

Product Brief:

Materials Handling, Metal Production and Fabrication

INDUSTRY: MATERIALS HANDLING, METALS PRODUCTION, FABRICATION & METAL WORKING

SOLUTION: LASER CONTROLLED CUT-OFF SOLUTION

SUMMARY: Increasing operational demands, maintenance requirements, and the growing importance of efficiency are factors in nearly all industries. This is relevant in the metals production industry, and especially true for the small to mid-sized companies at the heart of the Fabrication & Metalworking, where laser measurement technology provides an economical approach to reducing production delays and improving quality, as well as an affordable technological advantage helping to increase efficiency.

Overview

Challenge

Traditional contact measurement methods are vulnerable to mechanical failure of parts, strings, and cables that wear, break, or stretch, and they also have the potential to damage the surface being measured. Increasing operational demands, maintenance requirements, and the growing

importance of efficiency, however, are factors in metals production, and especially for the small to mid-sized companies at the heart of industry. Range, accuracy, and durability are the factors setting laser sensors apart from other measurement technologies. Laser distance sensors can provide



Dimetix laser and protective housing.





Laser-View Technologies

Smart non-contact measurement solutions for industry

an economical approach to improving quality, as well as an affordable technological advantage for increasing efficiency, reducing waste, and eliminating production outages related to mechanical failure.

Solution

Laser-View Technologies dba DIMETIX USA recently played a leading role on a team of integration partners to design and implement a laser-controlled cut-off system as part of an expansion project for a steel production facility. The new facility is open ended and subject to typical harsh steel production operating conditions .



Behringer saw controlled by DIMETIX USA cut-off system.

In addition to the massive Behringer saw at the heart of the of the steel bar cut-off solution, components included a heated Dimetix FLS-C10 laser distance sensor, a variable speed linear motor drive, a monitor interface with integrated PLC controller, and all the various housings, cables and connections required to link all the components together. The project also involved the design and fabrication of an adjustable, heavy duty steel mounting bracket assembly built to withstand the harsh operating conditions and at the same time provide enough flexibility for "on-the-fly" adjustments.



Cut-off system monitor controls cut length and adjusts feed rate as target approaches desired length.

Dimetix laser distance sensors offer long-range (0.05-500 meters) capabilities and highly accurate (± 1.0 mm), non-contact measurement in a compact, IP65-rated package. They are also capable of interfacing with a monitor to display system status, and with a PLC to precisely control movement in a complex system. This combination of advantages allows for exceptional flexibility in placement and use of the laser sensor solution. Because measurements are taken by a class II eye-safe laser, there are no mechanical parts, strings, or cables to wear, break, or stretch. Lasers can also provide precise readings where other technologies cannot—in difficult-to-access locations, such as a space-constricted fabrication shop or harsh outdoor environments. In addition, laser sensors measure accurately regardless of most target characteristics (color, texture, motion, temperature, etc.), and will not contaminate sterile surfaces or scratch or mark



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