

HYGAIN CHEMICAL - China

Tank monitoring and barrel filling stations in chemical plant

This application was developed for **HYGAIN Chemical**, a Chinese manufacturer of chemicals like food grade polyvinyl chloride (PVC) and sodium hydroxide (caustic soda).

The engineering was performed by **Shanghai Sunrise Measurement & Control**; a Scaime integrator specialized in weighing systems for industries such as pharmaceutical, chemical, steel, mining, harbor, food and cement.

Customer need

For a new production line of sodium hydroxide, the customer needs weighing systems for tank level monitoring and for filling process of barrels.



Tank level monitoring solution

The tank of 500t capacity is mounted on four load cells connected to an IPE50 indicator for level monitoring

500t Tank weighing

- 4 load cells CA40X 200t
- 4 mounting kits STABICAN 200t
- 1 IPE50 indicator

For the tank weighing, we've proposed CA40X load cells in 200t capacity. These load cells can achieve the customer accuracy requirements (0.05% full scale) and can be very easily installed with STABICAN mounting kits. With these mounting hardware, it possible to transform a tank in weighing scale without using additional safety device. Indeed, each kit integrates lift-off prevention device and high capacity stabilization rod for tank restraint.



Lift-off prevention device

Stabilization rod

Customer Benefits

- Very easy to install
- No need of additional safety device
- High weighing accuracy solution

Barrel filling solution

Each filling station is equipped with 4 sensors connected to an IPE50 indicator. All the indicators are networked to a PLC.

Barrel filling stations

- 4 load cells SK30X 2t
- 1 stainless steel junction box ALCJB-X4
- 1 IPE50 indicator

To equip 11 filling stations, we've proposed SK30X load cells in 2t capacity. These load cells are made of stainless steel and are hermetically sealed to fit with harsh chemical environment.

The load cells are connected to a high accuracy IPE50 weight indicator through an ALCJB-X4 stainless steel junction box. The complete weighing chain achieves an accuracy of 3000 divisions.

All the IPE50 communicate weight data to a PLC by RS485 network in Modbus-RTU protocol.



SK30X load cells – ALCJB-X4 Junction box



IPE50 indicator



Customer Benefits

- High weighing accuracy for precise barrel filling
- High resistance to chemical aggressive environment
- Easy to implement automation system architecture