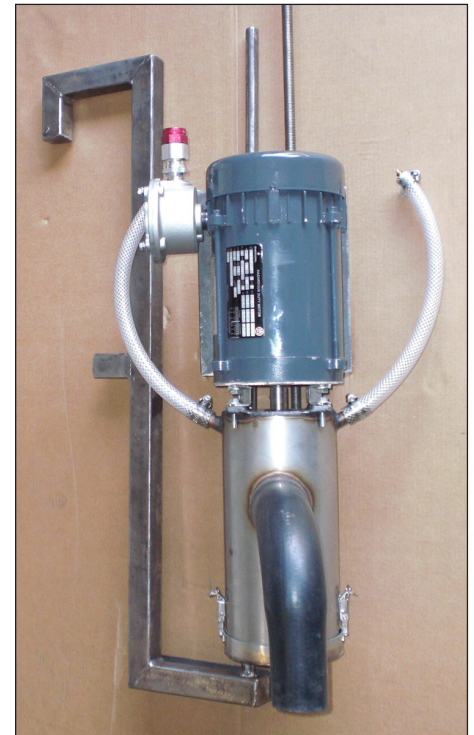


# QGM Gas Trap



The Quantitative Gas Measurement (QGM) system provides accurate, consistent, and reliable gas-in-mud measurements while drilling. QGM uses a highly sensitive, controlled-sample gas trap that provides stable gas extraction over a wide range of operating conditions. Calibration of the trap to actual gas-in-mud values gives accurate and consistent gas-in-mud measurements that can be used for meaningful analysis and well-to-well correlation. This patented mud gas trap contains a pyramid shaped agitator, redesigned mud exit tube, agitator-rod seal, and internal baffles to control mud flow and prevent splashing of mud in the gas ports.

- Gas recovery unaffected by wind and normal mud level changes
- Trip performance based on tested theory and tied to actual gas-in mud
- Improved gas correlations independent of service company
- Enhanced sensitivity optimized for mud system and general gas levels
- Rapid trap response for improved safety and log resolution
- System documentation and methodology to promote consistent equipment operation



- QGM gas trap provides accurate, predictable sampling of gases unaffected by wind conditions and normal mud level changes.
- More accurate formation gas measurement, compared with other less direct measurement techniques (such as wireline or downhole MWD method.)
- Provides significantly improved well-to-well correlation, independent of the individual well's service company.
- Enables the surface gas measurement to become an effective tool for formation evaluation.
- The system can be retrofitted easily and inexpensively to an existing gas measurement system while retaining the low-cost, low-maintenance features of the older system.