Chamber Geometry

Chamber (original radius is 78)
Radius : 85, Height : 129.5
Position (0, 0, 0), z axis

LXe Volume
Radius : 85, Height : 78
Position (0, 0, 0), z axis

LXe Boundary
Radius : 85, Height : 18
Position (0, 0, 42.5), z axis

Cu Roof
Radius : 84, Height : 11
Position (0, 0, 118.5), z axis

Cu Roof 1
Radius : 10, Height : 11
Position (-66.25, 0, 118.5), z axis

Cu Roof 1.2
Radius : 10, Height : 11
Position (-57.374, -33.125, 118.5), z axis

Cu Roof 1.2.2
Radius : 10, Height : 11
Position (-33.125, -57.374, 118.5), z axis

Cu Roof 1.3
Radius : 10 , Height : 11
Position (66.25, 0, 118.5), z axis

Cu Roof 1.4
Radius : 10, Height : 11
Position (0, 66.25, 118.5), z axis

Difference 5
Cu Roof – (Cu Roof 1, 1.2, 1.2.2, 1.3, 1.4)

Cu Roof 2
Radius : 35, Height : 7
Position (0, 0, 111.5), z axis

Cu Roof 2.2(cylinder)
Radius : 30, Height : 4
Position (0, 0, 107.5), z axis

Union 11
Difference 5 + Cu Roof 2 + Cu Roof 2.2

Cu Roof 2.2.2
Radius : 27.75, Height : 22
Position (0, 0, 107.5), z axis

Difference 3
Union 11 – Cu Roof 2.2.2

Cu Roof Final
Difference 3

KFT Isolator 1
Radius : 7.5, Height : 74
Position (66.25, 0, 55.5), z axis

KFT Core 1
Radius : 3.2, Height : 79
Position (66.25, 0, 50.5), z axis

Torus 1
Major Radius : 8.5, Minor Radius : 1
Revolution angle : 360 deg
Position (66.25, 0, 119.5), z axis

KFT Head 1
Radius : 5
Position (66.25, 0, 50.5), z axis

KFT Isolator 2
Radius : 7.5, Height : 74
Position (-66.25, 0, 55.5), z axis

KFT Core 2
Radius : 3.2, Height : 79
Position (-66.25, 0, 50.5), z axis

Torus 2
Major radius : 8.5, Minor radius : 1
Revolution angle : 360 deg
Position (-66.25, 0, 119.5), z axis

KFT Head 2
Radius : 5
Position (-66.25, 0, 50.5), z axis

Wire
Radius : 0.05, Height : 132.5
Position (-66.25, 0, 50.5), x axis

PhotoCathode
a-semiaxis: 27, b-semiaxis: 27, c-semiaxis: 3
Position (0, 0, 107.5), z axis

Helix 1
Number of turns : 28
Major radius : 7.5, Minor radius : 0.25
Axial pitch : 2, Radial pitch : 0
Chirality : Right handed
End caps parallel to axis
Position (-66.25, 0, 62.5), z axis

Helix 2
Number of turns : 28
Major radius : 7.5, Minor radius : 0.25
Axial pitch : 2, Radial pitch : 0
Chirality : Right handed
End caps parallel to axis
Position (66.25, 0, 62.5), z axis

Union 2
Helix 1 + Helix 2

Cylinder 16
Radius : 0.1, Height : 60.1
Position (-30, -30, 71.5), x axis

Array 1
Array type : 3D
Size (1, 30, 1)
Displacement (0, 2, 0)

Union 3
Array 1

Delete Entities
Delete the extra tiny bit at the end of one side as that will give mesh errors

Grid Border
Radius : 30.001, Height : 2
Position (0, 0, 70.5), z axis

Intersection 1
Union 3 – Grid Border

Cylinder 18
Radius : 39, Height : 4
Position (0, 0, 69.5), z axis

Cylinder 19
Radius : 45, Height : 2
Position (0, 0, 70.5) z axis

Grid Border 1 (cyl20)
Radius : 30.001, Height : 4
Position (0, 0, 69.5), z axis

Grid Holder (co1)
Formula : (Cylinder 18 + Cylinder 19) – Grid Border 1 [(cyl18+cyl19)-cyl20]

Ring with Grid Gate (Union 4)
Intersection 1 + Grid Holder

HVpinBase
Radius : 1.6, Height : 59.2
Position (-57.374, -33.125, 70.3), z axis

Cone 1
Radius : 1.2, Height : 22.25
Semi-angle : 1.35
Position (-57.374, -33.125, 71.5)
Axis type : Spherical
Theta : 90, Phi : 30

Copy HVpinbase (copy 1)
Input object : HVpinbase
Keep input object
Displacement (0, 0, 0)

Difference 1
Cone 1 – HVpinbase

Ring Hook Union Gate
Difference 1 + Copy pinbase + Ring with Grid Gate

Cylinder 22
Radius : 0.1, Height : 60.1
Position (-30, -30, 85.5), x axis

Array 2
Array type : 3D
Size (1, 30, 1)
Displacement (0, 2, 0)

Union 6
Array 2

Delete Entities
Delete the extra tiny bit at the end of one side as that will give mesh errors

Grid Border 2
Radius : 30.001, Height : 2
Position (0, 0, 84.5), z axis

Intersection 2
Union 6 – Grid Border 2

Cylinder 24
Radius : 39, Height : 4
Position (0, 0, 83.5), z axis

Cylinder 25
Radius : 45, Height : 2
Position (0, 0, 84.5), z axis

Grid Border 1.2 (cyl26)
Radius : 30.001, Height : 4
Position (0, 0, 83.5), z axis

Grid Holder 1 (co2)
Formula : (Cylinder 24 + Cylinder 25) – Grid Border 1.2 [(cyl24+cyl25)-cyl26]

Ring with Grid Gate 1
Intersection 2 + Grid Holder 1

HVpinbase 1
Radius : 1.6, Height : 45.2
Position (-33.125, -57.374, 84.3), z axis

Cone 2
Radius : 1.2, Height : 22.25
Semi-angle : 1.35
Position (-33.125, -57.374, 85.5)
Axis type : Spherical
Theta : 90, Phi : 57.5

Copy HVpinbase 1 (copy 2)
Input object : HVpinbase 1
Keep input object
Displacement (0, 0, 0)

Difference 2
Cone 2 – HVpinbase 1

Ring Hook Union Anode
Difference 2 + copyHVpinbase 1 + Ring with Grid Gate 1

Cylinder 28
Radius : 2.5, Height : 39
Position (-40.569, 10.87, 86.5), z axis

Cylinder 29
Radius : 1.5, Height : 2
Position (-40.569, 10.87, 84.5), z axis

Cylinder 30
Radius : 2.5, Height : 12
Position (-40.569, 10.87, 72.5), z axis

Cylinder 31
Radius : 1.5, Height : 6
Position (-40.569, 10.87, 66.5), z axis

Cylinder 32
Radius : 2.5, Height : 39
Position (10.87, 40.569, 86.5), z axis

Cylinder 33
Radius : 1.5, Height : 2
Position (10.87, 40.569, 84.5), z axis

Cylinder 34
Radius : 2.5, Height : 12
Position (10.87, 40.569, 72.5), z axis

Cylinder 35
Radius : 1.5, Height : 6
Position (10,87, 40.569, 66.5), z axis

Cylinder 36
Radius : 2.5, Height : 39
Position (40.569, -10.87, 86.5), z axis

Cylinder 37
Radius : 1.5, Height : 2
Position (40.569, -10.87, 84.5), z axis

Cylinder 38
Radius : 2.5, Height : 12
Position (40.569, -10.87, 72.5), z axis

Cylinder 39
Radius : 1.5, Height : 6
Position (40.569, -10.87,66.5), z axis

Cylinder 40
Radius : 2.5, Height : 39
Position (-10.87, -40.569, 86.5), z axis

Cylinder 41
Radius : 1.5, Height : 2
Position (-10.87, -40.569, 84.5), z axis

Cylinder 42
Radius : 2.5, Height : 12
Position (-10.87, -40.569, 72.5), z axis

Cylinder 43
Radius : 1.5, Height : 6
Position (-10.87, -40.569, 66.5), z axis

Cu Finger
Radius : 6.375, Height : 116
Position (-63.993, -17.134, 2.5), z axis

Cu Finger 1
Radius : 6.375, Height : 116
Position (-46.846, -46.846, 2.5)

Top Field Shaper
Radius : 45, Height : 2
Position (0, 0, 15)

Connection
Radius : 0.21, Height : 17.918
Position (-58.563, 0, 62.92)
Axis type : Spherical
Theta : 90, Phi : -107.0125857

Copy Helix 1
Input object Helix 1
Keep input object
Displacement (0, 0, 0)

Difference
Connection – Helix 1

Delete Entities

Delete the extra bit that comes off from the helix