



A TRANSPORT MANAGERS' GUIDE TO FUEL DISPENSING

How do I choose a fuel pump, there are so many fuel pumps available, how do I choose between them?

There are 4 main questions to ask when choosing a fuel pump that is suitable for your needs, do not make the typical mistake of going for the cheapest.

Firstly consider the following:

- 1. How fast do you want to refuel your vehicles?**
- 2. How accurately do you want to measure the fuel you use?**
- 3. Where is your storage tank?**
- 4. What type of fuel do you use?**



Lets us advise you on each question in turn.

How fast do you want to refuel your vehicles?

You will want to refuel your vehicles as quickly as possible to prevent a bottleneck at the fuelling point.

If the fuel pump dispenses at too fast a speed it can create excessive frothing in the vehicle tank, which will prematurely shut the nozzle off. This means drivers have to repeatedly wait for the froth to settle and then top up the tank, thereby slowing down the refuelling cycle.

The following rough guide should help you decide:

Low speed pump

These are typically best used to refuel Cars, light commercial fleet, forklifts, small plant and jerry cans dispensing at a rate of **50 litres per minute**

Medium speed pump

These are suitable to refuel large vans, small rigid trucks, agricultural vehicles, large industrial plant and small PSV's dispensing fuel at a rate of **70 litres per minute**

High speed pump

These are purely designed for bus and coach fleet, heavy goods vehicles, heavy plant and quarrying machinery dispensing at a rate of **90 litres per minute**



How accurately do you want to measure the fuel you use?

This is the most crucial question.

Higher accuracy pumps will cost you more but if you are using any significant quantity of fuel you may quickly recover the extra cost. Lower accuracy, lower cost pumps should ideally suit the smaller fleet.

There are 2 basic types of meter in most fuel pumps:

- a) **Flow meters** (sometimes known as nutating disc meters)
 - Approximate accuracy of +/- 2%.
 - Accuracy varies with delivery speed and fuel type.
 - Should be calibrated after installation and regularly checked.
- b) **Piston meters** (sometimes known as positive displacement meters)
 - Accuracy of +/- 0.5%.
 - The actual accuracy will be constant at different delivery speeds.
 - Check calibration after installation but only re-check annually unless you have a particularly high fuel usage.



Ok, so one is more accurate than the other, so what?

The accuracy percentage is how closely the fuel figure shown on the pump matches the quantity of fuel actually drawn.

Example of a +/- 2% pump

If a driver fills a vehicle with fuel until 100 litres is shown on the pump display then it means he actually delivered anything between 98 and 102 litres (100 litres +/- 2%) This gives an uncertainty of 4 litres.

Example of a +/- 0.5% pump

If a driver fills a vehicle with fuel until 100 litres is shown on the pump display then it means that he actually took between 99.5 and 100.5 litres (100 litres +/- 0.5%) This gives an uncertainty of 1 litre; 4 times better than the +/- 2% pump.

The same theory applies to your overall fuel usage. If the total of all your individual refuelling adds up to 10,000 litres in a month then you actually used between 9,800 and 10,200 litres if you have a +/- 2% accuracy pump. This is an uncertainty of 400 litres in a month, at 50 pence per litre this equates to an uncertainty of £200 per month. So you don't have to be using very much fuel to justify the cost of a higher accuracy pump.

REMEMBER:

All key and card operated fuel-monitoring systems connect to the output of the meter in the fuel pump. This means that the figures produced by your fuel monitoring system can only ever be as accurate as the pump it is connected to. If you have worn, old or inaccurate fuel pump don't expect your fuel monitoring figures to be any better!



Where Is Your Fuel Storage Tank?

If your tank is below ground you will need a pump with a much better suction capability to be able to lift fuel from the tank when it's almost empty. If your tank is above ground less suction lift is necessary but you need to be careful that the installation is protected against leakage in the event of damage to the dispensing equipment. The pump you decide to install will only work correctly if properly connected to the storage tank. A 90 litre per minute type pump won't deliver at 90 litres per minute if it is connected to the tank via a 1" bore pipe. If in doubt ask a competent fuel engineer to check your tank and pipe work.

What Type Of Fuel Do You Use?

If it's petrol you must install a pump built and certified to BS 7117 part 1 1991. You must also seek permission from your Local Petroleum Licensing Officer for any work you propose to do on a petrol storage installation. This is necessary even if you only propose a direct replacement of an existing pump.

The BS 7117 standard applies equally to diesel pumps but this standard is not mandatory for diesel and gas oil pumps unless they are located adjacent to petrol pumps. Diesel is more environmentally hazardous than petrol and great care should be taken with the installation of any pump in order to minimise the risk of pollution from leaks in the event of corrosion, impact damage or vandalism. In any of these events you will be liable for the cost of clean up and or fines. Leaks caused by slow deterioration, i.e. corrosion are unlikely to be covered by insurance.

If you have any doubt about your installation simply request for one of our professional Fuel Engineer's to carry out an inspection, we cover the whole of the United Kingdom. Call us now on **0845 450 7373.**

To obtain further information on our range of fuel dispensing pumps

Call now, one of our advisors will ensure your company achieves the best value for money solution to manage and control your liquid commodity.

or visit us at www.liquidms.co.uk