

Kato Engineering/Leroy-Somer Generator Design Program

PREDICTED GENERATOR PERFORMANCE VALUES

6P6.5-2100		SN 98138		(1990)				
<b>KW</b>	<b>KVA</b>	<b>PF</b>	<b>TAMB</b>	<b>TRISE</b>	<b>POLES</b>	<b>RPM</b>	<b>SLOTS</b>	<b>HZ</b>
635.	793.8	0.8	40	105	6	1200	54	60
<b>VOLTS-PH</b>	<b>VOLTS-LL</b>	<b>AMPS-PH</b>	<b>AMPS-LN</b>	<b>BASE Z</b>	<b>025</b>	<b>026</b>	<b>PHASE/CONNECTION</b>	
7621	13200	34.7	34.7	219.515	60025	60035	3 PHASE WYE	

0.7778 PER UNIT PITCH

<b>REACTANCES</b>		<b>SAT</b>	<b>UNSAT</b>	<b>HI POT VALUES</b>		<b>VOLTS</b>	
SYNCHRONOUS				STATOR		27400	
DIRECT AXIS	Xd	80.7	97.9	ROTOR		1500	
QUADRATURE AXIS	Xq	53.0	57.6	EXCITER FIELD		1500	
TRANSIENT				EXCITER ARM		1500	
DIRECT AXIS	X'd	15.4	17.5				
QUADRATURE AXIS	X'q	53.0	57.6	MOTOR STARTING		0 P.F.	
SUBTRANSIENT						INRUSH	%VOLT
DIRECT AXIS	X''d	14.7	17.3	SKVA AT GENERATOR		SKVA	DIP
QUADRATURE AXIS	X''q	8.9	10.4	TERMINALS		503.8	10
NEGATIVE SEQUENCE		X2	11.8	13.9		800.1	15
ZERO SEQUENCE		X0	6.6	7.8		1133.5	20
LEAKAGE REACTANCE		XL	7.933	9.014		1511.4	25
						1943.2	30
<b>RESISTANCES @ 25C -</b>		<b>RDCa</b>	1.50729				
		<b>RDCf</b>	1.4248				

NL-FL VOLTAGE DIP AT RATED P.F. = 10.9%  
 USED XID= 17.5% FOR DIP CALCULATION.

<b>TIME CONSTANTS (SECONDS)</b>		
D-AXIS 3-PH S.C. TRANSIENT	T'd3	0.434
D-AXIS O.C. TRANSIENT	T'd0	2.419
D-AXIS 3-PH S.C. SUB-TRANS	T''d3	0.023
D-AXIS O.C. SUB-TRANS	T''d0	0.024
ARM CKT (ASYMMETRICAL S.C.)	TA	0.031

<b>TRANSIENT TORQUES</b>			<b>KW</b>	<b>HEAT REJ</b>	
	<b>TORQUE</b>	<b>MAX TORQUE</b>	<b>@0.8P.F.</b>	<b>%EFF</b>	<b>BTU/HR</b>
<b>CONDITION</b>	<b>P.U.</b>	<b>FT-LBS</b>			
3-PH S.C.	6.8	31557	FL	635.0	93.2
L-L S.C.	9.8	45526	3/4L	476.3	92.8
			1/2L	317.5	91.2
			1/4L	158.8	85.9

EFFICIENCY CALCULATED AT 120.0C

<b>SHORT CIRCUIT CURRENT</b>	<b>INSTANTANEOUS SYMMETRICAL FAULT CURRENT</b>		<b>INSTANTANEOUS ASYMMETRICAL FAULT CURRENT</b>	
	<b>P.U.</b>	<b>AMPS</b>	<b>P.U.</b>	<b>AMPS</b>
3-PH	6.78	235	11.75	408
L-L	6.52	226	11.30	392
L-N	9.04	314	15.66	544

OVERSPEED: 1500.0 RPM FOR 1 MINUTE. MINIMUM 3 PHASE MOTORING POWER: 63.50 KW

FULL LOAD NO LOAD  
 SYNCH COEFF 1993KW/RAD 1304KW/RAD

DISPLACEMENT ANGLE: 19.6 DEGREES

BY                     Lor