

An orifice focuses the diameter of the waterjet and shapes it into a fine stream for cutting. Sapphire, Synthetic and Diamond are the most common materials used to focus the stream.



### **Omnijet Waterjet Sapphire Orifices**

Our Sapphire Orifices are lab grown using the highest quality materials and finished using a propriety polishing process to ensure consistent quality, high performance and long life in waterjet applications. Jet Edge Sapphire Orifices have a larger radius on the I.D. bore to reduce the risk of damage to the lead-in edge during cutting. They have a shorter coherent stream but are an excellent choice for users where the water quality is less than ideal and cut quality less critical.



### **Omnijet Waterjet tetraCORE Orifices**

Our tetraCORE Orifices are precision engineered under tightly controlled conditions. tetraCORE approaches the hardness and wear resistance of Diamond, while offering prices compared to Sapphire. They are manufactured with a smaller radius on the I.D. bore when compared to our Sapphire Orifices to produce a long and smooth coherent stream for cutting. tetraCORE Orifices provide 10-15 times more expected life than Sapphire.



### **Omnijet Waterjet Diamond Orifices**

Our Diamond Orifices are the “go-to” standard for waterjet cutting. Guaranteed against failure due to any defect for 600 hours when used with our Short Stop Hp Filter. Each of our Diamond Orifices are cut in a way to ensure strength through the elimination of stress points and oriented to utilize its strongest and most resistant surface. Diamond Orifices provide the highest combination of quality, cut speeds and life expectancy at over 2000 hours when cleaned as needed and used with our Short Stop Hp Filter.



### **Omnijet Waterjet High Performance Orifices**

Our High Performance Orifices are lab grown using the highest quality materials and finished using a propriety polishing process to ensure consistent quality, high performance and long life in waterjet applications. They produce the longest, smoothest coherent stream for cutting compared to any orifice and are 100% tested. When compared to a standard orifice, the long, solid core stream produced is nearly 3 times longer. It is best suited for cutting thicker materials (e.g. foam, rubber, etc.) or for cutting products where wetting/staining of the cut edge is of concern such as wood grain for the automotive industry.

### Selecting your Jet Edge OmniJet Waterjet Orifice

1. **Choose your Performance Standard:** Consider your application and performance requirement and choose your Orifice type.
  - a. **Sapphire Orifices** –Sapphire Orifice are more susceptible to damage than a tetraCORE or Diamond Orifice so they are more commonly used in less critical applications or when users are changing sizes frequently. Expect a life of up to 80 hours depending upon application and water quality.
  - b. **tetraCORE Orifices** – tetraCORE Orifices last 10 to 15 times longer than the Sapphire Orifice. You will experience longer orifice life and less downtime with tetraCORE and ultimately, lower production costs. We do recommend cleaning the tetraCore Orifice every 300 hours depending on your water quality to remove deposits if needed.
  - c. **Diamond Orifices** – Diamond Orifices provide the highest combination of quality, cut speeds and life expectancy. Expect over 2,000 hours of orifice life with each Diamond Orifice as well as an additional 15% longer nozzle life when used in combination with a Short Stop Filter. High volume, quality oriented shops choose Diamonds due to higher quality cuts and less downtime between orifice changes.
  - d. **High Performance Orifices** – High Performance Orifices provide the smoothest, most coherent water stream for cut quality. They are the same material as our Sapphire Orifices with a different finishing process and mount. They are more susceptible to damage than our other orifices due to their small radius on the lead-in bore of the orifices, but are the most effective when used for cutting thicker materials (2"+) and for products where wetting of the cut edge is of concern. Expect a life of up to 80 hours depending upon application and water quality. As in all waterjet cutting applications, water quality is important to extend orifice life.
2. **Choose your Orifice I.D.:** Orifice I.D.'s are selected relative to the the water flow capacity of the UHP pump, the number of orifices supplied by the pump, and the cutting application. A smaller I.D. provides greater precision for intricate shapes and a higher cut finish quality on thinner materials. A larger I.D. allows for greater water flow and provides for a faster cut. For thinner materials, a smaller orifice would be more cost effective. See the ***Selecting an Orifice Size Chart*** for flow rates.

## Extending the Life of your Jet Edge Omnijet Waterjet Orifice



### Short Stop Filter Assembly

The Jet Edge Short Stop Filter is an in-line filter that prevents line-borne contaminants from reaching your HP On/Off Valve Needle and Seat as well as your waterjet orifice. The filter is designed to simply and effectively capture debris larger than .0055 that leads to damage of the needle and seat and orifice resulting in premature failure and higher maintenance costs. When the Short Stop Filter is used with the Omnijet Waterjet Diamond Orifices, you are covered by a 600hr Orifice Guarantee.

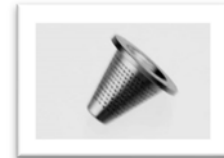
**Short Stop Filter Assembly, 3/8" M X 1/4" F, 60K PSI, P/N 104707.** The filter assembly consists of the parts shown below. The parts can be purchased separately if you need to replace an item. To upgrade an existing Standard Adapter Assembly to a Short Stop Filter Assembly, simply replace the Standard Cone with the 60K PSI Short Stop Adapter P/N 104708 and Short Stop Filter P/N 104709.



Short Stop Body P/N 110825



3/8" Short Stop Adapter P/N 104708



Short Stop Filter P/N 104709

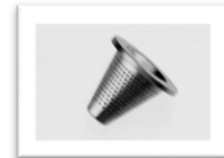
**Short Stop Filter Assembly, 3/8" M X 1/4" F, 100K PSI, P/N 110976.** The filter assembly consists of the parts shown below. The parts can be purchased separately if you need to replace an item. To upgrade an existing Standard Adapter Assembly to a Short Stop Filter Assembly, simply replace the Standard Cone with the 100K PSI Short Stop Adapter P/N 110978 and Short Stop Filter P/N 104709.



Short Stop Body P/N 110977



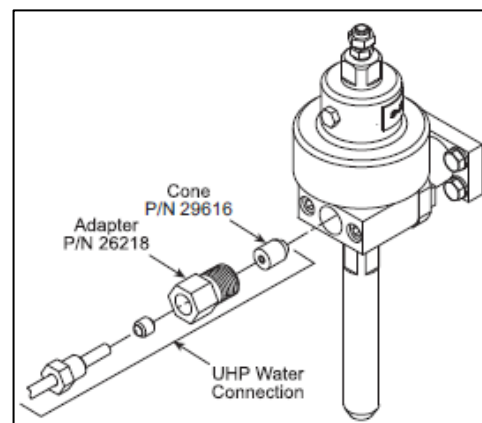
3/8" Short Stop Adapter P/N 110978



Short Stop Filter P/N 104709

### In-line Filter Installation and Maintenance

In most cases, the filter assembly is installed just prior to the HP On/Off Valve as shown in the illustration, replacing the Standard Adapter P/N 26218. The Short Stop Filter is inserted into the Short Stop Adapter and then nested with the Short Stop Body. The Short Stop Filter should be checked, cleaned, or replaced every 400hrs depending upon water quality.





## Omnijet Waterjet Orifices

### Omnijet Waterjet Sapphire Standard Orifice Assemblies

Part Number	Jewel Insert and I.D. (7/16 - 20 Thread)	Price Breaks			
		Qty 1 - 23	Qty 24 - 47	Qty 48 - 95	Qty 96+
36874003	Omnijet Sapphire Standard Orifice Assembly, .003" I.D.	Call for Deal			
36874004	Omnijet Sapphire Standard Orifice Assembly, .004" I.D.	Call for Deal			
36874005	Omnijet Sapphire Standard Orifice Assembly, .005" I.D.	\$24.00	\$21.60	\$19.20	\$18.00
36874006	Omnijet Sapphire Standard Orifice Assembly, .006" I.D.	\$24.00	\$21.60	\$19.20	\$18.00
36874007	Omnijet Sapphire Standard Orifice Assembly, .007" I.D.	\$24.00	\$21.60	\$19.20	\$18.00
36874008	Omnijet Sapphire Standard Orifice Assembly, .008" I.D.	\$24.00	\$21.60	\$19.20	\$18.00
36874009	Omnijet Sapphire Standard Orifice Assembly, .009" I.D.	\$24.00	\$21.60	\$19.20	\$18.00
36874010	Omnijet Sapphire Standard Orifice Assembly, .010" I.D.	\$24.00	\$21.60	\$19.20	\$18.00
36874011	Omnijet Sapphire Standard Orifice Assembly, .011" I.D.	\$24.00	\$21.60	\$19.20	\$18.00
36874012	Omnijet Sapphire Standard Orifice Assembly, .012" I.D.	\$24.00	\$21.60	\$19.20	\$18.00
36874013	Omnijet Sapphire Standard Orifice Assembly, .013" I.D.	\$24.00	\$21.60	\$19.20	\$18.00
36874014	Omnijet Sapphire Standard Orifice Assembly, .014" I.D.	\$24.00	\$21.60	\$19.20	\$18.00
36874015	Omnijet Sapphire Standard Orifice Assembly, .015" I.D.	\$24.00	\$21.60	\$19.20	\$18.00
36874016	Omnijet Sapphire Standard Orifice Assembly, .016" I.D.	\$24.00	\$21.60	\$19.20	\$18.00
36874018	Omnijet Sapphire Standard Orifice Assembly, .018" I.D.	\$24.00	\$21.60	\$19.20	\$18.00
36874020	Omnijet Sapphire Standard Orifice Assembly, .020" I.D.	\$24.00	\$21.60	\$19.20	\$18.00
37111021	Omnijet Sapphire Standard Orifice Assembly, .021" I.D.	\$38.00	Call for Deal		
37111022	Omnijet Sapphire Standard Orifice Assembly, .022" I.D.	\$38.00	Call for Deal		
37111023	Omnijet Sapphire Standard Orifice Assembly, .023" I.D.	\$38.00	Call for Deal		
37111024	Omnijet Sapphire Standard Orifice Assembly, .024" I.D.	\$38.00	Call for Deal		
37111027	Omnijet Sapphire Standard Orifice Assembly, .027" I.D.	\$38.00	Call for Deal		
37111030	Omnijet Sapphire Standard Orifice Assembly, .030" I.D.	\$38.00	Call for Deal		
37111032	Omnijet Sapphire Standard Orifice Assembly, .032" I.D.	\$38.00	Call for Deal		
37111034	Omnijet Sapphire Standard Orifice Assembly, .034" I.D.	\$38.00	Call for Deal		
37111036	Omnijet Sapphire Standard Orifice Assembly, .036" I.D.	\$38.00	Call for Deal		
37111038	Omnijet Sapphire Standard Orifice Assembly, .038" I.D.	\$38.00	Call for Deal		
37111040	Omnijet Sapphire Standard Orifice Assembly, .042" I.D.	\$38.00	Call for Deal		
37111042	Omnijet Sapphire Standard Orifice Assembly, .042" I.D.	\$38.00	Call for Deal		

### Short Stop Filter Assembly

Part Number	Description	Pricing
104707	Short Stop Filter Assembly, 3/8" M X 1/4" F, 60K PSI	\$185.00
110976	Short Stop Filter Assembly, 3/8" M X 1/4" F, 100K PSI	\$500.00
104709	Short Stop Filter	\$137.50



## Omnijet Waterjet Orifices

### Omnijet Waterjet tetraCORE Orifice Assemblies

		Price Breaks	
Part Number	Jewel Insert and I.D. (7/16 - 20 Thread)	Qty 1 - 5	Qty 6 +
109918005	Omnijet tetraCORE Orifice Assembly, .005" I.D.	\$149.00	Call for Deal
109918006	Omnijet tetraCORE Orifice Assembly, .006" I.D.	\$149.00	Call for Deal
109918007	Omnijet tetraCORE Orifice Assembly, .007" I.D.	\$149.00	Call for Deal
109918008	Omnijet tetraCORE Orifice Assembly, .008" I.D.	\$149.00	Call for Deal
109918009	Omnijet tetraCORE Orifice Assembly, .009" I.D.	\$149.00	Call for Deal
109918010	Omnijet tetraCORE Orifice Assembly, .010" I.D.	\$149.00	Call for Deal
109918011	Omnijet tetraCORE Orifice Assembly, .011" I.D.	\$149.00	Call for Deal
109918012	Omnijet tetraCORE Orifice Assembly, .012" I.D.	\$149.00	Call for Deal
109918013	Omnijet tetraCORE Orifice Assembly, .013" I.D.	\$149.00	Call for Deal
109918014	Omnijet tetraCORE Orifice Assembly, .014" I.D.	\$149.00	Call for Deal
109918015	Omnijet tetraCORE Orifice Assembly, .015" I.D.	\$149.00	Call for Deal

### Omnijet Waterjet Diamond Orifice Assemblies

		Price Breaks	
Part Number	Jewel Insert and I.D. (7/16 - 20 Thread)	Qty 1 - 5	Qty 6 +
37205004	Omnijet Diamond Orifice Assembly, .004" I.D.	\$475.00	Call for Deal
37205005	Omnijet Diamond Orifice Assembly, .005" I.D.	\$475.00	Call for Deal
37205006	Omnijet Diamond Orifice Assembly, .006" I.D.	\$475.00	Call for Deal
37205007	Omnijet Diamond Orifice Assembly, .007" I.D.	\$475.00	Call for Deal
37205008	Omnijet Diamond Orifice Assembly, .008" I.D.	\$475.00	Call for Deal
37205009	Omnijet Diamond Orifice Assembly, .009" I.D.	\$475.00	Call for Deal
37205010	Omnijet Diamond Orifice Assembly, .010" I.D.	\$475.00	Call for Deal
37205011	Omnijet Diamond Orifice Assembly, .011" I.D.	\$475.00	Call for Deal
37205012	Omnijet Diamond Orifice Assembly, .012" I.D.	\$475.00	Call for Deal
37205013	Omnijet Diamond Orifice Assembly, .013" I.D.	\$475.00	Call for Deal
37205014	Omnijet Diamond Orifice Assembly, .014" I.D.	\$475.00	Call for Deal
37205015	Omnijet Diamond Orifice Assembly, .015" I.D.	\$475.00	Call for Deal

### Short Stop Filter Assembly

Part Number	Description	Pricing
104707	Short Stop Filter Assembly, 3/8" M X 1/4" F, 60K PSI	\$185.00
110976	Short Stop Filter Assembly, 3/8" M X 1/4" F, 100K PSI	\$500.00
104709	Short Stop Filter	\$137.50



## OmniJet Waterjet Orifices

### OmniJet Waterjet Sapphire Hi Performance Orifice Assemblies

		Price Breaks	
Part Number	Jewel Insert and I.D. (7/16 - 20 Thread)	Qty 1 - 23	Qty 24 +
100546004	OmniJet Sapphire Hi Performance Orifice Assembly, .004" I.D.	\$50.00	\$45.00
100546005	OmniJet Sapphire Hi Performance Orifice Assembly, .005" I.D.	\$50.00	\$45.00
100546006	OmniJet Sapphire Hi Performance Orifice Assembly, .006" I.D.	\$50.00	\$45.00
100546007	OmniJet Sapphire Hi Performance Orifice Assembly, .007" I.D.	\$50.00	\$45.00
100546008	OmniJet Sapphire Hi Performance Orifice Assembly, .008" I.D.	\$50.00	\$45.00
100546009	OmniJet Sapphire Hi Performance Orifice Assembly, .009" I.D.	\$50.00	\$45.00
100546010	OmniJet Sapphire Hi Performance Orifice Assembly, .010" I.D.	\$50.00	\$45.00
100546011	OmniJet Sapphire Hi Performance Orifice Assembly, .011" I.D.	\$50.00	\$45.00
100546012	OmniJet Sapphire Hi Performance Orifice Assembly, .012" I.D.	\$50.00	\$45.00
100546013	OmniJet Sapphire Hi Performance Orifice Assembly, .013" I.D.	\$50.00	\$45.00
100546014	OmniJet Sapphire Hi Performance Orifice Assembly, .014" I.D.	\$50.00	\$45.00
100546015	OmniJet Sapphire Hi Performance Orifice Assembly, .015" I.D.	\$50.00	\$45.00
100546016	OmniJet Sapphire Hi Performance Orifice Assembly, .016" I.D.	\$50.00	\$45.00
100546018	OmniJet Sapphire Hi Performance Orifice Assembly, .018" I.D.	\$50.00	\$45.00
100546020	OmniJet Sapphire Hi Performance Orifice Assembly, .020" I.D.	\$50.00	\$45.00
100546024	OmniJet Sapphire Hi Performance Orifice Assembly, .024" I.D.	Call for Deal	
100546027	OmniJet Sapphire Hi Performance Orifice Assembly, .027" I.D.	Call for Deal	
100546030	OmniJet Sapphire Hi Performance Orifice Assembly, .030" I.D.	Call for Deal	
100546038	OmniJet Sapphire Hi Performance Orifice Assembly, .038" I.D.	Call for Deal	
100546040	OmniJet Sapphire Hi Performance Orifice Assembly, .040" I.D.	Call for Deal	

### Short Stop Filter Assembly

Part Number	Description	Pricing
104707	Short Stop Filter Assembly, 3/8"M X 1/4"F, 60K PSI	\$185.00
110976	Short Stop Filter Assembly, 3/8"M X 1/4"F, 100K PSI	\$500.00
104709	Short Stop Filter	\$137.50