

## Application

Discrete detection of abnormal die conditions to prevent costly damage to dies in stamping presses.

## Industry

- Machine Tool Industry
- Stamping Industry

## Application Overview

For metal stamping or forming manufacturers, part quality specifications demand smart-process improvements. Monitoring conditions optimizes production reliability. Fiber optic sensors with plastic fibers are used to provide discrete feedback from stamping processes and improve production yields.

## Application Challenges

Space is very limited, but high-performance sensors are required. Cylindrical sensors are required, and mounting brackets are impossible. Longer sensing range is necessary than can be accomplished with Inductive proximity sensors in small sizes.

## Solution(s)

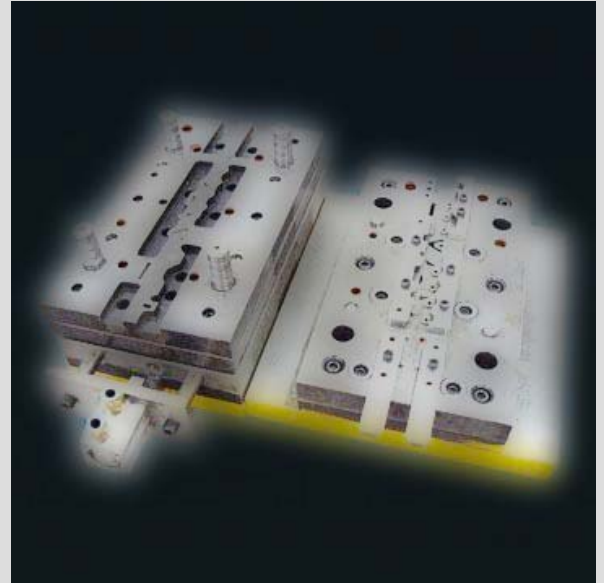
- Cylindrical, 4 and 5 millimeter thread fiber optic cables can be installed in the dies, providing a seamless installation
- The high performance of these fibers allows them to operate even under the toughest conditions.
- Sensing range capabilities allow installation in longer-range applications

Examples include the following:

- FUE 200C1004, Standard M4 Fiber Optic, 25mm range
- FLE 200C1Y00, Long-Range M4 Fiber Optic, 50mm range
- FVDK 10P81Y0, low-hysteresis amplifier, PNP output
- FVDK 10N81Y0, low-hysteresis amplifier, NPN output

## Supporting Documentation

- Baumer Sensor Solutions Catalog, pages 464 and 466
- Baumer Website: [FVDK 80 Series](#), and [Mating Fiber Optics](#)



Threaded fiber optic sensor tips are mounted into dies to monitor discrete position (red LED glow).

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