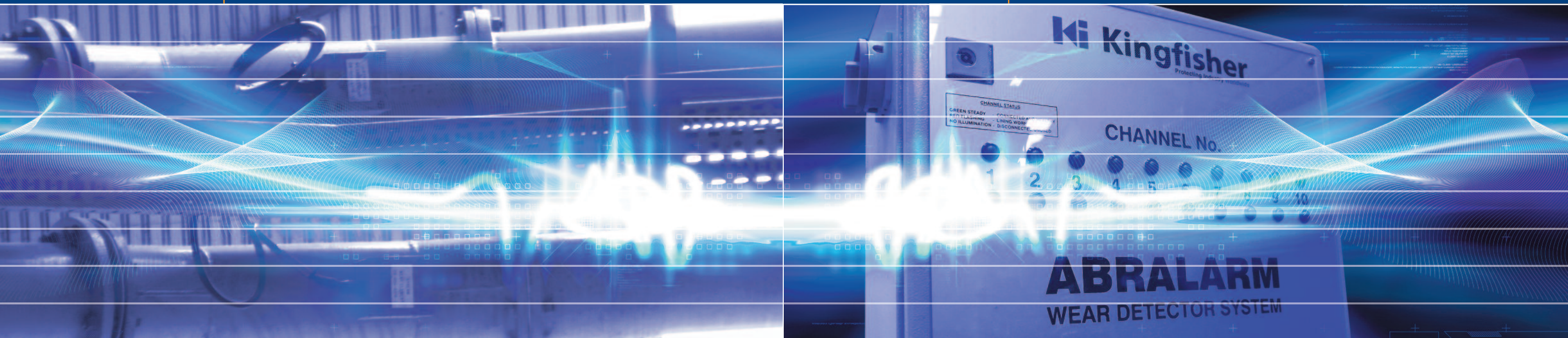


Protecting Industry Worldwide



FACT FILE  
**WEAR DETECTION SYSTEM**



**Ki Kingfisher**

Kingfisher Industrial T +44 (0)1384 410777  
Cradley Business Park F +44 (0)1384 410877  
Overend Road E enquiries@kingfisher-industrial.co.uk  
Cradley Heath www.kingfisher-industrial.co.uk  
West Midlands  
United Kingdom B64 7DW

**Ki Kingfisher**





Introducing best available technology (BAT) to reduce downtime, reduce costs and reduce pollution by utilising the environmentally friendly wear detection monitor.

A nest of silo filling pipes handling flyash. The bends and lined downstream straight pipes are alarmed.



**SPECIFICATION**

Individual pieces of equipment status indicated as follows:

- a. Detection system disconnected
- b. Detection system healthy
- c. Detection system failure

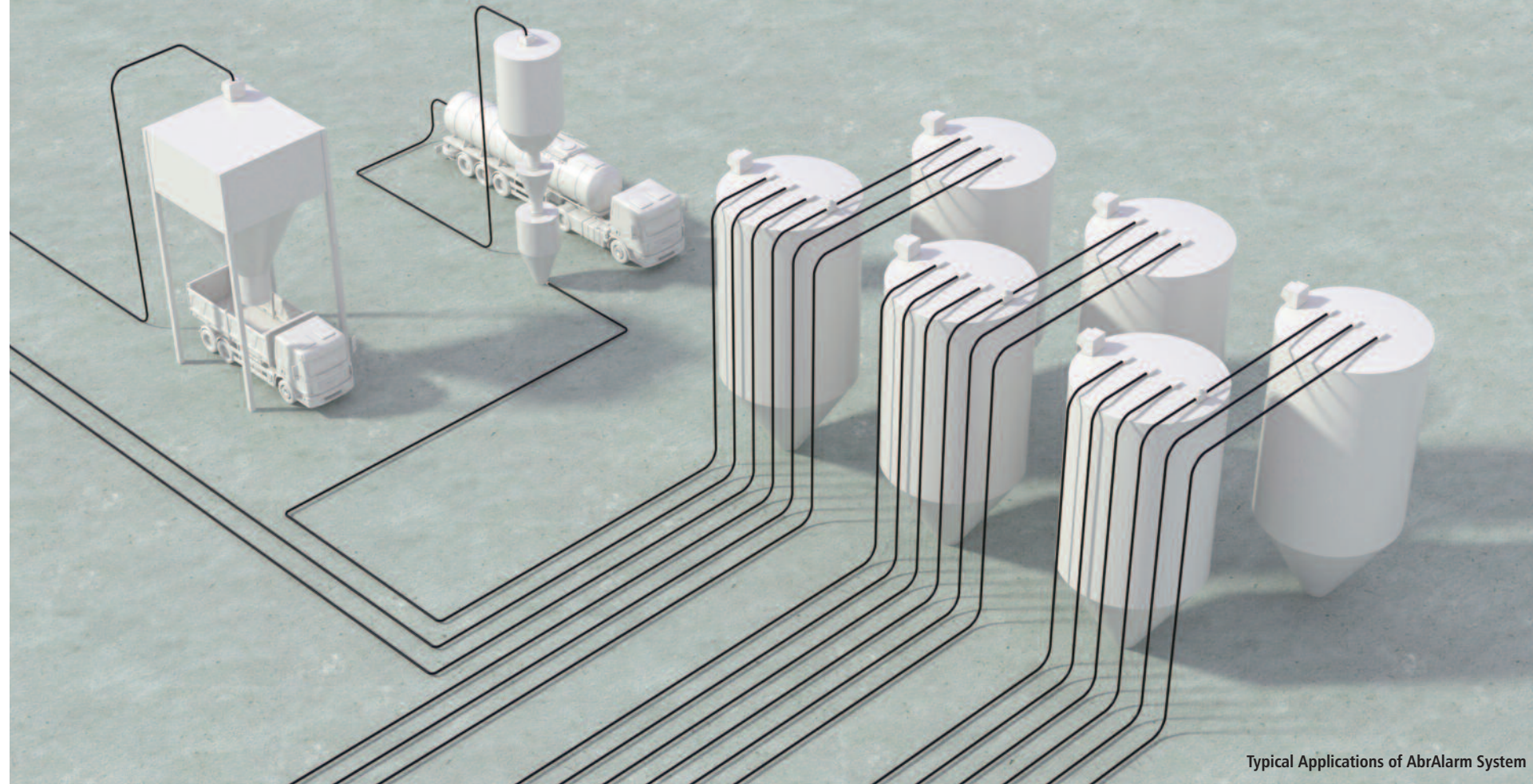
**Options for:**

- 1. 10 Channel control system
- 2. 10 Channels expandable to 20 Channels
- 3. 20 Channels

- General alarm with Volt free change over contacts for alarm status
- Individual 110V switched Voltage on failure of each channel for remote indication
- Internal individual detection system isolation switch for each channel
- Panel supply requirements 110V AC 6A
- Pipe detection Voltage 24VDC

**Additional Services:**

- The system can be designed to meet individual requirements or incorporated into a general control or data acquisition package if required
- A software package can be offered to assist with forecasting future equipment change times and associated spare stock holding levels, purchasing and replacement outage time planning
- A full turnkey system can be offered
- Maintenance contract and call out facilities available.



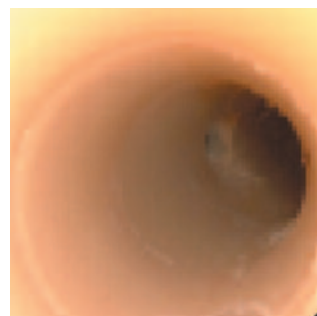
Typical Applications of AbrAlarm System



Example of a pipe that has perforations on the steel casing showing an attachment of a temporary patch preventing material escaping to atmosphere



Internal section of a transfer pipe showing perforations of both the internal lining system and the outer steel casing



Example of a pipe that has worn through the internal lining system which has not perforated the outer steel casing due to the AbrAlarm system being triggered



Arrangement of a cluster of pipes incorporating the AbrAlarm system fitted in position and being hardwired back to a remote control system

**THE PROBLEM**

Plant and equipment failure due to unexpected spillage, leaks or discharge of materials within manufacturing, process and utility industries

**THE CONSEQUENCE**

- Discharge of product to atmosphere
- Contamination of the surrounding area & equipment
- Loss of product
- Unscheduled operational downtime
- Unscheduled costs associated with access & repair
- Potential hazard to personnel
- Potential environmental issues

**THE SOLUTION**

- Incorporate the use of wear resistant lining systems to protect process plant and equipment and enhance its service longevity
- Incorporate the AbrAlarm wear detection system to indicate when the existing lining system installed in the plant and equipment has worn or is perforated

**THE EXPERTS**

Kingfisher have in excess of 30 years experience in combating the effects of plant degradation caused by the conveyance, storage or processing of bulk solids materials in a hydraulic, mechanical or pneumatic state of conveyance. Utilising this experience

gained along with technically proven protection systems, we can improve the performance of equipment that ensures that our customers can focus on operational uptime in the knowledge that equipment is built to last.

**THE SYSTEM**

- AbrAlarm comprises of a low voltage electrical indicator that is integrated between the lining system and steel casing which when severed will display a fault signal when the lining has worn through
- The AbrAlarm system can be incorporated within the following wear resistant lining systems:

- K-ALOX high alumina ceramic
- K-BAS fused cast basalt
- K-CAST monolithic ceramic
- K-HARD white cast iron
- K-SIL silicon carbide ceramic
- K-TEX abrasion resistant rubber
- K-ZAS fused zirconium ceramic



A standard 20-channel local control panel indicating operational status.