



# Ask the Expert

A discussion on closed pipe flow.

## George Poole

Job Title: **Sales Manager - Americas**

Experience: **38+ years**



### What is your favorite Pulsar Measurement product and why?

The DFM was synonymous with Greyline and so EASY, yet it is the TTFM 6.1 that would be my answer. The TTFM 6.1 was such a quantum leap (from the 1.0), and transformational for the company since its arrival in spring 2018. For me, I have had lots of fun with both the DFM 6.1 and the TTFM 6.1. We can now measure most of all liquid flows with one technology or the other. The TTFM 6.1 sales have grown 20+% each year (even in the pandemic) so it is a huge growth driver, and we are getting traction.

### What do you think the most valuable feature is on the TTFM 6.1 Transit Time Flow Meter?

The redesign of the advanced TTFM 6.1 sensors (first the B, then A, and now the C), which significantly improved our capabilities. We have the ability to cover 15 mm to 1,200 mm (0.5 in to 48 in) pipes, tougher applications with low velocity (1% down to 0.46 m/s (1.5 ft/s)), some suspended solids (up to 5%), entrained air, and/or high viscosity should help with thicker oils.

### What do you think the best benefit is to sites after a TTFM 6.1 is installed?

Once installed, our reliable performance is the key benefit. If applied right and installed right, then there should be very little maintenance for years to come (perhaps an annual reapplication of Super Lube, our coupling compound).

### Are there any hidden capabilities on the TTFM 6.1 that you think people miss or don't take advantage of?

Besides signal strength, the measured vs expected SOS (speed of sound) is a good indication of how good the meter is measuring in that installation.

### Do you have any funny stories of a TTFM 6.1 being installed?

A true TTFM 6.1 setup story from a visit to a water treatment plant in Upstate New York. The plant operator asked us (Tim Anderson of RL Stone and me) to compare TTFM on a 300-mm (12-in) ductile iron pipe with an installed Panametric meter. I struggled to get close to the Panametric's measured flow. I asked the operator to again confirm that there was no lining in the ductile iron pipe (that is what he told us). The operator got a call and temporarily left us.

A nearby contractor had overheard the conversation, took us around the corner to a piece of cutaway ductile iron pipe, that clearly showed cement lining. We went back to the TTFM 6.1 and put in the liner and thickness. This made all the difference in the setup! Even in a less ideal location (the Panametric was in the ideal location), the TTFM 6.1 flow measurement matched up well to the Panametric meter.

### Do you have any tips or tricks for the customers to get the most out of their Pulsar Transit Time Flow Meter?

Customers should take advantage of the easy 5-button menu. From the main screen (indicating flow), you can get messages, see the status, and with the left arrow get the view of 24-hour logs that go way back (26 GB data). Larry Mills from ML Johnson and I visited a large food plant in April 2019 and looked back to January when the process capacity changed to the higher flows. The customer was smiling.

### How can the TTFM 6.1 help customers outside of the Water Industry?

The TTFM 6.1 has proven itself across industries. We can handle tougher applications relative to the predecessor TTFM 1.0. We can handle lower velocities, some suspended solids, and/or entrained air. We can now handle small pipes for chemical flows which could be used in chemical, pulp & paper, and power plants. We can certainly help with water flows, in metals & mining, food & beverage, high purity pharmaceutical, and water for injection in semiconductors. The low frequency of the large pipe sensors opens up measurement of high viscosity oil flows.

### What special features does the TTFM 6.1 have that customers won't find anywhere else?

I am not familiar enough with all the other competitive Transit-Time flow meters. However, based on customer feedback, I am convinced that we provide tremendous overall value for our customers. Our customers appreciate the ease of use, reliable performance, functionality, data/information desired, economic savings, quick shipments, and the 2-year warranty provided with the TTFM 6.1.

## More Information

**TTFM 6.1 Transit Time Flow Meter:** <https://pulsarmeasurement.com/ttfm-6-1.html>



**PTFM 1.0 Portable Transit-Time Flow Meter:** <https://pulsarmeasurement.com/ptfm-1-0.html>



## Delivering the Measure of Possibility

Pulsar Measurement offers worldwide professional support for all of our products, and our network of global partners all offer full support and training. Our facilities in Malvern, UK and Largo, USA are home to technical support teams who are always available to answer your call or attend your site when required. Our global presence, with direct offices in the UK, USA, Canada, and Malaysia, allows us to create close relationships with our customers and provide service, support, training, and information throughout the lifetime of your product.

By taking a step forward in echo processing technology, Pulsar Measurement addresses applications previously thought to be beyond the scope of ultrasonic measurement. This technology improves signal processing at the transducer head which has made it possible to increase resistance to electrical noise, enabling the transducer to 'zone in' on the true echo.

For more information, please visit our website:

[www.pulsarmeasurement.com](http://www.pulsarmeasurement.com)



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