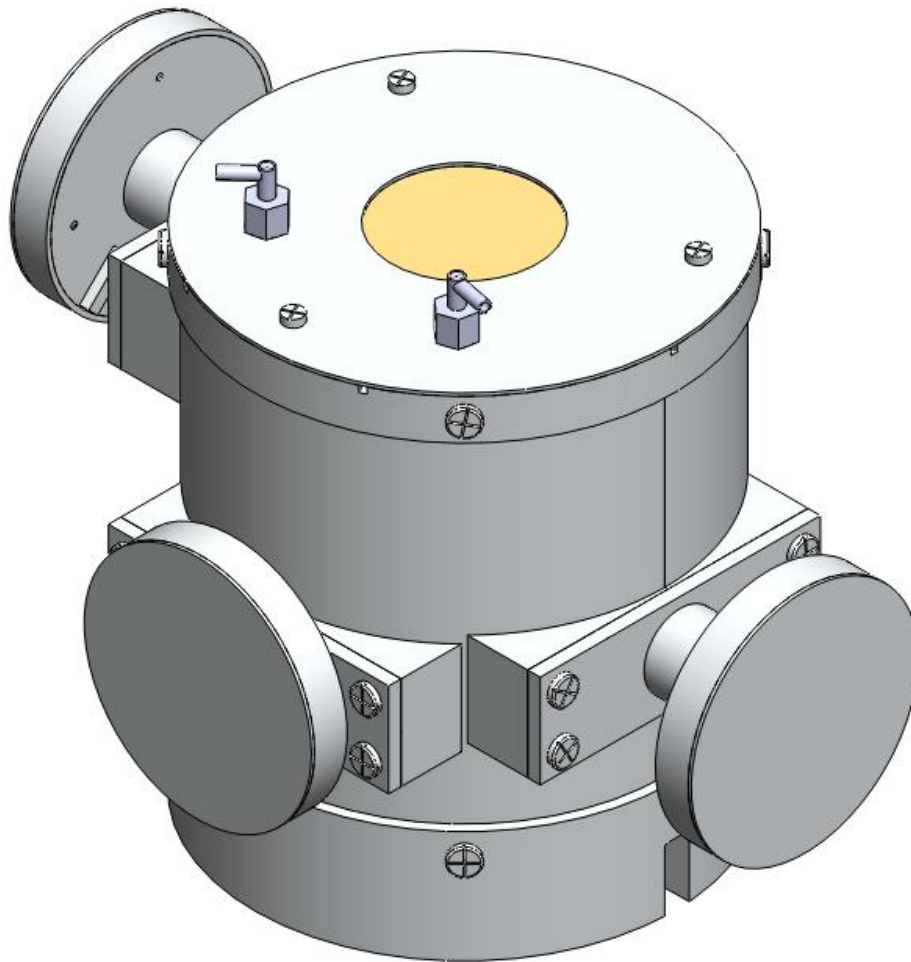


PICAP Procedure for Peer Review



This is the design review assembly procedure for the PICAP telescope.

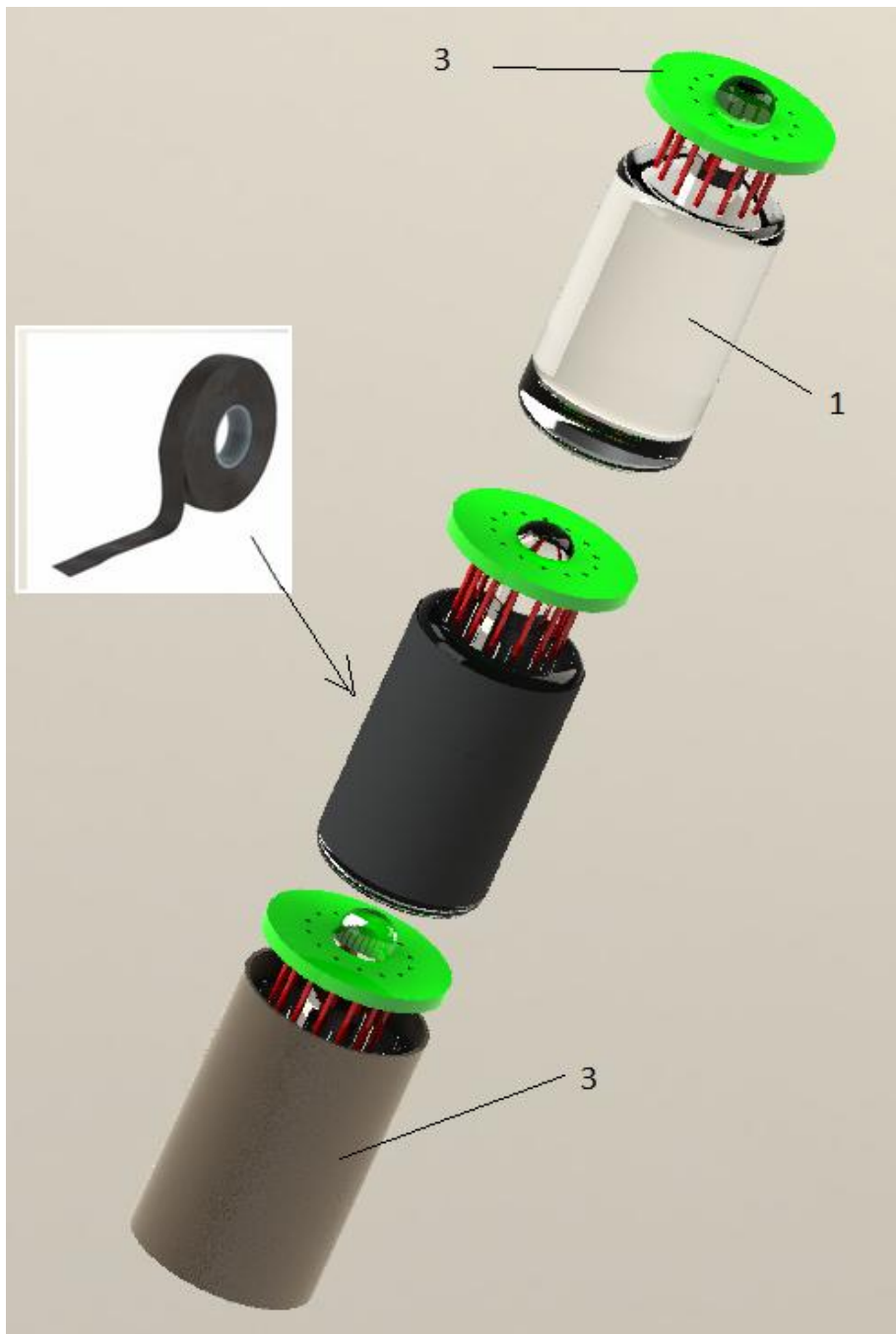
The purpose of this assembly procedure is to provide a basic visual aide during the peer review.

Note: The bordered pictures are not steps, these are final pictures of each sub assembly

1. Sub assemblies

S1. PMT sub Assembly

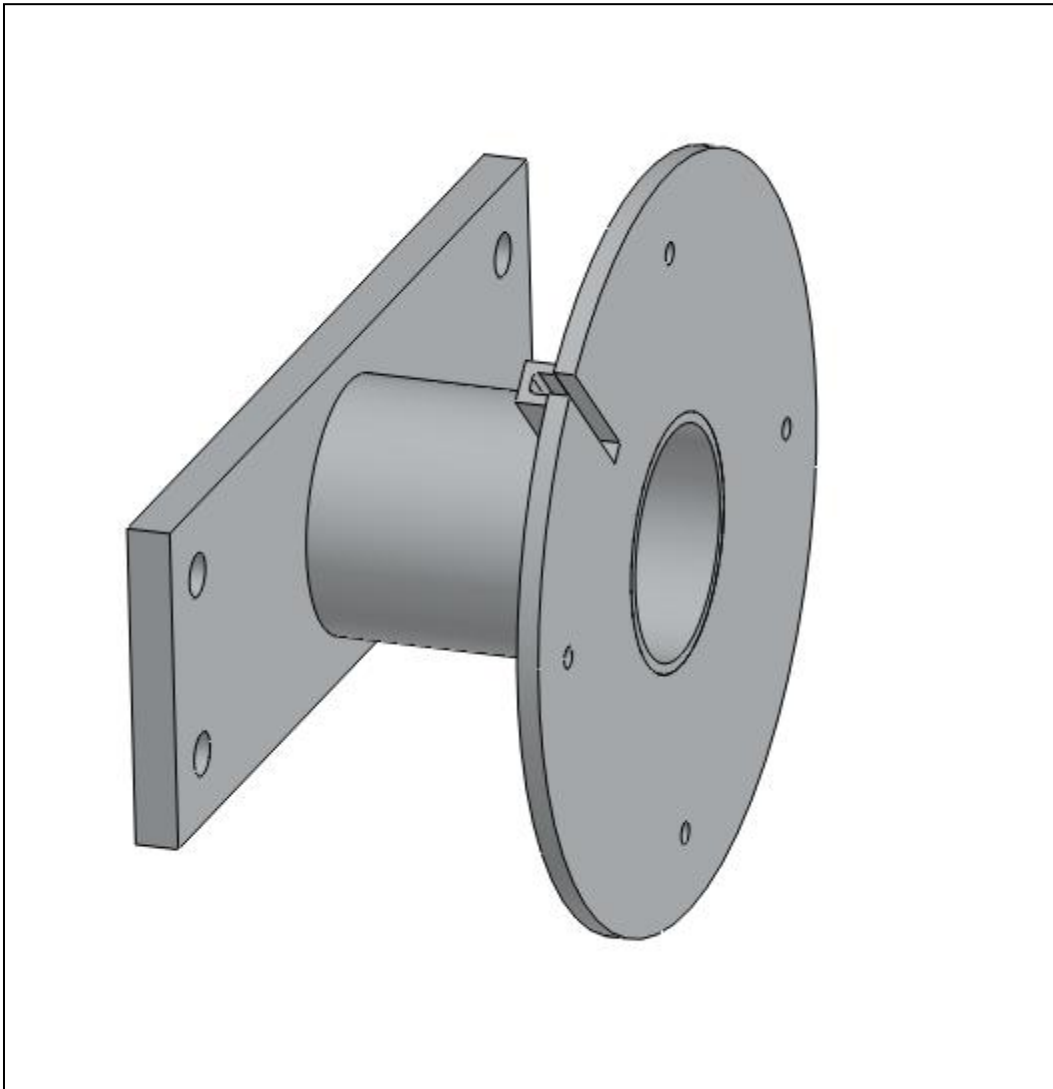


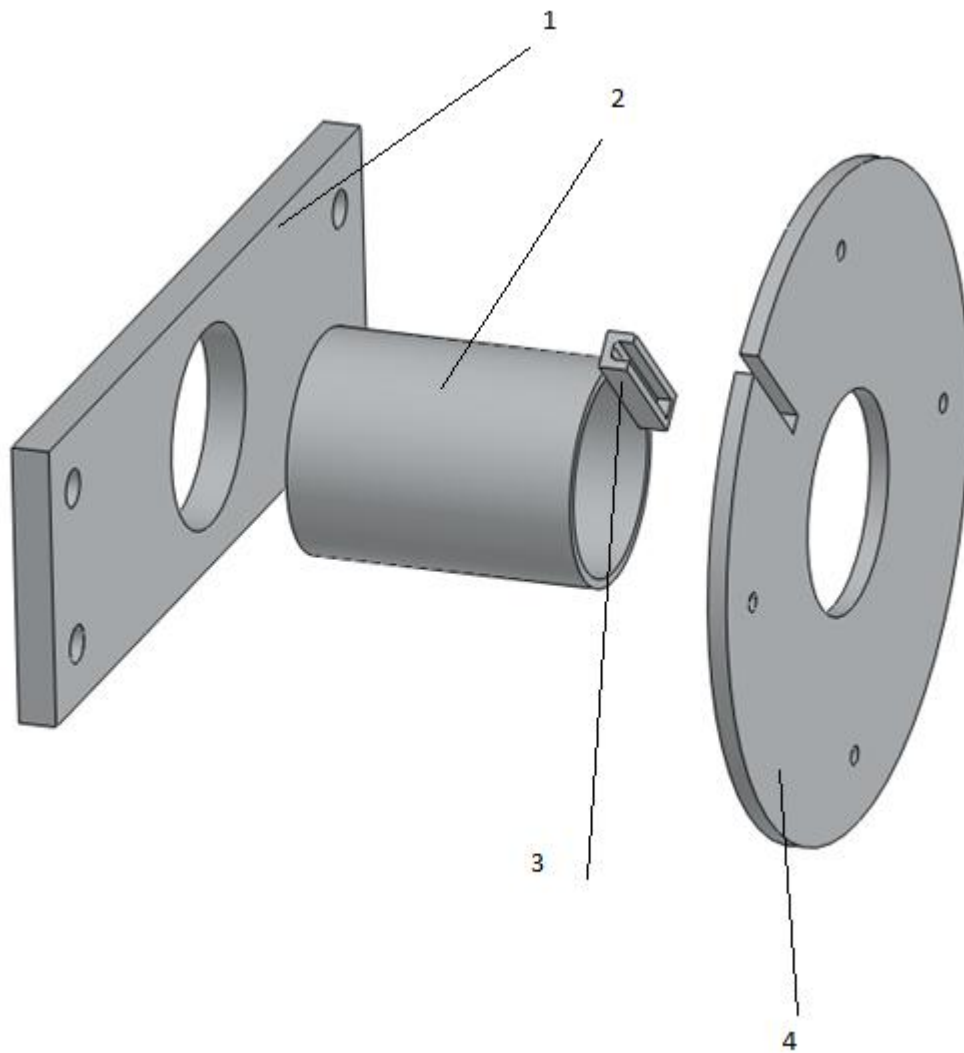


1 Solder daughter board onto PMT leads

2 Friction hold PMT in Mu metal Shield with Black tape

S2. PMT Mushroom sub-assembly



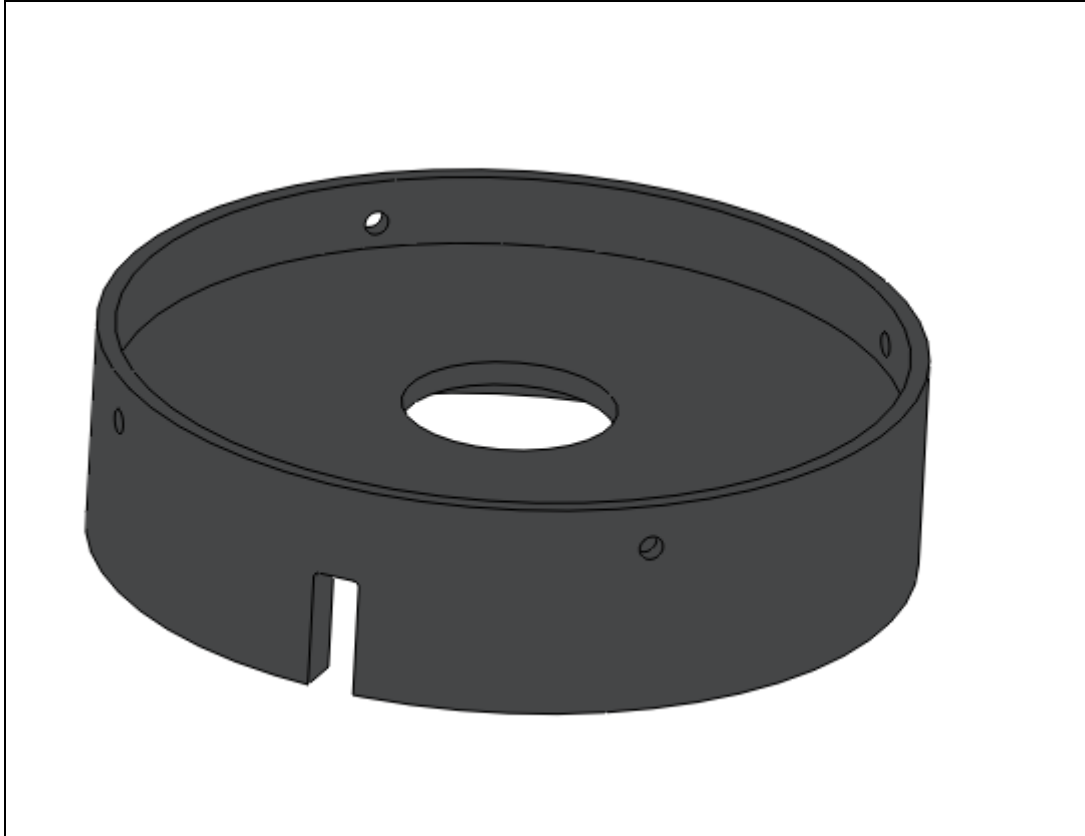


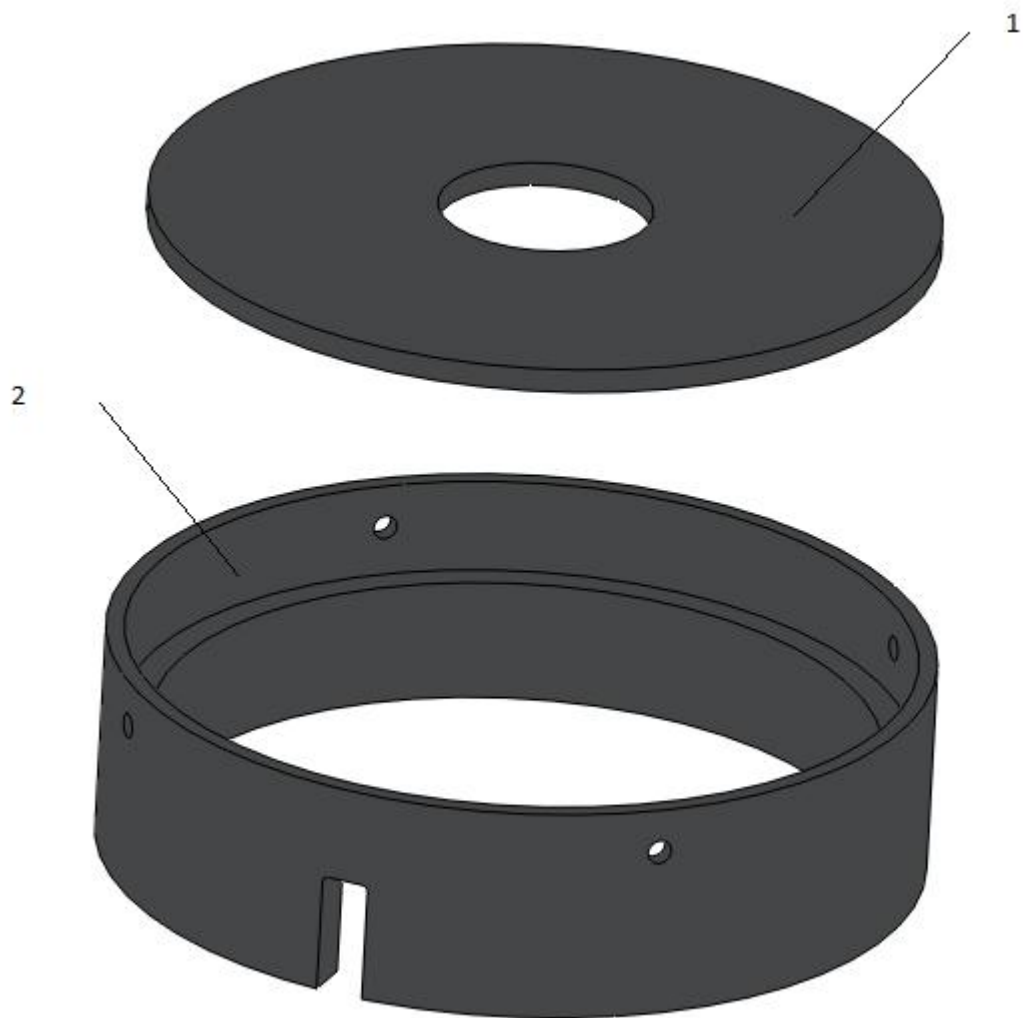
1 Epoxy Wire guard (3) onto circular aluminum base (4)

2 Epoxy Aluminum cylinder (2) into onto circular aluminum base (4)

3 Epoxy Aluminum cylinder (2) into Base plate (1)

S3. Base Sub Assembly





1 Epoxy Circular plate (1) onto the hinge of the base (2)

S4. Aluminum cylinder sub-assembly

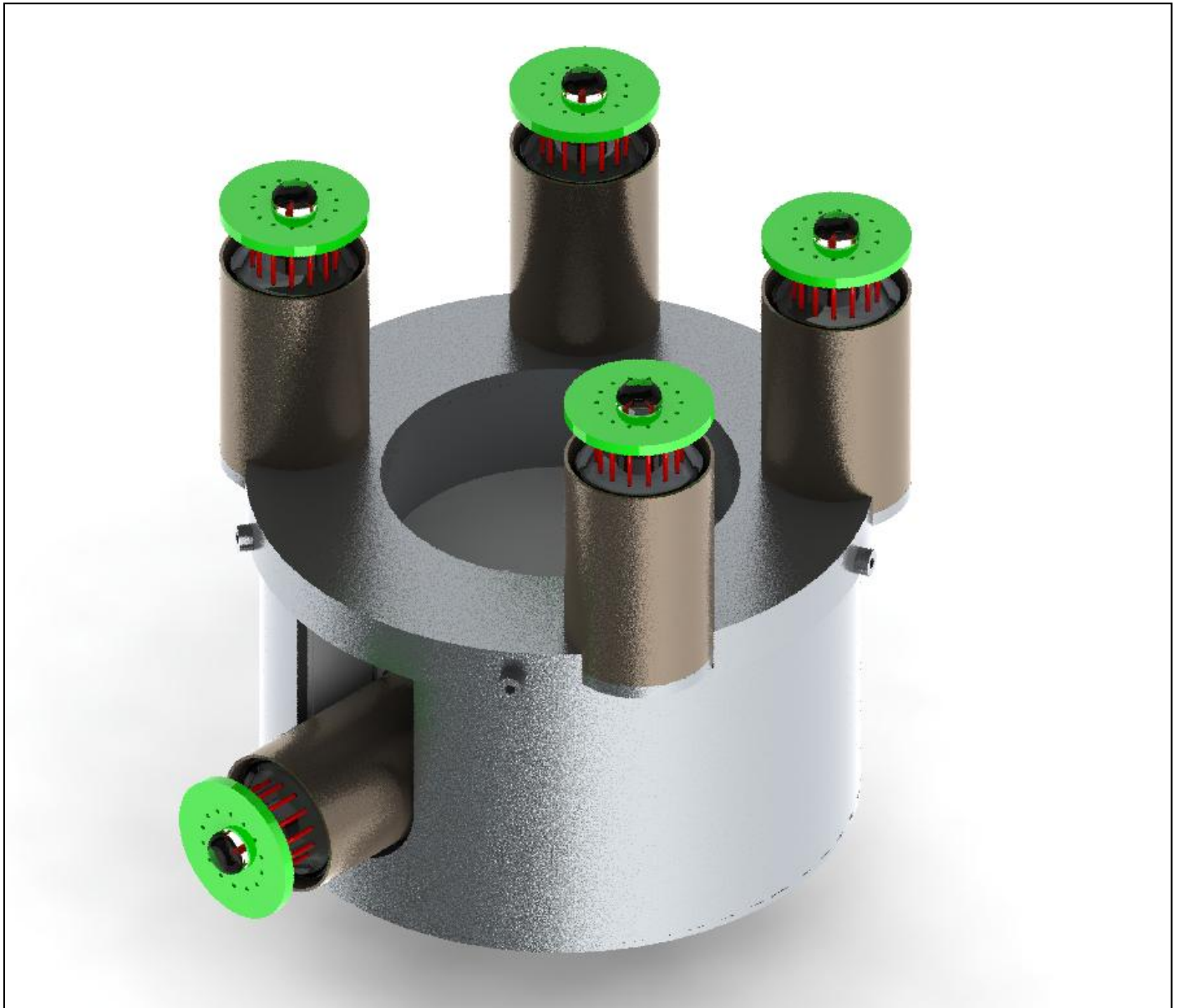




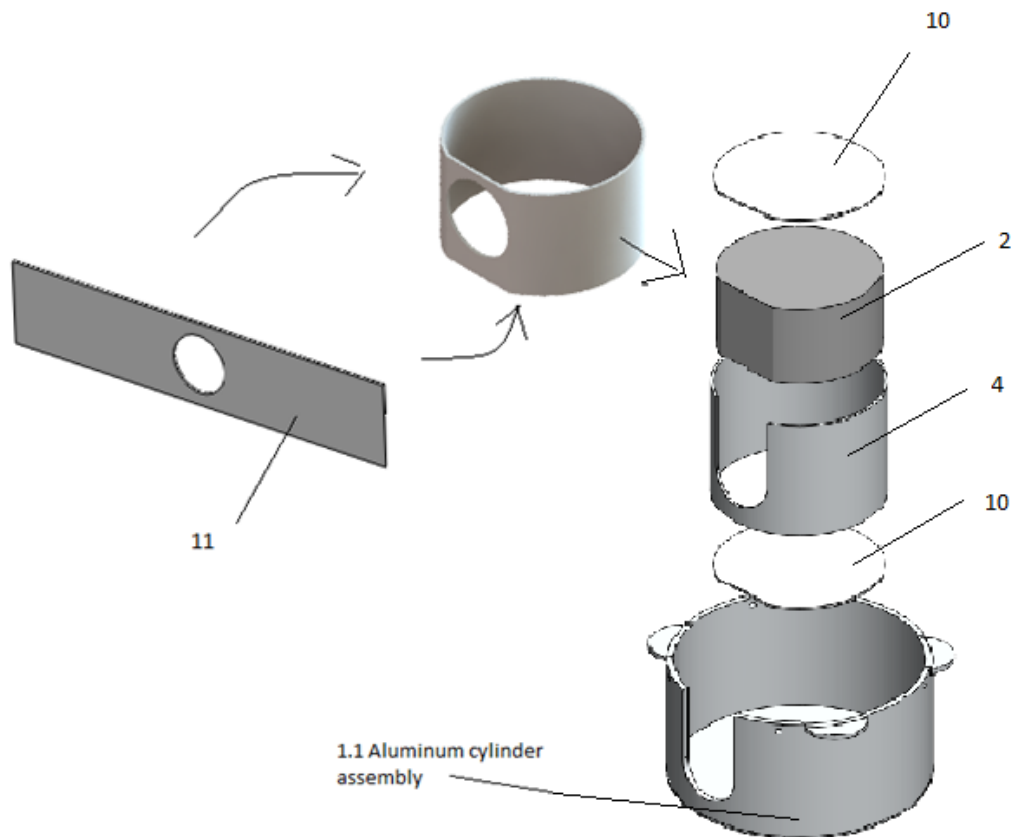
1 Epoxy Aluminum cylinder to bottom plate. let sit until dry.

2 Epoxy flanges onto Aluminum cylinder

2. Scintillator Assembly

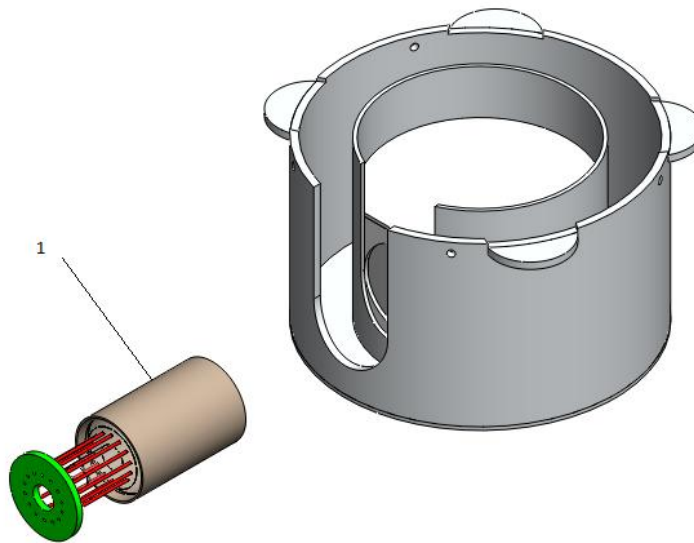


2.1 C scintillator sub-assembly



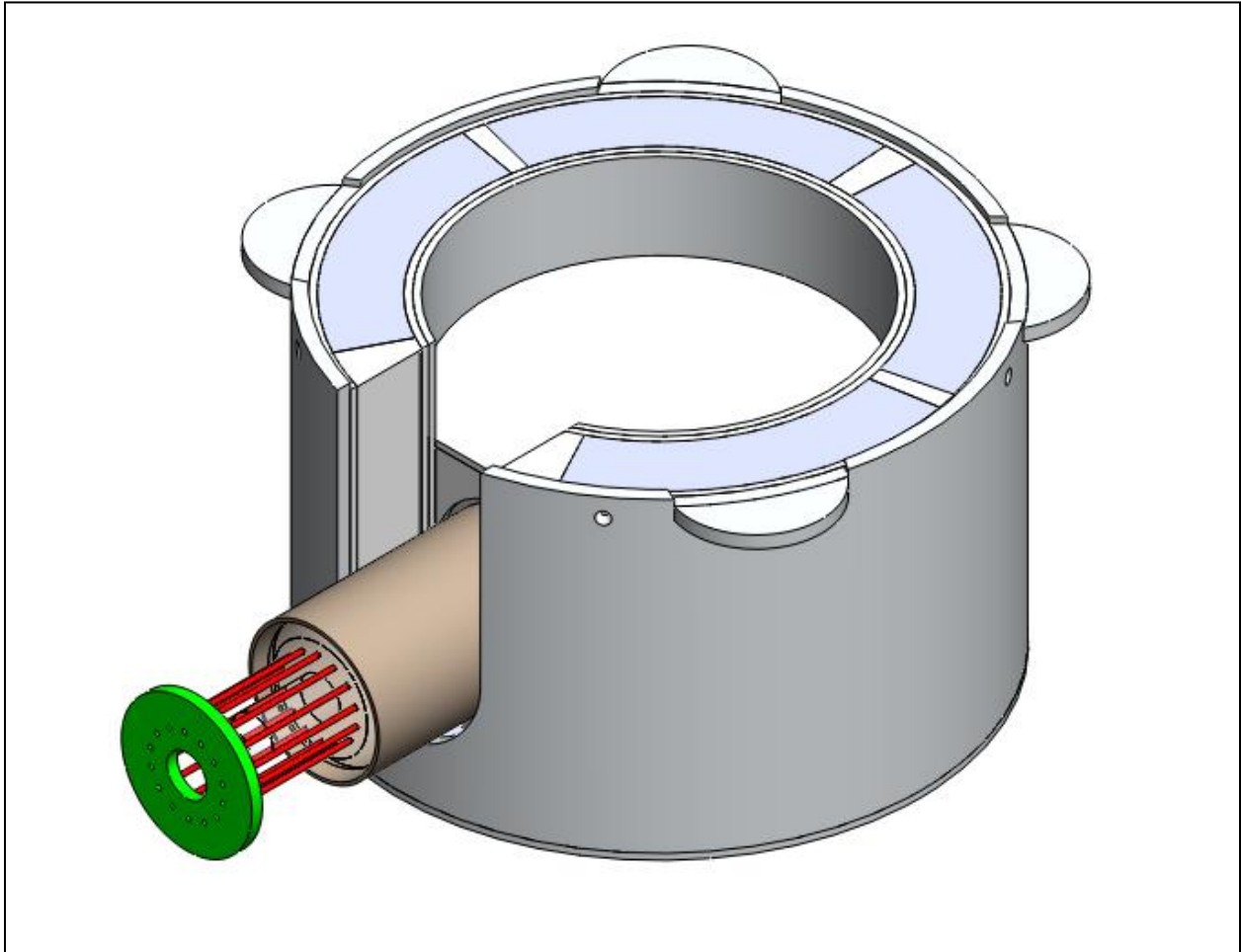
- 1 Place inner aluminum cylinder (4) into Current assembly
- 2 Place Teflon (10) into the inner aluminum cylinder (4)
- 3 Wrap Teflon foil (11) around C scintillator (2) drop into inner aluminum cylinder (4)
- 4 Place Teflon (10) into the inner aluminum cylinder (4) on top of the C scintillator (2)

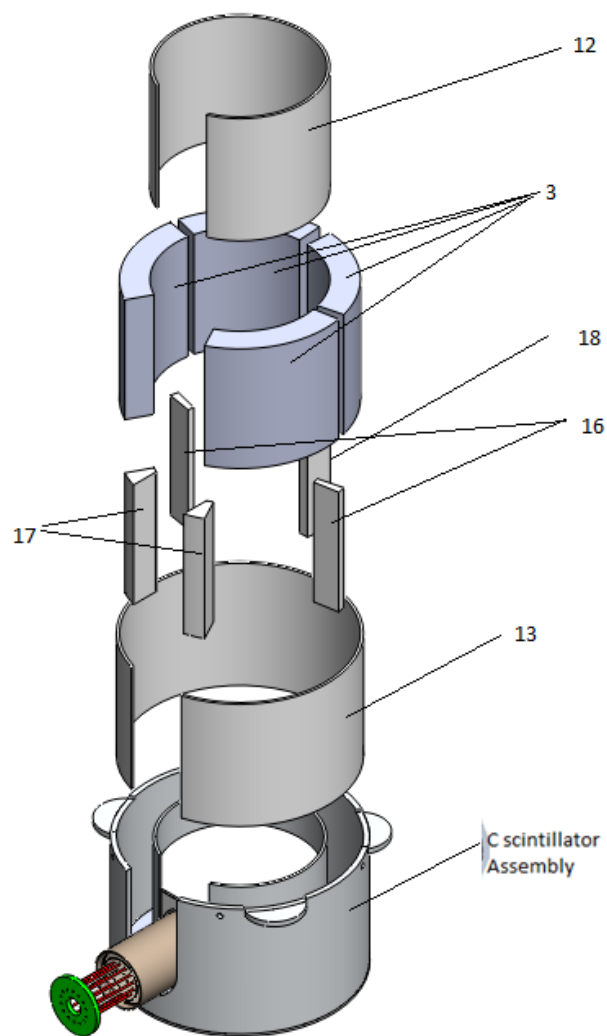
2.2 Side PMT



1 PTV PMT assembly (1) onto the C scintillaor through the hole of the Teflon

2.3 G scintillator sub-assembly



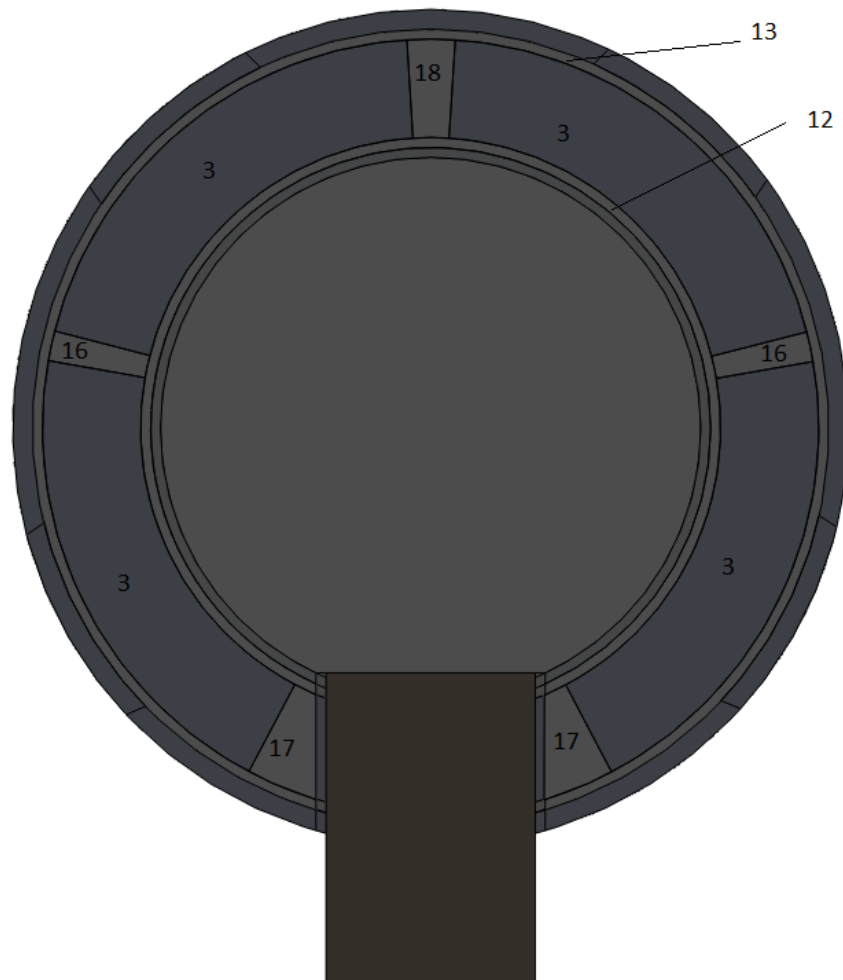


1 Place outer Teflon ring (13) into Current assembly

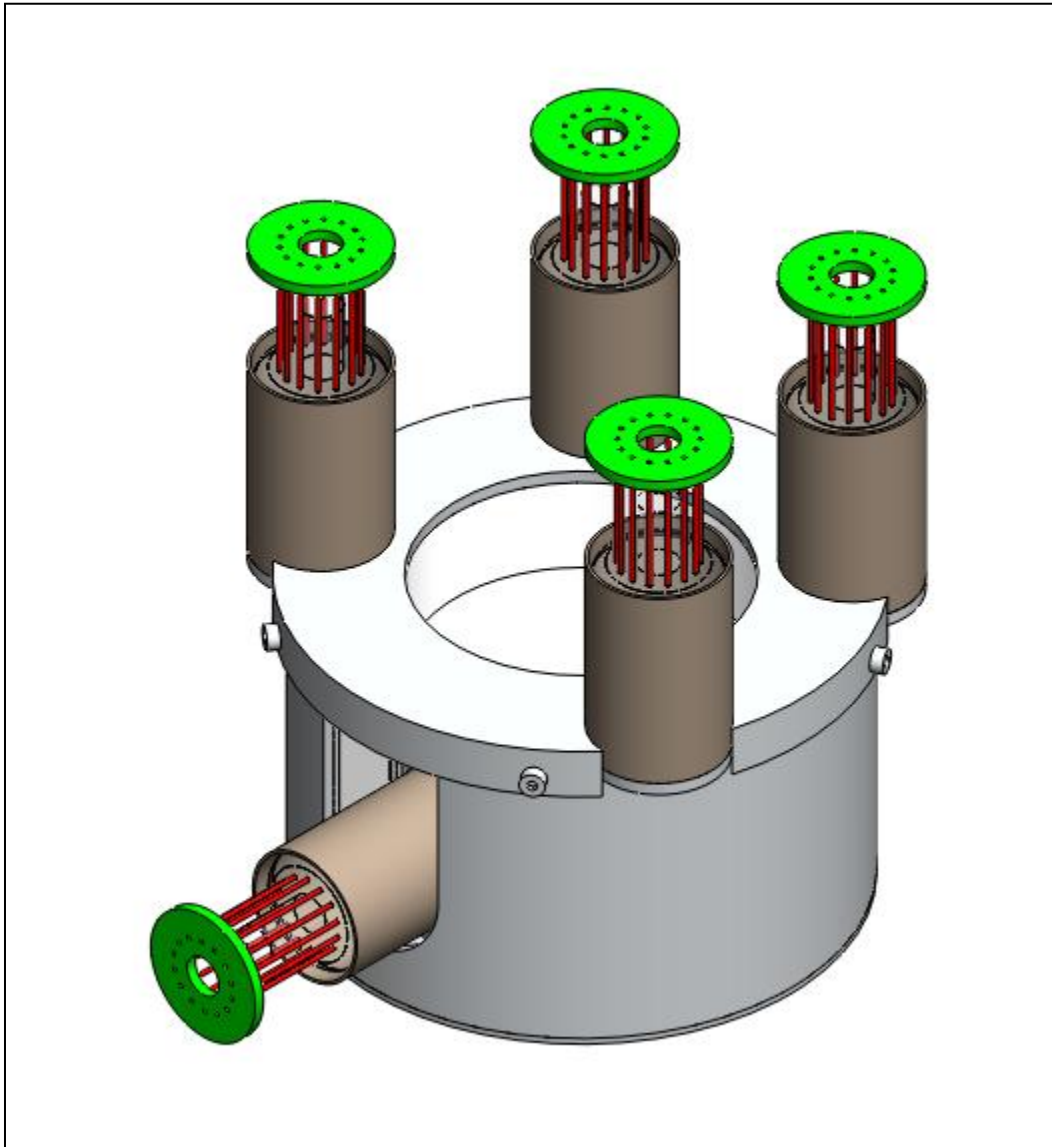
2 Place G-scintillators (3) into the current assembly between outer Teflon ring (13) and inner aluminum cylinder in the current assembly

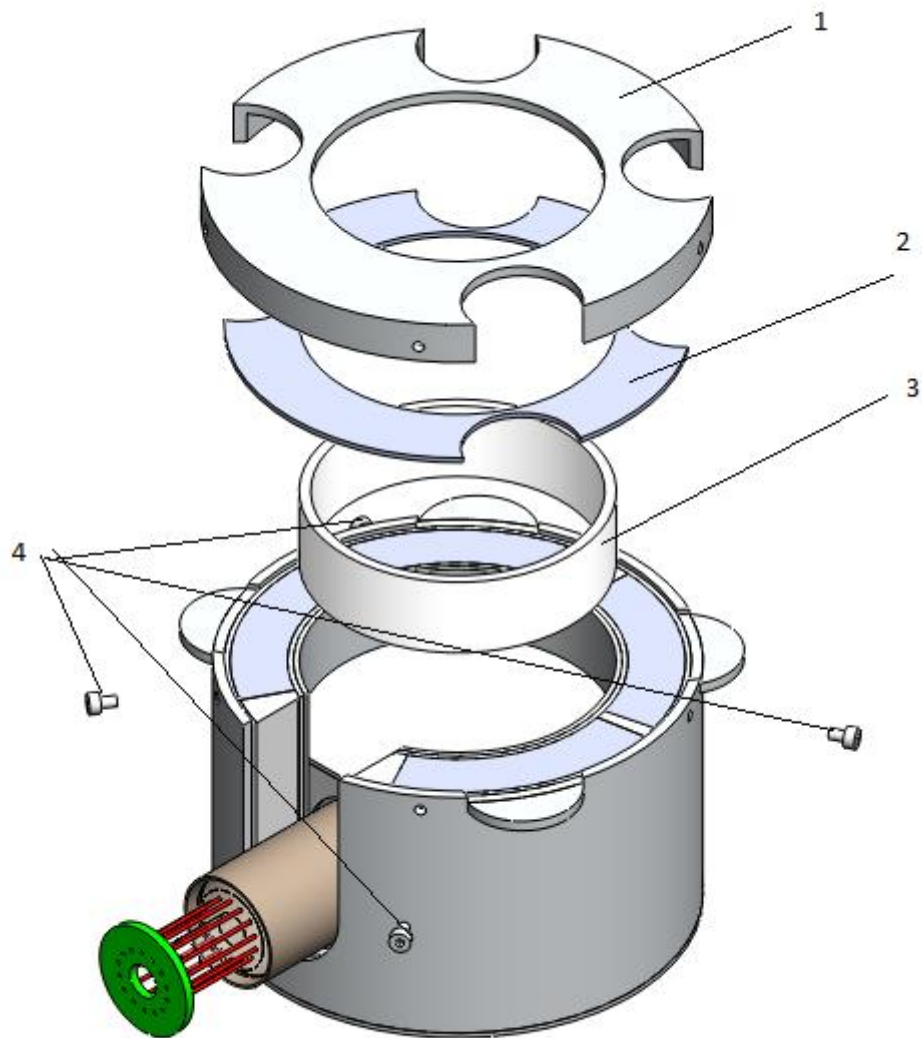
3 place inner Teflon ring (12) in-between G-scintillators (3) and the inner aluminum cylinder in the current assembly

4 Place Teflon bars (16,17,18) between G-scintillators (3) in the order given below

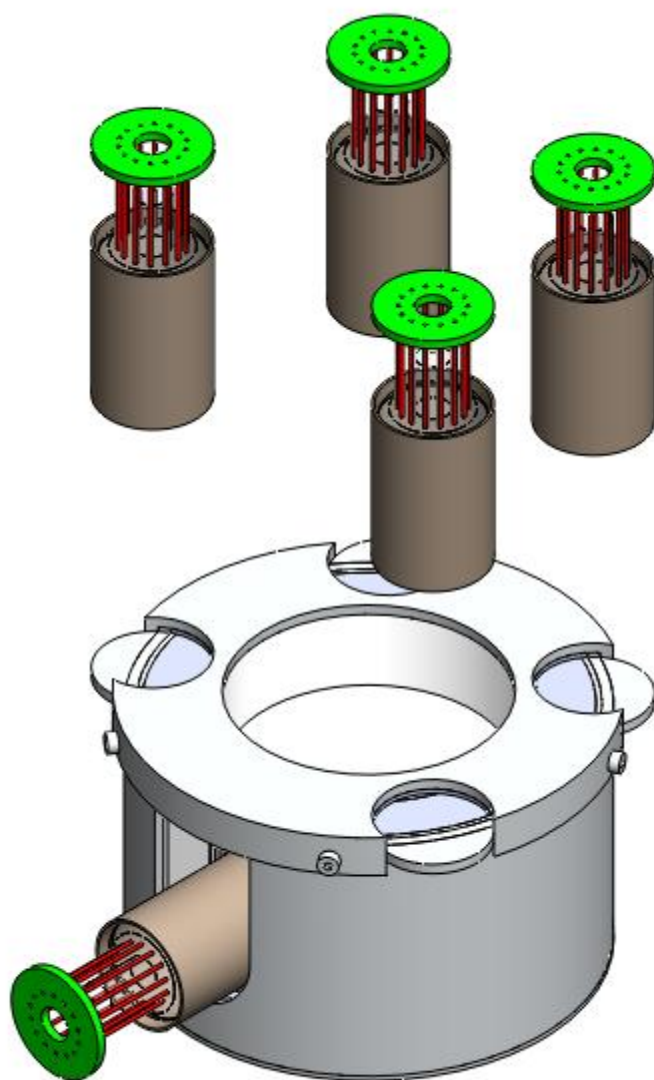


2.4 PMT sub-assembly



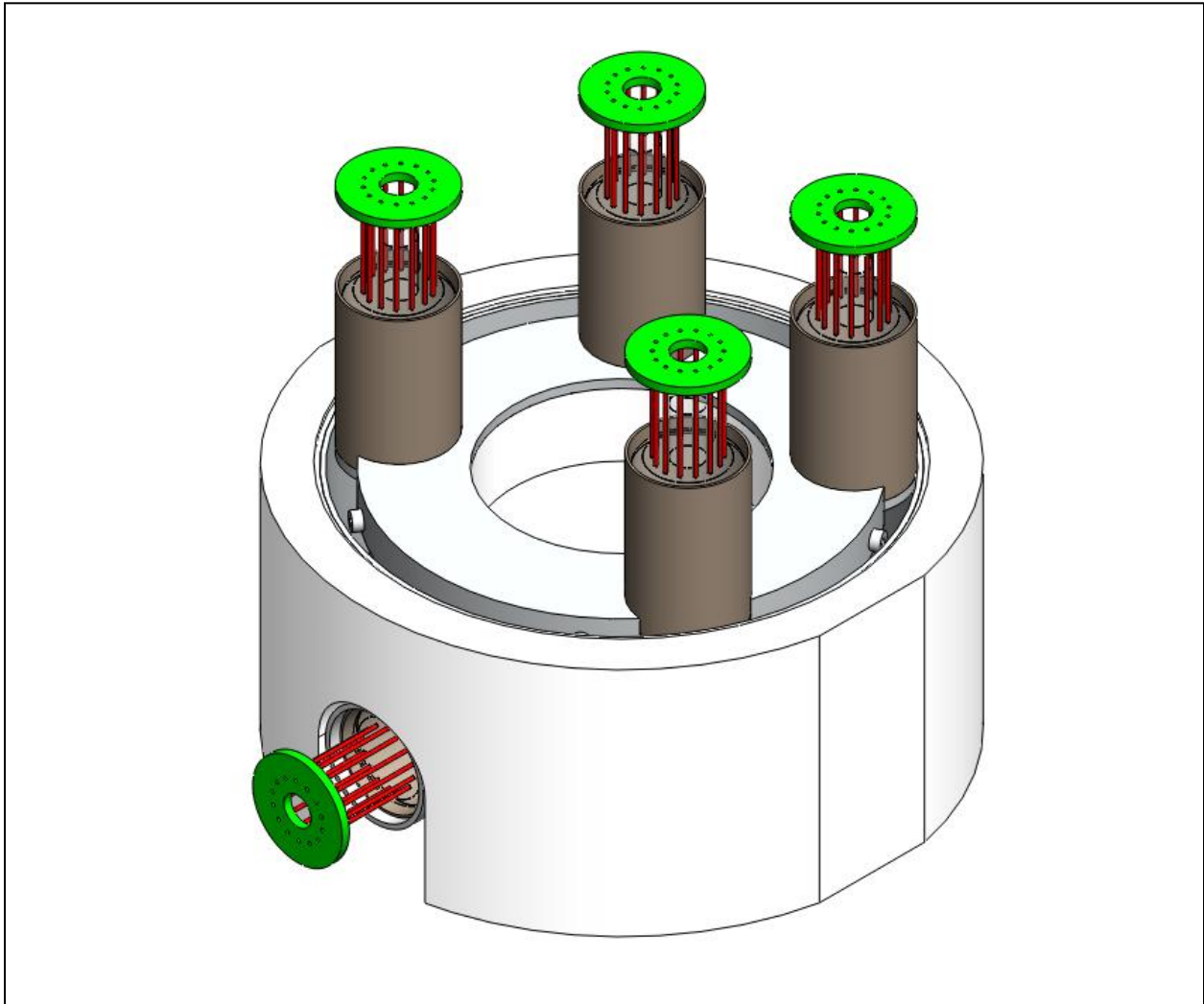


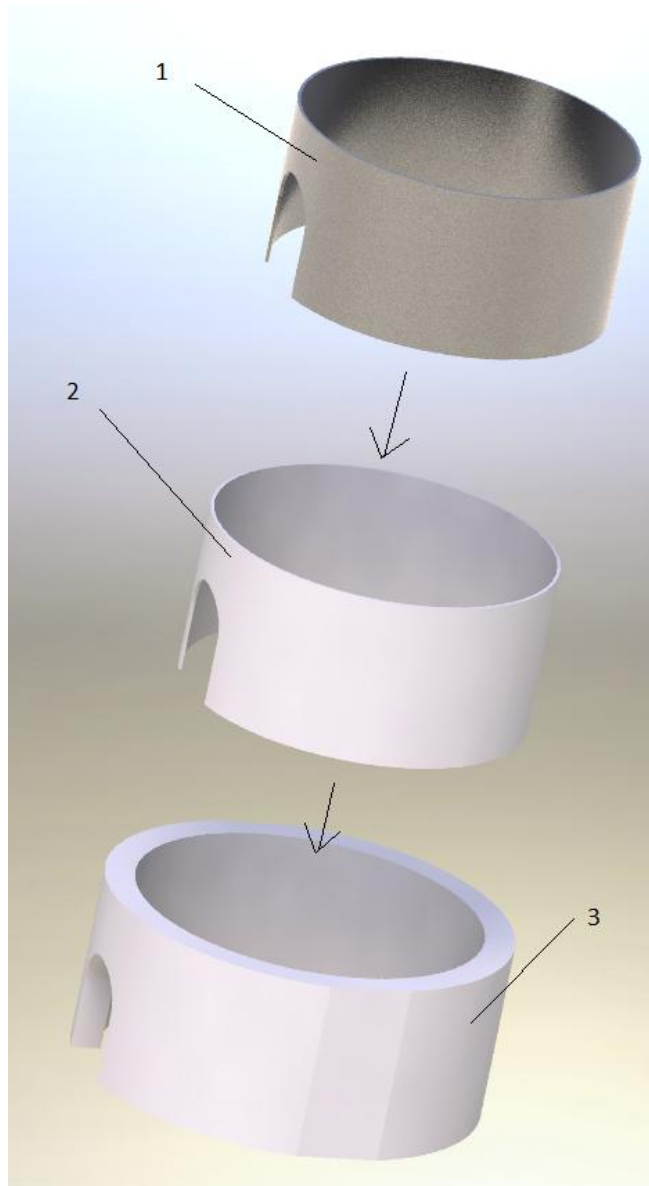
- 1 Place Plastic support ring (3) in the center of the inner aluminum cylinder
- 2 Place Teflon cover ring (2) on top of G-sintilators
- 3 Place Cover (1) on top of full assembly and screw in with M2 screws



4 PTV PMT assemblies onto G-sintillators

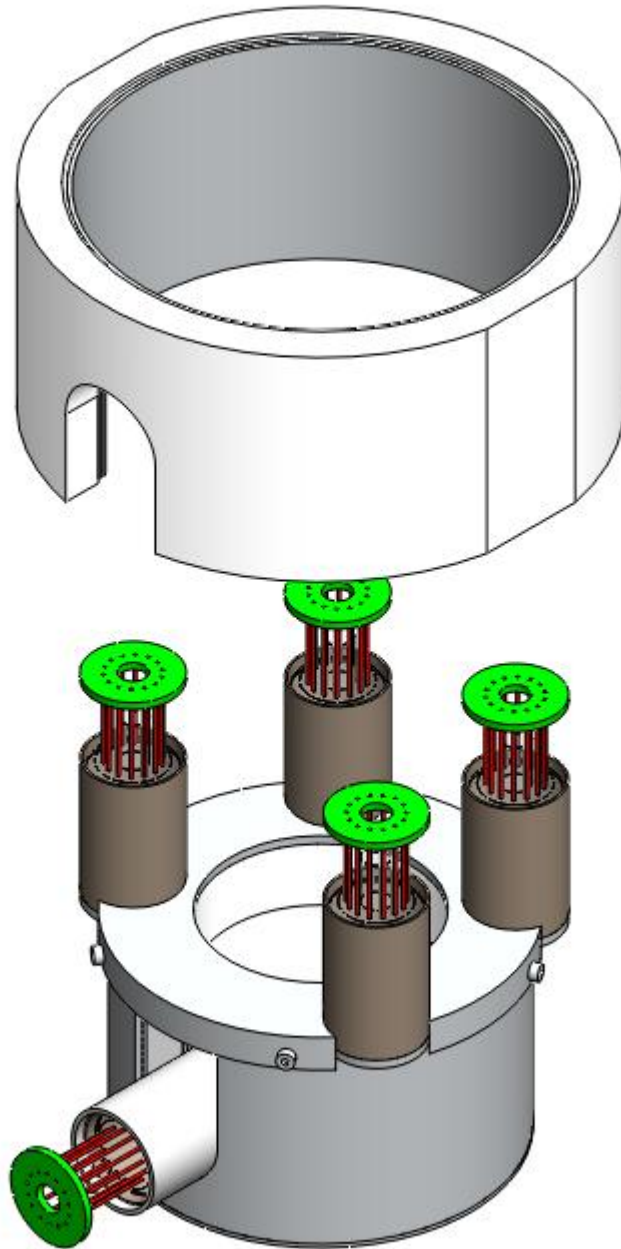
3.0 Side Anti-Plastic assembly





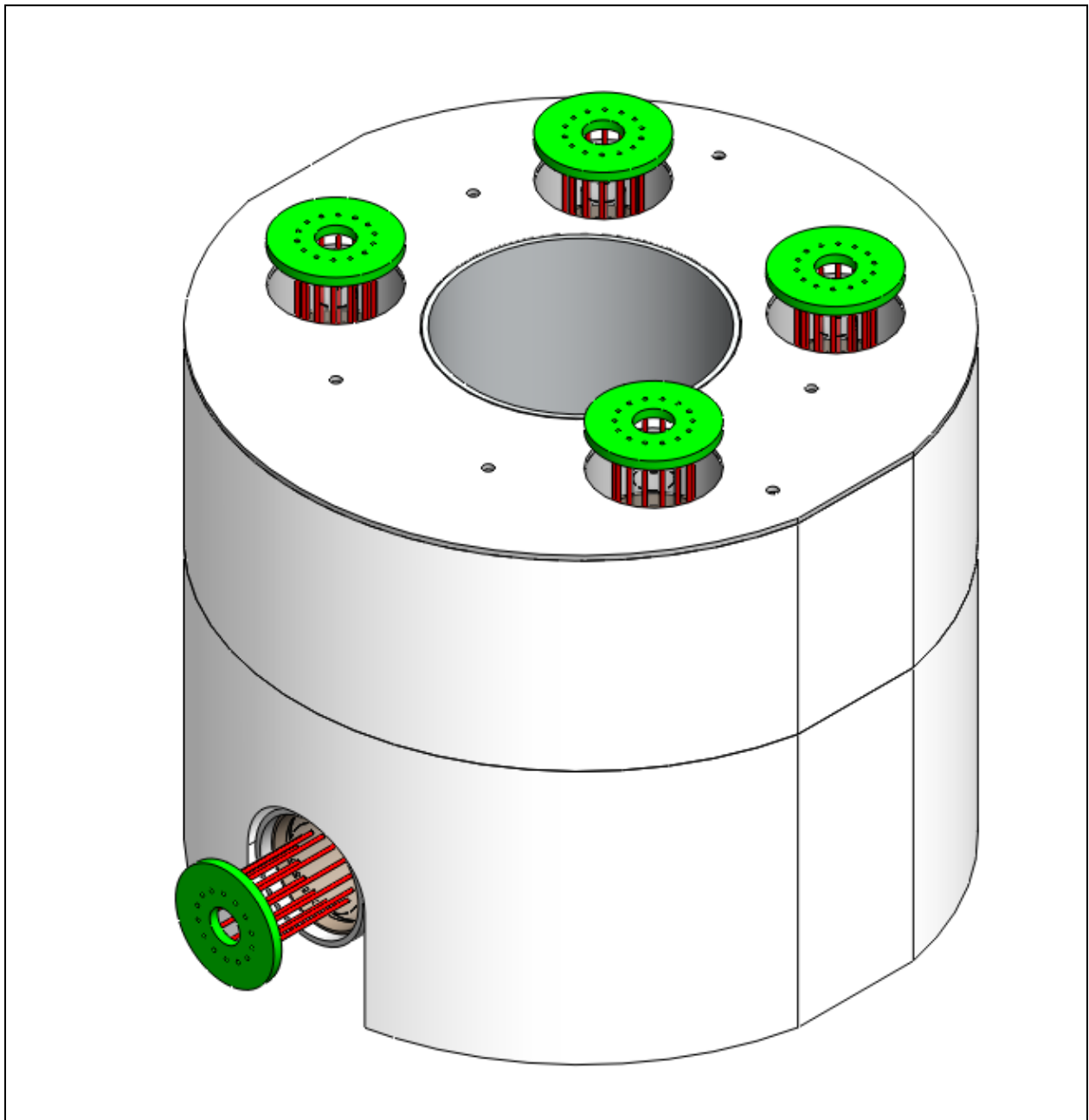
1 Place Teflon ring (2) into Outer Anti Plastic (3)

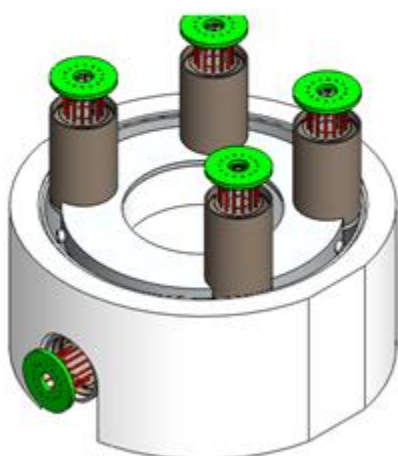
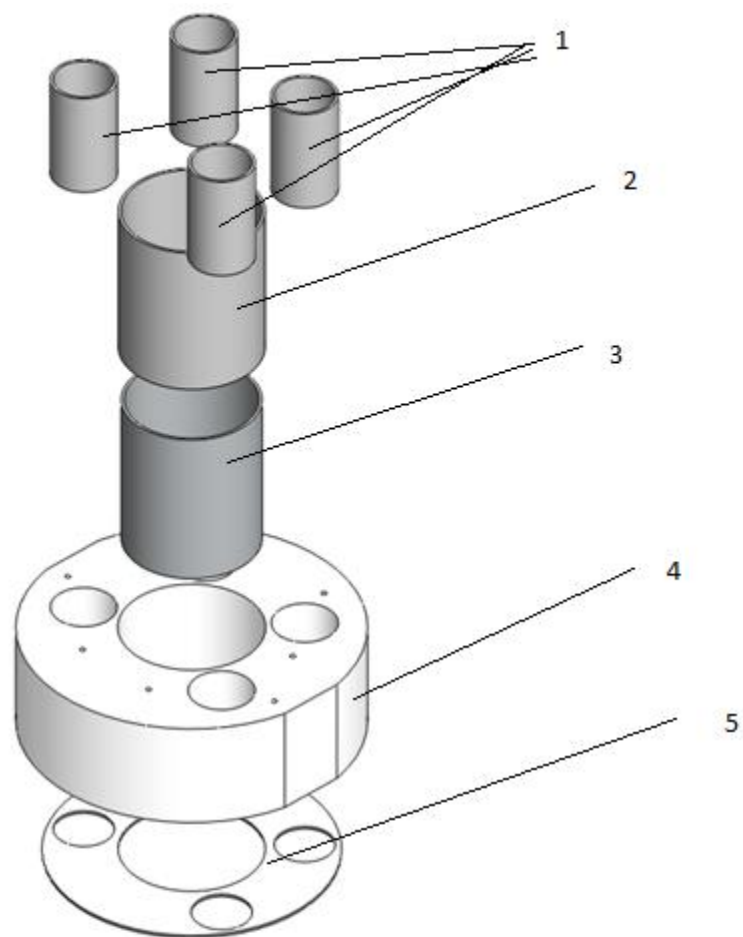
2 place aluminum cylinder (1) into the center of the Teflon ring (2)



3 Place all 3 pieces around the current full assembly

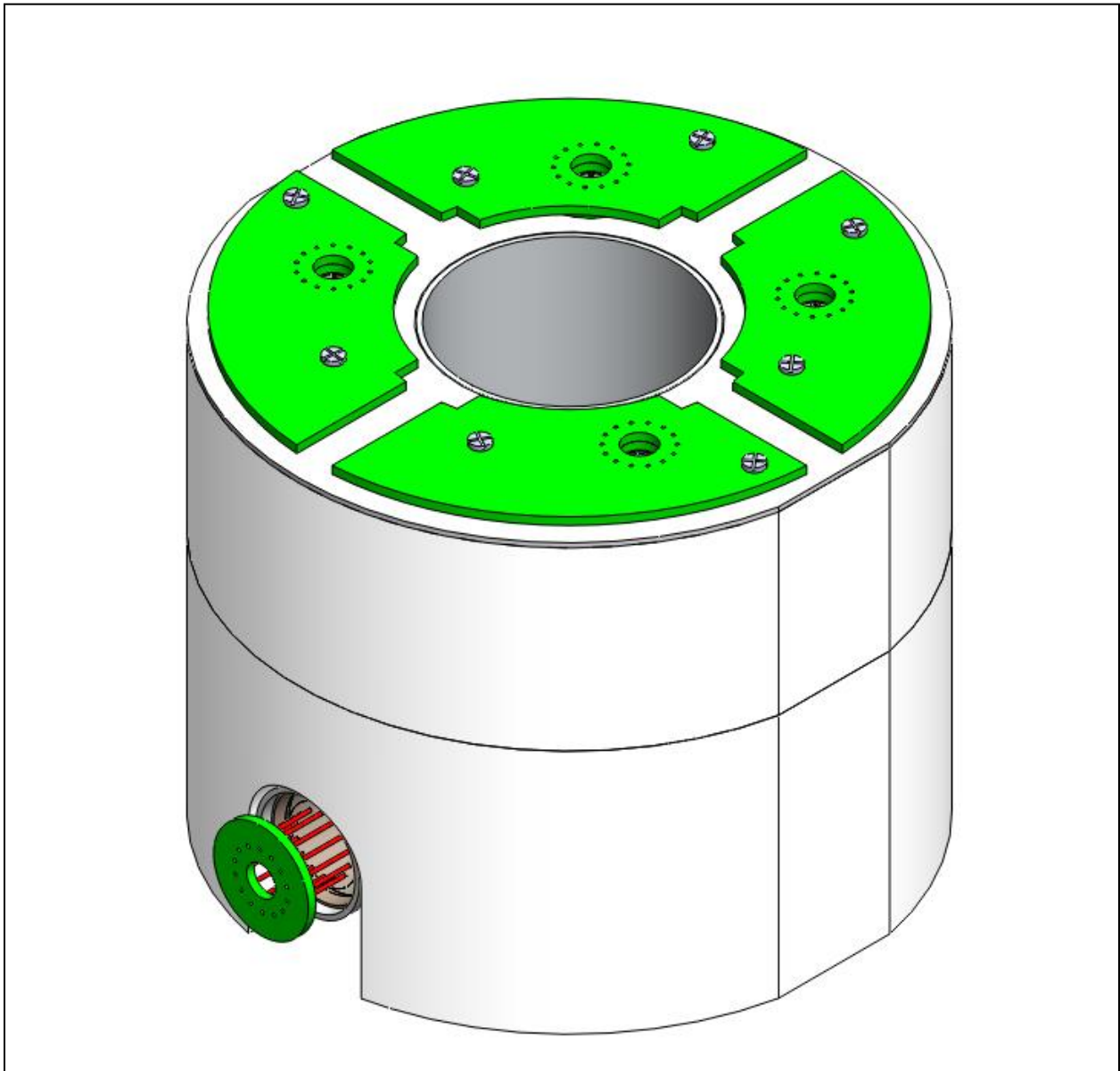
4.0 Top Anti Plastic assembly

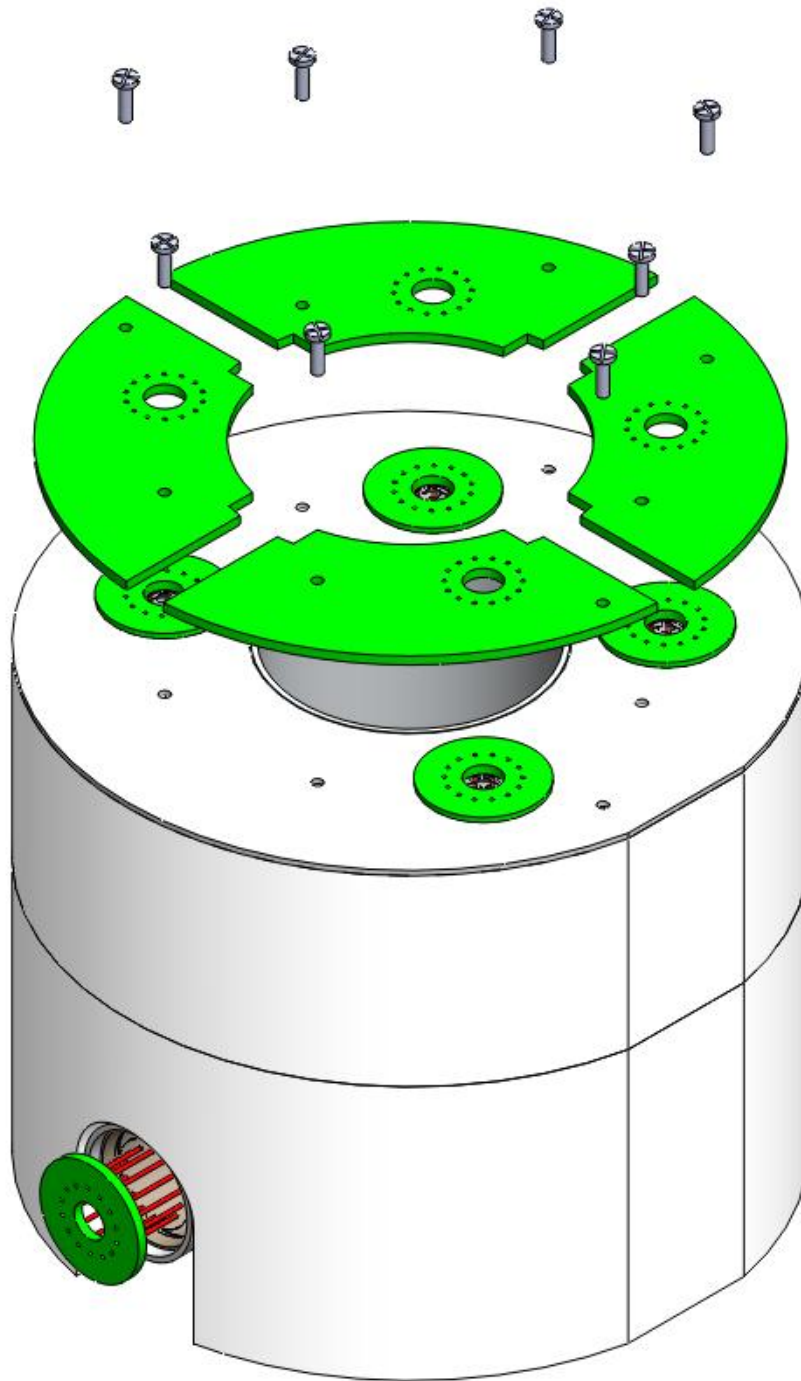




- 1 Place Teflon cover ring (5) onto the cover of the current assembly
- 2 Place top Anti plastic (4) onto side anti plastic and Teflon cover ring (5)
- 3 Place Teflon ring (2) into the center of top Anti plastic (4)
- 4 Place Aluminum cylinder (3) in the center of Teflon ring (2)
- 5 Place the four Teflon rings (1) around each of the four mu-metal shields in the top Anti plastic (4)

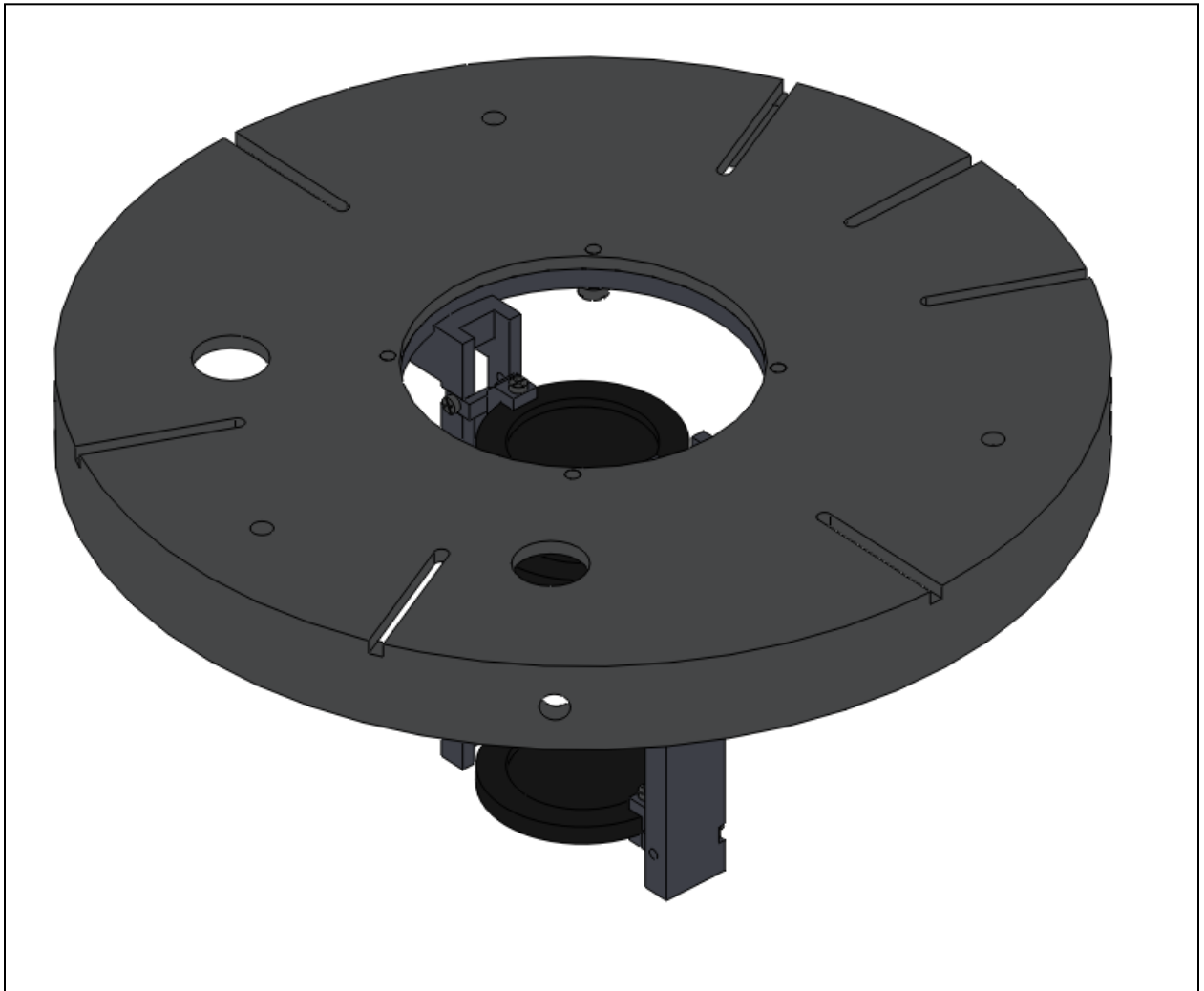
5.0 Top Circuit board assembly





- 1 Align Pins of mother and daughter circuit boards
- 2 Align spacers with through holes of mother circuit boards
- 3 Screw in Circuit boards with Nylon M2 screws

5.0 Cover assembly



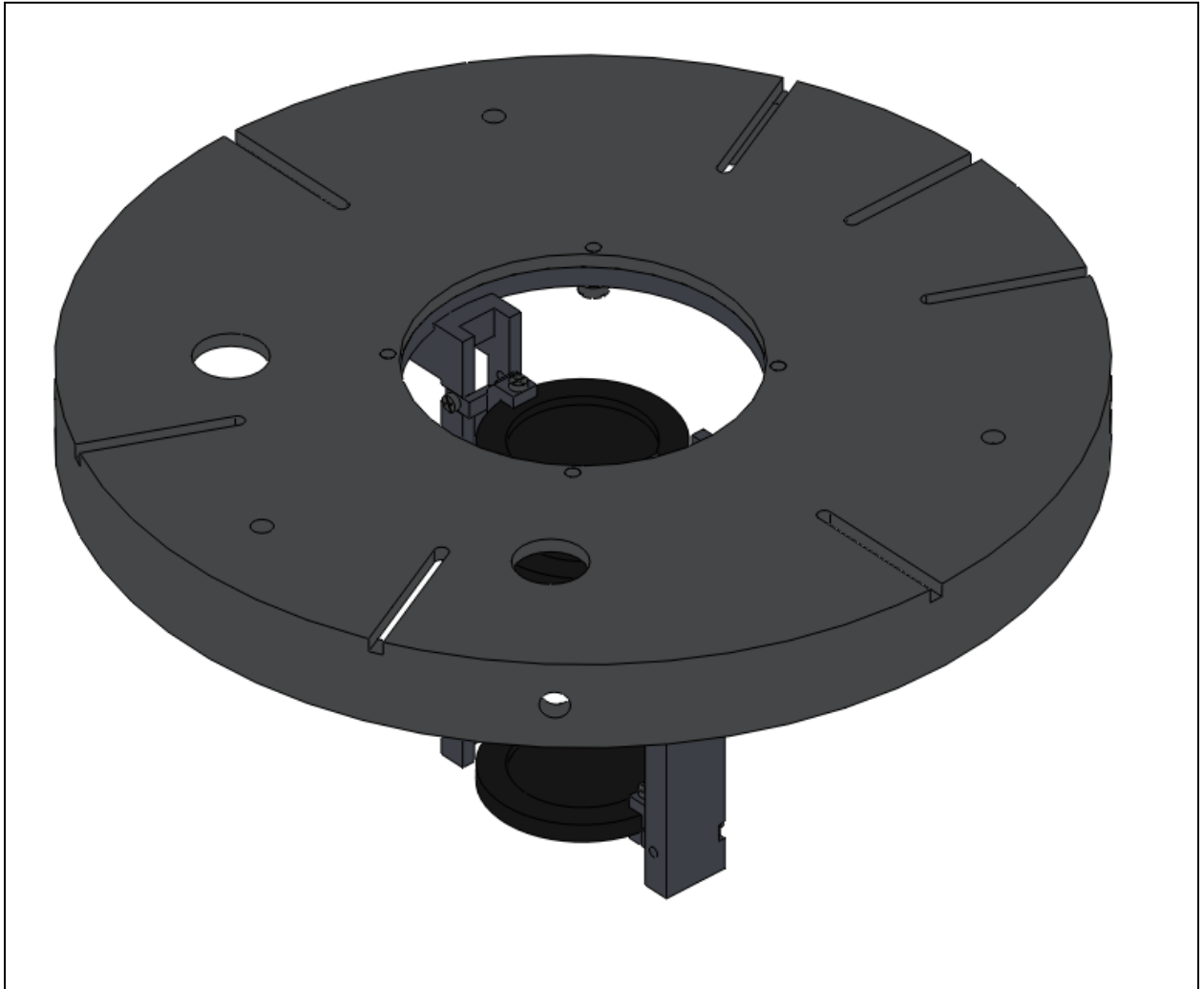
5.1 Column assembly





1 Screw aluminum ring (2) onto Column assembly (3) with counter sunk M3 screws (1)

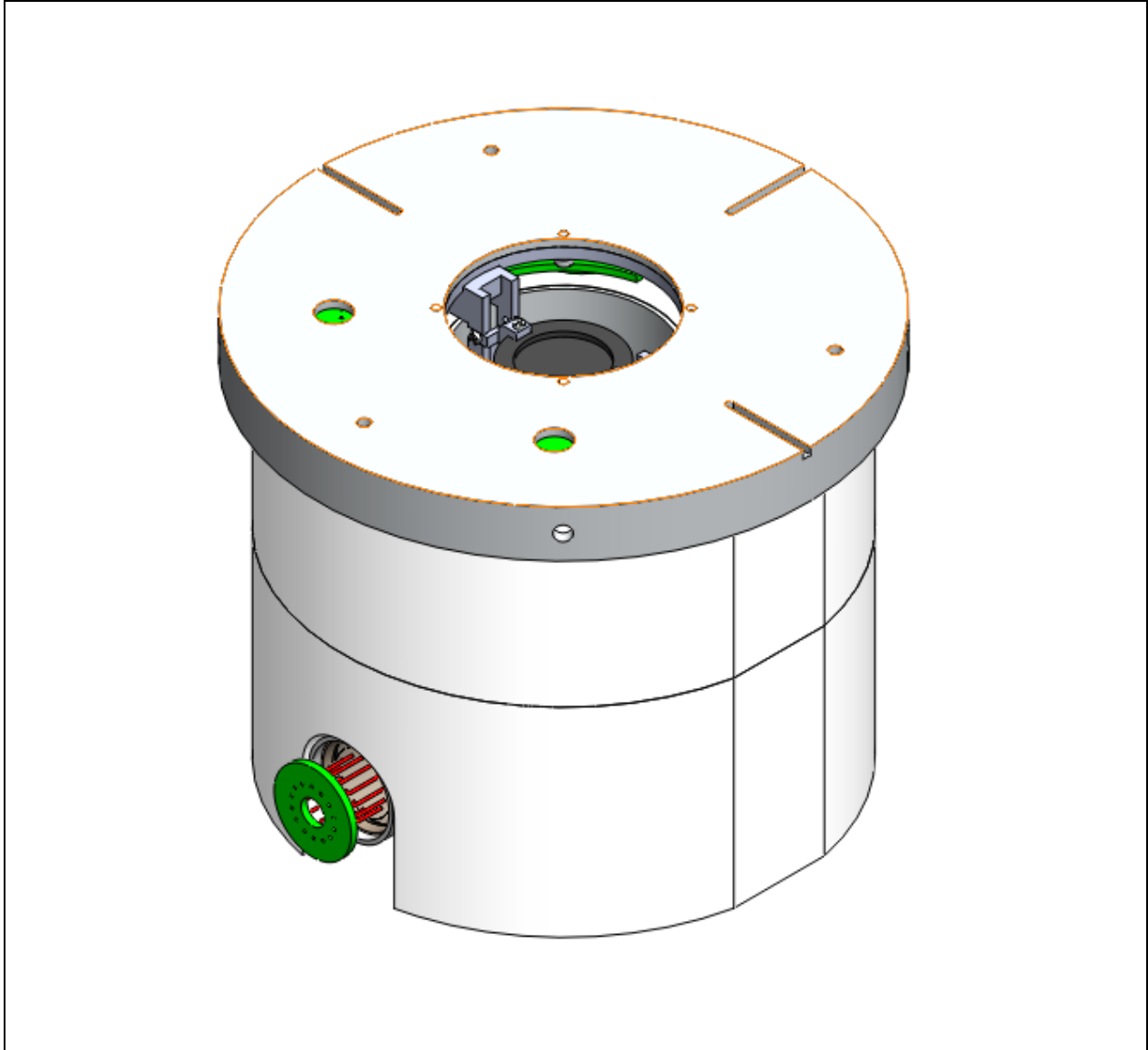
5.2 Top cover assembly

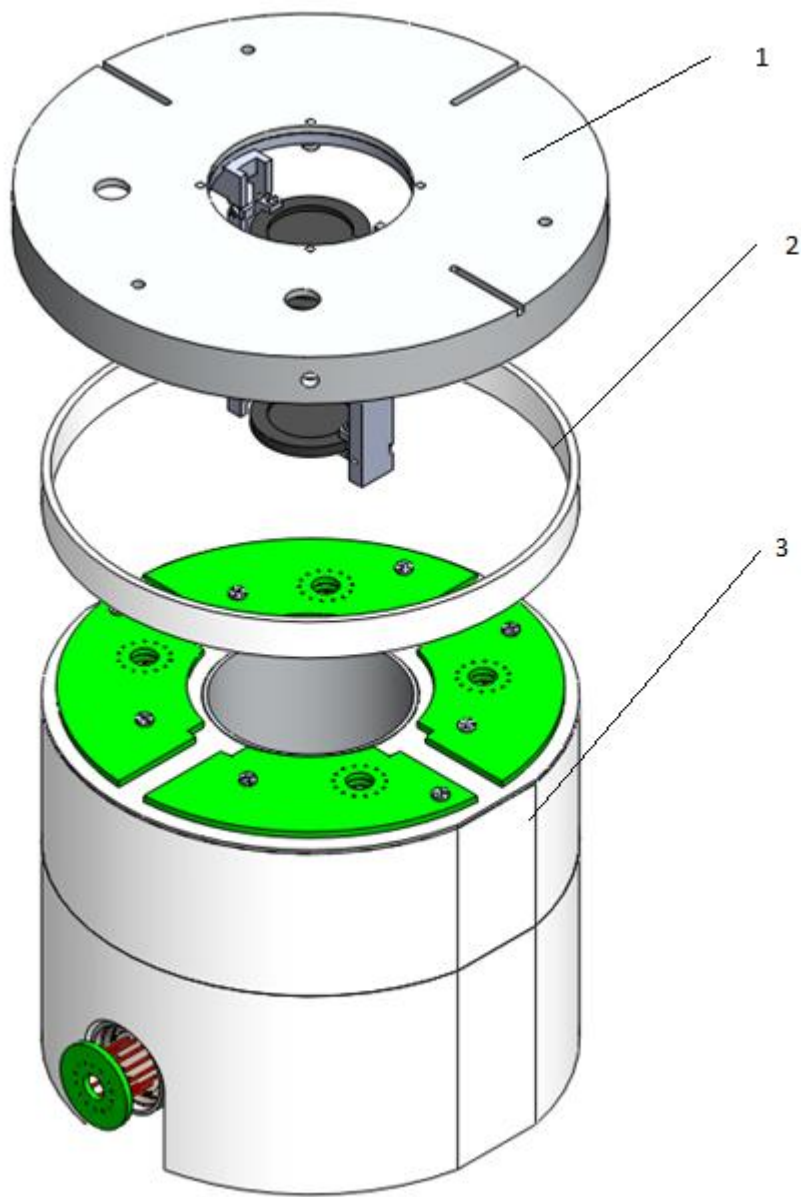




1 Screw column assembly (2) onto Cover (3) with M2 screws (1)

6.0 Adding cover to full assembly

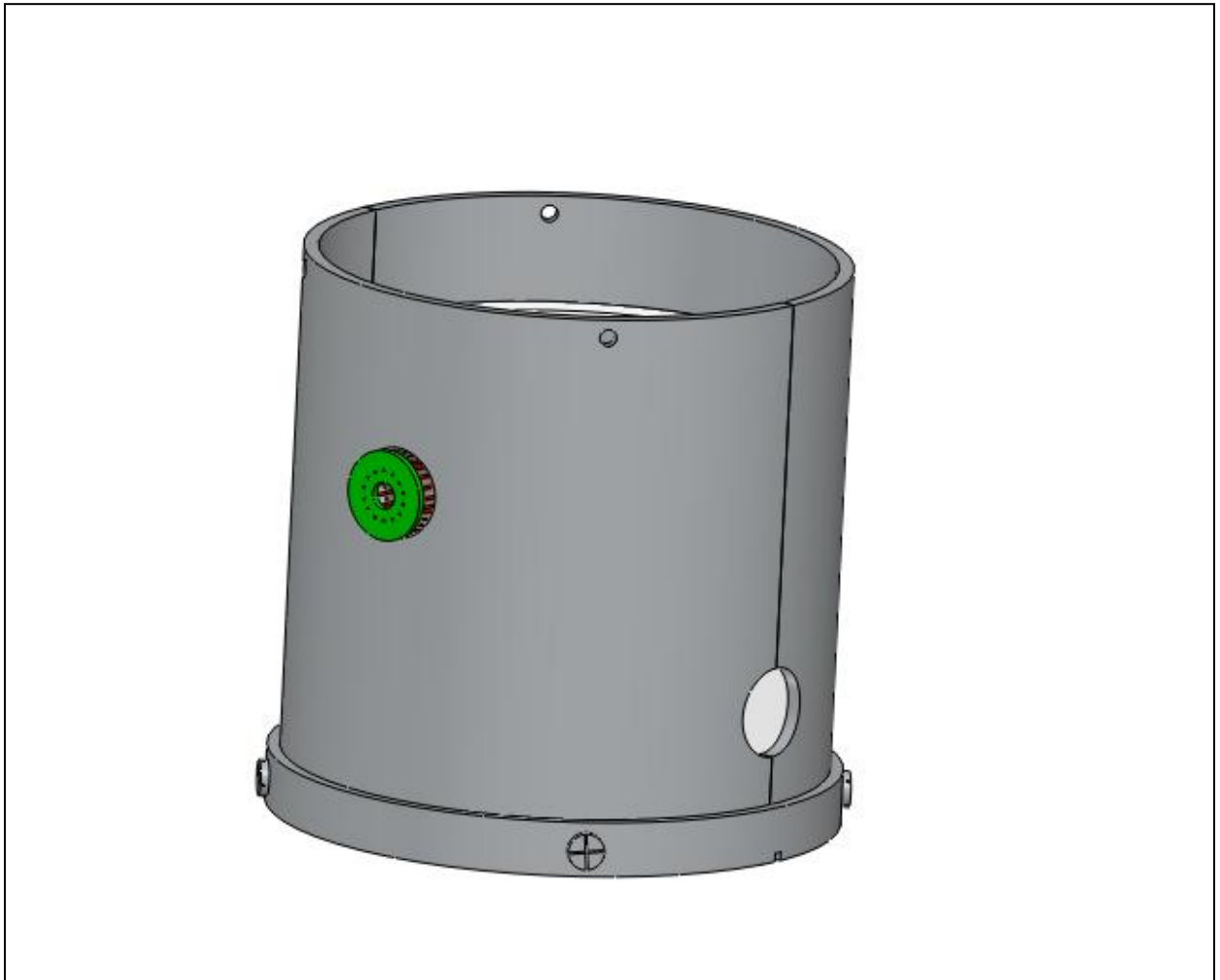


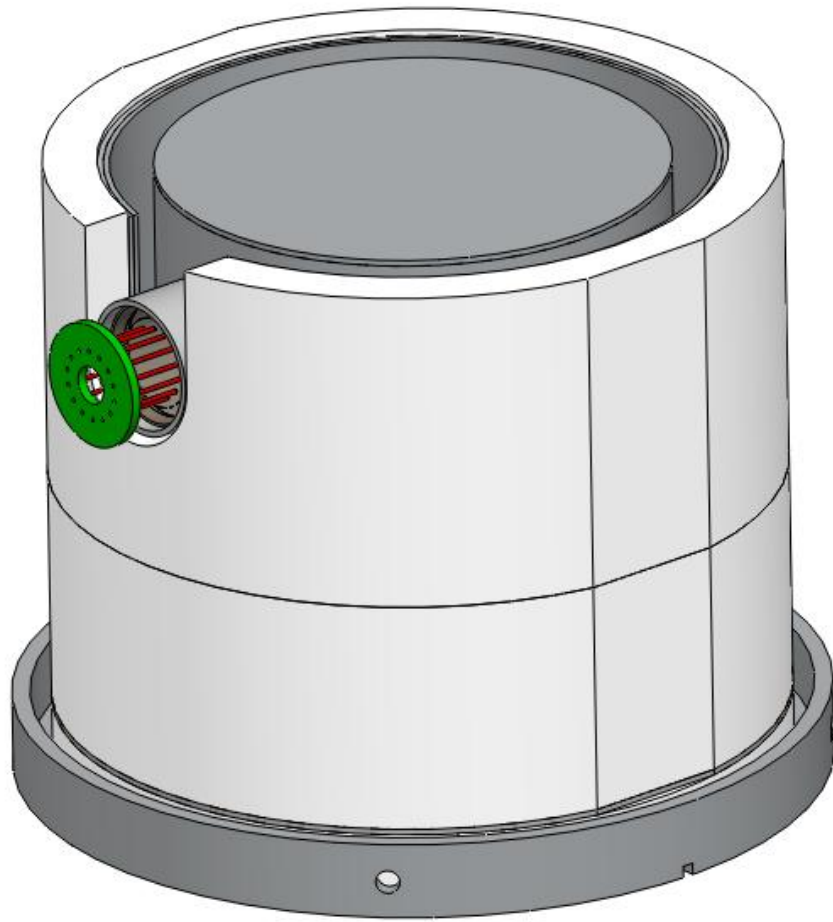


1 Place Plastic place holder ring (2) on top of the Top anit Plastic in the current assembly (3)

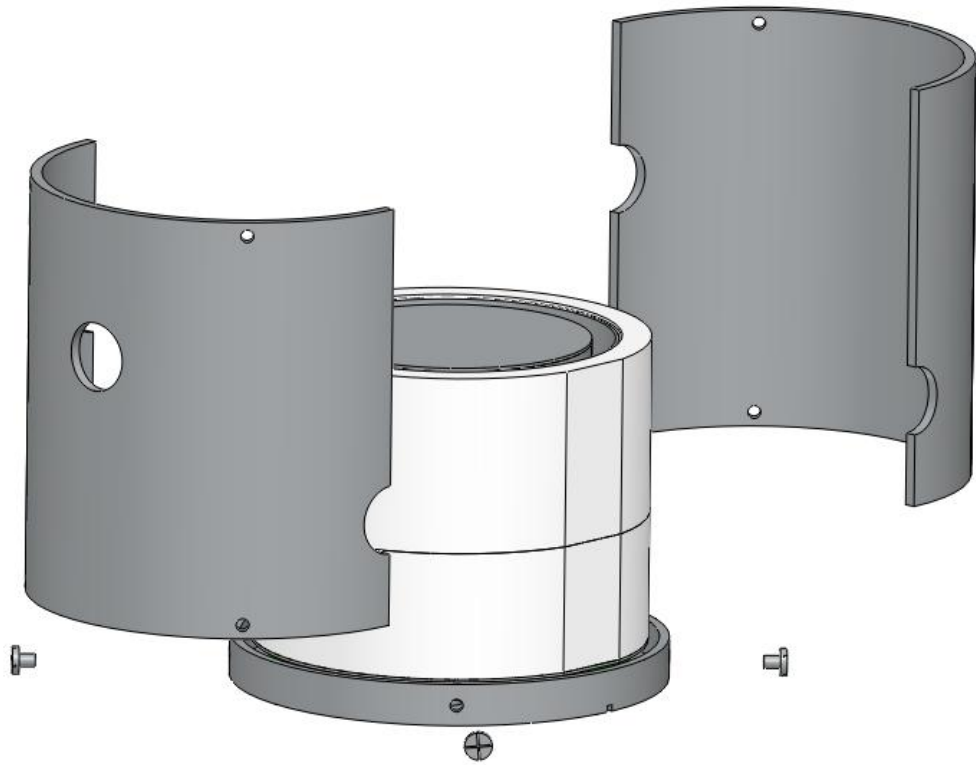
2 Place Cover assembly (1) on top of place holder ring (2)

7.0 Outer Cylinder assembly



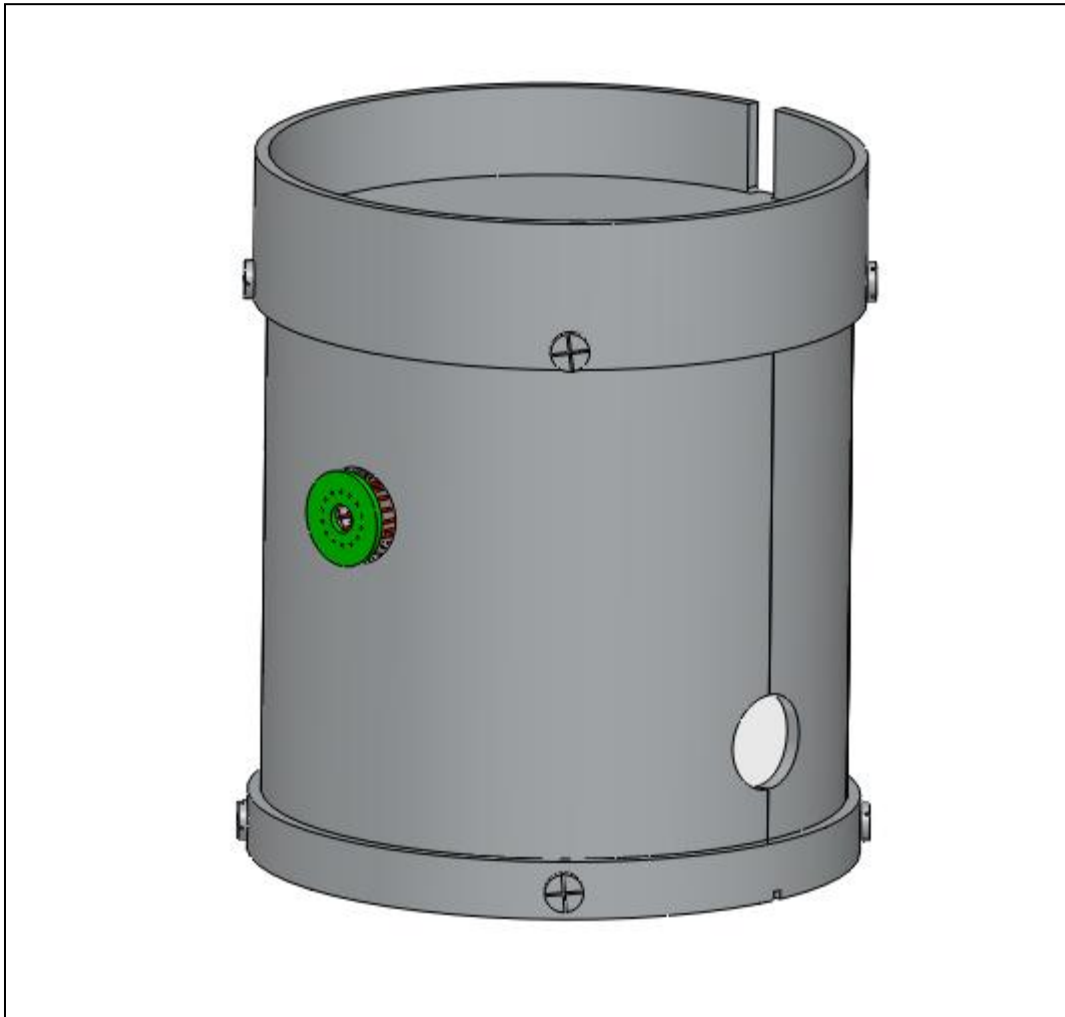


1 Flip entire assembly

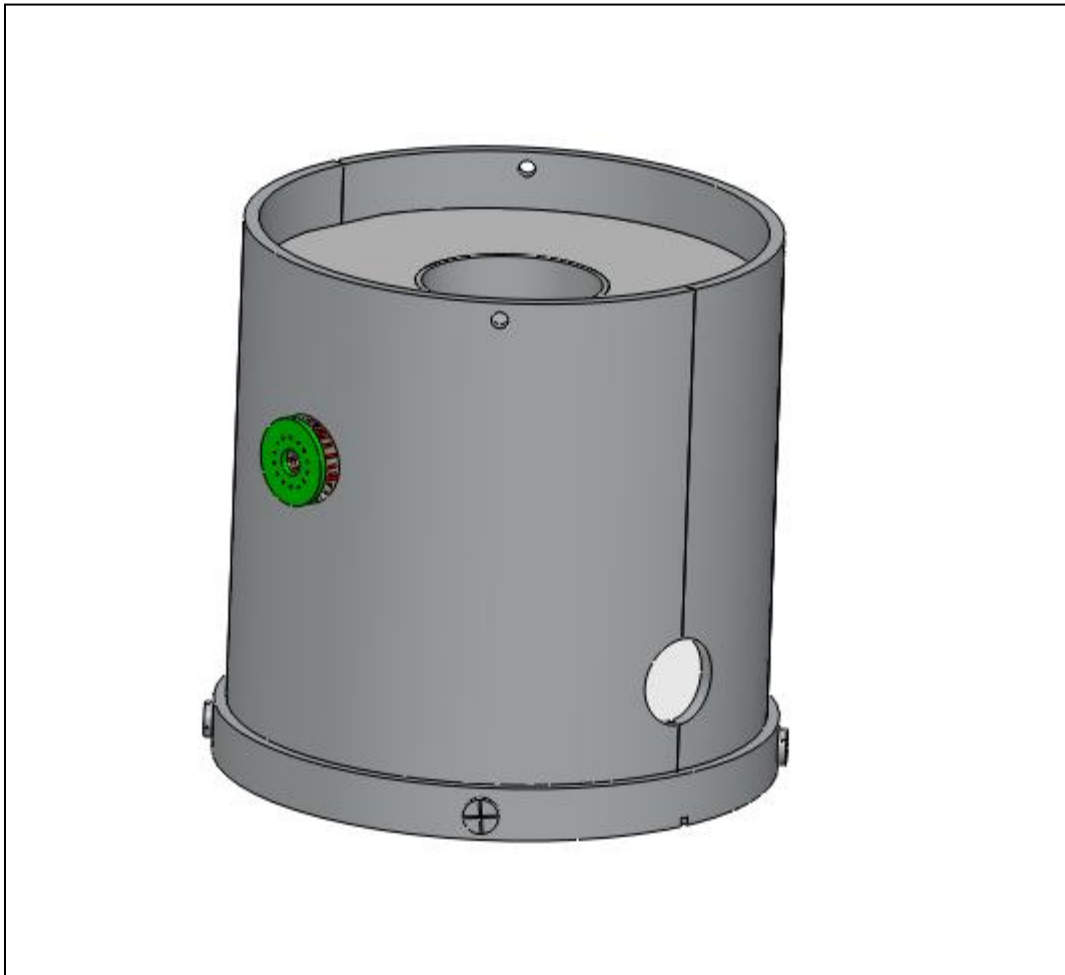


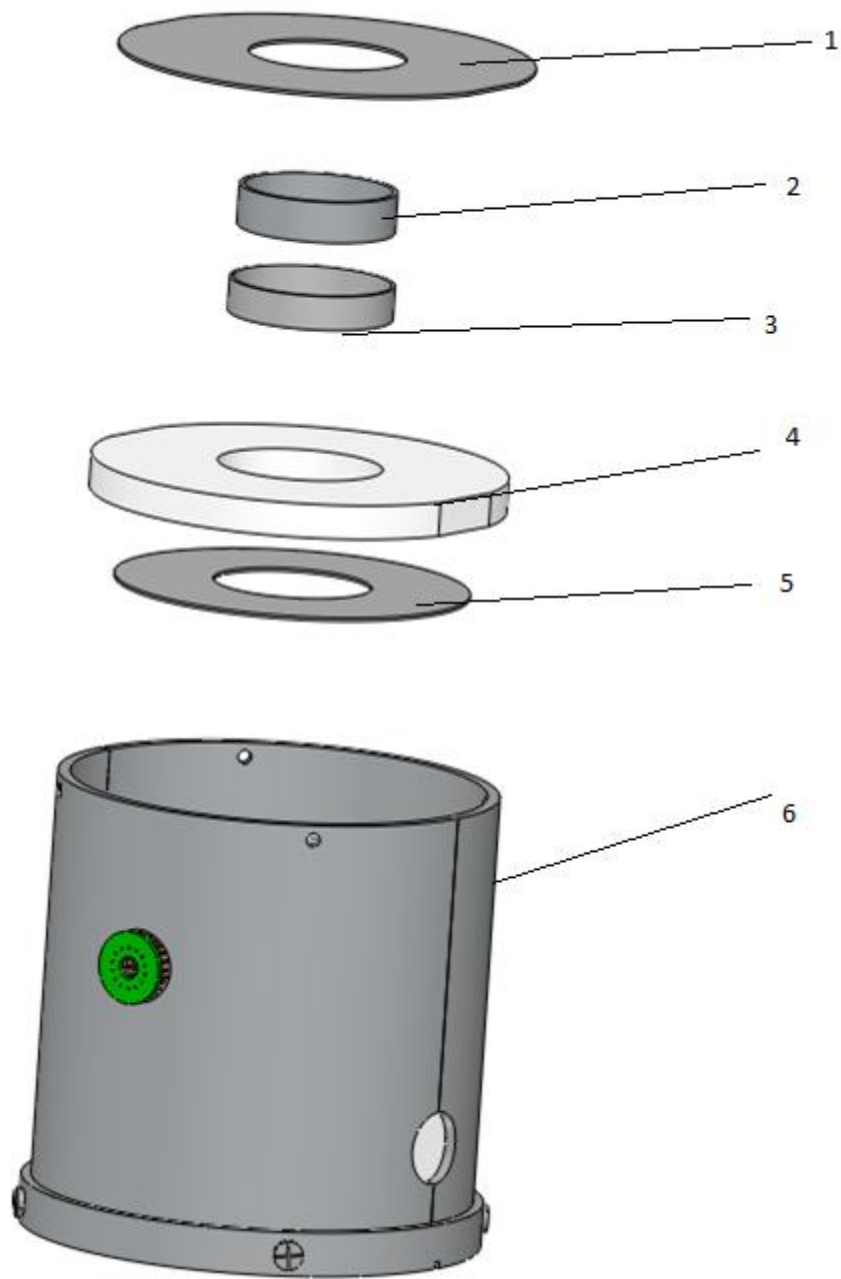
1 Place aluminum Cylinder halves around Anti sintillator and screw with M4 screws

8.0 Bottom cover assembly



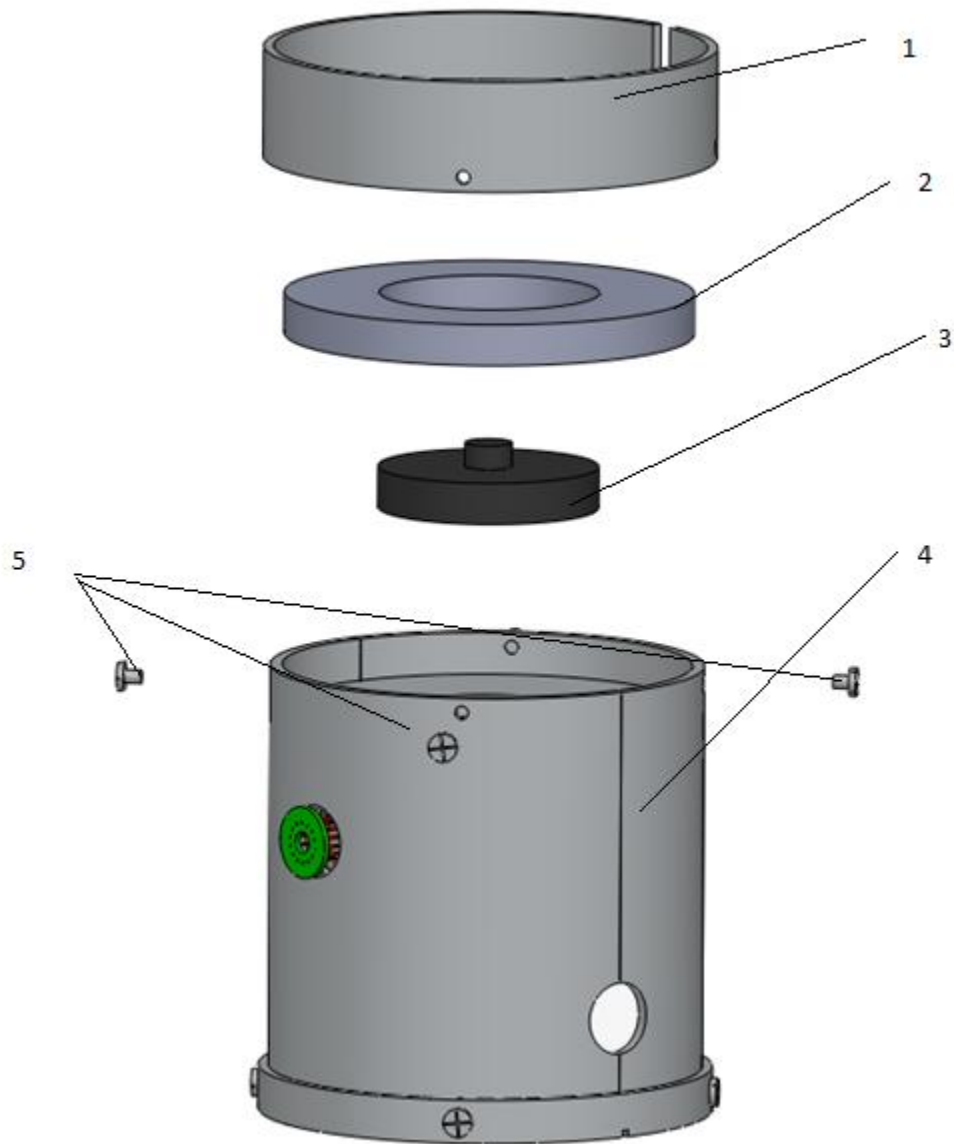
8.1 Bottom anti - Scintillator sub assembly





- 1 Place Teflon Cover ring (5) on the aluminum base in the current assembly (6)
- 2 Place bottom Anti plastic (4) on the side Anti plastic in current assembly (6)
- 3 Place the Teflon ring (3) in the center of Anti plastic (4)
- 4 Place the Aluminum ring (2) in the center of the Teflon ring (3)
- 5 Place the Teflon Ring cover (1) onto the Bottom anit plastic (4)

8.2 D4 sub assembly

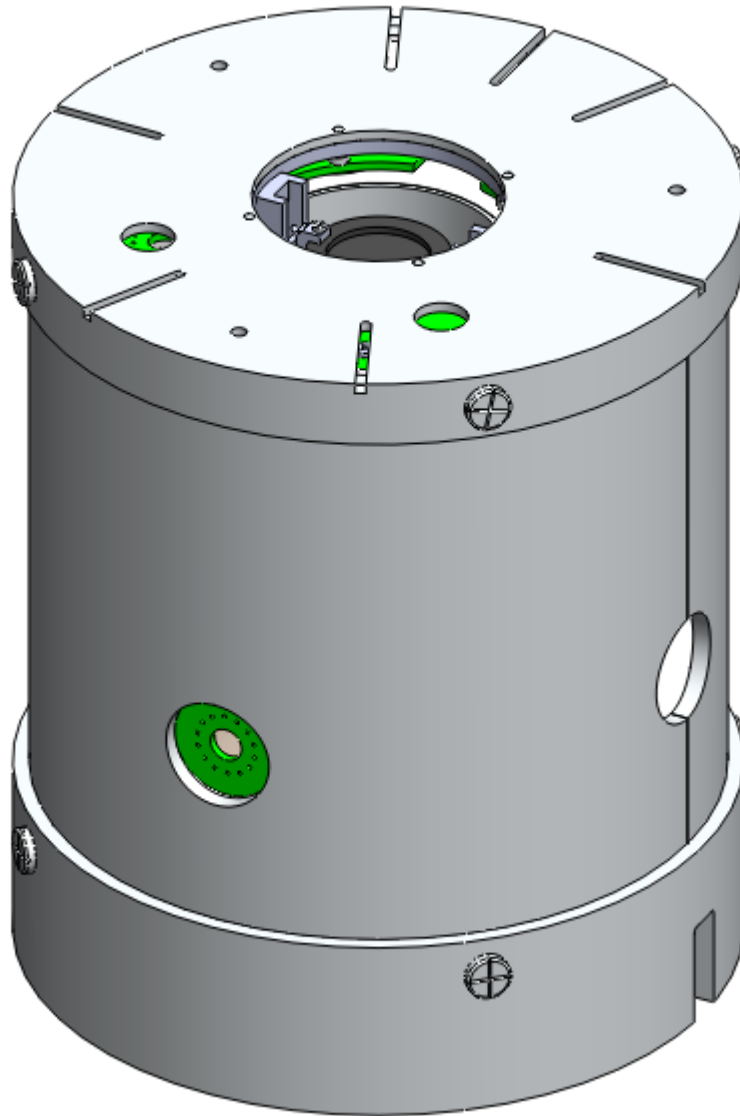


1 Place Plastic ring (2) into the current assembly (4)

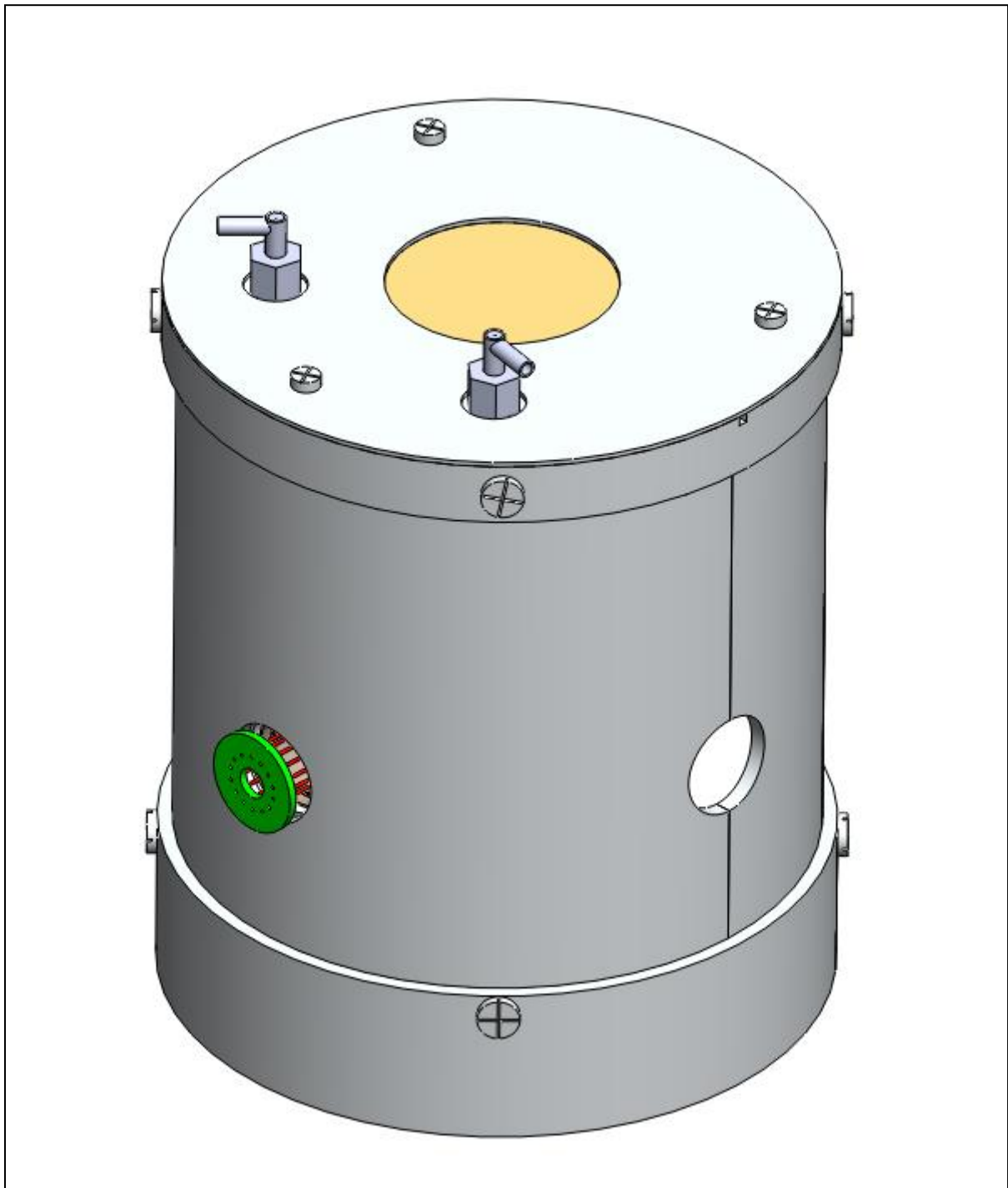
2 Place D4 (3) into the center Plastic (2)

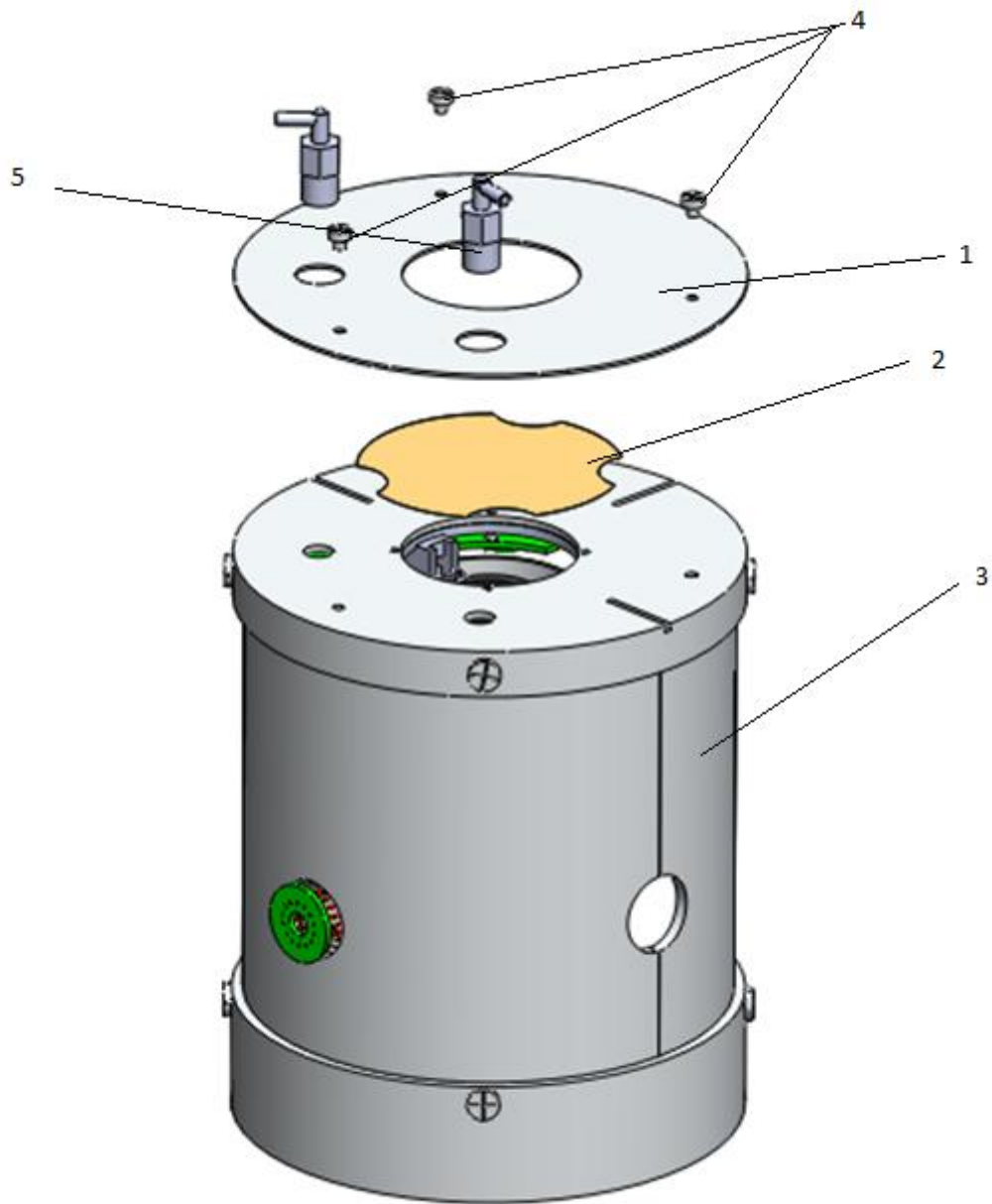
3 Place Base Assembly (1) on current assembly and screw with 4 M4 screws (5)

4 Flip whole assembly



9.0 Brass foil assembly



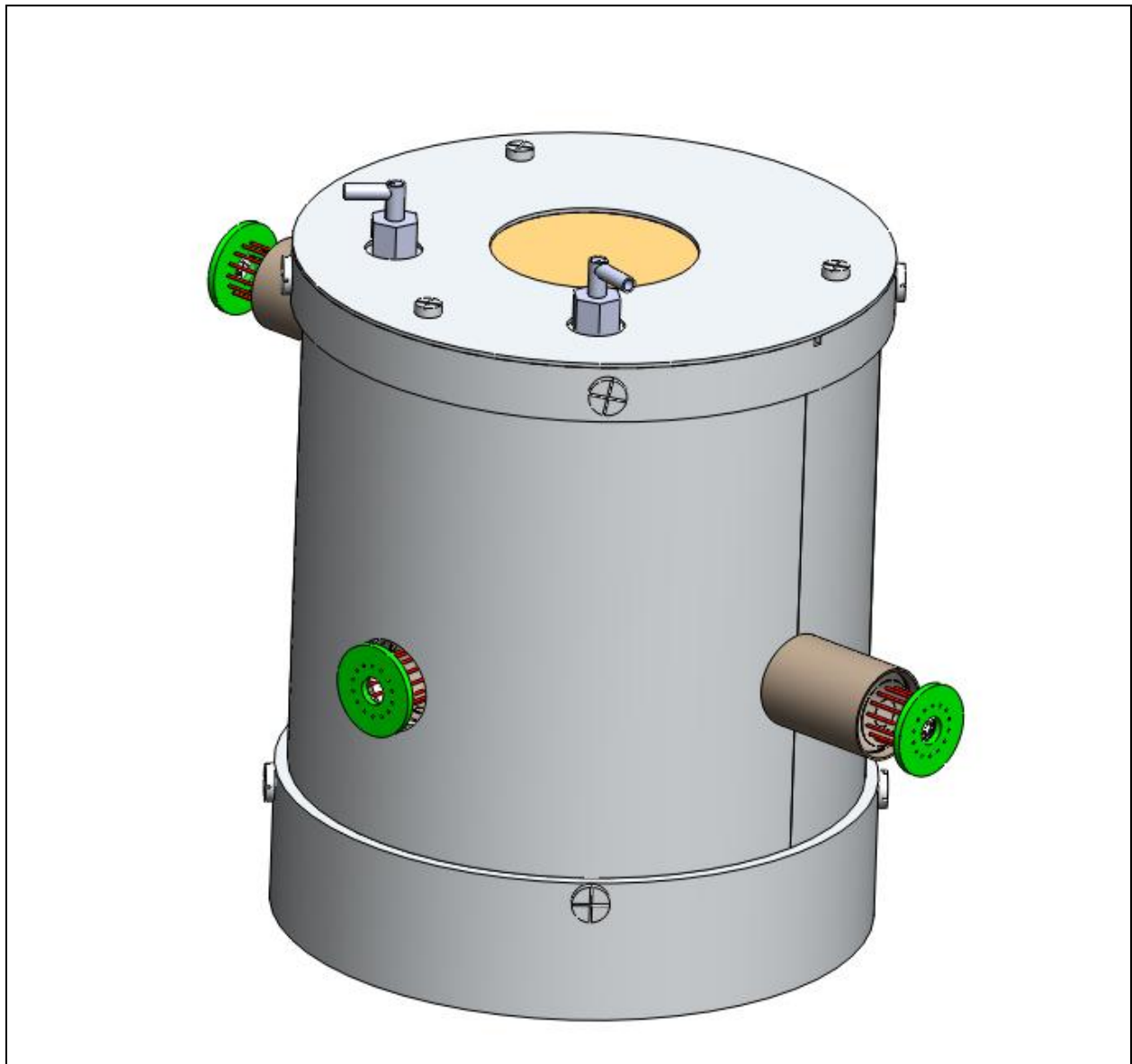


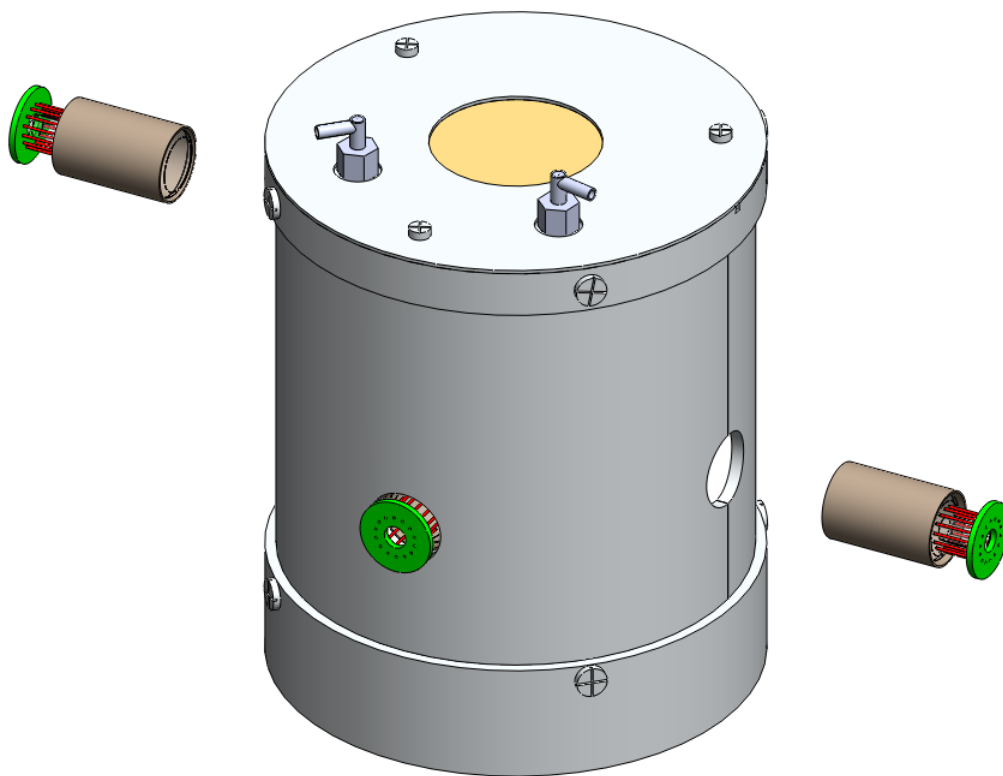
1 Place Brass foil (2) onto the cover of the Current assembly (3)

2 Place the top of the aluminum cover (1) top of the Brass foil (2) and cover of the Current assembly (3) and screw in with M3 screws (4)

3 Screw in the 90 degree vent ports (5) into the cover in the Current assembly (3) (top of the aluminum cover (1) is a through hole)

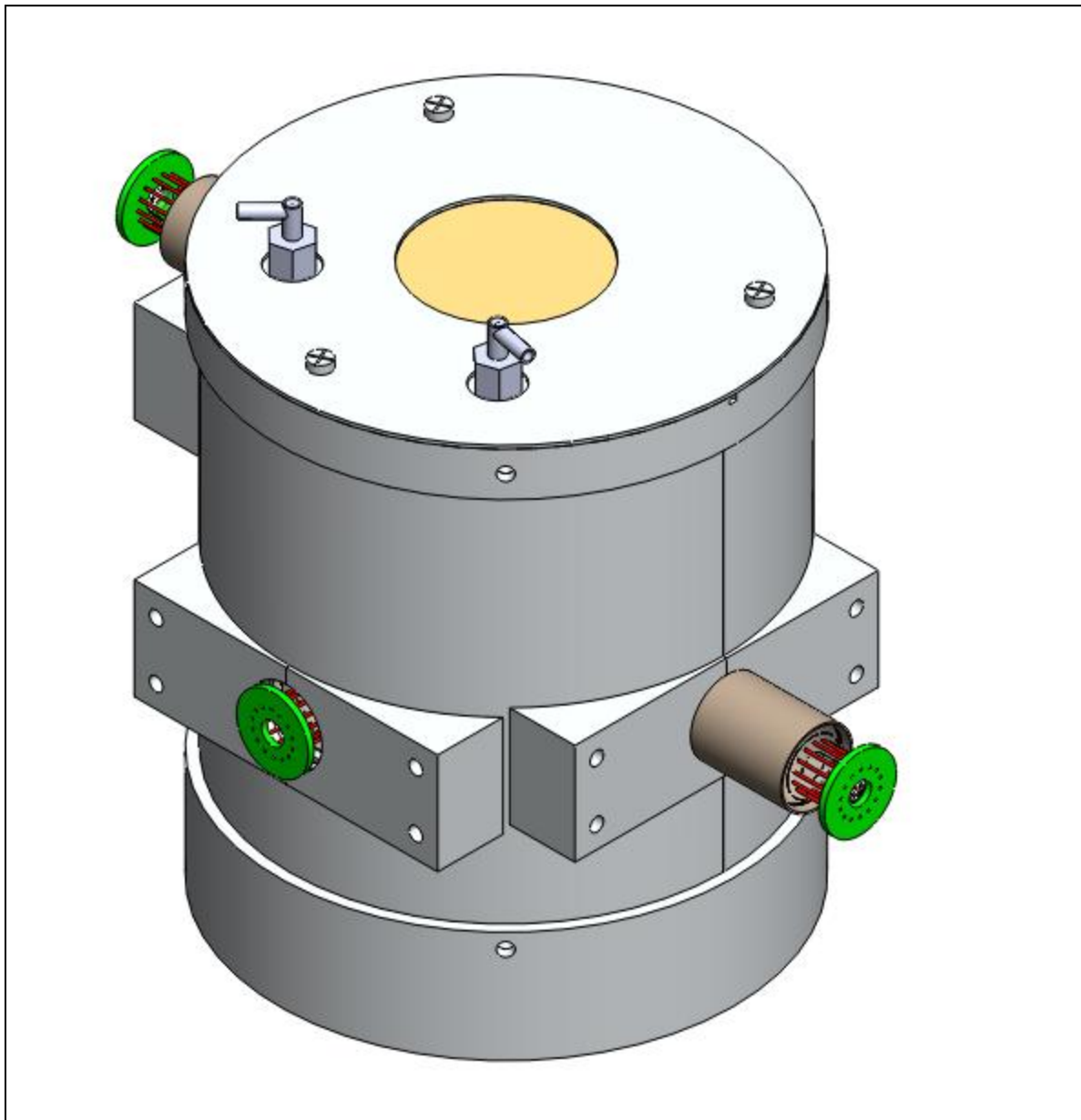
10.0 Side PMT assembly

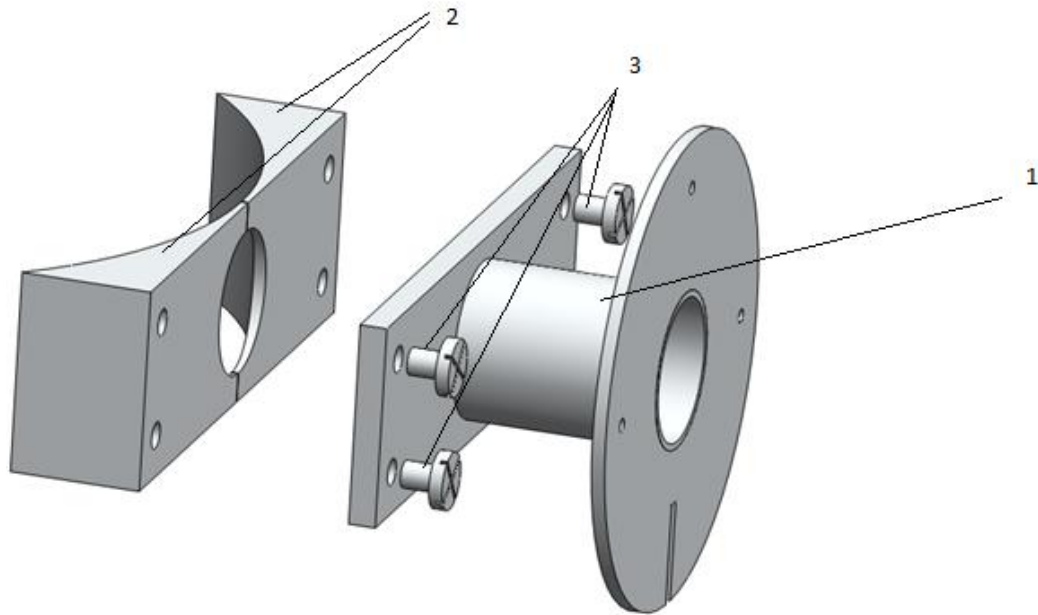




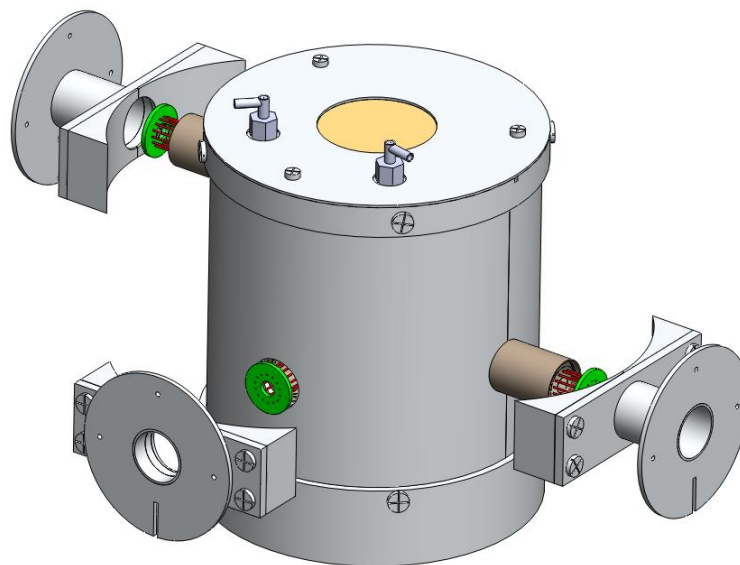
1 PTV The two PMT assemblies to the side of the anti plastic

12.0 Mushroom plate assembly



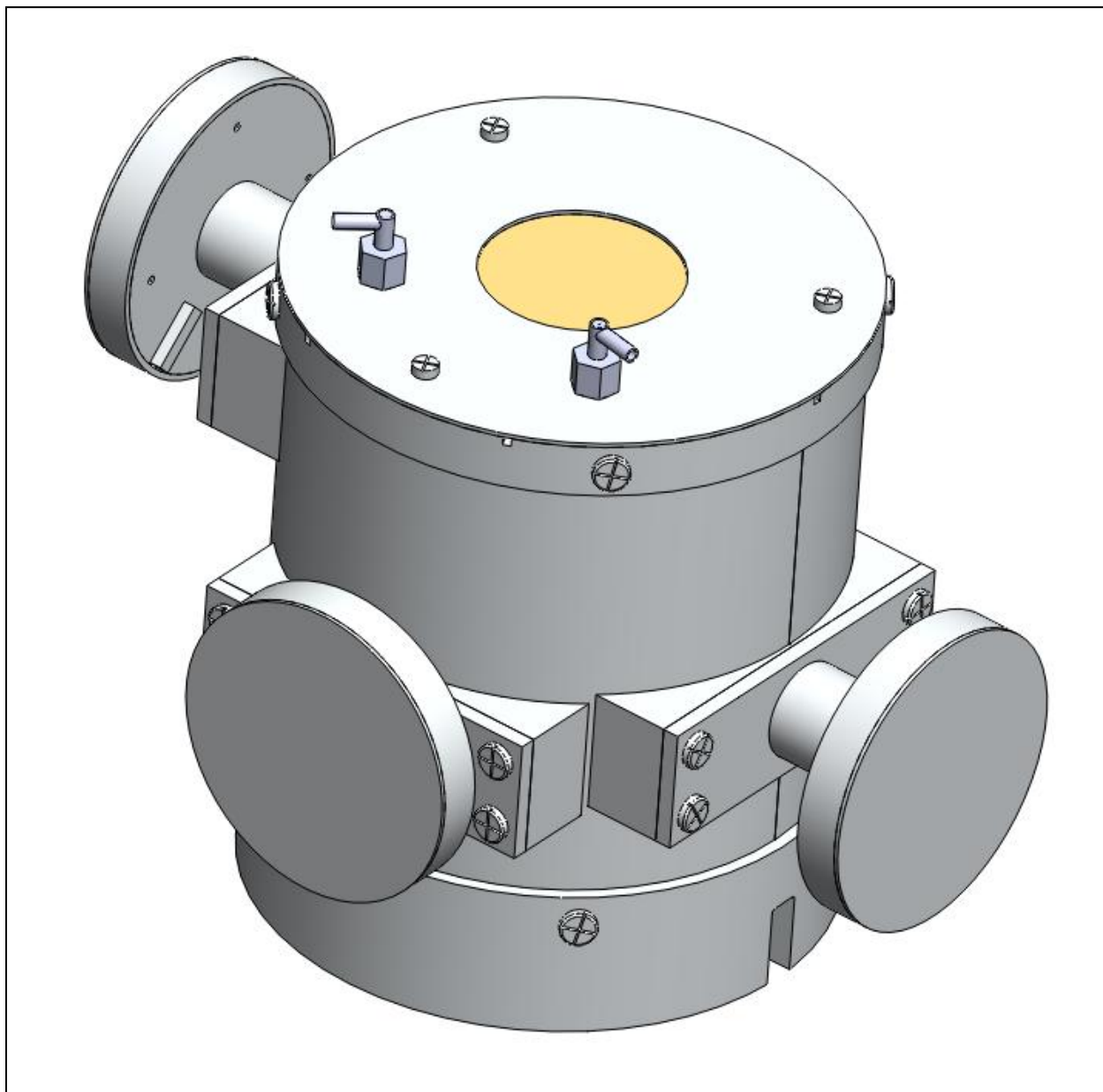


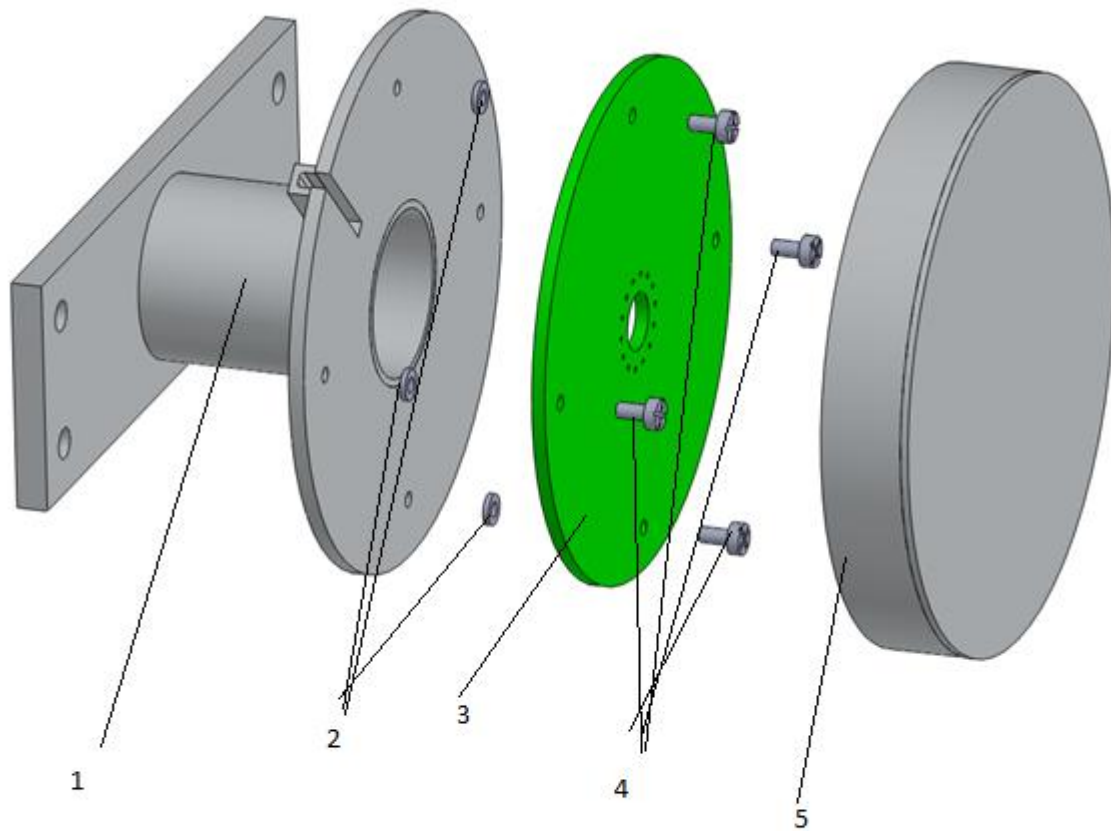
1 Screw Mushroom assembly (1) onto circular bases (2) with M4 screws (3)



2 Epoxy circular bases onto the cylinder halves of the full assembly

13.0 Side PMT Circuit board assembly





1 Align spacers (2) with through holes in the circuit board (3) and screw in with M2 screws (4)

2 Screw cover (5) onto Mushroom assembly (1)