



aquaBlast®

It's time you came clean with us!

VIXEN
Surface Treatments



Vixen is a market leader in the design and manufacturing of wet blasting machines.

Welcome

Vixen's core range of products include wet blasting machines, dry blasting cleaning cabinets and degreasing & phosphating equipment.

Companies from around the globe purchase our products and we have established long-standing relationships with many world renowned organisations. We export over half of what we produce worldwide.

Thousands of machines are produced in our manufacturing facility each year, but we also possess the technical capacity and expertise to develop bespoke machinery and equipment that are perfectly tailored and customised to client specifications for surface treatments. Most bespoke machines with PLC operation are fitted with a VPN to enable our engineers remote access/help for any customers issues.

Vixen is not solely focused on manufacture; it also strives to provide our global customers with support from our Aftersales team. A dedicated team of highly trained service engineers fulfil monthly or quarterly contracts. In addition to servicing, our engineers are primed to deliver breakdown cover with rapid response globally.

We have trained engineers that commission new machines worldwide.

Aftersales care is a key element of our organisation, and we have a dedicated team waiting to respond to any queries that customers may have. They are well versed in the finer details of Vixen's products and will be delighted to help.

You'll find Vixen's machines in every corner of the world.



Customers are welcome to examine our machines which are on display in Vixen's modern factory showroom.

The Standard aquaBlast® range



WheelBlaster



aquaBlast®

The Aquablast® range is designed to simultaneously blast and degrease components in a quick and easy dust-free process to achieve outstanding finishing results on a variety of components.

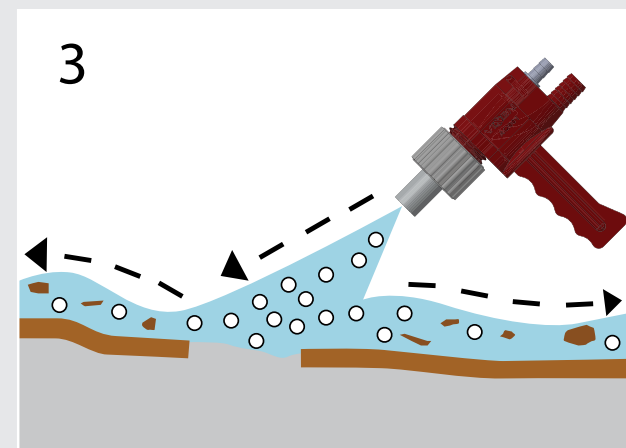
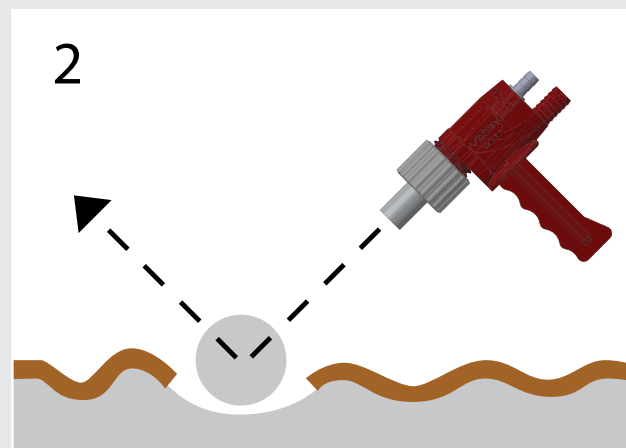
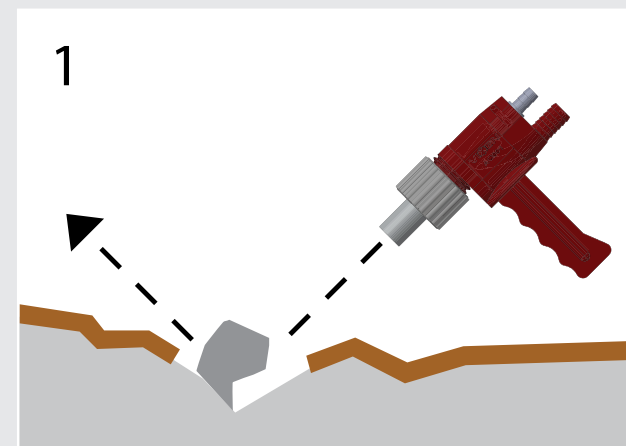
The principle of wet blasting

The key to wet blasting is that the finish is produced through the flow of water borne abrasive. A finer finish is achieved due to the lubrication and flushing action of the water during the blasting process.

Dry grit and bead blasting processes are shown here in diagrams 1 and 2, which demonstrate the severe 90° ricochet that occurs when using these methods.

Diagram 3 shows the wet blasting method and how the cushioning from the water, along with the altered angle for the media, produces a lapping effect which travels across the surface of the component being blasted. A satin/polished finish is the result, desired and preferred by many industries.

The process eliminates unwanted media impregnation into components unlike dry blasting methods which are becoming outdated in achieving the best cosmetic surface finish.



Aquablast® applications

The Aquablast® is particularly effective for:

- Cleaning of dies and moulds
- Removal of paint, rust, carbon, and similar deposits
- Satin finishing of stainless steel and other metals
- Cleaning of PCBs and electrical connectors
- Removal of small burrs from manufactured components
- Blasting in environments which must remain dust free
- Surface preparation prior to bonding, re-painting, and re-coating

The Aquablast® range offers huge benefits to a wide variety of industry sectors, including aerospace, automotive, construction and specialist manufacturing.



The advantages of wet blasting

- Dust free process
- Cleans by flow and not impact
- Simultaneously degreases and blasts
- Produces a 'softer' finish
- Water acts as a lubricant between media and component
- Promotes longer media life
- Avoids media impregnation on softer materials

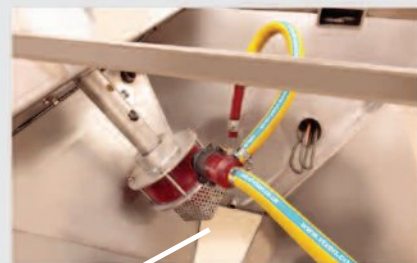
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How the Aquablast® works

This annotated diagram shows the 5 stages of general operation with a brief description of some of the major working components of the machine.

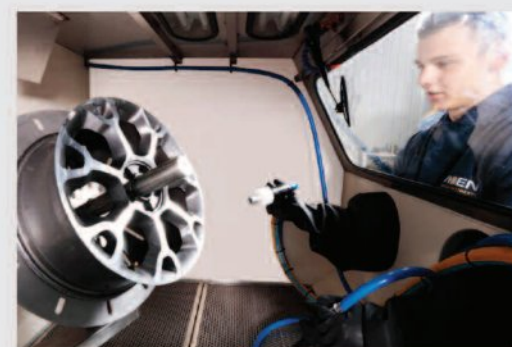
Rear view of an Aquablast® 1215 showing the closed loop system.

1 Water/media slurry is contained within the cabinet sump.



2 Delivery of the slurry to hand-held nozzle is via a glandless polyurethane pump and associated hoses located inside the wet blasting machine.

3 Compressed air is added at the blast nozzle to accelerate the slurry onto the component being blasted to provide the finishing effect.



Aqua Wheelblaster

4 After contact with the component, the slurry drains back into the sump and is recirculated.

5 Fine debris and broken-down media and other contaminants are fed via an overflow into a sedimentation filter at the rear of the machine.

The Vixen closed loop system is our most popular option.



The image of the rear of an Aquablast® 1215 shown opposite helps to explain how the Vixen closed loop system works.

The standard system works via a sedimentation box with wastewater going to the drain but there are several other options available. An electrically operated solenoid valve which only allows water to drain via the overflow after the blasting operation ceases.

An adjustable time delay is set to allow the abrasive to settle in the machine hopper after which the valve opens to allow overflowing of water to drain out via the overflow valve to the sedimentation filter. The benefit of closed loop is that the machine can stand alone in a workshop without the need to be plumbed to a mains water supply or connected to a drain to dispose of additional rinse water.

The closed loop system recycles the water in the rear sedimentation tank for use with rinsing and window wash.

The additional benefits of a closed loop system are:

- Additives such as detergent or rust inhibitors are added, they do not get diluted with fresh water.
- Maintenance with the closed loop system is very easy.
- The sedimentation tank is fitted with castors and can be easily manoeuvred to dispose of dirty water periodically and re-fitted with clean water and ready to go again.

The closed loop filtration system is available as a popular optional extra. This eliminates the requirement for mains water or drainage.

Secondary sedimentation filter, part of the closed loop system filters returning water.

Air diaphragm pump which operates recycled rinse and wiper wash (closed loop machine).

Info

A list of standard features and optional extras is shown on pages 7-8



aquaBlast®

Standard features of the Aquablast®

Aquablast® machines are available in three different model sizes: the 915, the 1215 and the 1515. Each of these machines uses the same technology that Vixen specialises in.

The Aquablast® comes with many standard features that are specifically designed to enhance the blasting process for the operator and achieve the best finishing results. The machines can also be fitted with a variety of optional extras depending on the application. These can range from turntables, electrical settings, machine colours and much more. Any extras can be discussed as to the benefits after further consultations with a Vixen sales engineer.

Standard features include:

- Powder coated finish
- Fully stainless steel
- Large viewing window with low voltage windscreen wiper
- Leg mounted pressure regulator and control
- Single footswitch operation
- Dual purpose sedimentation filter
- 3 KW heater complete with thermostat
- Polyurethane abrasive pump fitted with stainless steel inlet filter and motor housing
- Lightweight polyurethane blast gun



Flexi On/Off Rinse Gun (Top) Has No External Moving Parts That Could Cause Obstruction

Lightweight Polyurethane Blast Gun (Below)



Slam Shut Door Handle



Leg Mounted Pressure Regulator and Gauge



Large Viewing Window with Low Voltage Windscreen Wiper



Easy Access Operation Control Switches



Fine Adjustment for Window Washer



Foot Control Operation



Electric Sump Heater Element

Optional extras

Shown below are a few of our most popular optional extras



Aquablast® 1215 with large external load table and trolley

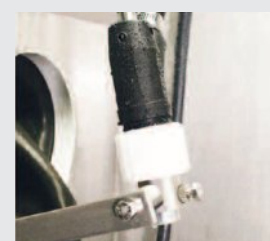
Trolley and Turntable with External Loading

Where heavy items are to be processed it is often easier to load these items external to the blast cabinet using an overhead crane or perhaps a forklift truck. Vixen offer this facility on all the Aquablast® range with standard and special load capacities where required. The turntable can be moved outside of the chamber, loaded and wheeled back in. In some cases where needed the turntables can be linked to an electric drive inside the cabinet for operator ease.



Tumbler Barrel

For small components the tumbler barrel, which is fitted to the cabinet door or back wall, will be used. This gently tumbles the components whilst they are simultaneously blasted. The base of the tumbler barrel is perforated allowing the slurry to exit the barrel and recycle via the machine sump. A gun holder will be fixed inside the machine for the tumbler barrel.



Fixed Blast Gun Holder

With small components it is often easier for the gun to be locked into a holder and the operator simply manipulates the small part in the blast stream.

Automatic Media Concentration Monitor

Where the integrity of the abrasive is critical, and the concentration must be absolutely constant it is often easier to use the media concentration monitor which enables the operator to check the abrasive mix periodically by simply pressing a button.



Free Standing Hydro Cyclone

This item comes complete on a stainless-steel frame and being very light it can easily be lifted into the cabinet. Once inside the cabinet a bucket is placed under the cyclone and the blast gun is connected to the cyclone. The operator simply depresses the foot pedal and the abrasive begins filling the bucket which enables easy emptying of the machine of abrasive.



Wet Cyclonic Media Clarifying

The wet cyclones are designed to automatically remove broken down abrasive and sediment from the blasting process. These are normally specified where the blasting process is critical such as aerospace applications. The benefits of the wet cyclone are that any spent abrasive is removed, and the finish integrity does not deteriorate in any way as the abrasive remains consistent.



Fixed Turntable Inside Blast Chamber

Turntables are a very popular option. A fixed turntable inside the machine enables easy manoeuvrability of the components to be blasted. These turntables can also be electrically gear driven if required, but in most cases can be manipulated by hand with loads of up to 50 kg.



Aquablast® 915 with a 600 mm diameter fixed turntable

aquaBlast®

The Closed Loop system

Closed loop implies that the machine will not require a drain nearby and will not consume large amounts of water.

The basis for a closed loop system is a large filter unit which filters the liquid sufficiently so it may be used for the rinse gun and the window wash. Some top up or replacement of clean water will be required from time to time, but the machine will not require a continual drain supply.

The window wash and rinse gun use recycled water which is pumped from the filter unit using a heavy-duty air operated diaphragm pump.

The sedimentation tank is supplied with a series of Vixen designed containers which have an overlap feature. These are Vixen's tooling and are fitted with weirs to allow water to cascade from 1 container to the next, meaning the fine particles of debris or broken abrasive settle in the containers. These can easily be removed individually for cleaning and make maintenance of the closed loop system quick and easy. A paper filter roll sits above the weir system so that the water being recycled does not contain large particles of abrasive.



Recirculating Pump

This pump transports water which has been filtered in the sedimentation tank through to the windscreen wash and rinse gun. The recycled water reduces water consumption and enables the collection of debris in the weir buckets inside the sedimentation tank.



Inline Filtration

An additional disposable filter is fitted between the sedimentation tank and the rinse/windscreen wash. The disposable filter collects fine debris larger than 300 microns prolonging the life of the water and keeps the rinse water in good condition.

Replacement Inline Filter

The filter is normally fitted at 300 microns.

Three Weir Bucket System

The weir buckets fitted inside the sedimentation tank use specific designs and tooling unique to Vixen. Inside the filtration tank the buckets overlap one another with a designed weir, which traps any unwanted debris carrying over. This debris then falls into the base of each bucket. This allows easy maintenance for the operator by decanting dirty water and emptying the solids which have settled in the base of the weir buckets.



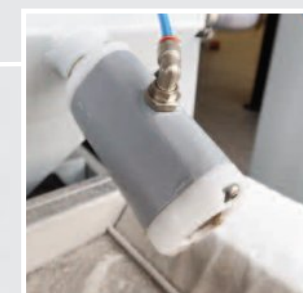
Window Wash System

The internal window wash system on a closed loop machine uses recycled water which has been filtered. This recycled water exits an adjustable flexi nozzle on the inside of the glass while the operator uses the machine. This water jetting, combined with the integral wiper maintains good visibility for the operator. On the outside there is an adjustable needle valve which enables the operator to increase/decrease the flow of the windscreen water wash for the glass.



Internal Rinse Nozzle

The internal rinse gun uses recycled water which is filtered from the sedimentation tank. The flexi rinse gun is very robust in the blasting environment and has no external triggers which would tend to clog with abrasive in the blast chamber. To operate this flexi nozzle rinse gun, the operator simply bends the rubber nozzle which makes it easy to operate through the rubber armhole gauntlets.



Pneumatic Sleeve Valve

One of the benefits of the closed loop system is that it reduces abrasive waste during the vapor blasting process. It also reduces water consumption. The pinch valve remains closed while the machine slightly overfills with rising water and the windscreen wash water.

When blasting ends, a timer (adjustable) delays the valve from opening, which allows the good abrasive to settle in the sump of the machine, and the broken-down abrasive to exit in the sedimentation tank for filtration.



Media Roll

A disposable filter roll is supplied in all closed loop systems and sits on top of the sedimentation tank. Its purpose is to catch coarse debris. Typically, this filter paper is replenished daily or weekly dependent on the individual's usage.



aquaBlast®

The Aquablast® 915 is the entry level machine in the Aquablast® range and brings huge benefits to a wide variety of industry sectors, including aerospace, automotive, construction and specialist manufacturing.

Aquablast® 915

The Aquablast® 915 is the smallest standard machine in the Vixen Aquablast® range. Being the smallest, it still shares the very same technology and components. Although being the smallest, the power output and performance of the 915 is the same as the larger models in the range.

The main features of the Aquablast® are its robustness and quality of manufacture. The urethane pump gives fabulous performance combined with ultra-hard-wearing components for the application. The bonded white rubber lining has 3 functions; a white reflective chamber with noise suppression and prevents wear on the blast chamber walls. LED lighting with windscreen wiper and wash enable good viewing for the operator at all times.

See dimensions of the Aquablast® 915 on page 25.



Effective applications

- Cleaning of dies and moulds.
- Removal of paint, rust, scale, carbon, and similar deposits.
- Surface preparation prior to bonding, re-painting, and re-coating.
- Satin finishing of stainless steel, aluminium, titanium, and other metals.
- Cleaning of PCBs and other electrical connectors.
- Removal of small burrs from manufactured components.



Stunning results



Products showing before and after treatment



aquaBlast®

The Aquablast® 1215 wet blasting machine is designed by Vixen to harmoniously degrease and blast many sizes of components. This machine is the next step up from the Aquablast® 915.

Aquablast® 1215

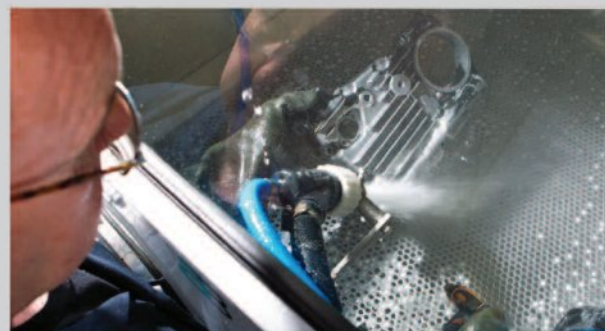
The Aquablast® 1215 is the mid-size model in the standard range of machines and one of the more popular. The robust stainless-steel cabin with white wall rubber lining and LED lighting gives great visibility for the operator. The large opening side hinged door is fitted with a rubber bulb type seal and a slam shut door with a large chrome handle for operator ease. Below the door is a drip tray to encourage any drips from the door when first opened to return to the sump. A moveable foot switch and good wiper and wash adjustment make this machine ideal for production purposes.

The 1215 is available in numerous voltages and 50 and 60 Hz, just ask your representative, we have every electrical combination for global installations.

See dimensions of the Aquablast® 1215 on page 25.

Effective applications

- Cleaning of dies and moulds.
- Removal of paint, rust, scale, carbon, and similar deposits.
- Surface preparation prior to bonding, re-painting, and re-coating.
- Satin finishing of stainless steel, aluminium, titanium.
- Cleaning of PCBs and other electrical connectors.
- Removal of small burrs from manufactured components.



Amazing results

Products before and after treatment



aquaBlast®

The Aquablast® 1515 wet blasting machine is designed by Vixen to harmoniously degrease and blast a multitude of components. This machine is the top-of-the-range of the standard Aquablast® models.

The Aquablast® 1515

The Aquablast® 1515 is the largest model in the standard range of machines. It can be specified as standard with 2 armholes or can have 4 armholes which are useful if you are processing very long parts. The very large work chamber is LED lit for good visibility and has a 250 kg standard load capacity. For those people wanting to load heavy castings, engine blocks etc., there are a standard range of turntables available, fixed or mounted to trolleys which enable easy manoeuvring of the component for the operator while blasting.

See dimensions of the Aquablast® 1515 on page 25.



Effective applications

- Cleaning of dies and moulds.
- Removal of paint, rust, scale, carbon, and similar deposits.
- Surface preparation prior to bonding, re-painting, and re-coating.
- Satin finishing of stainless steel, aluminium, titanium, and other metals.
- Cleaning of PCBs and other electrical connectors.
- Removal of small burrs from manufactured components.



OPTIONAL EXTRA
+ SPECIAL BUILD
TWIN GUNS

Remarkable results



Products before and
after treatment



aquaBlast®

Vixen's Aquablast® cube is the ideal machine to fit seamlessly into a busy workplace or production line, due to its cubic shape and option of double guillotine doors.

Aquablast® Cube range

The Aquablast® Cube range comes standard with 1 pneumatic guillotine opening door. The guillotine door system enables easier loading of turntables or baskets of components into the machine than the standard hinged door arrangement. Often in production lines components are transported on conveyors and the cube range can be mounted adjacent to the conveyor very easily and parts are manoeuvred through the guillotine door. In some cases the Cube range is specified with double guillotine doors enabling a pass through facility.

The Cube range of machines have all controls mounted above the viewing window for the operator and the work chamber is slightly larger being rectangular in shape.

The machine is also available in 3 standard Aquablast® sizes, the 915, 125 and 1515. Alternatively Vixen is able to modify the machine to meet the customer's specification and requirements.

See dimensions of the Cube range on page 25.



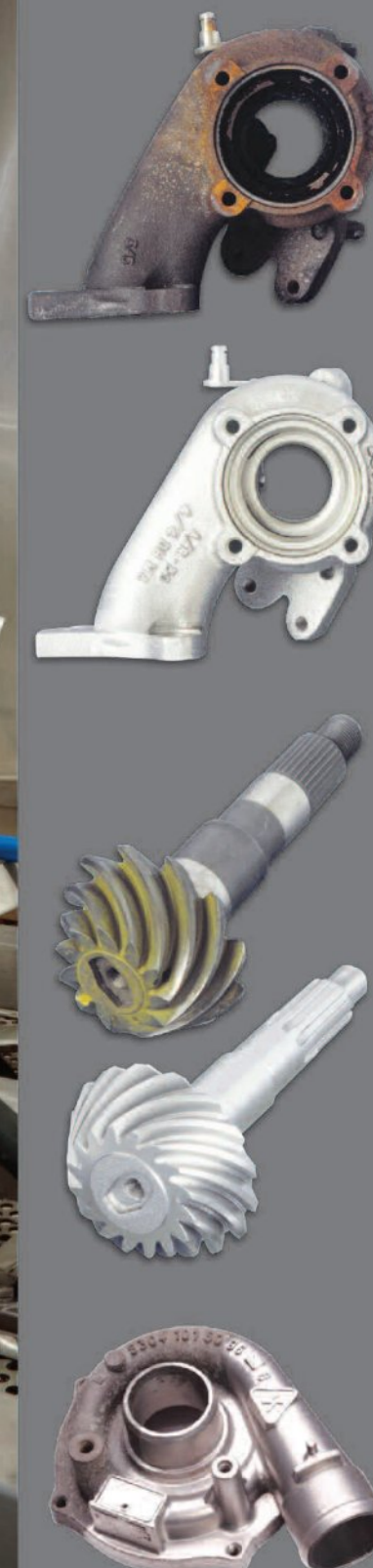
Effective applications

- Cleaning of dies and moulds.
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- Satin finishing of stainless steel, aluminium, titanium, and other metals.
- Cleaning of PCBs and other electrical connectors.
- Removal of small burrs from manufactured components.



The results speak for themselves

Products showing before and after treatment



aquaBlast® Wheelblaster

The Aquablast® Wheelblaster uses wet blasting technology to simultaneously blast, wash and prepare alloy wheels after kerb damage in one quick and simple step, ready for painting and lacquering.

The machine combines the standard six stage process of manually preparing wheels into one application and can reduce the application time from one hour per wheel to just three minutes in one compact cabinet.

The process uses water mixed with an abrasive to blast the wheel inside the machine to create an etched finish, ready for the next stage of the repairing process. The use of water in the application ensures that no media is impregnated onto the alloy wheel. The water also provides a washing action and does not strip the wheel back to bare metal.

Vixen has designed a revolutionary new wet blasting machine specifically for smart alloy wheel repairs – The Aquablast® Wheelblaster.

Why choose the Aquablast® Wheelblaster?

Vixen's Aquablast® Wheelblaster is designed exclusively for the operator working in the automotive industry.

The dry blasting method of finishing alloy wheels creates dust, which is a major hazard in the body shop environment and requires additional washing / drying facilities before the wheel can be painted and lacquered. The wetblasting process used in the Aquablast® Wheelblaster does not require a specific room for sitting, eliminates the risk of dust and combines all the preparation processes in one cabinet – ideal for the workplace.

How it works

- 1 The wheel is loaded onto the pneumatic lift (optional extra) which is raised up to the opening of the cabinet. The operator then loads the wheel onto an internal spigot, which is mounted on a pivoting arm to allow for easy and hassle-free loading.
- 2 Once loaded, the operator applies pressure to the foot pedal, and the water/media slurry which is contained in the cabinet sump is delivered to the manual blast nozzle via a glandless polyurethane pump. Compressed air is added to this stage to accelerate the slurry.
- 3 After blasting the alloy wheel, the slurry drains back into the cabinet sump to create a re-circulation system, while other contaminants are fed into the sedimentation filter. Before removing the wheel, it is rinsed using the internal rinse system to remove residue and is quick to dry using compressed air. Now the wheel is perfectly etched for paint or lacquer.



Wheel Lift

Today's modern SUVs/4 x 4s are fitted with large alloy wheels. It is worth considering the repetitive lifting of wheels when some alloy wheels with tyres can weigh over 40 kg.



Knuckle/Swivel Arm

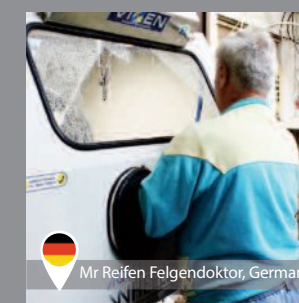
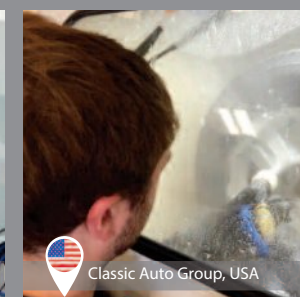
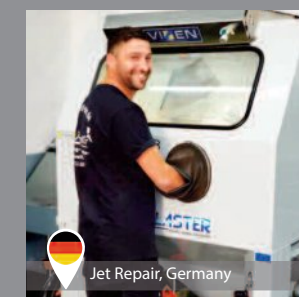
The multi point locking system of the Wheelblaster is integral to the fabrication of the machine. This system allows the operator to manipulate the wheel in almost any position for convenient ergonomic processing.



Features

- Optional pneumatic lift complies with health and safety.
- Internal spigot ensures ease of handling and loading.
- Durable high-pressure pump.
- Dust free process.
- Blow off gun to remove excess water and media ready for painting.
- Combines six processes in one machine.
- Wheels can be prepared in less than three minutes.
- After processing the original paint of the wheel will be totally clean and perfectly etched ready for recoating with paint.

The Aquablast® Wheelblaster combines 6 processes in one machine, meaning there is no need for acid washing, pressure washing or scotchting wheels alongside residue removal and hand drying. It's all in one place.



Some of our happy worldwide customers

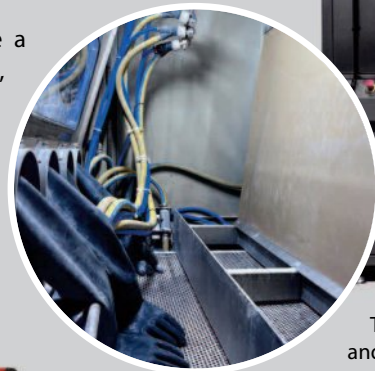
aquaBlast® Special Build

Vixen prides itself on the portfolio of special build machinery it has supplied to companies worldwide. The diverse range of machines that we have designed has enabled customers to blast a variety of components effectively and automatically to enable repeatability and cost saving.

Our expert in-house design department work closely with each customer to develop ideas that are specifically tailored to their individual application and requirements, whether this be size, shape or even the colour of the Aquablast®. It is quite common for us to modify a standard machine to allow a pass-through facility for long tubes, for example.

We also have in our portfolio numerous drawings and photographs for machines of specific dimensions to suit various customers' requirements. This can include handling the components once inside the blast chamber, with roll in roll out facilities, and a chain hoist for extremely heavy components.

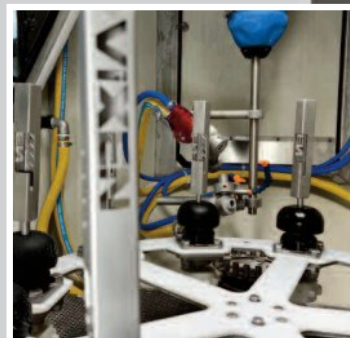
Most of our automated machines also have a manual option. When the arm holes are in use, automated use is prevented for your safety.



The above machine is both manual and automatic. It has a light curtain across the arm hole area (in yellow) for safety, when the machine is in automatic mode.



The Aquablast® Tumbler machine with a 2-stage optional hot and cold rinse. This machine batch processes small parts which are gently tumbled in the drum while being simultaneously blasted.



This machine has an indexing table to process 10 parts automatically, which need vertically blasting and rotating during the process.

The Aquablast® process is often incorporated with our washing equipment. Whether it be small rivets which need blasting and washing, or a reconditioning application where washing after blasting needs to take place.

Below is an example of our washing and blasting line for reconditioning:



VIXEN
Surface Treatments

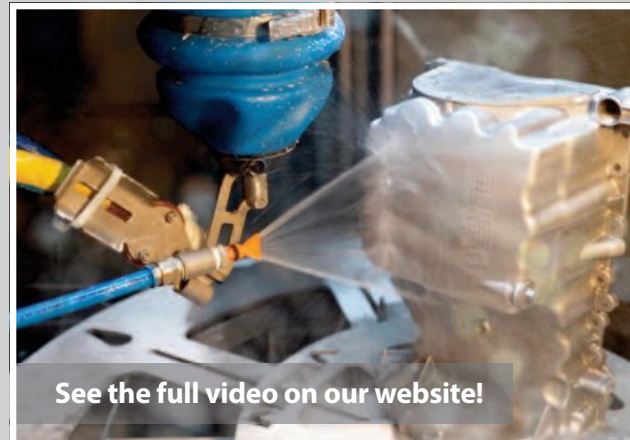
ROBO aquaBlast®

When automation becomes very complex and repeatability must be exact, the Aquablast® is available in a robotic format.

On this page you will see some examples.

The robotic process is usually produced where a turntable inside the blast chamber is coordinated to the robotic arm to act as a seventh axis. For example, the turntable will rotate sufficiently to enable easy access for the robotic arm to reach the component and difficult areas. This is part of the programme, and this repeatability and movement is exact every time.

The machine below is a robotic machine connected to abrasive storage hoppers. The operator at the HMI simply selects a programme which incorporates an abrasive type. This abrasive is then called down and the robotic process uses that specific abrasive.



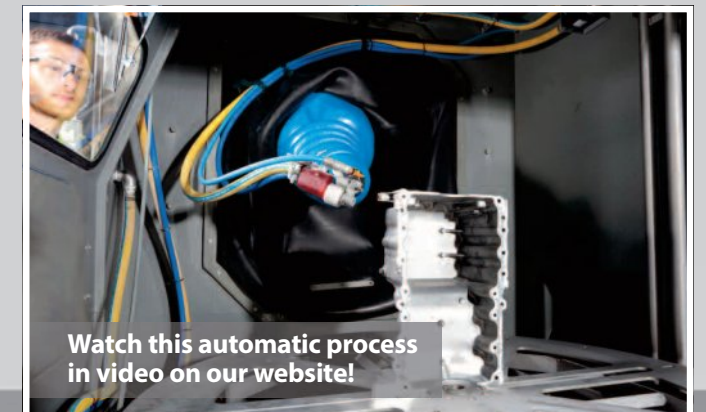
See the full video on our website!



View the video of the robot in action on our website!

The robot is in an enclosure with a viewing window for the users' safety. The robot operates through a moulded silicone rubber diaphragm which is extremely resistant to abrasive material. Giving the robot a perfect seal and protection from the blasting process.

See examples of these machines in video form on our website and YouTube channel.



Watch this automatic process in video on our website!



VIXEN
Surface Treatments

ROBO aquaBlast®

Vixen have been building Robotic Aquablast's® for over 10 years. These are a range of automated wet blasting machines complete with robotic blasting arms. We have built numerous machines with ABB, Yaskawa and Fanuc programming throughout these 10 years and have developed many bespoke components including our own mouldings and rubber membranes which protect the robot from the blast slurry.

The robotic arm is usually integrated with a manipulator which drives the turntable or the fixturing inside the blast chamber. This manipulator can continually drive/rotate the component or simply move it to pre-programmed positions, and acts as a seventh axis to the robot.

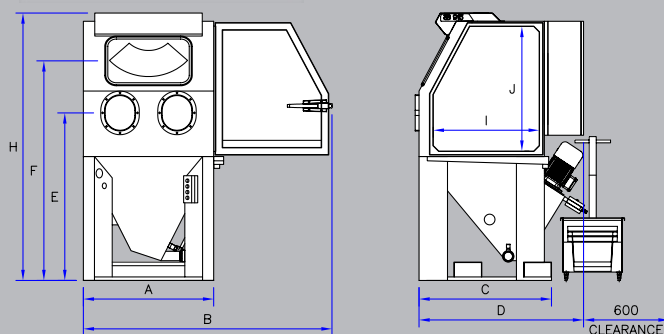
Vixen's machines are always designed to suit customers specific requirements. Whether that is automatic loading and unloading, specific programming incorporating easy recipe edit functionality, or specific part numbers. You can see some examples of our range of robotic machinery on our website: www.vaporblastingequipment.com.



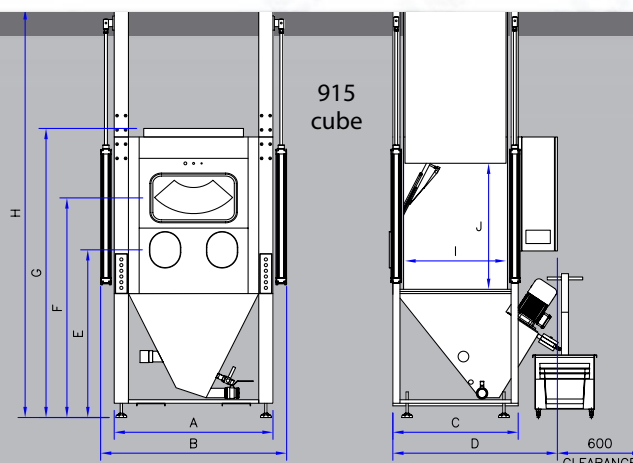


VIXEN
Surface Treatments

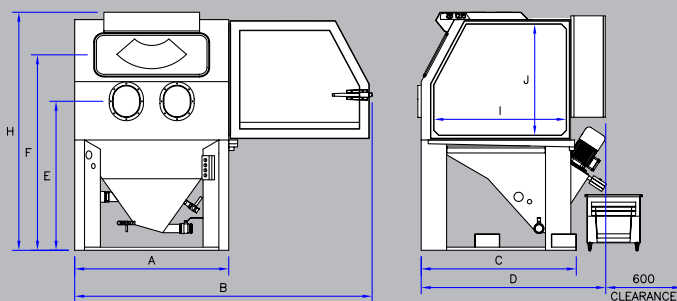
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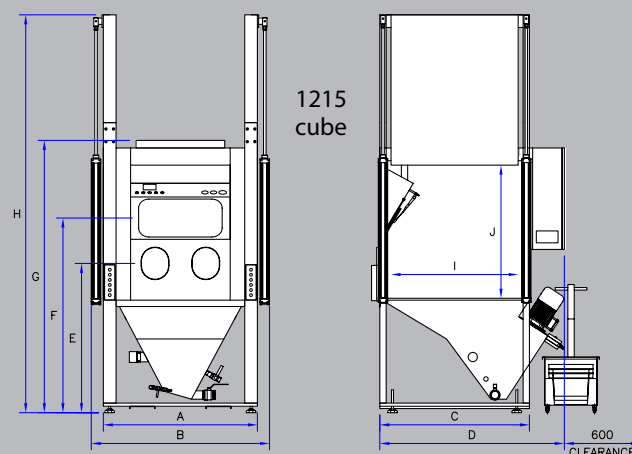
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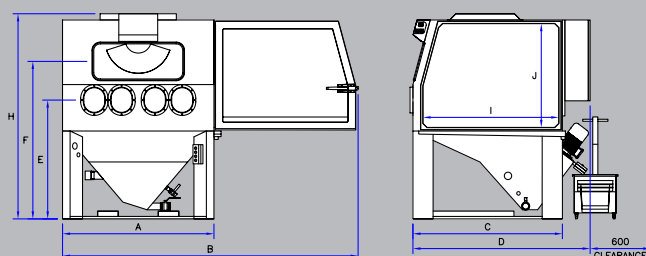
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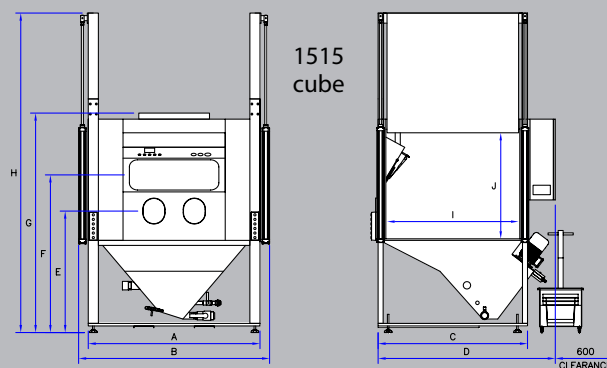
1215
cube



1515



1515
cube



Model Dimensions (mm)	A	B	C	D	E	F	G	H	I	J
915	915	1146	930	1155	1177	1542	-	1878	744	875
915 cube	1115	1310	880	1155	1177	1542	2030	2870	700	870
1215	1215	2346	1223	1455	1177	1542	-	1878	1040	870
1215 cube	1215	1406	1180	1455	1177	1534	2147	3137	1000	1000
1515	1500	2930	1480	1755	1177	1560	-	2032	1340	1020
1515 cube	1700	1892	1480	1755	1200	1560	2173	3165	1300	1000

Electrical	415V 3 Phase + Neutral 240V Single Phase *We can accommodate almost any electrical configuration worldwide (50-60Hz)		
Air supply	7 bar (100 psi) 1.14 m³/min. (40 cfm) 1/2" BSP / 12.5 Connection		
Water supply	2-6 bar (30-80 psi) 1/2" BSP / 12.5 mm Connection		
Drain	Floor Level - Approximately 10 Litres / Min		
Ventilation	4" / 110mm Duct to outside atmosphere		
Sump capacity Water Media	915	1215	1515
	50 Litres	100 Litres	150 Litres
Load	80 / 100 Kg	250 Kg	250 Kg