

ROBUST HIGH QUALITY FLOW MONITORS

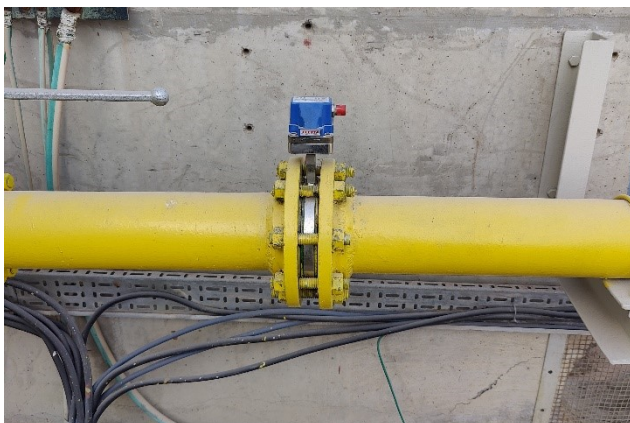
Application Liquefied
Petroleum Gas (LPG)



Eletta M Series Flowmeter for Liquefied Petroleum Gas (LPG) applicaton



Liquefied Petroleum Gas (LPG) is a commonly used fuel for many pyro processes and heating applications in various industries. One such example is manufacturing of glass in various forms, most commonly the glass bottles. The glass manufacturing process is essentially a pyro process of heating to a high temperature of around 1500°C, a mixture of three main ingredients of glass, i.e. Silica sand, Soda Ash and Limestone. While the furnace used for achieving such a high temperature for a big volume of these ingredients might use heavy furnace oil, it is LPG that's used to maintain the requisite temperature of the molten glass carried from the furnace to the forming machine that converts it into bottles.



Eletta has been a forerunner in development of orifice based differential pressure flow meters for 75 years now. Eletta M series with its piezo-resistive sensors to measure DP with high level of accuracy, coupled with Ideal Gas Law algorithm built-in its micro-processor to offer Pressure & Temperature Compensation, is very suitable for measuring any kind of gas flows. It offers the functionality of a mass flow meter at a much lower cost by using the P&T Compensation to take away the effects of variance of pressure and temperature. Most common applications of Eletta M Series on gas flows are for compressed air, nitrogen argon, LPG, CNG types of gases.



For a glass bottle manufacturing unit, Eletta has supplied a complete solution of 8 units of M Series flowmeters in 1" threaded connections, M310-G25SS, for the 8 different lines of burners of LPG gas measuring a flow range of 6.5-to-65 Nm³/h. And a 4" wafer connection, M310-F100SS for 60-to-600 Nm³/h of LPG flowing through the main header line from the storage tanks to these 8 burner lines.



All M series units are supplied with a panel or wall mounted LED displays, that takes in 230 VAC from the wall, converts it to provide 24 VDC to the M Series and takes back its 4-20mA output on the same loop for local display and totalization.

Parallely the Modbus outputs from M series, which is not only the flow reading, but also the pressure reading and temperature measurement, are taken as Modbus registers to an Elettta-C box installed in the control room of the plant far away.

Elettta-C is a touchscreen display and a PLC rolled into one. It can be programmed for any customer specific algorithms and alarms. Here we can have alarms for pressure falling below a certain limit in any of the M series lines. We can have simple algorithms of aggregating the flow of all 8 branches and comparing it with flow out from the main header line, so as to check if there is any leakages anywhere in the system. Elettta-C can also log the data and send a daily email of total LPG consumption during the day.

