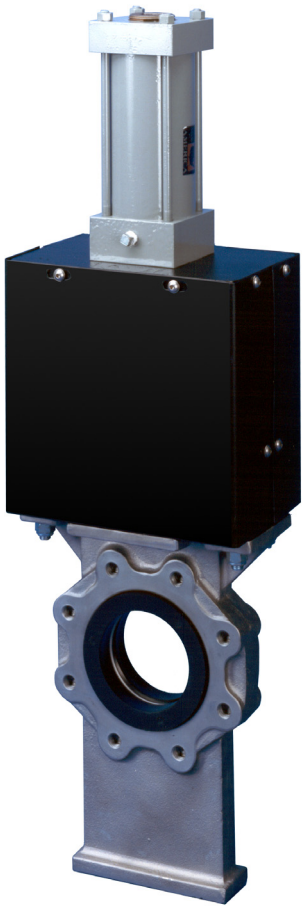
# High-Speed Isolation Valves

## Explosion Protection System Components

### Advantages:

- Provides mechanical barrier within milliseconds after detection of a deflagration.
- Full-bore construction eliminates pressure drop and prevents product build-up.
- ANSI B16.5 150# or DIN 2501 PN10 mounting flange options.
- Sound construction and unique design minimizes maintenance.
- Valve seat and liner materials available for any application.
- Minimal reconditioning required following actuation.
- No gate deformation when subject to deflagration pressure up to 150 psig.



### Application

The Fenwal Explosion Isolation Valve provides a solution for vital explosion isolation applications. It operates in milliseconds to provide a mechanical barrier within a pipeline. NFPA 68 and NFPA 654 highlight the importance of installing explosion isolation barriers to mitigate explosion propagation between interconnected process equipment. These barriers may be chemical, which can be provided by Fenwal's High Rate Discharge Extinguishers, or mechanical such as Fenwal's High Speed Isolation valves. Typical applications for the valve include explosion isolation on dust collectors, mills, fans, vapor recovery lines, dryers, and other interconnected process equipment.

## Description

The Fenwal High-Speed Isolation Valve has a stainless steel body incorporating a full ported stainless steel valve gate. The valve is designed to withstand a 150 psi pressure wave from a deflagration without deformation. Closure is achieved in milliseconds by rapidly discharging nitrogen into a piston actuator. The nitrogen is supplied by a Fenwal High Rate Discharge bottle. Detection is typically provided by a Fenwal explosion pressure detector. The detector is monitored by a Fenwal control unit which provides supervision, alarm, system actuation and process shutdown.

## Specifications

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|---|---|
| **Process Pressure:** | Full vacuum to 30 psi (2 bar). |
| **Deflagration Event Pressure:** | 150 psi (10 bar) maximum. |
| **Process Temperature:** | EPDM/UHMWP Seat/Liner: up to 200°F (93°C).<br>Viton®/PTFE Seat/Liner: up to 350°F (177°C).<br>FDA EPDM/PTFE Seat/Liner: up to 200°F (93°C). |
| **Ambient Temperature Range:** | -20°F to 130°F (-29°C to 55°C). |
| **Flange Drilling:** | ANSI B16.5 150# or DIN 2501 PN10. |
| **Actuation:** | Piston operated from nitrogen supply provided by Fenwal high strength alloy steel bottle rated to DOT 4BA500 or TC 4BAM. |
| **Closure Time:** | Maximum 20 ms total for 2-in., 3-in. and 4-in. valve diameters. Maximum 5 ms per inch of valve diameter for valve diameters 6 in. to 24 in. |
| **Body Gate Material:** | 316 stainless steel. |
| **Gate Shroud Material:** | 316 stainless steel. |
| **Piston/ Weldment Material:** | Painted mild steel. |
| **Seat Material:** | Ethylene Propylene Rubber (EPDM, Nordel) or Flurocarbon Rubber (Viton®, FKM). |
| **Liner Material:** | Ultra-high molecular weight polymer (UHMWP) or filled PTFE (Teflon®). |

## Ordering Information

**Part Number 31-200WXX-0YZ**

**W - Transport Approvals**
0 - US DOT
1 - Transport Canada

**XX - Valve Size**
02 - 2" (50 mm)
03 - 3" (75 mm)
04 - 4" (100 mm)
06 - 6" (150 mm)
08 - 8" (200 mm)
10 - 10" (250 mm)
12 - 12" (300 mm)
14 - 14" (350 mm)
16 - 16" (400 mm)
18 - 18" (450 mm)
20 - 20" (500 mm)
24 - 24" (600 mm)

**Y - Flange Drilling**
0 - ANSI B16.5 150#
1 - DIN 2501 PN10

**Z - Seat/Liner** — **Temp.**
2 - EPDM/UHMWP — 200°F (93°C)
6 - Viton®/PTFE — 350°F (177°C)
9 - FDA EPDM/PTFE — 200°F (93°C)





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