

## Secondary Moisture Trap

### Function and Operation:

The Masport Secondary Moisture Trap (Scrubber) is designed as a dual-function moisture trap (scrubber) and a secondary shut-off trap that removes liquids still in the air stream after passing through the Primary Shut-Off Trap and prevents it from entering the Vacuum Pump. Liquid entering the Vacuum Pump can damage or destroy it.

When the vacuum tank becomes filled, the primary trap float ball will rise and seat against the float seat closing off the line between the Primary and Secondary Trap. In the event that the Primary Shut-Off Trap fails or the tank fills so rapidly that there is a lag time between tank filling and primary float ball sealing, the overflow will collect in the Secondary Trap and shut off its float mechanism before liquid enters the pump. The Secondary Moisture Trap will also prevent liquid from entering the Vacuum Pump in the event that Primary Shut-Off Trap leaks due to movement of the tank contents during transportation.

After operating the Vacuum Pump, neutralize the pressure on the system and drain the Secondary Moisture Trap by opening the ball valve on the bottom of its body.



**Warning!** Do not open the ball valve when the tank is under vacuum or pressure. Doing so will allow contaminants into the pumping system that could cause damage to the Vacuum Pump or expel liquid waste onto the ground and operator.

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To ensure effective pump protection from contaminate overflow it is recommended that a Primary Shut-Off Trap is installed with a Secondary Moisture Trap (Scrubber).

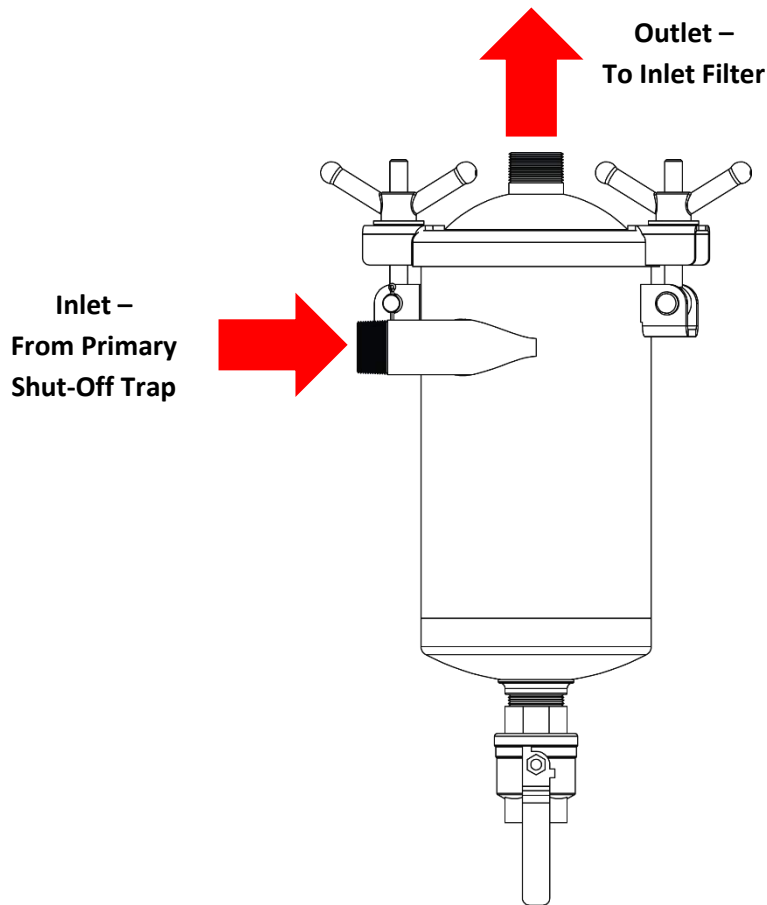
### Positioning:

The Masport Secondary Moisture Trap should be positioned on the truck in such a way as to have the outlet port in a vertical position. It should also be mounted near enough to the operator to allow it to be drained at the end of each pumping operation.

When determining the final location of the Secondary Moisture Trap, consideration should be given to the location of the Primary Shut-Off Trap, and the location of the Vacuum Pump. By carefully considering the placement of these components before installation, a reduction in plumbing, maintenance and operation costs can be achieved.

### Plumbing:

As shown in the Recommend System Component Diagram, the Secondary Moisture Trap has an inlet and an outlet. The inlet is on the side of the Secondary Moisture Trap body and is to be plumbed to the Primary Shut-Off Trap. The outlet is on the lid of the Secondary Moisture Trap and is to be connected to the line going to the Vacuum Pump.



Whatever the configuration of the vacuum system on your truck or trailer, all components and plumbing must be of adequate size or the system will not operate correctly.



**Warning!** Do not use a hose smaller than the porting size of the vacuum pump or the airflow will be restricted and the pump may overheat and be damaged.

If not included with the pump, a Vacuum Relief Valve should be installed between the Secondary Moisture Trap and the Vacuum Pump. This valve will serve to protect the pump from damage due to overheating in the event that the float-balls in either the Primary or Secondary Trap are activated by the tank being filled at a time when the operator is not immediately available to stop the system.

### **Service:**

A periodic check on the float seat, float balls and ball cage assembly is recommended. The frequency of inspection is dependent on variables such as type of material moved and the overall duty cycle of the system.

It is recommended to initially check every two to three months in order to establish an inspection program based on wear characteristics specific to your individual application.

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**Warning!** Do not attempt to remove the lid with pressure or vacuum on the system. Failure to do so could lead to equipment damage or catastrophic failure resulting in severe injury.

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## **Lid Installation:**

When replacing the lid, follow the below procedure:

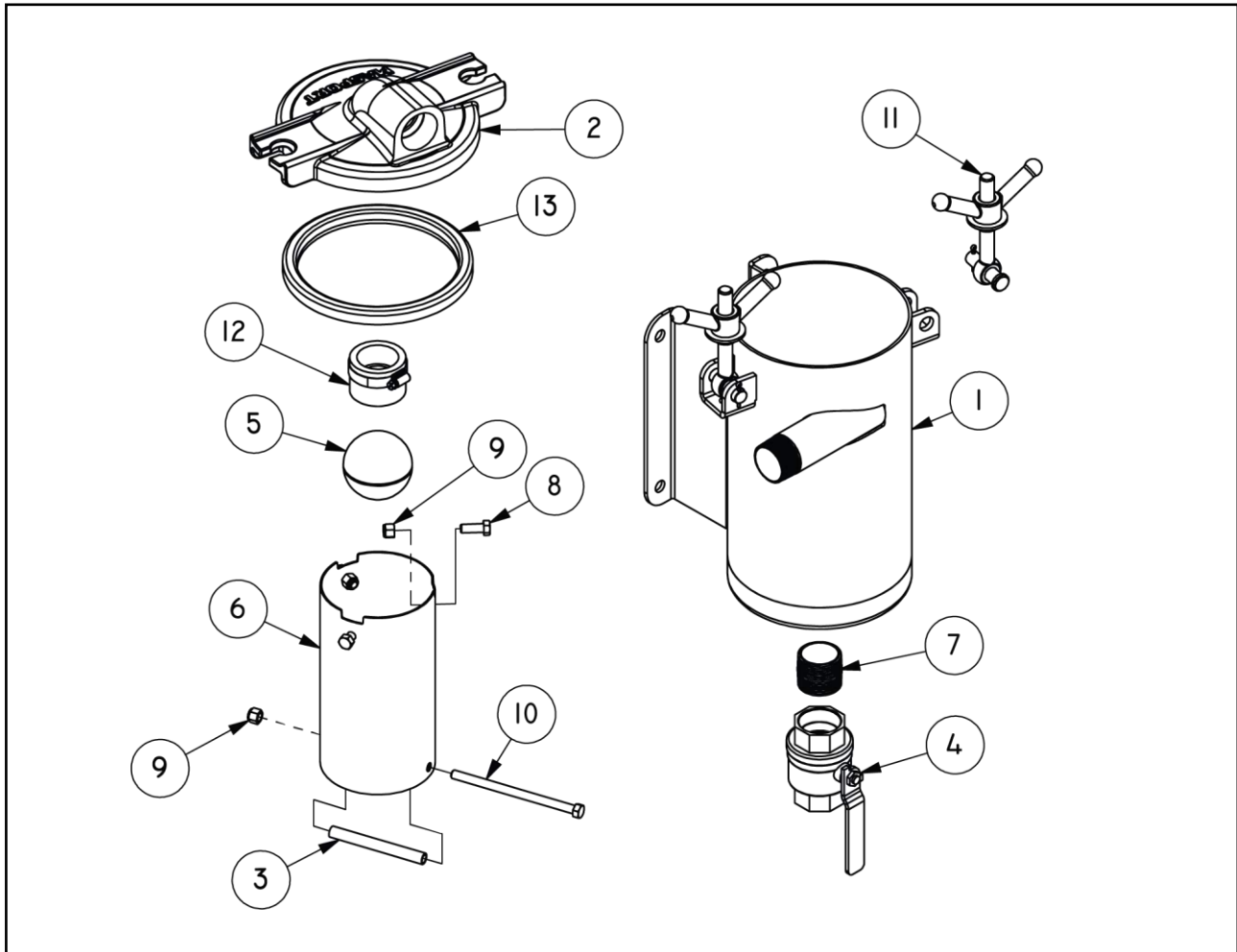
- ▶ Seat the lid onto the gasket and tighten the wingnuts.
- ▶ Start the vacuum pump and draw a vacuum on the tank
- ▶ As the vacuum increases in the tank external pressure will force the lid down. The wingnuts can then be tightened further as the lid has been pulled down into place by the vacuum.

This procedure will ensure a consistent pressure on the gasket.

## **Replacement Parts:**

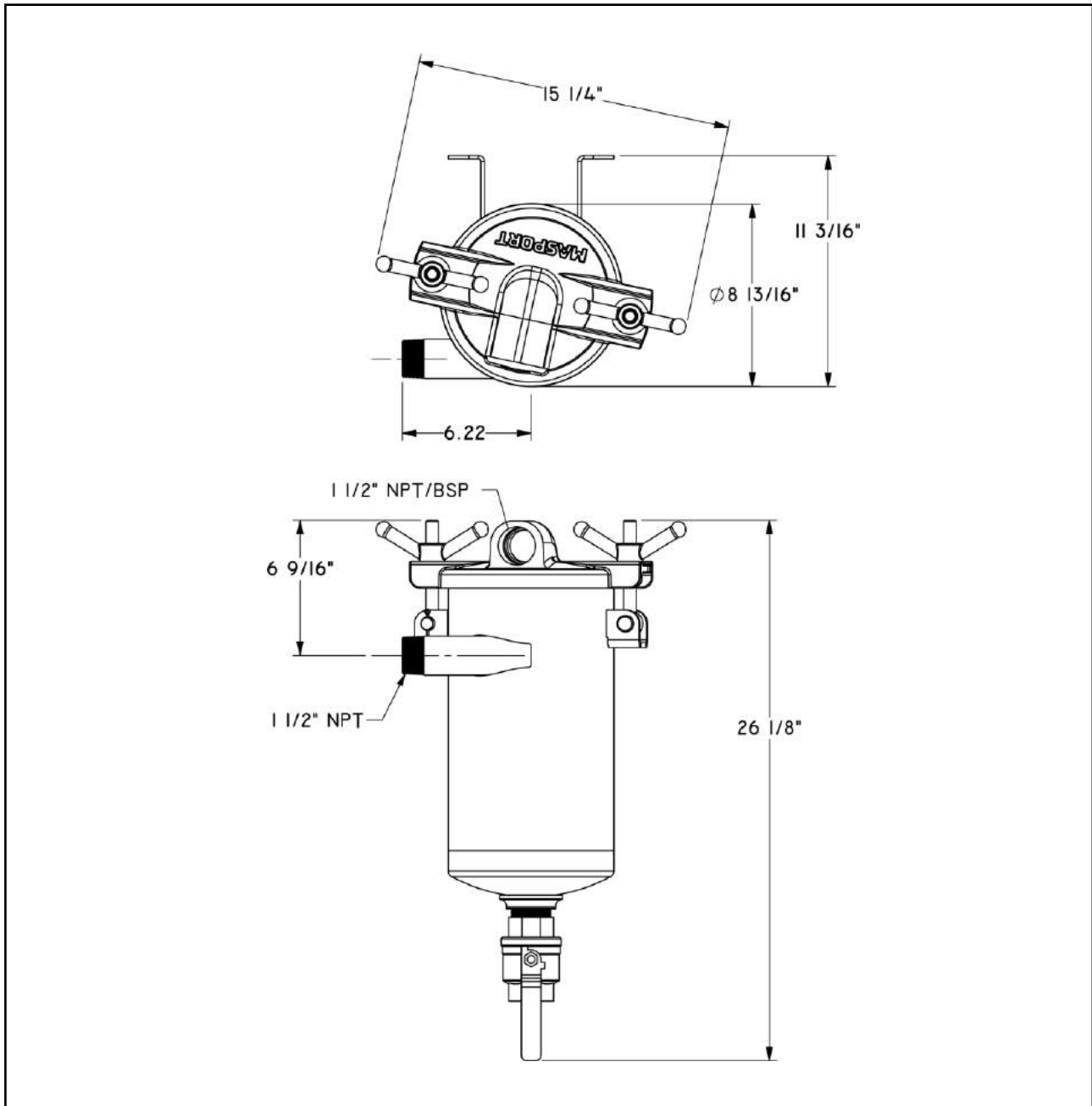
All replacement parts are readily available. Please contact an authorized Masport distributor or Masport directly.

**Exploded View – 1 1/2” NPT & BSP Top Opening:**



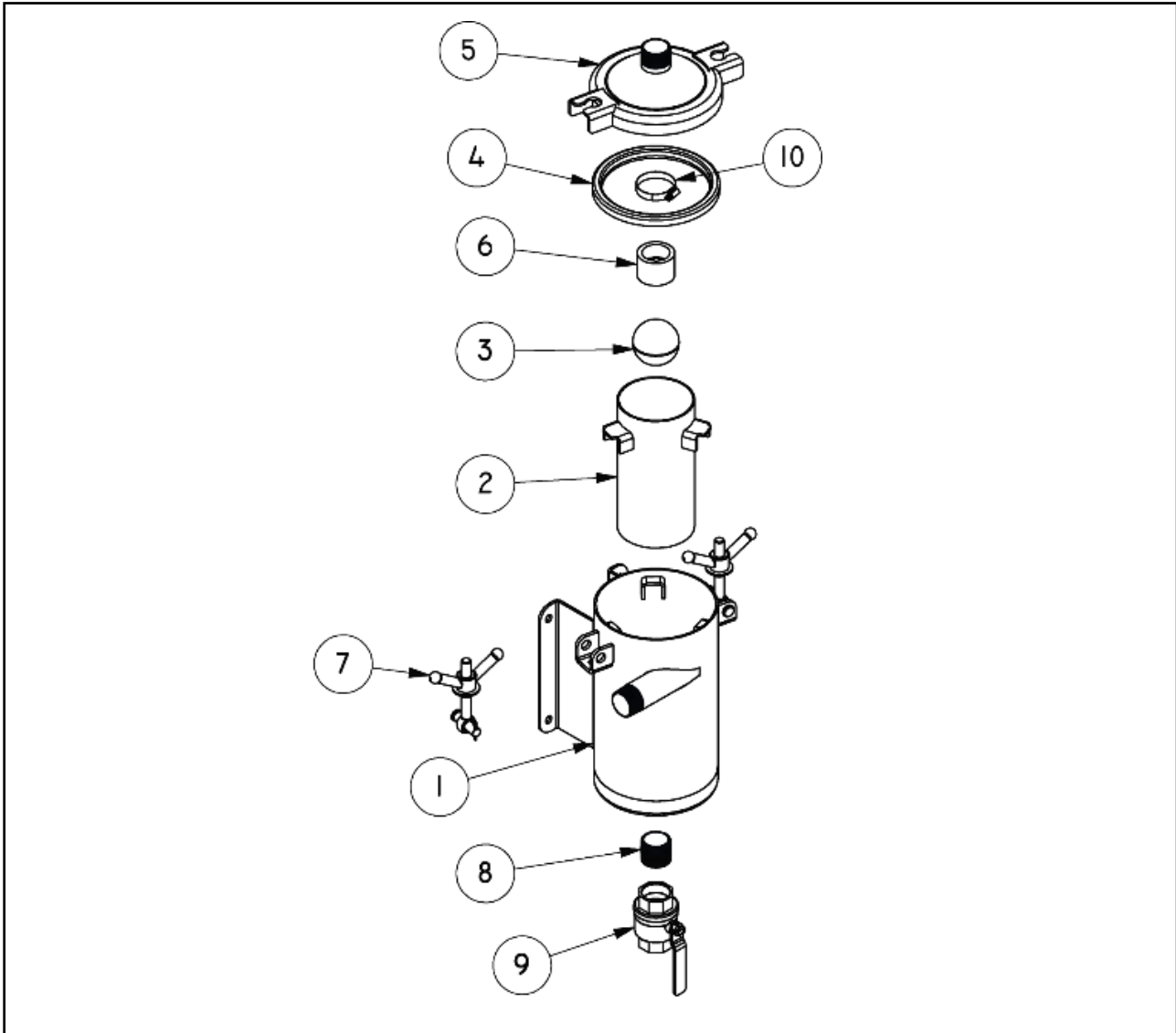
Ref	Description	1 1/2" NPT Painted 16422	1 1/2" NPT OEM 16423
1	Secondary Body	18411	18411
2	Secondary Lid	18577	18577
3	Tubing	24291	24291
4	Ball Valve	25155	25155
5	Float Ball	28005	28005
6	Secondary Cage	28213	28213
7	Close Nipple	30033	30033
8	3/8" x 1" Bolt	32265	32265
9	3/8" Nut	32287	32287
10	3/8" x 6" Bolt	32328	32328
11	Wingnut Assembly	32608	32608
12	Float Seat	36113	36113
13	Gasket	36516	36516

## Dimensional Data – 1 1/2" NPT & BSP Top Opening:



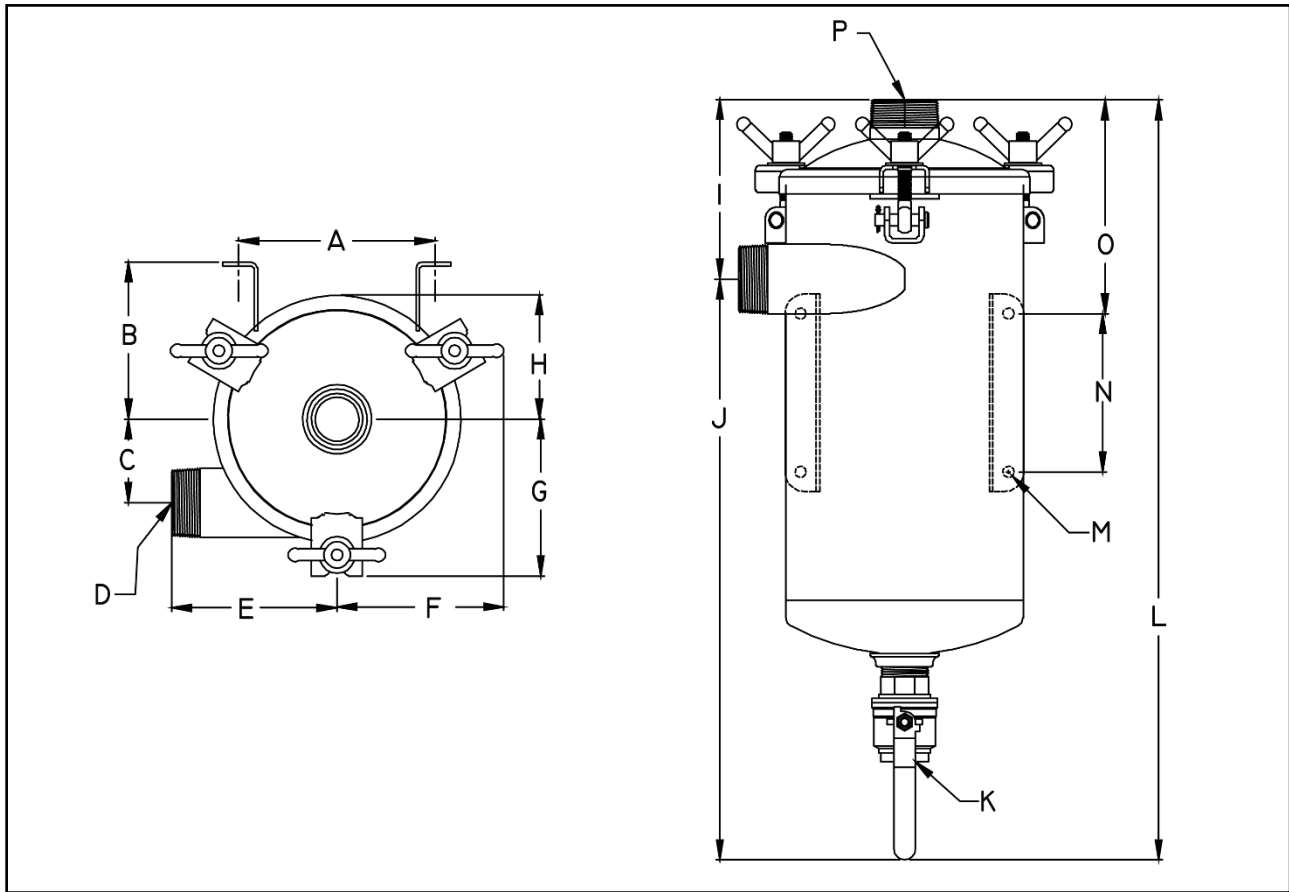
\* OEM Versions Supplied Less Mounting Brackets

**Exploded View – 3” NPT Top Opening:**



Ref	Description	2 1/2" NPT		3" NPT	
		Painted 16420	OEM 16421	Painted 16430	OEM 16431
1	Secondary Body	18389	18395	18390	18396
2	Secondary Cage	28204	28204	28205	28205
3	Float Ball	28000	28000	28003	28003
4	Gasket	36517	36517	36518	36518
5	Secondary Lid	18392	18398	18393	18399
6	Float Seat	36104	36104	36107	36107
7	Wingnut Assembly	32608	32608	32608	32608
8	Close Nipple	30033	30033	30033	30033
9	Ball Valve	25155	25155	25155	25155
10	Hose Clamp	24321	24321	24320	24320

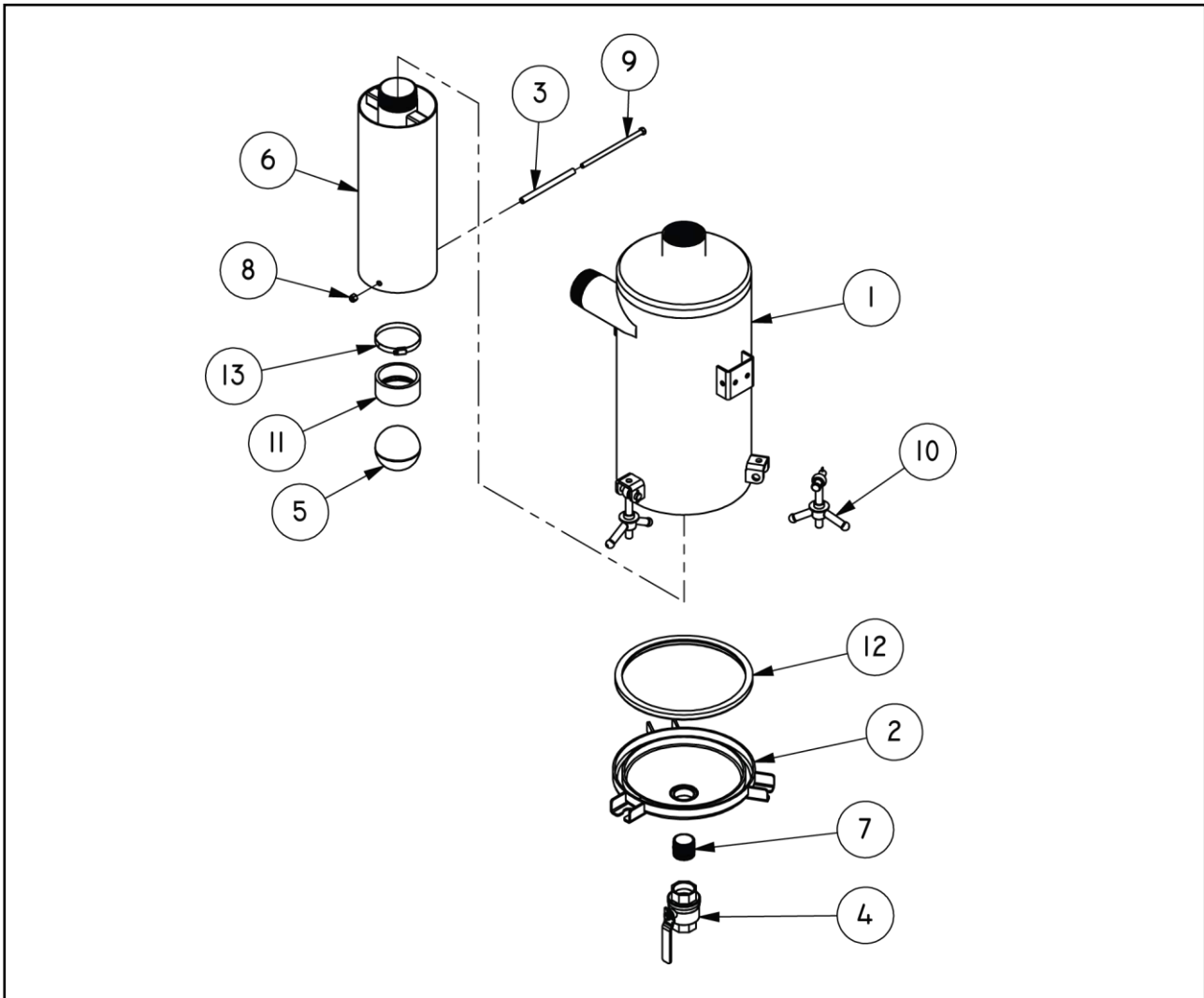
**Dimensional Data – 3” NPT Top Opening:**



Ref	2 1/2" NPT		3" NPT	
	Painted 16420	OEM 16421	Painted 16430	OEM 16431
A	8 7/16"		10"	
B	7 1/4"		7 15/16"	
C	3 9/16"	3 9/16"	4 1/4"	4 1/4"
D	2 1/2" NPT	2 1/2" NPT	3" NPT	3" NPT
E	8 3/8"	8 3/8"	8 3/8"	8 3/8"
F	7 9/16"	7 9/16"	8 7/16"	8 7/16"
G	6 15/16"	6 15/16"	7 15/16"	7 15/16"
H	5 1/4"	5 1/4"	6 15/16"	6 15/16"
I	9 3/16"	9 3/16"	9 1/16"	9 1/16"
J	24 3/4"	24 3/4"	27 5/8"	27 5/8"
K	1 1/2" NPT	1 1/2" NPT	1 1/2" NPT	1 1/2" NPT
L	35 11/16"	35 11/16"	38 7/16"	38 7/16"
M	9/16"		9/16"	
N	8"		8"	
O	11 13/16"		10 13/16"	
P	2 1/2" NPT	2 1/2" NPT	3" NPT	3" NPT

\* OEM Versions Supplied Less Mounting Brackets

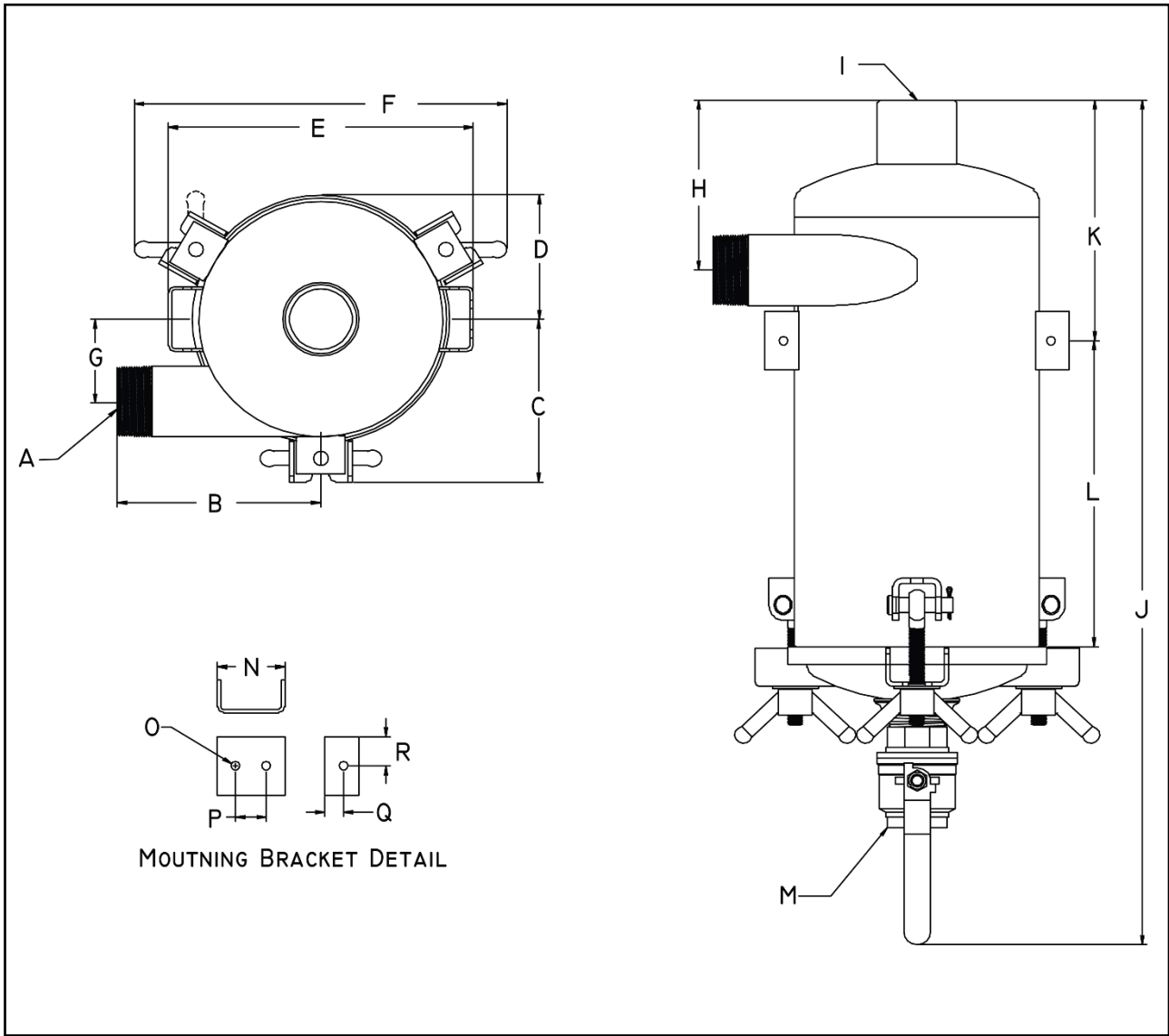
**Exploded View – BSP Bottom Opening:**



Ref	Description	3" BSP 16434
1	Secondary Body	18559
2	Secondary Lid	18561
3	Poly Tubing	24291
4	Ball Valve	25155
5	Float Ball	28001
6	Secondary Cage	28271
7	Close Nipple	30033
8	Nut 3/8"	32005
9	Bolt	32259
10	Wingnut Assembly	32608
11	Float Seat	36107
12	Gasket	36518
13	Hose Clamp	24320



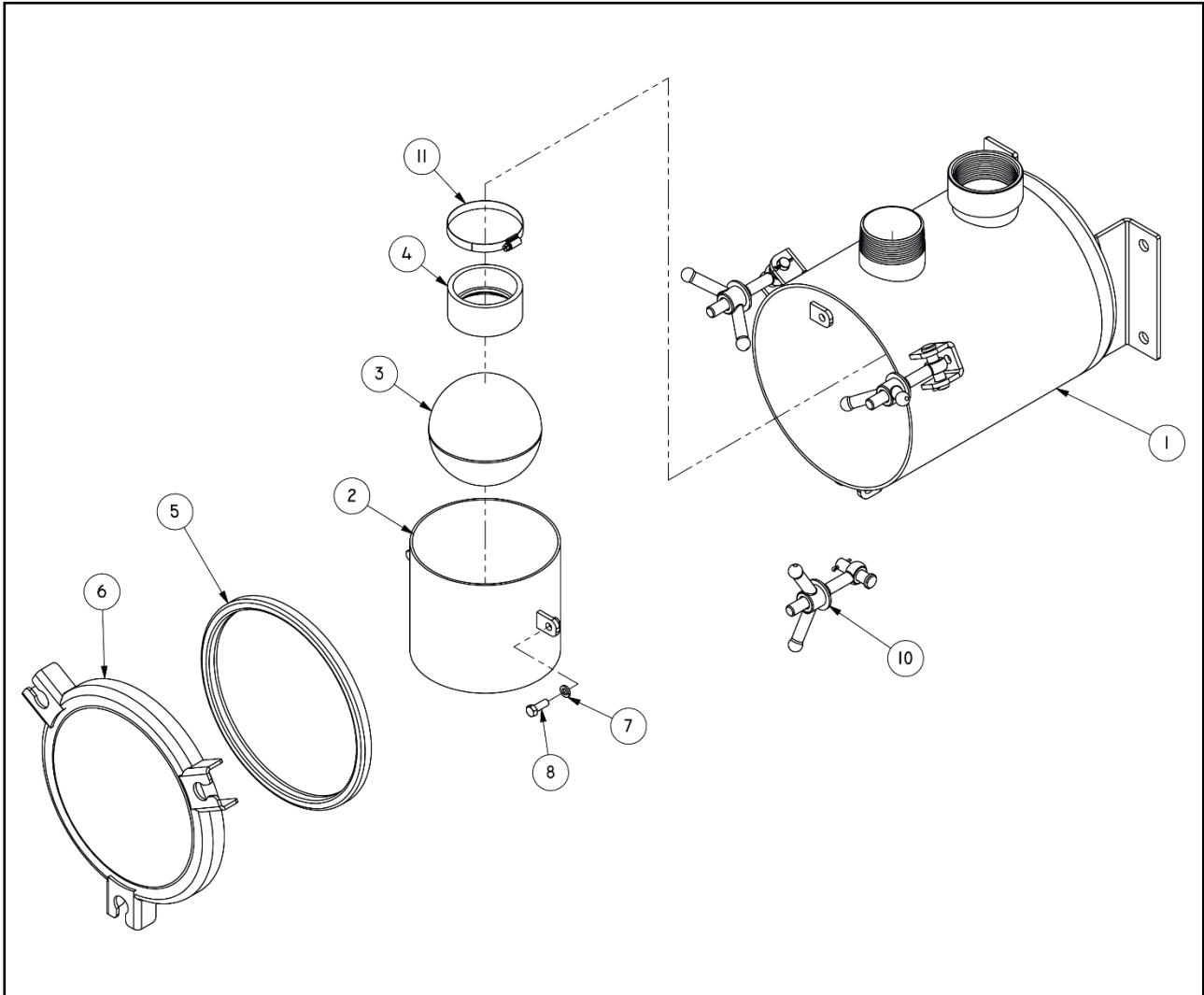
**Dimensional Data – BSP Bottom Opening:**



Ref	3" BSP 16434
A	3" Male BSP
B	214mm
C	202mm
D	160mm
E	368mm
F	429mm
G	108mm
H	243mm
I	3" Female BSP

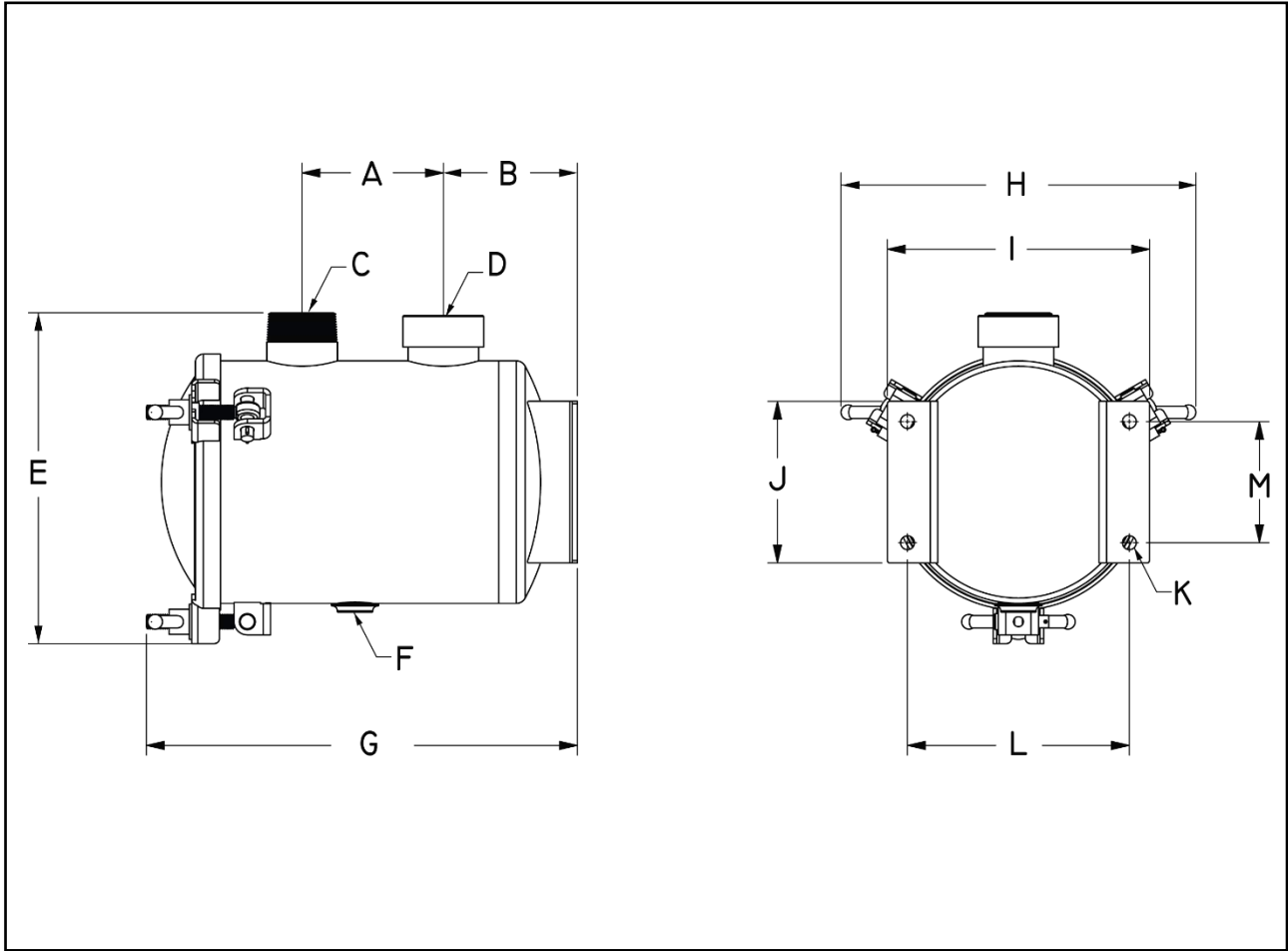
Ref	3" BSP 16434
J	981mm
K	310mm
L	345mm
M	1 1/2"
N	85mm
O	11mm
P	39mm
Q	18mm
R	38mm

**Exploded View – Horizontal**



Ref	Description	3" NPT 16184
1	Scrubber Body	18344
2	Scrubber Cage	28266
3	Float Ball	28003
4	Float Seat	36107
5	Gasket	36518
6	Scrubber Lid	18326
7	Washer	32267
8	Bolt	32205
9	Wingnut Assembly	32608
10	Hose Clamp	24320

**Dimensional Data – Horizontal:**



Ref	3" NPT 16184
A	7"
B	6 21/32"
C	3" Male NPT
D	3" Female NPT
E	16 3/8"
F	1"
G	21 3/8"
H	16 7/8"
I	13"
J	8"
K	9/16"
L	12"
M	6"