



EarthMinded™

Do-It-Yourself Rain Barrel Diverter and Parts Kit

User Guide RBK-0001 V.2

EarthMinded has assembled all the parts needed to make a rain barrel using a recycled barrel or plastic waste barrel (barrel not included). Using this kit, anyone who can use a drill can make and install a rain barrel in minutes!

Please read all instructions and warnings before installation, and retain this Booklet for future reference

1 General description

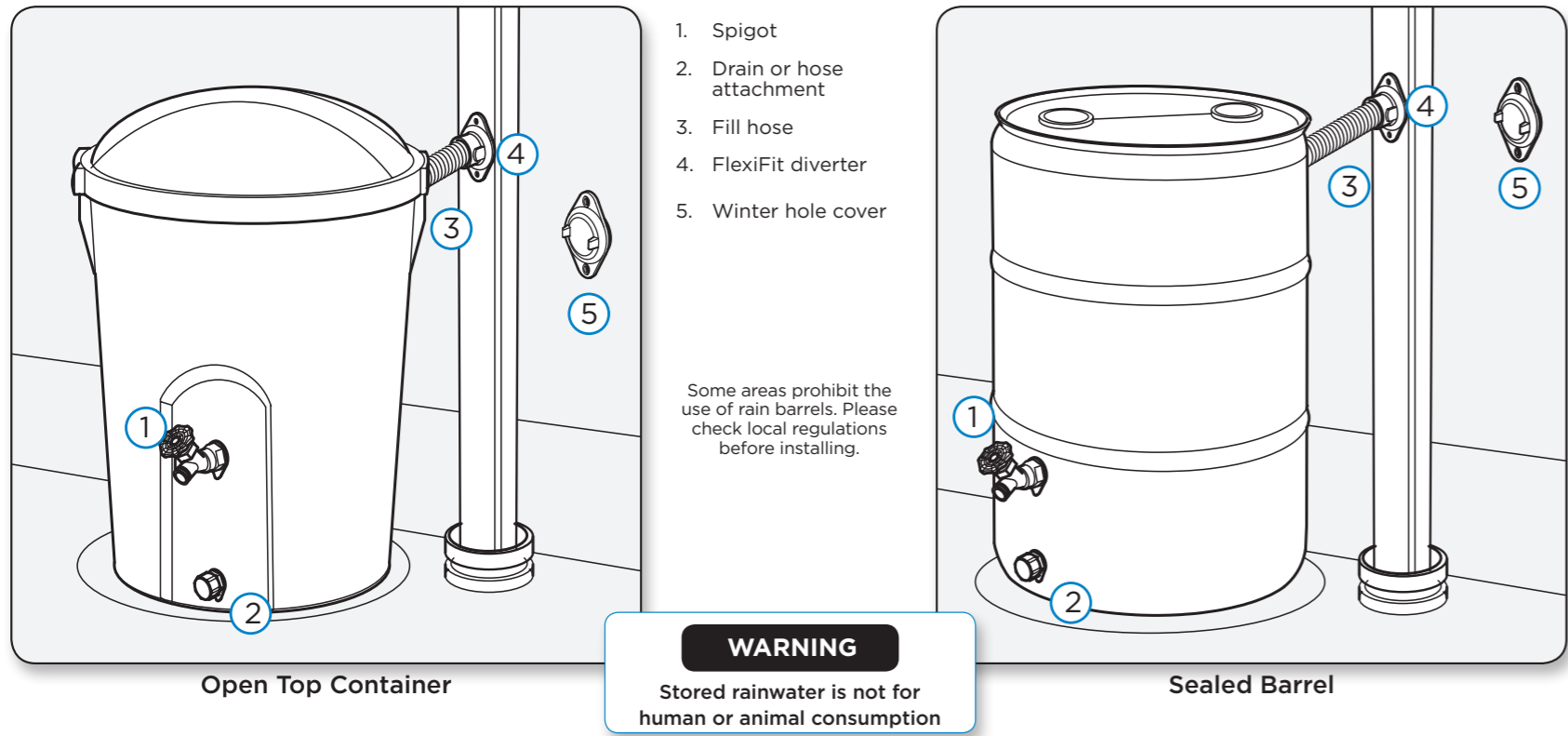
Rain barrels have been used for hundreds of years to harvest and store rainwater for use with plants, gardens, and other outdoor chores.

EarthMinded's DIY Rain Barrel Kit can be used to make a state-of-the-art sealed rainwater collection system when used with a barrel or container you supply. Our patent pending FlexiFit™ diverter installs easily by drilling a single hole into any standard 2" x 3" or 3" x 4" rectangular downspout*. The diverter sends rainwater into the barrel. Once the barrel is full, the diverter will automatically pass excess water through the downspout.

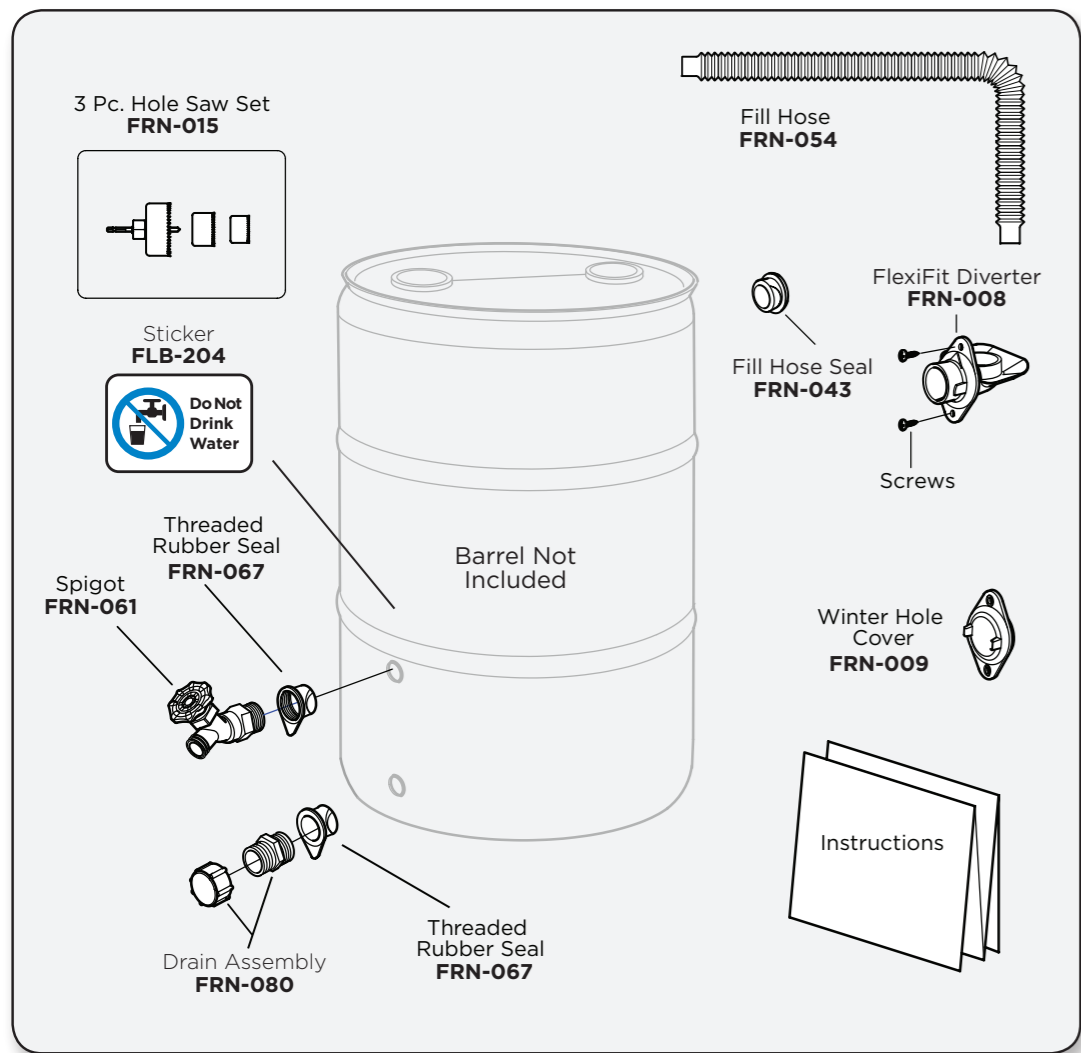
The FlexiFit diverter helps discourage mosquitoes, pests, and algae-causing sunlight from entering the barrel. The diverter is easy to remove from the downspout and the kit includes a winter hole cover.

The FlexiFit diverter offers many advantages over conventional top fill rain barrels that commonly flood with heavy rain, require permanent modifications to your downspout, and use unsightly overflow hoses.

*Water capture percentage is reduced with 3" x 4" downspouts
Round downspout diverter available as an accessory



2 Parts list



Tools needed

1. Safety Glasses
2. Safety Gloves
3. Drill
4. Measuring Tape or Ruler
5. Pencil
6. Phillips Screwdriver
7. Level

3 Selecting a container

EarthMinded supplies only the parts and fittings to be added to a barrel you supply. Therefore, we take no responsibility for losses, damages, or injury caused by failure of the barrel, or improper installation of the parts. Follow these instructions carefully for successful results.

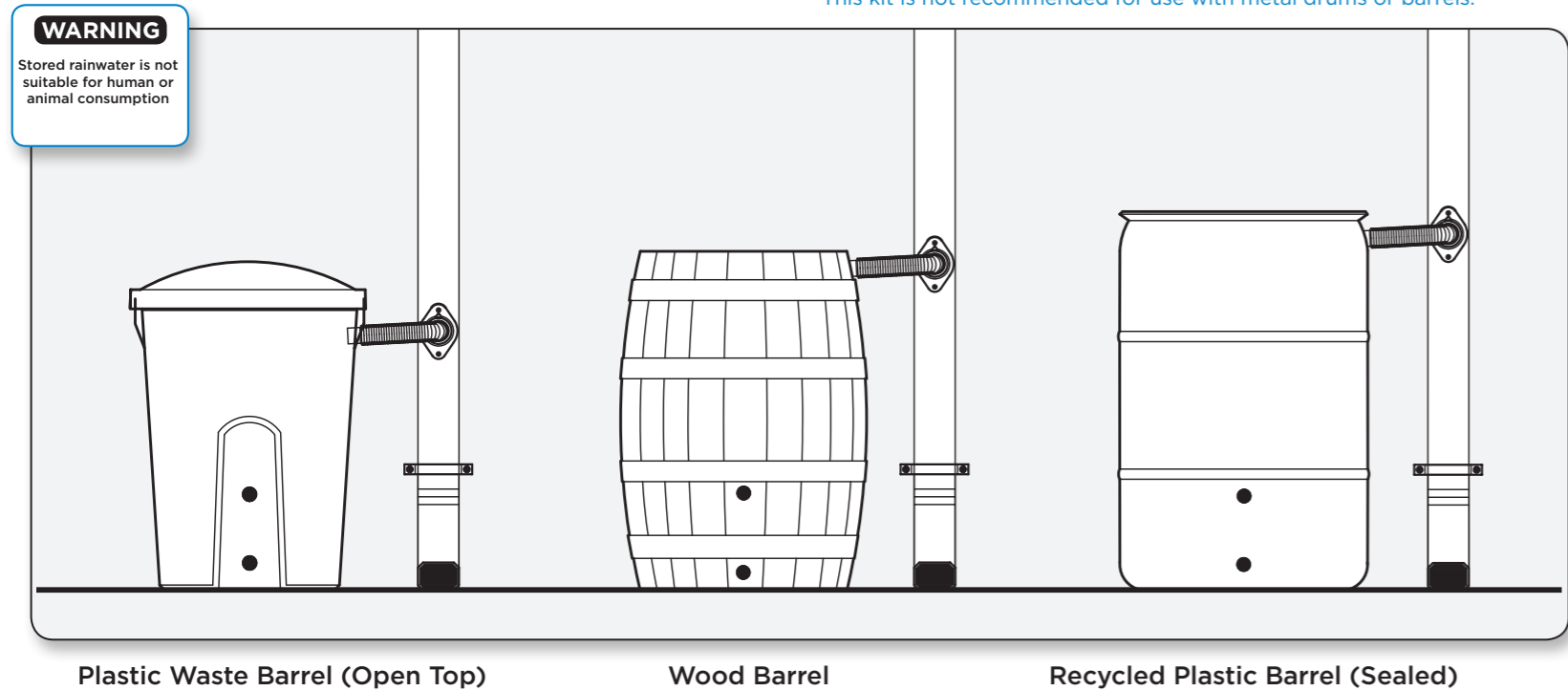
This kit will work on both sealed barrels and open top barrels with lids. Open top barrels are easier to clean, and provide quick access to the water using a bucket or watering can, but present a safety concern for children; the lid must always be latched and locked.

Water weighs 8.3 lbs. per gallon. Be sure to select a sturdy container that can support the weight when full. 55 gallons of water weighs 465 lbs.

Select a sturdy water tight container:

- a. A heavy duty or commercial grade plastic waste barrel with latching lid.
- b. A traditional wood barrel can make an attractive and natural looking rain barrel. Make sure it is in good condition, clean and water tight.
- c. If using a recycled barrel, use only FDA approved food grade barrels. Make sure the barrel is clean and has not been used to contain toxic or hazardous substances.

The container selected should be sealed, or have a latching lid to help prevent mosquitoes, animals, and children from entering the barrel. This kit is not recommended for use with metal drums or barrels.



4 Select a location for your rain barrel

Before assembling the parts to the barrel we recommend that you select and prepare the location where the barrel will be used. This will help you locate the fittings on the barrel in the most convenient location.

- Choose a downspout that is near the plants or garden beds to be watered.
- The downspout must be a rectangular 2" x 3" or 3" x 4"
- The barrel must be located within 28" (71cm) of the downspout to use the fill hose provided.
- The ground under the barrel must be level and firm. A solid surface base of wood, pavers, or stone is recommended.
- If the surface is not level, use a shovel or rake to grade the surface. Check by placing a level on the rim of the barrel before continuing.

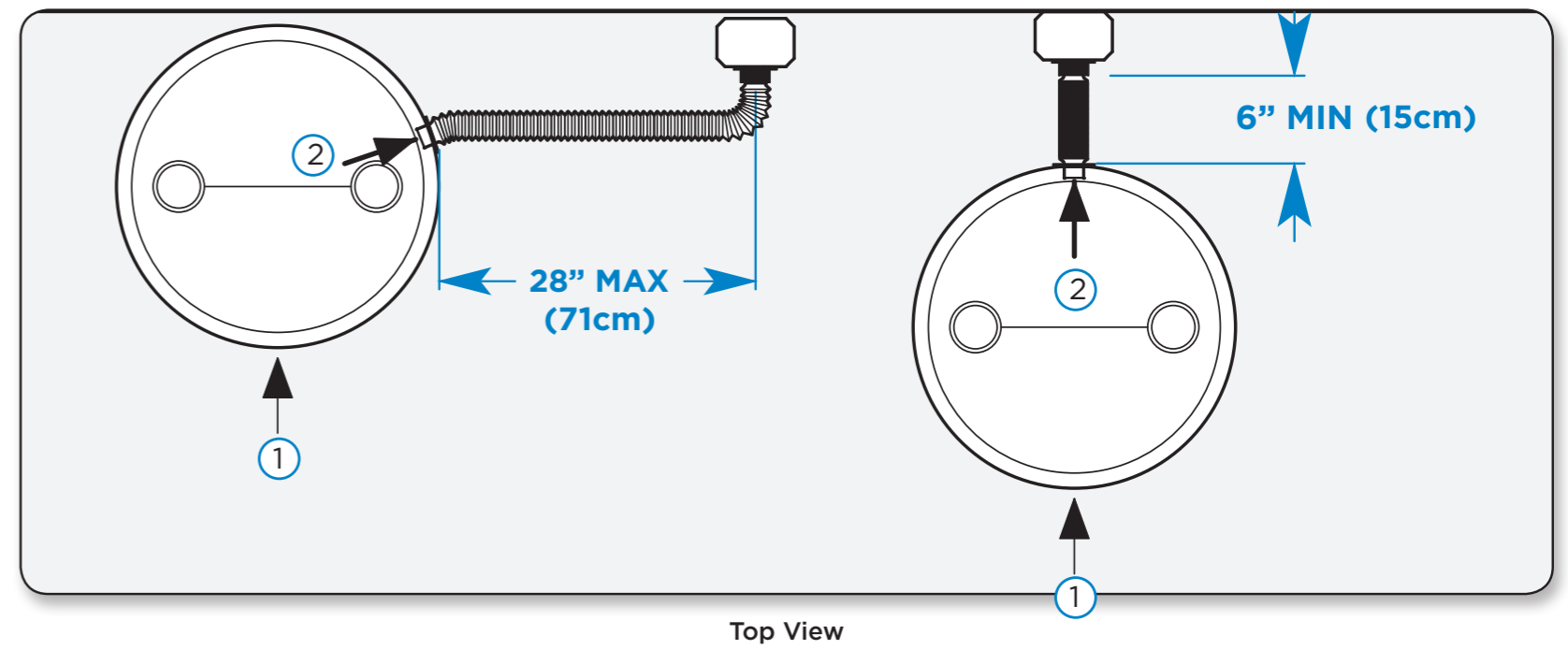
Place the barrel in the intended location with the front facing out.

1. Mark the front of the barrel. This will be the side with the spigot facing out. The spigot should be located on a flat or evenly curved surface without ridges or features that can affect the water seal.

2. Hold the fill hose in position between the barrel and the downspout and mark the water inlet location on the rim of the barrel. This mark can be at the back, right, or left side of the barrel.

Check that the hose can reach horizontally from the rim of the barrel to the downspout.

*Water capture percentage is reduced with 3" x 4" downspouts

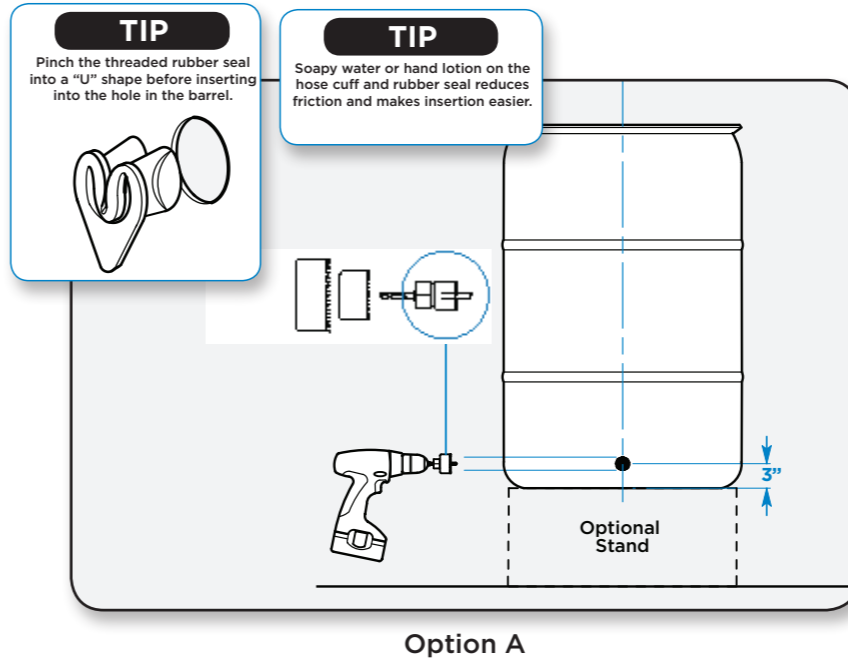


5 Installing the front fitting on the barrel

There are 2 options for installing the front fittings. Option A has a single spigot at the bottom of the barrel and is recommended if you will only be using a garden hose to access the water in the barrel. This configuration gives access to most of the water in the barrel. A raised base is recommended to increase water pressure. Option B has a mid-height spigot and a bottom drain and is recommended for use with a watering can.

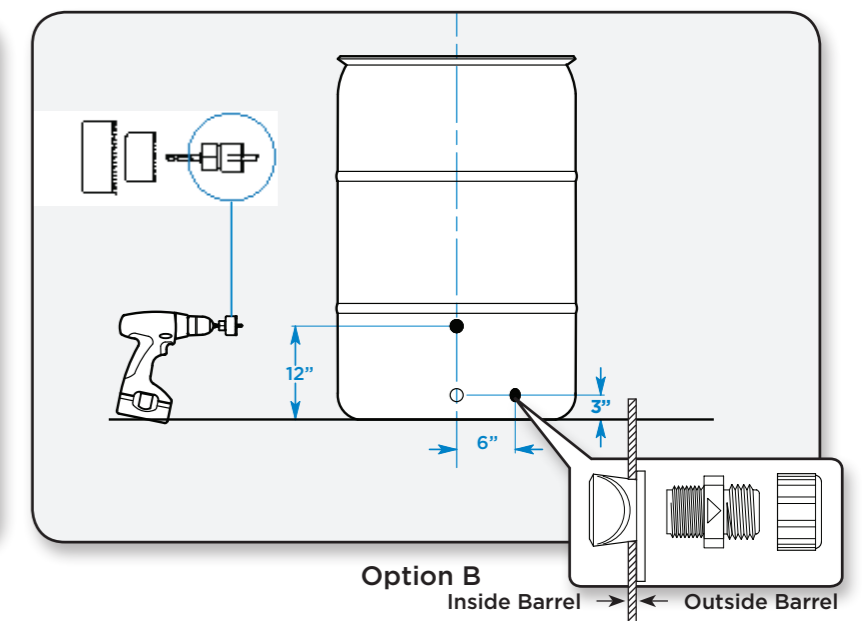
Option A: Bottom spigot only

1. Find the front of the barrel; measure up 3" (76mm) from the bottom of the barrel and mark the center for the spigot hole. Drill a hole using the (SMALL) 1-1/4" hole saw included in the set.
2. Insert the threaded rubber seal into the hole. Pinch the seal into a "U" shape for easier insertion.
3. Thread the spigot into the seal until the hex collar on the spigot sits firmly against the seal and the water outlet points down. Soapy water or hand lotion on the internal threads will reduce friction and improve fit.



Option B: Mid-height spigot with bottom drain

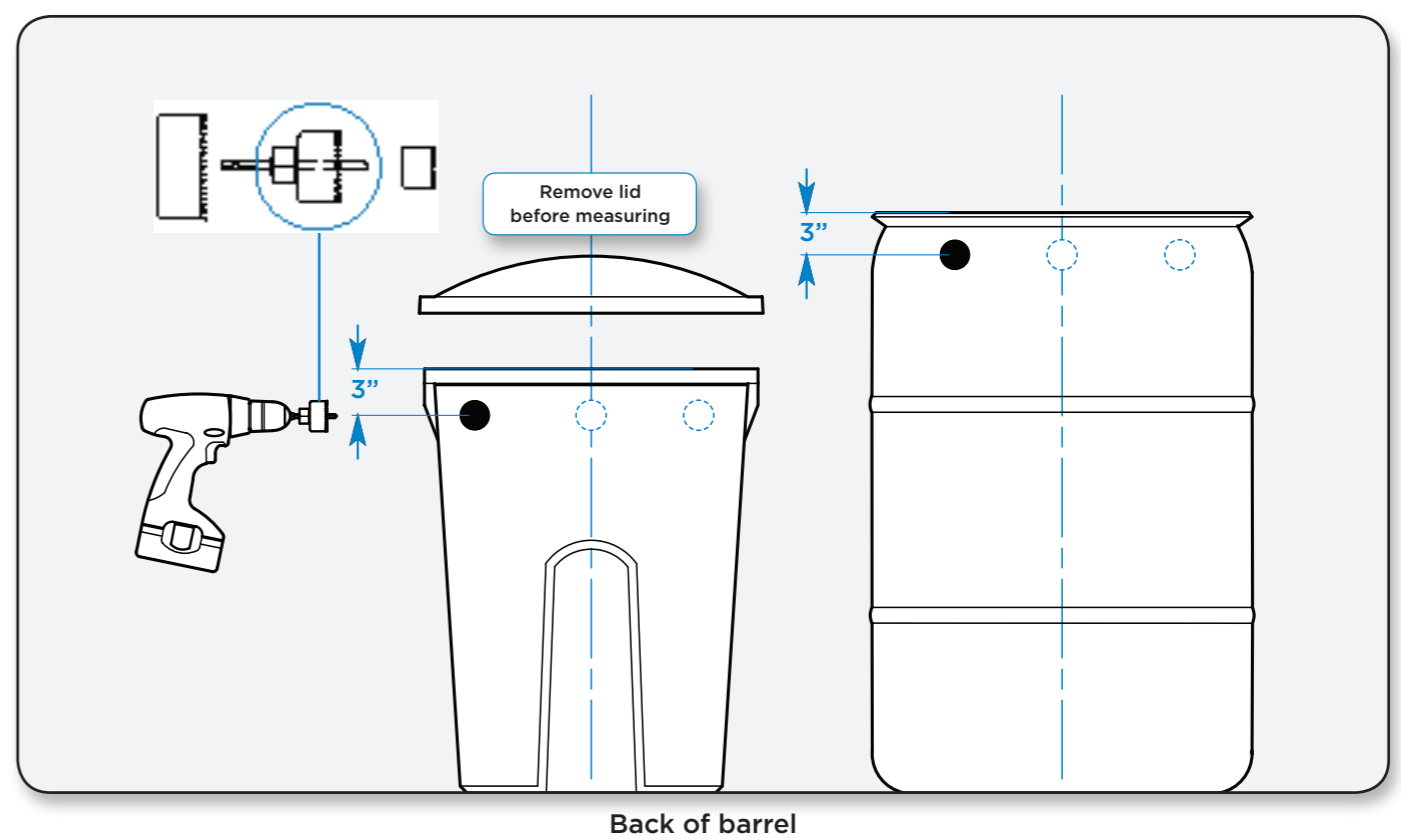
1. Mark the hole for the spigot. Find the front of the barrel, measure up 12" (30cm) from the bottom of the barrel and mark the center for the mid-height spigot hole.
2. Mark the hole for the drain. Measure up 3" (76mm) from the bottom of the barrel and mark the center for the drain hole. If you plan on connecting a garden or soaker hose to the drain fitting, we recommend that the drain be located 6" (15mm) off center, to the left, or right side of the spigot to give clearance for filling the watering can.
3. Drill 2 holes on these markings using the (SMALL) 1-1/4" hole saw included in the set. You may need to remove the plastic cut out from the end of the hole saw after drilling the first hole.
4. Insert 2 threaded rubber seals into both the spigot and drain holes. Pinch the seal into a "U" shape for easier insertion.
5. Thread the spigot and drain into the seals until the hex collars sit firmly against the seals. Soapy water or hand lotion will reduce friction and improve fit.



1-1/4" (32mm) Hole Saw

6 Installing the fill hose seal

1. Locate the water inlet mark on the rim of the barrel (from Step 4). Measure down 3" (76mm) and mark the center for the water inlet hole. Make sure the inlet is located on a flat or evenly curved surface; avoid ridges or other features that could affect the water seal.
2. Drill a single hole using the (MEDIUM) 1-1/2" hole saw included in the set.
3. Insert the fill hose seal into the hole. Pinch the seal into a "U" shape for easier insertion.



1-1/2" (38mm) Hole Saw

7 About the FlexiFit diverter

DO NOT CUT THE DOWNSPOUT UNTIL READING THE ENTIRE GUIDE!

The FlexiFit diverter redirects water from your downspout to the barrel and automatically passes water through the downspout when the barrel is full of rainwater.

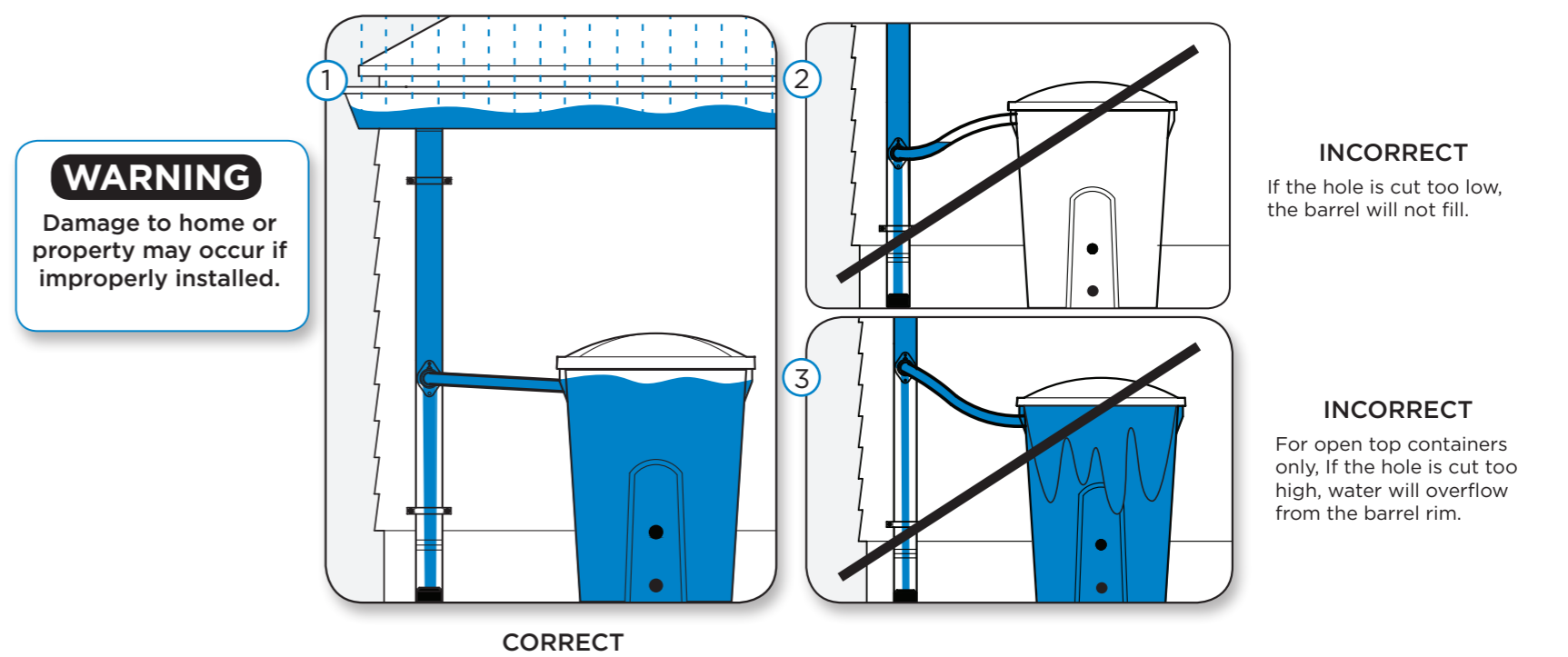
The diverter is installed in a hole that is cut in the downspout.

1. The hole must be cut at the correct height for the diverter to work properly.
2. If the diverter is installed too low, the barrel will not fill properly.
3. If the diverter is installed too high, water will overflow from the rim of the barrel (this only applies to open top barrels).

IMPORTANT: There are two ways to install the diverter depending on the type of barrel you use. If the barrel is a sealed container without a lid or screen, the diverter can be located at the same level as the rim of the barrel or higher. This will improve the filling efficiency of the diverter.

If the barrel has a removable lid or screen, the center of the diverter hole must be drilled 3" (76mm) below the level of the rim of the barrel to prevent water from leaking from the lid seam or screen. The diverter will not work if it is placed below the level of the water inlet on the barrel.

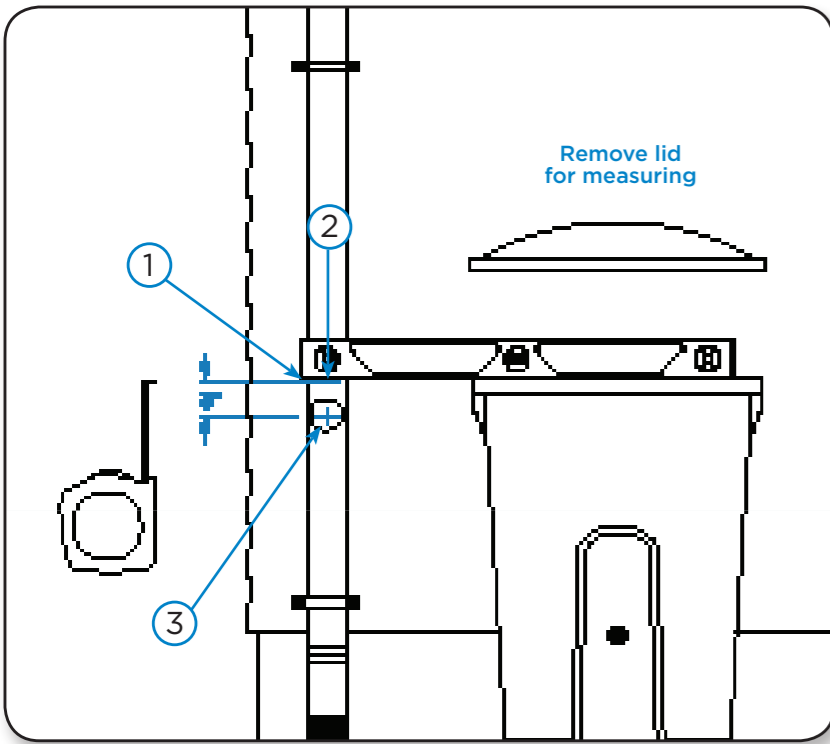
The diverter provided in this kit is not for use with round downspouts. A round downspout diverter available as an accessory at www.earthmindedconsumerproducts.com



8 Marking the FlexiFit diverter hole on the downspout

DO NOT CUT THE DOWNSPOUT UNTIL READING THE ENTIRE USER GUIDE!

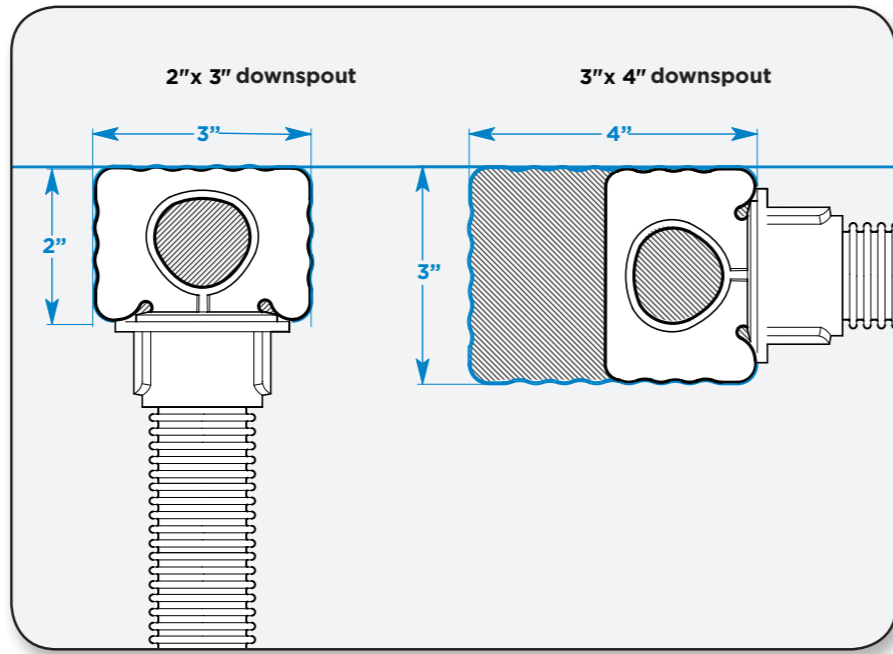
1. Make a reference mark even with the rim of the barrel on the downspout using a pencil and a straight edge placed on the rim of the barrel as a guide.
2. **For sealed containers only (no opening lid):** Measure and mark the CENTER of the downspout.
3. **For open top containers:** Measure 3" (76mm) below the reference line and make a second mark on the CENTER of the downspout. The second mark will now be your reference mark for the diverter height.



Be sure to take an elevated base into account before measuring. If you plan on using an elevated base you must do it before measuring and cutting the downspout.

An elevated base will increase water pressure if using with a garden hose. When installing to a 3" x 4" rectangular downspout, you must mark on the narrow 3" side of the downspout (not the front) for the diverter to work properly.

Water capture percentage is reduced with 3" x 4" downspouts

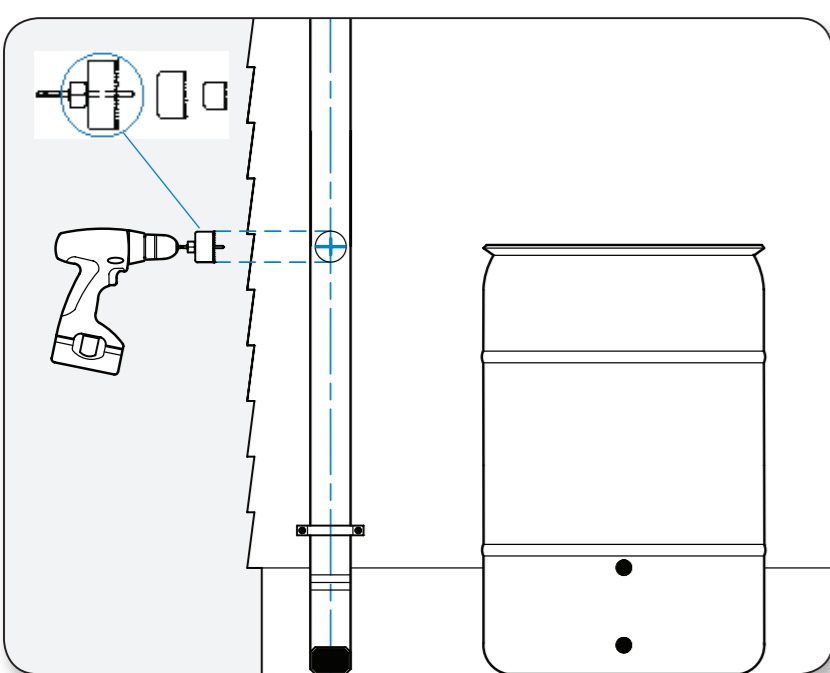


9 Drilling the FlexiFit diverter hole

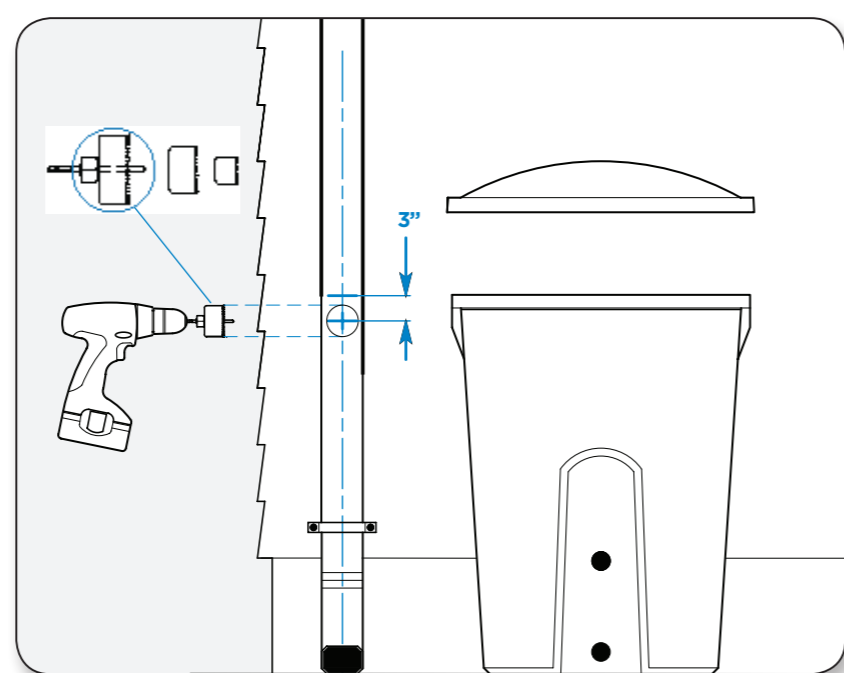
Drill a hole in the downspout using the (LARGE) 2-1/8" (54mm) hole saw. The center bit of the hole saw should align with the center mark on the downspout.

- Do not force the hole saw. Cut slow and steady keeping a firm hold on the drill.
- Always wear safety glasses and gloves when cutting or drilling.
- The cut edges of the downspout can be sharp! Wear protective safety glasses and gloves when handling.
- For 3" x 4" downspouts make sure you drill the hole on the narrow 3" side (not the front side).

Do not use with heated downspouts!



Sealed Barrel Only



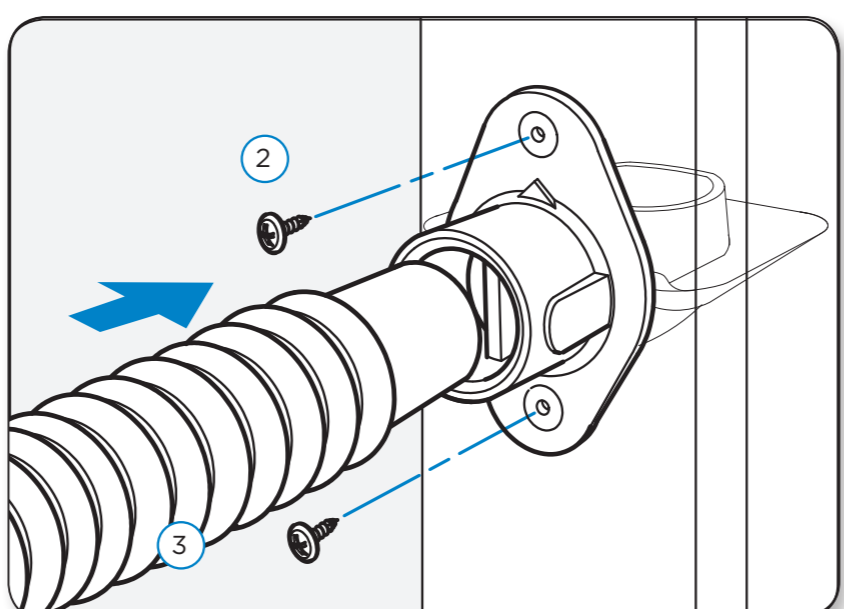
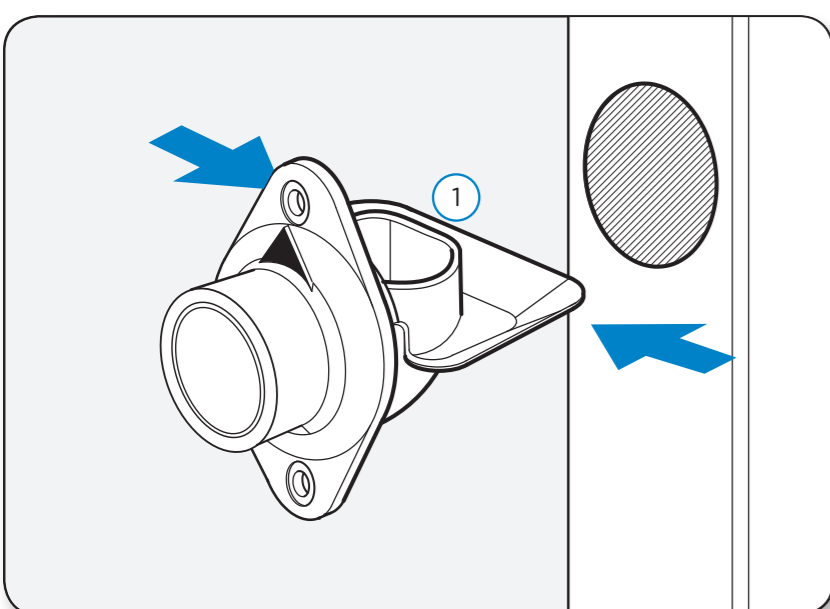
Open Top Container

10 Installing the FlexiFit diverter

1. Insert the diverter into the hole in the downspout by squeezing the sides and pushing the diverter into the downspout until the flange sits flat against the downspout. Do not twist the diverter when installing - push it straight in - with the collection cup facing up at all times to insure a proper seal. Make sure that the arrow on the front of the diverter is installed pointing straight up.
2. Use 2 of the self-tapping screws to attach the diverter to the downspout.
3. Connect the fill hose to the cuff end of the FlexiFit diverter. Press the hose into the diverter until the corrugated section is flush against the diverter. *Use soapy water or hand lotion on the hose cuff and seal to reduce friction and improve fit.*



TIP
Soapy water or hand lotion on the hose cuff and rubber seal reduces friction and makes insertion easier.

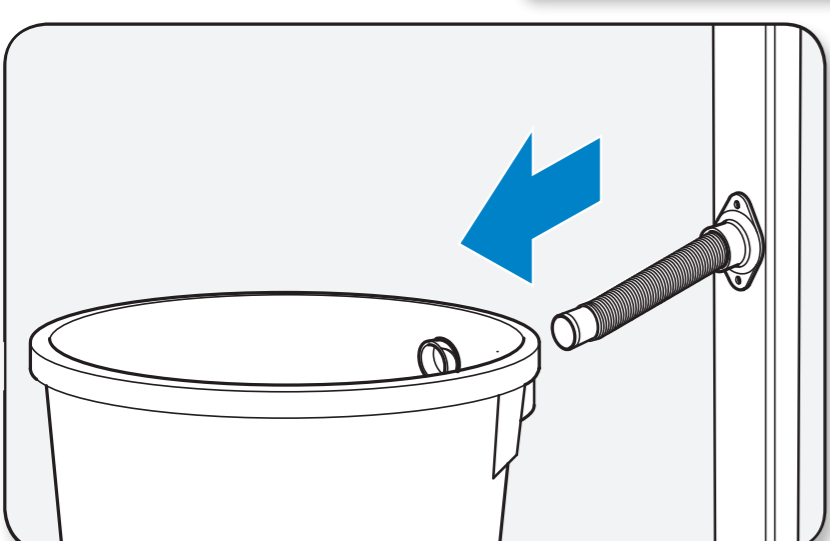


11 Connecting the barrel

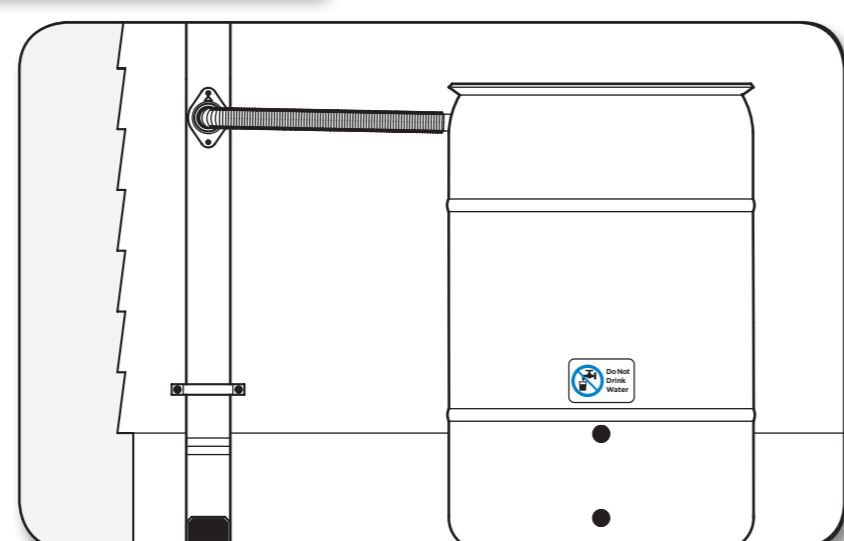
1. Extend the hose to the desired length, up to 28" (71cm). The hose can be bent to form elbows.
2. Connect the other end of the fill hose to the fill hose seal on the barrel. Press the hose end firmly into the seal until the corrugated section is flush with the seal. *Use soapy water or hand lotion on the hose cuff and seal to reduce friction and improve fit.*
3. Place the "Do Not Drink Water" WARNING sticker on the barrel above the spigot.

If using an open top barrel with a lid make sure the lid is secure and latched. Do not leave the lid off for extended periods of time as the barrel may bow from the weight of the water and make fitting the lid difficult.

TIP
Soapy water or hand lotion on the hose cuff and rubber seal reduces friction and makes insertion easier.



Attach fill hose to barrel



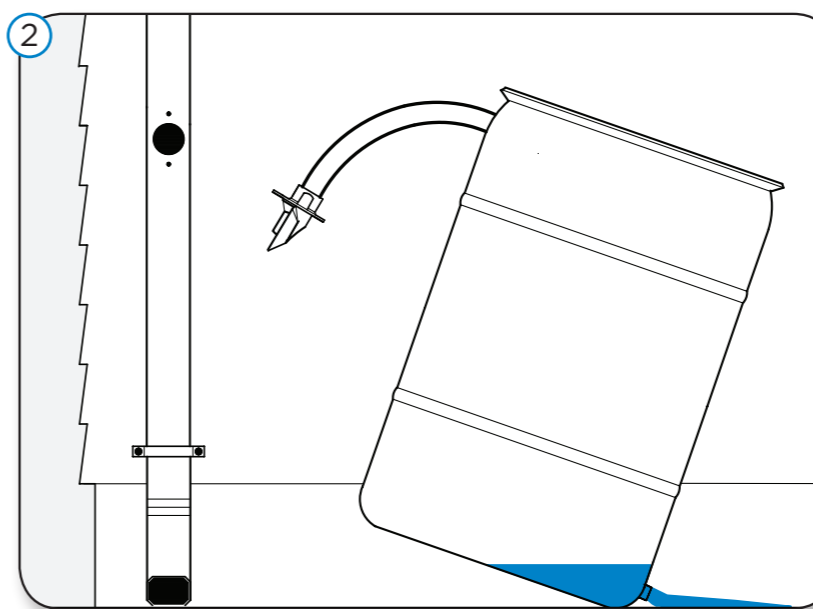
Add warning sticker, installation is complete!

12 Winterizing the barrel

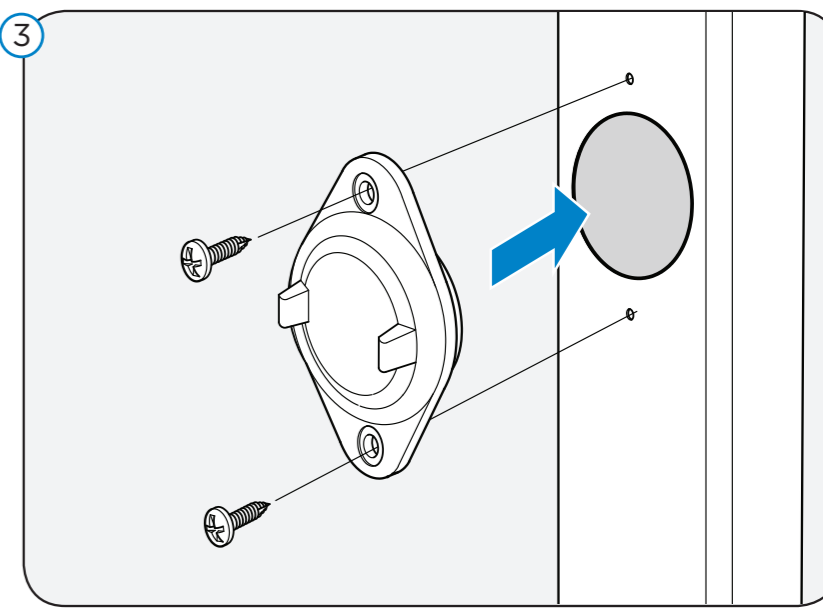
A rain barrel can be damaged if water is allowed to freeze in the barrel.

To Winterize:

1. Remove the FlexiFit diverter by removing the 2 screws. Remove the diverter by pulling it out in an upwards motion.
2. Completely drain the barrel making sure the water is being drained away from the foundation of the house.
3. Cover the hole in the downspout with the winter hole cover and secure it with the 2 screws.
4. Store rain barrel and diverter for winter.



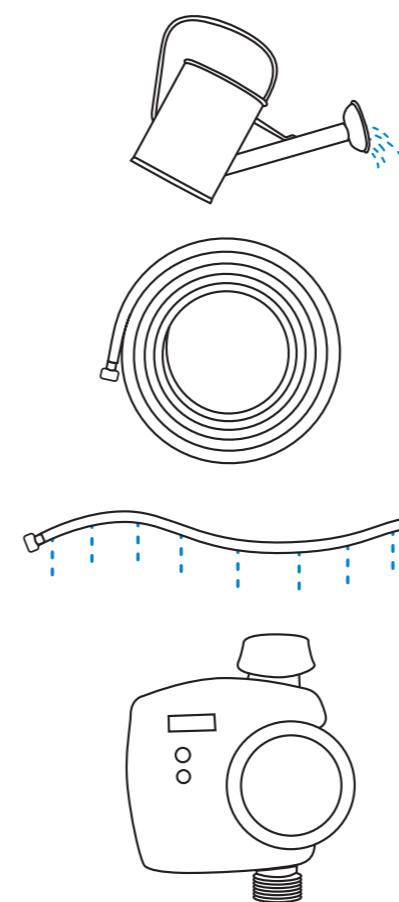
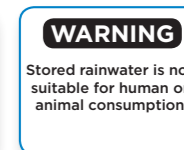
Drain barrel



Install winter hole cover

13 Using your rain barrel

There are several ways to access and distribute the rainwater in the barrel. *Use stored water as often as possible to make room for new rainwater!*



1. A **Watering Can or Bucket** can be filled by using the spigot, or by removing the lid to dunk and fill the bucket or watering can.
2. A **Garden Hose** can be connected to the spigot or bottom drain for watering remote areas. The barrel must be higher than the area to be watered. *Elevating the rain barrel will improve water pressure.*
3. A rain barrel **Soaker Hose** can be connected to the spigot or bottom drain. If connecting to a bottom drain, an inline garden hose valve should be fitted in place of the drain cap. This will allow the water to be turned on/off as needed.
4. A **Garden Hose Timer** can be fitted between the bottom drain and soaker hose to automatically dispense water at regular intervals. Be sure the timer is designed for low pressure applications. If connecting to a drip irrigation system, use emitters designed for 4 gallons per hour. *Always be sure to tighten the spigot after use. Even a slow drip will empty the barrel over time.*

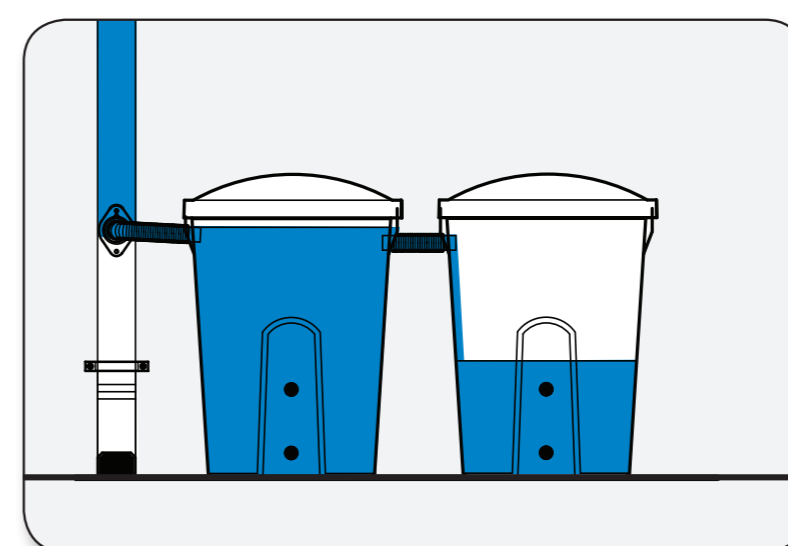
14 Linking barrels - additional parts needed

There are two ways that barrels can be linked together to increase the water storage capacity:

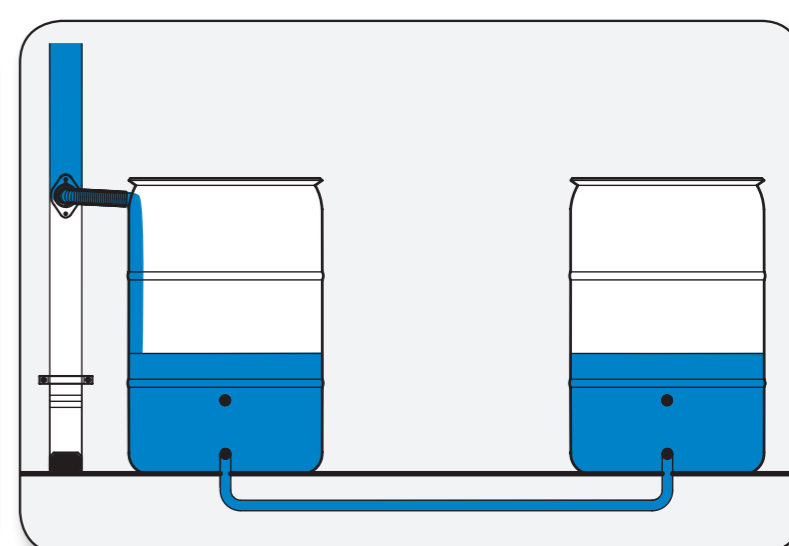
Option A: Link barrels rim-to-rim. The barrel connected to the downspout will fill first, then overflow into the second barrel.

Option B: Link barrels bottom drain-to-bottom drain using a modified garden hose or washing machine hose. With this method both barrels will fill up at the same level. The second barrel can be placed further away from the first as long as the ground is level between barrels. This is useful for patios, decks or level foundations, where a second barrel can be located away from the downspout.

This method requires a hose with double female ends such as a washing machine hose. (not included)
Replacement parts available at www.earthmindedconsumerproducts.com



Option A - rim-to-rim using an EarthMinded Linking kit (sold separately)



Option B - bottom drain-to-bottom drain

15 Troubleshooting

The rain barrel does not fill with water after rainfall:

1. Check the top of the gutter for blockage at the downspout connection.
2. Remove the FlexiFit diverter and check that the downspout, diverter, and fill hose are not blocked by leaves or debris.
3. Make sure the diverter is installed with the collection cup (arrow) facing up.
4. Make sure no point of the fill hose is above the level of the diverter.
5. Check that the diverter is installed at the correct height. It must be above the water inlet on the barrel to fill properly. *To Correct: drain the barrel and lower the ground until the water inlet on barrel is 1" (25mm) below the level of the diverter.*
6. Check the spigot and drain to make sure that water is not leaking. Even a slow leak will drain the barrel over time.

The rain barrel overflows and water leaks out from the lid:
The barrel is too low.

To correct: drain the barrel and construct a solid surface base to raise the barrel to the correct height.

The fill hose can be replaced by a 1 - 1/4" (32mm) bilge hose available at most home centers.

Warnings regarding potential hazards

