



## Flushing Condensing Water System

### The Shops of Clearfork A1-C1-H1

This bulletin is to advise you of the responsibilities associated with the Tenant's Condensing Water System Tie-in, flushing and cleaning of the condensing water system. Please make sure you read the entire bulletin and ensure your mechanical contractor has read it also.

The Tenant Contractor will be required to follow all steps as listed below in the design, construction, preparation, pre-flushing, flushing and after-flushing procedures as listed below.

#### Checklist – Condensing Water System Flushing Procedures

##### Preparation before Flushing

The criteria for material to be used for Condensing Water Loop piping is as follows;

- Hydronic Piping 0"-2" – Type L Copper
- Hydronic Piping 2-1/2" and over – Schedule 40 Black Carbon Steel with Victaulic Couplings (not welded)

#### Information & Preparation

- Make-up water from a domestic water source with adequate hose length and attachment should be in place and bypasses installed at each piece of equipment.
- The Tenant Contractor will test all lines at one and one half (1.5) times the working pressure, but never exceeding the system rated pressure. Please read your specifications and find the working pressure and rated pressure of your system as well as specified testing requirements. Although it is our minimum standard to test one and one half (1.5) times the working pressure, your job specifications may have more stringent testing requirements.
- Please have all required municipality mechanical system inspections done and green tagged prior to flushing procedure and all mechanical systems completed.
- Tenant's HVAC contractor may need to install a temporary strainer if utilizing a temporary pump for filling and flushing.
- The Tenant's HVAC equipment must have a bypass system capability during the flushing process. Please ensure that the piping system is looped together to bypass all boxes with coils, fan coil units, chillers, heat exchangers, etc. When installing the bypass, the Contractor can utilize PVC piping or hoses for temporary connections. Full line size is not required for the temporary bypass piping. (Example, if the existing pipe size is 8" your bypass could be 4"). As a rule of thumb, ½ of the permanent pipe size is allowable for bypass piping. At all times bypass lines must be large enough to maintain appropriate flow rates (3-6 FPS minimum).
- The Tenant HVAC Contractor will install air vents at the highest point in their system and they must be piped to a drain. These drains can be run out of ¼" copper tubing or ¼" plastic tubing. Please check your specifications for the acceptable product.

## **Pre-Flushing Procedure:**

**\*Note to General Contractor; Please be aware that before your HVAC Contractor begins filling the system with water, they will be required to walk the entire system and verify the following with Simon Property Management.**

**Please be prepared in advance.**

- Tenant's HVAC Contractor has reviewed and confirmed all hangers and support are adequate.
- The Tenant Contractor has confirmed all bypasses are open.
- The Tenant Contractor has identified any high spots that could trap air (if any high spots are found, valves may need to be installed in these areas – all manual vent valves must be plugged after system is free of air).
- The Tenant Contractor has installed a construction screen in all strainers.
- The Tenant Contractor has connected make-up water is from a local domestic source.
- The Tenant Contractor has ensured with his plumber that the drain for the system is tied-in to the sanitary system and the sanitary sewer has been tied-in to the city sewer.
- The Tenant Contractor has also verified that all drain valves not being used for flushing purposes must be plugged prior to filling the system.

## **Flushing the System:**

- The Tenant Contractor will fill the system with domestic water.
- The Tenant Contractor will make sure all air is out of the system
- The Tenant Contractor will drain the system and refill at least once.
- The Tenant Contractor will let the system circulate and drain until the water is clear.
- A Simon Property Management representative must witness the flushing of the system and clarity of the water.
- Once water runs clear, the Simon representative will shut off the flushing supply water valves and open the drain valve and air bleeders to drain the tenant HVAC equipment.
- The Tenant Contractor will clean the inline system strainers.

## **After Flushing the System:**

- The Tenant Contractor will remove all bypasses and loops.
- The Tenant Contractor will plug all temporary valves.
- The Tenant Contractor will fill the system by opening the air bleeder valves and the CW supply valves so all equipment is full.
- The Tenant Contractor will remove the air from the system.
- The Tenant Contractor will check that the system pressure is being maintained at the highest point of the return piping (5-15 lbs. minimum).
- After the Tenant's HVAC system is filled with conditioned water from the CW loop supply and all air is removed, the CW loop return valve can be opened and circulation can begin.