

# MAGNAMAX<sup>®</sup>

## TYPICAL SUBMITTAL DATA

BASE MODEL: **744FSL4060**

Winding: **740306**

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 <sup>1, 2</sup>			STANDBY <sup>1, 2</sup>	
Voltage*	NEMA B / 80 °C	NEMA F / 105 °C	NEMA H / 125 °C	NEMA F / 130 °C	NEMA H / 150 °C
480	1200 (1500)	1430 (1788)	1500 (1875)	1500 (1875)	1500 (1875)
440	1210 (1513)	1400 (1750)	1460 (1825)	1460 (1825)	1460 (1825)
416	1190 (1488)	1380 (1725)	1440 (1800)	1440 (1800)	1440 (1800)
400	1159 (1449)	1336 (1670)	1368 (1710)	1368 (1710)	1368 (1710)
380	1120 (1400)	1280 (1600)	1280 (1600)	1280 (1600)	1280 (1600)

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\*, 1500 kW, 1875 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	0.00260	Ohms	---	TIF (1960 Weightings)	<50	
				---	THF (IEC, BS & NEMA Weightings)	<2%	
	Rotor Resistance	0.892	Ohms	---	Winding Pitch	2/3	
	Exciter Stator	22.1	Ohms				
	Exciter Rotor	0.066	Ohms				
	PMG Stator	2.1	Ohms				
410.1a	No Load Exciter Field Amps at 480 Volts Line to Line	0.68	A DC	<b>Additional Prototype Mil-Std Methods are Available on Request.</b>			
420.1a	Short Circuit Ratio	0.472					
421.1a	Xd Synchronous Reactance	2.361	PU	--	Generator Frame	744	
		0.290	Ohms	--	Type	MagnaMax	
422.1a	X2 Negative Sequence React.	0.236	PU	--	Insulation	Class H	
		0.029	Ohms	--	Coupling - Single Bearing	Flexible	
423.1a	X0 Zero Sequence Reactance	0.085	PU	--	Amortisseur Windings	Full	
		0.010	Ohms	--	Excitation	Ext. Voltage Regulated, Brushless	
425.1a	X'd Transient Reactance	0.198	PU	--	Voltage Regulator	DVR2400	
		0.024	Ohms	--	Voltage Regulation	0.25%	
426.1a	X''d Subtransient Reactance	0.176	PU				
		0.022	Ohms				
--	Xq Quadrature Synchronous Reactance	1.180	PU	--	Cooling Air Volume	3320	CFM
		0.145	Ohms	--	Heat rejection rate	4264	Btu's/min
427.1a	T'd Transient Short Circuit Time Constant	0.196	Sec	--	Full load current	2255.3	Amps
				--	Minimum Input hp required	2111.2	HP
428.1a	T''d Subtransient Short Circuit Time Constant	0.014	Sec	--	Full load torque	6158	Lb-ft
				--	Efficiency at rated load :	95.2%	
430.1a	T'do Transient Open Circuit Time Constant	3.27	Sec				
432.1a	Ta Short Circuit Time Constant of Armature Winding	0.028	Sec	--	Weight	7300	lbs

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

[www.regalrexnord.com/brands/Marathon-Generators](http://www.regalrexnord.com/brands/Marathon-Generators)



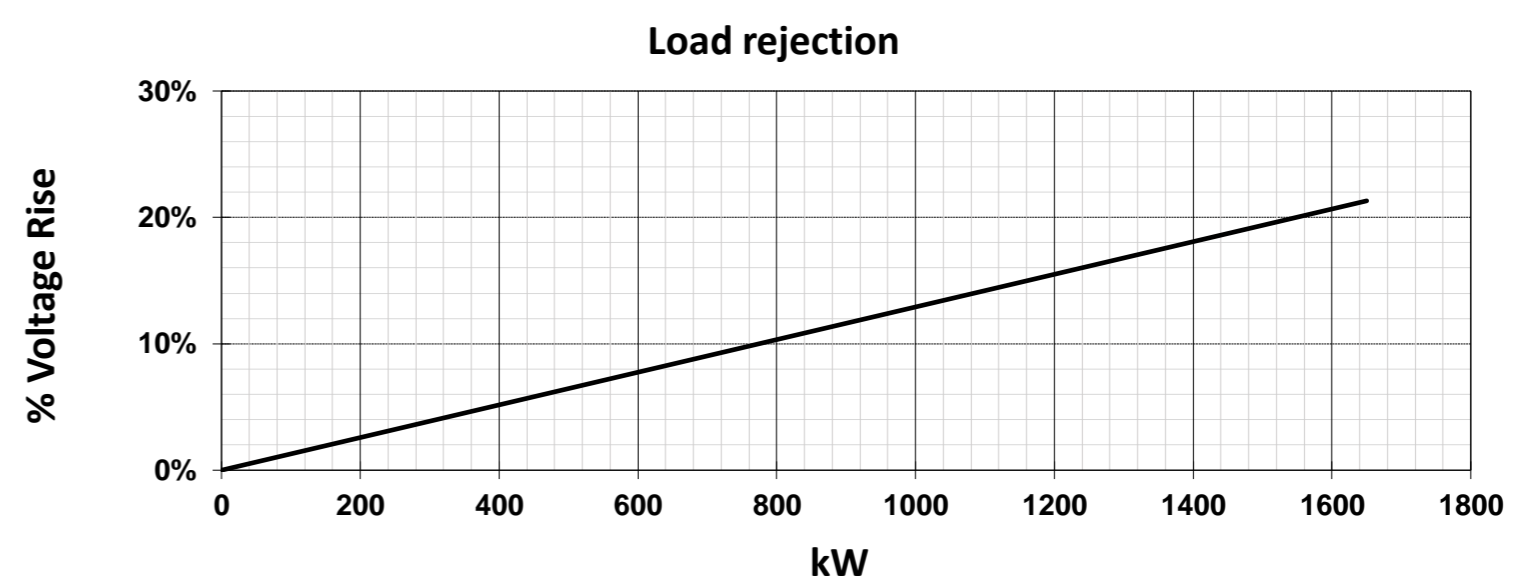
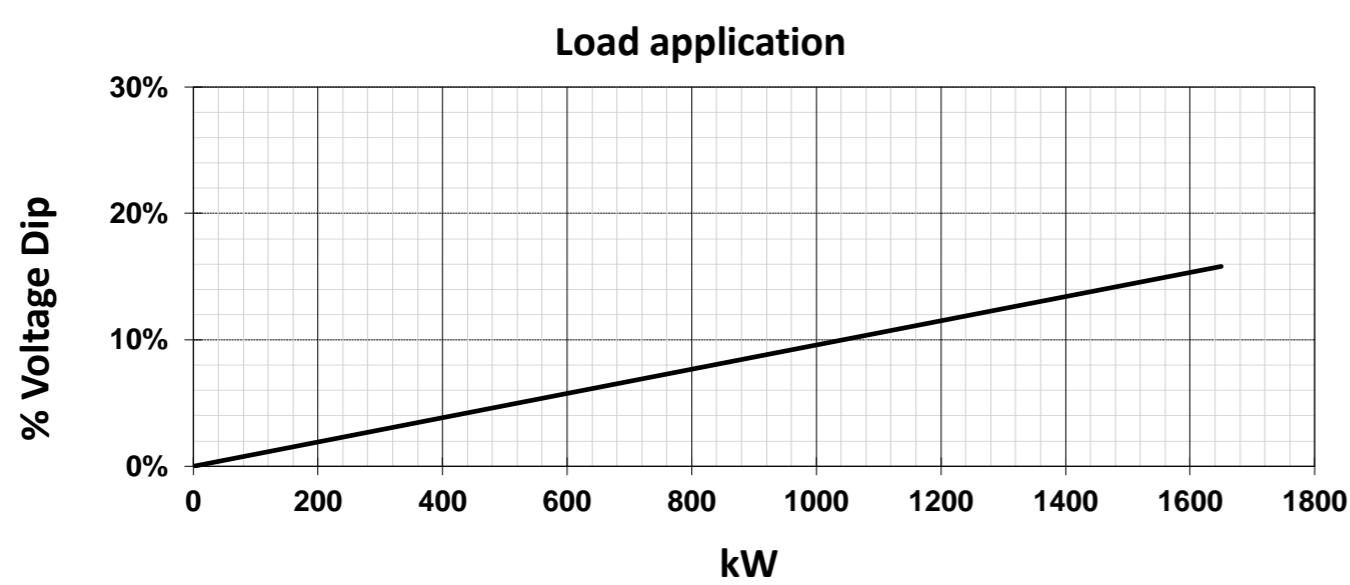
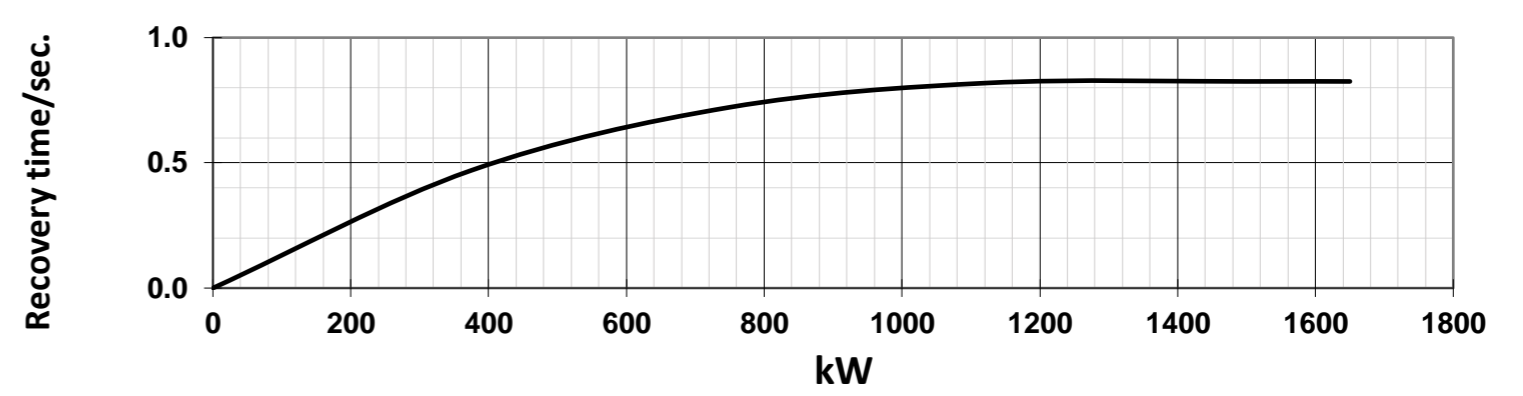
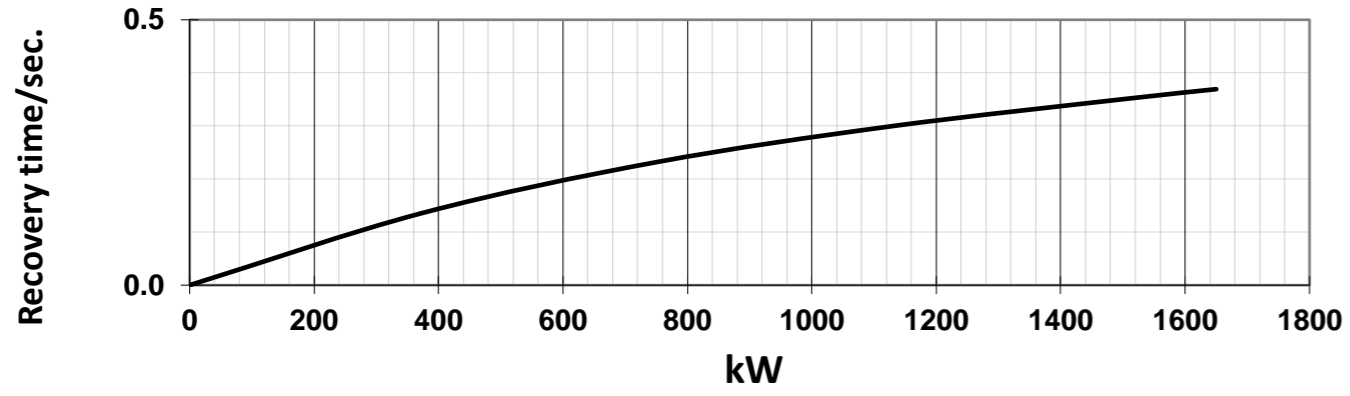
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## TYPICAL DYNAMIC CHARACTERISTICS

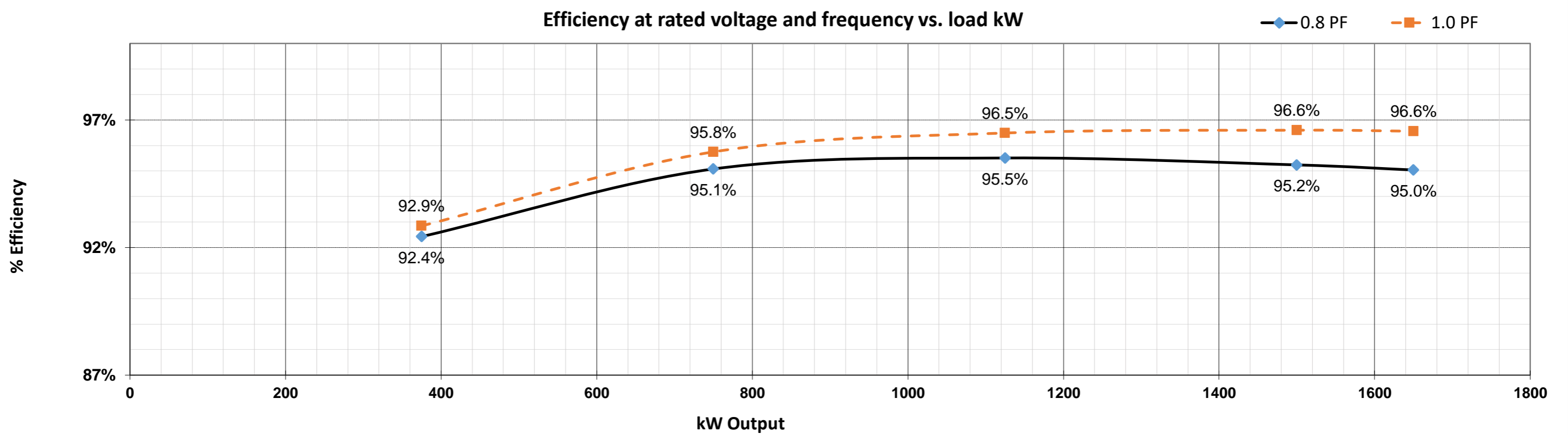
BASE MODEL: **744FSL4060**

Date: **01/13/22**

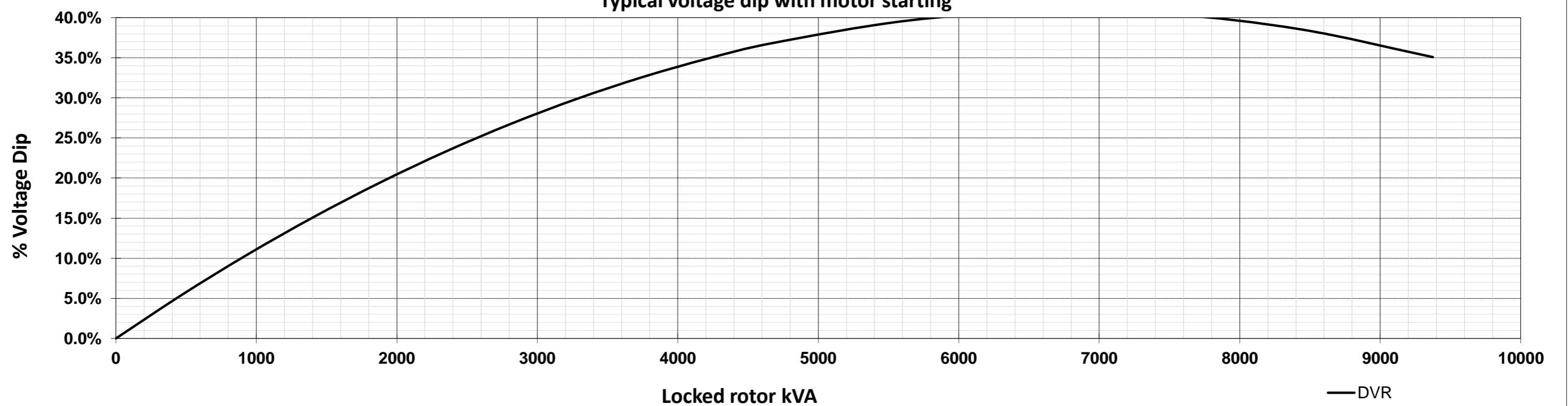
Submittal Data: **480 Volts\*, 1500 kW, 1875 kVA, 0.8 P.F., 1800 RPM, 60 Hz, 3 Phase**



Efficiency at rated voltage and frequency vs. load kW



Typical voltage dip with motor starting



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## DECREMENT CURVE

BASE MODEL: 744FSL4060

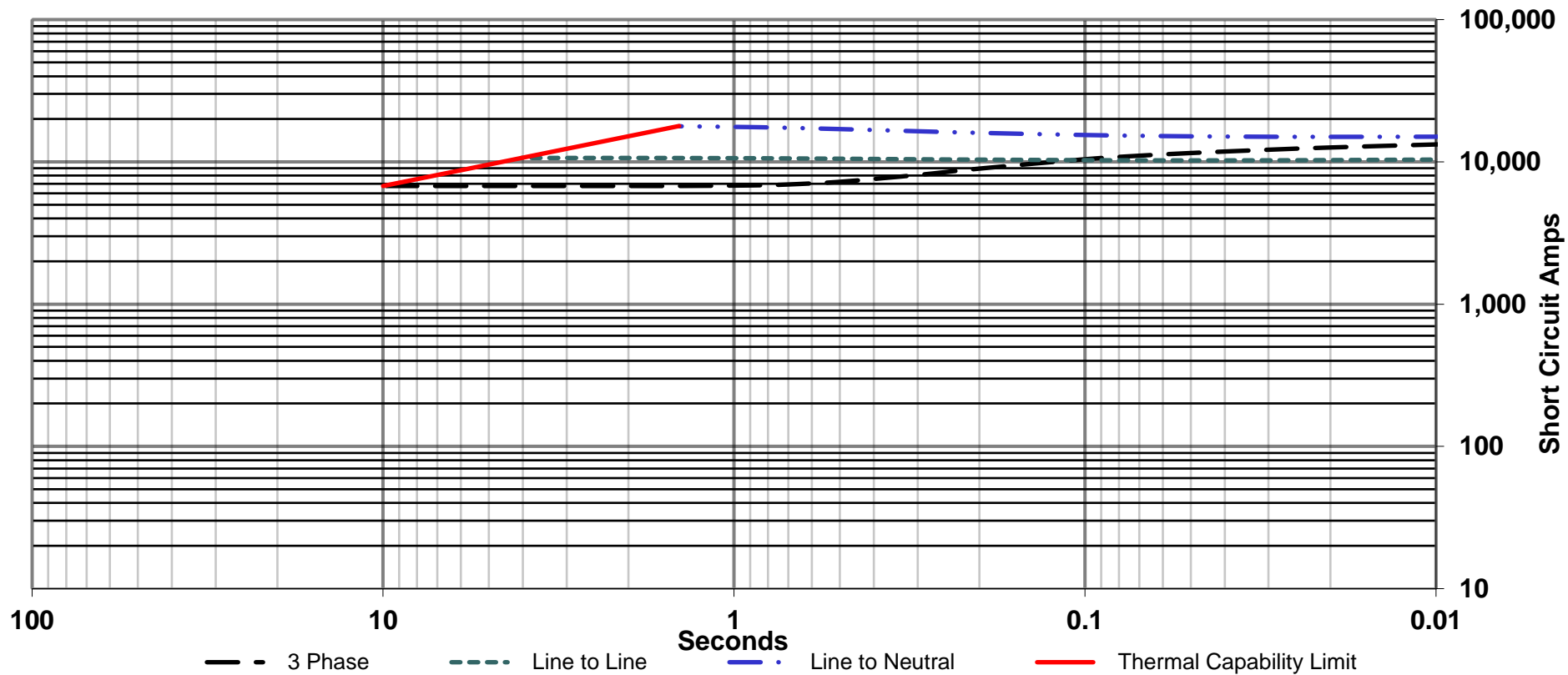
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Date : 01/13/22

Full Load Current : 2255.3 amps  
Steady State S.C. Current : 6765.9 amps

Max. 3 ph. Symm. S.C. Current : 12814 amps  
INCLUDES EXCITATION SUPPORT (PMG)

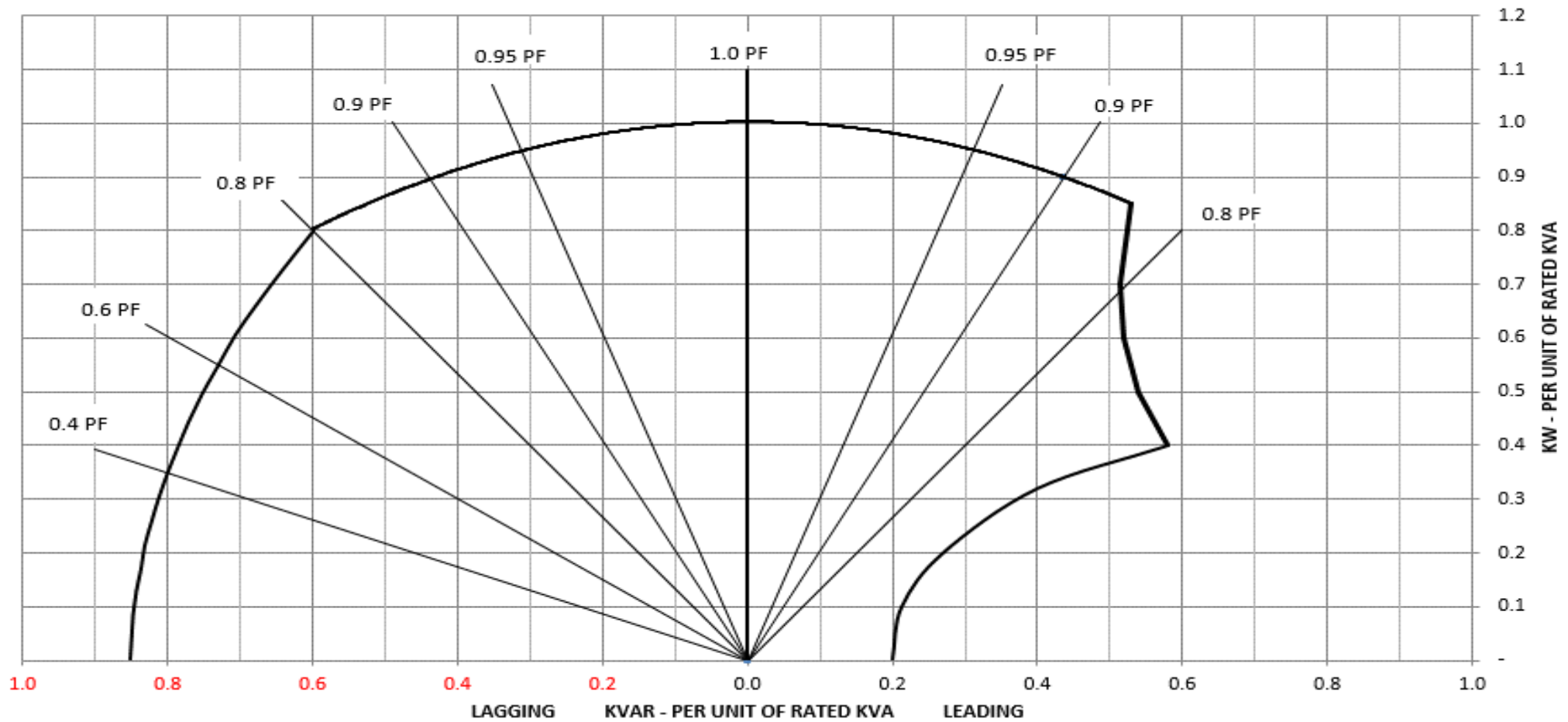
Symmetrical Component values, Maximum Asymmetrical Values Are 1.732 Times Symmetrical Values



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## Typical Reactive Capability Curve

Date : 01/13/22



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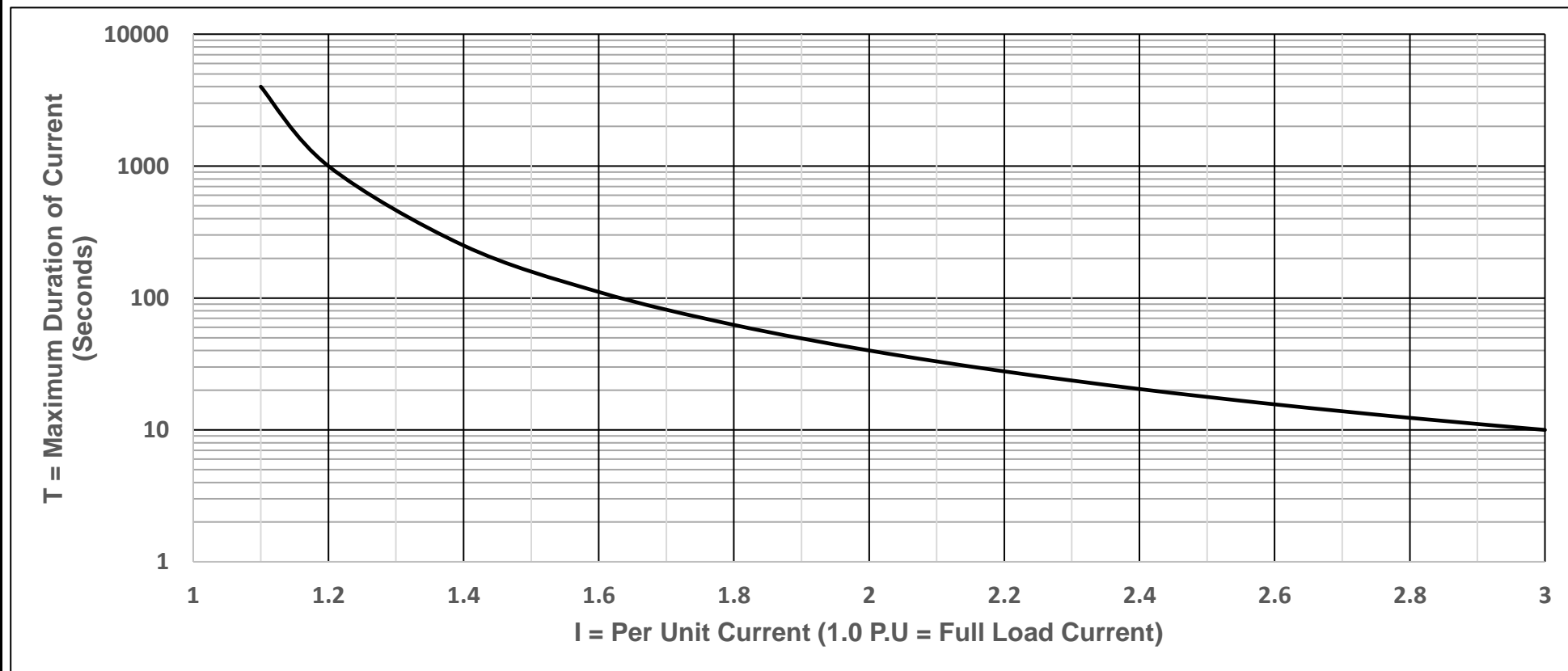


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## THERMAL DAMAGE CURVE

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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