



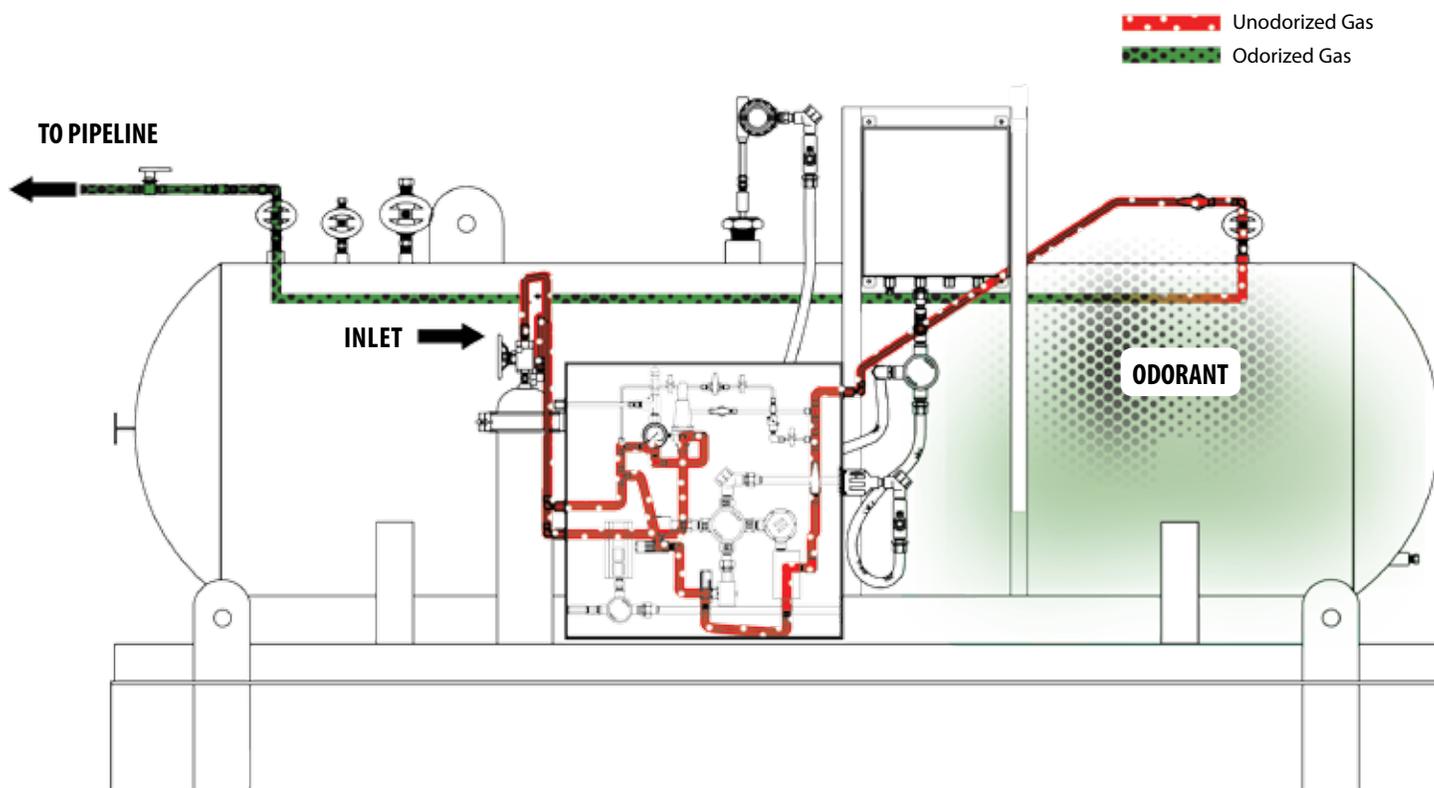
OdorEyes[®]

ECOsystem[™]
ENVIRONMENTALLY CLEAN ODORIZATION

WELKER[™]

ECOsystem™ Diagram

Smart. Reliable. Distinct.



Benefits of the ECOsystem™



More Distinct Odor

The ECOsystem™ enhances odorization by saturating natural gas drawn from the pipeline with vaporized odorant. As flowing conditions within the pipeline change, the system automatically adapts odorant infusion to be proportional.



Environmentally Clean Odorization

Natural gas is directed through the ECOsystem™ with only a few moving parts to help minimize leaks in the system. The odorization tank is downstream of any mechanical operation, leaving any potential system leaks odorant-free.



Makes Life Easier

The ECOsystem™ makes odorant monitoring convenient and efficient with remote access to the system using a computer connected by Ethernet, modbus or modem. The integrated PLC has the ability to automate the odorization process.

Where to use the ECOsystem™

The ECOsystem™ is an odorization solution engineered for locations with a regulated pressure drop in natural gas pipelines. Each system is uniquely designed to accommodate most pipeline flow rates and pressure ratings at each individual site. For cold climate conditions, an optional heated enclosure is available. The heater helps prevent freezing by mitigating the Joule-Thomson effect at the regulator. As long as there is a regulated pressure differential, the ECOsystem™ will properly odorize natural gas in pipelines.

Gas Inlet and Filter ③

Pipeline gas enters the system and immediately flows into the integrated F-5 Filter/Dryer. Liquids and unwanted particles are filtered out of the gas before it is saturated with odorant.

Solenoids ②

Low-wattage primary and backup solenoids control the flow of gas through the saturation tank and into the pipeline. Each time a solenoid opens, the controller uses a flow switch to confirm positive flow. If the primary solenoid fails to open, an over-odorization alarm activates and the backup solenoid automatically takes over flow management.

Skid ①

The ECOsystem™ skid provides 110% containment to keep the ground odorant-free in the event of a tank leak.

Electronic Level Indicator ④

The electronic level indicator continuously measures the tank odorant level in inches, pounds or gallons. Odorant level data is stored on the PLC in real-time for instantaneous remote monitoring.

Regulator ⑤

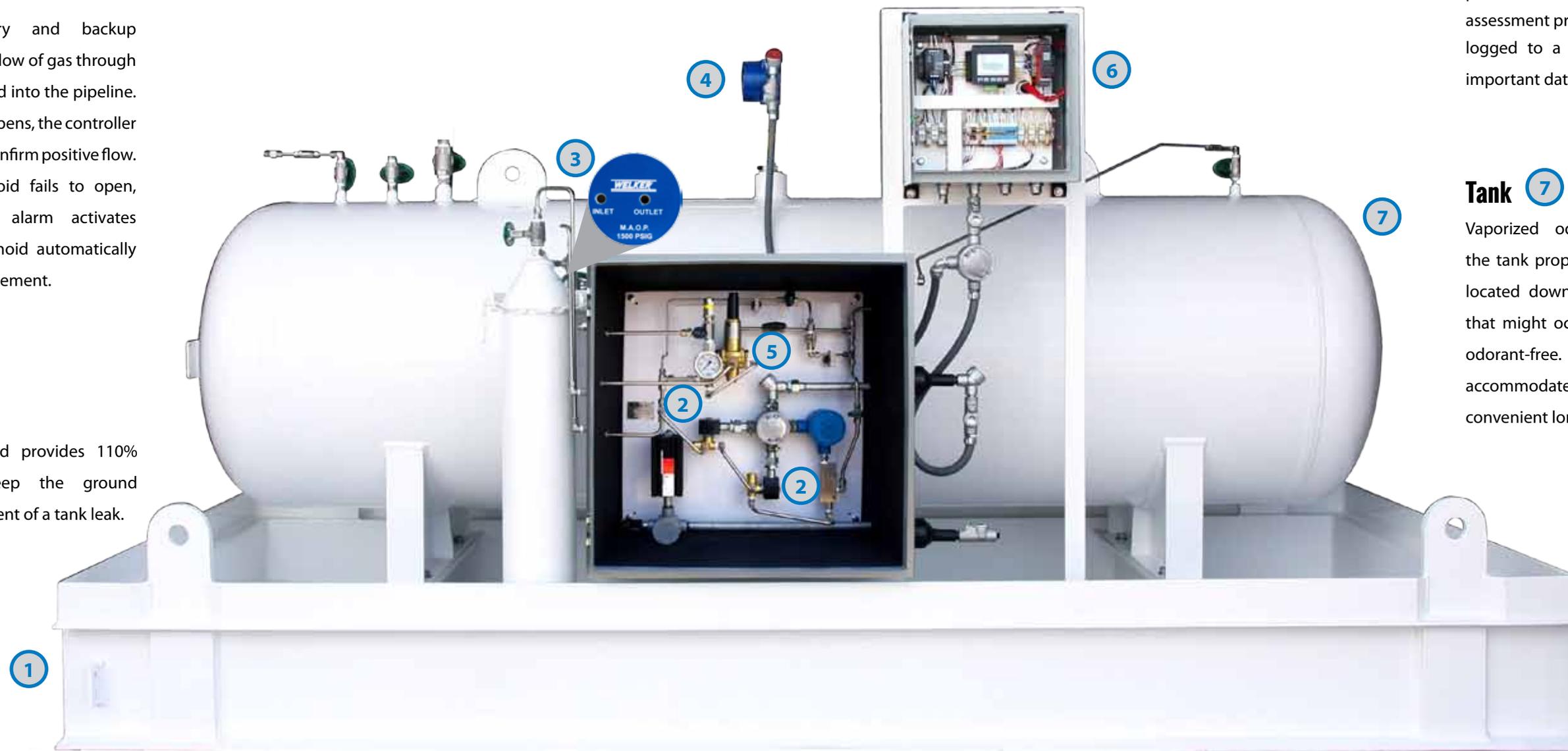
The integrated regulator maintains the required pressure differential between the gas inlet and gas outlet. A stabilized pressure differential allows the ECOsystem™ to evenly distribute odorant to the pipeline system, regardless of varying downstream pressures that can be associated with peak gas usages.

Controller ⑥

The PLC continuously monitors gas flow rate changes and automatically adapts the amount of odorized gas released into the pipeline. The PLC features Class I, Div. 2 approval with optional Class I, Div.1 approval if required for the application. System status and alarms can be remotely monitored via Ethernet, Modbus or modem. The system alarms conveniently provide information about operational issues for assessment prior to going on-site. The system history is logged to a microSD card in CSV format to track important data and settings.

Tank ⑦

Vaporized odorant saturates natural gas inside the tank proportional to pipeline flow. With the tank located downstream of moving parts, system leaks that might occur from normal wear-and-tear remain odorant-free. Multiple tank sizes are available to accommodate different capacities or flow rates for convenient long-term odorization.



For more Welker product information,
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For installation, operation, and maintenance inquiries,
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