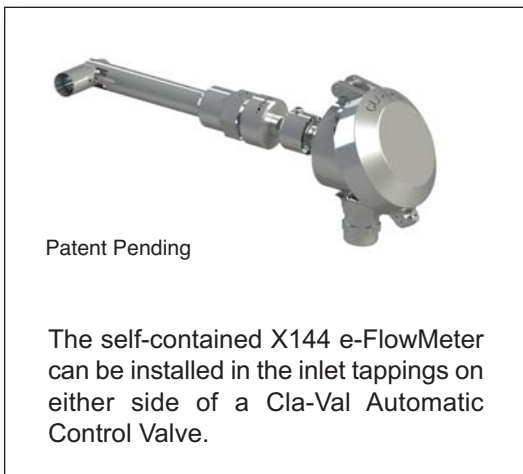


# Accurate Flow Measurement

## Introducing the Cla-Val X144 e-FlowMeter and the advantages of using automatic control valves with integral metering:

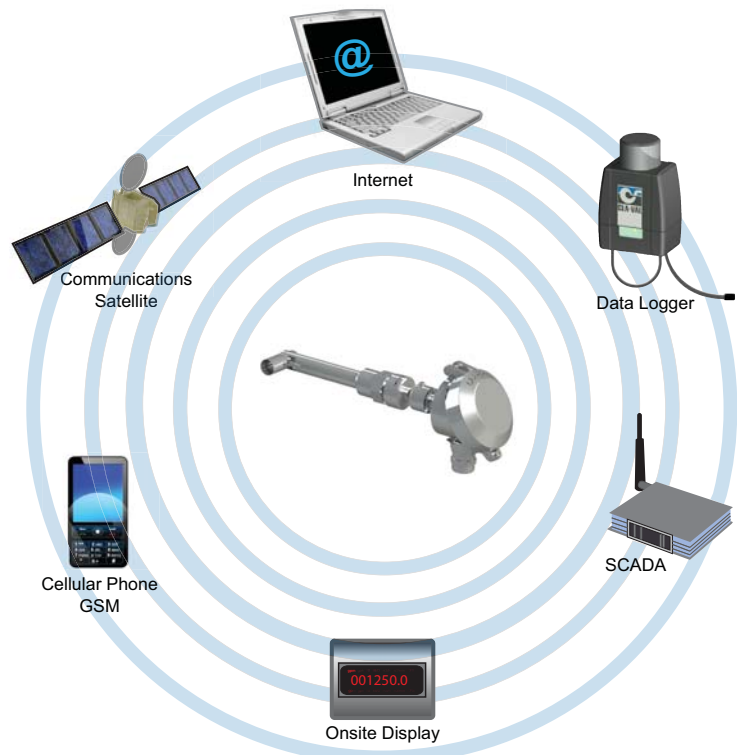
- Easily retrofitted to an installed Cla-Val Automatic Control Valve
- Can be installed into tappings as small as 1/2-inch
- Cost effective metering
- Alleviates the need for an in-line meter and the associated installation costs
- Low power requirement
- IP-68 submersible
- Accurate to within 2% of full scale
- Independent laboratory tested and verified - Utah State University, Imperial College - London
- Use as part of an overall flow control solution with SCADA or strictly for collecting or monitoring flow data



## The X144 e-FlowMeter is the ideal solution for information gathering, allowing you to...

- More effectively manage your system
- Identify locations and volume of water loss
- Obtain the information you need to attain water quality compliance
- Establish system visibility to help protect against unauthorized use
- Communicate flow data to your desired destination

## X144 Communication Options



Once installed in the Cla-Val automatic control valve, the measurement cylinder is oriented so that the meter's bluff body is in the water flow path through the valve.

Log onto [www.cla-val.com](http://www.cla-val.com) for more information



For additional information, please see any of the following documents:

- X144 e-FlowMeter Quick Start Instructions
- X144 e-FlowMeter IOM Manual
- X144 e-FlowMeter Engineering Data Sheet
- X143IP Intermediate Power Generator Engineering Data Sheet

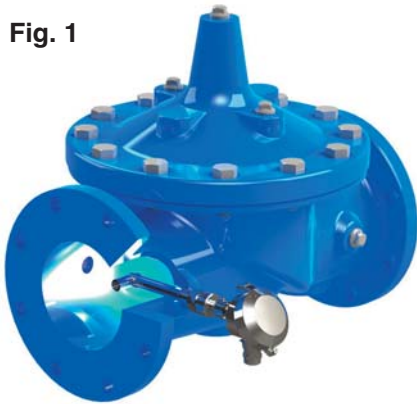


# Principles of Operation: Vortex Shedding

When the fluid meets an obstacle (called a bluff body) which is placed in parallel with the flow of the fluid, it divides the flow and generates small swirls (vortices) alternately on both sides downstream of the obstacle. The vortices are directly proportional to the velocity of the fluid. The detached vortices generate zones of variable pressure that are detected by the forces acting on a small piezoelectric crystal encapsulated in the integral sensor (Figures 1 and 2).

The X144 e-FlowMeter employs an innovative swivel mechanism shown below which allows the meter to be inserted into tappings as small as 1/2-inch.

Fig. 1



The X144 e-FlowMeter is installed directly into an inlet body tapping in a Cla-Val Automatic Control Valve.

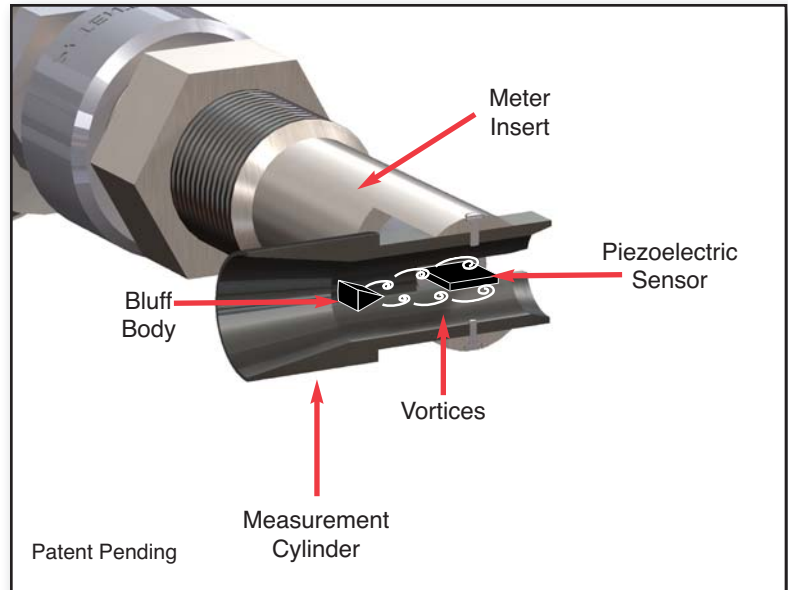


Fig. 2

## e-FlowMeter / Mag-Meter Comparison

Utah State University 

Imperial College London 

Independent Laboratory Tested

## X144 e-FlowMeter vs. Mag Meter

