

Oil Containment for High-voltage (HV) Filter Pot

ArgonCube 2x2 Installation Meeting on February 20, 2023

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High-voltage (HV) Filter Pot



- *Oil-Filled Operational Equipment (OFOE)* as per [FESHM 8031: Oil Pollution Prevention](#)
 - Definition: any equipment that includes an oil storage container (or multiple containers) in which the oil is present solely to support function of the apparatus/device.
 - It is not considered a bulk storage container (NB: *Bulk storage containers must always be stored in secondary containment.*)
 - For the protection of other electronics in the rack, we will implement a secondary containment.
 - It will not be included in monthly OFOE Inspections.
- Dimension:
 - OD: 8-1/2" [22 cm]
 - Height: 16-1/8" [41 cm] (from bottom to the top of flange)
 - Flange OD: 9-1/2" [24 cm]
- Weight: 30 kg
- Oil inside pot: 3 gallons of transformer oil (NYTRO 10XN: a super grade inhibited insulating oil)
- Estimated maximum temperature of oil is 50°C (122 °F)

HV Filter – Light VGA Rack



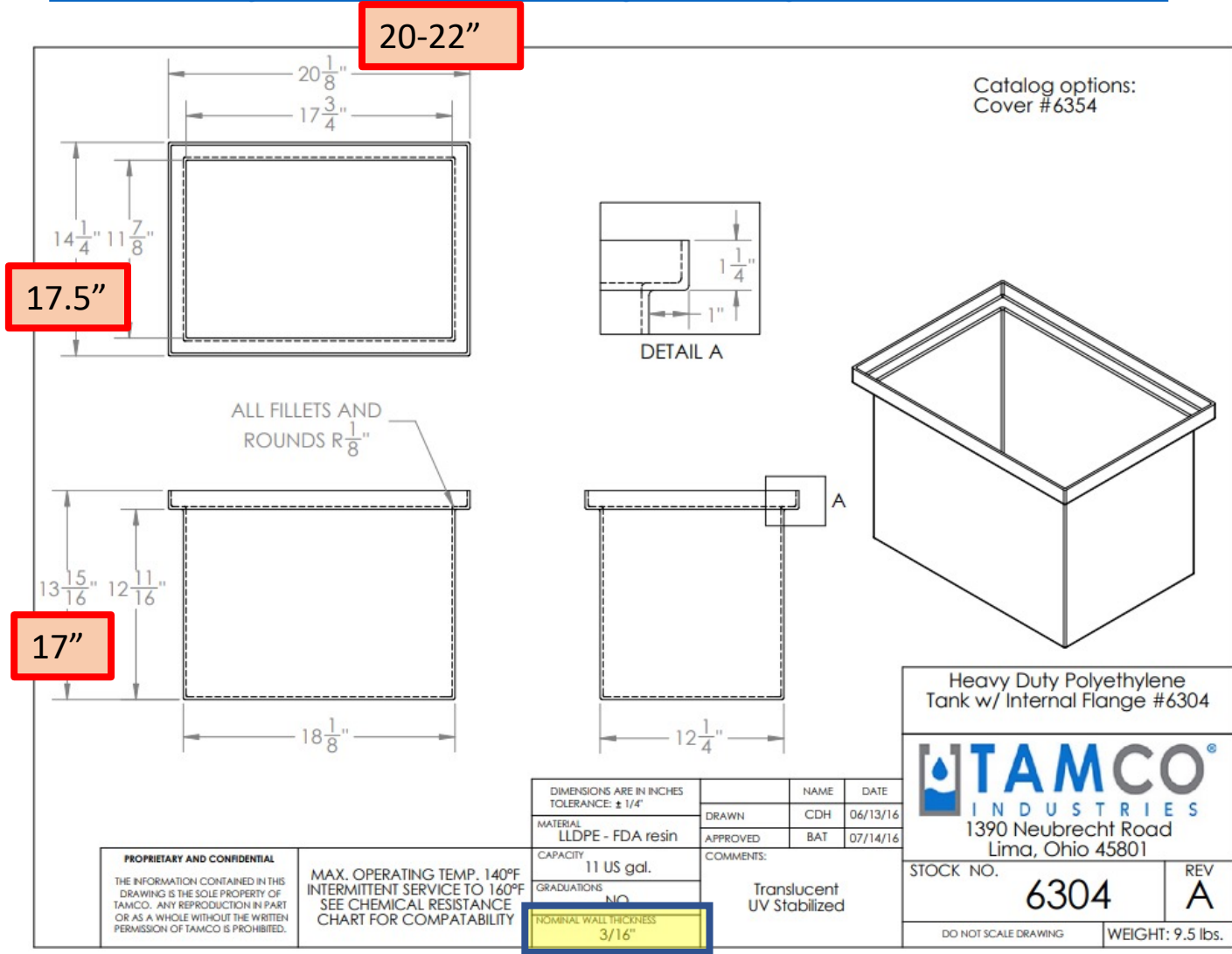
- Available rack space confirmed with Linda Bagby (marked with red line):

17.5" [W] x 20-22" [L] x 17" [H]

*It was assumed that the oil containment tank will be inserted from the front of rack.

*It was assumed that there is a metal separator above the electronics to divide the rack space into two.

Heavy Duty Polyethylene Tank



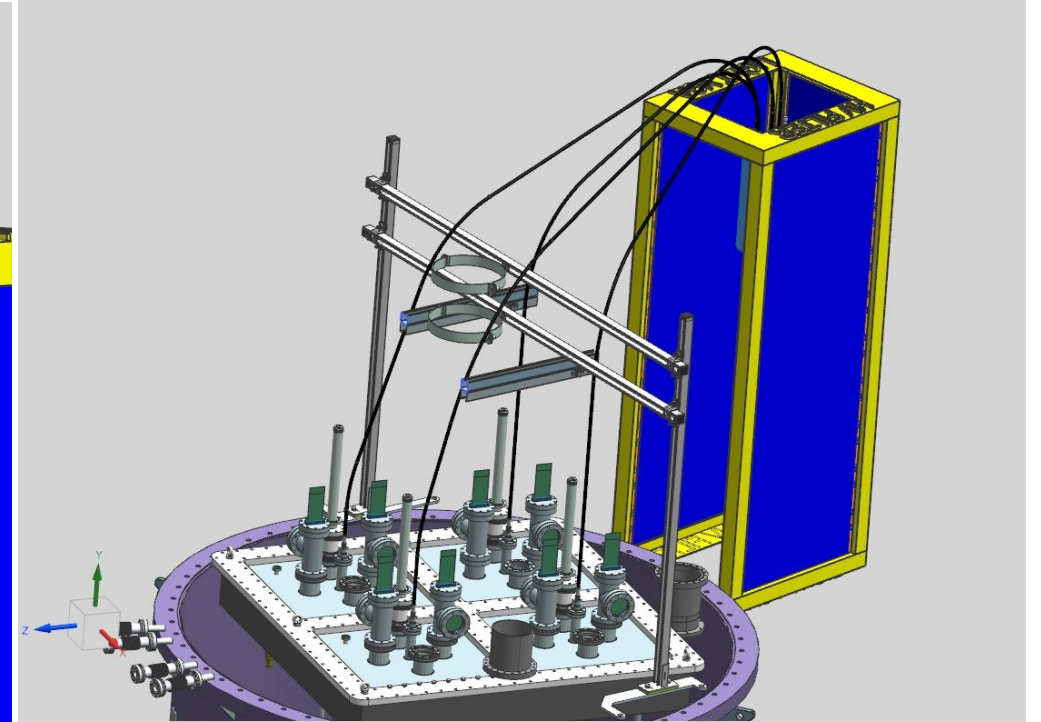
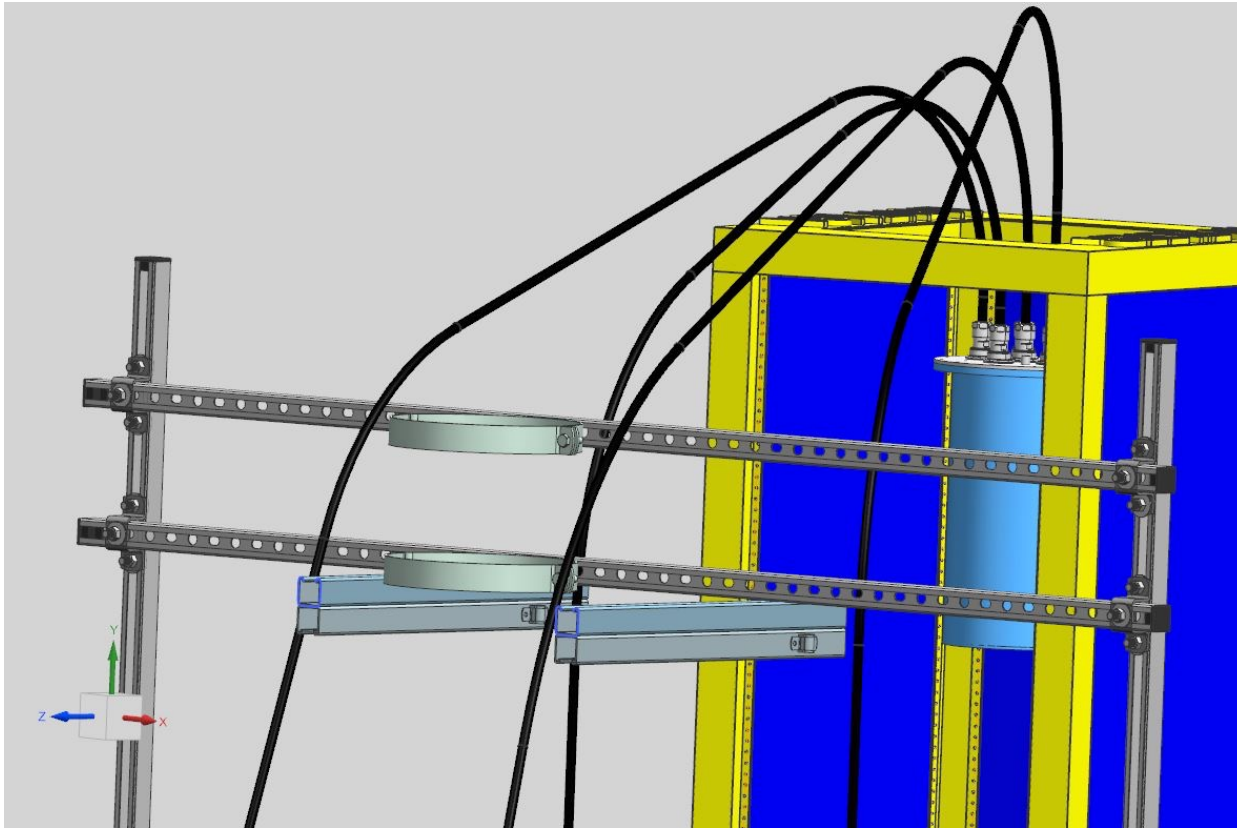
Overview

This 11 gallon heavy duty polyethylene tank with an internal flange is 18" L x 12" W x 12" H (nominal dimensions) without the flange. The nominal wall thickness is 3/16". Cover for this tank is #6354 (sold separately). **Note:** It is recommended that all tanks at elevated temperatures have simple bracing of angle iron or 2 x 4's plus plywood for full side support. See drawings for precise measurements.

- Made of a UV stabilized LLDPE
- Translucent for viewing level of liquid
- Internal flange(out & up) ensures maximum strength
- Heavy walls are durable & impact resistant
- Straight walls accommodate supports & make full use of space
- Not for fuels, oils or wetting agents
- Maximum temperature: 140°F
- Meets FDA standards
- Covers are loose fitting & sold separately
- Dimensions are nominal; see drawings for details

The numbers inside the red boxes are the dimensions of rack space (from page 3) for comparison.

HV Filter Pot in Heavy Duty Polyethylene Tank



- An adjustment of position upward for HV filter pot is required in the CAD model (So far information on the use of rack space is not well known to the designer).
- The HV filter pot will be placed together with the secondary containment (inside the heavy-duty polyethylene tank).
- The oil leak from the HV filter pot will be visible through the translucent tank wall.