



Metcraft

INDUSTRIES INCORPORATED

301 S.E. Thompson Drive
Lee's Summit, MO 64082

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www.metcraftindustries.com

Stainless Steel Plumbing Fixtures

**General Terms and Conditions
Fixture Installation
Care and Cleaning
Valve Installation
Valve Trouble Shooting**

STAINLESS STEEL PLUMBING FIXTURES

Metcraft stainless steel plumbing fixtures set industry standards for safe and reliable operation under the specialized conditions such as prisons, jails and public use environments. The following special features enhance safety and security.

- *Integrally welded heavy gauge stainless steel construction.
- *Standard satin finish
- *Smooth exposed edges
- *Special tamper resistant fasteners which resist unauthorized disassembly.
- *Toilet fixtures are reinforced to withstand load stress of 3000 lbs without permanent damage.
- *For maximum security, Metcraft recommends the use of optional security frame.



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GENERAL TERMS AND CONDITIONS OF SALE

Pricing, Quotations and Orders

Price list are subject to change without notice. Consult the factory for current pricing. Quoted prices are guaranteed for 30 days from date of the quote. The order must ship 3 months from the date the order is accepted. A written purchase order is required by the factory on all orders. No purchase order is effective until it is accepted by the factory. An order verification will be issued upon acceptance of the purchase order. This verification will be the governing document. The Buyer must advise the factory in writing of any noncompliance with the purchase order. Any such advisement constitutes a new purchase order, which must be accepted by the factory. Change orders must also be formally accepted with the issuance of a new order verification and are subject to additional pricing. Once an order verification has been issued, the order is considered binding and cannot be canceled without Metcraft's written approval. Canceled orders will be subject to a cancellation charge. Orders with indefinite ship dates (i.e. hold for approval, will advise etc.) have no status. All information required by factory must be provided by the Buyer before a binding purchase order will be accepted.

Specification Requirements

All designs are subject to change without notice. Unless otherwise stated in the purchase order, goods will be furnished of the design in effect at the time the order is filled. Every effort will be made to quote on goods, which are equal, or superior to those specified. Metcraft will provide submittals sheets but cannot guarantee approval by architect/engineer/owner. When goods are approved as submitted, the limit of Metcraft's responsibility is to provide the goods as approved. Field dimensions are the responsibility of the Buyer and must be given to Metcraft in writing with Buyer's signature. Current rough-in dimensions are provided with formal submittal drawings. Dimensions are subject to (+ or -) ¼" manufacturer's tolerance and may change without notice. Metcraft Industries will not be responsible for use of superseded or obsolete drawings.

Payment and Taxes

If the order verification reflects terms, such terms are subject to credit approval prior to shipment. Check must be dated and postmarked by date-required. Payment must be based on invoice date; not date merchandise or invoice is received. All terms of payment or conditions of sale on purchase order that are contradictory to Metcraft's payment terms will not apply. If Buyer defers delivery of goods, goods will be considered shipped on the date scheduled and payment in full is due according to terms on order verification. Any additional cost Metcraft incurs for such delay will be the responsibility of Buyer. Minimum invoice charges will be enforced. If exemption from sales taxation is claimed, a sales tax exemption certificate must be received with the written purchase order. Metcraft reserves the right to request from Buyer all required information needed to file a preliminary notice for a mechanics lien on order to perfect a lien at a future time if deemed necessary.

Freight and Delivery Terms

All shipments are F.O.B. origin at Buyer's risk. Freight terms are stated on order verification. All shipping weights are estimates only and are not guaranteed. Metcraft reserves the right to designate the freight carrier. Shipping dates are not guaranteed. Metcraft is not liable for any loss or damage arising out of delay in delivery of any goods due to causes beyond its control. When an order is scheduled and in production, changes in shipping date can only be made by written notice on the condition that any charges incurred will be charges to Buyer and rescheduling will only be made on the basis of factory convenience. Items must be shipped within 3 months from date of quote unless this period has been extended in writing by factory.



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Claims and Shortages

The Buyer must file all claims for losses and damages in shipment; provided however, Metcraft will, if requested in writing, file such claims if Buyer has complied with all of the following within five working days after receipt of shipment:

1. Inspects shipment immediately upon receipt.
2. Have shipment inspected by delivering carrier for losses & damages.
3. Files inspection report with carrier and sends copy to factory.

All claims for failure to receive shipment must be reported in writing to Metcraft within 30 days of invoice date. All claims for shortages must be reported in writing to Metcraft within 14 days of shipment.

Return Of Goods

All items are manufactured per specification. The return of any goods is based on Metcraft's discretion. No goods shall be returned without written return materials authorization (R.M.A.) from factory. Requests for R.M.A.'s must be made within 60 days of shipment. To receive an R.M.A., the Buyer must supply the invoice number and date. Terms of the return are listed on Metcraft's R.M.A. when it is issued.

Warranties

Goods manufactured by Metcraft are warranted to be free from defects in workmanship and material for a period of one year from date of shipment. Metcraft must receive written notice from buyer of any defects promptly after discovery and within a one year period. Within a reasonable time after such notification, Metcraft will, at its sole option, repair or replace defective parts. This is the Buyer's exclusive remedy for breach of warranty. Metcraft will under no circumstances be responsible for consequential, incidental or special damages based upon breach of warranty, breach of contract, negligence, strict tort or any other legal theory. The statute of limitation within which any claims can be filed against Metcraft is one year.

THE FOREGOING WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY, TITLE AND FITNESS FOR A PARTICULAR PURPOSE

The failure of Metcraft to insist upon the strict performance of the terms and conditions of sale shall not constitute or be construed as a waiver or relinquishment of Metcraft's rights thereafter to enforce any such term or condition or any other term or condition. Metcraft's order verification shall be construed under and governed by the Missouri Uniform Commercial Code and such laws of the state of Missouri as may be applicable.

NO AGENT OR REPRESENTATIVE OF METCRAFT IS AUTHORIZED TO MAKE ANY EXCEPTIONS TO THESE TERMS AND CONDITIONS OF SALE. IF LEGAL ACTION IS NECESSARY TO ENFORCE ANY OF THESE TERMS AND CONDITIONS OF SALE, THE CUSTOMER WILL BE RESPONSIBLE FOR ANY COURT COSTS AND REASONABLE ATTORNEY'S FEES.



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FIXTURE INSTALLATION

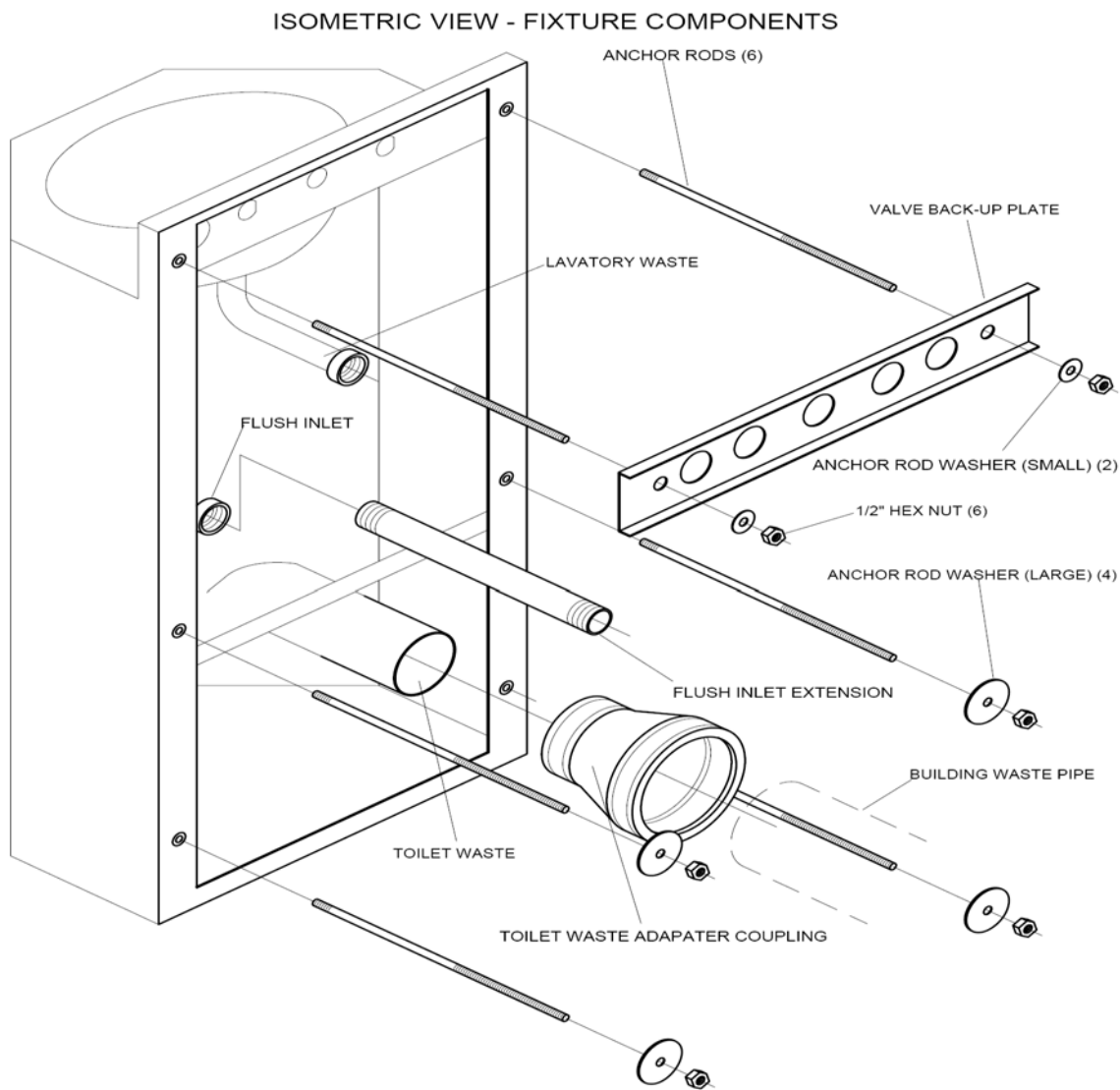
At the time of installation, check to make sure frame is square and has not been damaged in shipment. If the frame is out of square mounting holes will not match fixture anchor locations

Locate rough-in position on wall. If a Metcraft security frame is to be incorporated, cast the frame in place or block in place by conventional construction methods.

Rough-in all plumbing connections required by fixture.

Attach backsplash trim, all through wall plumbing connections and seal.

Attach anchor rods to fixture. Unit is now ready for final positioning.

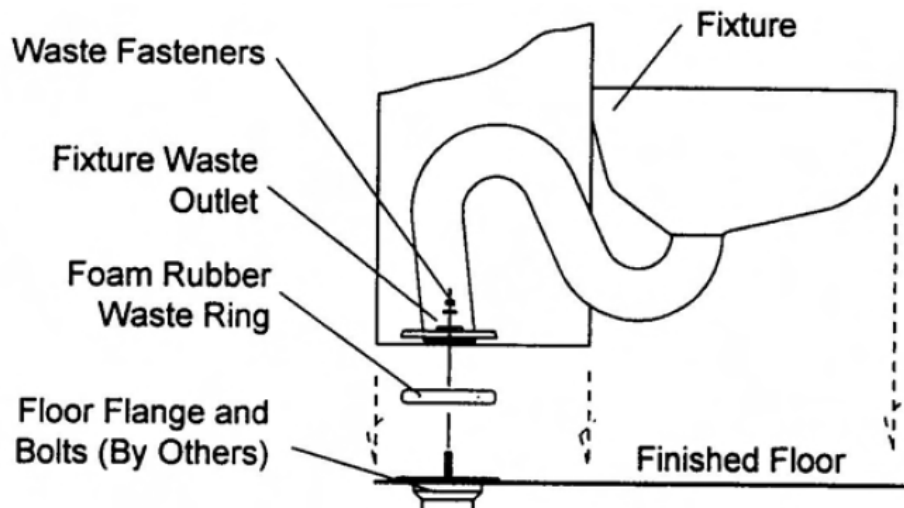


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PLUMBING CONNECTIONS

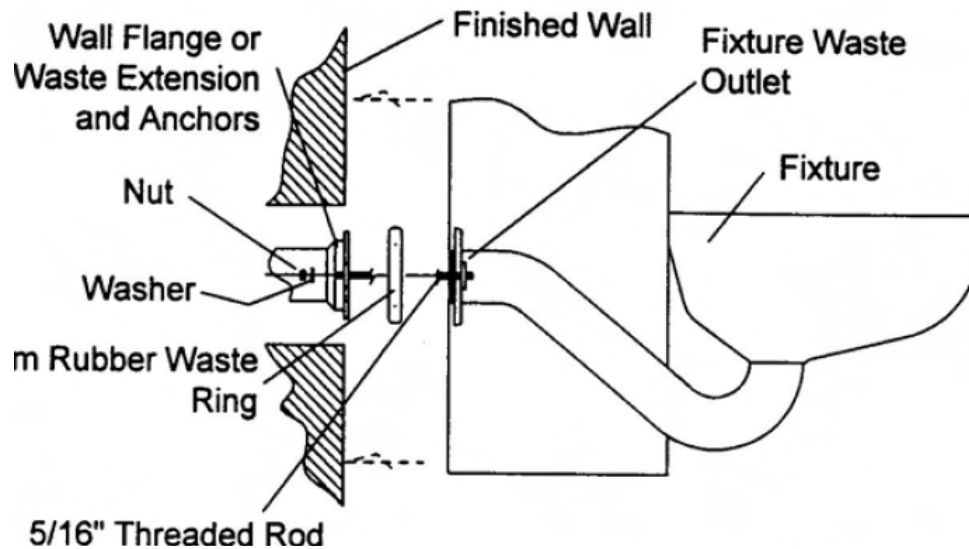
Plumbing connections on Metcraft security fixtures are made per conventional industry standards. The following details illustrate standard plumbing connections. Please refer to supplementary information covering valve applications. Always follow local plumbing codes.

Basic Floor outlet toilet waste connection



All waste connections provided by others

Basic Wall outlet toilet waste connection

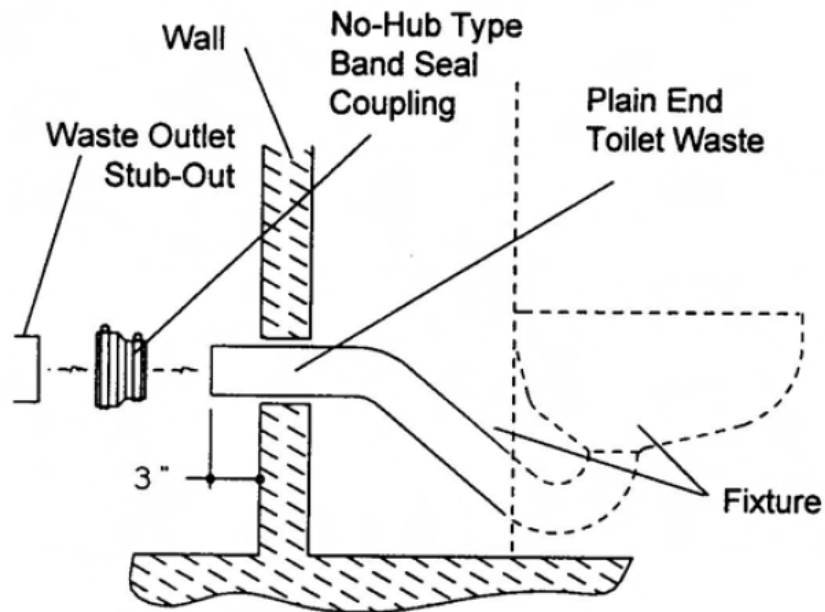


All waste connections provided by others

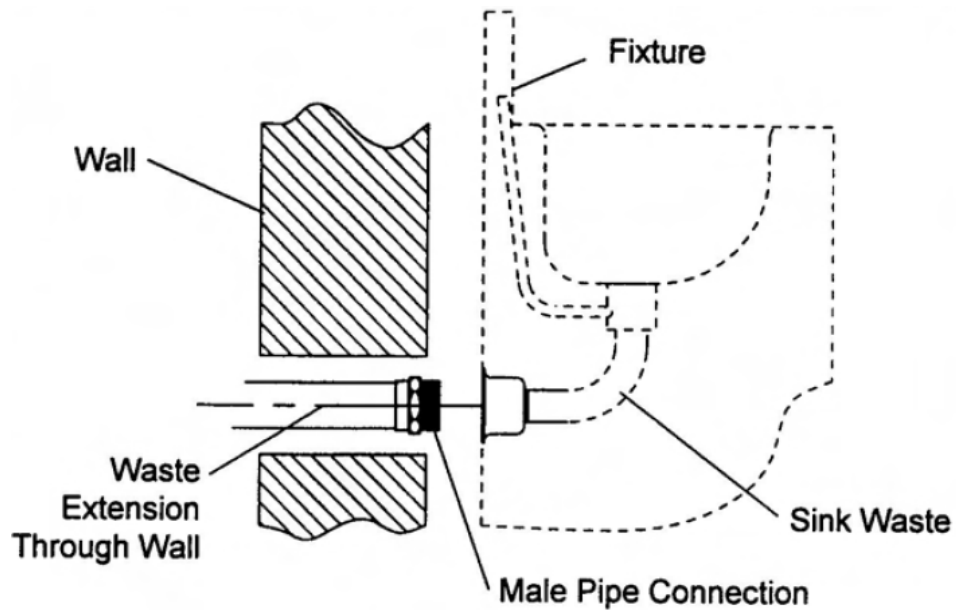


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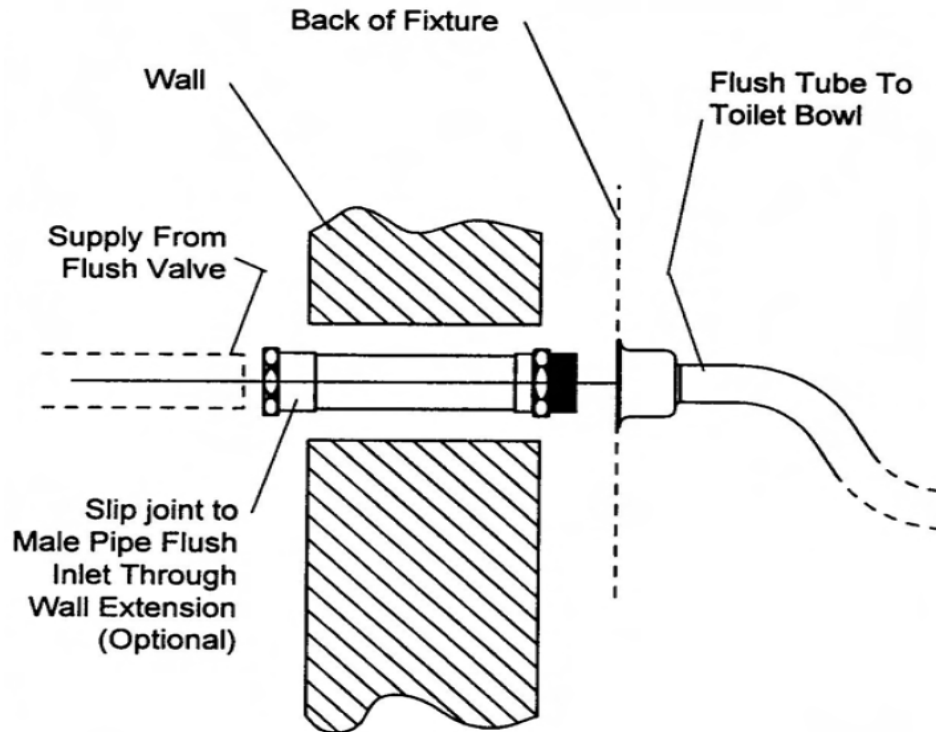
Extended waste tube and adapter coupling



Basic sink waste connection



Basic flush inlet plumbing connection



CARE AND CLEANING OF STAINLESS STEEL FIXTURES

Routine cleaning to remove residue from stainless steel fixtures should be performed as follows:

1. Clean frequently, on a fixed schedule if possible.
2. Clean with ordinary soap or detergent and water. Applied with a sponge, fiber brush, or cloth. Additives such as Borax, baking soda, or non-abrasive cleaning agents may be included if desired.
3. Rinse thoroughly and wipe dry.

For tougher deposits, use a Scotch-Brite™ scouring pad to remove residue. DO NOT use common steel wool or wire brushes as they will cause surface stains.

Never use chlorine based cleaning compounds as these agents will cause pitting of stainless steel and rusting. If these compounds must be used to sanitize the plumbing system, then keep exposure to a minimum. Flush system thoroughly after exposure.

Special notes for construction sites -

Muriatic or builder's acid are aggressive substances which can etch stainless steel and cause rust. If contamination of the stainless steel surface occurs, then flush immediately with fresh water. Seepage from masonry surfaces may provide sufficient acid to etch or discolor the surface.

After installation, clean, dry and cover fixtures to protect from soiling by work of other trades. Uncover when work is completed. Avoid contact of mild steel and cuttings on stainless steel surfaces. Contact may cause rusting and discoloration.



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A300 PNEUMATIC VALVE INSTALLATION INSTRUCTIONS

For specific valve applications, Metcraft provides supplemental information which is provided with each shipment. Please refer to these sheets for answers to specific questions on individual valves. In general, Metcraft fixtures are designed to operate under these general guidelines.

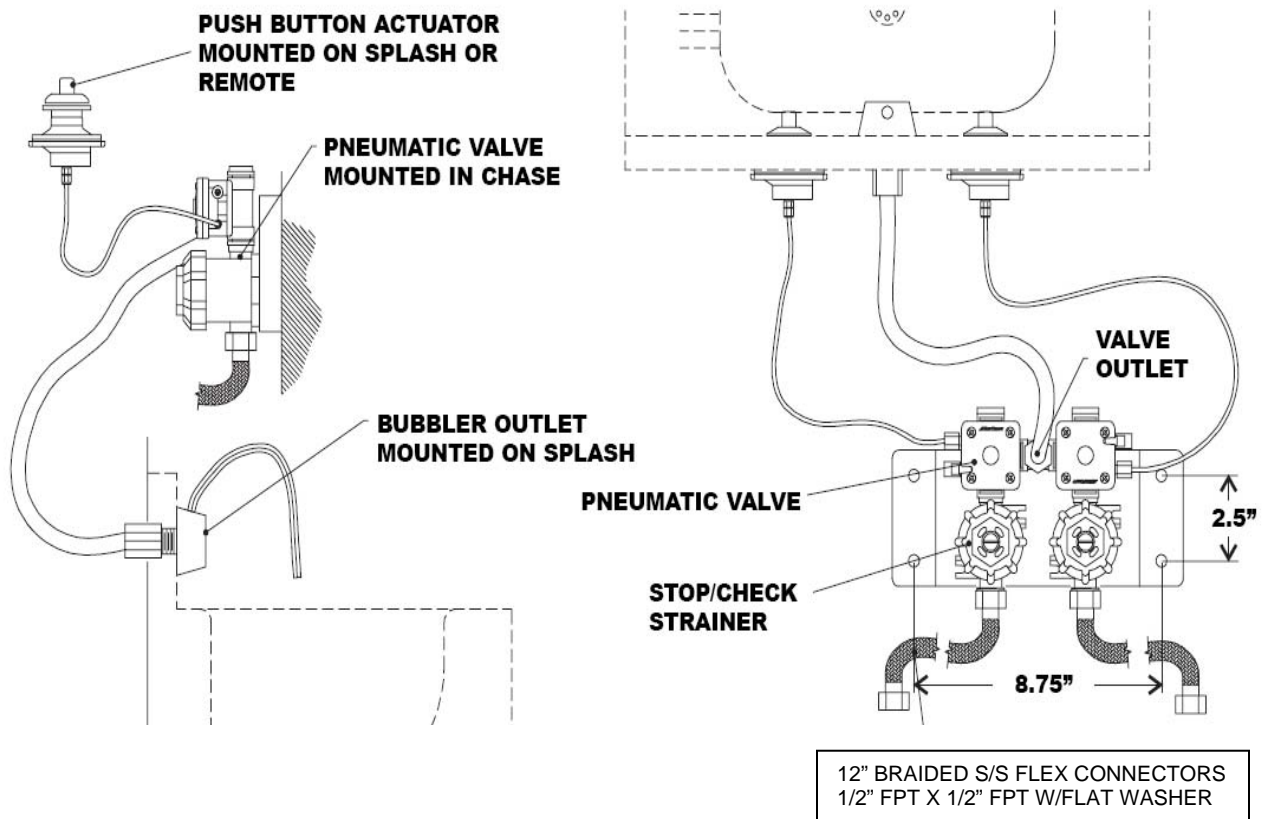
All fixtures require water pressure of at least 35 PSI flowing. Recommended maximum pressure 75 PSI.

Flow controls of showers are preset to 2.5 gallons per minute or less.

Flow controls of lavatories are preset to .5 gallons per minute.

Flush all standing water from lines prior to attachment of valve to water supply. Do not leave super chlorinated water in valves or severe damage will occur. Long periods of dormancy can adversely affect valves. The water should be removed from valves during such dormant periods.

For best results from Metcraft A300 Pneumatic Valves, reasonable water quality standards must be maintained. High levels of minerals and sediments in water supply will have detrimental effects on function of these valves.



A300 Pneumatic Valve Installation Instructions

1. Flush all supply lines thoroughly.
2. Make sure polyethylene tubing is clear of any debris or water. DO NOT use tubing that has been kinked.
3. Assemble pushbuttons and bubbler spout to fixture backsplash before securing the fixture to the wall. Install the bubbler inlet fitting to the bubbler inlet.
4. Mount the valve and bracket assembly to the wall. Choose a location where future access for service and adjustment of the valve will be convenient, bearing in mind that the valve must be located within Seven feet of the pushbutton operators and bubbler outlet.
5. **DO NOT** use pipe thread compounds or sealants on **Any** threads connecting to the valves, valve operators and tubing nuts. Thread sealants are not intended for these connections and may contribute to valve damage or malfunctions and thereby void warranty.
6. A braided flexible connector is used to connect supply tubing to the strainer check/stop.
7. Connect 1/2" OD polyethylene tubing to the bubbler head and the valve outlet. Compression connections should only be tightened 1/4 TO 1/2 turn past hand tight. Over tightening with a wrench may cause damage. Make sure tubing is fully inserted into socket before tightening.
8. Connect 1/8" OD tubing to pushbutton diaphragm assemblies and to tube connection on the side of the valve operator closest to the timing adjustment. Make sure tubing is fully inserted in socket on valve operator end before tightening small plastic nut. Small nut should be finger tight but give the tubing a slight tug to see if connection is good. **(A leak at this connection can cause a short cycle time check connection good)**
9. Open supply stop(s) and check the valve and connections for leaks.
10. Actuate pushbuttons several times to clear air from the valves and tubing. Hold hand in front of bubbler to contain squirting caused by air bubbles. Check water tubing at valve and bubbler for possible leaks again.
11. Adjust timed cycle of valves as needed. The timing cycle can be adjusted using the timing adjustment located next to the 1/8" air tube connection on the side of the valve operator. Some valves have a small screwdriver slot on the end of the adjuster. Other valves are adjusted using the plastic thumbwheel air valve cover. Turning clockwise lengthens the cycle; Counter-clockwise shortens the cycle. Adjustments should be made in small increment to achieve best results. As the cycle is lengthened, adjustment becomes increasingly sensitive. Timed cycles in excess of 2 minutes require infinitely small adjustments.



TROUBLE SHOOTING VALVES

Symptom: Valve Will Not Shut Off.

1. Remove 1/8" air tube fitting beside timer. If the valve shuts off after a short time, turn the timer adjustment counter-clockwise several turns. Re-connect the tubing making sure the connection is sealed properly (tubing will not slip or come off if tugged gently). Re-adjust timer for desired cycle time. If the valve still refuses to shut off proceed to step 2.
2. Turn off water to valve. Remove the valve top by removing the (4) screws securing it. Note the position of the tube connector and timer so the valve top can be properly re-assembled in the same position.

Remove valve operator exposing the water chamber of the valve. Check the rubber diaphragm assembly for possible debris. Check the diaphragm to be sure the rubber is properly seated into the plastic post.

Check the hole through the plastic post to be sure it's free of debris. Turn the diaphragm assembly over and find the small circle near the edge of the rubber. There is a small hole in the middle of the circle that should be free of debris. Rinse the assembly with clean water to remove any debris. Also, rinse the orifice plate and the separator cup in the valve top, making sure the small spring in the separator cup (above the orifice plate) is not dropped or lost. If any part of the diaphragm is damaged, replace the entire diaphragm assembly using part #16426 (PVK-2 diaphragm kit). Clean any debris from the valve base and the valve seat before re-assembling. Re-assemble the valve and adjust the timing to desired cycle length.

Symptom: Valve Will Not Open.

1. Make sure the water supply is turned on.
2. Remove the 1/8" plastic tubing from the back of the pushbutton diaphragm and suck on the end. If water flows, the valve is operating properly but there is an air leak in the tubing connections, the tubing or the pushbutton diaphragm. Also, it is possible that the timer has been opened (turned counter-clockwise) so far the vacuum can not be held. Close the timer (turn clockwise) to see if the valve will operate. If yes, adjust timing for desired cycle.
3. Check the flow control orifice located in the valve outlet fitting to be sure it is not blocked by debris. If blocked, clear debris by blowing air through it from the tubing end of the fitting. Do not force any tools through the orifice as this may damage or distort it and cause improper operation.
4. Check the pushbutton actuator diaphragm for leakage by removing the diaphragm from the back of the pushbutton and from the air tubing. While holding your finger over the end of the tubing connection to seat it, push the rubber diaphragm toward the back using your finger in place of the pushbutton. If the tubing fitting is sealed properly with your finger, the rubber diaphragm should be held back away from the front of the diaphragm housing. If it returns to the front of the housing, it is not holding a vacuum and must be replaced. This test should be repeated several times before deciding the diaphragm must be replaced as it is difficult to hold your finger over the hole in the tube fitting to properly seal it.



Symptom: Valve Will Only Run A Short Time And Does Not Respond To Timer Adjustment.

This is one of the most common complaints. In most cases, this is a result of an air leak in the air tubing connections either at the pushbutton end or the valve end of the tubing. If the tubing is connected using a white plastic nut, gently give the tubing a quick tug. If it comes out of the fitting, re-insert it, making certain it “bottoms out” in the fitting. Using gentle force, tighten the plastic nut one-quarter turn. Repeat as necessary until tubing is held tightly in place.

Some valve operators have a brass barb connection. No tubing nut is used on the operator.

It should be noted that the ends of the 1/8” tubing should be closely checked for splitting or cuts. Also, inspect the tubing to be sure there are no kinks or bends to prohibit air flow within the tubing. If the tubing is damaged or kinked, it must be replaced. The ends of the tubing should be cut square for best results.

Symptom: Bubbler Stream Overshoots The Lavatory Basin (Steady Stream).

1. Check the flow control fitting to be sure the flow restrictor is in place. The flow restrictor is normally located inside the fitting where the outlet supply tubing is connected to the valve. Penal spouts are designed for a rate of .5 gpm flow rate provided by this flow restrictor. Flow rate can not be adjusted adequately using the inlet stops on the valve.
2. Check the hole in the spout or bubbler for debris or blockage. The outlet hole of the bubbler must be clear of any obstruction or partial obstruction to form proper height arc. Clear any debris inside the bubbler head by disconnecting the supply tube from the fitting and blowing air back through the bubbler. Do not use tools or probes through the hole on the bubbler as they may damage the finish or distort the hole, causing an erratic stream. Re-assemble the valve and adjust timing to desired cycle length.

Symptom: Bubbler Stream Does Not Form A High Enough Arc.

1. Check the flow control fitting for blockage. Clear any debris with air pressure or flushing with clean water. Do not use probes to clear blockage as this may cause damage to the flow restrictor.
2. Check plastic supply tubing for possible kinks that would restrict water flow.
3. Make sure inlet stops are open.
4. Turn off inlet stops and inspect strainer screens for blockage or mineral build-up. Use clean water to rinse away debris. If mineral build-up is severe on the screen, Use a commercial mineral solvent, (like calcisolve or limerase) to clean it. Thoroughly rinse the screen before re-installing it.

Important Valve Re-Assembly Note:

DO NOT tighten the four (4) screws that hold the valve top to the valve base any tighter than 18 inch pounds torque.



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