

Vixen 5 Stage, Phoswash Front Loading Jetwash System



Stock No	STP500
Manufacturer	Vixen
Model	Special Build FL 200
Year of Manufacture	2019
Serial	2987
Condition	From a working environment, Seen working by RSW, Excellent Condition
Work Envelope (WxDxH mm)	2000 x 2000 x 1500mm
Process Stages	5 Stage, Wash, Rinse, Phos,Rinse,Dry
Other Info	Wash, Rinsing & Dry Option without Phos'
Location	Telford, UK
External Dimensions (WxDxH mm)	4100 x 3600 x 4700mm (Door Open)

Description

A versatile, large capacity Phoswash Jetwash system is designed to deliver high quality cleaning and surface preparation for components within its 2000mm x 2000mm basket size. Configured for multi-stage cleaning, it offers the flexibility to wash, rinse, phosphate, passivate and dry, providing an efficient solution for improving coating performance and paint adhesion.

Featuring a front loading design with loading trolley, the FL200 keeps workpieces static while rotating upper, lower and side mounted spray booms deliver complete surface coverage. The machine is currently configured to **wash, rinse,**



phosphate, rinse and assisted dry, with the flexibility to operate as **wash, rinse and dry** or be reconfigured for **phosphating, rinsing and passivation**. An optional fifth rear mounted spray boom can also be fitted for enhanced coverage.

Designed to Run on Electric Heating

The FL200 is an uprising guillotine door operated by a pneumatic cylinder and two handed safety control unit, preventing any entrapment risks to the operator. Process control is via the Siemens Simatic HMI screen with switch controls for extraction, drain pump and cycle start.

Although primarily designed as a phosphate coating machine the 4 stage wash could as readily be used for other types of coatings and surface finishes such as chromates or simply as a hot wash, hot rinse and secondary final rinse (de-ionised water for a stain free finish.) It is also configured to hot washing, hot rinse and then assisted drying.

Benefits

- Eradication of health and safety issues associated with chlorinated solvents
- Reduction/elimination of etch prime processes
- Excellent paint adhesion (salt spray tests indicate 260 hours)
- Fast and flexible processing of metals
- Low running costs
- Ease of handling larger components
- Full technical back-up regarding phosphate solution/processes available
- Touchscreen controls for easy operation
- 300 to 400 litres per minute cleaning capacity

Features

- 4 Stage plus drying with multiple configurations.
- Approximate overall footprint (WxDxH): 4750mm x 3800mm x 4700mm
- Water quality monitor
- HMI display
- Two-handed door controls
- Large capacity
- Wheeled load cart with drip tray and lockable wheels
- Low level sensors
- Immersed electric heaters
- Insulated body
- Roof mounted steam extraction fan

Phosphating

Prepare and phosphate your components in a single cycle with the Vixen FL200. Using a phosphate wash solution, the machine simultaneously cleans and applies a protective metal-phosphate coating to metal components, improving

corrosion resistance, enhancing paint adhesion and providing lubrication for subsequent manufacturing processes. This integrated treatment also creates an ideal surface for coating, often reducing or eliminating the need for separate priming or etch priming.

5 Stage Clean & Phosphate Cycle

Stage One - Hot wash / Phosphate Prep

A 550 litre heated wash tank delivers a phosphate cleaning solution through rotating spray booms, simultaneously cleaning and phosphating components. The phosphating wash process usually takes 3 to 10 minutes, requiring a rinse stage afterwards.

Stage Two - DI Rinsing

A 550 litre heated DI rinse tank with a 200 litre waste tank removes any remaining phosphate solution from the components. The heated deionised rinse helps maintain part temperature, promoting faster flash drying in the final stages. The rinse can be cold but the change in temperature makes for a less effective drying stage at the end.

Stage Three - Phosphate Spray Wash

Powered by a 550 litre heated tank, this stage applies a phosphate spray treatment through rotating booms, creating a uniform protective phosphate coating that enhances corrosion resistance, paint adhesion and surface preparation.

Stage Four - DI Rinsing - Passivation

A 350 litre heated DI rinse tank with a 200 litre waste tank performs the final rinse. Applying a passivation treatment using deionised water which is filtered through a disposable filter normally sited at the back of the machine, any remaining residual phosphating solution is removed from the components.

Stage Five - Assisted Drying

The cycle is finished with an assisted drying stage, where heated circulating air removes residual moisture from the components, leaving them clean and dry.

Washing & Rinsing

During the wash cycle, a battery of spray jets mounted on rotating booms fed by the wash pump, provides high intensity all round washing coverage of the basket load of parts. With a secondary rinsing option, the purpose of this is to remove the detergents and soaps within the wash solution to minimise staining. The rinse jets are mounted to a fixed manifold to which solid cone jets are attached. These jets when operating project a solid cone of water by way of a spray pattern giving excellent coverage to the components situated in the wash basket and thus removing the detergent in order to minimise the staining of the components being washed. Some rinse applications require that the rinse water is filtered also as a precaution that any coarse debris removed from the component when rinsed is not recycled. A rinse filter is either a 125-micron filter unit which is cleanable or a replaceable filter or filters in a cartridge unit

Water Washing Principle

Connected to the tank is a large wash pump with between 4-8 bar outlet pressure which delivers hot cleaning liquid at an approximate flow rate of typically 300 - 400 litres per minute depending on the size of the machine. The wash water is delivered to rotary booms which wash all the contents from all sides of the component basket. These wash booms are

water driven and the returning water from the booms is controlled by the valves described above.

Rinse Water

The rinse water is filtered in the same way as the wash tank using the debris filter with additional pressure filters if required. The rinse water can be simply tap water or if required demineralised water which has the minerals and salts within the tap water removed. In most cases demineralised water is not necessary and a water filter unit can be fitted between the mains water feed to the wash machine which will remove 90% of the solids/minerals in the water giving an excellent result for a fraction of the cost. These filter units can be ordered through Vixen and can be retrofitted if required also. Detergent Dosing The optional auto dose feature operates on a venturi principle with liquid detergents only. When mains water is required to top up the water levels the siphoning of detergent is automatic with fresh mains water.

Return Tank Valves

In the case of a multi-stage wash machine where there are 2 or more water tanks the returning water is controlled/managed by way of a pneumatic valve which opens or closes to ensure that the water returns to the correct tank, i.e. when washing is in operation the return valve above the wash tank is open and the valve above the rinse tank remains closed. At the end of the wash cycle there is a drain time which ensures that residual water from a particular washing stage drains fully into the correct tank before a further wash stage commences.

Filtration

The returning liquid is controlled firstly by the return tank valves and from this it is filtered through a coarse debris filter before entering the relevant tank. This ensures that any water returning to the tank which is heavily contaminated is sieved or filtered to ensure that no particles could be large enough to damage the pump.

Coalescing Filter

There is an external coalescing filter which removes waste water and particles from the wash solution to enhance the process and reduce waste as therefore benefit the process and the environment.

Vapour Extraction

The vapour condenser unit is normally activated at the end of the wash cycle, this operates through a PLC which opens the door slightly to aid extraction of the wash chamber before the door is fully opened. . This can be attached to an existing extraction system or fan using piping and connections with rubber seals readily available if required.

A full operating manual and electrical drawings are included.

Additional Specification

- Special Build 4-Stage Phoswash with assisted drying + steam extraction unit.
- Basket size: 2000 x 2000mm
- Max load height: 1500mm



- Max load weight: 1 Ton
- 2 programs: Cycle 1 - Alkaline Clean + Rinse & Cycle 2: Alkaline Clean, Rinse, Phosphate, Rinse
- Water separator (oil skimmer) coalescing filter
- Multiple filters

Photographs taken prior refurbishment. Our refurbishment service is not available on all machines.