Flow Pro

INTELLIGENT WATER FLOW METERS

Installation Guide

Installation Overview

1. Cautionary Checklist/Warnings
2. Required Tools
3. Locating Backflow Preventer
4. Assemble Fittings
5. Measuring/Marking the Pipe
6. Cutting/Reaming the Pipe
7. Installing Flow Meter
8. Appendix

⚠️ Cautionary Checklist/Warnings ⚠️

Before installation please ensure you have read the following warnings checklist and are aware that Flow Pro *is not responsible for any improper installation.* Flow Pro suggests that our products be installed by licensed local professional irrigation installers. **PLEASE** visit website for up-to-date instructions.

NOTICE: Warnings must be strictly followed to qualify for product warranty. Warranty will be voided if not followed properly. These notes are provided to ensure product satisfaction.

Warning: Do <u>NOT</u> use adhesive to secure fittings to flow meter. Improper usage of fittings, such as inserting fingers into flow meter or poor installation could cause personal injury or damage to flow meter.

Warning: Never alter product or configuration in any way.

Warning: It is the installer's responsibility to ensure a safe installation.

Warning: It is the responsibility of installed to follow ALL LOCAL CODES concerning flow meter installation.

Warning: Flow Meter is not rated for potable water and is installed after the backflow preventer.

Warning: Using any other installation methods not discussed in the literature could damage the flow meter or cause injury. Flow Pro is **<u>NOT</u>** responsible for any improper installation(s).

⚒ Required Tools ⚒

Before installation please ensure you have the proper tools and safety gear. See hardware purchases on the next page for list of recommended equipment for installation.

✓ Recommended fittings

✓ Manual pipe cutter

✓ Black fine point permanent marker

✓ Tape measure

✓ PVC cement/primer

✓ Pipe reamer/deburring tool

✓ Work gloves
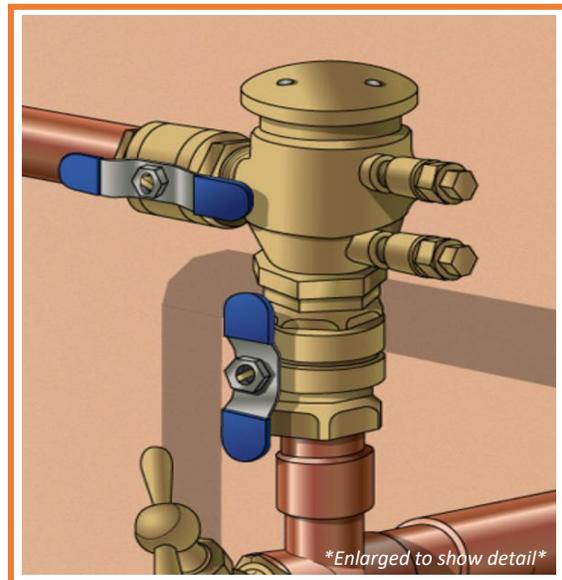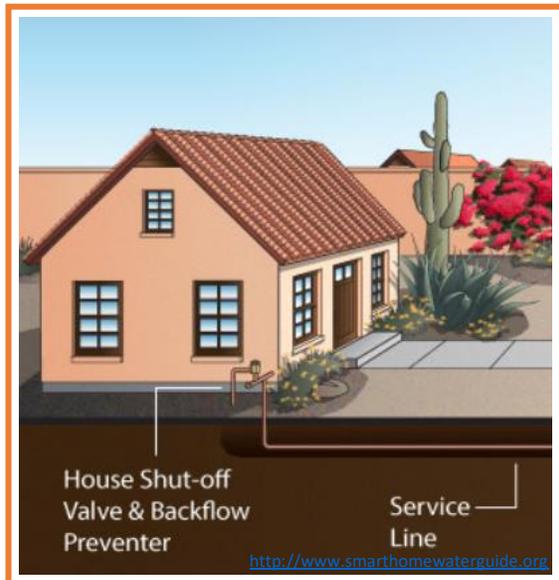
✓ Safety glasses

Hardware Purchases

The following fittings and tools can be purchased from your local hardware store and or online. Verify the type and size of your pipe before beginning the installation. You will need to purchase the appropriate tools and fittings to complete the installation. Do not proceed to installation until you have the proper equipment! Current listings show installation and tools required for a ¾" Copper/SDR9 Poly Pipe. **Other pipe sizes and configurations will be added soon!**

Tools	Manufacturer	Part Number	Unit Cost	QTY/install	Total Cost
Manual pipe cutter	Local (Home Depot)	1001778668	$22.30	1	$22.30
Black permanent marker	Local (Home Depot)	1000735449	$1.97	1	$1.97
Tape measure	Local (Home Depot)	1000289319	$9.88	1	$9.88
PVC cleaner/cement	Local (Home Depot)	125490	$9.17	1	$9.17
Pipe reamer/deburring tool	Local (Home Depot)	1000317762	$10.59	1	$10.59
Work gloves	Local (Home Depot)	924245	$5.47	1	$5.47
Safety glasses	Local (Home Depot)	709197	$6.48	1	$6.48
Scissors	Local (Home Depot)	1000042706	$5.97	1	$5.97
Plumbers tape	Local (Home Depot)	788287	$1.38	1	$1.38
				TOTAL:	$73.21

3/4" Copper/SDR9 Poly	Provider	Description	Part Number	Unit Cost	QTY/install	Total Cost
	Orbit	1" PVC Slide-Lock Repair Fitting	38674	$ 4.93	1	$ 4.93
	SharkBite	3/4-in Push-to-Connect x 3/4-in MNPT dia Male Adapter Push Fitting	818083	$ 7.84	2	$ 15.68
	Home Depot	1" Push-to-Connect Coupler	859448	$ 2.12	1	$ 2.12
	Home Depot	Reducing Male Adapter 3/4" x 1"	738549	$ 1.85	2	$ 3.70
	Home Depot	1" PVC Schedule 40 Tubing	1000673287	$2.18	1	$ 2.18
					TOTAL:	$ 28.61

📍 Locating Backflow Preventer 📍

✓ Locate backflow preventer on the side of the house.

House Shut-off Valve & Backflow Preventer

Service Line

http://www.smarthomewaterguide.org

Enlarged to show detail

✓ Turn off water to the irrigation system by turning valves at backflow preventer or by main shutoff switch.

ⓘ *Some water providers lock their main shutoff switches. Contact your water provider for more information or contact a local certified backflow contractor in your area for help.*

✋ Assemble Fittings ✋

Depending on your type/size of pipe. You will need to purchase the correct fittings and tools for your installation (see hardware purchases page "still under construction"). Below is an example of assembling pipe fittings on the flow meter for a ¾" copper installation. If your backflow preventer system is very rigid, then an installation like this is ideal.
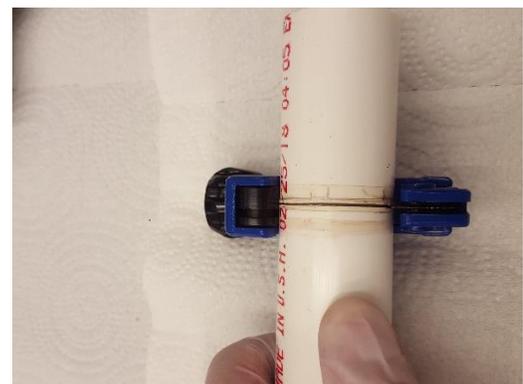
Step 1: Acquire parts

Part #'s listed: (1) Flow Meter, (2) Tape measure, (3) Thread tape, (4) Scissors, (5) PVC Slip Repair Unit, (6) Manual pipe cutter, (7) 2x Glueless brass fittings (8) 2x 1" threaded adapters (9) 1" Glueless coupler, (10) Safety glasses, (11) PVC Cleaner/Cement, (12) Safety gloves, (13) Section of 1" Schedule 40 PVC Pipe, (14) Permanent marker

Step 2: Mark 2" of PVC Pipe   Step 3: Cut PVC Pipe

Measure and mark at the 2" mark on the PVC pipe. Use the tube cutter and rotate along the pipe to score it. Do this until the pipe is fully cut.

Step 4: Apply cleaner and cement to 2" PVC pipe

Follow the instructions listed on the yellow and red labeled cans. Clean the outer surface of the PVC pipe and inner surface of the coupling using the "yellow labeled can" and then apply the cement similarly to each one. Push the two pieces together quickly otherwise the cement will dry. Wear safety glasses and protective gloves when handling the solution.

Step 5: Apply cleaner and cement to meter body

Apply cleaner and cement to both the meter body and threaded adapter. Attach adapter to meter body and notice the orientation of the flow direction arrow. Flow Pro is not responsible for improper installations.

Step 6: Apply thread tape to adapters

Use scissors to cut a small length of thread and wrap it around the adapters. Ensure the thread tape is properly wrapped around each adapter.
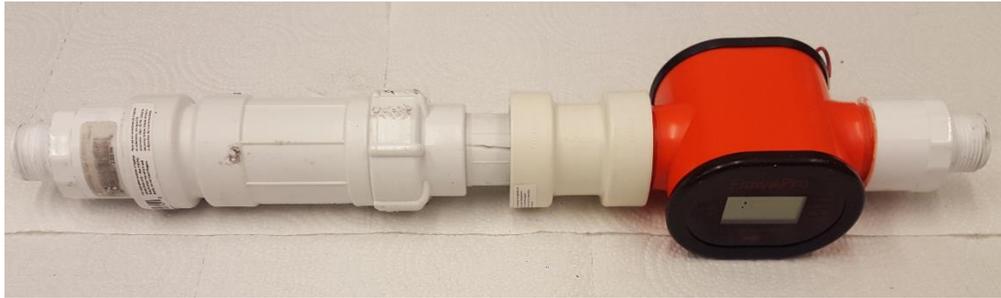

Step 7: Attach 1" glueless fitting to end of the meter

Step 8: Insert slip coupling into glueless coupling

Step 9: Insert adapter to end of glueless coupling

Step 10: Attach brass ends
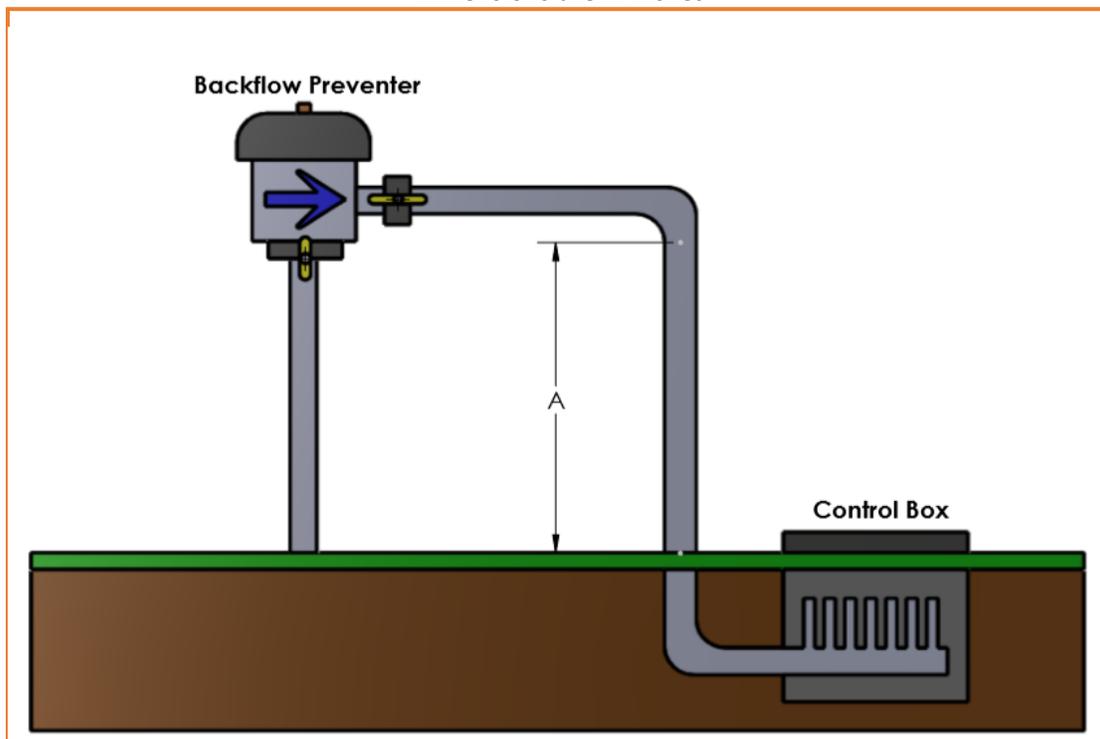

Use a wrench to tightly turn the brass fittings on to the ends of the adapters. These glueless brass fittings attach directly to the ¾" copper pipe. The extended length of the assembly is 22 ¾" and when compressed is 20". **PLEASE** ensure your backflow preventer has the proper length to accommodate the flow meter assembly.

✄ Measuring/Marking the Pipe ✄

Use the chart below to determine the size and material of your system. Use a tape measure to identify the dimensions and a fine black permanent marker to mark the lines for the fittings. Make a small "X" where the pipe needs to be cut, displayed in the diagram below.

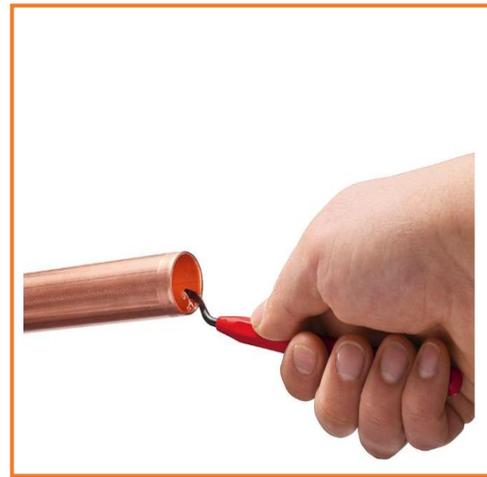| Pipe Size/Material	Dimension (A)	Dimension (B)	Dimension (C)	Dimension (D)
¾" Copper or Poly	16	N/A	N/A	N/A
1" Copper or Poly	TBD	TBD	TBD	TBD
¾" and 1" PVC or PEX	TBD	TBD	TBD	TBD

Dimensions are in inches

Note: Bottom fitting can be buried up to 1 inch for 1 inch diameter pipes made of copper/poly as well as ¾ inch diameter and 1 inch PVC or PEX pipes. Bottom fitting can also be buried up to 2 inches for ¾ inch diameter copper or poly pipe.

✏️ Cutting/Reaming the Pipe ✏️

Use the manual pipe cutter (pictured below) and secure it to the marked "X" areas on the pipe. Secure the cutter by twisting the knob. Slowly rotate the cutter to score the pipe. Continue many rotations and retightening of knob until pipe is fully cut. Use reamer or deburring pen (pictured below) to remove sharp edges on cut pipe.

*Note: Do **NOT** use sand paper to remove sharp edges, this compromises the surface quality of the pipe. If you are not comfortable doing this on your own, please hire a professional installer.*

⚙ Installing Flow Meter ⚙

Install the flow meter assembly so the arrows on the front face of the flow meter are oriented with the direction of the water flow. Water flows to the control/valve box. Push the flow meter, fittings, and pipe together firmly while *twisting* to ensure a strong seal. It is recommended to use 360-degree directional fittings to allow the flow meter to be adjusted after installation. Check for leaks by turning the water back on, if any leaks occur turn the water off and ensure fittings are properly installed at the indicated marks.

Note: When installing the two wire pulse version (model 104) connect the black wire that extends out the back cover of the meter to common, and the red wire to signal. Ensure you are using waterproof wire nuts during installation.