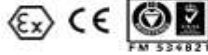




# Motherwell Tank Gauging

TANK GAUGING SYSTEMS  
OVERFILL PREVENTION SYSTEMS




## Diamond Tank Gauging

<http://diamond.motherwelltankgauging.co.uk>

- ❖ Tank integrity alarms enhanced with environmental tolerances allow banded upper and lower limits to be sensitive to configured seasonal volume changes so that leaks are identified quicker.

**Environmental factors help**

**Per tank environmental tolerance factors**



We need to make the distinction between times when a tank is moving and when no movement currently exists. Flow rates on a tank are constantly being calculated with every level adjustment seen, when the flow rate indicates movement and a movement is confirmed on a tank then integrity alarms do not operate, on the basis that the tank level integrity is in question, but we know why - a movement is happening. Here we validate level through the movement cycle using flow rate and movement alarms.

Where flow rate is not zero then if tank is not moving then integrity alarms are processed on the basis that whilst something of a movement was seen, no known established movement is currently in force, hence the tank integrity is again under question.

**Rules**

If relevant process temperature alarms always.  
If relevant process pressure alarms always.

If Flow rate > 0  
If no tank movement then  
Process integrity alarms - add leakage or ingress alarms if required.  
Else  
If movement established by system or user then  
Flow rate alarms checked.  
Movement direction alarms checked - check that the direction is the same as configured.

Integrity alarms specialised with environmentals add extra tolerance bands that explain level or volume fluctuations to ultimately help more exactly indicate when a level or volume out of bounds is a genuine integrity infringement.

So, notwithstanding the fact that integrity alarms can be configured off, we have constant checking of current level and volume for compliance to configured bounds.

Fluctuations in level or corrected volume can arise from environmental exposure factors, and Diamond allows you to specify additional tolerances over and above leak and ingress integrity alarm bands.

Close

- ❖ Fast alarm enablement by classification.

**Alarm Enablement**



**Diamond alarms enablement by alarm classification**

Select alarms from list below, deselect to disable system alarms, when you 'Apply'.

- Level alarms
- Temperature alarms
- Pressure alarms
- Gauge faults
- Device COMs alarms
- User defined alarms
- Content integrity alarms
- Flow rate alarms

Close

- ❖ Critical extreme enhancements to ensure HHH alarms continuously annunciates even after acceptance if level continues to rise (configurable with delays).
- ❖ Tank-to-tank integrity monitoring system to validate that product leaving a source Tank actually arrives at the intended destination Tank and is not lost through pipe fracture incidents.



- ❖ Product compatibility function to add rules to limit where products can be moved, and prevent potential dangerous movements.



- ❖ Diamond has a three-click Tank Calculator allowing operators to quickly configure tank movements and automatic outturn/receipt certificate generation.



- ❖ Movements can be scheduled, active or historically viewed.
- ❖ It offers a web based front end for offices or locations not connected to the main farm.
- ❖ Full audit, full diagnostics, full logging of changes, with full flexible and configurable reporting to HTML or Excel, and automatic scheduled archival to offline Excel spread sheets. Logs are kept as long as you want them!
- ❖ Built with industry standard strong database sub-system of Microsoft SQL Server for small to enterprise level applications.
- ❖ Capable through design, high performing with multi-threaded software architecture, Diamond is tomorrow's tank gauging system now.
- ❖ It has been specifically designed with site operators in mind, and built for all tank farms large or small. It caters for the largest sites with up to **1000 tanks** and is equally agile at single tank installations.
- ❖ Diamond is user friendly, simple to use and feature rich. Operators have lots of choice around graphical presentation on screen and different ways of analysing the same underlying data; from tabular and tank group based views to HTML and Excel reported printouts. Diamond gives straightforward access to your tank data and maintains a logical and easy learning path for any user, which means training, is minimized.
- ❖ Database and COMs Failover and Fail-back emergency system handling allowing continuing gauging in the event of a partial site loss.
- ❖ Configuration and control from any workstation on site. Multi-screen and variable monitor support.
- ❖ Internal inventory data protection system to maintain security of your data.
- ❖ Compare it with the rest, we have, and we think Diamond is better.

**It's not a SCADA system; it's a site operator's gauging system!**