



GASSO

Skid Mounted Measuring Systems for Loading Terminals



TECHNICAL SPECIFICATION

1. Introduction

The safest and most accurate method of transferring petroleum products from bulk storage to a transport is through a reliable metering systems. The basic concept in designing an Petroleum Products Metering Systems is to provide dependable components which can safely be operated by drivers or plant personnel.

These systems are up-to-date answer to the increasing demand from oil, gas, petrochemical and chemical companies that wish to make the charge over from top to bottom loading.

Gasso engineers use the latest technology to design systems that offer customized, cost-effective solutions to meet client's specific transfer requirements.

Gasso delivers a complete range of customized integrated liquid and gas custody transfer solutions to measure and control all loading/unloading processes, including the following operations:



- Metering;
- Calibration and proving of metering systems;
- Loading or unloading of tanks trucks and railcars (also with the big capacities telescopic filling lances from refineries);
- Features to enhance safety and environment protection, such as fire protections systems and membrane based vapours recovery systems;
- Emergency shutdowns systems;
- Preset and automatic control system;
- Data process and connection with client's accounting system.

Skid-mounted measuring system can include also both the truck and railcar loading arms, after of doing the feasibility study and/or client's order. Weight bridges are also available. This complete system can be linked electronically to enable an automatic control of the product being loaded or unloaded, which can, in turn, be linked to customer invoicing.

A wide choice of other equipment using proven, leading-edge technology can be built to optimize each system for client's particular application.



Gasso together with its partner Syscom capabilities for Skid – mounted and measuring systems are:

- Completed tested and commissioned package;
- Site erection assistance and supervision. These can be made at client's order, after having all systems details.

We can do, in a turn key job project, the basic & detailed design of all kind of installation (mechanical, electrical, automation), and the erection works, together with some another specialized companies,

The benefits are:

- Single source supply, responsibility and guarantees;
- Factory tested equipment;
- Reduced overall operating costs;
- Improved reliability and operating safety;
- Compact design arrangement ideally suited to limited space constraints on site;
- Reduced installation time;
- Easy access for maintenance.

Extra Options:

1. The metering system can be supplied in a skid shape (delivered on a steel frame).

The same system can be site configurator, according designer's specifications.

The skids can be supplied with **platform, canopy and folding stairs**.



2. Gasso can supply **the metering skid for top or bottom loading**, the rack monitors, grounding monitors and dedicated software, doing also the necessary commissioning (on key basis jobs).



3. The metering system can be design to accurately measure the volumetric and mass flow, according user's standards. For mass measuring, is extra required an In Line liquid ***density transducer***.
4. Gasso can perform the analyses of each demand and do the detailed **engineering** for loading/unloading racks or other metering applications, needed in tank farms or refineries.



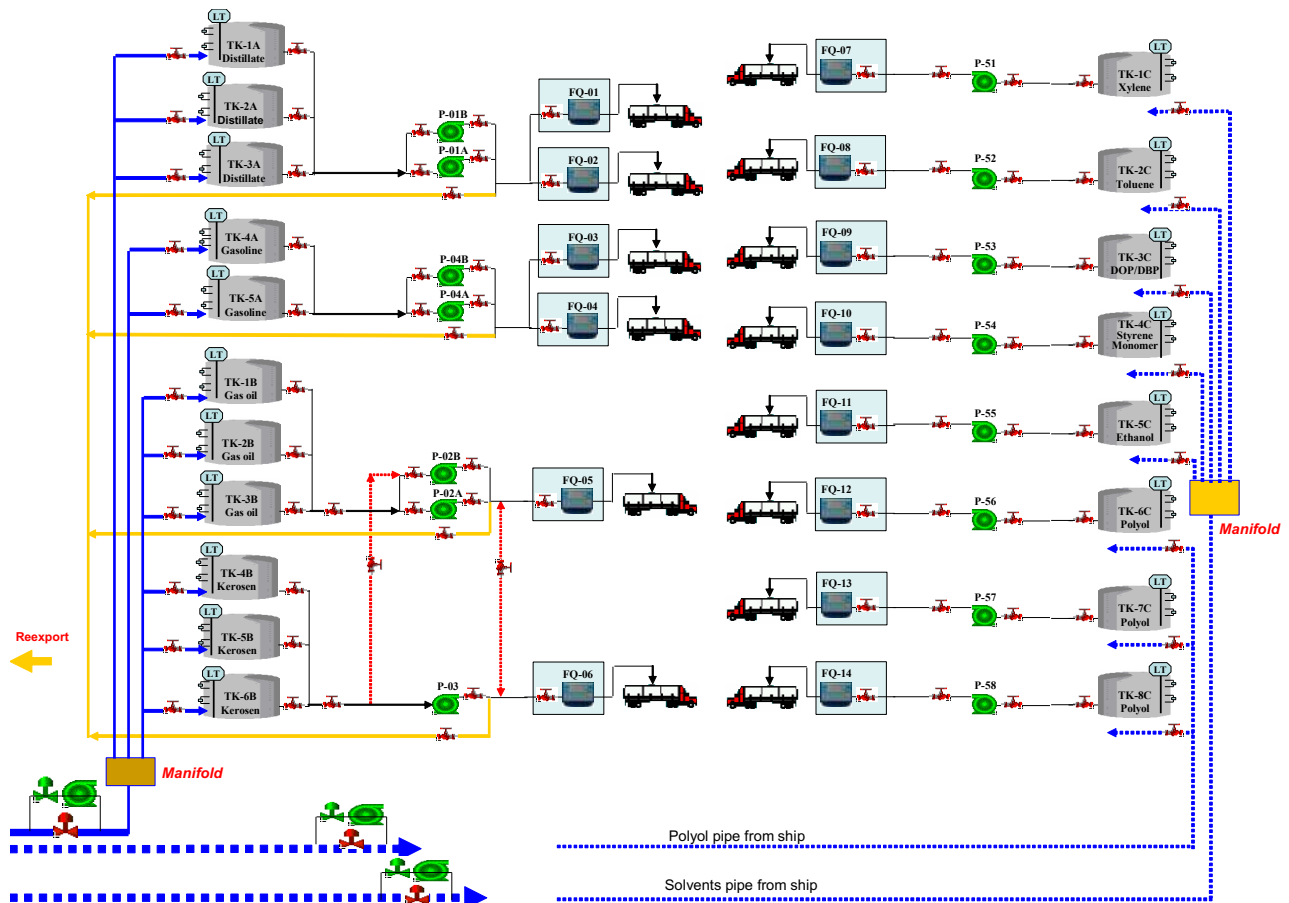


Fig. 1 UPLOADING, LOADING & RE-EXPORT SCADA

5. In Gasso dedicated **loading/unloading systems**, for tank trucks and railcars, the operations are controlled through a local workstation, connected to a host computer. The loading flow computer is connected to the workstation via reliable interfaces. The client's order information is loaded on the Host computer from Head Office and transmitted to the workstation, after checking client's data. The approved order is discharged into the flow computer, from where, the local operator can preset the needed delivery quantity. After finishing the loading operation, the Host data base is actualized, necessary invoice being issued. **These activities and dedicated software** can be made after a carefully analyses of installation owner and of existing accountant system.
6. Gasso also able to supply **Turn Key loading terminals**(supply of equipment, erection, commissioning, and training)

