



## TTFM 6.1 units measure water flow at a chiller plant for a shopping center in Putrajaya, Malaysia.

Due to the hot and humid temperatures in Putrajaya, Malaysia – it is often necessary for shopping centers and other places where there is a large volume of people to have cooling plants that distribute cool air around the building.

This concept begins by chilling water at a centralized plant, then chilled water is pumped through a long piping network usually underground to heat exchangers. Cold air is distributed through the building via a fan to keep everyone at the shopping center cool and comfortable.

### **Why flow measurement?**

The end user for this project approached HSA Asia, a Pulsar Measurement distributor, for help monitoring water flow through their pipes at the chiller plant for their own purposes. With both contacting and non-contacting options available for the user, HSA Asia decided that the best solution for the application would be the TTFM 6.1.



*"This product was easy to install because we didn't have to stop any operation and the set up was simple. The explanation from staff at HSA Asia was crystal clear and the installation process was smooth and neat."*

The TTFM 6.1 Transit-Time Flow Meter works by measuring the time-of-flight difference for ultrasonic sound pulses transmitted from one transducer to another. The transducers can be mounted on vertical or horizontal pipes, and the pipe must be full. The ultrasonic transducers mount on the outside of pipes to measure the flow rate of clean, non-aerated fluids, like water, chemicals, and oils. The clamp on transducers can be mounted without system shutdown, pressure drop or obstruction to flow.

Start-up for the accompanying controller can be done in a few minutes, using the built-in five button keypad to enter the pipe material, outer diameter, wall thickness, and fluid type. The TTFM will even tell you the correct transducer separation distance and mounting method.

### **How did the installation go?**

Installation was successful, however initially the TTFM 6.1 encountered a grounding issue, and the short alarm was consistently flagging up. After investigation, HSA Asia found that the short alarm was caused by condensation on the pipe, due to the temperature of the pipe and the temperature of the water formed at the terminal connector. To solve the issue of condensation it was decided that the connector needed to be monitored and regularly cleaned in order to get an accurate reading. HSA Asia followed a new grounding specification by the end user to solve the grounding issue.

Once HSA Asia had managed to iron out all the teething problems, the TTFM 6.1 performed well and the end user went on to purchase 7 flow meters! Each one provided the end user with an accurate flow reading. Commenting on the project, the end user said, "This product was easy to install because we didn't have to stop any operation and the set up was simple. The explanation from staff at HSA Asia was crystal clear and the installation process was smooth and neat."

HSA Asia is Pulsar Measurement's trusted partner in Malaysia and commented on the project saying, "The customer was very cooperative, and their instructions were clear on the installation process and what they wanted as a result. We think this project has been a success and the flow meters have been installed for 7 months and all is running smoothly!"

### Who is HSA Asia?

Established in 2009, HSA Asia is an instrumentation provider in Malaysia that provides various types of instrumentation to the HVAC, Water and Wastewater, Government, and Biogas industries.

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## More Information

TTFM 6.1 Transit-Time Flow Meter: [www.pulsarmeasurement.com/ttfm-6-1](http://www.pulsarmeasurement.com/ttfm-6-1)

Partner Locator: [www.pulsarmeasurement.com/partnerlocator](http://www.pulsarmeasurement.com/partnerlocator)

HSA Asia: [www.hsa-asia.com](http://www.hsa-asia.com)



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