



**SUPER LANCE SYSTEM**  
Hydrodemolition accessories

**Efficiency  
in every stroke**



**AQUAJET<sup>®</sup>**



## **SUPER LANCE SYSTEM**

Hydrodemolition accessories

# More than a lance

More than just a lance, it's a comprehensive solution featuring elbows, lance extensions, and various nozzle options. Designed for maximum control over concrete removal depth, operators can achieve the ideal result with numerous configuration possibilities. From navigating obstacles with elbows to customizing length with stacked extensions, each element serves a crucial role, empowering contractors with effective problem-solving capabilities. Supercharge your Aqua Cutters' versatility with the Super Lance System.

The Super Lance system is a well-thought-out solution to enhance Aquajets already innovative hydrodemolition robots. The system doesn't only include a lance, but multiple parts — such as elbows, lance extensions and different nozzle options — to give operators more control over the concrete removal depth and as many options as possible to achieve an ideal result.

Each element of the Super Lance system serves an important purpose to help contractors problem solve. Elbows help operators navigate tricky obstacles while lance extensions can be stacked to create the correct length required for the application. This way the Super Lance System increase the versatility of its line of Aqua Cutters by allowing for several configurations.

### **The Aqua Cone® solution**

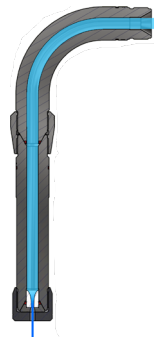
The Super Lance System is based on Aquajet's standardized Aqua Cone® that makes several configurations possible. It features unique elbows compatible with all hose adapters that can be stacked to go around obstacles as needed. It also offers several nozzle types, lances, lance extensions, as well as the dual and triple nozzle heads, to provide contractors with greater versatility.

It is also compatible with Aquajet's ceramic nozzles engineered for extreme durability. With an expected lifetime of 350 hours, Aquajet's ceramic nozzles provide industry-leading longevity, cost savings and productivity to maximize efficiency on the toughest jobs.

# The Super Lance system

Endless options for any application

The foundation of the Super Lance system lies in our standardized Aqua Cone®, enabling versatile configurations. Components marked with a red ring are 3000 bar-rated, featuring the Aqua Cone® with M36x2 thread and our dependable 60° high-pressure soft seal. All Aqua Cone® ends with a male cone boast left-hand threading, ensuring flexibility in adjusting position angles, a key feature that applies to all elbows within the system.



## The lance

At the core of the system is the lance, all other system components seamlessly connect to either end of the lance. Multiple lance models are offered, accommodating various lance bracket types, lengths, and robot models.

## The elbows

Elbows featuring a red ring on the female side are equipped with the standardized Aqua Cone®, ensuring compatibility with the following components:

- » All hose adapters
- » All nozzle types
- » All lances
- » All elbows with female Aqua Cone® (stackable for maneuvering around obstacles)
- » All lance extensions
- » Dual nozzle head
- » Triple nozzle head

Some elbows are available with a direct hose connection, eliminating the need for an adapter. These do not bear the red ring and are not suitable for the components listed above. Our 90° Smooth-Bend® elbows, rated at 3000 bar, are unique in the high-pressure water industry, ensuring a turbulence-free flow.



## Hose adapters

Every hose adapter is equipped with Aqua Cone® at one end, designed to seamlessly connect with elbows but also compatible with any other Aqua Cone® end.

## Nozzles

There are two compatible nozzle types – the Aquajet ceramic nozzles and standard M10x1.5 with a conical seal.

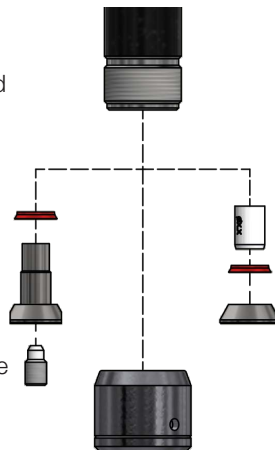
Both nozzle types are suitable for the following components:

- » All lances
- » All elbows with a female Aqua Cone®
- » All lance extensions

Aquajet Ceramic nozzles specifically fit the following components:

- » Dual nozzle head
- » Triple nozzle head

Note: M10 nozzles are not compatible.



Aquajet Ceramic Nozzles boast a long lifespan, providing extreme control of water flow through the orifice. With an efficiency rating of 98%, the water jet remains effective up to 1 meter away from the nozzle.

## Dual and Triple nozzle heads

Compatible with any Aqua Cone® end, these nozzle heads can be seamlessly utilized with:

- » All lances
- » All elbows with female Aqua Cone®
- » All lance extensions
- » All Rotolances (with an Aqua Cone® adapter)

## Wear cap

We offer our standard Wear Cap with an estimated lifespan of 20-30 hours.

## Seal

The entire system employs a single seal type – our dependable 60° high-pressure soft seal. This seal is utilized in all Aqua Cone® joints and on the nozzles. It is reusable, and in the event of replacement, only one type of seal needs to be stocked.

## Lance extensions

All lance extensions feature Aqua Cone® at both ends, suitable for use both above and below the lance. For achieving the desired length, multiple extensions can be stacked. Please be aware that when using lance extensions, it is crucial to significantly reduce oscillation speed and stroke.

## Modular system

With complete compatibility among all components, the system proves invaluable for tackling a wide array of challenging tasks.

Explore special configurations such as:

- » Lance extension positioned between the lance and elbow
- » Stacked elbows for connecting the high-pressure hose at a different angle
- » Elbow at the end of the lance for adjusting the nozzle angle
- » Stacked elbows and lance extensions to shift the nozzle impact point.



# Divide the power

with the Dual and Triple nozzles

Optimize precision and efficiency with our cutting-edge nozzle innovations. The Dual and Triple nozzle heads are perfect for shallower removals, as they disperse the waterjet impact across multiple points, effectively extending the covered area.

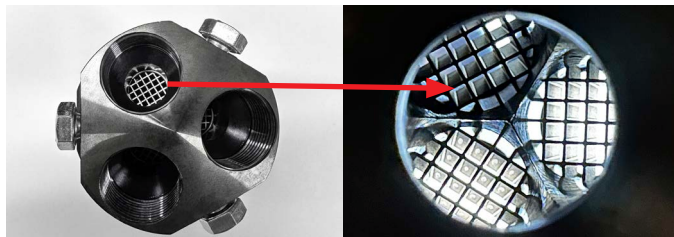
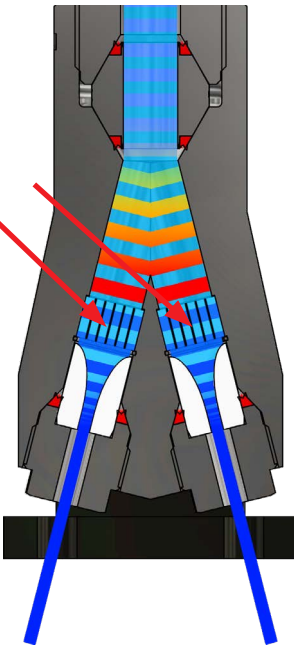
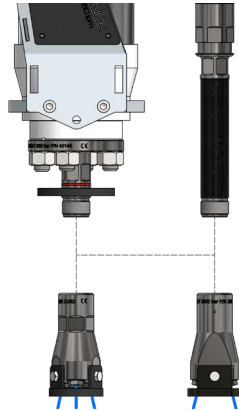
Dual and triple nozzle heads work with lances, lance extensions and Rotolances. The dual and triple nozzle heads split the waterjet to impact the concrete at multiple points, allowing it to cover more surface area in each pass. This allows an operator who is working with a very powerful high-pressure pump, for example, to effectively execute a shallower removal (25.4 to 50.8 millimeters or 1 to 2 inches). Without the dual/triple nozzle, a contractor with a 500-600 horsepower pump would typically maximize speed and oscillation to avoid cutting too deeply. But this can compromise the quality of the result.

### Aquajet ceramic nozzles

Using Aquajet's acclaimed ceramic nozzles and seals, the Dual and Triple Nozzle Heads guarantee consistent and reliable performance, upholding the highest quality standards synonymous with the Aquajet brand.

### Laminar flow

The Dual and Triple Nozzle heads feature our unique LFD® (Laminar Flow Director) concept. The innovative LFD® design effectively eradicates turbulence right before water enters the nozzles, ensuring operational efficiency comparable to using two or three separate lances.



Traditional setups experience turbulence when the flow of water changes direction or passes through diameter variations, disrupting the water jet's flow through the orifice and diminishing its effectiveness. The LFD® design mitigates this issue, maintaining a smooth flow and optimizing the water jet's performance.

### Versatile performance in a compact package

The Dual and Triple Nozzle Heads from Aquajet are ideal for scenarios involving high-powered pumps to remove shallow areas.

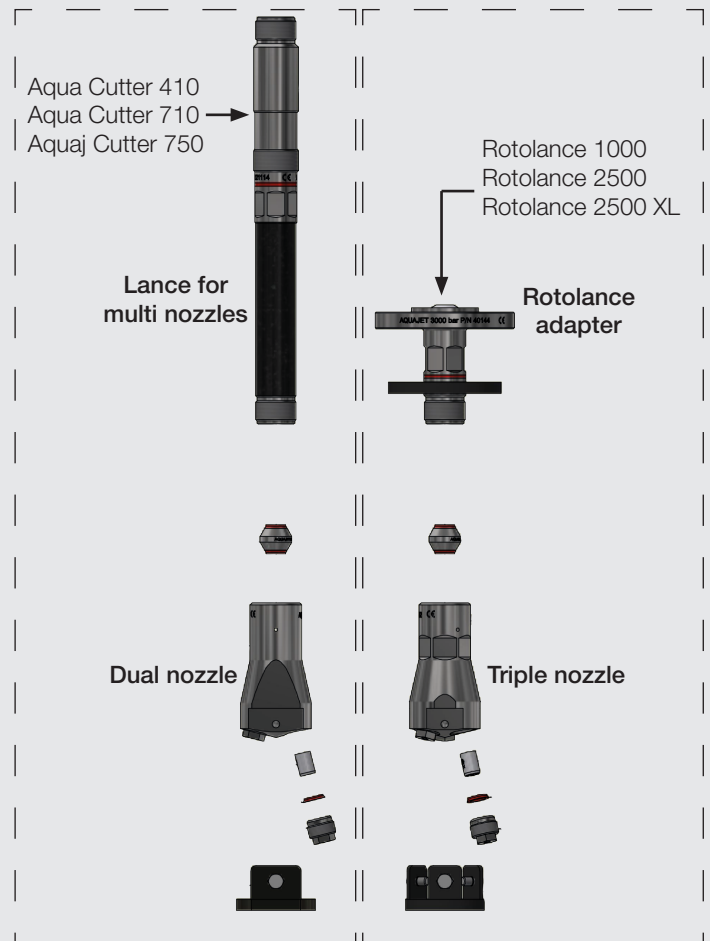


In contrast to a single nozzle setup, employing these nozzle heads eliminates the need for the robot to move at high speeds for optimal results or reduce pump power. The intentional design of the nozzle heads, being both compact and lightweight, ensures the robot can fully unleash its potential, delivering efficient and precise hydrodemolition in various applications.

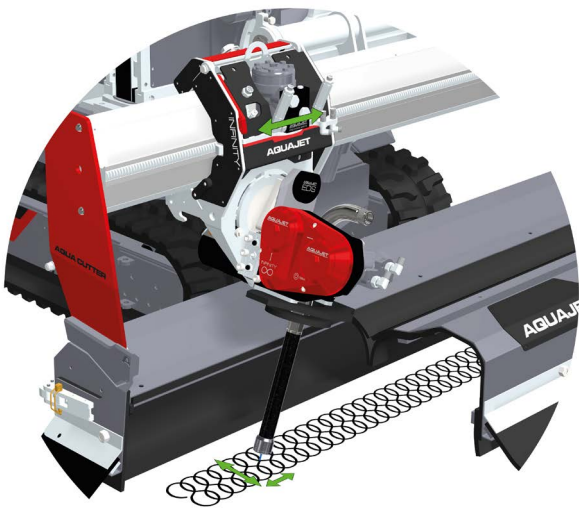
### Dual and Triple nozzles compatibility

Compatible with any Aqua Cone® end, these nozzle heads can be seamlessly utilized with:

- » All lances
- » All elbows with female Aqua Cone®
- » All lance extensions
- » All Rotolances (with an Aqua Cone® adapter)



## SINGLE, DUAL AND TRIPLE NOZZLES



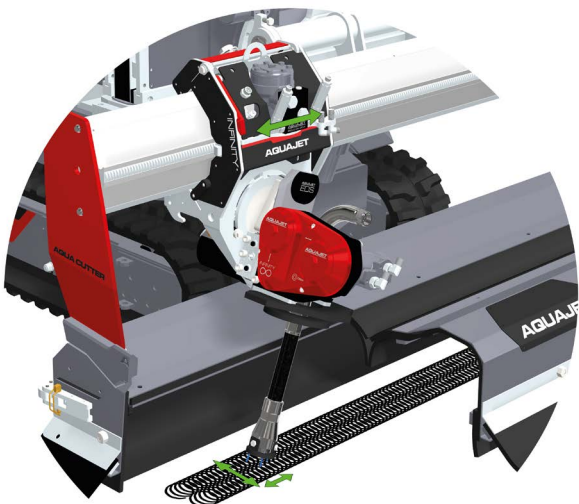
### Single nozzle

The Single Nozzle concentrates all power into a single impact point, providing the most effective and fast concrete removal. With a scattered oscillation pattern, it excels in deeper cuts of 50 mm or more. Compatible with Aquajet ceramic nozzles and standard M10x1.5 with a conical seal, it seamlessly fits all lances, elbows with a female Aqua Cone®, and lance extensions.



### Dual nozzle

The Dual Nozzle divides water jet power into two impact points, narrowing the oscillation pattern. Perfect for shallower removals where the robot's automatic speeds may fall short in smoothing the cut surface (typical depth 20-80 mm). Compatible with any Aqua Cone® end, this nozzle seamlessly integrates with all lances, elbows featuring female Aqua Cone®, lance extensions, and Rotolances (with an Aqua Cone® adapter).



### Triple nozzle

The Triple Nozzle further divides water jet power, covering three times more area for consistently smooth cuts, even at shallow depths of 10-50 mm. Compatible with any Aqua Cone® end, this nozzle seamlessly integrates with all lances, elbows with female Aqua Cone®, lance extensions, and Rotolances (with an Aqua Cone® adapter).

**Note!** All rendered images of the oscillation when using a single, dual and triple nozzle is made with an Aqua Cutter 750V and the Infinity oscillation system.

# PARTS

