

Pressure Systems

Date of incident	02-09-25	Incident type	Dangerous Occurrence
Time of incident	To be confirmed	Location	To be confirmed

Summary of Incident

During the installation of ground anchors using a rotary drilling rig there was an excessive build-up of pressure resulting in the failure of a non-return valve. A 50mm diameter part of the valve was projected 50m across the site into a public area – no injuries. The incident was reported as a failure of a pressure system classified as a dangerous occurrence under RIDDOR

Initial findings

A drilling rig was using a water mist system to control dust. It was connected to:

- An air compressor (8 bar pressure)
- A pressure washer (50 bar pressure)

These were joined using a Y-shaped connector, but there were no separate shut-off valves for the air and water lines.

After drilling was finished, the main valve after the Y-connector was closed. However, both machines were still running. This caused the air and water to push against each other inside the connector.

Due to the significantly higher water pressure, water was forced back into the airline. This caused a pressure build-up at the non-return valve located at the compressor outlet. The valve, which was rated for 16 bar, was unable to withstand the excess pressure and subsequently failed.

Immediate actions

All equipment turned off and taken out of service. Confirmation to workforce that all works were on hold until an understanding of the cause of failure was established. Use of jet wash pumps to inject water into compressed air system suspended.

Photographs/supporting information

Still from the CCTV of the incident



Final position of brass cap beside canal barge in public area



SA422

Date of issue: 18-09-25

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