



Engineered to last

Many materials ranging from wheat flour to metal dusts, can, with the right mixture of air, form a potentially explosive mixture. This mix can be made intentionally during production or as a dusty by-product from the manufacturing process.

Materials that have been the fuel for dust explosions in the past include:

- Coal
- Metal
- Plastic and rubber
- Printer toner
- Cosmetics
- Dyes
- Textiles
- Wood and paper
- Soaps

Since the introduction of the ATEX directive, employers, if handling a potentially explosive dust, have to ensure that the workplace is safe.

One way of protecting plant and personnel equipment is to use a rotary valve as an explosion choke and flame barrier. These can be used as the normal part of the design of the plant but can also be added at the plant interfaces to protect the upstream and downstream areas.

These valves, as they require no intervention from the user to be effective, are known as "Autonomous Protective Devices" and have to be independently certified by a Notified Body.



For MID's range of valves, Baseefa were chosen as they had a track record with the Company. Tests

were carried out across a range of valves using the facilities at the Health and Safety Laboratory in Buxton.

Valves from the MV, Offset, SR and RBS ranges are approved as Autonomous Protective Devices for use with St1 and St2 dusts and for explosion pressures of up to 10 bar. They will act as a flame barrier, preventing transmission of a flame across the valve even at elevated pressures- the valves effectively extinguish the flame, protecting equipment, plant and personnel, making your workplace a safe place in the unfortunate event of a dust explosion.



Midland Industrial Designers Limited



APD Certified Equipment

| | | Internal | External |
|------------------|-----------|----------|----------|
| MV round/square | Zone 0/20 | ✓ | ✗ |
| SR easy flow | Zone 1/21 | ✓ | ✓ |
| Offset | Zone 2/22 | ✓ | ✓ |
| RBS blowing seal | Zone 2/22 | ✓ | ✓ |
| APD | | ✓ | ✗ |



ATEX Zoned Equipment. As above plus

| | | Internal | External |
|----------------------|-----------|----------|----------|
| TWA extreme duty | Zone 0/20 | ✓ | ✗ |
| BTV blowing seal | Zone 1/21 | ✓ | ✓ |
| MV rectangular | Zone 2/22 | ✓ | ✓ |
| Waste handling valve | Zone 2/22 | ✓ | ✓ |
| APD | | ✗ | ✗ |

