

APPLICATION BRIEF - 91/0712

INDUSTRY: REFINING

PRODUCT: DIVERTER PORT BALL VALVE

MEDIA: OIL, GAS, AND WATER

IMI PBM Solution:

Application Brief:

Process – Multiple oil/gas wells are piped into one production battery and fed into one of 2 separators to separate oil, gas and water.

- Test separator small unit that separates oil, gas and water to determine the mix for billing purposes.
- Production separator large unit that separates the oil, gas and water for distribution to downstream processing facilities.
- Typically 10-40 automated valves per battery.
- Multi-phase oil/gas media.

Problems:

- Space to efficiently configure piping to either the production or test header.
- Automation of old manual systems.
- Control system complexity to synchronize two automated 2-way valves.
- Inherent problems of horizontally mounting electric actuators (cantilever loads on the valve, water egress into unit).

PBM Product – 3-way, multi-port, bottom entry valve allows for well pipe to enter into the bottom of the valve (instead of the traditional side entry) and then flow to either a production header in one direction or a test header in the opposite direction.

Advantages of the PBM solution

- Bottom entry allows well pipe coming out of the ground to enter vertically into the valve to optimize space utilization and piping configuration.
- System automation.
- Top mounted electric actuator optimizes space and eliminates horizontal mount issues such as water egress, cantilever loads on the valve stem and packing, etc.
- Cost improvement one automated 3-way valve eliminates two 2-way automated block valves.
- Control scheme simplicity automating one 3-way valve is much simpler than synchronizing the automation of two 2-way block valves.





