

Westmatic

Tornado Touchless Wash



Why a Westmatic Tornado?

Innovative. Reliable. Environment Friendly.

Westmatic Tornado Touchless Wash System

Westmatic's state of the art high pressure touchless machine, the Tornado, is a fully automatic wash system for irregular vehicles of most sizes. It is capable of washing all different types of trucks, buses, vans, SUV's and even cars.

The Tornado is equipped with the latest PLC technology, incorporating highly advanced programming and electronics. All aspects of the wash process are constantly monitored and adjusted, providing the safest, most efficient and thorough wash result of any touchless machine in the world.

With all of its sophistication, the Tornado remains very simple to operate and maintain, requiring less than 30 minutes per month of preventative maintenance and mechanical adjustments.

Features and Benefits of the Westmatic Tornado

Feature: ISO 9001 Quality Assurance Standards and ISO 14001 Environmental Standards.

Benefit: High quality components and workmanship. Quality built, field tested equipment with years of reliable cost effective service.

Feature: Fully extendable high pressure arches with vehicle contour system

Benefit: Spray arches can travel in to reach all sizes of vehicles. Vehicle alignment to the center of the wash bay is not as critical as with many other machines. Spray arches are capable of washing the front and rear of vehicles with a side to side “overlapping” movement. This provides for the most complete wash result in the industry. This capability also plays a major role in this unit’s unsurpassed versatility, allowing it to reach areas that would otherwise be impossible.

Throughout the entire wash process, the contour of the vehicle is constantly being monitored via ultra sonic technology. This ensures that the spray arches are at an optimal distance from the vehicle, applying the most blasting power possible, while being able to sense and avoid obstacles such as mirrors.

Feature: XBT Control Panel with LCD screen for machine operation.

Benefit: Simplicity for the operator.

Feature: Self-diagnostics and alarm display

Benefit: Simple troubleshooting. In the event of a problem, the system will identify the problem and give instructions on rectifying the situation.

Features and Benefits of the Westmatic Tornado

Feature: Direct drive for gantry travel utilizing Variable Frequency Drives.

Benefit: Direct driver offers fewer moving parts and less maintenance than chain drive. Variable frequency drives offer different travel speeds for the most efficient wash. VFD's also provide very smooth acceleration and deceleration.

Feature: Many options to customize your wash.

Benefit: Customize any machine to meet your budget and specific wash needs.

Westmatic TORNADO Touchless Drive-through w/ Water Reclaim

Pos 5. Chassis wash Gantry, WCS-350 with side spray

Chassis and side spray to maximize spray pattern on to under body

- High pressure galvanized steel pipe with welded nozzle holders
- Nozzles placed offset to maximize spray capacity
- Chassis spray delivered with splash guard of steel sheet metal
- 2pcs side spray pipes 4' (1300 mm) long
- All parts made of hot dipped galvanized material
- Chassis spray triggered by infrared photo cell placed at entrance

Pos 72. Free-standing detergent arch, WSF-25 (Pre-soak arch)

To get the best result of detergent application

- Free standing stainless steel detergent arch mounted on galvanized steel frame
- Start and stop functions triggered by infrared photo cells designed and placed to prevent unintentional starts
- Detergent arch with directed spray pattern, where the front is sprayed first. When the front of the vehicle has passed and the spray pattern is directed towards the side, the pattern changes so that when the rear of the bus is passing, detergent is applied
- Spray pattern is changed electronically by a solenoid valve; extra nozzles for application to the rear, which are time controlled
- Spray height adapted to vehicle
- The vehicle is sprayed from all directions, however, not the roof
- Detergent nozzles with membrane-type check valves (non-return valve) and filters to prevent leakage in the arch
- Arch clamped with hydraulic clamps

Pos 11. Detergent pump, CHI-2-60

- Stainless steel corrosion-resistant horizontal multi-stage centrifugal pump
- Capacity 6,6GPM (25 liters/min) at 60 psi (4.0 bar)
- Delivered with direct drive single-phase electric motor, as well as carbon-type shaft seal
- Relief valve of washer-type and bypass function included
- Inlet filter

Pos 13. Automatic detergent mixing, WMA-40 (Detergent)

To get the best and most economical mix of detergent

- 10G (40-liter) buffer tank for mixing detergent (shampoo) with automatic mixing of concentrated detergent and water
- Pre-determined mix of water and detergent automatically refilled through valve operated by a float
- Mixture can be changed for winter or summer conditions by changing the nozzle in suction hose of the detergent
- Equipment is delivered with a large number of color-coded nozzles, where each color represents a specific mixture
- To prevent separation of detergent from water when equipment is inactive, the equipment is delivered with a bypass-type mixture device from pump to tank
- Detergent pump is placed on a stand under the buffer tank

Pos 73. Westmatic Tornado, Touchless wrap-around Drive-through

High pressure washer which goes around the vehicle with oscillating side arches for more efficient spraying

Engineered to meet the markets toughest demands and around-the-clock operation, the highest demands are placed on material and tolerances during production.

- Equipped with 2 high pressure spray arches
- Vehicle height (max) 12 or 14 foot (3.6-4.3 m)
- Vehicle width (max) 10 foot (3.0 m)

- 2 high pressure arches working together with **overlapping** wash cycles for washing vertically
- High pressure arch made of hot dipped galvanized steel pipes
- Oscillating side arches for more efficient spraying
- Oscillating movement of side arches occurs by pneumatic cylinders and solenoid valves
- All movements in and out of side arches occur via gearboxes and tooth belts
- Hot dipped galvanized frame and steel parts
- Arches are controlled via PLC
- Equipment's different wash programs controlled by Schneider M340 PLC
- Control unit with program selector located on the wall in the control room
- 5 emergency stops which, when tripped, must be reset manually
- Hoses, cables and hose holders adjusted to length of wash bay are included

High pressure arches, WHF-O-700 (Oscillating)

Oscillating high pressure arch for more effective spraying

- High pressure arch made of hot dipped galvanized steel pipes
- Capacity 240GPM (900 liters/min)
- Movement of arch by pneumatic cylinders and solenoid valves
- Arch delivered with two high pressure hoses adjusted to the length of the wash hall
- Pipe clamped with hydraulic-type clamps
- Pipe clamped with hydraulic clamps

Pos 33. High pressure pumps, total 60HP, for high pressure arch/chassis wash

- Stainless steel booster pump of centrifugal type, vertically installed
- Total max capacity 240GPM (900 liters/min), 285psi (20 bar)
- Direct drive electric motor for the pump
- Power rating 22 kW (30 bhp) each
- For attaching to floor
- Direct start
- Connector hoses included - All vital parts in polished stainless steel SIS 2333

Pos 7. Valve battery, WVB-800 (For selection between high pressure arches and chassis wash)

- Plenum for pumps made of galvanized steel pipe
- 6 pcs air actuated stainless steel ball valves
- Choice of high pressure arch or chassis spray is made with stainless ball valves dim 40 which are controlled with a pneumatic valve
- Valve battery engineered so pumps can never pump against a closed valve. With possible loss of air pressure, all valves open.
- Pumps always start at zero pressure through a stainless steel ball relief valve (dim 25) which is controlled by a pneumatic valve. This valve gradually closes when the pumps reach the correct working conditions.

Pos 14b. Buffers tank for high pressure pumps, WBT-1600x2

- Two buffer tanks with a total volume of 840G (3200 liters) for high pressure pumps for feeding to high pressure arch and chassis wash
- Tank made of plastic material with automatic refill via solenoid valve and level control
- Delivered complete with suction and bypass connections and shut-off valves
- Includes protection for connected pumps "running dry"
- Floor stand can be delivered as an extra if needed

Pos 16b. Water recycling, WWR-300 x 2 (160GPM)

To achieve highest economical level of water recycling without chemical additives

- Recycling of approximately 85% of used water
- Pump capacity 160GPM (600 liters/min) with stainless steel hydro cyclones as mechanical purifying unit
- Purification level down to particle size 10 my density 2 with dirt load of 1 g/liter
- All pumps specified for dirty water with oil resistant gaskets and ceramic seals
- Recycling taken care of automatically by level regulation, minimum care needed
- Facility hooked up so that fresh water can be used if operation is disrupted
- Submersible pump for recycled water is mounted in tank
- Submersible pump 0.75 kW
- Total capacity 72GPMx2 (550 liters/min)

Ozone generator for removal of bacteria and odors in recycled water
Completely automatic function producing approximately 5 gr ozone/hour

Why ozone?

Current rules for handling of waste water in different recycling systems along with increased restrictions for using chemical additives, such as chlorine and peroxide have led to increased demand for alternate solutions. There are many applications where ozone is more advantageous, such as:

Odors
Organic substances
Flocking
Sterilization

Ozone is a strong oxidizer which reacts with a number of different substances. Since it is an oxidizing substance, it decomposes, among others, odor molecules, organic substances as well as a number of different metals. Ozone even has other advantages such as flocking of different substances as well as reducing or totally eliminating growth of bacteria, viruses and other organic substances.

Treatment with ozone has proven to be the most effective and environmentally friendly alternative. Recycling systems not only have economical advantages but major environmental savings as well.

Pos 64. Tire guide rails, WTGR

- Hot dipped galvanized tire guide pipe made of steel with welded floor attachment
- For the best tire guide, pipe is delivered with tire guide with 45 degree softly curved lead-in
- Virtually eliminates tire damage
- Attached to floor with galvanized expander bolt
- 60 foot x 2 (18mx2)

Pos 63. Traffic lights, WTL x 2 (Speed/ guidens control system)

- Light signals with red and green lights (2 pcs)
- Delivered with LED bulbs

Pos. 71. Control panel (Separate)

- Push button control panel

Pos x. Final rinse arch

- Galvanized rinse arch mounted on galvanized steel frame
- Start and stop functions triggered by infrared photo cells designed and placed to prevent unintentional starts
- Arch clamped with hydraulic clamps

Pos 38. Automatic rinse water unit, WRWA-600 (OPTION)

When pressure of incoming cold water is low, rinse water unit can be installed to obtain premium rinse result

- Buffer tank holds 160G (600 liters) for the rinse water unit
- Tank manufactured in plastic with automatic refill via solenoid valve and level control
- Delivered with suction and bypass connectors as well as shutoff valves
- Booster pump for rinse water
- Multi-stage vertical stainless steel centrifugal pump
- Direct drive electric motor for pump
- Motor power rating 2.2 kW (3 bhp)
- Capacity 44GPM (165 liters/min) at 71psi (5.0 bar)
- All vital parts in polished stainless steel SIS 2333
- Delivered with all connectors