Kato Engineering/Leroy-Somer Generator Design Program

PREDICTED GENERATOR PERFORMANCE VALUES

32P6-1300	575V 400 Hz		SKEW = 1 SLOT + 1/32"					
KW	**KVA**	**PF**	**TAMB**	**TRISE**	**POLES**	**RPM**	**SLOTS**	**HZ**
250.	312.5	0.8	40	95	32	1500	144	400
VOLTS-PH	**VOLTS-LL**	**AMPS-PH**	**AMPS-LN**	**BASE Z**	**025**	**026**	**PHASE/CONNECTION**	
332	575	313.8	313.8	1.058	60075	60054	3 PHASE WYE	

0.6667 PER UNIT PITCH

REACTANCES		SAT	UNSAT		HI POT VALUES	VOLTS	
SYNCHRONOUS					STATOR	2150	
DIRECT AXIS	Xd	60.2	62.0		ROTOR	1500	
QUADRATURE AXIS	Xq	38.4	43.1		EXCITER FIELD	1500	
TRANSIENT					EXCITER ARM	1500	
DIRECT AXIS	X'd	23.1	26.2				
QUADRATURE AXIS	X'q	38.4	43.1		MOTOR STARTING	0 P.F.	
SUBTRANSIENT						INRUSH	%VOLT
DIRECT AXIS	X"d	20.3	23.9		SKVA AT GENERATOR	SKVA	DIP
QUADRATURE AXIS	X"q	21.3	25.1		TERMINALS	150.5	10
NEGATIVE SEQUENCE	X2	20.8	24.5			239.1	15
ZERO SEQUENCE	X0	2.1	2.5			338.7	20
LEAKAGE REACTANCE	XL	15.296	17.382			451.6	25
						580.6	30
RESISTANCES @ 25C -	RDCa	0.00634					
	RDCf	2.3632					

NL-FL VOLTAGE DIP AT RATED P.F. = 13.7%
USED XID= 23.1% FOR DIP CALCULATION.

TIME CONSTANTS (SECONDS)		
D-AXIS 3-PH S.C. TRANSIENT	T'd3	0.095
D-AXIS O.C. TRANSIENT	T'd0	0.245
D-AXIS 3-PH S.C. SUB-TRANS	T"d3	0.002
D-AXIS O.C. SUB-TRANS	T"d0	0.002
ARM CKT (ASYMMETRICAL S.C.)	TA	0.010

TRANSIENT TORQUES				KW		HEAT REJ
	TORQUE	MAX TORQUE		@0.8P.F.	%EFF	BTU/HR
CONDITION	P.U.	FT-LBS				
3-PH S.C.	4.9	7220	FL	250.0	93.5	58871
L-L S.C.	6.3	9262	3/4L	187.5	92.6	50872
			1/2L	125.0	90.5	44796
			1/4L	62.5	84.0	40620

EFFICIENCY CALCULATED AT 110.0C

SHORT CIRCUIT CURRENT	INSTANTANEOUS SYMMETRICAL FAULT CURRENT		INSTANTANEOUS ASYMMETRICAL FAULT CURRENT	
TYPE	P.U.	AMPS	P.U.	AMPS
3-PH	4.93	1546	8.53	2677
L-L	4.21	1322	7.30	2290
L-N	6.94	2178	12.02	3773

OVERSPEED: 1875.0 RPM FOR 1 MINUTE. MINIMUM 3 PHASE MOTORING POWER: 25.00 KW

	FULL LOAD	NO LOAD
SYNCH COEFF	1005KW/RAD	725KW/RAD

DISPLACEMENT ANGLE: 15.3 DEGREES

BY AW