

## Drip Tip: When and Where To Use Air Relief Valves and Manual Flush Points

The use of air relief valves and manual flush points for dripline applications is essential to keep the entire system running efficiently and minimize maintenance costs for your customer.

### Air Relief Valves – What’s the Benefit?

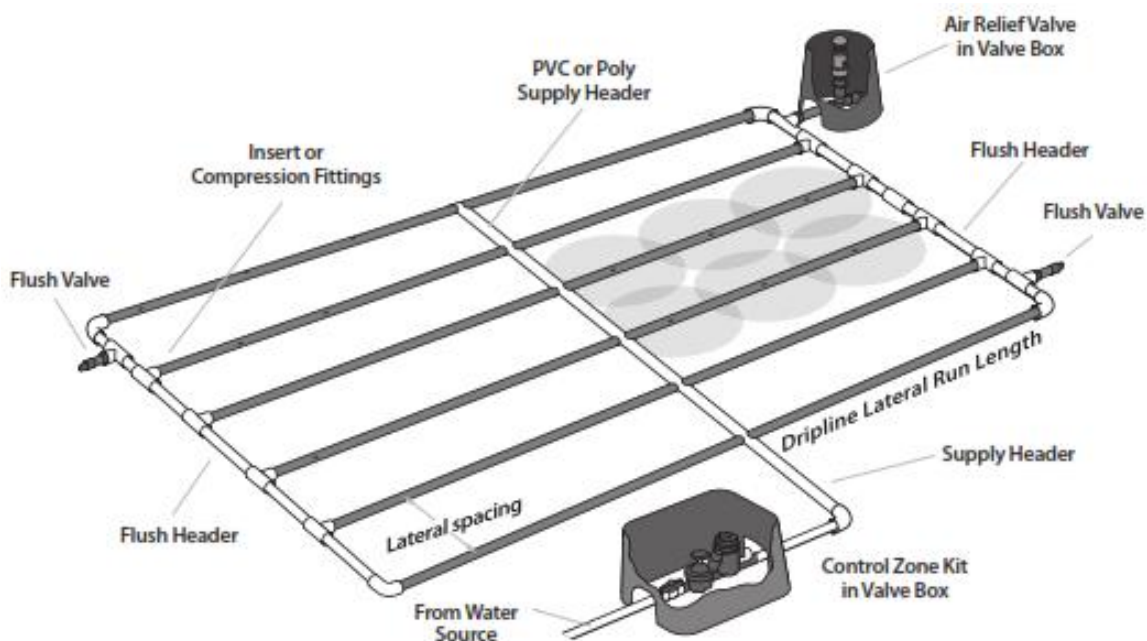
First, at the start of the watering cycle the air relief valve releases air from the zone eliminating air pockets. This speeds up the fill time and increases watering uniformity across the zone. Secondly, air relief valves in subsurface dripline installations allow air into the zone at the end of the watering cycle which ensures that a low-head drainage vacuum (back-siphoning) doesn't draw debris into the dripline.

Finally, the air relief valve minimizes water hammer at the start of the watering cycle

allowing air to release. The effects of water hammer in dripline applications are less destructive than in spray or rotor systems however, water hammer can still cause pipes to wiggle and work their way to the surface.

### How Many Air Relief Valves Are Needed

One air relief valve per irrigation valve may be enough, but in some cases system efficiency can be improved when multiple air relief valves per irrigation valve are utilized. Air relief is needed most at the highest point of the drip system layout. The air relief valve should be placed in an exhaust header or a line that runs perpendicular to the lateral rows at the furthest distance possible from the water source to ensure all rows of the dripline can take advantage of the air relief valve.

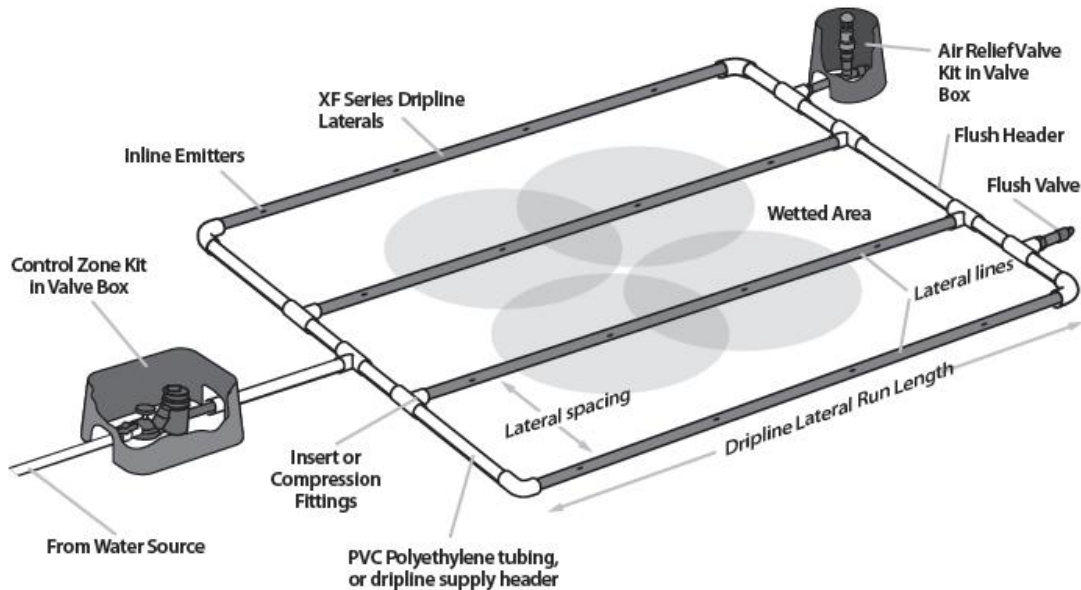


**Center Feed Dripline Layout**

### Where to use Air Relief Valves?

On-surface installations – An air relief valve is not necessary when XFD or XFCV dripline is installed on-surface under mulch. Each emitter will provide the air relief necessary.

Subsurface installations – Air relief should be installed in XFS subsurface installations at the highest point(s) of the dripline zone.



### End Feed Dripline Layout

#### Plan for Multiple Manual Flush Points for Easier Maintenance

Maintenance is a critical consideration during irrigation system design. Designing manual flush points throughout the system will help purge the zone of dirt and debris upon completion of the install, during regular seasonal maintenance and after a dripline break is repaired.

Flush points should be installed at the furthest point from the water source and ideally be placed into every planter bed at the end of each

run. This will allow for system flushing in each section and allow for isolated repairs to be thoroughly cleaned. Multiple bed areas (bed islands) with only one flush point typically will not provide efficient flushing and most likely will require multiple flush points for effective ongoing maintenance. We also recommend installing an Operation Indicator adjacent to each flush point to provide a visual indicator the system is operating properly.