

AMBIENT TEMPERATURE	40°C	WINDING DATA		
TEMPERATURE RISE	H	Winding code	MO	
INSULATION CLASS	H	Number of leads	12	
POWER FACTOR	0,8	Winding pitch	2/3	
FREQUENCY	Hz	50		60
VOLTAGE	Star series Star parallel	V	380 400 415 440	380 416 440 460 480
RATING	kVA kW		275 275 264 248	275 298 315 329 344
			220 220 211 198	220 238 252 263 275
EFFICIENCY (%) @ 0,8 p.f.	4/4 3/4 2/4	93,0 93,0 92,9 92,0	93,2 93,5 93,6 93,6 93,5	93,8 94,0 94,0 94,0 93,8
		93,8 93,4 92,8 91,0	93,9 93,9 93,9 93,8 93,6	
EFFICIENCY (%) @ 1,0 p.f.	4/4 3/4 2/4	94,9 95,0 95,0 94,6	94,8 95,1 95,2 95,3 95,3	95,3 95,5 95,5 95,6 95,5
		95,4 95,4 95,2 94,4	95,3 95,4 95,4 95,4 95,3	95,4 95,3
STAND-BY RATING (163/27)	kVA	303 303 290 273	303 328 347 362 378	
STAND-BY EFFICIENCY (%) @ 0,8 p.f.		92,8 92,9 92,8 92,0	93,0 93,3 93,4 93,5 93,4	
SHORT CIRCUIT RATIO (referred to class H rating)		0,71 0,78 0,88 1,05	0,59 0,65 0,69 0,72 0,75	
REACTANCES (%) (referred to class H rating)				
Direct axis synchronous	x _d	242 219 195 163	291 263 249 238 228	
Quadrature axis synchronous	x _q	100 91 81 68	121 109 103 98 95	
Direct axis transient	x' _d	12,0 10,8 9,6 8,0	14,4 13,0 12,3 11,7 11,3	
Direct axis subtransient	x'' _d	9,0 8,1 7,2 6,0	10,8 9,7 9,2 8,8 8,4	
Quadrature axis subtransient	x'' _q	9,9 8,9 7,9 6,6	11,8 10,7 10,1 9,7 9,3	
Negative sequence	x ₂	9,4 8,5 7,6 6,3	11,3 10,2 9,6 9,2 8,9	
Zero sequence	x ₀	4,5 4,0 3,6 3,0	5,3 4,8 4,6 4,4 4,2	

TIME CONSTANTS [s]

Open circuit (T' _{do})	0,939	Subtransient (T'' _d)	0,008
Transient (T' _d)	0,098	Armature (T _a)	0,011

MECHANICAL CHARACTERISTICS

D-end bearing/Lubrication	Available on double bearing configuration (on request)
N-end bearing/Lubrication	6313 2Z C3 / Prelubricated
Weight [kg]	780
Inertia (J) [kgm ²]	2,56
Overspeed [min ⁻¹]	2250
Method of cooling	IC 01
Cooling air required [m ³ /s] @ 50/60 Hz	1,7 / 2,1
Degree of protection	IP 23
Type of construction available	B2 (B34 on request)
Direction of rotation	CW

OTHER DATA

Phase resistance [Ω] @ 20 °C - Star series	0,010
Overloads	10% for 1 hour
3-phase short circuit current	>= 300% (3 I _n) with aux. winding or PMG
Voltage regulation accuracy	+/- 0,5 % (@ rated load, balanced and non-distorting, p.f. 0,8)
Radio interference	EN 55011 Class B Group 1
Wave form THF	< 2%
Total harmonic content	< 2% (at no load)

STANDARDS

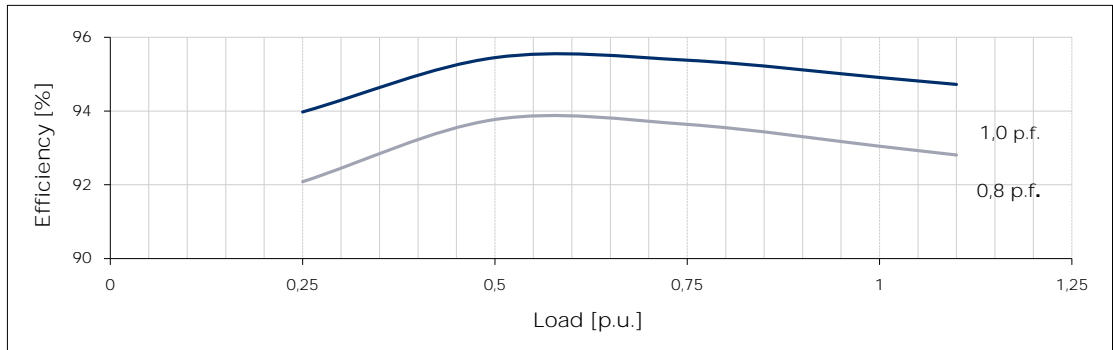
IEC 60034-1; BS 4999-5000; NEMA MG 1.32.
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THREE-PHASE SYNCHRONOUS GENERATOR
MXB-E 250 LA 4

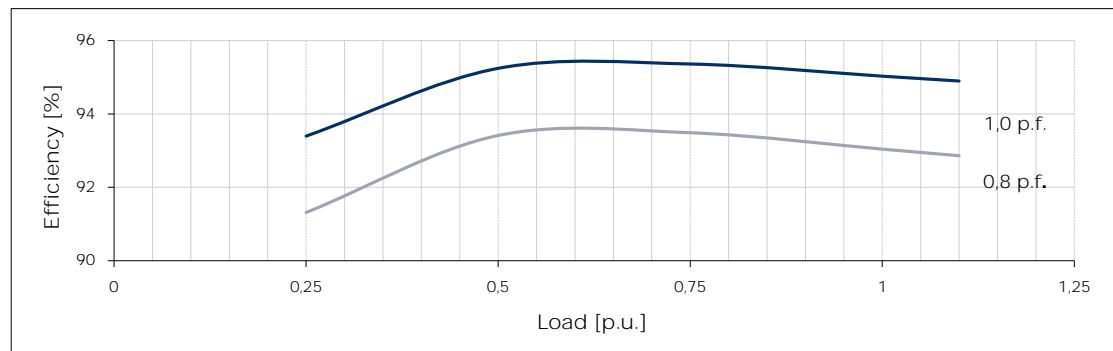
Typical efficiency curves

50 Hz - 1500 min⁻¹

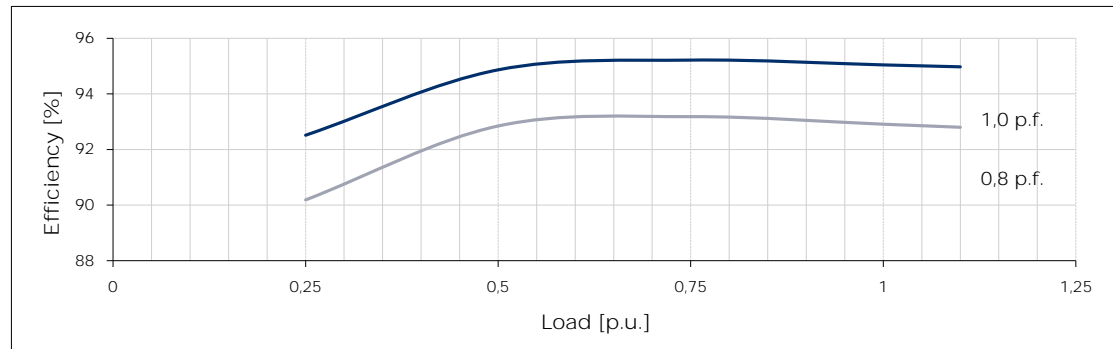
380 V



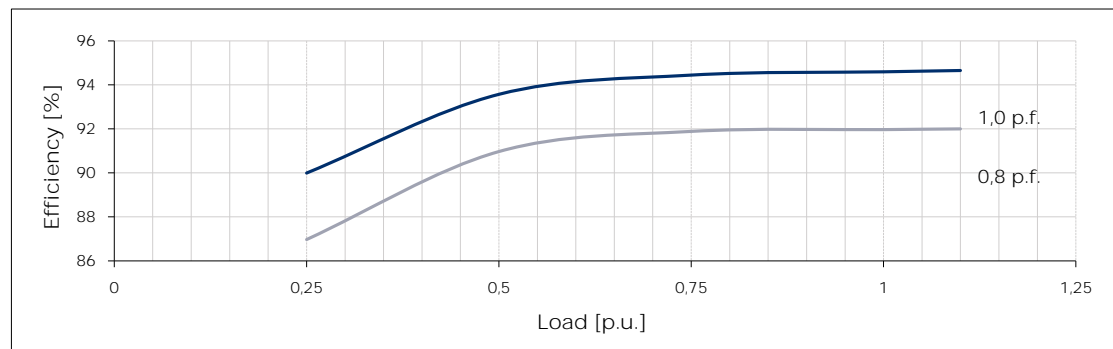
400 V



415 V



440 V

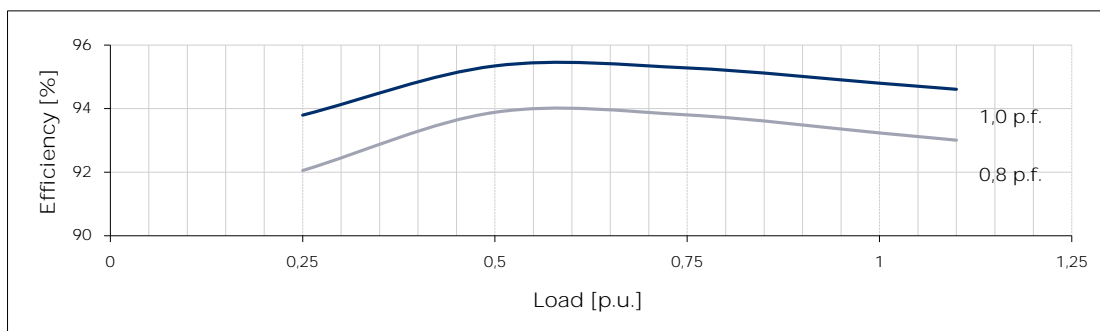


THREE-PHASE SYNCHRONOUS GENERATOR
MXB-E 250 LA 4

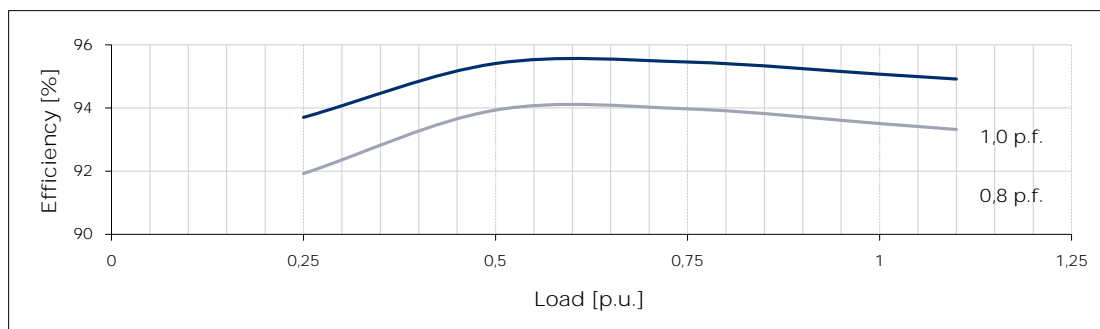
Typical efficiency curves

60 Hz - 1800 min⁻¹

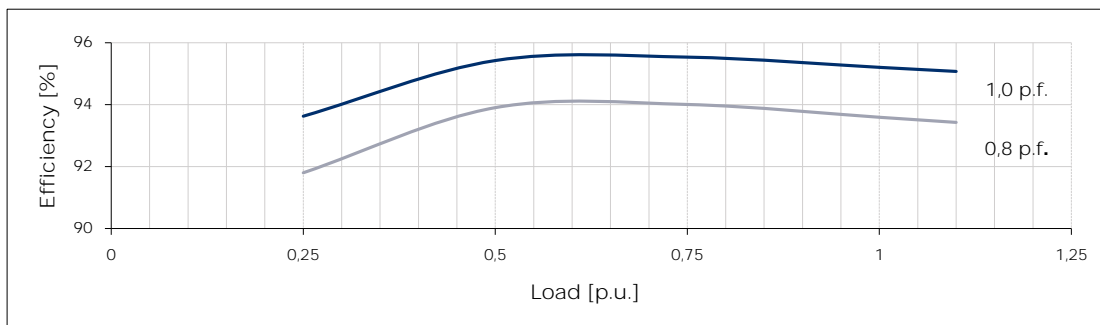
380 V



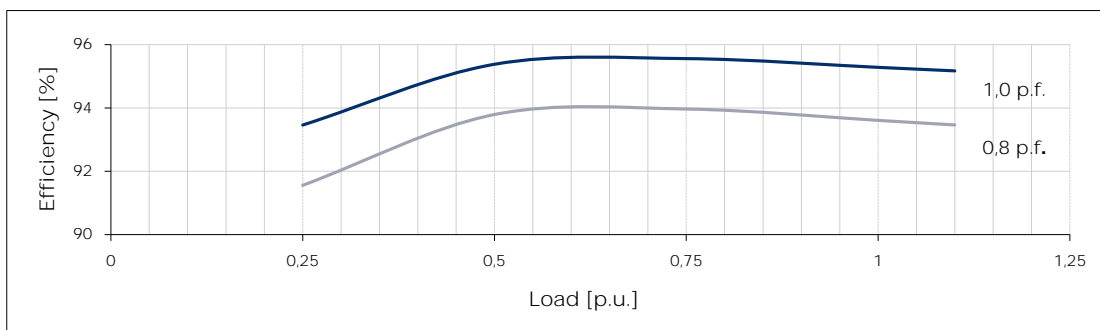
416 V



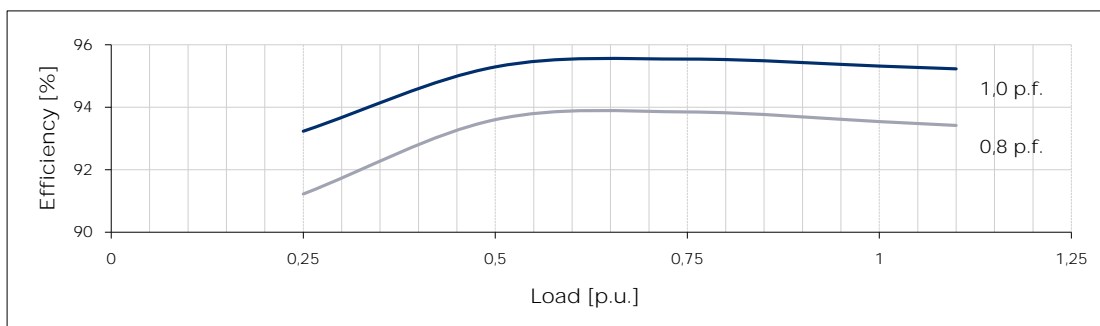
440 V



460 V



480 V





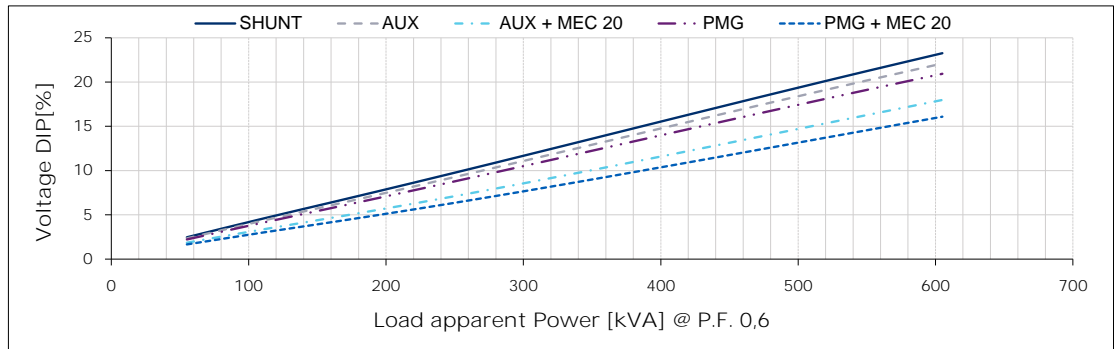
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Inspired solutions

THREE-PHASE SYNCHRONOUS GENERATOR MXB-E 250 LA 4

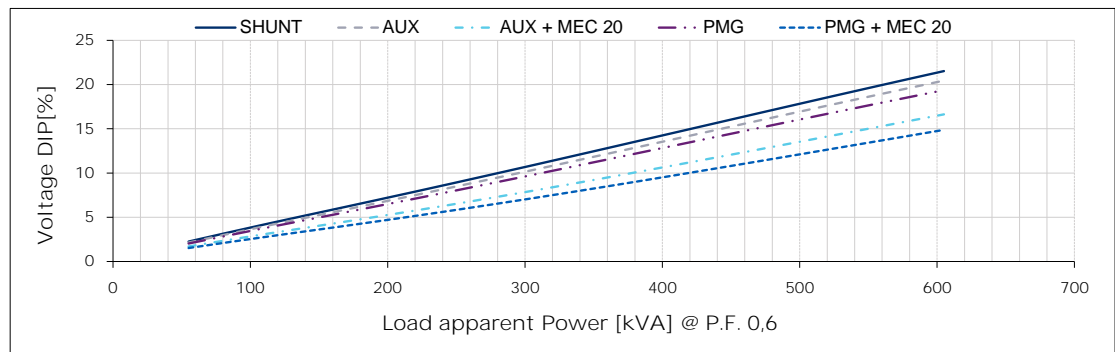
Typical voltage DIP curves

50 Hz - 1500 min⁻¹

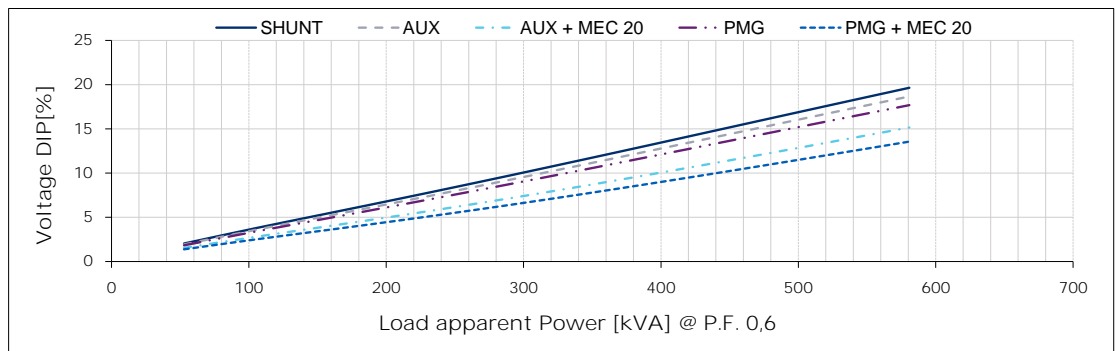
380 V



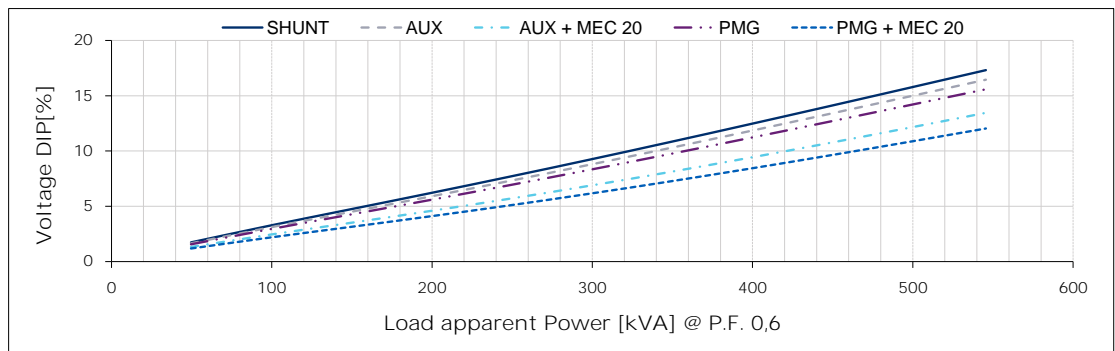
400 V



415 V



440 V





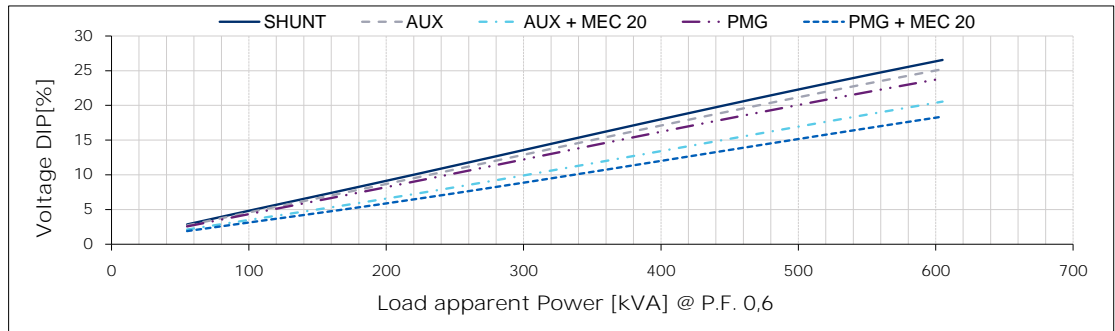
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THREE-PHASE SYNCHRONOUS GENERATOR MXB-E 250 LA 4

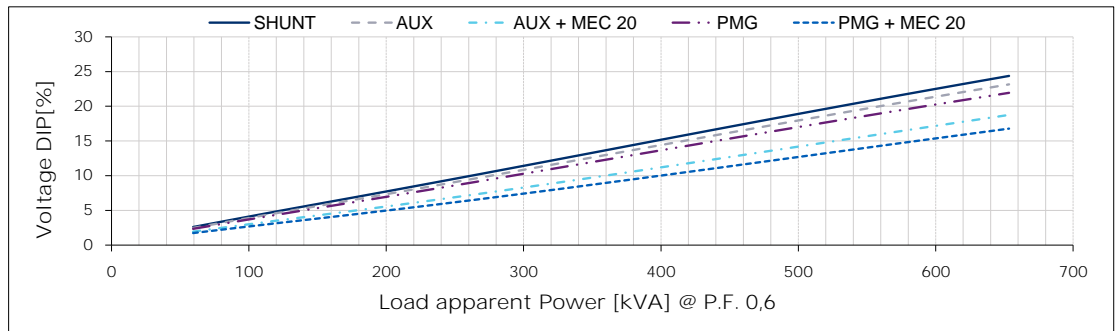
Typical voltage DIP curves

60 Hz - 1800 min⁻¹

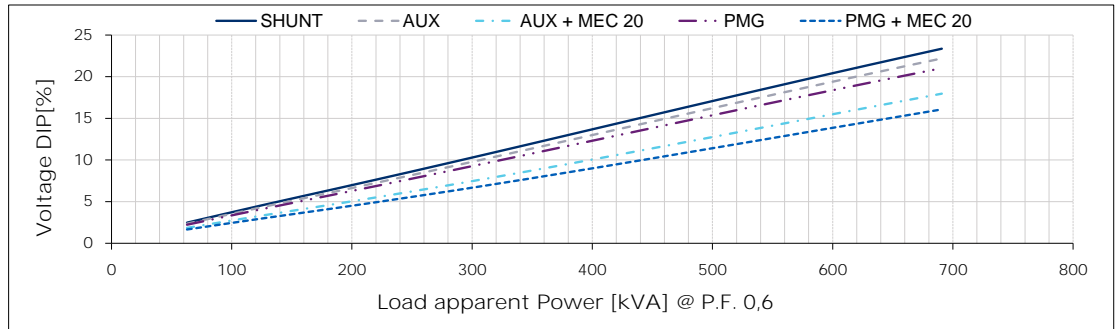
380 V



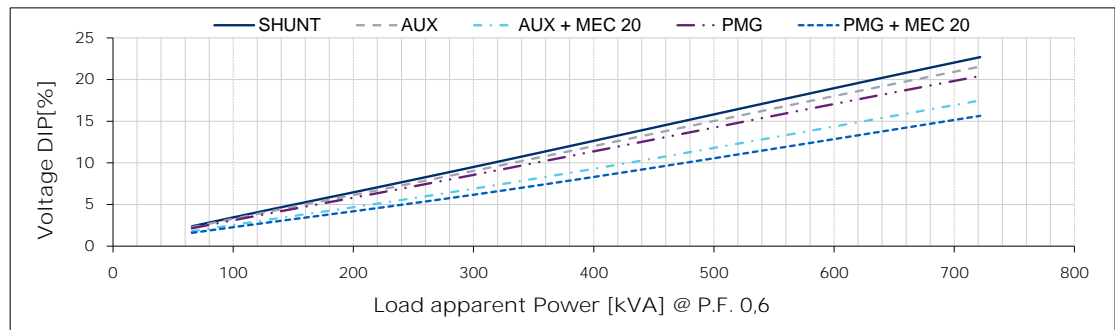
416 V



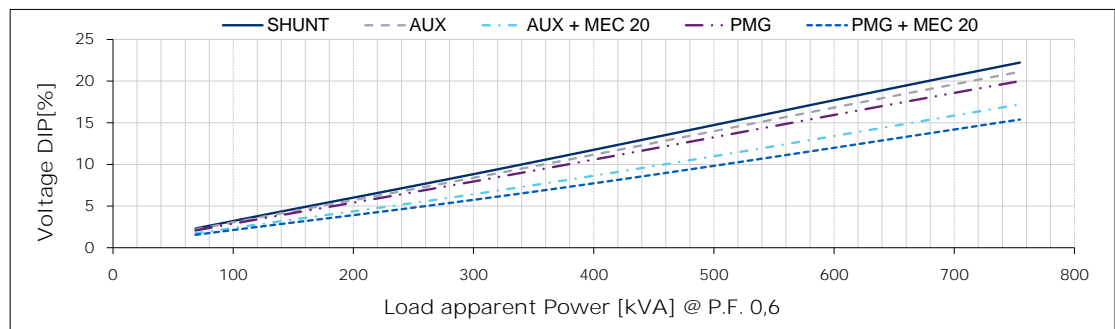
440 V



460 V



480 V



For P.F. different from 0,6 the following simplified formula can be used: $\Delta V @ P.F. = \Delta V @ 0,6 \cdot \sin(\arccos(P.F.)) / 0,8$

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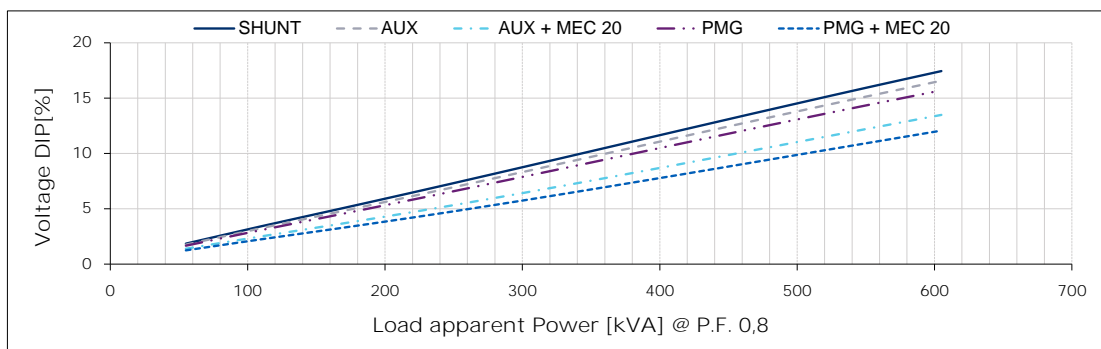
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THREE-PHASE SYNCHRONOUS GENERATOR MXB-E 250 LA 4

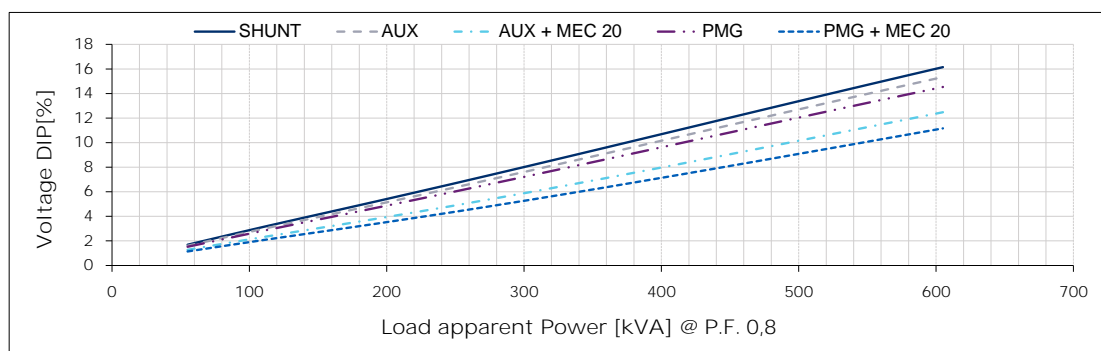
Typical voltage DIP curves

50 Hz - 1500 min⁻¹

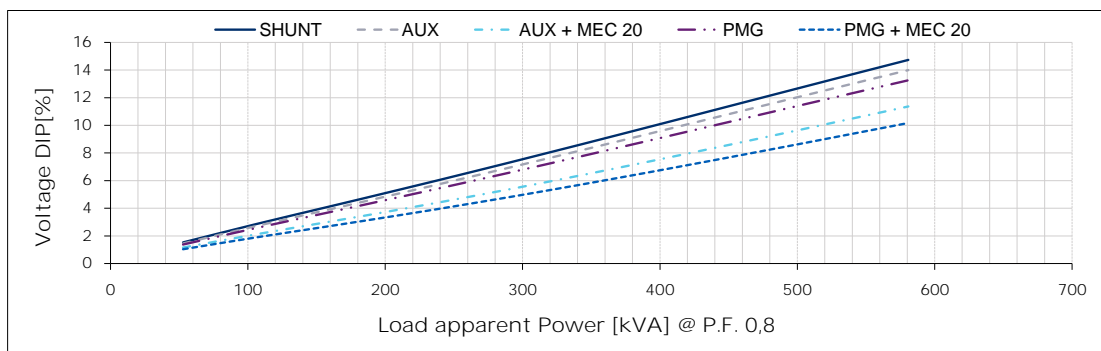
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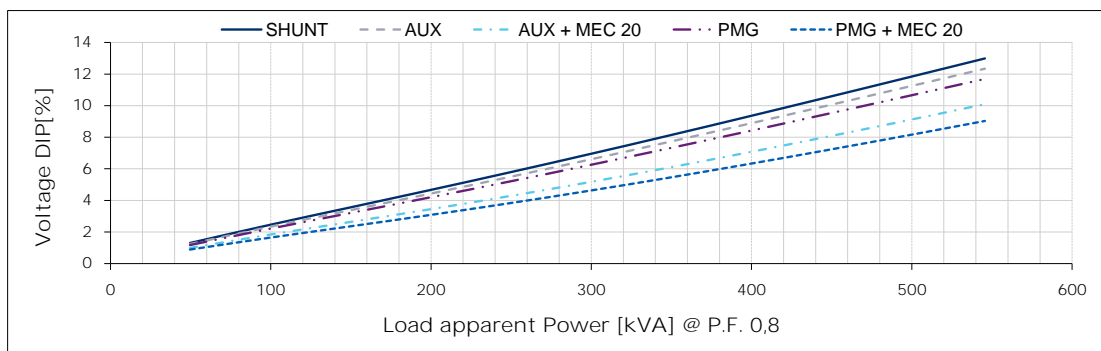
400 V



415 V



440 V





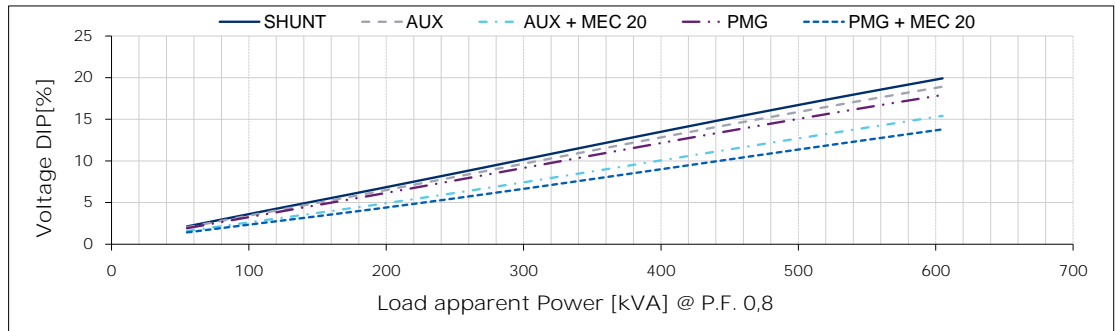
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THREE-PHASE SYNCHRONOUS GENERATOR MXB-E 250 LA 4

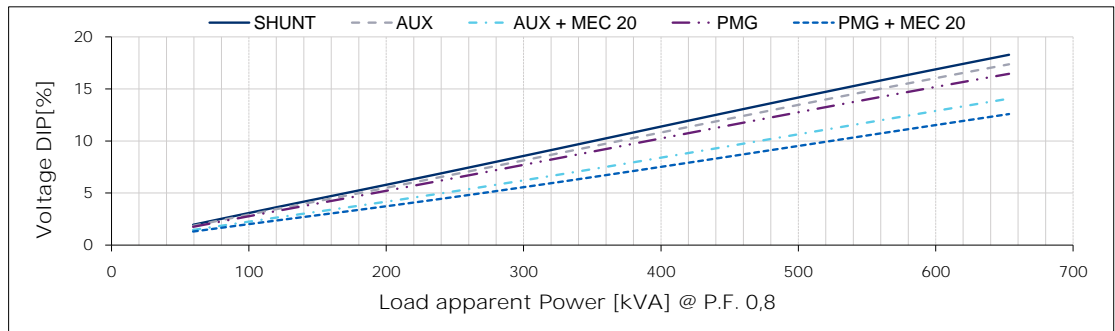
Typical voltage DIP curves

60 Hz - 1800 min⁻¹

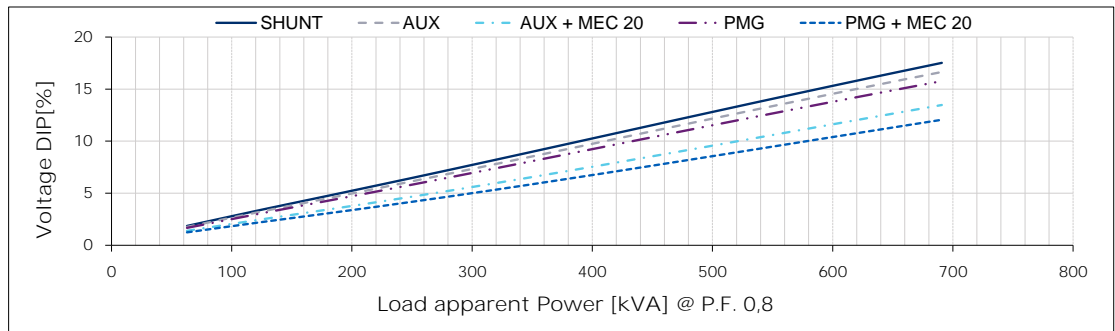
380 V



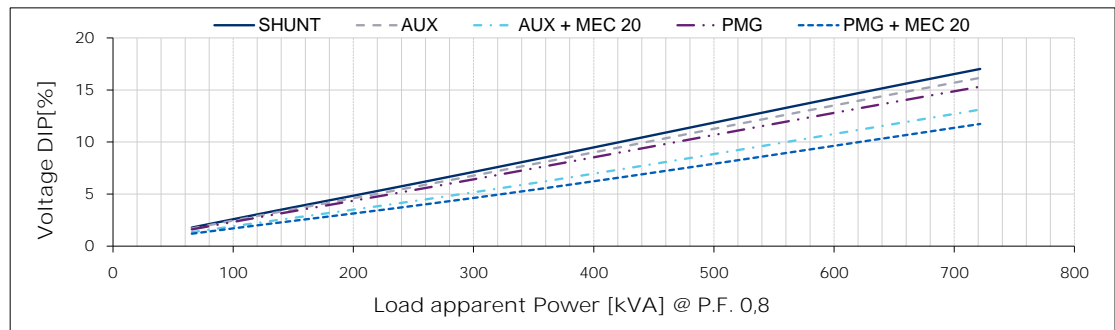
416 V



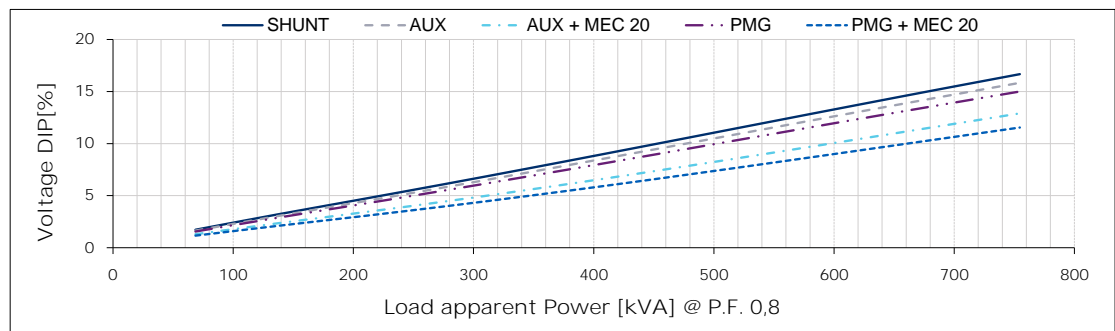
440 V



460 V



480 V

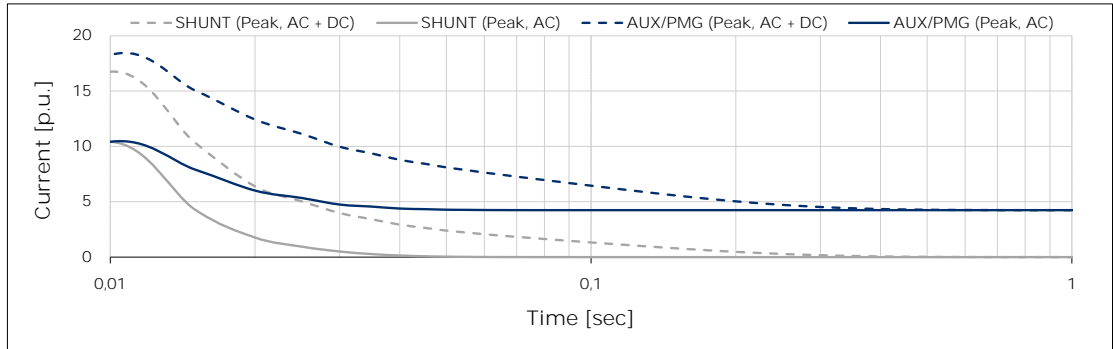


THREE-PHASE SYNCHRONOUS GENERATOR
MXB-E 250 LA 4

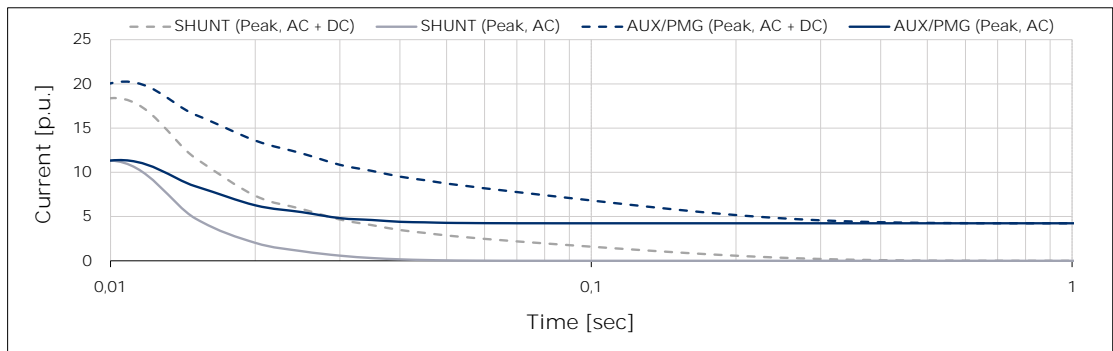
Typical 3-phase short circuit decrement curves

50 Hz - 1500 min⁻¹

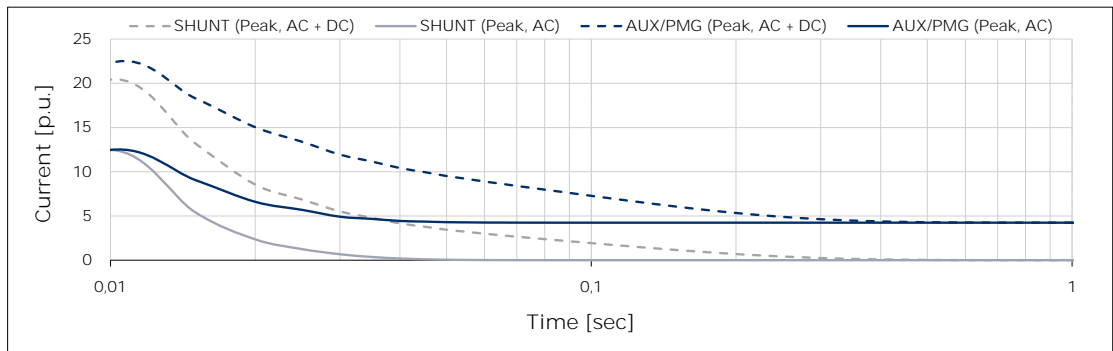
380 V



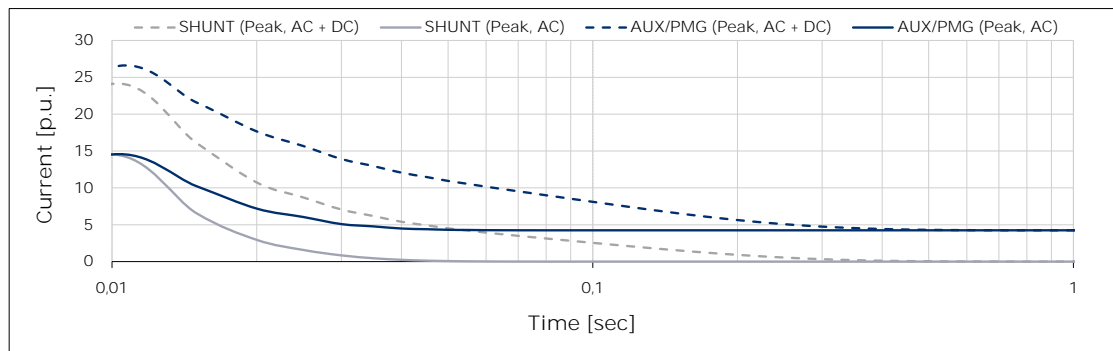
400 V



415 V



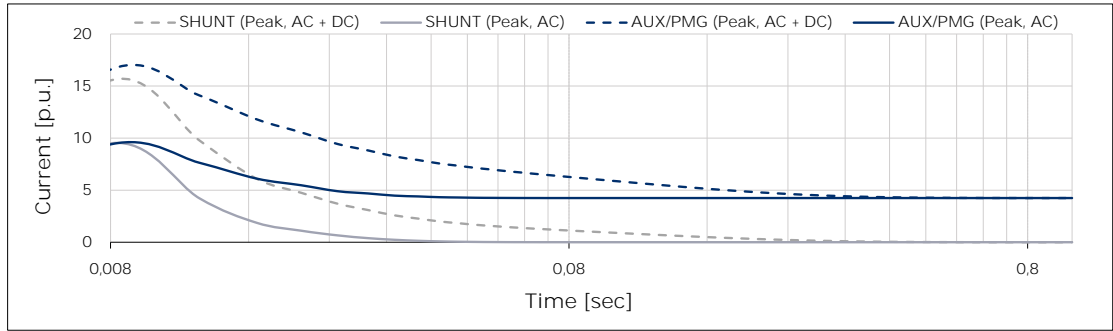
440 V



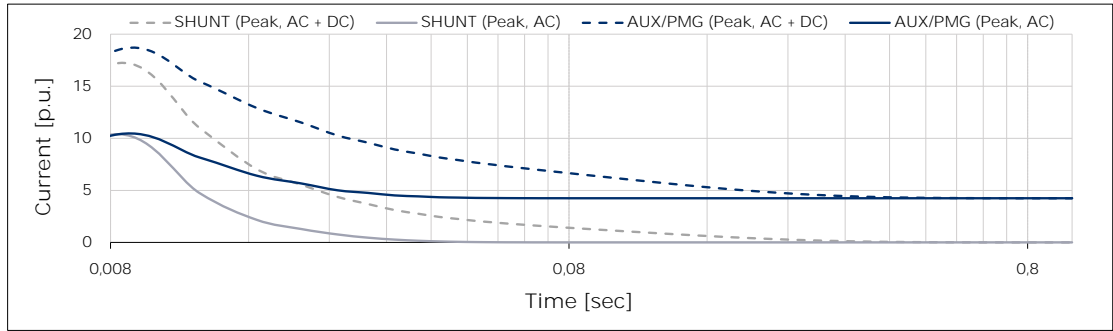
Typical 3-phase short circuit decrement curves

60 Hz - 1800 min⁻¹

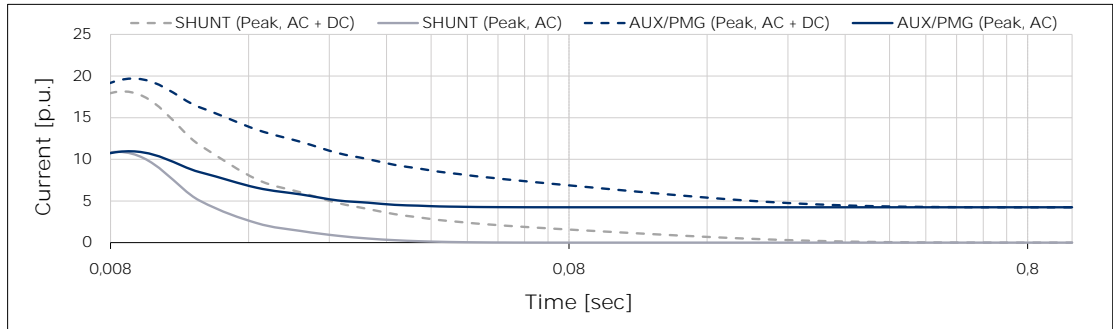
380 V



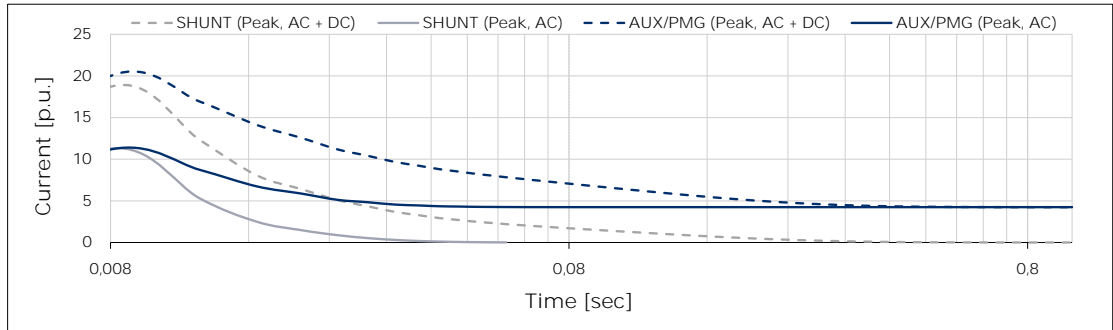
416 V



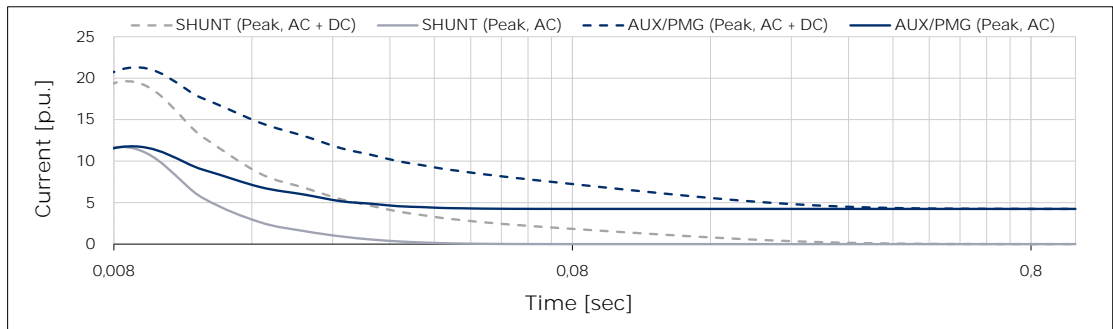
440 V



460 V



480 V



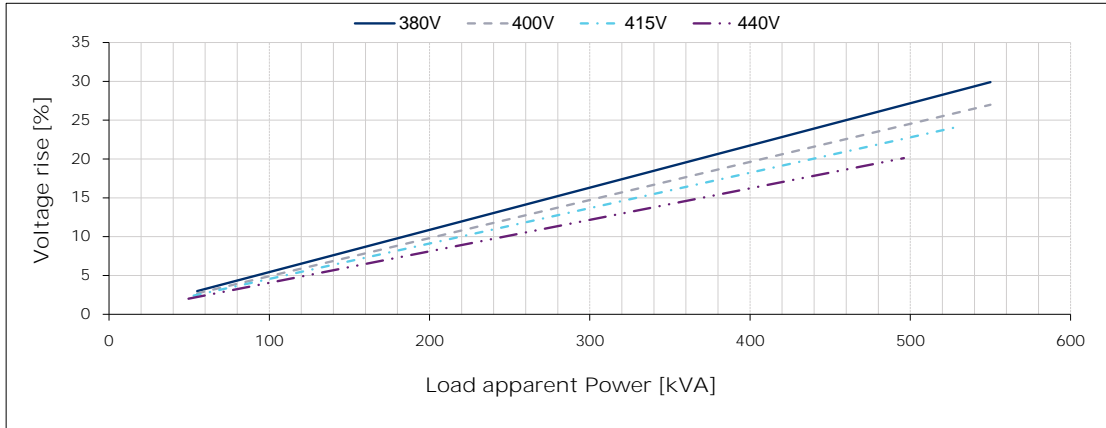
Above curves are based on a three-phase short circuit
For other type of short circuit use the following multiplication factors

	2 phase	1 phase
Instantaneous (max)	0,81	1,03
Continuous	1,50	1,83

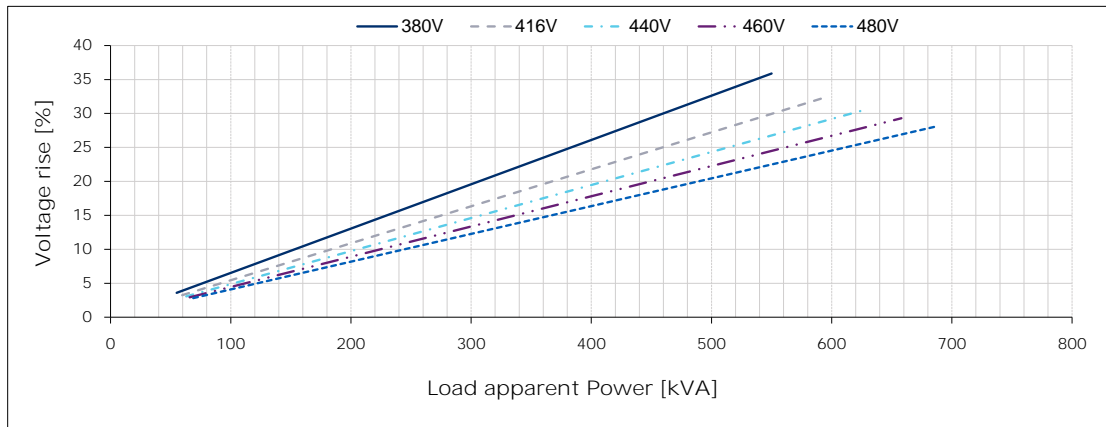
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Typical load rejection curves

50 Hz - 1500 min-1



60 Hz - 1800 min-1



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