BetaJet Made Foolproof

Beta

Making it foolproof

- This presentation takes you through a BetaJet installation step by step, and has a troubleshooting section at the end
- This is intended as a training document both for people who've never installed a proportioner, or never installed a BetaJet
- The objective is to ensure every installation will be successful, so the rep can quickly and confidently get the account up and running with your chemicals and overcome any unusual conditions encountered

Opening the BetaJet #1

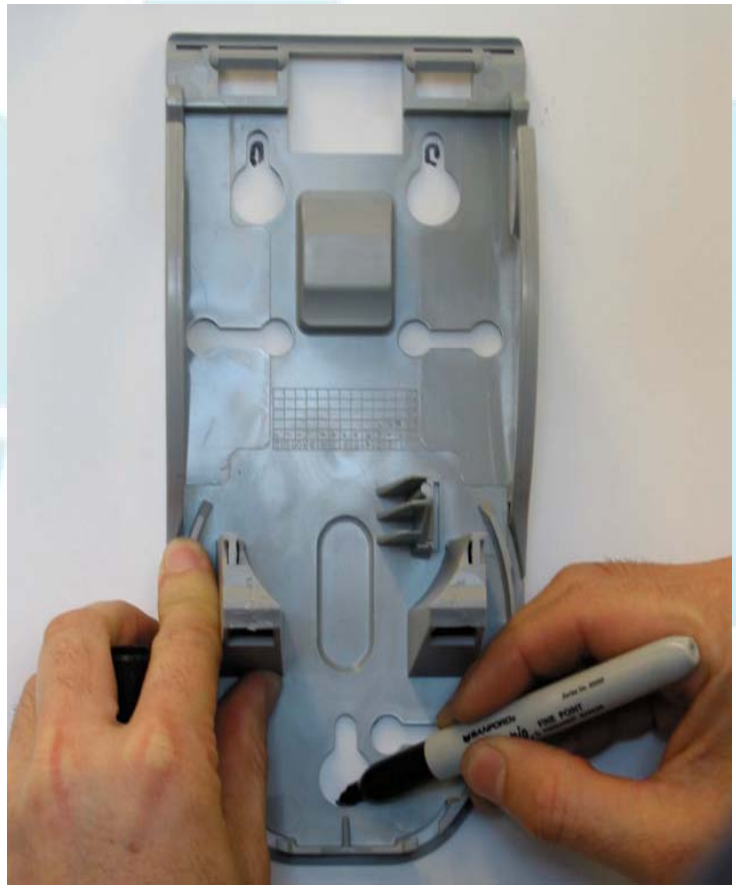
- BetaJet comes with a locking cover to prevent tampering
- Push the metal C-clip into the cover; it will insert leaving only 1/4” between the clip and the cover as shown
- With the clip inserted, the cover will be unlocked from the backplate
- Remove the cover with the C-clip in it
- Note: remove the C-clip from the cover before replacing it

Removing venturi

- Push the backplate tab that holds the venturi down with your right hand, to release it from the backplate
- Lift the venturi up and out of the backplate

Marking mounting holes

- Place backplate against wall and mark the top of the top two mounting holes, and the bottom of the bottom mounting hole
- If mounting multiple units, refer to the following BetaJet interconnect slides before marking holes

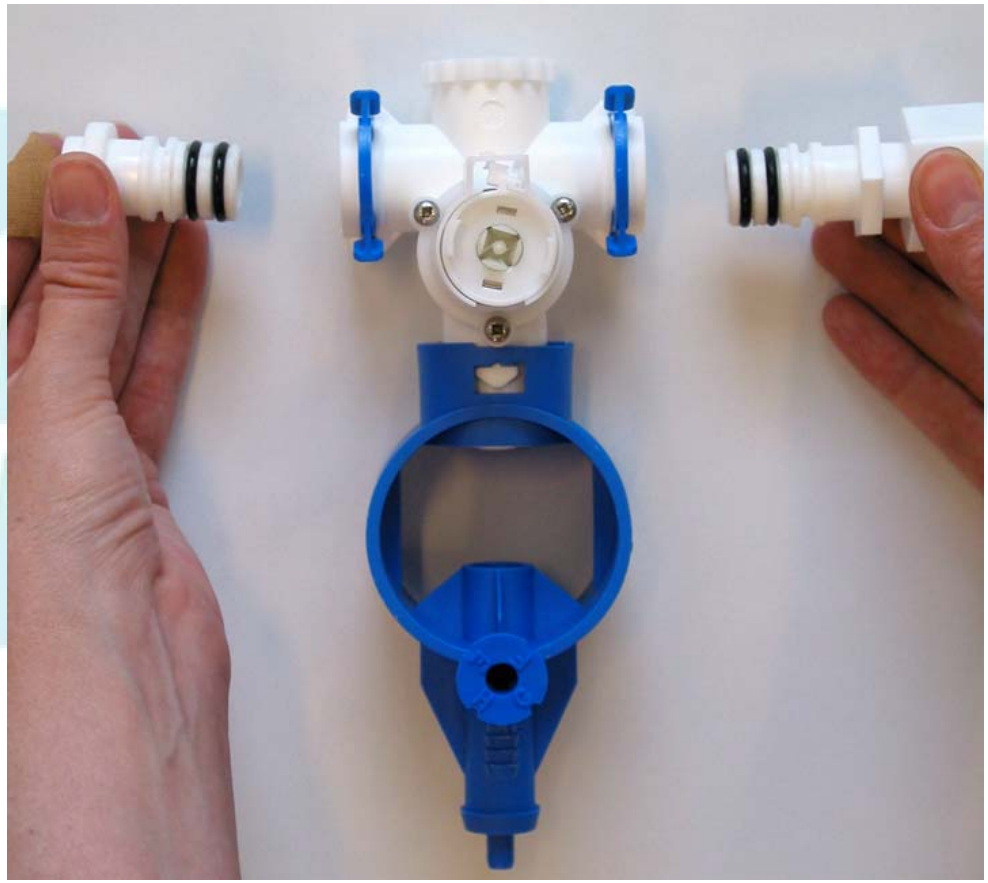


Mounting screws

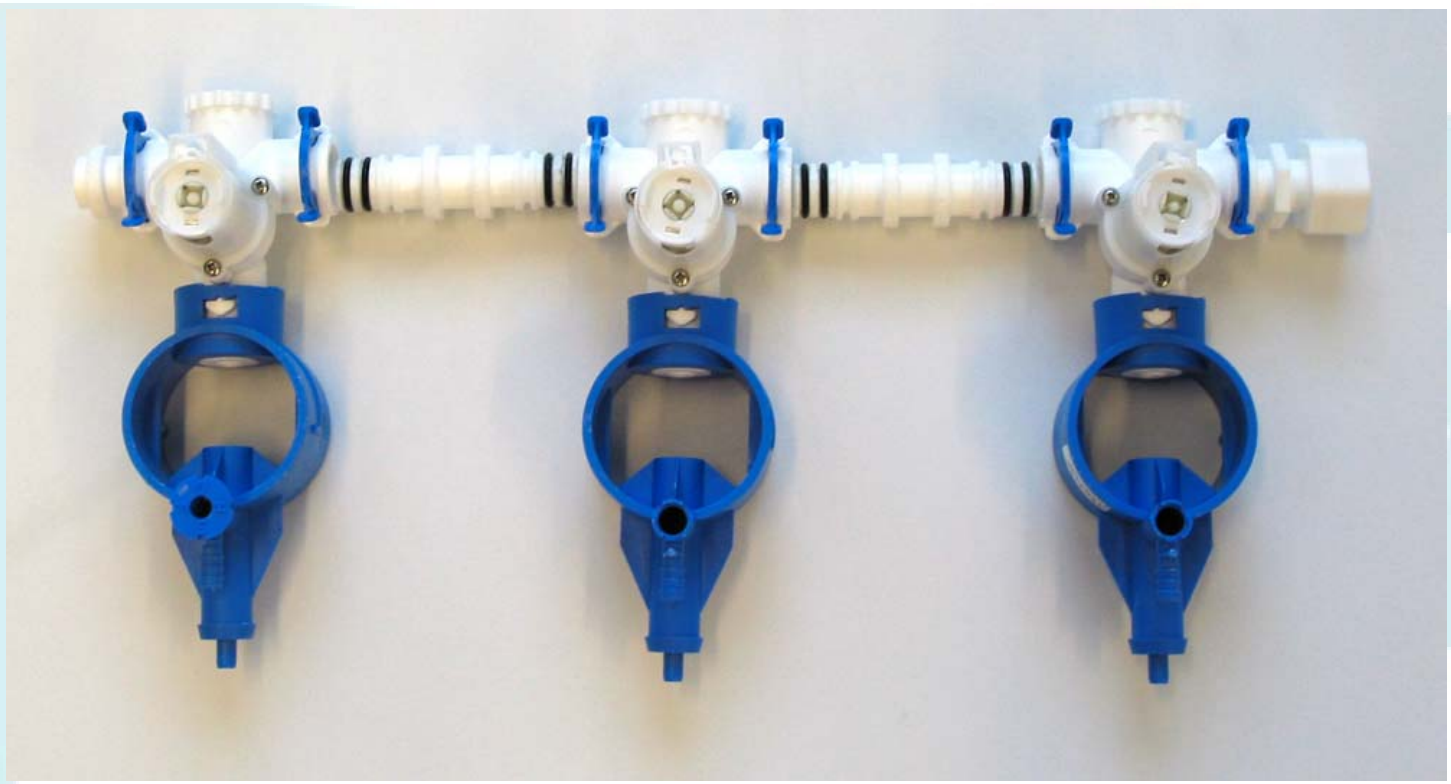
- Drill out the three holes, and put in the top two screws, so they’re at the top of the keyholes as shown
- Put the third screw in at the bottom of the bottom keyhole; this will secure the BetaJet in place on the wall so it can’t be pushed up off the screws in normal operation

Interconnecting BetaJets #1

- When mounting multiple units, they need to be interconnected first to ensure proper spacing between the mounting holes
- Pull out blue clips slightly (they don’t need to be removed from the valve--just pulled out a bit)
- Remove water inlet fittings and water hole plug fittings from each unit as shown



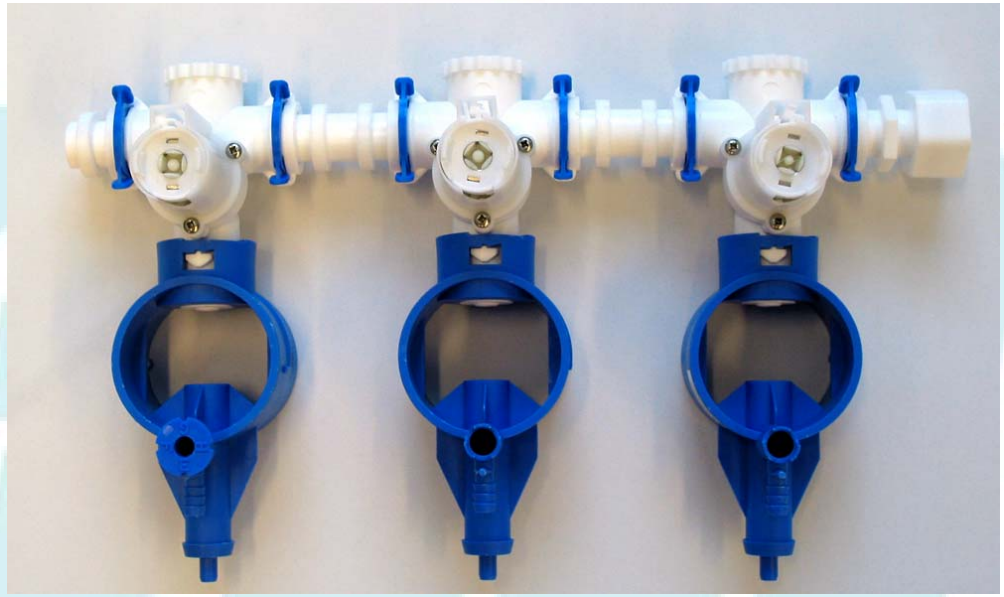
Interconnecting BetaJets #2

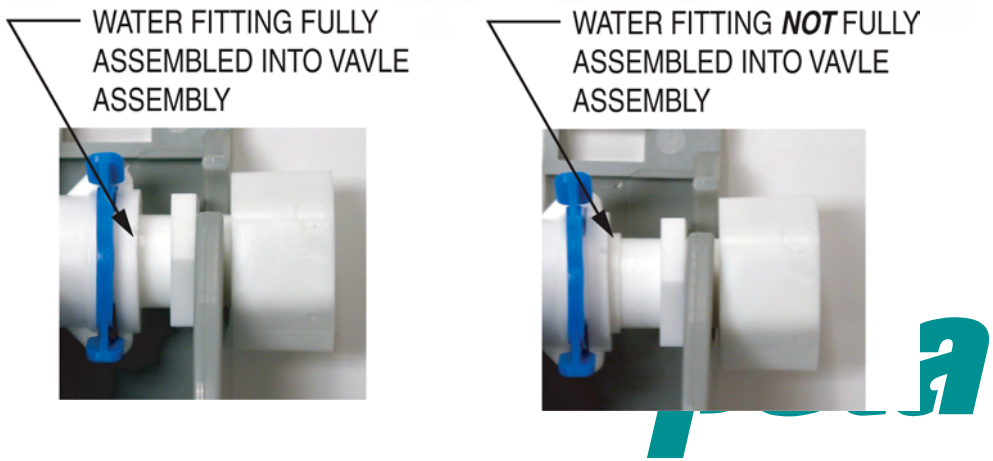


- In between the BetaJets, replace the hole plug and water inlet fittings with the interconnect, item #1202026

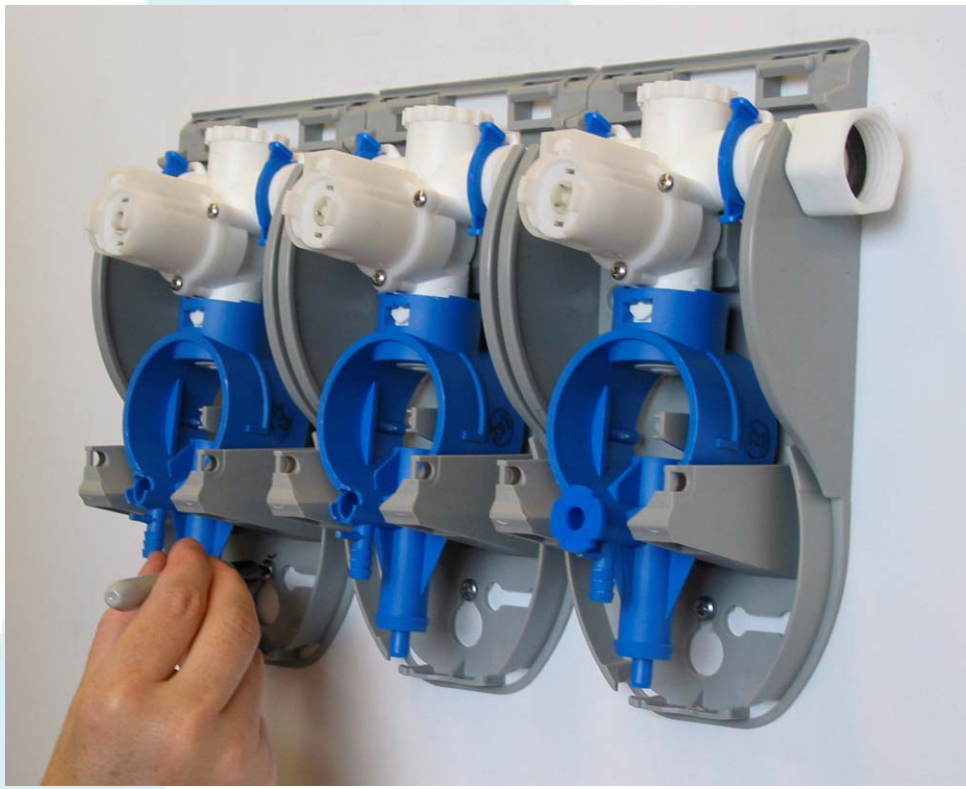
Interconnecting BetaJets #3

- Push the units together
- All BetaJet spares and accessories come prelubricated with silicone lubricant, but it should be reapplied if it's been worn off
- Push blue clips back into position
- Always verify water fittings are fully inserted into the valve assembly before turning on water supply





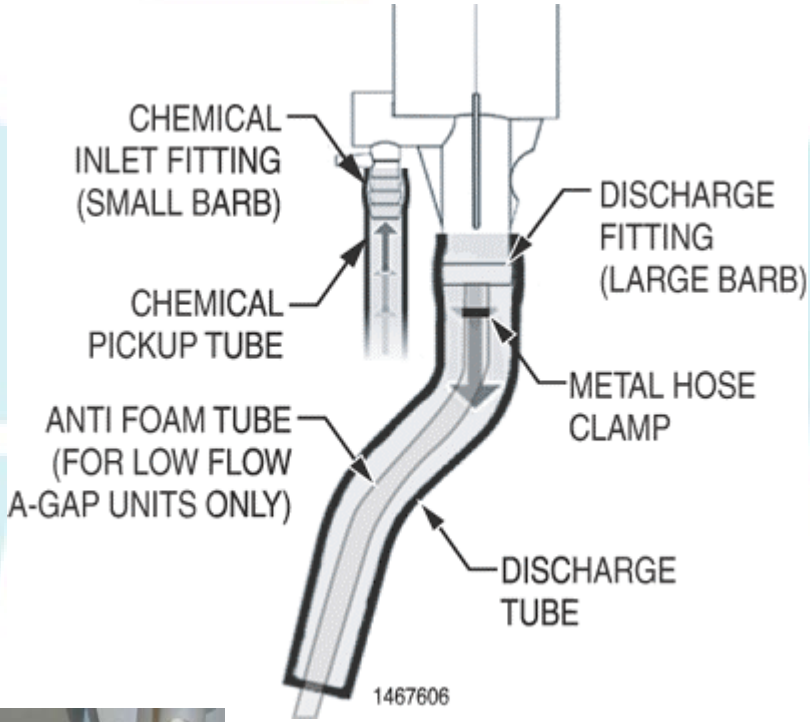
Mounting multiple BetaJets



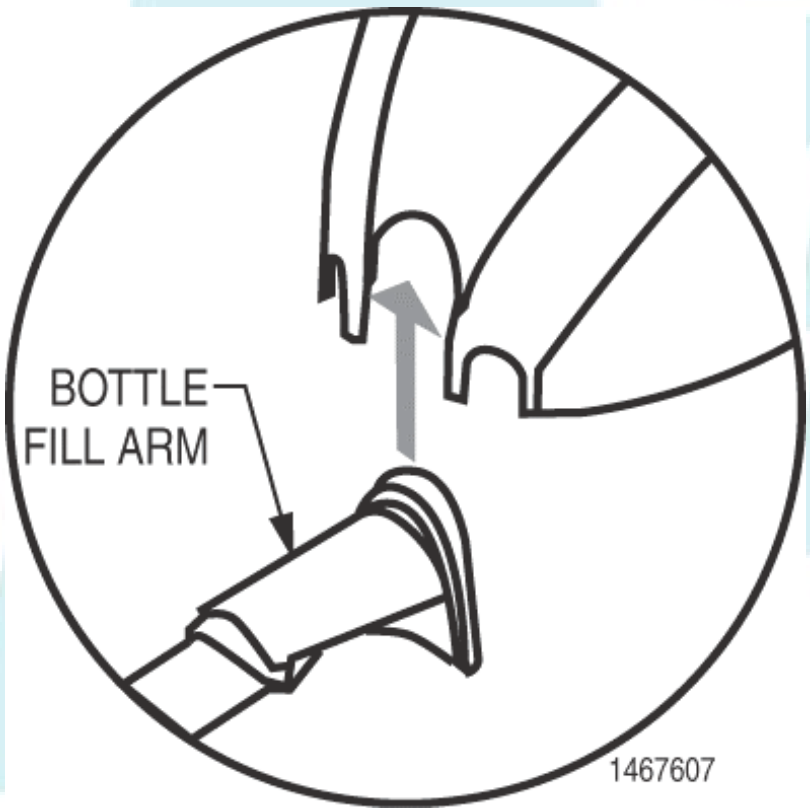
- Insert the interconnected venturis into the backplates
- Hold these up against the wall and mark the top of the top keyholes, and the bottom of the bottom keyholes
- Verify the markings are straight with a level before drilling

Tubing connections

- Attach the bottle fill tube or large bucket fill tube to the large barb
- If using an airgap low flow unit, add the anti-foam tube as shown
- Attach chemical pickup tubing to the small barb and route through the bottom of the backplate as shown
- Secure tubes with tie wraps



Attaching bottle fill arm to cover

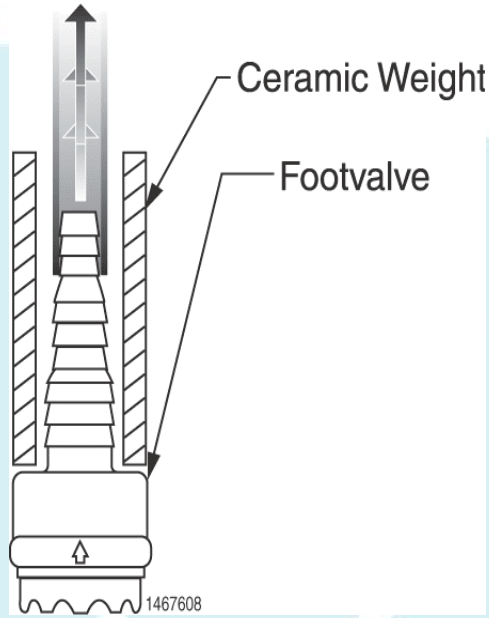


- Slide bottle fill arm into bottom of BetaJet cover
- The fit is tight, so once the arm is partially inserted into the cover, turn the cover & arm over and tap the arm against a hard surface until it fully mates with the cover
- Whenever reattaching BetaJet cover, first align hinge and push cover down, then wedge bottle fill tube into arm

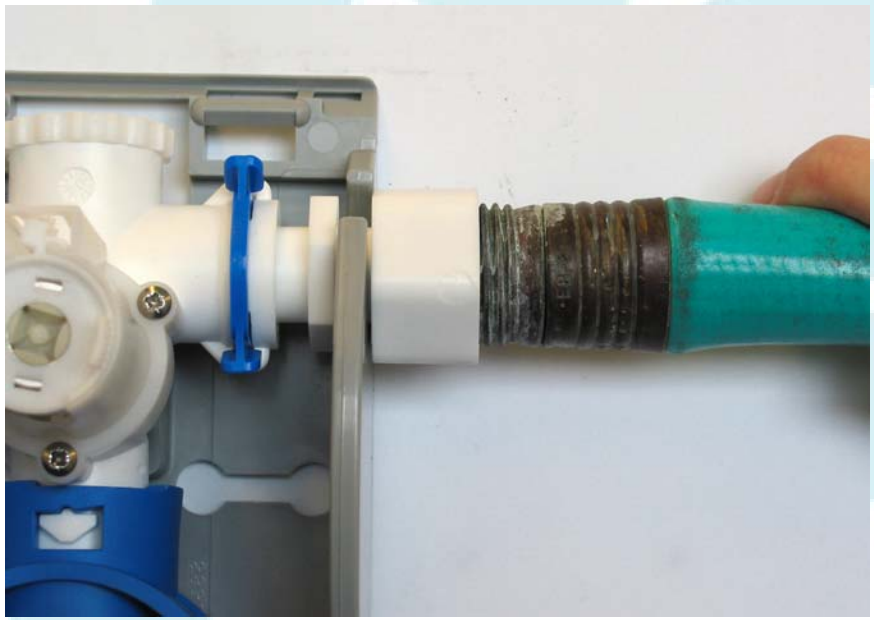
Weight and footvalve attachment

- Put ceramic cylindrical weight over bottom end of tube
- Push tube over footvalve

- *Note: Whenever feeding multiple proportioners from one footvalve through a T fitting, use inline check valves after the T to ensure neither proportioner draws air through the other*



Attach water supply

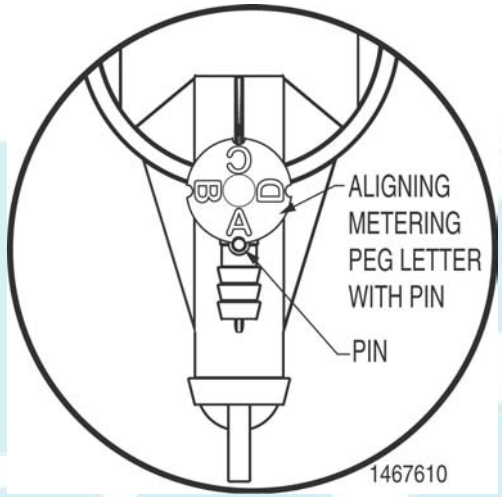


If you want to attach 3/8" copper tubing water supply, use adapters 017286 and 016646

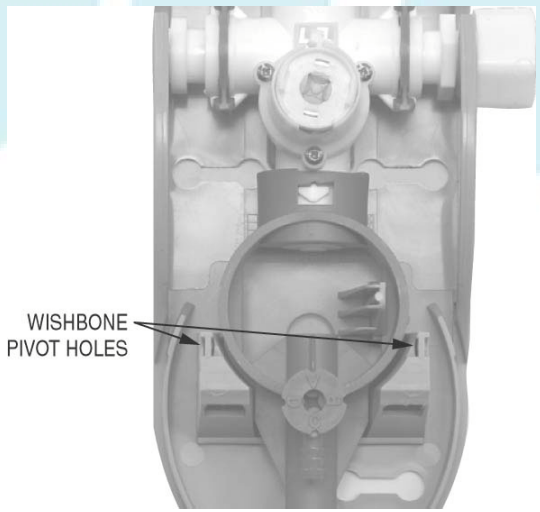
- Screw water connection into threaded garden hose fitting, using a wrench if necessary
- If a wrench is needed but not available, pull the blue clip out slightly, pull the fitting out of the BetaJet, screw it on the hose, and reinsert the fitting back into the BetaJet with the hose attached (this method's faster than a wrench)
- Be sure blue clips are fully pushed back into place before turning on the water supply

Prime chemical lines

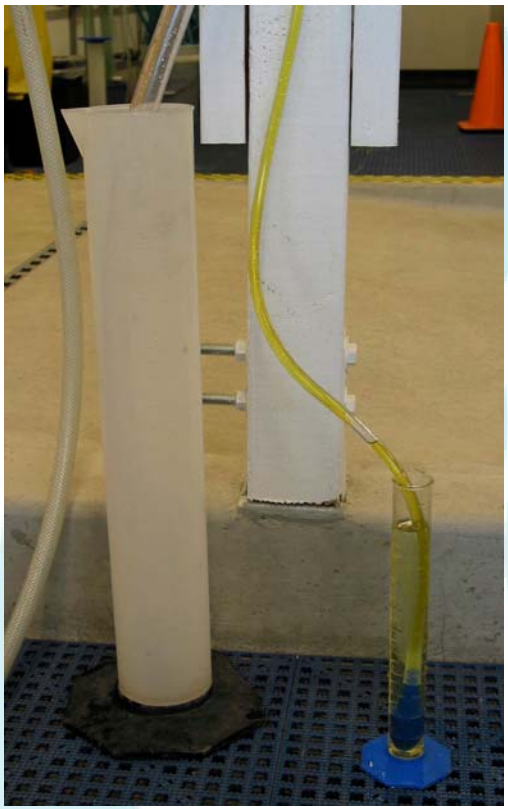
- Align metering peg setting “A” with the pin
- Reattach wishbone and turn on water supply, using a container to hold discharge water
- Push down on wishbone to activate unit and fill the chemical tube all the way up to the BetaJet chemical inlet fitting
- Don’t worry if the wishbone pops off when pushed on by hand-it works properly once the cover’s on



For the fastest prime, always prime with peg setting “A”



Calibration #1



- *Unless the same chemicals and flow washers or pressure regulators are used in all in your installations, variables of pressure and viscosity will effect dilution, mandating calibration for dispensing accuracy*
- Set up a small and a large graduated cylinders
- Fill the small one halfway with chemical, and put the suction line in it
- Note the amount of chemical in the small cylinder
- If storing chemicals in a wire rack on the wall, be sure to put the small cylinder at the wire rack height

Calibration #2

- Select a metering peg setting that corresponds to your target dilution. (ref chart on next page)
- Low flow units are for bottle fill, high flow for sink and bucket fill.
- Fill the large graduated cylinder, writing down ***solution dispensed: chemical used*** to calculate dilution
- Change peg setting and repeat if necessary

Calibration #3

PEG SETTING	LOW FLOW BETAJET DILUTIONS				
	Viscosity	Water	5 CPS	17 CPS	705 CPS*
	A	3	3	4	39
	B	3	3	4	37
	C	4	4	5	37
	D	8	7	9	36
	E	9	9	11	39
	F	12	13	17	46
	G	15	16	22	56
	H	17	19	27	63
	I	20	22	31	72
	J	25	29	43	91
	K	37	45	73	147
	L	47	58	100	207
	M	64	89	153	327
	N	93	128	260	504
	O	170	280	747	1525
	P	525	1313	4500	9384

PEG SETTING	HIGH FLOW BETAJET DILUTIONS				
	Viscosity	Water	5 CPS	17 CPS	705 CPS*
	A	5	5	7	66
	B	6	6	8	67
	C	7	7	9	69
	D	18	19	21	85
	E	21	22	26	91
	F	27	30	35	103
	G	32	35	46	121
	H	36	40	52	134
	I	41	47	66	152
	J	52	61	90	189
	K	76	92	150	301
	L	97	122	200	433
	M	120	167	287	614
	N	180	249	506	980
	O	315	520	1384	2825
	P	800	2000	4500	14300

- Use the dilution chart at left to select your metering peg setting for calibration
- The chart shows the impact of chemical viscosity on dilution; tube length, temperature, water pressure, and vertical distance from the chemical level to the proportioner will also impact dilution
- If a higher dilution is needed, as for quaternary sanitizer applications, use an ultradilution capillary tube

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Calibration #4 Closest metering peg settings for competitors colored tips (for reference only)

Low Flow Peg Setting Selector

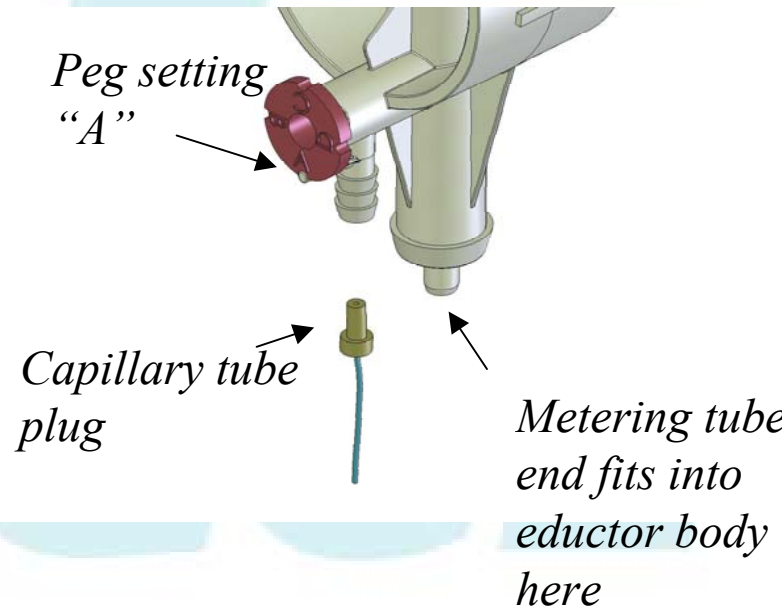
BetaJet Peg Setting	Hydro Peg Color	Knight Peg Color	Dema Peg Color
A	No tip, gray, black		
B	Beige		
C	Red, w hite	White, yellow	No tip, gray
D	Blue, tan	Pink, drk green	Purple
E		Black	Black
F	Green	Brow n	Yellow
G	Orange	Gray	Blue
H	Brow n		Green
I		Blue	White
J	Yellow		Red, brow n
K	Aqua	Red	Clear
L	Purple	Peach	Pink
M		Lt Blue, purple	Turquoise
N	Pink	Lt green, orange	Orange, tan
O		Lt brow n	
P			

High Flow Peg Setting Selector

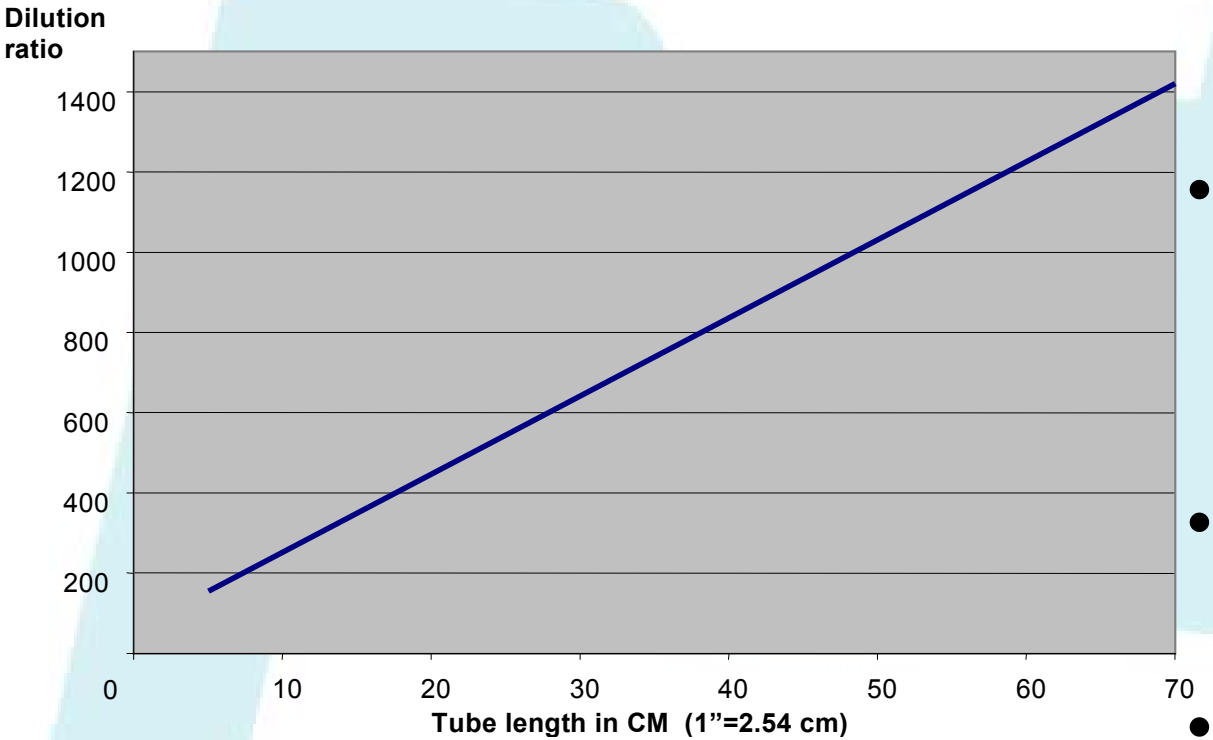
BetaJet Peg Setting	Hydro Peg Color	Knight Peg Color	Dema Peg Color
A	No tip, gray, black	White	
B		Yellow	
C	Beige	Pink, drk green	No tip
D	Red	Black	Gray
E	White	Brow n	Purple
F	Blue		
G	Tan	Gray	Black
H			
I	Green	Blue	Yellow
J	Orange	Red	Blue
K	Brow n	Peach	Green, w hite
L	Yellow	Lt Blue	Red
M	Aqua	Purple	Brow n
N	Purple	Lt Green	Clear, pink
O	Pink	Orange, lt brow n	Turquise, orange
P			Tan

Optional: Ultradilution kit #1

- Use the metering peg "A" setting, and insert the ultradilution capillary tube's plug end into the chemical inlet fitting
- Run the capillary tube down through the chemical suction tubing. Hold the chemical tubing straight if the capillary tube is long, so the capillary tube won't kink and jam up inside the suction tube
- Fit chemical suction tube over the plug onto the chemical uptake fitting
- Squeeze tube down over the ultradilution capillary tube plug end, and push it up firmly into the fitting



Ultradilution kit #2



- Use the chart at left to select the capillary tube length you’ll need
- Prime and calibrate, filling a 1 gallon or 2 litre jug several times to ensure an accurate reading
- Write down the amount of *water:chemical* to calculate the dilution
- If the dilution is too high, cut 1 cm (0.5”) off the end of the tube and repeat the calibration

•*Actual dilution will depend on viscosity, temperature, and height difference between proportioner and chemical supply*

•*Always trim the tube with a sharp blade. Using a dull blade can squash the tube so chemical can’t be drawn through it*

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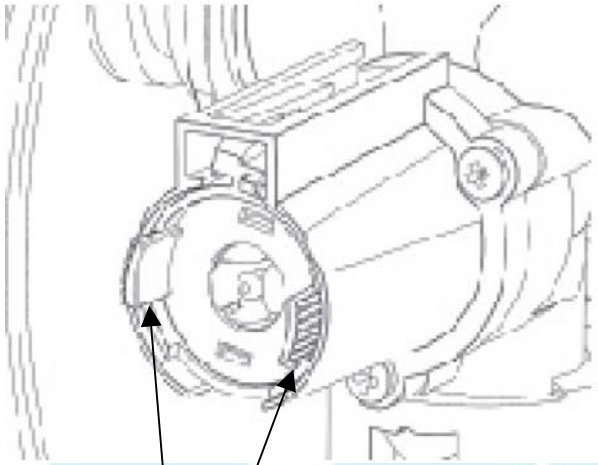
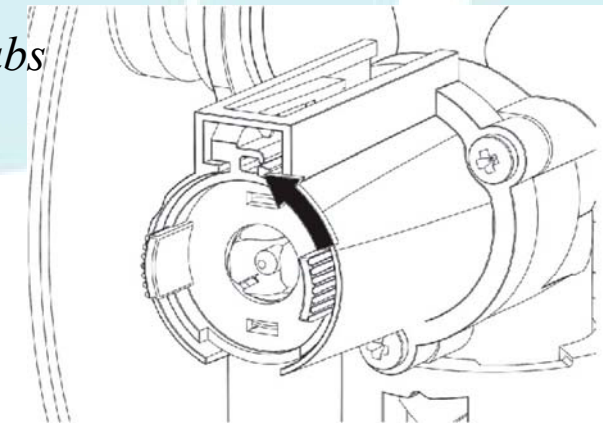
Optional: sink fill "lock on" activation



Valve disk tabs



Lock on activation is required for sinks since it's not practical so hold down the button for the duration of sink fill

- To switch from momentary hold-down activation to lock on, twist the valve disk tabs counter-clockwise about 3 mm (1/8") until it "clicks"
- Simply turn the disk back clockwise if you wish to revert to momentary "hold down" activation

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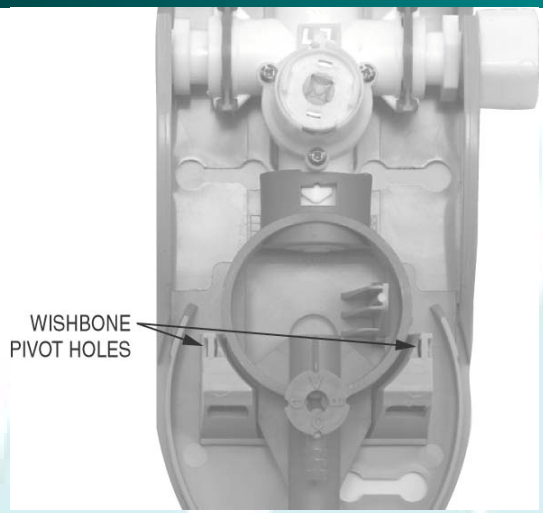
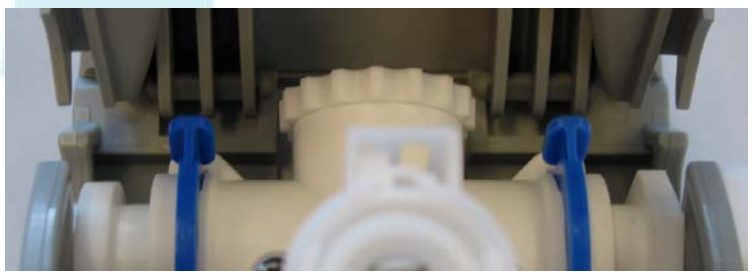
Replacing cover





- Attach wishbone to pivot holes
- Align the six cover hinges so they match the backplate as shown on the lower left
- Push cover hinges over backplate hinge bar as shown at bottom left
- If the cover doesn’t fit on correctly, it’s likely the hinges aren’t correctly aligned
- If it fits on but doesn’t have an up/down push action, the wishbone is missing

Optional wire rack mounting

- If installing a wire rack to hold the chemicals, hold the rack against the wall with a level on it and mark where the keyhole slots are on the wall
- Drill holes where the marks are, and put in screws.
- If you're going to add a lock to the wire rack and want extra security so it can't be easily removed from the wall, use non-removable screws and put them through washers as you screw the rack onto the wall

Above: rack 1203104
Below: rack 1203105

Troubleshooting

Solutions to potential installation and maintenance issues

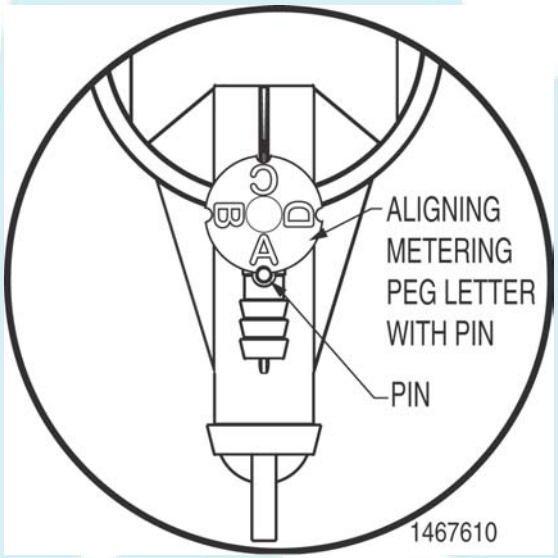
No concentrate drawn up

Water pressure or temperature issue

- Test for adequate water pressure; if the pressure's low try putting the chemical higher up as in a wire rack, so less water pressure's required to pull chemical into the venturi.
- In extremely low water pressure circumstances with viscous chemical, use a 3/8" ID (10 mm) suction tube
- Ensure water temp is under 75 degrees C/160 degrees, so it won't boil in the venturi under vacuum

No concentrate drawn up

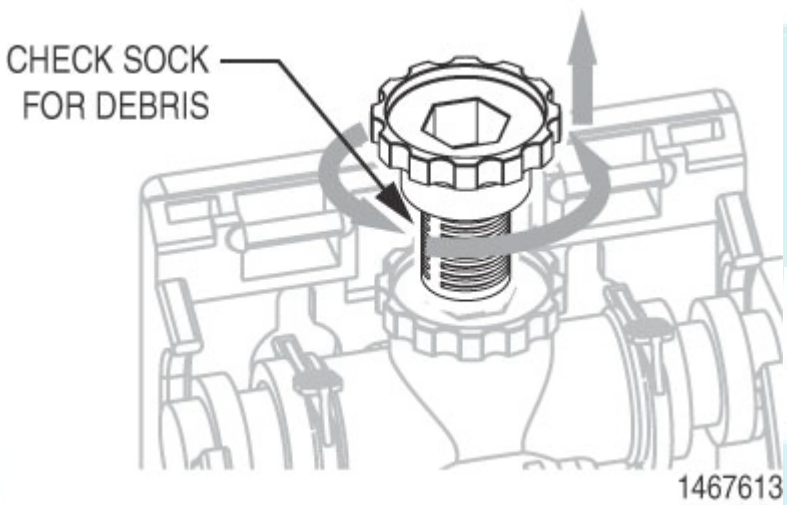
Clogged metering tip



- To verify whether a plug's clogged, simply check the metering peg groove aligned on the metering peg pin for chemical goop or precipitate
- Wipe any material which could be creating a clog out of the groove and hole the peg fits into

No concentrate drawn up

from BetaJet closest to water supply



- If only the upstream BetaJet is out of service, it indicates a dirty water sock
- Remove the strainer
- Pull off and replace or clean the sock
- If the sock & strainer have hard water deposits, clean with acid *(as with any installation or maintenance, be sure to wear rubber gloves and goggles)*

HF vs. LF/RG vs. AG

No chemical suction due to HF venturi being used with LF nozzle/R-gap

- If a low flow cartridge or nozzle is used with a high flow venturi, there will be less vacuum to draw up product

- *Always use compatible parts; never mix HF and LF parts*:
- Low flow venturis are gray
- Low flow air gap nozzles have dartboard-pattern ridges per the top left nozzle
- Low flow R-gaps have an "L" molded into the white plastic cartridge
- High flow venturis are white or blue
- High flow R-gaps have no "L"
- High flow nozzles don't have dartboard-pattern ridges

AGLF *AGHF*

Air gap nozzles

RGLF *RGHF*

R-gap cartridges

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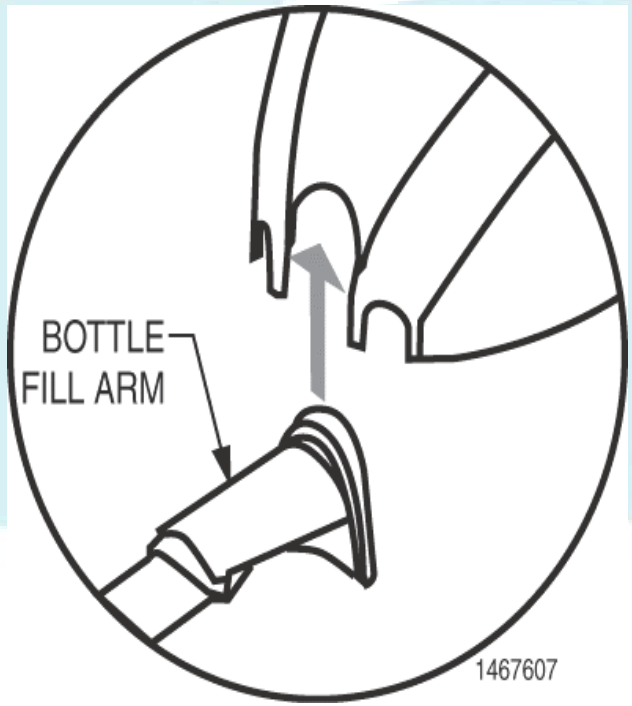
Leaking/Splashing

From air gap venturi

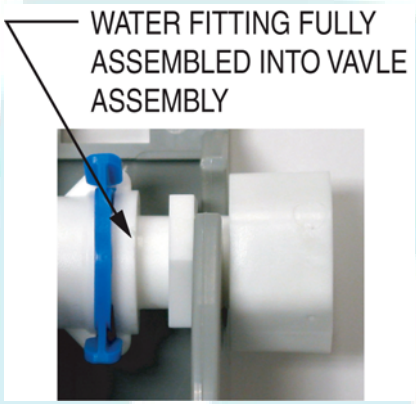
- If air gap nozzle is dirty, replace it or soak in acid without o-rings to remove hard water deposits
- Ensure a low flow nozzle isn't being used with a high flow blue/white venturi
- Install pressure regulator if pressure is over 78 PSI (5.5 bar)
- If these efforts don't eliminate splashing, push nozzle up and twist slightly to restore fit
- Replace nozzle (or switch to Rgap if local plumbing codes allow) as a last resort

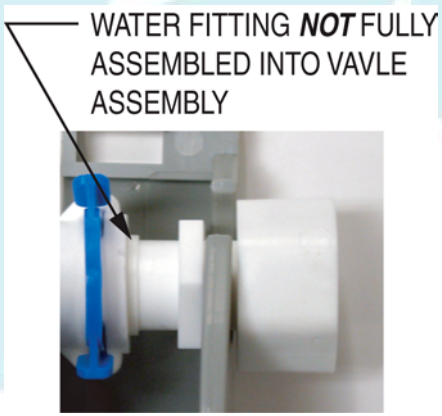
One-hand fill arm broken

- While the cover's dome transmits force to the wall so it's almost indestructible, the arm can be split or knocked off with extreme force
- If the arm has been pushed loose, replace as shown
- If the arm is broken, order a replacement item 1200520. The unit can still be used for bottle fill without the arm, by pushing on the cover to turn it on



Unit leaks at water fittings

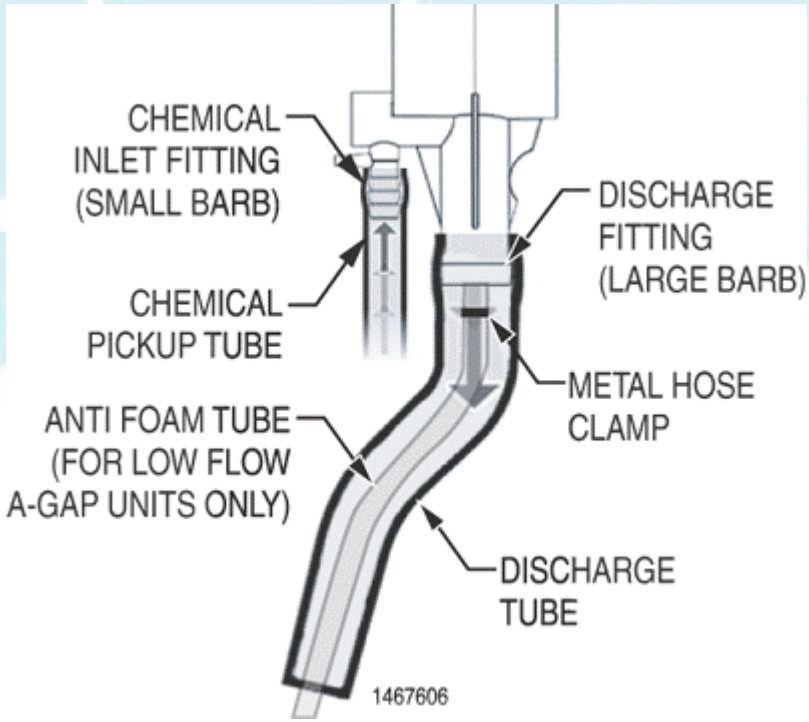




- Leaking is caused by turning the water pressure on without the blue clips snapped into place
- If a lip of the water fitting is visible as shown on the top left, the fitting is not fully inserted into the valve and could leak
- Turn water supply off, purge lines of pressure, and reassemble

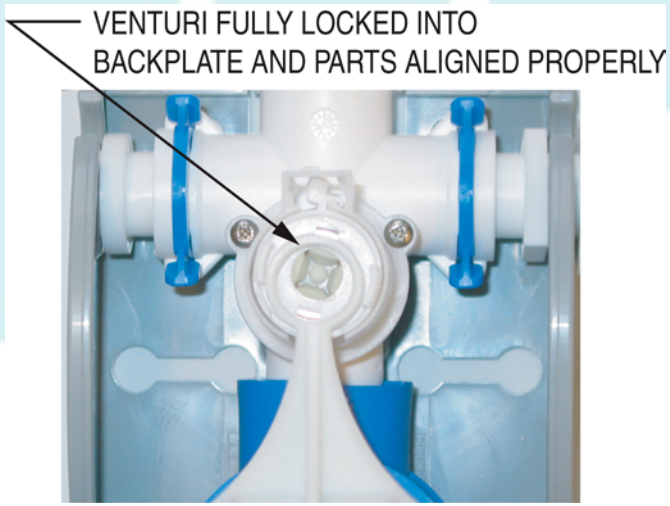
Excessive foaming

- Air gap low flow units foam the most, due to the type of action in the venturi
- Install the anti foam tube from the AGLF unit kit onto the spigot inside the discharge tube, being sure to clamp it in place
- In rare cases foaming may remain despite the anti foam tube, in which case order bulk anti foam tube from Beta and use a 12” long anti foam tube



Can’t turn BetaJet on

Valve/venturi not locked into backplate or parts not aligned properly

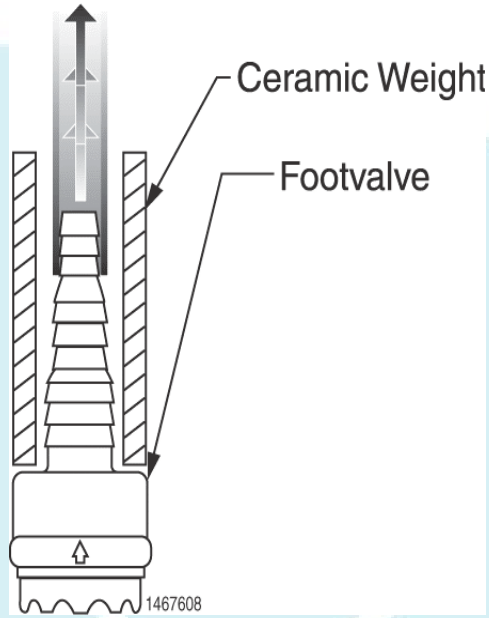


- If the valve/venturi lifts up, it’s not locked in place and should be pushed in. If it’s not locked in, the wishbone and cover won’t align properly
- Make sure the wishbone is in place as shown
- If the unit(s) are screwed tightly onto an uneven wall, it may be necessary to loosen some screws to reduce warping so the parts will be in alignment for proper unit activation

Footvalve problems

•Footvalve won't pull product through: This is caused by either a physical clog or chemical attack. First check screen for debris. If the chemical in question has a history of trouble with industry-standard viton footvalves, compare your chemical's ingredients on the MSDS to EPDM on our website's "pump tube chemical compatibility" chart; if EPDM resists the chemical's ingredients better than viton, our EPDM footvalve item 1200933 is likely the solution.

•Not holding prime: could be internal dimensional problems or chemical attack. Consult pump tube chemical compatibility chart on website to see if EPDM is compatible with the chemical in question.



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