

The Atlas Cyclone  
Blank Washer & Oiler

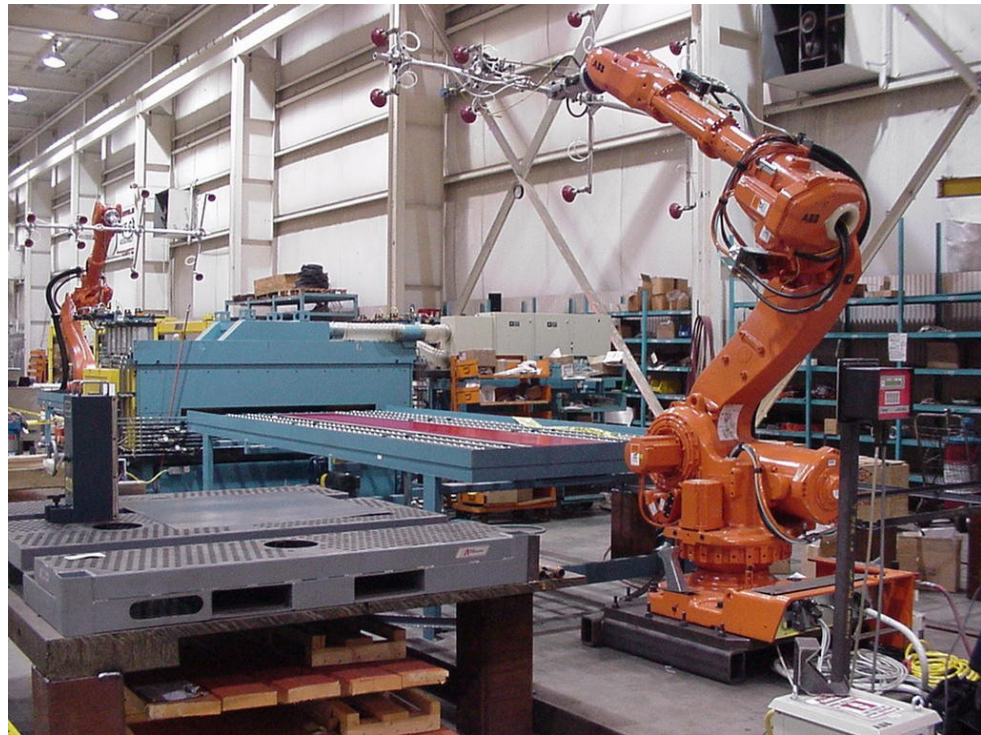


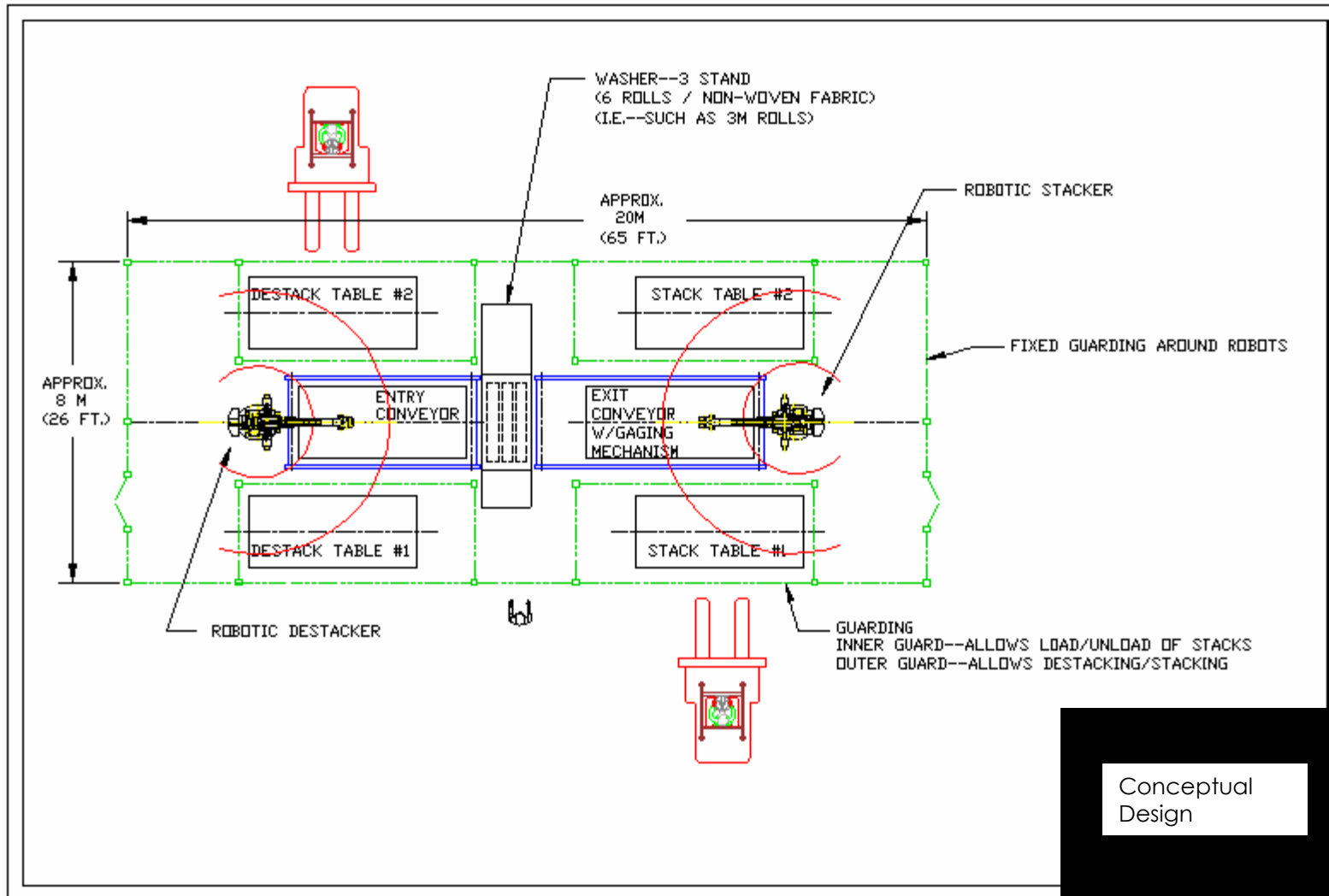
## System Overview:

Atlas Technologies Cyclone™ Wash Cell allows our customers to make the most of their investment by servicing blanks from multiple press lines, thereby reducing the amount of equipment required within their facility and eliminating downtime of that equipment. Because the wash line is independent of the presses, blanks may be processed continuously, at the maximum speed of the washer. Atlas will work with the robot manufacturer of your choice and integrate the controls for a complete solution.

### System Components:

- Atlas Cyclone™ Washer
- Robotic Blank Destacking System
- Robotic Blank Stacking System
- Vacuum Cup Boom Tooling
- System Guarding
- Atlas Command Center™ Integrated Controls Package





## The Atlas Cyclone™ Washer

Cleans sheet metal for stamping or blanking operations. The washer is modularly constructed with three to four pair of rolls (6 – 8 total). The center brush rolls provide the cleaning while the exit rolls control the residual film thickness. Water or oil based solutions may be utilized.

### Features and Benefits:

- Closed loop fluid system
- Best practice bearing construction
- Precise roll alignment
- Galvanized spray manifolds slide out of the end for ease of maintenance and nozzle replacement
- Automatic lock outs hold the exit rolls up when the washer is shut off to prevent roll damage
- Integral fluid tank is located under the washer, the pump and filter are external for ease of maintenance
- Optimum cleaning without marring the surface finishes
- Precise coating application





## Atlas Cyclone Washer Specifications

**Number of Rolls:** 3-4 sets

**Exit**

**Roll Material:** Brushless non-textile fiber

**Center Rolls:** Counter rotating brushes

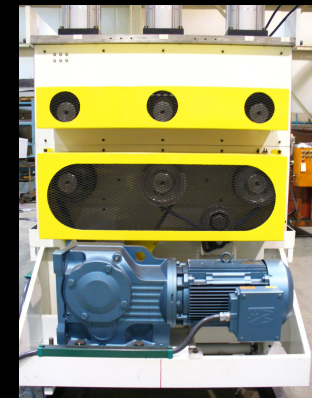
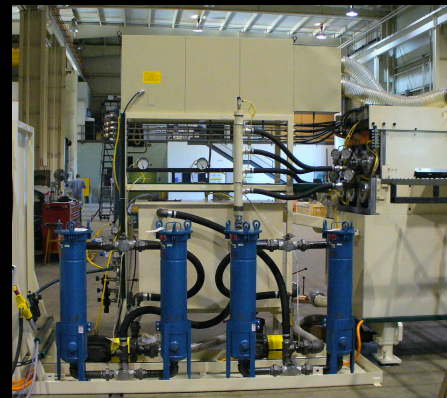
**Filtration:** Dual bag filter at 10-25 micron nominal rating

### Roll Pressure

**Entrance roll:** Maximum of 30 PLI (535 g/mm)

**Exit roll:** .0 to 100 PLI (1785 g/mm)

**Pump Capacity:** 150 liter/min per linear meter



### **Robotic Blank Destacking System**

Palletized blanks loaded onto one of the two destack tables via overhead crane or fork truck shall be positioned by the operator with the aid of a rigid backstop.

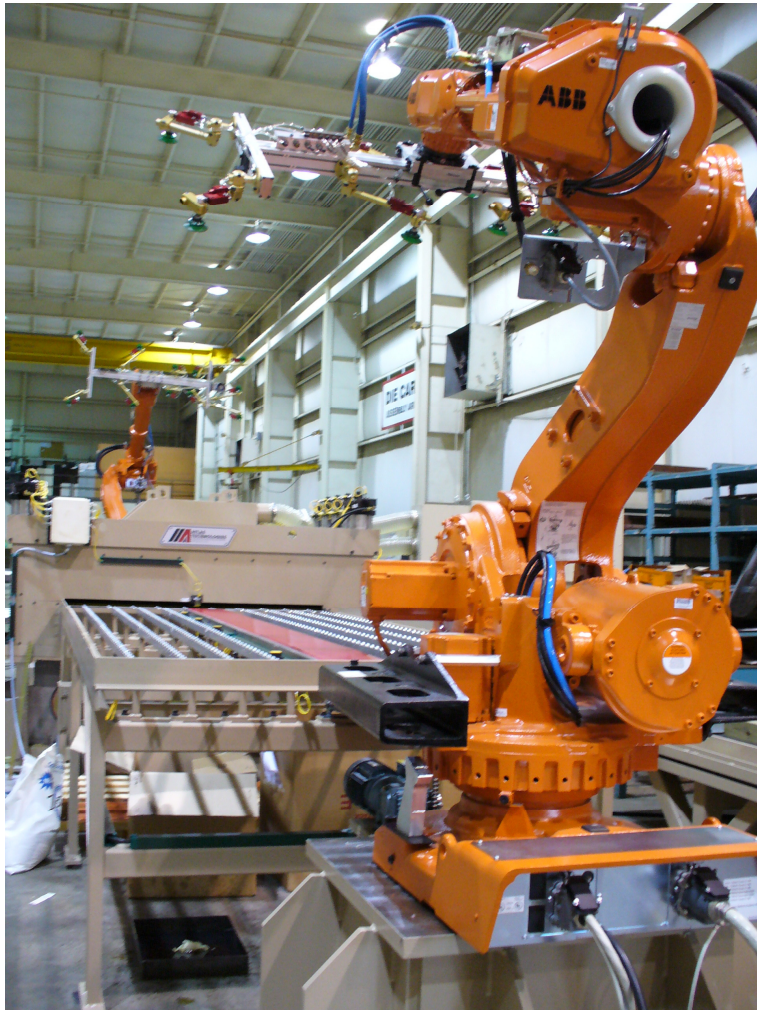
The operator will then manually align the fanner magnets against the new stack to begin fanning and separating the blanks during the destacking operation.

The customer specified robot, equipped with a vacuum cup arm will then remove a single blank from the stack and place the blank onto the belt style feed conveyor.

The feed conveyor will then advance the blank into the Atlas Cyclone™ washer for the cleaning operations.







## Robotic Blank Stacking System

Blanks exit the Atlas Cyclone Washer on the stack station conveyor where they are placed in stacks to the customers specifications.

The customer specified stack station robot will pick up the blank and place it onto a steel pallet on one of the two stack tables. As the controlled stack reaches a preprogrammed height, the robot will automatically switch to stacking in the second stack table.

An operator will remove the completed stack via fork truck or overhead crane and reposition an empty pallet in its place for continuous stacking operations.

The blanks will be stacked centerline common, front to back and left to right.





## Wash Rolls

Atlas blank washers are modularly constructed with three to four pair of rolls (6-8 total). The center rolls provide the cleaning, while the exit rolls control the residual film thickness. The non-textile fiber rolls allow for optimum cleaning without marring surface finishes and provide precise coating application of the lubrication fluid.

Pressure to clean and dry the blank is provided by multi-stage pneumatic cylinders. The entry and wash rolls are typically set to fixed pressures. The exit roll is programmable to achieve the correct PLI (pounds per linear inch) and is based on part width according to the recipe. The center wash roll has spray nozzles to spray wash the blank before and after the wash roll.

The center rolls are a powered counter rotating brush style, for extremely dirty situations. The brush rolls are driven with a VFD and adjust with the line speed.

As the rolls open and close, integrated roll latches automatically engage and disengage respectively to support the rolls and prevent damage. The rolls incorporate heavy duty bearings in a unique design to allow for linear expansion and end removal.



## Fluid Circulating & Filtration System

The wash fluid is delivered to the spray nozzles by a circulation and filtration system. The fluid is then gravity returned to a reservoir which contains heating elements to maintain fluid temperature. The wash fluid may be either water or oil based solutions.

A duplex filter system filters washer fluid before spraying fluid on the rolls and parts. Fluid pressure sensors monitor fluid pressure. If the filter outlet fluid pressure raises 15-20 PSI above the inlet pressure across the filter, the system will generate a fault indicating that the filter is dirty

### Technical Data:

Circulating tank capacity	300 gallons
Type of circulating pump	Cast iron centrifugal
Filter type/size	Duplex/10 – 25 micron
Spray pressure range	10 – 25 PSI
Wash fluid heater setting	100° F
Reservoir material	Steel

The tank is fabricated from mild steel and is mounted to the frame below the washer. All seams are continuously welded and leak checked.





## Mist Collection System

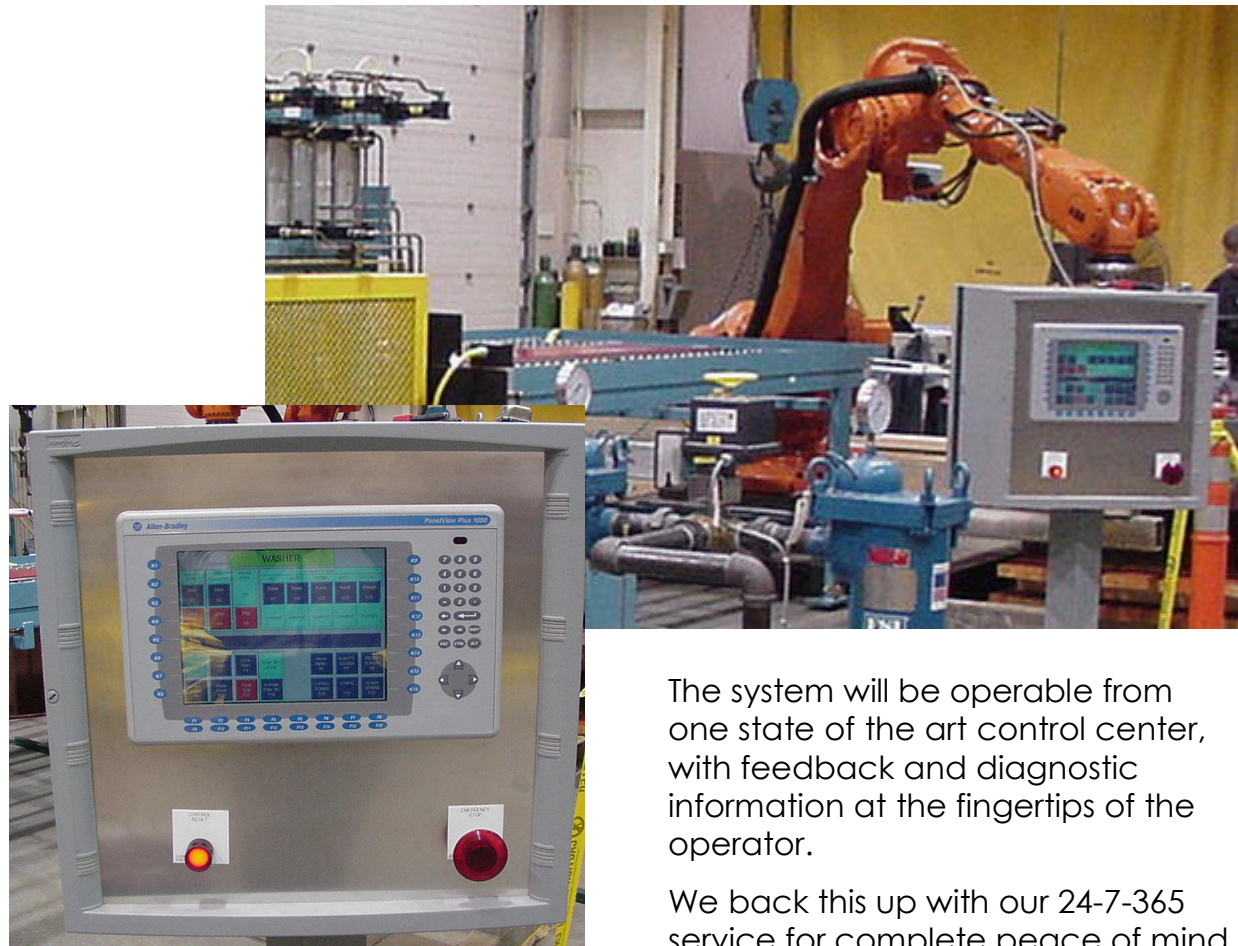
The mist collection system is mounted adjacent to the washer and pulls evacuated mist, from the top plenum of the washer. Collected fluid is returned to the solution reservoir.



## Atlas Command Center Controls Integration

One of the many benefits of Atlas Technologies as your systems integrator is our control systems expertise.

Our staff of highly qualified engineers are intimately familiar with, and highly trained in virtually every type of automation equipment and controls platform. Our engineers will provide seamless communication between all equipment in the scope of work.



The system will be operable from one state of the art control center, with feedback and diagnostic information at the fingertips of the operator.

We back this up with our 24-7-365 service for complete peace of mind.

### Washer Lateral Roll Out Feature

The Atlas Cyclone Washer may be provided with the option to move the equipment off line when washing of the blanks is not required



### Mist Collection System

Resultant mist will be removed using a self contained mist collector. Atlas utilizes a double pass electrostatic precipitator with a 1250 CFM rating



### Wash Solution Heaters

Are included to ensure the wash solution is always at the appropriate temperature for operation of the equipment





## Atlas Blank Oiler

The Atlas Oiler is utilized to apply additional oil based lubricants to steel blanks to ensure proper draw of the part in the press. The oiler may be used in conjunction with a washer, or in press lines that do not contain a washer as a standalone unit. The benefit of the Atlas oiler is the ability to place the lubricant exactly where it is required, or to coat the blank both top and bottom in the instance where the draw of the part is exceptionally deep. An additional benefit of the Atlas oiler is that double unattached blanks may have individual spray patterns.

The oiler contains two opposing rows of spray nozzles that can be adjusted for oil flow and spray pressure. This allows the operator the ability to control the quantity of oil being applied. The individual spray nozzles in each row can be turned on and off to create programmable patterns for each blank. As the blank enters the oiler, each of the programmed nozzles turn on and turn off as the blank exits. All nozzles are closed when the blank is stationary and all pressures are regulated by an analog controlled servo valve.



## Standard Features & Available Options

The upper half of the Atlas oiler unit construction consists of a sealed stainless steel housing with pass-through slots for the blank with two opposing rows of programmable spray nozzles. The bottom portion of the oiler consists of a stainless steel tank using a positive displacement pump to circulate the oil. The tank contains a heating element to maintain oil temperature. Oil circulates through the oil nozzle piping system even when the nozzles are off to ensure heated oil is always available, regardless of the ambient temperature. Heating of the oil ensures proper viscosity and therefore, consistent residual lubricant is applied to each blank. The oil is filtered to prevent damage to the servo valve and prevents debris from clogging the spray nozzles.

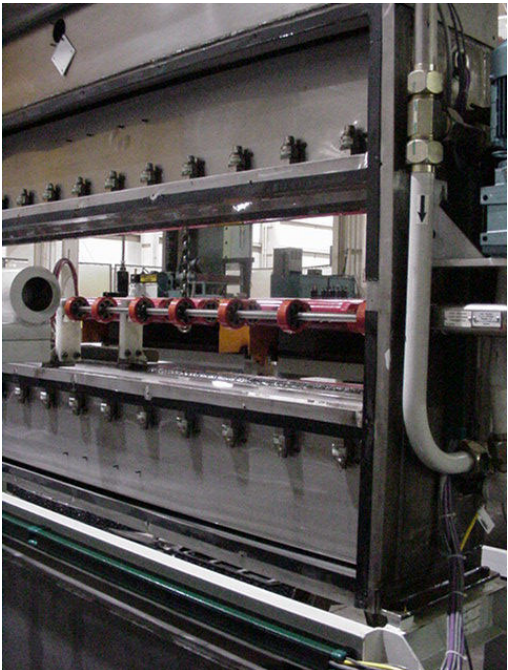
The control unit communicates with the adjacent equipment and regulates the oil delivery system.

Oil application can be adjusted by conveyor speed or by adjusting the amount of oil sprayed. The oil sprayed by the nozzle remains consistent when the conveyor speed is changed. Increasing conveyor speed will decrease the amount of oil applied to the blank, while decreasing the conveyor speed will increase the amount of oil applied. Conversely, increasing the oil pressure will increase the amount of oil applied to the blank while decreasing the oil pressure will decrease the amount of oil applied.

### Options:

- Re-circulating spray nozzles for use without an oil reservoir tank
- 4" Wide spray field
- Oil mist collector unit
- Pneumatic drip blow-off
- Powered rollers in the spray housing for short blanks
- Reduction in price for top and bottom row spray on/off only, nozzles not individually programmable





Above: Shown with the covers removed



Die Handling Automation • Robotic Integration • Sheet Metal Handling • Tri-Axis Transfers  
System Integration • AS/RS • Washer & Oiler Systems • Automation Tooling

## Why Atlas?

Our Promise....Atlas listens to you, the customer.

We embrace your vision and understand your motivation.

It's our culture of total commitment that allows us to conceptualize solutions tailor made to fit your specific applications...creating world class material handling systems that will exceed your expectations.



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