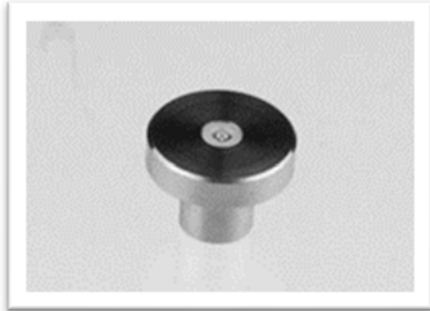
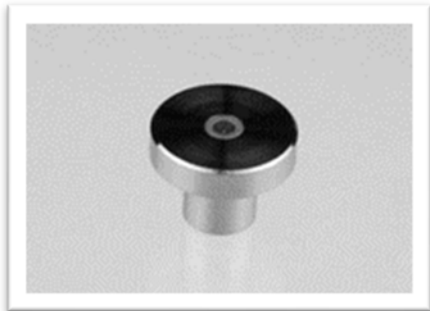


An orifice focuses the diameter of the waterjet and shapes it into a fine stream for cutting. Sapphire, Ruby, Synthetic and Diamond are the most common materials used to focus the stream.



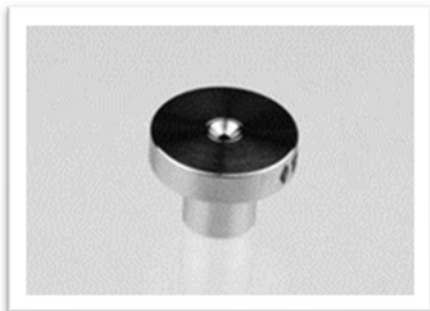
Permalign II Abrasive Sapphire Orifices

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.



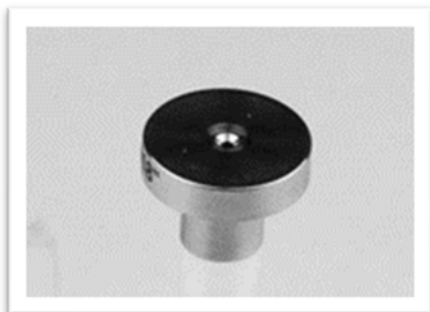
Permalign II Abrasive Ruby Orifices

Our Ruby 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. While our Ruby Orifices are the same material as our Sapphires, they are manufactured with a smaller radius on the I.D. bore. As a result they produce a longer, smoother coherent stream for cutting.



Permalign II Abrasive 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 Ruby and Sapphire. They are manufactured with a smaller radius on the I.D. bore when compared to our Sapphire and Ruby Orifices to produce the longest and smoothest coherent stream for cutting. tetraCORE Orifices provide 10-15 times more expected life than Sapphire and Ruby.



Permalign II Abrasive Diamond Orifices

Our Diamond orifices are the “go-to” standard for abrasive 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. The diamond mount employs a carbide wear insert on the exit end to protect the mount and diamond over its lifetime. Diamond Orifices provide the highest combination of quality, cut speeds and life expectancy at over 1000 hours.

Selecting your Jet Edge Permalign II Abrasive 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 abrasive application and water quality.
 - b. **Ruby Orifices** – Ruby Orifices provide a smoother, more coherent water stream for cut quality, but are the same material as our Sapphire Orifices. They are more susceptible to damage than a tetraCORE or Diamond Orifices 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.
 - c. **tetraCORE Orifices** – tetraCORE Orifices last 10 to 15 times longer than the Sapphire and Ruby Orifice. You will experience longer nozzle life and less downtime with tetraCORE and ultimately, lower production costs.
 - d. **Diamond Orifices** – Diamond Orifices provide the highest combination of quality, cut speeds and life expectancy. Expect over 1,000 hours of cut life with each Diamond Orifice as well as an additional 15% longer nozzle life when used in combination. High volume, quality oriented shops choose Diamonds due to higher quality cuts and less downtime between nozzle changes.
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. When combined with the appropriate nozzle, 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 and abrasive flow and provides for a faster cut. A general rule of thumb is to use a .014 orifice or larger when cutting materials $\frac{3}{4}$ " and thicker on a consistent basis. For thinner materials, a smaller orifice would be more cost effective. See the **Selecting an Orifice Size Chart** for flow rates.
3. **Match your Nozzle to your Chosen Orifice:** Jet Edge has a full line of nozzles to compliment your application. Consult our Permalign Nozzle catalog page to learn more.

Extending the Life of your Jet Edge Permalign II Abrasive 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 Permalign II Diamond Orifices, you are covered by a 600hr Orifice Guarantee.

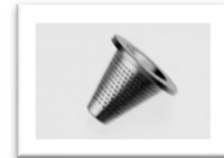
Short Stop Filter Assembly, 3/8" M X 1/4" F, 60K PSI, P/N 104707. The filter assembly consists of the parts shown below. The parts can be purchased separately if you need to replace an item. To upgrade an existing Standard Adapter Assembly to a Short Stop Filter Assembly, simply replace the Standard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

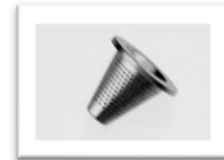
Short Stop Filter Assembly, 3/8" M X 1/4" F, 100K PSI, P/N 110976. The filter assembly consists of the parts shown below. The parts can be purchased separately if you need to replace an item. To upgrade an existing Standard Adapter Assembly to a Short Stop Filter Assembly, simply replace the Standard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



Short Stop Body P/N 110977



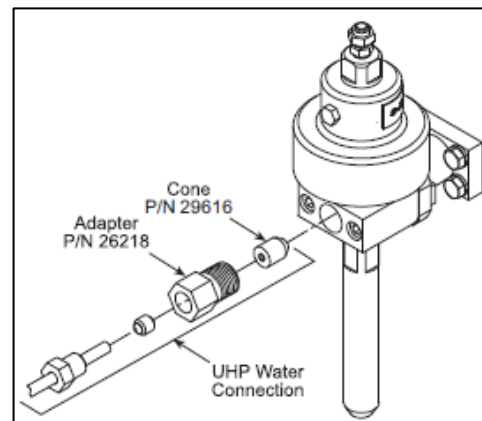
3/8" Short Stop Adapter P/N 110978



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.





Permalign II Abrasive Orifices

Permalign II Sapphire Abrasive Orifice

Price Breaks (For Quantities of 50 plus - call for deal!)

Part Number	Jewel Insert and I.D.	Qty 1 - 5	Qty 6 - 11	Qty 12 - 23	Qty 24 - 49
100159005	Permalign II Sapphire Orifice, .005" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
100159006	Permalign II Sapphire Orifice, .006" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
100159007	Permalign II Sapphire Orifice, .007" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
100159008	Permalign II Sapphire Orifice, .008" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
100159009	Permalign II Sapphire Orifice, .009" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
100159010	Permalign II Sapphire Orifice, .010" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
100159011	Permalign II Sapphire Orifice, .011" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
100159012	Permalign II Sapphire Orifice, .012" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
100159013	Permalign II Sapphire Orifice, .013" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
100159014	Permalign II Sapphire Orifice, .014" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
100159015	Permalign II Sapphire Orifice, .015" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
100159016	Permalign II Sapphire Orifice, .016" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
100159018	Permalign II Sapphire Orifice, .018" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
100159020	Permalign II Sapphire Orifice, .020" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
100159022	Permalign II Sapphire Orifice, .022" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
100159023	Permalign II Sapphire Orifice, .023" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
100159024	Permalign II Sapphire Orifice, .024" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
100159027	Permalign II Sapphire Orifice, .027" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
100159030	Permalign II Sapphire Orifice, .030" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
100159032	Permalign II Sapphire Orifice, .032" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
100159036	Permalign II Sapphire Orifice, .036" I.D.	\$18.00	\$16.20	\$14.40	\$13.95

Short Stop Filter Assembly

Price Breaks

Part Number	Description	Qty 1 - 5	Qty 6 - 11
104707	Short Stop Filter Assembly, 3/8"M X 1/4"F, 60K PSI	\$185.00	\$185.00
110976	Short Stop Filter Assembly, 3/8"M X 1/4"F, 100K PSI	\$500.00	\$500.00
104709	Short Stop Filter	\$137.5	\$123.75



Permalign II Abrasive Orifices

Permalign II Ruby Abrasive Orifice

Price Breaks (For Quantities of 50 plus - call for deal!)

<i>Part Number</i>	<i>Jewel Insert and I.D.</i>	<i>Qty 1 - 5</i>	<i>Qty 6 - 11</i>	<i>Qty 12 - 23</i>	<i>Qty 24 - 49</i>
101526003	Permalign II Ruby Orifice, .003" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
101526004	Permalign II Ruby Orifice, .004" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
101526005	Permalign II Ruby Orifice, .005" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
101526006	Permalign II Ruby Orifice, .006" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
101526007	Permalign II Ruby Orifice, .007" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
101526008	Permalign II Ruby Orifice, .008" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
101526009	Permalign II Ruby Orifice, .009" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
101526010	Permalign II Ruby Orifice, .010" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
101526011	Permalign II Ruby Orifice, .011" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
101526012	Permalign II Ruby Orifice, .012" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
101526013	Permalign II Ruby Orifice, .013" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
101526014	Permalign II Ruby Orifice, .014" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
101526015	Permalign II Ruby Orifice, .015" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
101526016	Permalign II Ruby Orifice, .016" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
101526018	Permalign II Ruby Orifice, .018" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
101526020	Permalign II Ruby Orifice, .020" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
101526023	Permalign II Ruby Orifice, .023" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
101526024	Permalign II Ruby Orifice, .024" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
101526027	Permalign II Ruby Orifice, .027" I.D.	\$18.00	\$16.20	\$14.40	\$13.95
101526030	Permalign II Ruby Orifice, .030" I.D.	\$18.00	\$16.20	\$14.40	\$13.95

Short Stop Filter Assembly

Price Breaks

<i>Part Number</i>	<i>Description</i>	<i>Qty 1 - 5</i>	<i>Qty 6 - 11</i>
104707	Short Stop Filter Assembly, 3/8"M X 1/4"F, 60K PSI	\$185.00	\$185.00
110976	Short Stop Filter Assembly, 3/8"M X 1/4"F, 100K PSI	\$500.00	\$500.00
104709	Short Stop Filter	\$137.5	\$123.75



Permalign II Abrasive Orifices

Permalign II tetraCORE Abrasive Orifice

		Price Breaks (For Quantities of 6 plus - call for deal!)	
Part Number	Jewel Insert and I.D.	Qty 1 - 5	Qty 6 +
109917007	Permalign II tetraCORE Orifice, .007" I.D.	\$149.00	Call for Deal
109917008	Permalign II tetraCORE Orifice, .008" I.D.	\$149.00	Call for Deal
109917009	Permalign II tetraCORE Orifice, .009" I.D.	\$149.00	Call for Deal
109917010	Permalign II tetraCORE Orifice, .010" I.D.	\$149.00	Call for Deal
109917011	Permalign II tetraCORE Orifice, .011" I.D.	\$149.00	Call for Deal
109917012	Permalign II tetraCORE Orifice, .012" I.D.	\$149.00	Call for Deal
109917013	Permalign II tetraCORE Orifice, .013" I.D.	\$149.00	Call for Deal
109917014	Permalign II tetraCORE Orifice, .014" I.D.	\$149.00	Call for Deal
109917015	Permalign II tetraCORE Orifice, .015" I.D.	\$149.00	Call for Deal
109917016	Permalign II tetraCORE Orifice, .016" I.D.	\$149.00	Call for Deal
109917017	Permalign II tetraCORE Orifice, .017" I.D.	\$149.00	Call for Deal
109917018	Permalign II tetraCORE Orifice, .018" I.D.	\$149.00	Call for Deal

Permalign II Diamond Abrasive Orifice

		Price Breaks (For Quantities of 6 plus - call for deal!)	
Part Number	Jewel Insert and I.D.	Qty 1 - 5	Qty 6 +
100158005	Permalign II Diamond Orifice, .005" I.D.	\$435.00	Call for Deal
100158007	Permalign II Diamond Orifice, .007" I.D.	\$435.00	Call for Deal
100158008	Permalign II Diamond Orifice, .008" I.D.	\$435.00	Call for Deal
100158009	Permalign II Diamond Orifice, .009" I.D.	\$435.00	Call for Deal
100158010	Permalign II Diamond Orifice, .010" I.D.	\$435.00	Call for Deal
100158011	Permalign II Diamond Orifice, .011" I.D.	\$435.00	Call for Deal
100158012	Permalign II Diamond Orifice, .012" I.D.	\$435.00	Call for Deal
100158013	Permalign II Diamond Orifice, .013" I.D.	\$435.00	Call for Deal
100158014	Permalign II Diamond Orifice, .014" I.D.	\$435.00	Call for Deal
100158015	Permalign II Diamond Orifice, .015" I.D.	\$435.00	Call for Deal
100158016	Permalign II Diamond Orifice, .016" I.D.	\$435.00	Call for Deal
100158018	Permalign II Diamond Orifice, .018" I.D.	\$435.00	Call for Deal

Short Stop Filter Assembly

		Price Breaks	
Part Number	Description	Qty 1 - 5	Qty 6 - 11
104707	Short Stop Filter Assembly, 3/8" M X 1/4" F, 60K PSI	\$185.00	\$185.00
110976	Short Stop Filter Assembly, 3/8" M X 1/4" F, 100K PSI	\$500.00	\$500.00
104709	Short Stop Filter	\$137.50	\$123.75