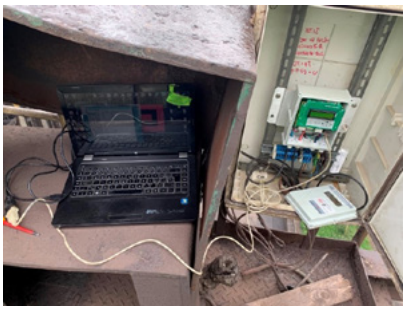
Panametrics
a Baker Hughes business

Application note

Panametrics keeps the mill rolling

Benefits:

- Easy to set up and retrofit
- No process interruption for the clamp on
- Powerful reputation in ultrasonic flow measurement
- Proven reliability over the years
- Strong local support



Picture 1. Replacement of AT868 flow meters on the Coke oven battery.

Picture 2. AT868 recently replaced by AT600 Clamp on C-RS installed from 2002 still works fine and kept in place.

A large steel plant in Eastern Europe with an annual production capability of 4.5 million metric tons of steel, employing in excess of 11,000 people has been benefiting from Panametrics technology since the early 1990s.

Panametrics has a strong track record across steel plant applications. In this instance, the customer has deployed many Panametrics' ultrasonic flowmeters across various applications, and is a good illustration of their durability, quality and cost effectiveness.

Specializing in developing ultrasonic technology that remains accurate and reliable under harsh conditions, it is not uncommon that meters run for 15 years or more. More often than not, they are replaced, not because they are broken but due to evolving communication and diagnostic capabilities or because the layout of a factory has changed.

Working with the steel plant customer in Eastern Europe, Panametrics has supplied a range of technology that has helped optimize its operations, providing upgrades only when cost effective to do so.

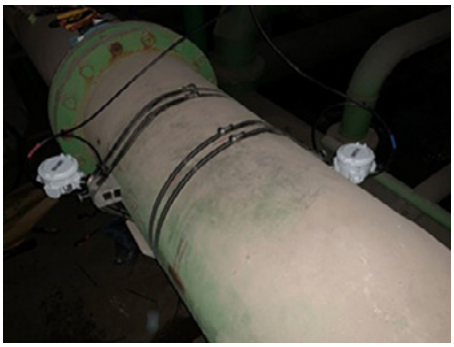
AT600 replaces AT868

A total of four AT868 water flow meters were replaced in 2021, almost 20 years after they were implemented. These meters still worked well but as the piping was replaced, the customer decided to replace the units with the new AT600 technology. This provides the customer with even more modern flow data.

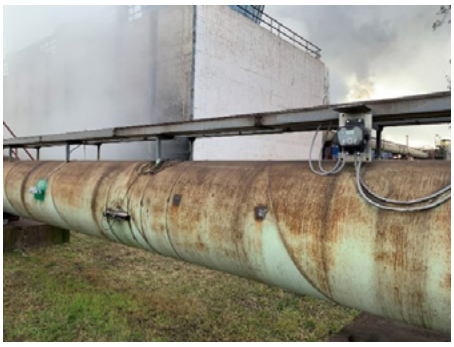
Pictures 4 and 5 show a diagonal WT transducer installation on a DN1000 (40") cooling water line that had the AT868 electronics replaced by AT600. The WT transducers still show healthy diagnostics and have remained in place.

PT900 to temporarily replace a magnetic flow meter

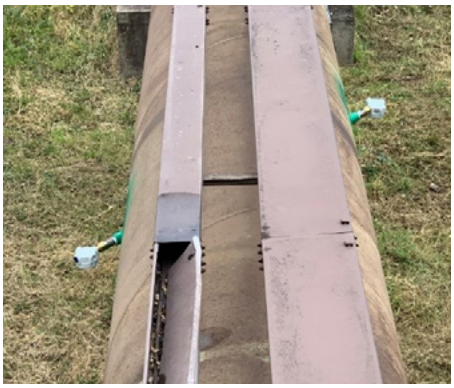
The old magnetic flowmeter from another vendor had erratic readings resulting in incorrect pump control. While a new permanent solution was sourced from the same vendor, a Panametrics clamp on flow meter was temporarily installed, so that the customer did not need to halt operations. The customer subsequently confirmed that the clamp on measurement exactly matched measurement from the new installed magnetic flow meter.



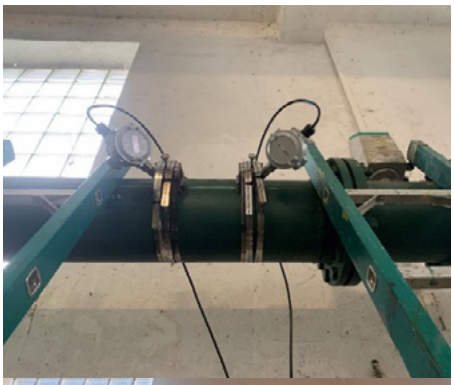
Picture 3. 50-year-old corroded pipe

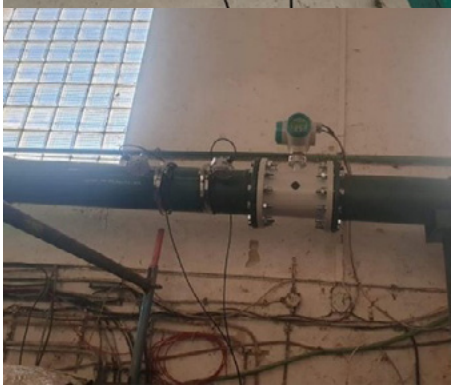


Picture 4. AT600 with WT wetted transducer solution from 1995



Picture 5





Pictures 6-7. Clamp on installed behind a magnetic flow meter for drinking water

XMT1000 replace 6468

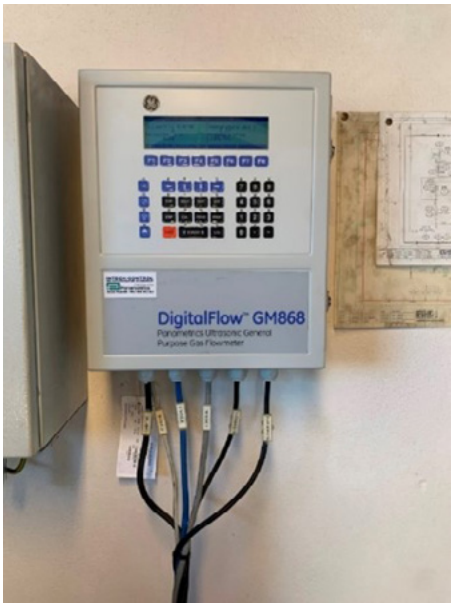
The 6468 electronics (Picture 8) that was installed in 1996 was replaced by five PanaFlow XMT1000 Ultrasonic Flow transmitters in 2021. While the WT wetted transducers still worked well, the 6468 electronics were obsolete after 25 years of service. The customer now benefits from even better accuracy, communication and diagnostic performance.

Picture 8. 6468 electronics

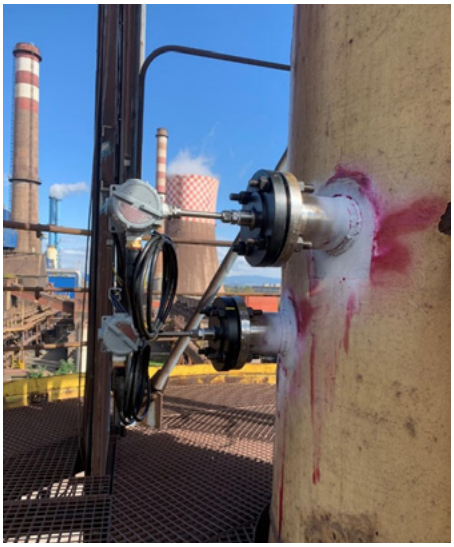
GM868 replaces like for like

For a Coke Oven Gas (COG) chimney, two new GM868 units were installed in 2021 to replace equipment dating back to 2007 and 2008.

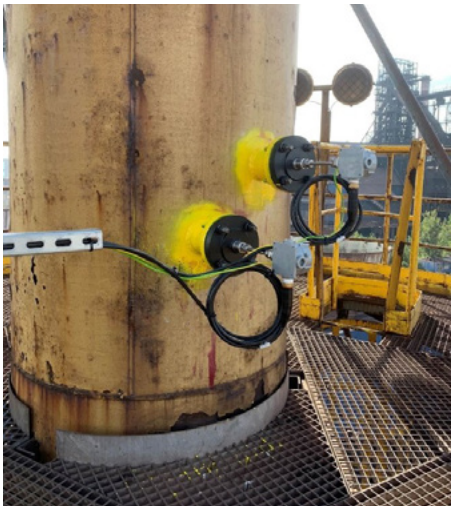
Both chimneys were originally equipped with long path tilted diameter solutions. Although replacing like for like, Panametrics recommended changing the setup of the ultrasonic path. The customer agreed and replaced the tilted diameter to bias 90 which has proven to provide a higher immunity to gas wetness and dirt.



Picture 9. Panametrics DigitalFlow GM868

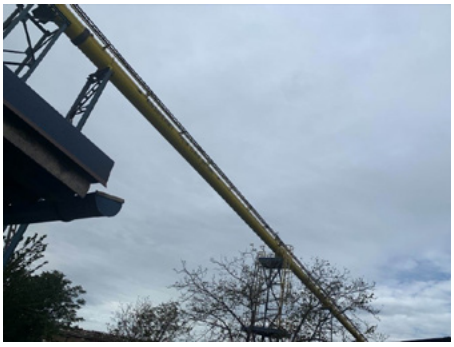


Picture 10. Combustion chimney with a T5 bias 90 setup on a DN800 (32”) pipe for blast furnace gas.



Picture 11. Combustion chimney with a T5 bias 90 setup on a DN1200 (48”) pipe for blast furnace gas

Two applications from 2002 on raw coke oven gas DN1200 (48”) and still working well.



Picture 12. DN800 coke oven gas

Picture 13. Bias 90 T5 setup

Total installed base:

- AT600: More than 30 installations since 2015 on water lines
- AT868: 3 remain in service on water lines
- XGM868 + BIAS90 T5: 9 installed on coke oven gas, fuel gas and high-pressure bidirectional nitrogen gas
- GM868 + TD T5 180: 6 meters, the largest on a DN2000 (80”) for blast furnace gas from year 2000
- MV80/82: in total 16 on various utility applications including: water, steam, air, nitrogen

Pleased with how Panametrics has helped optimize its operations since the early 1990s, the customer continues to explore other opportunities for new measurement points and upgrades to improve efficiencies and save costs using Panametrics technology.

Panametrics, a Baker Hughes business, provides solutions in the toughest applications and environments for moisture, oxygen, liquid and gas flow measurement.

Experts in flare management, Panametrics technology also reduces flare emissions and optimizes performance.

With a reach that extends across the globe, Panametrics’ critical measurement solutions and flare emissions management are enabling customers to drive efficiency and achieve carbon reduction targets across critical industries including: Oil & Gas; Energy; Healthcare; Water and Wastewater; Chemical Processing; Food & Beverage and many others.

Join the conversation and follow us on LinkedIn
linkedin.com/company/panametricscompany

Baker Hughes

BHCS39223 (02/2022)

panametrics.com