			0,40	0,43	0,48	0,34	0,37	0,39	0,41
REACTANCES (%)									
Direct axis synchronous		xd	320	295	260	375	345	320	310
Quadrature axis synchronous		xq	180	165	145	210	190	180	175
Direct axis transient		x'd	33,6	31,0	27,5	39,2	36,0	33,8	32,4
Direct axis subtransient		x"d	15,5	14,3	12,7	18,1	16,6	15,6	15,0
Quadrature axis subtransient		x"q	16,0	14,8	13,1	18,7	17,2	16,1	15,5
Negative sequence		x_2	15,7	14,5	12,9	18,3	16,8	15,8	15,2
Zero sequence		x_0	3,9	3,6	3,2	4,6	4,2	3,9	3,8

TIME CONSTANTS [s]

Open circuit (T'do)	1,60	Subtransient (T"d)	0,017
Transient (T'd)	0,15	Armature (Ta)	0,018

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	1600
Inertia (J) (IM B34) [kgm^2]	14,1
Overspeed [min^{-1}]	1500
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,17 / 1,42
Degree of protection	IP 23
Type of construction available	B3
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	7,4
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 3% (under no-load or non-distorting-load condition)

STANDARDS

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

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

MarelliGenerators

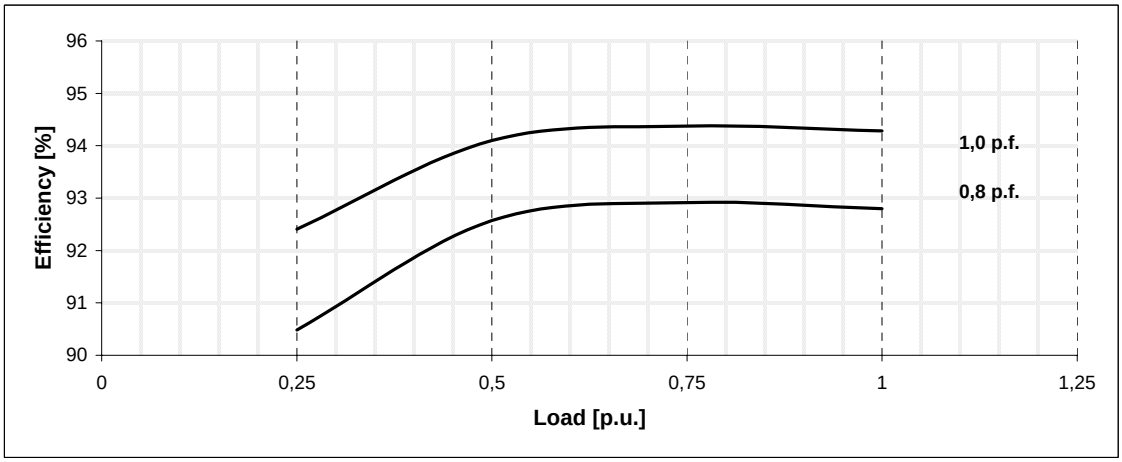
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 SB 6

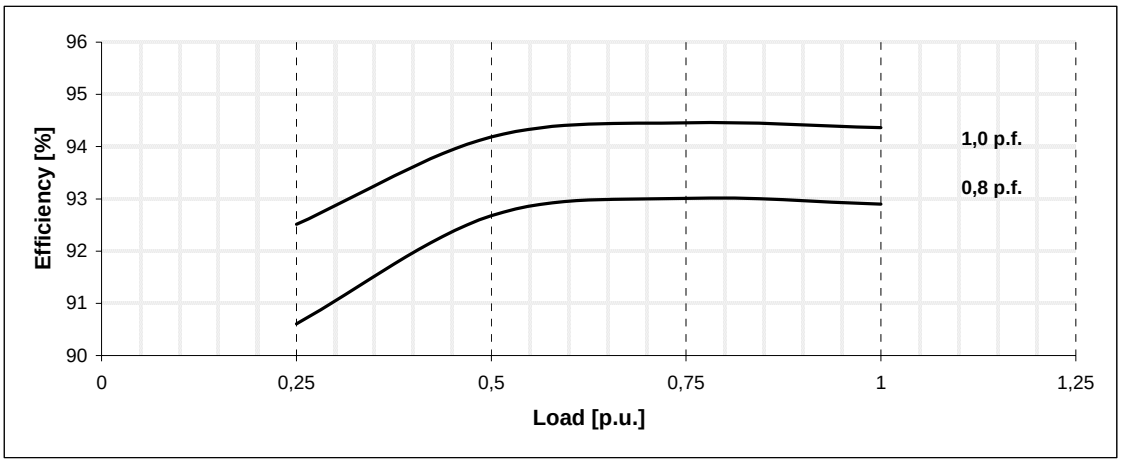
Typical efficiency curves

50 Hz - 1000 min^{-1}

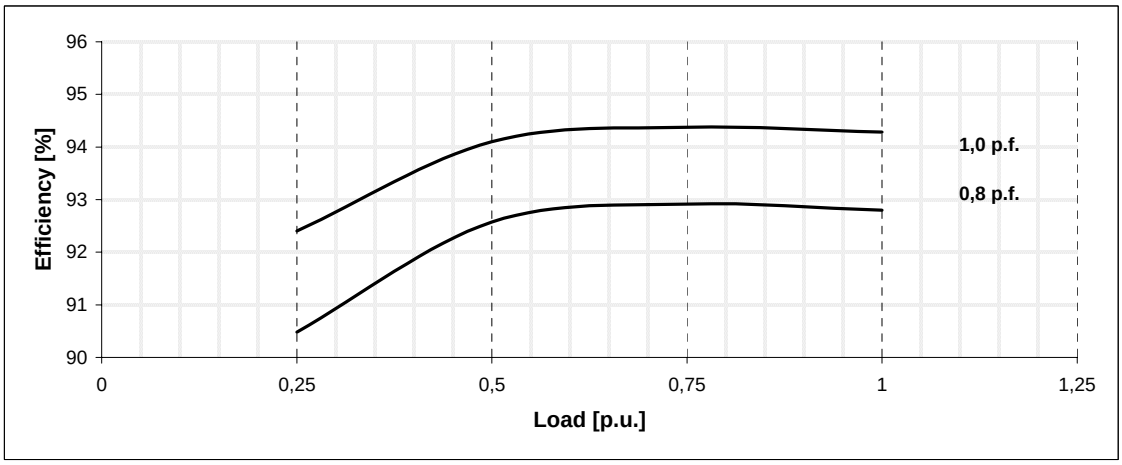
380 V



400 V



415 V



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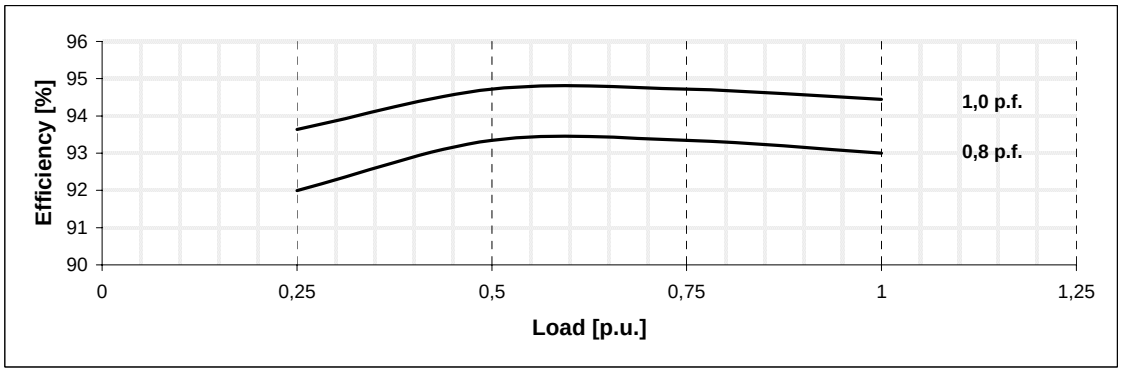
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 SB 6

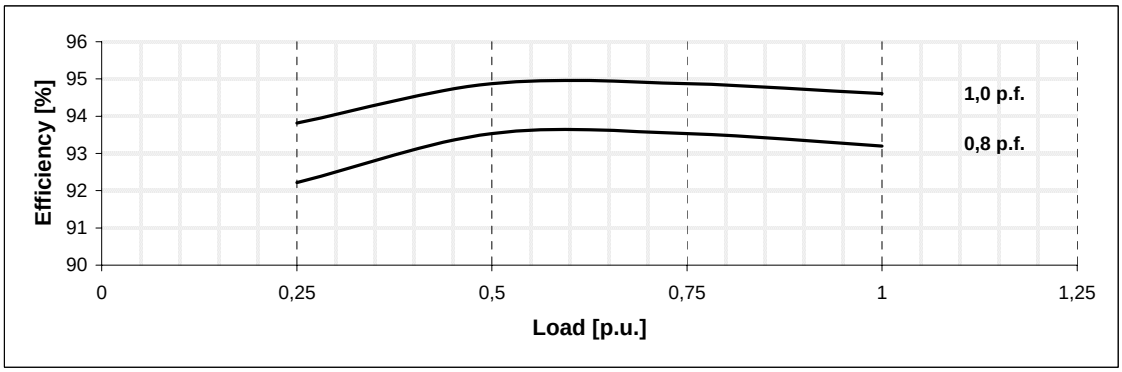
Typical efficiency curves

60 Hz - 1200 min^{-1}

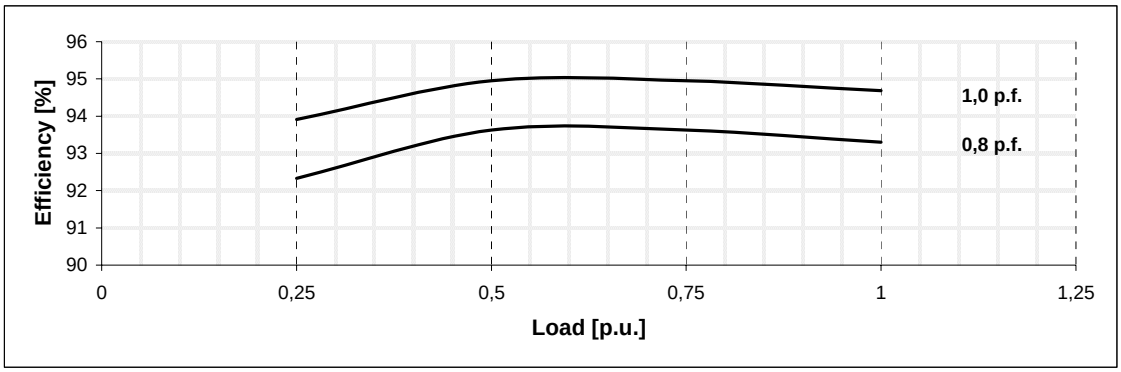
416 V



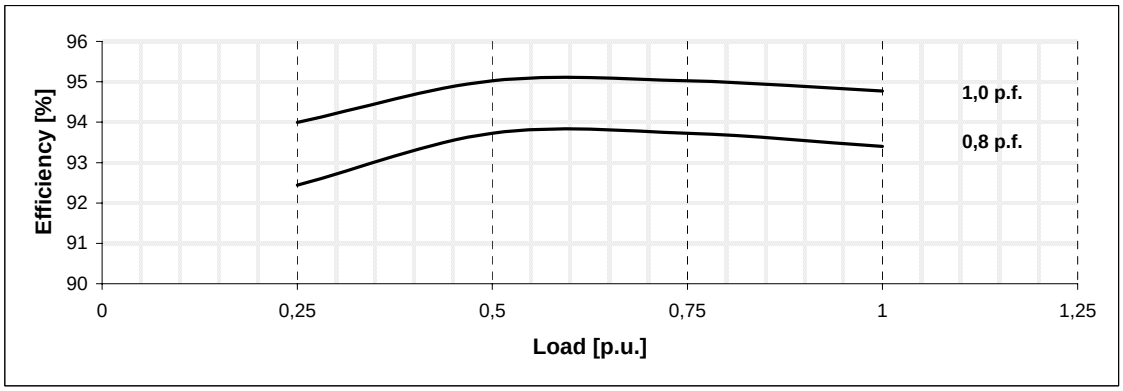
440 V



460 V



480 V



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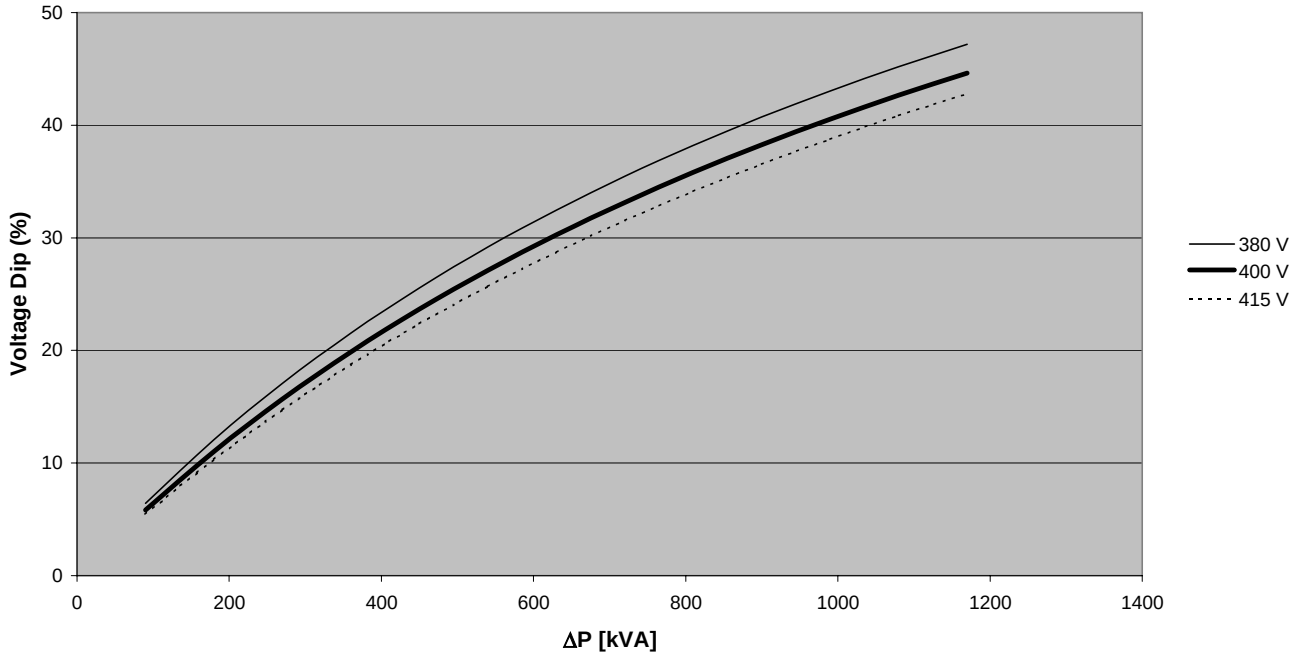
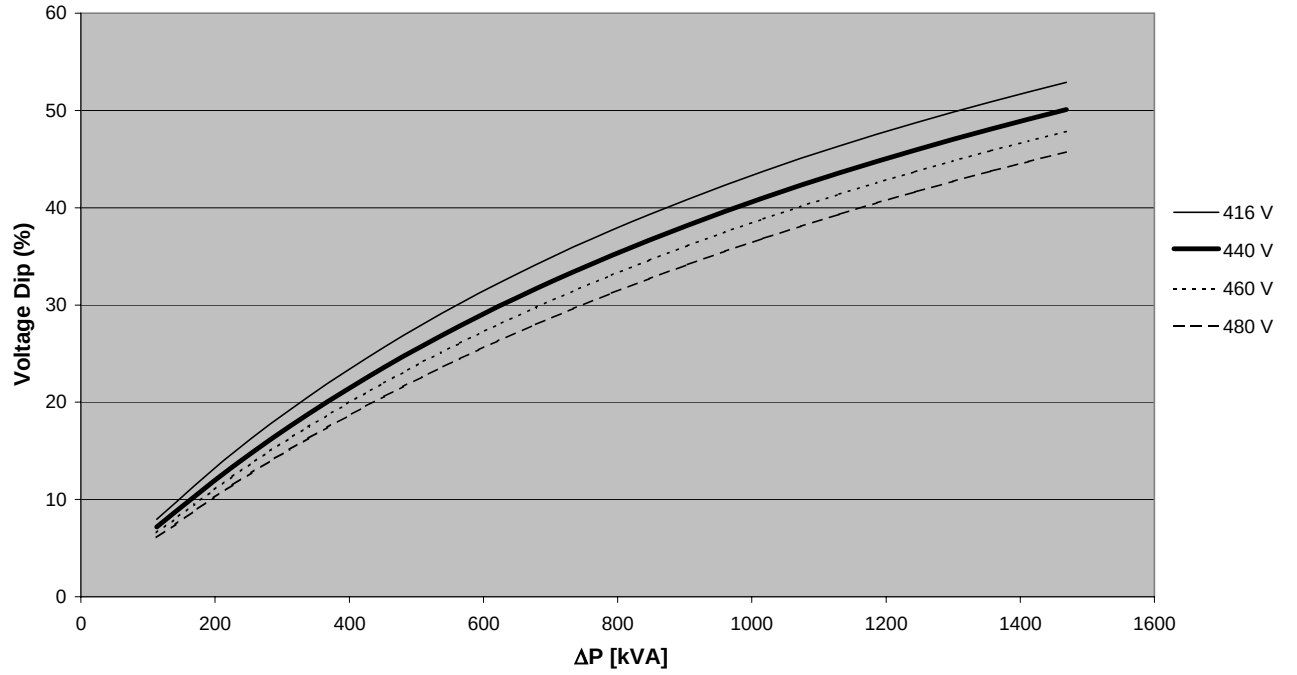
Locked rotor motor starting curves (*)

50 Hz - 1000 min^{-1}



60 Hz - 1200 min^{-1}



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

(*): 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.

FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 SC 6

6 POLES

CONTINUOUS DUTY

50 Hz-1000 min^{-1} / 60 Hz-1200 min^{-1}

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

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**490**	**500**	**480**	**570**	**585**	**600**	**625**
		kW	***392***	***400***	***384***	***456***	***468***	***480***	***500***
EFFICIENCY (%) @ 0,8 p.f.		4/4	93,5	93,6	93,5	93,6	93,8	93,9	94,0
		3/4	93,6	93,7	93,6	93,9	94,1	94,2	94,3
		2/4	93,3	93,4	93,3	93,9	94,1	94,2	94,3
EFFICIENCY (%) @ 1,0 p.f.		4/4	94,8	94,9	94,8	94,9	95,1	95,2	95,3
		3/4	94,9	95,0	94,9	95,2	95,3	95,4	95,5
		2/4	94,7	94,8	94,7	95,2	95,3	95,4	95,5
SHORT CIRCUIT RATIO			0,41	0,44	0,49	0,35	0,38	0,40	0,42
REACTANCES (%)									
Direct axis synchronous		xd	310	285	255	360	330	310	295
Quadrature axis synchronous		xq	175	160	145	200	185	175	165
Direct axis transient		x'd	32,6	30,0	26,8	37,9	34,8	32,7	31,3
Direct axis subtransient		x"d	15,0	13,8	12,3	17,5	16,0	15,0	14,4
Quadrature axis subtransient		x"q	15,5	14,3	12,7	18,0	16,6	15,5	14,9
Negative sequence		x_2	15,2	14,0	12,5	17,7	16,2	15,2	14,6
Zero sequence		x_0	3,7	3,4	3,1	4,3	4,0	3,7	3,6

TIME CONSTANTS [s]

Open circuit (T'do)	1,60	Subtransient (T"d)	0,017
Transient (T'd)	0,15	Armature (Ta)	0,018

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	1800
Inertia (J) (IM B34) [kgm^2]	16,8
Overspeed [min^{-1}]	1500
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,17 / 1,42
Degree of protection	IP 23
Type of construction available	B3
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	5,8
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 3% (under no-load or non-distorting-load condition)

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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MarelliGenerators

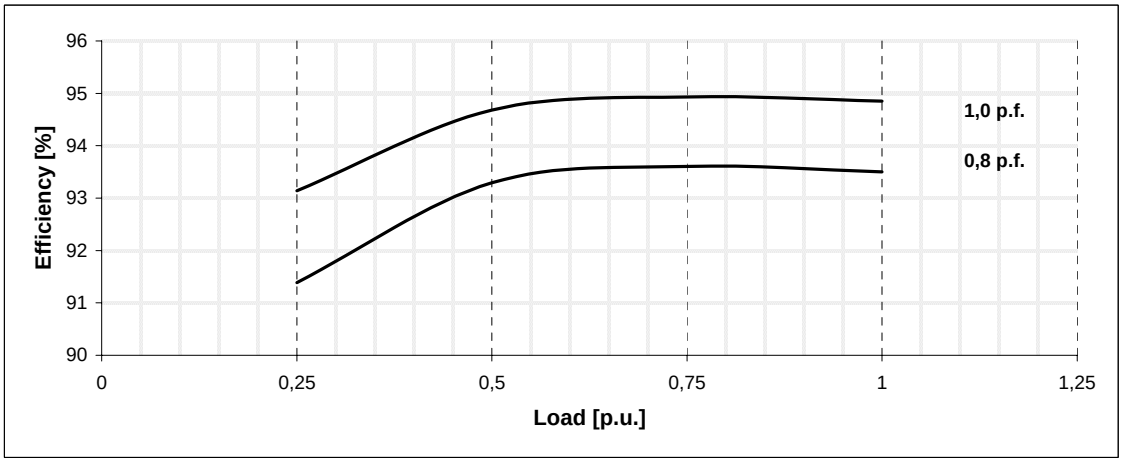
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 SC 6

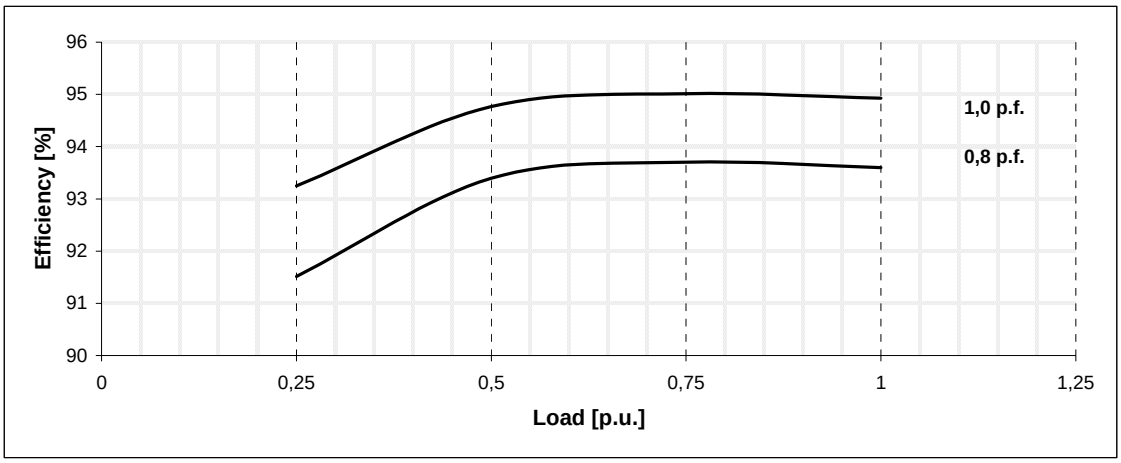
Typical efficiency curves

50 Hz - 1000 min^{-1}

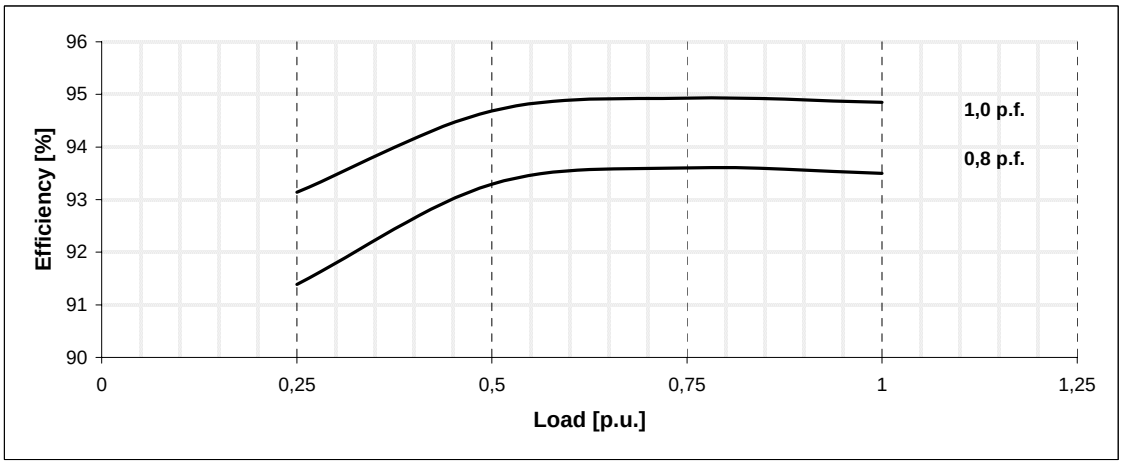
380 V



400 V



415 V



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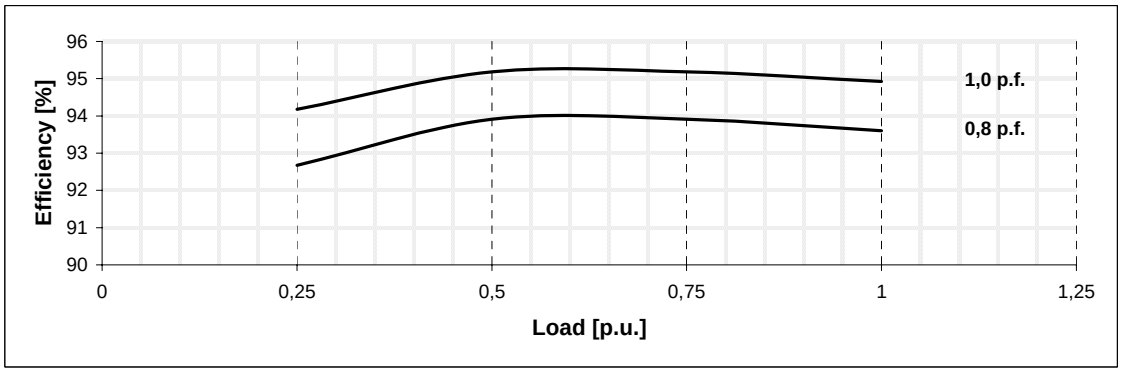
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 SC 6

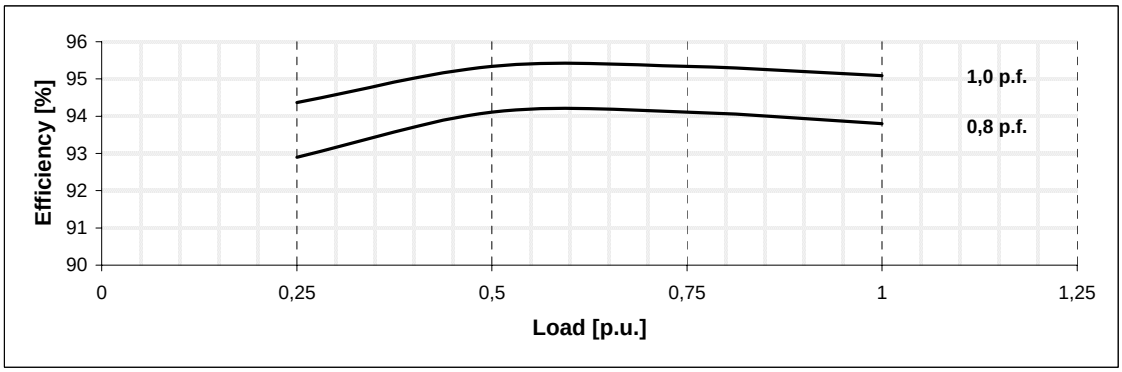
Typical efficiency curves

60 Hz - 1200 min^{-1}

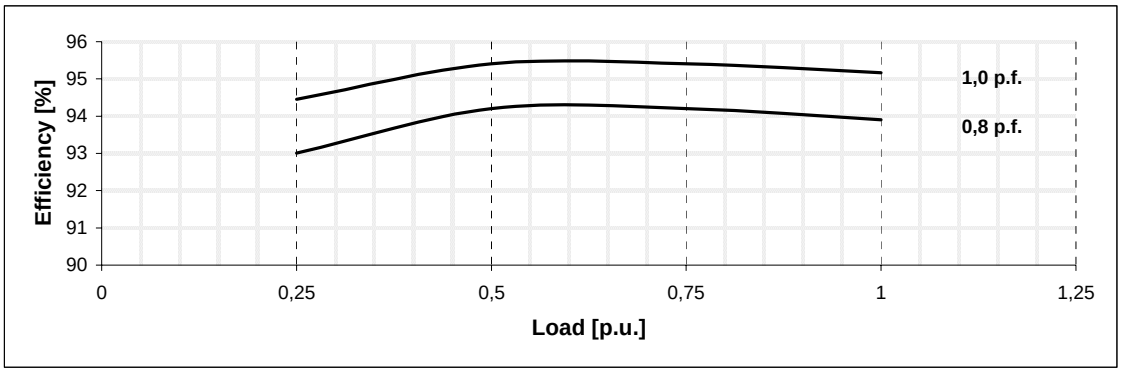
416 V



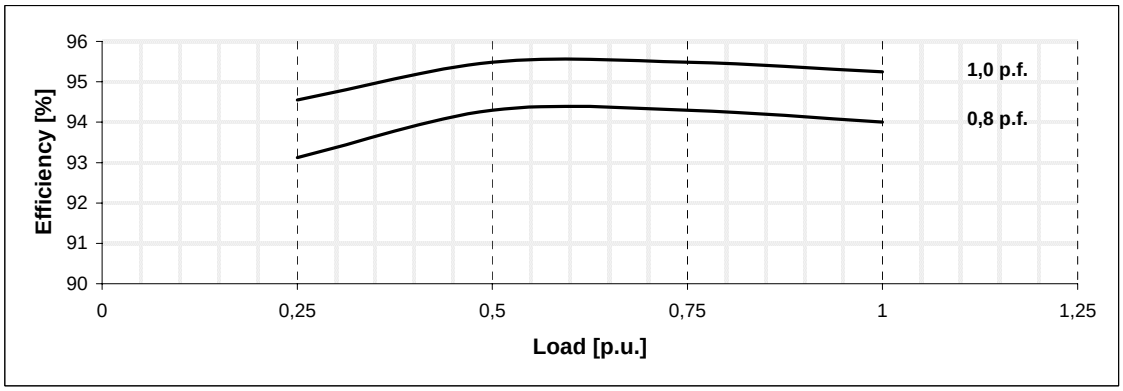
440 V



460 V



480 V



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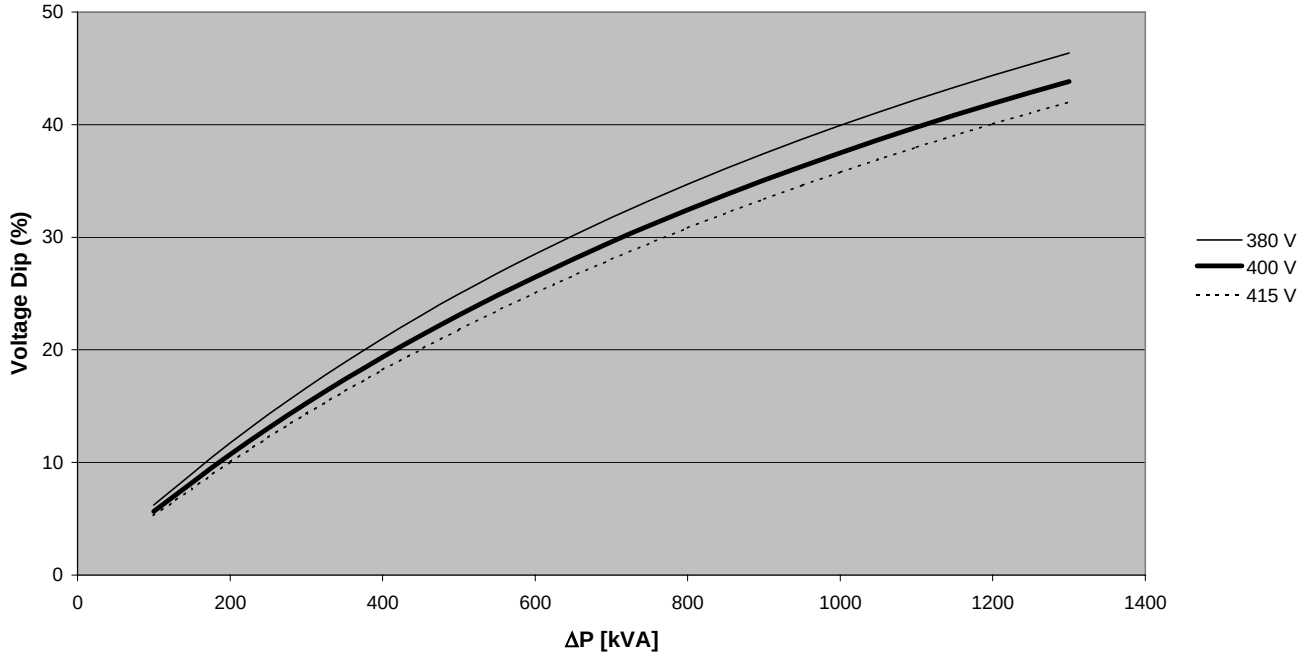
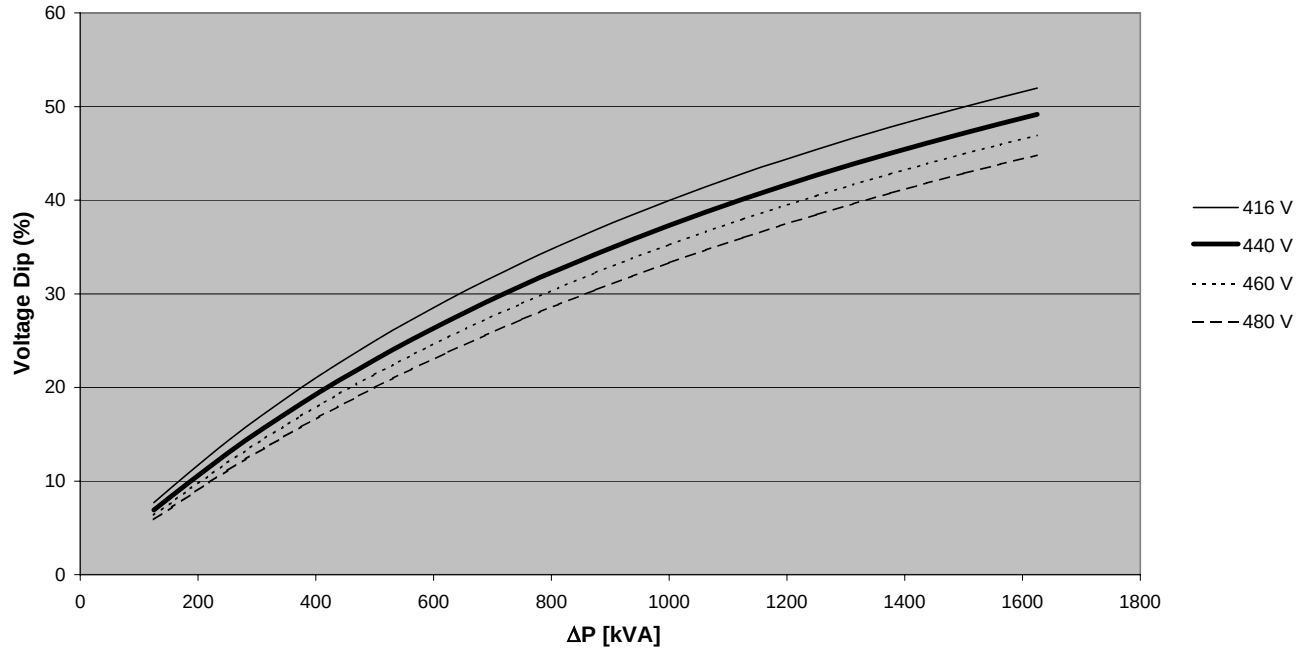
Locked rotor motor starting curves (*)

50 Hz - 1000 min^{-1}



60 Hz - 1200 min^{-1}



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

(*): 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.

FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 MA 6

6 POLES

CONTINUOUS DUTY

50 Hz-1000 min^{-1} / 60 Hz-1200 min^{-1}

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

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**610**	**620**	**600**	**707**	**725**	**744**	**775**
		kW	***488***	***496***	***480***	***566***	***580***	***595***	***620***
EFFICIENCY (%) @ 0,8 p.f.		4/4	93,9	94,0	93,9	94,0	94,2	94,3	94,4
		3/4	94,0	94,1	94,0	94,3	94,5	94,6	94,7
		2/4	93,7	93,8	93,7	94,3	94,5	94,6	94,7
EFFICIENCY (%) @ 1,0 p.f.		4/4	95,2	95,3	95,2	95,3	95,4	95,5	95,6
		3/4	95,2	95,3	95,2	95,5	95,6	95,7	95,8
		2/4	95,0	95,1	95,0	95,5	95,6	95,7	95,8
SHORT CIRCUIT RATIO			0,41	0,45	0,50	0,36	0,39	0,41	0,43
REACTANCES (%)									
Direct axis synchronous		xd	300	275	245	350	320	300	285
Quadrature axis synchronous		xq	170	155	140	195	180	170	160
Direct axis transient		x'd	31,6	29,0	26,1	36,7	33,6	31,6	30,2
Direct axis subtransient		x"d	14,4	13,2	11,9	16,7	15,3	14,4	13,8
Quadrature axis subtransient		x"q	14,7	13,5	12,1	17,1	15,7	14,7	14,1
Negative sequence		x_2	14,7	13,5	12,1	17,0	15,6	14,7	14,0
Zero sequence		x_0	3,6	3,3	3,0	4,2	3,8	3,6	3,4

TIME CONSTANTS [s]

Open circuit (T'do)	2,00	Subtransient (T"d)	0,018
Transient (T'd)	0,17	Armature (Ta)	0,02

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	2000
Inertia (J) (IM B34) [kgm^2]	17,9
Overspeed [min^{-1}]	1500
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,17 / 1,42
Degree of protection	IP 23
Type of construction available	B3
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	4,1
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 3% (under no-load or non-distorting-load condition)

STANDARDS

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

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

MarelliGenerators

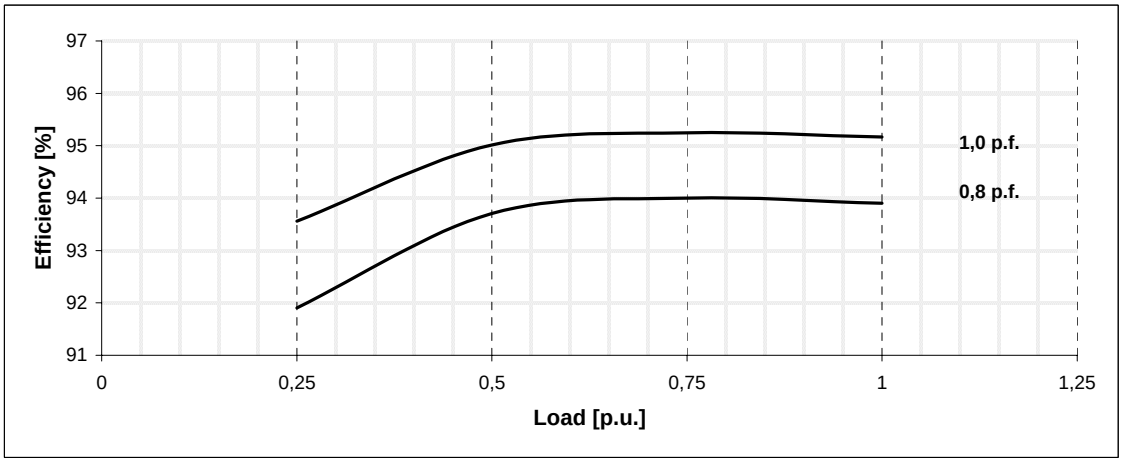
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 MA 6

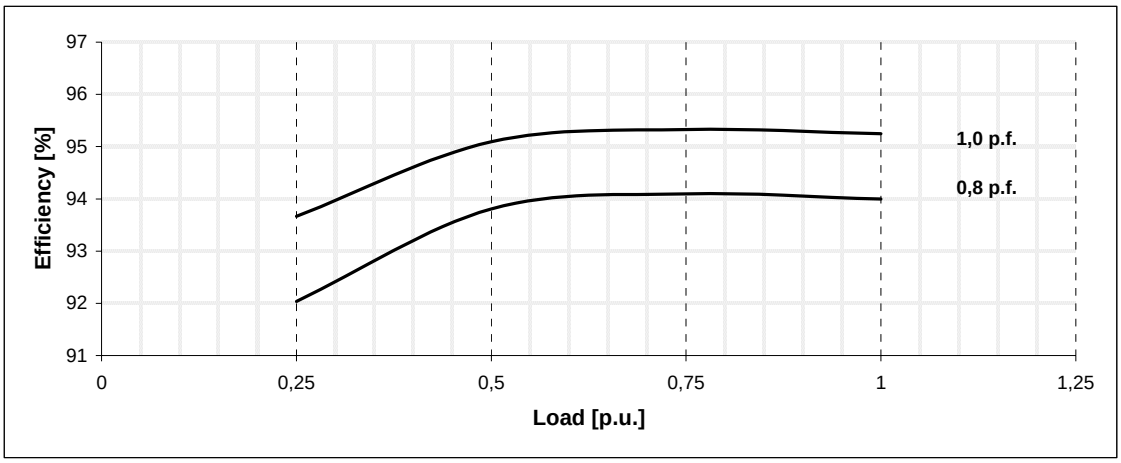
Typical efficiency curves

50 Hz - 1000 min^{-1}

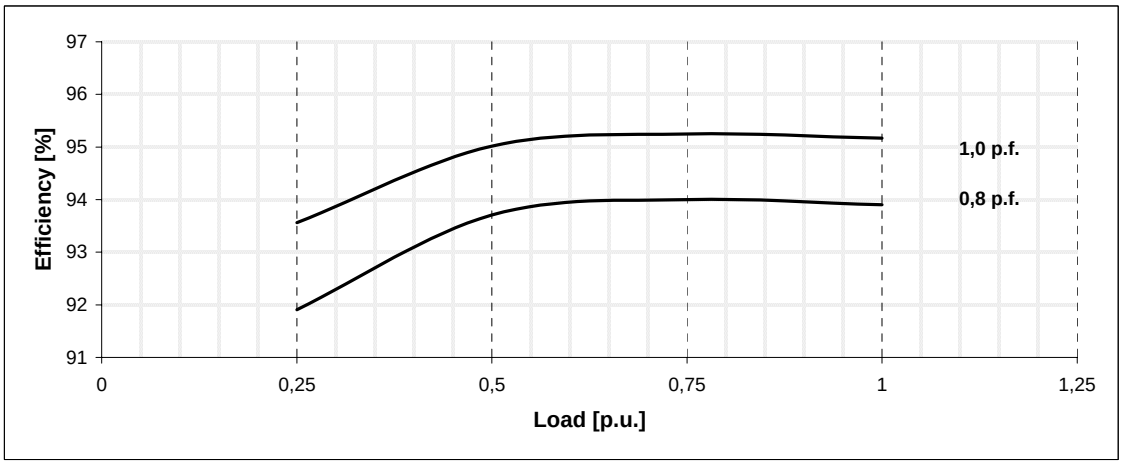
380 V



400 V



415 V



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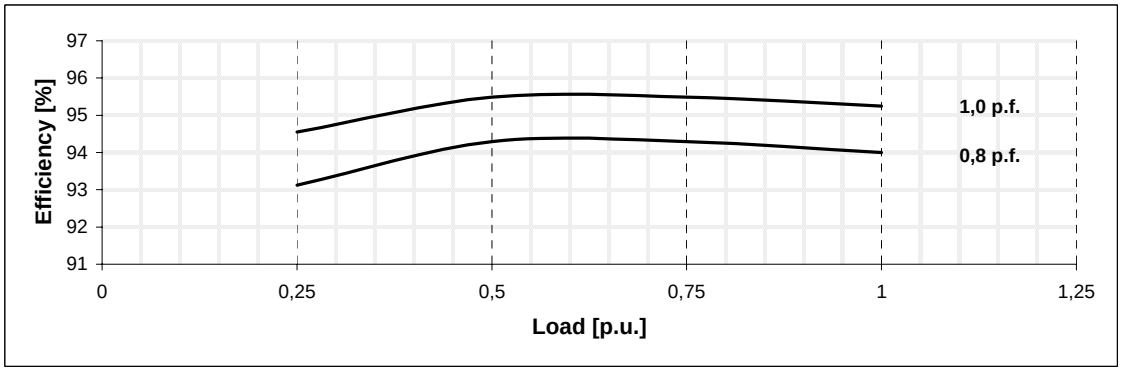
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 MA 6

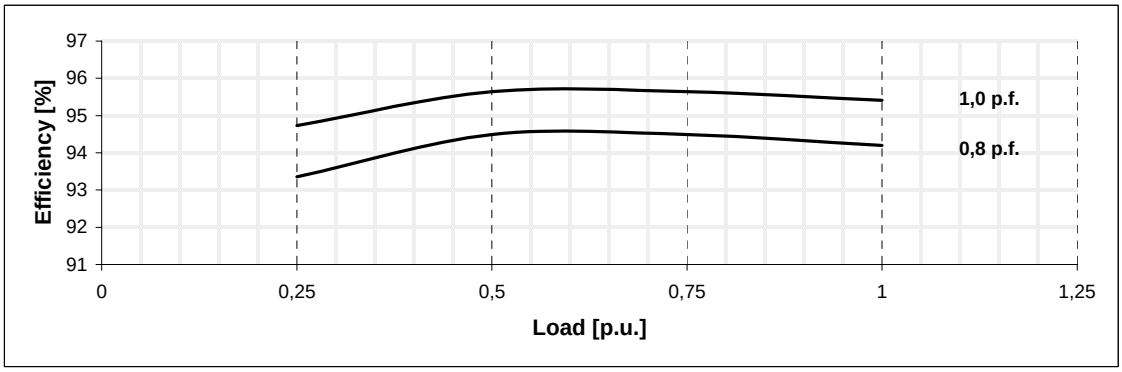
Typical efficiency curves

60 Hz - 1200 min^{-1}

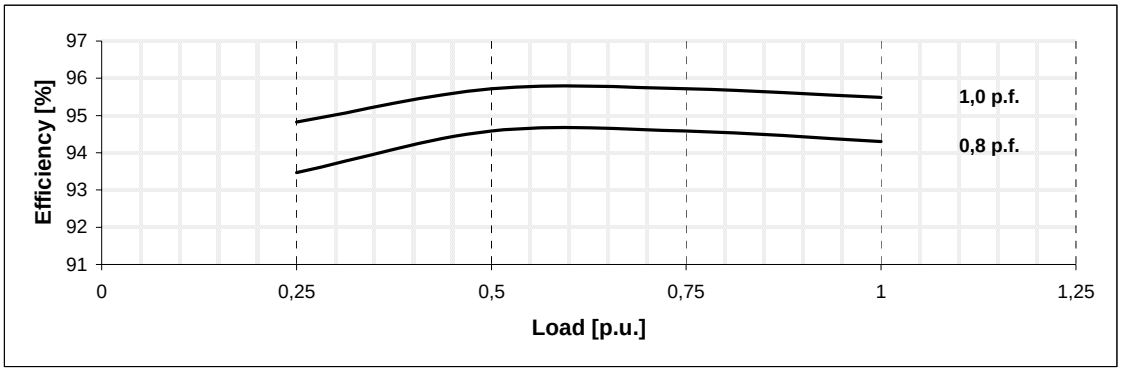
416 V



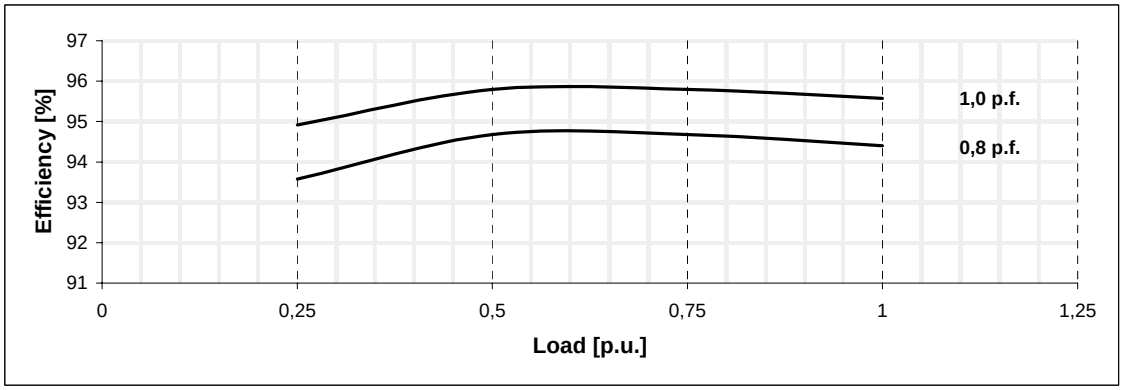
440 V



460 V



480 V



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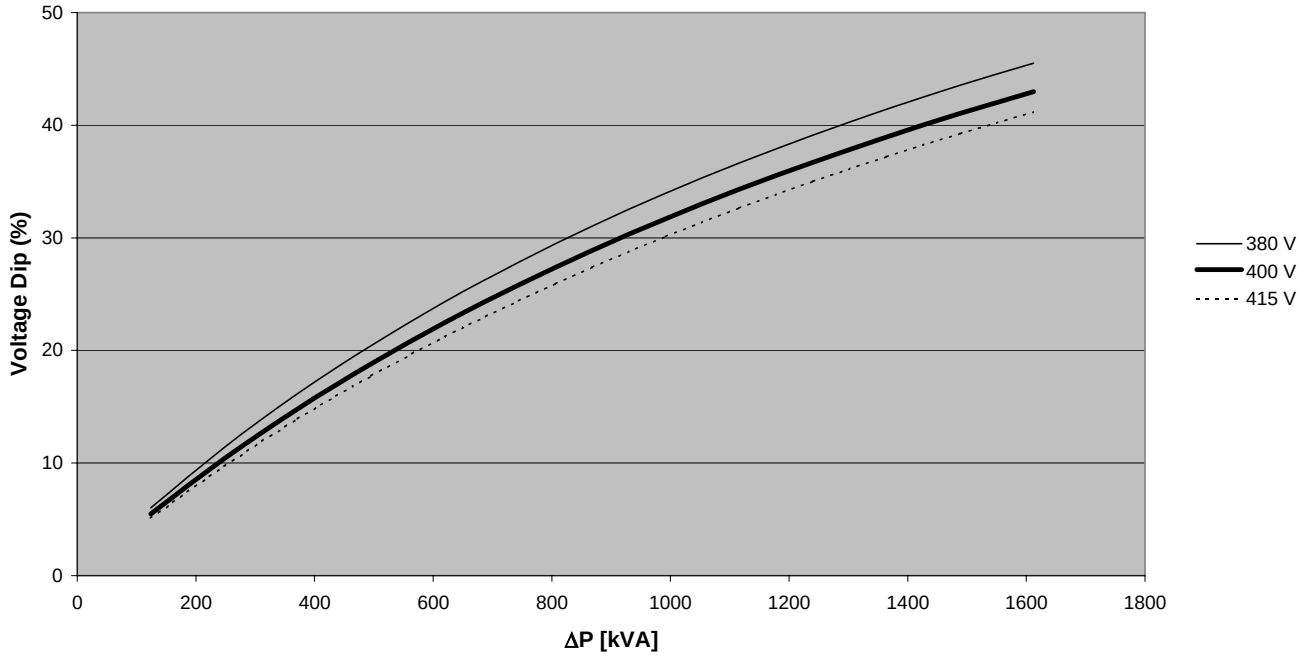
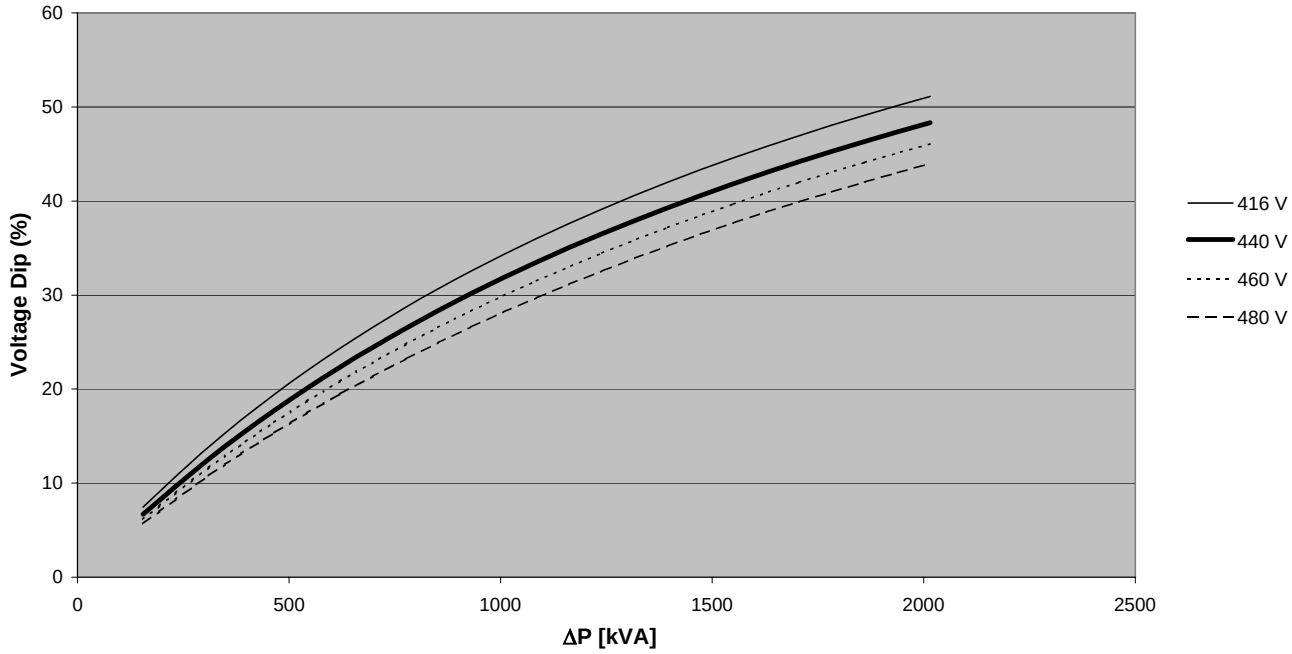
Locked rotor motor starting curves (*)

50 Hz - 1000 min^{-1}



60 Hz - 1200 min^{-1}



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

(*): 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.

FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 MB 6

6 POLES

CONTINUOUS DUTY

50 Hz-1000 min^{-1} / 60 Hz-1200 min^{-1}

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

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**680**	**700**	**670**	**798**	**819**	**840**	**875**
		kW	***544***	***560***	***536***	***638***	***655***	***672***	***700***
EFFICIENCY (%) @ 0,8 p.f.		4/4	94,1	94,2	94,1	94,2	94,4	94,5	94,6
		3/4	94,2	94,3	94,2	94,5	94,7	94,8	94,9
		2/4	93,9	94,0	93,9	94,5	94,7	94,8	94,9
EFFICIENCY (%) @ 1,0 p.f.		4/4	95,3	95,4	95,3	95,4	95,6	95,7	95,7
		3/4	95,4	95,5	95,4	95,6	95,8	95,9	95,9
		2/4	95,2	95,3	95,2	95,6	95,8	95,9	95,9
SHORT CIRCUIT RATIO			0,43	0,46	0,52	0,36	0,40	0,42	0,44
REACTANCES (%)									
Direct axis synchronous		xd	285	265	235	335	305	290	275
Quadrature axis synchronous		xq	160	150	135	190	175	165	155
Direct axis transient		x'd	30,1	28,0	24,9	35,4	32,5	30,5	29,2
Direct axis subtransient		x"d	13,6	12,7	11,2	16,0	14,7	13,8	13,2
Quadrature axis subtransient		x"q	14,0	13,0	11,6	16,4	15,1	14,2	13,5
Negative sequence		x_2	14,0	13,0	11,6	16,4	15,1	14,2	13,5
Zero sequence		x_0	3,4	3,2	2,8	4,0	3,7	3,4	3,3

TIME CONSTANTS [s]

Open circuit (T'do)	2,10	Subtransient (T"d)	0,018
Transient (T'd)	0,18	Armature (Ta)	0,022

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	2260
Inertia (J) (IM B34) [kgm^2]	19,4
Overspeed [min^{-1}]	1500
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,17 / 1,42
Degree of protection	IP 23
Type of construction available	B3
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	3,3
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 3% (under no-load or non-distorting-load condition)

STANDARDS

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

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

MarelliGenerators

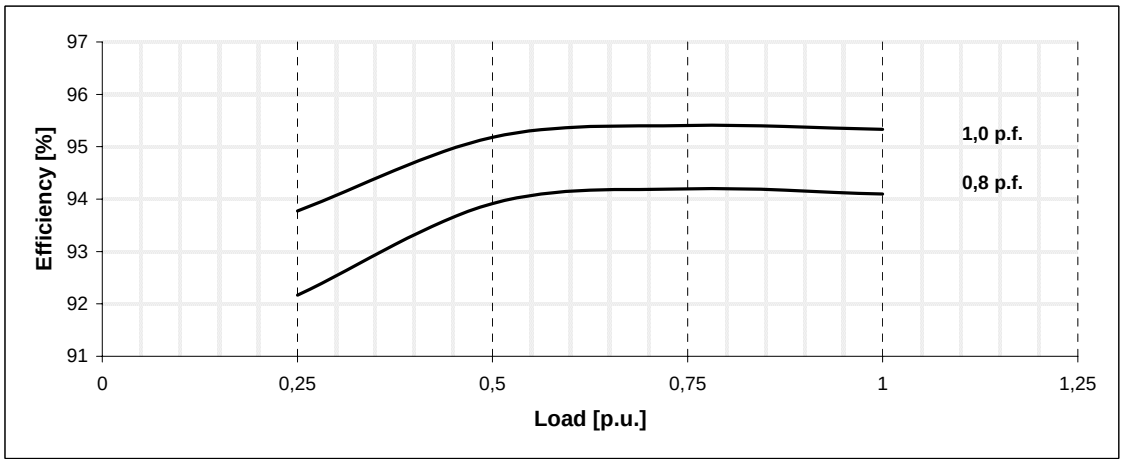
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 MB 6

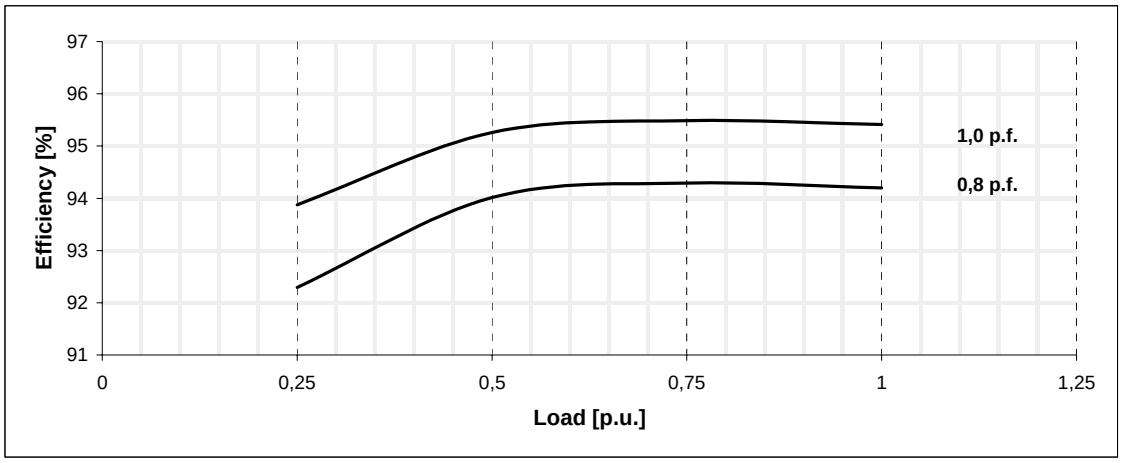
Typical efficiency curves

50 Hz - 1000 min^{-1}

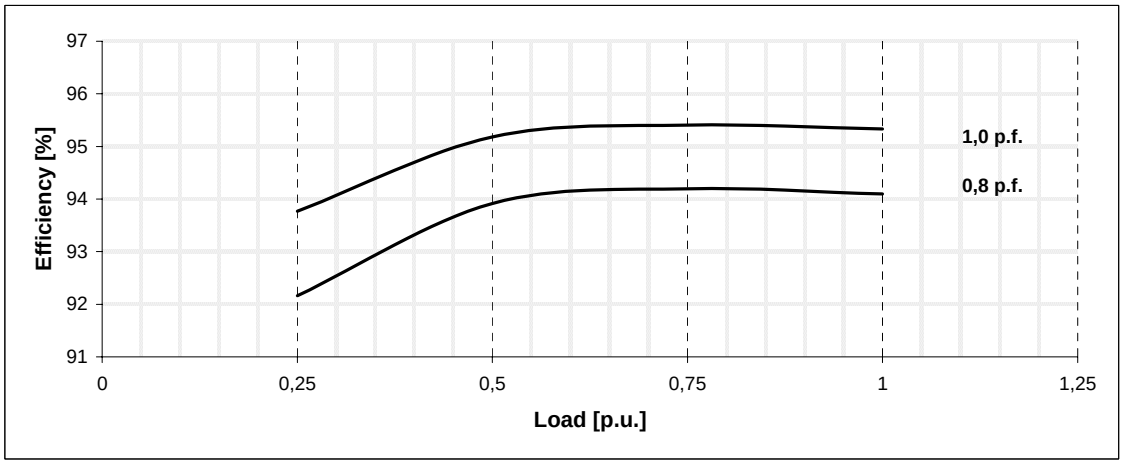
380 V



400 V



415 V



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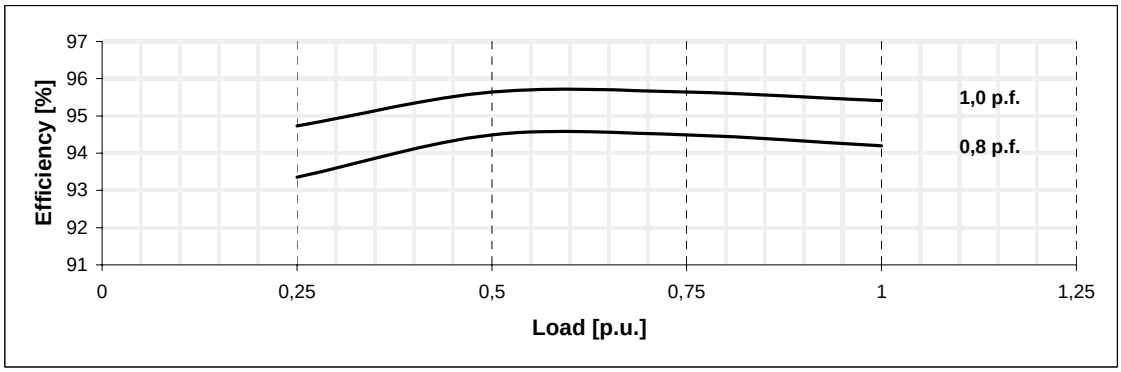
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 MB 6

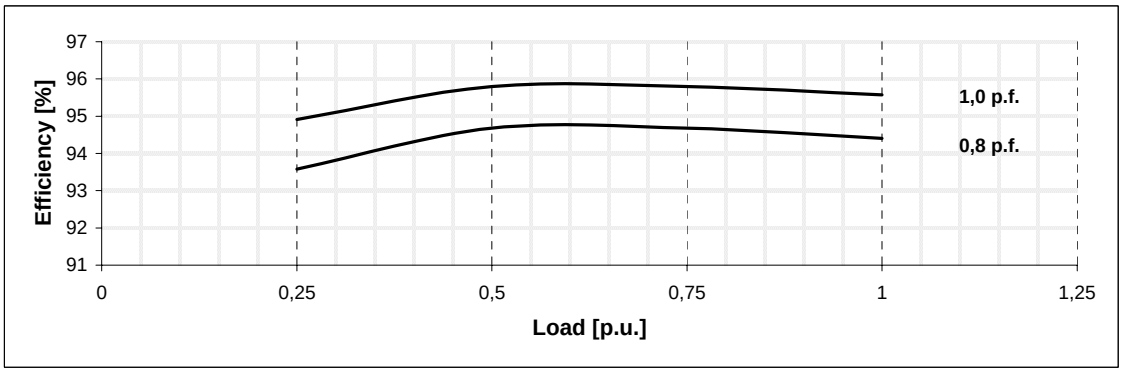
Typical efficiency curves

60 Hz - 1200 min^{-1}

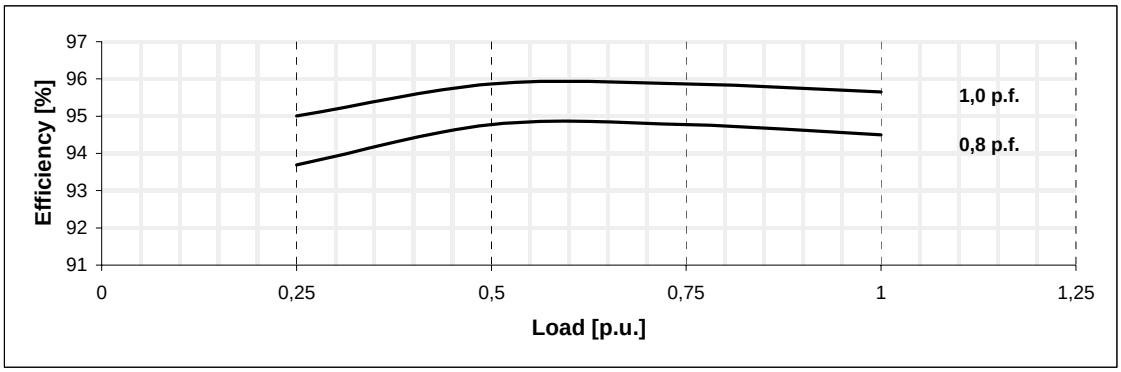
416 V



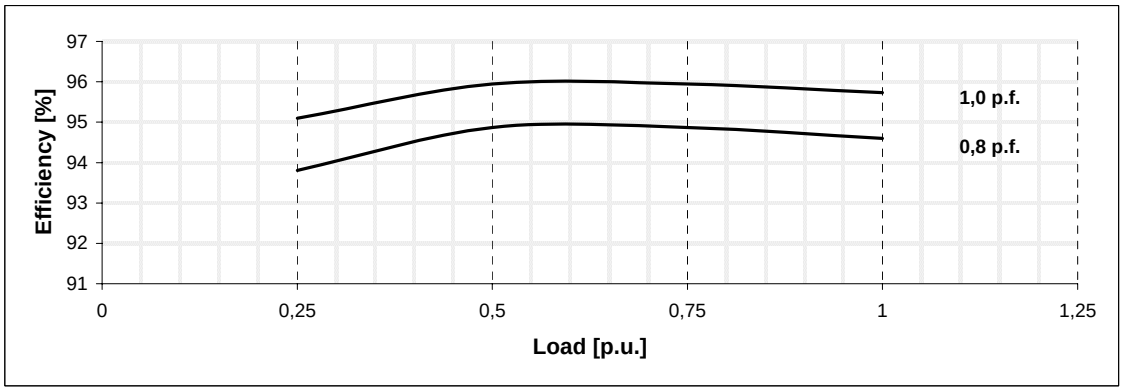
440 V



460 V



480 V



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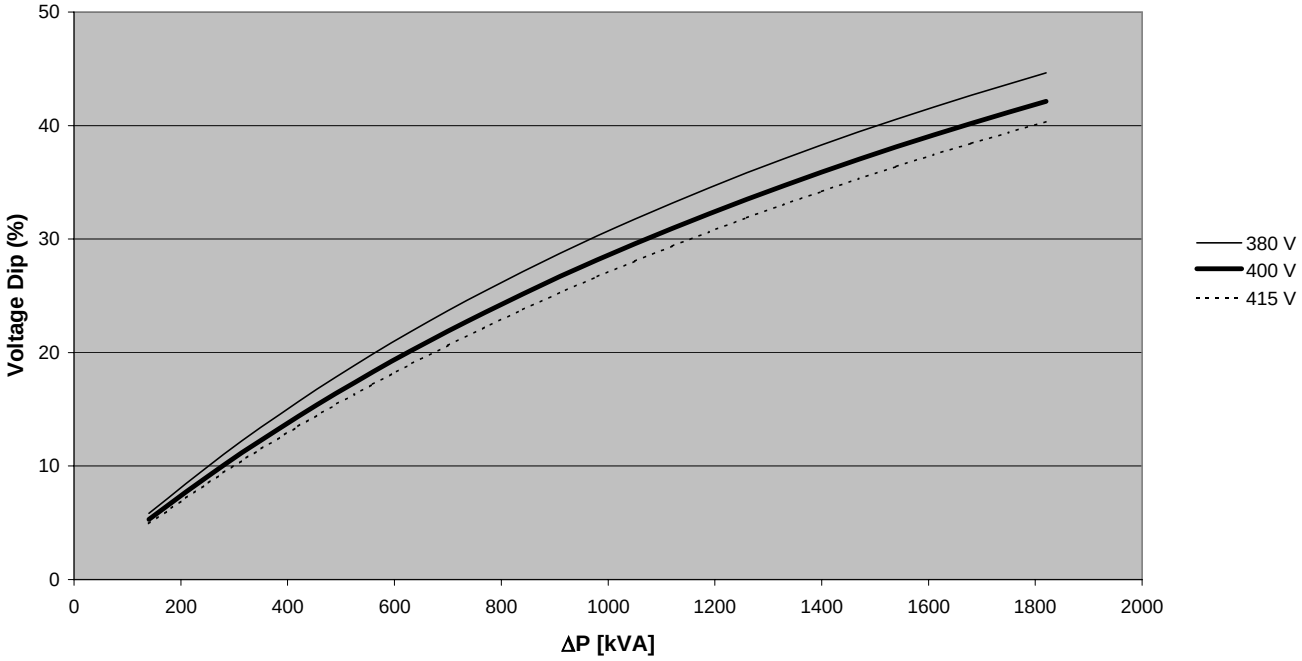
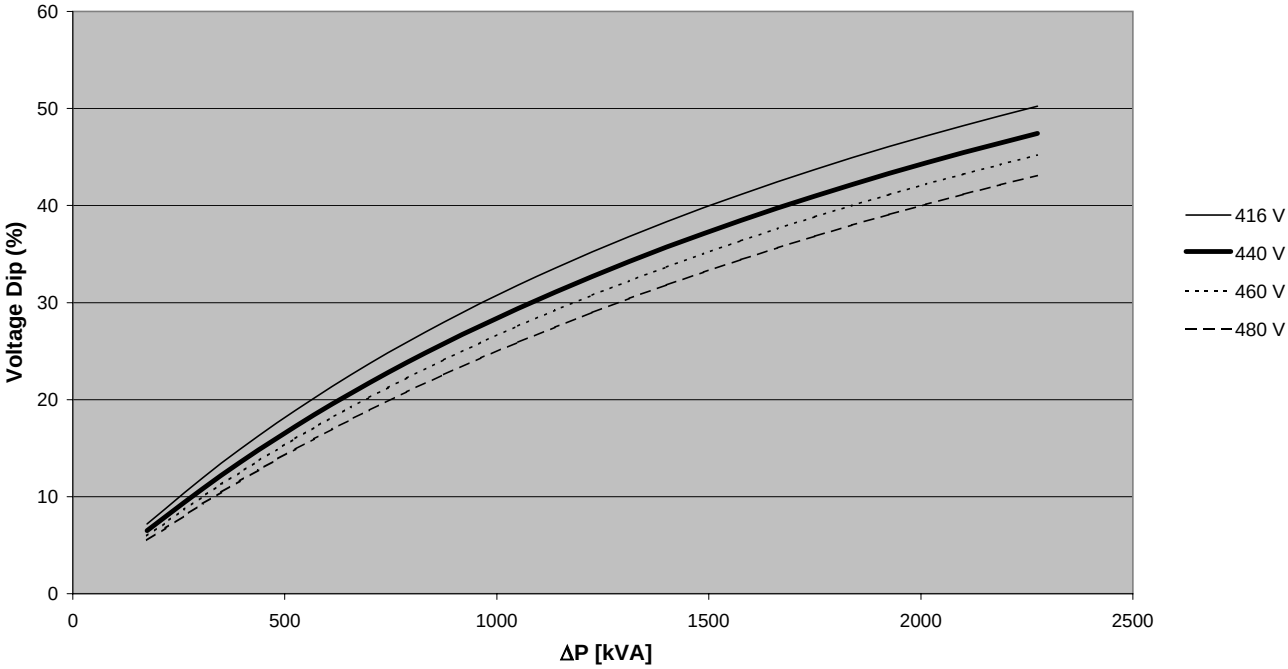
Locked rotor motor starting curves (*)

50 Hz - 1000 min^{-1}



60 Hz - 1200 min^{-1}



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

(*): 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.

FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 LA 6

6 POLES

CONTINUOUS DUTY

50 Hz-1000 min^{-1} / 60 Hz-1200 min^{-1}

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

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**780**	**800**	**760**	**912**	**936**	**960**	**1000**
		kW	***624***	***640***	***608***	***730***	***749***	***768***	***800***
EFFICIENCY (%) @ 0,8 p.f.		4/4	94,4	94,5	94,4	94,5	94,7	94,8	94,9
		3/4	94,5	94,6	94,5	94,8	95,0	95,1	95,2
		2/4	94,2	94,3	94,2	94,8	95,0	95,1	95,2
EFFICIENCY (%) @ 1,0 p.f.		4/4	95,6	95,7	95,6	95,7	95,8	95,9	96,0
		3/4	95,6	95,7	95,6	95,9	96,0	96,1	96,2
		2/4	95,4	95,5	95,4	95,9	96,0	96,1	96,2
SHORT CIRCUIT RATIO			0,44	0,47	0,53	0,37	0,41	0,43	0,45
REACTANCES (%)									
Direct axis synchronous		xd	275	255	225	325	295	280	265
Quadrature axis synchronous		xq	155	145	125	185	165	155	150
Direct axis transient		x'd	29,2	27,0	23,8	34,1	31,3	29,4	28,1
Direct axis subtransient		x"d	13,0	12,0	10,6	15,2	13,9	13,1	12,5
Quadrature axis subtransient		x"q	13,4	12,4	11,0	15,7	14,4	13,5	13,0
Negative sequence		x_2	13,5	12,5	11,0	15,8	14,5	13,6	13,0
Zero sequence		x_0	3,3	3,0	2,7	3,8	3,5	3,3	3,2

TIME CONSTANTS [s]

Open circuit (T'do)	2,30	Subtransient (T"d)	0,018
Transient (T'd)	0,18	Armature (Ta)	0,023

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	2530
Inertia (J) (IM B34) [kgm^2]	20,9
Overspeed [min^{-1}]	1500
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,17 / 1,42
Degree of protection	IP 23
Type of construction available	B3
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	2,9
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 3% (under no-load or non-distorting-load condition)

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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MarelliGenerators

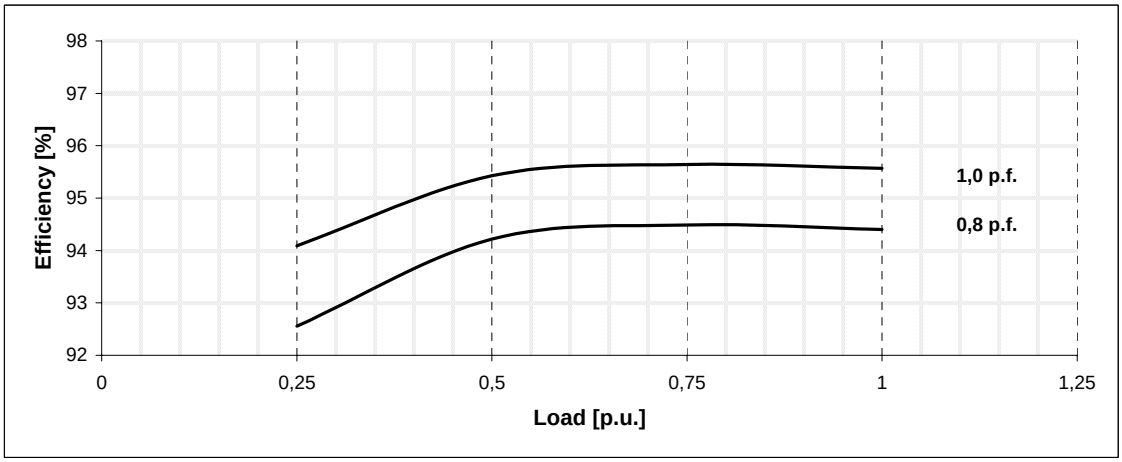
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 LA 6

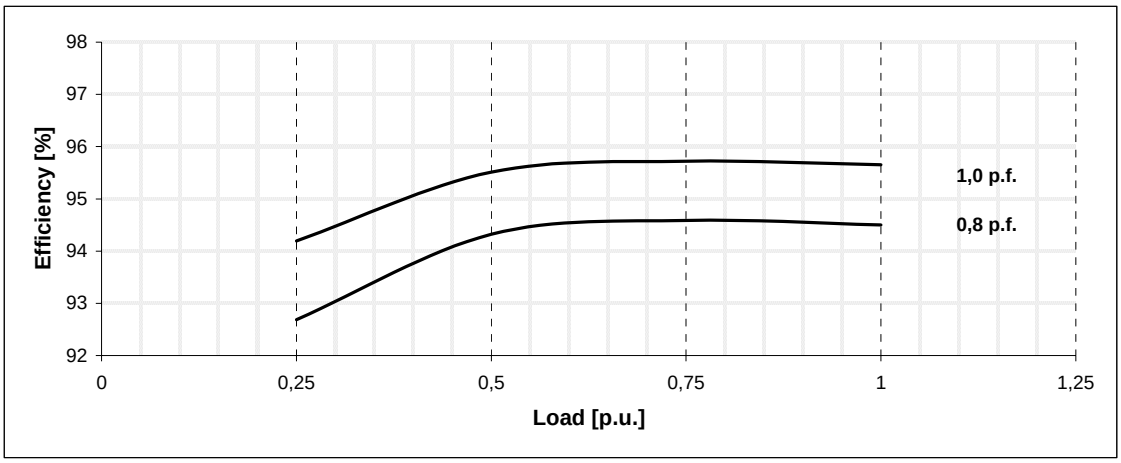
Typical efficiency curves

50 Hz - 1000 min^{-1}

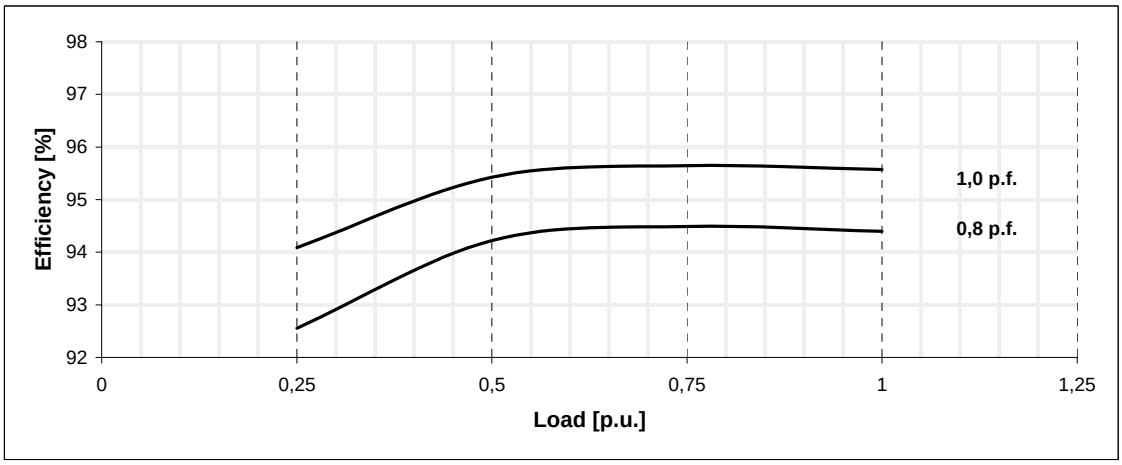
380 V



400 V



415 V



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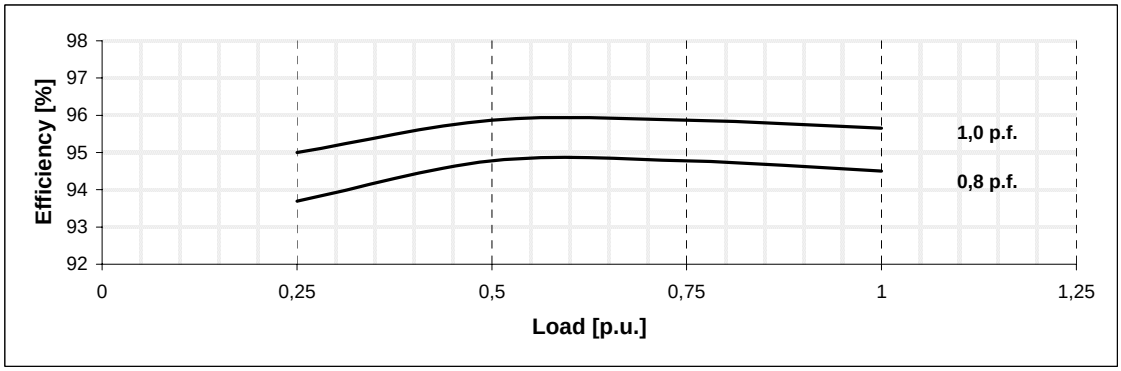
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 LA 6

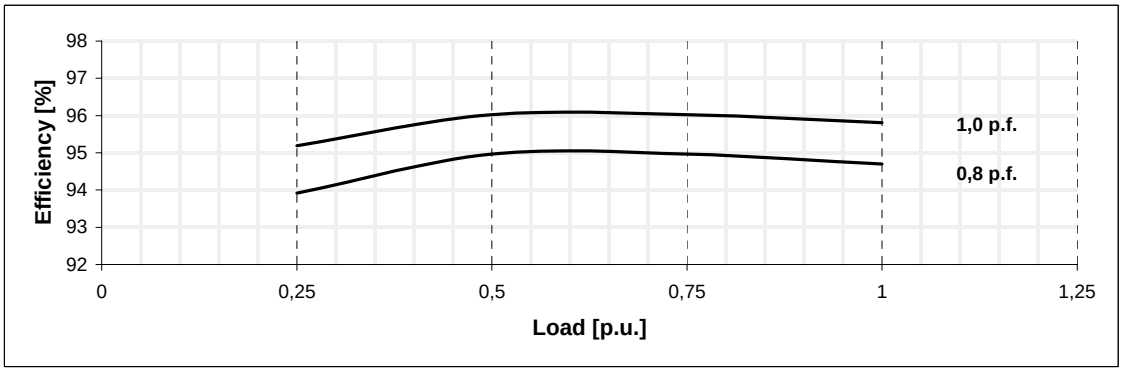
Typical efficiency curves

60 Hz - 1200 min^{-1}

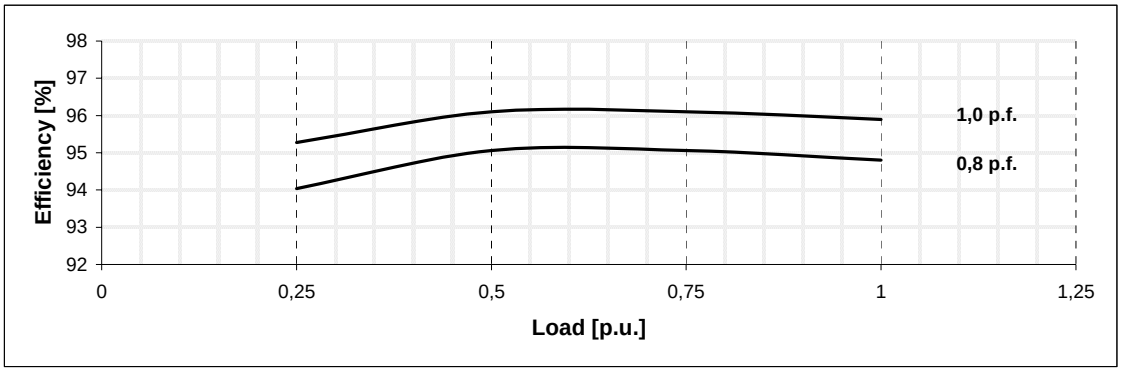
416 V



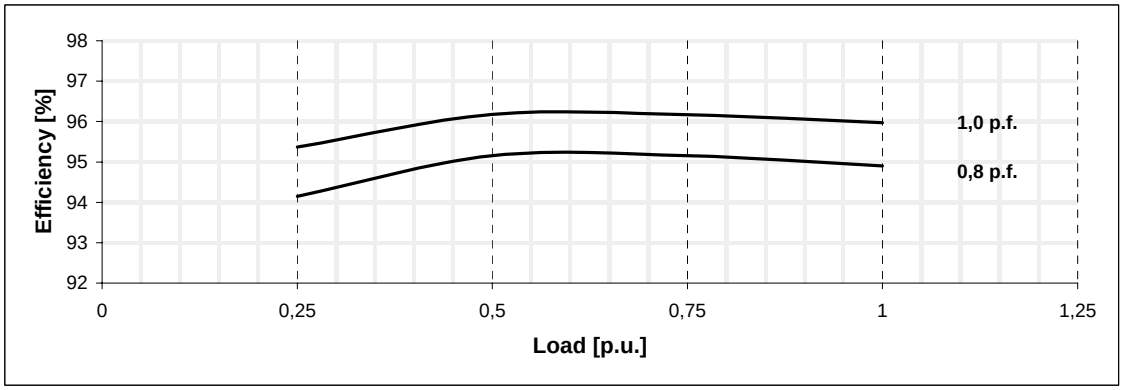
440 V



460 V



480 V



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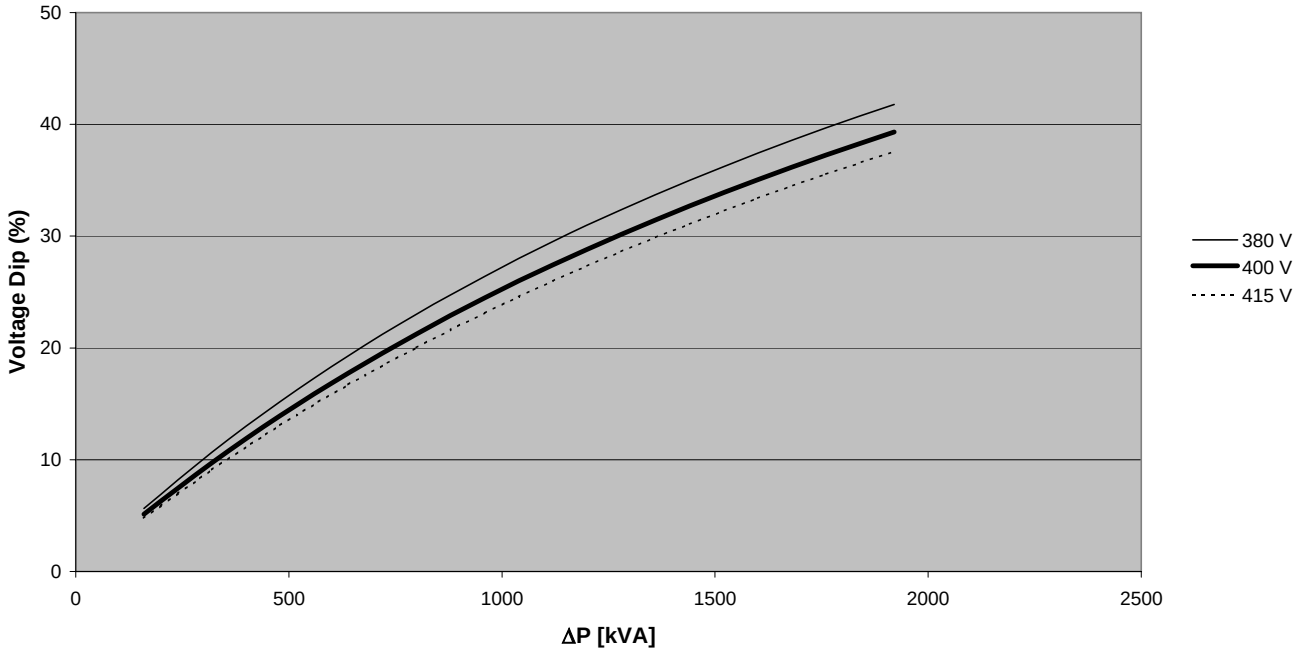
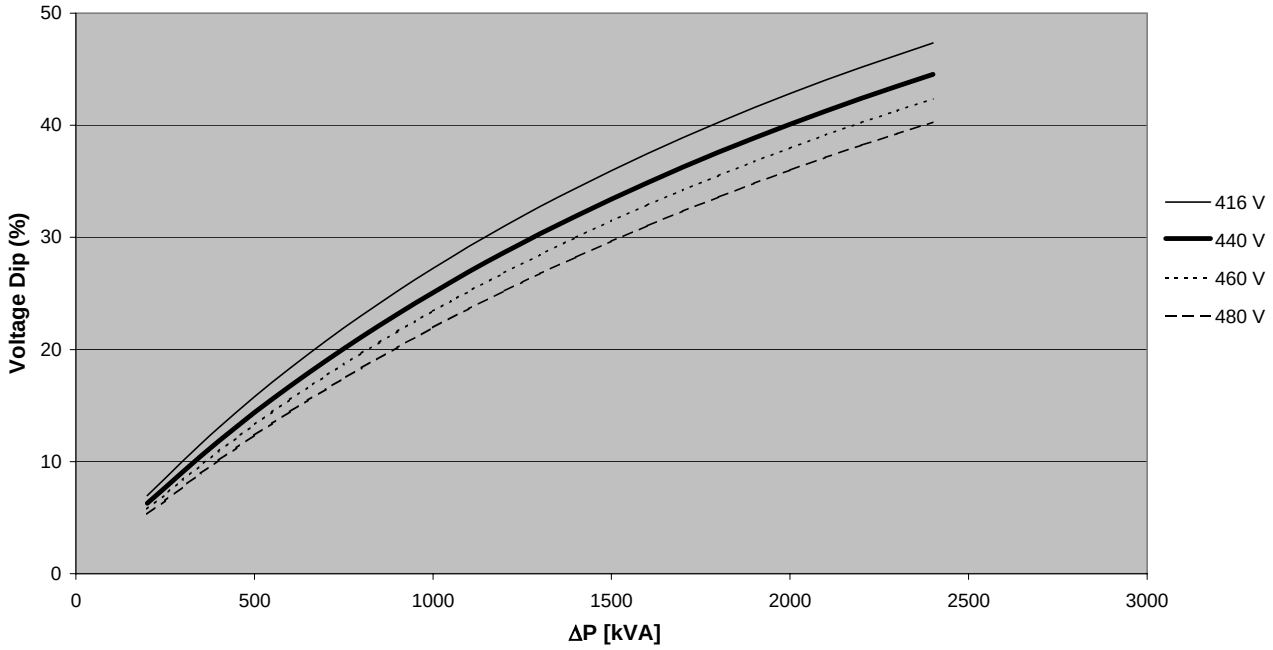
Locked rotor motor starting curves (*)

50 Hz - 1000 min^{-1}



60 Hz - 1200 min^{-1}



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

(*): 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.

FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 LB 6

6 POLES

50 Hz-1000 min^{-1} / 60 Hz-1200 min^{-1}

CONTINUOUS DUTY

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

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**950**	**970**	**930**	**1106**	**1135**	**1164**	**1215**
		kW	***760***	***776***	***744***	***885***	***908***	***931***	***972***
EFFICIENCY (%) @ 0,8 p.f.		4/4	94,6	94,7	94,6	94,7	94,9	95,0	95,1
		3/4	94,7	94,8	94,7	95,0	95,2	95,2	95,3
		2/4	94,4	94,5	94,4	95,0	95,2	95,2	95,3
EFFICIENCY (%) @ 1,0 p.f.		4/4	95,7	95,8	95,7	95,8	96,0	96,1	96,1
		3/4	95,8	95,9	95,8	96,0	96,2	96,2	96,3
		2/4	95,6	95,7	95,6	96,0	96,2	96,2	96,3
SHORT CIRCUIT RATIO			0,44	0,48	0,54	0,38	0,41	0,44	0,46
REACTANCES (%)									
Direct axis synchronous		xd	270	250	225	315	290	270	260
Quadrature axis synchronous		xq	150	140	125	175	160	150	145
Direct axis transient		x'd	28,2	26,0	23,2	32,9	30,2	28,3	27,1
Direct axis subtransient		x"d	12,5	11,5	10,2	14,5	13,3	12,5	12,0
Quadrature axis subtransient		x"q	13,0	12,0	10,7	15,2	13,9	13,1	12,5
Negative sequence		x_2	12,8	11,8	10,5	14,9	13,7	12,8	12,3
Zero sequence		x_0	3,1	2,9	2,6	3,7	3,4	3,2	3,0

TIME CONSTANTS [s]

Open circuit (T'do)	2,40	Subtransient (T"d)	0,019
Transient (T'd)	0,19	Armature (Ta)	0,024

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	2750
Inertia (J) (IM B34) [kgm^2]	24,2
Overspeed [min^{-1}]	1500
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,17 / 1,42
Degree of protection	IP 23
Type of construction available	B3
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	2,2
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 3% (under no-load or non-distorting-load condition)

STANDARDS

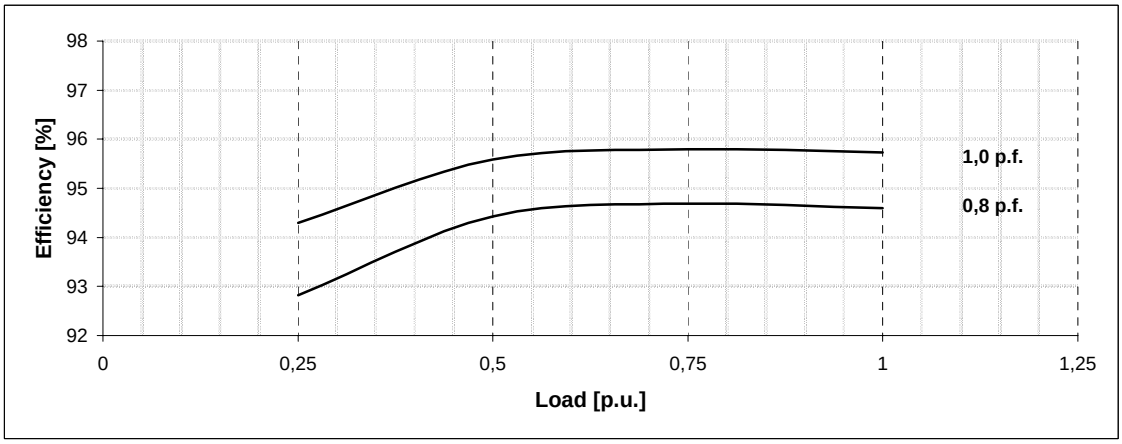
IEC 60034-1; CEI 2-3; BS 4999-5000; VDE 0530; NF 51-100,111; OVE M-10; NEMA MG 1.22.

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

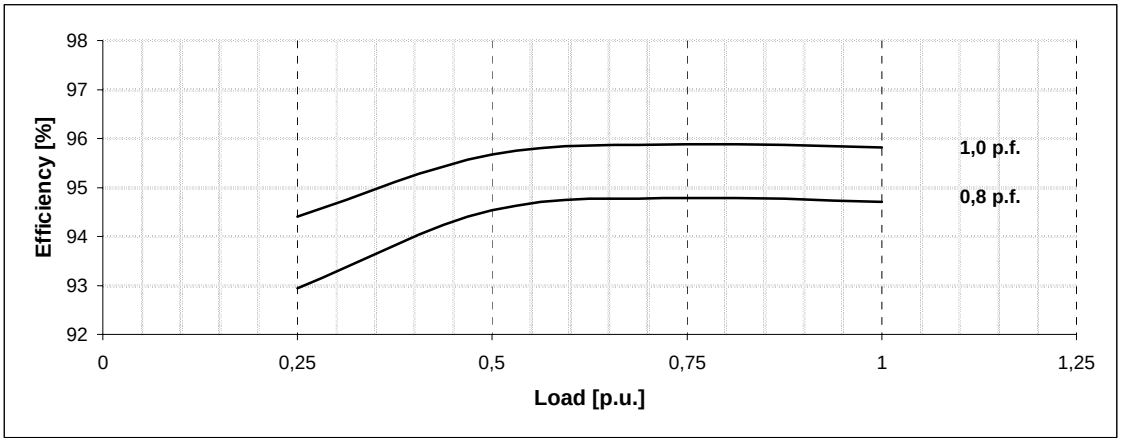
Typical efficiency curves

50 Hz - 1000 min^{-1}

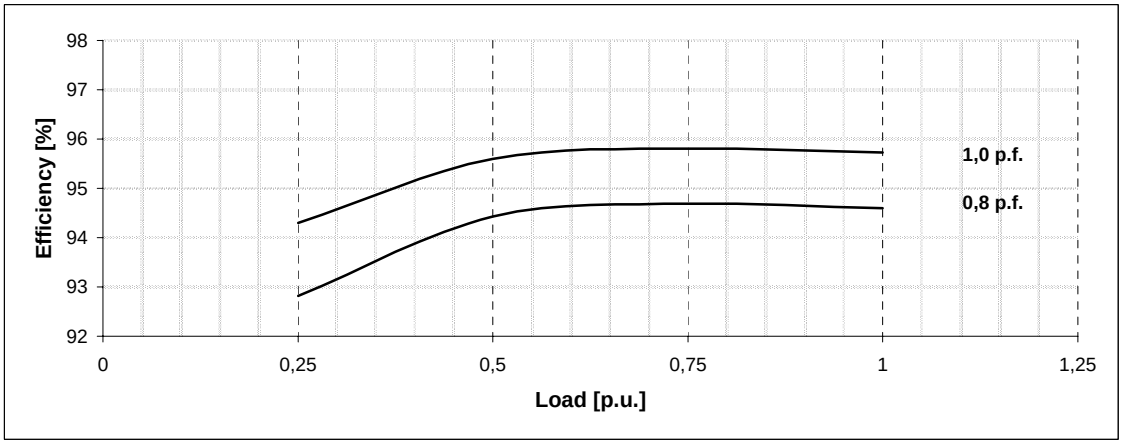
380 V



400 V



415 V



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

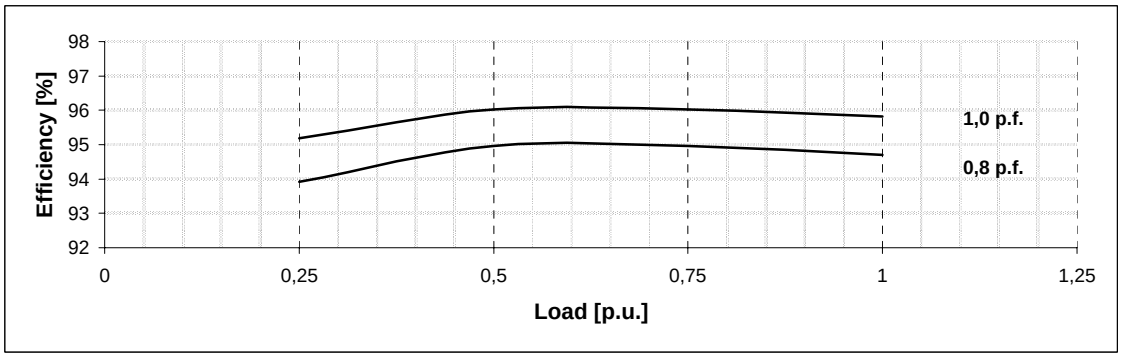
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 LB 6

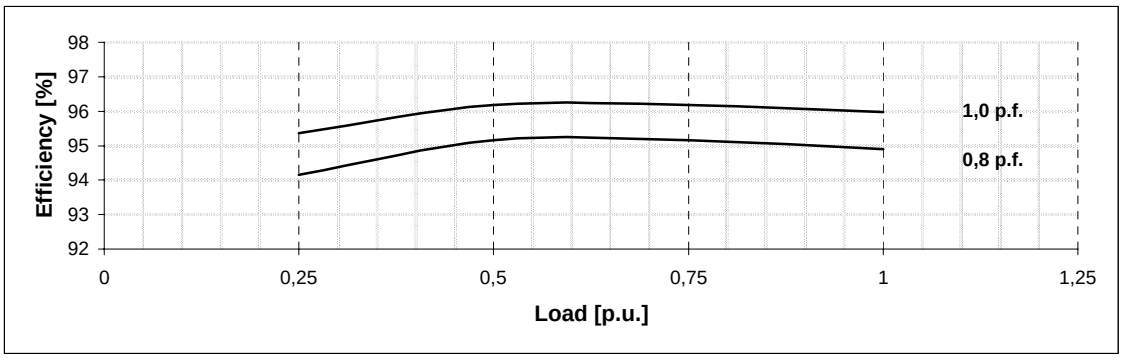
Typical efficiency curves

60 Hz - 1200 min^{-1}

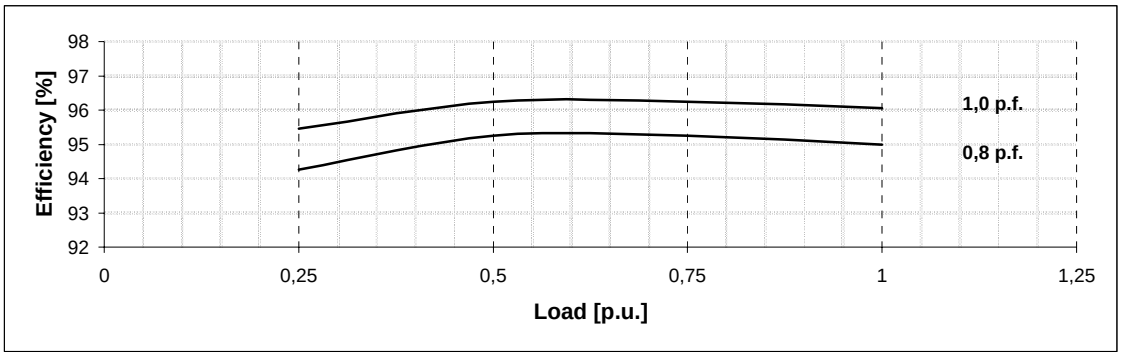
416 V



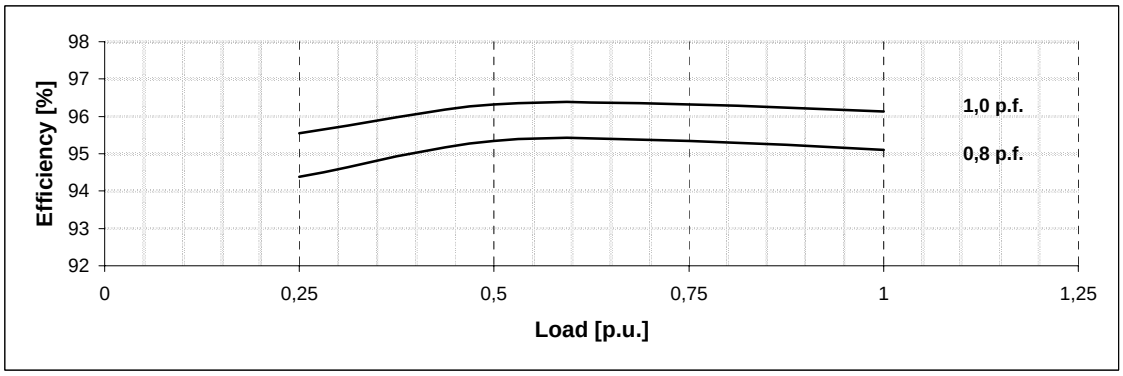
440 V



460 V



480 V



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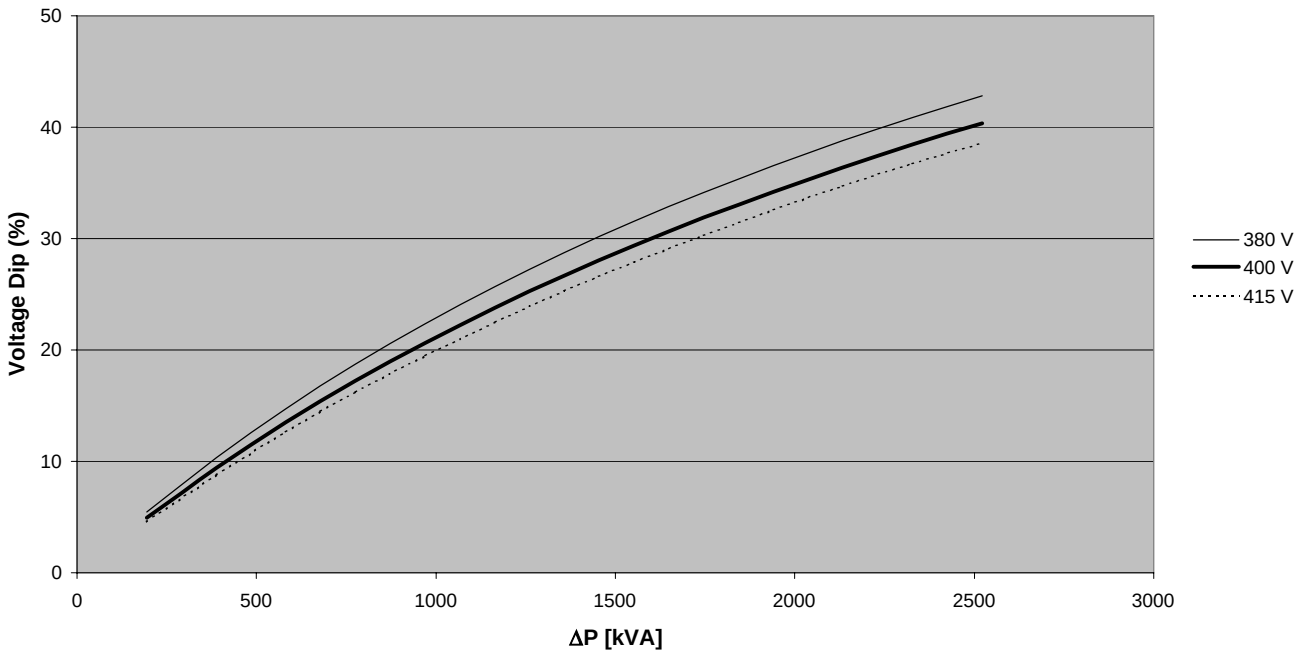
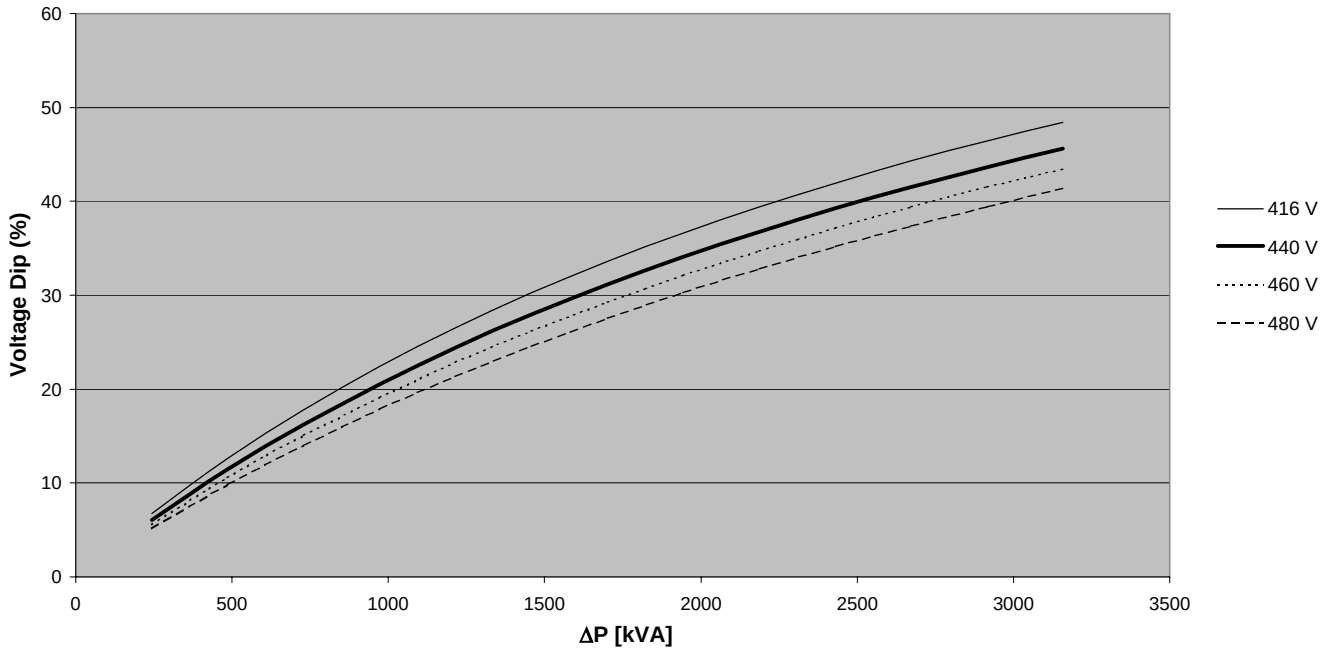
Locked rotor motor starting curves (*)

50 Hz - 1000 min^{-1}



60 Hz - 1200 min^{-1}



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

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

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 500 SA 6

6 POLES

50 Hz-1000 min^{-1} / 60 Hz-1200 min^{-1}

CONTINUOUS DUTY

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

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**1050**	**1050**	**1020**	**1197**	**1229**	**1260**	**1315**
		kW	***840***	***840***	***816***	***958***	***983***	***1008***	***1052***
EFFICIENCY (%) @ 0,8 p.f.		4/4	94,4	94,5	94,3	94,8	95,0	95,1	95,2
		3/4	94,5	94,6	94,4	95,1	95,2	95,3	95,4
		2/4	94,2	94,3	94,1	95,1	95,2	95,3	95,4
EFFICIENCY (%) @ 1,0 p.f.		4/4	95,6	95,7	95,5	95,9	96,1	96,1	96,2
		3/4	95,6	95,7	95,6	96,1	96,2	96,3	96,4
		2/4	95,4	95,5	95,3	96,1	96,2	96,3	96,4
SHORT CIRCUIT RATIO			0,48	0,53	0,59	0,42	0,46	0,49	0,51
REACTANCES (%)									
Direct axis synchronous		xd	290	260	235	330	300	285	270
Quadrature axis synchronous		xq	160	145	130	185	170	160	150
Direct axis transient		x'd	31,9	28,8	26,0	36,4	33,4	31,4	30,1
Direct axis subtransient		x"d	15,1	13,6	12,3	17,2	15,8	14,8	14,2
Quadrature axis subtransient		x"q	15,7	14,2	12,8	18,0	16,5	15,5	14,8
Negative sequence		x_2	15,4	13,9	12,5	17,6	16,1	15,1	14,5
Zero sequence		x_0	4,2	3,8	3,4	4,8	4,4	4,1	4,0

TIME CONSTANTS [s]

Open circuit (T'do)	2,50	Subtransient (T"d)	0,014
Transient (T'd)	0,27	Armature (Ta)	0,032

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6328 C3 / With grease nipple
N-end bearing/Lubrication	6326 C3 / With grease nipple
Weight (IM B34) [kg]	3200
Inertia (J) (IM B34) [kgm^2]	50,5
Overspeed [min^{-1}]	1500
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	2,0 / 2,5
Degree of protection	IP 23
Type of construction available	B3
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	1,8
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 3% (under no-load or non-distorting-load condition)

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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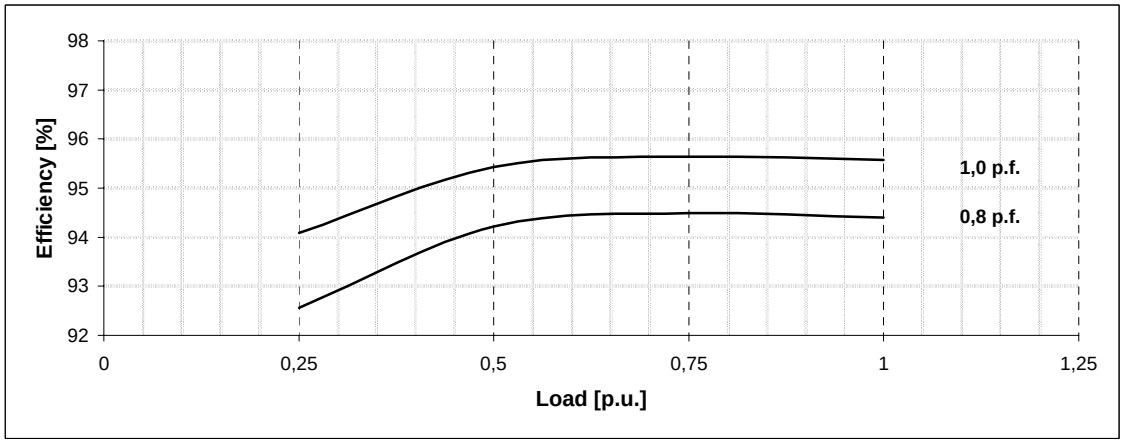
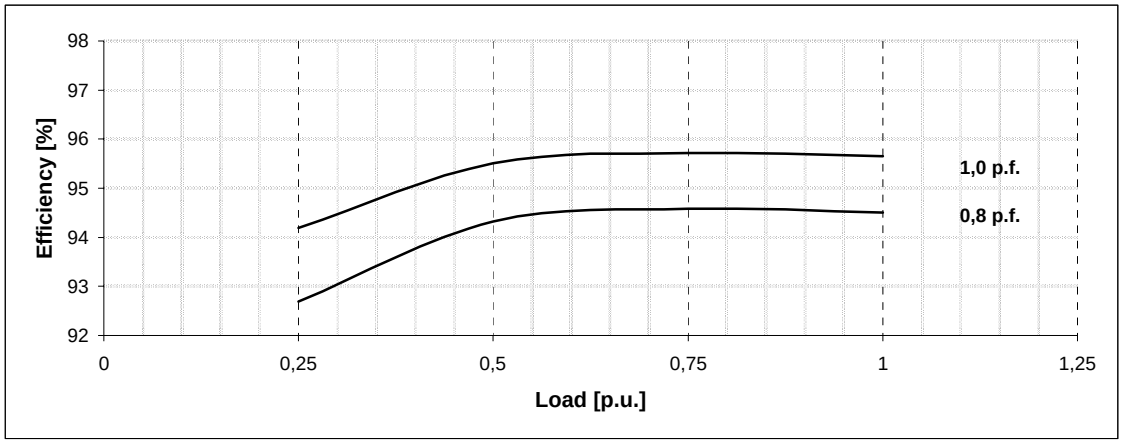
Typical efficiency curves

50 Hz - 1000 min^{-1}

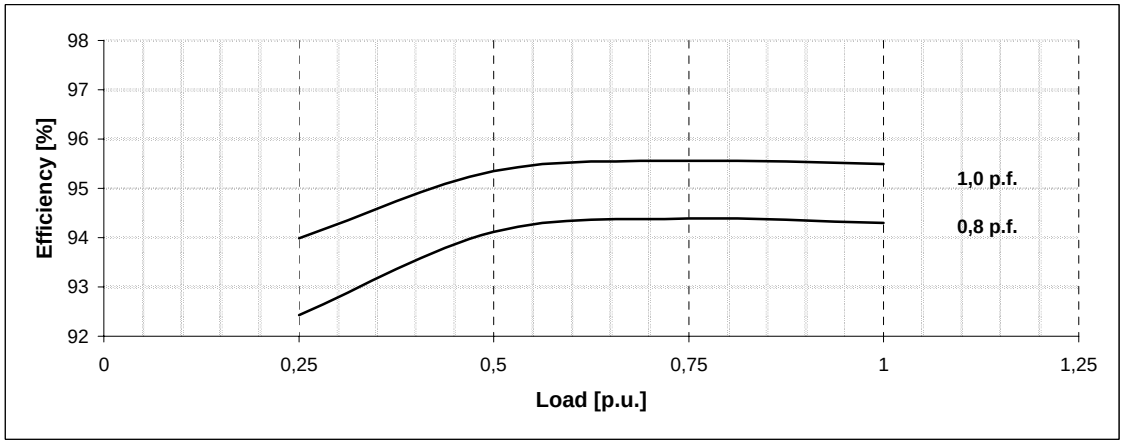
380 V



400 V



415 V



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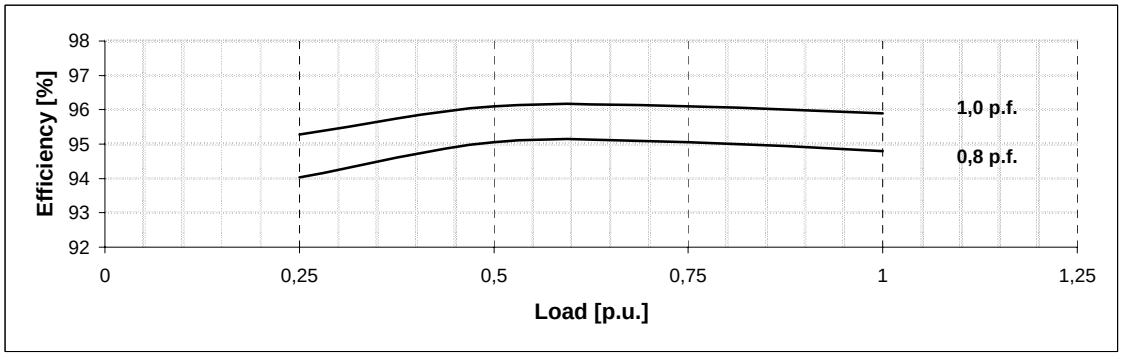
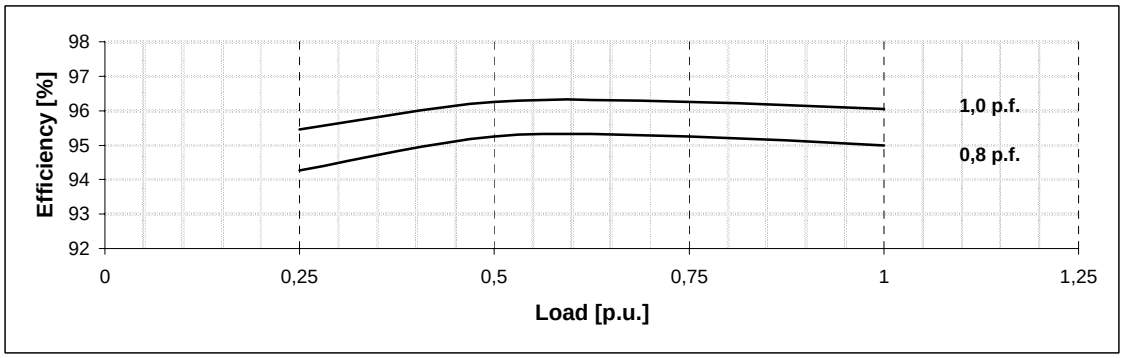
Typical efficiency curves

60 Hz - 1200 min^{-1}

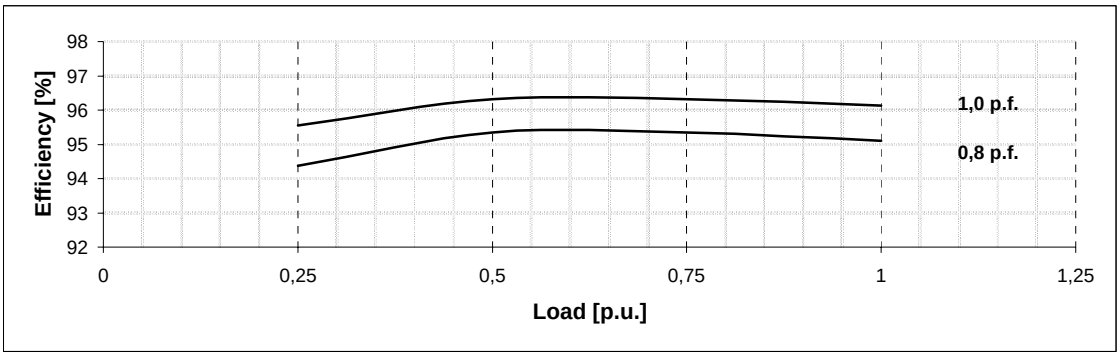
416 V



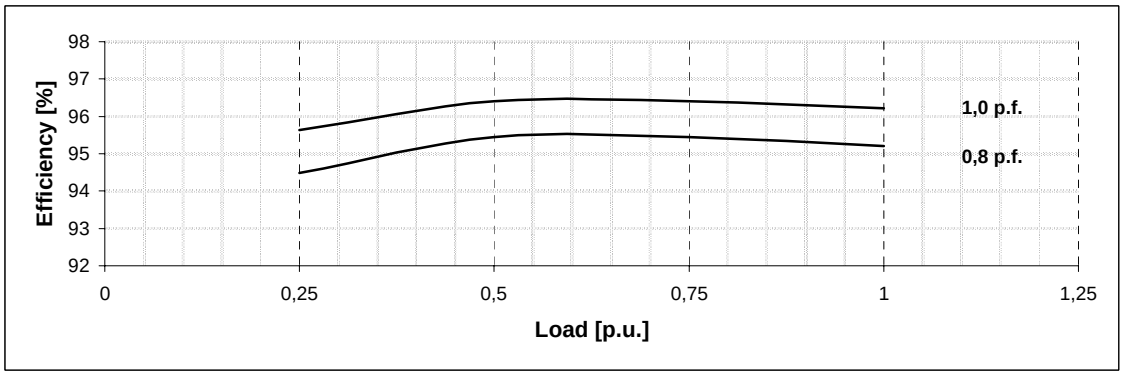
440 V



460 V



480 V



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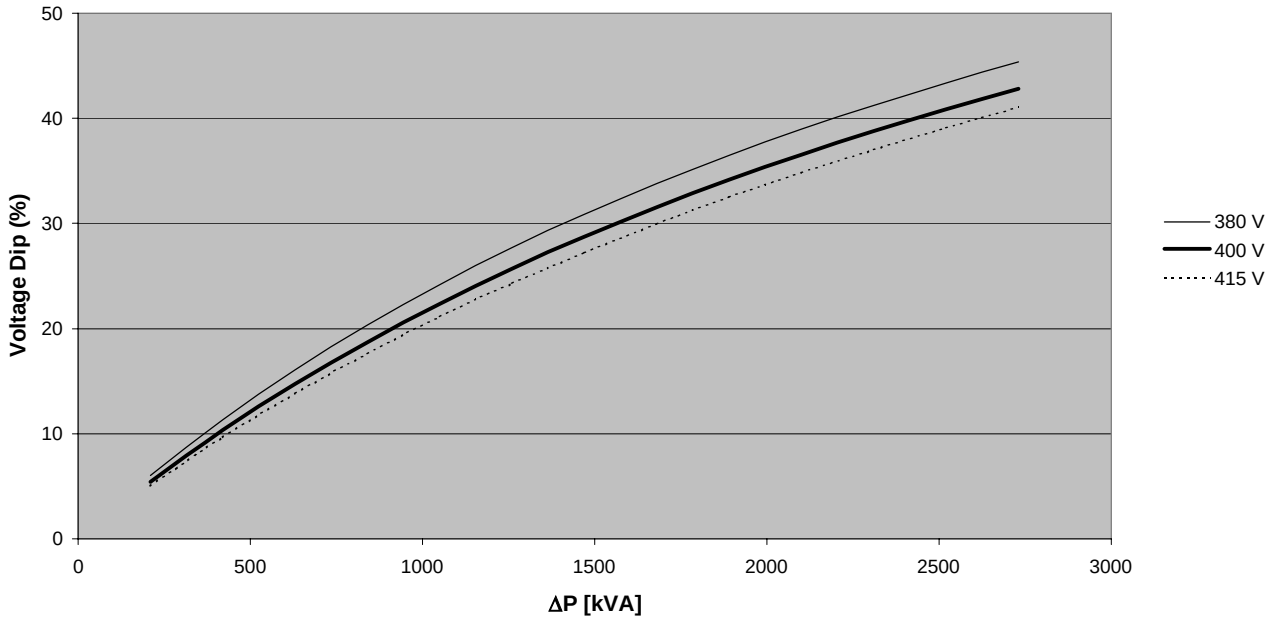
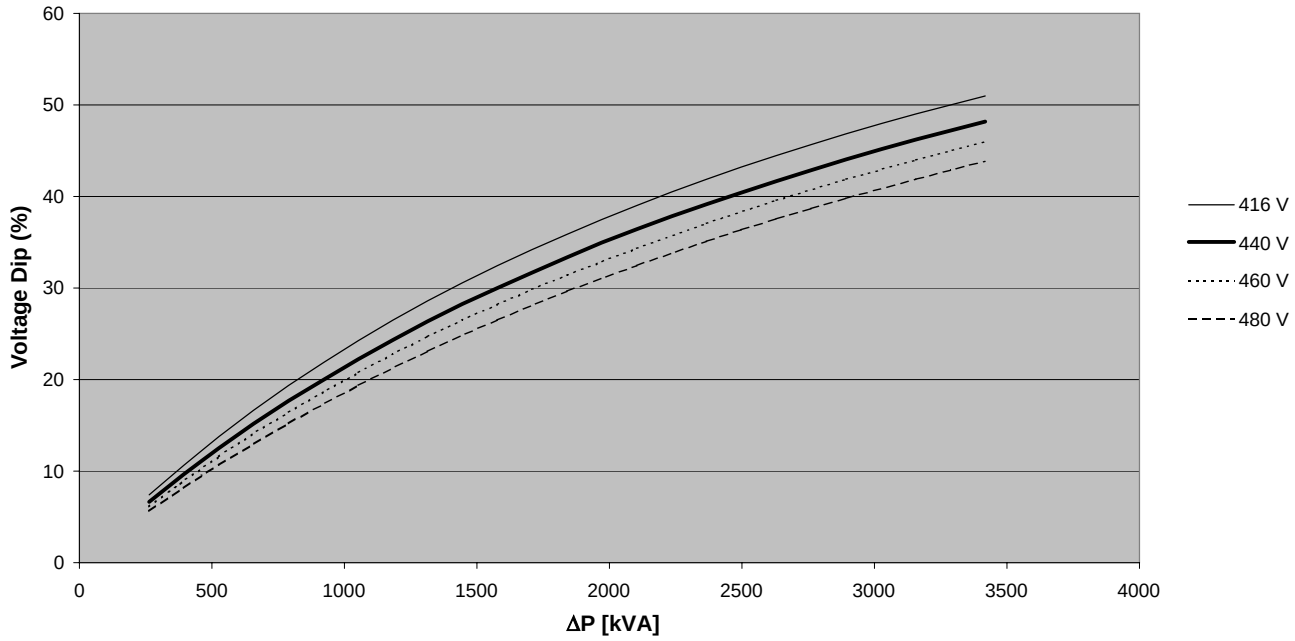
Locked rotor motor starting curves (*)

50 Hz - 1000 min^{-1}



60 Hz - 1200 min^{-1}



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

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

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 500 SC 6

6 POLES

CONTINUOUS DUTY

50 Hz-1000 min^{-1} / 60 Hz-1200 min^{-1}

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

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**1320**	**1330**	**1280**	**1516**	**1556**	**1596**	**1665**
		kW	***1056***	***1064***	***1024***	***1213***	***1245***	***1277***	***1332***
EFFICIENCY (%) @ 0,8 p.f.		4/4	94,8	94,9	94,7	95,2	95,4	95,5	95,6
		3/4	94,9	95,0	94,8	95,4	95,6	95,7	95,8
		2/4	94,6	94,7	94,5	95,4	95,6	95,7	95,8
EFFICIENCY (%) @ 1,0 p.f.		4/4	95,9	96,0	95,8	96,2	96,4	96,4	96,5
		3/4	96,0	96,0	95,9	96,4	96,6	96,6	96,7
		2/4	95,8	95,8	95,7	96,4	96,6	96,6	96,7
SHORT CIRCUIT RATIO			0,49	0,54	0,60	0,43	0,47	0,50	0,52
REACTANCES (%)									
Direct axis synchronous		xd	280	255	230	320	295	280	265
Quadrature axis synchronous		xq	155	140	125	175	160	150	145
Direct axis transient		x'd	29,7	27,0	24,1	34,1	31,3	29,4	28,2
Direct axis subtransient		x"d	14,1	12,8	11,4	16,2	14,9	13,9	13,4
Quadrature axis subtransient		x"q	14,3	13,0	11,6	16,4	15,1	14,2	13,6
Negative sequence		x_2	13,9	12,6	11,3	15,9	14,6	13,7	13,1
Zero sequence		x_0	3,8	3,5	3,1	4,4	4,1	3,8	3,7

TIME CONSTANTS [s]

Open circuit (T'do)	2,60	Subtransient (T"d)	0,014
Transient (T'd)	0,26	Armature (Ta)	0,032

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6328 C3 / With grease nipple
N-end bearing/Lubrication	6326 C3 / With grease nipple
Weight (IM B34) [kg]	3800
Inertia (J) (IM B34) [kgm^2]	64,7
Overspeed [min^{-1}]	1500
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	2,0 / 2,5
Degree of protection	IP 23
Type of construction available	B3
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	1,4
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 3% (under no-load or non-distorting-load condition)

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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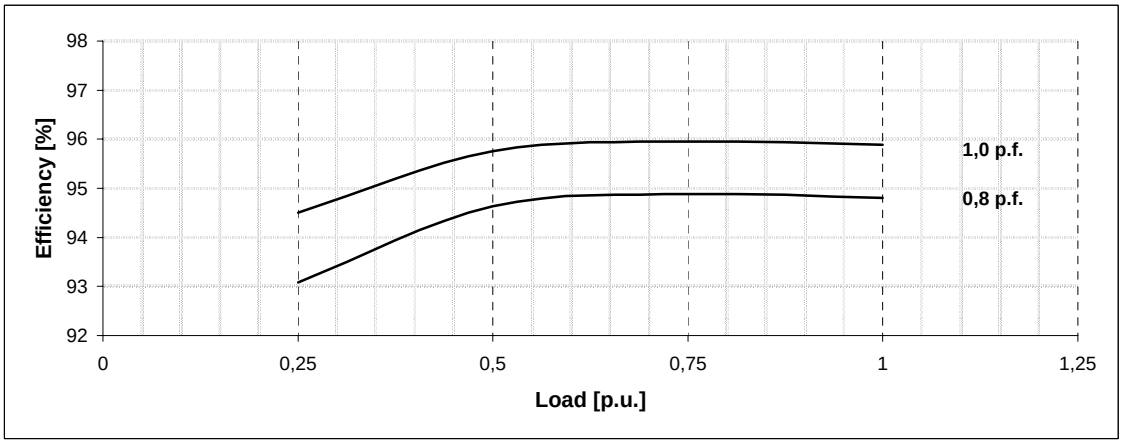
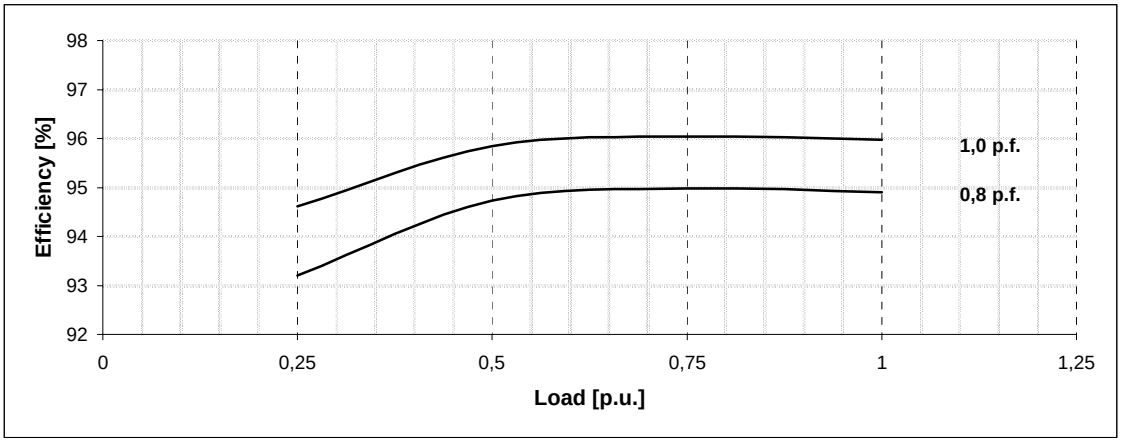
Typical efficiency curves

50 Hz - 1000 min^{-1}

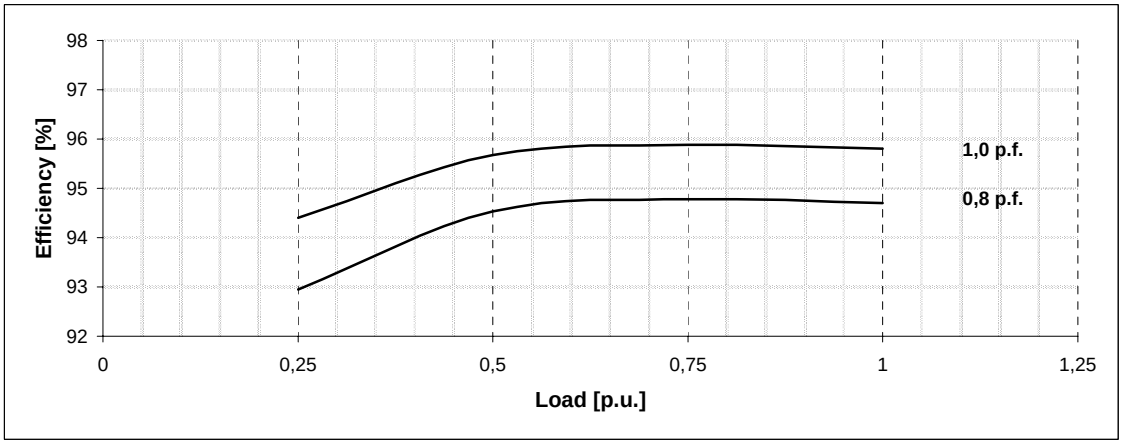
380 V



400 V



415 V



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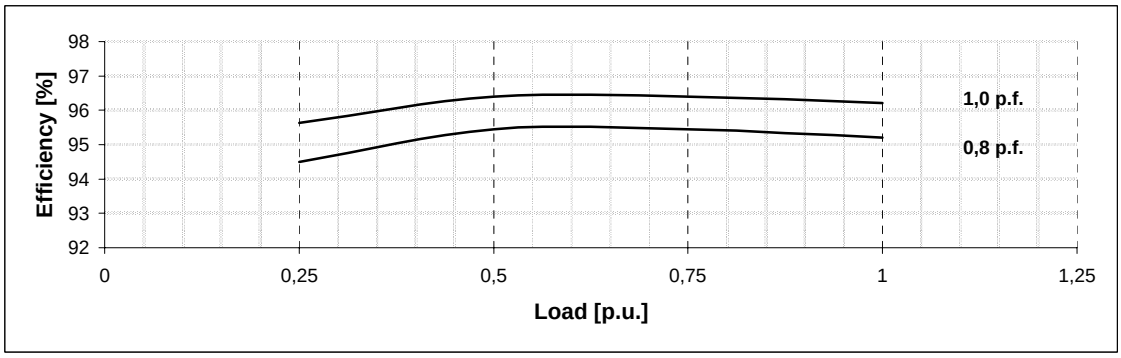
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 500 SC 6

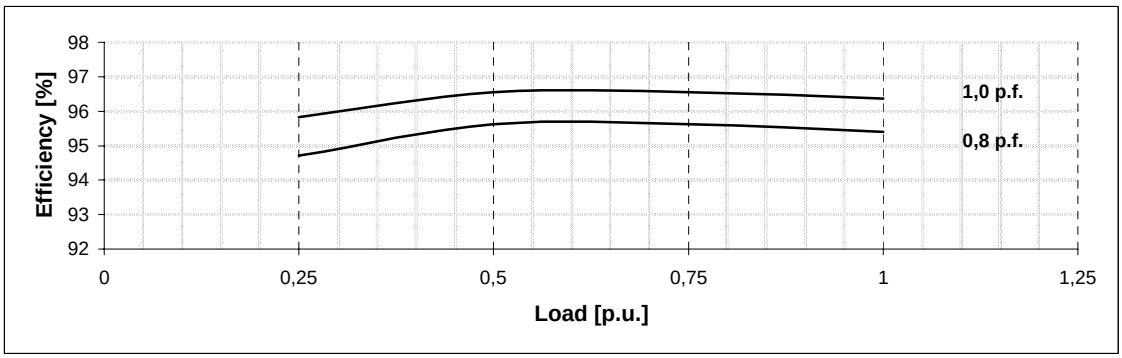
Typical efficiency curves

60 Hz - 1200 min^{-1}

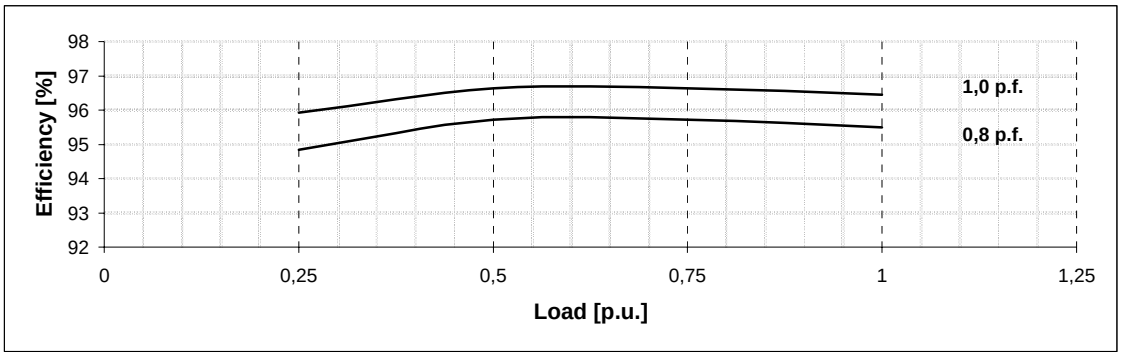
416 V



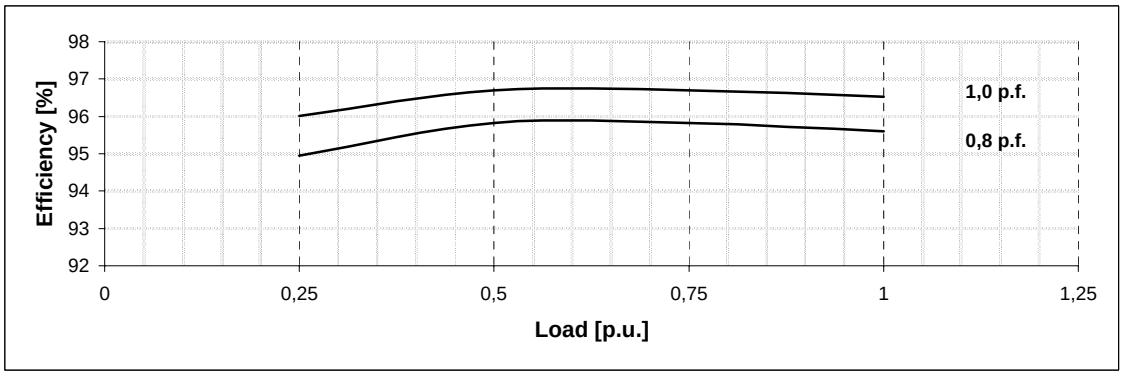
440 V



460 V



480 V



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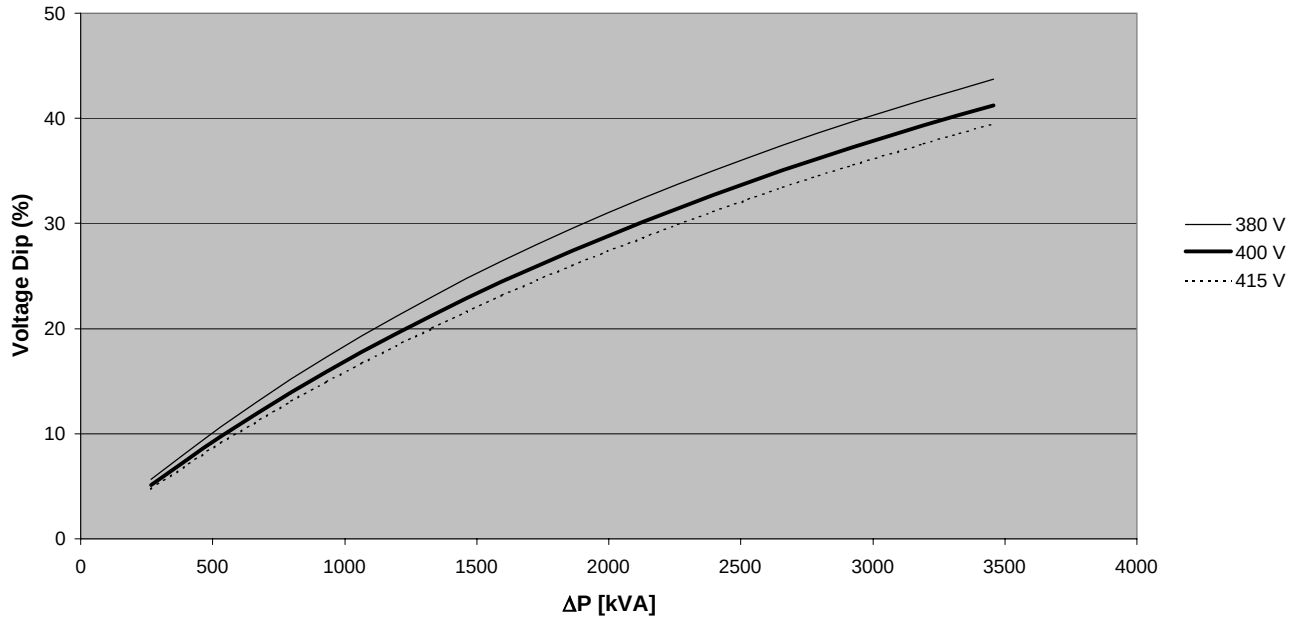
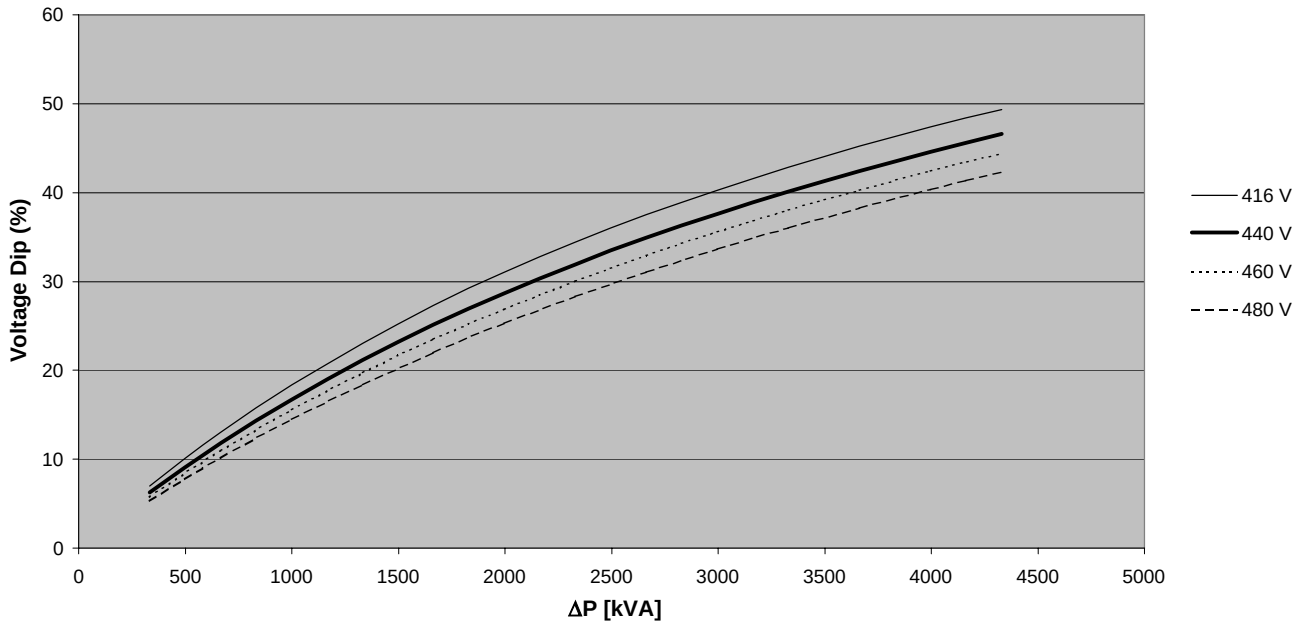
Locked rotor motor starting curves (*)

50 Hz - 1000 min^{-1}



60 Hz - 1200 min^{-1}



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

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

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 500 MB 6

6 POLES

CONTINUOUS DUTY

50 Hz-1000 min^{-1} / 60 Hz-1200 min^{-1}

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

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**1580**	**1600**	**1530**	**1824**	**1872**	**1920**	**2000**
		kW	***1264***	***1280***	***1224***	***1459***	***1498***	***1536***	***1600***
EFFICIENCY (%) @ 0,8 p.f.		4/4	95,0	95,1	94,9	95,4	95,6	95,7	95,8
		3/4	95,1	95,2	95,0	95,6	95,8	95,9	96,0
		2/4	94,8	94,9	94,7	95,6	95,8	95,9	96,0
EFFICIENCY (%) @ 1,0 p.f.		4/4	96,1	96,1	96,0	96,4	96,5	96,6	96,7
		3/4	96,1	96,2	96,0	96,6	96,7	96,8	96,9
		2/4	95,9	96,0	95,8	96,6	96,7	96,8	96,9
SHORT CIRCUIT RATIO			0,51	0,56	0,63	0,44	0,48	0,51	0,54
REACTANCES (%)									
Direct axis synchronous		xd	265	240	215	305	280	260	250
Quadrature axis synchronous		xq	150	135	120	170	155	145	140
Direct axis transient		x'd	27,4	25,0	22,2	31,6	29,0	27,2	26,0
Direct axis subtransient		x"d	12,6	11,5	10,2	14,5	13,3	12,5	12,0
Quadrature axis subtransient		x"q	12,7	11,6	10,3	14,7	13,5	12,6	12,1
Negative sequence		x_2	12,6	11,5	10,2	14,5	13,3	12,5	12,0
Zero sequence		x_0	3,5	3,2	2,8	4,0	3,7	3,5	3,3

TIME CONSTANTS [s]

Open circuit (T'do)	2,80	Subtransient (T"d)	0,013
Transient (T'd)	0,27	Armature (Ta)	0,037

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6328 C3 / With grease nipple
N-end bearing/Lubrication	6326 C3 / With grease nipple
Weight (IM B34) [kg]	4400
Inertia (J) (IM B34) [kgm^2]	73,6
Overspeed [min^{-1}]	1500
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	2,0 / 2,5
Degree of protection	IP 23
Type of construction available	B3
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	1,1
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 3% (under no-load or non-distorting-load condition)

STANDARDS

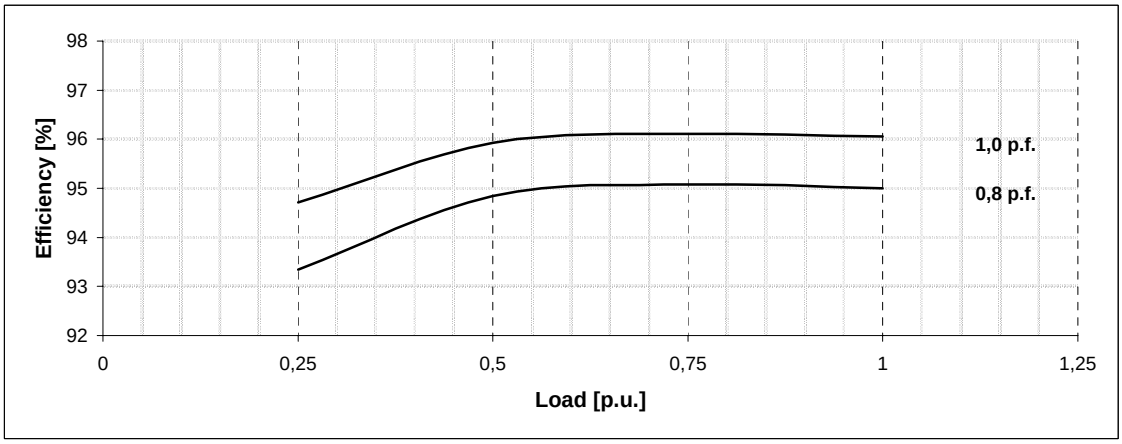
IEC 60034-1; CEI 2-3; BS 4999-5000; VDE 0530; NF 51-100,111; OVE M-10; NEMA MG 1.22.

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

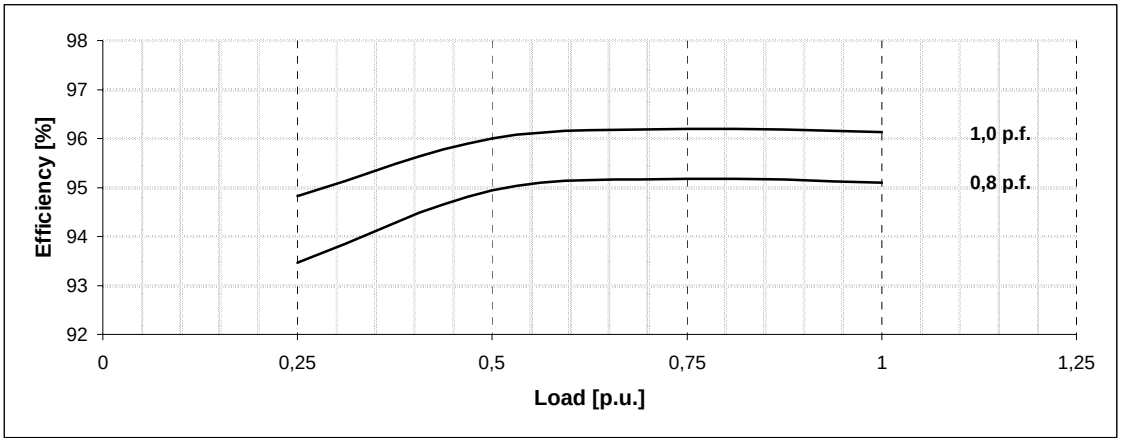
Typical efficiency curves

50 Hz - 1000 min^{-1}

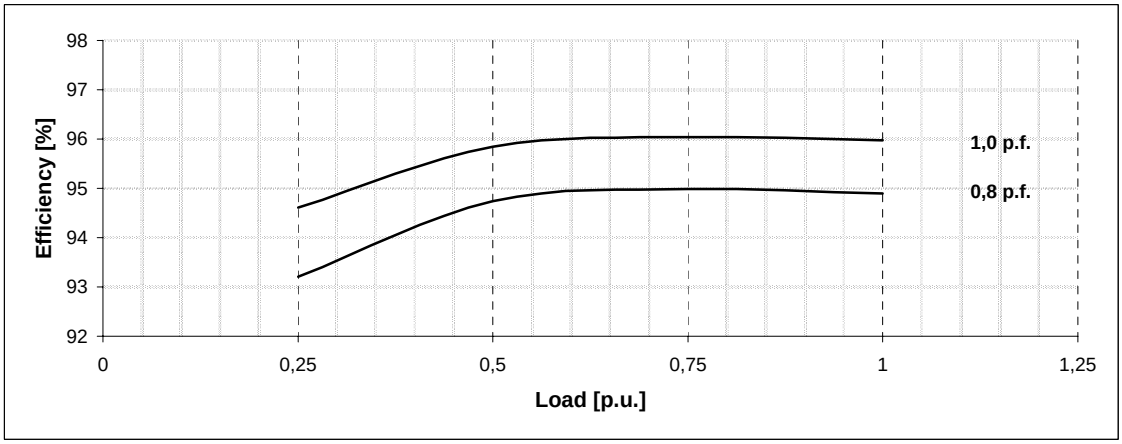
380 V



400 V



415 V



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

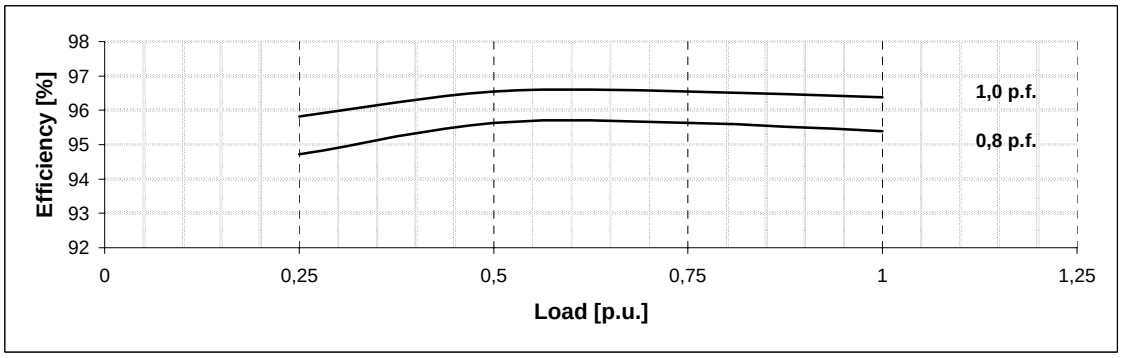
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 500 MB 6

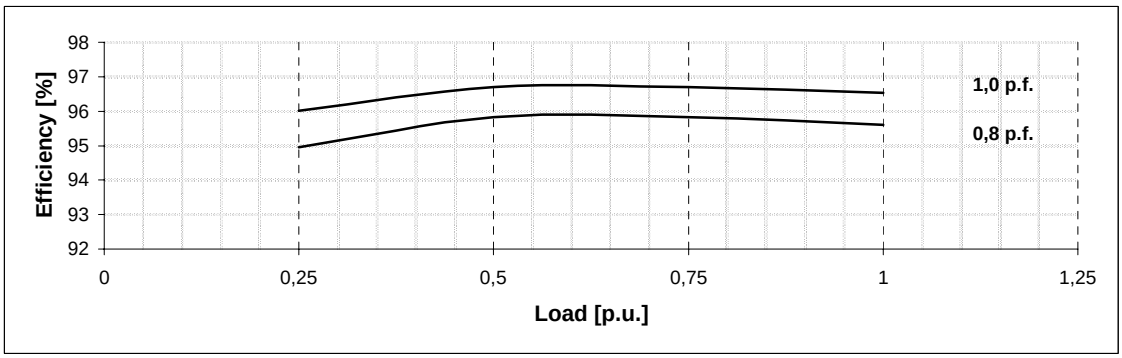
Typical efficiency curves

60 Hz - 1200 min^{-1}

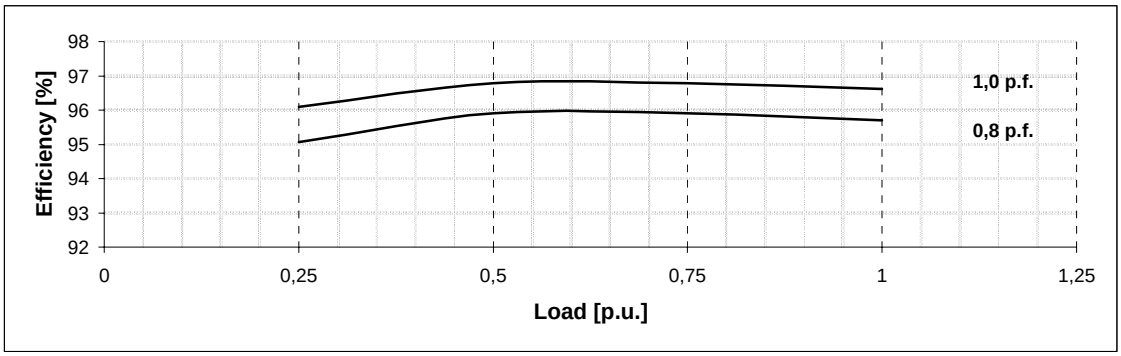
416 V



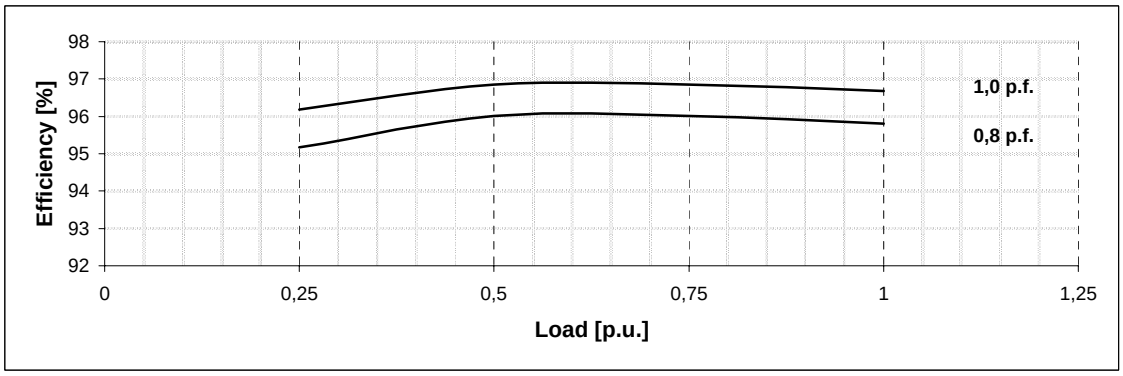
440 V



460 V



480 V



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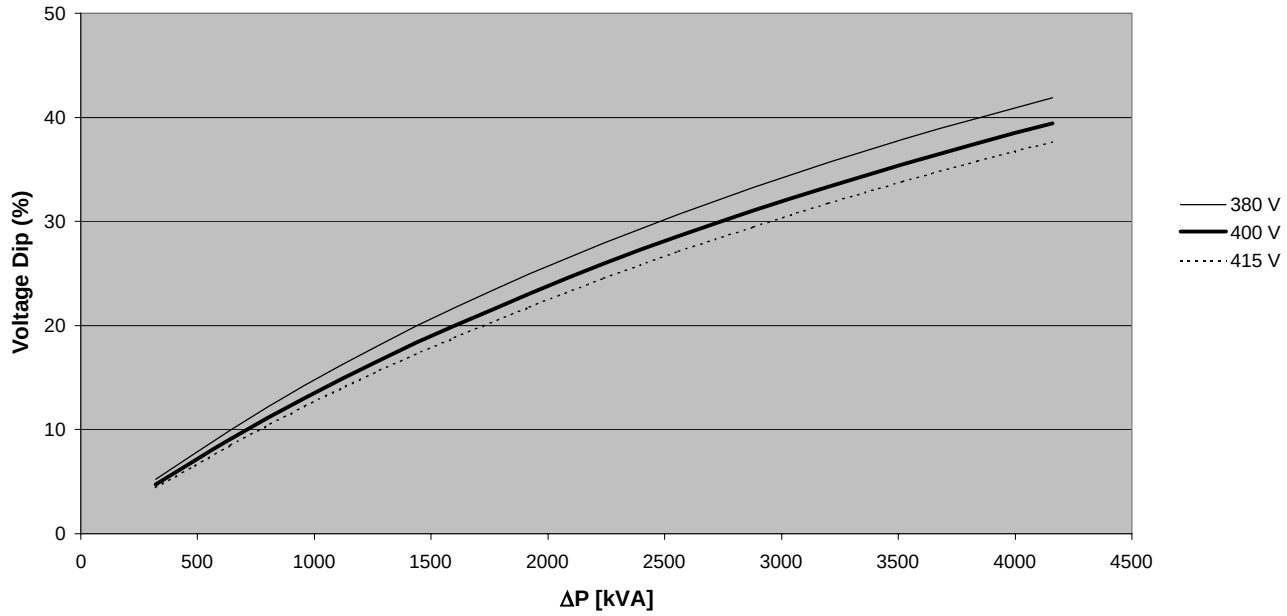
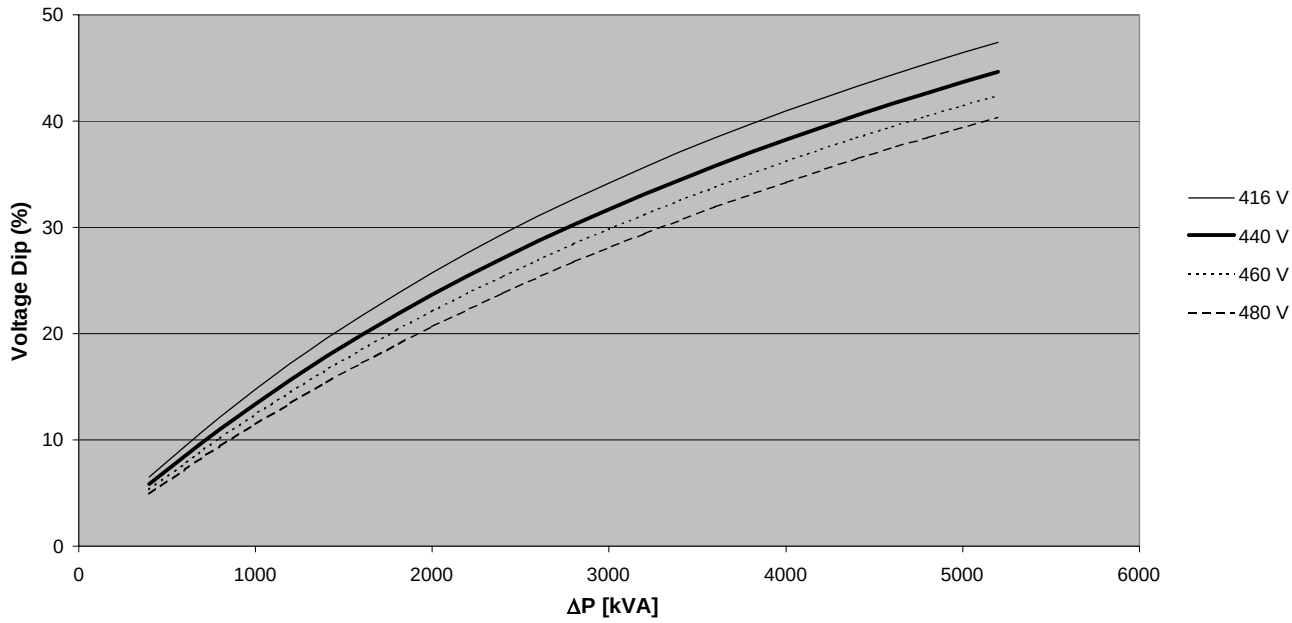
Locked rotor motor starting curves (*)

50 Hz - 1000 min^{-1}



60 Hz - 1200 min^{-1}



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

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

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 500 LA 6

6 POLES

50 Hz-1000 min^{-1} / 60 Hz-1200 min^{-1}

CONTINUOUS DUTY

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

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**1850**	**1870**	**1780**	**2132**	**2188**	**2244**	**2340**
		kW	***1480***	***1496***	***1424***	***1706***	***1750***	***1795***	***1872***
EFFICIENCY (%) @ 0,8 p.f.		4/4	95,2	95,3	95,1	95,6	95,8	95,9	96,0
		3/4	95,3	95,4	95,2	95,8	96,0	96,1	96,2
		2/4	95,0	95,1	94,9	95,8	96,0	96,1	96,2
EFFICIENCY (%) @ 1,0 p.f.		4/4	96,2	96,3	96,1	96,5	96,7	96,8	96,8
		3/4	96,3	96,4	96,2	96,7	96,9	96,9	97,0
		2/4	96,1	96,2	96,0	96,7	96,9	96,9	97,0
SHORT CIRCUIT RATIO			0,53	0,58	0,66	0,46	0,50	0,53	0,56
REACTANCES (%)									
Direct axis synchronous		xd	250	230	205	290	265	250	240
Quadrature axis synchronous		xq	145	130	115	165	150	140	135
Direct axis transient		x'd	25,2	23,0	20,3	29,1	26,7	25,0	24,0
Direct axis subtransient		x"d	11,4	10,4	9,2	13,2	12,1	11,3	10,8
Quadrature axis subtransient		x"q	11,8	10,8	9,6	13,7	12,5	11,8	11,3
Negative sequence		x_2	11,6	10,6	9,4	13,4	12,3	11,5	11,1
Zero sequence		x_0	3,2	2,9	2,6	3,7	3,4	3,2	3,0

TIME CONSTANTS [s]

Open circuit (T'do)	3,00	Subtransient (T"d)	0,014
Transient (T'd)	0,28	Armature (Ta)	0,04

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6328 C3 / With grease nipple
N-end bearing/Lubrication	6326 C3 / With grease nipple
Weight (IM B34) [kg]	5100
Inertia (J) (IM B34) [kgm^2]	88,9
Overspeed [min^{-1}]	1500
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	2,0 / 2,5
Degree of protection	IP 23
Type of construction available	B3
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	0,72
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 3% (under no-load or non-distorting-load condition)

STANDARDS

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

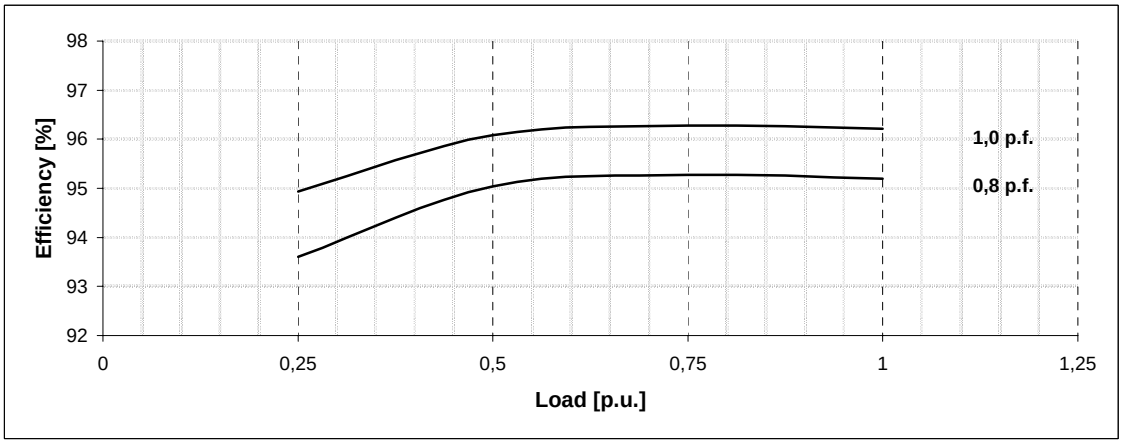
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

MarelliGenerators

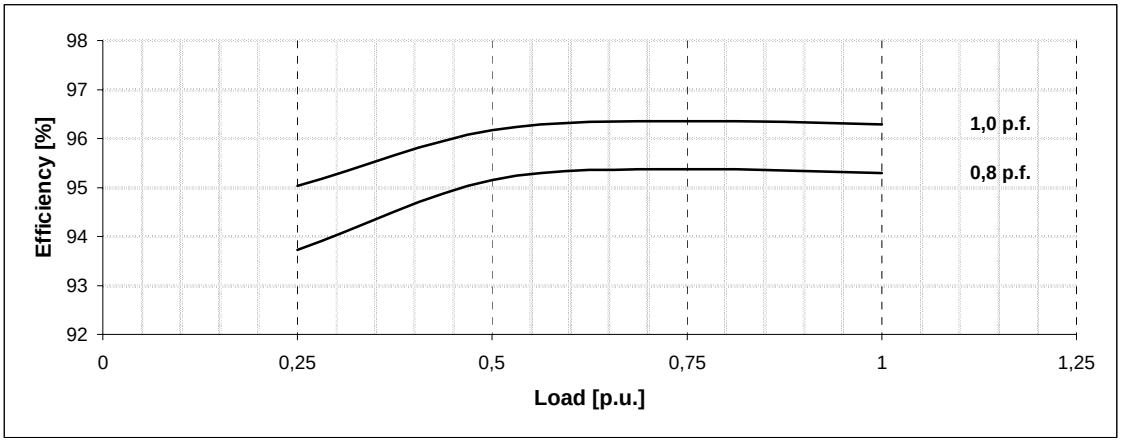
Typical efficiency curves

50 Hz - 1000 min^{-1}

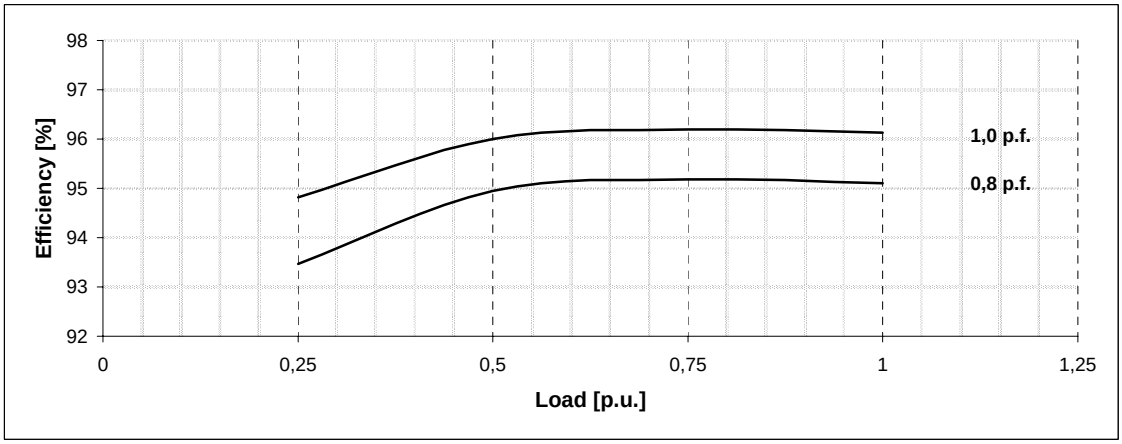
380 V



400 V



415 V



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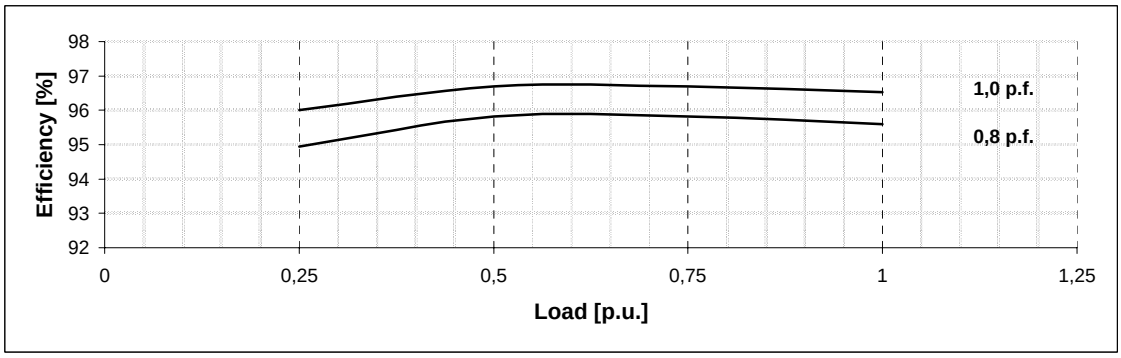
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 500 LA 6

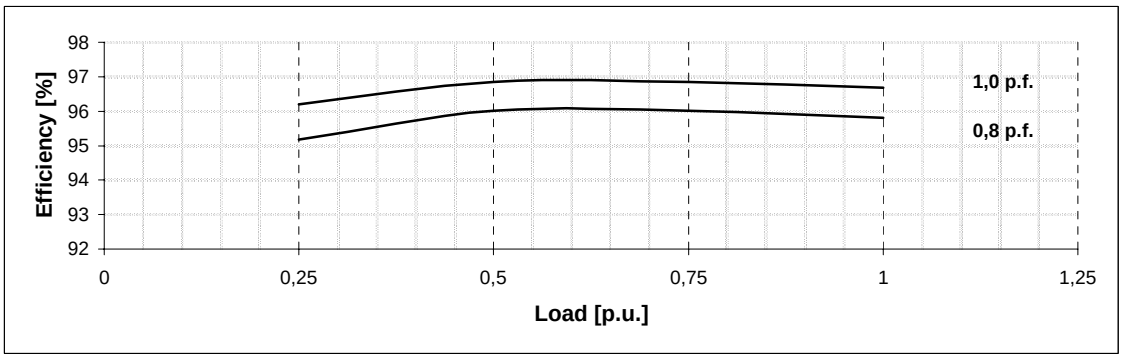
Typical efficiency curves

60 Hz - 1200 min^{-1}

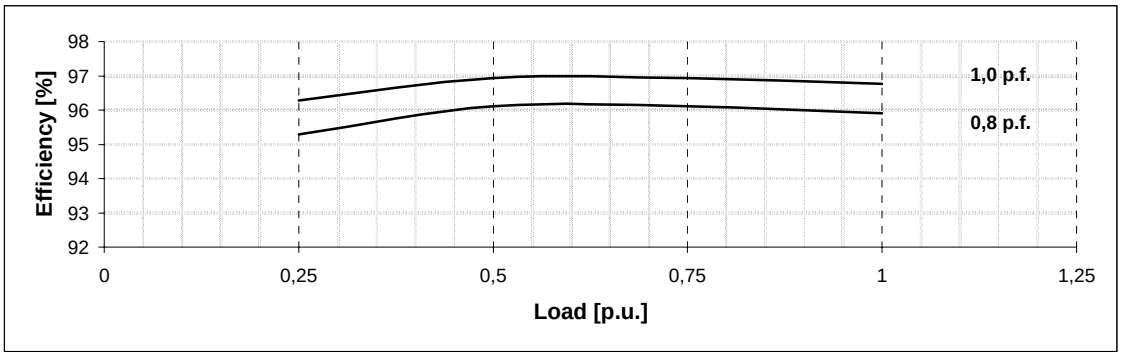
416 V



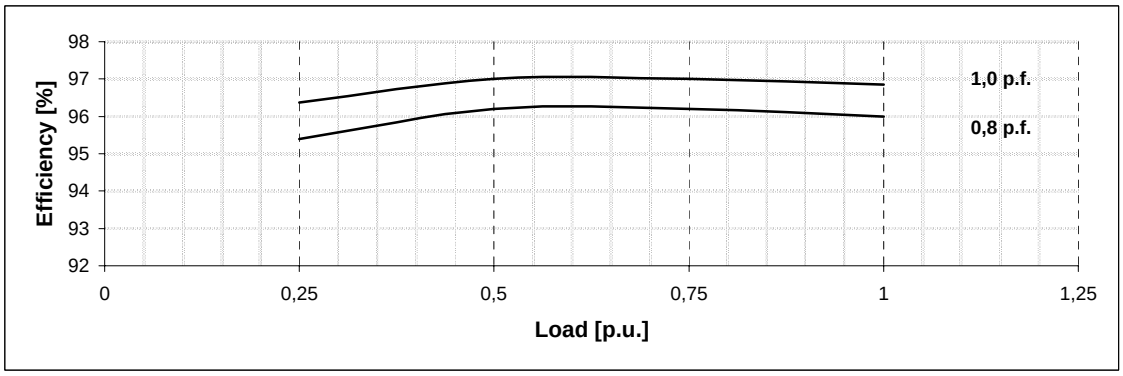
440 V



460 V



480 V



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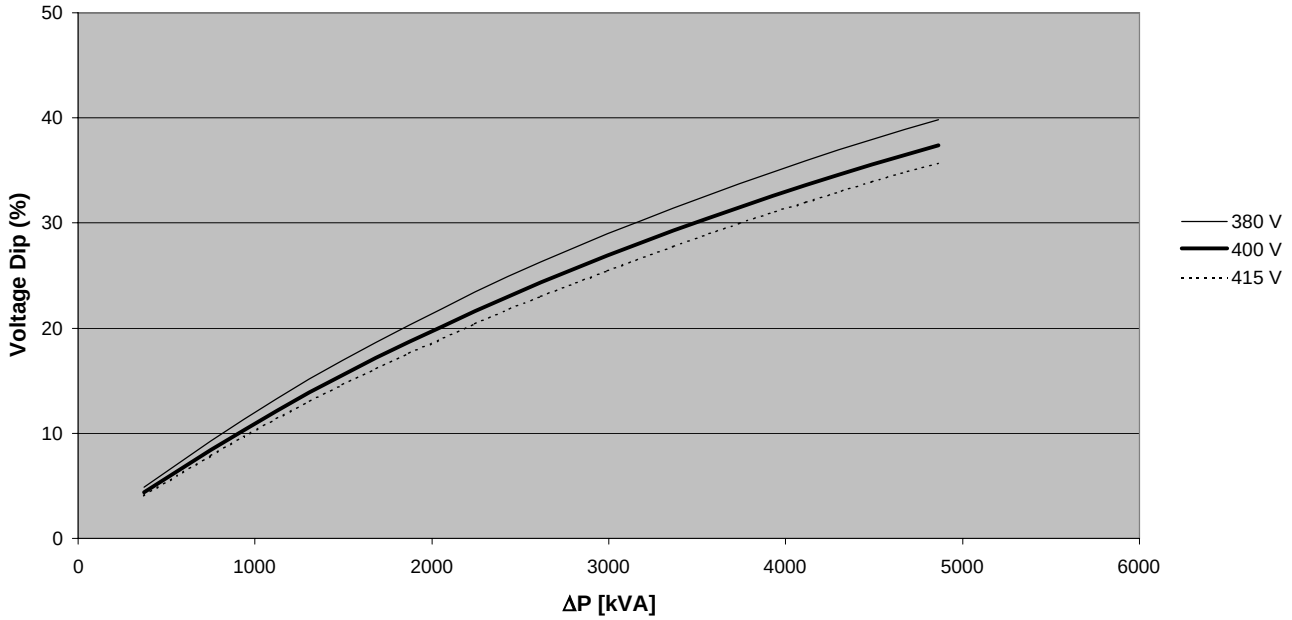
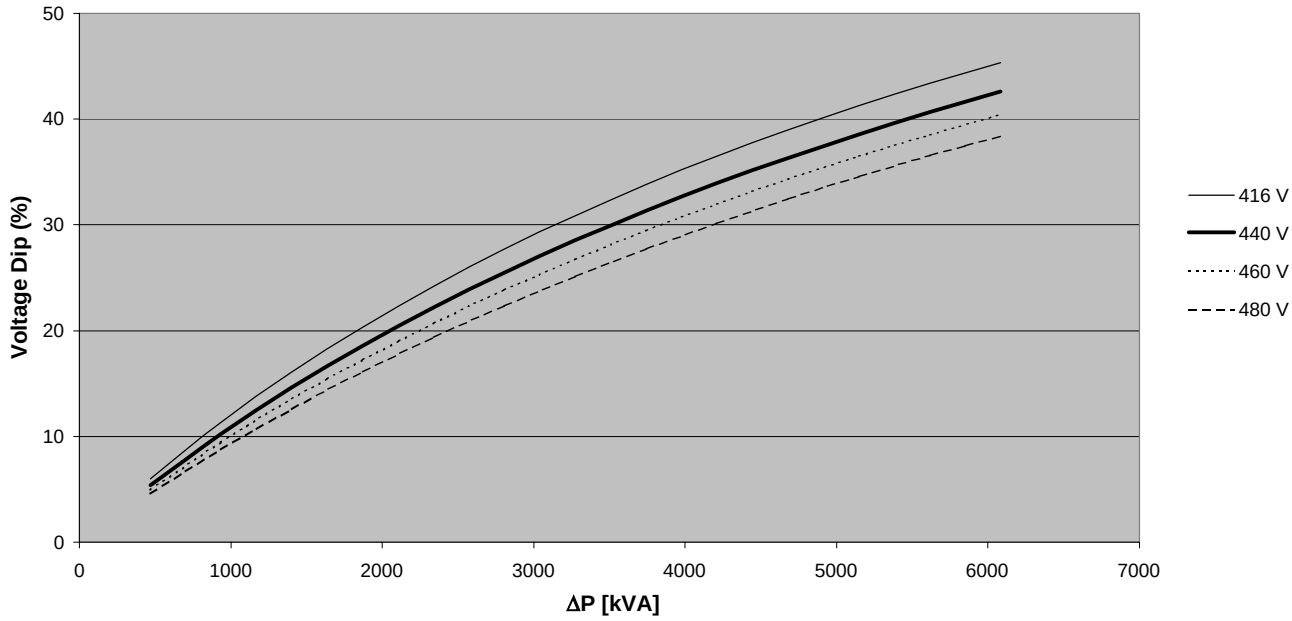
Locked rotor motor starting curves (*)

50 Hz - 1000 min^{-1}



60 Hz - 1200 min^{-1}



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

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

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 SA 8

8 POLES

CONTINUOUS DUTY

50 Hz-750 min^{-1} / 60 Hz-900 min^{-1}

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

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**240**	**240**	**230**	**274**	**281**	**288**	**300**
		kW	***192***	***192***	***184***	***219***	***225***	***230***	***240***
EFFICIENCY (%) @ 0,8 p.f.		4/4	91,4	91,5	91,4	91,6	91,8	91,9	92,0
		3/4	91,5	91,6	91,5	92,0	92,2	92,3	92,4
		2/4	91,1	91,2	91,1	92,0	92,2	92,3	92,4
EFFICIENCY (%) @ 1,0 p.f.		4/4	93,2	93,2	93,2	93,3	93,5	93,6	93,6
		3/4	93,3	93,3	93,3	93,6	93,8	93,9	94,0
		2/4	92,9	93,0	92,9	93,6	93,8	93,9	94,0
SHORT CIRCUIT RATIO			0,43	0,48	0,54	0,38	0,41	0,44	0,46
REACTANCES (%)									
Direct axis synchronous		xd	315	285	250	360	330	310	295
Quadrature axis synchronous		xq	175	160	140	200	185	170	165
Direct axis transient		x'd	40,9	37,0	32,9	46,8	42,9	40,2	38,5
Direct axis subtransient		x"d	20,2	18,3	16,3	23,1	21,2	19,9	19,0
Quadrature axis subtransient		x"q	21,2	19,1	17,0	24,2	22,2	20,8	19,9
Negative sequence		x_2	20,7	18,7	16,6	23,7	21,7	20,3	19,5
Zero sequence		x_0	6,0	5,4	4,8	6,8	6,3	5,9	5,6

TIME CONSTANTS [s]

Open circuit (T'do)	1,48	Subtransient (T"d)	0,018
Transient (T'd)	0,18	Armature (Ta)	0,019

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	1450
Inertia (J) (IM B34) [kgm^2]	13,5
Overspeed [min^{-1}]	1500
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,0 / 1,25
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	0,0196
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 3% (under no-load or non-distorting-load condition)

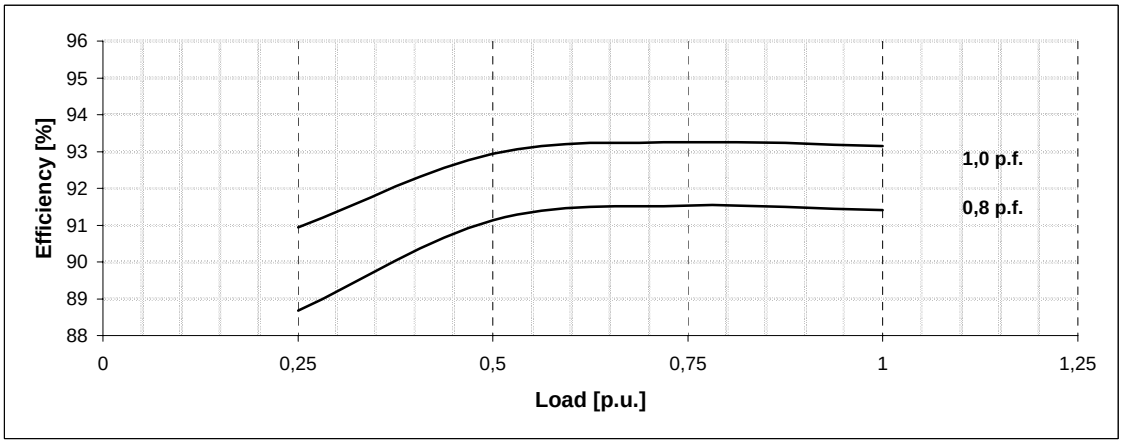
STANDARDS

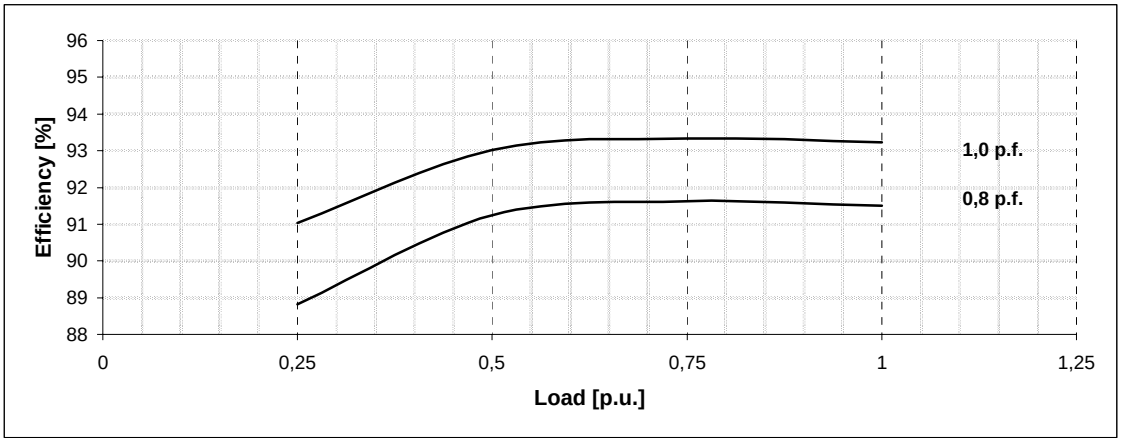
IEC 60034-1; CEI 2-3; BS 4999-5000; VDE 0530; NF 51-100,111; OVE M-10; NEMA MG 1.22.

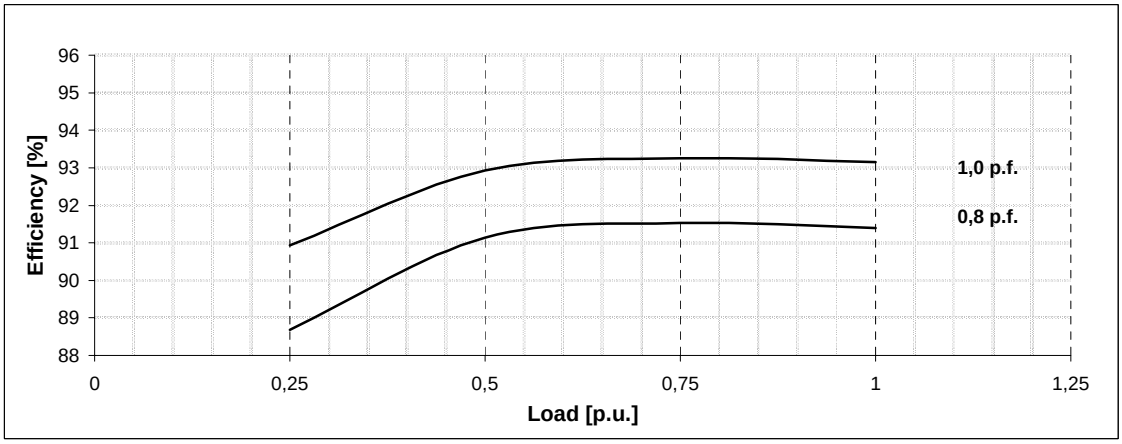
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

Typical efficiency curves

50 Hz - 750 min^{-1}







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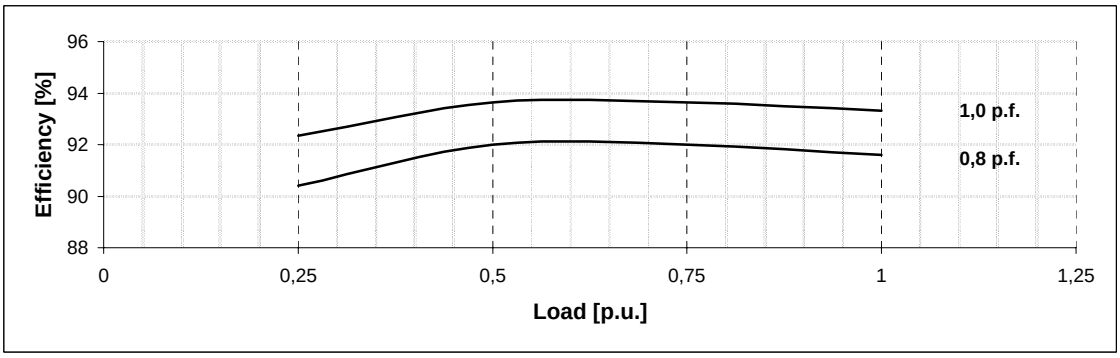
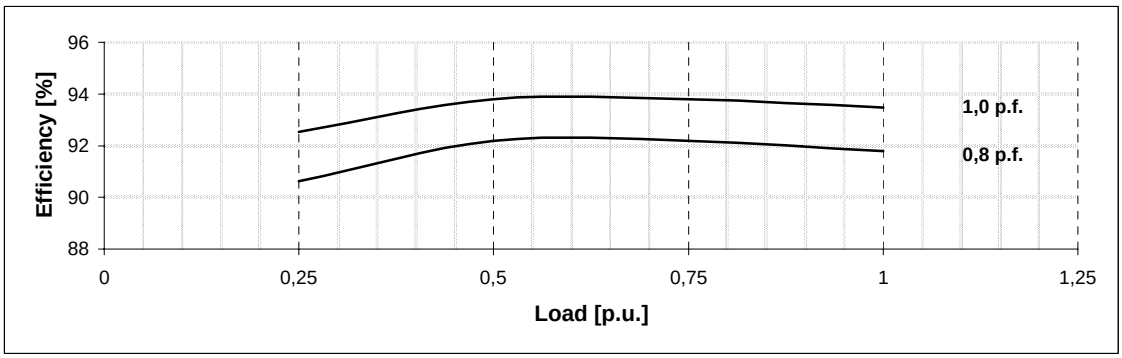
THREE-PHASE SYNCHRONOUS GENERATOR

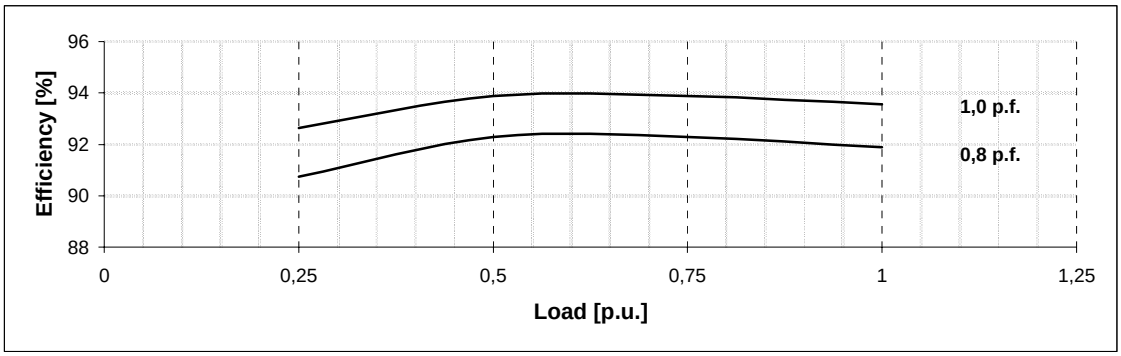
MJB 400 SA 8

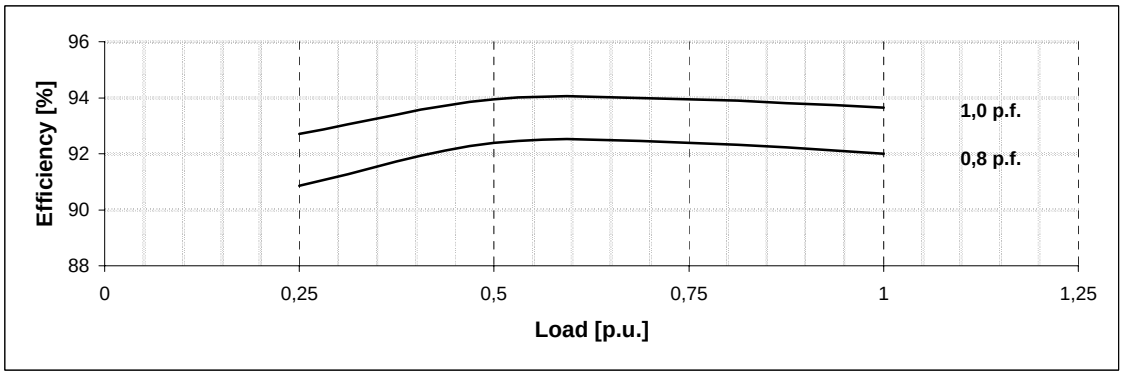
Typical efficiency curves

60 Hz - 900 min^{-1}









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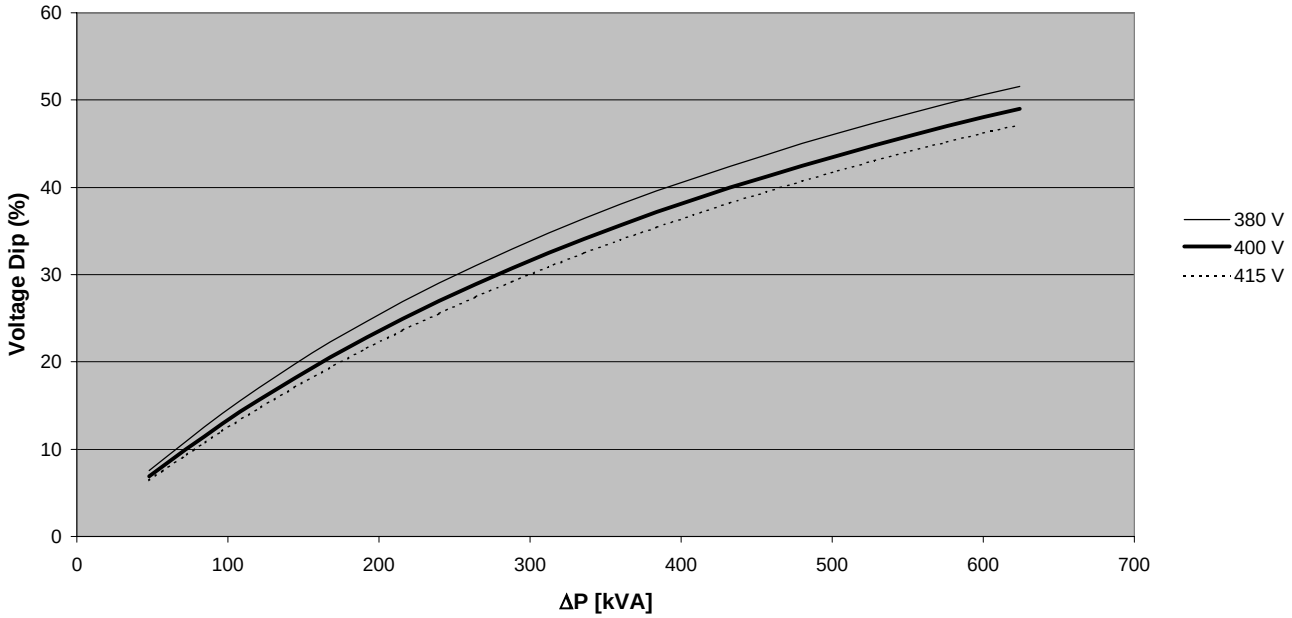
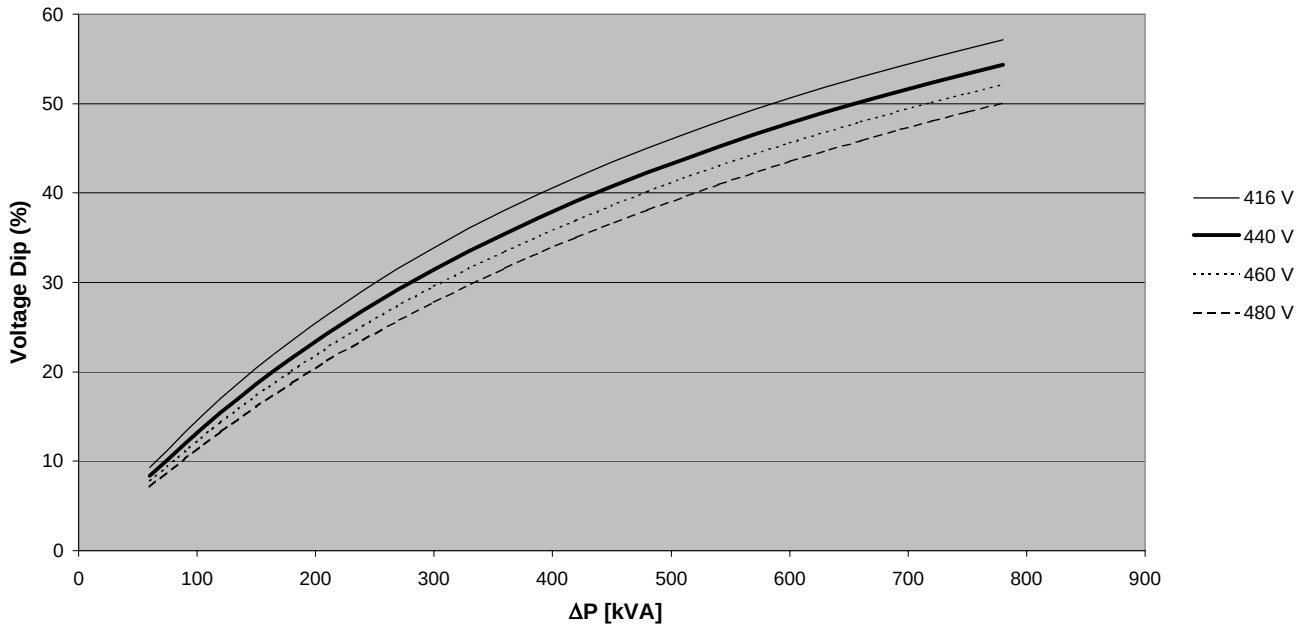
Locked rotor motor starting curves (*)

50 Hz - 750 min^{-1}



60 Hz - 900 min^{-1}



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

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

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 SB 8

8 POLES

CONTINUOUS DUTY

50 Hz-750 min^{-1} / 60 Hz-900 min^{-1}

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

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**305**	**310**	**300**	**364**	**374**	**384**	**400**
		kW	***244***	***248***	***240***	***291***	***299***	***307***	***320***
EFFICIENCY (%) @ 0,8 p.f.		4/4	91,9	92,0	91,9	92,1	92,3	92,4	92,5
		3/4	92,0	92,1	92,0	92,5	92,7	92,8	92,9
		2/4	91,6	91,8	91,6	92,5	92,7	92,8	92,9
EFFICIENCY (%) @ 1,0 p.f.		4/4	93,6	93,6	93,6	93,7	93,9	94,0	94,0
		3/4	93,7	93,7	93,7	94,0	94,2	94,3	94,3
		2/4	93,4	93,4	93,4	94,0	94,2	94,3	94,3
SHORT CIRCUIT RATIO			0,45	0,49	0,55	0,38	0,41	0,44	0,46
REACTANCES (%)									
Direct axis synchronous		xd	310	285	255	370	340	320	305
Quadrature axis synchronous		xq	170	160	140	205	190	175	170
Direct axis transient		x'd	52,1	47,8	43,0	62,3	57,2	53,7	51,4
Direct axis subtransient		x"d	19,3	17,7	15,9	23,1	21,2	19,9	19,0
Quadrature axis subtransient		x"q	20,2	18,5	16,7	24,2	22,2	20,8	19,9
Negative sequence		x_2	19,7	18,1	16,3	23,6	21,6	20,3	19,5
Zero sequence		x_0	5,5	5,1	4,6	6,6	6,1	5,7	5,4

TIME CONSTANTS [s]

Open circuit (T'do)	1,57	Subtransient (T"d)	0,018
Transient (T'd)	0,19	Armature (Ta)	0,019

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	1600
Inertia (J) (IM B34) [kgm^2]	16,2
Overspeed [min^{-1}]	1500
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,0 / 1,25
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	0,0147
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 3% (under no-load or non-distorting-load condition)

STANDARDS

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

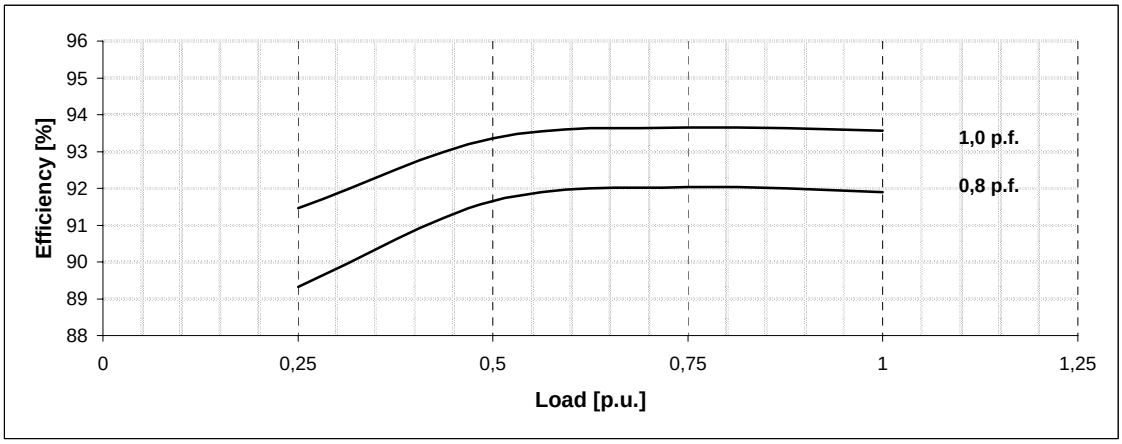
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

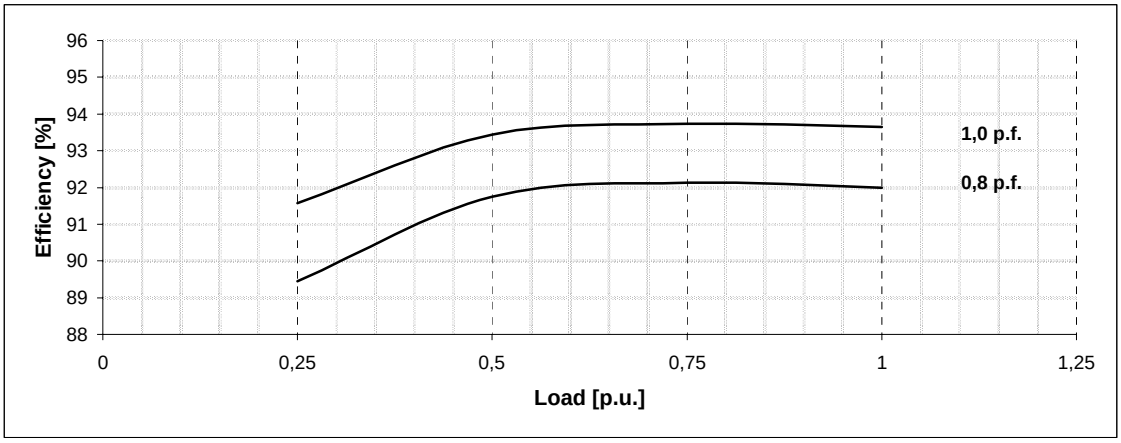
THREE-PHASE SYNCHRONOUS GENERATOR

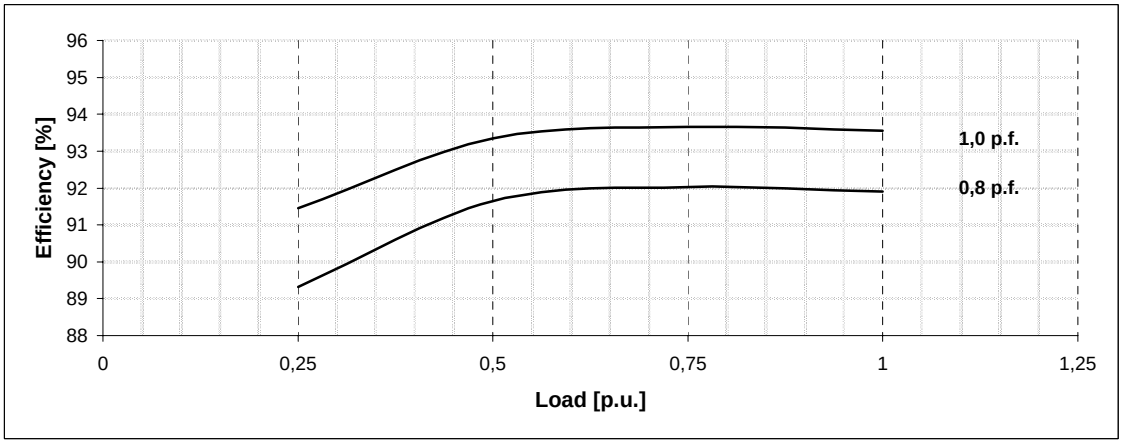
MJB 400 SB 8

Typical efficiency curves

50 Hz - 750 min^{-1}



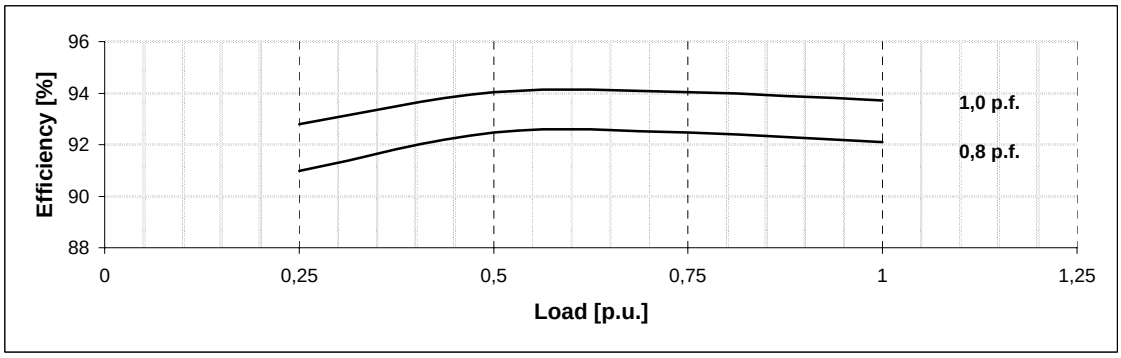


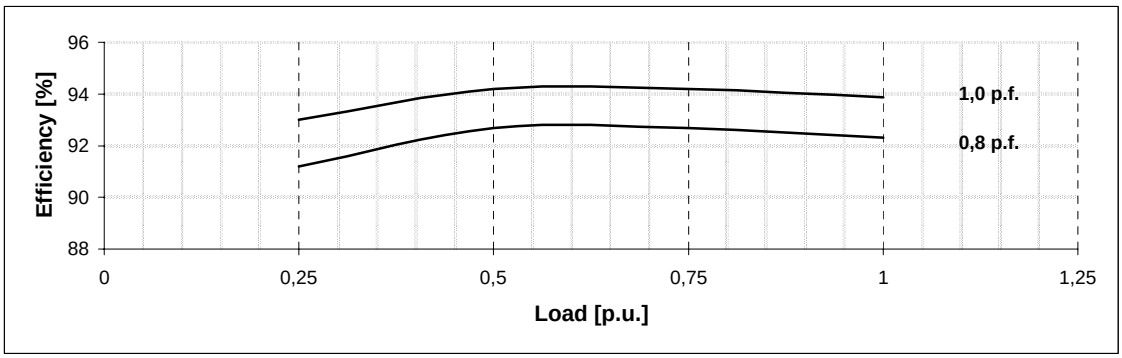


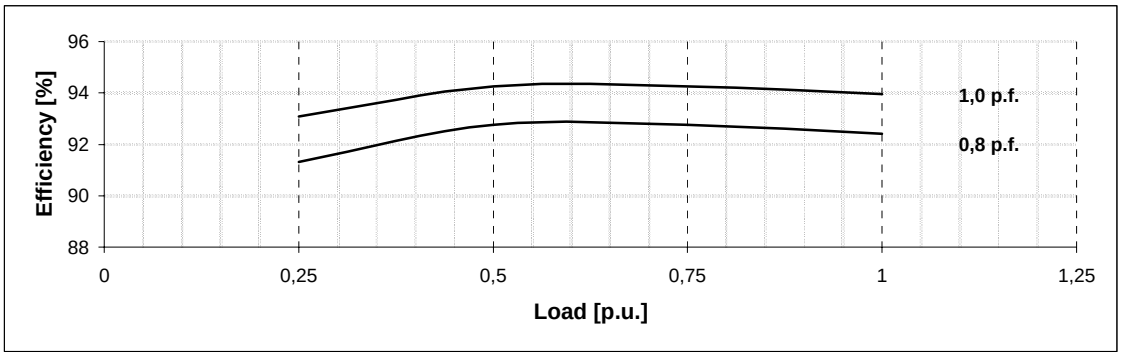
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

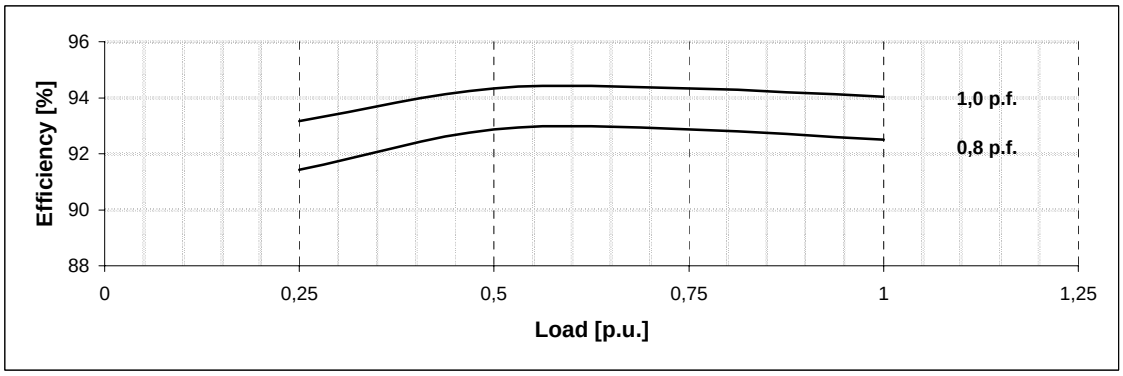
Typical efficiency curves

60 Hz - 900 min^{-1}









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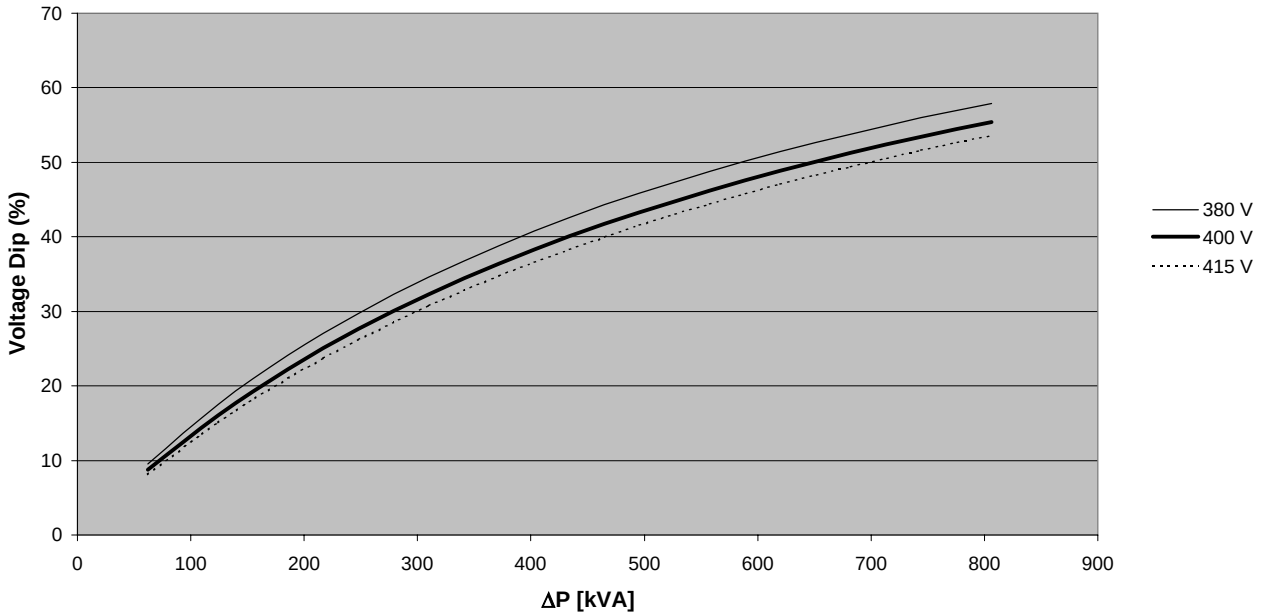
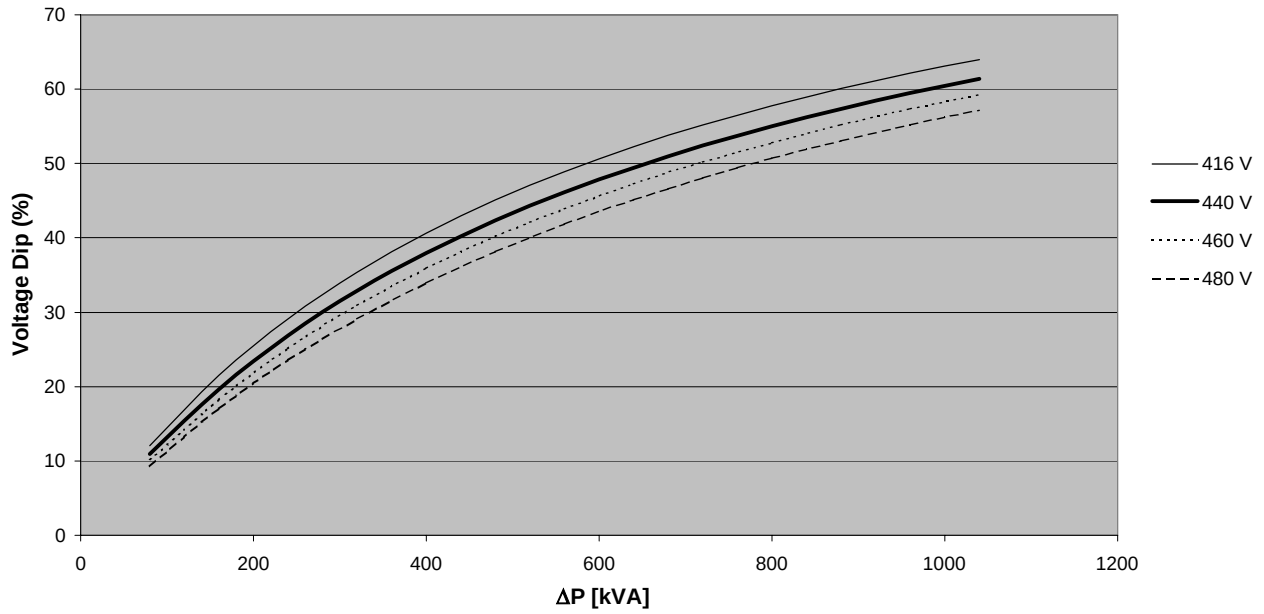
Locked rotor motor starting curves (*)

50 Hz - 750 min^{-1}



60 Hz - 900 min^{-1}



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

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

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 SC 8

8 POLES

CONTINUOUS DUTY

50 Hz-750 min^{-1} / 60 Hz-900 min^{-1}

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

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**350**	**360**	**350**	**410**	**421**	**432**	**450**
		kW	***280***	***288***	***280***	***328***	***337***	***346***	***360***
EFFICIENCY (%) @ 0,8 p.f.		4/4	92,2	92,3	92,2	92,4	92,6	92,7	92,8
		3/4	92,3	92,4	92,3	92,8	93,0	93,1	93,2
		2/4	92,0	92,1	92,0	92,8	93,0	93,1	93,2
EFFICIENCY (%) @ 1,0 p.f.		4/4	93,8	93,9	93,8	94,0	94,1	94,2	94,3
		3/4	93,9	94,0	93,9	94,3	94,4	94,5	94,6
		2/4	93,6	93,7	93,6	94,3	94,4	94,5	94,6
SHORT CIRCUIT RATIO			0,45	0,48	0,53	0,38	0,41	0,44	0,46
REACTANCES (%)									
Direct axis synchronous		xd	305	285	255	360	330	310	295
Quadrature axis synchronous		xq	170	160	145	200	185	175	165
Direct axis transient		x'd	37,7	35,0	31,6	44,2	40,6	38,1	36,5
Direct axis subtransient		x"d	19,8	18,4	16,6	23,2	21,3	20,0	19,2
Quadrature axis subtransient		x"q	20,7	19,2	17,3	24,3	22,3	20,9	20,0
Negative sequence		x_2	20,3	18,8	17,0	23,8	21,8	20,5	19,6
Zero sequence		x_0	5,4	5,0	4,5	6,3	5,8	5,4	5,2

TIME CONSTANTS [s]

Open circuit (T'do)	1,64	Subtransient (T"d)	0,018
Transient (T'd)	0,19	Armature (Ta)	0,02

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	1800
Inertia (J) (IM B34) [kgm^2]	19,1
Overspeed [min^{-1}]	1500
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,0 / 1,25
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	0,0098
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 3% (under no-load or non-distorting-load condition)

STANDARDS

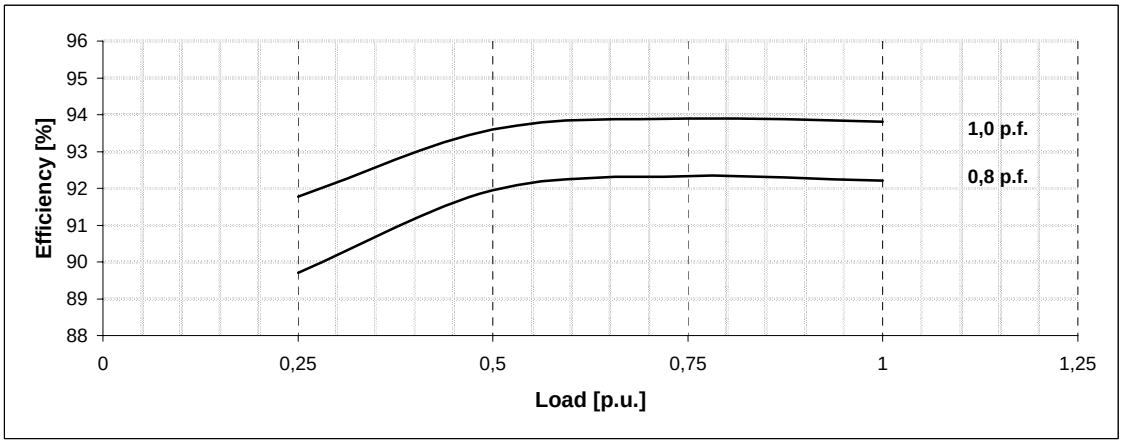
IEC 60034-1; CEI 2-3; BS 4999-5000; VDE 0530; NF 51-100,111; OVE M-10; NEMA MG 1.22.

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

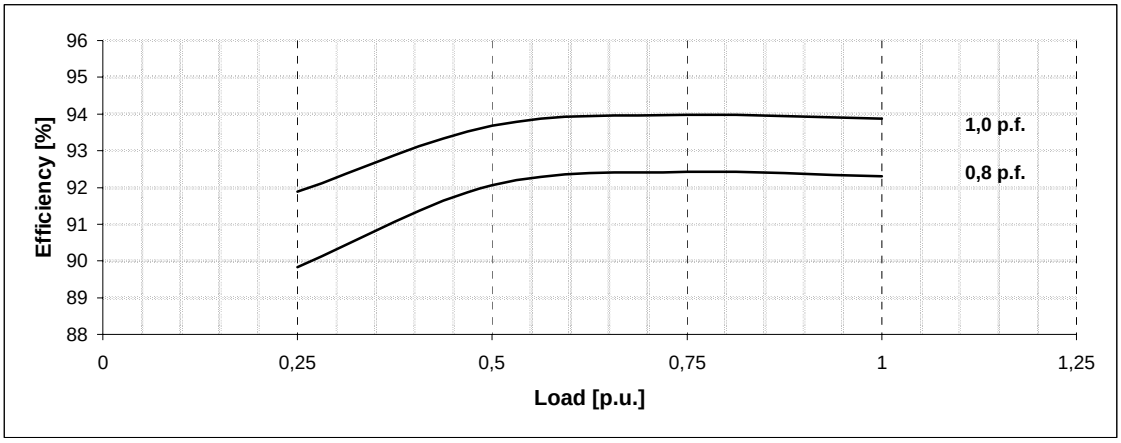
Typical efficiency curves

50 Hz - 750 min^{-1}

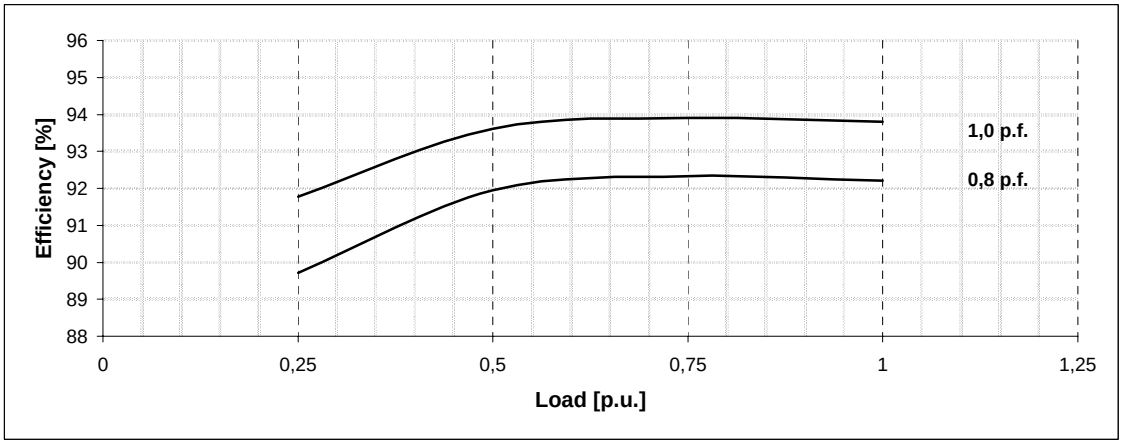
380 V



400 V



415 V



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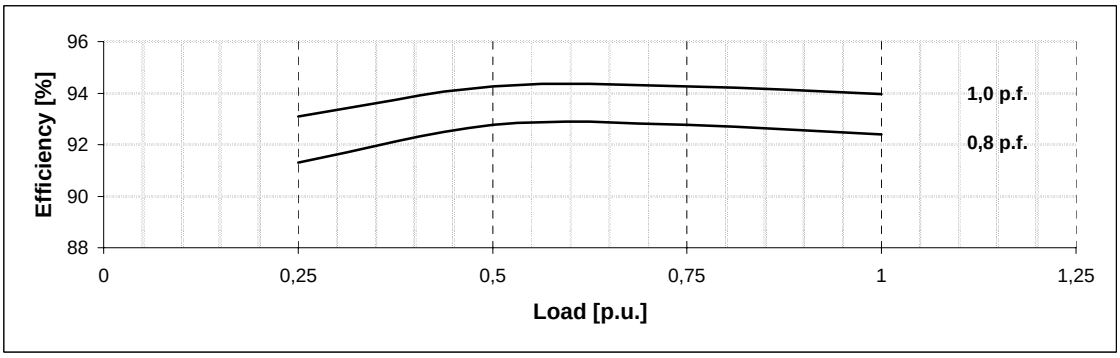
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 SC 8

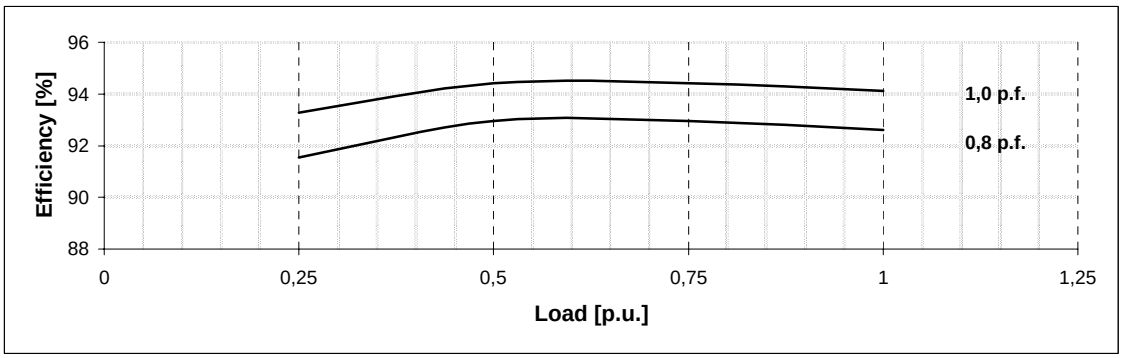
Typical efficiency curves

60 Hz - 900 min^{-1}

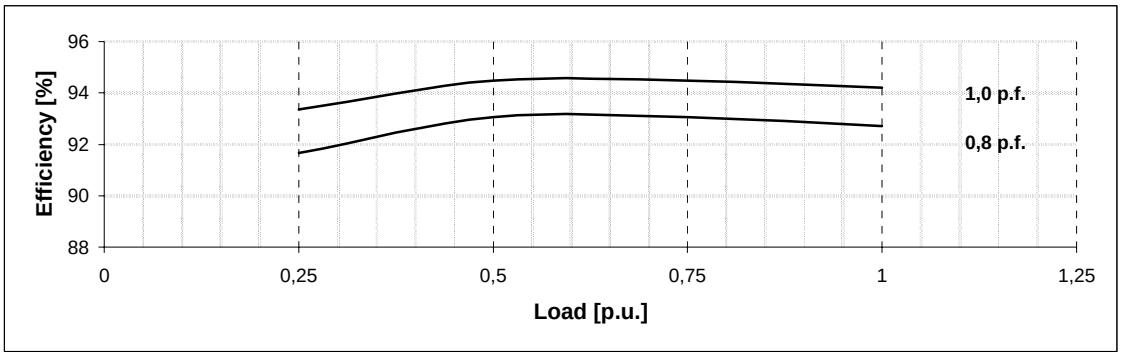
416 V



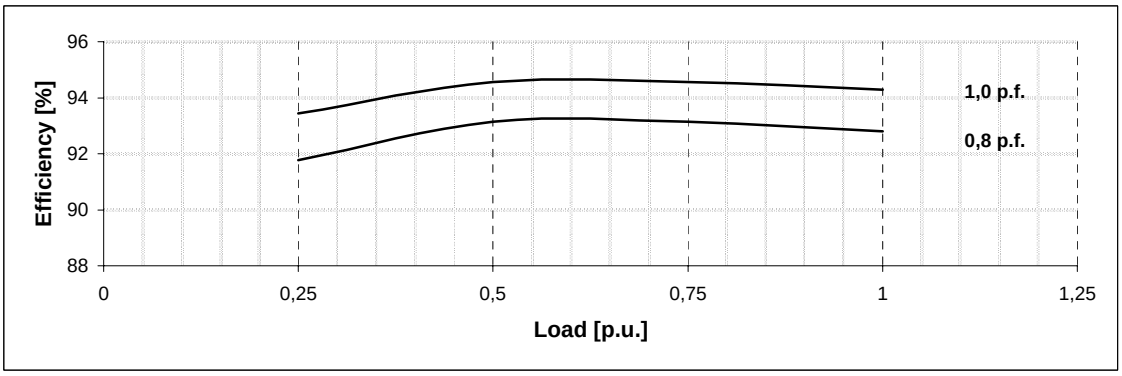
440 V



460 V



480 V



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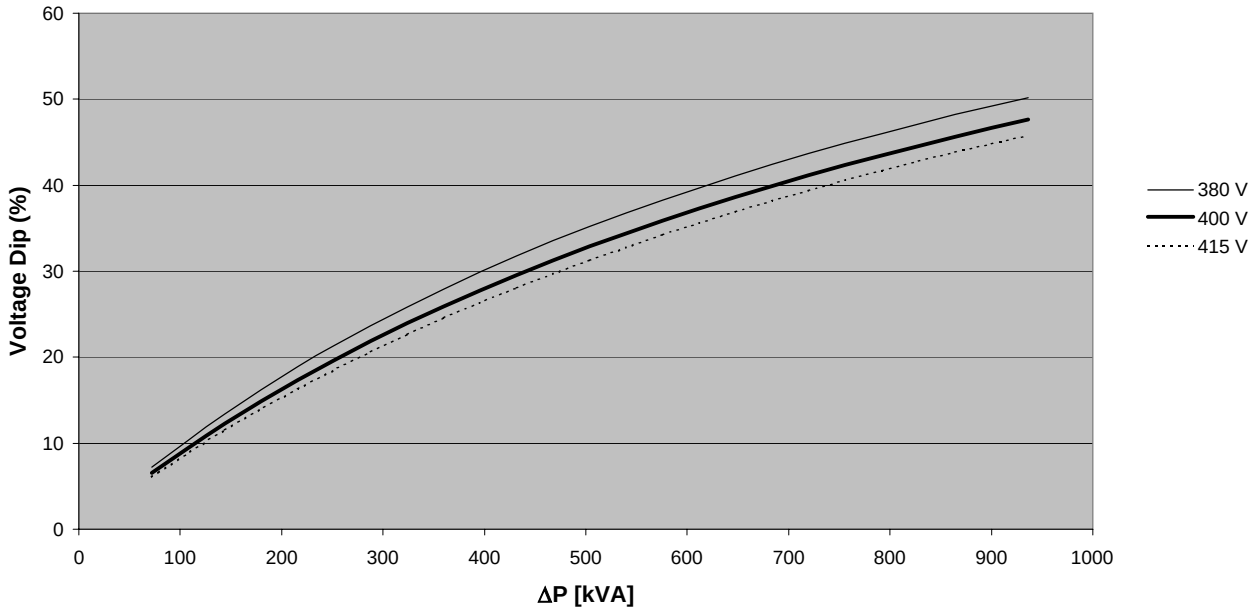
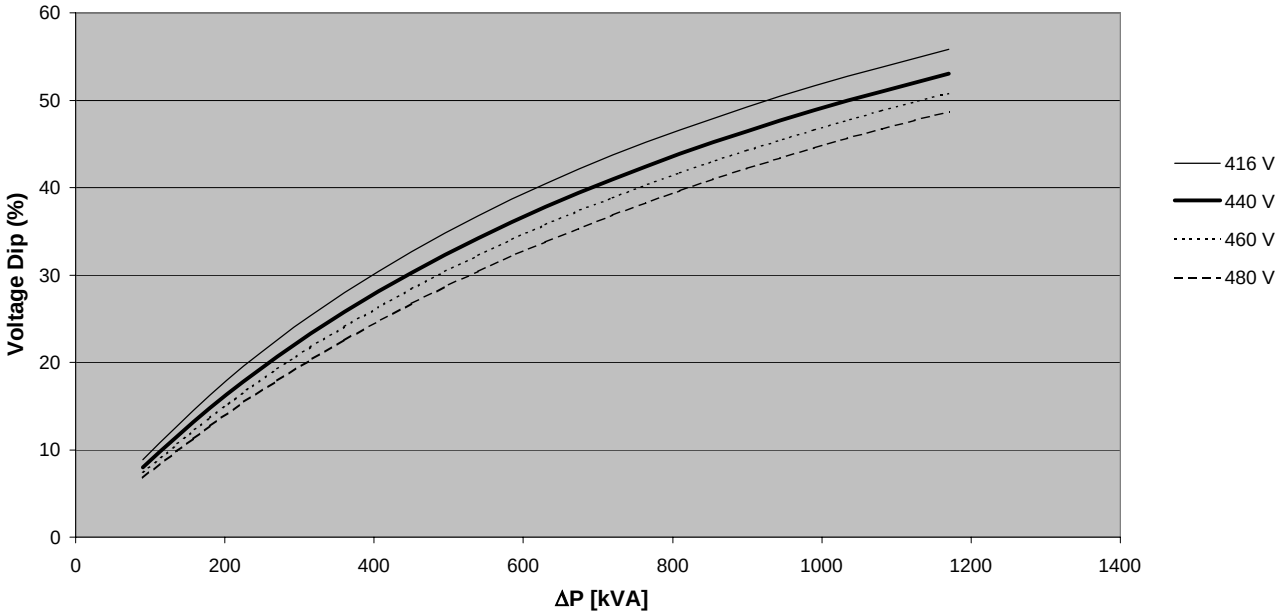
Locked rotor motor starting curves (*)

50 Hz - 750 min^{-1}



60 Hz - 900 min^{-1}



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

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

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 MA 8

8 POLES

CONTINUOUS DUTY

50 Hz-750 min^{-1} / 60 Hz-900 min^{-1}

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

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**420**	**430**	**420**	**490**	**503**	**516**	**540**
		kW	***336***	***344***	***336***	***392***	***402***	***413***	***432***
EFFICIENCY (%) @ 0,8 p.f.		4/4	92,4	92,5	92,4	92,6	92,8	92,9	93,0
		3/4	92,5	92,6	92,5	93,0	93,2	93,2	93,3
		2/4	92,2	92,3	92,2	93,0	93,2	93,2	93,3
EFFICIENCY (%) @ 1,0 p.f.		4/4	94,0	94,0	94,0	94,1	94,3	94,4	94,4
		3/4	94,1	94,1	94,1	94,4	94,6	94,6	94,7
		2/4	93,8	93,9	93,8	94,4	94,6	94,6	94,7
SHORT CIRCUIT RATIO			0,44	0,48	0,53	0,38	0,41	0,44	0,46
REACTANCES (%)									
Direct axis synchronous		xd	300	275	250	350	320	300	290
Quadrature axis synchronous		xq	170	155	140	195	180	170	160
Direct axis transient		x'd	35,7	33,0	29,9	41,7	38,3	35,9	34,5
Direct axis subtransient		x"d	18,6	17,2	15,6	21,7	20,0	18,7	18,0
Quadrature axis subtransient		x"q	19,5	18,0	16,3	22,8	20,9	19,6	18,8
Negative sequence		x_2	19,0	17,6	16,0	22,3	20,4	19,2	18,4
Zero sequence		x_0	5,2	4,8	4,4	6,1	5,6	5,2	5,0

TIME CONSTANTS [s]

Open circuit (T'do)	1,70	Subtransient (T"d)	0,018
Transient (T'd)	0,2	Armature (Ta)	0,02

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	2000
Inertia (J) (IM B34) [kgm^2]	20,6
Overspeed [min^{-1}]	1500
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,0 / 1,25
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	0,00687
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 3% (under no-load or non-distorting-load condition)

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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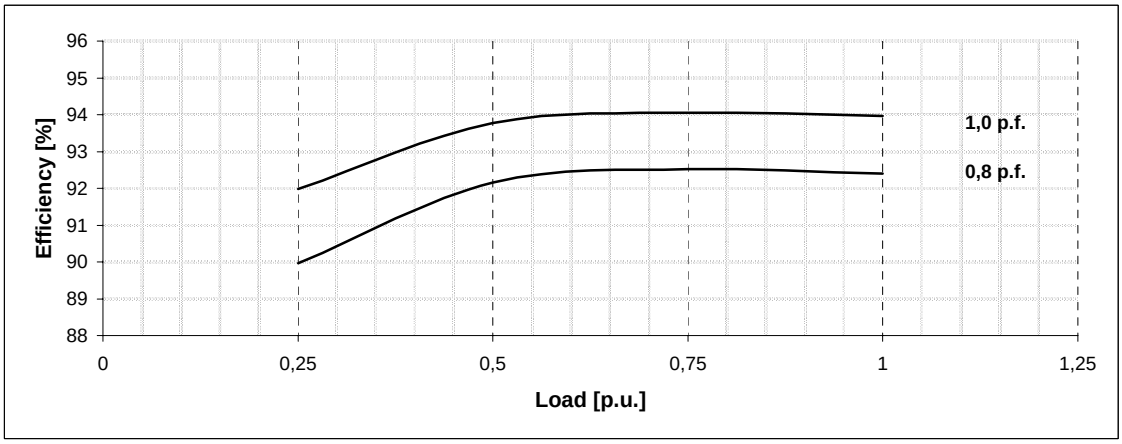
MarelliGenerators

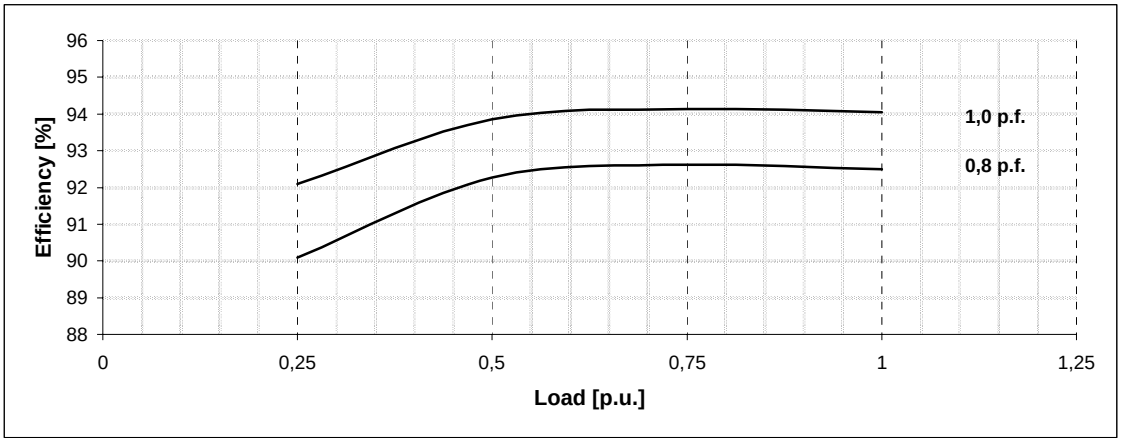
Typical efficiency curves

50 Hz - 750 min^{-1}

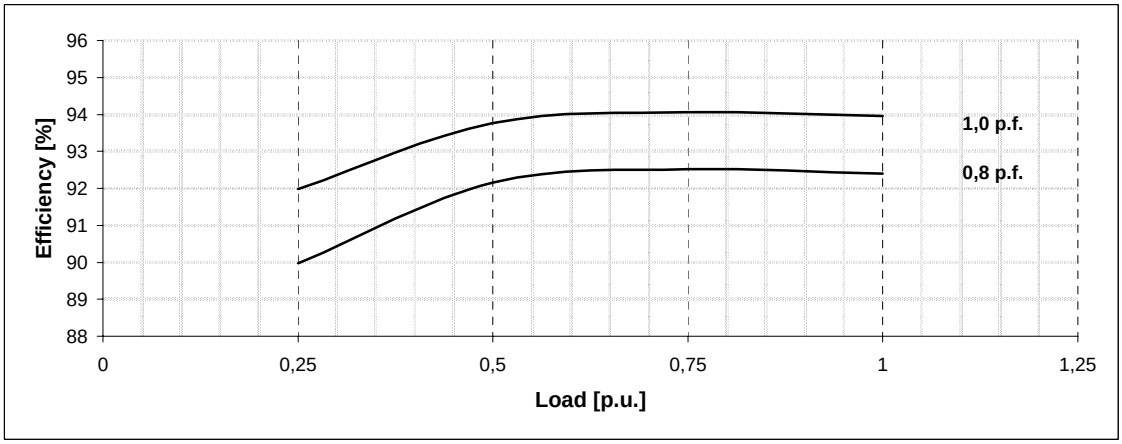
380 V



400 V



415 V



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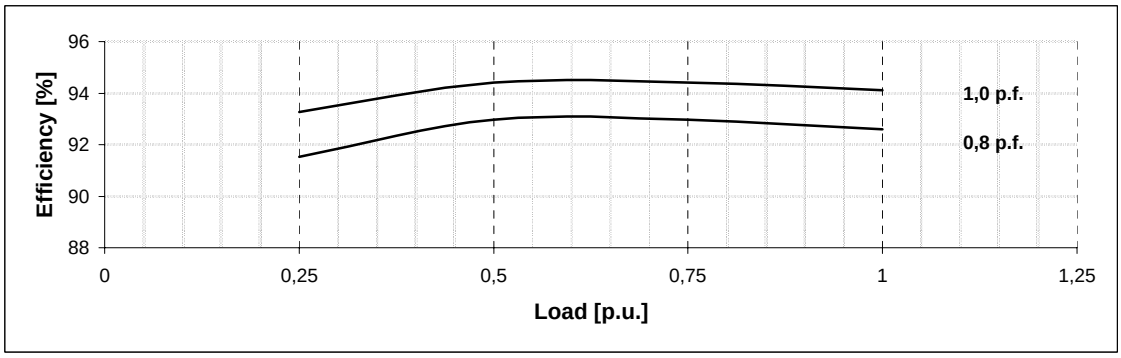
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 MA 8

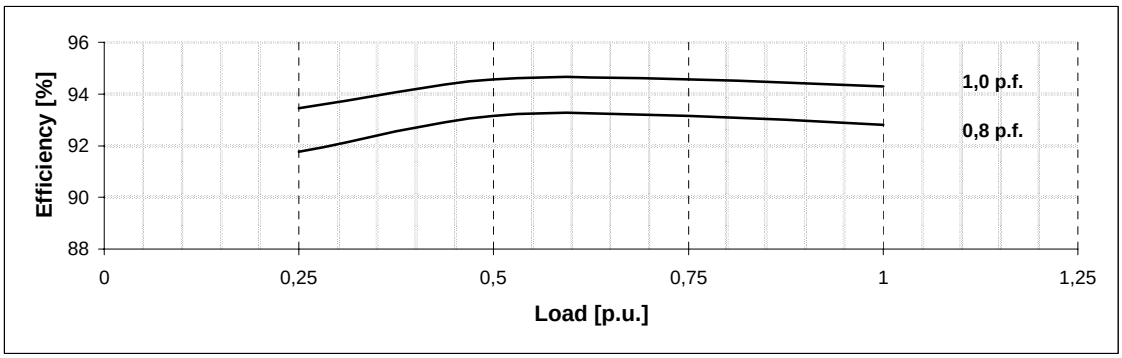
Typical efficiency curves

60 Hz - 900 min^{-1}

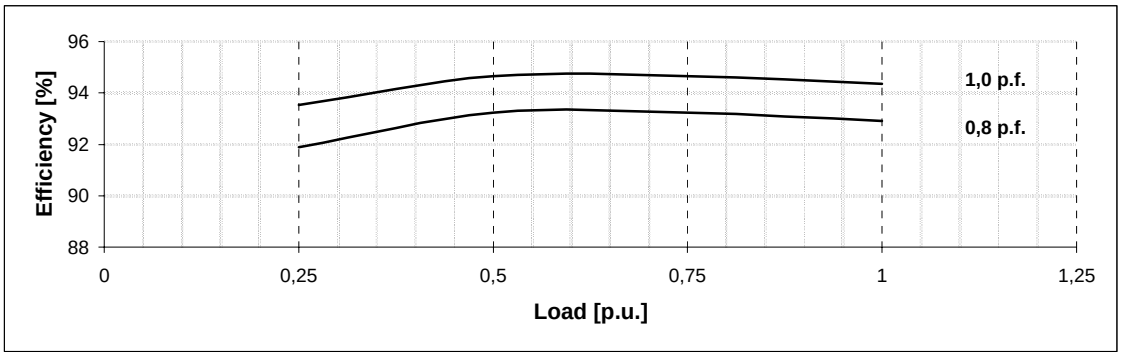
416 V



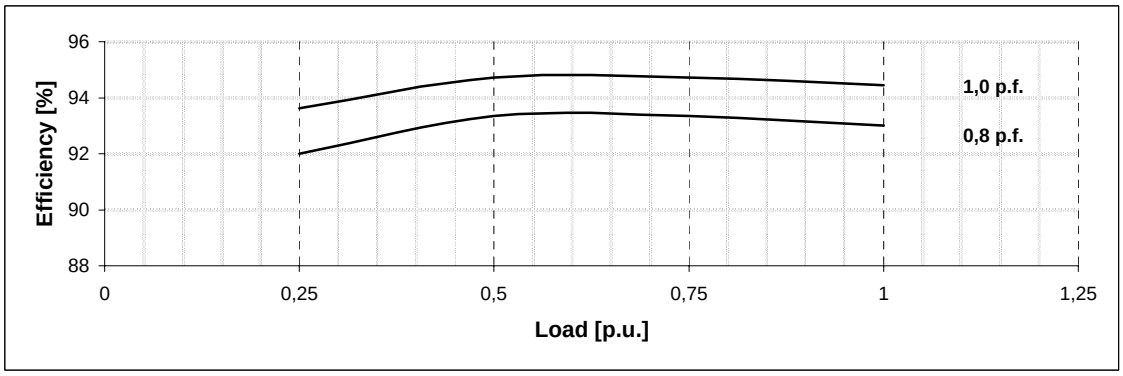
440 V



460 V



480 V



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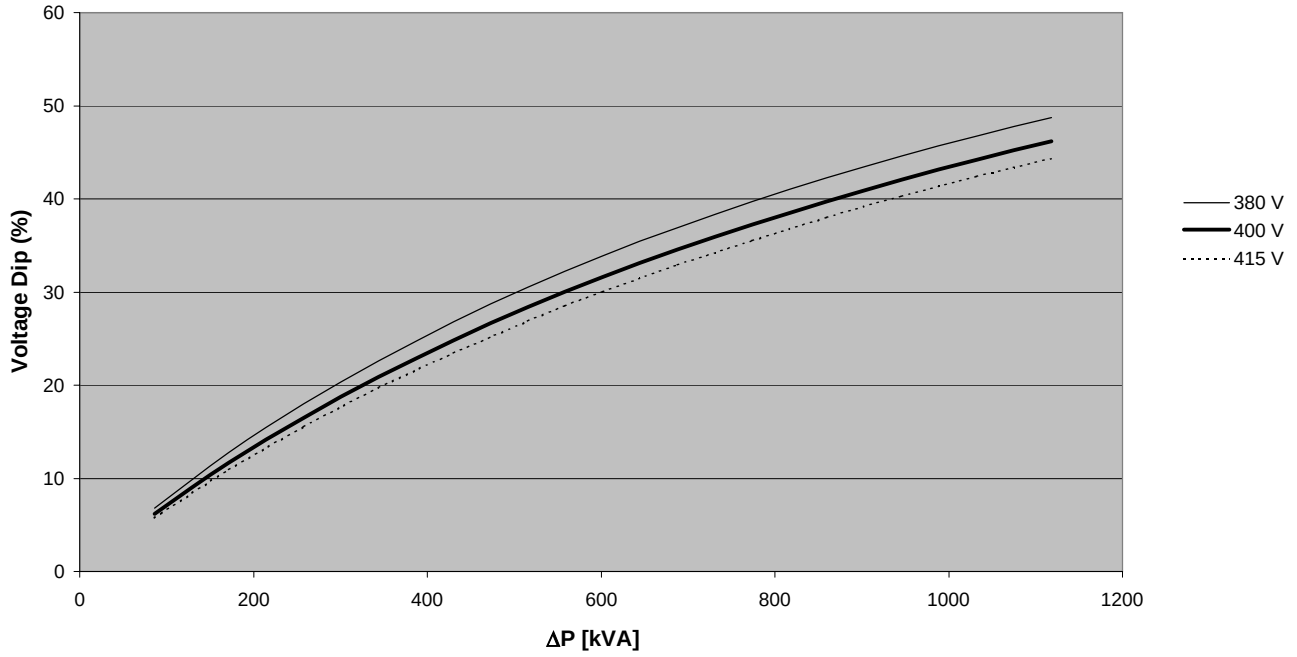
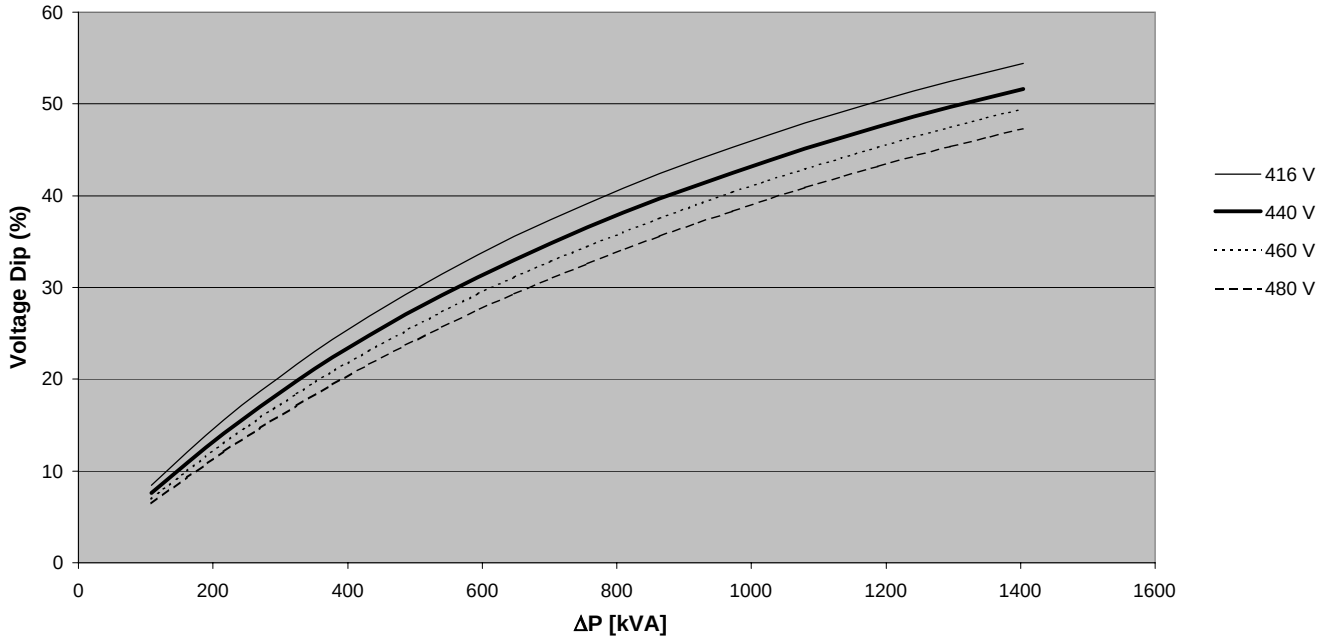
Locked rotor motor starting curves (*)

50 Hz - 750 min^{-1}



60 Hz - 900 min^{-1}



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

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

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 MB 8

8 POLES

CONTINUOUS DUTY

50 Hz-750 min^{-1} / 60 Hz-900 min^{-1}

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

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**510**	**510**	**500**	**581**	**597**	**612**	**640**
		kW	***408***	***408***	***400***	***465***	***478***	***490***	***512***
EFFICIENCY (%) @ 0,8 p.f.		4/4	92,9	93,0	92,9	93,1	93,3	93,4	93,5
		3/4	93,0	93,1	93,0	93,4	93,6	93,7	93,8
		2/4	92,7	92,8	92,7	93,4	93,6	93,7	93,8
EFFICIENCY (%) @ 1,0 p.f.		4/4	94,4	94,4	94,4	94,5	94,7	94,8	94,8
		3/4	94,5	94,5	94,5	94,8	95,0	95,0	95,1
		2/4	94,2	94,3	94,2	94,8	95,0	95,0	95,1
SHORT CIRCUIT RATIO			0,47	0,52	0,57	0,41	0,45	0,48	0,50
REACTANCES (%)									
Direct axis synchronous		xd	295	265	240	335	310	290	275
Quadrature axis synchronous		xq	165	150	135	190	175	165	160
Direct axis transient		x'd	35,3	31,9	29,1	40,3	37,0	34,7	33,4
Direct axis subtransient		x"d	18,3	16,5	15,1	20,9	19,2	18,0	17,3
Quadrature axis subtransient		x"q	19,1	17,3	15,7	21,8	20,0	18,8	18,1
Negative sequence		x_2	18,6	16,8	15,3	21,3	19,5	18,3	17,6
Zero sequence		x_0	5,3	4,8	4,3	6,0	5,5	5,2	5,0

TIME CONSTANTS [s]

Open circuit (T'do)	1,78	Subtransient (T"d)	0,018
Transient (T'd)	0,21	Armature (Ta)	0,02

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	2260
Inertia (J) (IM B34) [kgm^2]	22,4
Overspeed [min^{-1}]	1500
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,0 / 1,25
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	0,0044
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 3% (under no-load or non-distorting-load condition)

STANDARDS

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

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

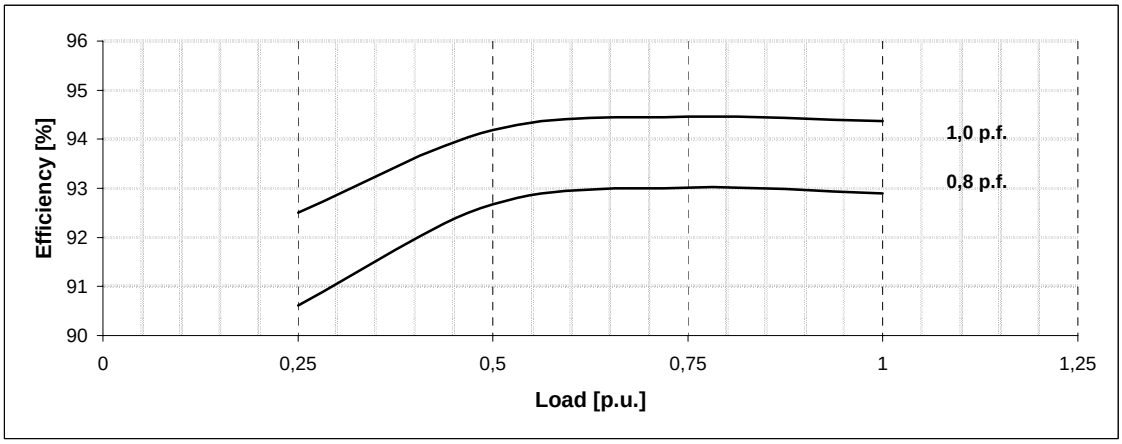
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 MB 8

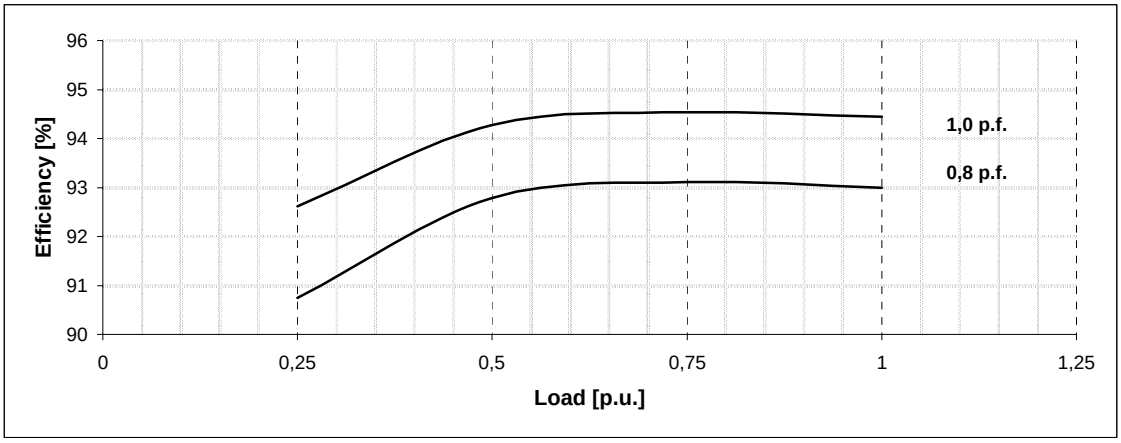
Typical efficiency curves

50 Hz - 750 min^{-1}

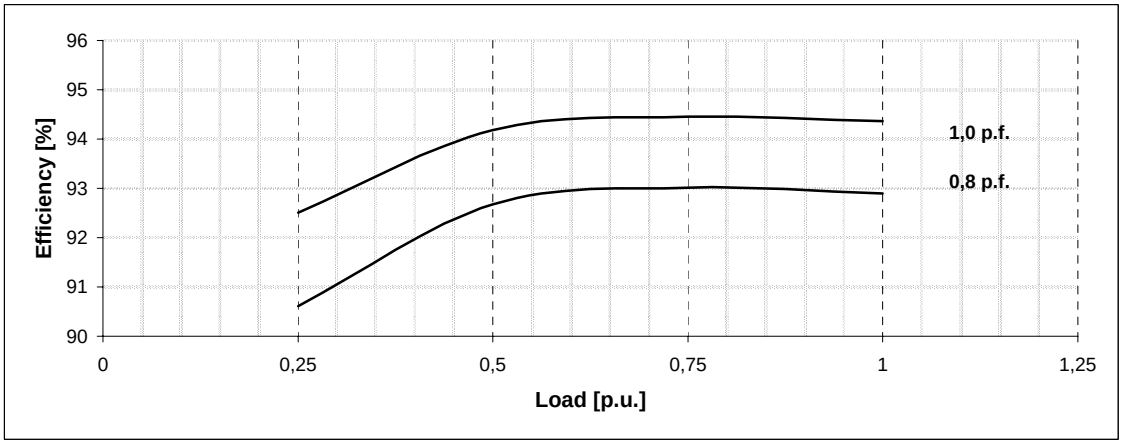
380 V



400 V



415 V



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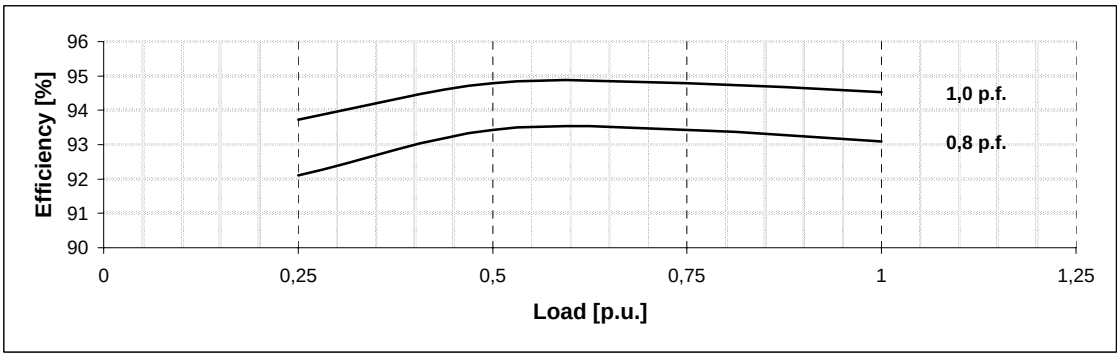
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 MB 8

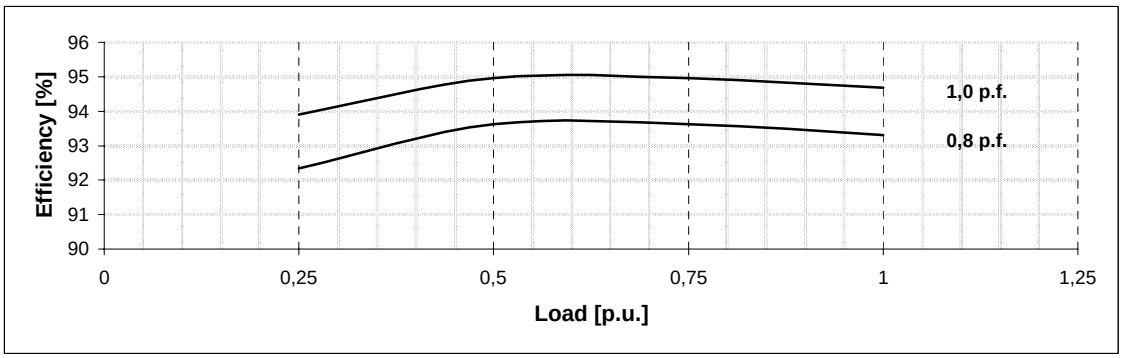
Typical efficiency curves

60 Hz - 900 min^{-1}

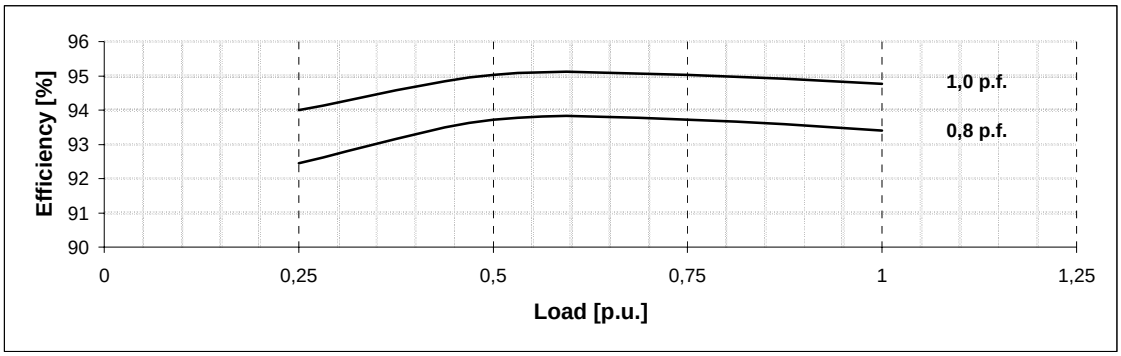
416 V



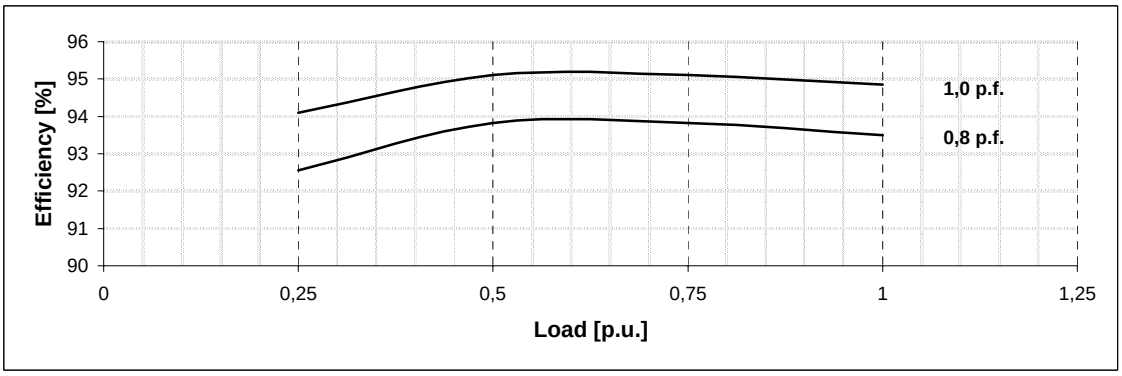
440 V



460 V



480 V



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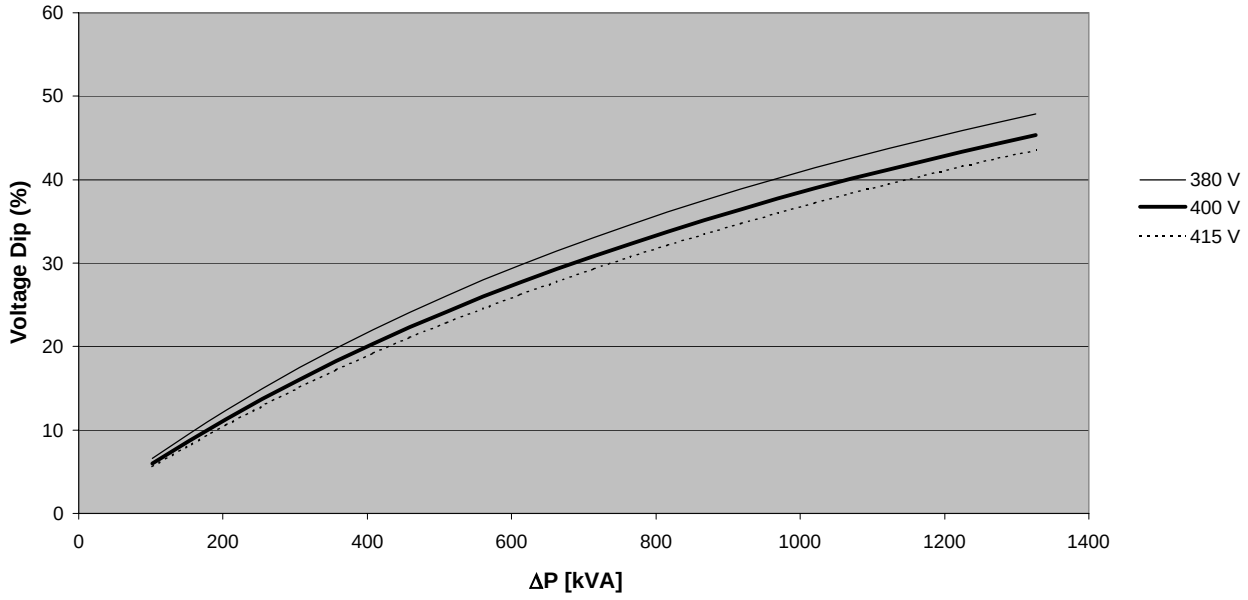
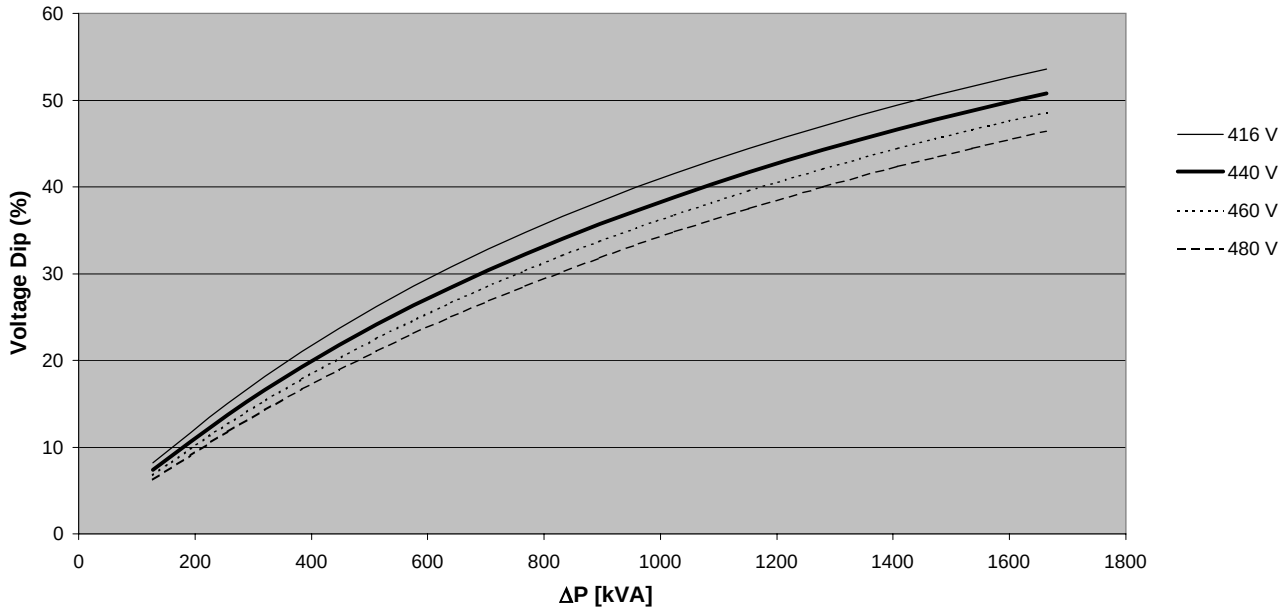
Locked rotor motor starting curves (*)

50 Hz - 750 min^{-1}



60 Hz - 900 min^{-1}



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

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

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 LA 8

8 POLES

CONTINUOUS DUTY

50 Hz-750 min^{-1} / 60 Hz-900 min^{-1}

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

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**600**	**600**	**590**	**684**	**702**	**720**	**750**
		kW	***480***	***480***	***472***	***547***	***562***	***576***	***600***
EFFICIENCY (%) @ 0,8 p.f.		4/4	93,1	93,2	93,1	93,3	93,5	93,6	93,7
		3/4	93,2	93,3	93,2	93,6	93,8	93,9	94,0
		2/4	92,9	93,0	92,9	93,6	93,8	93,9	94,0
EFFICIENCY (%) @ 1,0 p.f.		4/4	94,5	94,6	94,5	94,7	94,8	94,9	95,0
		3/4	94,6	94,7	94,6	95,0	95,1	95,2	95,3
		2/4	94,4	94,4	94,4	95,0	95,1	95,2	95,3
SHORT CIRCUIT RATIO			0,44	0,49	0,54	0,39	0,42	0,45	0,47
REACTANCES (%)									
Direct axis synchronous		xd	320	290	265	365	335	315	300
Quadrature axis synchronous		xq	175	160	145	200	185	170	165
Direct axis transient		x'd	37,6	33,9	31,0	42,9	39,4	37,0	35,4
Direct axis subtransient		x"d	19,0	17,1	15,6	21,6	19,9	18,6	17,8
Quadrature axis subtransient		x"q	19,8	17,8	16,3	22,6	20,7	19,4	18,6
Negative sequence		x_2	19,3	17,4	15,9	22,0	20,2	18,9	18,1
Zero sequence		x_0	5,4	4,9	4,4	6,1	5,6	5,3	5,1

TIME CONSTANTS [s]

Open circuit (T'do)	1,84	Subtransient (T"d)	0,018
Transient (T'd)	0,21	Armature (Ta)	0,019

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	2530
Inertia (J) (IM B34) [kgm^2]	24,1
Overspeed [min^{-1}]	1500
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,0 / 1,25
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	0,0034
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 3% (under no-load or non-distorting-load condition)

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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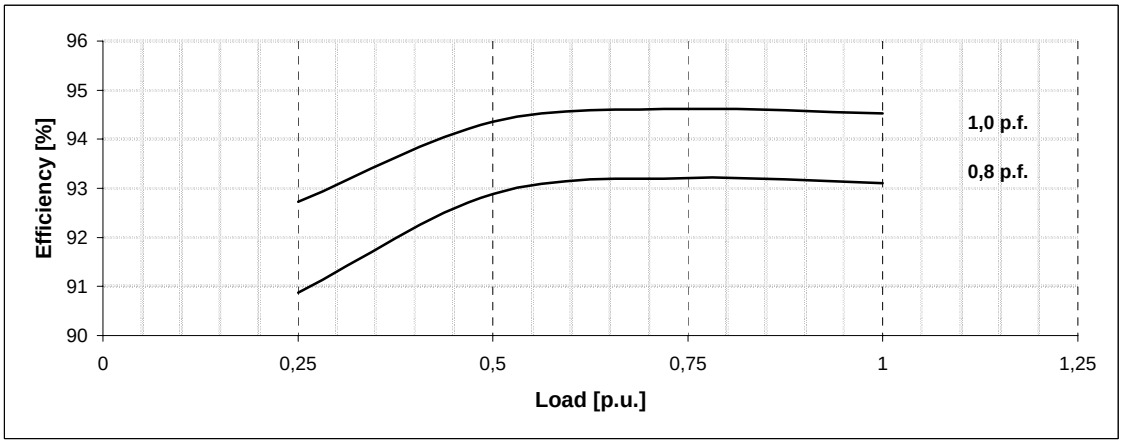
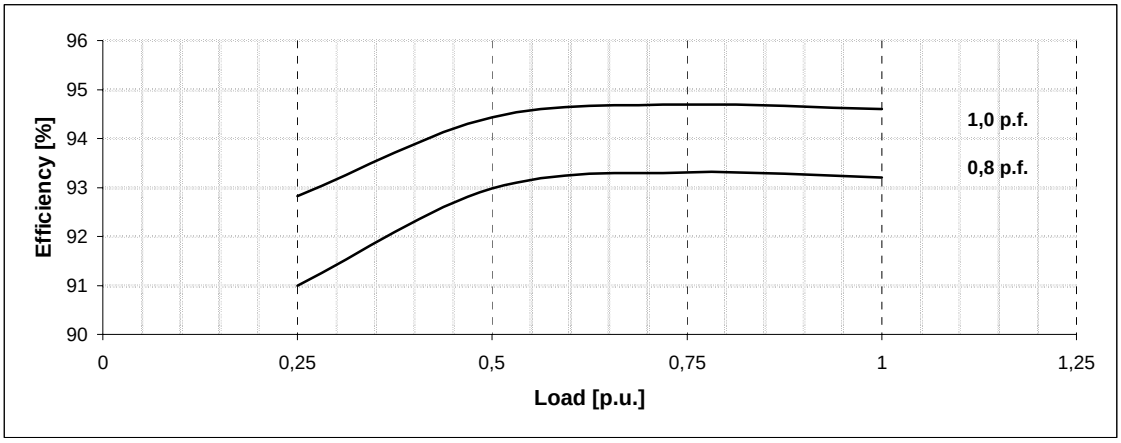
THREE-PHASE SYNCHRONOUS GENERATOR

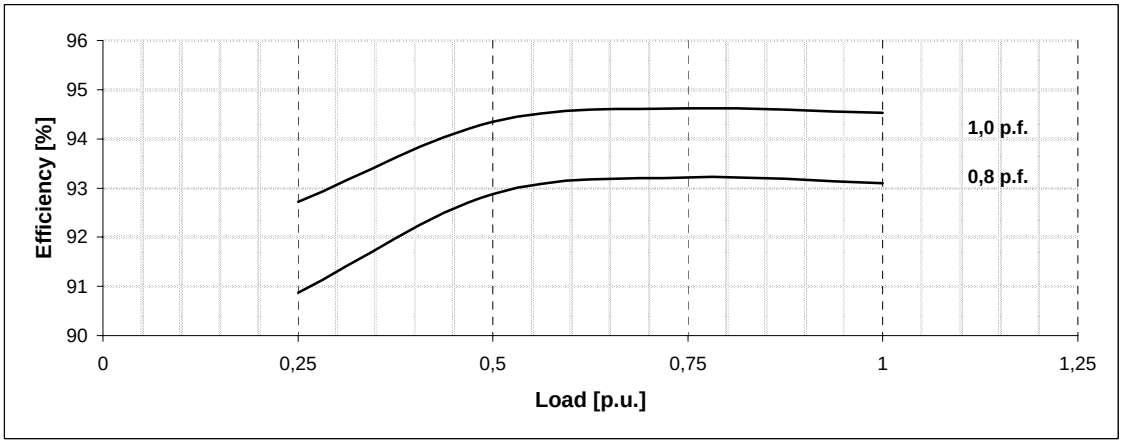
MJB 400 LA 8

Typical efficiency curves

50 Hz - 750 min^{-1}







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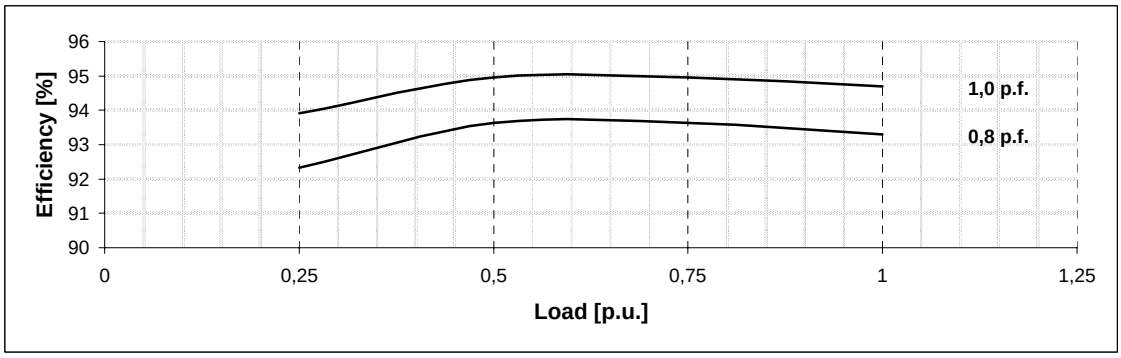
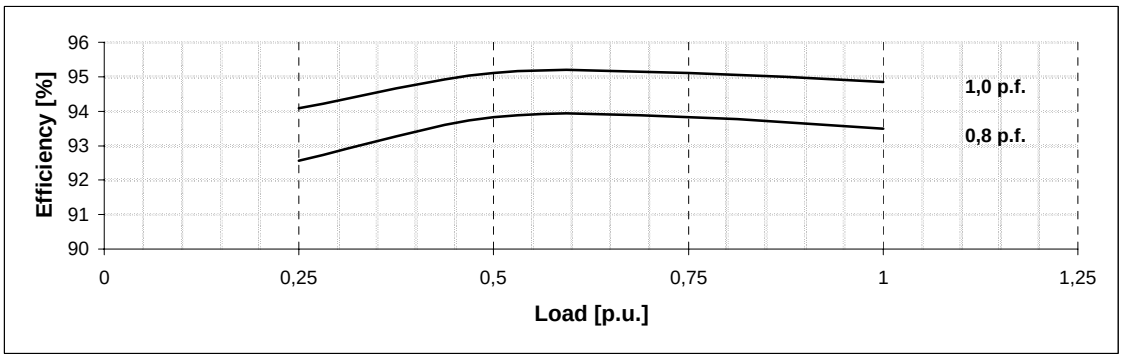
THREE-PHASE SYNCHRONOUS GENERATOR

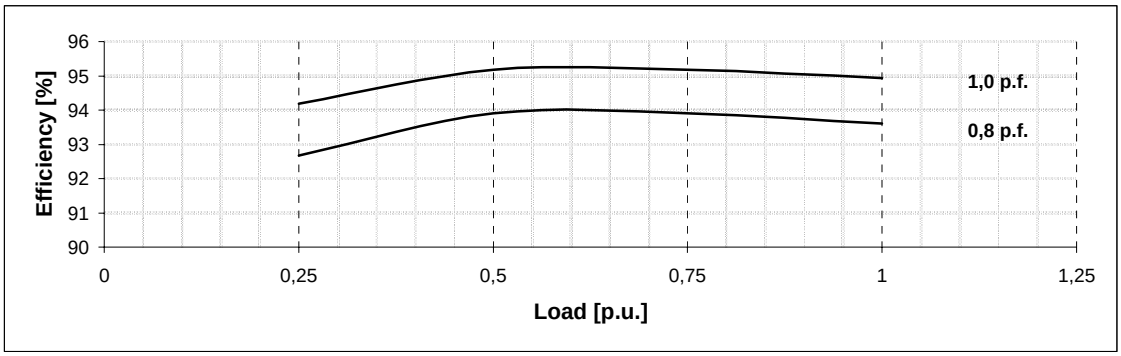
MJB 400 LA 8

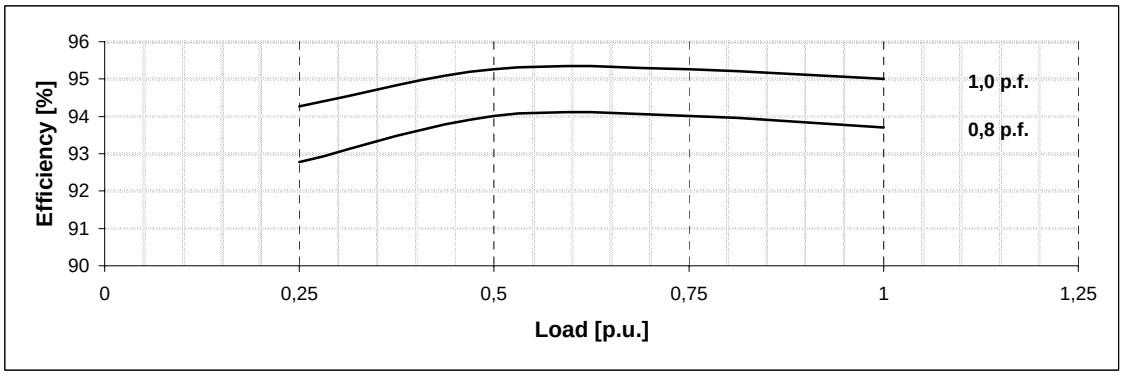
Typical efficiency curves

60 Hz - 900 min^{-1}









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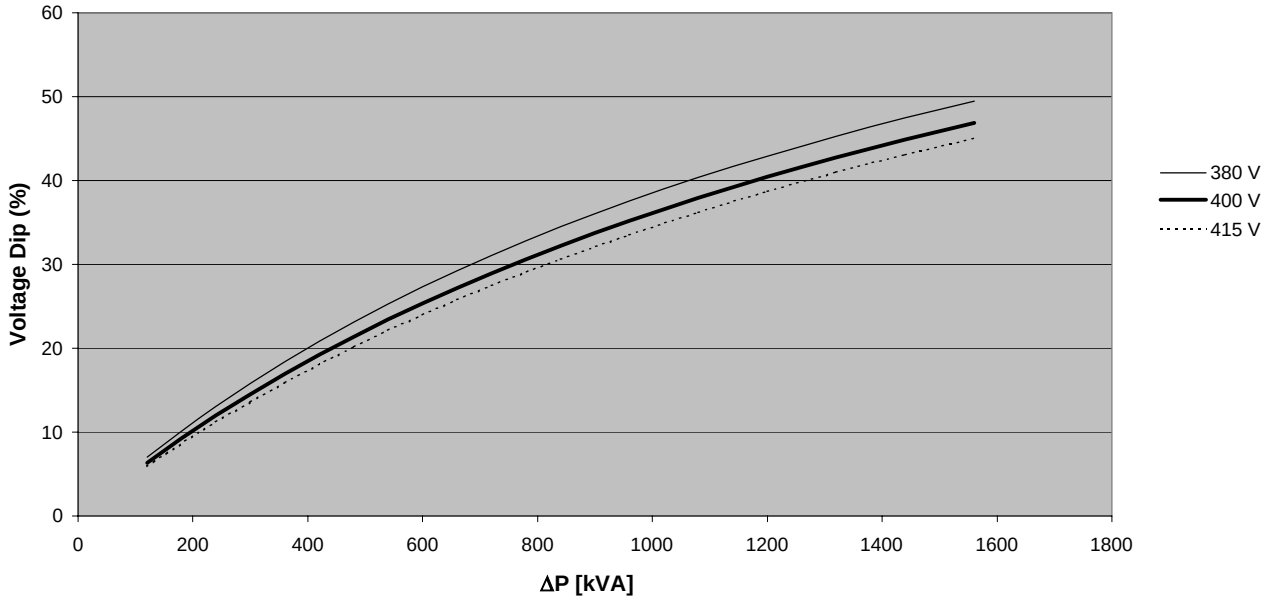
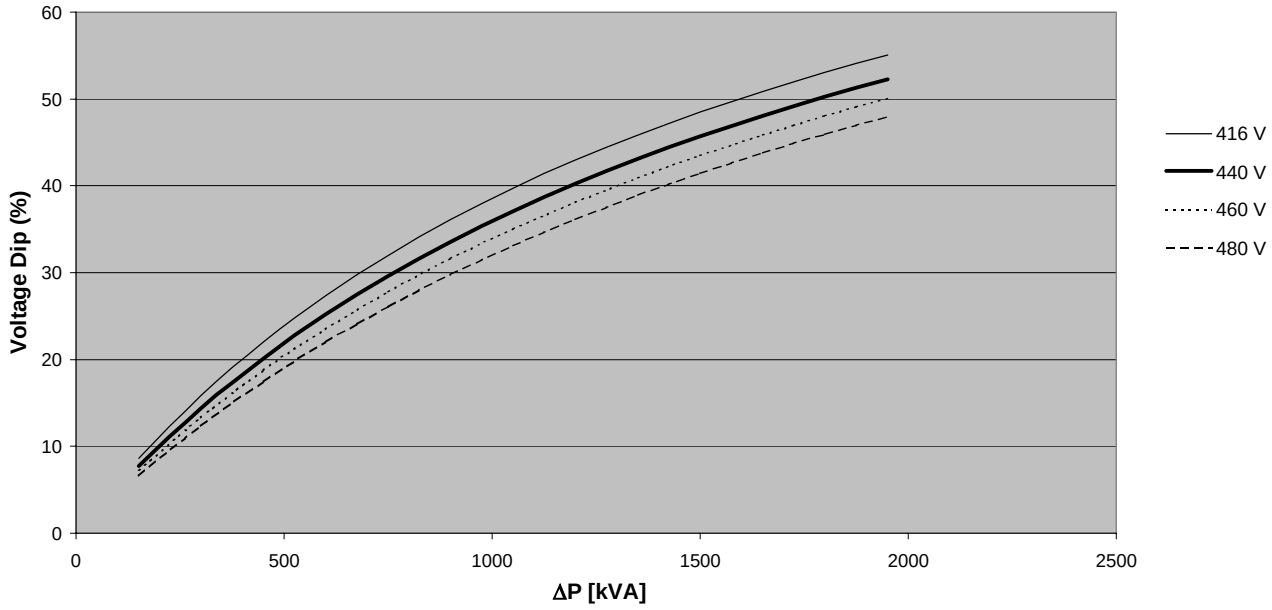
Locked rotor motor starting curves (*)

50 Hz - 750 min^{-1}



60 Hz - 900 min^{-1}



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

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

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 LB 8

8 POLES

CONTINUOUS DUTY

50 Hz-750 min^{-1} / 60 Hz-900 min^{-1}

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

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**740**	**740**	**730**	**844**	**866**	**888**	**925**
		kW	***592***	***592***	***584***	***675***	***693***	***710***	***740***
EFFICIENCY (%) @ 0,8 p.f.		4/4	93,4	93,5	93,4	93,6	93,8	93,9	94,0
		3/4	93,5	93,6	93,5	93,9	94,1	94,2	94,3
		2/4	93,2	93,3	93,2	93,9	94,1	94,2	94,3
EFFICIENCY (%) @ 1,0 p.f.		4/4	94,8	94,8	94,8	94,9	95,1	95,2	95,3
		3/4	94,9	94,9	94,9	95,2	95,3	95,4	95,5
		2/4	94,6	94,7	94,6	95,2	95,3	95,4	95,5
SHORT CIRCUIT RATIO			0,44	0,49	0,53	0,39	0,42	0,45	0,47
REACTANCES (%)									
Direct axis synchronous		xd	315	285	260	360	330	310	295
Quadrature axis synchronous		xq	175	160	145	200	185	170	165
Direct axis transient		x'd	36,8	33,2	30,4	42,0	38,6	36,2	34,6
Direct axis subtransient		x"d	18,8	17,0	15,6	21,5	19,7	18,5	17,7
Quadrature axis subtransient		x"q	20,0	18,1	16,6	22,9	21,0	19,7	18,8
Negative sequence		x_2	19,4	17,5	16,1	22,2	20,3	19,1	18,2
Zero sequence		x_0	5,4	4,9	4,4	6,1	5,6	5,3	5,1

TIME CONSTANTS [s]

Open circuit (T'do)	1,95	Subtransient (T"d)	0,018
Transient (T'd)	0,22	Armature (Ta)	0,02

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6324 C3 / With grease nipple
N-end bearing/Lubrication	6318 Z C3 / Prelubricated
Weight (IM B34) [kg]	2750
Inertia (J) (IM B34) [kgm^2]	25,4
Overspeed [min^{-1}]	1500
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,0 / 1,25
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	0,0039
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 3% (under no-load or non-distorting-load condition)

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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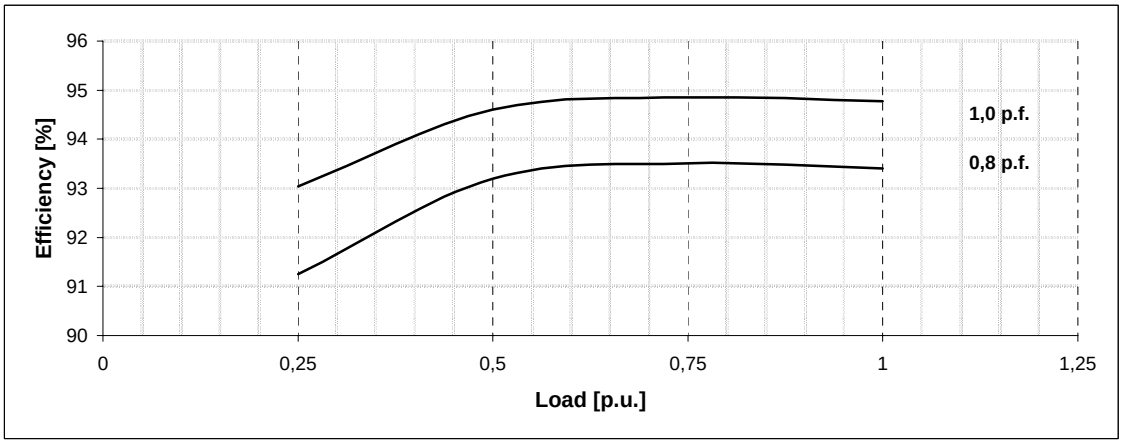
MarelliGenerators

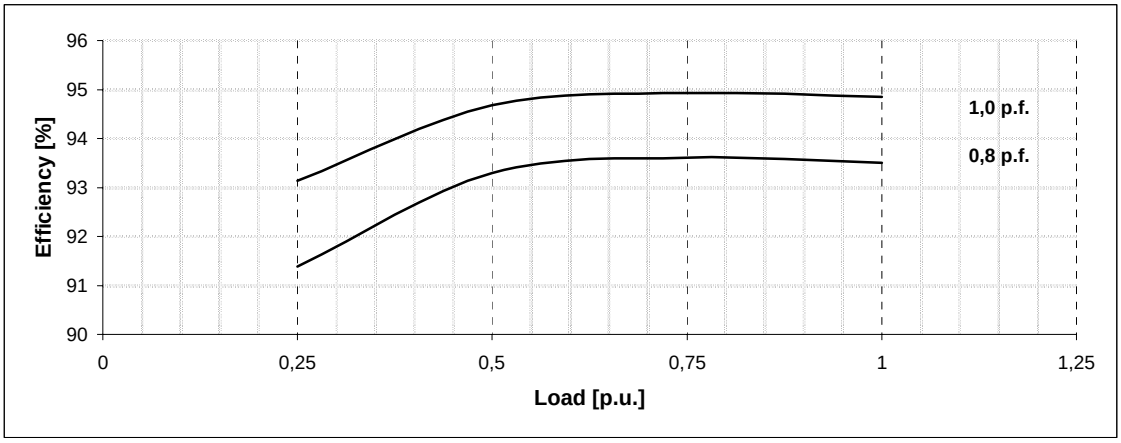
Typical efficiency curves

50 Hz - 750 min^{-1}

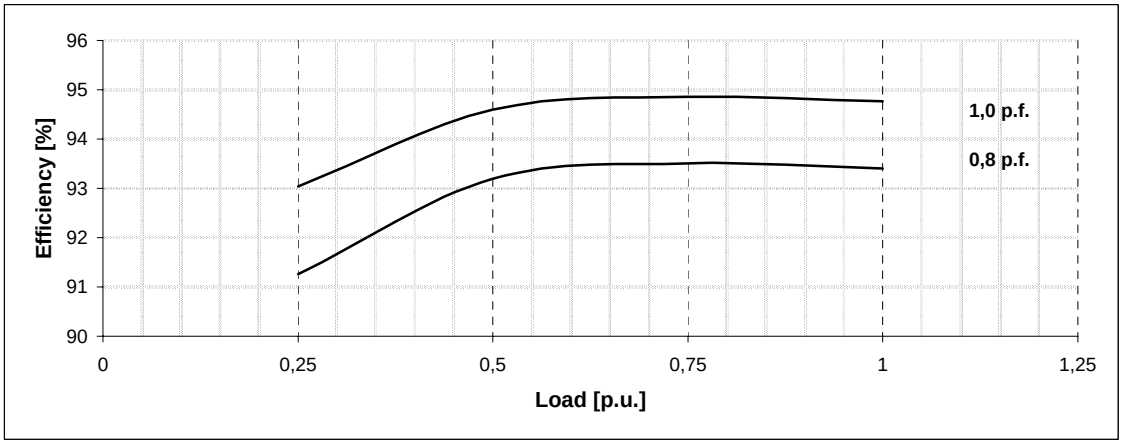
380 V



400 V



415 V



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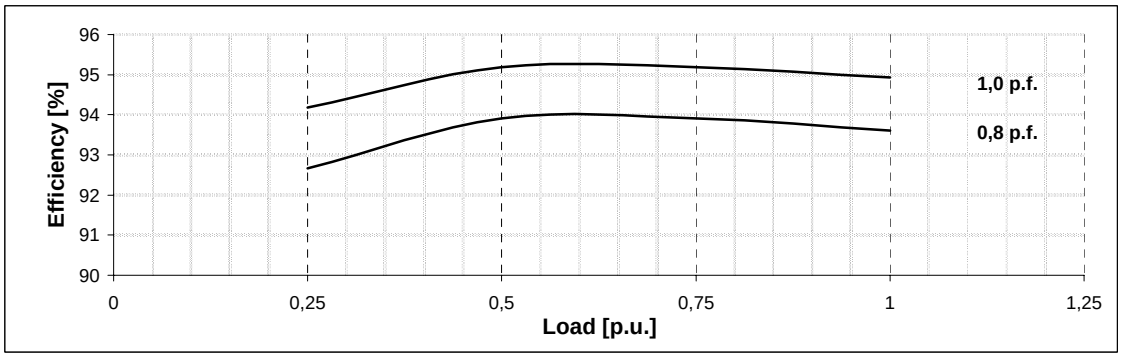
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 400 LB 8

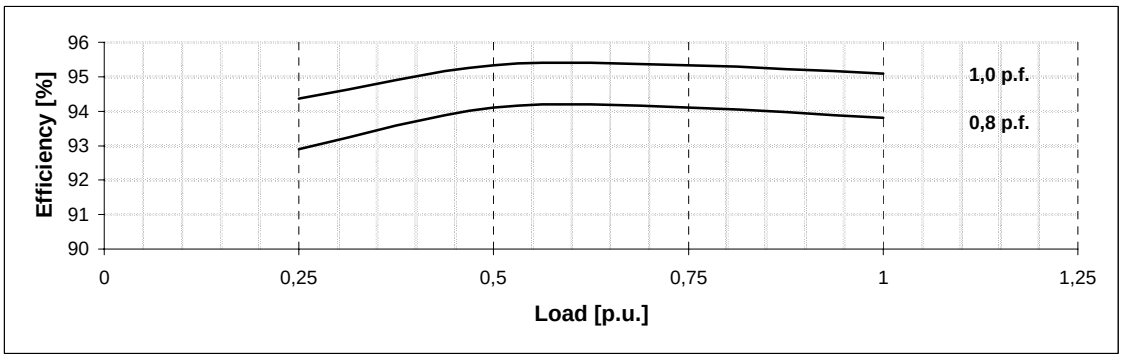
Typical efficiency curves

60 Hz - 900 min^{-1}

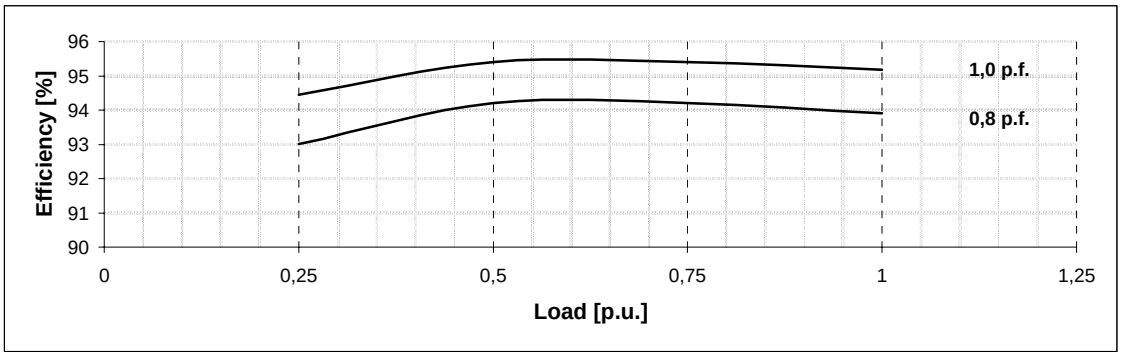
416 V



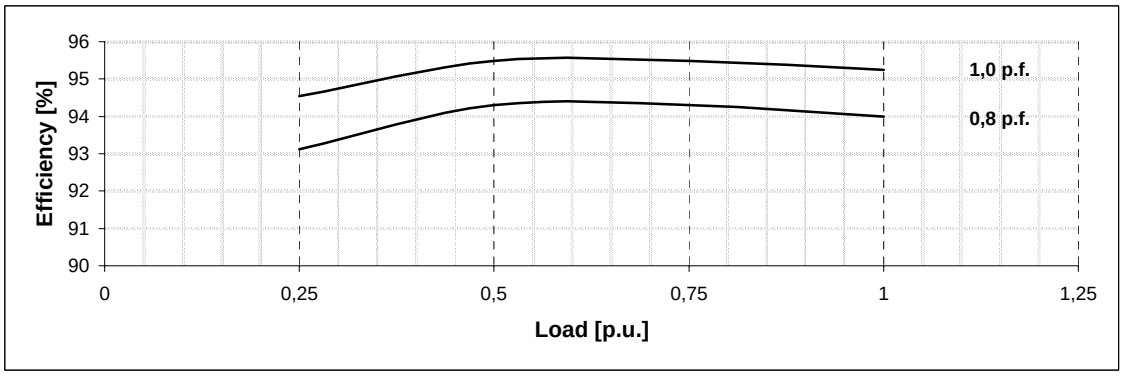
440 V



460 V



480 V



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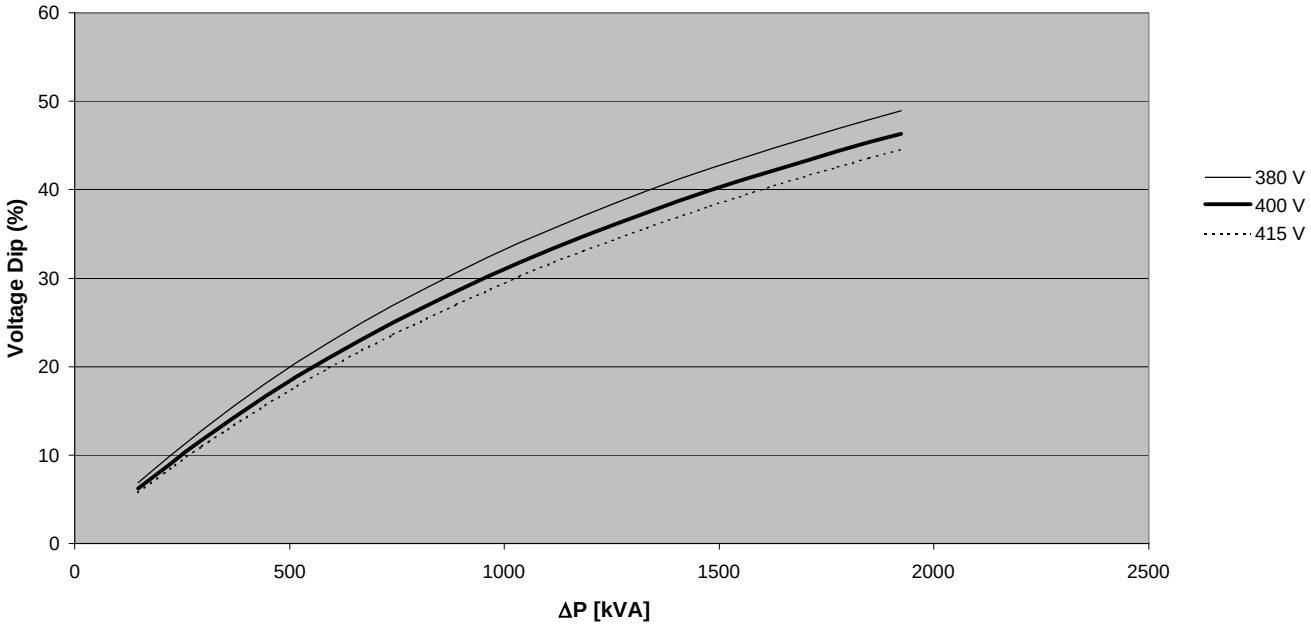
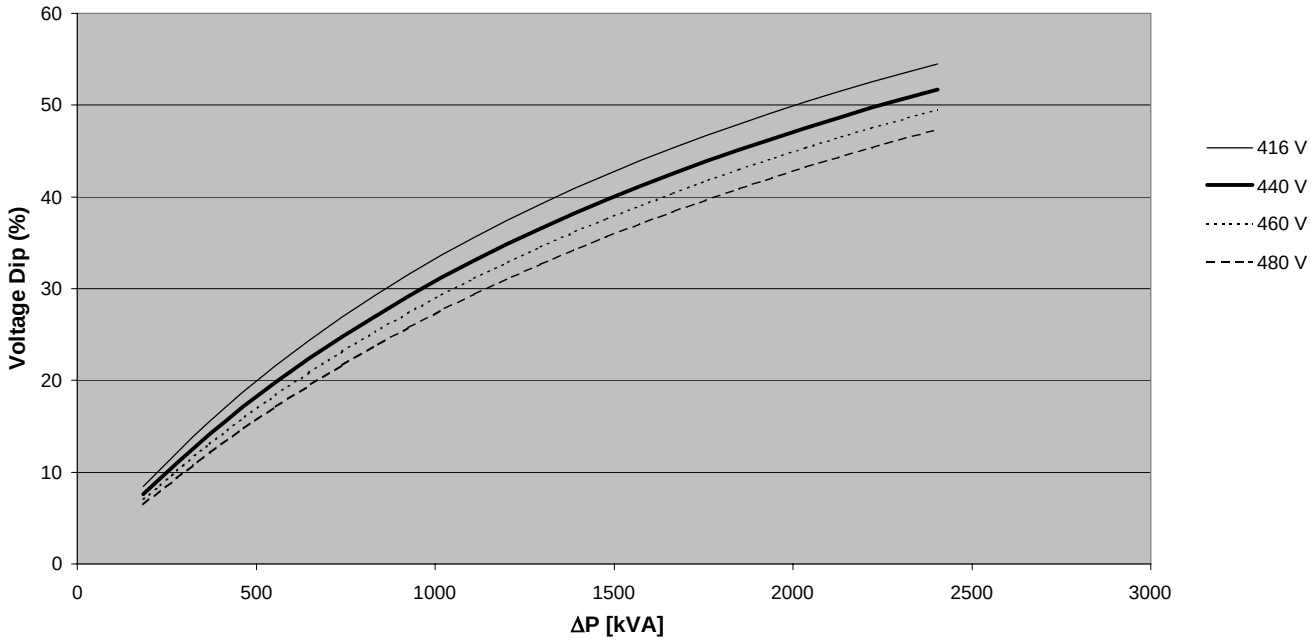
Locked rotor motor starting curves (*)

50 Hz - 750 min^{-1}



60 Hz - 900 min^{-1}



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

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

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 500 SA 8

8 POLES

50 Hz-750 min^{-1} / 60 Hz-900 min^{-1}

CONTINUOUS DUTY

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

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**820**	**820**	**810**	**935**	**959**	**984**	**1025**
		kW	***656***	***656***	***648***	***748***	***767***	***787***	***820***
EFFICIENCY (%) @ 0,8 p.f.		4/4	94,4	94,5	94,3	94,7	94,9	95,0	95,1
		3/4	94,5	94,6	94,4	95,0	95,2	95,2	95,3
		2/4	94,2	94,3	94,1	95,0	95,2	95,2	95,3
EFFICIENCY (%) @ 1,0 p.f.		4/4	95,6	95,7	95,5	95,8	96,0	96,1	96,1
		3/4	95,6	95,7	95,6	96,0	96,2	96,2	96,3
		2/4	95,4	95,5	95,3	96,0	96,2	96,2	96,3
SHORT CIRCUIT RATIO			0,52	0,58	0,63	0,46	0,50	0,53	0,56
REACTANCES (%)									
Direct axis synchronous		xd	300	270	250	340	315	295	280
Quadrature axis synchronous		xq	155	140	130	175	160	150	145
Direct axis transient		x'd	33,2	30,0	27,5	38,0	34,8	32,7	31,3
Direct axis subtransient		x"d	15,5	14,0	12,8	17,7	16,2	15,2	14,6
Quadrature axis subtransient		x"q	16,2	14,6	13,4	18,5	16,9	15,9	15,2
Negative sequence		x_2	15,8	14,3	13,1	18,1	16,6	15,6	14,9
Zero sequence		x_0	4,7	4,2	3,9	5,3	4,9	4,6	4,4

TIME CONSTANTS [s]

Open circuit (T'do)	2,30	Subtransient (T"d)	0,012
Transient (T'd)	0,24	Armature (Ta)	0,033

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6328 C3 / With grease nipple
N-end bearing/Lubrication	6326 C3 / With grease nipple
Weight (IM B34) [kg]	3200
Inertia (J) (IM B34) [kgm^2]	55,1
Overspeed [min^{-1}]	1500
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,67 / 2,17
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	3,4
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 3% (under no-load or non-distorting-load condition)

STANDARDS

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

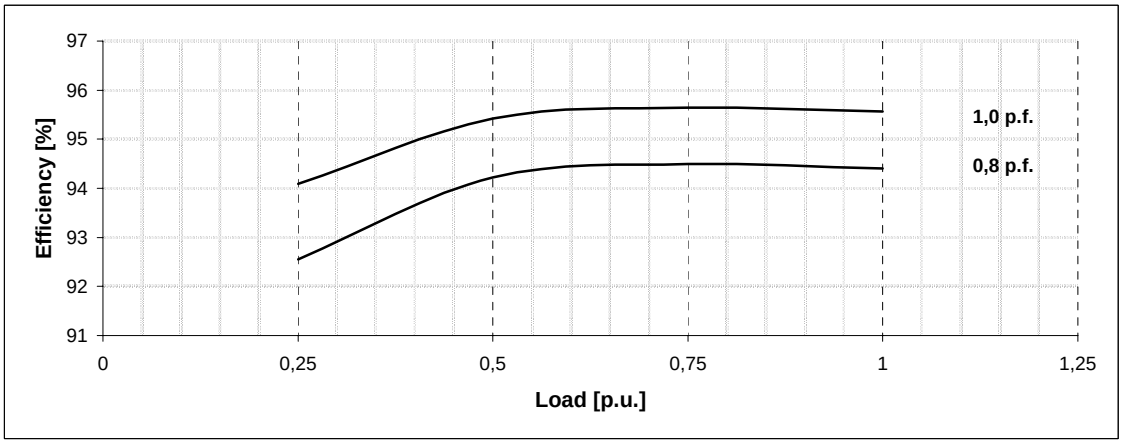
Data and Technical Specification are subject to change in order to update or improve the products, without prior notice

MarelliGenerators

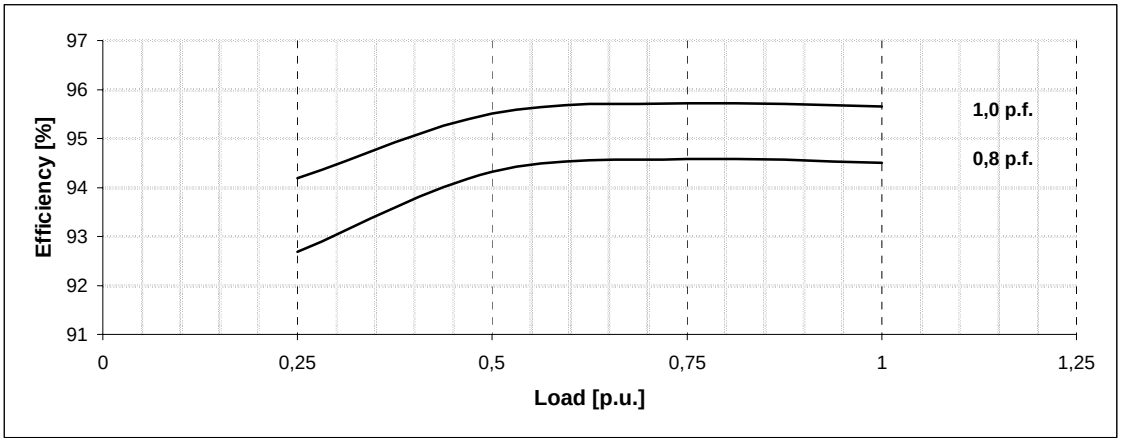
Typical efficiency curves

50 Hz - 750 min^{-1}

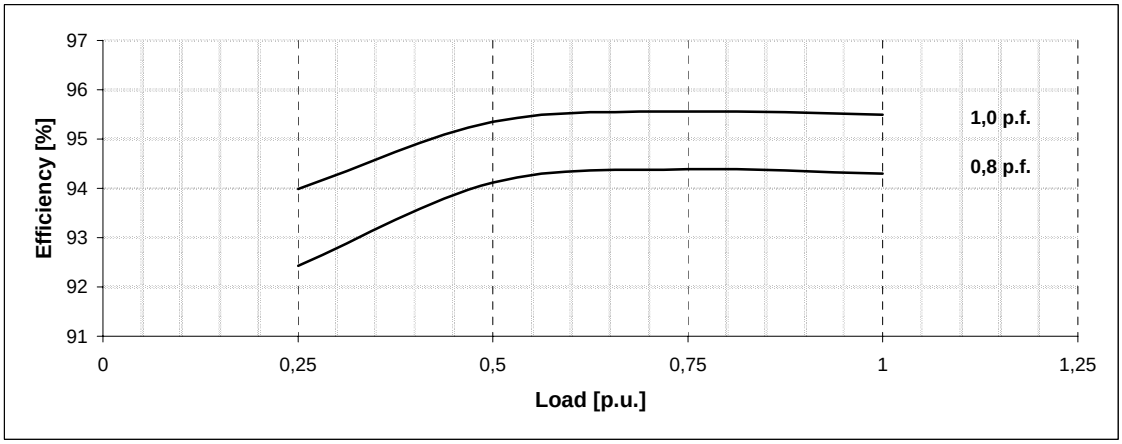
380 V



400 V



415 V



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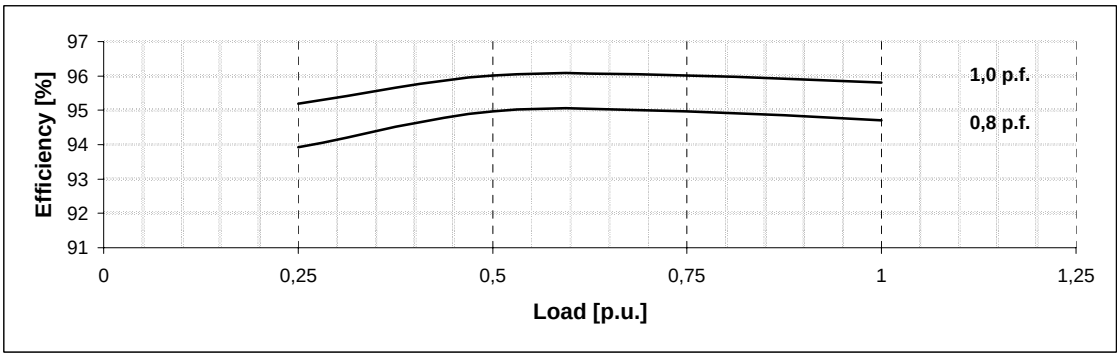
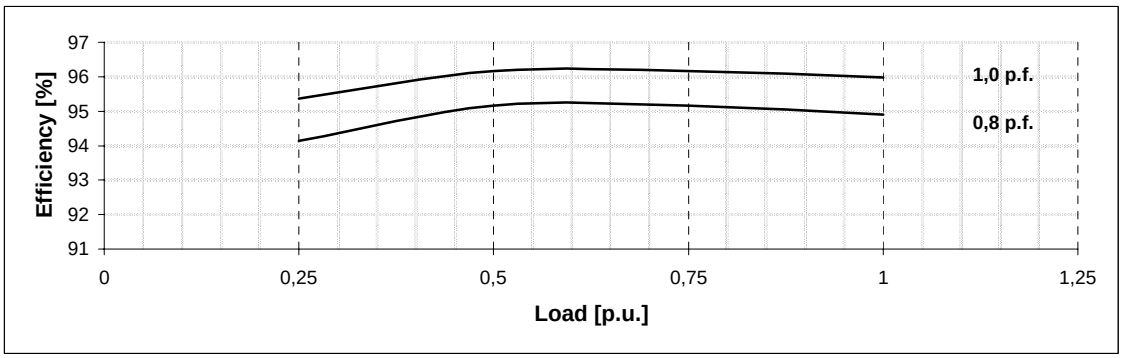
Typical efficiency curves

60 Hz - 900 min^{-1}

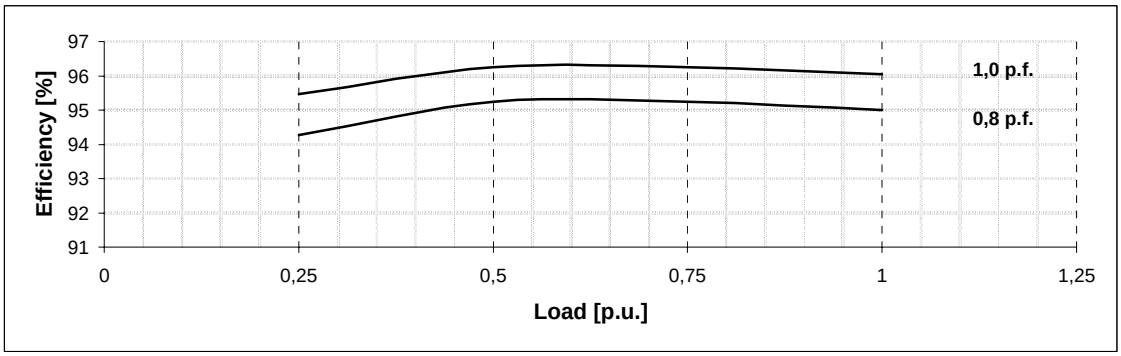
416 V



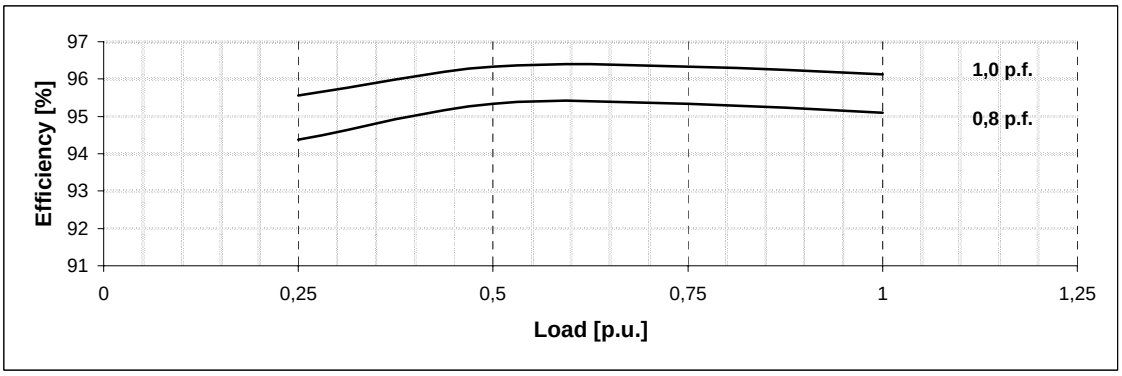
440 V



460 V



480 V



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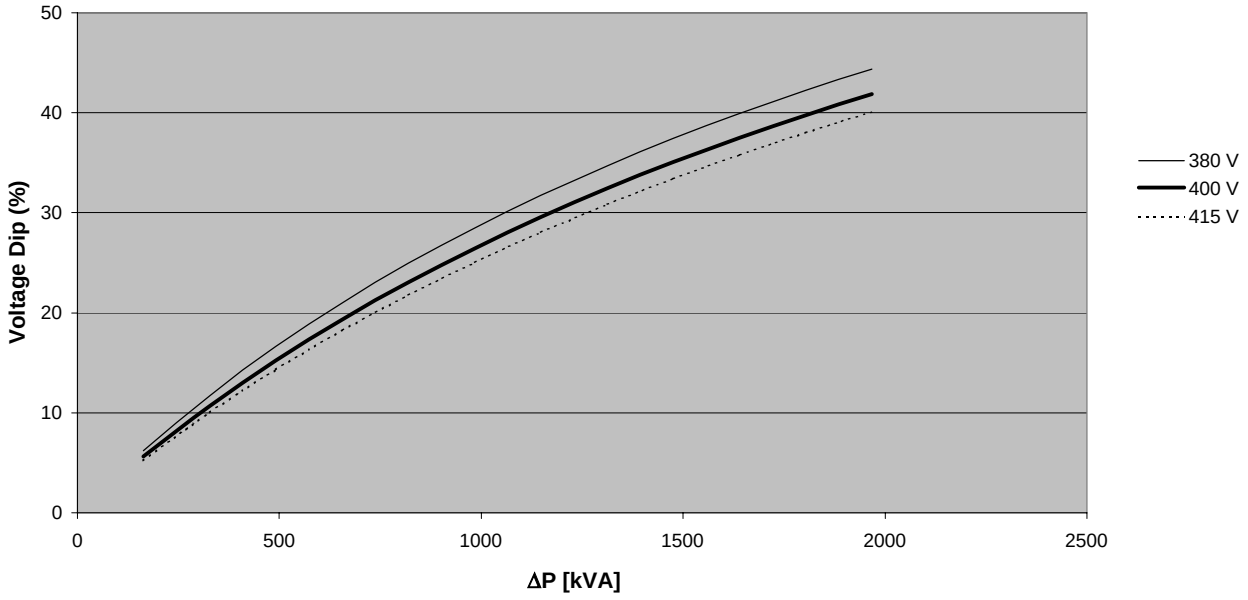
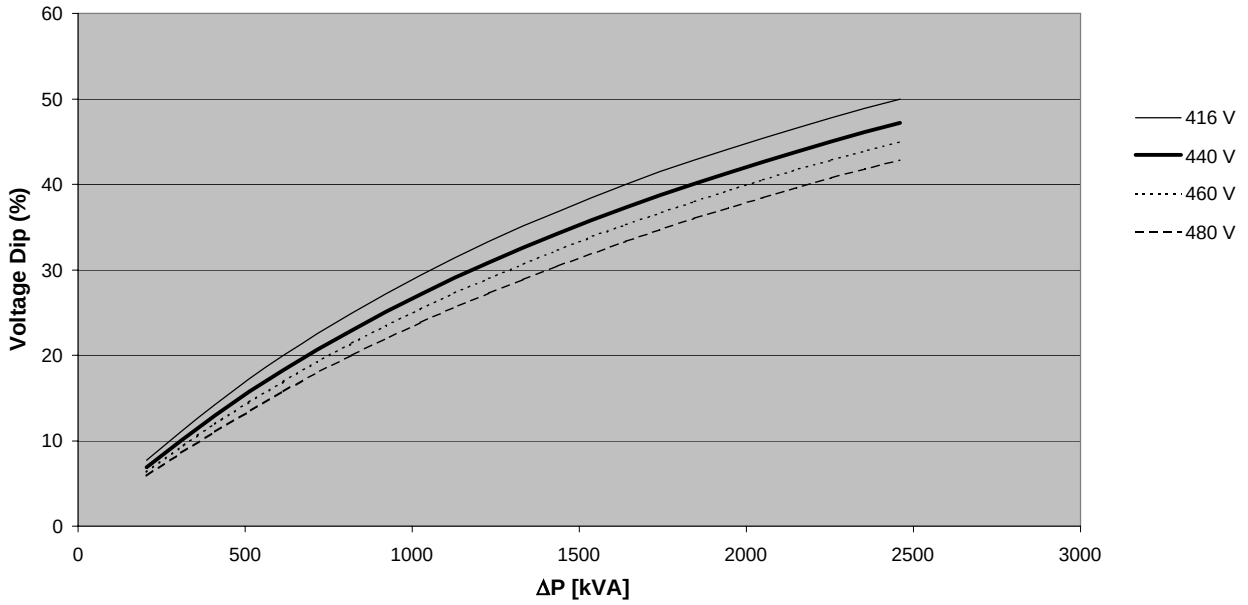
Locked rotor motor starting curves (*)

50 Hz - 750 min^{-1}



60 Hz - 900 min^{-1}



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

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

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 500 SC 8

8 POLES

CONTINUOUS DUTY

50 Hz-750 min^{-1} / 60 Hz-900 min^{-1}

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

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**1020**	**1020**	**1010**	**1163**	**1193**	**1224**	**1275**
		kW	***816***	***816***	***808***	***930***	***954***	***979***	***1020***
EFFICIENCY (%) @ 0,8 p.f.		4/4	94,9	95,0	94,8	95,1	95,3	95,4	95,5
		3/4	95,0	95,1	94,9	95,3	95,5	95,6	95,7
		2/4	94,7	94,8	94,6	95,3	95,5	95,6	95,7
EFFICIENCY (%) @ 1,0 p.f.		4/4	96,0	96,1	95,9	96,1	96,3	96,4	96,4
		3/4	96,0	96,1	96,0	96,3	96,5	96,6	96,6
		2/4	95,8	95,9	95,8	96,3	96,5	96,6	96,6
SHORT CIRCUIT RATIO			0,54	0,60	0,65	0,47	0,52	0,55	0,58
REACTANCES (%)									
Direct axis synchronous		xd	265	240	220	305	280	260	250
Quadrature axis synchronous		xq	145	130	120	165	150	140	135
Direct axis transient		x'd	28,8	26,0	23,9	32,9	30,2	28,3	27,1
Direct axis subtransient		x"d	13,0	11,7	10,8	14,8	13,6	12,7	12,2
Quadrature axis subtransient		x"q	13,3	12,0	11,0	15,2	13,9	13,1	12,5
Negative sequence		x_2	13,1	11,8	10,9	14,9	13,7	12,8	12,3
Zero sequence		x_0	3,5	3,2	2,9	4,0	3,7	3,5	3,3

TIME CONSTANTS [s]

Open circuit (T'do)	2,20	Subtransient (T"d)	0,011
Transient (T'd)	0,23	Armature (Ta)	0,033

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6328 C3 / With grease nipple
N-end bearing/Lubrication	6326 C3 / With grease nipple
Weight (IM B34) [kg]	3800
Inertia (J) (IM B34) [kgm^2]	74,2
Overspeed [min^{-1}]	1500
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,67 / 2,17
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	2,3
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 3% (under no-load or non-distorting-load condition)

STANDARDS

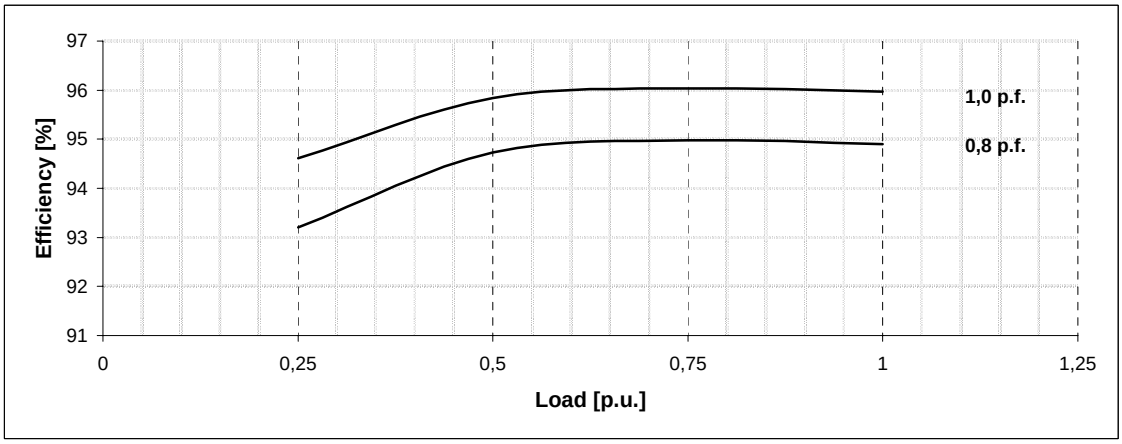
IEC 60034-1; CEI 2-3; BS 4999-5000; VDE 0530; NF 51-100,111; OVE M-10; NEMA MG 1.22.

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

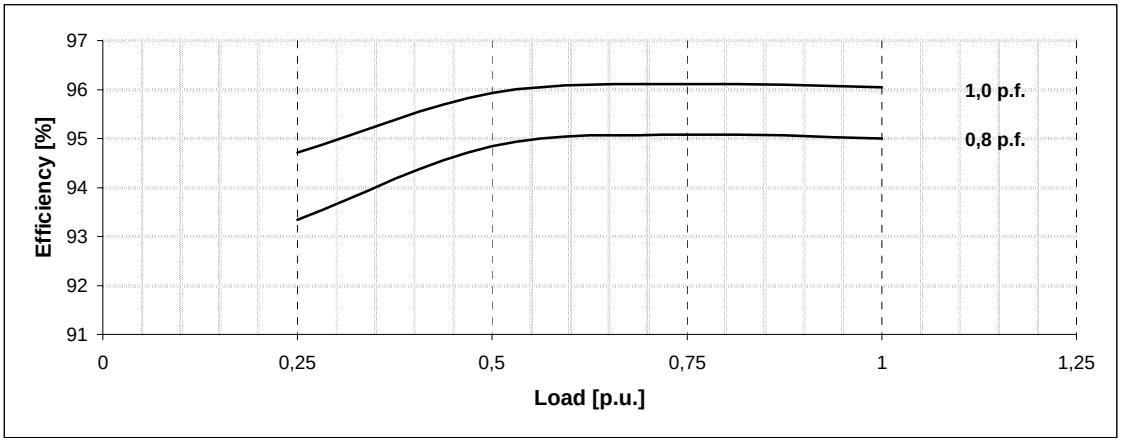
Typical efficiency curves

50 Hz - 750 min^{-1}

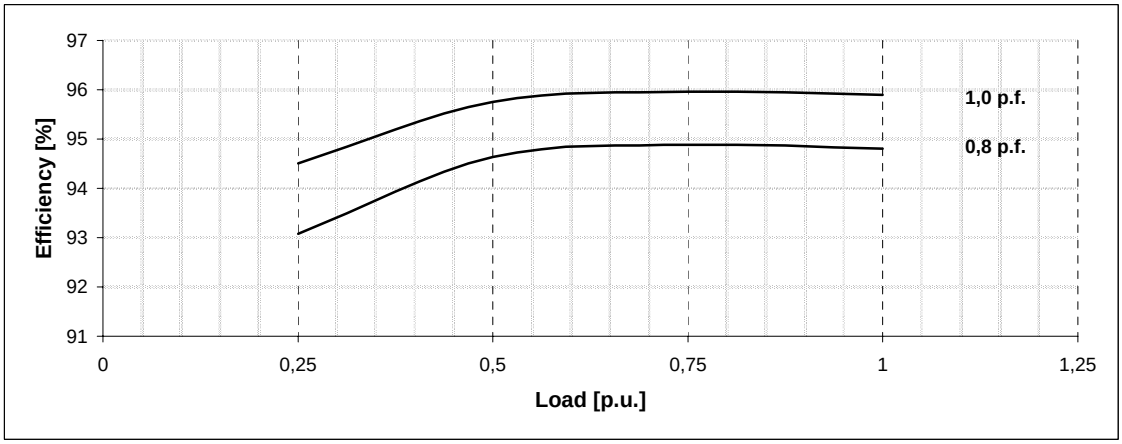
380 V



400 V



415 V



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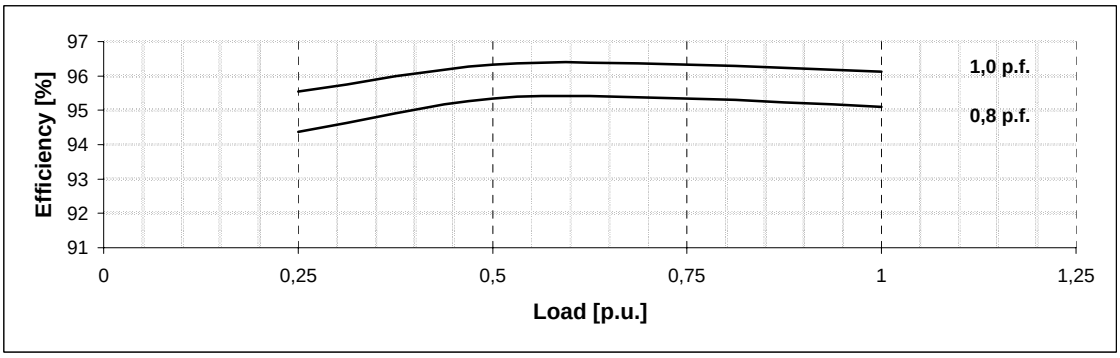
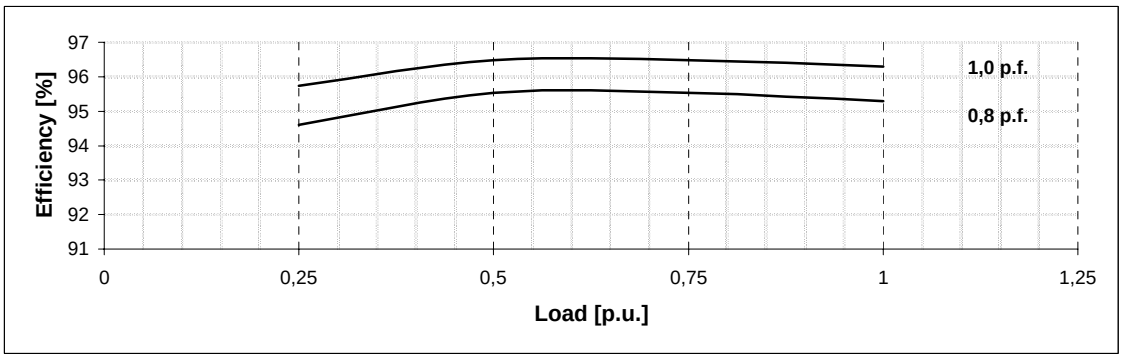
Typical efficiency curves

60 Hz - 900 min^{-1}

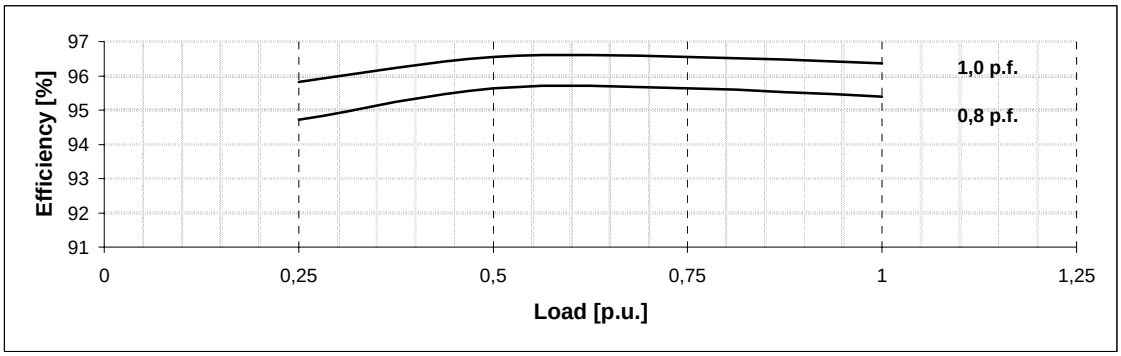
416 V



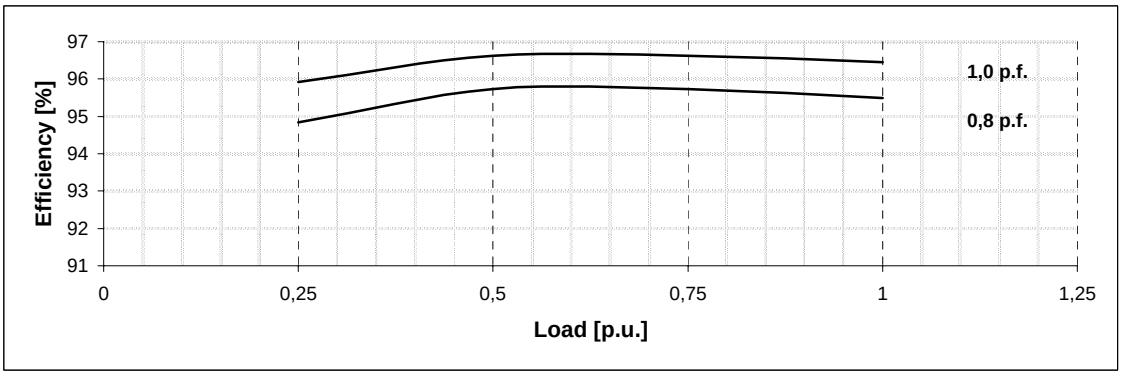
440 V



460 V



480 V



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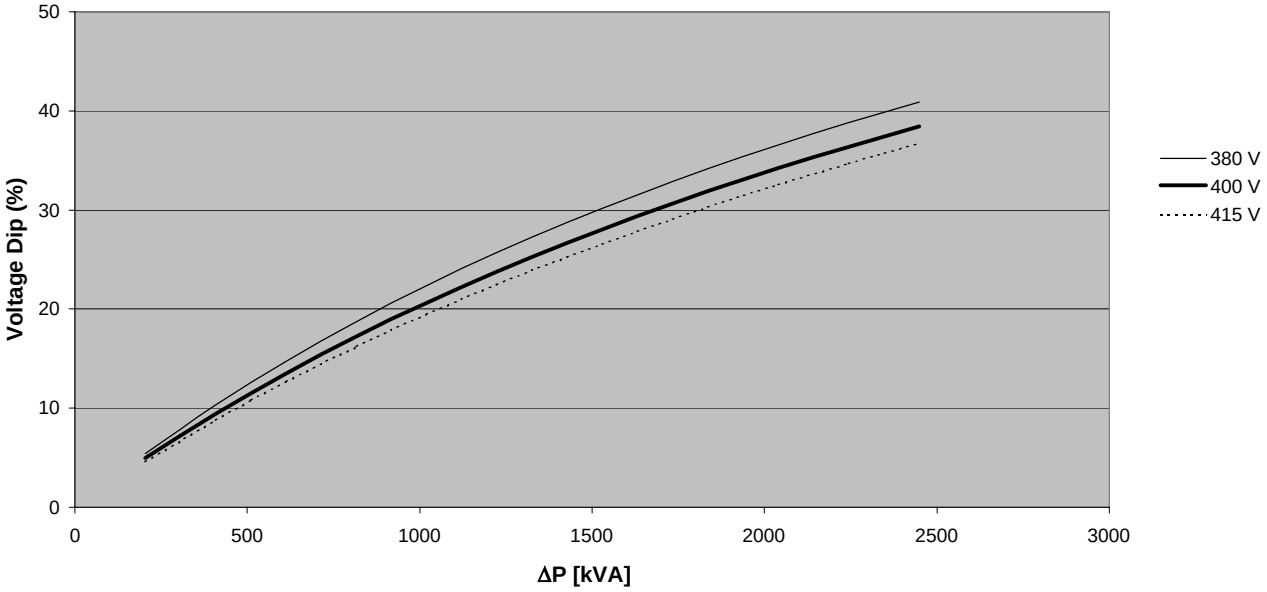
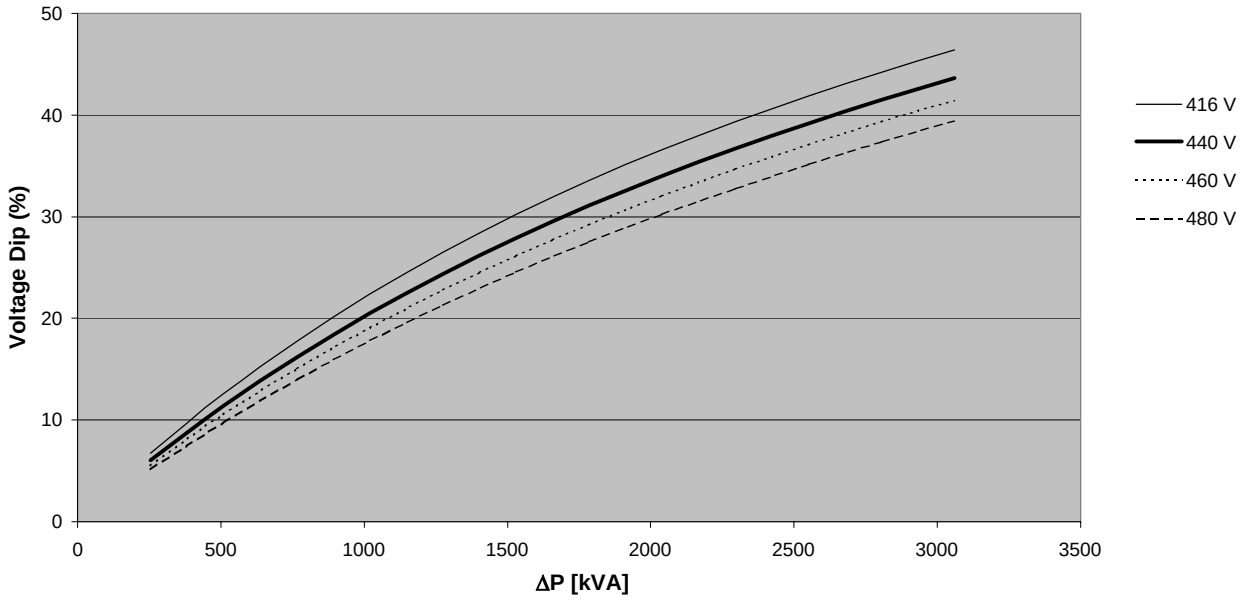
Locked rotor motor starting curves (*)

50 Hz - 750 min^{-1}



60 Hz - 900 min^{-1}



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

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

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 500 MB 8

8 POLES

CONTINUOUS DUTY

50 Hz-750 min^{-1} / 60 Hz-900 min^{-1}

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

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**1270**	**1270**	**1300**	**1448**	**1486**	**1524**	**1590**
		kW	***1016***	***1016***	***1040***	***1158***	***1189***	***1219***	***1272***
EFFICIENCY (%) @ 0,8 p.f.		4/4	95,0	95,1	94,9	95,2	95,4	95,5	95,6
		3/4	95,1	95,2	95,0	95,4	95,6	95,7	95,8
		2/4	94,8	94,9	94,7	95,4	95,6	95,7	95,8
EFFICIENCY (%) @ 1,0 p.f.		4/4	96,1	96,1	96,0	96,2	96,4	96,4	96,5
		3/4	96,1	96,2	96,0	96,4	96,6	96,6	96,7
		2/4	95,9	96,0	95,8	96,4	96,6	96,6	96,7
SHORT CIRCUIT RATIO			0,53	0,58	0,61	0,46	0,50	0,53	0,56
REACTANCES (%)									
Direct axis synchronous		xd	260	235	225	295	275	255	245
Quadrature axis synchronous		xq	140	125	120	160	145	135	130
Direct axis transient		x'd	27,5	24,8	23,6	31,4	28,8	27,0	25,9
Direct axis subtransient		x"d	13,3	12,0	11,4	15,2	13,9	13,1	12,5
Quadrature axis subtransient		x"q	12,6	11,4	10,8	14,4	13,2	12,4	11,9
Negative sequence		x_2	12,9	11,6	11,0	14,7	13,5	12,6	12,1
Zero sequence		x_0	5,8	5,2	4,9	6,6	6,0	5,7	5,4

TIME CONSTANTS [s]

Open circuit (T'do)	2,10	Subtransient (T"d)	0,014
Transient (T'd)	0,23	Armature (Ta)	0,034

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6328 C3 / With grease nipple
N-end bearing/Lubrication	6326 C3 / With grease nipple
Weight (IM B34) [kg]	4400
Inertia (J) (IM B34) [kgm^2]	82,2
Overspeed [min^{-1}]	1500
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,67 / 2,17
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	1,5
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 3% (under no-load or non-distorting-load condition)

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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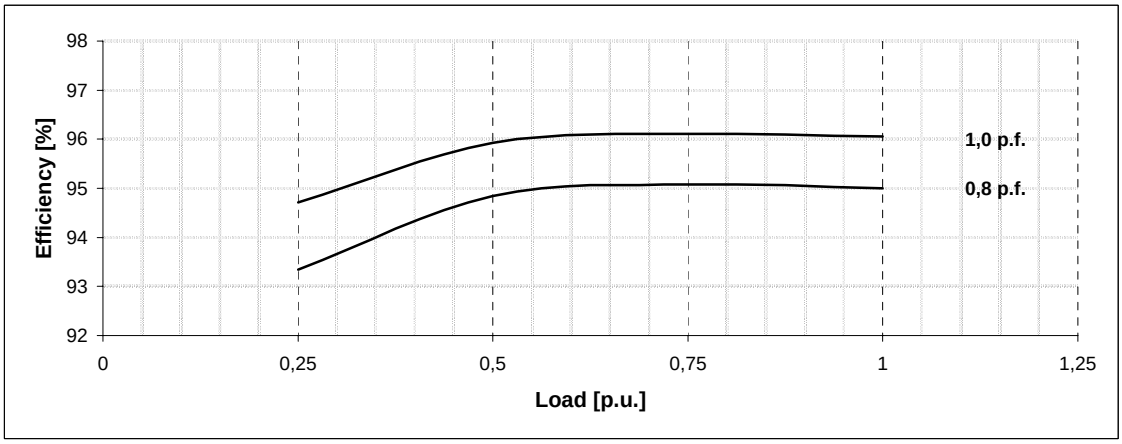
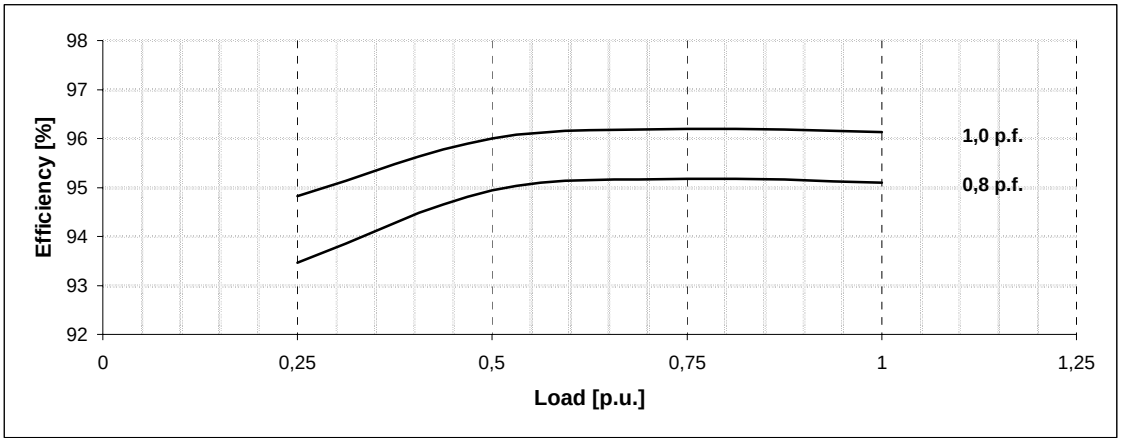
Typical efficiency curves

50 Hz - 750 min^{-1}

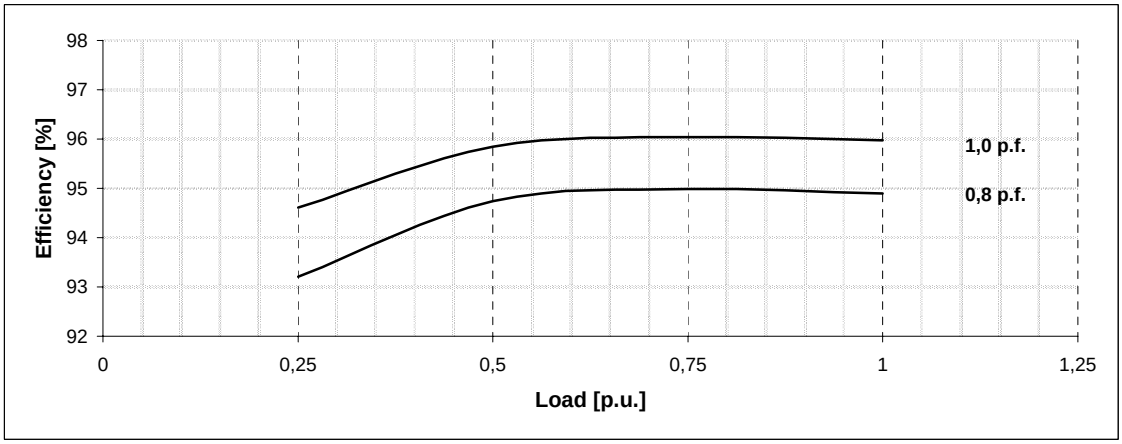
380 V



400 V



415 V



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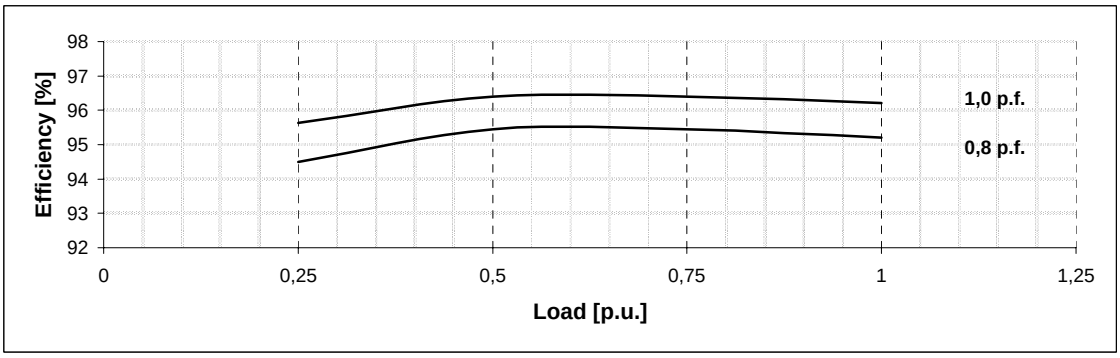
THREE-PHASE SYNCHRONOUS GENERATOR

MJB 500 MB 8

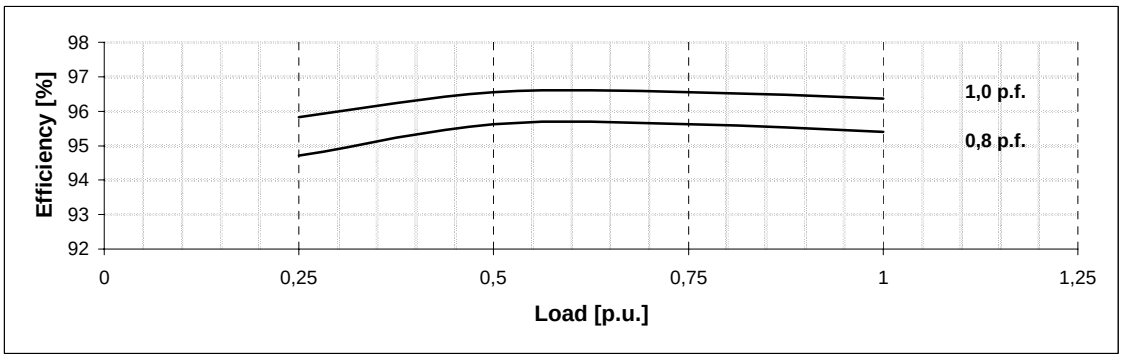
Typical efficiency curves

60 Hz - 900 min^{-1}

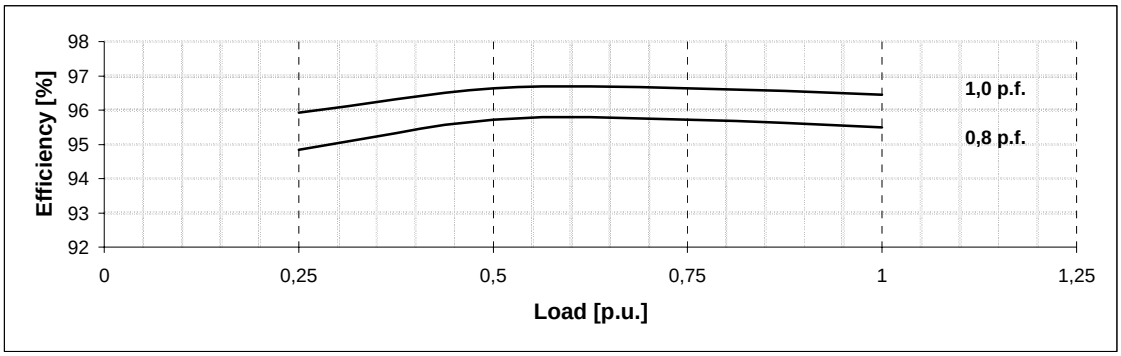
416 V



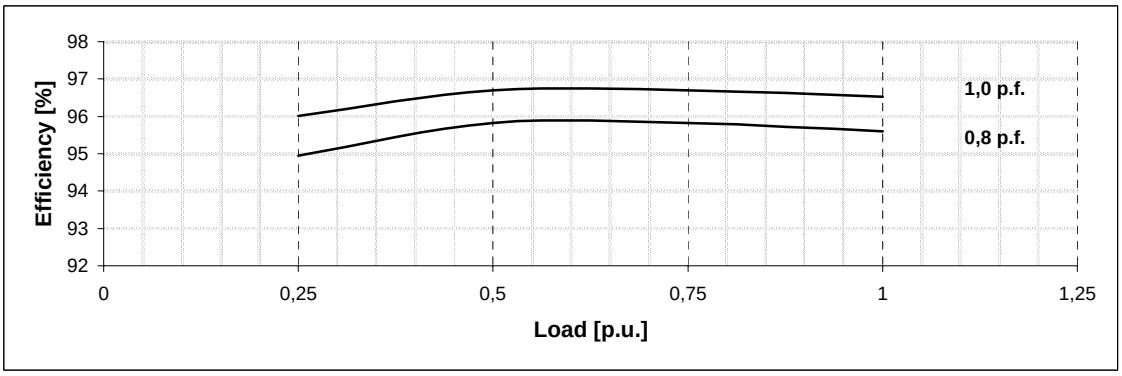
440 V



460 V



480 V



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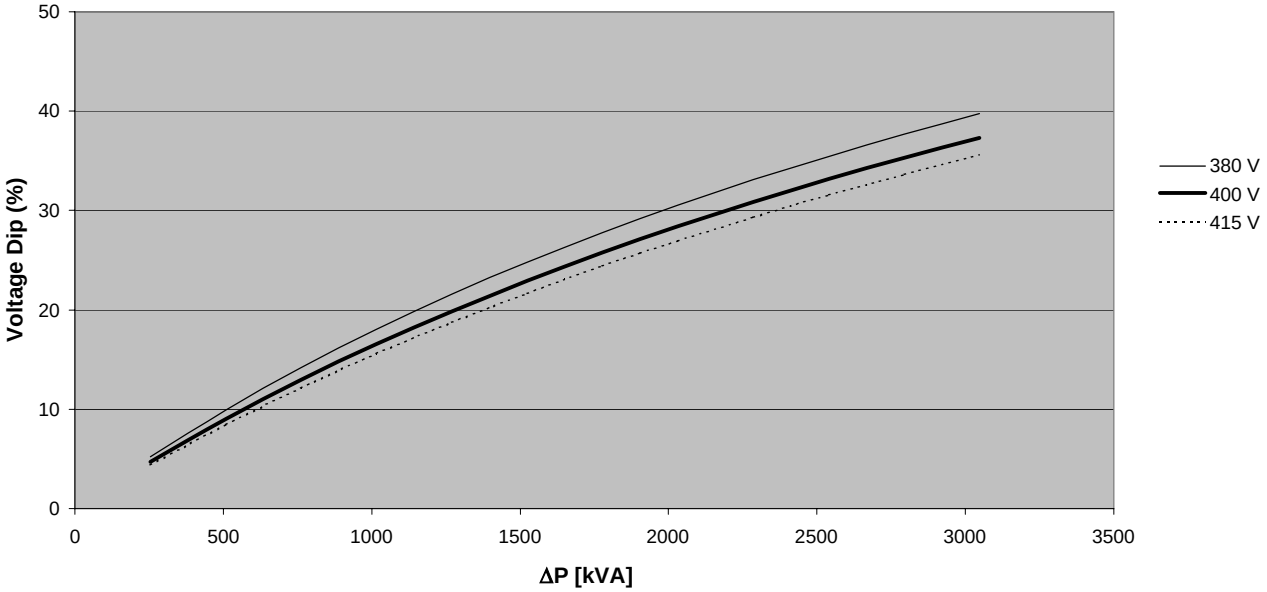
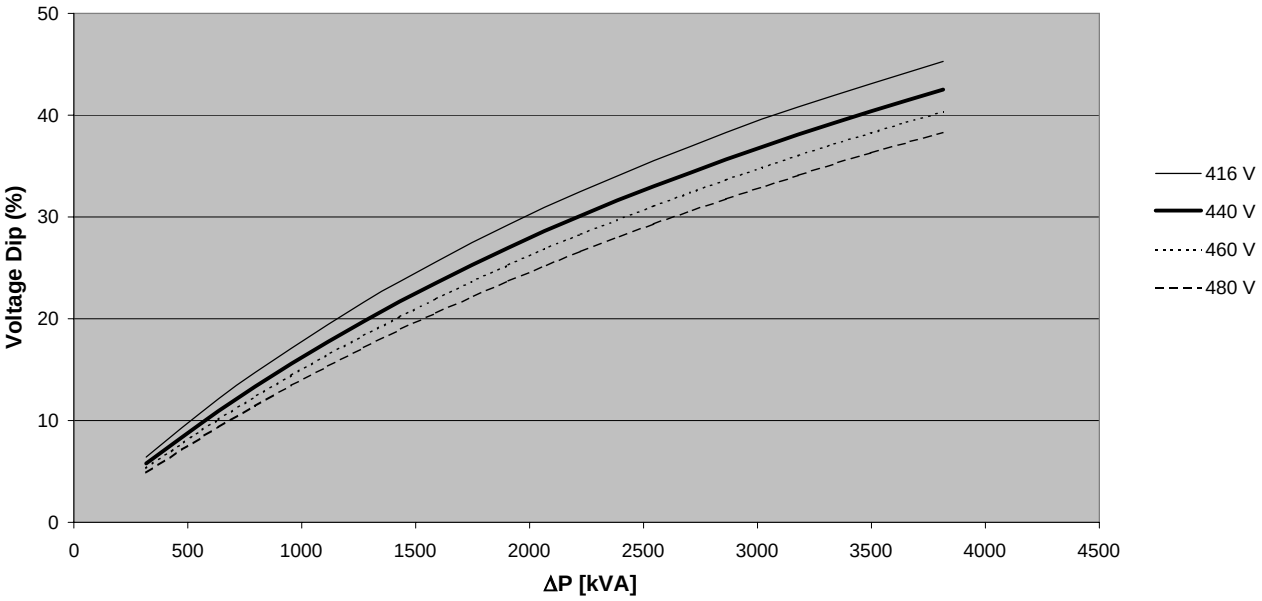
Locked rotor motor starting curves (*)

50 Hz - 750 min^{-1}



60 Hz - 900 min^{-1}



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

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

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FKI Energy Technology

THREE-PHASE SYNCHRONOUS GENERATOR

MJB 500 LA 8

8 POLES

CONTINUOUS DUTY

50 Hz-750 min^{-1} / 60 Hz-900 min^{-1}

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

FREQUENCY		**Hz**	**50**			**60**			
VOLTAGE	Star	**V**	**380**	**400**	**415**	**416**	**440**	**460**	**480**
	Delta		**220**	**230**	**240**	**240**	**254**	**265**	**277**
RATING		**kVA**	**1500**	**1500**	**1480**	**1710**	**1755**	**1800**	**1875**
		kW	***1200***	***1200***	***1184***	***1368***	***1404***	***1440***	***1500***
EFFICIENCY (%) @ 0,8 p.f.		4/4	95,1	95,2	95,0	95,5	95,7	95,8	95,9
		3/4	95,2	95,3	95,1	95,7	95,9	96,0	96,1
		2/4	94,9	95,0	94,8	95,7	95,9	96,0	96,1
EFFICIENCY (%) @ 1,0 p.f.		4/4	96,1	96,2	96,1	96,4	96,6	96,7	96,8
		3/4	96,2	96,3	96,1	96,6	96,8	96,9	96,9
		2/4	96,0	96,1	95,9	96,6	96,8	96,9	96,9
SHORT CIRCUIT RATIO			0,59	0,65	0,71	0,51	0,56	0,60	0,62
REACTANCES (%)									
Direct axis synchronous		xd	330	300	275	380	350	325	315
Quadrature axis synchronous		xq	190	170	155	215	195	185	175
Direct axis transient		x'd	37,7	34,0	31,2	43,0	39,5	37,0	35,4
Direct axis subtransient		x"d	18,8	17,0	15,6	21,5	19,7	18,5	17,7
Quadrature axis subtransient		x"q	19,7	17,8	16,3	22,5	20,7	19,4	18,5
Negative sequence		x_2	19,3	17,4	15,9	22,0	20,2	18,9	18,1
Zero sequence		x_0	6,9	6,2	5,7	7,8	7,2	6,8	6,5

TIME CONSTANTS [s]

Open circuit (T'do)	2,40	Subtransient (T"d)	0,014
Transient (T'd)	0,24	Armature (Ta)	0,037

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	6328 C3 / With grease nipple
N-end bearing/Lubrication	6326 C3 / With grease nipple
Weight (IM B34) [kg]	5100
Inertia (J) (IM B34) [kgm^2]	95
Overspeed [min^{-1}]	1500
Method of cooling	IC 01
Cooling air required [m^3/s] @ 50/60 Hz	1,67 / 2,17
Degree of protection	IP 23
Type of construction available	B2 - SAE / IM B34
Direction of rotation	CW

OTHER DATA

Phase resistance [mΩ] @ 20 °C (per phase)	1,0
Overloads	10% for 1 hour
3-phase short circuit current	>= 250% 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	< 5%
Total harmonic content	< 3% (under no-load or non-distorting-load condition)

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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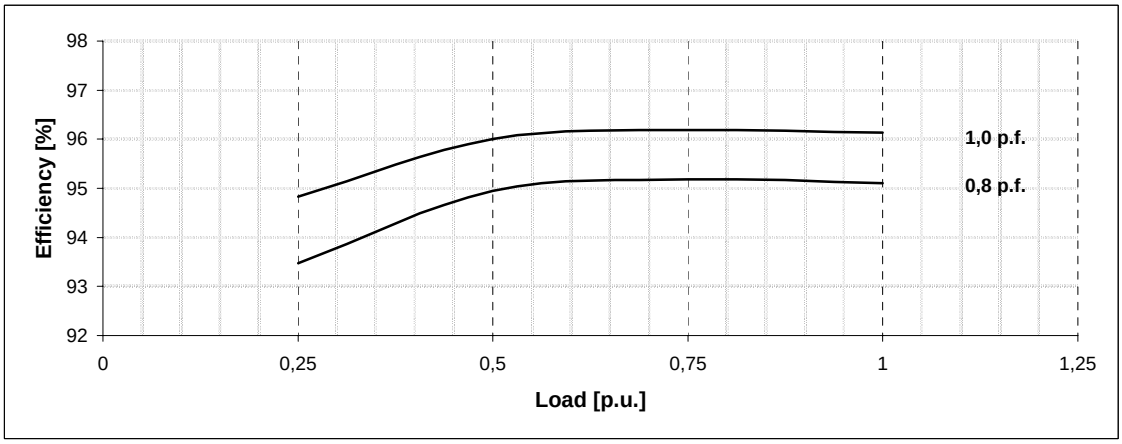
MarelliGenerators

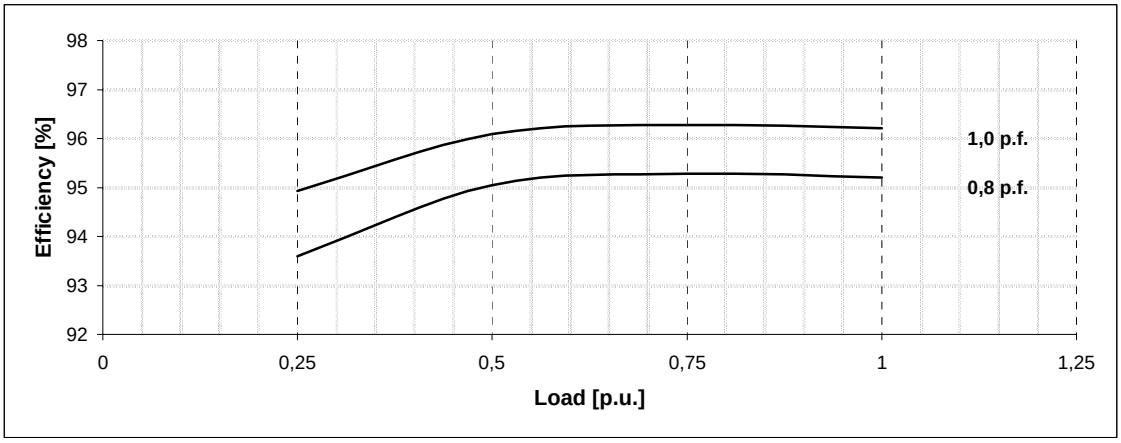
THREE-PHASE SYNCHRONOUS GENERATOR

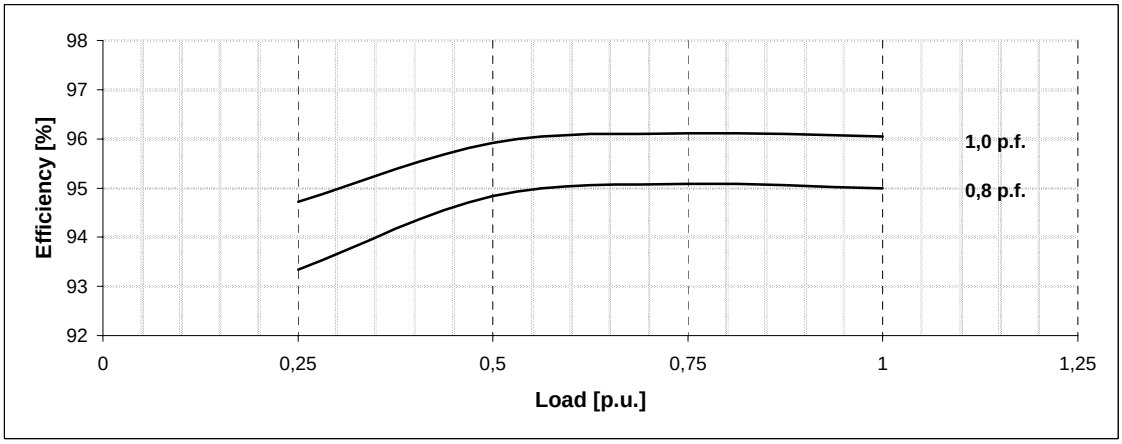
MJB 500 LA 8

Typical efficiency curves

50 Hz - 750 min^{-1}







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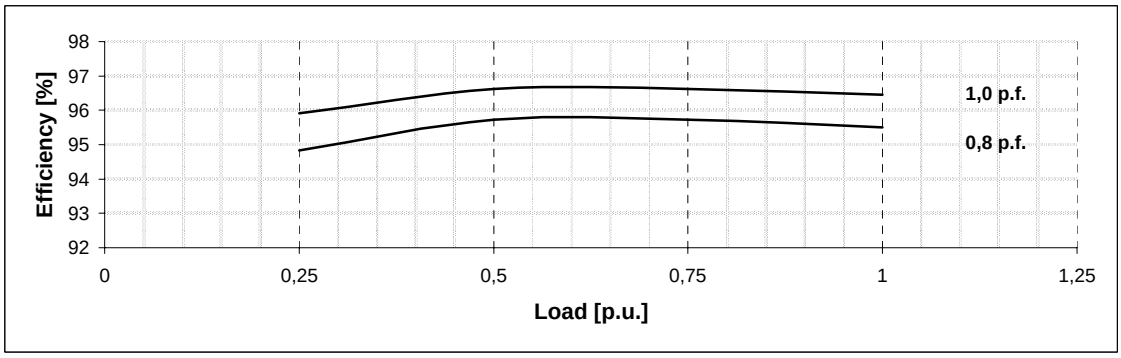
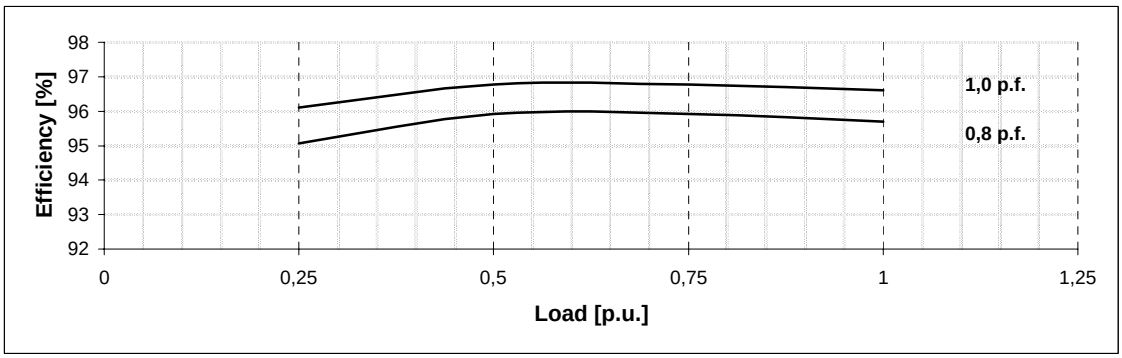
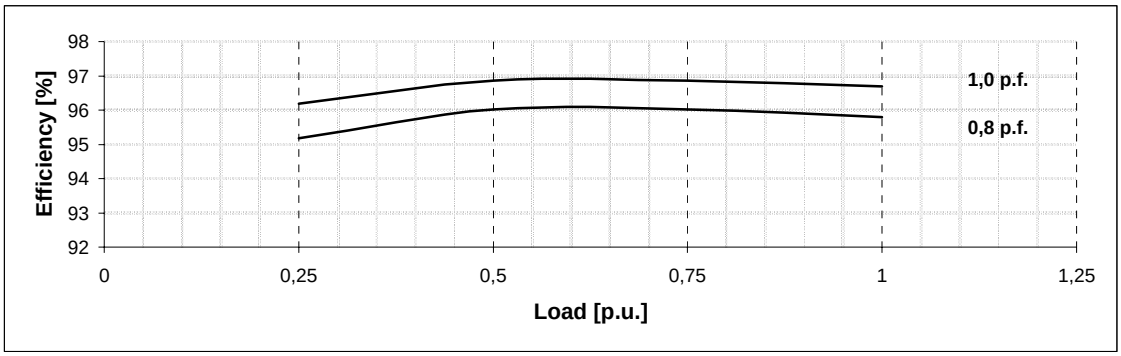
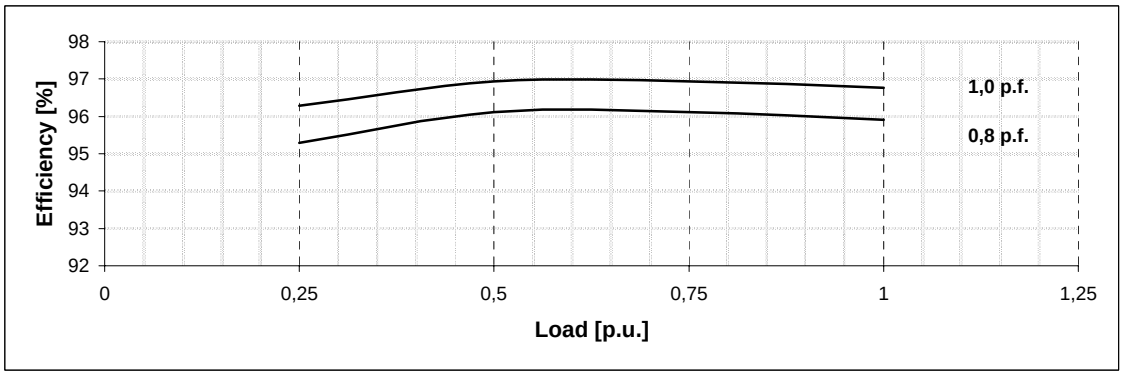
Typical efficiency curves

60 Hz - 900 min^{-1}









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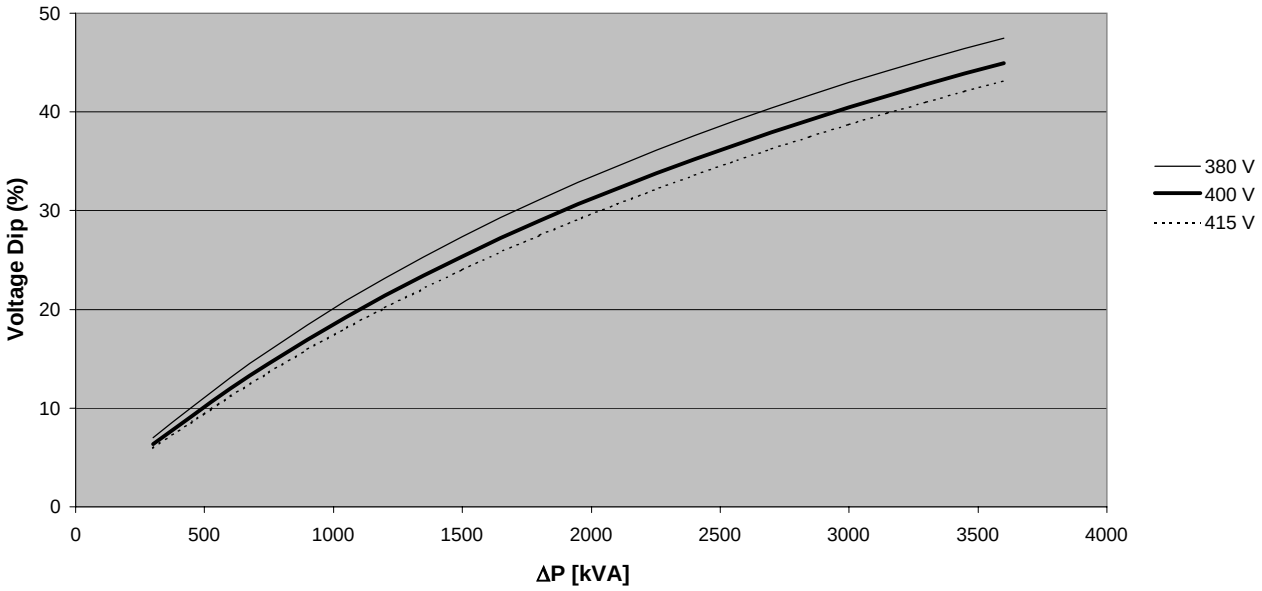
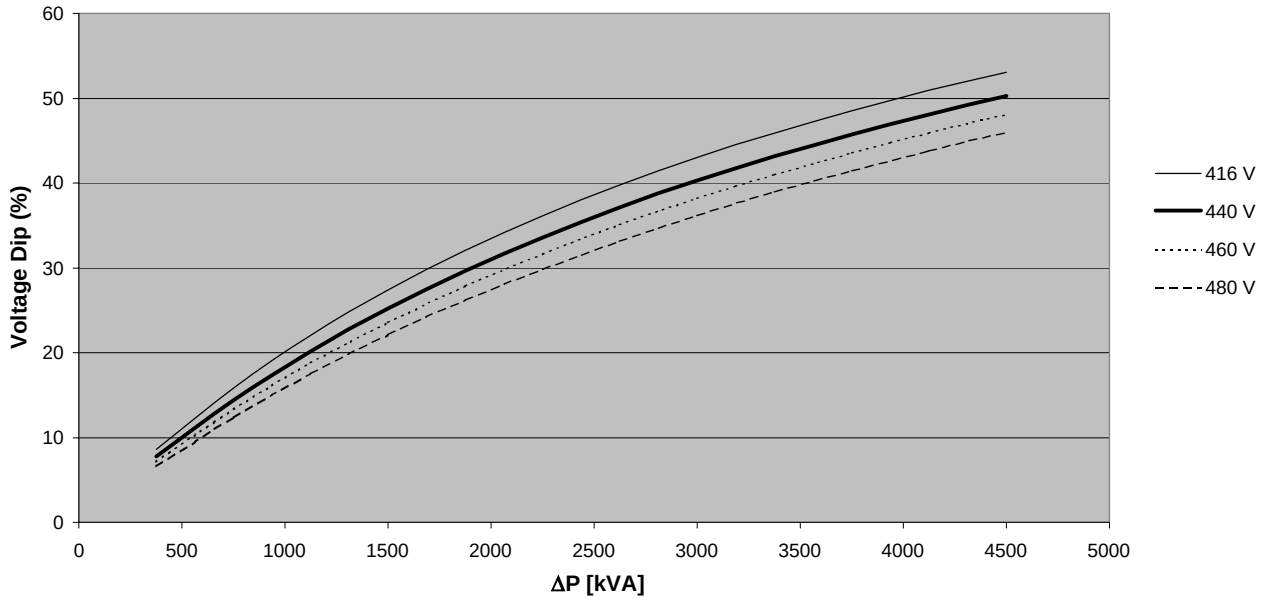
Locked rotor motor starting curves (*)

50 Hz - 750 min^{-1}



60 Hz - 900 min^{-1}



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