



## Measurement problems, crushed by Pulsar

Croft quarry, based in Leicestershire, United Kingdom needed to control stone level in choke-fed tertiary crushers.

Stone crushers work best when they are full, referred to as "choke fed". The weight of stone pushing down into the crusher increases the efficiency of the process, giving a more efficient use of the equipment and a more even stone size.

At Aggregate Industries' Croft Quarry in Leicestershire, Pulsar Measurement non-contacting ultrasonic level control equipment was used to control the level of stone in part of the crushing process. The electrical contractors at the quarry, Protech Electrical Services Ltd, chose to use Pulsar's Ultra 3 level controller, coupled with our dB3 transducer.

The system uses echo processing techniques to measure the level of stone in the crusher, and maintain it between 90% and 70% of the "full" level using a relay to switch a vibratory feeder. A quarry is a very noisy environment, both acoustically and electrically. The Pulsar system is set up to undertake initial signal processing at the transducer head, which can be up to 500 m (1,640.4 ft) away from the

Ultra 3, so the signal between the transducer head and the controller is extremely resistant to electrical noise. Simple two-core shielded cables can be used to connect the transducer with the Ultra 3.

The Pulsar system is an ideal solution to the application. The non-contacting measurement means that it is maintenance-free, and the sophisticated echo processing software built into every Pulsar system means that a reliable signal is received regardless both of how the stone lies in the crusher and the level of dust in the air.

The dB3 transducer is designed for accurate level measurement up to 3 meter range. Pulsar manufactures transducers that will measure up to 50 m (164 ft) range, and for stock control/inventory management applications the Ultra 3 control unit will convert distance measurement to volume or weight.

### More Information

*Since writing this case study, the Ultra 3 has now been replaced by the Ultra 4.*

**Ultra 4:** <https://pulsarmeasurement.com/ultra-4.html>



INFO@PULSARMEASUREMENT.COM

Pulsar Measurement is a trading name of Pulsar Process Measurement, Ltd.

Copyright © 2021 Pulsar Measurement  
Registered Address: 1 Chamberlain Square CS, Birmingham B3 3AX  
Registered No.: 3345604 England & Wales

**United States**  
+1 888-473-9546

**Asia**  
+60 102 591 332

**Canada**  
+1 855-300-9151

**Oceania**  
+61 428 692 274

**United Kingdom**  
+44 (0) 1684 891371

**[pulsarmeasurement.com](https://pulsarmeasurement.com)**

## Delivering the Measure of Possibility

Rev 2.0