Using Flow Meters in Engine Testing for CNG Vehicles

CNG is one of the best alternate fuels for cars, buses and other vehicles for various reasons.

1) It is eco-friendly alternative to gasoline
2) It is safer than gasoline and diesel as it is non-toxic and doesn't contaminate ground water
3) It is cheaper alternative to both gasoline and diesel
4) Being a cleaner fuel, it gives better engine life as it leaves much less residue when compared to petrol or diesel. Due to this pipes and tubes of the engine experience lesser damage.

CNG engines are thoroughly tested to ensure high efficiency and better performance. Some of the important parameters in the testing are:

1) Flow
2) Temperature, and
3) Pressure
4) Air-Gas composition at various operating conditions

Some of the important tests include performance tests for

1) Power,
2) Acceleration,
3) Maximum speed
4) Emissions

The power of the engine relates to the cylinder volume and the pressure handling and generating capacity of the engine, acceleration relates to flow regulation of Air-Gas mixture while the efficiency is a function of effective combustion

Manas supplied a pre-assembled, pre-tubed system as a part of the engine testing setup for a renowned automobile multinational giant recently. This system is designed to handle the pressure, temperature and flow conditions required during the testing. High grade materials and fittings have been used to meet the challenging demands of the application.

The most important part of this system was the CNG Flow Meter that accurately measures the mass flow rate of the CNG that is supplied during the engine testing.

The complete system has been commissioned successfully and is operational. This success has resulted in couple of enquiries of similar kind.

Manas, one of the top 10 flowmeter manufacturers, is perhaps the only Indian manufacturers having this capability.