

Windings	1	2	3	4	5	6	7	8	9	10
Groups	2	2	2	1	1	1	1			
Circuits	4	4	4	4	4	4	4			
Connection	1	1	1	1	1	1	1			
H/Voltage/A	1 60 0	1 80 0	1 90 0	1 5058 0	1 5058 0	1 5058 0	1 5058 0			
	.	.	.	.	.	.	.			
	.	.	.	.	.	.	.			
	.	.	.	.	.	.	.			
H/Curren/A	1 2319 0	1 2319 0	1 2319 0	.	.	.	.			
	.	.	.	.	.	.	.			
	.	.	.	.	.	.	.			
	.	.	.	.	.	.	.			
Time1 min.	60	60	60	60	60	60	60			
Load1 *	1	1	1	1	1	1	1			
Time2 min.	60	60	60	0	0	0	0			
Load2 *	1	1	1	0	0	0	0			
Sectors	1	1	1	1	1	1	1			
Ser./Para.	1	1	1	1	1	1	1			
Wire file	6	6	6	5	5	5	5			
Cu/Al	2	2	2	2	2	2	2			
In/Layer μ	200	200	200	0	0	0	0			
Type/Tran.	10	10	10	10	10	10	10			
Typ/L/C mm	6 5 6	2 5 6	2 5 6	6 5 11	2 5 6	2 5 6	2 5 6			
Typ/L/C mm	6 5 6	2 5 6	2 5 6	6 5 11	2 5 6	2 5 6	2 5 6			
Typ/L/I mm	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1			
Margin mm	45	45	45	75	75	75	75			
RacRdc	1.1	1.1	1.1	1.1	1.1	1.1	1.1			

Frequency Hz: 50	Core select. -: Created	Cooling medium : Oil	CHANGED IN TEST
Criterion : Ucca	Core file : LTCM_F10_3_L	Amb. temperature °C: 25	Frequency Hz: 50
Ucc-voltage act. %: 1.05	Core name : Created D210	Convection outside *: 1	Ambient temperature C: 60
Ucc-voltage tot. %: 6.4	Core assembly: (7) 4x45°+3x9	Convection inside *: 1	Convection/outside *: 1
Temperat. rise °K: 80	With hole -: No	Emission *: 1	Convection/channels *: 1
Max. Fe losses %: 1	Steel file : STEEL1.RDS	Airflow outside m/s: 0	Emission *: 1
No-load factor %: 1	Steel name : 30P110 (50Hz)	Airflow inside m/s: 0	Ventilation/outside m/s: 0
I ⁱⁿ /I ^{nom} : 10	Induction T: 1.75	Min.oil temp.rise °K: 35	Ventilation/channel m/s: 0
I _{rms} on/I _{rms} nom : 10	W/kg *: 1		Rth-Insulation *: 1
Losses at temp.°C: 75	UAr/kg *: 1		Rth-Varnish *: 1
HU-Test volta. kV: 85	Airgap *: 1	Channel fill factor %: 80	Rth-Compound *: 1
LU-Test volta. kV:	f/Fn-Factor *: 1	Varnish in windings %: 100	Fillfactor/channels %: 80
HU-Mom.voltage kV: 35	Fill factor : 1	Varnish in gaps %: 100	Varnish in windings %: 100
LU-Testvoltage kV:	Annealed -: Yes	Rth-varnish *: 1	Varnish/gaps/stomack %: 100
Cu Price per kg : 2		Rth-compound *: 1	Stomack mm: 1.00
Al Price per kg : 1		Rth-insulation *: 1	Gap mm: 0.10
Fe Price per kg : 1		Coil insulation mm: 0	
		Stomach mm: 1	
		Gap mm: 0.1	
		Min.distance W-W mm: 30	
		Flange mm: 0	

#*0

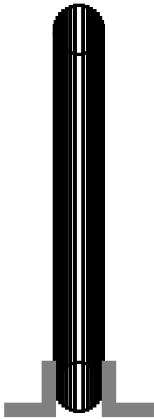
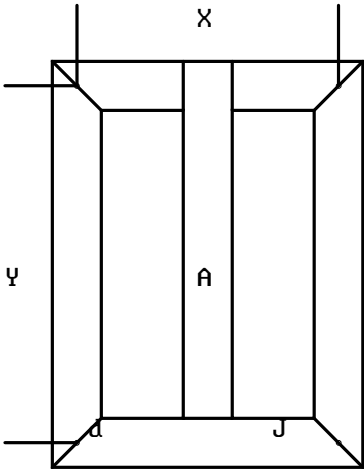
DIAGNOSIS

Page 0

Name	:Created D210/8			
Steel	:30P110 (50Hz 1.7T<1.10W/kg/800A/m<1.88T)			
Number of phases	-:3			
Number of legs	-:3			
Wight total/Cu/Fe	kg:2114.6	=571.5	+10543	
Max.build of windings	%:78.4			
max.wires in parrallel	:1	=1	X 1	/6
Induction on load	T:1.750			
No-load induction	T:1.756			
Max. CuAl-dT on load	°K:54.6			
Max. Fe-dT on load	°K:48.1			
Regulation	%:1.330			
Short-circuit voltage cold	%:6.98	Ucx=6.93	Ucr=1.086	
Efficiency	%:98.795			
Iinrush/Inom max/rms	*: 11.52	/ 8.48		
No-load current factor	%: 1.1			

Core file name	: LTCM_EI0_3_L_1.USR	Fe-File name	: STEEL1.RDS
Core name	: Created D210/8	Fe-Name	: 30P110 (50Hz 1.7T<1.10
Core type	: 3EI	Frequency	Hz: 50
Type of windings	: round	Remanence-Factor	*: 0.35
Number of legs	: 3	W/kg-Factor	*: 1
Core assembly	: (7) 4x45°+3x9	UAr/kg-Factor	*: 1
Leg/Diameter	cm: 20.81	Gap-Factor	*: 1
Window width	cm: 34.5	f/fn-Factor	*: 1
Window height	cm: 129.5	Fillfactor	*: 1
Stack	cm: 20.6	Annealed	-: Yes
Cross section	cm^2: 308.9		
Weight total	kg: 1543.		
With holes	-: Yes	Chassis	-:
Brackets	-: L-T&B	Vertical/Horizontal	-:

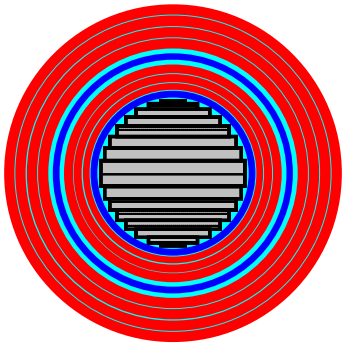
		Steps	1	2	3	4	5	6	7	8	9	10
X-Width	cm: 110	A-Leg	cm:20.5	19.5	18	16	13.5	10.5	7	3.5	0	0
Y-Height	cm: 150	J-Yoke	cm:20.5	19.5	18	16	13.5	10.5	7	3.5	0	0
d_Hole	cm: 2.05	R-Rearyoke	cm:0	0	0	0	0	0	0	0	0	0
h-Distance	cm: 2.05	S-Stack	cm:3.6	1.8	1.6	1.5	1.3	1.1	0.8	0.4	0	0
L-Laenght	cm: 20.5	Number lamin.	:									
Z-Width	cm: 0	Weight	kg:									



Windings	1	2	3	4	5	6	7	8	9	10
Groups-Circuits	2-Y	2-Y	2-Y	1-Y	1-Y	1-Y	1-Y			
Connection	ser.	ser.	ser.	ser.	ser.	ser.	ser.			
Turns per leg	5.0	6.5	7.5	421.0	421.0	421.0	421.0			
Build	%									
Weight per leg	kg									
WIRE										
Type	Foil	Foil	Foil	flat	flat	flat	flat			
Thicknes	mm									
Width	mm									
WG-thicknes										
WG-width										
Al/Cu	Al	Al	Al	Al	Al	Al	Al			
STRAND/LITZ										
Thickne insula.	mm									
Width insulata.	mm									
Parallel wires										
side by side										
one upon the other										
Transposition	Cyl	Cyl	Cyl	Cyl	Cyl	Cyl	Cyl			
Cross section	mm^2									
SECTOR										
Number	1	1	1	1	1	1	1			
Serie/Parallel	ser.	ser.	ser.	ser.	ser.	ser.	ser.			
Turns	5	6.5	7.5	421	421	421	421			
Turns/Layer	1	1	1	430.5	430.5	430.5	430.5			
Layers	5	6.5	7.5	0.977	0.977	0.977	0.977			
Insul./Layer	µm									
Transposition	None	None	None	None	None	None	None			
Thicknes	mm									
Height	mm									
Heights Wind/Sect	5	6.5	7.5	0.977	0.977	0.977	0.977			
SPACES/CHANNELS/INS.										
C/I Outside	WCICW	WCW	WCW	WCICW	WCW	WCW	WCW			
Insulation	mm									
Channel	mm									
C/I Inside	WCICW	WCW	WCW	WCICW	WCW	WCW	WCW			
Insulation	mm									
Channel	mm									
C/I Horizontal	II	II	II	II	II	II	II			
Sector-Sector	mm									
Turn-Turn	mm									
Distance to yoke	mm									

Coil insulation mm:
D1i/D1e: 242.1 252.1
D2i/D2e: 264.1 277.7
D3i/D3e: 289.7 305.3
D4i/D4e: 359.3 379.5
D5i/D5e: 391.5 411.7
D6i/D6e: 423.7 443.9
D7i/D7e: 455.9 476.1
D8i/D8e: /

Diatancw coil to coil : 73.86



Frequency	Hz: 50	Ventilation/outside	m/s: 0	Fillfactor/channels	%: 80
Ambient temperature	C: 60	Ventilation/channel	m/s: 0	Uarnish in windings	%: 100
Convection outside	*: 1	Rth-Insulation	*: 1	Uarnish/gaps/stomack	%: 100
Convection/channels	*: 1	Rth-Uarnish	*: 1	Stomack	mm: 1.00
Emission	*: 1	Rth-Epoxy	*: 1	Gap	mm: 0.10

Output power	kVA: 1534.0	Input power	kVA: 1558.3	Core power	: 1546.2
Input current harm. 1	A: 25.7	Input current real	A: 25.6	Input current imag.	A: -2.0
harm. 0	A: 0.0	Input current real	A: 0.0	Input current imag.	A: 0.0
harm. 0	A: 0.0	Input current real	A: 0.0	Input current imag.	A: 0.0
harm. 0	A: 0.0	Input current real	A: 0.0	Input current imag.	A: 0.0
harm. 0	A: 0.0	Input current real	A: 0.0	Input current imag.	A: 0.0
Fe-Losses	UA: 16380	Fe-active losses	W: 2164.	Fe-reactive losses	UAR: 16236
No-load curren	٪: 1.07	No load curr. active	٪: 0.1	No load curr. react.	٪: 1.1
I ⁱⁿ /I ^{nom} -Factor	: 11.52	I _{rms} /I _{nom} -Factor	: 8.48	No load induction	T: 1.756
I ⁱⁿ	kA: 0.42	I _{in} rms	kA: 0.22	Induction	T: 1.750
Icc cold.input	kA: 0.37	Iccr active cold	kA: 0.04	Iccx reactive cold	kA: -0.37
Ucc cold.onput=100In/Icc	٪: 6.98	Uccr active at 75 °C	٪: 1.086	Uccx inductive	٪: -6.93
CuAl-losses	W: 16548.8	Efficiency	٪: 98.795	Qnx leaking losses	UAR: 107759
Cu/Al temp.rise avarage	°K: 54.6	Max. dT Fe	°K: 48.1	Cu/Al temperature rise max°K	62.9
Oil temperature rise min.	°K: 35.0	Oil temperature rise avarage	°K: 43.3	Oil temperature rise max.	°K: 51.6

[illegible]