Introduction

Sinochem Sinopec Shanghai Orient Petrochemical Terminal Co., Ltd. (former Shanghai Orient Tank Co., Ltd.) was established in 1989 and is now located in Pudong District of Shanghai. It is a Sino-foreign joint venture with shares of China Sinochem Group Holding Co., Ltd., China Sinopec Group Asset Management Co., Ltd. and Shanghai Gangcheng Collective Asset Investment Co., Ltd., mainly covering the businesses of transfer, storage, allocation, filling and bonding. The company was built in four stages and reconstructed by terminal expansion and automated upgrading and has grown in strength. It now has 50,000 ton petrochemical terminals and a tank capacity of 24.465 cubic meters, so it has become one of the largest petrochemical warehousing bases along the Yangtze River.

For more information

Further details of ABB Measurement & Analytics products are available for free download from: www.abb.com/measurement or by scanning this code:
Project requirements

Orient Petrochemical Terminal Co., Ltd. is building an information platform, so that all instrumentation data can be uploaded to the central control room for management.

Customers need to purchase flow computers + temperature transmitters + pressure transmitters + vortex flowmeters for integrated processing and calculate the flow signal, temperature signal and pressure signal. The costs for using more than one device remain high due to long signal response time, too many calculation links and increasing data risks.

Solution

ABB’s new generation Vortex flowmeter, FSV450, has temperature and pressure compensation functions and can measure steam volume and directly output mass flow. The FSV450 integrates flow computer functionality and has built-in RTD unit temperature compensation. The single Vortex flowmeter solution integrates 4 technologies, including measurement, compensation, calculation and integration to directly compensate 4 to 20 mA pressure signals via an analog input interface unique to ABB VortexMaster easily and to be harmoniously combined with the ABB 266 transmitter, to directly output vapor mass flow, temperature and pressure to the central control room from a single Vortex flowmeter in a stable manner for users with 4 functions in one unit, which realizes an increasingly stable process while significantly saving customers’ costs. The ABB Vortex flowmeter’s high-tech transmitter combines IF97 international standards of vapor engineering thermodynamics, so that vapor measurement is more precise and stable and vapor energy flow data can be further output directly. It overshadowed an international brand of mainstream Vortex flowmeters competing in the same pipeline on this site.

‘Vortex goes high tech’

Easy to operate

Excellent measuring performance

Enhanced flow calculation capability
ABB’s new generation of Vortex flowmeter, VortexMaster, underlines the innovation gene of ABB’s measurement products, ‘Measurement Made Easy’, thus increasing value for our customers.

- Excellent performance: the new signal processing algorithm by Switzerland Research Institute of ABB gives the unique balance sensor an exceptionally outstanding performance. It can deal with the vibration of pipelines for users, which is difficult to avoid and it can also make accurate measurements in a stable and effective manner even in harsh environments.

- Integration of science and technology: the brand-new high-tech transmitter equipped to the new generation of Vortex flowmeter. The HART and analog input interfaces particularly integrated for customers make an easy compensation input. It is integrated with a powerful computing capability, helping customers save costs on flow computers, since it can make things easy by directly outputting mass and energy flows.

**Customers’ evaluation**

It is currently operating normally and has played a positive role for our company in strengthening energy management and control.
We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB.

©ABB 2019
All rights reserved.