

MAGNAMAX®

TYPICAL SUBMITTAL DATA

BASE MODEL: 743FSL4412

Winding: 740317

Date: 01/13/22

Kilowatt ratings at	1800 RPM	60 Hertz	4 Bus Bars		
kW (kVA)	3 Phase	0.8 Power Factor		Dripproof or Open Enclosure	
	CONTINUOUS ^{1, 2}			STANDBY ^{1, 2}	
Voltage*	NEMA B / 80 °C	NEMA F / 105 °C	NEMA H / 125 °C	NEMA F / 130 °C	NEMA H / 150 °C
480	1025 (1281)	1250 (1563)	1325 (1656)	1350 (1688)	1375 (1719)
440	940 (1175)	1150 (1438)	1210 (1513)	1240 (1550)	1260 (1575)
416	890 (1113)	1080 (1350)	1150 (1438)	1170 (1463)	1190 (1488)
400	850 (1063)	1040 (1300)	1100 (1375)	1130 (1413)	1150 (1438)
380	810 (1013)	990 (1238)	1050 (1313)	1070 (1338)	1090 (1363)

① Rise by resistance method, Mil-Std-705, Method 680.1b.

② Machine rated for Max Ambient of 40 °C, Max Altitude 3300 ft

Submittal Data: 480 Volts*, 1350 kW, 1688 kVA, 0.8 P.F., 1800 RPM, 60 Hz, 3 Phase High Wye CONNECTION

Mil-Std-705B Method	Description	Value	Units	Mil-Std-705C Method	Description	Value	Units
301.1b	Insulation Resistance	>10 Meg	Ohms	505.3b	Overspeed	2250	RPM
302.1a	High Potential Test			507.1c	Phase Sequence CCW-ODE	ABC	
	Main Stator	1960	Volts	508.1c	Voltage Balance, L-L or L-N	0.2%	
	Main Rotor	1500	Volts	601.4a	L-L Harmonic Max - Total (Distortion Factor)	5.0%	
	Exciter Stator	1500	Volts				
	Exciter Rotor	1500	Volts	601.4a	L-L Harmonic Max - Single	3.0%	
PMG Stator	1500	Volts	601.1c	Deviation Factor	5.0%		
401.1a	Stator Resistance, Line to Line High Wye Connection	0.00350	Ohms	---	TIF (1960 Weightings)	<50	
				---	THF (IEC, BS & NEMA Weightings)	<2%	
	Rotor Resistance	0.811	Ohms	---	Winding Pitch	2/3	
	Exciter Stator	22	Ohms				
	Exciter Rotor	0.043	Ohms				
	PMG Stator	2.1	Ohms				
410.1a	No Load Exciter Field Amps at 480 Volts Line to Line	0.7	A DC	Additional Prototype Mil-Std Methods are Available on Request.			
420.1a	Short Circuit Ratio	0.400					
421.1a	Xd Synchronous Reactance	2.687	PU	--	Generator Frame	743	
		0.367	Ohms	--	Type	MagnaMax	
422.1a	X2 Negative Sequence React.	0.269	PU	--	Insulation	Class H	
		0.037	Ohms	--	Coupling - Single Bearing	Flexible	
423.1a	X0 Zero Sequence Reactance	0.098	PU	--	Amortisseur Windings	Full	
		0.013	Ohms	--	Excitation	Ext. Voltage Regulated, Brushless	
425.1a	X'd Transient Reactance	0.233	PU	--	Voltage Regulator	DVR2400	
		0.032	Ohms	--	Voltage Regulation	0.25%	
426.1a	X''d Subtransient Reactance	0.204	PU				
		0.028	Ohms				
				--	Cooling Air Volume	3400	CFM
				--	Heat rejection rate	5137	Btu's/min
427.1a	T'd Transient Short Circuit Time Constant	0.232	Sec	--	Full load current	2029.7	Amps
				--	Minimum Input hp required	1930.7	HP
428.1a	T''d Subtransient Short Circuit Time Constant	0.013	Sec	--	Full load torque	5631	Lb-ft
				--	Efficiency at rated load :	93.7%	
430.1a	T'do Transient Open Circuit Time Constant	2.94	Sec				
432.1a	Ta Short Circuit Time Constant of Armature Winding	0.049	Sec	--	Weight	6900	lbs

* Voltages refer to wye (star) connection, unless otherwise specified.

www.regalrexnord.com/brands/Marathon-Generators



Not indicative of legal entity.



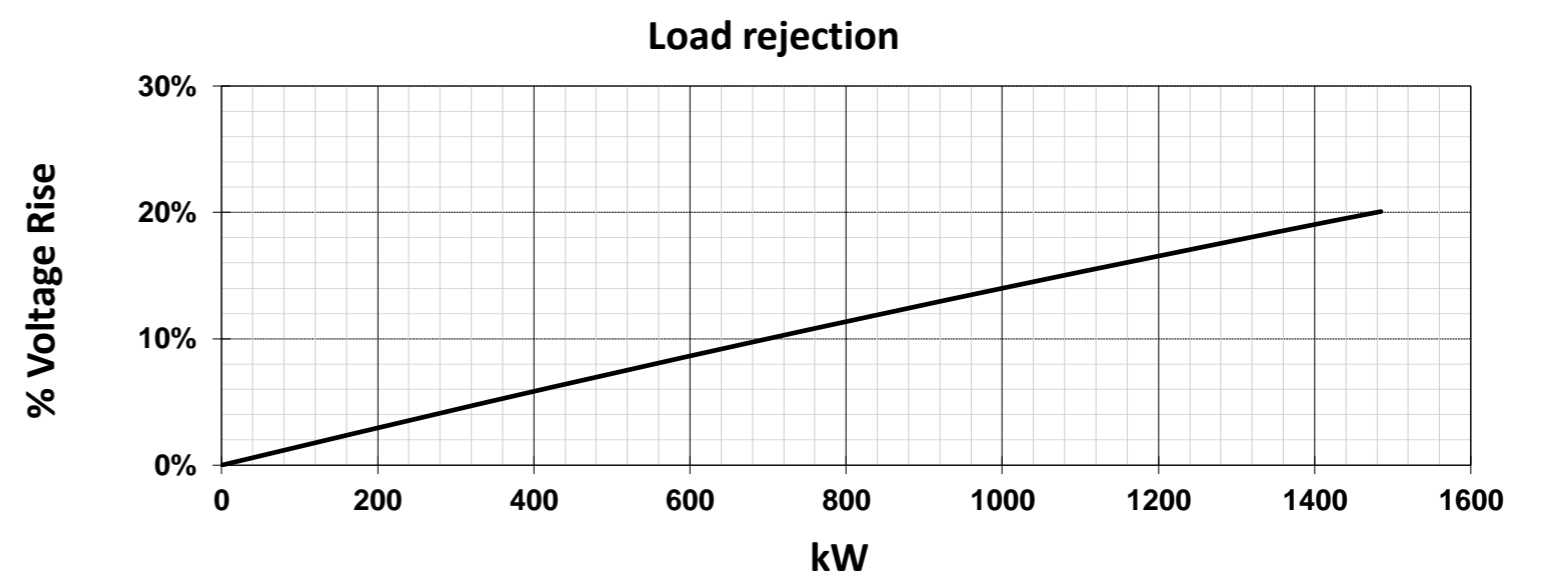
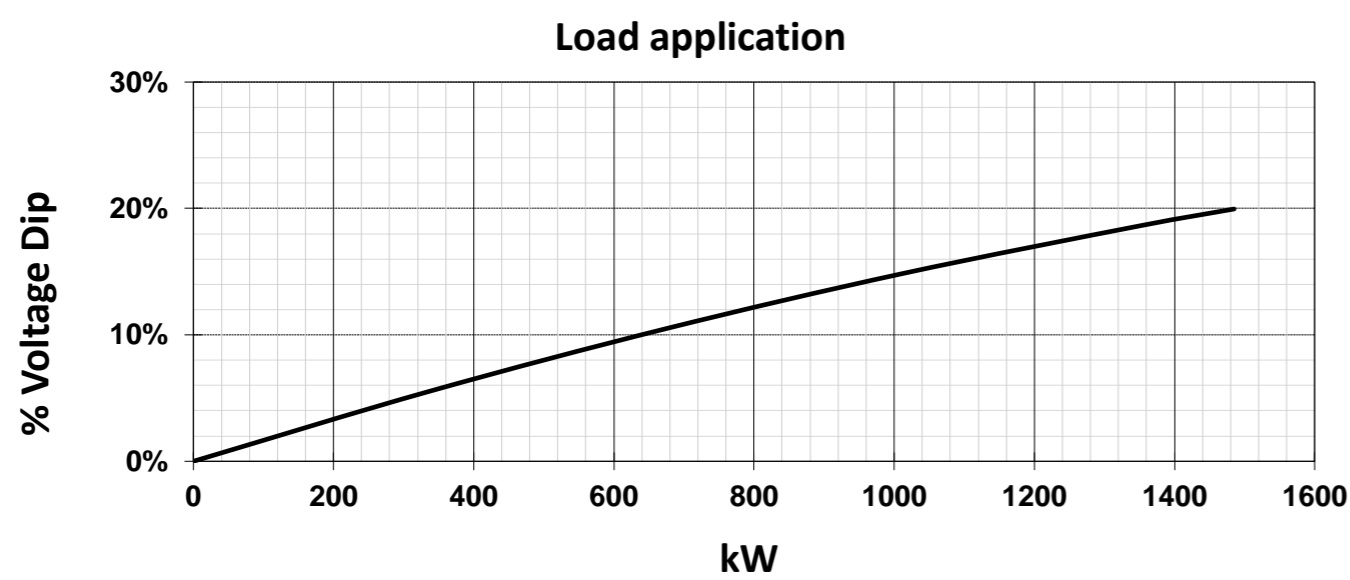
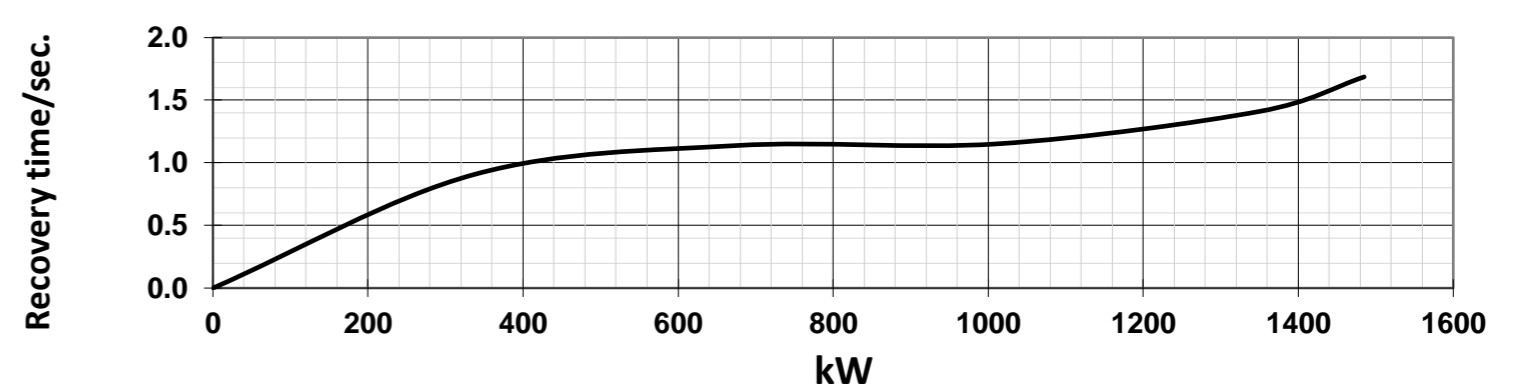
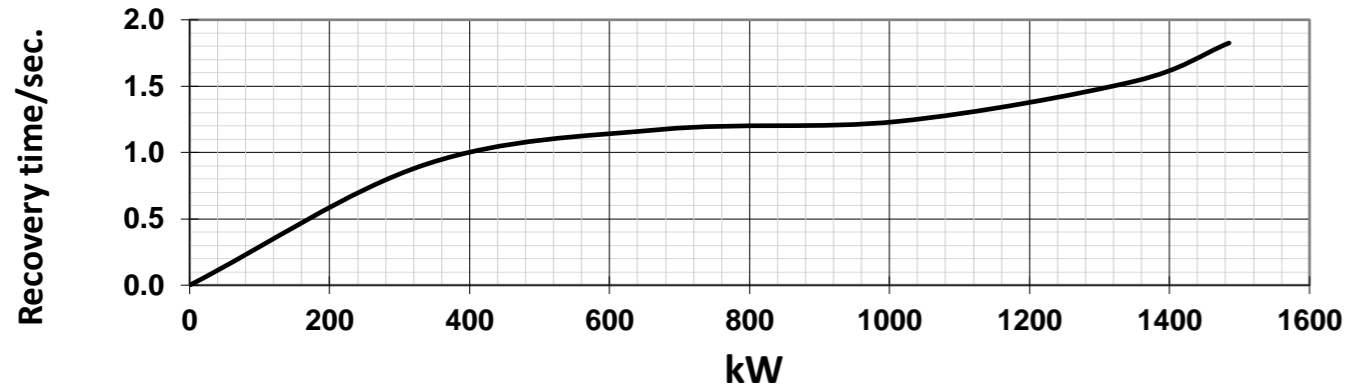
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TYPICAL DYNAMIC CHARACTERISTICS

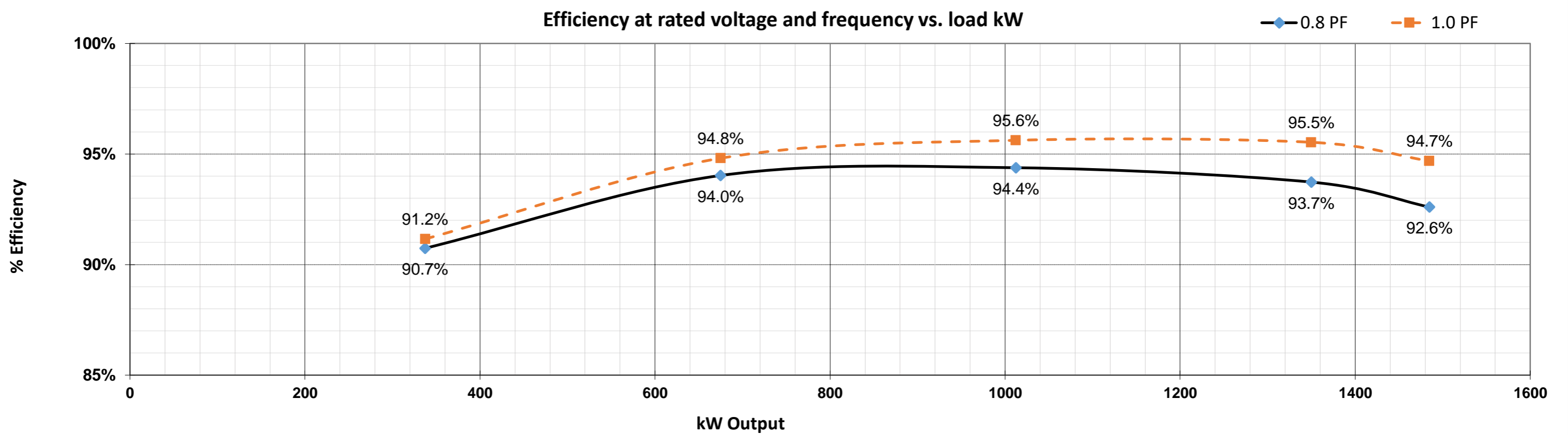
BASE MODEL: **743FSL4412**

Date: **01/13/22**

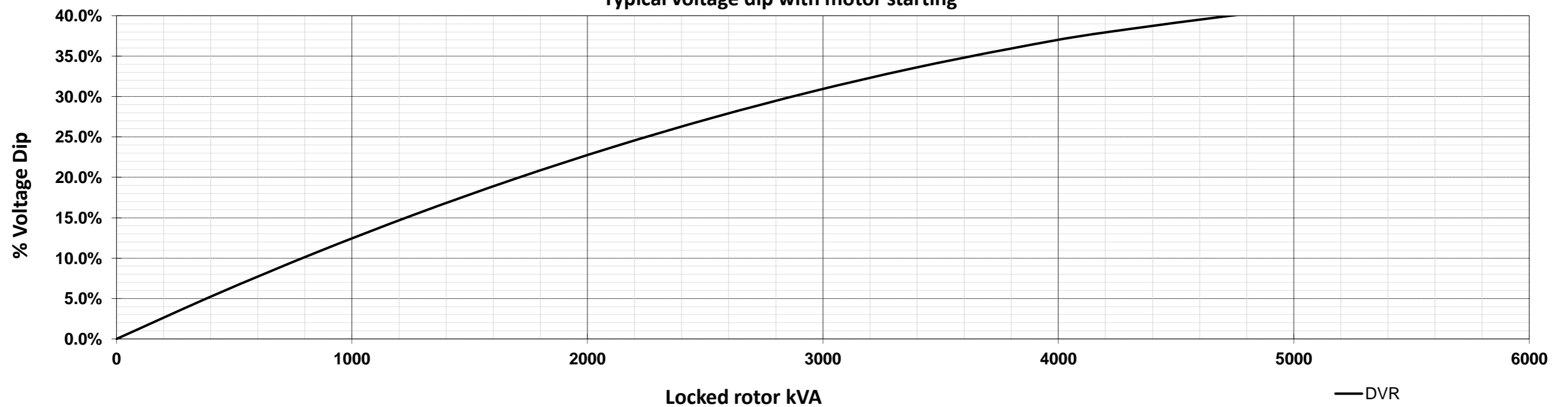
Submittal Data: **480 Volts*, 1350 kW, 1688 kVA, 0.8 P.F., 1800 RPM, 60 Hz, 3 Phase**



Efficiency at rated voltage and frequency vs. load kW



Typical voltage dip with motor starting



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DECREMENT CURVE

BASE MODEL: 743FSL4412

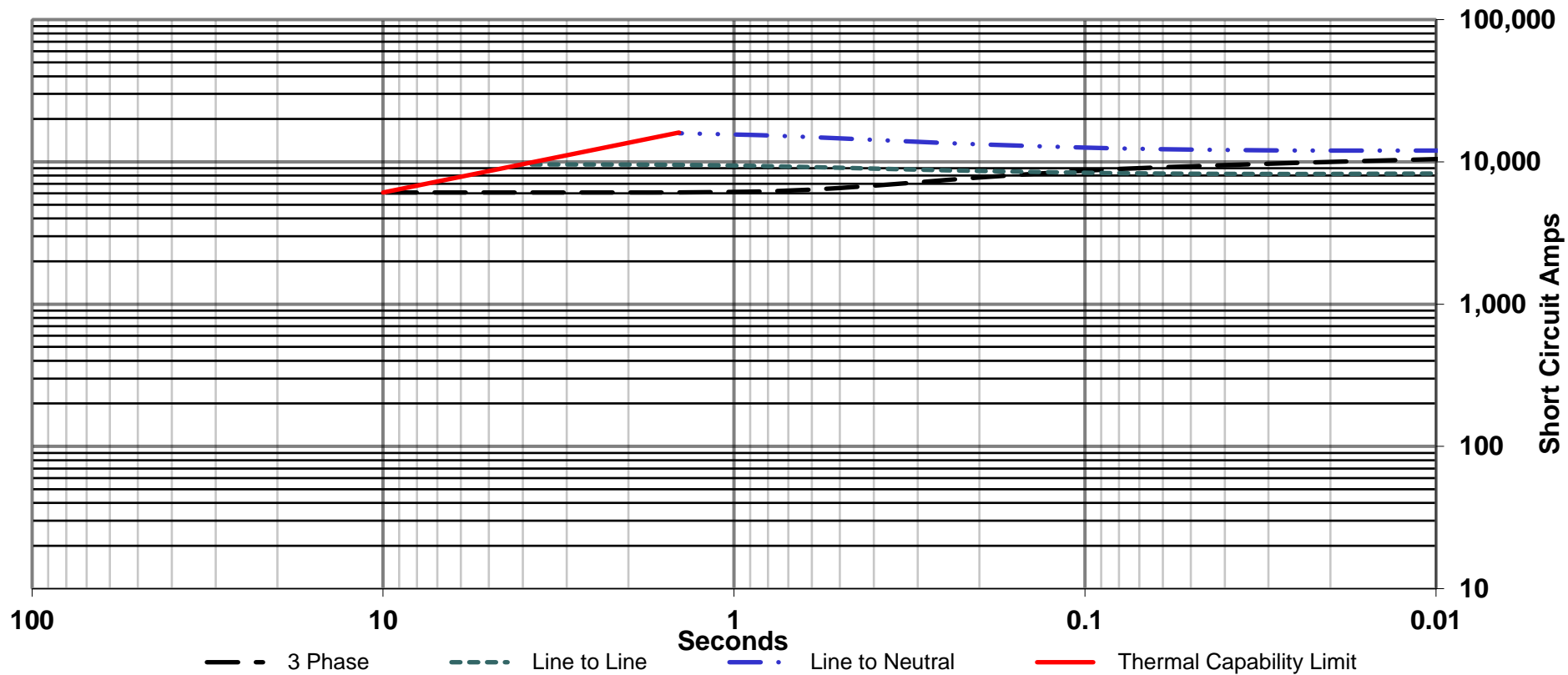
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Date : 01/13/22

Full Load Current : 2029.7 amps
Steady State S.C. Current : 6089.1 amps

Max. 3 ph. Symm. S.C. Current : 9942 amps
INCLUDES EXCITATION SUPPORT (PMG)

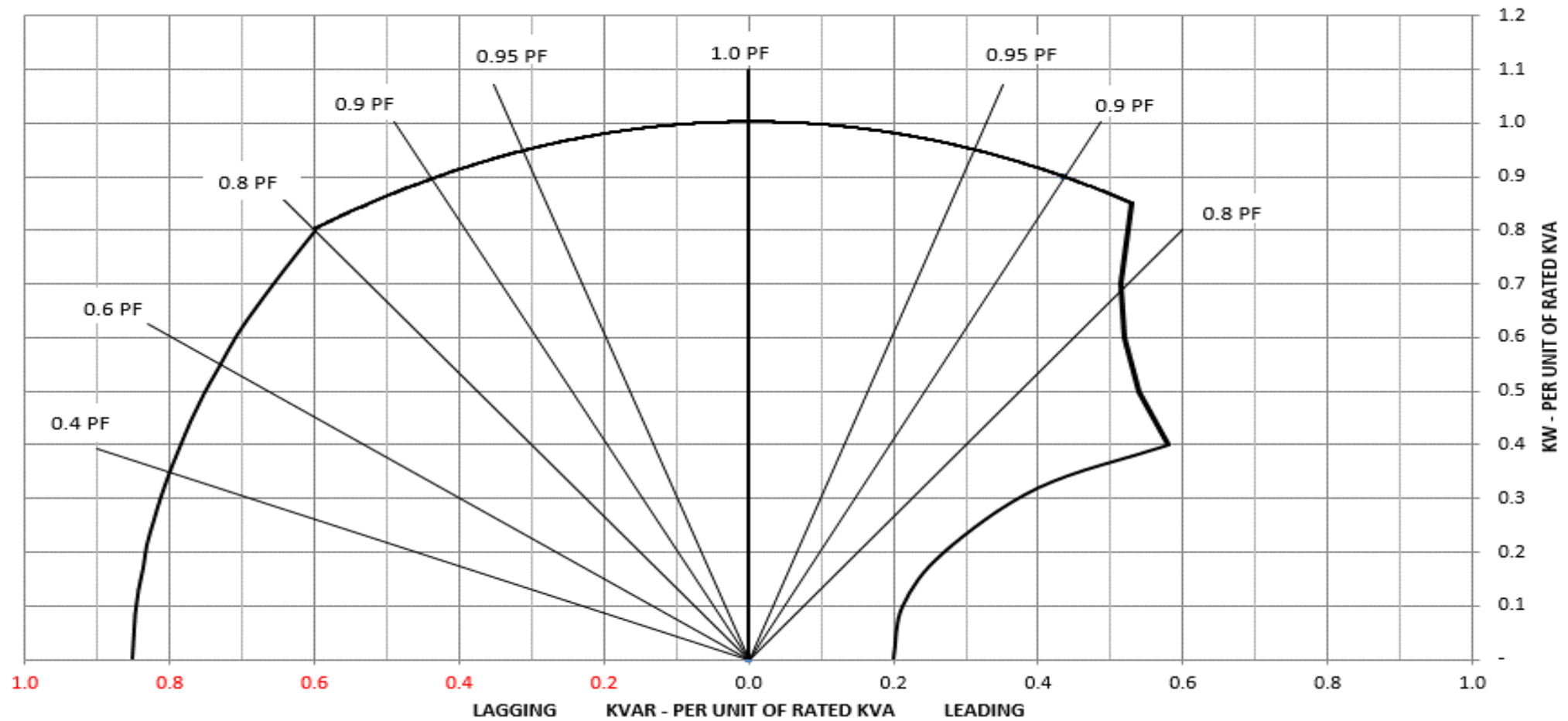
Symmetrical Component values, Maximum Asymmetrical Values Are 1.732 Times Symmetrical Values



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Typical Reactive Capability Curve

Date : 01/13/22

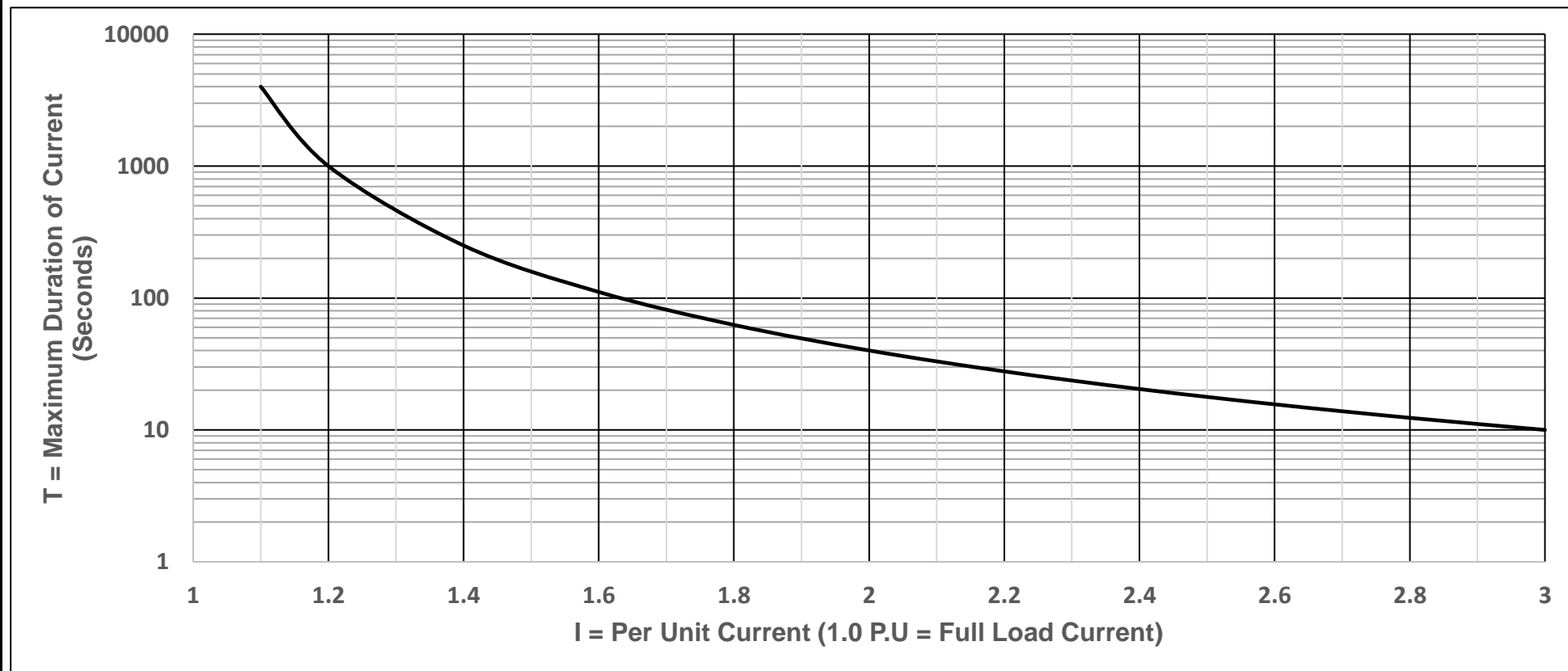


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THERMAL DAMAGE CURVE

Date : 01/13/22

Base is 3.0 P.U. current for 10 seconds from $T = 40/(I-1)^2$
Windings at operating temperature



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