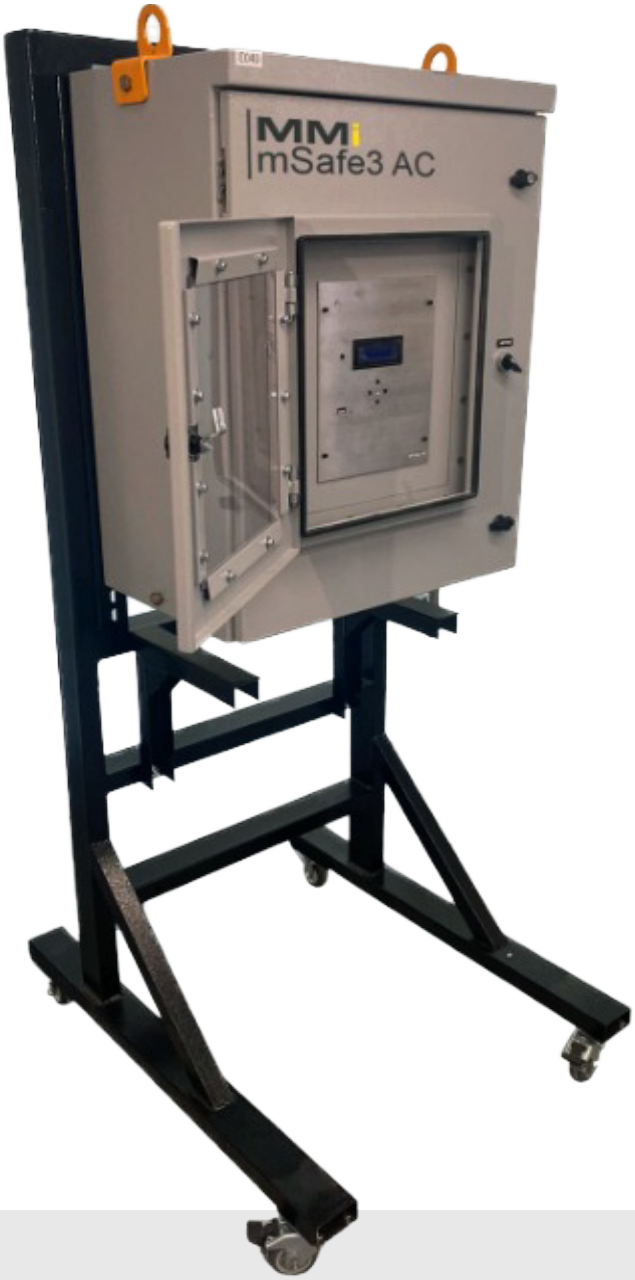
mSafe3 AC

Intelligent electro-hydraulic controller for 3 surface safety valves (SSV)



The mSafe3 AC safety controller enables automated monitoring, operation and diagnostics of 3 VSS remotely.

Ensures **well safety and availability,** completely avoiding the need for field personnel.

Monitoring

Pressure control, leak detection.
Early warnings via SCADA/telemetry.

Self-diagnosis

Predictive maintenance and automatic corrections without stopping production

Operation

Remote opening and closing of valves

Maximizes production availability, avoiding unwanted downtime

Ensures the safety of wells and operators

Eliminates the need for control and maintenance visits

Reduction of CO_2 emissions.

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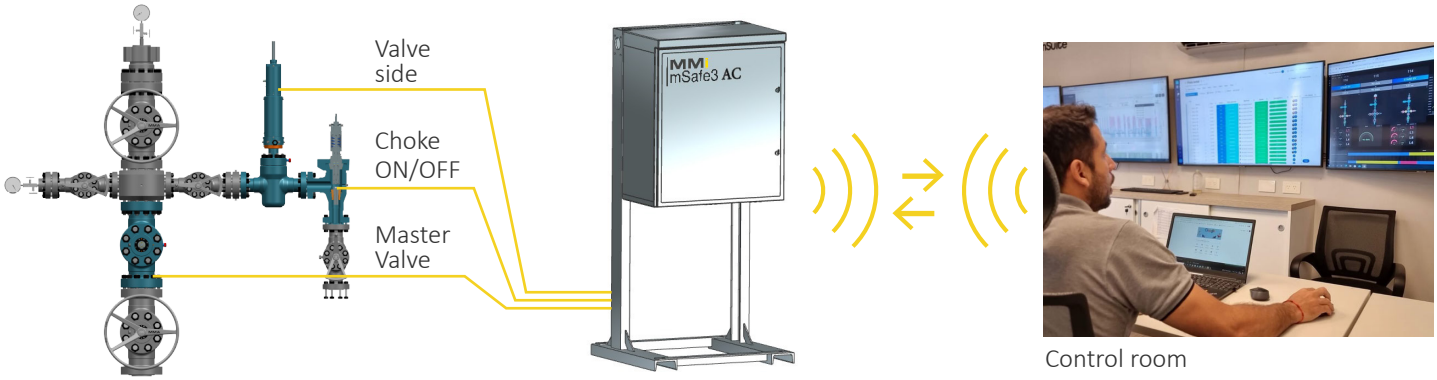

FIG. 1: APPLICATION EXAMPLE

Operation. Field-proven, the mSafe3 integrates an electronic control and a dual electro-hydraulic pump, enabling remote opening and closing of up to 3 hydraulically driven systems.
Example: 3 VSS or 2 VSS + 1 Choke on-off.

Predictive maintenance thanks to the Parallel Stroke Test (PST), which detects possible valve anomalies without interrupting production and with zero emissions. Maintenance is reduced and easy to schedule. Production delays are minimized.

Automatic actuation pressure compensation system. The controller accurately and reliably manages valve position while controlling hydraulic pressure in the actuator circuits. Pressure stabilization stops valves from progressively closing, preventing deterioration associated with partial closures and eliminating the need for a dedicated operator.

Line break function. Identifies gradual pressure losses over time. Deviations from the pressure gradient cause a programmable alarm or valve closure.

Data acquisition. Both real-time valve data and historical data are transferred via SCADA with modbus protocol. In addition, the logs are stored in the unit's memory and can be downloaded locally.

This device can transmit operational data to the mSuite Web platform and thus perform remote monitoring of the system without the need for look like the field.

Suitable for places without power. The control system is low consumption. It works with solar panels and has a backup battery bank that gives it a 7-day autonomy.

Easy field installation and training by MMi's technical team in less than 6 hours.

SIL2 certification. Ensures system safety

SPECS	
Base	88 x 80 cm
Height	186 cm
Weight	100 kg
Hydraulic connection	3 x 3/8" Tube
Electrical connection	M20 Cable Gland x 6
Hydraulic outlet pressure	300 a 3.000 PSI (1 to 207 Bar)
Oil volume	7 lts.
Operating temperature	-15 to 60°C
Electrical energy required	220V
Communication	Modbus RS 485, TCP/IP, HART[1] and USB port
Measurement accuracy	.+- 1%
SIL	Optional SIL2 certificate
Memory capacity	> 6 months

1 The Hart protocol and TCP/IP require low-cost add-on modules.

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