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## Design guidelines for installing Ionix Static Suppression Cartridges in gas distribution systems to mitigate electrostatic pinholes in PE distribution pipe

### **How are Ionix Static Suppression Cartridges deployed in gas systems to mitigate pinholes?**

To eliminate the interior static which causes pinhole leaks, ALL the gas feeding the affected area must pass through an Ionix Static Suppression Cartridge. If the affected area has a secondary feed, Ionix must be installed so if affected area is fed by the secondary feed, the secondary feed gas has also been treated by passing through an Ionix Static Suppression Cartridge.

### **How are Ionix Static Suppression Cartridges piped into a system?**

Ionix Static Suppression Cartridges are piped into your system through installing any standard gas filter housing modified to accept the Ionix Static Suppression Cartridges and then installing the Ionix Cartridge in those housings. These filter housings hold the Ionix Cartridge and gas passes through the Ionix Cartridge in the housing and once it does interior pipe static is dissipated downstream from that point to burner tip eliminating the creation of electrostatic pinholes.

### **What filter housings do I need to use?**

Generally you can use any standard filter housing or Ionix can provide basic drawings so you can fab housings using your inhouse staff or local welders. You do not have to purchase the housings from Ionix. However, Ionix must approve the housing drawings prior to fabbing to guarantee the Ionix Static Suppression Cartridge will properly fit inside the housing. Our experience is that most housing fabbers don't charge to modify their standard housings to accommodate Ionix Static Suppression Cartridges since the modifications are so minor.

### **Where does Ionix recommend installing the housings holding the Ionix Static Suppression Cartridges?**

We recommend you install the Ionix Static Suppression Cartridge at your city gate on the outlet side of your gate station regulator feeding the affected area. This has 2 benefits. First, this insures all gas feeding the affected area has passed through an Ionix Static Suppression Cartridge. Second, since the Ionix Cartridge must be replaced annually, when the gate station regulator is bypassed out for annual maintenance, you can replace the Ionix Static Suppression Cartridge at the same time.

### **How do I know what size Ionix Static Suppression Cartridge to specify?**

Ionix Static Suppression Cartridges are sized based upon 2 parameters: the inside diameter of the pipe and the pressure of the gas at the point of installation of the Ionix housings for the affected area. To obtain an estimate of the cost of the Ionix Static Suppression Cartridges to treat your affected area, provide a list of the pipe ID's and pressure at each anticipated installation point that feeds the affected area. You will also need to obtain and install a filter housing for each cartridge on your list.

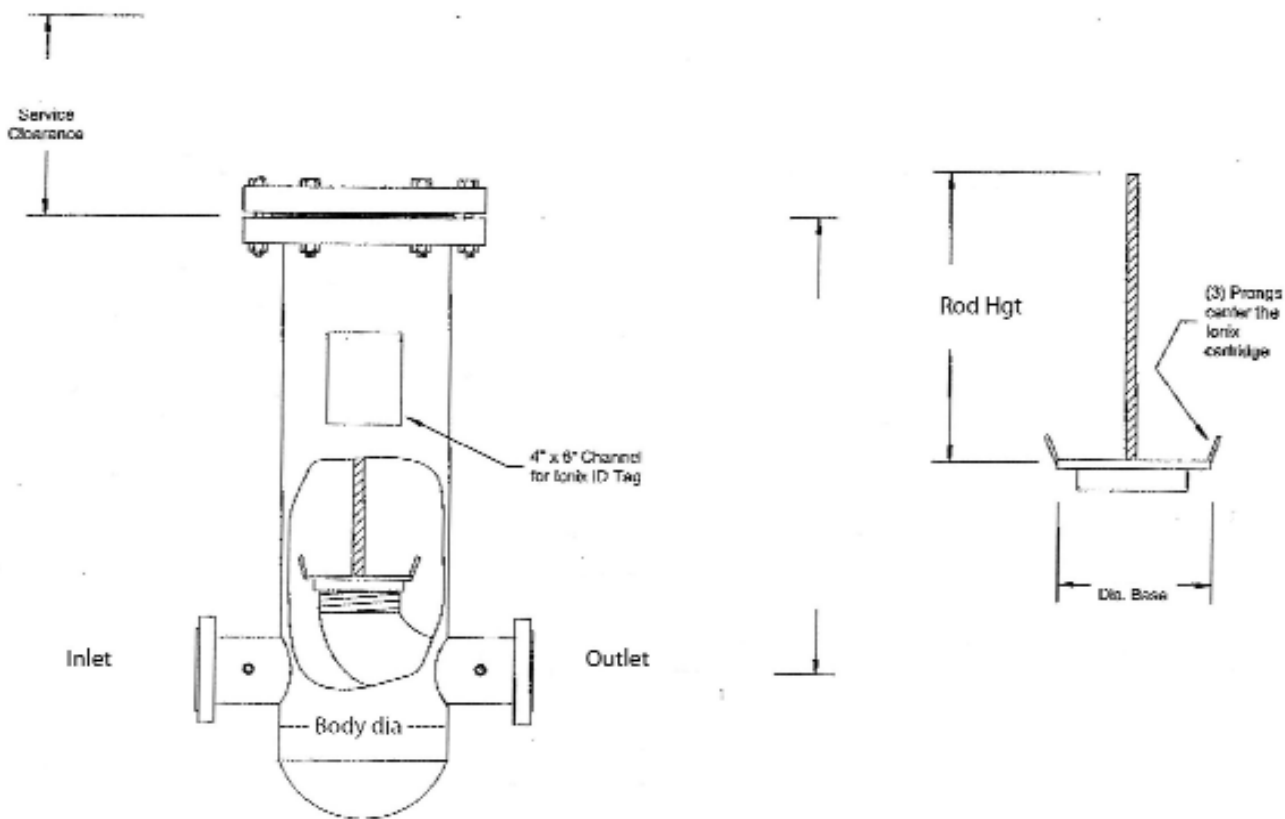
### **How do I know how much space to allow for the Ionix Static Suppression Cartridge housings?**

While no commercial or custom fabbed filter housing is identical in its dimensions, our experience is that there is some basic overall sizes that can be used for initial design planning purposes. These dimensions need to be specifically confirmed before design drawings are done.

Here is a chart of standard size housings with the flange to flange width and height. These dimensions can vary slightly based upon ANSI rating. Remember we assume the filter housing is installed vertically and has a top service clearance.

- 2" pipe ID housing – F/F width – 15" Height – 27" - Top service clearance – 10"
- 3" pipe ID housing – F/F width - 18" Height – 32" - Top service clearance – 15"
- 4" pipe ID housing – F/F width - 20" Height – 43" - Top service clearance – 20"
- 6" pipe ID housing – F/F width - 24" Height – 42" - Top service clearance – 17"
- 8" pipe ID housing – F/F width - 28" Height – 48" - Top service clearance – 20"
- 10" pipe ID housing – F/F width - 32" Height – 61" - Top service clearance – 24"

*Note: These dimensions are approximate for preliminary planning only and can vary depending on fabber and ANSI rating.*



Once you determine exactly what housings you need, we can recommend housing fabbers to you or provide basic drawings for your fabber. Once you've selected a fabber we'll review the housing drawings and confirm space dimensions.

**How do I maintain the Ionix Static Suppression Cartridges once they are installed in my system?**

Ionix Static Suppression Cartridges need to be replaced after approximately one year of use. The passage of gas over the interior treated core wears out the Cartridge. Ionix will notify you when it is time to replace the unit. Ionix will send you a replacement cartridge. You remove the exhausted cartridge, replacing it with the new one and return the exhausted cartridge to Ionix. It can be shipped regular UPS/Fedex ground services. It contains no hazardous or dangerous materials.