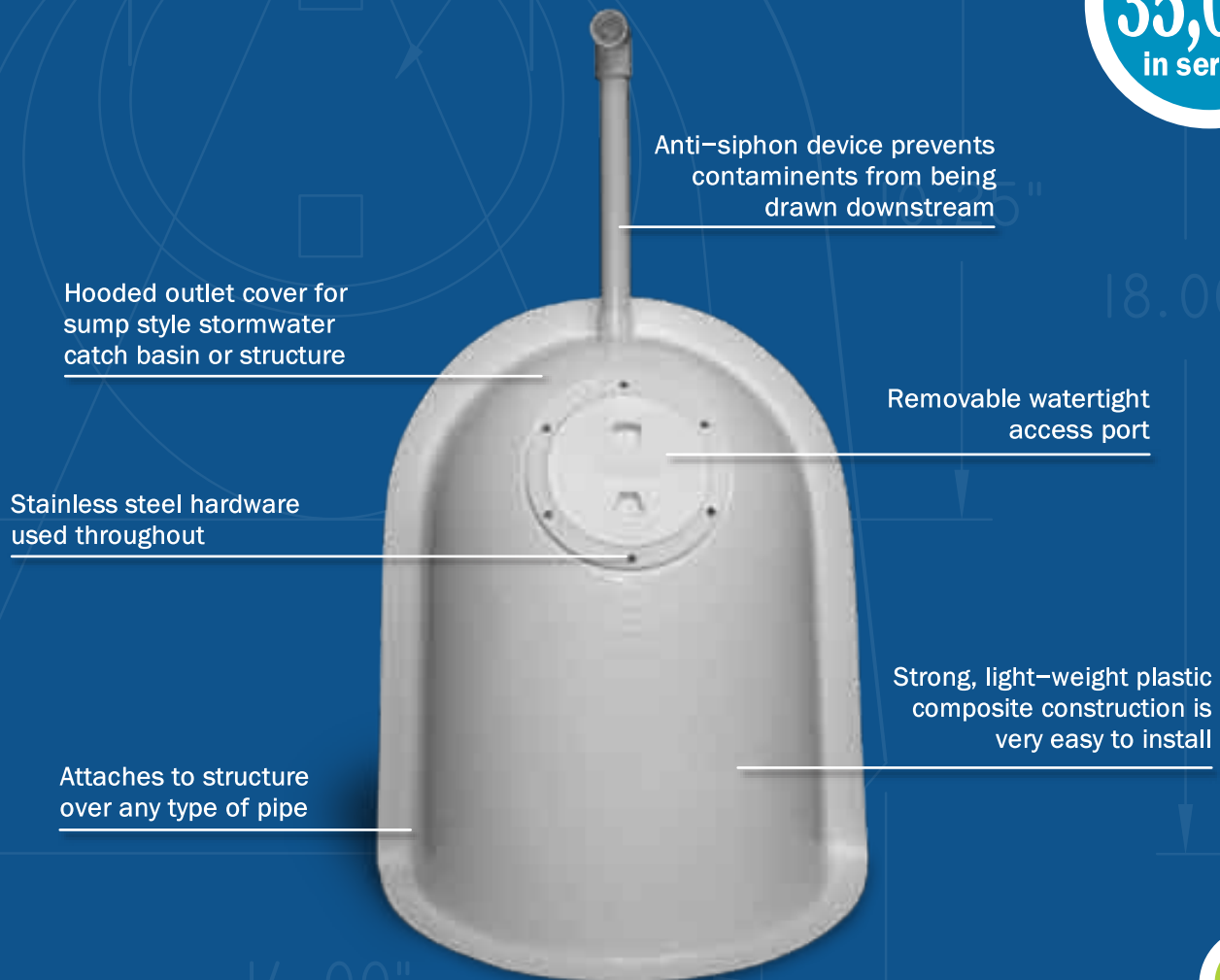


The SNOUT®

Oil-Water-Debris Separator

Affordable Stormwater Quality Improvement Systems

over
35,000
in service



US Patent 6126817 / Canadian Patent 2285146

- Converts any sumped catch basin or distribution structure into an oil-water-debris separator. Easy and inexpensive Best Management Practice for NPDES Phase II.
- Reduce discharge of floatables, trash, free-oils, sediment and grit.
- The Bio-Skirt® oil and bacteria reducing boom is an easy to add performance enhancing accessory.
- Flow restrictors, flow deflectors, trash screens and odor filters available.
- SNOUT system gives designers unlimited flexibility to match stormwater treatment options with application requirements. Use our parts with your structures.
- Units come in many sizes to accommodate discharge pipes from 2" to 72" ID.
- All units are high-flow designs
- Pipe and retention basin maintenance substantially reduced.

PRODUCTS FOR A BETTER ENVIRONMENT

Download drawings, specs and pricing at www.BMPINC.com

BMP

BEST MANAGEMENT PRODUCTS, Inc.
53 Mt. Archer Rd. Lyme, CT
800-504-8008 fax 877-434-3197
www.bmpinc.com

18R SNOUT



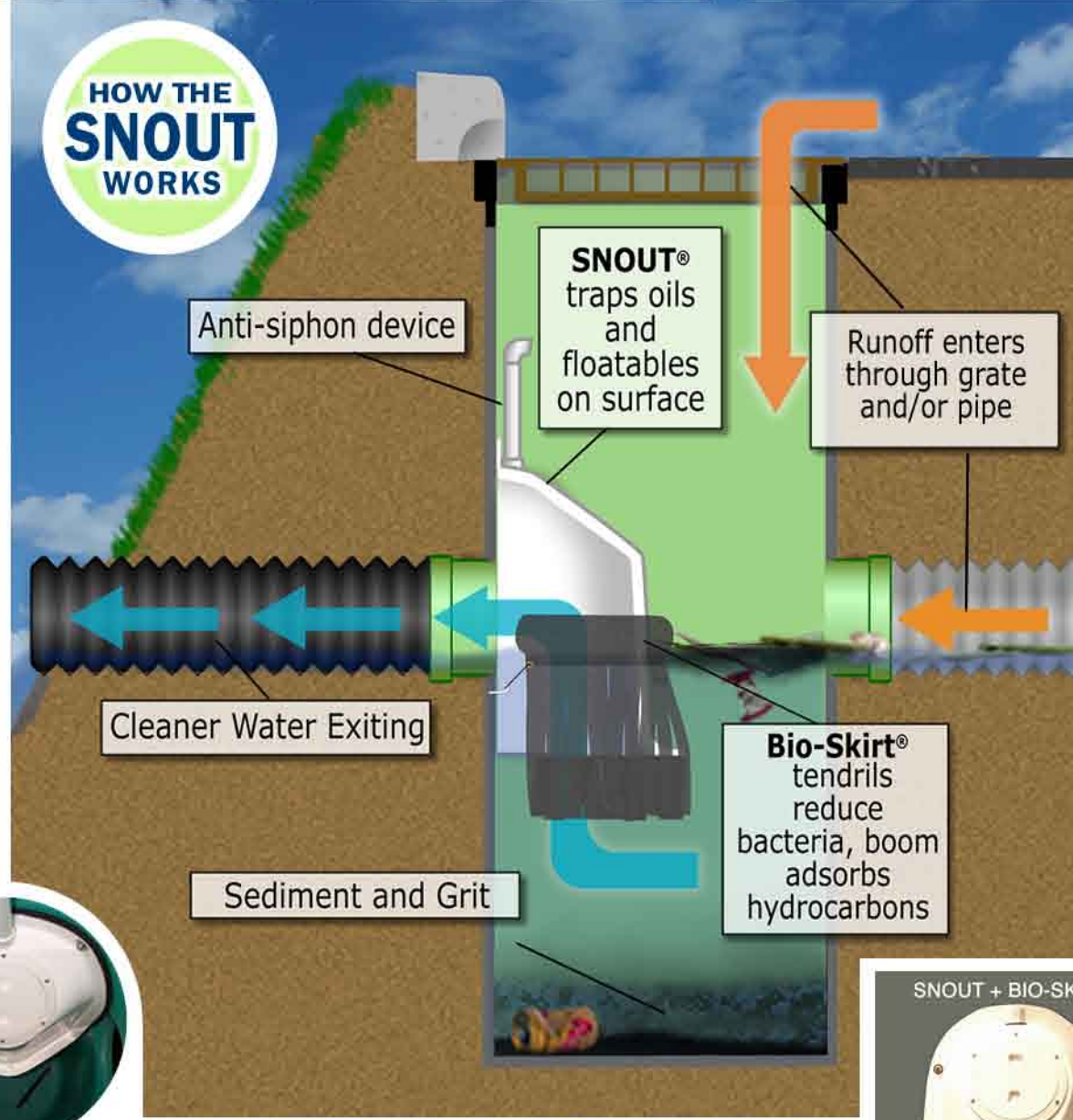
BMP's biggest SNOUTs, the 72F and 96F



SNOUT 24F



HOW THE SNOUT WORKS



NP 1218 SNOUT for Nyloplast® PVC catch basin



BEST MANAGEMENT PRODUCTS, INC.

For additional information, visit our website at www.bmpinc.com.
For technical support please call 800-504-8008 or 888-434-0277
Reach us via email at snouttech@bmpinc.com

SNOUT ® is a registered trademark of BMP, Inc.
Nyloplast ® is a registered trademark of ADS-Structures, Inc.

BEST MANAGEMENT PRODUCTS, INC.

The "SNOUT"® OIL & DEBRIS SEPARATOR SPECIFICATIONS

1. PRODUCT NAME

The "SNOUT"® Oil & Debris Separator
US Patent #6126817 Canada Patent# 2285146

2. MANUFACTURER

Best Management Products, Inc.
53 Mt. Archer Rd.
Lyme CT 06371
Phone: (860) 434-0277
Fax: (860) 434-3195
Toll Free: (800) 504-8008
E Mail: tjm@bmpinc.com
Web site: <http://www.bmpinc.com>

3. PRODUCT DESCRIPTION

Basic Application: The "SNOUT" Oil Water Debris Separator is a vented plastic composite hood that attaches to the wall of a stormwater quality or combined sewer structure over the outlet pipe in such a manner as to prevent the exit of floating debris, trash, grit, sediment and oil.

Advantages of The "SNOUT" Oil & Debris Separator

- Easy to install
- Easy to clean
- Very low head loss
- Reduces pipe cleaning maintenance
- Highly corrosion resistant
- Lightweight
- Converts existing structures into oil, debris, and sediment trap
- Prevents siphoning of trapped contaminants

Sizes F=(flat back, for square structures) and R= (round structures):

12F and **12R** for up to 11.9" pipe O.D. (R for 36"-48" I.D. manholes)

18F and **18R** for up to 17.9" pipe O.D. (R for 48"-60" I.D. manholes)

24F and **24R** for up to 23.9" pipe O.D. (R for 48"-60" I.D. manholes)

30F and **30R** for up to 29.9" pipe O.D. (R for 60"-72" I.D. manholes)

36F for up to 35.9" pipe O.D.

48F for up to 47.9" pipe O.D.

54R/72 for up to 53.9" pipe O.D. (for a 72" I.D. structure only)

72F for up to 71.9" pipe O.D.

96F for up to 95.9" pipe O.D.

For Nyloplast PVC Structures: **NP1218** (up to 12" pipe in 18" ID basin), **NP1524** (up to 15" pipe in 24" ID Basin), **NP1830** (up to 18" pipe in 30" ID basin), **NP2430** (up to 24" pipe in (30" ID basin).

BEST MANAGEMENT PRODUCTS, INC.

The "SNOUT"[®] OIL & DEBRIS SEPARATOR SPECIFICATIONS

Composition and Materials: The "SNOUT" is hand fabricated from marine grade fiberglass. The attachment hardware is 18-8 stainless steel, the anti-siphon device is schedule 40 PVC and the access hatch is ABS plastic.

These materials have proven to be extremely durable and maintenance free.

The "SNOUT" is adaptable to any type catch basin construction and is available in flat or curved back styles.

4. TECHNICAL DATA

The "SNOUT" Oil & Debris Separator components consist of

- 1) Standard size composite Hood
- 2) Gasket, screw down, water tight, clean-out access port
- 3) Stainless steel mounting hardware
- 4) PVC SCH40 fittings and pipe for anti-siphon device
- 5) Pressure sensitive oil resistant foam rubber gasket

"SNOUT" composite components are hand and chopper gun laminations of these properties:

Physical Properties of Unsaturated Polyester Resin Reinforced Laminates (33 / 66 Glass / Resin 1.5 oz mat Laminates .125 in.)

Flexural Strength (psi)	ASTM D-790	27,100
Flexural Modulus (psi)	ASTM D-790	1,157,000
Tensile Strength (psi)	ASTM D-638	16,700
Tensile Modulus (psi)	ASTM D-638	1,457,000
Tensile Elongation (%)	ASTM D-638	1.54
Hardness, Barcol 934.1	ASTM D-2583	55 - 60

Physical Properties of ISO Gel Coat

	Room Temperature Cured for 45 hours	Post Cured at 50° for 24 hours
Tensile Strength	6,218	6,581
Elongation, %	2.70	1.90
Flexural Strength, psi	11,363	11,329
Heat Distortion, °F	0.544 x 10 ⁶	0.713 x 10 ⁶
Mandrel Flex, Mandrel diameter in Inches	--	1.0

BEST MANAGEMENT PRODUCTS, INC.

The "SNOUT"® OIL & DEBRIS SEPARATOR SPECIFICATIONS

Sample Specification for "SNOUT" OIL & DEBRIS SEPARATOR:

All new and / or existing catch basins or water quality structures shall be outfitted with the BMP, Inc. "SNOUT" Oil-Water-Debris Separator covering the exit pipe. The size and position of the SNOUT shall be determined by pipe style and sump depth per manufacturer's recommendations. The anti-siphon device shall extend above the flood level of the structure where practical (a 12" length of vent pipe is included in the installation kit.) The hood shall be securely attached to the catch basin wall with 3/8" stainless steel bolts and sealed to the structure with marine silicone adhesive or gasket material supplied in optional installation kit. The "SNOUT" Oil & Debris Separator is manufactured by Best Management Products, Inc. (800-504-8008, www.bmpinc.com)

5. INSTALLATION

1. Select the "SNOUT" Oil & Debris Separator of size and configuration to fit application.
2. Center the "SNOUT" directly over the exit pipe so that the entire pipe is covered.
3. Position the "SNOUT" so that the lower edge of the hood is at least 1/2 the pipe diameter below the lowest inside point of the pipe (minimum of 6" below invert).
4. Drill equally spaced 7/16" holes through the "SNOUT" flange.
5. Mark and drill catch basin and install the tamp-in lead anchors.
 - (1) Drill a hole into the base material to the required depth. (The tolerances of the drill bit used should meet the requirements of ANSI Standard B212.15.)
 - (2) Blow the hole clean of dust and other material.
 - (3) Insert the anchor into the hole (Lead shield up)
 - (4) Position the setting tool in the anchor. (The outer rim of the tool should seat onto the lead shield rim.)
 - (5) Using the tool, set the anchor by driving the lead sleeve over the cone using several sharp hammer blows. (Be sure the anchor is at the required embedment depth.)
 - (6) Position the fixture, insert screw or bolt and tighten.
6. Remove PSA backing and with firm pressure, attach gasket strip to back of flange and trim excess.
7. Remove backing and apply the supplied PSA gasket from kit to flange around back of "SNOUT".
8. Attach the "SNOUT" to the catch basin wall with 3/8" diameter stainless steel bolts in lead expansion anchors. Do not over tighten, 10-15 foot pounds should be sufficient.
9. Cut the anti-siphon vent stack to length and attach to hood at slip adapter with PVC cement.

BEST MANAGEMENT PRODUCTS, INC.

The "SNOUT[®]" OIL & DEBRIS SEPARATOR SPECIFICATIONS

10. Attach 90 degree fitting to vent stack with PVC cement. Ensure that fitting opening is accessible for maintenance and inspection.

SNOUT Installation Kit Items

- (4-16) expansion anchors
- (4-16) 3/8 x 1" stainless steel bolts
- (4-16) stainless steel washers
- (1) PSA backed gasket strip sized to unit
- (1) 1" diameter 24" length PVC pipe
- (1) 90 degree elbow

6. AVAILABILITY AND COST

The "SNOUT" is manufactured by Best Management Products, Inc. and is available through them at:

BEST MANAGEMENT PRODUCTS, INC.

53 Mt. Archer Rd.

Lyme CT 06371

860-434-0277 860-434-3195 fax, or Toll Free 800-504-8008.

Email: tjm@bmpinc.com

The SNOUT is also offered by authorized distributors of quality wastewater products in North America. For a list of suppliers, visit our web site at www.bmpinc.com

7. WARRANTY

Best Management Products, Inc. warrants for a period of one year from date of delivery to the original purchaser that the product is free from defects in material and workmanship. BMP, Inc. makes no other warrant of any kind, expressed or implied, in fact or in law, including without limitation, the warranty of merchantability or the warranty of fitness for a particular purpose other than the warranty set forth above. Failure to follow the instructions for installation provided by BMP, Inc. will void this warranty.

8. MAINTENANCE

Normal maintenance consists of routine inspection and rinsing with a hose or pressure washer during the cleaning sequence of the catch basin and flushing the anti-siphon vent with water or air to verify that it is clear.

9. TECHNICAL SUPPORT

For technical consultation or additional information, and for custom design and fabrication services, please contact T.J. Mullen at (800) 504-8008 (tjm@bmpinc.com) or Lee Duran (888) 434-0277 (duran@reliner.com).

Visit our web site at: <http://www.bmpinc.com>

13 November 2007

Mr. T.J. Mullen
Best Management Products, Inc.
53 Mount Archer Road
Lyme, Connecticut 06371

Dear Mr. Mullen:

As part of the 2002 – 2003 watershed project for Lake Peekskill, SNOUT stormwater retrofits were installed in the Town of Putnam Valley. These retrofits were chosen since large, structural Best Management Practices (BMPs) would be difficult to install these residential areas. On 9 May 2003, the Putnam Valley Department of Public Works installed two SNOUT devices into two previously identified catch basins. The SNOUTs were monitored four times during 2003; 18 September, 25 September, 12 December, and 29 December. Stormwater samples were collected entering and exiting the SNOUT retrofitted catch basins and were analyzed for total phosphorus (TP) and total suspended solids (TSS). In order to estimate the pollutant loads entering and exiting the devices, rainfall data (Northeast Regional Climate Center: <http://climod.nrcc.cornell.edu/>), measured pollutant concentrations, and the immediate drainage area were used. Specifically, the following equation was used to estimate the pollutant load entering and exiting the SNOUT devices:

$$L = R * A * C$$

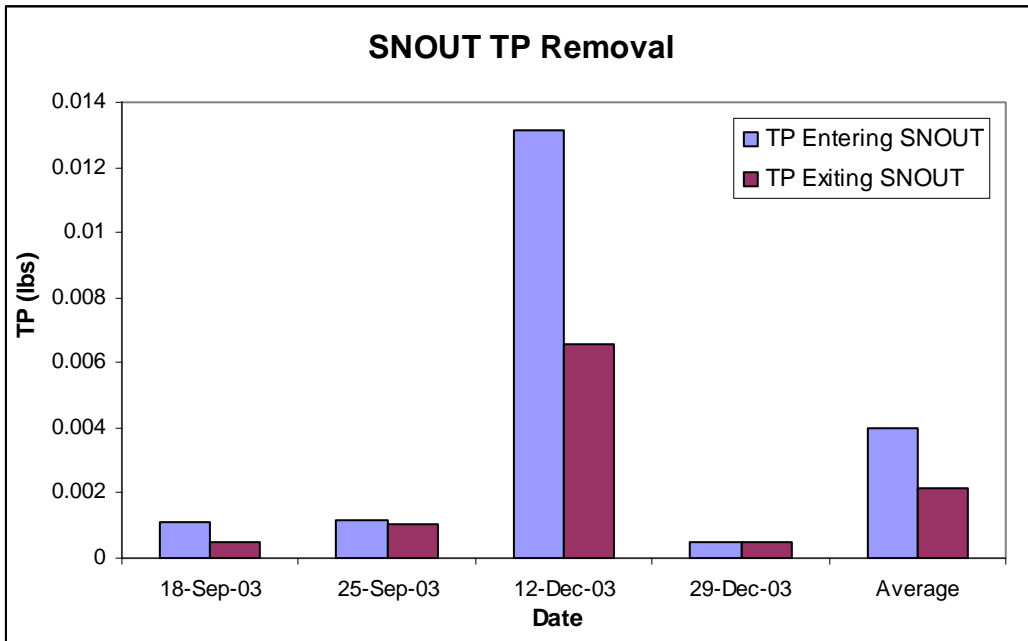
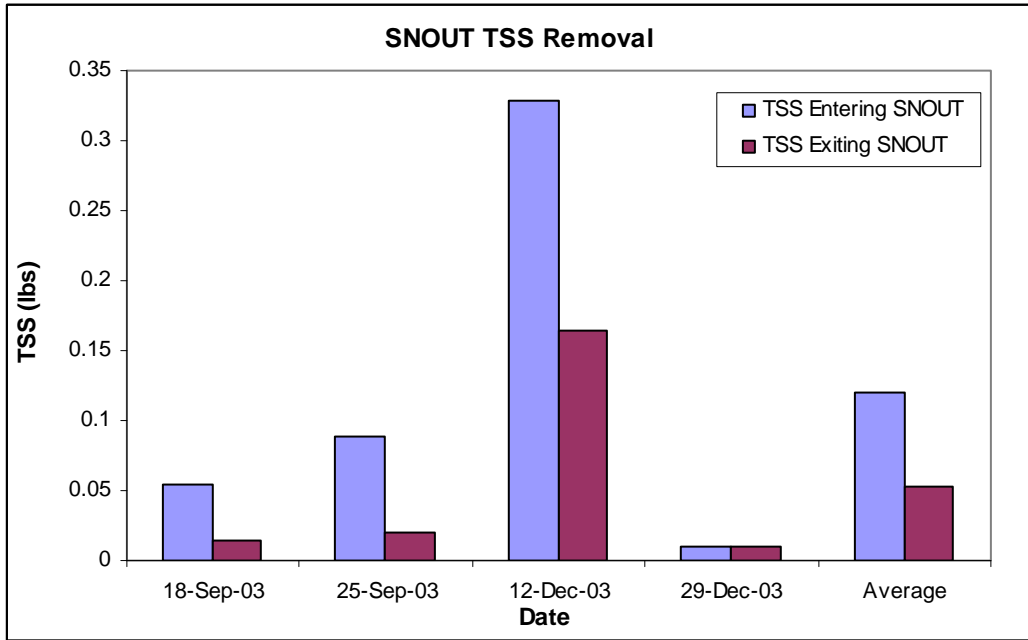
Where L = Pollutant load (lbs)
R = Rainfall during sampling event (meters)
A = Drainage area (m²)
C = pollutant concentration (mg/ L)

It should be noted that rainfall data during the 29 December 2003 sampling event was not available through the Cornell Climod database; thus, Princeton Hydro estimated the amount of rainfall to be 0.1 inches. In addition, the area of land draining into the SNOUT devices were estimated to be 880 m², using ArcGIS and the limited existing topographic data. The SNOUT devices removed both TSS and TP from stormwater entering the SNOUT devices from the surrounding drainage area. On average the SNOUTs reduced TSS by 56% and TP by 46%. Please refer to the figures at the end of this document for additional removal data. Please note that these are rough estimates since the exact drainage area and amount of rainfall were approximated.

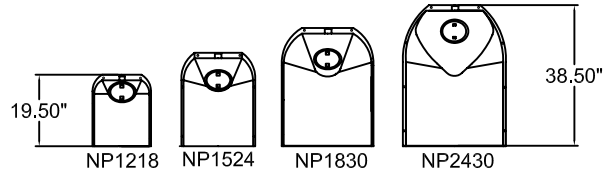
Based on these data, the SNOUT-modified catch basins demonstrated the potential to remove the TSS and TP pollutant loads originating from surface runoff. If you have any questions or comments, please contact us at (610) 524 – 4220.

Sincerely,

Mary Lambert
GIS Specialist/ Scientist

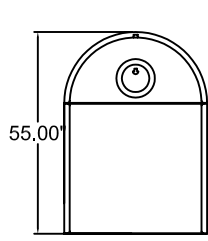
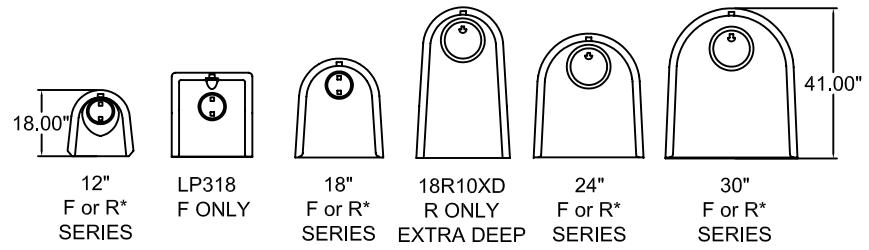


NYLOPLAST SNOOTS FOR PVC STRUCTURES

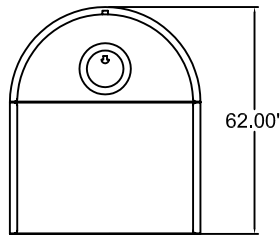


BEST MANAGEMENT PRODUCTS, INC., LYME, CT
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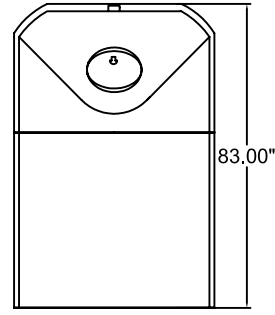
SNOUT RELATIVE SIZE COMPARISON



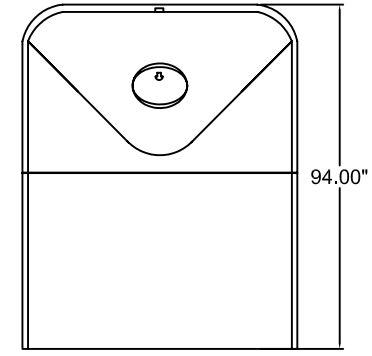
36F 2 PC
FLAT
ONLY



48F 2 PC
FLAT
ONLY



52R/72 2 PC
ROUND ONLY
(FOR 72" DIAM. STRUCTURE)



72R/96 2 PC
ROUND ONLY
(FOR 96" DIAM. STRUCTURE)

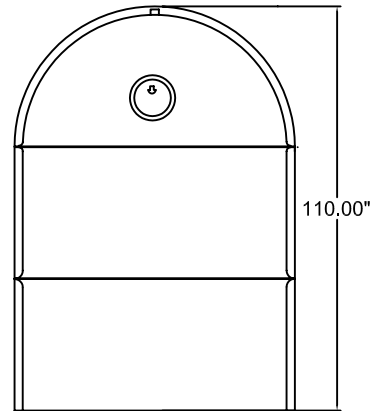
*** R SERIES STRUCTURE INSTALLATION NOTE:**

- 12R- FITS 36-48" DIAM.
- 18R- FITS 48-60" DIAM.
- 24R- FITS 48-60" DIAM.
- 30R- FITS 60-72" DIAM.
- 52R- FITS 72" DIAM. ONLY
- 72R- FITS 96" DIAM. ONLY
- NP1218- FITS 18" DIAM. ONLY
- NP1524- FITS 24" DIAM. ONLY
- NP1830- FITS 30" DIAM. ONLY
- NP2430- FITS 30" DIAM. ONLY

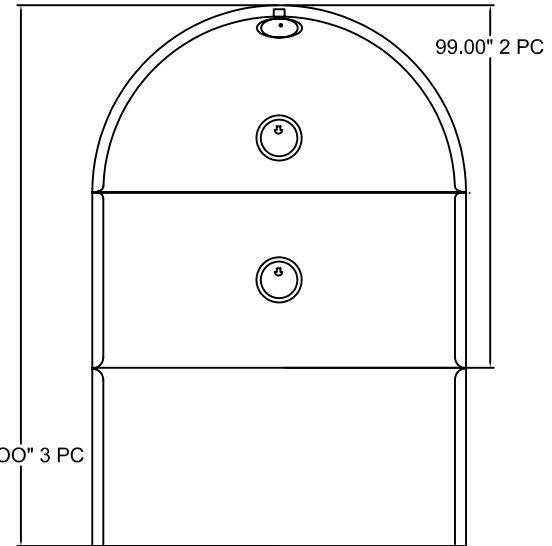
MAX. PIPE ID SIZE RECOMMENDATION:**

- LP318 12" PIPE, *LOW FLOW ONLY*
- 12" SNOUT- 10" PIPE; 18" SNOUT- 15" PIPE;
- 24" SNOUT- 18" PIPE; 30" SNOUT- 24" PIPE;
- 36F SNOUT- 30" PIPE; 48F SNOUT- 36" PIPE;
- 52R SNOUT- 42" PIPE; 72" SNOUT- 60" PIPE;
- 96F- 72" PIPE

****PIPE MUST ALWAYS HAVE SMALLER OD THAN NOMINAL SNOUT SIZE REGARDLESS OF PIPE ID**



72FTB 2PC
FLAT ONLY
72FTBB 3 PC



96FTB 2 PC
FLAT ONLY
96FTBB 3PC

BEST MANAGEMENT PRODUCTS, INC.

The SNOOT® INSTALLATION INSTRUCTIONS

U.S. Patent # 6126817 Canadian Patent #2285146



PRODUCT NAME

The SNOOT® Oil-Water-Debris Separator

U. S. Patent # 6126817

Canadian Patent # 2285146

MANUFACTURER

Best Management Products, Inc.

53 Mt. Archer Rd.

Lyme CT 06371

Phone: (800) 504-8008

Fax: (410) 687-6757

E Mail: tjm@bmpinc.com, duan@bmpinc.com

Web site: <http://www.bmpinc.com>

PRODUCT DESCRIPTION

Basic Application: The SNOOT® Oil-Water-Debris Separator is a patented plastic composite hooded outlet cover that attaches to the wall of a stormwater catch basin or other water-quality structure over the outlet pipe in such a manner as to prevent the exit of floating debris and oil.

Composition and Materials: The SNOOT® is hand fabricated from marine grade fiberglass. The attachment hardware is 18-8 stainless steel, the anti-siphon device is schedule 40 PVC and the access hatch is ABS plastic.

These materials have proven to be extremely durable and maintenance free.

The SNOOT® is adaptable to any type catch basin construction and is available in flat or curved back styles.

INSTALLATION

1. Select the SNOOT® Oil-Water-Debris Separator of size and configuration to fit application. (Our SNOOTS are numbered to reflect that they will fit over a pipe with an outside diameter no greater than that number. Example: An 18" SNOOT® will fit over a pipe with an outside diameter no greater than 18". Select F for flat-walled structures and R for round-walled structures.)

BEST MANAGEMENT PRODUCTS, INC.

The SNOOT® INSTALLATION INSTRUCTIONS

U.S. Patent # 6126817 Canadian Patent #2285146

2. Center the SNOOT® directly over the exit pipe so that the entire pipe is covered and so that the lower edge of the hood is at least 1/2 the pipe diameter below the lowest inside point of the pipe (deeper is even better.)
3. Drill * equally spaced 7/16" holes through the SNOOT® flange. (*Number of holes vary depending on size of SNOOT®.)
4. Mark and drill catch basin and install the tamp-in lead anchors.
 - (1) Drill a 3/4" hole into the base material to the required depth (approximately 1-1/4" deep.)
 - (2) Blow the hole clean of dust and other material.
 - (3) Insert the anchor into the hole. Narrow end of cone must point out, lead shield slides over cone.
 - (4) Position the setting tool or a 9/16 socket against the anchor outer cone. (The outer rim of the tool or socket should seat onto the lead shield rim.) Set the anchor by driving the lead sleeve over the cone using several sharp hammer blows. Be sure the anchor is at the required embedment depth (flush or slightly below face of concrete)
5. Attach the vent pipe adapter in the pre-drilled hole in the top of the SNOOT® using the 2 flat O ring gaskets and PVC lock-nut supplied in the kit. Install with female slip adapter up and a washer on each side of the SNOOT® shell. Tighten lock-nut hand tight.
6. Remove PSA backing and with firm pressure, attach gasket strip(s) to back of flange and trim excess.
7. Attach the SNOOT® to the catch basin wall with 3/8" diameter stainless steel bolts in lead expansion anchors. Do not over tighten; 10-15 foot-pounds should be sufficient.
8. Cut the anti-siphon vent stack to length and attach to hood at slip adapter with PVC cement.
9. Attach 90 degree fitting to vent stack with PVC cement. Ensure that fitting opening is accessible for maintenance and inspection.

SNOOT® Installation Kit Items included with each SNOOT® (Number and sizes will vary with size of SNOOT®)

- () 3/8" expansion anchor assemblies (anchors, stainless bolts & stainless washers)
- (1) 1" or 2" female pipe adapter
- (2) Neoprene O rings
- (1) PVC lock-nut
- () PSA backed gasket strip(s)
- (1) 1" or 2" diameter 12" length PVC pipe
- (1) 90 degree elbow

BEST MANAGEMENT PRODUCTS, INC.
The SNOOT® INSTALLATION INSTRUCTIONS
U.S. Patent # 6126817 Canadian Patent #2285146
EXTRA INSTALLATION INSTRUCTIONS for a Two-Part
SNOOT®

Larger size SNOOTS are shipped knocked down in two parts. Therefore it will be necessary to site assemble the two halves. Use the supplied gasket(s) to make the connections between the 2 parts of the SNOOT® and the SNOOT® & the wall of the structure. Overlap intersecting gaskets approximately 1" to insure a good seal.

- (1) Stand base section upright & install one of the PSA-backed gaskets to the top connecting flange. Trim excess and save.
- (2) Place dome part on the base section and temporarily clamp together to align.
- (3) Locate evenly spaced bolt locations along connecting flange.
- (4) Drill holes to receive the 1" x 3/8" SS bolts, nuts and washers.
- (5) Remove clamps.
- (6) Bolt the dome to the base after lowering the two halves into the structure.

Continue with instructions above starting with step #1 for one-part SNOOT® installation.

2-Part SNOOT® Installation Kit Items included with each SNOOT® (Number and sizes will vary with size of SNOOT®)

- () 3/8 x 1" stainless steel bolts, washers and nuts. The correct amount for connecting the two halves will be supplied.
- () 3/8" expansion anchor assemblies (anchors, stainless bolts & stainless washers)
- (1) 1" or 2" female pipe adapter
- (2) Neoprene O rings
- (1) PVC lock-nut.
- () PSA backed gasket strips. Enough gasketing material will be provided to gasket between the two halves and around the outside of the SNOOT® flange against the structure wall.
- (1) 1" or 2" diameter 12" length PVC pipe
- (1) 90 degree elbow

Optional Flow Restrictors for flow control are available for the 12" 18" and 24" SNOOTS

Flow Restrictor Installation Instructions:

1. Attach Flow Restrictor to SNOOT®
 - (a) Position the Flow Restrictor Plate on the SNOOT® bottom flange with the smooth side facing up.
 - (b) Align the back edges of both the SNOOT® and Flow Restrictor and drill five equally spaced holes 1/4" diameter through both flanges.
 - (c) Remove gasket backing and with firm pressure attach gasket strip to the bottom flange of the SNOOT® where it mates with the Flow Restrictor and also across its back (wall) flange. Overlap any intersecting gaskets approximately 1" to insure a good seal.
 - (d) Bolt the Flow Restrictor to the SNOOT®

BEST MANAGEMENT PRODUCTS, INC.

The SNOOT® INSTALLATION INSTRUCTIONS

U.S. Patent # 6126817 Canadian Patent #2285146

(e) Insert your pre-slotted standpipe into the sleeve in the Flow Restrictor base so that the bottom (inlet) of the pipe is at least 1/2 the outlet pipe diameter below the lowest inside point of the outlet (min. of 6" below plate.) Secure the standpipe with a rubber coupler (FERNCO type).

2. Center the SNOOT® directly over the outlet pipe so that the entire pipe is covered and so that the exit pipe is inside the hood and is as close to the bottom edge of the hood as possible. NOTE!! This is the correct location for a SNOOT® with a Flow Restrictor.

Flow Restrictor Basic Kit

- (1) Flow Restrictor
- (1) PSA backed gasket strip(s)
- (5) 1" X 1/4" stainless steel bolts
- (5) 1/4" stainless steel lock-nuts

Also Required

- (1) size x size rubber coupler (FERNCO type)
- (1) PVC pipe

MAINTENANCE

The catch basin should be emptied of debris and the accumulated solids removed as required by site conditions or at least once a year. BMP recommends scheduling maintenance when sump is half full, or six inches of floatable pollutants accumulate on the surface. The SNOOT® itself requires no real maintenance other than routine inspection and rinsing with a hose or pressure washer during the cleaning sequence of the catch basin and flushing the anti-siphon vent with water or air to verify that it is clear.

TECHNICAL SUPPORT

For technical consultation or additional information, and for custom design and fabrication services, please contact

T.J. Mullen at (800) 504-8008 (tjm@bmpinc.com) or
Lee Duran at (888) 434-0277 (duran@bmpinc.com).

Visit our web site at: <http://www.bmpinc.com>

BEST MANAGEMENT PRODUCTS, INC.

The SNOUT® INSTALLATION INSTRUCTIONS

U.S. Patent # 6126817 Canadian Patent #2285146

