

MAGNAMAX[®]

TYPICAL SUBMITTAL DATA

BASE MODEL: 743RSL4052

Winding: 740045

Date: 02/10/22

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	1310 (1638)	1600 (2000)	1700 (2125)	1750 (2188)	1750 (2188)
440	1420 (1775)	1680 (2100)	1710 (2138)	1710 (2138)	1710 (2138)
416	1400 (1750)	1610 (2013)	1610 (2013)	1610 (2013)	1620 (2025)
400	1351 (1689)	1552 (1940)	1552 (1940)	1552 (1940)	1558 (1948)
380	1290 (1613)	1480 (1850)	1480 (1850)	1480 (1850)	1480 (1850)

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: 416 Volts*, 1610 kW, 2013 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	>1.5 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	0.00180	Ohms	---	TIF (1960 Weightings)	<50	
				---	THF (IEC, BS & NEMA Weightings)	<2%	
	Rotor Resistance	0.979	Ohms	---	Winding Pitch	2/3	
	Exciter Stator	22	Ohms				
	Exciter Rotor	0.043	Ohms				
410.1a	No Load Exciter Field Amps at 416 Volts Line to Line	0.81	A DC	Additional Prototype Mil-Std Methods are Available on Request.			
420.1a	Short Circuit Ratio	0.559					
421.1a	Xd Synchronous Reactance	2.474	PU	--	Generator Frame	743	
		0.213	Ohms	--	Type	MagnaMax	
422.1a	X2 Negative Sequence React.	0.227	PU	--	Insulation	Class H	
		0.019	Ohms	--	Coupling - Single Bearing	Flexible	
423.1a	X0 Zero Sequence Reactance	0.074	PU	--	Amortisseur Windings	Full	
		0.006	Ohms	--	Excitation	Ext. Voltage Regulated, Brushless	
425.1a	X'd Transient Reactance	0.165	PU	--	Voltage Regulator	DVR2400	
		0.014	Ohms	--	Voltage Regulation	0.25%	
426.1a	X''d Subtransient Reactance	0.137	PU				
		0.012	Ohms				
--	Xq Quadrature Synchronous Reactance	1.225	PU	--	Cooling Air Volume	3260	CFM
		0.105	Ohms	--	Heat rejection rate	3578	Btu's/min
427.1a	T'd Transient Short Circuit Time Constant	0.157	Sec	--	Full load current	2793.1	Amps
				--	Minimum Input hp required	2242.5	HP
428.1a	T''d Subtransient Short Circuit Time Constant	0.01	Sec	--	Full load torque	6541	Lb-ft
				--	Efficiency at rated load :	96.2%	
430.1a	T'do Transient Open Circuit Time Constant	2.95	Sec				
432.1a	Ta Short Circuit Time Constant of Armature Winding	0.028	Sec	--	Weight	7800	lbs

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

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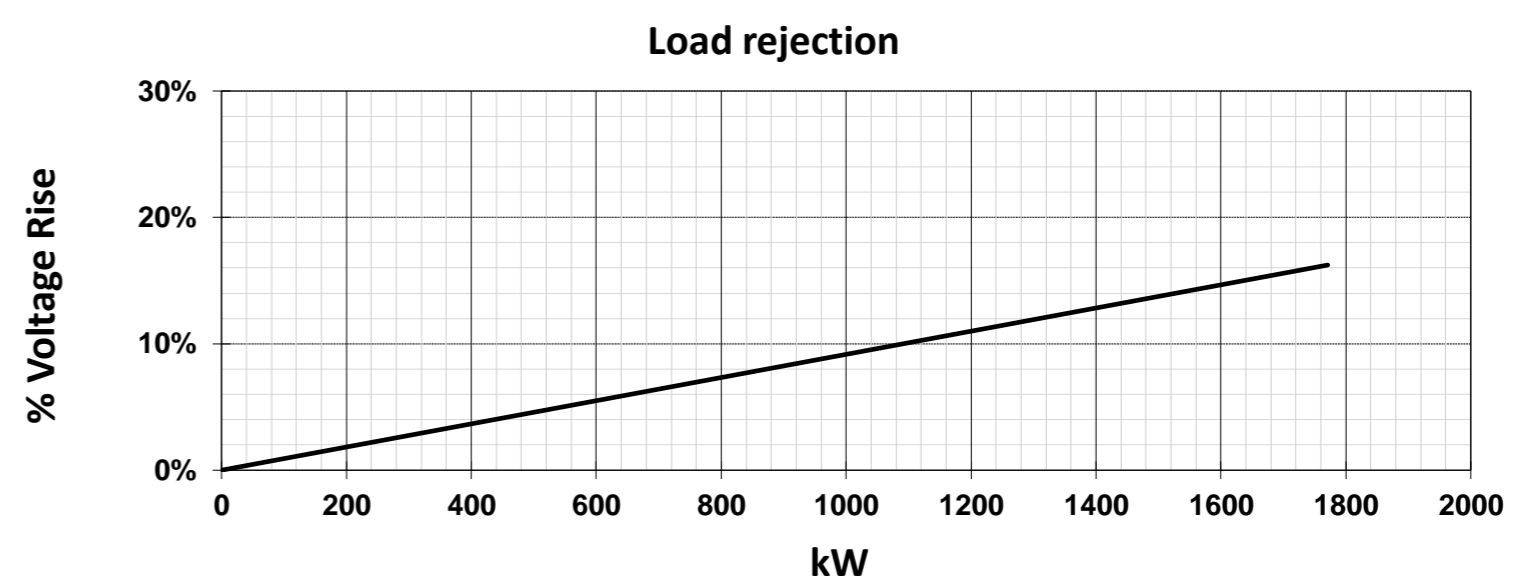
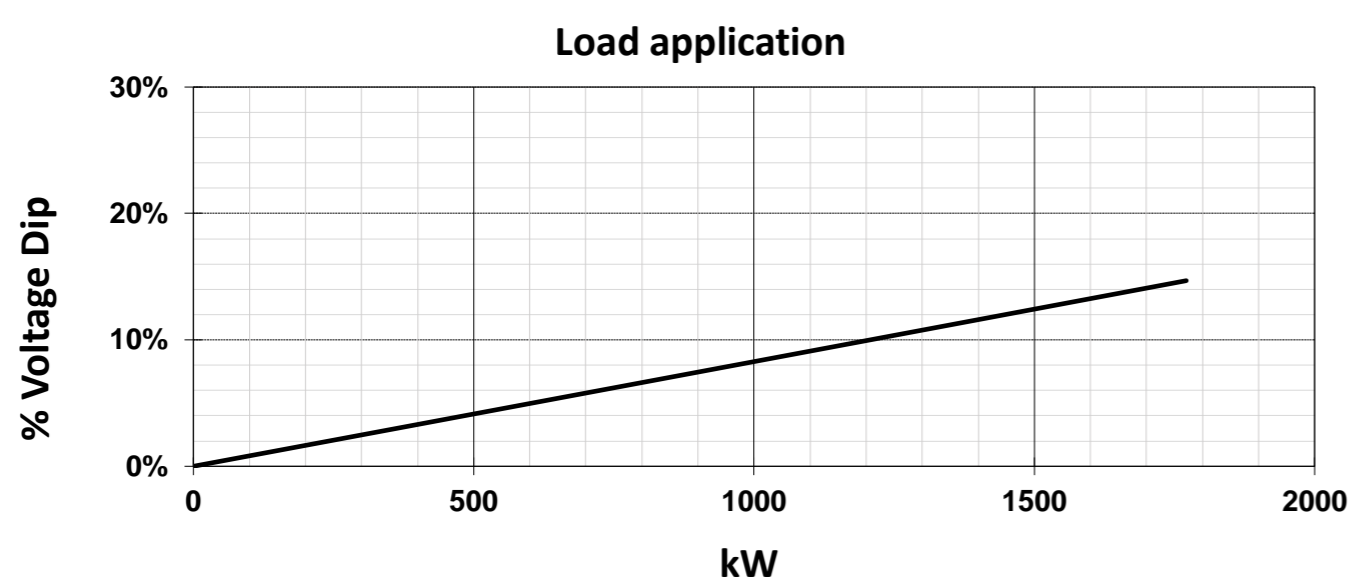
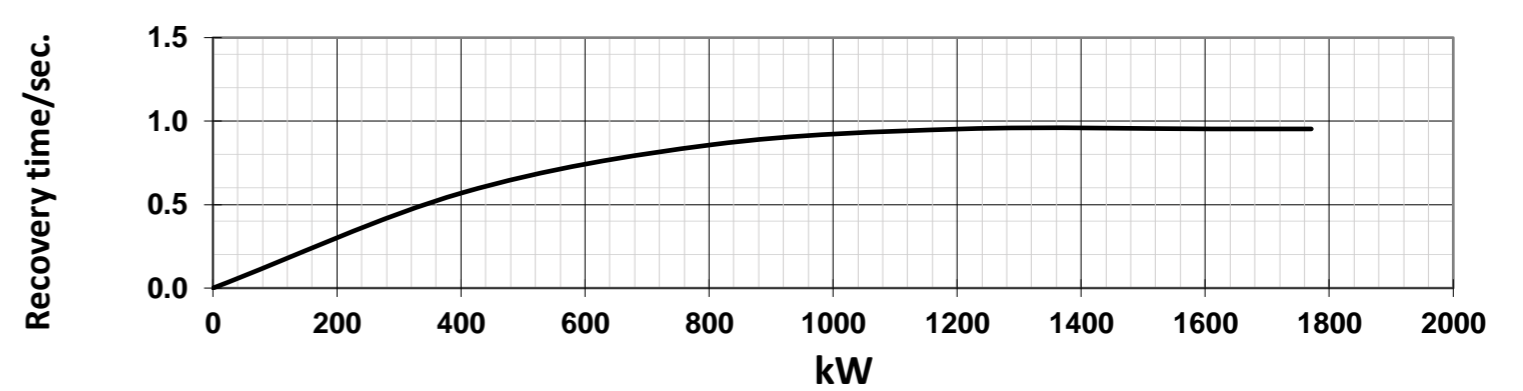
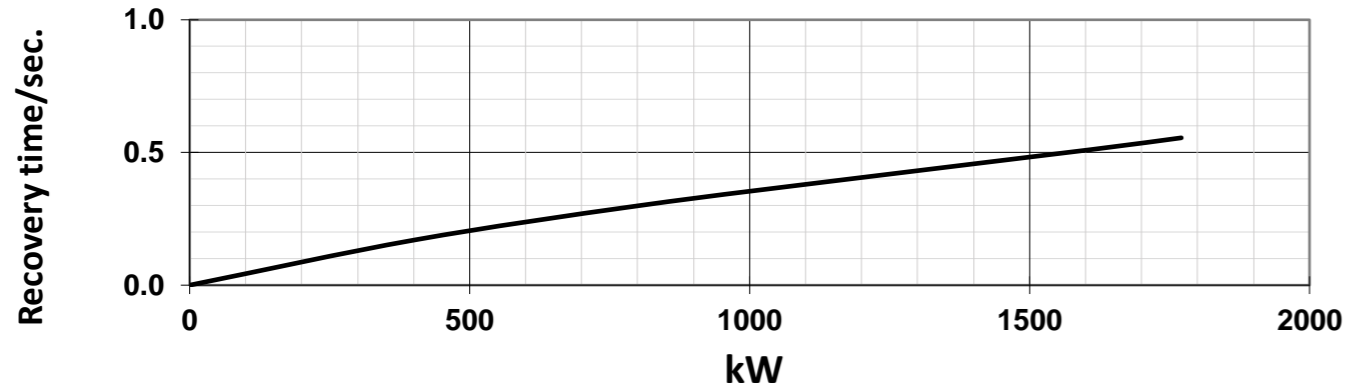
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TYPICAL DYNAMIC CHARACTERISTICS

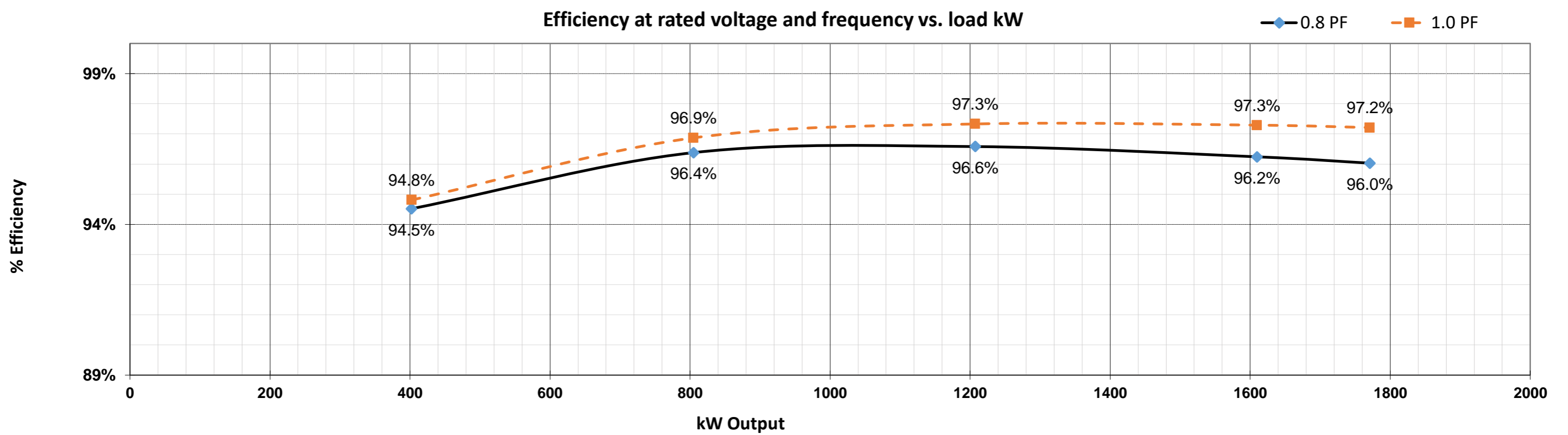
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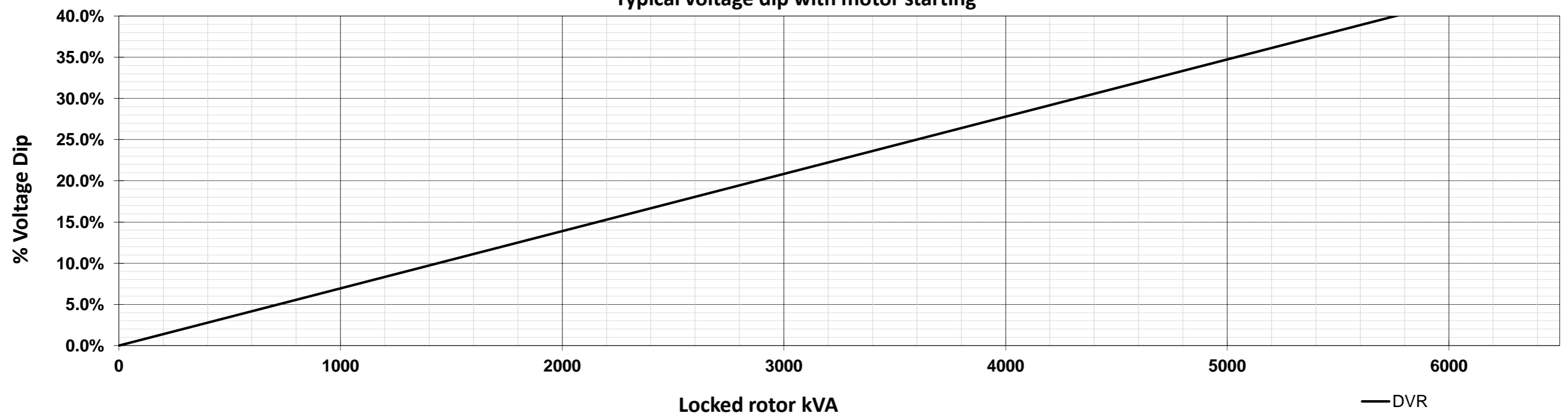
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Efficiency at rated voltage and frequency vs. load kW



Typical voltage dip with motor starting



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DECREMENT CURVE

BASE MODEL: 743RSL4052

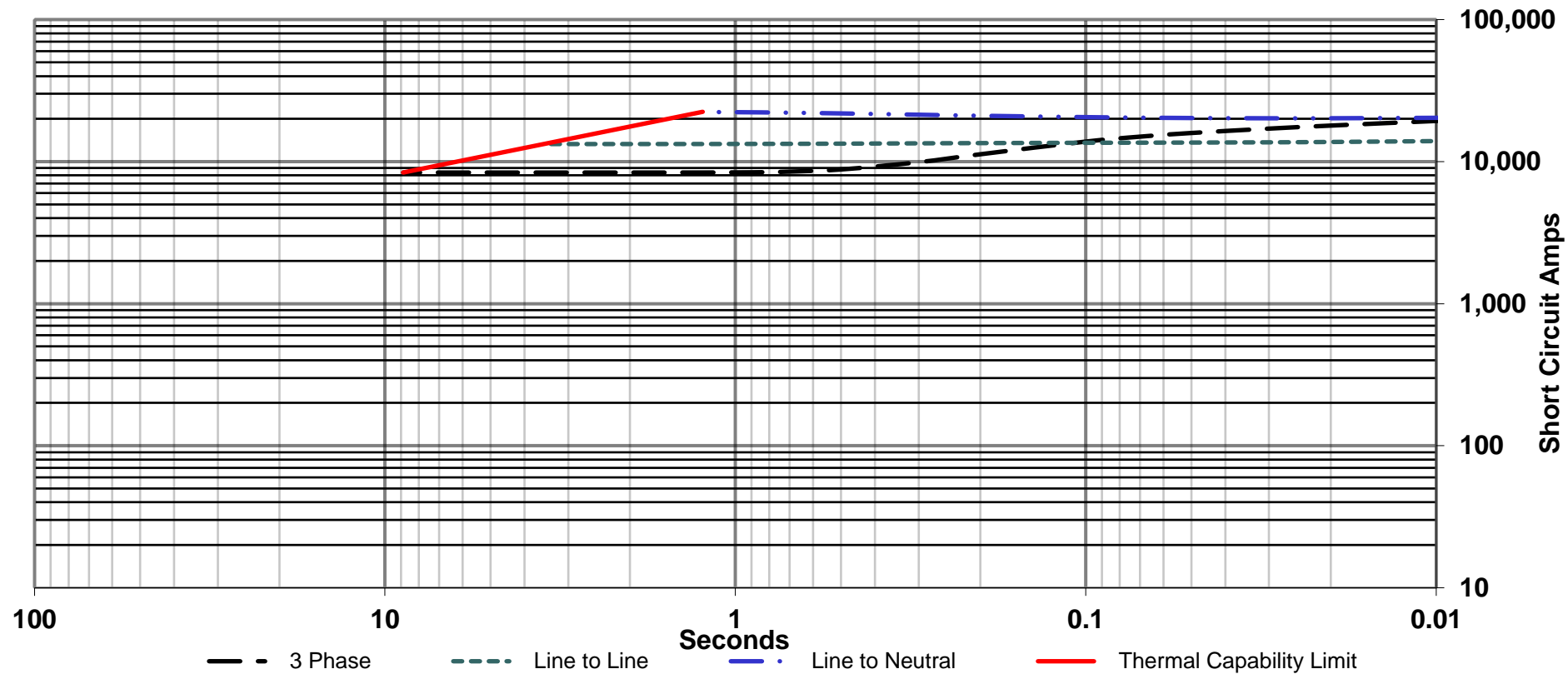
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Full Load Current : 2793.1 amps
Steady State S.C. Current : 8379.3 amps

Max. 3 ph. Symm. S.C. Current : 20360 amps
INCLUDES EXCITATION SUPPORT (PMG)

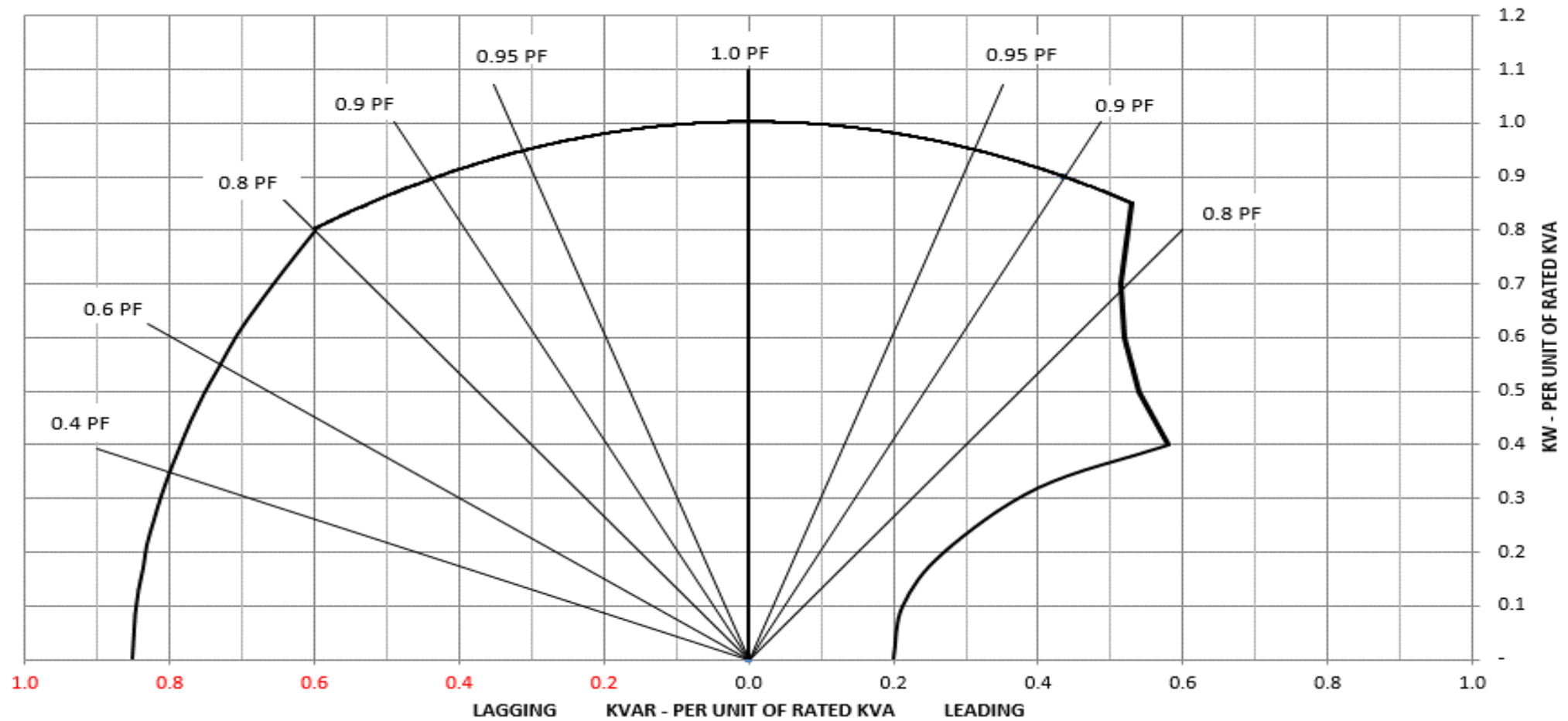
Symmetrical Component values, Maximum Asymmetrical Values Are 1.732 Times Symmetrical Values



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Typical Reactive Capability Curve

Date : 02/10/22



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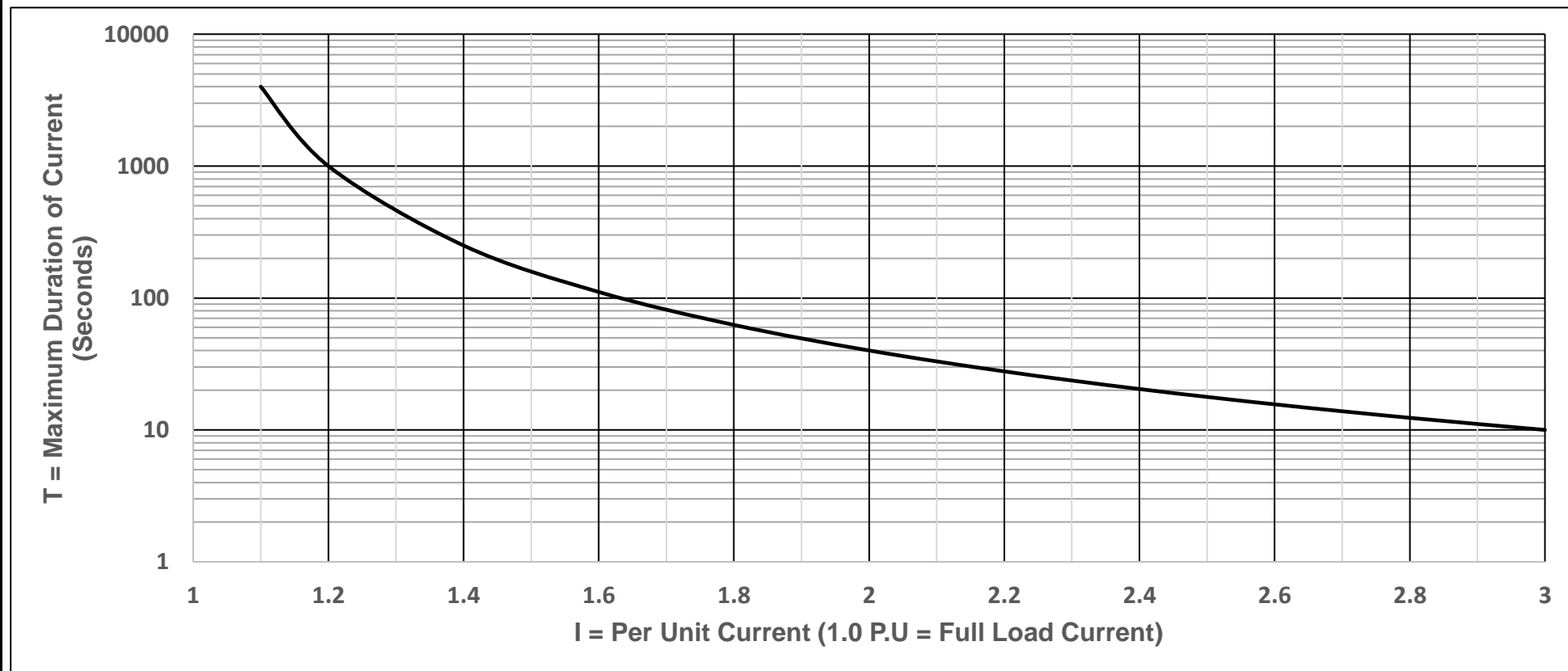
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THERMAL DAMAGE CURVE

Date : 02/10/22

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



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