

NPS Sweeper Magnet & LCW in Hall C

Description	Units	Value	Measured
Field Central	T	0.52	
Effective Field length	m	1.33	
Current (Max)	A	990	
Resistance (at operating temp)	Ohms	0.115	
Voltage (Max current)	V	114	
LCW flow rate at 130 psi dif. pressure	GPM	14	
LCW Pressure (to obtain LCW flow)	Psig	130	
Max Pressure in Hall C (+/- 20psig)	Psig	260	
Return Pressure in Hall C (+/- 20 psig)	Psig	80	
Temp Rise at full current and LCW flow	C	Calculated value =30	
Power	kW	113	
Weight	Lbf.	33,400	
Conductor	mm	Luvata #6888 18x12	
Water diameter	mm	8	
# turns per pancake		15	
Total #turns in all 8 pancakes		120	
Corrector Coil (x2)			
Current (Max)	A	520	
Resistance/coil (at operating temp)	Ohms	0.04	
Voltage (operating 2 coils in series)	V	42	
Voltage Max current (one coil)	V	21	
LCW flow rate per coil at 130 psi diff. pressure	GPM	1.5	1.3*
LCW Pressure (to obtain LCW flow)	Psig	130	
Max Pressure in Hall C (+/- 20psig)	Psig	260	
Return Pressure in Hall C (+/- 20 psig)	Psig	80	
Temp Rise at full current and LCW flow	C	30	
Power	kW	1.44	
Conductor	mm	Luvata #8195 9x8	
Water diameter	mm	4.8	
Coils in the magnet		2	
Pancakes in the coil		2	
Total #turns in one pancake		36	
Length of conductor in one pancake	m	46	