C.F.M Flow Rates For Gold Series Carburettors

The flow rates stated on the carburettors are accurate. The buyer and sometimes the engine builder do not often grasp an understanding of flow rates and differential pressures required to draw a fuel mixture into an air stream. A port in a cylinder head is flowed at a lower vacuum signal (usually 10" water), as it requires no ability or differential pressure to draw in fuel.

If there is no differential pressure between intake (vacuum) and atmospheric pressure neither fuel nor air would enter your engine. Therefore engines with 10" water column vacuum respond slower than an engine with 28"W.C.V. The 10" engine will eventually make more BHP especially seen on a dyno but for road use this is a disadvantage.

A 350cfm Holley carburettor flows 350 cfm at 28" water. Mr Holley realises the importance of differential pressure for fuel delivery. It is true however that you need a slightly bigger gas carburettor as the vapour state of the gas takes up more area in the carburettor itself. It is always easier to blame the gas carburettor than the engine you have built or not built to suit the gaseous fuel. We often see V8's that make more power with a single carburettor than others with twin units. What you put into an engine also requires it to be exhausted. We have found it almost impossible to achieve 350 BHP+ using a road registered type exhaust on a naturally aspirated V8 no matter how many CFM's we use or what type of fuel. We have heard of 500 BHP+ but seeing is believing.

A V12, 5 litre has the ability to use more CFM's than a V8 5 litre, as it has more port area with potentially a lot more power. The below chart specifies the CFM of GasResearch Australia carburettors tested at The Head Stud Development Company at 28" water column.

G.R.A. S350 = 343.4
G.R.A. S400 = 400.7
G.R.A. S440 = 453.5
G.R.A. S480 = 470.1
G.R.A. S510 = 524.6