DRESSER – RAND
ELECTRIC MACHINERY

MOTOR DATA SHEET

DIMENSIONS AND DATA
CERTIFIED

CUSTOMER ORDER NAS3-27157
ROOTS ORDER HA03366
BY ASH DATE 6/13/94

ROOTS DIVISION

CUSTOMER: DRESSER ROOTS
USER: NASA – LEWIS RESEARCH CENTER

DRESSER ROOTS PO R94–0003634
DRESSER ROOTS CONTRACT HAO–3366
NASA JOB # NAS3–27517

	SYNCHRONOUS	BRUSHLESS SYNCHRONOUS	
HORSEPOWER (Hp)		5500	
RATED KVA		4218	
VOLTAGE (VOLT)		6600	
SPEED RATED / MAXIMUM (RPM)		1800 / 2250	
POWER FACTOR		1.00	
AMPERES, FULL LOAD		369	
FREQUENCY (Hz)		60	
PHASE		3	
EFFICIENCY AT 4/4 LOAD, 3/4 LOAD		97.8	97.5
AT 2/4 LOAD (%)		96.9	
TORQUES			
STARTING (%)		40	
PULL–IN (%)		60	
PULL–OUT (%)		150	
3 PHASE SHORT CIRCUIT – (%)		877	
LINE–LINE SHORT CIRCUIT – (%)		1162	
RESISTANCES (OHMS)			
STATOR RES. (T–T) @ 25 DEGREES C		0.081	
FIELD RESISTANCE @ 120 DEGREES C		0.182	
EXCITER ARM. RES. (T–T) @ 25 DEGREES C		0.006	
EXCITER FIELD RES. @ 120 DEGREES C		12.91	
RECOMMENDED FIELD DISCHARGE RESISTOR		0.081	
REACTANCES (P.U.) & TIME CONSTANTS (Sec)			
DIRECT AXIS SYNCHRONOUS REACTANCE (Xd)		1.15	
DIRECT AXIS TRANSIENT REACTANCE (X'd)		0.16	
DIRECT AXIS SUB–TRANSIENT REACTANCE (X''d)		0.12	
DIRECT AXIS TRANS. OPEN CIRC. TIME (T'do)		3.11	
ZERO–SEQUENCE REACTANCE (X0)		0.02	
NEGATIVE SEQUENCE REACTANCE (X2)		0.14	
OPERATING DATA			
EXCITER FIELD DC AMPERES @ NO LOAD		2.4	
EXCITER FIELD DC AMPERES @ FULL LOAD / @ 1.15 SF		3.5 / 6.5	
NUMBER OF STARTS			
MACHINE AT AMBIENT, NUMBER OF STARTS IN SUCCESSION		2	
MACHINE AT OPERATING TEMPERATURE		1	
LOAD INERTIA, POUND–FT2		8862	
INRUSH AMPS, FULL VOLTAGE, LOCKED ROTOR (%)		580	
@ 95% SPEED		460	
LOCKED ROTOR POWER FACTOR (PU)		0.09	
ACCEL TIME (MOTOR ONLY @ RATED VOLT) (Sec.)		2.0	
ACCEL TIME (MOTOR & LOAD @ 100 % RATED VOLT) (SEC)		7.0	
MAX ALLOWABLE TIME ON CAGE WINDING, FULL VOLTAGE WITHOUT INJURY TO CAGE IN SECONDS @ ZERO SPEED (SEC)		10	
MOTOR NOISE LEVEL, DBA AT 1–METER		85	
SYMMETRICAL CONTRIBUTION TO 3 PHASE FAULT @ 1/2 & 5 CYCLES (AMPS)		3075	2306
MAX AMPS ON 1ST SLIP CYCLE @ PULL–OUT		791	
POWER FACTOR RELAY DATA			
MIN TIME DELAY BEFORE APPLYING POWER FACTOR PROTECTION (SEC)		11.0	

EE-11691

CALCULATED SPEED – TORQUE CURVES

5500-HP 1.0-PF 1800-RPM 6600-V 369-A 3/60

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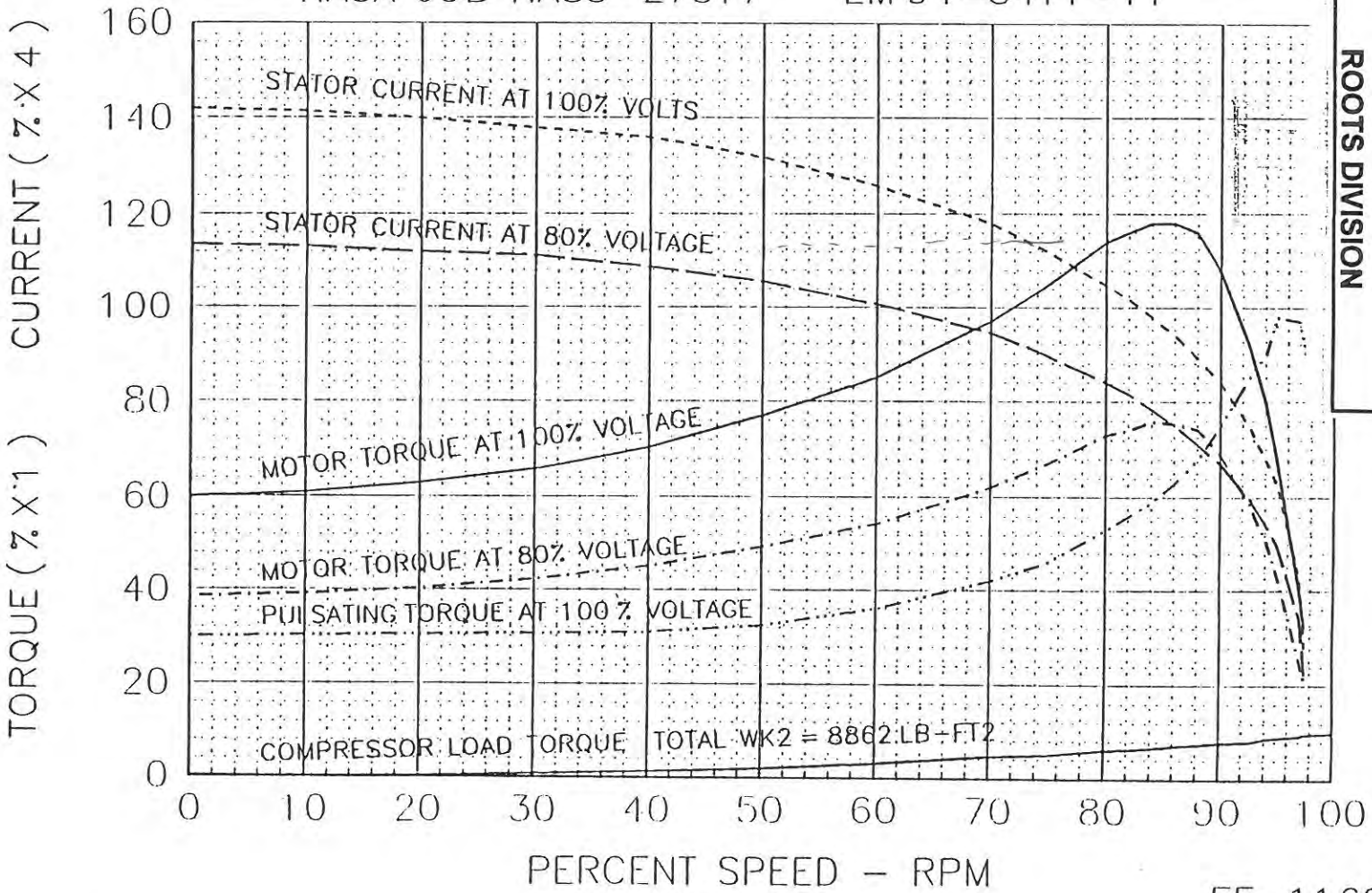
NASA JOB NAS3-27517 EM 94-3411-11



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