

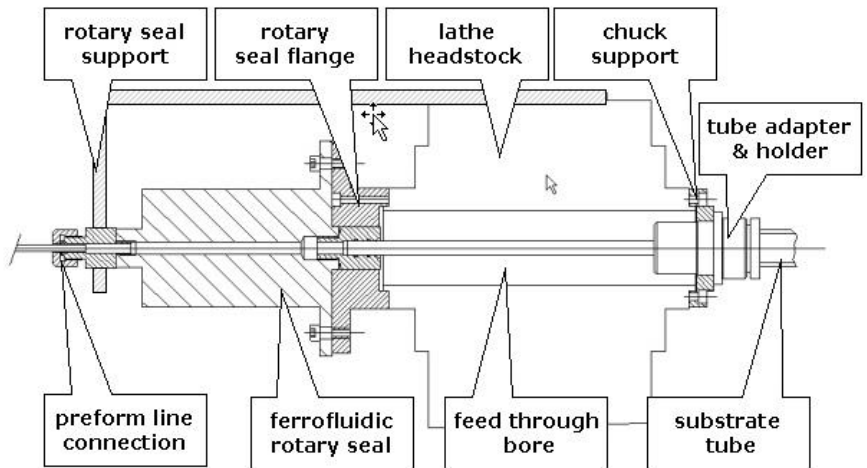
Rotary seal RSH-04

APPLICATIONS:

Rotary seal assembly RSH-04 is intended for use in **MCVD preform fabrication systems** or **collapsing lathes**, used in high volume production of single mode or multimode optical fiber preforms. Sealing between the stationary and rotating surface is made by ferrofluidic seal, which ensures excellent leak tightness, making this type of seal ideal for fabrication of **low water peak** fibers.

UNIQUE DESIGN:

RSH rotary seal is unique in its design as it separates the rotary seal from the substrate quartz tube connection point. This concept permits installation of the seal away from the heated part of the headstock, while reducing the length of required quartz inlet tube, thus improving overall cost.



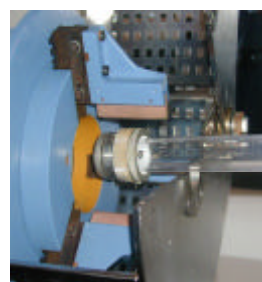
DESCRIPTION:

ROTARY SEAL: The sealing element between the stationary gas delivery tube and rotating quartz substrate tube is a rotary seal, made by Ferrotec™ Inc., using a combination of magnetic field and ferroelectric fluid to provide extremely high leak integrity. The seal body is mounted to the outside of the glass working lathe headstock. This seal has a proven industry record and requires minimal maintenance (see photo).



SUBSTRATE TUBE CONNECTION: Co-axial rotating tube passes through

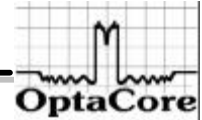
the bore of the headstock and carries process gasses from ferrofluidic seal to the substrate tube. Substrate



tube setting is made quick and easy by a combination of a special holder and tube adapter (see photo), which provides a leak-free, repeatable connection. Sealing between the two elements is stationary as the two parts rotate in unison. In this way the length of substrate or inlet tube is minimized, reducing raw material consumption and

increasing productivity.

Conduit section between rotary seal and tube adapter holder is made of coaxial tube structure, providing additional protection against contamination or leakage in case of malfunction. This coaxial structure can also be used to provide dual line connection to substrate tube or to provide sophisticated purge functions when producing **low water peak fibers** or using **special reagents**.



OPTIONS AND APPLICATIONS:

RSH seals can be installed on any type of glass working lathe (see below or call for details). Each assembly is delivered with a set of tube adapters, scroll chuck and rotary seal flanges and supports, and a set of tools for easy maintenance and troubleshooting.

MODEL	SEAL TYPE	APPLICATION	WETTED SURFACES
RSH-04	ferrofluidic Ferrotec™	low water peak fibers standard telecom fibers	glass or stainless steel
RSH-03	ellastomeric or fluoropolymers	for aerosol doping, with large CSA and/or sliding delivery tube	glass, fluoropolymers or stainless steel
RSH-02	ellastomeric or fluoropolymers	high temperature reagent delivery (Al, chelate or similar)	glass, fluoropolymers or stainless steel
RSH-01	ellastomeric	standard MCVD seal for low complexity applications	glass, fluoropolymers or stainless steel

ACCESSORIES & CUSTOM DESIGN

Order codes and available options are shown below. As rotary seal is one of the most important elements of preform fabrication system, we provide custom design of any part of the assembly, to ideally suit to

RSH ROTARY SEAL ASSEMBLY ORDER CODES

RSH - OX - N X - NNNN - N X

- > **preform line size**
 - 4 - 1/4"
 - 6 - 3/8"
 - 8 - 1/2"
- > **connection type**
 - T - tube butt
 - S - compression (Swagelok™)
 - V - gasket (VCR™)
- > **quartz tube adapter size (max. 4)**
 - 1 - tube OD 25 mm
 - 2 - tube OD 26 mm
 - 3 - tube OD 30 mm
 - 4 - tube OD 32 mm
 - 0 - custom made (specify)
- > **seal type (body to delivery tube)**
 - 1 - O-ring
 - 2 - High-performance (PTFE)
 - 3 - Ferrofluidic seal Ferrotec™
- > **lathe type**
 - F - Lefevre 92 mm bore
 - L - Litton
 - S - Special Gas Controls 80 mm bore
 - A - Arnold
 - H - Heathway
 - 0 - custom (specify)
- > **assembly type**
 - 1 - ellastomeric seal
 - 2 - HI-TEMP with heated tube
 - 3 - HI-SLIDE & HI-AREA
 - 4 - ferrofluidic rotary seal

customer's requirement and product specifications. Customer modifications include fitting to customers lathe and piping design, control system and quartz tube outer diameter. Versions for specific reagents or chemicals are available as well as and adaptations to different doping processes.

INSTALLATION & MAINTENANCE:

Installation is done by supplier, including initial customer training. Exact mechanical drawings of the lathe chuck assembly have to be provided.

It has to be refurbished by original supplier every 8 to 10 months of operation, regular maintenance requires only cleaning and purging.

SPECIFICATIONS (ferrofluidic only):

mounting position:	any
operating temperature	-15 to 60°C
max. relative humidity	70%
max. pressure difference	1 bar
leak rate	<10 ⁻⁹ mbar.l/s
max. rotational speed	> 1000 /min

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Note: Optacore reserves the right to change construction and/or specification of this product without notice.