

2.0mm Spinning Module

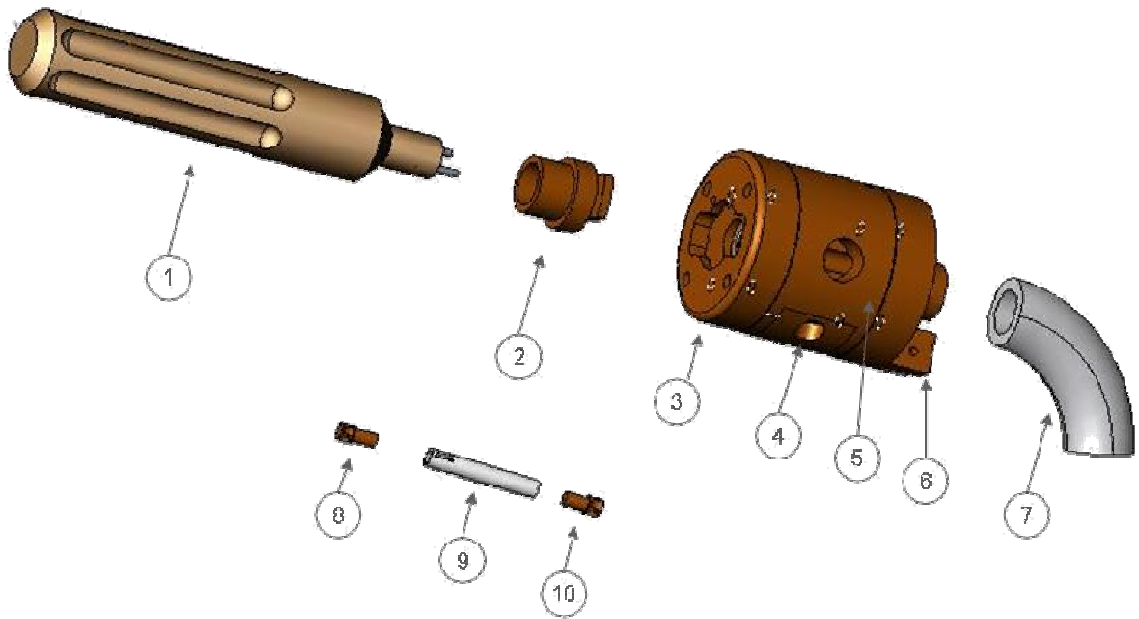


Figure 1, 2.0mm Spinning Module

Item #	Description	Item #	Description
1	Rotor retention cap removal tool	6	Module bottom cap
2	Rotor retention cap	7	Rotor ejection tube (optional)
3	Module top cap	8	Top drive cap
4	Coil platform	9	Rotor Sleeve
5	2.0mm Spinning module	10	Bottom drive cap

PLEASE READ THE FOLLOWING INSTRUCTIONS COMPLETELY AND FAMILIARIZE YOURSELF WITH THE COMPONENTS OF THE 2.0mm SPINNING SYSTEM.

The 2.0mm spinning module (See figure 1 & 2).

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The 2.0mm spinning module is designed to fit all standard Chemagnetics, Otsuka, and Varian probes. The bearing and drive holes require a 3/16 inch air support lines. If your bearing air support lines are larger please contact Revolution NMR and we can make adaptors for your probe. With the module top facing you the bearing is on the left and the drive is on the right as seen in figure 2. See the spinning chart provided with each module for bearing, drive, and associated spinning speeds. Please see the spinning chart provided with each module for bearing and drive pressures with their associated spinning speeds.

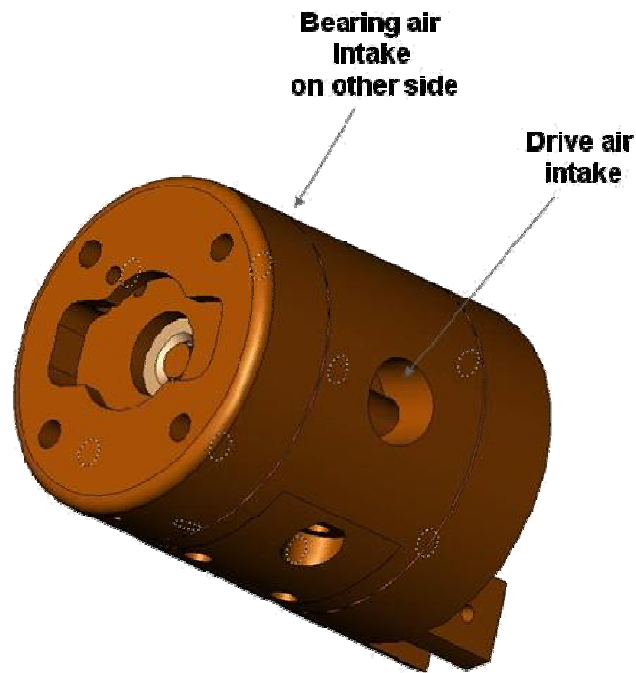


Figure 2, Bearing and drive ports.

Rotor retention cap

The rotor retention cap can be inserted or removed using the rotor retention cap removal tool, see figure 3. Insert the rotor retention cap removal tool into the small air release holes of the rotor retention cap. The module top cap is keyed to match the rotor retention cap. Insert the rotor retention cap into the modules top cap and rotate the rotor retention top cap by 90 degrees. To remove the rotor retention cap insert the rotor retention cap removal tool and rotate the cap until the keyed parts are aligned and pull.

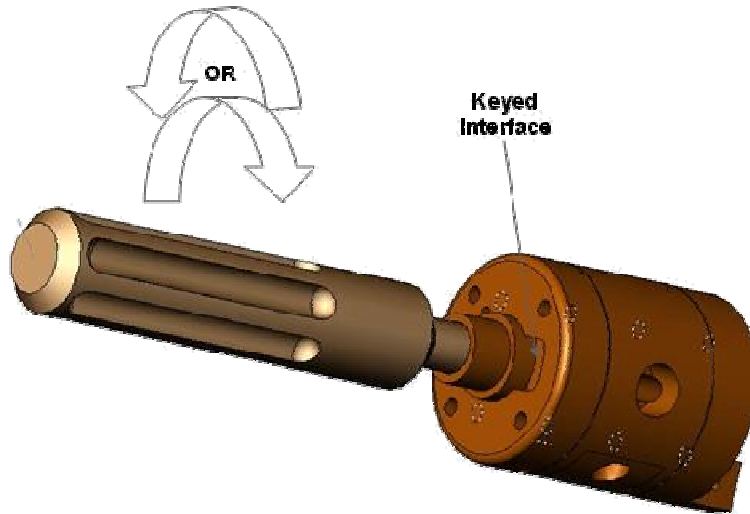


Figure 3, Rotor retention cap.

Drive caps

There is a top and bottom drive cap. You cannot spin a rotor with two top or bottom caps. Once the correct drive caps are used the rotor will spin in the clockwise direction (looking at the module from the top). The drive air will apply a force in the clockwise direction. Thus, the flat edge of the drive cap flutes need to be facing to the left (against the clockwise force of the air).

The rotor top drive cap should
Rotate in clockwise direction.

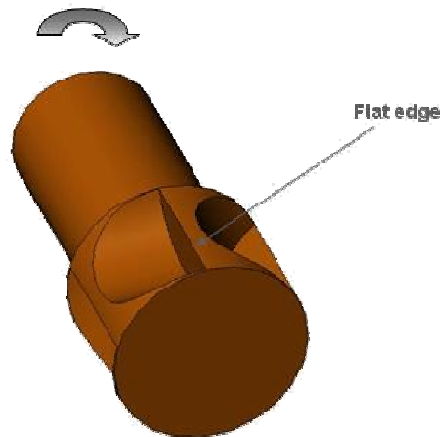


Figure 4, Top drive cap.

The 2mm rotor and drive caps are extremely difficult to handle manually. We strongly recommend the use of the Revolution NMR sample packing system (Part Number AMP4131-001). You can also download the sample packing system manual from our website at <http://www.revolutionnmr.com/manuals.shtml>. Please contact us for further information.

Fiber optics

Fiber optics can be inserted into the top of spinning module as seen in figure 5. The holes are drilled for a 0.029 inch diameter fiber optic. The fiber optics should be inserted until they are just above the rotor (Do not make contact with the rotor). The fiber optic holes should be snug enough to hold the fiber optics in place. A tach mark needs to be placed on the rotor. Use a black sharpe (permanent marker) and apply a mark about 50% of the rotor diameter on the fiber optic end of the rotor as seen in figure 5.

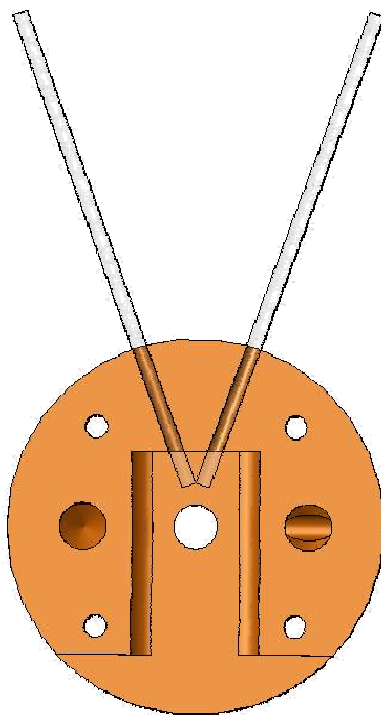


Figure 5. Fiber optic alignment (Cross sectional view of the spinning module).

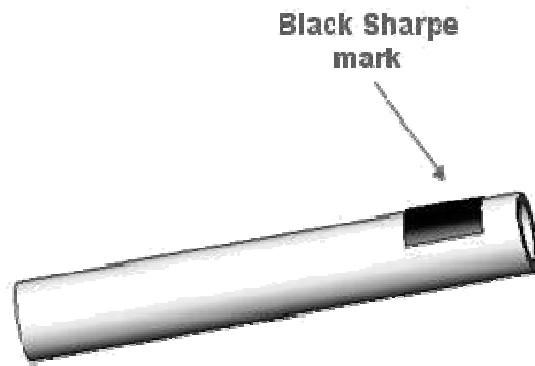


Figure 5, Rotor mark.

Rotor removal

There are two methods to remove the rotor from the spinning module. Both methods require you to remove the rotor retention cap. Method 1: Apply a small amount of air pressure through the rotor ejection tube (optional) which connects to the bottom cap of the module as seen in figure 1. Do not apply too much pressure or the rotor will shoot out of the module. Method 2: Place the rotor removal suction bulb tip at the face of the module. Squeeze the bulb with your fingers as seen in figure 6. Quickly release the pressure on the bulb in order to suck the rotor from the module.



Figure 6, Rotor removal suction bulb.