



**LOVE THE WAY IT LAST**

**LASTING DIAMOND (HK) TECHNOLOGY COMPANY LIMITED  
LASTING TECHNOLOGY (SHENZHEN) CO.,LTD**

Office Add: Add: Suite 913, 9/F., Chinachem Golden Plaza, No.77 Mody Road, Tsim Sha Tsui, Kowloon, Hong Kong

Plant Add: Build. B, No 43, Jiaoyu Middle Road, Longgang District, Shenzhen, China

Tel: +86 755 28918612

Fax: +86 755 28911062

Email: [sales@waterjetdiamond.com](mailto:sales@waterjetdiamond.com)

Web: [www.waterjetdiamond.com](http://www.waterjetdiamond.com)

**LASTING DIAMOND TECHNOLOGY for UHP  
FLUID APPLICATION. UP to 6000 Bar.**



**MICROJET TECHNOLOGY for 40 MICRON ORIFICE BORE.**

**LASTING DIAMOND TECHNOLOGY  
PRODUCTS CATALOG**



**QUALITY THAT BLASTS AWAY INDUSTRY NORMS**

Lasting Diamond Technology manufactures each of our UHP nozzle orifice with the highest quality materials and precision machining techniques in the industry. Each nozzle is equipped with heat treated stainless steel mounts, aerospace grade retainers, and 100% quality inspection, to ensure:

- Maximized orifice life
- Consistent jet stream profile and coherency
- Needlejet Quality
- Reduced downtime

# Directory

---

Company Profile

---

Ultra Sapphire & Natural Diamond

---

Ultra Sapphire Oirifices

---

Natural Diamond Oirifices

---

Waterjet Abrasive Cutting Heads

---

Ultra High Pressure Swivels

---

High-pressure Pump Control Valves

---

UHP Valves, Fittings & Tubing

---

Ceramic Plunger & Carbide Plunger

---

## OUR COMPANY

Located in Hong Kong and Shenzhen, Lasting Diamond(HK) Technology developed their skills through many years' experience in High Pressure Fulid industry up to 6000 bar of the founders to become one of the most competitive companies in the field of diamond technology and UHP components technology.

We aim to supply the UHP Diamond & Sapphire insert nozzles/orifices, as well as UHP components at the most competitive pricing along with the ultra long LASTING performance .

Our diamond insert nozzles and HP components are widely used on the application of HP waterjet cutting, HP deburring, HP cleaning, HP processing (HPP), HP micronization, supercritical fluid extraction and so on, up to 6000 Bar.



LASTING Orifice Nozzle For UHP Fluid Application  
Such as waterjet cutting, deburring, cleaning,  
micronization, supercritical fluid extraction and  
so on application.

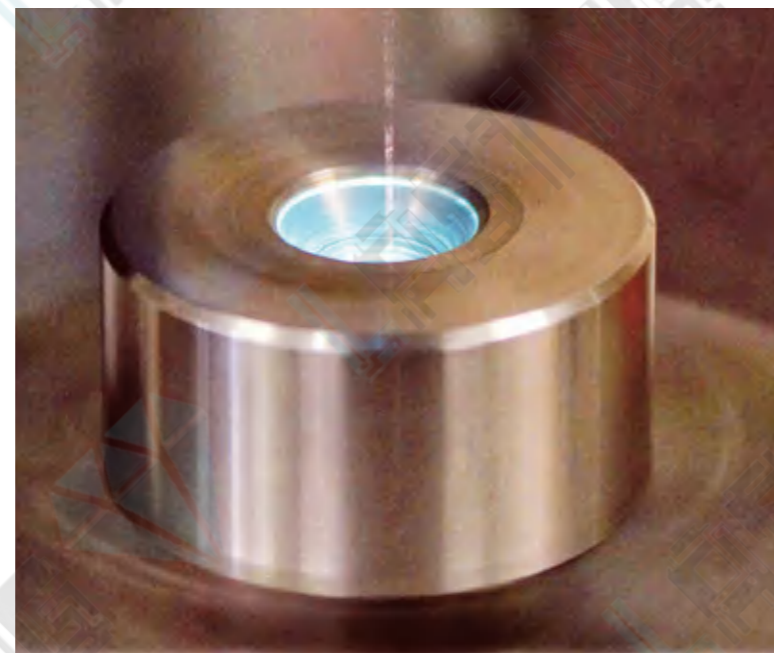
JET STREAM RELIABILITY  
OPTIMUM PRODUCTIVITY  
PERFORMANCE CONSISTENCY  
HIGHEST COST PERFORMANCE  
UP TO 6000 BAR

## PRODUCT FEATURES & BENEFITS

### QUALITY THAT BLASTS AWAY INDUSTRY NORMS

Lasting Diamond (HK) Technology manufactures each of our standard water orifice with the highest quality materials and precision machining techniques in the industry. Each nozzle is equipped with heat treated, stainless steel mounts, aerospace grade retainers, and 100% quality inspection, to ensure:

- Maximized nozzle life
- Consistent jet stream profile and coherency
- Superior blasting performance
- Reduced downtime

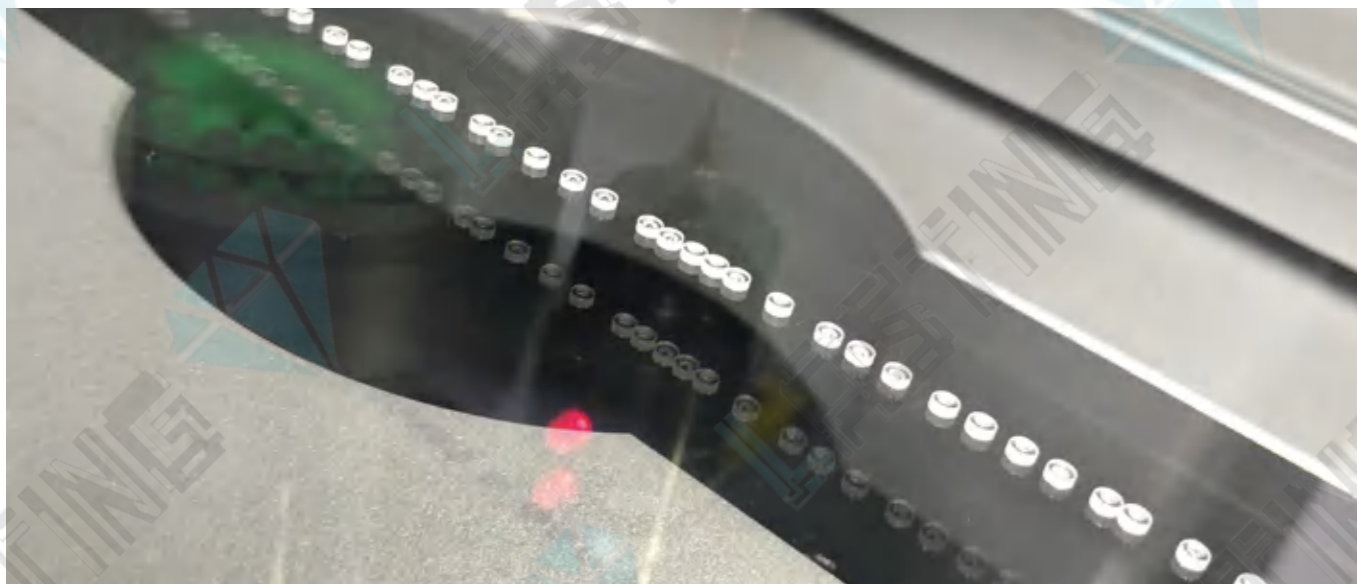


## ▶ We offer both Sapphire and Diamond options.

### Ultra Sapphire PRODUCT FEATURES

- Utility Grade: Long life
- High jet stream coherency
- Max jet stream length
- Premier sapphire material quality
- Aerospace grade mounting & retaining materials
- 100% quality inspected

Sapphire (chrome corundum) is an ideal nozzle material because it is resistant to wear, heat and corrosion, and has low friction. The sapphire single crystal material we choose has undergone special treatment, and implemented nano-scale polishing after the inner hole is formed, so as to achieve zero porosity, almost chemical inertness and extremely wear-resistant. Under the same pressure conditions, compared with conventional gemstone nozzles on the market, the speed at which the inner hole of our gemstone is washed and deformed by the fluid can be reduced by 20% to 30%.

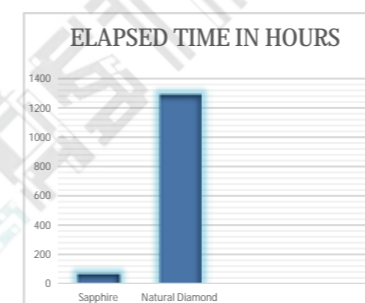


## ▶ Natural Diamond PRODUCT FEATURES

- Performance Grade: 15 to 20 Times longer life than Sapphire
- 100% tested at 60K psi
- Zero ID edge degradation over use
- Premium jet stream coherency & integrity
- Optimized jet stream length and consistency
- Maximized uptime and productivity

Although Natural Diamond Nozzles are most ideal for Ultra High Pressure Fluid applications, sapphire remain a commonly used nozzle material. While sapphire, also known as corundum, is still utilized in the industry today for non-critical applications, due to its inherent material characteristics it does not hold up well to impacts from on/off cycles, metal debris from high pressure lines, or abrasive particles that collide with the orifice edges. Any of these impacts can render the jewel useless in an instant. It takes only one impact on the inlet edge of a ruby or sapphire to chip it, causing jet stream quality failure.

Besides the natural diamond nozzles made by Lasting Diamond (HK) Technology have about 50% less cost than other international competitors, at an affordable price point, allowing you to go the distance with your production without costly downtime to change out unreliable nozzles.



## Ultra Sapphire Orifices

Sapphire orifice jewels can be used for UHP water jet applications (up to 60,000 PSI), oil atomizing and the handling of air, hot gases and practically all liquids and acids. Lasting Diamond Technology has developed a unique skill of the orifice hole processing and an advanced hole structure design, which contributes the top performance of our sapphire orifices for Waterjet cutting, Waterblasting and Micro-jet application.

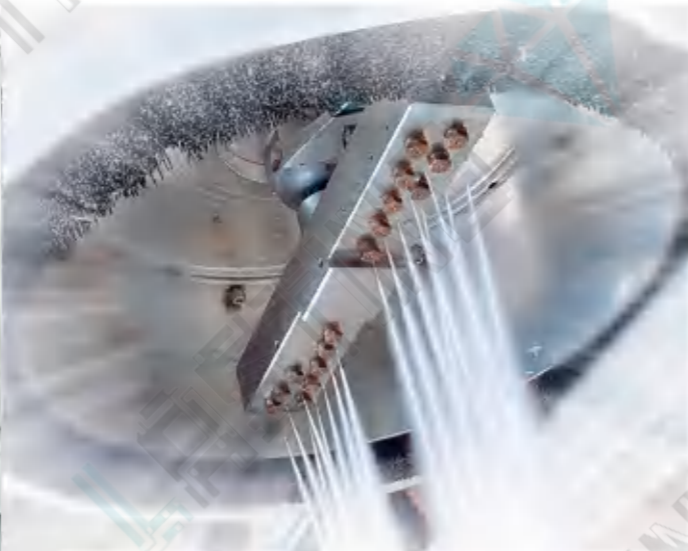
We are thrilled to introduce your Lasting Ultra Sapphire Orifice, made of a new special single-crystal material with the highest purity and processed by an innovative Nano-polishing method on the orifice bore, provides the longest lifespan among all the current regular water-jet sapphire orifices products at the market. Ideal and perfect solution or UHP water-only blasting or cutting and abrasive cutting.



Micro-jet Technology Support  
Smallest Bore : 50 Micron

### PRODUCT FEATURES

- High jet stream coherency
- Aerospace grade mounting materials
- Superior retaining method
- HIGHEST COST PERFORMANCE



## Natural Diamond orifices

Micro-jet Technology Support  
Smallest Bore : 40 Micron



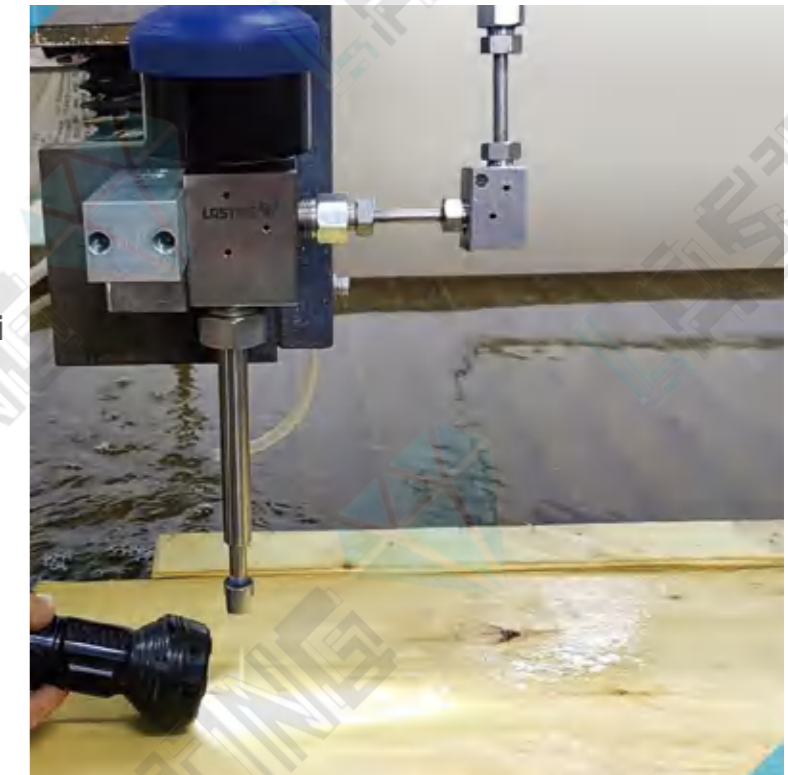
These orifices have inserts made of diamond, the hardest and most wear resistant material available. The longer lifetime of a diamond orifice not only results in a reduction of the number of orifices used. It also means the orifice keeps its accuracy and precision for a longer period. This allows for a better performance and a significantly reduced system down-time for orifice replacement and system calibration.

All together the use of Long Life Orifices will make the entire process more cost-effective.

Lasting Diamond Technology offers a wide assortment of diamond orifices for just about any job. All orifices are built to OEM specifications and in partnership with system manufacturers. For greater productivity and lower overall costs, performance can be tailored to the exact job requirements.

### PRODUCT FEATURES

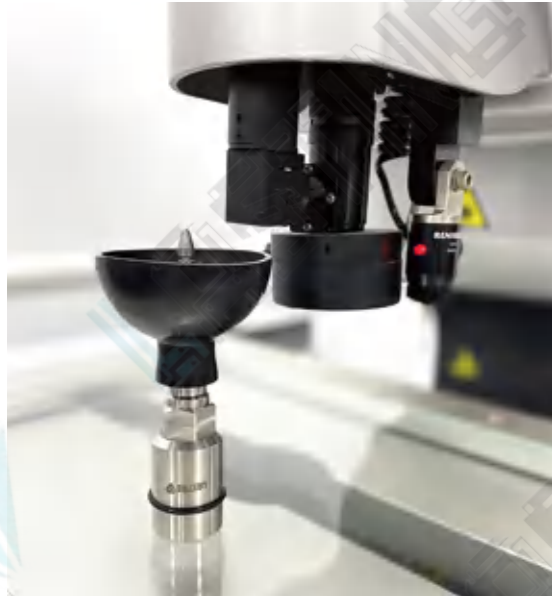
- Typical 1,000+ hours of life under 60Kpsi
- 100% tested at 40K psi
- Long needle-jet
- Greatest cutting speeds
- Zero ID edge degradation over use



# Waterjet Abrasive Cutting Head - Diamond Integrated

These orifices have inserts made of diamond, the hardest and most wear resistant material available. The longer lifetime of a diamond orifice not only results in a reduction of the number of orifices used. The diamond integrated cutting head made by Lasting Diamond (HK) Technology brought you joined the most elite cutting head technologies in the industry with affordable pricing point, versatile design and leading new features in the waterjet industry. Lasting Diamond Technology offers a wide assortment of diamond orifices for just about any job. All orifices are built to OEM specifications and in partnership with system manufacturers. For greater productivity and lower overall costs, performance can be tailored to the exact job requirements.

Regular types: Maxjet5i Diamond Nozzle, IDE II Cutting Head, IDE III Cutting Head, IDE PRO Cutting Head, Paser4 Cutting Head, Slices 2



Our precision engineering combines accuracy, reliability and speed with the demand for versatility and durability, meanwhile our precision aligned technology optimized jet stream alignment and greater cutting speeds.

Equipped with natural diamond and Nano composite carbide inside, our diamond integrated cutting head provide long lasting performance over 1000 hrs.

## CUSTOM CUTTING HEAD SOLUTIONS

Lasting Diamond (HK) Technology offer custom solution for OEMs and distributors in need of anything from design assistance to complete product development. Our ability to create high quality results centered on your cutting head and to bring the cost of your cutting head assembly, ensure your product remaining competitive at the market.



Our Goal:

To make the diamond cutting head affordable for each abrasive waterjet system.



## Lasting Diamond Cutting Head Technology

- ✓ 360° Abrasive Inlet Rotation
- ✓ Roctec500 Carbide Insert
- ✓ Greater Cutting Speeds
- ✓ Easier Multi-Axis Cutting
- ✓ Natural Diamond Inside
- ✓ Precision Multi-Axis Cutting
- ✓ Optimized Jet Stream Alignment
- ✓ Superior Edge Quality

## Ultra High Pressure Swivels

Freedom of Movement. Flexible Power for Every Purpose!

Used in high pressure waterjet applications, multiple axis cutting and other plumbing applications, HP swivels allow the cutting head to move freely without putting excess strain and tension on the high pressure line or connections. Lasting Diamond Technology's line of HP Swivels allow for easy maintenance and leak detection without removing the swivel from its mounted location.

Ideally suited for a variety of motion applications reducing line tension.

### BENEFITS Up to 6000 Bar

- REDUCE HP LINE TENSION
- ANY APPLICATION
- MAXIMIZED TUBING LIFE
- BUILT TO LAST



## HIGH-PERFORMANCE Pneumatic Valve and High cycle On/Off repair kit for UHP Waterjet System

LASTING HIGH-PERFORMANCE PNEUMATIC VALVE AND HIGH-CYCLE REPAIR KIT FOR WATER-ONLY CUTTING AND ABRASIVE CUTTING APPLICATIONS.

**LASTING**

[waterjetdiamond.com](http://waterjetdiamond.com)

AIM FOR LONG LASTING AND FAST RESPONDING.

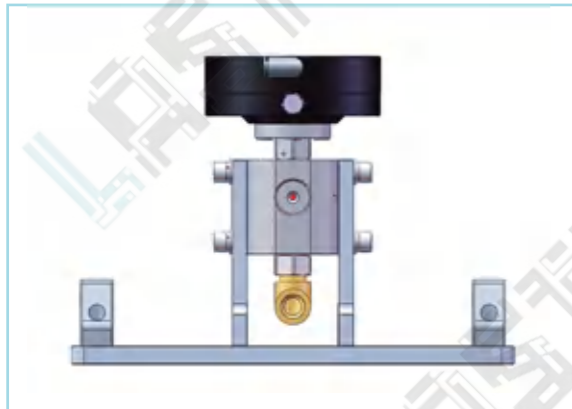
### QUALITY THAT BLASTS AWAY INDUSTRY NORMS

- Normally closed design provides fail-safe operation, shutting off the waterjet if electricity or air pressure fail.
- High speed response when opening or closing.
- Designed for high frequency operation - with the maximum cycle performance offered. Maximum Cycle Rate: 60 cycles / min
- High cycle On/Off repair kit last over **200,000** times on/off cycles under 60 kpsi. Built of aerospace grade material .



## ▶ Pump Control Valves

We are professional in designing and manufacturing different types of valve tools for controlling the High pressure system, such as Pneumatic unloading valves ,Pneumatic Pressure Regulating Valve,Overflow Cartridge manual type Pressure Regulating Valve and so on. Up to 4500 Bar. These valves allow operators to remotely control the high- pressure water flow while operating or divert a portion of the flow to a low-pressure outlet to control pressure when the application requires less flow at the work site or allow multiple operators to work from one high- pressure pump meanwhile maintain full pressure to all operators while the flow is split, even when the other tool is dumping.



## ▶ UHP Valves, Fittings and Tubing

To help you safely plumb your high-pressure system, LASTING offers a complete range of needle valves, fittings and accessories made from high tensile 316 stainless steel, which meet the the high demands on storage and transport of fluid, gas and supercritical liquid .

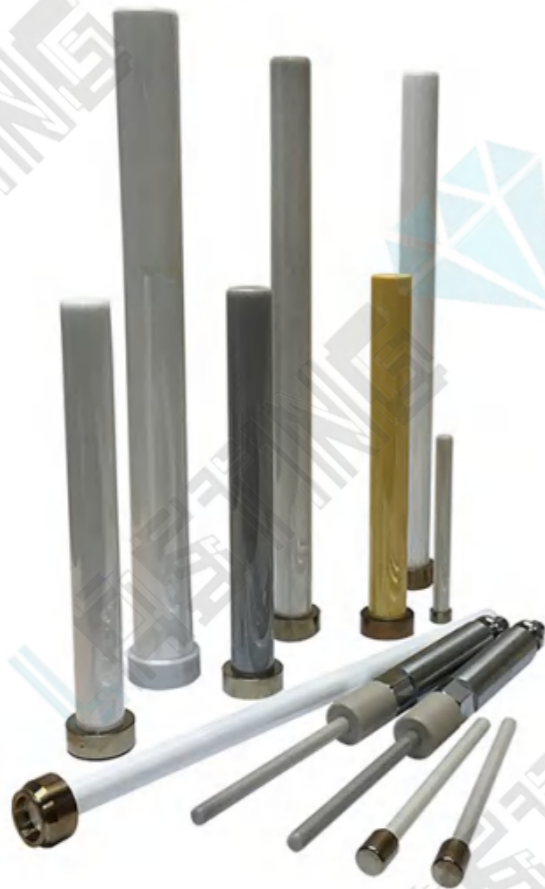
Fittings include couplings, elbows, T- pieces, Y- pieces and crosses, for all tubing connection sizes, as well as bulkhead couplings and tubing end caps. We also offer a family of adapters and couplings to help facilitate changes in tubing sizes. Up to 66,000 PSI ( 4550 Bar ). LASTING's standard tubing family is cold drawn 316 stainless steel, seamless, and is supplied in the 1/8" hard condition (not annealed). Tensile strength is approximately 40 percent higher than that of annealed tubing. Coned and threaded nipples are available to help connect your system.





## ► *Zirconia Ceramic Plunger*

- High fracture toughness, wear resistance, and corrosion resistance.
- Lightweight
- Superior surface finishes, Ra0.008um
- Extremely tight tolerances and finishes, result in smooth operating cylinders and improving lifespan of sealing kits
- Optional Premium Grade pass through Hot Isostatic Pressing, result in ultra low porosity approaching zero.
- Working pressure up to 6000 Bar
- The only solution for deionized-water condition



Customized services for your pumps.

## ► *Cemented Carbide Plunger*

- High compressive strength, wear resistance, and corrosion resistance.
- Superior surface finishes, Ra0.02um
- Extremely tight tolerances and finishes, result in smooth operating cylinders and packing life.
- Working pressure up to 4500 Bar



Customized services for your pumps.