

351 Series Flame Arrestors

Installation & Maintenance Instructions

The 351S Series Flame Arresters are designed to be used on aboveground and underground tanks to help prevent the transmission of heat and/or an ignition source into the tank.



Failure to follow any or all of the warnings and instructions in this document could result in a hazardous liquid spill, which could result in property damage, environmental contamination, fire, explosion, serious injury or death.

Installation



Warnings

- **Fire Hazard** – Death or serious injury could result from spilled liquids.
- Do not use with acetylene, carbon disulfide, ethylene oxide or hydrogen gases.
- Install only on shop fabricated atmospheric tanks built and tested in accordance to industry standards such as UL142, NFPA 30 & 30A, and API 650.
- Install in accordance with all applicable local, state, and federal laws.
- 351S Series flame arresters **must** be properly sized and selected for each specific tank application.
- For your safety, it is important to follow local, state, federal and/or OSHA rules that apply to working inside, above, or around the storage tank and piping area. Use all personal protective equipment required for working in the specific environment.
- Tanks could be under pressure. Vapors could be expelled from tank vents, piping, valves or fittings while performing installation. Vapors could catch fire or cause an explosion. **Avoid** sparks, open flame, or hot tools when working on vents.

Steps

1. Inspect unit for shipping damage. Do not use if damage is found.
2. Check flame arrester openings for foreign matter such as packaging material. Remove any that is found.
3. Apply a fuel resistant, non-hardening, anti-seize sealant to the threads on the riser pipe. Do not use Teflon tape.
4. Thread flame arrester onto riser pipe avoiding excessive torque which could damage the flame arrester.
5. Insure mounting pipe (riser) is in a vertical (plumb) position.
6. Do not paint or cover the flame arrester and vent in any manner. This may inhibit proper vent operation.
7. Do not alter the pipe nipple between the flame arrester body and the vent.

Note: There should be no reduction of pipe size between the storage tank and the Fig. 351S Flame Arrester.

Important: Install the included **warning tag** where it will be visible to the operator filling or unloading the tank that is fitted with this vent.



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Maintenance

Monthly inspection, and immediate inspection during freezing conditions, by someone familiar with the proper operation of the storage tank vents, is required to insure flame arresters and venting devices are functioning properly before filling or unloading a tank. All air passages through the flame arrester must be free from restriction (see warning at top of page).



WARNINGS

- **Fire Hazard** – Death or serious injury could result from spilled liquids.
- Clogged or restricted vents could cause damage to tanks and piping releasing liquids which could catch fire.
- Dust, debris, freezing rain, freezing condensation or other contaminants could clog or restrict the vents.
- In freezing conditions, inspect the vents immediately before filling or unloading a tank.
- Follow your employer's instructions for making sure vents are not clogged or restricted.
- You must be trained to inspect the vents. **Stop** now if you have not been trained.
- Do **not** fill or unload from a tank unless you are certain that the tank vents will operate correctly.
- For your safety, it is important to follow local, state, federal and/or OSHA rules that apply to working inside, above, or around the storage tank and piping area. Use all personal protective equipment required for working in the specific environment.
- Tanks could be under pressure. Vapors could be expelled from tank vents, piping, valves or fittings while performing maintenance. Vapors could catch fire or cause an explosion. **Avoid** sparks, open flame, or hot tools when working on vents.

Steps

1. Remove flame arrester from tank.
2. Remove the eight (8) caps screws holding the top cover of the flame arrester to the body.
3. Lift this cover, and the attached grid plates, out of the flame arrester body.
4. Remove the cap (with chain) from the cover.
5. Inspect the air passages and grid plates for any dust, debris, snow or ice. Remove all such matter. Compressed air may be used.
6. With the cover and grid plates removed from the flame arrester, inspect the rest of the flame arrester body for any dust, debris, snow or ice in the air passages. Remove all such matter.
7. Once all air passages are clean, replace the cover grid plate assembly and re-install the (8) cover screws.
8. Replace unit if air passages and grid plates cannot be cleaned.
9. During this process inspect all flame arrester components and surfaces for damage, corrosion or excessive wear. If any is found, replace the unit.
10. Remove the updraft vent (Fig. 354) or pressure vacuum vent (Fig. 748A or Fig. 749) at the top of the pipe nipple on the top of the flame arrester assemblage.
11. Remove the pipe nipple from flame arrester body and inspect it for dust, debris, snow or ice. Remove all such matter.
12. Re-install the pipe.
13. Perform the maintenance on the updraft vent or pressure vacuum vent in accordance with the appropriate maintenance instruction sheet provided with your unit.



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