



# HEAVY DUTY MINING

EQUIPMENT WASH SYSTEMS

Heavy-Duty Cleaning For Haul Trucks, Excavators, Mining Vehicles



In the mining industry time is money, every minute your vehicles are idle you are not producing. Cleaning large mining equipment by hand is a time-consuming task, where manual washing of a 400-ton haul truck can take 8 to 15 hours. **By implementing the correct design and equipment package InterClean can significantly reduce your down time** while also helping reduce ongoing maintenance costs.

InterClean offers several wash solutions for mining equipment and vehicles including:

- Fully automated drive-through wash systems with rapid throughput for haul truck and LV's.
- Tire washes to prevent track-out from mine sites.
- InterClean's EQ100 water recycling modules using bioremediation and passive filtration, pump skids, settling pits, oil skimmers and more.
- Automatic and manual wash systems for both surface mining and underground mining operations.
- Manual and robotic wash systems for stationary haul trucks.
- Manual setups with monitors, fire hoses, and pressure wands for standard use.
- Semi-automatic monitors to limit manual labor in the wash lane.
- Fully robotic monitor packages to completely automate the wash process.

# MINING EQUIPMENT WASH SYSTEMS

## MANUAL

InterClean's manual wash systems clean stationary haul trucks and other mining equipment with a combination of hand-held fire hose and water cannon applications using:

- **High-volumes** of wash water, delivered with enough power to take off the literal tons of caked on mud that accumulate on your critical assets.
- **High-pressure/medium-flow** wash water to effectively tackle the detailed cleaning needed for hard to reach areas.

These manual applications can be installed as a complete system, or used to augment other InterClean mining equipment wash systems.



InterClean's EQ100 Water Recycling Module is compatible for use with all InterClean Wash Systems.

## AUTOMATIC DRIVE-THROUGH

**Automatic drive-through wash systems** can be spec'd to any size operation or vehicle types.

- **Heavy-Duty**, for haul trucks and large mining equipment
- **Medium-Duty**, for vehicles such as dump trucks, crawlers, water trucks, and excavators.
- **Light-Duty**, for light trucks and SUV's driven on and off site.

Systems feature a number of applications such as spray towers, chassis wash, water recycling, water cannons, wheel and tire washes, and more.

## WHEEL & CHASSIS

The InterClean Wheel and Chassis washes used for mining equipment are designed specifically to provide an enhanced clean, eliminating the layers of mud from the undercarriages, tracks, and tires of your equipment.

In **heavy-duty scenarios**, these wash systems effectively eliminate the layers of heavy mud accumulated on the equipment during daily or weekly operations.

For **medium- and light-duty applications**, they also aid in preventing track-out.

# OPTIMIZED TO FIT THE WAY YOU OPERATE.





## MANUAL WASH SYSTEMS

### WASHMAN

High-grade rubber fire hoses come equipped with a manual rewind hose reel and adjustable flow nozzle.

Each Washman system consists of:

- (2) sets of 50ft reinforced rubber fire hoses, with a manual hose reel.
- Turbojet nozzles with pistol grip and adjustable angles and flow rates supplies water at intervals of 13-25-40-60 GPM @ 100 PSI.
- 24VDC control station with pilot light activation.
- EQ100 water recycling module.

### SUPPLIED WITH UP TO 100% RECYCLED WASH WATER



#### HIGH VOLUME

Centrifugal pumps are used for the **WASHMAN** fire hoses at rates up to 60 GPM @ 100 PSI. This is effective for washing large areas with heavy mud.

### WASH TITAN

25 HP diaphragm pumps delivers high-pressure wash water at 10 GPM @ 1200 PSI, ensuring a high impact over long distances.

Each Wash Titan system consists of:

- (2) sets of 50ft of high-pressure rubber fire hose, with a manual rewind hose reel.
- (2) sets of high-pressure lances, wash gun, and nozzles (10 GPM at 1200 PSI).
- 24VDC control station with pilot light activation.
- EQ100 water recycling module.



#### HIGH PRESSURE

For high pressure washing, diaphragm pumps supply the **WASH TITAN** lances with water at 10GPM @ 1200 PSI. This provides a higher impact at longer distances with reduced splash back.

## WASH TITAN +PLUS

The Wash Titan +Plus combines the Washman's capacity with the Wash Titan's precision, offering the **perfect blend of high-pressure and high-volume wash applications**.

Each Wash Titan +Plus includes:

- High-pressure wash lance, spray gun, and nozzle operates at 10 GPM @1200 PSI.
- 50ft of high-volume fire hose and manual rewind reel, or a high-volume water cannon with a flow rate of 200 GPM @100 PSI.
- 200 PSI pistol grip nozzle that allows for adjustable flow rates and angles.
- Equipped with 25hp and 30hp pumps.
- EQ100 water recycling module, with the ability to continuously supply your wash systems with your recycled water at 300 GPM.



### 1 SYSTEM 3 HEAVY-DUTY FEATURES

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- High-pressure wash wand for heavy impact cleaning.
- High-volume fire hose and/or water cannon for efficient washing.
- Closed-loop system utilizes up to 100% of reclaimed water, with fresh water rinse option.

## OPTIONS AND UPGRADES

- Additional wash applications:
  - high-volume fire hose 50' with manual reel and assault nozzle
  - high-volume wash cannon
  - high-pressure lance, wash gun, and nozzle
- Semi- or fully automated high-volume wash cannons
- Oil skimmer
- 20' or 40' ISO container equipment room
- Chassis wash
- Push button start/stop
- Optional fresh water rinse



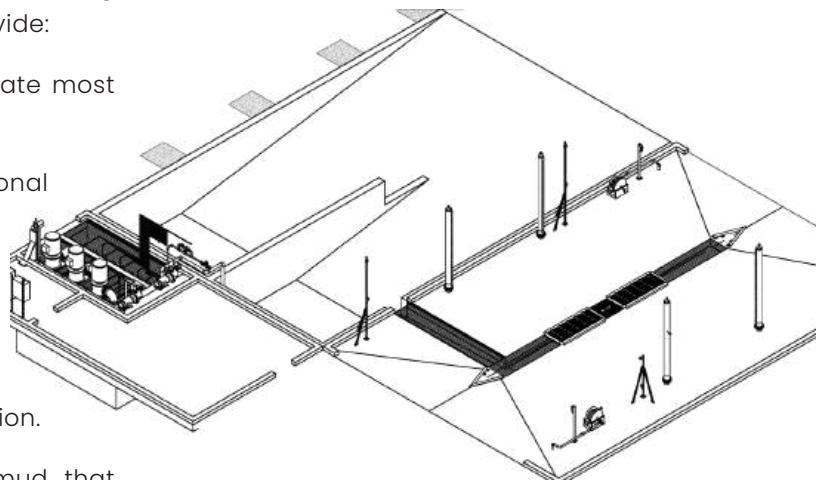


## DRIVE THROUGH WASH SYSTEMS

InterClean was the first company to install an automated, drive through wash system for mine haul truck with capacities up to 440 tons. Our drive through wash can remove most exterior soiling in minutes allowing them to be cleaned after each work shift, rather than waiting to clean them for preventive maintenance.

InterClean brings you more than 4 decades of expertise in mining wash systems, with automatic wash systems that provide:

- **Multi-vehicle designs:** One system can accommodate most vehicles in your fleet.
- **Reduced wash times:** Up to 90% faster than traditional washing methods.
- **Easy operation:** Drivers simply idle through the wash.
- **Prefabricated equipment rooms:** Pre-wired and pre-plumbed 20' or 40' ISO containers, ready for installation.
- **Extended lifespan of your fleet:** Remove heavy mud that obstructs and corrodes critical equipment components more efficiently and frequently.



# HAUL TRUCKS WASH SYSTEMS

InterClean's Drive-Through Haul Truck Wash Systems are engineered to clean haul trucks and large equipment swiftly as they move through the wash; capable of washing up to 440-ton haul trucks in minutes. For more demanding conditions or varied equipment needs, we offer additional wash gear that seamlessly integrates with our automatic solutions. This results in a versatile and powerful wash system that keeps your fleet in top condition, maximizing productivity and the life of your equipment.



## DRIVE THROUGH HAUL TRUCK WASH

- Automatic Start/Stop
- Chassis Wash Manifold
- Side Blast Wash Towers
- Fresh Water Rinse Spray Towers
- Water Reclaim



## OPTIONS AND UPGRADES

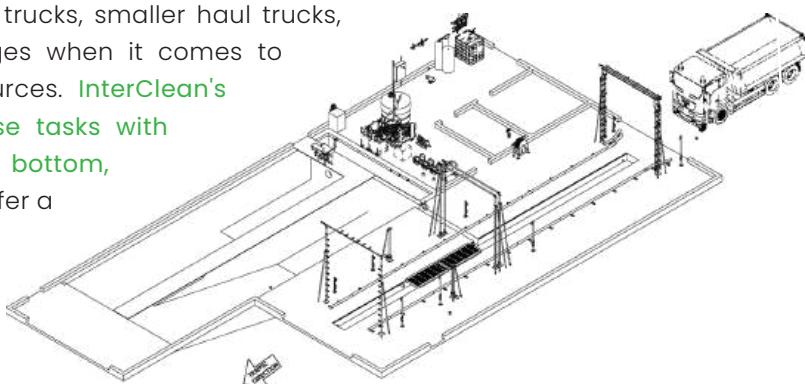
- Washman & Wash Titan manual wash packages for additional cleaning action
- Heavy-duty oil skimmers & scraper systems
- Prefabricated 20' and 40' ISO container equipment room
- Robotic monitors
- Wheel Wash
- Tire Wash

Reclaim up to 100% of the water used during the wash cycle with the EQ100 Water Recycling module for reuse during the next wash cycle. Supplement with fresh water as needed.



## MEDIUM DUTY WASH SYSTEMS

Medium-sized vehicles at a mine site such as dump trucks, smaller haul trucks, dozer's, and road trains, present their own challenges when it comes to cleaning, often requiring significant time and resources. **InterClean's standard wash package is designed to tackle these tasks with efficiency, fully cleaning a dump truck from top to bottom, including the chassis, in under two minutes.** We also offer a complete range of tire and wheel washing solutions to keep your fleet in top condition and ensure vehicles are properly prepared before they leave the mine property, reducing both operational costs and safety risks.



# LIGHT VEHICLE WASH SYSTEMS

Light-duty vehicles, including cars, pickups, and SUV's, are essential on mine sites, but also pose significant challenges. Operating both at the mine and on city streets makes it crucial to keep them clean not just for operational efficiency, but also to prevent track-out from the mine site. **InterClean's experience ensures you receive more than just a standard wash system; we deliver a tailored solution, designed to meet the needs specific at your site.** Our approach helps you maintain your light vehicle fleet with the same efficiency and effectiveness applied to larger equipment, and keeps your entire operation running smoothly.



## MEDIUM & LIGHT VEHICLES

- Touchless Wash Arches
- Chassis Wash Manifold
- Wheel & Tire Wash
- Water Reclaim



We optimize your wash system to fit your needs, enabling one system to accommodate most vehicles in your fleet.

## OPTIONS AND UPGRADES

- Washman & Wash Titan manual wash packages
- Prefabricated 20' and 40' ISO container equipment room
- Robotic monitors
- Wheel Wash
- Tire Wash
- Chemical manifolds
- Side spray towers



# PAST PROJECTS

## SIERRITA MINE GREEN VALLEY, ARIZONA

### PROJECT DETAILS

**Client:** Phelps Dodge, Freeport-McMoRan

**Location:** Sierrita Mountains, Green Valley, Arizona, USA

**Mine Type:** Open Pit Copper Mine

**Wash Solution:** 2-Lane Manual Mine Vehicle Wash



### WASH CONFIGURATION

#### DRIVE THROUGH HAUL TRUCK WASH

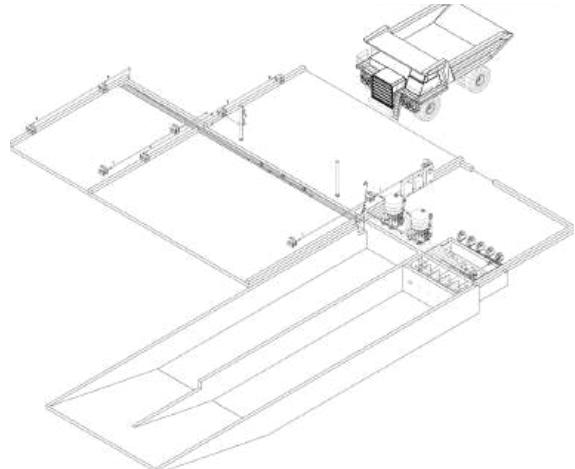
- Chassis Wash Manifold
- High-Intensity Side Spray Towers
- Heavy-duty fire hoses with turbo jet adjustable flow nozzles
- High-volume water cannons with assault nozzle assemblies

#### BULLDOZER WASH

- Heavy-duty fire hoses with turbo jet adjustable flow nozzles

#### WATER RECLAIM & RECYCLING

- EQ100 water recycling with bioremediation
- InterScreens for passive filtration
- Reclaim / Fresh Water Option Switch



## CANNINGTON MINE QUEENSLAND, AUSTRALIA

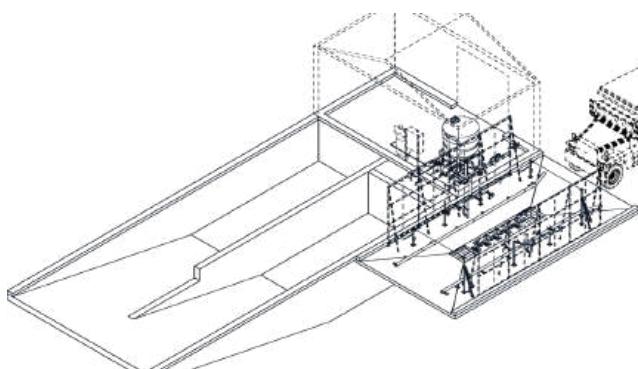
### PROJECT DETAILS

**Client:** BHP Billiton

**Location:** Remote area of Queensland, Australia

**Mine Type:** Underground Silver, Lead, Zinc Mine

**Wash Solution:** 1 Lane Light Vehicle Wash



### WASH CONFIGURATION

#### CHASSIS WASH

- Zero-degree spinner spray nozzles configured on a chassis wash manifold

#### HIGH-INTENSITY WHEEL WASH

- Hi-flow spinner heads on each side of the vehicle provide maximum cleaning coverage

#### WATER RECLAIM & RECYCLING

- Wash water reclaim pit
- EQ100 Water Recycling module with bioremediation filtration

# BUENAVENTA DEL COBRE SEÑORA, MEXICO

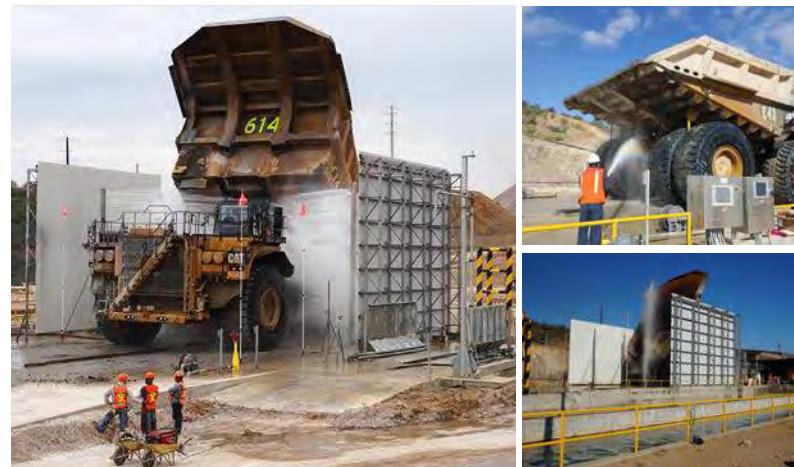
## PROJECT DETAILS

**Client:** Grupo de Mexico

**Location:** Cananea, Sonora, Mexico

**Mine Type:** Open Pit Copper & Silver Mine

**Wash Solution:** 2-Lane Automatic Haul Truck Wash & Light Vehicle Wheel Wash



## WASH CONFIGURATION

### DRIVE THROUGH HAUL TRUCK WASH

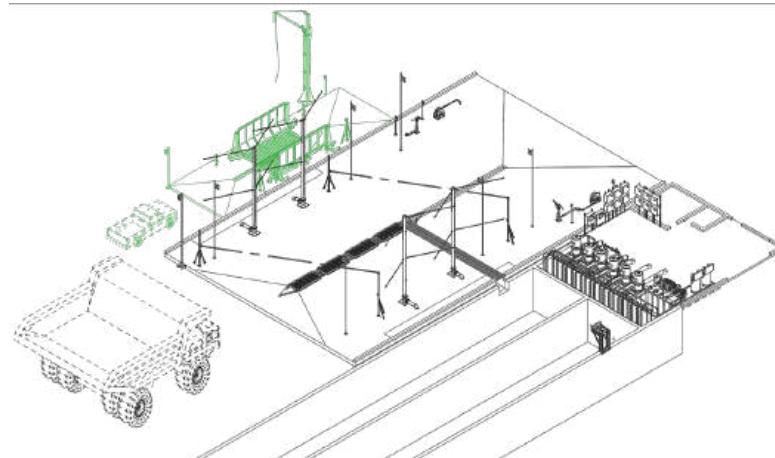
- Front & rear spray towers, 1,600 GPM @60 PSI
- Floor mounted water cannons
- Manual wash guns with 50' hose reels
- Chassis Wash, 1,600 GPM @76PSI

### LIGHT VEHICLE DE-MUCKING

- Automatic drive through tire wash
- Galvanized splash walls
- 600 GPM side spray towers

### WATER RECLAIM & RECYCLING

- InterScreens for passive filtration
- Heavy duty oil skimmer
- EQ100 water recycling with bioremediation



## OUR CLIENTS FROM AROUND THE GLOBE



# EQ100 WATER RECLAIM SYSTEM



Recycling wash water greatly decreases the amount of fresh water needed, reclaiming up to 100% each wash. Water reclamation saves money and enables facilities to operate efficiently in areas with high water and sewer costs, or areas that are highly regulated.

By using the efficient and cost-effective EQ100 water recycling system, InterClean Equipment is able to employ the full force of huge volumes of pressurized wash water, which creates a cleaning impact that is simply not possible with other automatic vehicle washing systems.

The system is designed to recycle and aerate the wash water automatically, without requiring changing filters or manual supervision, and is capable of operating under the most demanding vehicle wash conditions such as recycling water used to wash garbage trucks.



**The modular design requires only 25 ft<sup>2</sup> of space. Easy installation using a reclaim pit and almost any site configuration**

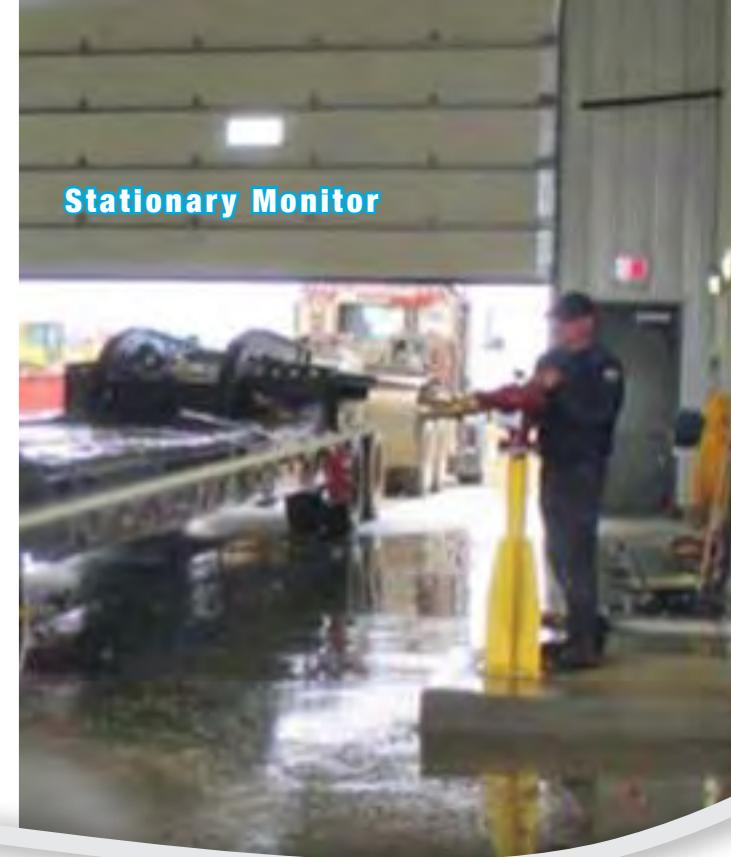


## FEATURES

<b>SYSTEM DESIGN</b>	<ul style="list-style-type: none"><li>The InterClean reclaim system is comprised of a Settling Pit, InterScreen® maintenance free filter, and the EQ Module.</li><li>The modular footprint ensures that the equipment can be precisely configured at the factory to require a small footprint on-site.</li><li>The module is pre-wired, pre-plumbed and mounted on a skid.</li></ul>
<b>SETTLING PIT</b>	<ul style="list-style-type: none"><li>Designed to promote separation of solids from the water.</li><li>Continuously aerated by the recirculation pump to prevent unwanted odors.</li></ul>
<b>FILTRATION</b>	<ul style="list-style-type: none"><li>Maintenance free stainless steel InterScreen® filter is mounted in the settling pit supplying initial filtration.</li><li>Cyclonic filtering mechanisms incorporated with module to further filter the water before delivering it to the high-pressure pump.</li></ul>
<b>TREATMENT</b>	<ul style="list-style-type: none"><li>Module comes equipped with bioremediation system to allow for enhanced water treatment capability.</li><li>The system uses no chemicals or additives and is environmentally sustainable.</li></ul>
<b>DIMENSIONS</b>	<ul style="list-style-type: none"><li>60" (150 cm) wide x 60" (150 cm) long x 102" (260 cm) tall per unit</li></ul>
<b>RECYCLING CAPACITY</b>	
• 300 GPM (1250 l/m) continuously per unit	
<b>HIGH-PRESSURE CAPACITY FOR RECLAIMED WATER</b>	
• 50-300 GPM (200-1250 l/m) continuously per unit	



# WASH TITAN +PLUS VEHICLE WASH SYSTEMS



## 300 GPM On-Demand Recycled Wash Water With Bioremediation Automated, No Maintenance

The InterClean Wash Titan system is a combination of a high pressure wand wash with a high volume fire hose or stationary monitor for manual washing using 100% on-demand recycled water.

### 1 Pre-Fabricated Module, 3 Heavy Duty Wash Features.

- High Pressure / Medium Volume Heavy Impact Wand Wash
- Low Pressure / High Volume Wash Hose and/or Cannon
- Optional Prefabricated Equipment Room – Plug 'N Play.
- All using reclaimed wash water. Fresh water rinse available. Low volume fresh or process water rinse.

Wash Titan +Plus vehicle wash systems are InterClean's Next Generation of Environmentally Conscious Industrial Pressure Washing and Heavy Mud Removal Wash Systems. They can be used in any Location including sites with Restricted Water and/or Sewer.

#### High Pressure

For high pressure washing, Hydracell diaphragm pumps are used at a rate of 10GPM @ 1200 PSI. This provides a higher impact at longer distances. Operators will appreciate the effectiveness of long distance cleaning and reduced splash back compared to standard high pressure, low volume pressure washer systems.

#### High Volume

Centrifugal pumps are used for the WashMan firehoses at a rate of 25 to 60 GPM @ 100 PSI. This is effective for washing large areas with heavy mud at a distance so the operators don't get as much splash back, and the mud is removed quickly.

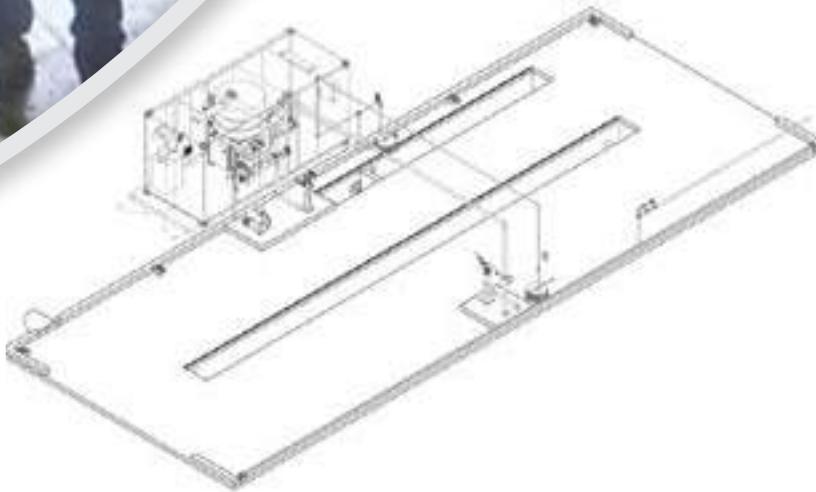
#### Reliability

All components included with Wash Titan Systems are extremely low maintenance and have proven their reliability at hundreds of wash locations worldwide. InterClean uses pumps that have higher tolerances for reclaimed wash water and can pass through particles greater than 75 micron without damage or premature wear to pumps, vehicles or equipment. This removes the need of extremely delicate water treatment systems that invariably fail in industrial cleaning applications.

## Titan Pressure Washer



Customized engineering drawings included with every system.



Titan Equipment Components	Specification
EQ Module – Water Recycling and Filtration Unit Circulation and Aeration Pump Sump Pump Recycled Water Storage Tank	5' x 5' x 8'-6" 2 HP 7.5 HP – 240 GPM 550 Gallons
Air Compressor	2 HP
System Activation	Push Button
Booster Pump – High Volume and High Flow	30 HP Xylem Adjustable Flow from 25 to 60 GPM 120 PSI
Booster Pump – High Pressure and Reduced Flow	25 HP Hydracell - Diaphragm Adjustable Flow from 10 to 24 GPM 1200 PSI
Main Power	380v/50hz/100A 460v/60hz/100A
Capacity	Continuous Use
Gross Weight (Approximate)	2500 lbs

## Pre-Fab Recycling Module

*Our on-demand water recycling system uses our patented EQ100 module with a bioremediation process and settling pits. InterClean's EQ Module quickly recycles water at a rate of 300 GPM, 24-hours per day, allowing for a high volume wash.*



Optional Pre-fabricated insulated equipment container with HVAC





# CLEAN BY NATURE



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## Semi-Automatic Water Cannon

- A new standard in equipment washing
- Wireless remote controlled
- Multiple cannons can be used simultaneously to wash equipment
- Water supply to cannon can be turned 'On/Off' from wireless controller
- Manual washing with joystick or automatic with oscillating feature
- Reduces washing times by at least half



## Joystick Monitor

Descriptions	Specifications
Model Number	3491
Weight	57 lbs
Dimensions	h 10" x w 10.5" x l 11.5"
Inlet	2.5" NPT
Outlet	2.5" NH
Flow	750 GPM (2900 LPM)
Pressure	200 psi max
Reach	200' @ 750gpm
Rotation	320°
Elevation	155° (+90 -65)
Power	12 / 24 volt motor
Nozzle Options	Smooth Bore, Stream Shaper, Electric nozzle
Control options	Joystick control, Toggled control, Control Panel