

# DEFENDER SERIES® PRESSURE / VACUUM VENT WITH FLAME ARRESTOR OPTION

Defender Series® Pressure/Vacuum (P/V) vents regulate the pressure at which vapor is allowed to escape from the underground storage tank and the vacuum at which outside air is allowed to enter the tank. The P/V vent's internal rolling diaphragm delivers consistent and controlled cracking for both low leak and high-pressure conditions while the superior construction of UV-resistant materials extends the overall service life. The in-line vault provides added protection and facilitates at-grade servicing and testing. This eliminates the added expense of lift trucks as well as the potential safety concerns of conducting work at height.



## HIGHLIGHTS

### Pressure / Vacuum Vent

- The P/V vent is constructed of high-grade, UV-resistant materials and premium internal components designed and tested to last.
- A vent cap with stainless steel mesh debris shield protects the system from water and insect intrusion.
- The one-turn locking mechanism provides easy installation and removal for servicing.
- High tolerance for over-pressure situations.
- Compatible with all fuel types.
- A rolling diaphragm achieves low leak rates and high flow rates with a tight and consistent seal.
- Vent Stack Adapter available with 2" NPT or 2" BSPT threaded inlet.
- Compatible with manifolded vent applications.

### In-Line Vault

- The cast ductile iron enclosure houses the P/V vent for added security and protection from the environment while also placing it at grade-level for safer, cost-effective maintenance and testing.
- The vault utilizes a UV-resistant Vent (rain) Cap with a stainless steel mesh debris shield for the top of the vent stack.
- The stainless steel gasketed faceplate includes a swivel pin that holds it in place during service.
- Tamper-resistant screws secure the faceplate to the vault.
- Eliminates wrenching at height.
- Integrated drain plug facilitates draining of condensate.

## SPECIFICATIONS

- Pressure setting: US model: 6.2 to 14.9 mbar  
UK model: 35 mbar maximum  
CN model: 20 to 30 mbar
- Vacuum setting: US model: -14.9 to 24.9 mbar  
UK model: -2 mbar maximum  
CN model: -15 to -20 mbar
- Pressure leak rate:  $\leq .05$  CFH at +2" WC
- Vacuum leak rate:  $\leq .21$  CFH at -4" WC
- Maximum flow rate: 8,000 SCFH at 2 PSI
- Operating temperature: -22° to 122° F (-30° to 50° C)

### Materials

- P/V vent body: UV-resistant polymer
- Seals: UL Listed elastomers
- Screens: Stainless steel
- Vent (rain) cap: UV-resistant polymer
- In-line vault body: E-coated cast ductile iron
- In-line vault cover: Stainless steel

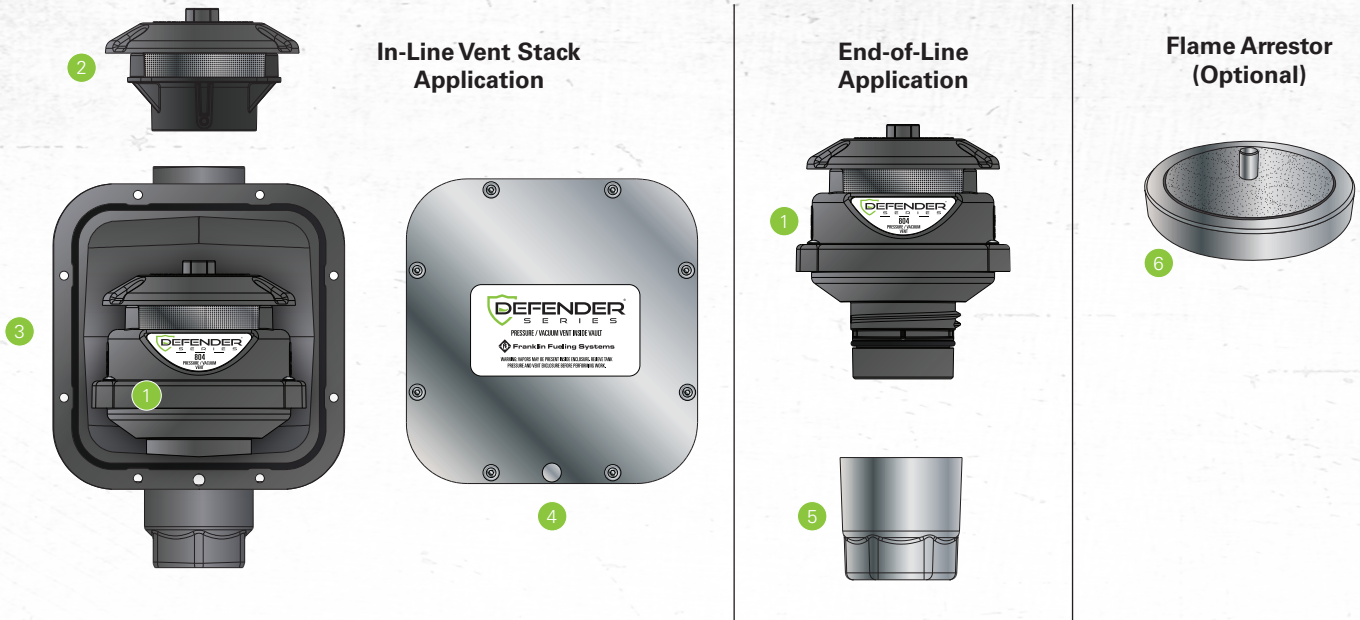
### Approvals/Certifications

- UL2583 listed.
- Three models to meet the cracking pressure requirements for regions following the US, UK, and China standards.
- Flame Arrestor meets EN ISO 16852.

## SPECIFICATIONS CONTINUED

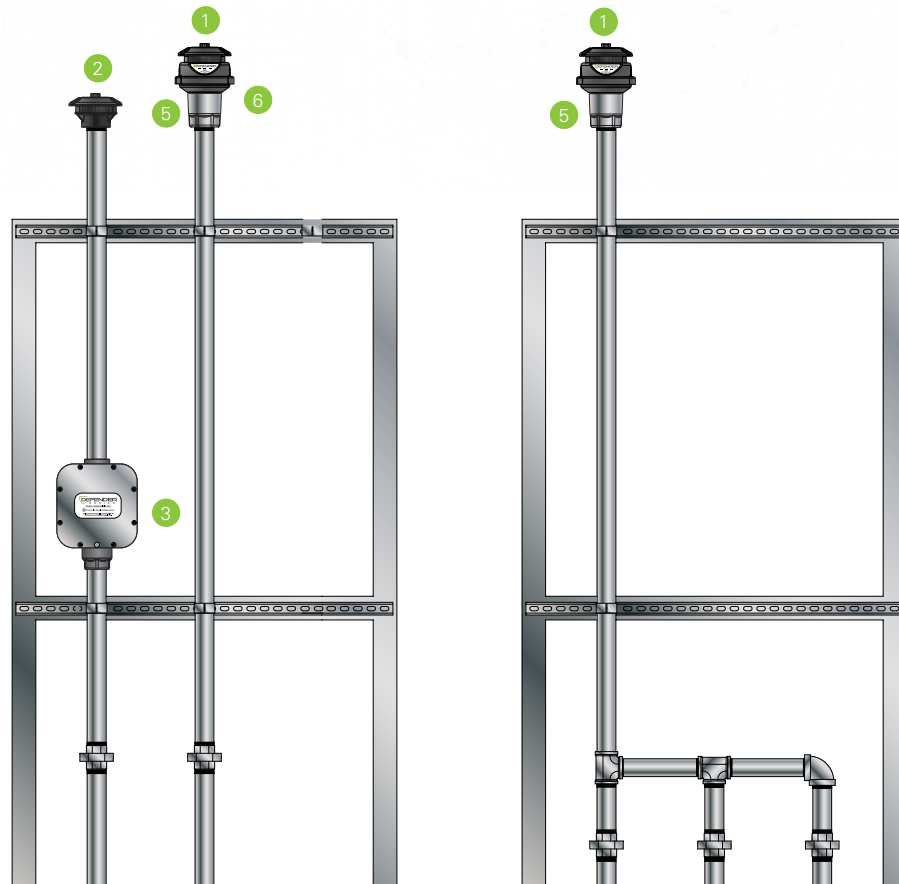
### Components

- 1 P/V vent
- 2 Vent cap
- 3 In-line vault
- 4 In-line vault faceplate
- 5 Defender Series® vent stack adapter
- 6 Flame Arrestor option (fits both adapters and vault applications with 804101 P/V vent models)



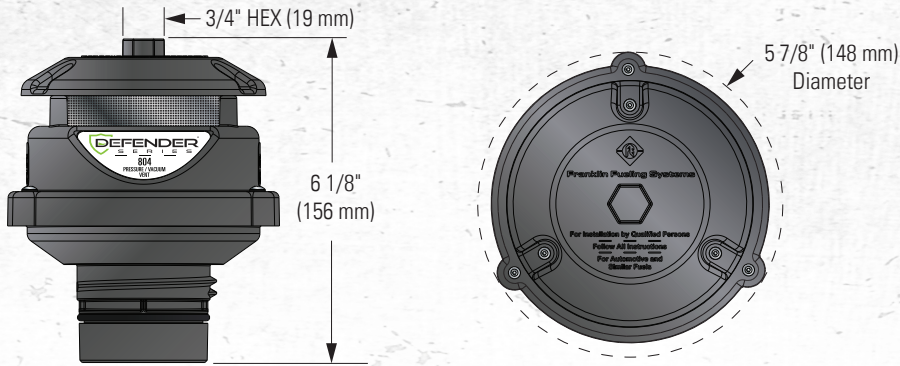
### Installation Options

Install in-line at grade with the in-line vault and vent cap or end-of-line with the Defender Series® vent stack adapter. All installation methods are compatible with manifolded vent lines as well.

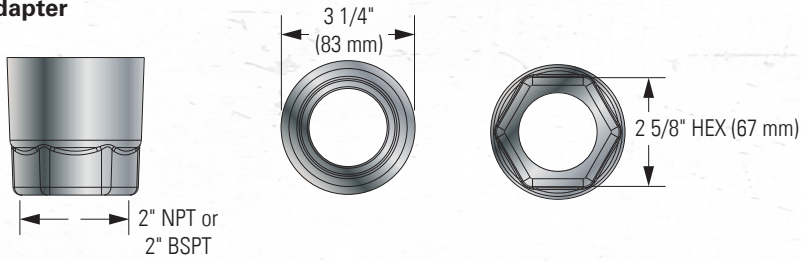


# SPECIFICATIONS CONTINUED

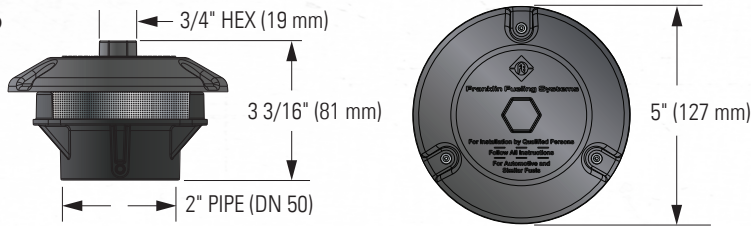
## Pressure/Vacuum Vent



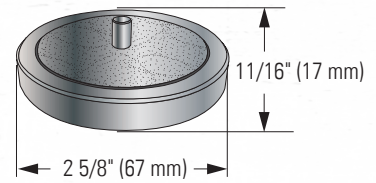
## Vent Stack Adapter



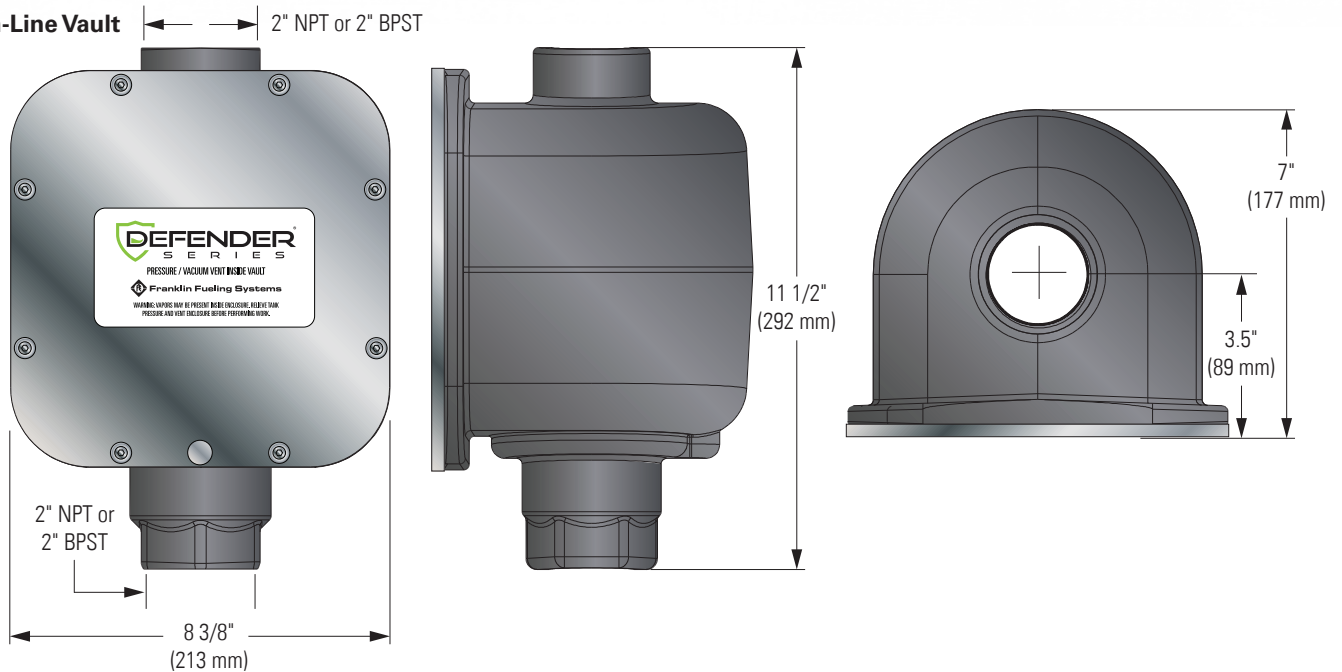
## Vent Cap



## Flame Arrestor



## In-Line Vault



## ORDERING INFORMATION

### In-LineVault



Model	Description
804110909	Vault Assembly with 2" NPT Inlet/Outlet threads
804110910	Vault Assembly with 2" BSPT Inlet/Outlet threads

Vault Assembly includes vault body, cover, cover seal, and cover fasteners only (P/V Vent Valve, Vent (rain) Cap, and Flame Arrestor options sold separately).

### P/V Vent Valves



Model	Description
804101901	P/V Vent Valve with US cracking pressures
804101902	P/V Vent Valve with UK cracking pressures
804101903	P/V Vent Valve with CN cracking pressures

P/V Vent Valves include vent valve, sealing o-ring, and inlet screen only (Adapters, Vaults, and Flame Arrestor options sold separately).

### Adapters & Replacement Parts



Model	Description
804110906	End of Line Adapter with 2" NPT Inlet threads
804110907	End of Line Adapter with 2" BSPT Inlet threads
804110908	Flame Arrestor Kit (includes arrestor and replacement P/V sealing o-ring)
804110902	Vault faceplate gasket
804110903	(2) replacement tamper-resistant screws for vault faceplate
804110905	Vault L-key wrench (T40 tip size)
804110904	Vault service plug, prevents vapors from escaping during maintenance
804023901	Vent (rain) cap