

Force Measurement – Steel Pipe Straightening Machine

Application Force Measurement

Industry Sector(s) Steel

The Customer

Producer of pipes and tubes made of metal. The company is based in Sweden with a global brand.

Customer Inquiry

The customer had problems with the force measurement in a pipe and tube straightening machine. To calibrate the machine, they had to run pipes 20 to 25 times through the machine. Each pass through the machine causes the pipe surface to harden. If the pipe is not straight and the surface is hard, after one turn through the machine, the pipe is destroyed. This means that they had to scrap 20 to 25 pipes for each calibration.

Solutions and Equipment

We installed 10 KIP 20 kN load cells on the rollers to increase the accuracy of the force measurement, using two load cells per roller. The load cells were connected in parallel to one AST 3P transmitter. The transmitter's signal is connected to the Nobel Datalogger software.

The customer could now see the force curves and thereby optimize force levels to create linear and high-quality pipes.

Key Features:

- Good control of roller force
- High visibility of forces, through the Datalogger



Figure 1: Rollers and KIP load cell in the strengthening machine

Customer Comments

After installation of the KIP and AST we are now able to complete our calibration process using just two pipes. We have spent 25 years looking for a good solution to this problem, and with the Nobel installation we have at last found a much easier way to calibrate our machine with much less waste.

BLH / Nobel Weighing Systems
Brands of VPG Process Weighing

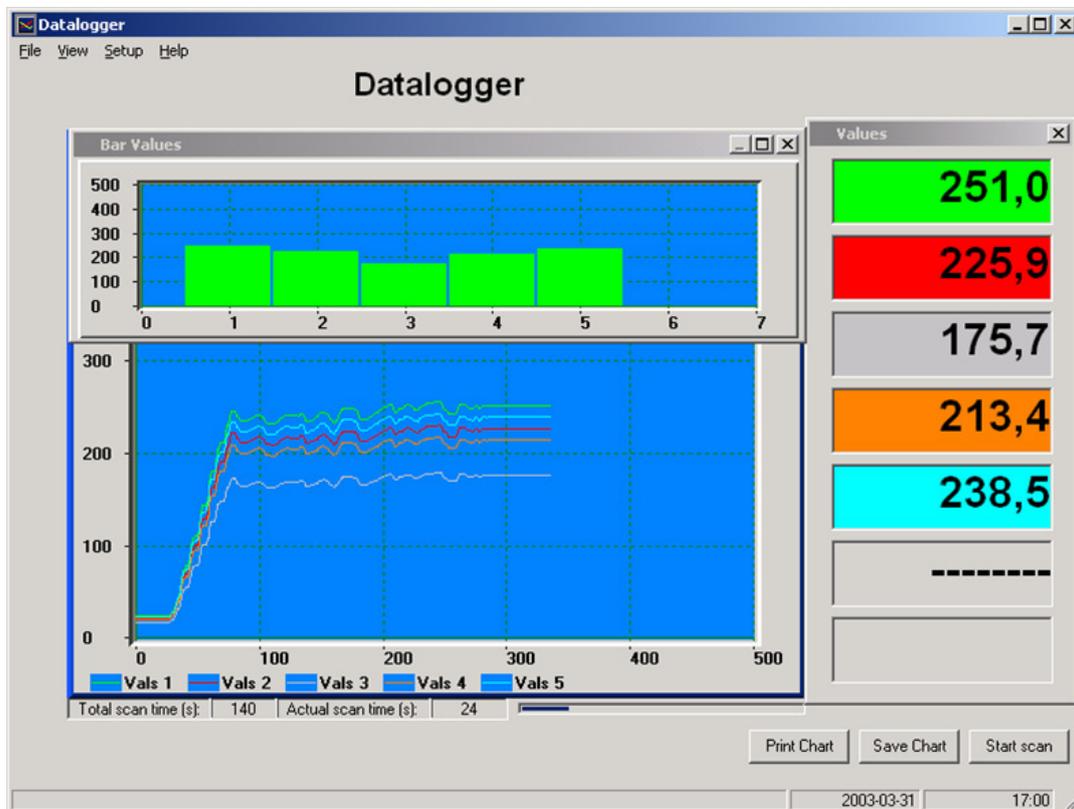


Figure 2: Rollers and KIP load cell in the strengthening machine

“After the installation of the Nobel’s system; It’s now much easier to calibrate the machine and we scrap much less than before”

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