

Flowmeter

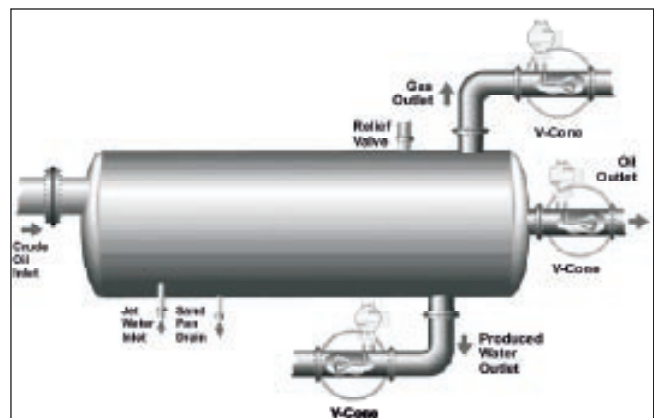
Handling Test Separator Problems for the Oil & Gas Industry

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V-Cone flow meter offers an advanced differential pressure flow technology that acts as its own flow conditioner. This unique design enables the V-Cone flow meter to provide outstanding performance without the long lengths of upstream or downstream pipe runs usually required by other types of flow meters. This requirement for reduced straight pipe run results in significant space savings, especially on offshore platforms.

Test separators are normally used when more than one well and field deliver fluid to the platform at the same time. It is important to continuously monitor the oil, condensate, water and gas being delivered to the platform from each well. However, in the gas metering section of a test separator, liquid 'carry over' is a well-known problem, especially when new wells are put on stream. Occasionally, when the well stream flow exceeds the capacity of the test separator, water, oil, agitated solids and other debris are carried over into the metering devices. As a result of this harsh treatment, orifice and conventional turbine meters have sometimes been found buckled or damaged—even when relocated somewhere downstream of the process. Other common problems with conventional meters include wax/asphaltene build-up, sand/cavitation erosion and grease ingress/deposition from upstream valve lubrication. They contribute to inaccurate measurement, which in turn leads to an increase in total cost of ownership of the system.

Also, when a well-test is being performed, there is usually higher than normal flow regimes/velocities and the separator performance is reduced due to the meters' over ranging.



V-Cone installation on a typical test separator application

Generally, plate changes are needed on orifice designed measurement systems to cope with the turndown. But this can be time-consuming, risky and costly when removing plates under system pressure.

These heavy and bulky installations can incur weight and space penalties, a major consideration for today's offshore platforms.

Why V-Cone Flowmeter is Ideal for Test Separator Applications?

McCrometer's patented V-Cone flow meter offers an advanced differential pressure flow technology that acts as its own flow conditioner. This unique design enables the flow meter to provide outstanding performance without the long lengths of upstream or downstream pipe runs usually required by other types of flow meters. This requirement for reduced straight pipe run results in significant space savings, especially on offshore platforms. For retrofit purposes, also it is simple to install. The flow meter measures wet gas efficiently and provides a more stable, accurate result than other meters. There are no build-up problems with the V-Cone, unlike the orifice plate and some other flow meters. When two V-Cone flow meters are placed in parallel on a test separator gas run, the flow meters can cover the range that would require at least 10 orifice plates. It provides an accuracy from $\pm 0.5\%$ and

repeatability of $\pm 0.1\%$. It comes in sizes from 1/2 inch to over 120 inches. It handles flow turndowns in excess of 10:1. High-pressure meters are available. Corrosion resistant models in most materials are also available.

Conclusion

Ideal for measuring wet gas, condensate and dirty or abrasive flows with its advanced space-saving design, the new high accuracy V-Cone FPSO Flow Meter from McCrometer is the ideal liquid, gas or steam measurement solution for cramped floating production, storage and offloading vessels operating in deepwater or remote areas. ■



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Dutch Intensifies Business Action Plan with Indian Oil and Gas Industry

New Delhi: The Dutch oil and gas industry, after intensifying its business action plans with the Indian oil and gas industry, had attended Petrotech 2010 in New Delhi.

The Netherlands, a major exporter of oil and gas products is home to a large number of refineries and one of the largest oil concerns in the world. Development of the offshore sector has been allowed by the Netherland's maritime history. Inaugurating the Dutch Pavilion at Petrotech 2010, the Ambassador of Netherlands in India, Bob Heinsch said, "The Netherlands is the world's second trader of petroleum products and holds a strong position on the world stage in the oil and gas sector".

"India is a fast growing economy with increasing needs for which substantial investments are planned for onshore and offshore extraction as well as for processing. It is in-depth knowledge, expertise and experience that can play a vital role. I do believe that the proven expertise of the Dutch business community is a good match for energy related developments, plans and projects in India." With stalwarts of the Dutch oil, gas and power sector, Indian companies like ONGC, IOCL, Reliance, Punj-Lloyd, Tata Steel, etc are already in business. Shell and SHV Energy which are Dutch companies have been actively contributing to the sector in India for about two decades. Commenting on

behalf of the Dutch oil and gas trade mission, Bas van Vroonhoven of the Association FME said, "Petrotech 2010 presents the Netherlands with a very lucrative opportunity to showcase the robust oil and gas industry of the Netherlands. The Netherlands has a very active and strong oil and gas sector. Dutch industry draws considerable attention in the implementation of the remarkable projects worldwide. For the Dutch, quality and innovation are the key principle that have brought the Netherlands to forefront and as the FME, we are very hopeful in acting as the stimulator for the Dutch industry to explore opportunities for collaboration in India."