

# Sputtering Sensor Shutter Module

## Installation Instructions

### Introduction

The Sputtering Sensor Shutter Module installation kit was designed to facilitate the mounting of a pneumatic shutter module onto a sputtering sensor. The pneumatic shutter module is assembled and tested prior to shipment.

To install the pneumatic shutter module, you must have the following parts:

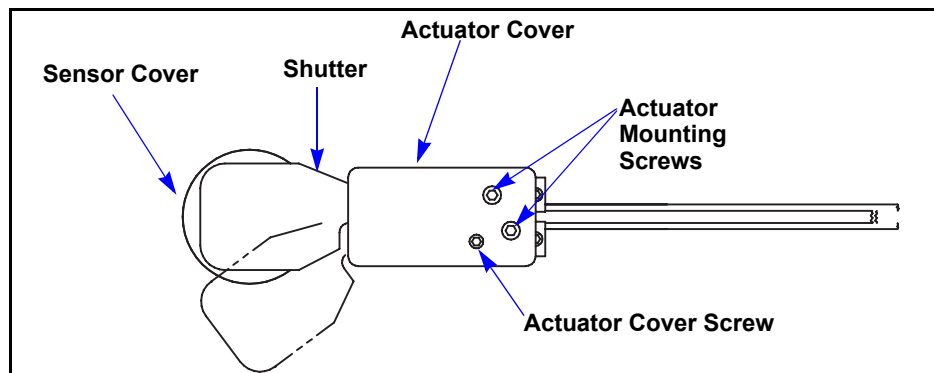
Item #	Qty.	Description	IPN
1	1	Pneumatic Shutter Assembly	750-005-G1
2	1	Sputtering Sensor Assembly	750-618-G1
<b>NOTE:</b> The following parts are listed as suggested equipment and may be ordered separately.			
3	1	1" Crystal Feedthrough with Airline (or equivalent)	750-030-G1
<b>OR</b>			
4	1	2 3/4" Single Coaxial Instrumentation Feedthrough Copper Gasket	002-043-G1
5	1	Shutter Control Valve Assembly	750-420-G1

### Installation

Before you begin the installation, refer to the illustrations to get an idea of how the parts are assembled. The shutter assembly may be installed onto a new Sputtering sensor or a used sensor in good condition.

- 1 Remove the actuator cover screw (4-40 x 3/16) on the shutter assembly and remove the actuator cover. See [Figure 1](#).
- 2 Remove two waterline clamp screws (4-40 x 1/4—not shown) and remove the clamp. See [Figure 1](#).

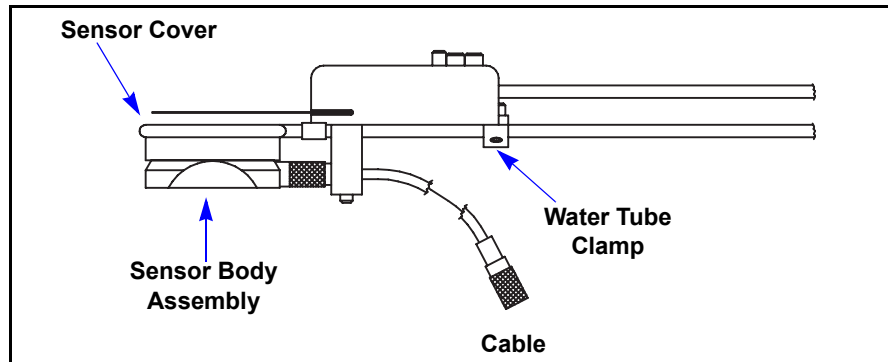
Figure 1 Top View



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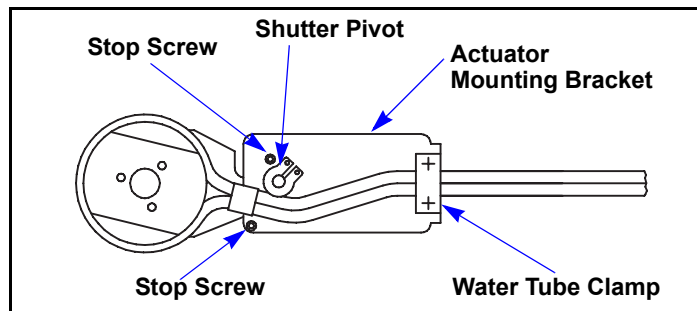
- 3 Remove the sensor body assembly from the sensor cover and set it in a clean, safe place. This is to protect the head during the installation. See [Figure 2](#).

Figure 2 Side View



- 4 Place the sensor cover on the shutter module assembly as shown in [Figure 3](#). The sensor water lines will fit between the shutter pivot and stop screw. Carefully bend the water lines as shown.

Figure 3 Bottom View



- 5 Position the water line clamp on the shutter assembly and install the two mounting screws. Tighten the screws finger tight.
- 6 Position the assembly as shown in [Figure 1](#). The shutter should cover the sensor cover as shown in [Figure 1](#). It may be necessary to align the sensor slightly to achieve correct positioning.
- 7 The plane of the shutter and sensor cover should be parallel as shown in [Figure 2](#). Again, it may be necessary to align the sensor slightly to achieve correct positioning.
- 8 Tighten the two water line clamp screws.
- 9 Manually rotate the shutter away from the sensor cover as shown in [Figure 1](#); operation should be smooth and unobstructed.

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- 10** Install the actuator cover on the shutter actuator assembly and install the actuator cover screw (4-40 x 3/16). Refer to [Figure 1](#).
- 11** Install the sensor body assembly into the sensor cover. The assembly will now appear as [Figure 2](#).

### Testing Procedure

**NOTE:** Test procedures apply to shutter operation only.

To perform the test, connect a temporary air supply (100 PSIG max.) to the actuator airline and test operation (10-25 cycles). Shutter movement should be smooth, rapid and complete when operated at 90-95 PSIG. When activated, the shutter should rotate away from the crystal opening. When deactivated, the shutter should retract completely over the crystal opening. If operation is impaired, lubricate the moving parts with molybdenum disulfide in isopropyl alcohol provided (IPN 750-191-G1).

### Maintenance

The sensor module should be dismantled and lubricated with molybdenum disulfide in isopropyl alcohol (IPN 750-191-G1) approximately every 2000 strokes in the areas specified on DWG 750-005 (see [Figure 4](#)). Failure to lubricate may significantly reduce life of operation or cause the assembly to become totally inoperative.

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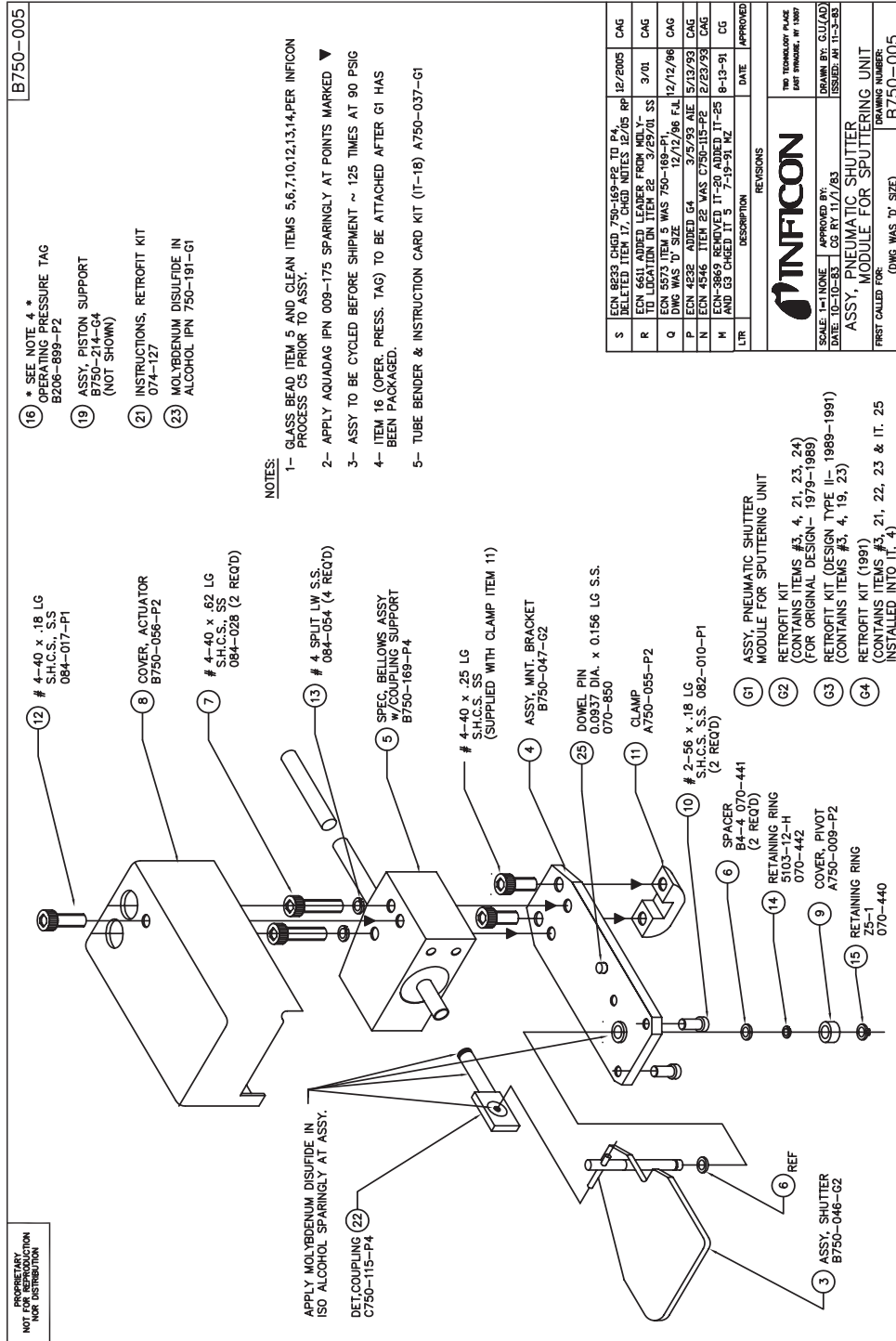


Figure 4 Drawing 750-005



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