

BLASTMASTER®



Water Jet Solutions





Water – working for you.

Water has been at work for years, eroding coastlines, cracking rocks open and creating gullies with its rivers and streams.

Now Blast-One is making water work for you!

Since the 1920's water has been used at high pressures for cleaning and rinsing applications. Since then, more development has been put into increased pressures and increased flows. After 1963, water has been used at pressures up to 10,000-15,000 psi, allowing industrial cleaning and sludge removal, removing tightly lodged contaminants like concrete and coal soot.

As the years have progressed, higher and higher pressures were used to do more and more work with water, but equipment running costs made this a prohibitive method for surface preparation.

In 1996, finally a breakthrough was made in pump technology to economically produce water pressures up to 40,000 psi. At this pressure water can take paint, rust and contaminants right off a surface back to the bare metal substrate. This can be used for surface preparation being the step before applying a paint coating.

Blast-One's involvement in water lets you use this tremendous technology to perform a huge range of applications: industrial cleaning, concrete demolition, surface preparation – making projects go faster, cleaner and safer. It also helps in removing huge environmental nightmares like dust and silicosis issues.

As further research has been done, water can now be used for more and more applications – such as cutting steel with very small amounts of abrasive injection, removing the need of oxy cutters, plasma cutters, being able to do projects out on a jobsite that weren't possible before. This enables you to do work in hazardous locations that would have previously required a complete plant shutdown and the ability to work in gaseous atmospheres where previously it wasn't safe to go.

Blast-One has truly harnessed the power of water for you!

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Productivity that will pay for itself.

It's easy to see why so many surface preparation contractors are switching to ultra-high pressure these days. It's often the most productive, economical way to achieve the surface you need for good coating adhesion, while fully respecting the environment.

Blast-One water jetting equipment quickly removes coatings, rust and other tough adherents without the dust hazards of grit blasting. The resulting surface meets or exceeds all recognised industry standards (including the WJ-1 or "white metal" specification of NACE No. 5 and SSPC SP-12, and ISO Sa 3).

Water jetting is also an excellent way to meet the standard for removing soluble salts, which hamper adhesion and often lead to coating failure. During grit blasting, these salts are often trapped in cavities within the metal surface. But ultra-high pressure (up to 40,000 psi, or 2,800 bar) water jetting cleans deeply enough to prevent these invisible "corrosion cells" from forming, and will restore the original surface profile.

Today this process is readily available – for manual or automated surface preparation – with Blast-One's



benchmark UltraBlast™ Surface Preparation system. And for applications that need more flow than pressure, our 5,000 to 20,000 psi (350 to 1,400 bar) pumps and accessories are every bit as productive and reliable.

Blast-One's UltraBlast™ Surface Preparation system gives you the productivity without the dust hazards and clean-up problems. The vacuum recovery feature not only simplifies disposal, but leaves a clean, dry surface – free of flash rusting and ready to recoat.



Blast-One can supply your Pressure and Flow requirements.

Blast-One have been providing high quality pumps that offer high performance and reliability for over 40 years.

Keeping up with Water Jet technology allows Blast-One to provide you with the latest equipment. The triplex and quintuplex plunger models operate at a low running speed to minimise wear and simplify maintenance.

Choose a unit to suit your application, up to 40,000psi (2,800 bar)

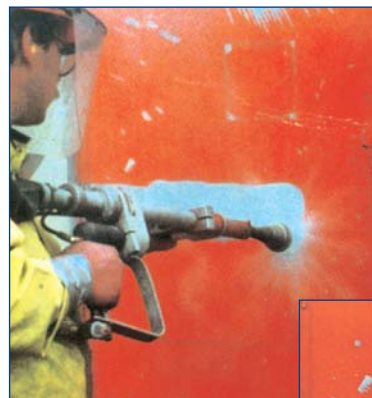
Ask your Blast-One technical adviser to provide you with information on any of our 40 plus models – 27 of them which are convertible to different pressures and flow rates. Your 'unique' application can be looked at, and a recommendation made to order.

Whether it's a Skid-mount, Yard-mount or Highway version with a diesel engine or electric powered, you will be impressed.

The Blast-One units boast.....

- **An unsurpassed operating efficiency of 97%** – engineered to last and operate with the lowest vibration.
- **High grade stainless steel valves** – precision machined and hardcoated for extra toughness.

- **Maintenance made simple** – Fast 5 minute packings change!
- **Rebuild your investment** – As time goes on, you can continually rebuild and continue on with a quality unit, most other pumps would have been made obsolete.



(TOP) This operator is using a 3,000rpm rotating nozzle at 36,000psi.

(RIGHT) Removing 1ft² of coating from an aluminum vessel in just 24 secs. That's 14m²/hr (150ft²/hr)!



Superior Quality Pumps.

Blast-One's ultra high pressure water pumps are the result of decades and tens of thousands of hours of expertise, research, development and testing.

- Every single piece of the pump is traceable back to the original stock of material.
- Every single component is tested, not just one in a batch, for tolerance.
- The entire pump has been engineered around efficiency, reduced wear and time consuming service requirements.
- The packings are larger and the porting has been dynamically developed to provide less friction for the water that flows through.
- As the entire pump is water lubricated, there are no special temperature sensors needed to maintain correct operating temperatures.

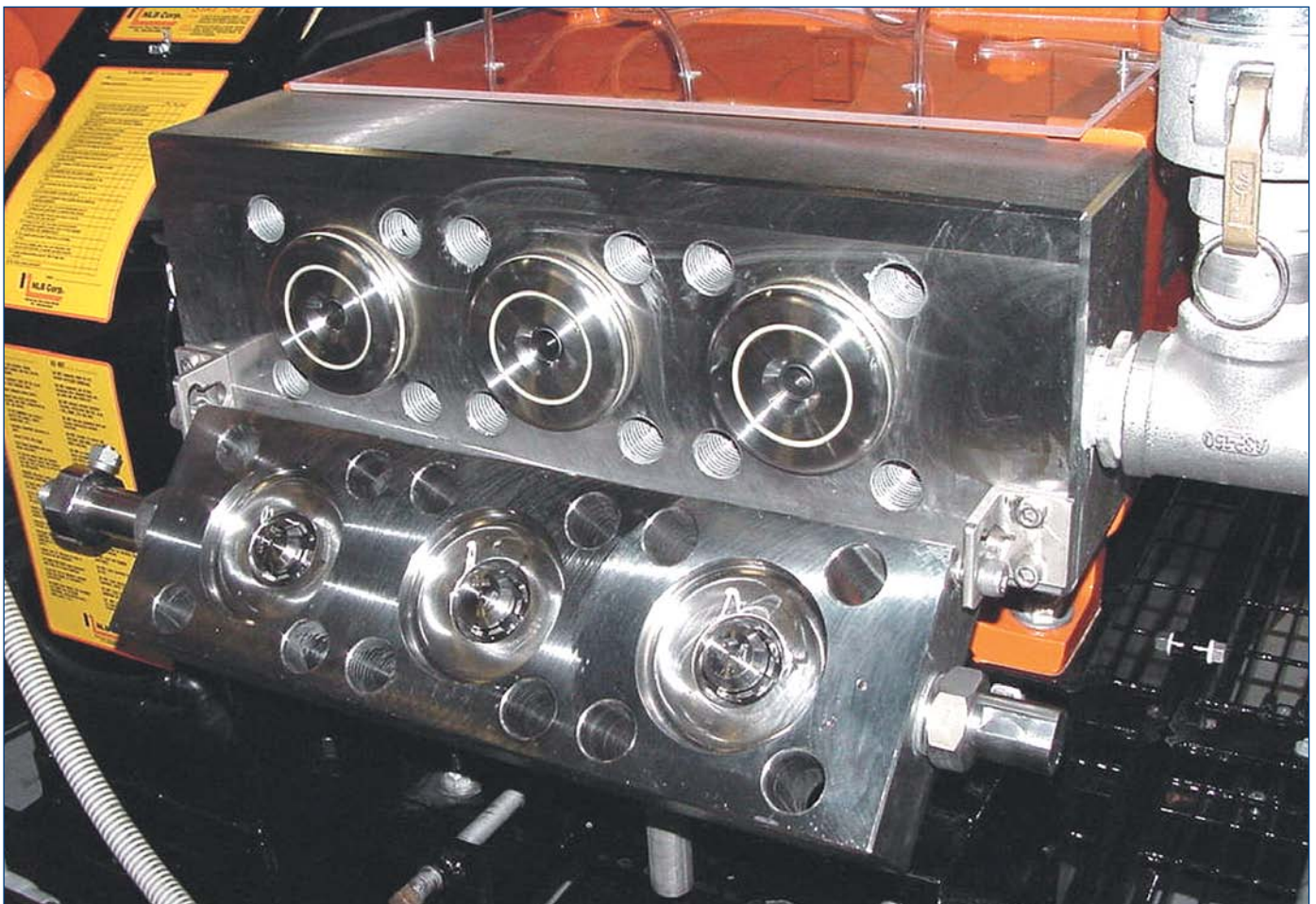
- The tungsten carbide plungers will last thousands of hours before needing inspection.

In short, Blast-One high pressure pumps provide you with peace of mind and reliability like no other.



Maintenance made easy and fast – less down time!

Some companies have saved \$10,000's per year in maintenance costs by changing over to a Blast-One pump!



High grade stainless steel valves – precision machined and hard coated for extra toughness. Only high quality components are used, so extended life is assured.

Blast-One Convertible HP and UHP Units – Top Quality with Flexibility.

- 1 **Slower RPM pump** – In comparison with others, this pump runs slower which means it can produce the same flow with less wear and less maintenance.
- 2 **Hard wearing axles*** – Heavy duty axles that will last for a long time include grease nipples to enable easy and fast lubrication.
- 3 **Heavy-duty fenders*** – Bolt-on fenders which are gusseted for extra support meet the relevant regulations.
- 4 **By-pass valve** – Field repairable which compensates for pressure changes, doesn't require changing when converting to different pressure/flow configurations.
- 5 **Manifold kept secure** – 12 torqued bolts hold the discharge manifold (50% more than other pumps on the market).
- 6 **Certified lights*** – All trailer light wiring is protected inside conduit for added protection.
- 7 **Smooth travel*** – All Blast-One trailers have a rugged design to provide a vibration free ride. They are also designed to allow for easy hook-up and towing.
- 8 **Single throttle control** – Single control for all pressures allows for easy maintenance.
- 9 **Fast-freeze protection** – 4-5 Litres of anti-freeze agent protects the whole unit.
- 10 **Rugged frame plate** – Made of stainless steel (more sturdy than castings), is double ported and usually lasts for the life of the machine.
- 11 **Rust proof piping** – All inlet piping is made of quality brass or stainless steel to avoid corrosion.
- 12 **Dependable clutch assembly** – Common brand name clutch can be readily serviced if ever required.

* On Highway version only.



Blast-One supplies top quality **High Pressure** and **Ultra High Pressure** water jet pumps. There are many models to choose from and you can change different operating pressures by simply changing the cartridge. This usually takes about 20 minutes and you don't have to make a manifold change! This ultimately saves you time and money, and reduces any required investment for spare parts.

These convertible units operate at pressures from 4,000psi to 40,000psi (275 – 2750 bar). Varied power levels (60 – 1200hp) (45 – 900kW) are available for different applications – the choice is yours. With ease of maintenance, conversion and operation, these units are the ideal choice for high production and efficiency-minded operators.

Talk to your Blast-One representative to discuss what pressures and flow combinations will suit your application.

**AVAILABLE
FOR
RENT**



Captive/Vacuum Crawler Systems

The UltraBlast™ Surface Preparation System from Blast-One is commonly used for removing stubborn layers of thick paints, epoxies, etc. It is also effective at removing scale and other tough protective coatings.

To achieve a clean finish on steel or concrete, as per standards NACE, SSPC and ISO, use a powerful Blast-One High Pressure water jet pump unit featuring automated or semi-automated accessories. With the right equipment you can produce metal and concrete surfaces free of damage and ready for coating.

You can achieve faster production rates than grit blasting by using Ultra High Pressure water (up to 40,000psi, 2,800 bar). When using a Vacuum Recovery Unit, there are little associated expenses associated with clean-ups and disposal costs are kept to a minimum.

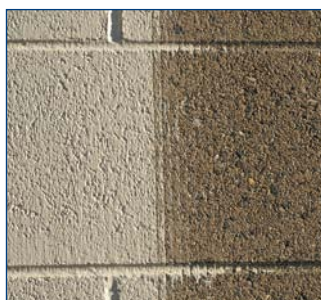
Once you have a system with a Crawler in place.....

- Operating costs are minimised
- Project schedule times are minimised
- Operator risks are greatly reduced
- Potential damage to the environment is reduced.

Blast-One Crawler SRT-10-W



The Water Crawler in action on a concrete surface.



Comparison between a Water Jetted (right) and untreated surface (left).

Contractors often find large vertical jobs a challenge – such as removing coatings from storage tanks and ship hulls. These can be in the range of 20-30 metres high or more and not always vertical, but can have an inward or outward slope.

The smartest way to get this job moving is to use a **Blast-One SRT-10-W Crawler**. While the powerful Crawler moves both vertically and horizontally, all the



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RENT**

The Blast-One Water Crawler takes surface preparation to new heights.

commands are remotely controlled by a single operator on the ground. Using SPIN JET® nozzles, the Crawler makes light work of it and makes the job look easy!

How does the Crawler grip the surface without dispersing water and waste everywhere? A vacuum system is used which incorporates a recovery system to separate the waste water and debris which minimises waste disposal.

A winch skid assembly and locking pulleys act as a support and fall arrest system and allows the single operator to quickly position the SRT-10-W Crawler on steep surfaces. The entire system is operated from a wireless remote control console, allowing the operator to optimise the view of the work area and evaluate the ongoing progress.

The Crawler can manoeuvre horizontally, vertically and even upside-down! It will easily clean over welds and plates protruding up to ½" (12.7mm).

Captive/Vacuum Hand Held Systems

For “in-between” vertical surfaces (too large for manual water jetting but too small for a Crawler), the **Blast-One VertaJet™ SRT-6** is ideal. This lightweight, hand-held system works fast and collects debris.

The SRT-6 operates at 40,000 psi (2,800 bar) and has adjustable rotation speed – ideal for soft substrates, like concrete – and a counterbalancing system to take the weight to minimise operator fatigue. The SRT-6 LT model weighs just 9 kg (20 lbs), and requires no air supply. It is ideal for removing coatings from steel substrates. It features ergonomic handles and dual-trigger operation to activate pressure.

Features and Benefits

- Vacuum recovery capability leaves a clean and dry surface
- Counterbalanced to minimise operator fatigue
- 6" (150mm) cleaning path for high productivity rates
- Uses Blast-One's exclusive BARJET™ and Bi-Mode™ valve technology.



The VertaJet™ SRT-6 LT and (ABOVE) the unit in action.

SpinJet Floor and Grate Cleaners

Blast-One's patented SPIN JET® rotating jet system has long been one of the water jet industry's most effective tools.

The SPIN JET® floor and grate cleaners (manoeuvred like lawn mowers) were originally designed to remove overspray from paint booth grates. Today they are also widely used for removing floor and ship deck coatings, highway stripes, runway rubber, and more...and even for concrete scarification. Operating at 40,000 psi (2,800 bar), the SPIN JET® is user friendly and very efficient.

SPIN JET® units reduce labour, operating costs and energy use. Blast-One offers several ergonomic models featuring a range of pressures, flows and cleaning path widths. Standard features include a dump valve that instantly reduces water pressure to near-zero, and guards over moving components, hose and quick disconnects. Rotary seal and dump valve repair kits are available. Options include 4-arm and 6-arm configurations and pneumatic or hard rubber tyres. Vacuum recovery is available on some models.

Features and Benefits

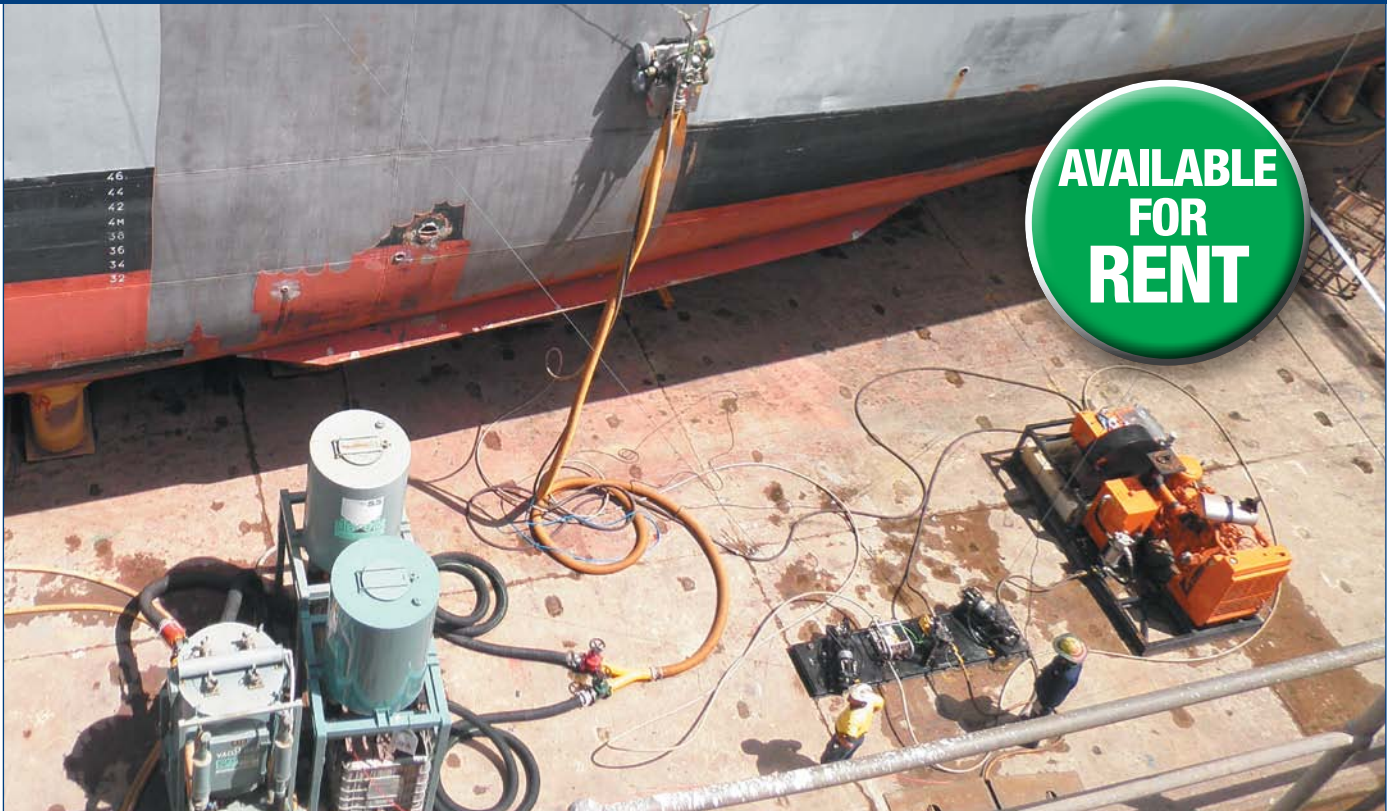
- Consistent speed even at low flows
- Maintains superior finish quality
- Leaves a clean and dry surface
- Ideal with lower horsepower pumps
- Vacuum recovery.



The SpinJet 36-9950-15A and (ABOVE) in use on metal flooring



Vacuum Systems



View showing extent of operation using a vacuum type system.

Utilising a vacuum system can revolutionise what has ordinarily been a messy job. Many of the tools offered by Blast-One have a vacuum attachment accessory and by including a vacuum system to your project, all the waste water, sludge, mud, dust is totally contained and captured for easy disposal or recycling – an environmentally responsible approach which also enhances your safety and productivity.

Vacuum systems are commonly used with the UltraBlast™ range (**pages 8 & 9**) and our Road Line Removal products (**page 19**).

Vacuum systems can be diesel, electric or pneumatically powered, providing you with huge flexibility on site or in plant applications.

- **Electric** – if you have power on hand, it is convenient not to worry about running diesel engines.
- **Diesel** – on a remote site, diesel powered units are often used.
- **Pneumatic** – already got an air compressor? Use the air powered vacuum system to create a powerful vacuum for your project.

Features and Benefits

- Sucks up spent used abrasives and collects it at a central point ready for recycling or disposal.



Our range of Vacuum Systems offer a choice of capacities and mobility to suit your needs.

Rotating Lances

Maximise ultra-high pressure water jetting performance by using a wider spray pattern, with a rotating lance featuring our specially-designed multi-orifice heads.

The UHP rotating lances feature an air-driven motor that drives the nozzle assembly. A Bi-Mode™ valve and a composite hose assembly is required.

Bi-Mode™ valves let multiple operators run lances from a single pump unit.

Features and Benefits

- Variable speed rotation, up to 3,000 rpm for constant high production
- Wide range of rotating heads available for different applications, including stripping I-Beams, H-Beams and inside corners
- Field-repairable for fast maintenance
- Dual-trigger actuation for operator protection
- Instant dump to low pressure when trigger is released
- Lightweight, ergonomic design – 7.3kg
- 30% higher production rate than other units on the market.



Using a Rotating Lance on a surface makes weld inspections simple.



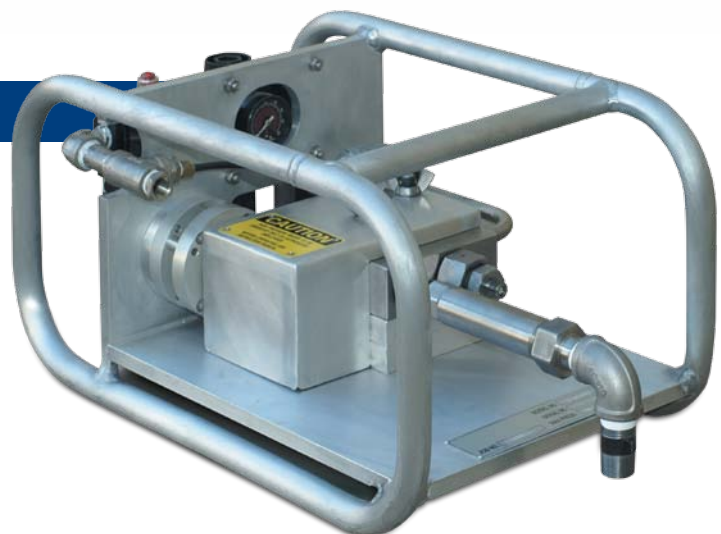
Bi-Mode Valve™

A Blast-One Bi-Mode™ valve allows the dumping of high pressure water and the use of multiple guns.

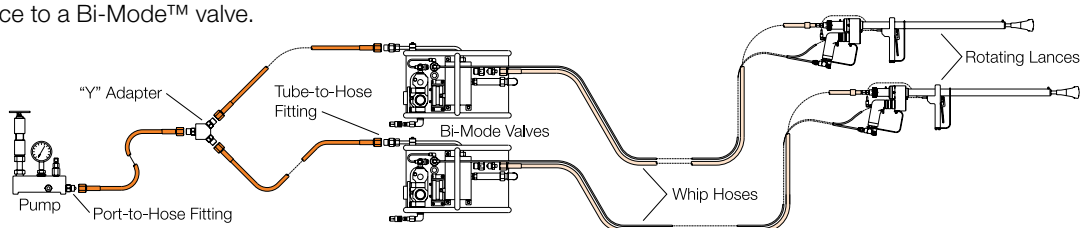
The field-repairable Blast-One Bi-Mode™ valve can significantly improve UHP system productivity. It uses the same quick change cartridge valve as the lances and foot controls.

Features and Benefits

- Used in conjunction with a rotating lance
- Rapid 60 second cartridge replacement
- Switch from 1-lance to 2-lance operation with a simple nozzle change
- Lightweight aluminium robust frame for easier carrying
- A composite hose assembly is required to connect a rotating lance to a Bi-Mode™ valve.



This Bi-Mode Valve allows a flow capability of up to 42 Litres/minute.



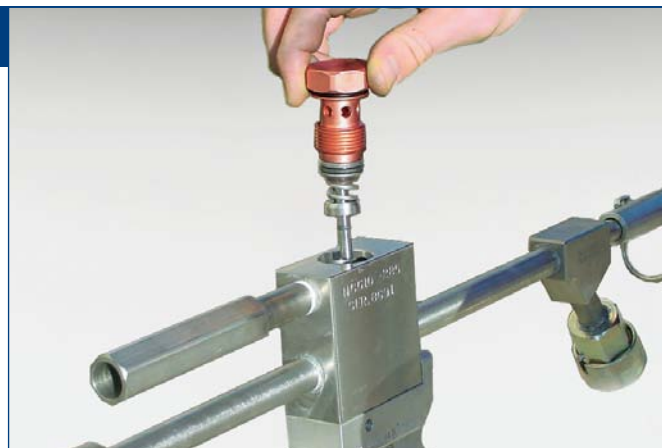
Connecting 2 Bi-Modes to 2 Rotating Lances.

Hand Lances & Foot Controls

Blast-One's range of water jet lances and foot controls are designed for maximum operator protection and productivity. A patented trigger lets the operator dump pressure immediately by simply pushing forward on the trigger or pedal.

It can be operated with a very light trigger-pull, and a one-finger latch prevents accidental actuation.

The unique quick-change cartridge can be replaced in the field, in less than 60 seconds – a feature that is available with all lances and foot controls that have operating pressures as low as 10,000 psi (700 bar) and as high as 40,000 psi (2,800 bar).



Quick-change cartridge seal reduces downtime.

Features and Benefits

- Quick-change cartridge for fast maintenance and minimal downtime
- A choice of barrels suited for many applications.

Spin Nozzles

The Blast-One Spin-Nozzle® self-rotating head turns an ordinary high-pressure lance into a superior water jetting tool.

The Spin-Nozzle features a specially designed and balanced body, threaded for two standard jetting nozzles in an offset pattern. The Spin-Nozzle rotates by the reaction energy of the high-pressure water; no external driver is needed.

Features and Benefits

- Faster production rates due to wide spray pattern and force
- Reduces back thrust for operator, increasing productivity
- Self-lubricated bearing gives longer service life.



The Viper 24 Spin Nozzle dramatically increases the water jetting force.

*Viper 40 Spin Nozzle
(up to 40K psi)*



*Viper 24 Spin Nozzle
(up to 24K psi)*



*Barracuda Nozzle
(up to 40K psi)*



Standard Nozzles

When it comes to nozzles, “standard” doesn’t mean off-the-shelf. While Blast-One standard nozzles are designed for general use (instead of specialised uses like pipe cleaning or abrasive cutting), each is customised to suit your application.

When ordering, be sure to consider not only the pressure and flow rate of your pump unit, but the actual pressure at the nozzle, which is always lower.

Our standard nozzles have a single orifice that can provide either a tightly focused 0° stream or a 15° fan spray, depending on your requirements. The examples shown on the right are designed for a maximum pressure of 20,000 psi (1,400 bar) and simply screw on the end of any Blast-One lance (and other tools) rated for that pressure.

Features and Benefits

- Sets the standard in the high-pressure water jet industry
- Precision stream for faster finish and longer nozzle life.



Each nozzle is customised to suit your application.



Examples of nozzles – the choice is yours.

Sapphire & Diamond Nozzles

The Ultra Jet nozzle is more than just a nozzle.

Producing water at high pressure is expensive, so when it gets to the nozzle, it is paramount that the design ensures the water does the most work possible.

The Ultra Jet nozzle features a special micro chamber behind the actual orifice to do 2 main things:

1. Reduce the pulsation of the jet which means that you get a consistent stream of water.
2. Creates a stream which is far more cohesive, or smooth, providing the ability to stand further away from the job and still do the same amount of work. This cohesive water stream is the secret to the extra performance provided by the Ultra Jet Sapphire nozzles.

The orifice is made from extremely high quality industrial sapphire and diamond gemstones. Every orifice is individually tested for tolerance and carefully inspected before being placed in the stainless steel retainer. This means that you can be assured that every nozzle that you get from Blast-One is perfect for your application.

Ultra Jet nozzles are designed for use at up to 40,000 psi (2,800 bar).



Sapphire & Diamond Nozzles allow you to stand further away and produce the same amount of work.



Ultra Jet nozzles.

Pipe & Tube Nozzles

Pipe and Tube Nozzles thread onto a lance or hose to deliver a spraying pattern designed for your application. Pipe cleaning nozzles provide back thrust jets to propel themselves through clogged pipes.

These nozzles can be custom-drilled, using precision machining techniques, to your specific pressure and flow requirements. Standard drill locations are Straight, 45° Front, 90°, and 45° Back, with as many orifices as the job demands. If you are not sure of the best pattern, we will be pleased to recommend one.

We can also help you choose the best nozzle for your tube or pipe ID, and for your high-pressure pump unit.



Maximise your pipe cleaning power with a Blast Jet Nozzle.

Rotating Nozzles

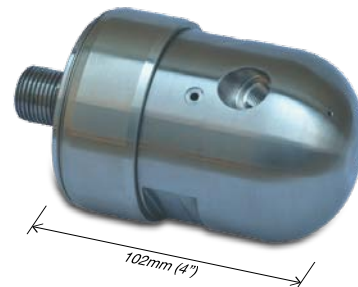
UltraBlast™ Tube Blast Nozzles are for small tubes – diameters as small as 1/2" (13mm). They operate at pressures from 15,000 to 40,000 psi (1,000 to 2,800 bar) and spin up to 7000 rpm for maximum cleaning effect.

Typhoon™ 20 Rotating Nozzles are designed for pipe diameters from 6 to 10 inches (150 to 250mm). They operate at up to 24,000 psi (1,650 bar) and flows up to 20 gpm (76 Lpm), rotating at 50 to 500 rpm.

The nozzles have five sapphire nozzles positioned for peak efficiency, one in front and four on the sides. The body is precision machined from stainless steel for long life and weighs just 3 lbs. (1.35 kg). A viscous oil brake ensures superior speed control.



UltraBlast™ Tube Blast Nozzle



Typhoon™ 20 Rotating Nozzle

Fixed Nozzles

Our extensive range of fixed nozzles are available in four different types/styles:



Standard

General cleaning



Triple Row

Removes soft material



Button

Moves easily around bends



Polishing

Rotating action removes hard deposits and polishes

Hoses

Blast-One stocks a complete range of high pressure hoses for all popular working pressures, up to 40,000 psi (2,800 bar). All are designed for long life and dependable service. Most hoses are stocked in 25', 50', 65' and 100' lengths (7.6m, 15.2m, 20m and 30.4m), but custom lengths are also available.

Features and Benefits

- Minimum 2:1 Safety Factor gives peace of mind
- Smooth inner core to minimise pressure drop
- High-tensile spiralled wire for strength and kink resistance
- Tough outer cover to prevent abrasion and wire exposure
- Short end connections allow movement around tight bend radii.



Blast-One hoses will minimise pressure drop and are available in various sizes.

WP Hose

10,000 to 15,000 psi
(700 - 1,035 bar)



NP Hose

20,000 to 24,000 psi
(1,400 - 1,680 bar)
Female Thread



UHP Hose

(with optional cover)
40,000 psi (2,800 bar)



NP Hose

20,000 to 24,000 psi
(1,400 - 1,680 bar)
Male Thread



We stock hoses with Metric and Imperial threaded hose ends to suit all pump brands.

Hose Couplings

Blast-One offers a variety of couplings in quick-disconnect (sleeve-lock) and two screw-lock, or wing union styles.

Inexpensive O-rings are available for repairing all Blast-One Couplings.

Features and Benefits

- Operating pressures of up to 20,000 psi (1,400 bar)
- Unique design guarantees high pressure seal
- Quick Connect Couplings dramatically reduce set-up time.

Screw Coupling



Quick Coupling

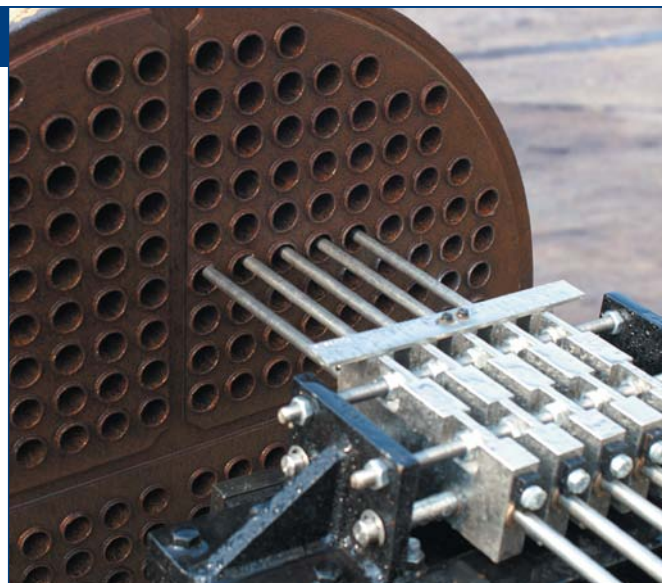


Tube Cleaning

Blast-One's automated and semi-automated tube lancers clean heat exchanger tubes in a fraction of the time compared with manual methods.

They minimise the exposure of operating personnel to debris and high-pressure water and take the variability out of the cleaning process.

There are many tube cleaning solutions available from Blast-One. We offer rigid or flexible lance systems at pressures up to 20,000 or 40,000 psi (1,400 or 2,800 bar). Systems are available to insert one, two, three or five lances into a tube bundle at once, for maximum productivity. All are easy to set up and operate, with push-button or remote controls.



Each Tube Lancer system comes configured to clean tubes at lengths up to 20' (6.1m).

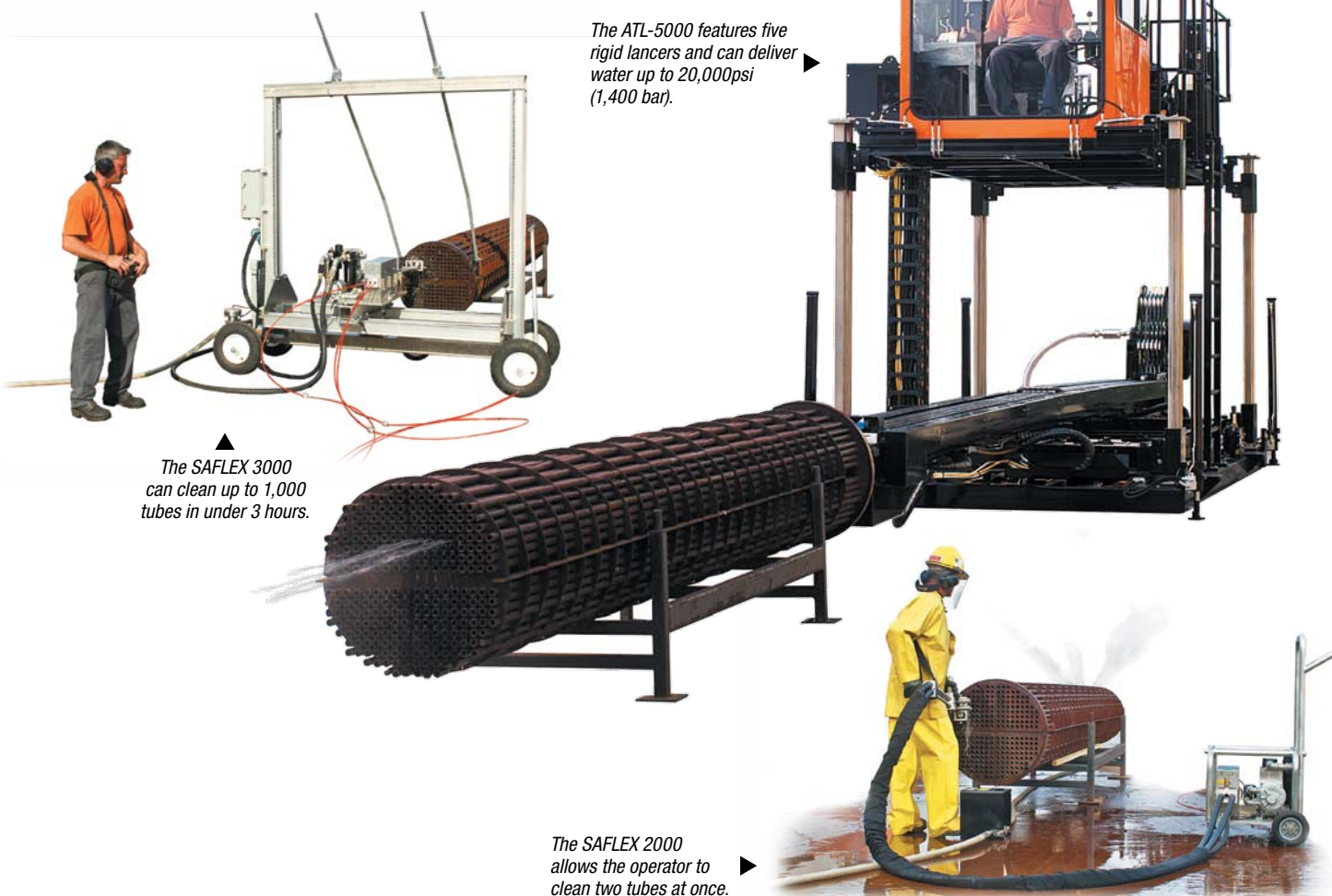
Features and Benefits

- Higher productivity rates than manual cleaning
- Minimises operator exposure to debris and high-pressure water
- Simplifies cleaning of tubes up to 72' (22m) long
- Integrated design for fast set-up.

The SAFLEX 3000 can clean up to 1,000 tubes in under 3 hours.

The ATL-5000 features five rigid lancers and can deliver water up to 20,000psi (1,400 bar).

The SAFLEX 2000 allows the operator to clean two tubes at once.



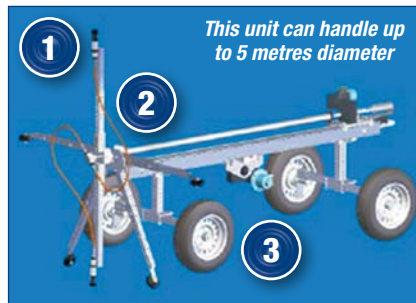
Tunnel Cleaners

The Tunnel Cleaner combines safety, consistency and productivity for cleaning large diameter pipes. The modular construction easily passes through manhole sized entries and adjusts to different pipe sizes.

This tested and proven concept utilises self-rotating nozzles mounted on an air powered rotating manifold. The manifold can use either 2 or 4 rotating nozzles. The range of speed rotation of the air powered manifold is determined by the gearbox ratio and is adjustable with air flow variation. The rotating manifold is then extended and retracted along the chassis rail.

Features and Benefits

- Can accommodate 15k to 40k psi
- 4'-12' (100mm-300mm) diameter of pipe
- Controlled rotation for complete clean
- 2 or 4 self-rotating nozzles
- Field repairable to minimise downtime
- Power driven option can be controlled remotely.



(TOP) A pipe before cleaning, and (TOP- RIGHT) after cleaning.

(RIGHT) The Tunnel Cleaner can be adjusted to fit a range of pipe sizes (1.2 - 3.6m dia).



- 1 2 or 4 Self-Rotating Nozzles
- 2 Adjustable Centring Arms
- 3 Safety Wheel Locks

Steel Cutting

With an abrasive cutting system from Blast-One, you can slice through concrete with rebar, cut inspection openings in petrochemical tanks, and cut up composites and many other hard materials (including 6" plate steel).

You don't have to worry about using open flame oxy-acetylene cutting and the burrs it leaves behind.

An automated Blast-One system includes a self-focusing cutting head (24,000 or 40,000 psi, 1,680 or 2,800 bar) pipe cutter or track crawler and hydraulic or pneumatic power unit with control stand. A hopper with metering discs to feed the abrasive is also required.

Features and Benefits

- Adjustable nozzle angles to suit many applications
- Speed is adjustable from 0.5" to 18" (12mm to 460mm) per minute
- Vertical or horizontal cuts – complete versatility
- Cuts round or flat materials
- Hydraulic or air drive
- Simple design provides fast set-up and high production.



The Abrasive Cutter can be adjusted to suit pipes of varying diameters.



The 3-D Tank Cleaner at work – complete cleaning of 360° interior coverage.

Tank Cleaning

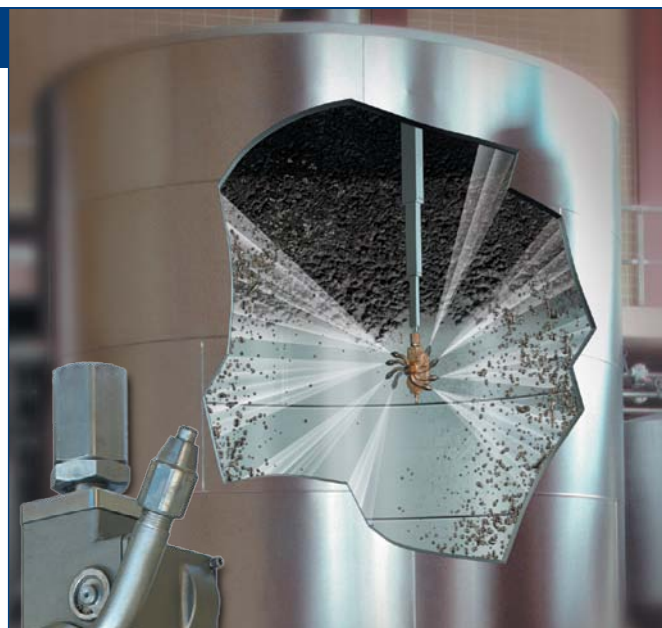
Blast-One's 3-D tank cleaning dramatically reduces tank cleaning time, is environmentally responsible and eliminates the need for anyone to enter a confined space. The dual cleaning action of the revolving/rotating head, powered by the reaction force of the high pressure water jets, provides a complete 360° interior coverage of your tank, reactor or chamber.

The Blast-One 3-D heads have been removing the toughest chemical and resin build-up for decades – everything from ABS and PVC to baked-on coke. Some contractors have reduced man-hours by as much as 80 percent, while others report that they clean 6 times as many tanks with water jets compared with caustics or solvents.

We offer a complete system, with a selection of 3-D heads and telescopic lances plus swivel turrets, protective cages, and a variety of nozzle arms and extensions to suit practically any application.

Features and Benefits

- Operating pressures from 3,000 to 20,000 psi (210 to 1,400 bar)
- Flows from 13-110 gpm (49-416 Lpm) for many applications
- Replaceable seal for long life and easy maintenance.



A cutaway view showing how the cleaning process works inside a tank.



Road Line Removal

Blast-One has pioneered the removal of pavement markings with ultra-high pressure water jets. There are two mobile systems, both with rotating SPIN JET® assemblies mounted on a vehicle, connected to a water tank and Blast-One pump unit. The STARJET™ does high-volume removal (like highways and runways), while the compact STRIPEJET™ is ideal for car parks and intersections.

The STARJET™ system has all components – patented nozzle assembly, UHP pump unit, water tank, and optional vacuum recovery – on a heavy-duty truck. It can remove up to 7,000 feet of markings per hour (2,134 metres per hour). The operating controls are conveniently located in the cab.

The STRIPEJET™ is very manoeuvrable, with a tight turning radius and smooth, consistent speed in forward or reverse. Five heads are available for each system, for cleaning paths from 8" to 24" (200 to 610mm). Vacuum recovery is optional.



The STARJET line removal tool at work.



STARJET™ Features and Benefits

- Vacuum recovery leaves a clean and dry surface
- Articulated robotic arm with proportional controls
- Semi-automated controls for skip line removal
- In-cab video with 3 cameras (2 front, 1 rear)
- Dedicated horsepower for each component to maximise productivity
- 3 waste/debris handling options
- Options: optical line tracking, GPS with weather forecasting, remote internet with email & webcam capabilities.



STRIPEJET™ Features and Benefits

- Removes coatings, membranes, thermal plastic, epoxy, rubber build-up, and more
- Complete removal, even from grooved pavement
- Can remove bleeding/rising tar
- Creates a stronger bond for restriping
- Eliminates dust and debris, with optional vacuum recovery
- Very fast return on investment
- Saves labour with less operators and high productivity
- No exposure (people or environment) to abrasive media or chemicals.

Hydrodemolition

Conventional methods for repairing concrete bridge decks, wharf piers, multi-tiered car park decks etc, have involved removal of the deteriorated concrete below the reinforcing bar by jackhammers and other percussion tools – these methods are costly, time consuming and offer no assurance of complete removal of deteriorated concrete.

The negatives of jackhammering concrete are:

- Sound concrete is removed along with bad concrete
- Jackhammer impact damages reinforcing
- Vibration generates micro-fractures in sound concrete
- Excessive dust and noise pollution
- Leaves poor bonding surface for new concrete
- Chlorides and salts remained entrained in existing concrete.

To overcome these problems we have drawn on over 25 years experience in the water-jetting industry to further the development of the hydrodemolition process.

Now high pressure water is being used successfully in the removal of deteriorated concrete and asphalt from bridge decks, highways, substructures and parking lots. This method seeks out deteriorated concrete, blasting away the faulty material whilst leaving the sound concrete with a rough texture, ideal for bonding the newly poured concrete or overlay.



▲
Hydrodemolition makes light work of concrete removal.

◀ *The final result using a rotating nozzle.*

The water-jet descales and polishes re-bars without damage to the reinforcing, eliminating time consuming and costly steel repair.

Some of the advantages of hydrodemolition are:

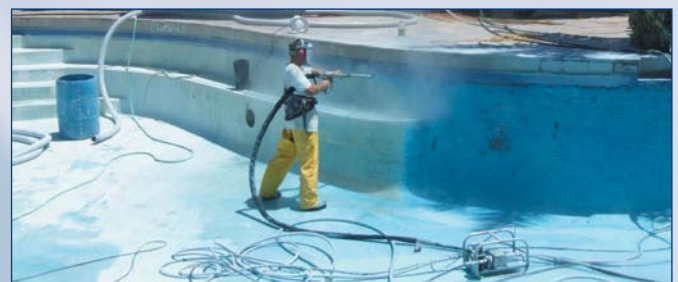
- No dust
- Noise greatly reduced
- Superior substrate bonding surface
- Does not create additional structural damage
- Selectively removes inferior concrete
- Re-bar is cleaned, descaled and undamaged
- Is faster than mechanical removal methods
- Minimises removal of sound concrete
- Washes away entrained chlorides and salts.

Hydroscarification

Hydroscarification is the ultimate method to prepare concrete for resurfacing where chemical attack has caused deterioration of the concrete surface. Ultra high pressure water at comparatively low flow rates is directed at the surface via a rapidly rotating nozzle assembly. This removes cancerous and spalling concrete rapidly, leaving a clean profile exposed that is ideal for bonding of newly applied concrete and flexible coatings.

The low water flow ensures the depth of removal is able to be accurately controlled, resulting in savings of new materials to be applied.

Typical applications for hydroscarification include renovation of the interior walls of water and sewer



Hydroscarification at work removing a coating from a swimming pool.

tunnels, remediation of concrete building facades, remediation of the walls of concrete tanks and removal of coatings from swimming pools.

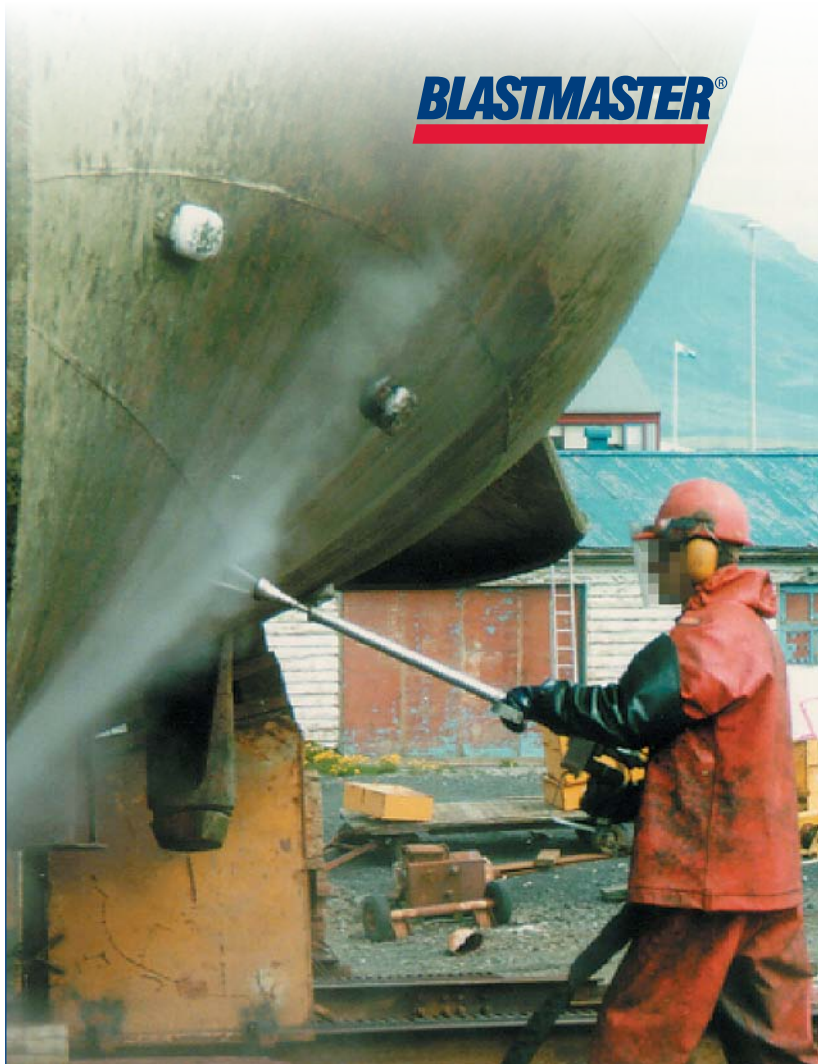
As in hydrodemolition, reinforcing bars can be exposed, cleaned and descaled without the mechanical damage caused by other methods, such as grinding, jackhammering or chipping.

Paint and Rust Removal

Considering all the factors, Blast-One's UltraBlast™ is consistently more efficient in removing thick paint and rust.

In addition to achieving a quality surface, water jetting:

- significantly simplifies clean-up and disposal
- minimises operating and maintenance costs
- can be performed in most environments
- drastically reduces airborne pollutants
- removes invisible contaminants (eg. entrapped chlorides)
- is virtually dust-free, so won't damage nearby equipment and other trades can continue to work nearby
- has minimal water consumption.



Hand lancing brings the benefits of water jetting to hard-to-reach areas.

Which Pressure?

Blast-One water jet equipment is available in a wide range of pressures to suit your application. You should match pressure to the task as follows (general guidelines only; please call Blast-One for specific advice):

- To remove loose, flaking paint or build-ups of grease, oil and heavy mineral deposits – 5,000 to 10,000 psi (350 to 700 bar);
- To remove rust blisters and flaking paint without disturbing very tightly bonded paint – 10,000 to 20,000 psi (700 to 1,400 bar);
- For complete removal, down to bare metal – ultra-high pressure, 20,000 to 40,000 psi (1,400 to 2,800 bar).

Airborne Pollutants Table

Method	Micrograms of Lead per Cubic Metre
Wet Abrasive Blasting	5
High-Pressure Water Jetting: 20,000 to 40,000 psi (1,400 to 2,800 bar)	8
Hand and Powered Tool Cleaning	680
Containment with Recyclable Metallic Media	3,015
Open Air Abrasive Blasting	13,439

Source: National Shipbuilding Research Program, 1998

Protective Equipment

Our aim is to offer a broad range of protective equipment and technically advanced work wear featuring high levels of comfort and safety. This range was the first with CE-marked products for UHP protection and has kept up with the highest standards that emerge with the technical development of pumps and accessories, and the demands of users. These unique products use special fabrics containing the worlds strongest fibre – Dyneema®.

Features and Benefits

- Contains the worlds strongest fibre – Dyneema® – for ultimate protection
- Lightweight and very comfortable.



Sigma Complete Kit

Offering very good protection. All you need to be protected and dry. Ventilation is available as an option. The Kit includes: Waistcoat and Overall with integrated Hand Protection.
Size: S, M, L, XL, 2XL, 3XL.



Delta Complete Kit

Offering very good protection and excellent comfort. The Kit includes: Waistcoat, Trousers and Hand Protection.
Size: S/M, L/XL, 2XL/3XL.



Gamma Complete Kit

Provides comprehensive protection and high comfort. The Kit includes: Trousers and Jacket with integrated Hand Protection.
Size: S/M, L/XL, 2XL/3XL.

Protection level	Pressure (bar)	Flow (l/min)	Nozzles		RPM	Distance (mm)	Speed (m/s)	Result
			n	Dia. (mm)				
10/28	1000	19.8	1	1.0	-	75	0.5	No penetration
10/28	2800	18.8	2	0.6 / 0.6	3000	75	0.5	No penetration
20/30	2000	17.9	1	0.8	-	75	0.5	No penetration
20/30	3000	19.5	2	0.6 / 0.6	3000	75	0.5	No penetration

Test Levels for Clothing – the different levels of protection offered by our Protective Equipment

Safety Equipment

Maximising job safety is one of Blast-Ones' specialties – that's why we carry an extensive range of Personal Protective Equipment for Water Jetting applications.

The power of high pressure water jetting cannot be underestimated and our range of products will help keep you safe from possible injury.

Also available in our Safety Equipment range are safety signs, whip checks and educational DVDs.



On-site Training Schools



Boots with fixed Aluminium Gaiters provide excellent comfort and mobility



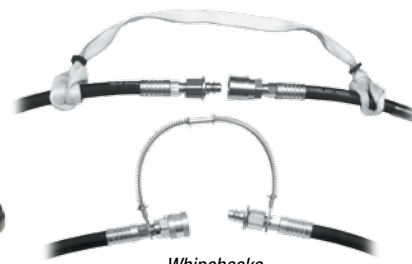
Hose Protectors



Boots with Aluminium Gaiters



Wellington Boots



Whipchecks (Stocking and Wire Versions)



Face Shields



Safety DVD



Ear Plugs



A-Frame Warning Signs

Rental Equipment

Water jetting is just one of many specialties at Blast-One.

There is a vast range of products ready for hire when you need them – anything from a Decontamination Trailer to Dust Extraction Fans. Our fleet is fully maintained and checked prior to shipping – when you are ready to start work, you are guaranteed the first class quality and reliability that you can always expect from Blast-One.

Call us on 1800 882 229 for more information.



Our Rental Fleet can be hired for virtually any length of time to suit your needs.

Abrasive Recycling



Allows you to use Abrasive over and over again for maximum cost savings.

Abrasive Vacuum Equipment



A highly efficient vacuum system that can suck up spent used abrasives and collect it at a central point ready for recycling or disposal.

Multi Outlet Blast Machine



Super production! Bulk Blast Units mounted on skid or yard-towable trailer for multiple operators.

Decontamination Unit



For hazardous dusts. Trailer includes Hot Water Heater, Shower and Water Filtration Unit.

Dehumidifier



Paint in all weather conditions. Heavy Duty, Rugged Aluminium Construction.

Dust Collection Equipment



Heavy Duty, Mobile Dust Collectors – rated for Lead Filtration.

Plural Component Sprayer



Spray quick-curing hybrid materials quickly and easily and minimise solvent usage.

Containment Systems



Control your overspray and hazardous dusts with a wide range of Filter and Containment Sheetting.



BLASTMASTER®



**Australian & Asia Pacific
Corporate Headquarters**
1-12 Bruce Avenue
Marleston 5033, South Australia

Toll Free **1800 882 229**
Tel **+61 8 8292 2000**
Fax **+61 8 8292 2001**
Email **sales@blastmaster.com.au**
Web **www.blastmaster.com.au**

North American region
2400 Landmark Way
Columbus, OH 43219
USA

Toll Free **1-877-7 BLAST 1**
Tel **+1 614 476 3000**
Fax **+1 614 476 6939**
Email **sales@blast-one.com**

UK & Europe region
12-24 Willow Way
London SE26 4QP
UK

Tel **+44 845 381 2000**
Fax **+44 845 381 2001**
Email **sales.uk@blast-one.com**