

Water & Wastewater Infrastructure Testing

Independent verification of electrical safety, motor insulation and power quality for pumping stations, treatment plants and reservoirs in Syria



from MCCs and VFDs to submersible motors and chlorination panels, independent measurement against international standards.

Syria's water-supply and wastewater networks — intake stations, treatment plants, pumping stations, reservoirs and sewer lift stations — are being rehabilitated and reconnected after years of damage and improvised running. In these facilities, every hour the pumps are down translates directly into homes without water, fields without irrigation and untreated discharge into the environment. Mizan provides the independent electrical safety, motor-insulation, power-quality and thermographic testing — together with calibration of process instruments — that operators, municipalities, donors and engineering consultants need to confirm that each station is safe, reliable and ready for continuous service.

Why It Matters

Water and wastewater infrastructure carries hidden risks that stop service the moment they fail:

- Submerged and damp environments degrade motor and cable insulation faster than any other sector.
- Harmonics and voltage dips from VFDs and weak feeders shorten motor life and trip whole pumping trains.
- Hot joints, weak earthing and drifted instruments cause silent failures — and silent failures stop the water.

What We Verify

Mizan inspects, measures and verifies the full pumping-station electrical chain:

- Safety and insulation of installations, panels and pump motors.
- Power quality at incomers, MCCs and variable-speed drives.
- Thermal condition of assets and calibration of process and safety instruments.

A pump that does not run stops the water — independent measurement is what keeps it running, season after season.



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Scope of Services

A structured testing and verification programme covering water intakes, treatment plants, pumping stations, reservoirs and wastewater facilities, delivered on site with calibrated instruments and qualified engineers.

- **Electrical Safety & Insulation Testing**
 - Class-A power-quality survey at substations, MCCs and large drives per IEC 61000-4-30.
 - Voltage-quality assessment at the point of supply per EN 50160.
 - Harmonic-distortion limit verification at the point of common coupling per IEEE 519.
 - Short-circuit and protection coordination review per IEC 60909.
- **Power Quality for Pumping Systems**
 - Substation earth-grid impedance and step / touch voltage measurement per IEEE 80 / IEEE 81.
 - Lightning-protection inspection of buildings, substations and overhead lines per IEC 62305.
 - Lightning and static protection of aboveground storage tanks per API RP 545.
 - Hazardous-area earthing, bonding and equipotential verification per IEC 60079-14.
- **Preventive Thermal Inspection & Calibration**
 - Thermographic survey of transformers, switchgear, MCCs and motors per ISO 18434.
 - Periodic inspection of installations in explosive atmospheres per IEC 60079-17.
 - Calibration of pressure, temperature and electrical safety instruments per ISO 10012.
 - Uncertainty evaluation and conformity reporting per the GUM (ISO/IEC Guide 98-3).

Technical Reports to IEC, EN, IEEE & ISO Standards

Every site visit is documented in a structured report that ties each measurement to the standard it verifies, flags non-conformities and gives the operator a clear corrective-action path before re-start or the next maintenance window.

The technical reports issued by Mizan include the following:

- IEC 60364 series electrical-installation inspection and verification report.
- IEC 61439 switchgear and MCC inspection report.
- IEC 61557 insulation, continuity and earth-loop test report.
- IEEE 43 motor insulation resistance and polarisation-index report.
- IEC 61000-4-30 Class-A power-quality measurement campaign report.
- EN 50160 voltage-quality assessment at the point of supply.
- IEEE 519 harmonic-distortion limit-verification report.
- ISO 18434 thermographic survey report and ISO 10012 calibration certificates.



As part of custody transfer, technicians routinely calibrate all the pressure and temperature transmitters involved in the flow of oil & gas

Reliable pumps, sound insulation, calibrated instruments — measurable assurance that Syria's water keeps flowing.



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