



# Billet Testing – 10 Channel Scanner

## Ultrasonic Application Solutions

### Application

This application report concerns the steel production industry.

For the manual testing of billets with side lengths of 150mm x 150mm or more, disc reflectors of  $\varnothing$  1mm shall be detectable. At the same time, the inspection speed shall be as high as possible.



Figure 1: Scanner unit for manual billet testing

### Solution

The high detection sensitivity of 1mm FBH (Flat-Bottom-Hole) is achieved by means of 10 transmitter-receiver probes, which are mounted in two rows, thus enabling a scan width of 85mm. In order to ensure a uniform sensitivity over this width, the second row is displaced by a half probe width. Billets, which are larger than the scan width, are tested by means of two scans from both sides. With the adjustable guiding device even a third scan in the middle of the billet is possible.

Three wheels enable an easy scanning under uniform coupling conditions. The front wheel drives a position encoder.

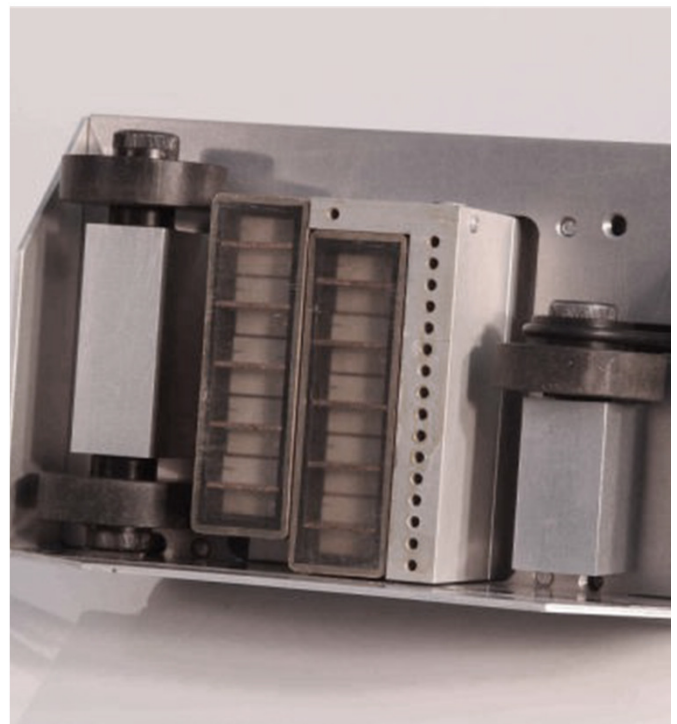


Figure 2: Bottom view of the scanning device

## Application & Results



Figure 3: Front view of the scanning device

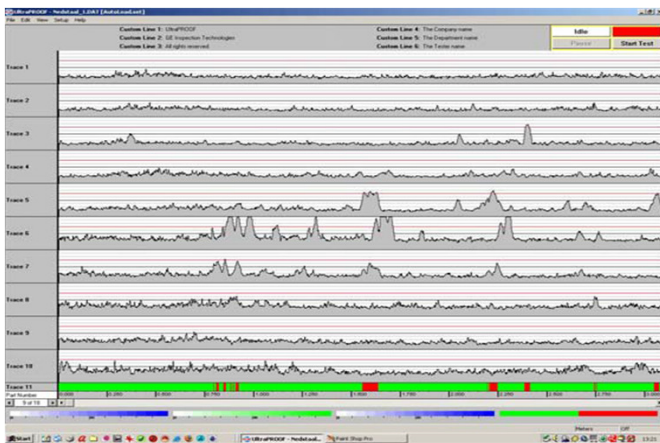


Figure 4: UltraProof – Lineplots 10 channels

### General solution information

- Billet-Scanner P-SEZ 4 R 6x15 /10x
- Ultrasonic Instrument USIP 40 in 10-channel version
- Evaluation Software: UltraProof

The coupling of the probes is done with water. For this purpose the unit has a water hose connection. Via an internal channel a uniform water flow over the whole scan width is ensured. An adjustable bearing plate permits the exact adjustment of the desired water gap height.

The operation of the scanner is done in combination with the Ultrasonic Instrument USIP40 in the 10-channel version and the Evaluation Software UltraProof. This combination allows a scan path encoded presentation of the echo amplitudes for every single channel, thus enabling easy localisation of detected defects.

### Your benefit

- High Sensitivity ensures high quality
- Save time and money with high inspection speed
- Strip-Chart-Result documentation

#### Part numbers

|                |         |         |         |
|----------------|---------|---------|---------|
| Billet Scanner | 0068805 | USIP 40 | 0036535 |
| UltraProof     | 0036542 |         |         |

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