



#ShieldMission



ShieldMission OxiKit BOM

OxiKit Build Bundle - No Compressor

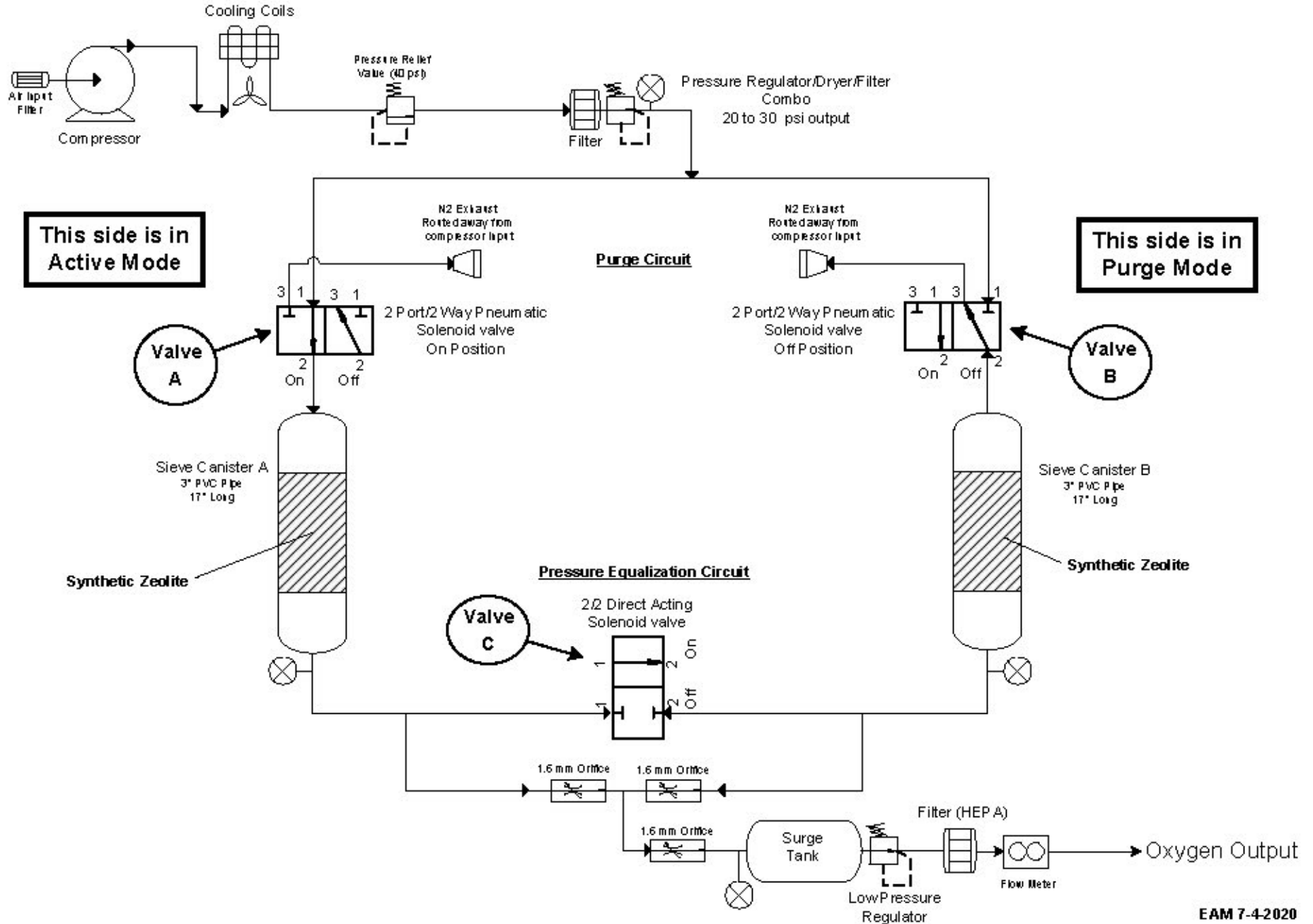
\$1562.60 OxiKit Bundle + \$1,662.81 Other stores = \$3225.41

Description	SKU	QTY Needed	In Bundle (Y/N)	Total Line Price
VALVES & REGULATORS				
3-Way Solenoid Valve 3/8" NPT	OXI-VAR-SOL	2	Y	0
2-Way Direct Acting Solenoid Valve 1/4" NPT	OXI-VAR-DAS	1	Y	0
Miniature Air Pressure Regulator 1/4" NPT (3-60 PSI)	OXI-VAR-HPR	1	Y	0
Low Pressure Regulator 3 to 30PSI	OXI-VAR-LPR	1	Y	0
Pressure Gauge 1/4" NPT Back, 0-60psi (Back Mount)50mm Axial iron shell integrated pressure gaugechroming shell, brass back connection, dia. 50 mm.NPT1/4, accuracy 2.5%.	OXI-VAR-PGB	2	Y	0
3-30LPM LZQ-7 Oxygen Air Gas Flowmeter	OXI-VAR-OGF	1	N	\$16.89
FITTINGS				
3/8" Male NPT to 3/8"Push to Connect - Strait	OXI-FIT-STR	3	Y	0
3/8" Male NPT to 3/8"Push to Connect - 90 Elbow	OXI-FIT-ELB	12	Y	0
3/8"Push to Connect to 3/8"Push to Connect to 3/8"Push to Connect - Tee	OXI-FIT-TEE	6	Y	0
3/8"Push to Connect to 3/8"Push to Connect to 3/8"Push to Connect - Y	OXI-FIT-WYE	1	Y	0
1/4" Male NPT to 3/8" Push to Connect - 90 Elbow	OXI-FIT-MEL	2	Y	0
1/4" Male NPT to 3/8" Push to Connect - Strait	OXI-FIT-MST	4	Y	0
Brass/Stainless 3/8-Inch tube PTC x 1/4-Inch Male NPT - Coupler	OXI-FIT-BCO	2	Y	0
Brass 1/4 NPT Female to 1/4" NPT Female - Coupling	OXI-FIT-COU	3	N	\$17.43
Brass 1/2-in NPT Male to 1/4" NPT Female - Adapter Bushing	OXI-FIT-ADB	2	N	\$11.98
Brass 1/4" NPT male plug hex or square head	OXI-FIT-HEX	1	N	\$7.99
Air pressure safety relief valve 1/4" NPT male set to open at 50 psi	OXI-FIT-APS	1	N	\$8.24
TUBING				
High Density Polyethylene (HDPE) Tubing, 1/4" ID, 3/8" per roll OD (10 Feet Per Machine Required- White)	OXI-TUB-HDP	1	N	\$71.91
Clear Vinyl tube, 1/4" ID, 3/8" per roll OD (2 Feet Per Machine Required - Clear)	OXI-TUB-CVT	1	N	\$16.99
1.5 orifices		3	Y	0
BRAIN COMPONENTS				
Arduino Uno Board With Mounting Plate	OXI-BRC-AUB	1	N	\$19.98
Arduino Uno Board Relay Shield 4 relays	OXI-BRC-ABR	1	N	\$21.41
12V 40 watt power supply	OXI-BRC-PSP	1	Y	0
20 awg Electronics Wire	OXI-BRC-STW	1	Y	0
HEAT/HUMIDITY MANAGEMENT COMPONENTS				
3/8" OD Copper Tubing (Need around 20')	OXI-HMC-CUT	1	N	\$24.09
12V DC 120mm High Speed Cooling Fan	OXI-HMC-HSP	5	Y	0
Humidifier Water Bottle	OXI-HMC-HWB	1	Y	0
COMPRESSOR				
Oxikit 2.4HP Free Air Compressor Motor - Oil Free - Ultra Quiet - 300 High Flow LPM	OXI-COM-180	1	N	\$364.64
MISCELLANEOUS				
Cable Ties 40 pack	OXI-MIS-CAB	40	Y	0
2" Wheels	OXI-MIS-WHL	1	N	\$22.99
2x4x10 Wood	OXI-MIS-WOD	1	N	\$17.99
3/4" MDF 15.5" x 15.5" (Can also use Plywood)	OXI-MIS-PLY	1	N	\$44.60
1/4" MDF 6" x 4.5" (Can also use Plywood)	OXI-MIS-PLW	1	N	\$8.53
in-line HIPAA Sanitary Air Filter	OXI-MIS-AFL	1	Y	0
Heat Shrink or Electrical Tape	OXI-MIS-ELT	1	N	\$13.25
Solder or Twist Connectors	OXI-MIS-SOL	1	N	\$38.99
SIEVE PVC PARTS				
3" Schedule 40 PVC Female Adapter - Socket to FIPT	OXI-SPP-SFI	2	N	\$6.20
3" Schedule 40 PVC Male Adapter - MIPT to Socket	OXI-SPP-MIS	2	N	\$7.68
3" x 3/4" Sch 40 PVC Reducer Bushing Flush Style - Spigot to FIPT	OXI-SPP-SPF	6	N	\$15.90
3/4" x 3/8" Sch 40 PVC Reducer (T.T.) Bushing - MIPT to FIPT	OXI-SPP-MIF	6	N	\$4.32
3" Sch 40 PVC Coupling - Socket to Socket	OXI-SPP-STS	6	N	\$17.28
2" x 3/4" Schedule 40 PVC Reducer Bushing - Spigot to FIPT	OXI-SPP-RBU	2	N	\$3.06
PVC 3 in. Round Snap-In Floor Drain		4	N	\$10.88
3" Diameter PVC Pipe (9")		2	Y	0
3" Diameter PVC Pipe (18")		2	Y	0
SIEVE INTERNAL PARTS				
2" Diameter x 3" Tall - Compression Springs - 50 lb per inch tension	OXI-SIP-SPR	2	Y	0
304 Stainless Steel Woven 100 Mesh 0.18mm Hole Disk 75mm	OXI-SIP-MSF	2	Y	0
304 Stainless Steel Woven 100 Mesh 0.18mm Hole Disk 71mm	OXI-SIP-MSO	2	N	\$23.94
Non-woven Filter Material - Vent Register Filter 4" X 12"	OXI-SIP-VRF	1	N	\$12.00
Gorilla PVC Cement 8 oz. R1584C Medium Body PrimaGlue, One-Step	OXI-SIP-CEM	1	N	\$12.22
Rectorseal 25551 8-Ounce No. 5 Pipe Thread Sealant	OXI-SIP-REC	1	N	\$22.43
10 Pound Zeolite	OXI-OTH-ZET	1	Y	0
OxiKit 2HP Oil Free Air Compressor Motor - Oil Free - Ultra Quiet - 300 H	OXI-COM-180	1	N	\$799.00

Total \$1,662.81

Oxygen Concentrator Circuit Diagram Ver. 4A

(3 port / 2 way valves and Orifices)



Oxygen Concentrator Sieve Assembly - with labels

(Important: PVC parts should be schedule 40 - not DWV)



This Screen mesh is placed inside Drain Cover and sealed around the edge

This Screen mesh is glued to the outside of Drain Cover and sealed around the edge

3" PVC Schedule 40 Pipe, 17" long

3/4" x 3/8" Sch 40 PVC Reducer Bushing - MIPT to FIPT

Fine Stainless Steel Mesh, 80 mesh to 120 mesh, 3" diameter

Non Woven Fiber Filter 4" diameter

3" PVC Coupling Socket

3" PVC Male Adapter MIPT x Socket


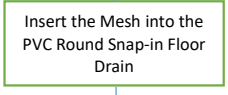
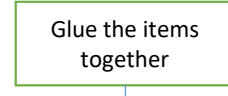

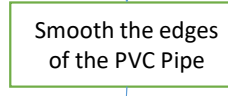


3" PVC Female Adapter Socket x FIPT

3/8" MNPT to 3/8" push-to-connect tube

3" PVC Round Snap-In Floor Drain

Steel Compression Spring 2" diameter, 2" high, 50lb/in

3" x 3/4" Sch 40 PVC Reducer Bushing Flush Style - Spigot to FIPT

FLOW CHART	PROCESS	MATERIAL	MISCELLANEOUS TOOLS/MATERIALS
 <pre> graph TD Start([Start]) --> Step1[Insert the Mesh into the PVC Round Snap-in Floor Drain] Step1 --> Step2[Glue the items together] Step2 --> Step3((Inspect the product)) Step3 --> Step4[Smooth the edges of the PVC Pipe] Step4 --> Step5((Inspect the product)) Step5 --> End[/A/] </pre>	Start	-	-
	1) Insert the Fine Stainless Steel Mesh into the PVC Round Snap-in Floor Drain	- Fine Stainless Steel Mesh(80 mesh to 120 mesh - 3" diameter) into the 3" PVC Round Snap-in Floor	-
	2) Place a little dab of super glue (every half inch) on the sides of the Fine Stainless Steel Mesh	- Fine Stainless Steel Mesh(80 mesh to 120 mesh - 3" diameter) into the 3" PVC Round Snap-in Floor	- Super Glue
	3) Inspect if Mesh is securely placed inside the PVC Round in Floor Drain	- Fine Stainless Steel Mesh(80 mesh to 120 mesh - 3" diameter) into the 3" PVC Round Snap-in Floor	-
	4) Smooth the edges (outside portion) of the PVC Schedule	- PVC Schedule 40 pipe, 17"	- Diburring Tool/cutter/ sander
	5) Inspect the product if the PVC Schedule fits smoothly with the PVC Coupling	- 3" PVC Coupling socket - 3" PVC Schedule 40 Pipe, 17" long	-
			

FLOW CHART	PROCESS	MATERIAL	MISCELLANEOUS TOOLS/MATERIALS
<pre> graph TD A{{A}} --> B1[Put glue on the PVC the schedule and the PVC coupling socket] B1 --> B2[Place the PVC Coupling Socket on top of the PVC Schedule] B2 --> B3[Clean and wipe excess glue] B3 --> B4((Inspect the product)) B4 --> B5[Dry] B5 --> B6[Place the PVC Round Snap-in Floor Drain inside the PVC Coupling socket] B6 --> B{{B}} </pre>			
	6) Put glue on the PVC Coupling socket and the PVC Schedule. Put a large amount of glue on the outside of the Male end around 2" (PVC Schedule) and less on the inside of the female end (PVC Coupling Socket).	- 3" PVC Coupling socket into the - 3" PVC Schedule 40 Pipe, 17" long	- Super Glue
	7) Place the PVC Coupling socket on top of the PVC Schedule. Put a little bit of pressure to connect the parts.	- 3" PVC Coupling socket into the - 3" PVC Schedule 40 Pipe, 17" long	-
	8) Wipe any excess glue on the PVC	- 3" PVC Coupling socket into the - 3" PVC Schedule 40 Pipe, 17" long	Tissue/Towel
	9) Inspect the product if PVCs are securely connected and if there are any excess glue inside the PVC	- 3" PVC Coupling socket into the - 3" PVC Schedule 40 Pipe, 17" long	-
	10) Let it dry for a few minutes	- 3" PVC Coupling socket into the - 3" PVC Schedule 40 Pipe, 17" long	-
	11) Place the PVC Round Snap-in Floor Drain (with mesh from step 1) inside the PVC Coupling socket until it bottoms out.	- Fine Stainless Steel Mesh(80 mesh to 120 mesh - 3" diameter) into the 3" PVC Round Snap-in Floor	-

FLOW CHART	PROCESS	MATERIAL	MISCELLANEOUS TOOLS/MATERIALS
<pre> graph TD B{{B}} --> A[Put glue on the PVC Reducer Busing and the PVC coupling socket] A --> B[Place the PVC Reducer Busing on top of the PVC Coupling Socket] B --> C[Clean and wipe excess glue] C --> D((Inspect the product)) D --> E[Dry] E --> F[Wash the PVC Pipe] F --> C{{C}} </pre>			
	12) Put glue on the Reducer Busing, and the PVC Coupling socket (with the PVC round Snap in Floor - mesh inside). Put a large amount of glue on the outside portion of the Male end (Reducer Busing) and less on the inside of the female end (PVC Coupling Socket).	- 3"x3/4" PVC Reducer Busing, Flush Style-Spig. X FIPT - 3" PVC Coupling socket	- Super Glue
	13) Place the PVC Reducer Busing on top of the PVC Coupling Socket. Put a little bit of pressure to connect the parts.	- 3"x3/4" PVC Reducer Busing, Flush Style-Spig. X FIPT - 3" PVC Coupling socket	-
	14) Wipe any excess glue on the PVC	- 3"x3/4" PVC Reducer Busing, Flush Style-Spig. X FIPT - 3" PVC Coupling socket	Tissue/Towel
	15) Inspect the product if PVCs are securely connected and if there are any excess glue inside the PVC	- 3"x3/4" PVC Reducer Busing, Flush Style-Spig. X FIPT - 3" PVC Coupling socket	-
	16) Let it dry overnight	- 3"x3/4" PVC Reducer Busing, Flush Style-Spig. X FIPT - 3" PVC Coupling socket	-
	17) Wash the inside portion of the PVC	- 3"x3/4" PVC Reducer Busing, Flush Style-Spig. X FIPT - 3" PVC Coupling socket	Tissue/Towel

FLOW CHART	PROCESS	MATERIAL	MISCELLANEOUS TOOLS/MATERIALS
<pre> graph TD C{{C}} --> Dry[Dry] Dry --> Smooth[Smooth the edges of the PVC Pipe] Smooth --> Glue[Put glue on the PVC Male adaptor and the PVC schedule.] Glue --> Place[Place the PVC Male adaptor Socket on top of the PVC Schedule] Place --> Wipe[Clean and wipe excess glue] Wipe --> Inspect((Inspect the product)) Inspect --> D{{D}} </pre>			
	18) Let it dry for a few minutes	- 3"x3/4" PVC Reducer Busing, Flush Style- Spig. X FIPT - 3" PVC Coupling socket	-
	19) Smooth the edges (outside portion) of the other end of the PVC Schedule	- PVC Schedule 40 pipe, 17"	- Diburring Tool/cutter/ sander
	20) Glue the PVC Male adaptor Socket into the other open side of the PVC Schedule . Put a large amount of glue on the outside portion of the Male end around 2" (PVC Schedule) and less on the inside of the female end (PVC Male adaptor socket).	- 3" PVC Male adaptor MIPT X Socket - 3" PVC Schedule 40 Pipe, 17" long.	- Super Glue
	21) Place the PVC Male adaptor Socket on top of the PVC Schedule. Put a little bit of pressure to connect the parts.	- 3" PVC Male adaptor MIPT X Socket - 3" PVC Schedule 40 Pipe, 17" long.	-
	22) Wipe any excess glue on the PVC	- 3" PVC Male adaptor MIPT X Socket - 3" PVC Schedule 40 Pipe, 17" long.	Tissue/Towel
	23) Inspect the product if PVCs are securely connected and if there are any excess glue inside the PVC	- 3" PVC Male adaptor MIPT X Socket - 3" PVC Schedule 40 Pipe, 17" long.	-

FLOW CHART	PROCESS	MATERIAL	MISCELLANEOUS TOOLS/MATERIALS
<pre> graph TD D{{D}} --> Dry1[Dry] Dry1 --> Glue[Put glue on the PVC Reducer Bushing and the PVC female adaptor socket.] Glue --> Place[Place the PVC Reducer Bushing on top of the PVC female adaptor socket] Place --> Clean[Clean and wipe excess glue] Clean --> Inspect((Inspect the product)) Inspect --> Dry2[Dry] Dry2 --> E{{E}} </pre>			
	24) Let it dry overnight	- 3" PVC Male adaptor MIPT X Socket - 3" PVC Schedule 40 Pipe, 17" long.	-
	25) Glue the PVC Reducer Bushing into the other open side of the PVC Female adaptor socket . Put a large amount of glue on the outside portion of the Male end around 2" (PVC Reducer Bushing) and less on the inside of the female end (PVC female adaptor socket).	- 3"x3/4" Reducer Bushing, Flush Style-Spig. X FIPT - 3" PVC Female adaptor Socket X FIPT.	- Super Glue
	26) Place the PVC Reducer Bushing on top of the PVC female adaptor socket. Put a little bit of pressure to connect the parts.	- 3"x3/4" Reducer Bushing, Flush Style-Spig. X FIPT - 3" PVC Female adaptor Socket X FIPT.	-
	27) Wipe any excess glue on the PVC	- 3"x3/4" Reducer Bushing, Flush Style-Spig. X FIPT - 3" PVC Female adaptor Socket X FIPT.	Tissue/Towel
	28) Inspect the product if PVCs are securely connected and if there are any excess glue inside the PVC	- 3"x3/4" Reducer Bushing, Flush Style-Spig. X FIPT - 3" PVC Female adaptor Socket X FIPT.	-
	29) Let it dry overnight	- 3"x3/4" Reducer Bushing, Flush Style-Spig. X FIPT - 3" PVC Female adaptor Socket X FIPT.	-

FLOW CHART	PROCESS	MATERIAL	MISCELLANEOUS TOOLS/MATERIALS
<pre> graph TD E{{E}} --> A[Place Zeolite inside the PVC assembly] A --> B[Vibrate the Zeolite] B --> C[Place the Fiber Filter on top of the Zeolite] C --> D[Place PVC round snap in floor Drain on top of the Fiber Filter] D --> E[Push the PVC to compress the Zeolite] E --> F[Place the spring on top of the PVC round snap] F --> F{{F}} </pre>			
	30) Place a considerable amount of Zeolite inside the PVC Pipe, approximately 26mm from the top of the PVC Male adaptor. Please see computation sheet for the computation of the height of the Zeolite.	- Zeolite - PVC Assembly from step 1 to 29	-Funnel -Caliper
	31)Ensure to vibrate the bottom side and a little on the top of the PVC assembly	- Zeolite - PVC Assembly	- air hammer with 50 PSI
	32) Place the Non Woven Fiber Filter on top of the Zeolite	- Non Woven Fiber Filter 4" Diamter - Zeolite - PVC Assembly	-
	33) Place the PVC round snap in floor Drain (with mesh outside) on top of the non woven Fiber Filter.	- 3" PVC round snap in floor Drain with Lip trimmed - Non Woven Fiber Filter 4" D - Zeolite - PVC Assembly	-
	34) Push the PVC round snap in floor Drain to compress the Zeolite	- 3" PVC round snap in floor Drain with Lip trimmed - Non Woven Fiber Filter 4" D - Zeolite - PVC Assembly	-
	35) Place the spring on top of the PVC round snap in floor Drain	- 3" PVC round snap in floor Drain with Lip trimmed and sanded with mesh - Spring	-

FLOW CHART	PROCESS	MATERIAL	MISCELLANEOUS TOOLS/MATERIALS
<pre> graph TD F{{F}} --> B1[Place the cut PVC Round in Floor drain on top of the spacer] B1 --> B2[Place the cut PVC Round in Floor drain with spacer on top of the spring] B2 --> B3[Put glue on the Male Thread and Female Thread] B3 --> B4[Place the Female adaptor on top of the Male Adaptor.] B4 --> B5[Tighten the canister] B5 --> B6((Check the gap of the Male and female thread)) B6 --> G{{G}} </pre>			
	36) Place the the cut portion of the PVC Round Snap in Floor Drain with lip on top of the Spigot threaded MPT PVC(spacer)	- 1 1/2 mm PVC Round Snap in Floor Drain with lip - 3" 3/4" x 2" spigot threaded MPT PVC(spacer)	-
	37) Place PVC Round Snap in Floor Drain with lip and the Spigot threaded MPT PVC(spacer) assembly on top of the Spring	- 14 1/2 mm PVC Round Snap in Floor Drain with lip - 3" 3/4" x 2" spigot threaded MPT PVC(spacer) - spring	-
	38) Put Sealant on the entire Male Thread and lighter on the Female thread	- 3" PVC Male adaptor MIPT X Socket - 3" PVC Female adaptor MIPT X Socket	- Sealant
	39) Place the Female adaptor on top of the Male Adaptor.	- 3" PVC Male adaptor MIPT X Socket - 3" PVC Female adaptor MIPT X Socket	-
	40) Ensure to tightly seal the canister	- 3" PVC Male adaptor MIPT X Socket - 3" PVC Female adaptor MIPT X Socket	- Belt wrench
	41) Measure the gap of Male and female thread. Acceptable Gap is 7mm	- 3" PVC Male adaptor MIPT X Socket - 3" PVC Female adaptor MIPT X Socket	- Caliper

FLOW CHART	PROCESS	MATERIAL	MISCELLANEOUS TOOLS/MATERIALS
<pre> graph TD G{{G}} --> A[Screw the canister] A --> B[Dry] B --> C[End] </pre>			
	42) Seal the top portion of the Canister	- Canister - 3/8 MNPT to 3/8" push to Connect tube	-
	43) Let it Dry overnight	- Canister	-
	End	-	-