Hall D Sub Systems

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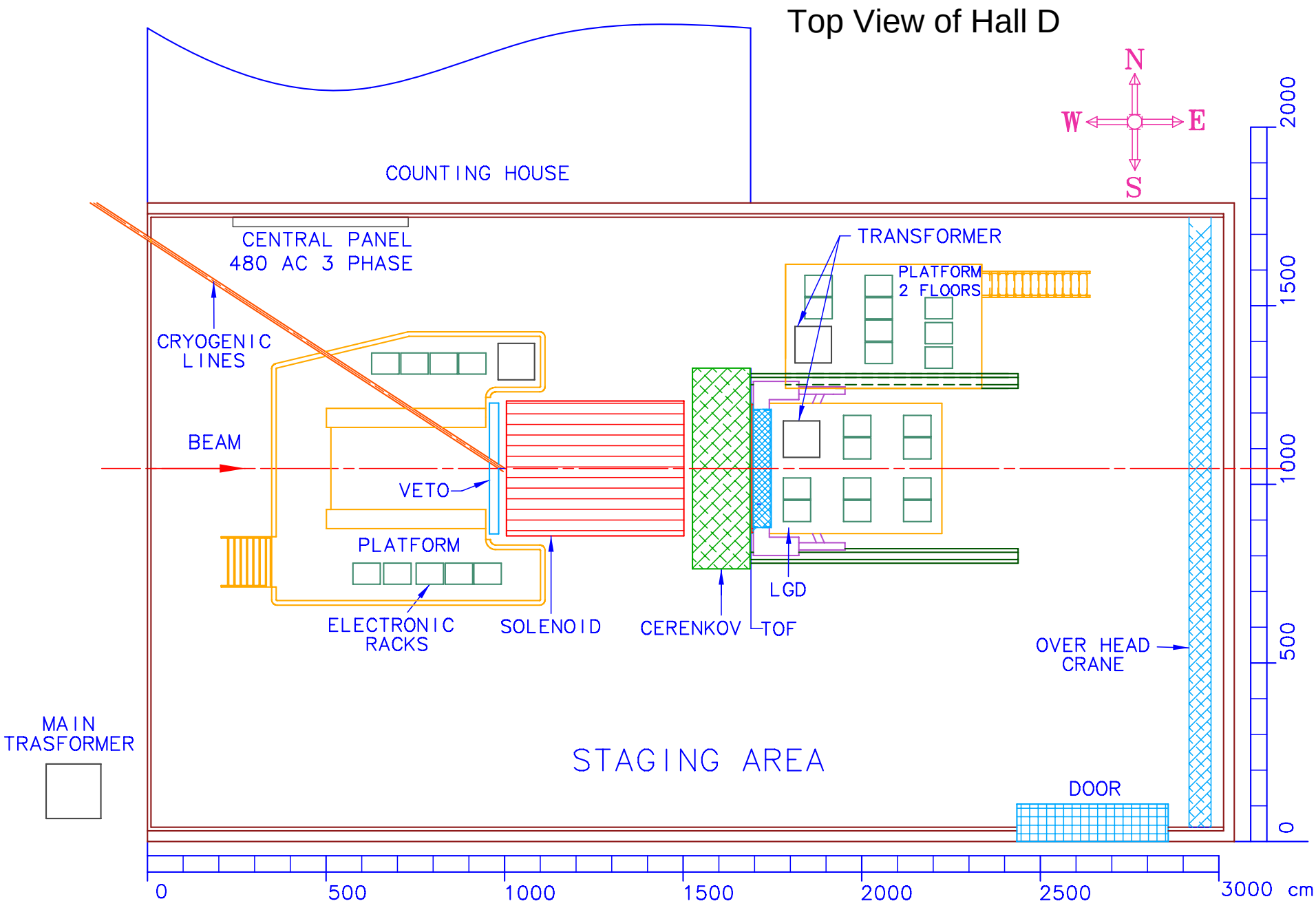
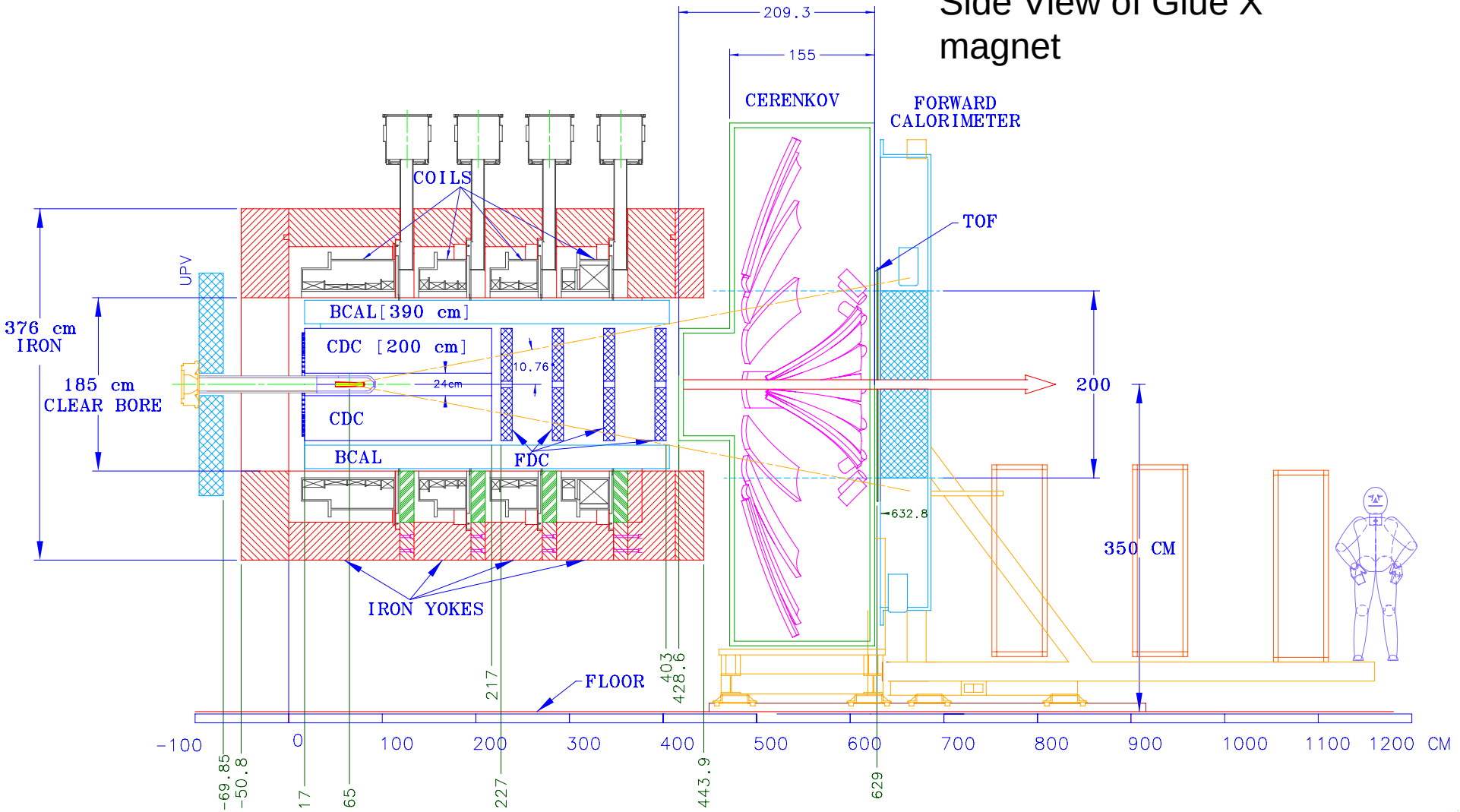
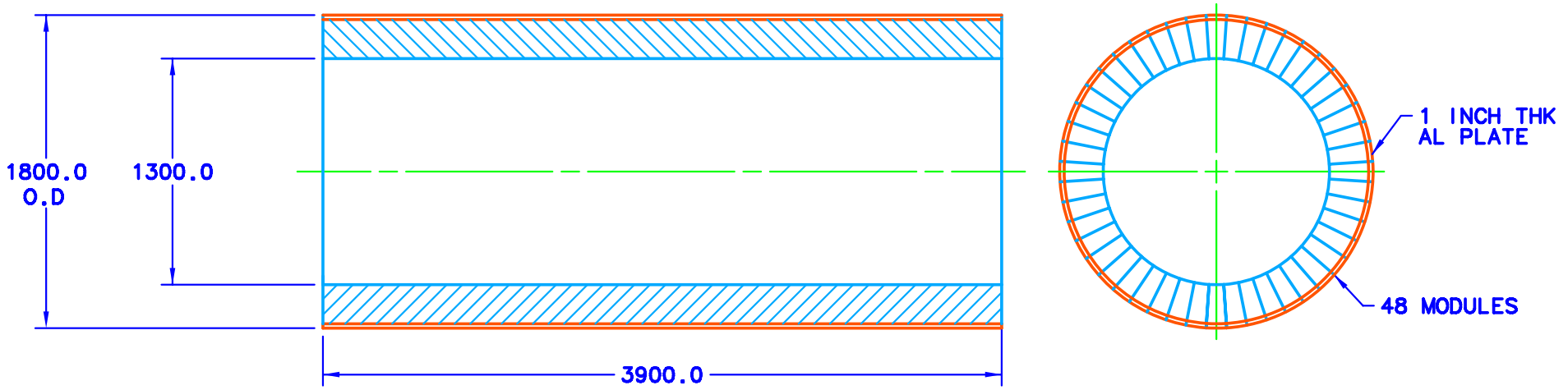
April 27th '06


Top View of Hall D
N
W
E
S
COUNTING HOUSE
CENTRAL PANEL
480 AC 3 PHASE
CRYOGENIC
LINES
BEAM
VETO
PLATFORM
ELECTRONIC
RACKS
SOLENOID
CERENKOV
TOF
LGD
TRANSFORMER
PLATFORM
2 FLOORS
OVER HEAD
CRANE
MAIN
TRASFORMER
STAGING AREA
DOOR
0
500
1000
1500
2000
2500
3000 cm
0
500
1000
1500
2000

Side View of Glue X magnet



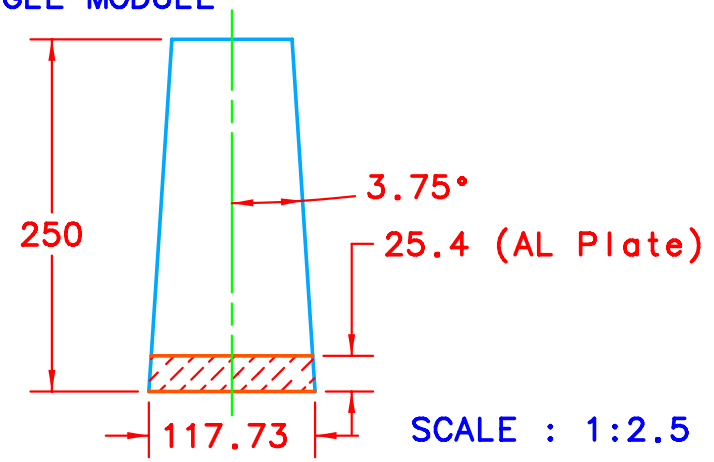


DESCRIPTION : BARREL CALORIMETER
MATERIAL : LEAD AND SCINTILLATING FIBER
WEIGHT : 22 METRIC TONS

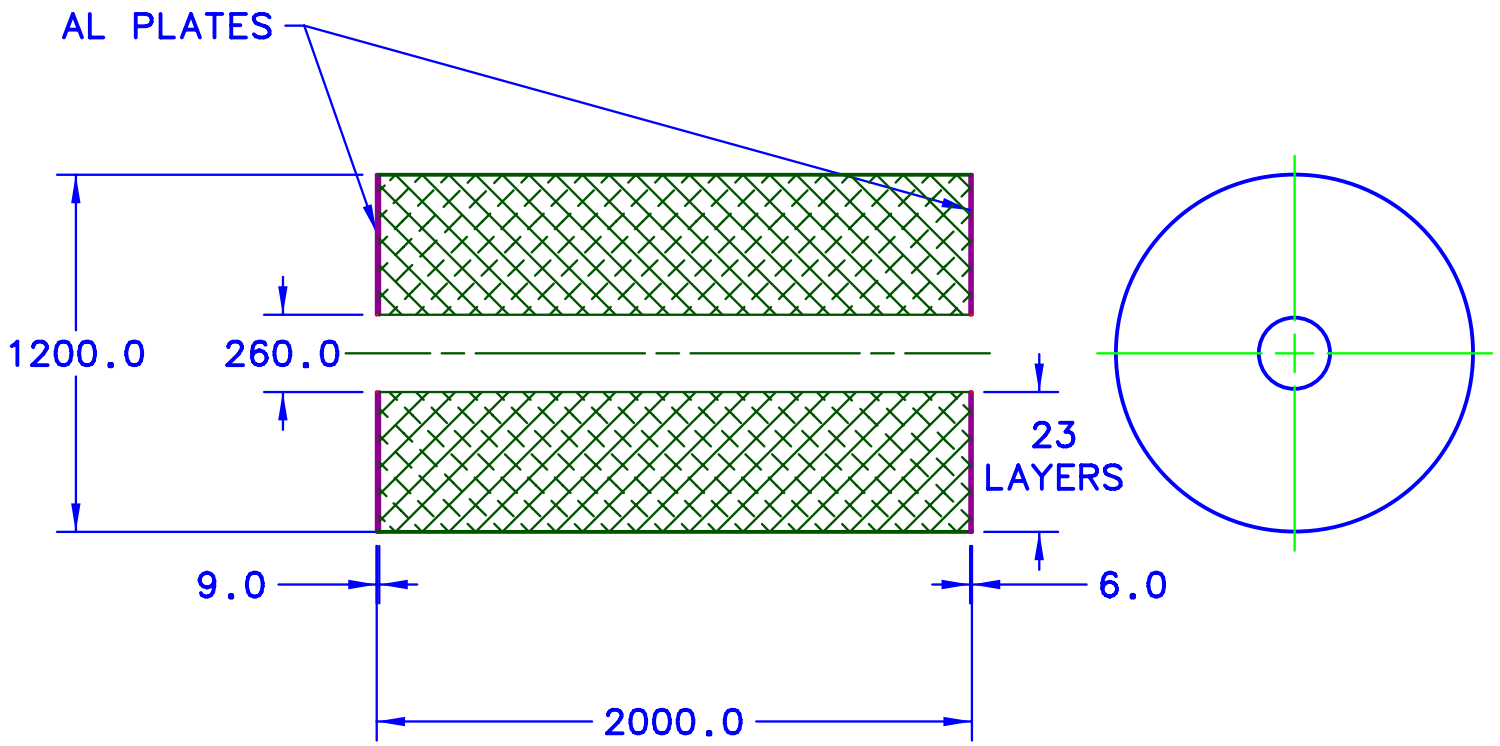
ALL DIMENSIONS ARE IN MM

SCALE 1:25

SINGLE MODULE

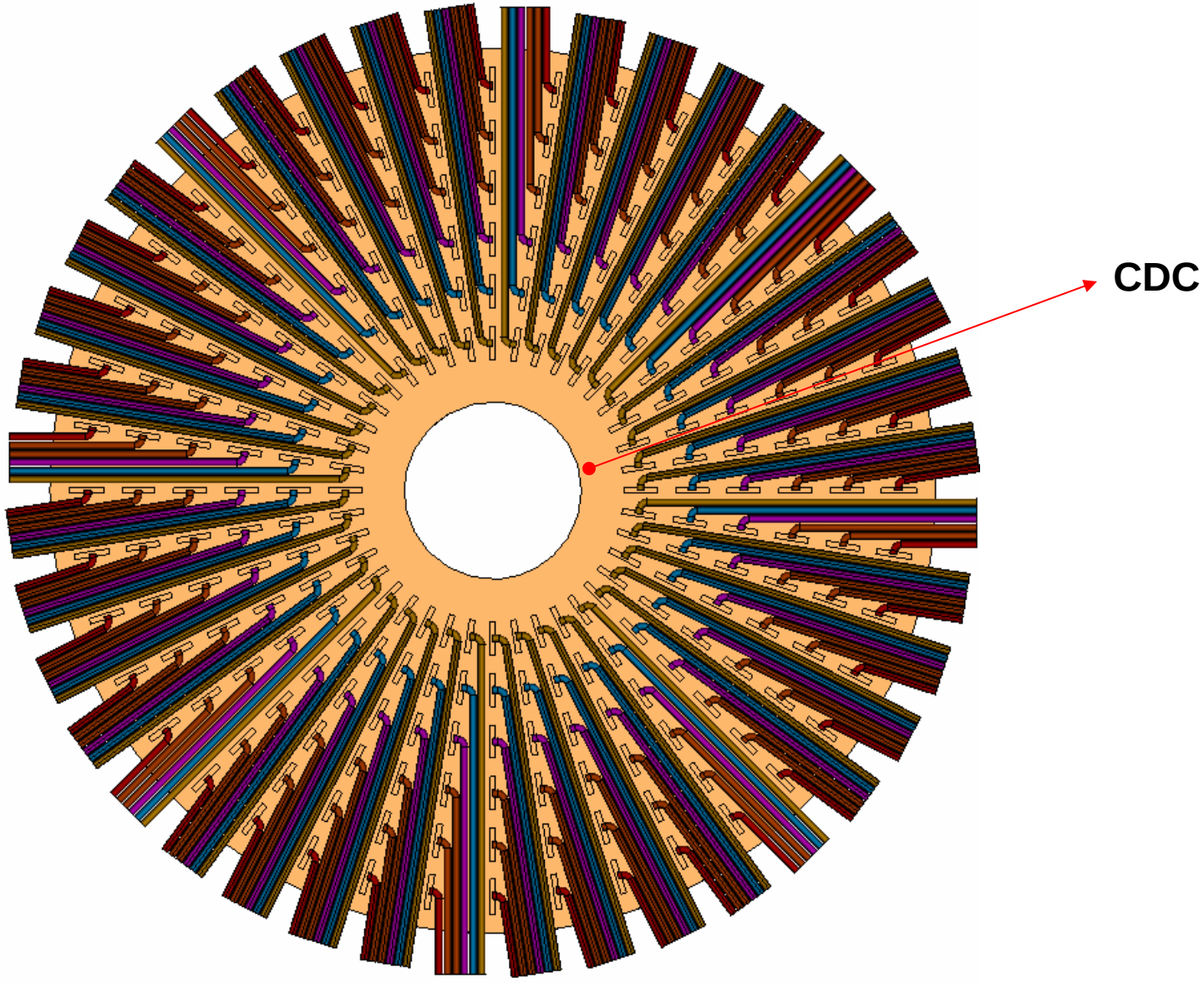


SCALE : 1:2.5

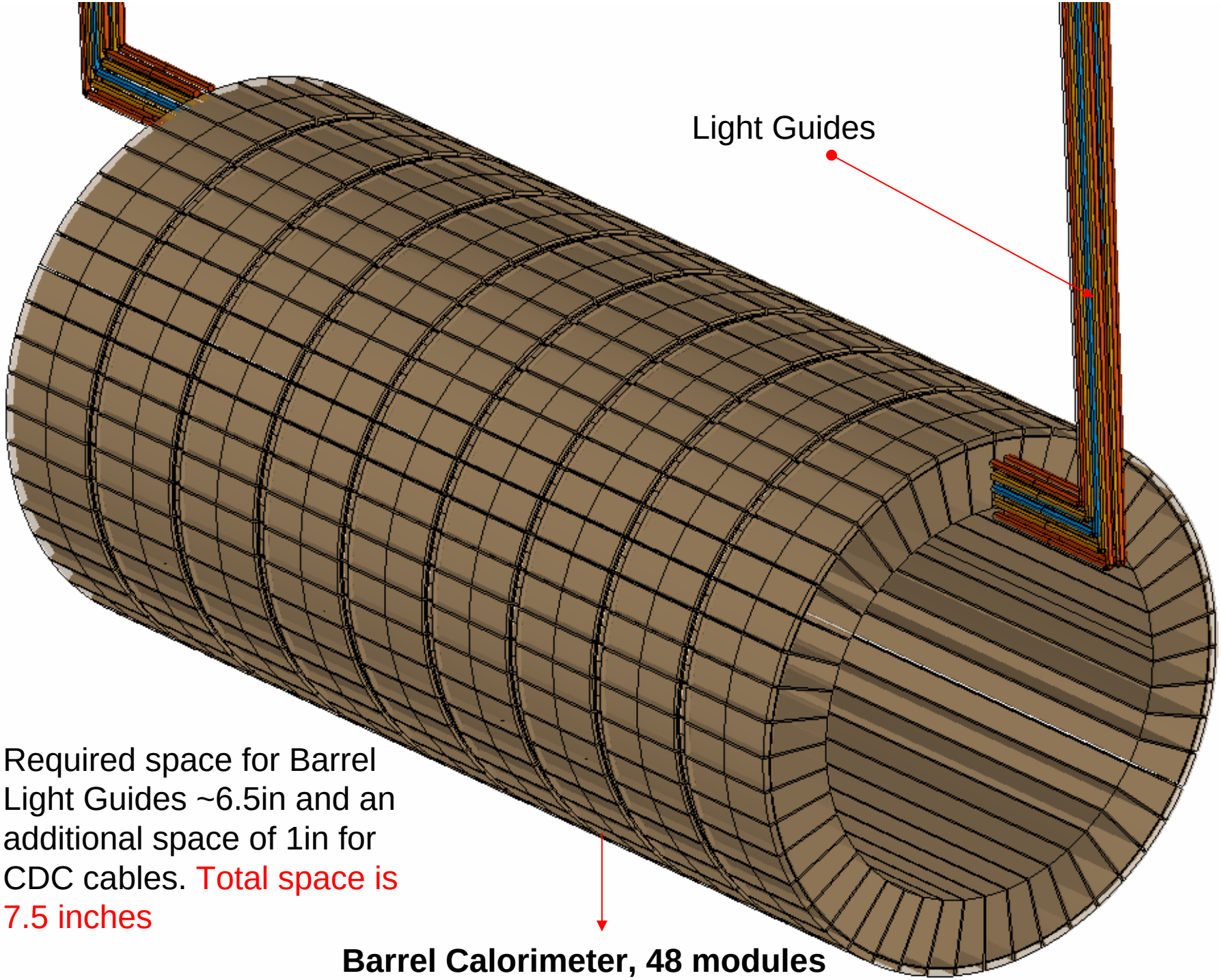


DESCRIPTION : CYLINDRICAL DRIFT CHAMBERS
WEIGHT : 500-700 KG
STRAW TUBES: 2 M LONG, 1.6 CM ø,
100 Micro Meter THK ALUMINISED KAPTON

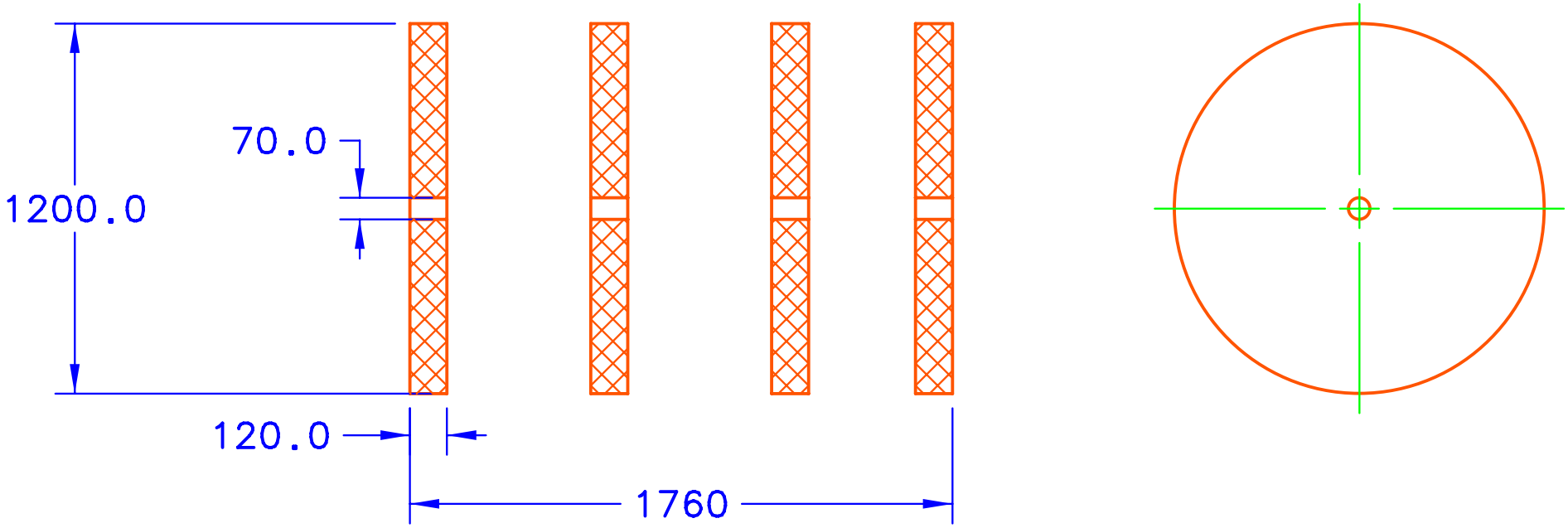
ALL DIMENSIONS ARE IN MM



220, CDC Cable Connectors & Routing Scheme



Required space for Barrel Light Guides ~6.5in and an additional space of 1in for CDC cables. Total space is 7.5 inches

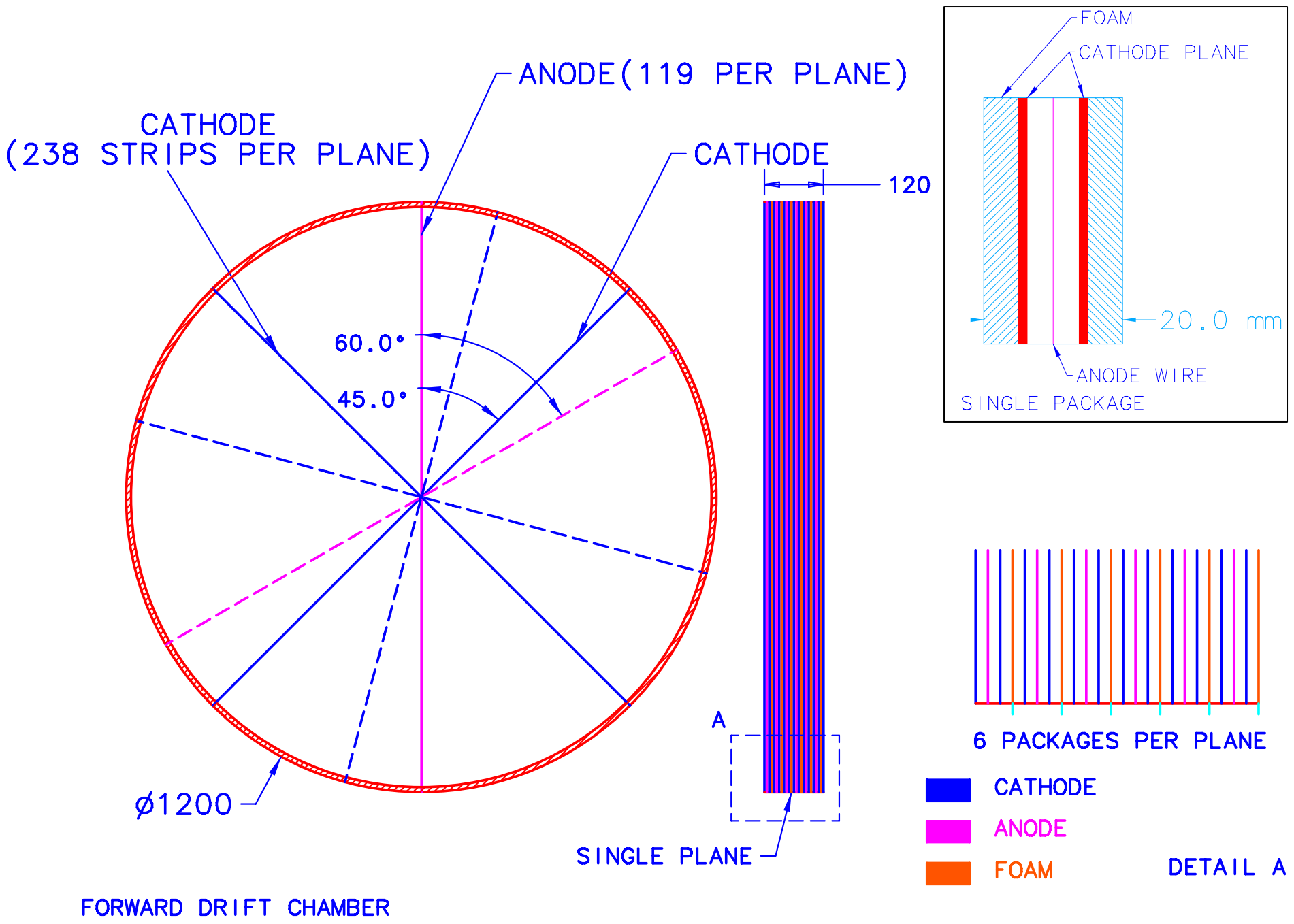


DESCRIPTION : FORWARD DRIFT CHAMBER
WEIGHT : 100 KG (INCLUDES SUPPORT STRUCTURE)

ALL DIMENSIONS ARE IN MM

Weight of cables : 100 kg

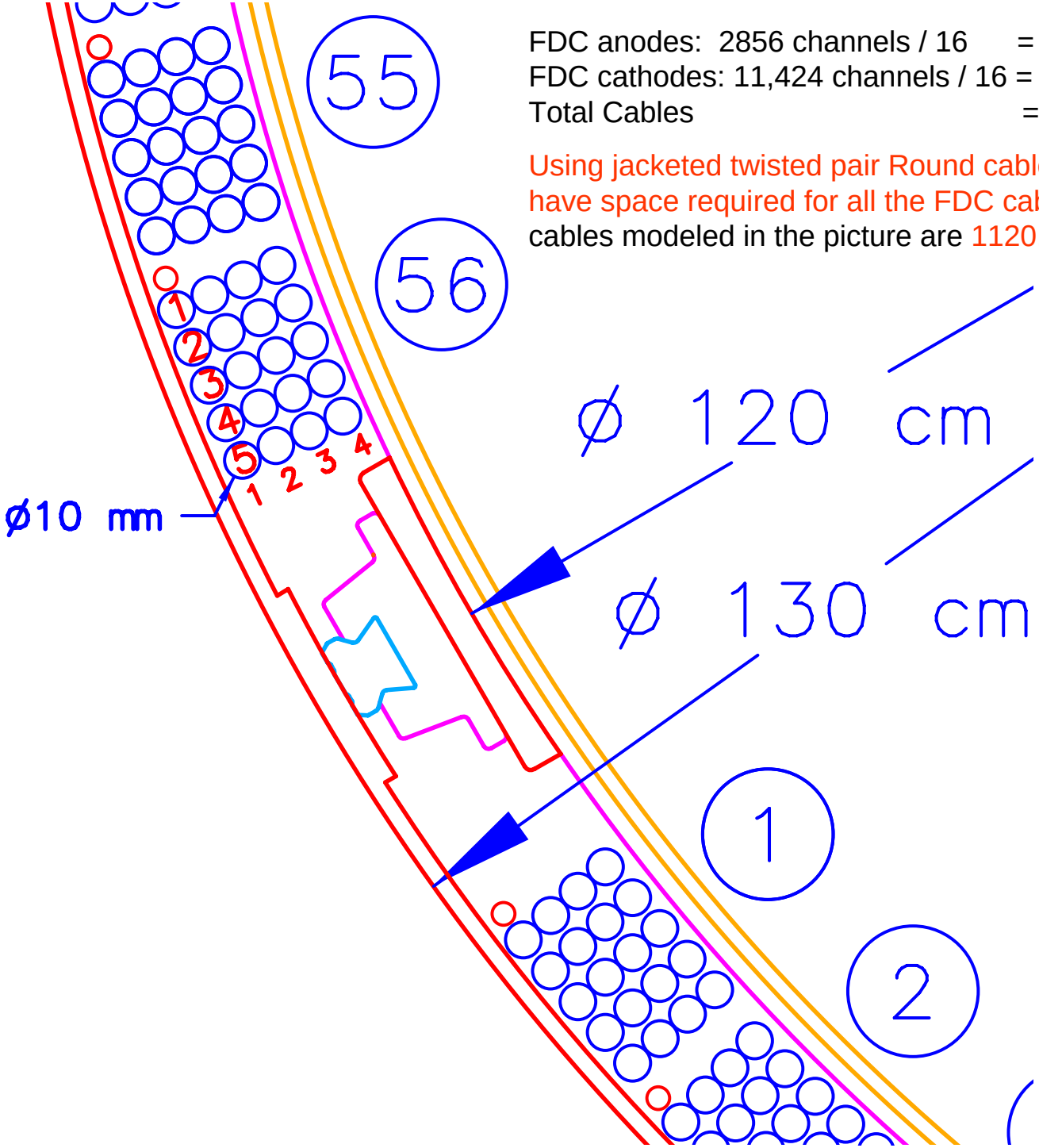
Total Weight : ~ 200-250 Kg

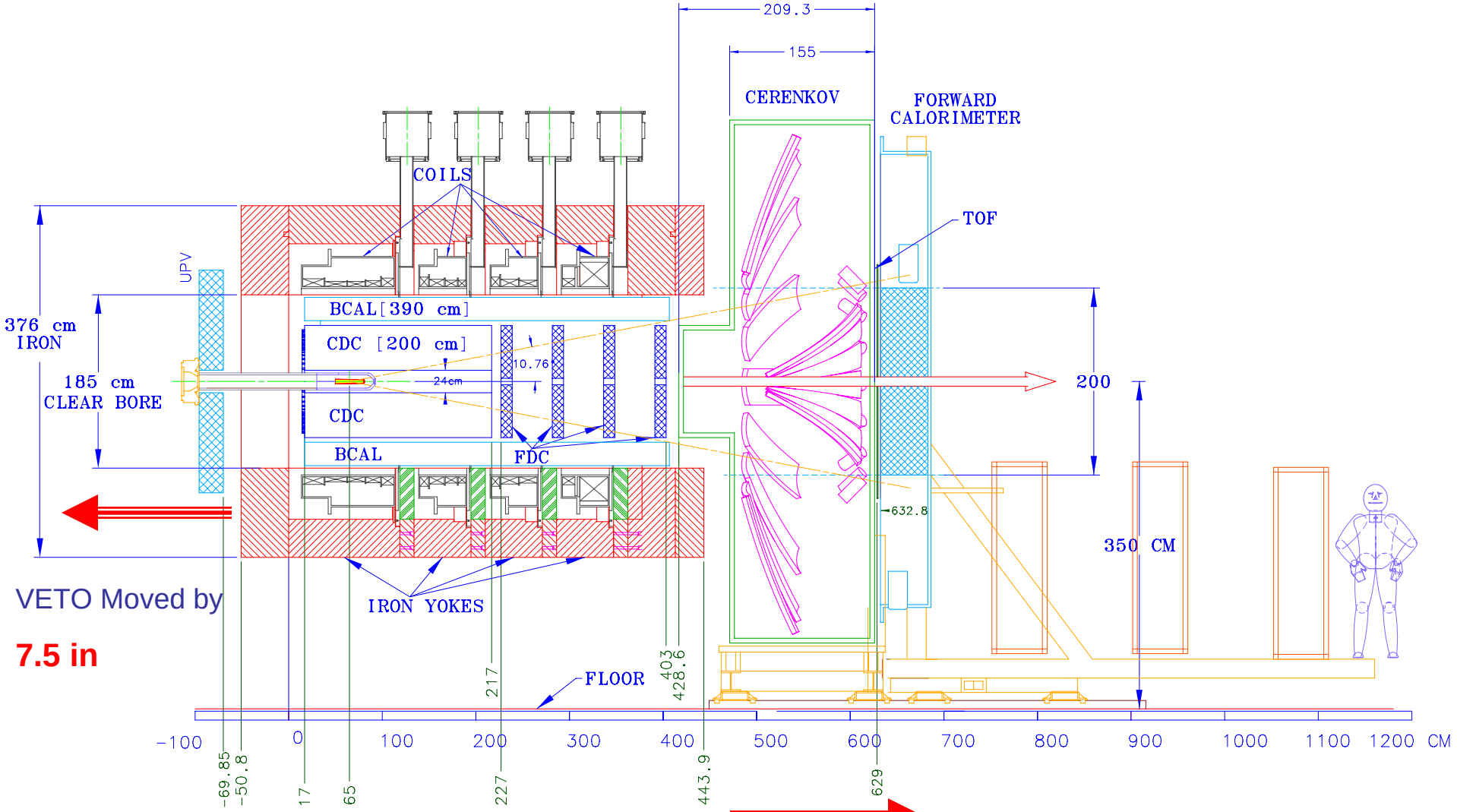


FORWARD DRIFT CHAMBER

FDC anodes: 2856 channels / 16 = 179 cables ----- 192
FDC cathodes: 11,424 channels / 16 = 714 cables ----- 720
Total Cables = 893 cables ----- 910

Using jacketed twisted pair Round cables (10 mm Diameter) cables, We have space required for all the FDC cables (893), The total number of cables modeled in the picture are 1120.



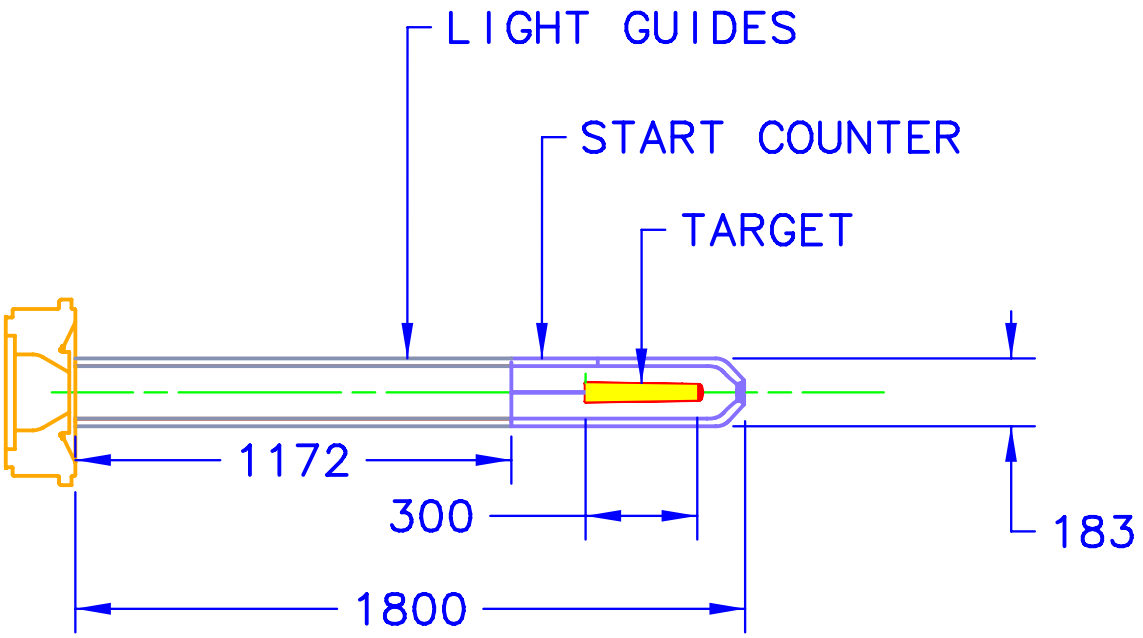


VETO Moved by

7.5 in

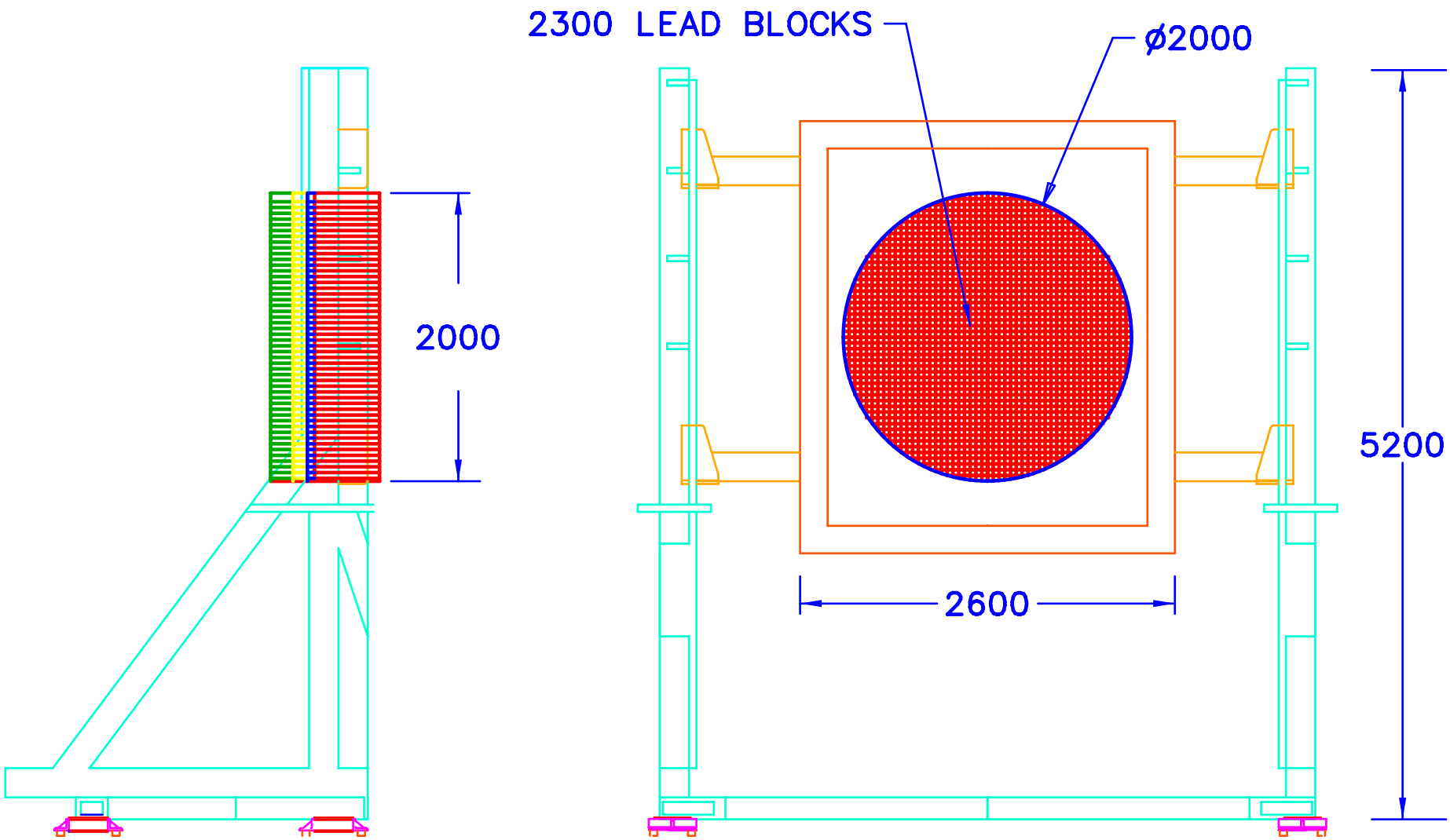
Cerenkov moved by **4 in**

The required space to route Barrel Cal fibers and FDC cables is 10.5 inches, It is necessary to move the cerenkov downstream by 4 inches or greater. The required space for Barrel Cal fibers and CDC cables is 7.5 inches. VETO is moved by 7.5 in.



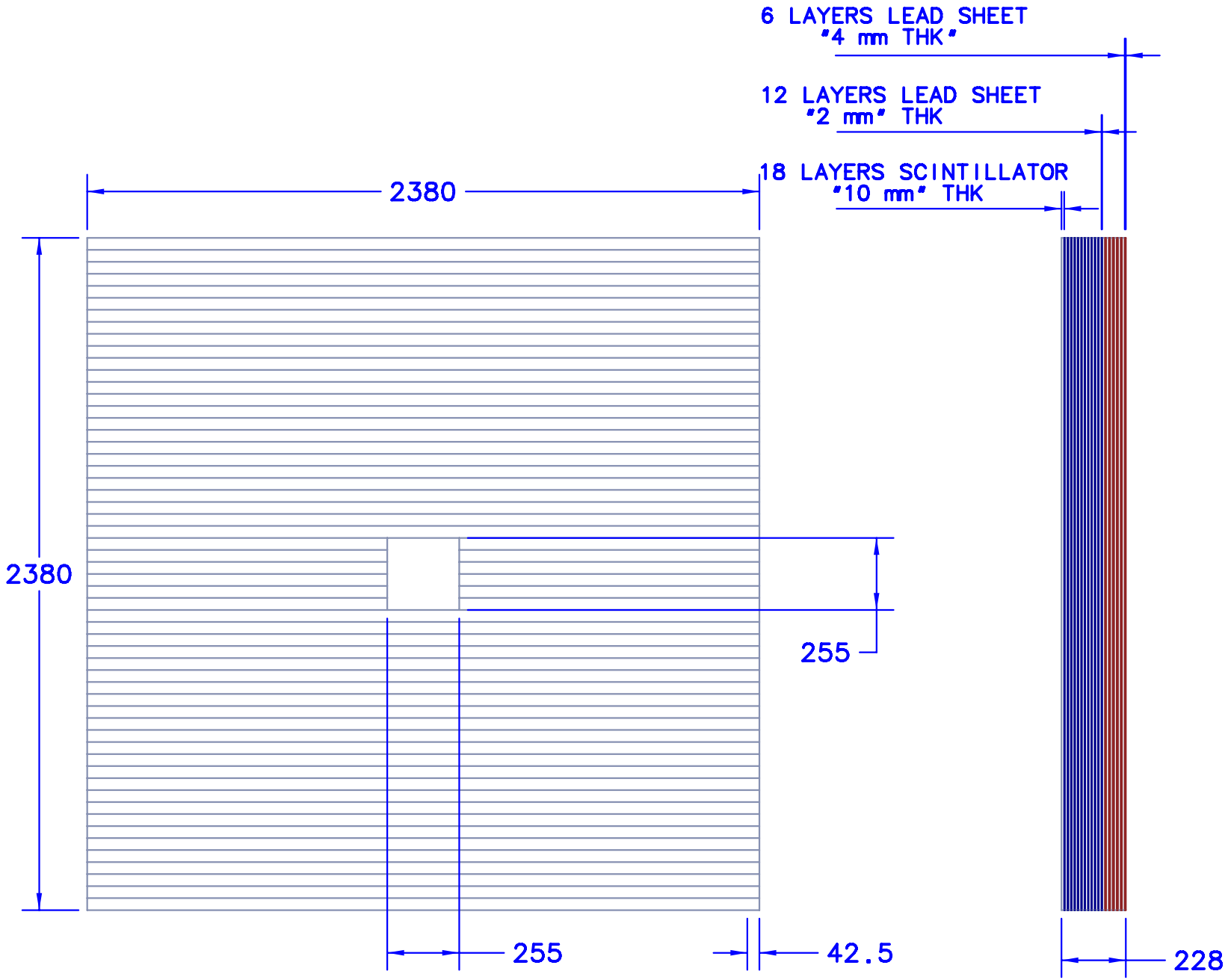
DESCRIPTION : TARGET
WEIGHT :

ALL DIMENSIONS ARE IN MM



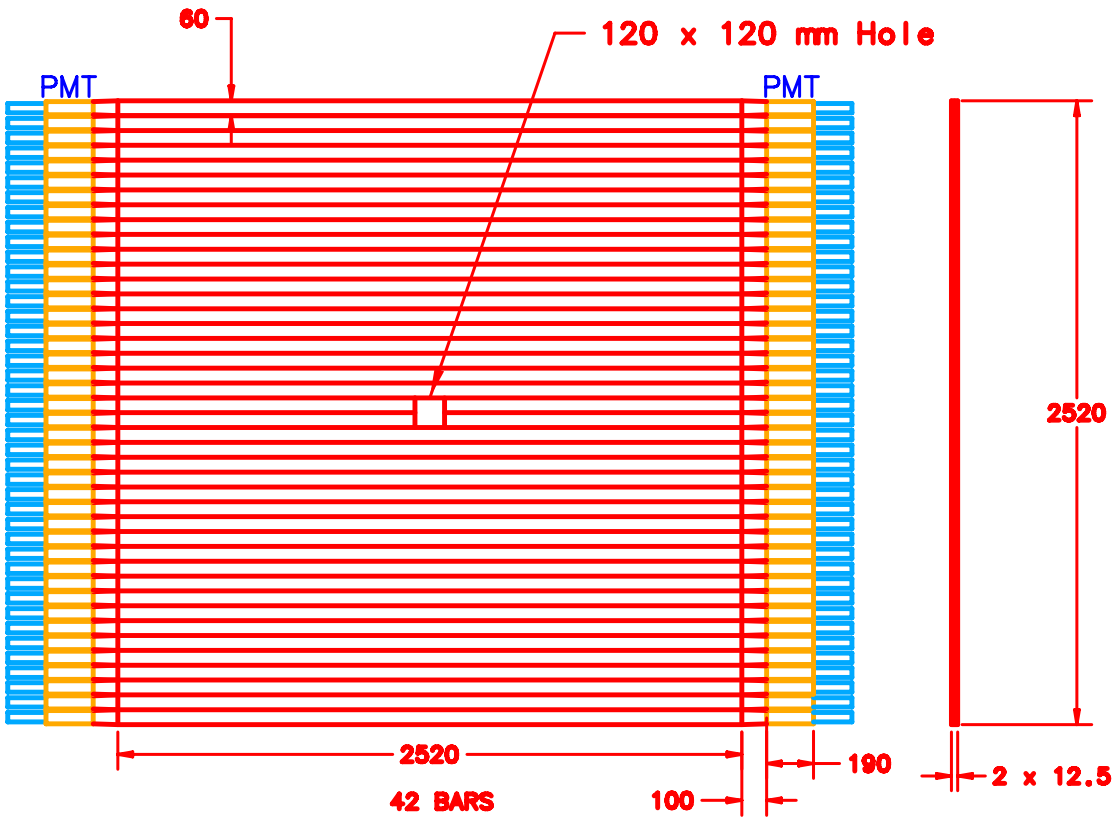
DESCRIPTION: LEAD GLASS DETECTOR
CONTAINS 2300 LEAD BLOCKS OF 4 X 4 X 45 CUBIC CM

ALL DIMENSIONS ARE IN MM

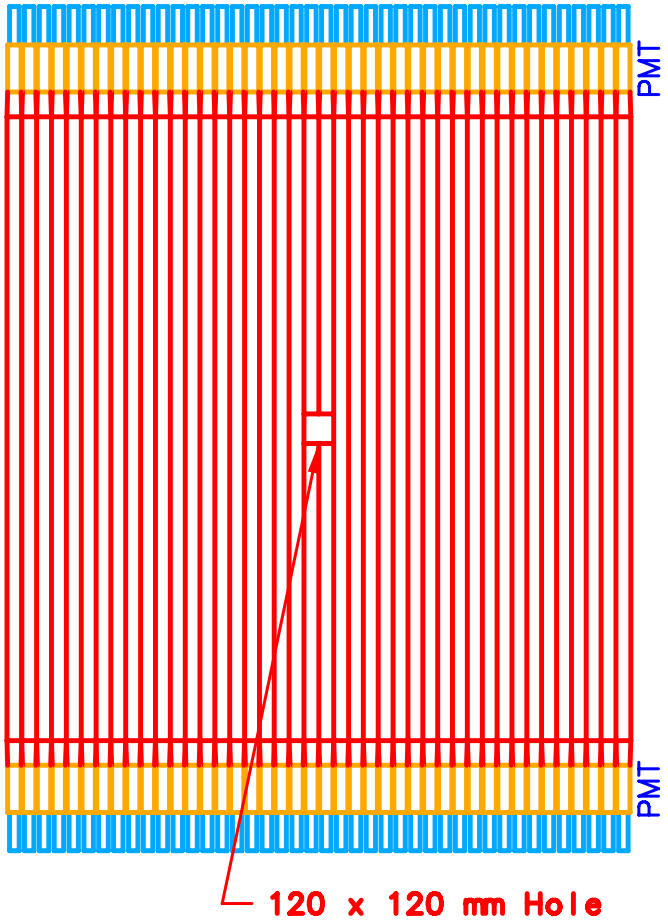


VETO CONSISTS OF 56 STRIPS
OF SCINTILLATOR
ALL DIMENSIONS ARE IN mm

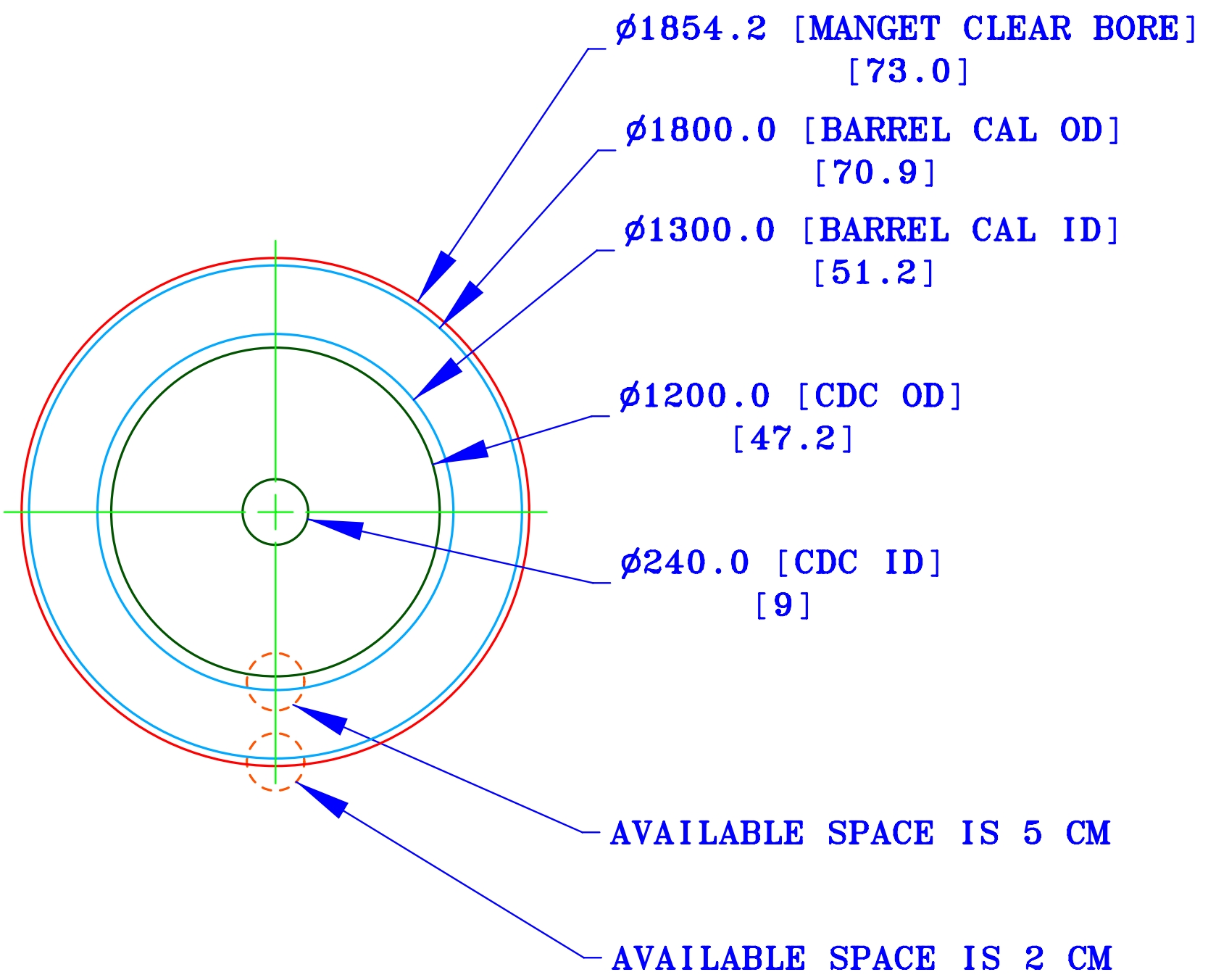
FRONT VIEW



BACK VIEW



DESCRIPTION : FORWARD TIME OF FLIGHT
WEIGHT :
SUPPORT STRUCTURE :
EACH BAR IS 252 CM LONG, 6 CM WIDE AND 1.25 CM THK
ALL DIMENSIONS ARE IN MM


ø1854.2 [MANGET CLEAR BORE]
[73.0]
ø1800.0 [BARREL CAL OD]
[70.9]
ø1300.0 [BARREL CAL ID]
[51.2]
ø1200.0 [CDC OD]
[47.2]
ø240.0 [CDC ID]
[9]
AVAILABLE SPACE IS 5 CM
AVAILABLE SPACE IS 2 CM