Weiss Umwelttechnik GmbH
Automotive System Solutions

Product Shower Test
Motivation (End-of-line test)

- Leak test of door sealings
- Leak test of window sealings
- Leak test of passenger compartment
- Leak test of vehicle trunk
- Corrective action during assembly (Q-Gate)
- Failure recognition before delivery
- Decrease of customer complaints and call-backs
- Documentation of high quality
Static Shower Test
Dynamic Shower Test
Modular design:

- The facility can be installed on existing floor level or elevated level.
- Module adding allows reduction of tact time (dynamic).
- System ready for further steps of investment.
- Design according to customers requirements.
Components of Shower Test Systems

- **Main pump with flow control system**
- **Fresh water and RO for Final Rinsing**
- **Conveyer system**
- **Main Drive**
- **Tension unit**
- **Main pit with water level control filled/drain**
- **Water treatment with ozone**
- **Fresh water and RO for Final Rinsing**
- **Top lifting platform for high/low dimension**
- **Top sprinkling Nozzle Rows**
- **Option: Top platform movable unit**
- **Air Dryer: Fixed/Movable**
- **Bottom sprinkling Nozzle Rows with valve control depend on car length**
- **Option: Side platform movable unit**
- **Side sprinkling Nozzle Rows With valve control for high vehicle**
- **Conveyer system Tension unit**
- **Conveyer system Main Drive**
- **Pneumatic and valve system**
- **Electrical Panel and control system**
- **PC production control with bar code scanner**
Nozzle positioning according to customers requirements.

Nozzle type according to customers requirements.

Material for pipes and nozzles: stainless steel and UPVC parts are used according to requirements and circumstances.

Nozzle standing time is very long due to high filtration grade, RO system & stainless steel usage.
Rain and Wet Environment Simulation

- Top installed water spray nozzles for simulation of rain to the vehicle surface.
- Side installed water spray nozzles for simulation of splash water and rain simulation to the sides of the car.
- Floor installed water spray nozzles for simulation of splash water and surf foam water simulation to the bottom of the vehicle.
- High pressure arc for simulation of high pressure car cleaning.
- Volume control allows individual adjustment of the spray beams and related nozzles.
- UV and ozone water treatment circuit for basin water.
- RO water treatment for car flushing after stationary rain test.
- Pump and manifold section for water supply of the nozzles.
- Top, side, wheel, under floor nozzle sections inside the rain test cabin.
- Drying unit at the end of the test drive.
Filtration and Reverse Osmosis Water Supply System

**Setup**
- Universal filter secures removal of all particles.
- Active carbon filter secures ultra filtration.
- Band filters with high filtration capability (dynamic + QC).
- Water softening unit brakes down calcium carbonate and minerals.
- Reverse osmosis warrants purified water.
- Water storage tanks warrants sufficient water volume for the vehicle cleaning cycle.

**Benefits**
- Water pearling effect during rinsing.
- Easy air jet drying process.
- No strains remaining after drying.
- No contamination on the vehicle surface.
- Environmental protective.

Clean and easy to dry car after shower test cycle!
Requirements from Customer side

- Interface to the electrical supply system.
- Interface to floor conveyor, if customer supply.
- Interface to city water supply.
- Interface to waste water line.
- Interface compressed air line.
- Civil works.
- Connection to www for online support.
Scope of supply:
- Basic design concrete constructions
- Detail constructions of pit for shower test and conveyor system
- Project management

Customers scope:
- Static engineering of pit and floor platform
- Civil construction
- Government and environmental related permissions
We use exclusively Ammeraalbelt / Unichaine conveyor belts
Air Dryer Static System

- High capacity air dryer door construction.
- Leather dry condition after drying.
- Air ventilation on the top, side, and under floor section of the vehicle.
- Slow motion driving, indicated by a traffic light “stop & go”.
- Floor conveyor, vehicle will be moved to the dryer gate (dynamic).
- Possibility of dry process activating manual via remote control.
- Dry time – “stop & go” cycles – are variable and programmable.
- Cabin under pressure – controlled at all time via exhaust fan with drop separation and air curtains in the entry and exit.
Air Dryer Dynamic System

- Automatic adjustable jets to the car surface.
- Independent location from the rain simulation cabin.
- Drying conditions are variable and free programmable.
- Car is in parking position.
- Delivery in second stage of investment.
Distortion Test System

- Simulation of different spray water angles with complete side, front and rear lifting.
- Simulation of sidewalk parking and uneven road with one-wheel lifting.
Conveyor Systems (special applications)

- Elevations for over ground shower test equipment.
- Lift conveyors for distortion test at dynamic shower test.
- Taylor made applications.
- PLC controls Siemens S7, Mitsubishi or Allen Bradley secures free programmable applications and cycles.
- Remote controls warrants operator friendly use and access.
- Remote support via internet for trouble shooting and operator support.
- System upgradeing is possible.
- Automatic or manual test run is possible.
Showertest - Applications
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Highly flexible equipment, can be moved to any location in short time
- Easy re-installation due to minimized external interfaces
- Fully suitable for installation in buildings (end-of-line facility)
- Fully suitable for outdoor installation
- Fully suitable for tropical environment
- Reliable and durable
- Highly efficient automated operation
- Operator-friendly
- Energy optimized design for economic operation
- Full recycling water circuits for environmental protective operation
- Easy modification in case in application variations
- State of the art end-of-line facility, 24 h operating capability
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