

## *Submersible Pressure System vs Suction System*

### Which system Suction or Pressure?

When deciding which fuel pumps to install on petroleum forecourts with a budget that demands best value combined with efficiency and be low in maintenance, then submersible fuel pumps fit all of these criteria, being based on a pressurised system instead of suction technology.

The advantages become more apparent when the layout of the site using submersible fuel pump is at the design phase. Less pipework and less number of fuel pumps are needed to begin with. To the layman this may sound too good to be true, but the facts cannot be overlooked.

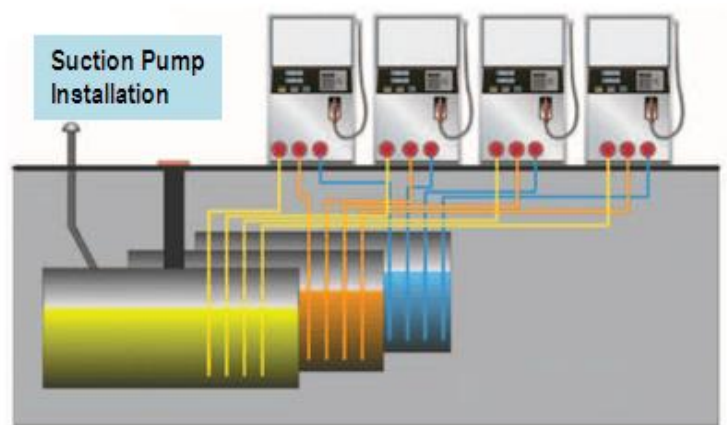
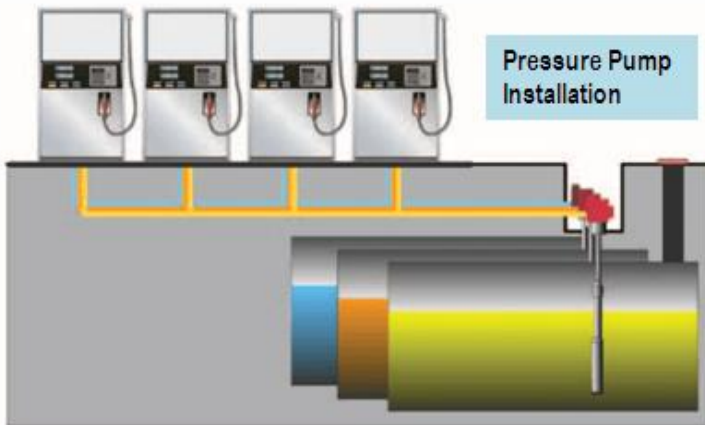
Petrol Station forecourt sites in the past have located the fuel pumps directly above the storage tanks or at least nearby, so suction pumps were employed as an easy solution. The advent of larger sites with tanks installed at greater distances from the pump islands, challenged the suction technology, thus installing submersible fuel pumps, using pressure as the medium, was the answer.

### What are the benefits of adopting Pressure technology?

Whatever the size of the forecourt, Submersible Turbine Pumps ( STPs) offer greater flexibility to the site designers, as the tanks and fuel dispensers can be located just about anywhere due to the Pressure pumps greater efficiency in terms of flow rates, power & reach over longer distances as compared to suction systems. The submersible fuel pumps are especially recommended for high throughput applications such as truck stops, where high demand, multiple fuel points and long piping runs could potentially reduce fuel flow to the nozzle.

A submersible fuel pumps, installed in one grade of fuel, can reach all the fuel dispensers on all of the islands. If distance is not a problem, the simplicity of submersible fuel pumps is just as valid as less number of suction pumps & pipework are needed, whatever the layout and distances involved.

As a consequence, less pipework is needed from the tanks, as the submersible fuel pumps inside the tank delivers to all fuel dispensers on all of the islands.



Even from a customer perspective, the fuelling experience with dispensers base on Pressure system is more pleasurable due to low noise levels as against the dispensers based on suction technology.

## Maintenance aspects of submersible fuel pumps?

The worry that maintenance may be a problem when Submersible Turbine Pumps ( STPs) are used is not borne out by the actual facts, as downtime is a rare occurrence. The installation is speedy, and equally, replacement is as easy. The fact that the submersible fuel pumps itself is located in the fuel at a lower temperature means that it is constantly being cooled; making wear much lower than normal suction pumps that operates in ambient conditions.

Another major plus benefit with submersible fuel pumps is that electrical consumption is vastly reduced , as less pumps are needed in the first place , but they require less electricity to make them work than their suction equivalent . This is major factor when comparing the facts with the ever increasing cost of power.

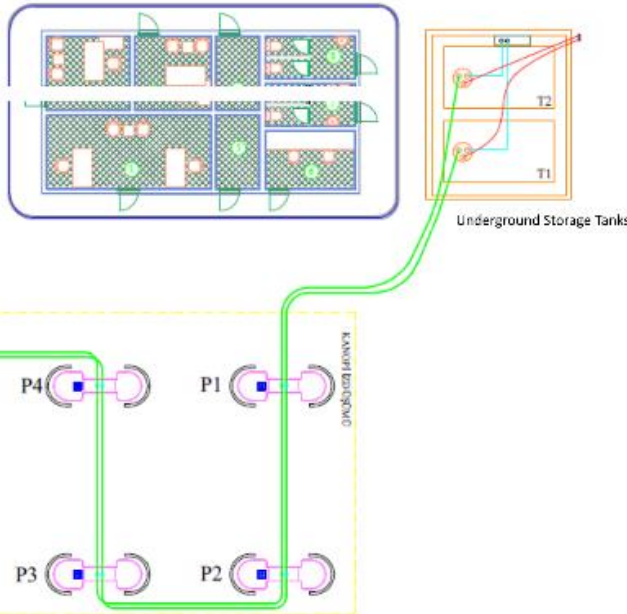
From a total cost of ownership of the forecourt equipment, using submersible fuel pumps also means that there fewer components in the dispensers, which certainly lowers the number of service interventions on the dispenser as well.

The facts are simply in favour of submersible pumps:

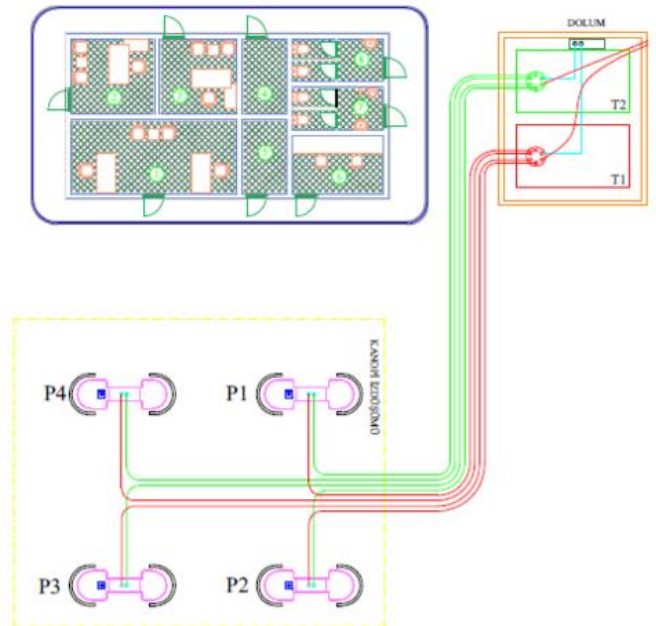
- Pressure based submersible fuel pumps deliver at a constant rate.
- Can serve more than one fuel dispensers from the same tank with the same pipeline source.
- Employs less pumps to deliver the fuel to customers across the site.
- Gives the site designers more scope to locate tanks at much greater distances from the storage, thus utilising space on the forecourt more efficiently.
- Use less electric power to drive them.
- Significantly reduces noise on the forecourt.
- Reduces the total cost of ownership of dispensers.

## Flexible Piping:

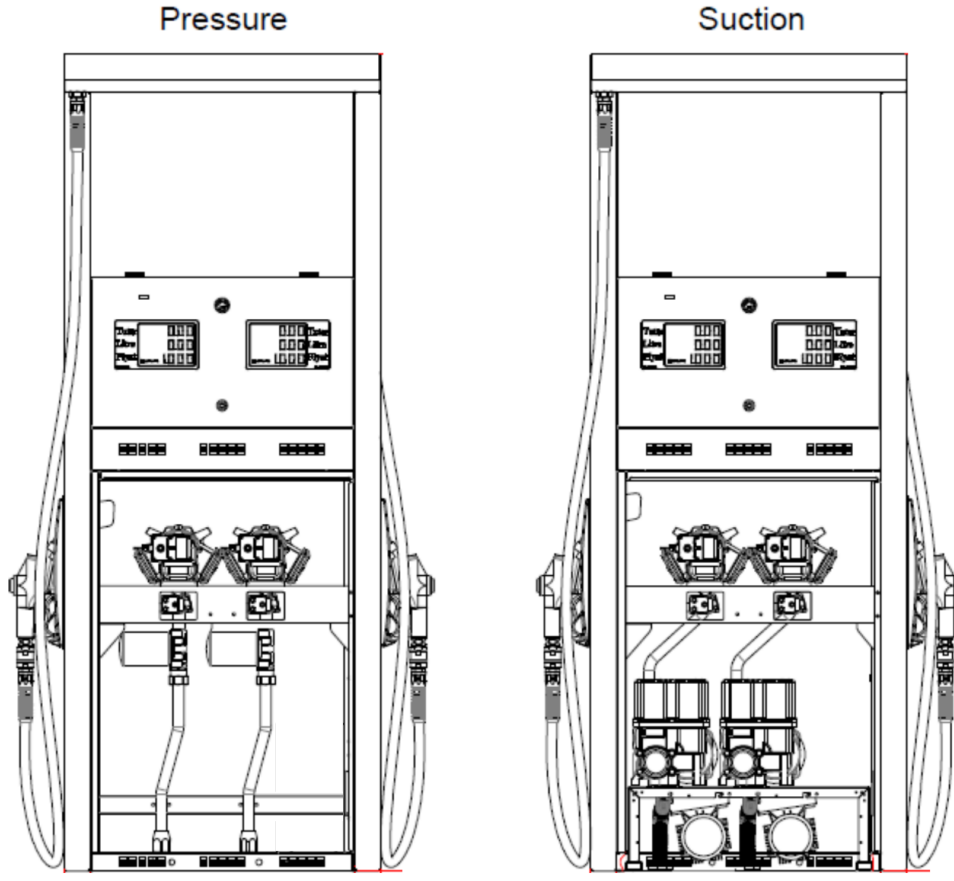
Submersible Pressure System



Suction System



## Fuel Dispensers :



## Submersible System Tank Connections :

