Cooling Cell Parameters

Beam Physics Parameters

Momentum	200 MeV/c
Twiss beta function	107 mm
Dispersion in x	38.5 mm
Dispersion in y	20.3 mm
Beam pipe radius	81.6 mm

Design solenoid parameters*

B0.5	0 T
B0	7 T
B1	1 T
B2	0 T
Cooling Cell length	1000 mm
B0 tolerance	0.25 T
B1 tolerance	0.025 T
B0.5 tolerance	0.02 T
B2 tolerance	0.5 T

Simulated coil geometry

Coil 1

Coil inner radius	285 mm
Coil length	268 mm
Coil radial thickness	70 mm
Coil z centre position	211 mm
Pancake length	12 mm
Spacer length	4 mm
Number pancakes	16
Current Density	328.43 A/mm^2

Coil 2

Coil inner radius	185 mm
Coil length	72 mm
Coil radial thickness	60 mm
Coil z centre position	81 mm
Pancake length	12 mm
Spacer length	3 mm
Number pancakes	5
Current Density	300 A/mm^2

RF Cavity**

RF cell centre-to-centre distance
RF Gradient, E0
Iris radius
Number of RF cells
Frequency, f
Synchronous phase
RF window thickness

Wedge

Material
Wedge opening angle
Wedge thickness
Wedge alignment

Dipole

Dipole length
Polarity
Field
Dipole z centre position
Dipole field direction

*Solenoid field on axis defined by B = B0.5 sin(pi z/L) + B0 sin(2 pi z/L) + B1 sin(4 pi z/L) + B2 s
** Field on axis in RF cavity defined by E = E0 sin(2 pi f t + phi); adjacent cavities have phi offs

188.6 mm
30 MV/m
81.6 mm
3
0.704 GHz
20 degree
0.1 mm

Lithium Hydride
10 degree
20 mm
Horizontal

100 mm
+ - - +
0.2 T
160 mm
Vertical

sin (6 pi z/L)
et by 180 degrees