

Ion beam preparation products and plasma cleaners

# Fischione Instruments preventive maintenance program

*Protect your investment and your budget with Fischione Instruments preventive maintenance program. Fischione offers annual preventive maintenance services for ion beam preparation and plasma cleaning products. A preventive maintenance program reduces the risk of unexpected repair costs and instrument downtime.*

## Annual preventive maintenance performed on site or at Fischione

Preventive maintenance task	Model 1040 NanoMill® TEM specimen preparation system	Model 1080 PicoMill® TEM specimen preparation system	Model 1050 TEM Mill Model 1060 SEM Mill	Model 1020 Plasma Cleaner Model 1070 NanoClean
Evaluate instrument and instrument operation	✓	✓	✓	✓
Complete leak test (helium leak test available only at Fischione factory)	✓	✓	✓	✓
Test mass flow controller (test available only on-site at Fischione)	✓	✓	✓	✓
Clean/replace ion sources	✓	✓	✓	
Replace vacuum gauge	✓	✓		
Install warranty design upgrades, if needed	✓	✓	✓	✓
Replace ion source and ion source feed-through/bearing O-rings	✓	✓	✓	
Clean/replace stage and Z-axis* items, e.g., window, O-rings (Z-axis maintenance available only at Fischione factory)			✓	
Replace Faraday cup O-ring†; check laser and detector			✓	
Replace load lock O-rings	✓	✓	✓	
Lubricate and check alignment of sample loading rod or goniometer	✓	✓		
Check ion source drive assemblies (Premium edition models)			✓	
Check motor drive gear lock screws (Premium edition models)			✓	
Complete any needed repairs (additional scope will be quoted, replacement pumps not included)	✓	✓	✓	✓
Check vacuum operation; purge	✓	✓	✓	✓
Recalibrate and align ion beams	✓	✓	✓	
Replace applicable O-rings				✓

## Fischione Instruments preventive maintenance program

Preventive maintenance task	Model 1040 NanoMill® TEM specimen preparation system	Model 1080 PicoMill® TEM specimen preparation system	Model 1050 TEM Mill Model 1060 SEM Mill	Model 1020 Plasma Cleaner Model 1070 NanoClean
Replace remaining O-rings				✓
Advise user to exchange diaphragms on rough pump or arrange for service on turbomolecular drag pump when required (user must arrange directly with pump supplier)				✓
Clean air filters	✓	✓	✓	✓
Tune				✓
Complete final operational checks	✓	✓	✓	✓
Recommend next preventive maintenance date	✓	✓	✓	✓

\* Model 1050 TEM Mill only.

† Model 1060 SEM Mill only.

Refer to the product instruction manual for specific maintenance and service information.

### Recommended consumables and spare parts

The following items may be required when completing preventive maintenance tasks. Consider replenishing consumables at the time of the preventive maintenance visit.

#### Model 1020 Plasma Cleaner

Part number	Description	Quantity
327-0012	Pirani gauge	1
387-0030	O-ring; Viton; -140	TBD
-----	Port/plug assembly O-rings, determined by configuration.	-----

#### Model 1040 NanoMill® TEM specimen preparation system

Part number	Description	Quantity
039-0265	Ion source assembly	1
387-0060	O-ring; load lock; Viton; -234	1
500-0249	Vacuum gauge; cold cathode; full range	1
500-1161	Ion source O-ring	1
500-1213	Valve; angle; pneumatically activated; KF16; 24 VDC	1
500-2633	Ion source tubing; gas lines	1

#### Model 1050 TEM Mill

Part number	Description	Quantity
041-0381-06	Ion source; feed through, cathode, anode, and magnet assembly	2
041-0398	Ground cap; Penning ion source	2

## Fischione Instruments preventive maintenance program

Part number	Description	Quantity
041-0691	Kit; O-ring; ion source	2
500-0229	O-ring; Viton; -134	1
500-2340	O-ring; Viton; -142	2
500-2383	O-ring; Viton; -122	1
500-2973	Window; coverslip; 8 mm diameter x 0.15 mm (#1)	1

### Model 1060 SEM Mill

Part number	Description	Quantity
041-0381-06	Ion source; feed through, cathode, anode and magnet assembly	2
041-0398	Ground cap; Penning ion source	2
041-0691	Kit; O-ring; ion source	2
500-0229	O-ring; Viton; -134	1
500-0231	O-ring; Viton; -219	1
500-2340	O-ring; Viton; -142	2
500-1202	O-ring; Viton; -108; double seal	1

### Model 1070 NanoClean

Part number	Description	Quantity
327-0012	Piranin gauge	1
387-0064	O-ring; Viton; -239	1
500-2383	O-ring; Viton; -122	2
-----	Port/plug assembly O-rings, determined by configuration.	-----

## Annual parts replacement

The following items should be exchanged once per year by Fischione representatives.

### Model 1080 PicoMill

Part number	Description	Quantity
042-0945	Ion source assembly	1
500-0249	Vacuum gauge; cold cathode; full range (chamber gauge)	1
500-3280	Cathode; tungsten filament (additional cathodes as needed)	2
500-3894	Vacuum gauge; cold cathode; full range (column gauge)	1
Miscellaneous	Other items as needed, based on product operation	-----

### Fischione Instruments offers

- **Technical expertise.** Fischione has designed, manufactured, and serviced sample preparation instrumentation for more than 50 years.
- **Trained field service engineers.** Our team has experience in our production operations, as well as service roles, and is well-equipped to troubleshoot any product challenges.
- **Factory-certified parts.** Fischione designs and manufactures approximately 90% of its product parts. With the exception of

vacuum pumps, all instrument parts are Fischione factory certified.

- **State-of-the-art facilities.** Fischione uses state-of-the-art technology in its applications, engineering, manufacturing, and customer relationship management activities.

Delivering  
**exceptional**  
customer  
service

Request a quote  
Contact our Service Manager:

service@fischione.com  
+1 724.325.5444

Visit Fischione Service at:  
[www.fischione.com/service](http://www.fischione.com/service)



E.A. Fischione Instruments, Inc.  
9003 Corporate Circle  
Export, PA 15632 USA  
Tel: +1 724.325.5444  
Fax: +1 724.325.5443  
info@fischione.com  
[www.fischione.com](http://www.fischione.com)

©2016 E.A. Fischione Instruments, Inc. All rights reserved.  
The NanoMill TEM specimen preparation system is the subject  
of United States Patent Nos. 7,132,673 and 7,504,623. Other  
patents pending.

NanoMill is a registered trademark of E.A. Fischione  
Instruments, Inc. All other trademarks are the property of their  
respective owners.

Document Number SV004 Revision 02 08/2016

Made in the  
**USA**

Fischione products  
are designed and  
manufactured in  
Export, PA USA.