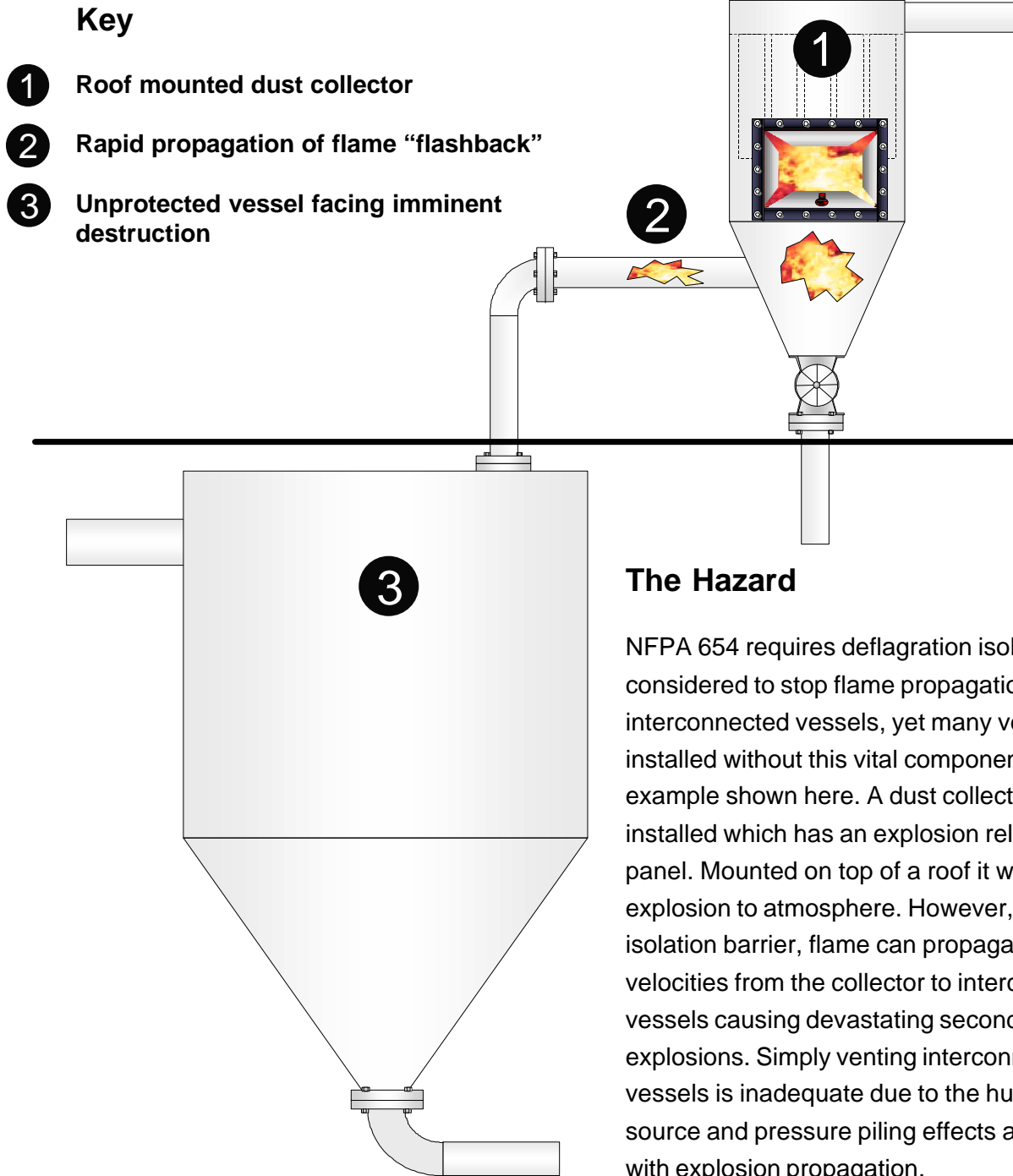


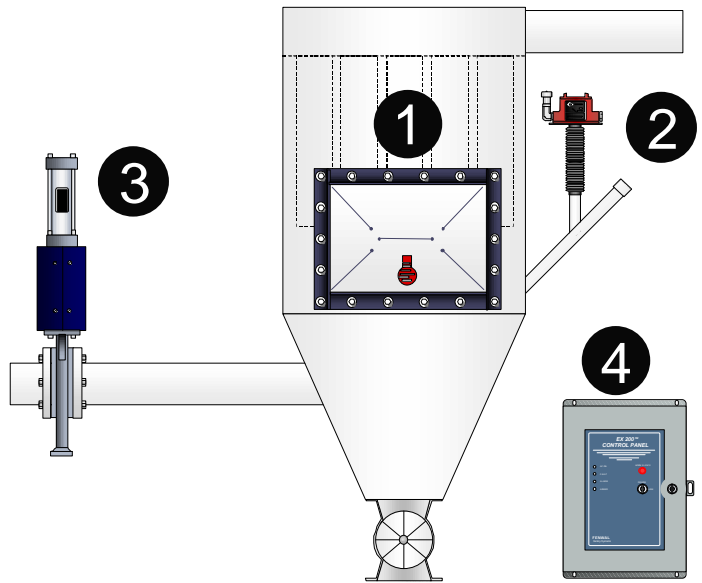
# Explosion Isolation Systems

## Chemical and Mechanical Explosion Isolation Barriers



## Isolation Valve Solution

The Fenwal explosion isolation valve closes rapidly to provide a mechanical barrier against the flame and pressure of a deflagration. By design, it withstands the full pressure of a deflagration from an enclosed vessel. In the installation example shown the valve is subject to a light pressure load because the dust collector is installed with an explosion relief vent panel. Although its mechanical strength may not be totally utilized in all applications, it is often chosen to isolate low-strength, interconnected vessels from propagating deflagrations. It is also the preferred method of isolation when product contamination is a concern. Typically explosion pressure detectors mounted on the vessel detect the initial pressure excursion from an impending explosion. The detectors transmit a signal to a control panel, which triggers the high-speed isolation valve while simultaneously shutting down the process.

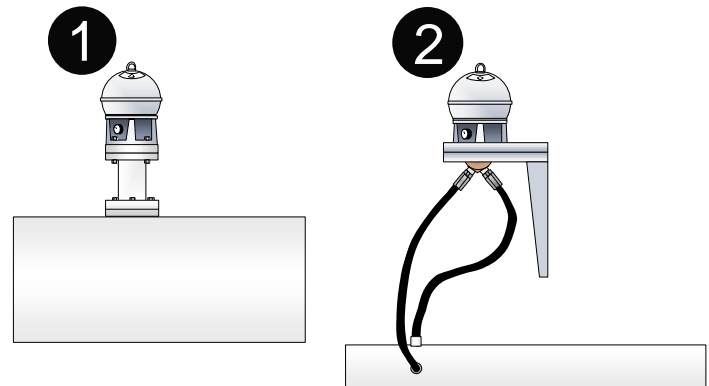


### System Components

- 1 Explosion Relief Vent Panel
- 2 Pressure Detector
- 3 High-Speed Isolation Valve
- 4 Single-Zone Control Panel

## Chemical Isolation Solution

Fenwal's chemical explosion isolation barriers are triggered in the same manner as the high-speed isolation valve solution described above. In response to the triggering signal they rapidly discharge extinguishing agent into the duct preventing the passage of flame and burning materials to interconnected process equipment. In a large duct, suppressant distribution is provided through 3" piping. For a small sized duct, a 1" hose assembly connected to a bracket mounted suppressant distribution head delivers the suppressant.



### Key

- 1 Extinguisher, delivery pipe work, and flanged suppressant delivery nozzle
- 2 Bracket mounted extinguisher with dual-exit head and suppressant delivery hoses

This application data sheet is for general information only. Actual system design will vary subject to specific process criteria.