

# Accuracy, cost, and safety improved with Micro Motion Coriolis upgrade

## BENEFITS

- Improved safety by reducing fugitive emissions
- Reduced station cost by 50%
- Improved unloading accuracy



## APPLICATION

A major specialty chemical producer in India unloads liquid chemicals from tank trucks using an inefficient two-phase flow system.

## CHALLENGE

A major specialty chemical producer in India was using a flexible hose to connect tank trucks to a metering station to unload liquid chemicals. The hose was drained in-between truck loads, so there was a significant amount of air that needed to be flushed from the hose before the next load of chemicals could be unloaded. This two-phase flow system made measuring the entire load of liquid chemicals inefficient and inaccurate.

To make chemical load measurements more accurate, a vapor eliminator was installed upstream of the older-style Coriolis meter. The vapor eliminator improved the accuracy of liquid chemical unloading to a level within fiscal-transfer limits. It also removed the need to stop the unloading process between each truck load because it allowed the new load of liquid to flush out the remaining air in the empty hose. However, the vapor eliminator was expensive and allowed chemical vapors to escape.

## SOLUTION

A 3" (80 mm) state-of-the-art Micro Motion® ELITE® Coriolis meter, with next-generation MVD technology and superior two-phase flow/entrained gas handling, was installed by the specialty chemical producer. A trial was performed using the new ELITE Coriolis meter without the air eliminator; 12 tank trucks with loads ranging from 10 to 16 metric tons were offloaded in a two week time period. The average difference was less than 0.2% compared to a weigh scale. The

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Previous installation, with Vapor Eliminator



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results of the two week trial were so accurate that the vapor eliminator was no longer necessary.

In the previous installation a vapor eliminator was used to allow new loads of liquid to flush out air in the empty hose, without stopping the unloading process between each truck load. In the new installation, the Micro Motion ELITE Coriolis meters enabled the process to handle the two-phase flow without the vapor eliminator. A more accurate and efficient unloading process was realized and the vapor eliminator was no longer required.

The cost of the new installation was reduced by more than 50% due to the high cost of the vapor eliminator and the new ELITE Coriolis meter paid for itself in the first truckload after the new installation. Safety was also improved as chemical vapor emissions could no longer escape through the vapor eliminator.

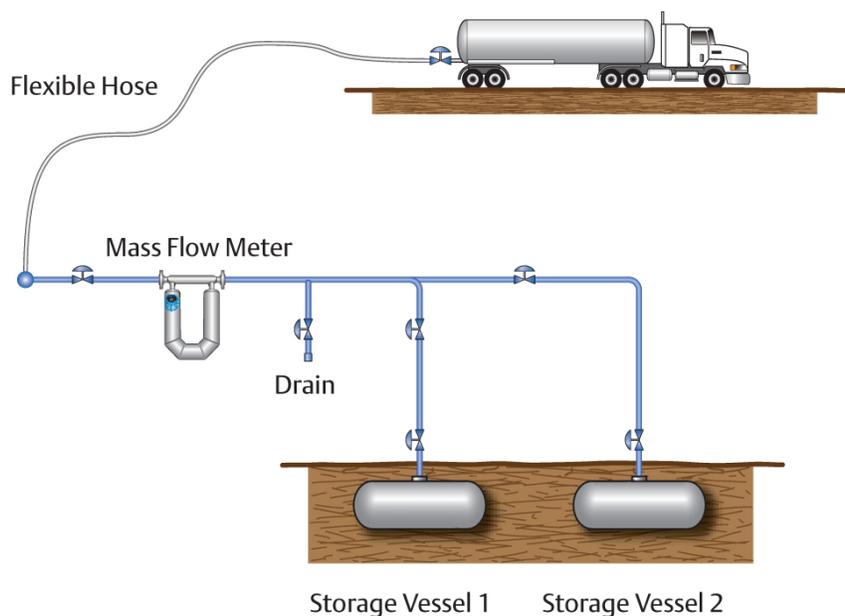


Illustration of new installation with ELITE Coriolis meter

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