



**WE'VE DEVELOPED A COMPLETE SOLUTION PROVIDING SAFE, MODERN AND COST-EFFECTIVE MEANS OF DISPENSING FUEL, LUBRICATING OIL, COOLANTS AND DETERGENTS.**

**INDIVIDUAL SOLUTION**

It is important that railway depots and train operators have the right equipment available to them for an accurate, smooth-running, reliable and easy to maintain means of dispensing liquids.

We recognise that all sites are different and that every train operator has their own requirements. So, we have developed a complete solution that can be tailored to suit the individual needs of the train operator and the specific constraints of each location. This can be a simple, single, mechanical system through to a fully automated monitoring and ordering system.

**BASIC SYSTEM**

The basic system comprises a simple combination unit, double skinned tank with the dispensing hose, trigger and meter housed on the storage tank. The tank capacity ranges from 1,000 to 10,000 litres and variations on tank levels and dispensing can be designed to suit the needs of each specific site.



**RAIL**

**ENGINEERING**

**CHEMICALS**

**INNOVATIONS**

## LARGER SYSTEM

Our larger system consists of a range of storage tanks which include vertical or horizontal, cylindrical or rectangular, single skinned, double skinned or self banded, with capacities which range from 10,000 to 90,000 litres.

All of our larger tanks are fitted with filling points that can be either a separate and banded filling point or a fill point which is mounted within the banded area of the tank. Alongside the fill point a local hydrostatic gauge and high level alarm is fitted and, where remote filling is required, then high level, auto shut off valves are fitted to each tank.

One of the first hurdles for companies operating the latest generation of diesel and bi-mode trains is the new EU emissions regulations requiring exhaust after-treatment, the brand name of which is AdBlue. Garrandale's engineers have designed and built a range of dispensers for fuelling and AdBlue that incorporate suspended hoses. Where required, we can add separate hose reel dispensers for AdBlue when it is not filled adjacent to the fuel fillers. Fuel and AdBlue is then metered digitally and tagged to the operator and vehicle. We are always looking at the safest and most ergonomic solutions to customer needs.

In addition to the fill points, fuel deliveries can be accurately monitored using delivery meters and de-aeration units with delivery rates up to 1,000 litres per minute making our system ideal for delivery from standard road tankers.

## PIPEWORK

The pipework from the storage tanks to the dispensing points can be supplied in either steel or dual contained MDPE (pipe in pipe), right through to stainless steel and high specification polymers. All of these can be manufactured and pressure tested before being sent to site to minimise unnecessary replacements.

## DISPENSING AND MONITORING

Garrandale offers a number of dispensing solutions. These range from a basic manual system through to fully automated multiple dispensing points with a complete monitoring and logging system which logs the date, time, train number, operator and quantity of fuel dispensed.

The system is very simple to use - the operator simply inserts his data tag into the reader when the train pulls onto the apron and then enters the train number or uses a bar code reader to tag the vehicle automatically. The operator then connects the fuel hose and begins fuelling. Once the operation is complete the data is automatically logged onto the server. All of this information can then be stored on a local PC or remotely via wired or wireless GPRS.

Modern diesel motive power units require both fuel and additives for efficient operation. Garrandale has designed a new fuelling unit that supplies and monitors both fuel and DEF as it is supplied to the train.

A handheld bar code scanner is used to identify the specific train power unit and the amount of both fuel and DEF is recorded and the information stored. This data can be downloaded to a central record point as and when requested. Interlocks with the train can be provided if required to monitor the tank full condition. The supplied fuel is filtered and pressure controlled before the flow is monitored as it is fed via self sealing break away couplings from either high or low level.

## STORAGE TANK MONITORING

Garrandale also offers a storage tank monitoring solution which allows constant data recordings of tank levels to be stored on a PC locally or remotely and when levels become low an automatic reminder service is triggered.

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