



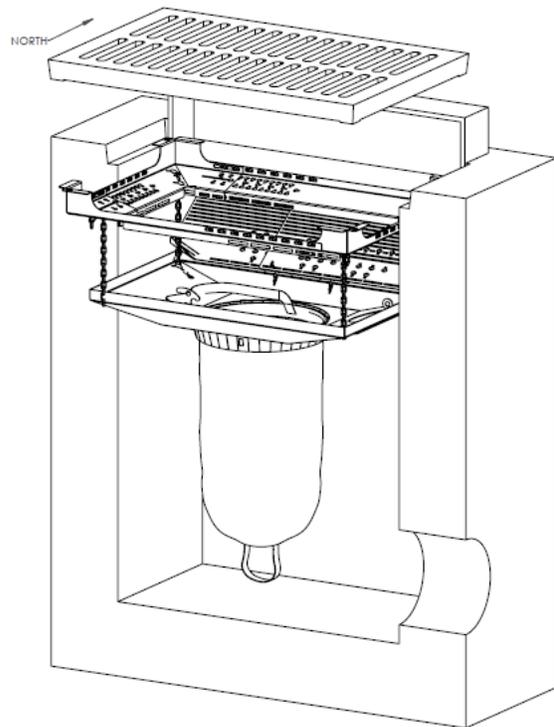
Frog Creek Partners, LLC
800 West Yellowstone Hwy
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GUTTER BIN®

STORMWATER FILTRATION SYSTEM

DROP INLET FILTER (DIF)

ASSEMBLY & INSTALLATION MANUAL



Updated June 21th, 2024





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These are instruction, processes, and precautions for installing a Gutter Bin stormwater filtration system drop inlet filter (DIF). Always remain vigilant to dangers to the installers via traffic and other road hazards. Take precautions to protect both installers and the public. This is a potentially dangerous activity if not thoughtfully carried out.

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1. Safety notices and personal protective equipment
2. Worksite preparation
3. Assembly Directions for a flat-packed DIF unit
 - a. Under Grate Frame (UGF) Assembly
 - b. Filter Hanger (FH) Assembly
 - c. UGF & FH Assembly
4. DIF Installation
5. Mundus Bag® water filter bag Installation

SAFETY NOTICES:



- Clean out the catch basin before installing a Gutter Bin. Gutter trash can contain hazardous materials and dangerous objects.
- Failure to properly utilize traffic cones and a high visibility safety vest could cause injury to the installers or pedestrians and may lead to civil penalties. Be sure to adhere to all local, state, and federal regulations when servicing or installing stormwater infrastructure.
- Failure to use or improper use of personal protective equipment (PPE) could cause injury to the installation technician.
- Avoid installing Gutter Bins in high-traffic areas during the busiest time of day. Traffic and pedestrians are one of the main installation hazards. Protect yourself and those around you by using common sense and being safe.
- Wear the appropriate personal protective equipment (PPE) for the job and per your manager's direction. A list of recommended PPE is included for your reference.
- Please refer to your organizational health and safety plan, and follow local, state, and federal requirements as they pertain to the installation of this stormwater filter.





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Personal Protective Equipment

1. Traffic Control Devices (Cones)
2. Gloves
3. Knee pads
4. Steel-toed boots
5. Safety Vest Safety Glasses

Total Installation Time: 10-20 minutes for a pre-assembled unit and 30-45 minutes for a flat packed unit.

Tools and Equipment

1. Hammer
2. 1/8" metal punch
3. Pliers
4. Portable Metal cutoff saw (only on units that have not been pre-assembled)
5. Grate hook

Worksite Preparation

1. Apply for and display a work permit to install the Gutter Bin (if applicable)
 - a. Right-of-way (ROW) permit
2. **It is highly recommended that you work with a clean storm drain. You may want a vacuum truck to suck out the catch basin prior to installation.**
3. Cone off-work site with room to park the night before if located in a designated parking spot
 - a. Cone off 5' up-traffic from the storm drain and 40' down-traffic from the storm drain (or around the corner)
 - i. Storm drains in handicap zones, no parking zones or traffic lanes may not need to be coned off before installation.
4. Ensure adequate work site with proper protection from traffic
 - a. Properly placed traffic cones
 - b. Pedestrian barriers
 - c. Have a two-person team
 - i. One in the "hole"
 - ii. One spotting traffic, running tools, etc.
5. Remove the old storm grate from the catch basin (CB)
 - a. Use proper tools (grate or hay hook)
 - b. Use proper technique, utilizing leverage and sliding
6. Clean existing catch basin sump and frame seat.

END OF SECTION





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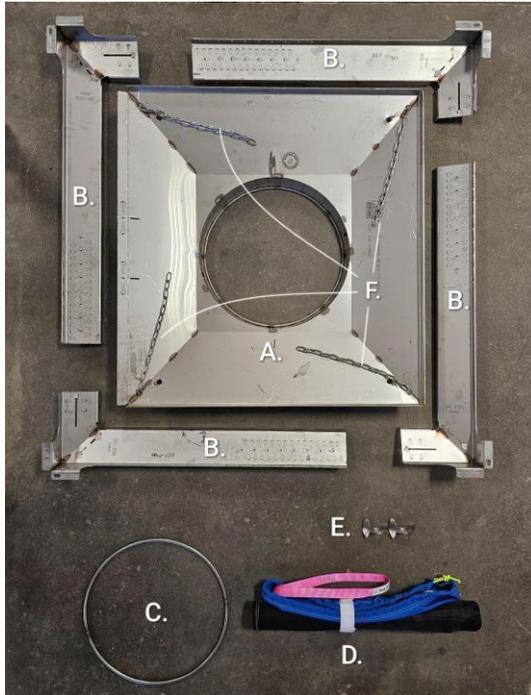
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Flat-packed unit



Each unit will arrive with the following parts:

- a. 1ea Filter Hanger "FH"
- b. 4ea Under Grate Frame "UGF" pieces
- c. 1ea Mundus Hoop
- d. 1ea Mundus Bag
- e. 2ea Mundus bag Locks
- f. 4ea 16" stainless steel (SS) Chain

Note: Chains are already attached in the diagram.

Caution: Wear gloves, as some components can be sharp.

Note: Most units will arrive pre-assembled, in which case skip to "DIF Installation"



UGF for a flat grate



UGF for bent grate

END OF SECTION





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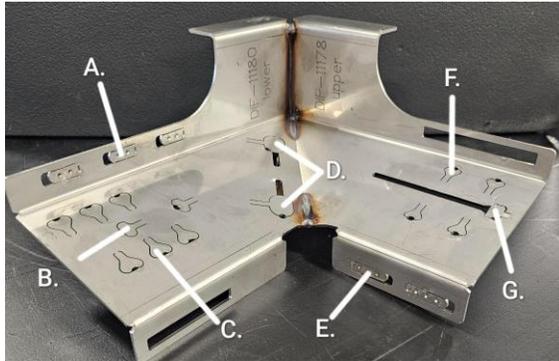
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Under Grate Frame (UGF) Assembly



UGF Tab Identification

- A. Upper Sheer Tab
- B. Slide Tab
- C. Lower Hammerhead Tab
- D. Chain Stay Tabs
- E. Lower Sheer Tabs
- F. Upper Hammerhead Tabs
- G. Slot Lock Tab

1. Lay out each corner piece of the UGF frame to create a rectangle with the pieces overlapping as pictured, to the dimensions of the catch basin "CB."
2. Prior to bending any tabs, measure and layout each UGF corner piece to reflect the clear opening dimensions of the catch basin.



2.1. Note: Placing supports such as scrap 2x4 lumber can help the measurement.

3. If the underlapping UGF corner piece blocks the chain stay hole or extends past the frame corner, then one may have to cut the underlapping frame piece with a cutoff saw. **It is critical to have accurate clear opening dimensions to cut the frame to length. If you don't have accurate clear opening dimensions, then do not pre-cut the frame.**
4. If necessary, cut the corner pieces to length. Make the cuts wisely to minimize sharp corners and shards. Grind off any sharp corners prior to assembly





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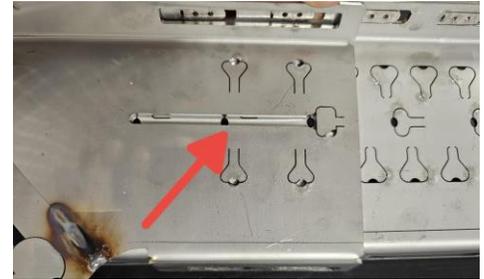
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5. Identify which slide tab will be the closest to the middle of the slide slot. Circle the Slide Tab that you will use and make a mark on the upper slot where the Slide Tab aligns with a Sharpie pen at the measured clear opening distance
6. Once identified, separate the corner pieces and pry open the identified slide tab on the lower corner piece and the slot lock tab on the upper corner piece.



7. Repeat this process for all corners of the UGF and open the slot lock tab.
 - 7.1. If bent, ensure the bent spanner is centered.
8. Insert the upward-facing slide tab into the opening of the upper corner slot.
9. Once all tabs are passed through the slot opening, hammer down the slot lock tab. It does not need to be hammered all the way down. Leave a little gap in case one needs to re-open the slide lock in the field to re-adjust.
10. Lastly, the UGF chain stay tabs can be pried open to the top of the UGF.



END OF SECTION





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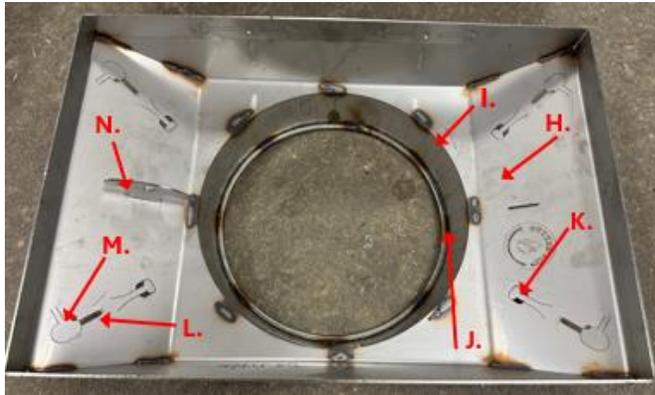
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Filter Hanger (FH) Assembly



FH Tab Identification

H. Upper Sheer Tab

I. Receiver Funnel

J. Hoop

K. Chain Anchor Tab

L. Chain Lock Slot

M. Chain Stay Tab

N. Cleat

1. Place the Filter Hanger funnel right side up so that the hoop at the bottom. As seen in picture above.
2. Using the $\frac{1}{8}$ " metal punch, push chain stay tabs and chain anchor tabs downward so they are 90° from their original position
3. Flip Filter Hanger over so the hoop now faces up
4. Place an end chain length over each chain anchor tab and hammer the chain anchor down so that it is flush with the plane of the filter hanger again.
5. Push the loose end of the chain through the chain stay hole. Make sure two full lengths of chain are visible.
6. Lock the third chain length into the chain stay slot. Push down the chain stay tab to lock chain into place.
7. Repeat process for all four chains.
8. Place a Gutter Bin sticker on the filter hanger on the opposite side of the cleat over the rectangular hole,
9. Lastly, if using locks. Knock out the two small rectangular pieces on either side of the hoop receiver.



END OF SECTION





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UGF & FH Assembly

1. With FH facing right side up, place the assembled UGF on top of the FH
2. Ensure all chain stay tabs on the UGF are pushed upwards and open.
3. Slide the four 16" long chains from the FH up through the outermost chain stay opening on the UGF
4. Drop tag end of the chain through the inner chain stay opening on the UGF
 - a. Note: this step determines your overflow. 4-6" is typically recommended but can be increased if there is a need for high volume overflow bypass.
5. Level the filter hanger by adjusting the chains on all four sides and make sure the filter hanger does not wobble or slack in any of the corners.
6. When the Filter Hanger is at the desired height for overflow and level, push down all the chain stay tabs to lock the chain into place.



Note: for shipping purposes (not install), the chain stay tabs may only be partially closed. This will ensure that they are easily opened in the field for adjustment.



END OF SECTION





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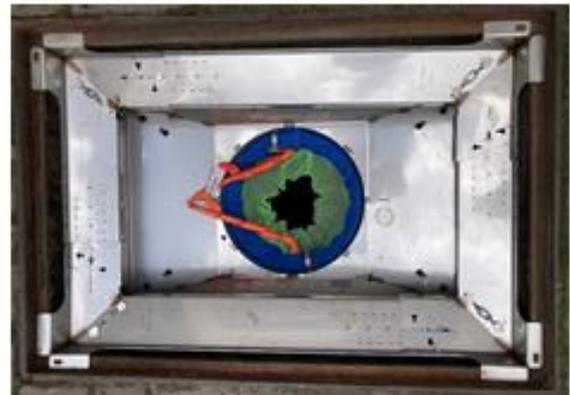
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Drop Inlet Filter (DIF) Installation

Note: observe all traffic control and safety measures during installation.

1. Remove the catch basin grate and clean loose debris from the grate shelf.
2. Expand the frame to roughly the size of the catch basin.
3. Carefully set the unit into an open catch basin so all ears sit firmly on the grate shelf.
4. With the ears of the UGF resting on the grate shelf, spread each run of the UGF as far as possible inside the frame.
5. Once the frame spread, grasp both the upper & lower corners of the UGF to align the shear tabs.
6. With your punch, press the lower shear tab towards the wall of the CB.
7. Then pry the top shear tab towards the middle of the CB
 - a. Note: This step will prevent a scissoring action.
8. Repeat for all four sides.
9. Once the shear tabs are set, identify which hammerhead tabs will align by looking directly over the UGF.
 - a. Note: Hammerhead tabs are in $\frac{1}{4}$ " increments, and the UGF may need to be brought in to align correctly.





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10. Using the 1/8" punch and a hammer, pound hammerhead tabs downward and pry to secure the overlapping sections together.

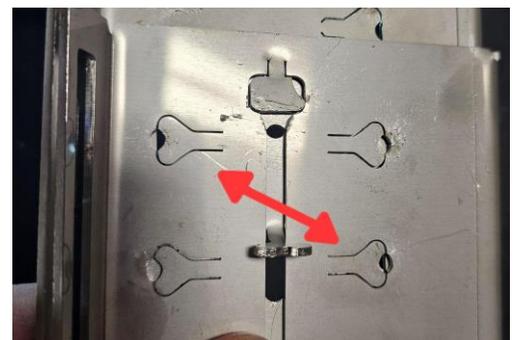
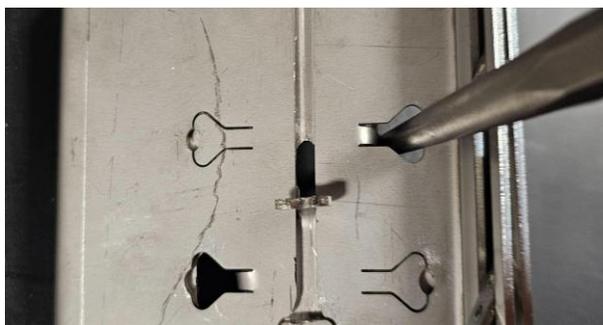
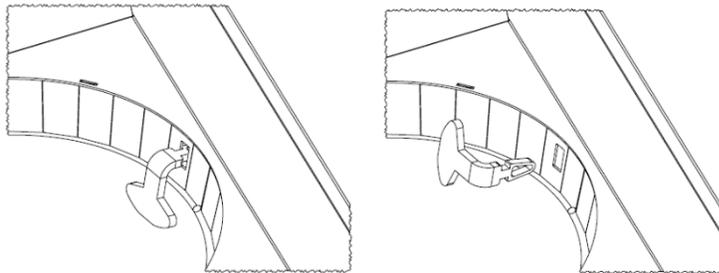
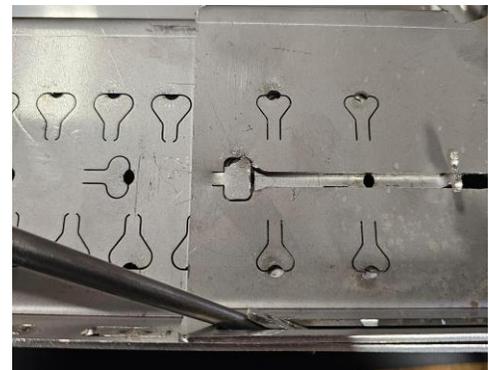
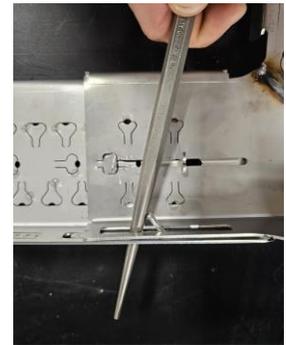
- a. Note: hammerhead tabs align diagonally (at least two hammerheads should be hammered down to affix each leg to the other at each connection).

11. Repeat process for every overlap around the UGF Frame.

12. There will be four (4) points at each corner that you hammer with the punch. 2x hammer tabs and 2x anti-shear tabs. 16 total for the whole rectangular DIF.

13. Install the Mundus Bag water filter

14. If applicable, install the two locks on either side of the receiver to hold the Mundus Bag in the hole. Rotate lock 90d to insert and let it fall into place by gravity as it rotates downward.



END OF SECTION

That's it! You did it. Good job. Give us a call if you have any questions.





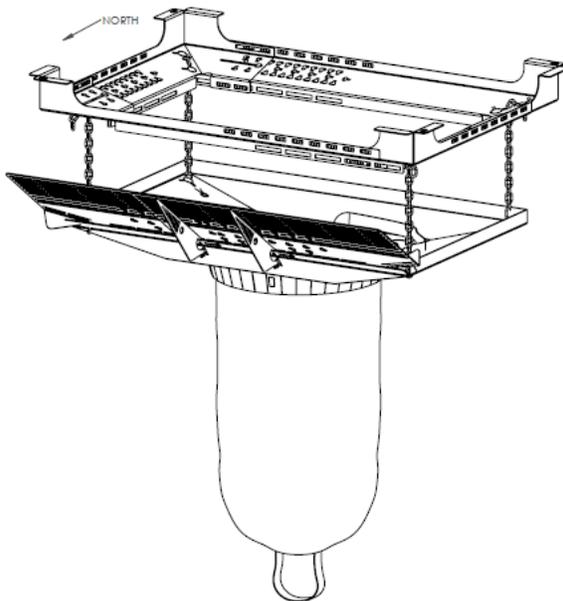
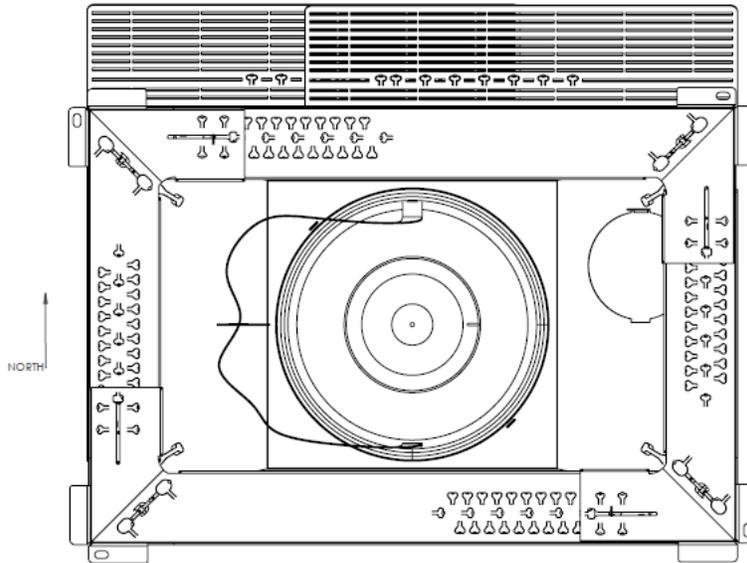
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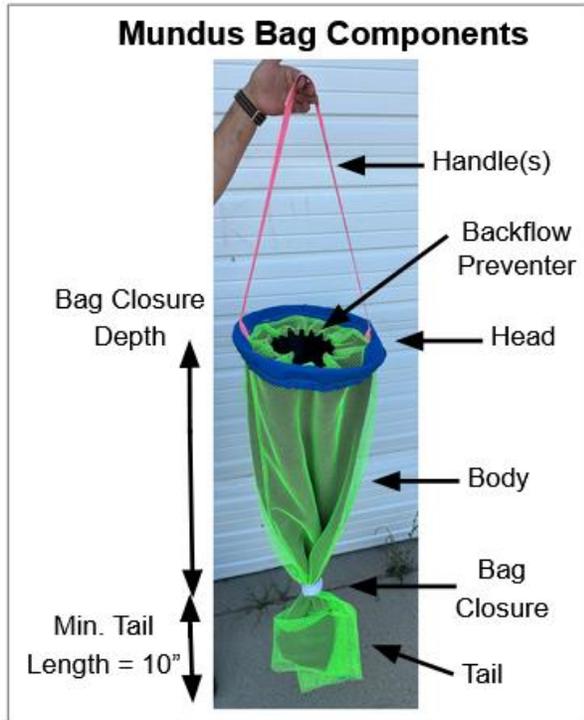
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Mundus Bag (MB) Installation

Steps to fit up a Mundus Bag:

1. Unroll the bag
2. If you have a sewn bottom bag, proceed to step 5.
3. Bunch the bag at the desired bag closure depth
4. Secure the bag closure strap around the bag
5. Position the hoop at the top outside part of the bag
6. Fold the head of the bag over the hoop
7. Seat the hoop
8. Tighten the backflow preventer
9. Write date & install info on the label
10. Place the Mundus Bag into the Gutter Bin
11. Secure hoop into receiver with locks (if applicable)
12. Enter data in FCP Field Asset Manager (FAM) App.



Bag and Hoop



Bag unrolled



Tightly bunch the bag together at desired depth





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Mundus Bag Preparation Step-by-Step

1. Unroll the bag
 - a. Place your thumb in the bag closure loop as you unwrap the bag
2. Bunch the bag at the desired bag closure depth
 - a. Ensure the bag closure is at least 10 inches from the bottom of the bag (min. tail = 10")
 - b. Tightly bunch the bag to ensure the closure stays engaged to the bag and that pollution is not lost. (Your bag may be sewn shut. If so, disregard this step)
3. Close the bag bottom by securing the bag closure strap around the tail
 - a. Ensure that the hook (orange) and loop (yellow) parts of the Velcro engage with each other.
 - b. Hold the thumb loop against the tail of the bag and wind the bag closure around the tail.
 - c. The yellow loop should be facing toward the bag
 - d. NOTE: for shallower catch basins, the end of the bag may be trimmed off. The MB should not be so long that it can block the outlet pipe.
4. Position the hoop at the head and outside part of the bag
 - a. Place the hoop within the top 2-4" of the head
 - b. The bag is on the INSIDE of the hoop
5. Fold the head of the bag over the hoop
 - a. The elastic shock cord will roll over the head
6. Seat the hoop
 - a. Hold the head, put your foot on the tail, and pull it apart to see the hoop in the head of the bag.
7. Tighten the backflow preventer (BFP)
 - a. Pull the thin shock cord while holding the cord lock until the backflow preventer covers half the bag inlet.
8. Record info on the label
 - a. Write the date of installation and any other info you prefer on the label at the head of the bag.



Hold the thumb loop against the bag. Tightly wrap the strap around the bag with loop engaging with hook velcro



Place the hoop on the outside head (top) of the bag.





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9. Place the Mundus Bag into the Gutter Bin
 - a. Clean the receiver of debris so the bag fits flush within the Gutter Bin.
 - b. The Mundus Bag hoop fits directly into the Gutter Bin receiver. Make sure the bag is flat and level.



10. Secure with locks (if applicable)

- a. Install the vacuum truck-friendly (VTF) locks if provided.
- b. Loop the handle(s) over the cleat to secure the bag.
- c. If there are two handles, then it is a VTF model. Twist the handles 5-7 times and then secure to the cleat. This will help keep the handles out of the way when the vector truck hose is inserted for cleaning.

Roll the head of the bag over the top of the hoop so that the bag is inside the hoop and thick shock cord is outside the hoop

11. Enter data in Field Asset Manager (FAM)

- a. If you do not have access to the Frog Creek FAM, then please contact us.
- b. Instructions for the FAM can be found on the Frog Creek website.

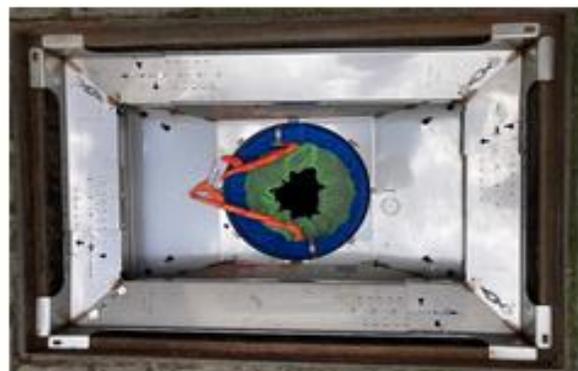
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Pull on the thin shock cord and cord lock to constrict BFP



Pull the head and tail away from each other to seat the hoop





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Thank you again for choosing the Gutter Bin® stormwater filtration system. We hope that you found these instructions easy to follow and the Gutter Bin easy to install. If you have any comments or feedback, please feel free to contact us.

CUSTOMER SUPPORT:

Need help? Contact us:

Call: 307-797-7720

Email: support@frogcreek.partners

Website: <https://frogcreek.partners/support>



You will find instructional videos, technical documentation, specification sheets and product briefs.

We are here to support you 24/7/365.

