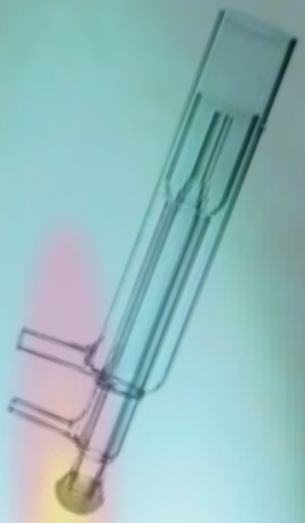
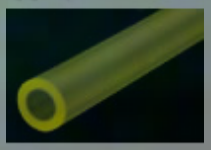
# SAMPLE INTRODUCTION CATALOG

S.A.F.I.R.

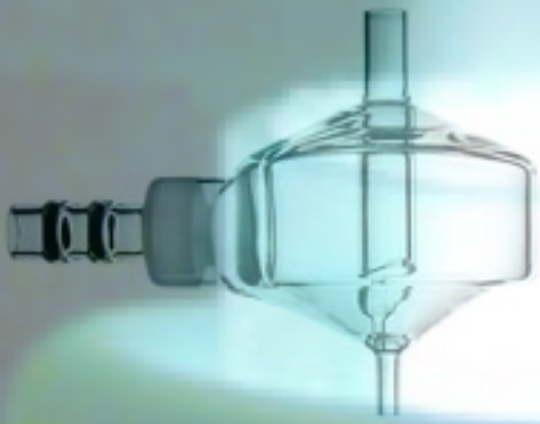


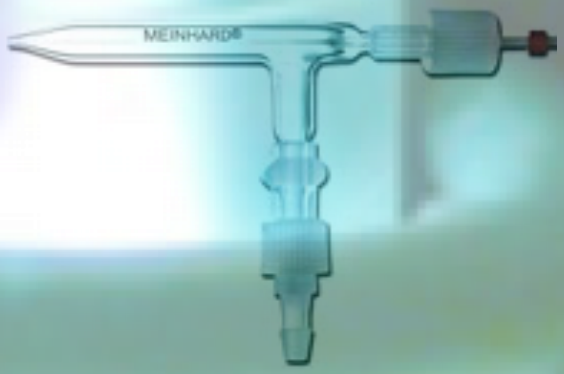
Solva

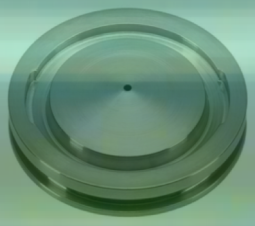


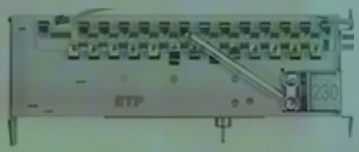
Santoprene

PVC









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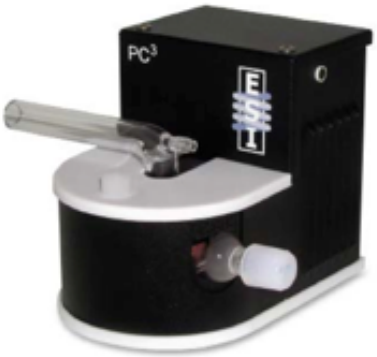

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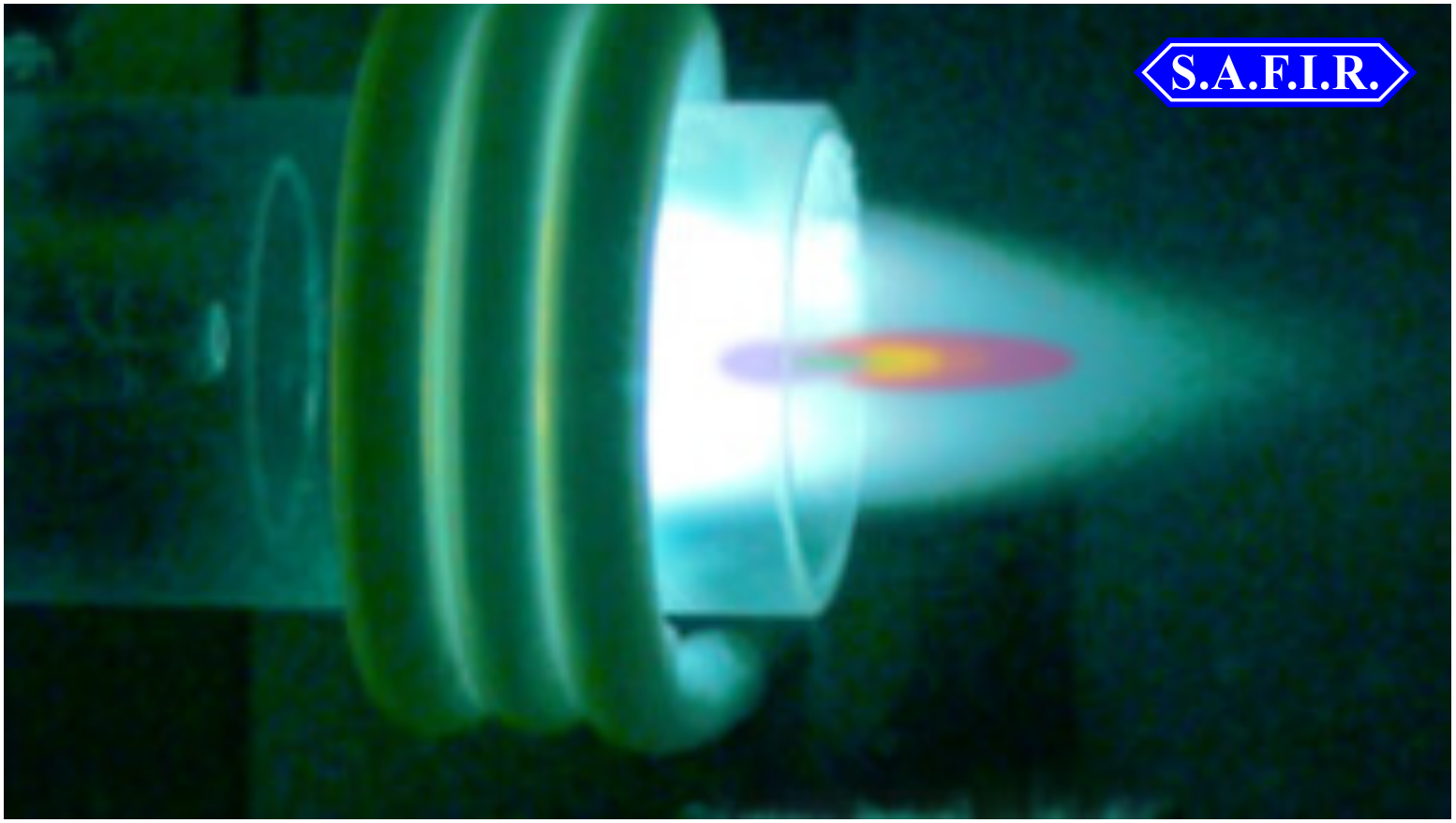


S.A.F.I.R.'s nebulizers have been the industry standard for almost 25 years now: the best performance; the best value. Today, our nebulizers are standard on the largest selling ICP and ICPMS instruments. Our High Efficiency Nebulizer is the top-rated glass microconcentric nebulizer. Our Direct Injection High Efficiency Nebulizer is unmatched. All are available in quartz as well as borosilicate glass.

Introduced in 2011, the Plus Series Nebulizers feature an innovative, low-internal-volume capillary for fast sample analysis (wash-in and wash-out) and include high-purity gas and liquid fittings. They are available in borosilicate glass and quartz, as well as ultra high purity quartz for the most demanding applications.

We want to be your source for total sample introduction solutions. We are pleased to offer nebulizers in Teflon® PFA and polypropylene from Elemental Scientific. These microconcentric nebulizers are especially useful for small-volume samples and highly-corrosive solutions like HF. The Noordermeer v-groove nebulizer can handle suspended solids of 10% or more without clogging. The Burgener MiraMist® in Teflon® extends that capability to highly-corrosive solutions.

Our manufacturers offer a broad array of spray chambers in glass and quartz: Scott double-pass, conical, cyclonic, double-pass cyclonic. We can fit your instrument or custom manufacture for your needs. We also offer double- pass spray chambers from ESI in Teflon® PFA for ultra-high-purity and corrosion resistance. ESI's cyclonic spray chambers in PFA are just the thing for ICP analysis of HF solutions.

S.A.F.I.R. has torches for all ICP and ICPMS instruments that are currently available, along with torches for instruments that have been out of production for ten years or more. Our quality is guaranteed; our prices are unrivaled.

If you would like to talk to our sample introduction experts, call or email. We will be pleased to work with you to get the most out of your ICP or ICPMS.

# Agilent 4500, 7500, 7700, 7900, 8800 & T-Mode

## Quartz Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® SilQ+ Ultra high purity quartz nebulizer, low internal volume, nominal uptake 0.5 mL/min, 1 mL/min @ 50 psi, with FG PFA gas fitting and F2 sample uptake line. (See page 33 for more information) | SILQ-50-A0.5 |
| MEINHARD® TQ+ quartz nebulizer, high sensitivity, low internal volume inlet, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi. (See page 33 for more information) | TQP-50-A0.5 |
| MEINHARD® Type A concentric quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 0.5 mL/min, 1 L/min @ 30 psi | TQ-30-A0.5 |
| MEINHARD® Type A quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 1 mL/min, 1 L/min @ 30 psi | TQ-30-A1 |
| MEINHARD® Type A quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 2 mL/min, 1 L/min @ 30 psi (G1820-65138) | TQ-30-A2 |

TQ-30-A2
Type A Quartz
Nebulizer

## Glass Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® TR+ glass nebulizer, high sensitivity, low internal volume inlet, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi. (See page 33 for more information) | TRP-50-A0.5 |
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, general purpose, nominal uptake 0.5mL/min, 1L/min @ 30 psi | TR-30-A0.5 |
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, general purpose, nominal uptake 1mL/min, 1L/min @ 30 psi (G1820-65030) | TR-30-A1 |

TR-30-A1
Type A Glass
Nebulizer

## PFA Nebulizer

| Description | Part Number |
|---|---|
| MicroFlow PFA-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME204062 |

ME204062
PFA-ST Nebulizer

## Poly-Pro Nebulizer

| Description | Part Number |
|---|---|
| PolyPro-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME4040 |

ME4040
PolyPro-ST Nebulizer

## PTFE and PEEK Nebulizers

| Description | Part Number |
|---|---|
| Burgener PTFE MiraMist parallel-path nebulizer. Includes an argon line and sample capillary. (G3161-80001) | TMM3500 |
| Burgener PEEK MiraMist parallel-path nebulizer. Includes an argon line and sample capillary. (G3161-80000) | PMM4000 |

PMM4000
PEEK MiraMist Nebulizer

## Nebulizer Gas Quick Connects

| Description | Part Number |
|---|---|
| Gas Quick Connect for MEINHARD® Nebulizers with PFA-Press Fit for 4 mm tubing. Forms a tight seal over the maria on the sidearm of the nebulizer. | F4 |
| ICPMS Nebulizer Gas Quick Connect with PFA-Press Fit for 4 mm tubing for Agilent. Connects to the instrument. | F4-62 |

F4
Nebulizer Gas Quick Connect



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## Nebulizer Cleaner

| Description | Part Number |
|---|---|
| Pearl Nebulizer Cleaner for all quartz and glass concentric nebulizers (8100-2051) | PRL-02 |

PRL-02
Pearl Nebulizer Cleaner

## Spray Chambers

| Description | Part Number |
|---|---|
| Quartz spray chamber, double pass, 12/5 socket for HP4500 and HP7500 (G1820-65337) | ML190013 |
| Quartz spray chamber, double pass, 12/5 socket, extended inner for cross-flow nebulizer (G1820-65339) | ML190014 |
| Quartz spray chamber, top socket, 90° bend | ML190015 |
| Quartz spray chamber with Easy-Seal threaded nebulizer inlet and PFA cap | ML190015ES |
| Quartz spray chamber, double pass (G3280-80008) | ML190060 |

ML190013
Double Pass
Spray Chamber

## SSI Spray Chamber

| Description | Part Number |
|---|---|
| Quartz SSI high-stability dual spray chamber | ME32621111 |

## PFA Spray Chamber

| Description | Part Number |
|---|---|
| 35 mm HF resistant PFA spray chamber with PFA PureCap endcap | ME21225351 |

ME21225351
35 mm PFA Spray Chamber

## PTFE Endcap

| Description | Part Number |
|---|---|
| PTFE adapter (endcap) 6mm nebulizer to 35mm spray chamber (G1820-65121) | MM151030 |

MM151030
PTFE Endcap

## PFA Connectors

| Description | Part Number |
|---|---|
| PFA connector for Agilent 7500 ESI injector | ME21227572 |
| PFA connector for Agilent 7700, 7900, 8800 ESI injector | ME21227772 |

ME21227572
PFA Connector

## Shield Plates

| Description | Part Number |
|---|---|
| Ag Shield Plate (G1833-65419) | MC-65419-Ag |
| Pt Shield Plate (G1820-65357) | MC-65357 |
| Pt Shield Plate (G1833-65419) | MC-65419 |

MC-65419-Ag
Ag Shield Plate

# Agilent 4500, 7500, 7700, 7900, 8800 & T-Mode

## O-Ring-Free Quartz Torches, Demountable Injector

| Description | Part Number |
|---|---|
| Quartz torch for 7700, demountable | ME13027700 |
| O-ring-free quartz torch for 7500, axial, demountable | ME13027500 |
| O-ring-free quartz torch for 4500, demountable | ME13024500 |

ME13024500
Quartz Torch

## Quartz One-Piece Torches

| Description | Part Number |
|---|---|
| Quartz torch for 7500, axial, fixed 2.5 mm injector, 2 placement pins, HMI compatible (G3270-67002) | ML190022 |
| Quartz torch for 4500, fixed 1.5 mm injector, for organics | ME13024510 |
| Quartz torch for 4500, fixed 1.0 mm injector, for oils (G1820-65528) | ML190004 |
| Quartz torch for 4500, fixed 2.5 mm injector (G1820-65028) | ML190005 |
| Quartz torch for 4500, fixed 1.5 mm injector (G1820-65229) | ML190006 |
| Quartz torch for 7500, axial, fixed 2.5 mm injector, 2 placement pins, HMI compatible (G1833-65423) | ML190010 |
| Quartz torch for 7500, fixed 1.5 mm injector, placement pin (G1833-65424) | ML190011 |
| Quartz torch for 7500, axial, fixed 1.0 mm injector, placement pin, for oils (G1833-65425) | ML190012 |
| Quartz torch for 7700, fixed 2.5 mm injector (G3280-80001) | ML190050 |
| Quartz torch for 7700, fixed 1.5 mm injector (G3280-80004) | ML190051 |
| Quartz torch for 7700, fixed 1.0 mm injector (G3280-80005) | ML190052 |

ML190010
Quartz Torch with
2.5 mm Injector

## Quartz Torches, Demountable Injector

| Description | Part Number |
|---|---|
| Quartz torch for 4500, axial, demountable (G1820-65035) | ML190008 |
| Quartz torch for 7500, axial, demountable, placement pin (G1833-65422) | ML190009 |

ML190008
Quartz Torch

## Torch Shields

| Description | Part Number |
|---|---|
| Quartz torch shield for 4500 (G1820-65026) | ML190018 |
| Quartz torch shield for 7500, 24 mm with edge (G1833-65421) | ML190042 |

ML190042
Torch Shield

## HF Resistant Sample Intro Kits

| Description | Part Number |
|---|---|
| PFA platinum kit for Agilent 7500 includes: 35mm low condensation PFA spray chamber (10mm PFA tube exit), PFA connector for Agilent 7500, PFA Purecap endcap, 2mm platinum injector, o-ring-free quartz torch, two PFA-100 Agilent version nebulizers | ME2161750019 |
| PFA platinum kit for Agilent 7700/7900/8800 includes: 35mm low condensation PFA spray chamber, PFA connector for Agilent 7700, PFA Purecap endcap, 2mm platinum injector, o-ring-free quartz torch, two PFA-100 Agilent version nebulizers | ME2161770019 |
| PFA inert sapphire kit for Agilent 7500 includes: 35mm low condensation PFA spray chamber (10mm PFA tube exit), PFA connector for Agilent 7500, PFA Purecap endcap, 1.8mm o-ring-free sapphire injector, o-ring-free quartz torch, two PFA-100 Agilent version nebulizers | ME2160750019 |
| PFA inert sapphire kit for Agilent 7700/7900/8800 includes: 35mm low condensation PFA spray chamber, PFA connector for Agilent 7700, PFA Purecap endcap, 1.8mm o-ring-free sapphire injector, o-ring-free quartz torch, two PFA-100 Agilent version nebulizers | ME2160770019 |

ME2161750019
HF Resistant Sample Intro Kit

## O-Ring-Free Quartz Injectors, Demountable

| Description | Part Number |
|---|---|
| O-ring-free quartz injector, 1.0 mm | ME13237100 |
| O-ring-free quartz injector, 1.5 mm | ME13237150 |
| O-ring-free quartz injector, 2.0 mm | ME13237200 |
| O-ring-free quartz injector, 2.5 mm | ME13237250 |

ME13237250
O-ring-free
Quartz Injector

## O-Ring-Free Sapphire Injectors, Demountable

| Description | Part Number |
|---|---|
| O-ring-free sapphire injector, HF resistant,1.0 mm | ME13037100 |
| O-ring-free sapphire injector, HF resistant,1.5 mm | ME13037150 |
| O-ring-free sapphire injector, HF resistant,1.6 mm | ME13037160 |
| O-ring-free sapphire injector, HF resistant,1.8 mm | ME13037180 |

ME13037180
O-ring-free
Sapphire Injector

## O-Ring-Free Platinum Injectors, Demountable

| Description | Part Number |
|---|---|
| O-ring-free platinum injector, HF resistant,1.5 mm | ME13137150 |
| O-ring-free platinum injector, HF resistant,1.8 mm | ME13137180 |
| O-ring-free platinum injector, HF resistant, 2.0 mm | ME13137200 |
| O-ring-free platinum injector, HF resistant, 2.5 mm | ME13137250 |

ME13137200
O-ring-free
Platinum Injector

## Ball To Socket Adapters

| Description | Part Number |
|---|---|
| Quartz adapter for 4500, ball to socket, 56 mm (G1820-80237) | ML190038 |
| Quartz adapter for 7500, ball to socket, 82 mm (G1833-65426) | ML190041 |
| Quartz adapter for 7700, ball to socket, 103 mm (G3270-80025) | ML190066 |
| Pyrex adapter for 4500, ball to socket, 56 mm (G1820-80235) | ML190045 |
| Pyrex adapter for 7500, ball to socket, 82 mm | ML190040 |

ML190038
Ball to Socket Adapter

## 1/4" To Socket Adapter

| Description | Part Number |
|---|---|
| Quartz adapter for 7500, 1/4" end to socket | ML190033 |

## Ball To Socket T-Connectors

| Description | Part Number |
|---|---|
| Quartz T-connector with optional gas inlet for 7500, ball to socket, 82 mm (G1833-65427) | ML190044 |
| Quartz T-connector with optional gas inlet for 7700, ball to socket, 103 mm (G3270-80024) | ML190065 |

ML190065
Ball to Socket T-Connectors

## Copper Load Coil

| Description | Part Number |
|---|---|
| Copper load coil for Agilent 7500 (G1833-65432) | MC-65432 |
| Silver plated copper load coil for Agilent 7500 | MC-65432-Ag |

MC-65432
Copper Load Coil

## *pergo* Argon Nebulizer Gas Humidifier

| Description | Part Number |
|---|---|
| *pergo* argon high solids accessory without nebulizer. Includes gas line connector kit. | PRG-01 |
| *pergo* argon high solids accessory including MEINHARD® Type A Plus high performance nebulizer. | PRG-01-MAPlus |

PRG-01
*pergo* High Solids
Accessory

## PC³ Peltier Cooler

| Description | Part Number |
|---|---|
| PC³ Peltier cooler. Includes a quartz cyclonic spray chamber with 12/5 socket. | ME41621118 |

ME41621118
PC³ Peltier Cooler

## PC³ Mounting Shelves

| Description | Part Number |
|---|---|
| PC³ mounting shelf for Agilent 7500 | ME29996221 |
| PC³ mounting shelf for Agilent 7700 | ME29996277 |

ME29996221
PC³ Mounting Shelf

## Electron Multipliers

| Description | Part Number |
|---|---|
| ETP Electron Multiplier for Agilent 4500 (G1820-80386) | MC-AF573 |
| ETP Electron Multiplier for Agilent 7700 / 8000 (5190-0108) | MC-00108 |
| ETP Electron Multiplier for Agilent 7500 (G1833-65420) | MC-AF222 |

MC-AF222
ETP Electron Multiplier

## Sampling Cones

| Description | Part Number |
|---|---|
| Ni plated sampling cone, Cu base (G3280-67061) | MC-67061 |
| Ni sampling cone for T-mode , Ni base (G1820-65480) | MC-65480 |
| Ni sampling cone, Cu base (G3280-67040) | MC-67040 |
| Ni sampling cone, Cu base (G1820-65238) | MC-65238 |
| Pt sampling cone, 10 mm insert, Cu base (G1820-65239) | MC-65239 |
| Pt sampling cone, 18 mm insert, Cu base (G1820-65360) | MC-65360 |
| Pt sampling cone, 18 mm insert, Cu base (G3280-67056) | MC-67056 |
| Pt sampling cone, Cu base, 12 mm (G3280-67036) | MC-67036 |
| Gaskets - Graphite for sampler (qty 3) (G3280-67009) | MC-67009 |
| O-ring - Viton for sampler (qty 1) (G1820-65025) | MC-65025 |

MC-67040
Ni Sampling Cone

## Skimmer Cones

| Description | Part Number |
|---|---|
| Cu skimmer cone, Cu base (G3280-67067) | MC-67067 |
| Ni skimmer cone for T-mode, Ni base (G1820-65481) | MC-65481 |
| Ni skimmer cone, Ni base (G3270-65024) | MC-65024 |
| Ni skimmer cone, Ni base (G1833-65497) | MC-65497 |
| Ni skimmer cone, Ni base (G1820-65050) | MC-67050 |
| Ni skimmer cone, Ni base (G3280-67066) | MC-67066 |
| Ni skimmer cone, Ni base (G3280-67041) | MC-67041 |
| Pt skimmer cone , Cu base (G3280-67060) | MC-67060 |
| Pt skimmer cone, Cu base (G1833-65092) | MC-65092 |
| Pt skimmer cone, Cu base (G1833-65132) | MC-65132 |
| Pt skimmer cone, Cu base (G1820-65237) | MC-65237 |
| Pt skimmer cone, Cu base (G3280-67064) | MC-67064 |
| Pt skimmer cone, Ni base (G3270-60106) | MC-60106 |
| Pt skimmer cone, Ni base (G3280-67065) | MC-67065 |
| Pt skimmer cone, Ni base (G3280-67063) | MC-67063 |
| Ni skimmer cone, Ni base (G8400-67200) | MC-67200 |
| Pt skimmer cone, Cu base (G8400-67201) | MC-67201 |
| Pt skimmer cone, Ni base (G8400-67202) | MC-67202 |

MC-67064
Pt Skimmer Cone

MC-67041
Ni Skimmer Cone

## Cone Cleaning Kit & Detergent

| Description | Part Number |
|---|---|
| Cone Cleaning Kit includes: Course & Fine Alumina Powder, Diamond Abrasive Paste, Synthetic fiber, lint-free cloths, Wooden cotton swabs (qty 50), Foam Tipped ESD Swabs (qty 50) and Magnifier | MC-MNTKIT1 |
| Citranox Detergent, contains acid ingredients for high-performance removal of metal oxides, salts and inorganic residues combined with full detergent capability. Used on soft metals. 1 gallon | CitranoxDetergent |

MC-MNTKIT1
Cone Cleaning Kit

# Agilent 4500, 7500, 7700, 7900, 8800 & T-Mode

MEINHARD® can help you maintain your pump's performance with manufacturer recommended fluids. See page 100 for available fluids and oils.

## 3-Stop PVC Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 3-stop PVC pump tubing, 0.19 mm ID, (orange/red/orange), 12 pc (G183365571) | Tube-PVCSD-075-3 |
| 3-stop PVC pump tubing, 1.02 mm ID, (white/white/white), 12 pc (G183365569) | Tube-PVCSD-40-3 |
| 3-stop PVC pump tubing, flared, 0.19 mm ID, (orange/red/orange), 12 pc | Tube-PVCSD-075-3-F |

## 3-Stop Santoprene Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 3-stop Santoprene pump tubing, 1.52 mm ID, (yellow/blue/yellow), 12 pc (G183365570) | Tube-SanSD-60-3 |

## 2-Stop PVC Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop PVC pump tubing, 1.02 mm ID, (white/white), 12 pc (G182065215) | Tube-PVCSD-40 |
| 2-stop PVC pump tubing, 1.65 mm ID, (blue/blue), 12 pc | Tube-PVCSD-65 |
| 2-stop PVC pump tubing, flared, 0.19 mm ID, (orange/red), 12 pc (G328067008) | Tube-PVCSD-075-F |
| 2-stop PVC pump tubing, flared, 0.27 mm ID, (orange/blue), 12 pc (G328067047) | Tube-PVCSD-10-F |

## 2-Stop SolventFlex Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop SolventFlex pump tubing, 1.02 mm ID, (white/white), 12 pc | Tube-SolFSD-40 |
| 2-stop SolventFlex pump tubing, 1.65 mm ID, (blue/blue), 12 pc | Tube-SolFSD-65 |

*Visit www.meinhard.com for additional tubing options.*



S.A.F.I.R.

MEINHARD®

# Standard Solutions

## NIST-Traceable Standards

S.A.F.I.R. offers single element standards, common standard mixes, custom standards as well as metal-organic standards. Single and custom element standards are offered from two premier standards manufacturers, providing the ease of purchasing primary and secondary standards with the confidence of two independently-certified sources. Standards are shipped with Certificate of Analysis and MSDS sheets.

- Single Standards
- Mixed Standards
- Organometallic Standards
- Single Element Kits

Single Element Standards
Cr +6 and Cu

### Quality Assurance

Our standards have the following accreditations and certifications.

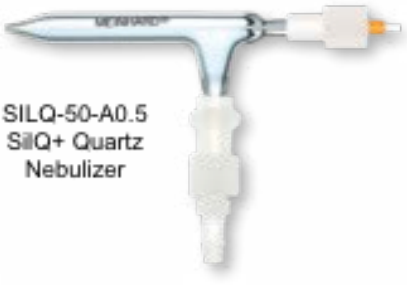
- NIST-traceable to SRM 3100 Series
- ISO 9001 Certified
- ISO 17025 Accredited
- ISO Guide 34 Accredited

Contact safir@glo.be for more details and pricing

# Agilent / Varian Vista 720-ES, 725 & Liberty

## Quartz Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® SilQ+ Ultra high purity quartz nebulizer, low internal volume, nominal uptake 0.5 mL/min, 1 mL/min @ 50 psi, with FG PFA gas fitting and F2 sample uptake line. (See page 33 for more information) | SILQ-50-A0.5 |
| MEINHARD® Type C+ concentric quartz nebulizer with PFA argon and sample line connectors, nominal uptake 1 mL/min, 1 L/min @ 30 psi | TQP-30-C1 |
| MEINHARD® TQ+ quartz nebulizer, high sensitivity, low internal volume inlet, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi (See page 33 for more information) | TQP-50-A0.5 |
| MEINHARD® Type A quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 2 mL/min, 1 L/min @ 30 psi | TQ-30-A2 |



SILQ-50-A0.5
SilQ+ Quartz
Nebulizer

## Glass Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® TR+ glass nebulizer, high sensitivity, low internal volume inlet, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi | TRP-50-A0.5 |
| MEINHARD® Type C glass nebulizer, polished, recessed (0.5 mm) capillary, high solids, nominal uptake 2 mL/min, 1 L/min @ 30 psi (2010076500) | TR-30-C2 |
| MEINHARD® Type K glass nebulizer, lapped flush nozzle, high solids, recessed (0.5 mm) capillary, nominal uptake 2 mL/min, 0.7 mL/min @ 30 psi (2010069500) | TR-30-K2 |
| MEINHARD® Type K glass nebulizer, lapped flush nozzle, recessed (0.5 mm) capillary, high solids, nominal uptake 3 mL/min, 0.7 L/min @ 30 psi (2010081600) | TR-30-K3 |

TRP-30-C2
Type C Glass
Nebulizer

## PFA Nebulizer

| Description | Part Number |
|---|---|
| MicroFlow PFA-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME2040 |

ME2040
PFA-ST Nebulizer

## Poly-Pro Nebulizer

| Description | Part Number |
|---|---|
| PolyPro-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME4040 |

ME4040
PolyPro-ST Nebulizer

## PEEK Nebulizer

| Description | Part Number |
|---|---|
| PEEK MiraMist nebulizer (G3161-80000). Includes an argon line and sample capillary. | PMM4000 |

PMM4000
PEEK MiraMist Nebulizer

## Nebulizer Gas Quick Connects

| Description | Part Number |
|---|---|
| Gas Quick Connect for MEINHARD® Nebulizers with PFA-Press Fit for 4 mm tubing. Forms a tight seal over the maria on the sidearm of the nebulizer. | F4 |
| ICP Emission Nebulizer Gas Quick Connect with PFA-Press Fit for 4 mm tubing for Agilent. Connects to the instrument. | F4-66 |

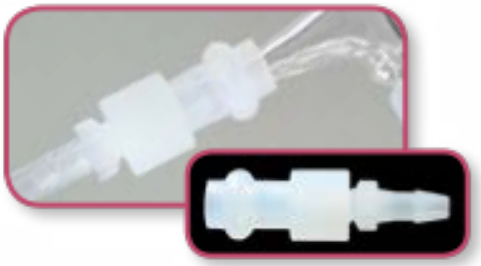
F4
Nebulizer Gas Quick Connect



S.A.F.I.R.

## FG Gas Quick Connect for MEINHARD® Nebulizers

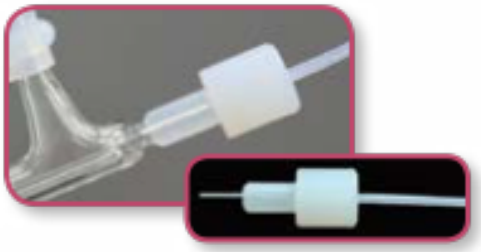
| Description | Part Number |
|---|---|
| FG Gas Quick Connect for MEINHARD® Nebulizers with maria for both small bore and standard bore nebulizers. | FG |



FG
FG Gas Quick Connect

## F0 Encapsulated Micro Tubing

| Description | Part Number |
|---|---|
| F0 Encapsulated micro tubing for low uptake rates from 0.1 to 0.5 mL/min and the lowest internal volume of any nebulizer. Includes 0.25 mm i.d. ■ (green marker) 70 cm long micro capillary. | F0-25 |



F0-25
F0 Encapsulated Micro Tubing

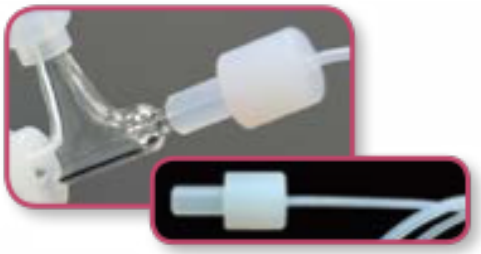
## F1 Detachable Capillary

| Description | Part Number |
|---|---|
| F1 Detachable capillary for a wide range of applications. Includes 0.80 mm i.d. ■ (blue marker) 70 cm long capillary. | F1-80 |

F1-80
F1 Detachable Capillary

## F2 Standard PFA Integrated Capillary

| Description | Part Number |
|---|---|
| F2 Standard integrated capillary for self-aspiration or pumping. Includes 0.5 mm i.d. ■ (orange marker) 70 cm long capillary. | F2-50 |



F2-50
F0 Encapsulated Micro Tubing

# Agilent / Varian Vista 720-ES, 725 & Liberty

## Nebulizer Cleaner

| Description | Part Number |
|---|---|
| Pearl Nebulizer Cleaner for all quartz and glass concentric nebulizers | PRL-02 |

PRL-02
Pearl Nebulizer Cleaner

## *pergo* Argon Nebulizer Gas Humidifier

| Description | Part Number |
|---|---|
| *pergo* argon high solids accessory without nebulizer. Includes gas line connector kit. | PRG-01 |
| *pergo* argon high solids accessory including MEINHARD® Type A Plus high performance nebulizer. | PRG-01-MAPlus |

PRG-01
*pergo* High Solids Accessory

## Cyclonic Spray Chambers

| Description | Part Number |
|---|---|
| Pyrex cyclonic spray chamber for Agilent 7x0 (Varian), baffled, 8 mm top, Unifit (7910043700) | ML180019 |
| Pyrex cyclonic spray chamber for Agilent 7x0 (Varian), baffled, with Easy-Seal threaded nebulizer inlet and PFA cap, 8 mm top, Unifit | ML180019ES |
| Pyrex cyclonic spray chamber for Agilent 7x0 (Varian), no baffle, 8 mm top, o-ring inlet (2010081700) | ML180021 |
| Pyrex cyclonic spray chamber for Agilent 7x0 (Varian), no baffle, with Easy-Seal threaded nebulizer inlet and PFA cap, 8 mm top | ML180021ES |
| Pyrex cyclonic spray chamber for Agilent 7x0 (Varian), with baffle, o-ring inlet | ML180022 |
| Pyrex cyclonic spray chamber for Agilent 7x0 (Varian), with baffle, Unifit | ML180013 |

ML180021
Cyclonic Spray Chamber

## Jacketed Spray Chamber

| Description | Part Number |
|---|---|
| Glass spray chamber, jacketed for coolant (9910070400) | ML180023 |

ML180023
Jacketed Spray Chamber

## Unifit Adapter

| Description | Part Number |
|---|---|
| Unifit adapter, 6 mm glass concentric nebulizer to 12 mm inlet port (N0776006) | ML130025 |

ML130025
Unifit Adapter

## PFA Spray Chamber

| Description | Part Number |
|---|---|
| 47 mm HF resistant PFA spray chamber with PFA PureCap endcap | ME21285471 |

ME21285471
47mm PFA Spray Chamber

## PFA Spray Chamber Mounting Bracket

| Description | Part Number |
|---|---|
| Mounting bracket for the 47 mm PFA spray chamber ES-2128-5471 | ME29996501 |

ME29996501
Mounting Bracket

## Quartz One-Piece Torches

| Description | Part Number |
|---|---|
| Quartz torch, axial with 90° bend, fixed 2.3 mm injector (2010090400) | ML180017 |
| Quartz torch, axial, high solids, fixed injector (2010094800) | ML180050 |
| Quartz torch, axial, fixed 2 mm injector (2010081200) | ML180014 |
| Quartz torch, radial, low-flow, fixed 1.5 mm injector (2010069690) | ML180005 |
| Quartz torch with ball joint, radial, fixed 1.5 mm injector (2010069610) | ML180005B |
| Quartz torch, radial, fixed 0.8 mm injector (2010117400) | ML180028 |
| Quartz torch, radial, fixed 1.4 mm injector (2010117500) | ML180029 |
| Quartz torch, axial with right angle end, lowflow 0.8mm I.D. injector (2010104700) | ML180026 |
| Quartz torch, radial, high solids 1.8mm I.D. injector (2010095000) | ML180052 |

ML180017
Quartz One-Piece Torch

## Quartz Torches, Demountable Injector

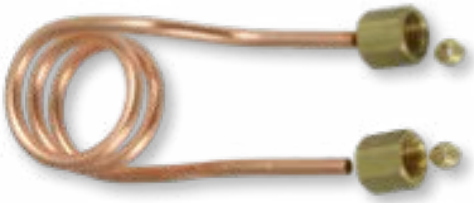
| Description | Part Number |
|---|---|
| Quartz torch, demountable, axial, body only (2010083400) | ML180015 |
| Quartz torch, demountable, radial, body only (2010072900) | ML180010 |
| O-ring-free quartz torch, demountable. Use with ESI o-ring free injectors. | ME1842 |
| Demountable radial torch kit, includes ML180010 radial torch, 700-series; includes ML180045 1.8 mm ceramic injector, MM180048 PTFE support (9910056800) | ML180048 |

ML180015
Quartz Torch

# Agilent / Varian Vista 720-ES, 725 & Liberty

## Copper Load Coils

| Description | Part Number |
|---|---|
| Copper load coil for Agilent/Varian 700-ES and Vista, axial (0110601290) | MC-01290 |
| Copper load coil for Varian Series 2, radial (110590490) | MC-90490 |



MC-01290
Copper Load Coil

## Torch with Demountable Injector

| Description | Part Number |
|---|---|
| Quartz torch, demountable, with o-ring-free sapphire injector in PFA base | ME18421100 |

## Torch Bonnet

| Description | Part Number |
|---|---|
| Quartz torch bonnet, radial (2010070700) | ML180025 |

ML180025
Torch Bonnet

## Quartz Injectors

| Description | Part Number |
|---|---|
| Quartz injector, 0.8 mm, for organic samples (2010077500) | ML180047 |
| Quartz injector, 1.4 mm (9910067000) | ML180046 |

ML180047
Quartz Injector

## Alumina Injector

| Description | Part Number |
|---|---|
| Alumina injector, 1.9 mm (2410067590) | MA6759 |

MA6759
Alumina Injector

## O-ring-free Sapphire Injector

| Description | Part Number |
|---|---|
| O-ring-free sapphire injector, 1.8 mm. Use with ESI precision quartz torch (ME1842) and spray chamber (MEK165). | ME18650180 |

ME18430180
Sapphire Injector

## O-ring-free Platinum Injector

| Description | Part Number |
|---|---|
| O-ring-free platinum injector, 2 mm. Use with ESI precision quartz torch (ME1842) and spray chamber (MEK165). | ME18410200 |



S.A.F.I.R.

MEINHARD® can help you maintain your pump's performance with manufacturer recommended fluids. See page 100 for available fluids and oils.

## Injector Holder

| Description | Part Number |
|---|---|
| PTFE injector holder for Varian-ES series, Liberty, Vista & Ultramass-700 (9910057300) | MM180048 |

MM180048
Injector Holder

## Male Barbed Connector

| Description | Part Number |
|---|---|
| Male barbed PFA connector for transfer line | ME43992300 |

ME43992300
Male Barbed
Connector

## 2-Stop PVC Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop PVC pump tubing, 0.76 mm ID, (black/black), 12 pc (3710027200) | Tube-PVCSD-30 |
| 2-stop PVC pump tubing, 1.02 mm ID, (white/white), 12 pc (3710034400) | Tube-PVCSD-40 |
| 2-stop PVC pump tubing, 1.30 mm ID, (gray/gray), 12 pc (3710034500) | Tube-PVCSD-51 |
| 2-stop PVC pump tubing, 1.65 mm ID, (blue/blue), 12 pc (3170034600) | Tube-PVCSD-65 |

Tube-PVCSD-30
2-stop PVC
Pump Tubing

## 2-Stop SolventFlex Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop SolventFlex pump tubing, 0.76 mm ID, (black/black), 12 pc (3710034800) | Tube-SolFSD-30 |
| 2-stop SolventFlex pump tubing, 1.02 mm ID, (white/white), 12 pc (3710035000) | Tube-SolFSD-40 |
| 2-stop SolventFlex pump tubing, 1.30 mm ID, (gray/gray), 12 pc (3710035200) | Tube-SolFSD-50 |
| 2-stop SolventFlex pump tubing, 1.65 mm ID, (blue/blue), 12 pc (3710067900) | Tube-SolFSD-65 |

Tube-SolFSD-30
2-stop SolventFlex
Pump Tubing

## 2-Stop Viton Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop Viton pump tubing, 0.51 mm ID, (orange/yellow), 12 pc (3710043500) | Tube-Viton-20 |

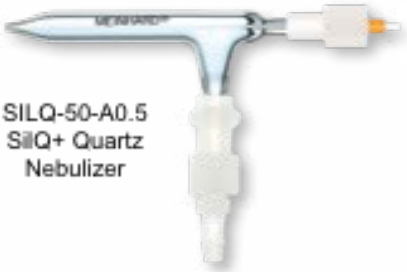
Tube-Viton-20
2-stop Viton Pump Tubing

*Visit www.meinhard.com for additional tubing options.*

# Analytik-Jena (Bruker) Aurora M90, 810-MS & 820-MS

## Quartz Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® SilQ+ Ultra high purity quartz nebulizer, low internal volume, nominal uptake 0.5 mL/min, 1 mL/min @ 50 psi, with FG PFA gas fitting and F2 sample uptake line. (See page 33 for more information) | SILQ-50-A0.5 |
| MEINHARD® TQ+ quartz nebulizer, high sensitivity, low internal volume inlet, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi. (See page 33 for more information) | TQP-50-A0.5 |
| MEINHARD® Type A concentric quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 0.5 mL/min, 1 L/min @ 30 psi | TQ-30-A0.5 |
| MEINHARD® Type A quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 1 mL/min, 1 L/min @ 30 psi | TQ-30-A1 |



SILQ-50-A0.5
SilQ+ Quartz
Nebulizer

## Glass Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® TR+ glass nebulizer, high sensitivity, low internal volume inlet, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi | TRP-50-A0.5 |
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, general purpose, nominal uptake 0.5mL/min, 1L/min @ 30 psi | TR-30-A0.5 |
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, general purpose, nominal uptake 1mL/min, 1L/min @ 30 psi | TR-30-A1 |
| MEINHARD® Type C glass nebulizer, polished, recessed (0.5 mm) capillary, high solids, nominal uptake 2 mL/min, 1 L/min @ 30 psi (2010076500) | TR-30-C2 |
| MEINHARD® Type K glass nebulizer, lapped, recessed (0.5 mm) capillary, high solids, nominal uptake 1 mL/min, 0.7 L/min @ 30 psi (2010081600) | TR-30-K1 |
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, low cost, high sensitivity, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi | TR-50-A0.5 |
| MEINHARD® Type K glass nebulizer, lapped, recessed (0.5 mm) capillary, high solids, nominal uptake 2 mL/min, 0.7 L/min @ 50 psi (2010069500) | TR-50-K2 |

TR-50-K2
Type K Glass
Nebulizer

## PFA Nebulizer

| Description | Part Number |
|---|---|
| MicroFlow PFA-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME20400009 |

ME20400009
PFA-ST Nebulizer

## Poly-Pro Nebulizer

| Description | Part Number |
|---|---|
| PolyPro-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME404083 |

ME404083
PolyPro-ST Nebulizer

## PEEK Nebulizer

| Description | Part Number |
|---|---|
| PEEK MiraMist nebulizer. Includes an argon line and sample capillary. | PMM4000 |

PMM4000
PEEK MiraMist Nebulizer

## Nebulizer Cleaner

| Description | Part Number |
|---|---|
| Pearl Nebulizer Cleaner for all quartz and glass concentric nebulizers | PRL-02 |

PRL-02
Pearl Nebulizer Cleaner



S.A.F.I.R.

## *pergo* Argon Nebulizer Gas Humidifier

| Description | Part Number |
|---|---|
| *pergo* argon high solids accessory without nebulizer. Includes gas line connector kit. | PRG-01 |
| *pergo* argon high solids accessory including MEINHARD® Type A Plus high performance nebulizer | PRG-01-MAPlus |

PRG-01
*pergo* High Solids Accessory

## Spray Chamber

| Description | Part Number |
|---|---|
| Quartz spray chamber, double pass (2010201000) | ML180031 |

ML180031
Double Pass Spray Chamber

## Make-up IN-Port 2

| Description | Part Number |
|---|---|
| Quartz Make-up IN-port 2 (2010100900) | ML180033 |

ML180033
Make-Up IN-Port 2

## Quartz One-Piece Torches with Ball Joint

| Description | Part Number |
|---|---|
| Quartz torch with ball joint, 2 placement pins (2010100700) | ML180030 |

ML180030
Quartz One-piece Torch with Ball Joint

## Quartz Torch, Demountable Injector

| Description | Part Number |
|---|---|
| Quartz torch, demountable (2010079390) | ML180011 |

## Universal Joint Extension

| Description | Part Number |
|---|---|
| Quartz universal joint extension (2010100800) | ML180032 |

# Analytik-Jena (Bruker) Aurora M90, 810-MS & 820-MS

MEINHARD® can help you maintain your pump's performance with manufacturer recommended fluids. See page 100 for available fluids and oils.

## Work Coil

| Description | Part Number |
|---|---|
| ICPMS work coil assembly (0110749090) | MC-49090 |

## Cone Cleaning Kit & Detergent

| Description | Part Number |
|---|---|
| Cone Cleaning Kit includes: Course & Fine Alumina Powder, Diamond Abrasive Paste, Synthetic fiber, lint-free cloths, Wooden cotton swabs (qty 50), Foam Tipped ESD Swabs (qty 50) and Magnifier | MC-MNTKIT1 |
| Citranox Detergent, contains acid ingredients for high-performance removal of metal oxides, salts and inorganic residues combined with full detergent capability. Used on soft metals. 1 gallon | CitranoxDetergent |

MC-MNTKIT1
Cone Cleaning Kit

## Sampling Cones

| Description | Part Number |
|---|---|
| Ni Sampler (without CRI) for 820-MS (9910115300) | MC-15300 |
| Pt sampler (without CRI) for 820-MS (9910117000) | MC-17000 |
| Ni Sampler (with CRI purge) for 820-MS Std (9910135900) | MC-35900 |
| Pt sampler (with CRI purge) for 820-MS (9910136000) | MC-36000 |

MC-15300
Nickel Sampler Cone

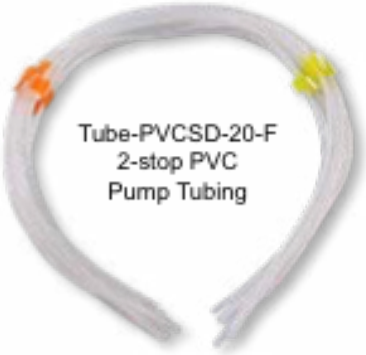
## Skimmer Cones

| Description | Part Number |
|---|---|
| Ni Skimmer (without CRI) C-Series for 820-MS (9910121000) | MC-21000 |
| Pt Skimmer (without CRI) C-Series for 820-MS (9910121100) | MC-21100 |
| Ni Skimmer (with CRI) for 820-MS Std (9910121200) | MC-21200 |
| Pt Skimmer (with CRI) for 820-MS (9910121300) | MC-21300 |

MC-21000
Nickel Skimmer Cone

## 2-Stop PVC Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop PVC pump tubing, 0.76 mm ID, (black/black), 12 pc | Tube-PVCSD-30 |
| 2-stop PVC pump tubing, 1.02 mm ID, (white/white), 12 pc | Tube-PVCSD-40 |
| 2-stop PVC pump tubing, 1.30 mm ID, (gray/gray), 12 pc | Tube-PVCSD-51 |
| 2-stop PVC pump tubing, 1.65 mm ID, (blue/blue), 12 pc | Tube-PVCSD-65 |
| 2-stop PVC pump tubing, 2.0 mm flared, 0.38 mm ID, (orange/green), 12 pc | Tube-PVCSD-15-F |
| 2-stop PVC pump tubing, 2.0 mm flared, 0.51 mm ID, (orange/yellow), 12 pc | Tube-PVCSD-20-F |



Tube-PVCSD-20-F
2-stop PVC
Pump Tubing

*Visit www.meinhard.com for additional tubing options.*



S.A.F.I.R.

# *pergo*

## Argon Humidifier for High TDS Sample Analysis

The *pergo* improves performance of all MEINHARD® nebulizers for the routine analysis of brines, fusion digests and other high TDS samples.

A high-pressure membrane positioned inside a temperature-controlled water reservoir perfuses water vapor into the ICP-MS nebulizer gas stream. By increasing humidity in the argon nebulizer gas, the *pergo* prevents salt deposits at the nebulizer tip, improving short and long-term signal stability.

PRG-01-MAPlus *pergo* high solids accessory with TR+ MEINHARD® nebulizer

### BENEFITS:

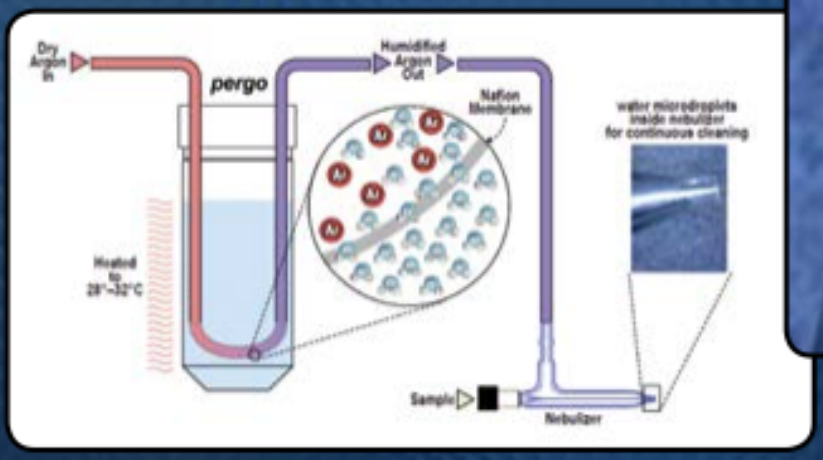
- Improved RSDs
- Improved short and long-term stability
- Improved detection limits
- Faster washout
- Ability to use high sensitivity nebulizers for high TDS samples
- Reduce long-term drift
- Extends the length of analytical runs

The unique *pergo* design offers many advantages over other types of argon humidifiers.

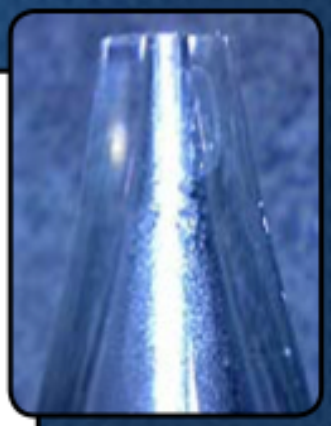
TRP-50 TR+ Glass Nebulizer

### ADVANTAGES:

- Higher, more consistent humidity
- Superior long-term stability for high TDS samples
- Safe and easy to use
  - Atmospheric pressure water reservoir
- Optional USB communication for programmable humidity levels



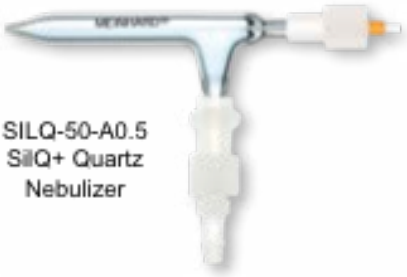

Ar nebulizer gas is humidified using a tube-shaped membrane placed in a PFA water reservoir at atmospheric pressure. The water vapor condenses inside the nebulizer tip, preventing salt build-up.



Water microdroplets continuously clean the inside of the nebulizer and prevent salt deposits.

## Quartz Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® SilQ+ Ultra high purity quartz nebulizer, low internal volume, nominal uptake 0.5 mL/min, 1 mL/min @ 50 psi, with FG PFA gas fitting and F2 sample uptake line (See page 33 for more information) | SILQ-50-A0.5 |
| MEINHARD® TQ+ quartz nebulizer, high sensitivity, low internal volume inlet, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi (See page 33 for more information) | TQP-50-A0.5 |
| MEINHARD® Type A concentric quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 0.5 mL/min, 1 L/min @ 30 psi | TQ-30-A0.5 |
| MEINHARD® Type A quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 1 mL/min, 1 L/min @ 30 psi | TQ-30-A1 |
| MEINHARD® Type A quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 2 mL/min, 1 L/min @ 30 psi | TQ-30-A2 |



SILQ-50-A0.5
SilQ+ Quartz
Nebulizer

## Glass Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® TR+ glass nebulizer, high sensitivity, low internal volume inlet, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi | TRP-50-A0.5 |
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, general purpose, nominal uptake 0.5mL/min, 1L/min @ 30 psi | TR-30-A0.5 |
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, low cost, high sensitivity, nominal uptake 1 mL/min, 1 L/min @ 30 psi | TR-30-A1 |

TR-30-A1
Type A Glass
Nebulizer

## PFA Nebulizer

| Description | Part Number |
|---|---|
| MicroFlow PFA-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME2040 |

ME2040
PFA-ST Nebulizer

## Poly-Pro Nebulizer

| Description | Part Number |
|---|---|
| PolyPro-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME4040 |

ME4040
PolyPro-ST Nebulizer

## F0 Encapsulated Micro Tubing

| Description | Part Number |
|---|---|
| F0 Encapsulated micro tubing for low uptake rates from 0.1 to 0.5 mL/min and the lowest internal volume of any nebulizer. Includes 0.25 mm i.d. ■ (green marker) 70 cm long micro capillary. | F0-25 |

F0-25
F0 Encapsulated Micro Tubing

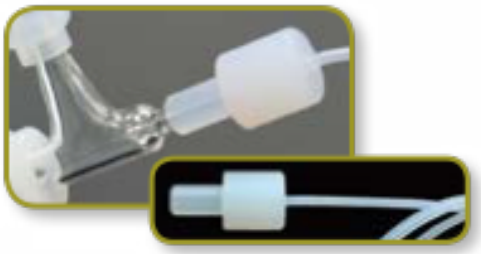
## F1 Detachable Capillary

| Description | Part Number |
|---|---|
| F1 Detachable capillary for a wide range of applications. Includes 0.80 mm i.d. ■ (blue marker) 70 cm long capillary. | F1-80 |

F1-80
F1 Detachable Capillary

## F2 Standard PFA Integrated Capillary

| Description | Part Number |
|---|---|
| F2 Standard integrated capillary for self-aspiration or pumping. Includes 0.5 mm i.d. ■ (orange marker) 70 cm long capillary. | F2-50 |



F2-50
F2 Integrated Capillary

## FG Gas Quick Connect for MEINHARD® Nebulizers

| Description | Part Number |
|---|---|
| FG Gas Quick Connect for MEINHARD® Nebulizers with maria for both small bore and standard bore nebulizers. | FG |

FG
FG Gas Quick Connect

## Nebulizer Cleaner

| Description | Part Number |
|---|---|
| Pearl Nebulizer Cleaner for all quartz and glass concentric nebulizers (8100-2051) | PRL-02 |

PRL-02
Pearl Nebulizer Cleaner

## *pergo* Argon Nebulizer Gas Humidifier

| Description | Part Number |
|---|---|
| *pergo* argon high solids accessory without nebulizer. Includes gas line connector kit. | PRG-01 |
| *pergo* argon high solids accessory including MEINHARD® Type A Plus high performance nebulizer | PRG-01-MAPlus |

PRG-01
*pergo* High Solids Accessory

# GV-Micromass IsoProbe & Platform

## Spray Chambers

| Description | Part Number |
|---|---|
| Pyrex double pass spray chamber, radial (6368303) | ML165016 |
| Quartz double pass spray chamber (6368308) | ML165015 |

## Quartz Elbow

| Description | Part Number |
|---|---|
| Quartz elbow, ball / socket (M695210BD1) | ML165020 |

## PTFE Endcap

| Description | Part Number |
|---|---|
| PTFE adapter (endcap) 6mm nebulizer to 35mm spray chamber | MM151030 |

MM151030
PTFE Endcap

## Quartz One-Piece Torch with Ball Joint

| Description | Part Number |
|---|---|
| Quartz torch, axial, fixed 1.5 mm injector (6368301) | ML165005 |

ML165005
Quartz One-piece Torch
with Ball Joint

## Quartz Torch, Demountable Injector

| Description | Part Number |
|---|---|
| Quartz torch, axial, demountable for ISIS (6366307) | ML165008 |

## Semi-Demountable Torches

| Description | Part Number |
|---|---|
| Semi-demountable o-ring-free torch with sapphire injector and spray chamber adapter | ME12021802 |
| Semi-demountable o-ring-free torch without injector | ME12020002 |

ME12020002
O-ring-free Torch

## Sapphire Injector, Semi-Demountable Torch

| Description | Part Number |
|---|---|
| Sapphire injector for o-ring-free semi-demountable torch with spray chamber adapter | ME12030182 |

## Quartz Bonnet

| Description | Part Number |
|---|---|
| Quartz bonnet (M695531A) | ML165025 |



S.A.F.I.R.

MEINHARD® can help you maintain your pump's performance with manufacturer recommended fluids. See page 100 for available fluids and oils.

## Cone Cleaning Kit & Detergent

| Description | Part Number |
|---|---|
| Cone Cleaning Kit includes: Course & Fine Alumina Powder, Diamond Abrasive Paste, Synthetic fiber, lint-free cloths, Wooden cotton swabs (qty 50), Foam Tipped ESD Swabs (qty 50) and Magnifier | MC-MNTKIT1 |
| Citranox Detergent, contains acid ingredients for high-performance removal of metal oxides, salts and inorganic residues combined with full detergent capability. Used on soft metals. 1 gallon | CitranoxDetergent |

MC-MNTKIT1
Cone Cleaning Kit

## Sampling Cones

| Description | Part Number |
|---|---|
| Ni sampler cone (M749629CD3) | MC-29CD3 |
| Al sampler cone (M749629CD2) | MC-29CD2 |
| Ni sampler cone, Cu base (M695439BD1) | MC-39BD1 |
| Ni sampler, enhanced low-mass performance (M699477CD3) | MC-77CD3 |
| Al sampler, enhanced low-mass performance (M699477CD2) | MC-77CD2 |
| Al sampler cone (M695439BD2) | MC-39BD2 |
| Pt Sampler Cone, copper base (M695439BD1) | MC-39BD1 |
| Copper cartridge (M749630BD1) | MC-30BD1 |

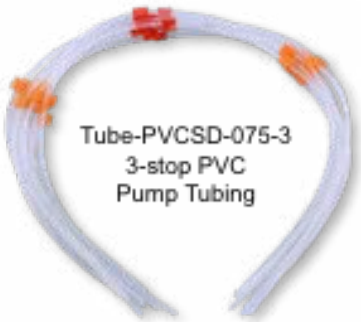
MC-39BD1
Nickel Sampler Cone

## Skimmer Cones

| Description | Part Number |
|---|---|
| Ni Skimmer Cone (M695440BD1) | MC-40BD1 |
| Al Skimmer Cone (M695440BD2) | MC-40BD2 |
| Ni Skimmer, enhanced low-mass performance (M7001116CD3) | MC-16CD3 |
| Al Skimmer, enhanced low-mass performance (M7001116CD2) | MC-16CD2 |
| Pt skimmer cone (M6955091) | MC-55091 |

## 3-Stop PVC Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 3-stop PVC pump tubing, 0.19 mm ID, (orange/red/orange), 12 pc | Tube-PVCSD-075-3 |
| 3-stop PVC pump tubing, 1.02 mm ID, (white/white/white), 12 pc | Tube-PVCSD-40-3 |
| 3-stop PVC pump tubing, flared, 0.19 mm ID, (orange/red/orange), 12 pc | Tube-PVCSD-075-3-F |



Tube-PVCSD-075-3
3-stop PVC
Pump Tubing

## 2-Stop PVC Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop PVC pump tubing, flared, 0.13 mm ID, (orange/black), 12 pc | Tube-PVCSD-051-F |
| 2-stop PVC pump tubing, flared, 0.19 mm ID, (orange/red), 12 pc | Tube-PVCSD-075-F |
| 2-stop PVC pump tubing, flared, 0.27 mm ID, (orange/blue), 12 pc | Tube-PVCSD-10-F |
| 2-stop PVC pump tubing, flared, 0.51 mm ID, (orange/yellow), 12 pc | Tube-PVCSD-20-F |
| 2-stop PVC pump tubing, flared, 1.30 mm ID, (gray/gray), 12 pc | Tube-PVCSD-51-F |

Tube-PVCSD-075-F
2-stop PVC
Pump Tubing

*Visit www.meinhard.com for additional tubing options.*

## Glass Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® Type C glass nebulizer, polished, recessed (0.5 mm) capillary, high solids, nominal uptake 2 mL/min, 1 L/min @ 30 psi (47929002) | TR-30-C2 |
| MEINHARD® Type C glass nebulizer, polished, recessed (0.5 mm) capillary, high solids, nominal uptake 3 mL/min, 1 L/min @ 30 psi (47929003) | TR-30-C3 |
| MEINHARD® Type K glass nebulizer, lapped flush nozzle, recessed (0.5 mm) capillary, high solids, nominal uptake 3 mL/min, 1 L/min @ 30 psi (47929005) | TR-30-K3 |
| MEINHARD® Type C glass nebulizer, polished, recessed (0.5 mm) capillary, high solids, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi (47929004) | TR-50-C0.5 |
| MEINHARD® Type C glass nebulizer, polished, recessed (0.5 mm) capillary, high solids, nominal uptake 1 mL/min, 1 L/min @ 50 psi (47929001) | TR-50-C1 |
| MEINHARD® Type C glass nebulizer, polished, recessed (0.5 mm) capillary, high solids, nominal uptake 3 mL/min, 1 L/min @ 50 psi (47929006) | TR-50-C3 |

TR-50-C1
Type C Glass
Nebulizer

## PFA Nebulizer

| Description | Part Number |
|---|---|
| MicroFlow PFA-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME2040 |

ME2040
PFA-ST Nebulizer

## Poly-Pro Nebulizer

| Description | Part Number |
|---|---|
| PolyPro-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME4040 |

ME4040
PolyPro-ST Nebulizer

## PEEK Nebulizer

| Description | Part Number |
|---|---|
| PEEK MiraMist nebulizer. Includes an argon line and sample capillary. | PMM4000 |

PMM4000
PEEK MiraMist Nebulizer

## Nebulizer Cleaner

| Description | Part Number |
|---|---|
| Pearl Nebulizer Cleaner for all quartz and glass concentric nebulizers | PRL-02 |

PRL-02
Pearl Nebulizer Cleaner



S.A.F.I.R.

## Cyclonic Spray Chambers

| Description | Part Number |
|---|---|
| Pyrex cyclonic spray chamber, top socket, 4 mm drain (31030809) | ML116055 |
| Pyrex cyclonic spray chamber with Easy-Seal threaded nebulizer inlet and PFA cap (47929056) | ML116055ES |
| Cyclonic spray chamber, no baffle (31-031-279) | 2015-015NB |
| Pyrex cyclonic spray chamber, 50 mL, top socket, ground glass tapered (14/20) drain | ML116056 |
| Pyrex cyclonic spray chamber with water jacket for cooling, top socket, 4 mm drain (47929046) | ML116057 |
| Pyrex cyclonic spray chamber, 20 mL, top socket, 4 mm drain (47929049) | ML116060 |
| Pyrex cyclonic spray chamber, axial, taper to top socket, o-ring inlet, 4 mm drain (31031479) | ML116062 |

ML116055
Cyclonic Spray Chamber

## Spray Chamber

| Description | Part Number |
|---|---|
| Pyrex Scott Type spray chamber with ground-glass joint (31026996) | ML116054 |

ML116054
Pyrex Spray Chamber

## Quartz Outer Torch Tubes

| Description | Part Number |
|---|---|
| Quartz demountable outer torch tube with ground step, 71 mm long | ME19529001 |
| Quartz demountable outer torch tube, radial, 71 mm long (31023722) | ML116050 |
| Quartz demountable outer torch tube, radial, 82.5 mm long | ML116051 |
| Quartz demountable outer torch tube, axial, Panorama 105 mm long (31031099) | ML116070 |

ME19529001
Quartz Outer Torch Tube

## Quartz Inner Torch Tubes

| Description | Part Number |
|---|---|
| Quartz demountable inner torch tube (31023723) | ML116052 |
| Quartz demountable outer torch tube, radial, 71 mm long (31023722) | ML116050 |

ML116052
Quartz Inner Torch Tube

## Torch Assembly

| Description | Part Number |
|---|---|
| Fully demountable torch assembly (21-356-110) | MP16040 |

MP16040
Torch Assembly

## Quartz One-Piece Torch

| Description | Part Number |
|---|---|
| Quartz torch, radial, fixed 1.5 mm injector (49010100) | ML135005 |

ML135005
Quartz One-Piece
Torch

## Alumina Injector

| Description | Part Number |
|---|---|
| Alumina injector, 2.9 mm (31021589) | MA1589 |

MA1589
Alumina Injector

## Quartz Injector

| Description | Part Number |
|---|---|
| Quartz injector, 2.0 mm | ML116059 |

ML116059
Quartz Injector

## Sheath Gas Tube

| Description | Part Number |
|---|---|
| Pyrex sheath gas tube (21356040) | ML116063 |

ML116063
Sheath Gas Tube

## Centering Ring

| Description | Part Number |
|---|---|
| Centering ring (31023724) | ML116053 |

ML116053
Centering Ring

MEINHARD® can help you maintain your pump's performance with manufacturer recommended fluids. See page 100 for available fluids and oils.

## Viton O-Rings

| Description | Part Number |
|---|---|
| Viton o-rings, pack of 4 (46702525) | MM116200 |

MM116200
Viton O-Rings

## O-Ring Kit

| Description | Part Number |
|---|---|
| O-ring kit, demountable torch (9 o-rings) | MM116210 |

MM116210
O-Ring Kit

## PTFE Endcap

| Description | Part Number |
|---|---|
| PTFE adapter (endcap) 6mm nebulizer to 35mm spray chamber (31-023-549) | MM151030 |

MM151030
PTFE Endcap

## *pergo* Argon Nebulizer Gas Humidifier

| Description | Part Number |
|---|---|
| *pergo* argon high solids accessory without nebulizer. Includes gas line connector kit. | PRG-01 |
| *pergo* argon high solids accessory including MEINHARD® Type A Plus high performance nebulizer. | PRG-01-MAPlus |

PRG-01
*pergo* High Solids Accessory

## 2-Stop PVC Peristaltic Pump Tubing

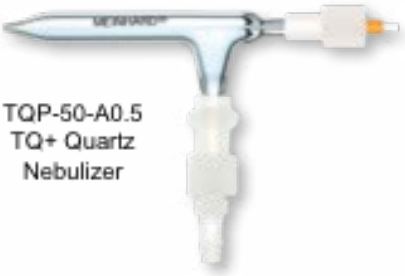
| Description | Part Number |
|---|---|
| 2-stop PVC pump tubing, 1.14 mm ID, (red/red), 12 pc | Tube-PVCSD-45 |
| 2-stop PVC pump tubing, flared, 0.76 mm ID, (black/black), 12 pc | Tube-PVCSD-30-F |

Tube-PVCSD-30-F
2-stop PVC
Pump Tubing

***Visit www.meinhard.com for additional tubing options.***

## Quartz Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® SilQ+ Ultra high purity quartz nebulizer, low internal volume, nominal uptake 0.5 mL/min, 1 mL/min @ 50 psi, with FG PFA gas fitting and F2 sample uptake line. (See page 33 for more information) | SILQ-50-A0.5 |
| MEINHARD® TQ+ quartz nebulizer, high sensitivity, low internal volume inlet, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi. (See page 33 for more information) | TQP-50-A0.5 |
| MEINHARD® Type A concentric quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 0.5 mL/min, 1 L/min @ 30 psi | TQ-30-A0.5 |
| MEINHARD® Type A quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 1 mL/min, 1 L/min @ 30 psi | TQ-30-A1 |



TQP-50-A0.5
TQ+ Quartz
Nebulizer

## Glass Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® TR+ glass nebulizer, high sensitivity, low internal volume inlet, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi | TRP-50-A0.5 |
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, high sensitivity, low cost, nominal uptake 0.5 mL/min, 1 L/min @ 30 psi | TR-30-A0.5 |
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, general purpose, nominal uptake 1mL/min, 1L/min @ 30 psi | TR-30-A1 |

TR-30-A1
Type A Glass
Nebulizer

## PFA Nebulizer

| Description | Part Number |
|---|---|
| MicroFlow PFA-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME20400009 |

ME20400009
PFA-ST Nebulizer

## Poly-Pro Nebulizer

| Description | Part Number |
|---|---|
| PolyPro-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME4040 |

ME4040
PolyPro-ST Nebulizer

## Nebulizer Cleaner

| Description | Part Number |
|---|---|
| Pearl Nebulizer Cleaner for all quartz and glass concentric nebulizers | PRL-02 |

PRL-02
Pearl Nebulizer Cleaner

## PC³ Peltier Cooler

| Description | Part Number |
|---|---|
| PC³ Peltier cooler. Includes a quartz cyclonic spray chamber. | ME41821118 |

ME41821118
PC³ Peltier Cooler

## PFA Cyclonic Spray Chamber

| Description | Part Number |
|---|---|
| Baffled, PFA cyclonic spray chamber for Nu AttoM, connects to ESI injector for Nu AttoM | ME3193311121 |



S.A.F.I.R.

## Quartz Torch Bonnet

| Description | Part Number |
|---|---|
| Quartz bonnet for one-piece torches (319-311) | ML170025 |

ML170025
Quartz Torch Bonnet

## Quartz One-Piece Torches with Ball Joint

| Description | Part Number |
|---|---|
| Quartz torch, axial, fixed 1.5 mm injector (319-308) | ML170005 |
| Quartz torch, axial, fixed 1.5 mm injector (rebuild of ML170005) | ML170005R |
| Quartz torch, axial, fixed 1.5 mm injector (3201192) | ML145005 |

ML170005
Quartz One-Piece Torch

## Nu AttoM / Plasma II Demountable Quartz Torch

| Description | Part Number |
|---|---|
| O-Ring Free Demountable Precision Quartz Torch for Nu AttoM / Nu Plasma II | ME1602100093 |

ME1602100093
Quartz Torch

## Nu AttoM / Plasma II Demountable Injectors

| Description | Part Number |
|---|---|
| 1.5 mm i.d. Quartz injector for Nu AttoM, Nu Plasma II, o-ring free | ME1233015093 |
| 2mm i.d. Quartz injector for Nu AttoM, Nu Plasma II, o-ring free | ME1233020093 |
| 1.0 mm i.d. Sapphire injector for Nu AttoM, Nu Plasma II o-ring free | ME1203010093 |
| 1.5mm i.d. sapphire injector for Nu AttoM, Nu Plasma II, o-ring free | ME1203015093 |
| 1.8mm i.d. sapphire injector for Nu AttoM, Nu Plasma II, o-ring free | ME1203018093 |
| 1 mm ID Platinum injector for Nu AttoM, Nu Plasma II o-ring free | ME1213010093 |
| 1.5 mm ID Platinum injector for Nu AttoM, Nu Plasma II o-ring free | ME1213015093 |
| 2mm ID Platinum injector for Nu AttoM, Nu Plasma II o-ring free | ME1213020093 |

Use all above injectors with an ME1602100093 precision quartz torch and ESI spray chamber.

## O-Ring-Free Sapphire Injectors, Demountable

| Description | Part Number |
|---|---|
| O-ring-free sapphire injector, HF resistant,1.0 mm | ME1203010082 |
| O-ring-free sapphire injector, HF resistant,1.8 mm | ME1203018082 |

ME1203018082
O-ring-free Sapphire
Injector

## O-Ring-Free Platinum Injectors, Demountable

| Description | Part Number |
|---|---|
| O-ring-free platinum injector, HF resistant,1.8 mm | ME1213018082 |
| O-ring-free platinum injector, HF resistant, 2 mm | ME1213020082 |

## Magnetic Sector Multipliers

| Description | Part Number |
|---|---|
| ETP Magnetic Sector Multiplier for Nu Plasma | MC-AF143 |
| ETP Magnetic Sector Multiplier for Nu Plasma AttoM (with filter) | MC-AF144 |

MEINHARD® can help you maintain your pump's performance with manufacturer recommended fluids. See page 100 for available fluids and oils.

## RS12/5 Socket to Torch Base PFA Adapter

| Description | Part Number |
|---|---|
| PFA adapter from RS12/5 socket to ESI o-ring-free torch base | ME5509 |

ME5509
PFA Adapter

## Spray Chamber to RS12/5 Torch PFA Adapter

| Description | Part Number |
|---|---|
| PFA adapter from ESI spray chamber to RS12/5 torch base | ME5510 |

ME5510
PFA Adapter

## Sampler Cones

| Description | Part Number |
|---|---|
| Ni sampler Cone, Ni base (Version A) (319-285) | MC-19285 |
| Ni sampler Cone, Ni base (Version B) (319-541) | MC-19541 |
| Gasket, Graphite for sampler (pack of 3) (3004382) | MC-04382 |
| Nickel sampler cone, original style (319-285) | MC-19285 |
| Nickel sampler cone, WA6, original style (319-497) | MC-19497 |
| Nickel sampler cone, version B with 0.9 mm orifice (319-541) | MC-19541 |
| Nickel sampler cone, version B (319-540) | MC-19540 |

MC-19541
Ni Sampler Cone

## Skimmer Cones

| Description | Part Number |
|---|---|
| Ni skimmer Cone, Ni base (Original) (319-284) | MC-19284 |
| Ni skimmer Cone, Ni base (Version A) (319-497) | MC-19497 |
| Ni skimmer Cone, Ni base (Version B) (319-540) | MC-19540 |

MC-19540
Ni Skimmer Cone

## Cone Cleaning Kit & Detergent

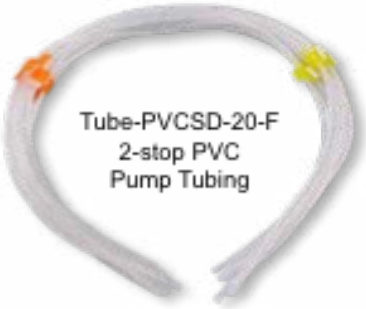
| Description | Part Number |
|---|---|
| Cone Cleaning Kit includes: Course & Fine Alumina Powder, Diamond Abrasive Paste, Synthetic fiber, lint-free cloths, Wooden cotton swabs (qty 50), Foam Tipped ESD Swabs (qty 50) and Magnifier | MC-MNTKIT1 |
| Citranox Detergent, contains acid ingredients for high-performance removal of metal oxides, salts and inorganic residues combined with full detergent capability. Used on soft metals. 1 gallon | CitranoxDetergent |

MC-MNTKIT1
Cone Cleaning Kit

## 2-Stop PVC Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop PVC pump tubing, 1.30 mm ID, (gray/gray), 12 pc | Tube-PVCSD-51 |
| 2-stop PVC pump tubing, flared, 0.13 mm ID, (orange/black), 12 pc | Tube-PVCSD-051-F |
| 2-stop PVC pump tubing, flared, 0.51 mm ID, (orange/yellow), 12 pc | Tube-PVCSD-20-F |

*Visit www.meinhard.com for additional tubing options.*



Tube-PVCSD-20-F
2-stop PVC
Pump Tubing



S.A.F.I.R.

# MEINHARD® SilQ+

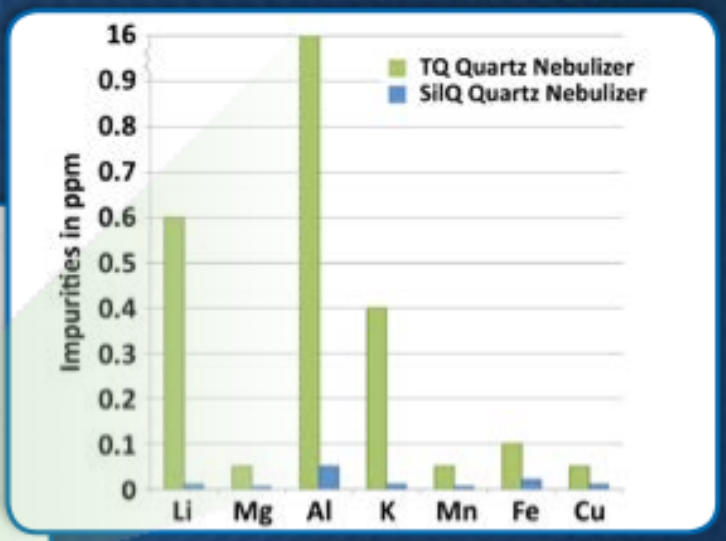
## High Purity Quartz ICPMS Nebulizer

The SilQ+ nebulizer by MEINHARD® is perfect for applications requiring high sensitivity. Made from the highest purity synthetic quartz, the SilQ+ nebulizer has low levels of trace elemental impurities, reducing the risk of sample contamination. SilQ+ nebulizers improve wash-out rates and generate low, stable blanks that can enhance ICPMS detection limits.

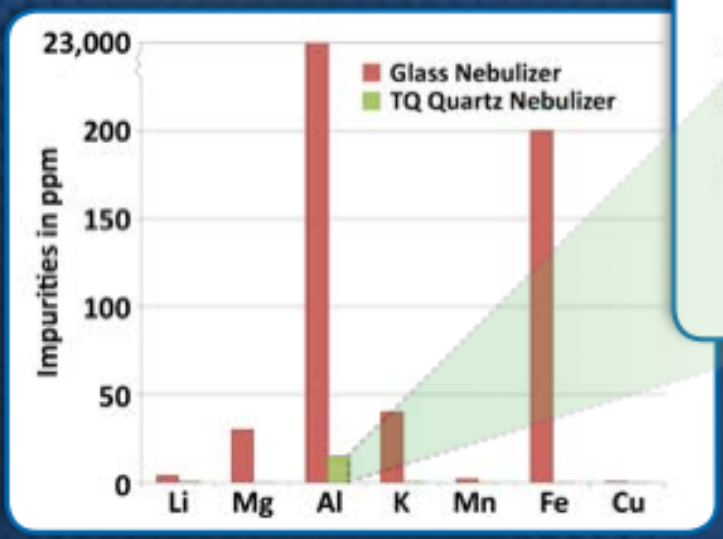
SilQ+ comes equipped with PFA FitKit gas and sample quick connect fittings that eliminate contaminants from conventional connectors commonly used on other nebulizers. The fittings can be rapidly attached and removed. The gas quick connect creates a snug seal around the maria on the SilQ+ sidearm.

Each nebulizer is manufactured and tested to exacting specifications. The standard SilQ+ nebulizer requires 50 psi for 1 L/min of argon carrier and 0.5 mL/min solution uptake. Other versions are available.

MEINHARD® SilQ+ high purity nebulizer with PFA FitKit



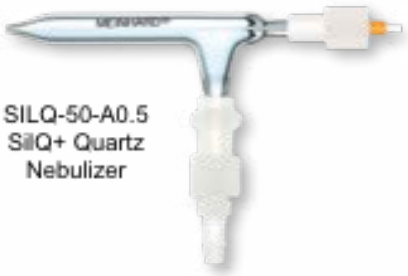

**Comparison of metal impurity in SilQ+ and TQ+ Quartz nebulizers.** SilQ+ impurities on average are 60 times lower than standard quartz nebulizers. Aluminum impurities in SilQ+ nebulizers are more than 400,000 times lower than glass.




**Comparison of metal impurity in Glass and TQ+ Quartz nebulizers**. Glass nebulizers have high levels of impurity for elements such as Al, Fe, K, Mg.

## Quartz Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® SilQ+ Ultra high purity quartz nebulizer, low internal volume, nominal uptake 0.5 mL/min, 1 mL/min @ 50 psi, with FG PFA gas fitting and F2 sample uptake line (See page 33 for more information) | SILQ-50-A0.5 |
| MEINHARD® TQ+ quartz nebulizer, high sensitivity, low internal volume inlet, nominal uptake 0.5 mL/min, 1 L/min @ 30 psi (N8142098) (See page 31 for more information) | TQP-30-A0.5 |
| MEINHARD® TQ+ quartz nebulizer, high sensitivity, low internal volume inlet, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi (N8122461) (See page 33 for more information) | TQP-50-A0.5 |
| MEINHARD® Type A concentric quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 0.5 mL/min, 1 L/min @ 30 psi | TQ-30-A0.5 |
| MEINHARD® Type A quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 1 mL/min, 1 L/min @ 30 psi | TQ-30-A1 |
| MEINHARD® Type A concentric quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 3 mL/min, 1 L/min @ 30 psi | TQ-30-A3 |
| MEINHARD® Type A concentric quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi (N8145011) | TQ-50-A0.5 |



SILQ-50-A0.5
SilQ+ Quartz
Nebulizer

## Glass Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® TR+ glass nebulizer, high sensitivity, low internal volume inlet, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi | TRP-50-A0.5 |
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, general purpose, nominal uptake 0.5mL/min, 1L/min @ 30 psi | TR-30-A0.5 |
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, general purpose, nominal uptake 1mL/min, 1L/min @ 30 psi | TR-30-A1 |
| MEINHARD® Type C glass nebulizer, polished, recessed (0.5 mm) capillary, high solids, nominal uptake 1 mL/min, 1 L/min @ 30 psi (N8102011) | TR-30-C1 |
| MEINHARD® Type K glass nebulizer, lapped flush nozzle, recessed (0.5 mm) capillary, high solids, nominal uptake 1 mL/min, 0.7 L/min @ 30 psi | TR-30-K1 |
| MEINHARD® Type C glass nebulizer, polished, recessed (0.5 mm) capillary, high solids, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi (N8145012) | TR-50-C0.5 |

TR-30-C1
Type C Glass
Nebulizer

## PFA Nebulizers with Integrated Capillaries

| Description | Part Number |
|---|---|
| PFA-20 MicroFlow nebulizer, HF resistant, 20 µL/min uptake | ME20200002 |
| PFA-100 MicroFlow nebulizer, HF resistant, 100 µL/min uptake | ME20020002 |
| High temperature APEX-100 PFA Nebulizer ~90-150 ul/min self-aspiration capillary. (N0777376) | ME20027000 |
| ST3 MicroFlow PFA nebulizer with external 1/4-28 threaded connector for NexION, Includes two capillaries, 100µl/min. and 400µl/min. (N8145101) | MEST384 |

ME20200002
PFA-20 Nebulizer

## PFA-ST Nebulizer

| Description | Part Number |
|---|---|
| PFA-ST MicroFlow low pressure nebulizer for PE Elan/NexION ICPMS. Includes two capillaries (100µl/min. & 400µl/min.) | ME204054 |

ME204054
PFA-ST Nebulizer

## Poly-Pro Nebulizer

| Description | Part Number |
|---|---|
| PolyPro-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME404054 |
| Apex-ST PFA MicroFlow nebulizer with external 1/4-28 threaded connector, includes 0.25mm ID manual sampling probe (ME50462250080) and 0.5mm ID sample capillary for ST nebulizer (ME2041) (N0777375) | ME20407000 |

ME404054
PolyPro-ST Nebulizer

## PEEK Nebulizer

| Description | Part Number |
|---|---|
| PEEK MiraMist nebulizer. Includes an argon line and sample capillary. | PMM4000 |

PMM4000
PEEK MiraMist Nebulizer

## Solution Inlet Adapter

| Description | Part Number |
|---|---|
| Solution inlet adapter for 4 mm standard liquid input nebulizers, includes union, ferrules, and 5' of 1/16" o.d. ETFE sample tubing and #160 (WE024372) | Fit Kit 3 |

Fit Kit 3
Solution Inlet Adapter

## Nebulizer Gas Quick Connects

| Description | Part Number |
|---|---|
| Gas Quick Connect for MEINHARD® Nebulizers with PFA-Press Fit for 4 mm tubing. Forms a tight seal over the maria on the sidearm of the nebulizer. | F4 |
| ICPMS Nebulizer Gas Quick Connect with PFA-Press Fit for 4 mm tubing for Nexion/ELAN. Connects to the instrument. | F4-54 |

F4
Nebulizer Gas Quick Connect

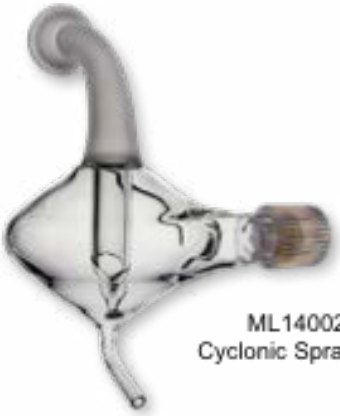
## Nebulizer Cleaner

| Description | Part Number |
|---|---|
| Pearl Nebulizer Cleaner for all quartz and glass concentric nebulizers | PRL-02 |

PRL-02
Pearl Nebulizer Cleaner

## Cyclonic Spray Chambers

| Description | Part Number |
|---|---|
| Quartz cyclonic spray chamber for ball joint injector (WE025221) | ML140020 |
| Quartz cyclonic spray chamber for ball joint injector with Easy-Seal inlet for PE ELAN (WE025221) | ML140020ES |
| Quartz cyclonic spray chamber for ball joint injector with Easy-Seal inlet for PE NexION (N8145013) | ML140025ESQ |
| Pyrex cyclonic spray chamber for ball joint injector with Easy-Seal inlet for PE NexION (N8145014) | ML140026ESP |



ML140025ESQ
Cyclonic Spray Chamber

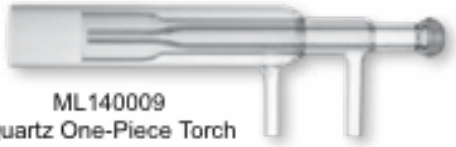
## Quartz Torches, Demountable Injector

| Description | Part Number |
|---|---|
| ESI precision o-ring-free quartz torch, demountable, axial (N8145106) | ME11021000 |
| Quartz torch, demountable (N8122006) | ML140010 |
| Quartz torch, demountable, high efficiency (W1008384) | ML140012 |

ME11021000
Quartz Torch

## Quartz One-Piece Torch with Ball Joint

| Description | Part Number |
|---|---|
| Quartz torch, fixed injector, long tube (N8102001) | ML140009 |



ML140009
Quartz One-Piece Torch

## Platinum Injectors

| Description | Part Number |
|---|---|
| Platinum injector, 1 mm, cassette mount. (N8145107) | ME11133100 |
| Platinum injector, 2 mm, cassette mount. (N8122412) | ME11133200 |

ME11133200
Platinum Injector

## Quartz Injectors for Standard Torch

| Description | Part Number |
|---|---|
| Quartz injector for standard torch (ML132033), 1.2 mm, bayonet mount. (N0681631) | ME132033 |
| Quartz injector for standard torch (ML132035), 2 mm, bayonet mount. (N8125029) | ME132035 |

ME132035
Quartz Injector

## Platinum Injector for O-Ring-Free Torch

| Description | Part Number |
|---|---|
| Platinum injector for o-ring-free torch (ME11242150), 2 mm, cassette mount (N8145111) | ME11132200 |

ME11132200
Platinum Injector

## Alumina Injectors

| Description | Part Number |
|---|---|
| Alumina injector, 0.85 mm (N8126039) | MA2186 |
| Alumina injector, 1.5 mm (N8126040) | MA2185 |
| Alumina injector, 2 mm (N8126041) | MA2184 |

MA2186
Alumina Injector

## Quartz Injectors with Ball Joint

| Description | Part Number |
|---|---|
| Quartz injector with ball joint, 0.85 mm, support ring (WE027030) | ML140031 |
| Quartz injector with ball joint, 1.5 mm, support ring (WE027005) | ML140032 |
| Quartz injector with ball joint, 2 mm, support ring (WE023948) | ML140030 |

ML140031
Quartz Injector with
Ball Joint

## Quartz Injectors for O-Ring-Free Torch

| Description | Part Number |
|---|---|
| Quartz injector for o-ring-free torch, 1.5 mm, cassette mount (N8145115) | ME11242150 |
| Quartz injector for o-ring-free torch, 2.5 mm, cassette mount (N8145117) | ME11242250 |

## Copper Load Coils

| Description | Part Number |
|---|---|
| Copper load coil for PerkinElmer Elan 6100DRC, DRC II, DRC-e & NexION (WE021816) | MC-21816 |
| Copper load coil for Perkin Elmer Elan 500, 5000, 6000, 9001 (WE012411) | MC-12411 |

MC-21816
Copper Load Coil

## ELAN Bayonet HF Resistant Sample Intro Kits

| Description | Part Number |
|---|---|
| Complete HF-resistant sample introduction kit. Includes two PFA-100 Nebulizers, PureCap PFA endcap with additional gas port, 47 mm PFA spray chamber, 1.8 mm bayonet sapphire injector and quartz torch. (N8122362) | ME2170047219 |
| Complete high purity sample introduction kit. Includes two PFA-100 Nebulizers, PureCap PFA endcap with additional gas port, 47 mm PFA spray chamber, 2.0 mm bayonet platinum injector and quartz torch. (N8122363) | ME2171047219 |

ME2170047219
HF Resistant Sample Intro Kit

## ELAN Cassette HF Resistant Sample Intro Kits

| Description | Part Number |
|---|---|
| Complete HF-resistant sample introduction kit. Includes two PFA-100 Nebulizers, PureCap PFA endcap with additional gas port, 47 mm PFA spray chamber, 1.8 mm casette sapphire injector and quartz torch. (N8122414) | ME21709019 |
| Complete high purity sample introduction kit. Includes two PFA-100 Nebulizers, PureCap PFA endcap with additional gas port, 47 mm PFA spray chamber, 2.0 mm cassette platinum injector and quartz torch. (N8122415) | ME21419019 |

ME21419019
HF Resistant Sample Intro Kit

## NexION HF Resistant Sample Intro Kits

| Description | Part Number |
|---|---|
| Complete HF-resistant sample introduction kit. Includes a PFA-ST nebulizer, PFA PureCap endcap with additional gas port, 47 mm PFA spray chamber, 1.8 mm sapphire injector, platinum shield disc and quartz torch. (N8142002) | ME2170047219 |
| Complete high purity sample introduction kit. Includes two PFA-100 MicroFlow nebulizers, PFA PureCap endcap with additional gas port, 47 mm PFA spray chamber, 2.0 mm platinum injector, platinum shield disc and quartz torch. (N8142001) | ME2171047219 |

ME2170047219
HF Resistant Sample Intro Kit

## Cone Cleaning Kit & Detergent

| Description | Part Number |
|---|---|
| Cone Cleaning Kit includes: Course & Fine Alumina Powder, Diamond Abrasive Paste, Synthetic fiber, lint-free cloths, Wooden cotton swabs (qty 50), Foam Tipped ESD Swabs (qty 50) and Magnifier | MC-MNTKIT1 |
| Citranox Detergent, contains acid ingredients for high-performance removal of metal oxides, salts and inorganic residues combined with full detergent capability. Used on soft metals. 1 gallon | CitranoxDetergent |

MC-MNTKIT1
Cone Cleaning Kit

## Sampling Cones

| Description | Part Number |
|---|---|
| Ni sampler Cone, Ni base (W1033612) | MC-33612 |
| Ni sampler Cone, Ni base (WE013087) | MC-13807 |
| Ni sampler cone, Ni base (WE021140) | MC-21140 |
| Pt sampler cone, Ni base (W1033614) | MC-33614 |
| Pt sampler cone, Ni base (N8122025) | MC-22025 |
| Pt sampler cone, Ni base (WE027802) | MC-27802 |
| O-ring, brown Viton for sampler (qty5) (N8120511) | MC-20511 |
| Gaskets, Aluminum for sampler (qty 3) (W1040148) | MC-40148 |

MC-33612
Ni Sampler Cone

## Skimmer Cones

| Description | Part Number |
|---|---|
| Al hyper skimmer cone, Al base (W1033995) | MC-33995 |
| Ni skimmer cone, Ni base (W1026356) | MC-26356 |
| Ni skimmer cone, Ni base (N8122000) | MC-22000 |
| Ni skimmer cone, Ni base (WE021137) | MC-21137 |
| Pt skimmer cone, Ni base (W1026907) | MC-26907 |
| Pt skimmer cone, Ni base (N8122035) | MC-22035 |
| Pt skimmer cone, Ni base (WE027803) | MC-27803 |
| O-rings, black Viton for skimmer (qty 5) (N8120512) | MC-20512 |
| O-rings, Viton for hyper skimmer (qty 2) (09902123) | MC-02123 |
| Screws, steel for hyper skimmer (qty 2) (09919737) | MC-19737 |
| Insertion / removal tool (WE17142) | MC-17142 |

MC-33995
Al Hyper Skimmer Cone

## Autosampler Probes

| Description | Part Number |
|---|---|
| 0.8mm ID ESI SC-DX *FAST* autosampler probe, carbon fiber support, 150 cm | ME50373755150 |
| 1.0mm ID ESI SC-DX *FAST* autosampler probe, carbon fiber support, 150 cm | ME50373995150 |
| 0.25mm ID ESI SC-DX autosampler probe, carbon fiber support, 150 cm | ME50373255150 |
| 0.5mm ID ESI SC-DX autosampler probe, carbon fiber support, 150 cm | ME50373505150 |
| 0.25mm ID ESI Non-DX autosampler probe, carbon fiber support, 80 cm | ME50373250080 |
| 0.5mm ID ESI Non-DX autosampler probe, carbon fiber support, 80 cm | ME50373500080 |
| 0.25mm ID PE S10 autosampler probe, carbon fiber support, 100 cm | ME50379250100 |
| 0.5mm ID PE S10 autosampler probe, carbon fiber support, 100 cm | ME50379500100 |

ME50373505150
Autosampler Probe

MEINHARD® can help you maintain your pump's performance with manufacturer recommended fluids. See page 100 for available fluids and oils.

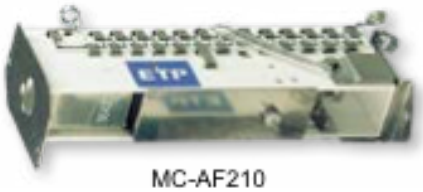
## Internal Standard Addition Tee for ESI ST Nebulizers

| Description | Part Number |
|---|---|
| 0.25 mm ID internal standard addition tee for ESI ST nebulizers, 14 cm | ME03171250 |
| 0.5 mm ID internal standard addition tee for ESI ST nebulizers, 14 cm. Recommended for flow rates > 0.3 mL/min. | ME03171500 |

ME03171500
Internal Standard Addition Tee

## Electron Multipliers

| Description | Part Number |
|---|---|
| ETP Electron Multiplier for PE Elan 6000 (N812500) | MC-AF210 |
| ETP Electron Multiplier for PE NexION (N8145000) | MC-45000 |
| ETP Electron Multiplier for PE Elan 6X00/9000/DRC (N8125050) | MC-AF217 |




MC-AF210
ETP Electron Multiplier

## Pipette Tips

| Description | Part Number |
|---|---|
| 100 µL PFA PureTip pipette tips, pre-cleaned, pack of 10 (N0777394) | ME70000101 |
| 1000 µL PFA PureTip pipette tips, pre-cleaned, pack of 10 (N0777395) | ME70001001 |

ME70000101 & ME70001001
Pipette Tips

## 2-Stop PVC Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop PVC pump tubing, 0.76 mm ID, (black/black), 12 pc (N0680375) | Tube-PVCSD-30 |
| 2-stop PVC pump tubing, 0.95 mm ID, (white/black), 12 pc | Tube-PVCSD-37 |
| 2-stop PVC pump tubing, 1.14 mm ID, (red/red), 12 pc (N0680375) | Tube-PVCSD-45 |
| 2-stop PVC pump tubing, flared, 0.76 mm ID, (black/black), 12 pc (00473550) | Tube-PVCSD-30-F |

Tube-PVCSD-30
2-stop PVC
Pump Tubing

## 2-Stop SolventFlex Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop SolventFlex pump tubing, 0.76 mm ID, (black/black), 12 pc (N0680376) | Tube-SolFSD-30 |
| 2-stop SolventFlex pump tubing, 1.14 mm ID, (red/red), 12 pc (N0680376) | Tube-SolFSD-45 |
| 2-stop SolventFlex pump tubing, flared, 0.76 mm ID, (black/black), 12 pc (N8122012) | Tube-SolFSD-30-F |

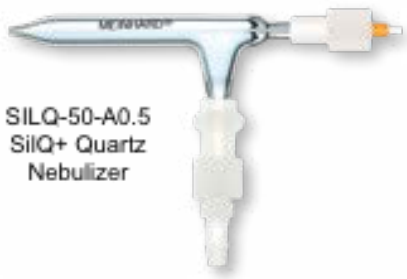
Tube-SolFSD-30
2-stop SolventFlex
Pump Tubing

*Visit www.meinhard.com for additional tubing options.*

# PerkinElmer Optima 2x00DV - 8x00DV

## Quartz Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® SilQ+ Ultra high purity quartz nebulizer, low internal volume, nominal uptake 0.5 mL/min, 1 mL/min @ 50 psi, with FG PFA gas fitting and F2 sample uptake line. (See page 33 for more information) | SILQ-50-A0.5 |
| MEINHARD® TQ+ quartz nebulizer, high sensitivity, low internal volume inlet, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi (N8122461) (See page 33 for more information) | TQP-50-A0.5 |
| MEINHARD® Type A concentric quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 0.5 mL/min, 1 L/min @ 30 psi (WE024371) | TQ-30-A3 |



SILQ-50-A0.5
SilQ+ Quartz
Nebulizer

## Glass Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® TR+ glass nebulizer, high sensitivity, low internal volume inlet, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi | TRP-50-A0.5 |
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, low cost, high sensitivity, nominal uptake 3 mL/min, 1 L/min @ 30 psi (00472020) | TR-30-A3 |
| MEINHARD® Type C glass nebulizer, polished, recessed (0.5 mm) capillary, high solids, nominal uptake 3 mL/min, 1 L/min @ 30 psi (N8102011) | TR-30-C3 |
| MEINHARD® Type K glass nebulizer, lapped flush nozzle, recessed (0.5 mm) capillary, high solids, nominal uptake 3 mL/min, 0.7 L/min @ 30 psi (N0681574) | TR-30-K3 |
| MEINHARD® Type C glass nebulizer, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi (N8145012) | TR-50-C0.5 |
| MEINHARD® Type C glass nebulizer, polished, recessed (0.5 mm) capillary, high solids, nominal uptake 1 mL/min, 1 L/min @ 50 psi (0047-2022) | TR-50-C1 |
| MEINHARD® Type K glass nebulizer, lapped flush nozzle, recessed (0.5 mm) capillary, high solids, nominal uptake 1 mL/min, 1 L/min @ 50 psi (N0777707) | TR-50-K1 |

TR-30-A3
Type A Glass
Nebulizer

## PFA Nebulizer

| Description | Part Number |
|---|---|
| MicroFlow PFA-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. (N0777049) | ME204057 |
| MicroFlow PFA-ST3 PFA nebulizer with external ¼-28 threaded connector, includes two capillaries (100µl/min & 400µl/min) (N0777676) | MEST357 |

ME204057
PFA-ST Nebulizer

## Poly-Pro Nebulizer

| Description | Part Number |
|---|---|
| PolyPro-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. (N0777219) | ME404057 |

ME404057
PolyPro-ST Nebulizer

## PEEK Nebulizer

| Description | Part Number |
|---|---|
| Burgener PEEK MiraMist parallel-path nebulizer. Includes an argon line and sample capillary. (N0775330) | PMM4000 |

PMM4000
PEEK MiraMist Nebulizer

## Solution Inlet Adapter

| Description | Part Number |
|---|---|
| Solution inlet adapter for 4 mm standard liquid input nebulizers, includes union, ferrules, and 5' of 1/16" o.d. ETFE sample tubing and #160 (WE024372) | Fit Kit 3 |

Fit Kit 3
Solution Inlet Adapter



S.A.F.I.R.

## F0 Encapsulated Micro Tubing

| Description | Part Number |
|---|---|
| F0 Encapsulated micro tubing for low uptake rates from 0.1 to 0.5 mL/min and the lowest internal volume of any nebulizer. Includes 0.25 mm i.d. ■ (green marker) 70 cm long micro capillary. | F0-25 |

F0-25
F0 Encapsulated Micro Tubing

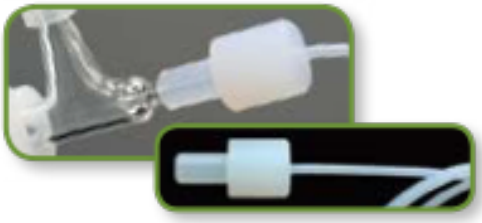
## F1 Detachable Capillary

| Description | Part Number |
|---|---|
| F1 Detachable capillary for a wide range of applications. Includes 0.80 mm i.d. ■ (blue marker) 70 cm long capillary. | F1-80 |

F1-80
F1 Detachable Capillary

## F2 Standard PFA Integrated Capillary

| Description | Part Number |
|---|---|
| F2 Standard integrated capillary for self-aspiration or pumping. Includes 0.5 mm i.d. ■ (orange marker) 70 cm long capillary. | F2-50 |



F2-50
F2 Integrated Capillary

## F5 Standard PTFE Integrated Capillary

| Description | Part Number |
|---|---|
| F5 integrated capillary for standard (4 mm inlet) nebulizers. Includes 0.5 mm i.d. ■ (orange marker) 70 cm PFA capillary. | F2-50 |

F5-50
F5 Integrated Capillary

## FG Gas Quick Connect for MEINHARD® Nebulizers

| Description | Part Number |
|---|---|
| FG Gas Quick Connect for MEINHARD® Nebulizers with maria for both small bore and standard bore nebulizers. | FG |

FG
FG Gas Quick Connect

## Nebulizer Gas Quick Connects

| Description | Part Number |
|---|---|
| Gas Quick Connect for MEINHARD® Nebulizers with PFA-Press Fit for 4 mm tubing. Forms a tight seal over the maria on the sidearm of the nebulizer. | F4 |
| Nebulizer Gas Quick Connect with PFA-Press Fit for 4 mm tubing for Optima. Connects to the instrument. | F4-57 |

F4
Nebulizer Gas Quick Connect

## PFA Nebulizers with Integrated Capillaries

| Description | Part Number |
|---|---|
| PFA-20 MicroFlow Nebulizer with integrated capillary, 20µL/min measured self-aspiration rate (@1L/m Ar) | ME2020 |
| PFA-50 MicroFlow Nebulizer with integrated capillary, 50µL/min measured self-aspiration rate (@1L/m Ar) | ME2000 |
| PFA-100 MicroFlow Nebulizer with integrated capillary, 100µL/min measured self-aspiration rate (@1L/m Ar) | ME2002 |
| PFA-200 MicroFlow Nebulizer with integrated capillary, 200µL/min measured self-aspiration rate (@1L/m Ar) | ME2003 |
| PFA-400 MicroFlow Nebulizer with integrated capillary, 400µL/min measured self-aspiration rate (@1L/m Ar) | ME2005 |

ME2020
PFA-20 Nebulizer with Integrated Capillary

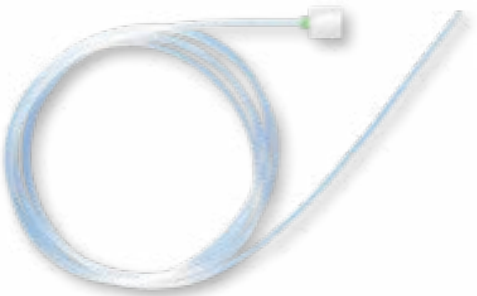
## PFA Nebulizers with Integrated Probes

| Description | Part Number |
|---|---|
| PFA-20 MicroFlow Nebulizer with integrated autosampler probe (carbon fiber support), 20µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20203503100 |
| PFA-50 MicroFlow Nebulizer with integrated autosampler probe (carbon fiber support), 50µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20003503100 |
| PFA-100 MicroFlow Nebulizer with integrated autosampler probe (carbon fiber support), 100µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20023503100 |
| PFA-200 MicroFlow Nebulizer with integrated autosampler probe (carbon fiber support), 200µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20033503100 |
| PFA-400 MicroFlow Nebulizer with integrated autosampler probe (carbon fiber support), 400µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20053503100 |
| PFA-20 MicroFlow Nebulizer with integrated autosampler probe (ultem support), 20µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20203505100 |
| PFA-50 MicroFlow Nebulizer with integrated autosampler probe (ultem support), 50µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20003505100 |
| PFA-100 MicroFlow Nebulizer with integrated autosampler probe (ultem support), 100µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20023505100 |
| PFA-200 MicroFlow Nebulizer with integrated autosampler probe (ultem support), 200µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20033505100 |
| PFA-400 MicroFlow Nebulizer with integrated autosampler probe (ultem support), 400µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20053505100 |

ME20023503100
PFA-100 Nebulizer with Integrated Probe

## PFA Sample Capillaries for ST Nebulizers

| Description | Part Number |
|---|---|
| Self-aspirating sample capillary for ST nebulizer, 0.15 mm ID (red marker), 20µL/min measured self-aspiration rate (@1L/m Ar) | ME2045 |
| Self-aspirating sample capillary for ST nebulizer, 0.20 mm ID (purple marker), 50µL/min measured self-aspiration rate (@1L/m Ar) | ME2043 |
| Self-aspirating sample capillary for ST nebulizer, 0.25 mm ID (green marker), 100µL/min measured self-aspiration rate (@1L/m Ar) | ME2042 |
| Self-aspirating sample capillary for ST nebulizer, 0.30 mm ID (yellow marker), 200µL/min measured self-aspiration rate (@1L/m Ar) | ME2047 |
| Self-aspirating sample capillary for ST nebulizer, 0.50 mm ID (orange marker), 400µL/min measured self-aspiration rate (@1L/m Ar) | ME2041 |
| Self-aspirating sample capillary for ST nebulizer, 0.80 mm ID (blue marker), 700µL/min measured self-aspiration rate (@1L/m Ar) | ME2044 |
| Self-aspirating sample capillary for ST nebulizer, 1.00 mm ID (gray marker), 1mL/min measured self-aspiration rate (@1L/m Ar) | ME2049 |



ME2042
PFA Sample Capillary

## Unifit Adapter

| Description | Part Number |
|---|---|
| Unifit adapter, 6 mm glass concentric nebulizer to 12 mm inlet port (218080256) | ML130024 |

ML130024
Unifit Adapter

## Nebulizer Tubing Clamp

| Description | Part Number |
|---|---|
| Nebulizer gas tubing clamp (N0777460) | Snapper 1.251 |

## Nebulizer Cleaner

| Description | Part Number |
|---|---|
| Pearl Nebulizer Cleaner for all quartz and glass concentric nebulizers (8100-2051) | PRL-02 |

PRL-02
Pearl Nebulizer Cleaner

## M100 47mm Spray Chamber

| Description | Part Number |
|---|---|
| PFA 47mm M-100 Spray Chamber for PE Optima 2000/4000/5000/7000/8000/DV with o-ring-free PFA endcap, no additional gas port. ESI injector connection. Includes ES-5103-4000 PFA straight adapter for PE Optima injector. (N0777645) | MEM1575470 |

MEM1575470
M100 Spray Chamber

## O-Ring Kit

| Description | Part Number |
|---|---|
| O-ring kit for GemTip Nebulizer, pack of 4 | MM21045 |

## Pyrex Spray Chamber

| Description | Part Number |
|---|---|
| Pyrex spray shamber "Scott" Type, barrel (0047-2047) | ML135012 |

ML135012
Pyrex Spray Chamber

## Cyclonic Spray Chambers

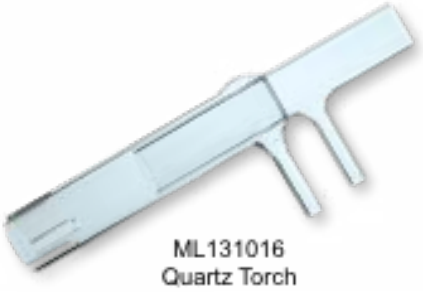
| Description | Part Number |
|---|---|
| Cyclonic spray chamber for 2x00/4x00/5x00DV, baffled, Unifit (included) (N0776053) | ML130020 |
| ML130020 with Easy-Seal threaded nebulizer inlet and PFA cap (N0776352) | ML130020ES |
| Cyclonic spray chamber for 2x00/4x00/5x00DV, No Baffle, Unifit (Included). Suits all Optima types from the 2x00 up to the 8x00. (N0776052) | ML130021 |
| ML130021 with Easy-Seal threaded nebulizer inlet and PFA cap | ML130021ES |
| Cyclonic Spray Chamber for 2x00/4x00/5x00DV, baffled, o-rings | ML130022 |
| Cyclonic Spray Chamber for 4x00/5x00V, baffled, top socket, Unifit (included) | ML130023 |
| Cyclonic Spray Chamber for 2x00/4x00/5x00DV, 4 mm Baffle (organics), Unifit (N0776090) | ML130031 |
| Quartz cyclonic spray chamber for PE Optima 4x00/5x00/7x00 DV/8x00. No baffle. Includes ES-5103-4070 PFA Elbow adapter for ESI injector. (N0777635) | ME3157100121 |
| PFA cyclonic spray chamber for PE Optima 4x00/5x00/7x00 DV/8x00, 7 mm baffled. Includes ES-5103-4070 PFA Elbow adapter for ESI injector. (N0777636) | ME3157301121 |
| Quartz cyclonic spray chamber for PE Optima 4x00/5x00/7x00 DV, 7mm baffle, drain line included (no aux. gas port) (N0777036) | ME3157101121 |
| ML130031 with Easy-Seal threaded nebulizer inlet and PFA cap | ML130031ES |

ML130020ES
Cyclonic
Spray Chamber

# PerkinElmer Optima 2x00DV - 8x00DV

## Quartz Torch

| Description | Part Number |
|---|---|
| Quartz torch, 4000V, 3 slots (N0771500) | ML131016 |



ML131016
Quartz Torch

## Quartz Torch Tubes

| Description | Part Number |
|---|---|
| Quartz torch tube for 2000/4000/5000 DV, short, organics (N0770344) | ML131017 |
| Quartz torch tube for 2000/4000/5000 DV, no slot (N0770343) | ML131019 |
| Quartz torch tube for 2000/4000/5000 DV, 1 slot, ES-1402-4000 (N0770338) | ML131020 |
| Quartz torch tube for 2000/4000/5000 DV, 3 slots (N0772005) | ML131021 |
| Torch for Optima 8000, 1 slot (N0780130) | ML131050 |
| Torch for Optima 8000, 3 slots (N0780132) | ML131052 |
| Torch for Optima 8000, organics, No slot (N0780133) | ML131053 |

ML131021
Quartz Torch Tube

## Quartz Bonnet

| Description | Part Number |
|---|---|
| Quartz Bonnet for 2000/4000 Series (N0775289) | ML131025 |

ML131025
Quartz Bonnet

## Quartz Injectors

| Description | Part Number |
|---|---|
| Quartz Injector for 2000/4000, 0.8mm (N0775225) | ML131040 |
| Quartz Injector for 2000/4000, 1.2mm (N0775226) | ML131041 |
| Quartz Injector for 2000/4000, 1.6mm (N0775223) | ML131042 |
| Quartz Injector for 2000/4000, 2.0mm (N0775014) | ML131043 |
| Quartz Injector for 2000/4000, 3.0mm (N0775224) | ML131044 |

ML131042
Quartz Injector

## Alumina Injectors

| Description | Part Number |
|---|---|
| Alumina Injector, 1.2 mm for Optima 2000V/4000V/5000V (N0771531) | MA1531 |
| Alumina Injector, 2.0mm for Optima 2000/4000/5000, DV (N0775177) | MA5177 |
| Alumina Injector, 0.80mm for 2000/4000/5000 DV (N0775227) | MA5227 |
| Alumina Injector, 1.2mm for 2000/4000/5000 DV (N0775228) | MA5228 |
| Alumina Injector, 2.0mm for 3000XL, 3x00DV, 4300V, 5300V (N0695362) | MA5362 |
| Alumina Injector, 1.2mm for 2000/4000/5000 DV (N0776093) | MA6093 |

MA1531
Alumina Injector



S.A.F.I.R.

## Sapphire Injector

| Description | Part Number |
|---|---|
| Sapphire injector, 1.8mm, for PE Optima 8000 Series. Attaches to ESI spray chamber (N0782005) | ME15038180 |

ME15038180
Sapphire Injector

## Convertible Sapphire Injectors

| Description | Part Number |
|---|---|
| Convertible sapphire injector with PEEK adapter, 1.5 mm for Optima 4000/5000/7000 | ME15038157 |
| Convertible sapphire injector with PEEK adapter, 1.8 mm for Optima 4000/5000/7000 | ME15038187 |

ME15038187
Convertible Sapphire Injector

## Convertible Quartz Injectors

| Description | Part Number |
|---|---|
| Convertible quartz injector with PEEK adapter, 1.0 mm for Optima 4000/5000/7000 | ME15248107 |
| Convertible quartz injector with PEEK adapter, 1.5 mm for Optima 4000/5000/7000 | ME15248157 |

ME15248107
Convertible Quartz Injector

## Axial Purge Windows

| Description | Part Number |
|---|---|
| Axial purge window for Optima 3000 DV, 4000, 5000, 7000 DV (B0066549) | MP6549 |
| Axial purge window for Optima 4x00/5x00 (N0771116) | ML771116 |

MP6549
Axial Purge Window

## Radial Purge Window

| Description | Part Number |
|---|---|
| Radial purge window for Optima 4x00DV/5x00DV (N0770322) | MP770322 |

MP770322
Radial Purge Window

## *pergo* Argon Nebulizer Gas Humidifier

| Description | Part Number |
|---|---|
| *pergo* argon high solids accessory without nebulizer. Includes gas line connector kit. | PRG-01 |
| *pergo* argon high solids accessory including MEINHARD® Type A Plus high performance nebulizer | PRG-01-MAPlus |

PRG-01
*pergo* High Solids Accessory

## PC³ Peltier Cooler Kit

| Description | Part Number |
|---|---|
| PC³ Peltier cooler. Includes a quartz cyclonic spray chamber and PFA-ST nebulizer. | ME41905729 |

ME41905729
PC³ Peltier Cooler

## PC³-LT Peltier Cooler Kit

| Description | Part Number |
|---|---|
| PC³-LT Peltier cooler, reaches -20° C. Includes a quartz cyclonic spray chamber and PFA-ST nebulizer. | ME91905729 |

ME91905729
PC³-LT Peltier Cooler

## Copper Foil

| Description | Part Number |
|---|---|
| Copper foil for torch for Optima 2000/4000/5000, 24 pieces (N0775297) | MM5297 |

MM5297
Copper Foil

## O-Ring Kit

| Description | Part Number |
|---|---|
| O-ring Kit for Optima 2000/4000/5000, pack of 6 (N0770437) | MM770437 |

MM770437
O-ring Kit

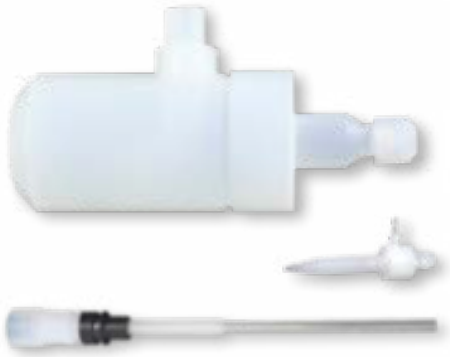


S.A.F.I.R.

MEINHARD® can help you maintain your pump's performance with manufacturer recommended fluids. See page 100 for available fluids and oils.

## HF Resistant Sample Intro Kit

| Description | Part Number |
|---|---|
| Complete HF-resistant sample introduction kit. Includes PFA-ST nebulizer, PureCap PFA endcap, 47 mm PFA spray chamber, 1.8 mm convertible sapphire injector and quartz torch. For the Optima DV (Axial) | MEM257DV29 |



MEM257DV29
HF Resistant Sample Intro Kit

## Pipette Tips

| Description | Part Number |
|---|---|
| 100 µL PFA PureTip pipette tips, pre-cleaned, pack of 10 (N0777394) | ME70000101 |
| 1000 µL PFA PureTip pipette tips, pre-cleaned, pack of 10 (N0777395) | ME70001001 |

ME70000101 & ME70001001
Pipette Tips

## 2-Stop PVC Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop PVC pump tubing, 0.76 mm ID, (black/black), 12 pc (09906587) | Tube-PVCSD-30 |
| 2-stop PVC pump tubing, flared, 0.76 mm ID, (black/black), 12 pc | Tube-PVCSD-30-F |
| 2-stop PVC pump tubing, 1.14 mm ID, (red/red), 12 pc (N0680375) | Tube-PVCSD-45 |

Tube-PVCSD-30
2-stop PVC
Pump Tubing

## 2-Stop SolventFlex Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop SolventFlex pump tubing, 0.76 mm ID, (black/black), 12 pc (00473550) | Tube-SolFSD-30 |
| 2-stop SolventFlex pump tubing, flared, 0.76 mm ID, (black/black), 12 pc | Tube-SolFSD-30-F |
| 2-stop SolventFlex pump tubing, 1.14 mm ID, (red/red), 12 pc (N0680376) | Tube-SolFSD-45 |

Tube-SolFSD-30
2-stop SolventFlex
Pump Tubing

*Visit www.meinhard.com for additional tubing options.*

# PerkinElmer Optima 3x00DV / XL & RL

## Quartz Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® Type A concentric quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 1 L/min @ 30 psi (WE024371) | TQ-30-A3 |

TQ-30-A3
Type A Quartz
Nebulizer

## Glass Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® TR+ glass nebulizer, high sensitivity, low internal volume inlet, nominal uptake 0.5 mL/min, 1 L/min @ 30 psi | TRP-30-A0.5 |
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, low cost, high sensitivity, nominal uptake 3 mL/min, 1 L/min @ 30 psi (00472020) | TR-30-A3 |
| MEINHARD® Type C glass nebulizer, nominal uptake 0.5 mL/min, 1 L/min @ 30 psi | TR-30-C0.5 |
| MEINHARD® Type C glass nebulizer, polished, recessed (0.5 mm) capillary, high solids, nominal uptake 3 mL/min, 1 L/min @ 30 psi (N8102011) | TR-30-C3 |
| MEINHARD® Type K glass nebulizer, lapped flush nozzle, recessed (0.5 mm) capillary, high solids, nominal uptake 3 mL/min, 0.7 L/min @ 30 psi (N0681574) | TR-30-K3 |
| MEINHARD® Type C glass nebulizer, polished, recessed (0.5 mm) capillary, high solids, nominal uptake 1 mL/min, 1 L/min @ 50 psi (0047-2022) | TR-50-C1 |

TR-30-A3
Type A Glass
Nebulizer

## PFA Nebulizer

| Description | Part Number |
|---|---|
| MicroFlow PFA-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME204057 |

ME204057
PFA-ST Nebulizer

## Poly-Pro Nebulizer

| Description | Part Number |
|---|---|
| PolyPro-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME404057 |

ME404057
PolyPro-ST Nebulizer

## PEEK Nebulizer

| Description | Part Number |
|---|---|
| Burgener PEEK MiraMist parallel-path nebulizer. Includes an argon line and sample capillary. (N0775330) | PMM4000 |

PMM4000
PEEK MiraMist Nebulizer

## Solution Inlet Adapter

| Description | Part Number |
|---|---|
| Solution inlet adapter for 4 mm standard liquid input nebulizers, includes union, ferrules, and 5' of 1/16" o.d. ETFE sample tubing and #160 (WE024372) | Fit Kit 3 |

Fit Kit 3
Solution Inlet Adapter

## F0 Encapsulated Micro Tubing

| Description | Part Number |
|---|---|
| F0 Encapsulated micro tubing for low uptake rates from 0.1 to 0.5 mL/min and the lowest internal volume of any nebulizer. Includes 0.25 mm i.d. ■ (green marker) 70 cm long micro capillary. | F0-25 |

F0-25
F0 Encapsulated Micro Tubing

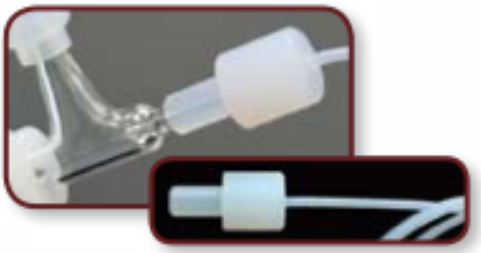
## F1 Detachable Capillary

| Description | Part Number |
|---|---|
| F1 Detachable capillary for a wide range of applications. Includes 0.80 mm i.d. ■ (blue marker) 70 cm long capillary. | F1-80 |

F1-80
F1 Detachable Capillary

## F2 Standard PFA Integrated Capillary

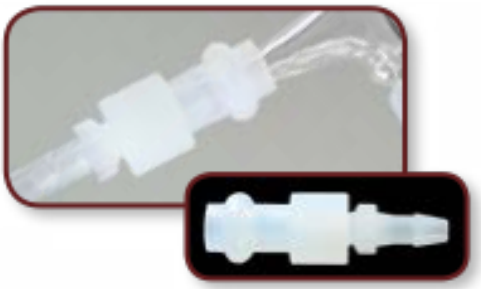
| Description | Part Number |
|---|---|
| F2 Standard integrated capillary for self-aspiration or pumping. Includes 0.5 mm i.d. ■ (orange marker) 70 cm long capillary. | F2-50 |



F2-50
F2 Integrated Capillary

## FG Gas Quick Connect for MEINHARD® Nebulizers

| Description | Part Number |
|---|---|
| FG Gas Quick Connect for MEINHARD® Nebulizers with maria for both small bore and standard bore nebulizers. | FG |



FG
FG Gas Quick Connect

## Nebulizer Gas Quick Connects

| Description | Part Number |
|---|---|
| Gas Quick Connect for MEINHARD® Nebulizers with PFA-Press Fit for 4 mm tubing. Forms a tight seal over the maria on the sidearm of the nebulizer. | F4 |
| Nebulizer Gas Quick Connect with PFA-Press Fit for 4 mm tubing for Optima. Connects to the instrument. | F4-57 |

F4
Nebulizer Gas Quick Connect

# PerkinElmer Optima 3x00DV / XL & RL

## Unifit Adapter

| Description | Part Number |
|---|---|
| Unifit adapter, 6 mm glass concentric nebulizer to 12 mm inlet port (218080256) | ML130024 |

ML130024
Unifit Adapter

## Nebulizer Tubing Clamp

| Description | Part Number |
|---|---|
| Nebulizer gas tubing clamp (N0777460) | Snapper 1.251 |

## Nebulizer Cleaner

| Description | Part Number |
|---|---|
| Pearl Nebulizer Cleaner for all quartz and glass concentric nebulizers (8100-2051) | PRL-02 |

PRL-02
Pearl Nebulizer Cleaner

## O-Ring Kit

| Description | Part Number |
|---|---|
| O-ring kit for GemTip Nebulizer, pack of 4 | MM21045 |

## *pergo* Argon Nebulizer Gas Humidifier

| Description | Part Number |
|---|---|
| *pergo* argon high solids accessory without nebulizer. Includes gas line connector kit. | PRG-01 |
| *pergo* argon high solids accessory including MEINHARD® Type A Plus high performance nebulizer | PRG-01-MAPlus |

PRG-01
*pergo* High Solids Accessory

## Pyrex Cyclonic Spray Chambers

| Description | Part Number |
|---|---|
| Cyclonic glass spray chamber for Optima 3000DV, 3000XL (N812-2188) | ML130019XL |
| Cyclonic glass spray chamber for Optima 3000 RL, SCR | ML130019 |

ML130019
Cyclonic Spray
Chamber



S.A.F.I.R.

## PC³ Peltier Cooler

| Description | Part Number |
|---|---|
| PC³ Peltier-thermostatted quartz spray chamber, with PFA-ST nebulizer | ME419057V29 |

ME419057V29
PC³ Peltier Cooler

## Drain Line

| Description | Part Number |
|---|---|
| Threaded drain line for spray chamber, PharMed, 0,75mm x 1m | ME20440002 |

ME20440002
Threaded Drain Line

## Quartz Torches

| Description | Part Number |
|---|---|
| Quartz Torch Tube for Optima 3000 RL, 3 slots, 138mm | ML131001 |
| Quartz Torch Tube for Optima 3000 RL, 1 slot, 138mm (N0690568) | ML131004 |
| Quartz Torch Tube for Optima 3000 RL, no slot, 125mm | ML131005 |
| Quartz Torch Tube for Optima 3x00DV, 2-slot | ML131012 |
| Quartz Torch Tube for Optima 3x00DV, 1-slot (N069-1662) | ML131014 |
| Quartz Torch Tube for Optima 3x00DV, 3-slot | ML131015 |

ML131004
Quartz Torch

## Quartz Bonnets

| Description | Part Number |
|---|---|
| Quartz bonnet for 3000 Axial/DV (N0691664) | ML131031 |
| Quartz bonnet for 3000 (after 9/21/94) (N0695456) | ML131032 |
| Quartz bonnet for 3000 RL (before 9/21/94) (N0695295) | ML131033 |

ML131031
Quartz Bonnet

# PerkinElmer Optima 3x00DV / XL & RL

## Quartz Injectors

| Description | Part Number |
|---|---|
| Quartz injector, 2.0mm for 3x00 XL and 3000 RL (N0695441) | ML132040 |
| Quartz injector, 2.0 mm for 3x00 XL / DV, L=83mm (N0695442) | ML132041 |
| Quartz injector, 1.6mm for 3x00 XL / DV, L=83mm (N0695449) | ML132044 |
| Quartz injector, 1.2 mm for Optima 3000 XL/DV, 4300V, 5300V (N0695460) | ML130046 |

ML132041
Quartz Injector

## Alumina Injectors

| Description | Part Number |
|---|---|
| Alumina Injector for Optima 3x00 XL/DV ID=2.0, L=83mm (N0695362) | MA5362 |
| Alumina Injector for Optima 3x00 RL, ID=2.0. Also N8126039 (N0582186) | MA2186 |

MA2186
Alumina Injector

## Radial Purge Windows

| Description | Part Number |
|---|---|
| Quartz Radial purge window for Optima 3000R, 3000 SCR, 3000 RL, 4x00V, 5x00V (N0581497) | MP1497 |
| Quartz Radial purge window for Optima 3000 DV - short tube (N0690672) | MP0672 |
| Tube Assy-NGO DV radial window (N0770944) | ML770944 |

MP0672
Radial Purge Window

## Axial Purge Window

| Description | Part Number |
|---|---|
| Quartz Axial purge window for Optima 3000 DV - long tube (N0691689) | MP1689 |
| Quartz Axial purge window for Optima 2x00, 3x00XL/3000SCX (0999273) | MP2731 |

MP1689
Axial Purge Window



S.A.F.I.R.

MEINHARD® can help you maintain your pump's performance with manufacturer recommended fluids. See page 100 for available fluids and oils.

## O-Ring Kit

| Description | Part Number |
|---|---|
| O-ring kit for Optima 3000XL/DV, packet of 9 (N0690769) | MM690769 |

MM690769
O-ring Kit

## 2-Stop PVC Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop PVC pump tubing, 0.76 mm ID, (black/black), 12 pc (09906587) | Tube-PVCSD-30 |
| 2-stop PVC pump tubing, flared, 0.76 mm ID, (black/black), 12 pc | Tube-PVCSD-30-F |
| 2-stop PVC pump tubing, 1.14 mm ID, (red/red), 12 pc (N0680375) | Tube-PVCSD-45 |

Tube-PVCSD-30
2-stop PVC
Pump Tubing

## 2-Stop SolventFlex Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop SolventFlex pump tubing, 0.76 mm ID, (black/black), 12 pc (00473550) | Tube-SolFSD-30 |
| 2-stop SolventFlex pump tubing, flared, 0.76 mm ID, (black/black), 12 pc | Tube-SolFSD-30-F |
| 2-stop SolventFlex pump tubing, 1.14 mm ID, (red/red), 12 pc (N0680376) | Tube-SolFSD-45 |

Tube-SolFSD-30
2-stop SolventFlex
Pump Tubing

***Visit www.meinhard.com for additional tubing options.***

## Quartz Nebulizer

| Description | Part Number |
|---|---|
| MEINHARD® Type C concentric quartz nebulizer, polished, recessed (0.5 mm) capillary, low background, high solids, nominal uptake 1 mL/min, 1 L/min @ 30 psi | TQ-30-C1 |

TQ-30-C1
Quartz Nebulizer

## Glass Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, general purpose, nominal uptake 1 mL/min, 1 L/min @ 30 psi | TR-30-A1 |
| MEINHARD® Type C glass nebulizer, 1 mL/min, polished, recessed (0.5 mm) capillary, high solids, nominal uptake 1 mL/min, 1 L/min @ 30 psi (046-00092-02) | TR-30-C1 |

TR-30-A1
Type A Glass
Nebulizer

## PFA Nebulizer

| Description | Part Number |
|---|---|
| MicroFlow PFA-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME2040 |

ME2040
PFA-ST Nebulizer

## Poly-Pro Nebulizer

| Description | Part Number |
|---|---|
| PolyPro-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME4040 |

ME4040
PolyPro-ST Nebulizer

## PEEK Nebulizer

| Description | Part Number |
|---|---|
| PEEK MiraMist nebulizer. Includes an argon line and sample capillary. | PMM4000 |

PMM4000
PEEK MiraMist Nebulizer

## Nebulizer Cleaner

| Description | Part Number |
|---|---|
| Pearl Nebulizer Cleaner for all quartz and glass concentric nebulizers | PRL-02 |

PRL-02
Pearl Nebulizer Cleaner

## *pergo* Argon Nebulizer Gas Humidifier

| Description | Part Number |
|---|---|
| *pergo* argon high solids accessory without nebulizer. Includes gas line connector kit. | PRG-01 |
| *pergo* argon high solids accessory including MEINHARD® Type A Plus high performance nebulizer. | PRG-01-MAPlus |

PRG-01
*pergo* High Solids Accessory

## Cyclonic Spray Chambers

| Description | Part Number |
|---|---|
| Pyrex cyclonic spray chamber, top socket, baffled, 4 mm drain, o-rings | ML151026 |
| Pyrex cylonic spray chamber, top socket, baffled with Easy-Seal threaded nebulizer inlet and PFA cap | ML151026ES |
| Quartz cylonic spray chamber, baffled, top socket, 4 mm drain, o-rings | ML151026Q |
| Pyrex cyclonic spray chamber, top socket, no baffle, 4 mm drain, o-rings | ML151027 |
| Pyrex cyclonic spray chamber, top socket, no baffle with Easy-Seal threaded nebulizer inlet and PFA cap | ML151027ES |
| Quartz cyclonic spray chamber, top socket, no baffle, 4 mm drain, o-rings | ML151027Q |

ML151027
Pyrex Cyclonic
Spray Chamber

## PC³ Peltier Cooler

| Description | Part Number |
|---|---|
| PC³ Peltier cooler. Includes a quartz cyclonic spray chamber. | ME41909529 |

ME41909529
PC³ Peltier Cooler

## PC³-LT Peltier Cooler

| Description | Part Number |
|---|---|
| PC³-LT Peltier cooler, reaches -20° C. Includes a quartz cyclonic spray chamber. | ME91909529 |

ME91909529
PC³-LT Peltier Cooler

MEINHARD® can help you maintain your pump's performance with manufacturer recommended fluids. See page 100 for available fluids and oils.

## Quartz One-Piece Torches with Ball Joint

| Description | Part Number |
|---|---|
| Quartz torch, radial, fixed 1.5 mm injector, long tube (20470272) | ML160005 |
| Quartz mini torch, fixed injector (21181448) | ML160008 |
| Quartz high TDS torch, fixed 1.8 mm injector, 7500/8100/9000 | ML160010 |
| Quartz torch, organics, fixed 1.0 mm injector 7500/8100/9000 | ML160011 |

ML160008
Quartz Mini Torch

## Quartz O-Ring-Free DemountableTorches

| Description | Part Number |
|---|---|
| Quartz o-ring-free mini torch, demountable | ML160014 |
| Quartz o-ring-free torch, demountable | ML160015 |

## Quartz One-Piece Torch with Curved Inlet

| Description | Part Number |
|---|---|
| Quartz torch with curved inlet to tapered injector, axial, fixed injector, long tube (21146605) | ML160007 |

ML160007
Quartz Torch with
Curved Inlet

## 2-Stop PVC Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop PVC pump tubing, 0.64 mm ID, (orange/white), 12 pc | Tube-PVCSD-25 |
| 2-stop PVC pump tubing, 1.02 mm ID, (white/white), 12 pc | Tube-PVCSD-40 |
| 2-stop PVC pump tubing, flared, 0.64 mm ID, (orange/white), 12 pc | Tube-PVCSD-25-F |

Tube-PVCSD-40
2-stop PVC
Pump Tubing

## 3-Stop PVC Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 3-stop PVC pump tubing, 0.89 mm ID, (orange/orange/orange), 12 pc | Tube-PVCSD-35-3 |
| 3-stop PVC pump tubing, 1.14 mm ID, (red/red/red), 12 pc | Tube-PVCSD-45-3 |
| 3-stop PVC pump tubing, flared, 0.89 mm ID, (orange/orange/orange), 12 pc | Tube-PVCSD-35-3-F |

Tube-PVCSD-35-3
3-stop PVC
Pump Tubing

*Visit www.meinhard.com for additional tubing options.*



S.A.F.I.R.

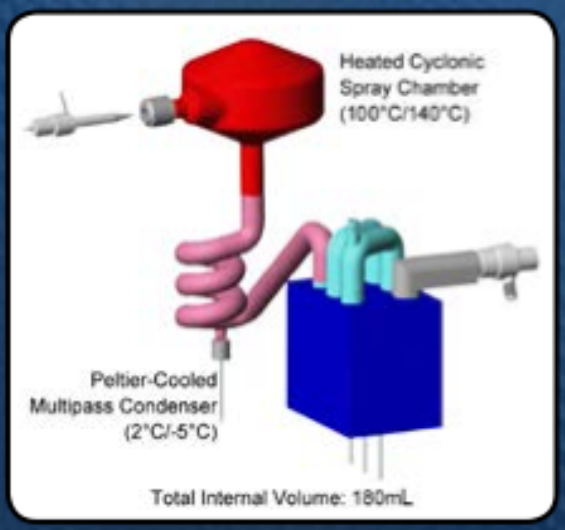
# apex

## High Sensitivity Desolvation Systems

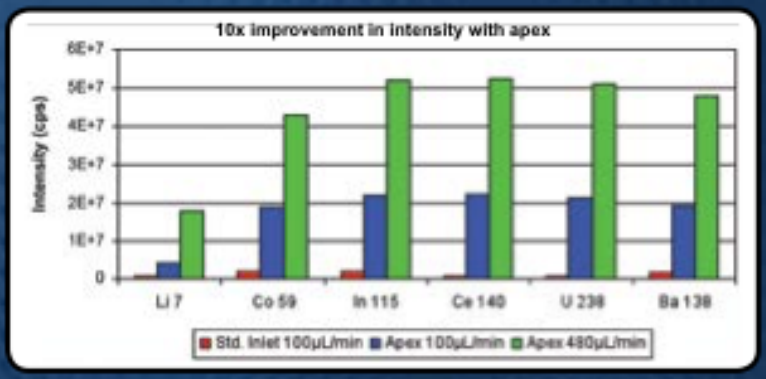
**apex Q - Quartz Inlet System**. Features a quartz, o-ring-free flow path for high sensitivity, low background and rapid rinse-out of samples that do not contain hydrofluoric acid.

**apex IR for Isotope Ratio Analysis**. Developed for isotope ratio analysis, the apex IR has a quartz flow path and includes an additional mixing chamber that further homogenizes and stabilizes the sample aerosol stream, resulting in a more stable signal.

**apex HF for Hydrofluoric Acid Resistance**. Uses a high purity, o-ring-free PFA flow path for the introduction of samples containing hydrofluoric acid. The apex HF is recommended for many geochemical and semiconductor applications.

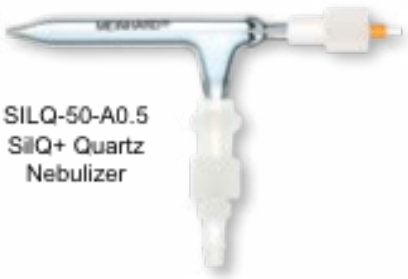



Preset dual temperature settings for heater and cooler. Patented flow path design ensures rapid wash in / washout.



## Quartz Nebulizer

| Description | Part Number |
|---|---|
| MEINHARD® SilQ+ Ultra high purity quartz nebulizer, low internal volume, nominal uptake 0.5 mL/min, 1 mL/min @ 50 psi, with FG PFA gas fitting and F2 sample uptake line (See page 33 for more information) | SILQ-50-A0.5 |



SILQ-50-A0.5
SilQ+ Quartz
Nebulizer

## Glass Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, general purpose, nominal uptake 1 mL/min, 1L/min @ 30 psi | TR-30-A1 |
| MEINHARD® Type K glass nebulizer, lapped flush nozzle, high solids, recessed (0.5 mm) capillary, nominal uptake 2 mL/min, 0.7 mL/min @ 30 psi | TR-30-K2 |

TR-30-K2
Type C Glass
Nebulizer

## PFA Nebulizers

| Description | Part Number |
|---|---|
| MicroFlow PFA-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME2040 |
| PFA MicroFlow high solids large bore nebulizer with external 1/4-28 threaded connector. Includes one 400µl/min capillary. | ME2030 |

ME2040
PFA-ST Nebulizer

## Poly-Pro Nebulizer

| Description | Part Number |
|---|---|
| PolyPro-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME4040 |

ME4040
PolyPro-ST Nebulizer

## PEEK Nebulizer

| Description | Part Number |
|---|---|
| PEEK MiraMist nebulizer. Includes an argon line and sample capillary. | PMM4000 |

PMM4000
PEEK MiraMist Nebulizer

## Nebulizer Cleaner

| Description | Part Number |
|---|---|
| Pearl Nebulizer Cleaner for all quartz and glass concentric nebulizers | PRL-02 |

PRL-02
Pearl Nebulizer Cleaner



S.A.F.I.R.

## Liquid Inlet Fitting

| Description | Part Number |
|---|---|
| Liquid inlet fitting and argon tubing with quick disconnect for TR-30-C1 | MM175100 |

MM175100
Liquid Inlet
Fitting

## Double Pass Spray Chamber

| Description | Part Number |
|---|---|
| Large double pass spray chamber for end-on plasma (EOP) (48105051) | ML175019 |

ML175019
Double Pass Spray
Chamber

## Cyclonic Spray Chambers

| Description | Part Number |
|---|---|
| Cyclonic spray chamber, top socket, pump drain (48105001) | ML175026 |
| Cyclonic spray chamber, top socket, pump drain with Easy Seal threaded inlet and PFA cap | ML175026ES |
| Cyclonic spray chamber for end-on plasma (EOP), pump drain (48105061) | ML175026EOP |
| Cyclonic spray chamber, top socket, pump drain with Easy-Seal threaded inlet and PFA Cap | ML175026EOP-ES |
| Quartz Cyclonic Spray Chamber, Socket | ML175026Q |
| Quartz Cyclonic Spray Chamber, Jacketed, Threaded Ports (USA00850) | ML175026QJ |
| Quartz Cyclonic Spray Chamber for PC³ Peltier cooler | ME31671011 |

ML175026EOP
Cyclonic Spray
Chamber

## 12/5 Socket Adapter

| Description | Part Number |
|---|---|
| Pyrex adapter, 12/5 socket, female, 45 mm for ICP (48105011) | ML175031 |

ML175031
Pyrex Socket Adapter

## PFA Spray Chamber

| Description | Part Number |
|---|---|
| 47 mm HF resistant PFA spray chamber with PFA PureCap endcap with additional gas port | ME22565470 |

ME22565470
47 mm PFA Spray Chamber

## PFA Spray Chamber Kit

| Description | Part Number |
|---|---|
| HF resistant PFA spray chamber kit. Includes high sample flow PFA spray chamber with barbed exit port, polypropylene adapter for Spectro cross-flow nebulizer, ES-2100-2479 drain line, fittings, PFA barbed connector and 25 cm long tygon tubing 1/4" i.d. | ME21002477 |

ME21002477
PFA Spray Chamber Kit

## *pergo* Argon Nebulizer Gas Humidifier

| Description | Part Number |
|---|---|
| *pergo* argon high solids accessory without nebulizer. Includes gas line connector kit. | PRG-01 |
| *pergo* argon high solids accessory including MEINHARD® Type A Plus high performance nebulizer. | PRG-01-MAPlus |

PRG-01
*pergo* High Solids Accessory

## PC³ Peltier Cooler

| Description | Part Number |
|---|---|
| PC³ Peltier cooler for Spectro EOP. Includes a quartz cyclonic spray chamber. | ME41671011 |

ME41671011
PC³ Peltier Cooler

## Quartz One-Piece Torches with Sheath Gas

| Description | Part Number |
|---|---|
| Quartz torch for end-on plasma (EOP), Axial, with sheath gas, fixed 3.2 mm injector (75260533) | ML175047 |
| Quartz torch for end-on plasma (EOP), Axial, with sheath gas, fixed 2.5 mm Injector (75160537) | ML175048 |
| Quartz torch for end-on plasma (EOP), Axial, with sheath gas, fixed 1.8 mm Injector (75160549) | ML175049 |

ML175049
Quartz Torch with
1.8 mm Injector



S.A.F.I.R.

## Quartz Torch, Demountable Injector

| Description | Part Number |
|---|---|
| Quartz torch for end-on plasma (EOP), Axial, demountable with flare, 80 mm length | ME1702EOP |

ME1702EOP
Quartz Torch

## Quartz One-Piece Torches

| Description | Part Number |
|---|---|
| Quartz torch for end-on plasma (EOP), Axial, flared end, fixed 2.5 mm injector (48105052) | ML175040 |
| Quartz torch for end-on plasma (EOP), Axial, flared end, fixed 2.2 mm injector | ML175041 |
| Quartz torch for end-on plasma (EOP), Axial, flared end, fixed 1.8 mm injector (48105062A) | ML175042 |

ML175040
QuartzTorch with
2.5 mm Injector

## Quartz Non-Flared Torch, Demountable Injector

| Description | Part Number |
|---|---|
| Quartz torch for end-on plasma (EOP), Axial, demountable no flare, 80 mm Length (48206007) | ML175044 |

ML175044
Quartz Torch,
Non-Flared

## Quartz Injectors, Demountable

| Description | Part Number |
|---|---|
| Quartz injector, 1.5 mm (48105008) | ML175021 |
| Quartz injector, 1.8 mm (48105010) | ML175022 |
| Quartz injector, 2.5 mm (48105009) | ML175023 |

ML175021
Quartz Injector

## Sapphire Injectors, Demountable

| Description | Part Number |
|---|---|
| Sapphire injector, HF resistant,1.5 mm | ME19800150 |
| Sapphire injector, HF resistant, 1.8 mm | ME19800180 |
| Sapphire injector, HF resistant, 2.5 mm | ME19800250 |

ME19800180
Sapphire Injector

MEINHARD® can help you maintain your pump's performance with manufacturer recommended fluids. See page 100 for available fluids and oils.

MM175055
Tubing and Gas Connectors

## Tubing and Gas Connectors

| Description | Part Number |
|---|---|
| Tubing and gas connectors (44302072 & 44302077) | MM175055 |

Tube-PVCSD-69
1.75 mm Pump
Tubing

## Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop Tygon pump tubing, 0.38 mm ID, 151 mm bridge distance (orange/green), 12 pc (47201037) | Tube-PVCSD-15 |
| 2-stop Tygon pump tubing, 1.75 mm ID, 151 mm bridge distance (orange/orange), 12 pc (47101003) | Tube-PVCSD-35 |
| 2-stop Tygon pump tubing, 1.30 mm ID, 151 mm bridge distance (grey/grey), 12 pc (47501010) | Tube-PVCSD-51 |
| 2-stop Tygon pump tubing, 1.75 mm ID, 151 mm bridge distance (blue/green), 12 pc (47101005) | Tube-PVCSD-69 |

Tube-PVCSD-35-F
2.0 mm Flared
Pump Tubing

## Flared Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop Tygon pump tubing, 0.38 mm ID, 2.0 mm flared (orange/green), 12 pc (4720137) | Tube-PVCSD-15-F |
| 2-stop Tygon pump tubing, 0.89 mm ID, 2.0 mm flared, 151 mm bridge distance (orange/orange), 12 pc (47101003) | Tube-PVCSD-35-F |
| 2-stop Tygon pump tubing, 1.30 mm ID, 2.0 mm flared, 151 mm bridge distance (grey/grey), 12 pc (47501010) | Tube-PVCSD-51-F |

*Visit www.meinhard.com for additional tubing options.*



S.A.F.I.R.

PC3x

# PC3x Peltier Controlled Cyclonic Chamber

**Thermally stabilized inlet system for ICP and ICPMS**

PC3x Peltier Heated and Cooled Inlet System

- Temperature control from -10°C to +80°C
- Thermal stabilization of spray chamber improves long-term stability
- Last set temperature saved for stand alone operation
- USB or Bluetooth connectivity
- Remote monitoring and control

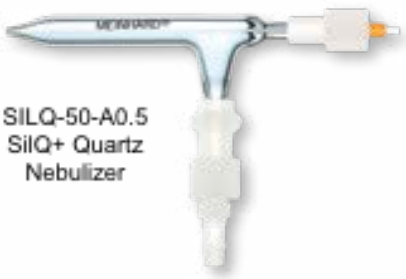
Contact sales@meinhard.com for more details and pricing

***Heating Function To Increase Sensitivity!***

Elemental Scientific

## Quartz Nebulizer

| Description | Part Number |
|---|---|
| MEINHARD® SilQ+ Ultra high purity quartz nebulizer, low internal volume, nominal uptake 0.5 mL/min, 1 mL/min @ 50 psi, with FG PFA gas fitting and F2 sample uptake line (See page 33 for more information) | SILQ-50-A0.5 |



SILQ-50-A0.5
SilQ+ Quartz
Nebulizer

## Glass Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, general purpose, nominal uptake 1 mL/min, 1 L/min @ 30 psi | TR-30-A1 |
| MEINHARD® Type C glass nebulizer, 1 mL/min, polished, recessed (0.5 mm) capillary, high solids, nominal uptake 1 mL/min, 1 L/min @ 30 psi (76060510) | TR-30-C1 |
| MEINHARD® Type K glass nebulizer, lapped flush nozzle, high solids, recessed (0.5 mm) capillary, nominal uptake 2 mL/min, 0.7 L/min @ 30 psi | TR-30-K2 |

TR-30-K2
Type C Glass
Nebulizer

## PFA Nebulizers

| Description | Part Number |
|---|---|
| MicroFlow PFA-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME2040 |
| PFA MicroFlow high solids large bore nebulizer with external 1/4-28 threaded connector. Includes one 400µl/min capillary. | ME2030 |

ME2040
PFA-ST Nebulizer

## Poly-Pro Nebulizer

| Description | Part Number |
|---|---|
| PolyPro-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME4040 |

ME4040
PolyPro-ST Nebulizer

## PEEK Nebulizer

| Description | Part Number |
|---|---|
| PEEK MiraMist nebulizer. Includes an argon line and sample capillary. | PMM4000 |

PMM4000
PEEK MiraMist Nebulizer

## Nebulizer Cleaner

| Description | Part Number |
|---|---|
| Pearl Nebulizer Cleaner for all quartz and glass concentric nebulizers | PRL-02 |

PRL-02
Pearl Nebulizer Cleaner

## Liquid Inlet Fitting

| Description | Part Number |
|---|---|
| Liquid inlet fitting and argon tubing with quick disconnect for TR-30-C1 | MM175100 |

MM175100
Liquid Inlet
Fitting

## Spray Chambers

| Description | Part Number |
|---|---|
| Spray chamber, slurry | ML175010 |
| Spray chamber, upward conical open (48105003) | ML175012 |
| Spray chamber, large double pass (48105006) | ML175014 |
| Spray chamber, large, double pass, jacketed, threaded ports (48106008) | ML175018 |

ML175014
Double Pass
Spray Chamber

## Cyclonic Spray Chambers

| Description | Part Number |
|---|---|
| Cyclonic spray chamber, top socket, pump drain (48105001) | ML175026 |
| Cyclonic spray chamber, top socket, pump drain with Easy Seal threaded inlet and PFA cap | ML175026ES |
| Quartz Cyclonic Spray Chamber, Socket | ML175026Q |
| Quartz Cyclonic Spray Chamber, Jacketed, Threaded Ports (USA00850) | ML175026QJ |
| Quartz Cyclonic Spray Chamber for PC³ Peltier cooler | ME31671001 |

ML175026
Cyclonic Spray
Chamber

## PFA Spray Chamber

| Description | Part Number |
|---|---|
| 47 mm HF resistant PFA spray chamber with PFA PureCap endcap with additional gas port | ME22565470 |

ME22565470
47 mm PFA Spray Chamber

## PFA Spray Chamber Kit

| Description | Part Number |
|---|---|
| HF resistant PFA spray chamber kit. Includes high sample flow PFA spray chamber with barbed exit port, polypropylene adapter for Spectro cross-flow nebulizer, ES-2100-2479 drain line, fittings, PFA barbed connector and 25 cm long tygon tubing 1/4" i.d. | ME21002477 |

ME21002477
PFA Spray Chamber Kit

## PC³ Peltier Cooler

| Description | Part Number |
|---|---|
| PC³ Peltier cooler for Spectro SOP. Includes a quartz cyclonic spray chamber. | ME41671011 |

ME41671011
PC³ Peltier Cooler

## *pergo* Argon Nebulizer Gas Humidifier

| Description | Part Number |
|---|---|
| *pergo* argon high solids accessory without nebulizer. Includes gas line connector kit. | PRG-01 |
| *pergo* argon high solids accessory including MEINHARD® Type A Plus high performance nebulizer. | PRG-01-MAPlus |

PRG-01
*pergo* High Solids Accessory



S.A.F.I.R.

## Quartz One-Piece Torches

| Description | Part Number |
|---|---|
| Quartz torch for Spectroflame, fixed injector 1.8 mm (75060596) | ML175005 |
| Quartz torch for Spectroflame, fixed injector 2.5 mm | ML175008 |
| Quartz torch for Spectroflame, radial, fixed injector 1.0 mm (48205001) | ML175007 |

ML175005
Quartz Torch

## Quartz Torches, Demountable Injector

| Description | Part Number |
|---|---|
| Quartz torch for side-on plasma (SOP), Axial, demountable, no flare, 100 mm length | ME1702SOP |
| Quartz torch, radial, demountable, 80 mm Length (75060545) | ML175006 |
| Quartz torch, organic, does not include gas fittings (75360521) | ML175009 |

ME1702SOP
Quartz Torch

## Quartz Non-Flared Torch, Demountable Injector

| Description | Part Number |
|---|---|
| Quartz torch for side-on plasma (SOP), demountable no flare, 100 mm Length (48206002) | ML175043 |

ML175043
Quartz Torch,
Non-Flared

## Quartz Injectors, Demountable

| Description | Part Number |
|---|---|
| Quartz injector, 1.5 mm (48105008) | ML175021 |
| Quartz injector, 1.8 mm (48105010) | ML175022 |
| Quartz injector, 2.5 mm (48105009) | ML175023 |

ML175021
Quartz Injector

## Sapphire Injectors, Demountable

| Description | Part Number |
|---|---|
| Sapphire injector, HF resistant, 1.5 mm | ME19800150 |
| Sapphire injector, HF resistant, 1.8 mm | ME19800180 |
| Sapphire injector, HF resistant, 2.5 mm | ME19800250 |

ME19800180
Sapphire Injector

MEINHARD® can help you maintain your pump's performance with manufacturer recommended fluids. See page 100 for available fluids and oils.

## Tubing and Gas Connectors

| Description | Part Number |
|---|---|
| Tubing and gas connectors (44302072 & 44302077) | MM175055 |

MM175055
Tubing and Gas Connectors

## Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop Tygon pump tubing, 1.30 mm ID, 151 mm bridge distance (grey/grey), 12 pc (47501010) | Tube-PVCSD-51 |
| 2-stop Tygon pump tubing, 1.75 mm ID, 151 mm bridge distance (blue/green), 12 pc (47101005) | Tube-PVCSD-69 |

Tube-PVCSD-69
1.75 mm Pump
Tubing

## Flared Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop Tygon pump tubing, 0.38 mm ID, 2.0 mm flared (orange/green), 12 pc (47201037) | Tube-PVCSD-15-F |
| 2-stop Tygon pump tubing, 0.89 mm ID, 2.0 mm flared, 151 mm bridge distance (orange/orange), 12 pc (47101003) | Tube-PVCSD-35-F |
| 2-stop Tygon pump tubing, 1.30 mm ID, 2.0 mm flared, 151 mm bridge distance (grey/grey), 12 pc (47501010) | Tube-PVCSD-51-F |

Tube-PVCSD-35-F
2.0 mm Flared
Pump Tubing

*Visit www.meinhard.com for additional tubing options.*



S.A.F.I.R.

# PLUS NEBULIZERS

## with PFA FitKit Quick Connects

MEINHARD® Plus Nebulizers have the lowest dead volume of any glass or quartz nebulizer. The low dead volume and high sensitivity provide excellent detection limits and washout.

Each MEINHARD® Plus nebulizer comes with the FitKit+ gas and sample quick connect fittings. The connections are made with high-purity PFA, minimizing the chance of contamination during backflow events. The gas connection fits snugly over the maria on the sidearm of the nebulizer.

**MEINHARD® SilQ+ high purity nebulizer with PFA FitKit**

## Features for all MEINHARD® Plus Nebulizers:

- Self aspiration rate 0.5 mL/min with argon flow 1 L/min at 50 PSI (3.4 bar/345 kPa).
- Peristaltic pumped rate 0.1 mL/min to 3.0 mL/min.
- Includes FG Gas Quick Connect (PFA) and F2 Quick Connect with 0.5 mm i.d. ■ (orange marker) capillary, 70 cm.

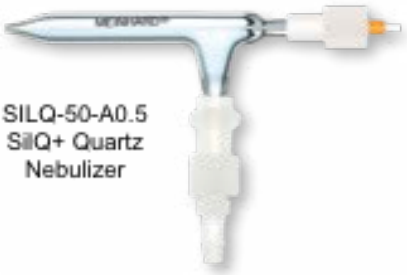
Contact sales@meinhard.com for more details and pricing

***Enhance Your Detection Limits, Reduce Sample Contamination***

**Elemental Scientific**

## Quartz Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® SilQ+ Ultra high purity quartz nebulizer, low internal volume, nominal uptake 0.5 mL/min, 1 mL/min @ 50 psi, with FG PFA gas fitting and F2 sample uptake line (See page 33 for more information) | SILQ-50-A0.5 |
| MEINHARD® Type A quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 2 mL/min, 1 L/min @ 30 psi | TQ-30-A2 |
| MEINHARD® Type C concentric quartz nebulizer, polished, recessed (0.5 mm) capillary, low background, high solids, nominal uptake 1 mL/min, 1 L/min @ 30 psi | TQ-30-C1 |



SILQ-50-A0.5
SilQ+ Quartz
Nebulizer

## Glass Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® Type C glass nebulizer, 1 mL/min, polished, recessed (0.5 mm) capillary, high solids, nominal uptake 2 mL/min, 1 L/min @ 30 psi | TR-30-C2 |
| MEINHARD® Type K glass nebulizer, lapped flush nozzle, high solids, recessed (0.5 mm) capillary, nominal uptake 2 mL/min, 0.7 mL/min @ 30 psi | TR-30-K2 |
| MEINHARD® Type K glass nebulizer, lapped flush nozzle, recessed (0.5 mm) capillary, high solids, nominal uptake 3 mL/ min, 0.7 L/min @ 30 psi | TR-30-K3 |

TR-30-C2
Type A Glass
Nebulizer

## PFA Nebulizer

| Description | Part Number |
|---|---|
| MicroFlow PFA-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME2040 |

ME2040
PFA-ST Nebulizer

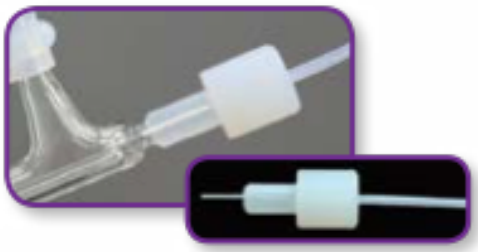
## Poly-Pro Nebulizer

| Description | Part Number |
|---|---|
| PolyPro-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME4040 |

ME4040
PolyPro-ST Nebulizer

## F0 Encapsulated Micro Tubing

| Description | Part Number |
|---|---|
| F0 Encapsulated micro tubing for low uptake rates from 0.1 to 0.5 mL/min and the lowest internal volume of any nebulizer. Includes 0.25 mm i.d. ■ (green marker) 70 cm long micro capillary. | F0-25 |



F0-25
F0 Encapsulated Micro Tubing

## F1 Detachable Capillary

| Description | Part Number |
|---|---|
| F1 Detachable capillary for a wide range of applications. Includes 0.80 mm i.d. ■ (blue marker) 70 cm long capillary. | F1-80 |

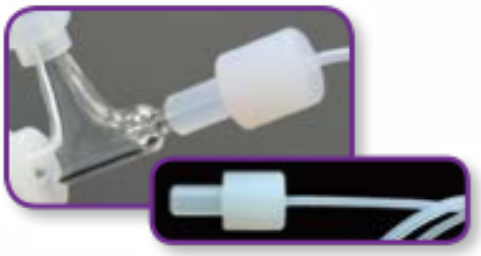
F1-80
F1 Detachable Capillary



S.A.F.I.R.

## F2 Standard PFA Integrated Capillary

| Description | Part Number |
|---|---|
| F2 Standard integrated capillary for self-aspiration or pumping. Includes 0.5 mm i.d. ■ (orange marker) 70 cm long capillary. | F2-50 |



F2-50
F2 Integrated Capillary

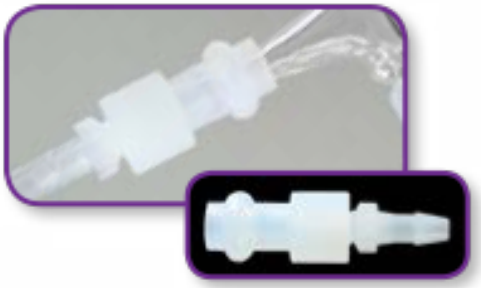
## FitKit 3T

| Description | Part Number |
|---|---|
| FitKit F5 for standard MEINHARD® nebulizer, standard integrated capillary, 0.50 mm ID (orange marker) x 70 cm PTFE | F5-50 |

F5-50
FitKit F5

## FG Gas Quick Connect for MEINHARD® Nebulizers

| Description | Part Number |
|---|---|
| FG Gas Quick Connect for MEINHARD® Nebulizers with maria for both small bore and standard bore nebulizers. | FG |



FG
FG Gas Quick Connect

## Nebulizer Cleaner

| Description | Part Number |
|---|---|
| Pearl Nebulizer Cleaner for all quartz and glass concentric nebulizers | PRL-02 |

PRL-02
Pearl Nebulizer Cleaner

## *pergo* Argon Nebulizer Gas Humidifier

| Description | Part Number |
|---|---|
| *pergo* argon high solids accessory without nebulizer. Includes gas line connector kit. | PRG-01 |
| *pergo* argon high solids accessory including MEINHARD® Type A Plus high performance nebulizer. | PRG-01-MAPlus |

PRG-01
*pergo* High Solids Accessory

## Spray Chambers

| Description | Part Number |
|---|---|
| Pyrex Scott Type spray chamber, radial (120-3751) | ML155025 |
| Pyrex Scott Type spray chamber, axial (318-00049) | ML155055 |

ML155025
Pyrex Spray Chamber

## Cyclonic Spray Chambers

| Description | Part Number |
|---|---|
| Cyclonic spray chamber, radial, o-rings for 6 mm nebulizer (120-00475-2) | ML155053 |
| Pyrex cyclonic spray chamber, radial, o-rings for 6 mm nebulizer (120-00475-1) | ML155054 |
| Pyrex cylonic spray chamber for Hildebrand Grid, axial (120-00461-2) | ML155058 |
| Cylonic spray chamber for Hildebrand Grid, with baffle, axial (120-00461-1) | ML155059 |

ML155059
Cyclonic Spray Chamber

## Quartz One-Piece Torches with Ball Joint

| Description | Part Number |
|---|---|
| Quartz torch, axial, fixed 2.5 mm injector, 187 mm length (318-00062) | ML155062 |
| Quartz torch, axial, direct-reading echelle, aqueous, 160 mm length (318-00064) | ML155064 |
| Quartz torch, dual view direct-reading echelle, aqueous (318-00065) | ML155065 |
| Quartz torch, dual view, DURA (120-00496-1) | ML155066 |
| Quartz torch, radial, fixed 1.5 mm injector (does not include tubing and fittings) (120-00336-1) | ML155020 |
| Quartz torch, radial, fixed 1.0 mm injector (does not include tubing and fittings) (120-00336-2) | ML155022 |
| Quartz torch, axial, direct-reading echelle, aqueous, fixed 2.5 mm injector (does not include tubing and fittings) (120-00336-3) | ML155023 |

ML155064
Quartz One-Piece Torch

## Quartz Torches, Demountable Injector

| Description | Part Number |
|---|---|
| Quartz torch, axial, demountable, direct-reading echelle (318-00069) | ML155069 |
| Quartz torch, axial, demountable, dual view direct-reading echelle (318-00070) | ML155070 |
| Quartz torch, radial, demountable (318-0001) | ML155043 |

ML155070
Quartz Torch

## Tubing and Quick Disconnects

| Description | Part Number |
|---|---|
| PVC tubing and quick disconnects for Leeman torch | MM155100 |

MEINHARD® can help you maintain your pump's performance with manufacturer recommended fluids. See page 100 for available fluids and oils.

## Purge Tubes

| Description | Part Number |
|---|---|
| Purge tube, axial, DV Profile (318-00066) | MP155066 |
| Purge tube, radial, DV Profile (318-00067) | MP155067 |
| Purge tube, radial, Profile (318-00068) | MP155068 |

MP155067
Purge Tube

## 2-Stop PVC Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop PVC pump tubing, flared, 0.51 mm ID, (orange/yellow), 12 pc (309-00069-1) | Tube-PVCSD-20-F |
| 2-stop PVC pump tubing, flared, 0.76 mm ID, (black/black), 12 pc (309-00069-7) | Tube-PVCSD-30-F |
| 2-stop PVC pump tubing, flared, 1.14 mm ID, (red/red), 12 pc (309-00069-4) | Tube-PVCSD-45-F |

Tube-PVCSD-20-F
2-stop PVC
Pump Tubing

## 2-Stop SolventFlex Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop SolventFlex pump tubing, 0.51 mm ID, (orange/yellow), 12 pc (309-00069-2) | Tube-SolFSD-20 |
| 2-stop SolventFlex pump tubing, 0.76 mm ID, (black/black), 12 pc (309-00069-8) | Tube-SolFSD-30 |
| 2-stop SolventFlex pump tubing, 1.14 mm ID, (red/red), 12 pc (309-00069-5) | Tube-SolFSD-45 |

Tube-SolFSD-30
2-stop SolventFlex
Pump Tubing

## 2-Stop Viton Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop Viton pump tubing, 0.51 mm ID, (orange/yellow), 12 pc (309000693) | Tube-Viton-20 |
| 2-stop Viton pump tubing, 1.14 mm ID, (red/red), 12 pc (309000696) | Tube-Viton-45 |

Tube-Viton-20
2-stop Viton Pump Tubing

*Visit www.meinhard.com for additional tubing options.*

## Quartz Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® SilQ+ Ultra high purity quartz nebulizer, low internal volume, nominal uptake 0.5 mL/min, 1 mL/min @ 50 psi, with FG PFA gas fitting and F2 sample uptake line (See page 33 for more information) | SILQ-50-A0.5 |
| MEINHARD® TQ+ quartz nebulizer, high sensitivity, low internal volume inlet, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi (See page 33 for more information) | TQP-50-A0.5 |
| MEINHARD® Type A concentric quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 0.5 mL/min, 1 L/min @ 30 psi | TQ-30-A0.5 |
| MEINHARD® Type A quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 1 mL/min, 1 L/min @ 30 psi (1110720) | TQ-30-A1 |
| MEINHARD® Type A concentric quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi | TQ-50-A0.5 |
| MEINHARD® Type A quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 1 mL/min, 1 L/min @ 50 psi | TQ-50-A1 |

TQ-30-A1
Type A Quartz
Nebulizer

## Glass Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® TR+ glass nebulizer, high sensitivity, low internal volume inlet, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi (See page 33 for more information) | TRP-50-A0.5 |
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, general purpose, nominal uptake 0.5mL/min, 1L/min @ 30 psi | TR-30-A0.5 |
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, general purpose, nominal uptake 1 mL/min, 1L/min @ 30 psi | TR-30-A1 |
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, low cost, high sensitivity, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi | TR-50-A0.5 |
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, low cost, high sensitivity, nominal uptake 1 mL/min, 1 L/min @ 50 psi | TR-50-A1 |

TR-50-A1
Type A Glass
Nebulizer

## PFA Nebulizer

| Description | Part Number |
|---|---|
| MicroFlow PFA-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME2040 |

ME2040
PFA-ST Nebulizer

## Poly-Pro Nebulizer

| Description | Part Number |
|---|---|
| PolyPro-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME4040 |

ME4040
PolyPro-ST Nebulizer

## Nebulizer Gas Quick Connects

| Description | Part Number |
|---|---|
| Gas Quick Connect for MEINHARD® Nebulizers with PFA-Press Fit for 4 mm tubing. Forms a tight seal over the maria on the sidearm of the nebulizer. | F4 |
| ICPMS Nebulizer Gas Quick Connect with PFA-Press Fit for 4 mm tubing for Element/Neptune. Connects to the instrument. | F4-52 |

F4
Nebulizer Gas Quick Connect



S.A.F.I.R.

## PFA Nebulizers with Integrated Capillaries

| Description | Part Number |
|---|---|
| PFA-20 MicroFlow Nebulizer with integrated capillary, 20µL/min measured self-aspiration rate (@1L/m Ar) | ME2020 |
| PFA-50 MicroFlow Nebulizer with integrated capillary, 50µL/min measured self-aspiration rate (@1L/m Ar) | ME2000 |
| PFA-100 MicroFlow Nebulizer with integrated capillary, 100µL/min measured self-aspiration rate (@1L/m Ar) | ME2002 |
| PFA-200 MicroFlow Nebulizer with integrated capillary, 200µL/min measured self-aspiration rate (@1L/m Ar) | ME2003 |
| PFA-400 MicroFlow Nebulizer with integrated capillary, 400µL/min measured self-aspiration rate (@1L/m Ar) | ME2005 |

ME2020
PFA-20 Nebulizer with
Integrated Capillary

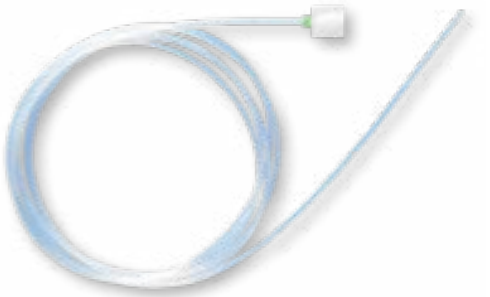
## PFA Nebulizers with Integrated Probes

| Description | Part Number |
|---|---|
| PFA-20 MicroFlow Nebulizer with integrated autosampler probe (carbon fiber support), 20µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20203503100 |
| PFA-50 MicroFlow Nebulizer with integrated autosampler probe (carbon fiber support), 50µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20003503100 |
| PFA-100 MicroFlow Nebulizer with integrated autosampler probe (carbon fiber support), 100µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20023503100 |
| PFA-200 MicroFlow Nebulizer with integrated autosampler probe (carbon fiber support), 200µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20033503100 |
| PFA-400 MicroFlow Nebulizer with integrated autosampler probe (carbon fiber support), 400µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20053503100 |
| PFA-20 MicroFlow Nebulizer with integrated autosampler probe (ultem support), 20µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20203505100 |
| PFA-50 MicroFlow Nebulizer with integrated autosampler probe (ultem support), 50µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20003505100 |
| PFA-100 MicroFlow Nebulizer with integrated autosampler probe (ultem support), 100µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20023505100 |
| PFA-200 MicroFlow Nebulizer with integrated autosampler probe (ultem support), 200µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20033505100 |
| PFA-400 MicroFlow Nebulizer with integrated autosampler probe (ultem support), 400µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20053505100 |

ME20023503100
PFA-100 Nebulizer with
Integrated Probe

## PFA Sample Capillaries for ST Nebulizers

| Description | Part Number |
|---|---|
| Self-aspirating sample capillary for ST nebulizer, 0.15 mm ID (red marker), 20µL/min measured self-aspiration rate (@1L/m Ar) | ME2045 |
| Self-aspirating sample capillary for ST nebulizer, 0.20 mm ID (purple marker), 50µL/min measured self-aspiration rate (@1L/m Ar) | ME2043 |
| Self-aspirating sample capillary for ST nebulizer, 0.25 mm ID (green marker), 100µL/min measured self-aspiration rate (@1L/m Ar) | ME2042 |
| Self-aspirating sample capillary for ST nebulizer, 0.30 mm ID (yellow marker), 200µL/min measured self-aspiration rate (@1L/m Ar) | ME2047 |
| Self-aspirating sample capillary for ST nebulizer, 0.50 mm ID (orange marker), 400µL/min measured self-aspiration rate (@1L/m Ar) | ME2041 |
| Self-aspirating sample capillary for ST nebulizer, 0.80 mm ID (blue marker), 700µL/min measured self-aspiration rate (@1L/m Ar) | ME2044 |
| Self-aspirating sample capillary for ST nebulizer, 1.00 mm ID (gray marker), 1mL/min measured self-aspiration rate (@1L/m Ar) | ME2049 |



ME2042
PFA Sample Capillary

# Thermo Element 1, 2, XR & Neptune

## Nebulizer Cleaner

| Description | Part Number |
|---|---|
| Pearl Nebulizer Cleaner for all quartz and glass concentric nebulizers | PRL-02 |

PRL-02
Pearl Nebulizer Cleaner

## Jacketed Spray Chamber

| Description | Part Number |
|---|---|
| Quartz spray chamber, jacketed for coolant, threaded port connections (1120900) | ML185018 |

ML185018
Jacketed Spray Chamber

## PFA 47mm Spray Chamber

| Description | Part Number |
|---|---|
| PFA 47 mm PureChamber and PFA Purecap Endcap, drain line included | ME20440002 |

ME20440002
PFA 47mm Spray Chamber

## Quartz One-Piece Torches

| Description | Part Number |
|---|---|
| Quartz torch, 1.0 mm fixed injector | ML185006 |
| Quartz torch, 1.5 mm fixed injector | ML185007 |
| Quartz torch, 2.0 mm fixed injector | ML185008 |

ML185007
Quartz Torch with
1.5 mm Injector

## Quartz Torches, Demountable Injector

| Description | Part Number |
|---|---|
| Quartz torch, axial, demountable (1091250) | ML185010 |

ML185010
Quartz Torch

## O-Ring-Free Quartz Torch

| Description | Part Number |
|---|---|
| O-ring-free quartz torch, axial, demountable | ME10021000 |

ME10021000
O-ring-free Quartz Torch



S.A.F.I.R.

## Torch Shields / Screens

| Description | Part Number |
|---|---|
| Pt guard / shield torch (1125680) | MC-25680 |
| Platinum torch guard shield, 84 mm, platinum ring diameter 20 mm (1126640) | MC-26640 |

MC-26640
Platinum Torch Shield

## Quartz Extension

| Description | Part Number |
|---|---|
| Quartz extension | ML185033 |

## Quartz Collar / Insulator

| Description | Part Number |
|---|---|
| Quartz collar / insulator, 25 mm | ML185026 |

ML185026
Quartz Collar / Insulator

## Quartz Collar / Sleeve

| Description | Part Number |
|---|---|
| Quartz collar / sleeve, 60 mm (1136500) | ML185025 |

ML185025
Quartz Collar / Sleeve

## Quartz Injectors with O-Ring Ball Joint

| Description | Part Number |
|---|---|
| Quartz injector with o-ring ball joint, 1.0 mm (does not include adapter) (1130680) | ML185040 |
| Quartz injector with o-ring ball joint, 1.5 mm (does not include adapter) | ML185041 |
| Quartz injector with o-ring ball joint, 1.8 mm (does not include adapter) (1122800) | ML185042 |
| Quartz injector with o-ring ball joint, 2.0 mm (does not include adapter) | ML185043 |

ML185041
Quartz Injector

## HF Resistant Sample Intro Kits

| Description | Part Number |
|---|---|
| Complete HF-resistant sample introduction kit. Includes a PFA-ST Nebulizer, PFA PureCap endcap with additional gas port, PFA spray chamber, 1.8 mm sapphire injector, platinum shield disc and quartz torch. | ME2180147129 |
| Complete high purity sample introduction kit. Includes two PFA-100 MicroFlow Nebulizers, PFA PureCap endcap with additional gas port, PFA spray chamber, platinum injector, platinum shield disc and quartz torch. | ME2181147119 |

ME2181147119
HF Resistant Sample Intro Kit

## *pergo* Argon Nebulizer Gas Humidifier

| Description | Part Number |
|---|---|
| *pergo* argon high solids accessory without nebulizer. Includes gas line connector kit. | PRG-01 |
| *pergo* argon high solids accessory including MEINHARD® Type A Plus high performance nebulizer | PRG-01-MAPlus |

PRG-01
*pergo* High Solids Accessory

## Pipette Tips

| Description | Part Number |
|---|---|
| 100 µL PFA PureTip pipette tips, pre-cleaned, pack of 10 (N0777394) | ME70000101 |
| 1000 µL PFA PureTip pipette tips, pre-cleaned, pack of 10 (N0777395) | ME70001001 |

ME70000101 & ME70001001
Pipette Tips

## Copper Load Coils

| Description | Part Number |
|---|---|
| Copper RFPP generator load coil for Thermo Neptune/Element II | MC-10780 |
| Copper seren load coil for Thermo Neptune/Element II, XR | MC-39230 |

MC-39230
Seren Load Coil

## Electron Multipliers

| Description | Part Number |
|---|---|
| ETP Electron Multiplier for Thermo Element II (1114170) | MC-14170 |
| ETP Magnetic Sector Multiplier for Thermo MAT 262, Neptune, Triton | MC-AF150HM9 |
| MasCom Electron Multiplier for Thermo Element II (post 03/2004) (1152700) | MC-52700 |
| ETP Electron Multiplier for Thermo Element I (1022600) | MC-22600 |

MC-52700
Electron Multiplier

MEINHARD® can help you maintain your pump's performance with manufacturer recommended fluids. See page 100 for available fluids and oils.

## Sampling Cones

| Description | Part Number |
|---|---|
| Ni Jet sampler cone (1260630) | MC-60630 |
| Ni sample cone, Nicone TM, Cu base (3600812) | MC-00812 |
| Ni sampler cone (100% Ni) (1044530) | MC-44530 |
| Al sampler cone (100% Al) (1044530-Al) | MC-44530-Al |
| Pt sampler, Ni core (1067501) | MC-67501 |
| Pt sampler cone (3601289) | MC-01289 |
| Gasket, graphite for sampler, pack of 3 (3004382) | MC-04382 |
| Gasket, graphite for sampler, holes, 3 pk (67.0109.00) | MC-10900 |

MC-60630
Nickel Sampler Cone

## Skimmer Cones

| Description | Part Number |
|---|---|
| Ni skimmer cone (1067600) | MC-67600 |
| Al skimmer cone (1067600-Al) | MC-67600-Al |
| Ni skimmer cone, insert ready (1311870) | MC-11870 |
| Ni X skimmer cone (1142160) | MC-42160 |
| Pt skimmer cone, insert ready (1324540) | MC-24540 |
| Pt X skimmer, 6mm (1142150) | MC-42150 |

MC-42160
Nickel Skimmer Cone

## Cone Cleaning Kit & Detergent

| Description | Part Number |
|---|---|
| Cone Cleaning Kit includes: Course & Fine Alumina Powder, Diamond Abrasive Paste, Synthetic fiber, lint-free cloths, Wooden cotton swabs (qty 50), Foam Tipped ESD Swabs (qty 50) and Magnifier | MC-MNTKIT1 |
| Citranox Detergent, contains acid ingredients for high-performance removal of metal oxides, salts and inorganic residues combined with full detergent capability. Used on soft metals. 1 gallon | CitranoxDetergent |

MC-MNTKIT1
Cone Cleaning Kit

## 2-Stop PVC Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop PVC pump tubing, 1.30 mm ID, (gray/gray), 12 pc | Tube-PVCSD-51 |
| 2-stop PVC pump tubing, flared, 0.13 mm ID, (orange/black), 12 pc | Tube-PVCSD-051-F |
| 2-stop PVC pump tubing, flared, 0.51 mm ID, (orange/yellow), 12 pc | Tube-PVCSD-20-F |

Tube-PVCSD-20-F
2-stop PVC
Pump Tubing

*Visit www.meinhard.com for additional tubing options.*

## Glass Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® Type K glass nebulizer, lapped flush nozzle, high solids, recessed (0.5 mm) capillary, nominal uptake 2 mL/min, 0.7 mL/min @ 30 psi (842312051431) | TR-30-K2 |
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, low cost, high sensitivity, nominal uptake 2 mL/min, 1 L/min @ 50 psi | TR-50-A2 |
| MEINHARD® Type C glass nebulizer, polished, recessed (0.5 mm) capillary, high solids, nominal uptake 2 mL/min, 1 L/min @ 50 psi (842312051331) | TR-50-C2 |

TR-30-K2
Type C Glass
Nebulizer

## PFA Nebulizer

| Description | Part Number |
|---|---|
| MicroFlow PFA-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME2040 |

ME2040
PFA-ST Nebulizer

## Poly-Pro Nebulizer

| Description | Part Number |
|---|---|
| PolyPro-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME4040 |

ME4040
PolyPro-ST Nebulizer

## PEEK Nebulizer

| Description | Part Number |
|---|---|
| PEEK MiraMist nebulizer (842312051471). Includes an argon line and sample capillary. | PMM4000 |

PMM4000
PEEK MiraMist Nebulizer

## V-Groove Nebulizer

| Description | Part Number |
|---|---|
| V-Groove nebulizer, Noordermeer, 6 mm o.d., 30 psi (824312051321) | MP080963 |

MP080963
V-Groove Nebulizer

## Nebulizer Cleaner

| Description | Part Number |
|---|---|
| Pearl Nebulizer Cleaner for all quartz and glass concentric nebulizers | PRL-02 |

PRL-02
Pearl Nebulizer Cleaner



S.A.F.I.R.

## Cyclonic Spray Chambers

| Description | Part Number |
|---|---|
| Pyrex cyclonic spray chamber for iCAP 6x00, no baffle (842312051411) | ML128010 |
| Pyrex cyclonic spray chamber for iCAP 6x00, no baffle with Easy-Seal threaded nebulizer inlet and PFA cap | ML128010ES |
| Pyrex cyclonic spray chamber for iCAP 6x00, baffled (842312051311) | ML128012 |
| Pyrex cyclonic spray chamber for iCAP 6x00, baffled, with Easy-Seal threaded nebulizer inlet and PFA cap | ML128012ES |

ML128010
Cylonic Spray
Chamber

## Right Angle Spray Chamber Adapter

| Description | Part Number |
|---|---|
| Right angle spray chamber adapter for iCAP 6x00 and Duo (842312051251) | ML128021 |

ML128021
Right Angle Adapter

## Straight Spray Chamber Adapter

| Description | Part Number |
|---|---|
| Straight spray chamber adapter for iCAP 6x00, radial, (842312051151) | ML128020 |

ML128020
Straight Adapter

## Internal Liquid Fitting

| Description | Part Number |
|---|---|
| Internal liquid fitting for spray chamber drain | MP500QD |

## *pergo* Argon Nebulizer Gas Humidifier

| Description | Part Number |
|---|---|
| *pergo* argon high solids accessory without nebulizer. Includes gas line connector kit. | PRG-01 |
| *pergo* argon high solids accessory including MEINHARD® Type A Plus high performance nebulizer. | PRG-01-MAPlus |

PRG-01
*pergo* High Solids Accessory

MEINHARD® can help you maintain your pump's performance with manufacturer recommended fluids. See page 100 for available fluids and oils.

## Torch Window

| Description | Part Number |
|---|---|
| Torch Window for iCAP Duo, radial (842312051591) | ML128073 |

ML128073
Torch Bonnet

## Quartz Torches, Demountable Injector

| Description | Part Number |
|---|---|
| Duo quartz torch for iCAP 6x00 (842312051241) | ML128007 |
| EMT duo quartz torch for iCAP 6x00 (842312051841) | ML128050 |
| Quartz EMT torch for iCAP 6x00, radial (842312051741) | ML128052 |
| Quartz torch for iCAP 6x00, radial (842312051141) | ML128005 |

ML128050
Quartz Torch

## Quartz Center Tubes

| Description | Part Number |
|---|---|
| Quartz 1.0 mm center tube for iCAP 6x00 (842312051341) | ML128040 |
| Quartz 1.5 mm center tube for iCAP 6x00 (842312051351) | ML128041 |
| Quartz 2.0 mm center tube for iCAP 6x00 (842312051371) | ML128042 |
| Quartz 1.0 mm center tube for iCAP 6x00, EMT (842312051941) | ML128070 |
| Quartz 1.5 mm center tube for iCAP 6x00, EMT (842312051951) | ML128071 |
| Quartz 2.0 mm center tube for iCAP 6x00, EMT (842312051971) | ML128072 |

ML128040
Quartz Center Tube

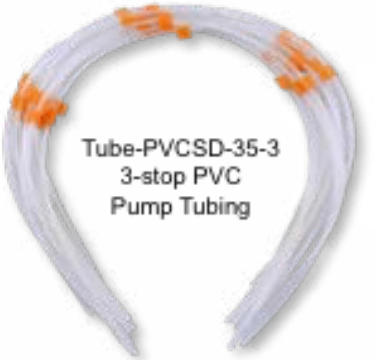
## 2-Stop PVC Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop PVC pump tubing, 0.64 mm ID, (orange/white), 12 pc (842312051511) | Tube-PVCSD-25 |
| 2-stop PVC pump tubing, 1.02 mm ID, (white/white), 12 pc (842312051521) | Tube-PVCSD-40 |
| 2-stop PVC pump tubing, flared, 0.64 mm ID, (orange/white), 12 pc | Tube-PVCSD-25-F |

Tube-PVCSD-40
2-stop PVC
Pump Tubing

## 3-Stop PVC Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 3-stop PVC pump tubing, 0.89 mm ID, (orange/orange/orange), 12 pc (13017700) | Tube-PVCSD-35-3 |
| 3-stop PVC pump tubing, 1.14 mm ID, (red/red/red), 12 pc (13107701) | Tube-PVCSD-45-3 |
| 3-stop PVC pump tubing, flared, 0.89 mm ID, (orange/orange/orange), 12 pc | Tube-PVCSD-35-3-F |



Tube-PVCSD-35-3
3-stop PVC
Pump Tubing

*See pages 88-89 or visit www.meinhard.com for additional tubing options.*



S.A.F.I.R.

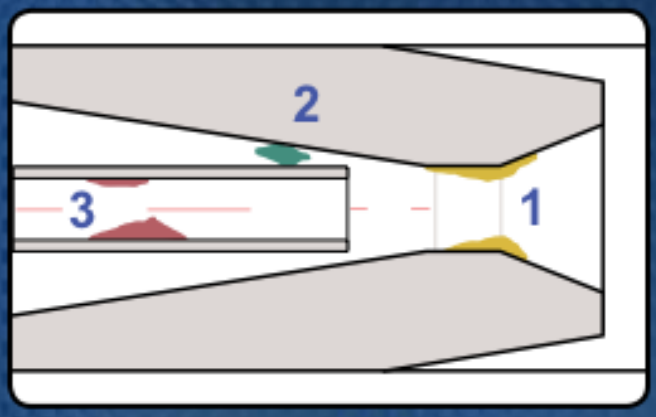
# Pearl Nebulizer Cleaner

## For all quartz and glass concentric nebulizers

With this device a cleaning solution can be pumped manually in reverse, through both the sample and gas passages. Favorite cleaning solutions are - Sigma-Aldrich RBS-25 diluted about 20x, Deconex similarly diluted; - or - either of these, but with the addition of 10% methanol. When the wet-cleaning process is finished, rinse with DI water and flush dry with compressed air or inert gas.

The diagram below shows the 3 main types of blockages that can occur in pneumatic concentric nebulizers.

PRL-02
Pearl Nebulizer
Cleaner




#1 - Deposits at this point are typically composed of salts coming out of solution. Such deposits can usually be removed by repeated rinsing of a concentric nebulizer with an appropriate solvent.

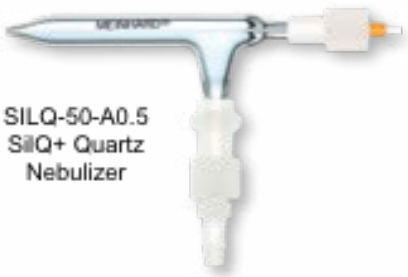
#2 - This sort of obstruction is the worst type, capable of breaking the tip of a glass capillary. If the deposit is insoluble, the only sure way to remove it is with a PEARL cleaner.

#3 - Deposits inside the capillary may go unnoticed for quite a while, particularly if the sample is pumped. Paper and textile fibers are often at fault.

Using the PEARL cleaner

## Quartz Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® SilQ+ Ultra high purity quartz nebulizer, low internal volume, nominal uptake 0.5 mL/min, 1 mL/min @ 50 psi, with FG PFA gas fitting and F2 sample uptake line (See page 33 for more information) | SILQ-50-A0.5 |
| MEINHARD® TQ+ quartz nebulizer, high sensitivity, low internal volume inlet, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi (See page 31 for more information) | TQP-50-A0.5 |
| MEINHARD® Type A concentric quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi | TQ-50-A0.5 |



SILQ-50-A0.5
SilQ+ Quartz
Nebulizer

## Glass Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® TR+ glass nebulizer, high sensitivity, low internal volume inlet, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi (1161870) (See page 33 for more information) | TRP-50-A0.5 |
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, low cost, high sensitivity, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi | TR-50-A0.5 |

TR-50-A0.5
Glass Nebulizer

## PFA Nebulizers

| Description | Part Number |
|---|---|
| MicroFlow PFA-ST nebulizer. Includes PFA gas line and two capillaries, 100 µl/min & 400 µl/min. (1317090) | ME204073 |
| PFA-LC, MicroFlow PFA nebulizer, includes ES-2051-0150 150 µm i.d. connection line, ES-2543 CTFE Union, ES-2045 0.15 mm capillary, and nebulizer gas fittings kit. (1162030) | ME205052 |

ME204073
PFA-ST Nebulizer

## PFA Nebulizers with Integrated Probes

| Description | Part Number |
|---|---|
| PFA-20 MicroFlow Nebulizer with integrated autosampler probe (carbon fiber support), 20µL/min measured self-aspiration rate (@1L/m Ar), 80cm | ME20203503080 |
| PFA-50 MicroFlow Nebulizer with integrated autosampler probe (carbon fiber support), 50µL/min measured self-aspiration rate (@1L/m Ar), 80cm | ME20003503080 |
| PFA-100 MicroFlow Nebulizer with integrated autosampler probe (carbon fiber support), 100µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20023503100 |
| PFA-200 MicroFlow Nebulizer with integrated autosampler probe (carbon fiber support), 200µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20033503100 |
| PFA-400 MicroFlow Nebulizer with integrated autosampler probe (carbon fiber support), 400µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20053503100 |
| PFA-20 MicroFlow Nebulizer with integrated autosampler probe (ultem support), 20µL/min measured self-aspiration rate (@1L/m Ar), 80cm | ME20203505080 |
| PFA-50 MicroFlow Nebulizer with integrated autosampler probe (ultem support), 50µL/min measured self-aspiration rate (@1L/m Ar), 80cm | ME20003505080 |
| PFA-100 MicroFlow Nebulizer with integrated autosampler probe (ultem support), 100µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20023505100 |
| PFA-200 MicroFlow Nebulizer with integrated autosampler probe (ultem support), 200µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20033505100 |
| PFA-400 MicroFlow Nebulizer with integrated autosampler probe (ultem support), 400µL/min measured self-aspiration rate (@1L/m Ar), 100cm | ME20053505100 |

ME20023503100
PFA-100 Nebulizer with
Integrated Probe

## PFA Sample Capillaries for ST Nebulizers

| Description | Part Number |
|---|---|
| Self-aspirating sample capillary for ST nebulizer, 0.15 mm ID (red marker), 20µL/min measured self-aspiration rate (@1L/m Ar) | ME2045 |
| Self-aspirating sample capillary for ST nebulizer, 0.20 mm ID (purple marker), 50µL/min measured self-aspiration rate (@1L/m Ar) | ME2043 |
| Self-aspirating sample capillary for ST nebulizer, 0.25 mm ID (green marker), 100µL/min measured self-aspiration rate (@1L/m Ar) | ME2042 |
| Self-aspirating sample capillary for ST nebulizer, 0.30 mm ID (yellow marker), 200µL/min measured self-aspiration rate (@1L/m Ar) | ME2047 |
| Self-aspirating sample capillary for ST nebulizer, 0.50 mm ID (orange marker), 400µL/min measured self-aspiration rate (@1L/m Ar) | ME2041 |
| Self-aspirating sample capillary for ST nebulizer, 0.80 mm ID (blue marker), 700µL/min measured self-aspiration rate (@1L/m Ar) | ME2044 |
| Self-aspirating sample capillary for ST nebulizer, 1.00 mm ID (gray marker), 1mL/min measured self-aspiration rate (@1L/m Ar) | ME2049 |

## Gas Line

| Description | Part Number |
|---|---|
| Additional gas line | ME25021000 |

## Autosampler Probes

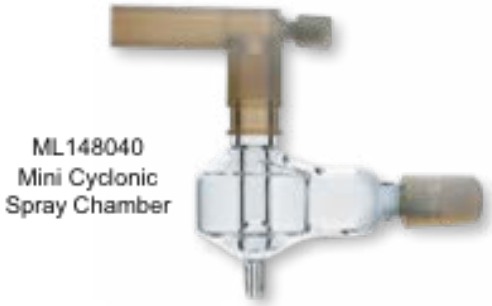
| Description | Part Number |
|---|---|
| 0.25mm ID SC-DX autosampler probe, carbon fiber support, 150 cm | ME50373505150 |
| 0.5mm ID SC-DX autosampler probe, carbon fiber support, 150 cm | ME50373505150 |

## Cyclonic Spray Chambers

| Description | Part Number |
|---|---|
| Quartz cyclonic spray chamber (1317080) | ML148030 |
| PFA cyclonic spray chamber (1320260) | ME148032 |

## Mini Cyclonic Spray Chamber

| Description | Part Number |
|---|---|
| Quartz mini-cyclonic spray chamber (20 mL) with baffle, EasySeal inlet, threaded drain. Outlet is right-angle PFA with auxiliary gas inlet | ML148040 |



## PFA Elbow

| Description | Part Number |
|---|---|
| PFA elbow with add gas port (1320270) | ME31500073L |

ME31500073L
PFA Elbow

## Quartz Torch

| Description | Part Number |
|---|---|
| Quartz torch (1230790) | ML148010 |

ML148010
Quartz Torch

## Torch Holder

| Description | Part Number |
|---|---|
| Torch Holder (1231000) | MC-31000 |

MC-31000
Torch Holder

## Quartz Injectors

| Description | Part Number |
|---|---|
| 1.5 mm quartz injector | ME148015 |
| 2.0 mm quartz injector (1305640) | ME148016 |
| 2.5 mm quartz injector (1305600) | ME148017 |

ME148017
Quartz Injector

## Sapphire Injectors

| Description | Part Number |
|---|---|
| 1.5 mm sapphire injector | ME148051 |
| 1.8 mm sapphire injector (1323600) | ME148050 |
| 2.5 mm sapphire injector | ME148052 |

ME148050
Sapphire Injector

## Platinum Injectors

| Description | Part Number |
|---|---|
| 1.0 mm platinum injector | ME148019 |
| 1.5 mm platinum injector | ME148020 |
| 2.0 mm platinum injector (1321200) | ME148018 |

ME148018
Platinum Injector

## Copper Load Coils

| Description | Part Number |
|---|---|
| Copper load coil for Thermo (VG) iCAP Q (1305260-Cu) | MC-05260 |
| Silver plated copper load coil for Thermo (VG) iCAP Q (1305260) | MC-05260-Ag |

## Sampling Cones

| Description | Part Number |
|---|---|
| Ni sampler cone, Nicone TM, Cu base for iCAP Q and VG ExCell. (3600812) | MC-00812 |
| Pt sampler cone (15.2mm) for iCAP Q and VG, all X. (3601289) | MC-01289 |

MC-00812
Ni Sampler Cone

## Skimmer Cones

| Description | Part Number |
|---|---|
| Ni skimmer cone for iCAP Q, insert ready. (1311870) | MC-11870 |
| Pt skimmer cone for iCAP Q, insert ready. (1324540) | MC-24540 |

MC-11870
Ni Sampler Cone

## Skimmer Cone Inserts

| Description | Part Number |
|---|---|
| Nickel Skimmer Insert - 2.8 - High Sensitivity (1311880) | MC-11880 |
| Nickel Skimmer Insert - 3.0 - Standard for A and C - High Matrix (1318470) | MC-18470 |
| Nickel Skimmer Insert - 3.5 - High Matrix Tolerance (1318480) | MC-18480 |

MC-11880
Skimmer Insert

## Pump Oil

| Description | Part Number |
|---|---|
| Fomblin pump oil PFPE 1000mL (1319310) | MC-19310 |

## Sampling Cone Gasket

| Description | Part Number |
|---|---|
| Graphite Gasket for Sampler Cone with interface holes. 3 pack (1310900) | MC-10900H |
| Graphite Gasket for Sampler Cone. 3 pack (3004382) | MC-04382 |

MC-10900H
Sampling
Cone Gasket

## Cone Cleaning Kit & Detergent

| Description | Part Number |
|---|---|
| Cone Cleaning Kit includes: Course & Fine Alumina Powder, Diamond Abrasive Paste, Synthetic fiber, lint-free cloths, Wooden cotton swabs (qty 50), Foam Tipped ESD Swabs (qty 50) and Magnifier | MC-MNTKIT1 |
| Citranox Detergent, contains acid ingredients for high-performance removal of metal oxides, salts and inorganic residues combined with full detergent capability. Used on soft metals. 1 gallon | CitrancxDetergent |

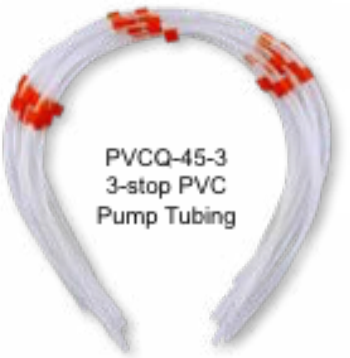
MC-MNTKIT1
Cone Cleaning Kit

## Electron Multiplier

| Description | Part Number |
|---|---|
| Electron multiplier (SEM) for iCAP Q (1299710) | MC-99710 |

## 3-Stop PVC Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 3-stop PVC pump tubing, 0.13 mm ID, (orange/black/orange), 12 pc | PVCQ-05-3 |
| 3-stop PVC pump tubing, flared, 0.13 mm ID, (orange/black/orange), 12 pc | PVCQ-05-3F |
| 3-stop PVC pump tubing, 0.19 mm ID, (orange/red/orange), 12 pc | PVCQ-075-3 |
| 3-stop PVC pump tubing, flared, 0.19 mm ID, (orange/red/orange), 12 pc | PVCQ-075-3F |
| 3-stop PVC pump tubing, 0.27 mm ID, (orange/blue/orange), 12 pc | PVCQ-10-3 |
| 3-stop PVC pump tubing, flared, 0.27 mm ID, (orange/blue/orange), 12 pc | PVCQ-10-3F |
| 3-stop PVC pump tubing, 0.38 mm ID, (orange/green/orange), 12 pc | PVCQ-15-3 |
| 3-stop PVC pump tubing, flared, 0.38 mm ID, (orange/green/orange), 12 pc | PVCQ-15-3F |
| 3-stop PVC pump tubing, 0.44 mm ID, (green/yellow/green), 12 pc | PVCQ-17-3 |
| 3-stop PVC pump tubing, flared 0.44 mm ID, (green/yellow/green), 12 pc | PVCQ-17-3F |
| 3-stop PVC pump tubing, 0.51 mm ID, (orange/yellow/orange), 12 pc | PVCQ-20-3 |
| 3-stop PVC pump tubing, flared 0.51 mm ID, (orange/yellow/orange), 12 pc | PVCQ-20-3F |
| 3-stop PVC pump tubing, 0.57 mm ID, (white/yellow/white), 12 pc | PVCQ-22-3 |
| 3-stop PVC pump tubing, flared 0.57 mm ID, (white/yellow/white), 12 pc | PVCQ-22-3F |
| 3-stop PVC pump tubing, 0.64 mm ID, (orange/white/orange), 12 pc | PVCQ-25-3 |
| 3-stop PVC pump tubing, flared 0.64 mm ID, (orange/white/orange), 12 pc | PVCQ-25-3F |
| 3-stop PVC pump tubing, 0.76 mm ID, (black/black/black), 12 pc | PVCQ-30-3 |
| 3-stop PVC pump tubing, flared 0.76 mm ID, (black/black/black), 12 pc | PVCQ-30-3F |
| 3-stop PVC pump tubing, 0.89 mm ID, (orange/orange/orange), 12 pc | PVCQ-35-3 |
| 3-stop PVC pump tubing, flared 0.89 mm ID, (orange/orange/orange), 12 pc | PVCQ-35-3F |
| 3-stop PVC pump tubing, 0.95 mm ID, (white/black/white), 12 pc | PVCQ-37-3 |
| 3-stop PVC pump tubing, flared 0.95 mm ID, (white/black/white), 12 pc | PVCQ-37-3F |
| 3-stop PVC pump tubing, 1.02 mm ID, (white/white/white), 12 pc | PVCQ-40-3 |
| 3-stop PVC pump tubing, flared 1.02 mm ID, (white/white/white), 12 pc | PVCQ-40-3F |
| 3-stop PVC pump tubing, 1.09 mm ID, (white/red/white), 12 pc | PVCQ-43-3 |
| 3-stop PVC pump tubing, flared 1.09 mm ID, (white/red/white), 12 pc | PVCQ-43-3F |
| 3-stop PVC pump tubing, 1.14 mm ID, (red/red/red), 12 pc | PVCQ-45-3 |
| 3-stop PVC pump tubing, flared 1.14 mm ID, (red/red/red), 12 pc | PVCQ-45-3F |
| 3-stop PVC pump tubing, 1.22 mm ID, (red/gray/red), 12 pc | PVCQ-48-3 |
| 3-stop PVC pump tubing, flared 1.22 mm ID, (red/gray/red), 12 pc | PVCQ-48-3F |
| 3-stop PVC pump tubing, 1.30 mm ID, (gray/gray/gray), 12 pc | PVCQ-51-3 |
| 3-stop PVC pump tubing, 1.42 mm ID, (yellow/yellow/yellow), 12 pc | PVCQ-56-3 |
| 3-stop PVC pump tubing, 1.52 mm ID, (yellow/blue/yellow), 12 pc | PVCQ-60-3 |
| 3-stop PVC pump tubing, 1.65 mm ID, (blue/blue/blue), 12 pc | PVCQ-65-3 |
| 3-stop PVC pump tubing, 1.75 mm ID, (blue/green/blue), 12 pc | PVCQ-69-3 |
| 3-stop PVC pump tubing, 1.85 mm ID, (green/green/green), 12 pc | PVCQ-73-3 |
| 3-stop PVC pump tubing, 2.06 mm ID, (purple/purple/purple), 12 pc | PVCQ-81-3 |
| 3-stop PVC pump tubing, 2.29 mm ID, (purple/black/purple), 12 pc | PVCQ-90-3 |
| 3-stop PVC pump tubing, 2.54 mm ID, (purple/orange/purple), 12 pc | PVCQ-100-3 |
| 3-stop PVC pump tubing, 2.79 mm ID, (purple/white/purple), 12 pc | PVCQ-110-3 |
| 3-stop PVC pump tubing, 3.17 mm ID, (black/white/black), 12 pc | PVCQ-125-3 |






S.A.F.I.R.

MEINHARD® can help you maintain your pump's performance with manufacturer recommended fluids. See page 100 for available fluids and oils.

## 3-Stop Solva Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 3-stop solva pump tubing, flared 0.13 mm ID, (orange/black/orange), 12 pc | SOLQ-05-3F |
| 3-stop solva pump tubing, flared 0.19 mm ID, (orange/red/orange), 12 pc | SOLQ-075-3F |
| 3-stop solva pump tubing, flared 0.27 mm ID, (orange/blue/orange), 12 pc | SOLQ-10-3F |
| 3-stop solva pump tubing, flared 0.38 mm ID, (orange/green/orange), 12 pc | SOLQ-15-3F |
| 3-stop solva pump tubing, flared 0.44 mm ID, (green/yellow/green), 12 pc | SOLQ-17-3F |
| 3-stop solva pump tubing, flared 0.51 mm ID, (orange/yellow/orange), 12 pc | SOLQ-20-3F |
| 3-stop solva pump tubing, flared 0.57 mm ID, (white/yellow/white), 12 pc | SOLQ-22-3F |
| 3-stop solva pump tubing, flared 0.64 mm ID, (orange/white/orange), 12 pc | SOLQ-25-3F |
| 3-stop solva pump tubing, 0.76 mm ID, (black/black/black), 12 pc | SOLQ-30-3 |
| 3-stop solva pump tubing, flared 0.76 mm ID, (black/black/black), 12 pc | SOLQ-30-3F |
| 3-stop solva pump tubing, 0.89 mm ID, (orange/orange/orange), 12 pc | SOLQ-35-3 |
| 3-stop solva pump tubing, flared 0.89 mm ID, (orange/orange/orange), 12 pc | SOLQ-35-3F |
| 3-stop solva pump tubing, 0.95 mm ID, (white/black/white), 12 pc | SOLQ-37-3 |
| 3-stop solva pump tubing, flared 0.95 mm ID, (white/black/white), 12 pc | SOLQ-37-3F |
| 3-stop solva pump tubing, 1.02 mm ID, (white/white/white), 12 pc | SOLQ-40-3 |
| 3-stop solva pump tubing, flared 1.02 mm ID, (white/white/white), 12 pc | SOLQ-40-3F |
| 3-stop solva pump tubing, 1.09 mm ID, (white/red/white), 12 pc | SOLQ-43-3 |
| 3-stop solva pump tubing, flared 1.09 mm ID, (white/red/white), 12 pc | SOLQ-43-3F |
| 3-stop solva pump tubing, 1.14 mm ID, (red/red/red), 12 pc | SOLQ-45-3 |
| 3-stop solva pump tubing, flared 1.14 mm ID, (red/red/red), 12 pc | SOLQ-45-3F |
| 3-stop solva pump tubing, 1.22 mm ID, (red/gray/red), 12 pc | SOLQ-48-3 |
| 3-stop solva pump tubing, 1.30 mm ID, (gray/gray/gray), 12 pc | SOLQ-51-3 |
| 3-stop solva pump tubing, 1.42 mm ID, (yellow/yellow/yellow), 12 pc | SOLQ-56-3 |
| 3-stop solva pump tubing, 1.52 mm ID, (yellow/blue/yellow), 12 pc | SOLQ-60-3 |
| 3-stop solva pump tubing, 1.65 mm ID, (blue/blue/blue), 12 pc | SOLQ-65-3 |
| 3-stop solva pump tubing, 1.75 mm ID, (blue/green/blue), 12 pc | SOLQ-69-3 |
| 3-stop solva pump tubing, 1.85 mm ID, (green/green/green), 12 pc | SOLQ-73-3 |
| 3-stop solva pump tubing, 2.06 mm ID, (purple/purple/purple), 12 pc | SOLQ-81-3 |
| 3-stop solva pump tubing, 2.29 mm ID, (purple/black/purple), 12 pc | SOLQ-90-3 |
| 3-stop solva pump tubing, 2.54 mm ID, (purple/orange/purple), 12 pc | SOLQ-100-3 |
| 3-stop solva pump tubing, 2.79 mm ID, (purple/white/purple), 12 pc | SOLQ-110-3 |
| 3-stop solva pump tubing, 3.17 mm ID, (black/white/black), 12 pc | SOLQ-125-3 |

## 3-Stop Silicone Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 3-stop silicone pump tubing, 0.51 mm ID, (orange/yellow/orange), 12 pc (132070) | Tube-SilQ-20-3 |
| 3-stop silicone pump tubing, 0.76 mm ID, (orange/yellow/orange), 12 pc (132080) | Tube-SilQ-30-3 |
| 3-stop silicone pump tubing, 1.29 mm ID, (gray/gray/gray), 12 pc (132090) | Tube-SilQ-51-3 |
| 3-stop silicone pump tubing, 2.79 mm ID, (purple/white/purple), 12 pc (132100) | Tube-SilQ-110-3 |

***Visit www.meinhard.com for additional tubing options.***

## Quartz Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® SilQ+ Ultra high purity quartz nebulizer, low internal volume, nominal uptake 0.5 mL/min, 1 mL/min @ 50 psi, with FG PFA gas fitting and F2 sample uptake line (See page 33 for more information) | SILQ-50-A0.5 |
| MEINHARD® TQ+ quartz nebulizer, high sensitivity, low internal volume inlet, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi (See page 33 for more information) | TQP-50-A0.5 |
| MEINHARD® Type A concentric quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 0.5 mL/min, 1 L/min @ 30 psi | TQ-30-A0.5 |
| MEINHARD® Type A quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 1 mL/min, 1 L/min @ 30 psi (1110720) | TQ-30-A1 |
| MEINHARD® Type A concentric quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 3 mL/min, 1 L/min @ 30 psi | TQ-30-A3 |
| MEINHARD® Type A concentric quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi | TQ-50-A0.5 |

TQ-30-A3
Quartz Nebulizer

## Glass Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® TR+ glass nebulizer, high sensitivity, low internal volume inlet, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi (See page 33 for more information) | TRP-50-A0.5 |
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, general purpose, nominal uptake 0.5mL/min, 1L/min @ 30 psi | TR-30-A0.5 |
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, general purpose, nominal uptake 1 mL/min, 1 L/min @ 30 psi (1201318) | TR-30-A1 |
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, low cost, high sensitivity, nominal uptake 3 mL/min, 1 L/min @ 30 psi (1040894) | TR-30-A3 |
| MEINHARD® Type C glass nebulizer, polished, recessed (0.5 mm) capillary, high solids, nominal uptake 3 mL/min, 1 L/min @ 30 psi | TR-30-C3 |

TR-30-A3
Glass Nebulizer

## PFA Nebulizer

| Description | Part Number |
|---|---|
| MicroFlow PFA-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME2040 |

ME2040
PFA-ST Nebulizer

## Poly-Pro Nebulizer

| Description | Part Number |
|---|---|
| PolyPro-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME4040 |

ME4040
PolyPro-ST Nebulizer

## PEEK Nebulizer

| Description | Part Number |
|---|---|
| PEEK MiraMist nebulizer. Includes an argon line and sample capillary. | PMM4000 |

PMM4000
PEEK MiraMist Nebulizer

## Nebulizer Cleaner

| Description | Part Number |
|---|---|
| Pearl Nebulizer Cleaner for all quartz and glass concentric nebulizers | PRL-02 |

PRL-02
Pearl Nebulizer Cleaner



S.A.F.I.R.

## PFA Sample Capillaries for ST Nebulizers

| Description | Part Number |
|---|---|
| Self-aspirating sample capillary for ST nebulizer, 0.15 mm ID (red marker), 20µL/min measured self-aspiration rate (@1L/m Ar) | ME2045 |
| Self-aspirating sample capillary for ST nebulizer, 0.20 mm ID (purple marker), 50µL/min measured self-aspiration rate (@1L/m Ar) | ME2043 |
| Self-aspirating sample capillary for ST nebulizer, 0.25 mm ID (green marker), 100µL/min measured self-aspiration rate (@1L/m Ar) | ME2042 |
| Self-aspirating sample capillary for ST nebulizer, 0.30 mm ID (yellow marker), 200µL/min measured self-aspiration rate (@1L/m Ar) | ME2047 |
| Self-aspirating sample capillary for ST nebulizer, 0.50 mm ID (orange marker), 400µL/min measured self-aspiration rate (@1L/m Ar) | ME2041 |
| Self-aspirating sample capillary for ST nebulizer, 0.80 mm ID (blue marker), 700µL/min measured self-aspiration rate (@1L/m Ar) | ME2044 |
| Self-aspirating sample capillary for ST nebulizer, 1.00 mm ID (gray marker), 1mL/min measured self-aspiration rate (@1L/m Ar) | ME2049 |

ME2042
PFA Sample Capillary

## Carbon Fiber Supported Autosampler Probes

| Description | Part Number |
|---|---|
| 0.25mm i.d. Carbon fiber support (125mm) SC-autosampler probe for ST nebulizers ~ 100 µL/min uptake rate, 80 cm capillary | ME50373250080 |
| 0.50mm i.d. Carbon fiber support (125mm) SC-autosampler probe for ST nebulizers ~ 400 µL/min uptake rate, 80 cm capillary | ME50373500080 |
| 0.25mm i.d. Carbon fiber support (150mm) SC-autosampler probe for ST nebulizers ~ 100 µL/min uptake rate, 100 cm capillary | ME50373250100 |
| 0.50mm i.d. Carbon fiber support (150mm) SC-autosampler probe for ST nebulizers ~ 400 µL/min uptake rate, 100 cm capillary | ME50373500100 |

ME50373250100
Autosampler Probe

## HF Resistant Sample Intro Kits

| Description | Part Number |
|---|---|
| Complete HF-resistant sample introduction kit. Includes a PFA-ST Nebulizer, PFA PureCap endcap with additional gas port, PFA spray chamber, 1.8 mm sapphire injector, platinum shield disc and quartz torch. | ME2190147029 |
| Complete high purity sample introduction kit. Includes two PFA-100 MicroFlow Nebulizers, PFA PureCap endcap with additional gas port, PFA spray chamber, platinum injector, platinum shield disc and quartz torch. | ME2191147019 |

ME2191147019
Sample Intro Kit

## Quartz Couplings

| Description | Part Number |
|---|---|
| Quartz coupling, ball/socket, 90° for Scott spray chamber (3200727) | ML145032 |
| Quartz coupling, ball/socket, 17° (3600169) | ML145025 |

ML145032
Quartz Coupling

## Scott Spray Chamber

| Description | Part Number |
|---|---|
| Quartz Scott spray chamber, jacketed for coolant (3200841) | ML145016 |

ML145016
Scott Spray Chamber

## Conical Spray Chambers

| Description | Part Number |
|---|---|
| Pyrex conical spray chamber, impact, jacketed (3204313) | ML145022 |
| Quartz conical spray chamber, impact, jacketed (3600374) | ML145023 |
| Quartz conical spray chamber, Peltier cooled (3600170) | ML145024 |
| Quartz conical spray chamber, Peltier cooled, small drain (4600508) | ML145026 |

ML145023
Conical Spray Chamber

## Cyclonic Spray Chamber

| Description | Part Number |
|---|---|
| Quartz cyclonic spray chamber for VG (3600093) | ML145027 |

## Internal Liquid Fitting

| Description | Part Number |
|---|---|
| Internal liquid fitting for spray chamber drain | MP500QD |

## *pergo* Argon Nebulizer Gas Humidifier

| Description | Part Number |
|---|---|
| *pergo* argon high solids accessory without nebulizer. Includes gas line connector kit. | PRG-01 |
| *pergo* argon high solids accessory including MEINHARD® Type A Plus high performance nebulizer. | PRG-01-MAPlus |

PRG-01
*pergo* High Solids
Accessory

## Quartz One-Piece Torches with Ball Joint

| Description | Part Number |
|---|---|
| Quartz torch with ball joint, axial, fixed 1.5 mm injector, 2 locator pins (3601145) | ML145050 |
| Quartz torch, fixed 2 mm injector, 2 locator pins (3601147) | ME12030020 |
| Quartz torch with ball joint, axial, fixed 1.5 mm injector, locator pin (3600969) | ML145011 |
| Quartz torch with ball joint, axial, fixed 2 mm injector (3600791) | ML145012 |

ML145011
Quartz One-Piece Torch



S.A.F.I.R.

## Semi-Demountable Torch

| Description | Part Number |
|---|---|
| Semi-demountable o-ring-free torch with sapphire injector, HF resistant | ME12021203 |

## Quartz Torches, Demountable Injector

| Description | Part Number |
|---|---|
| O-ring-free quartz torch with pin, demountable (3601146) | ML145051 |
| Quartz torch, demountable, axial (3600970) | ML145010 |
| ESI o-ring-free precision quartz torch, demountable, axial | ME12020301 |

ME12020301
Quartz Torch

## Torch Bonnet

| Description | Part Number |
|---|---|
| Torch bonnet for XSERIES 2 (3601149) | ML145053 |

ML145053
Torch Bonnet

## Plasma Screen

| Description | Part Number |
|---|---|
| Silver plasma screen for XSERIES 2 torch (3601219) | MC-01219 |

MC-01219
Plasma Screen

## O-Ring-Free Platinum Injectors

| Description | Part Number |
|---|---|
| Platinum injector, 1.0 mm, o-ring-free. | ME12133100 |
| Platinum injector, 1.5 mm, o-ring-free. | ME12133150 |
| Platinum injector, 2.0 mm, o-ring-free. | ME12133200 |

ME12133200
Platinum Injector

## O-Ring-Free Sapphire Injectors

| Description | Part Number |
|---|---|
| Sapphire injector, 1.5 mm, o-ring-free. HF-resistant. | ME12033150 |
| Sapphire injector, 1.8 mm, o-ring-free. HF-resistant. | ME12033180 |

ME12033180
Sapphire Injector

## O-Ring-Free Quartz Injectors

| Description | Part Number |
|---|---|
| Quartz injector, 1.0 mm, o-ring-free. | ME12333100 |
| Quartz injector, 1.5 mm, o-ring-free. | ME12333150 |
| Quartz injector, 2.0 mm, o-ring-free. | ME12333200 |
| Quartz injector, 2.5 mm, o-ring-free. | ME12333250 |

ME12333150
Quartz Injector

## Pipette Tips

| Description | Part Number |
|---|---|
| 100 µL PFA PureTip pipette tips, pre-cleaned, pack of 10 (N0777394) | ME70000101 |
| 1000 µL PFA PureTip pipette tips, pre-cleaned, pack of 10 (N0777395) | ME70001001 |

ME70000101 & ME70001001
Pipette Tips

## PC³ Peltier Cooler

| Description | Part Number |
|---|---|
| PC³ Peltier cooler. Includes a quartz cyclonic spray chamber and PFA-ST nebulizer. | ME41906029 |

ME41906029
PC³ Peltier Cooler

## PC³-LT Peltier Cooler

| Description | Part Number |
|---|---|
| PC³-LT Peltier cooler, reaches -20° C. Includes a quartz cyclonic spray chamber and PFA-ST nebulizer. | ME91906029 |

ME91906029
PC³-LT Peltier Cooler

## Copper Load Coil

| Description | Part Number |
|---|---|
| Copper load coil for Thermo XSERIES 2 | MC-00473 |

MC-00473
Copper Load Coil



S.A.F.I.R.

MEINHARD® can help you maintain your pump's performance with manufacturer recommended fluids. See page 100 for available fluids and oils.

## Nickel Cones

| Description | Part Number |
|---|---|
| Ni skimmer cone for Thermo XSERIES 2. (3600811) | MC-00811 |
| Ni sampler cone for Thermo XSERIES 2. (3600812) | MC-00812 |

MC-00812
Ni Sampler Cone

## Copper Skimmer Adapter

| Description | Part Number |
|---|---|
| Copper skimmer adapter with screws for Thermo XSERIES 2. (3600813) | MC-00813 |

MC-00813
Copper Skimmer Adapter

## Cone Cleaning Kit & Detergent

| Description | Part Number |
|---|---|
| Cone Cleaning Kit includes: Course & Fine Alumina Powder, Diamond Abrasive Paste, Synthetic fiber, lint-free cloths, Wooden cotton swabs (qty 50), Foam Tipped ESD Swabs (qty 50) and Magnifier | MC-MNTKIT1 |
| Citranox Detergent, contains acid ingredients for high-performance removal of metal oxides, salts and inorganic residues combined with full detergent capability. Used on soft metals. 1 gallon | CitranoxDetergent |

MC-MNTKIT1
Cone Cleaning Kit

## Electron Multiplier

| Description | Part Number |
|---|---|
| MasCom Electron Multiplier for Thermo XSERIES 2 (1244721) | MC-44721 |

MC-44721
Electron Multiplier

## 2-Stop PVC Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop PVC pump tubing, 1.30 mm ID, (gray/gray), 12 pc | Tube-PVCSD-51 |
| 2-stop PVC pump tubing, 1.65 mm ID, (blue/blue), 12 pc | Tube-PVCSD-65 |
| 2-stop PVC pump tubing, flared, 0.38 mm ID, (orange/green), 12 pc | Tube-PVCSD-15-F |
| 2-stop PVC pump tubing, flared, 0.51 mm ID, (orange/yellow), 12 pc | Tube-PVCSD-20-F |

*Visit www.meinhard.com for additional tubing options.*

Tube-PVCSD-20-F
2-stop PVC
Pump Tubing

## Quartz Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® SilQ+ Ultra high purity quartz nebulizer, low internal volume, nominal uptake 0.5 mL/min, 1 mL/min @ 50 psi, with FG PFA gas fitting and F2 sample uptake line (See page 33 for more information) | SILQ-50-A0.5 |
| MEINHARD® TQ+ quartz nebulizer, high sensitivity, low internal volume inlet, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi (See page 33 for more information) | TQP-50-A0.5 |
| MEINHARD® Type A concentric quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 0.5 mL/min, 1 L/min @ 30 psi | TQ-30-A0.5 |
| MEINHARD® Type A quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 1 mL/min, 1 L/min @ 30 psi | TQ-30-A1 |
| MEINHARD® Type A concentric quartz nebulizer, lapped flush nozzle, low background, high sensitivity, nominal uptake 3mL/min, 1 L/min @ 30 psi | TQ-30-A3 |

SILQ-50-A0.5
SilQ+ Quartz
Nebulizer

## Glass Nebulizers

| Description | Part Number |
|---|---|
| MEINHARD® TR+ glass nebulizer, high sensitivity, low internal volume inlet, nominal uptake 0.5 mL/min, 1 L/min @ 50 psi (See page 33 for more information) | TRP-50-A0.5 |
| MEINHARD® Type A glass nebulizer, lapped flush nozzle, general purpose, nominal uptake 0.5mL/min, 1L/min @ 30 psi | TR-30-A0.5 |
| MEINHARD® Type A glass nebulizer, low cost, lapped flush nozzle, high sensitivity, nominal uptake 1 mL/min, 1 L/min @ 30 psi (1201318) | TR-30-A1 |
| MEINHARD® Type A glass nebulizer, low cost, lapped flush nozzle, high sensitivity, nominal uptake 3 mL/min, 1 L/min @ 30 psi (1040894) | TR-30-A3 |
| MEINHARD® Type C glass nebulizer, polished, recessed (0.5 mm) capillary, high solids, nominal uptake 1 mL/min, 1 L/min @ 30 psi | TR-30-C1 |
| MEINHARD® Type K glass nebulizer, lapped flush nozzle, recessed (0.5 mm) capillary, high solids, nominal uptake 1 mL/min, 0.7 L/min @ 30 psi (1040894) | TR-30-K1 |
| MEINHARD® Type K glass nebulizer, lapped flush nozzle, high solids, recessed (0.5 mm) capillary, nominal uptake 2 mL/min, 0.7 mL/min @ 30 psi | TR-30-K2 |

TR-30-K2
Type K Glass
Nebulizer

## PFA Nebulizer

| Description | Part Number |
|---|---|
| MicroFlow PFA-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME2040 |

ME2040
PFA-ST Nebulizer

## Poly-Pro Nebulizer

| Description | Part Number |
|---|---|
| PolyPro-ST self-aspirating nebulizer with external ¼-28 threaded connector. Includes one 400µl/min capillary. | ME4040 |

ME4040
PolyPro-ST Nebulizer

## PEEK Nebulizer

| Description | Part Number |
|---|---|
| PEEK MiraMist nebulizer. Includes an argon line and sample capillary. | PMM4000 |

PMM4000
PEEK MiraMist Nebulizer

## Nebulizer Cleaner

| Description | Part Number |
|---|---|
| Pearl Nebulizer Cleaner for all quartz and glass concentric nebulizers (8100-2051) | PRL-02 |

PRL-02
Pearl Nebulizer Cleaner



S.A.F.I.R.

## Conical Spray Chamber

| Description | Part Number |
|---|---|
| Pyrex conical spray chamber, impact, jacketed (3204313) | ML145022 |
| Quartz conical spray chamber, impact, jacketed (3600374) | ML145023 |
| Quartz conical spray chamber, Peltier cooled (3600170) | ML145024 |

ML145023
Conical Spray Chamber

## Scott Spray Chamber

| Description | Part Number |
|---|---|
| Quartz Scott spray chamber, jacketed for coolant (3200841) | ML145016 |

ML145016
Scott Spray Chamber

## PFA Spray Chamber

| Description | Part Number |
|---|---|
| 35mm PFA spray chamber and PFA Purecap Endcap for PQ2, PQ3 & Axiom | ME21245351 |

ME21245351
PFA Spray Chamber

## Spray Chamber Cooling Block & Mounting Brackets

| Description | Part Number |
|---|---|
| Spray chamber cooling block with mounting bracket, anodized aluminum | ME61240001 |
| Mounting bracket for aluminum spray chamber cooling block for VG PQ2 | ME61241002 |
| Mounting bracket for aluminum spray chamber cooling block for VG Axiom | ME61242002 |

## Quartz Elbows

| Description | Part Number |
|---|---|
| Quartz elbow, ball/socket, 17° (3600169) | ML145025 |
| Quartz elbow, ball/socket, 90° for Scott type quartz spray chamber (3200727) | ML145032 |

ML145032
Quartz Elbow

## *pergo* Argon Nebulizer Gas Humidifier

| Description | Part Number |
|---|---|
| *pergo* argon high solids accessory without nebulizer. Includes gas line connector kit. | PRG-01 |
| *pergo* argon high solids accessory including MEINHARD® Type A Plus high performance nebulizer | PRG-01-MAPlus |

PRG-01
*pergo* High Solids
Accessory

## Torch Shields / Screens

| Description | Part Number |
|---|---|
| Platinum torch shield (3600157) | MC-00157 |
| Silver torch screen (3601219) | MC-01219 |

MC-01219
Silver Torch Screen

## Quartz One-Piece Torches with Ball Joint

| Description | Part Number |
|---|---|
| Quartz torch with ball joint, axial, fixed 1.5 mm injector (3201192) | ML145005 |
| Quartz torch with o-ring seal ball joint, axial, fixed 1.5 mm injector (319-308) | ML170005 |
| Quartz torch with ball joint, axial, fixed 2 mm injector (3201732) | ML145006 |

ML145006
Quartz One-Piece Torch

## Quartz Torches, Demountable Injector

| Description | Part Number |
|---|---|
| Quartz torch, demountable, axial (1200080) | ML145008 |
| ESI precision o-ring-free quartz torch, demountable, axial | ME12020201 |

ME12020201
Quartz Torch

## Torch Bonnet

| Description | Part Number |
|---|---|
| Quartz torch bonnet for Thermo PlasmaQuad/NU (319-311) | ML170025 |

ML170025
Quartz Torch Bonnet

## Torch Shield

| Description | Part Number |
|---|---|
| Quartz torch shield for Thermo PlasmaQuad (3203789 & 3600884) | ML145029 |

ML145029
Quartz Torch Shield

## Copper Load Coil

| Description | Part Number |
|---|---|
| Copper load coil for Thermo PQ2, PQ3, Excell | MC-32618 |

MC-32618
Copper Load Coil

## Electron Multipliers

| Description | Part Number |
|---|---|
| ETP Electron Multiplier for Thermo PQ3 Excel (simultaneous) (2203433) | MC-AF214 |
| ETP Electron Multiplier for VG PQ3 Sequential (SXP Rods) (2203405) | MC-AF562A |

MC-AF562A
Electron Multiplier



S.A.F.I.R.

MEINHARD® can help you maintain your pump's performance with manufacturer recommended fluids. See page 100 for available fluids and oils.

## Sampling Cones

| Description | Part Number |
|---|---|
| Ni sample cone (3004661) | MC-04661 |
| Ni sample cone, Nicone TM, Cu base (3600812) | MC-00812 |
| Ni sample cone (HPI) "supercone" (1600485) | MC-00485 |
| Pt sample Cone (HP) "supercone" (1600335) | MC-00335 |
| Pt sample Cone (6.35mm) HPI (3202521) | MC-02521 |
| Pt sampler, Cu base (6.35mm) (1067500) | MC-67500 |
| Pt sampler, Ni core (1067501) | MC-67501 |
| Pt sampler cone (3601289) | MC-01289 |
| Gasket, graphite for sampler, pack of 3 (3004382) | MC-04382 |
| Gasket, graphite for sampler, holes, 3 pk (1310900) | MC-10900 |

MC-01289
Platinum Sampler Cone

## Skimmer Cones

| Description | Part Number |
|---|---|
| Ni micro-skimmer cone (3200860) | MC-00860 |
| Ni skimmer cone, Nicone TM (3600811) | MC-00811 |
| Pt micro-skimmer cone, XS (3201101) | MC-01101 |
| Pt skimmer, Ni base (6mm) HPI (1047460) | MC-47460 |
| Adapter, copper skimmer with screws (3600813) | MC-00813 |
| O-ring, Viton for micro-skimmer, pack of 3 (1201240) | MC-01240 |

MC-47460
Platinum Skimmer Cone

## Cone Cleaning Kit & Detergent

| Description | Part Number |
|---|---|
| Cone Cleaning Kit includes: Course & Fine Alumina Powder, Diamond Abrasive Paste, Synthetic fiber, lint-free cloths, Wooden cotton swabs (qty 50), Foam Tipped ESD Swabs (qty 50) and Magnifier | MC-MNTKIT1 |
| Citranox Detergent, contains acid ingredients for high-performance removal of metal oxides, salts and inorganic residues combined with full detergent capability. Used on soft metals. 1 gallon | CitranoxDetergent |

MC-MNTKIT1
Cone Cleaning Kit

## 2-Stop PVC Peristaltic Pump Tubing

| Description | Part Number |
|---|---|
| 2-stop PVC pump tubing, 0.76 mm ID, (black/black), 12 pc (1301670) | Tube-PVCSD-30 |
| 2-stop PVC pump tubing, 1.02 mm ID, (white/white), 12 pc (1200212) | Tube-PVCSD-40 |
| 2-stop PVC pump tubing, 1.30 mm ID, (gray/gray), 12 pc | Tube-PVCSD-51 |
| 2-stop PVC pump tubing, 1.65 mm ID, (blue/blue), 12 pc | Tube-PVCSD-65 |
| 2-stop PVC pump tubing, 2.0 mm flared, 0.13 mm ID, (orange/black), 12 pc | Tube-PVCSD-051-F |
| 2-stop PVC pump tubing, 2.0 mm flared, 0.38 mm ID, (orange/green), 12 pc (1301680) | Tube-PVCSD-15-F |
| 2-stop PVC pump tubing, 2.0 mm flared, 0.51 mm ID, (orange/yellow), 12 pc (1305920) | Tube-PVCSD-20-F |

Tube-PVCSD-30
2-stop PVC
Pump Tubing

*Visit www.meinhard.com for additional tubing options.*

# Fluids and Oils

## Invoil 702 Diffusion Pump Fluid

| Description | Size | Part Number |
|---|---|---|
| Invoil 702 Diffusion Pump Fluid is a general-purpose fluid designed for fast pumping of large volume of gas. It is used to produce vacuums in the range of 10-5 to 10-7 torr. It is also used in vapor ejector pumps that attain vacuums of 10-4 to 10-5 torr. | 1 Gallon | MC-72008 |
| | 5 Gallons | MC-72015 |

MC-72008
Diffusion Pump Fluid

## Invoil 704 Diffusion Pump Fluid

| Description | Size | Part Number |
|---|---|---|
| Invoil 704 Diffusion Pump Fluid is a single-component fluid for high vacuums of 10-6 to 10-8 torr (untrapped) and 10-10 to 10-11 torr (trapped). It performs well in tough, rugged applications and offers quick pumpdown, even after exposure to air at operating temperatures. | 1 Gallon | MC-74008 |
| | 5 Gallons | MC-74015 |

MC-74008
Diffusion Pump Fluid

## Invoil 705 Diffusion Pump Fluid

| Description | Size | Part Number |
|---|---|---|
| Invoil 705 Diffusion Pump Fluid is a colorless to straw-colored, single component fluid designed for ultra high vacuum applications in the range of 10-9 to 10-10 torr (untrapped) and 10-11 torr (trapped). The vapor pressure and backstreaming rate of Invoil 705 Diffusion Pump Fluid are so low that use of traps or refrigeration is unnecessary for some ultra high and ultra clean vacuum applications. It has the highest phenyl content of all silicone diffusion pump fluids and the best resistance to radiation. High spontaneous ignition temperature makes this fluid ideal for use in human rated space simulation chambers. | 1 Gallon | MC-75008 |

## FOMBLIN Y14/6

| Description | Size | Part Number |
|---|---|---|
| Non-flammable, low vapor pressure chemically inert mechanical pump oil. Good radiation stability and resists attack by corrosive gases. High dielectric strength with extended service life. Safe for oxygen service. | 1 kg | MC-22265 |

MC-22265
Perfluoropolyether
Fluid

## FOMBLIN LC80

| Description | Size | Part Number |
|---|---|---|
| FOMBLIN LC perfluoropolyether fluids have the following unique features: excellent wear characteristics; very good low temperature properties; cost-effective; and outstanding for applications requiring low viscosity. | 1 Liter | MC-45003 |

## Inland® 19 Rough Pump Oil

| Description | Size | Part Number |
|---|---|---|
| Inland® 19 Rough Pump Oil is ideal for use in all models of vacuum pumps including Alcatel, Edwards, and Welch. Inland 19 utilizes crude stocks known for their durability and fine lubricating qualities. Precision distallation further enhances these characteristics while providing a cleaner, cooler running, longer-lasting oil that in many instances will provide improved pumping cycles. | 1 Liter | MC-15101 |

MC-15101
Rough Pump Oil

## Coolant-Chiller Mix Non Glycol

| Description | Size | Part Number |
|---|---|---|
| Coolant-Chiller Mix Non Glycol. Case of five half gallon bottles. Non-glycol coolant, which is made up of five half gallon bottles of distilled water and includes an additive to control black algae and other resistant strains. | Case of 5 Gallon Bottles | MC-76099 |

MC-76099
Coolant-Chiller Mix

## Inland® 45 Mechanical Pump Oils

| Description | Size | Part Number |
|---|---|---|
| Inland® 45 Mechanical Pump Oil permits strain-free cold starts as a result of its low pour point and high viscosity index (its viscosity is lower than that of typical vacuum pump oils at low temperatures). In addition, because it maintains its viscosity at high temperatures, it provides a good seal under full load conditions. Among other properties offered by Inland 45's unique molecular structure are chemical inertness and high-temperature stability superior to those of other high-performance oils, such as white oils; and low vapor pressure (10-7 torr at 25 deg. C). This oil is recommended for use on all H.P. Mass Spectrometers as well as other systems where the best vacuum levels and lowest Mass Spectrometer background are required. | 1 Quart | MC-00834 |
| Inland® 45 Mechanical Pump Oil permits strain-free cold starts as a result of its low pour point and high viscosity index (its viscosity is lower than that of typical vacuum pump oils at low temperatures). In addition, because it maintains its viscosity at high temperatures, it provides a good seal under full load conditions. Among other properties offered by Inland 45's unique molecular structure are chemical inertness and high-temperature stability superior to those of other high-performance oils, such as white oils; and low vapor pressure (10-7 torr at 25 deg. C). This oil is recommended for use on all H.P. Mass Spectrometers as well as other systems where the best vacuum levels and lowest Mass Spectrometer background are required. | 1 Gallon | MC-00798 |

MC-00834
Mechanical Pump Oil

## Leybold Roughing Pump Oil

| Description | Size | Part Number |
|---|---|---|
| Equivalent to Leybold Roughing Pump Oil | 1 Gallon | MC-22004 |

MC-22004
Roughing Pump Oil

## Agilent/Varian Roughing Pump Oil

| Description | Size | Part Number |
|---|---|---|
| Agilent/Varian equivalent Roughing Pump Oil is quality mechanical vacuum pump oil for the ultimate performance of your Agilent/Varian Rotary Vane pumps. Agilent/Varian GP Oil is specially prepared to meet the Rotary Vane exclusive specifications. We recommend that you change your vacuum pump oil at least every 3 months to prolong the life of your vacuum pump. | 1 Gallon | MC-22308 |

MC-22308
Roughing Pump Oil

# PFA FitKit+ Quick Connects

## Quick Connection Kits for MEINHARD® Glass and Quartz Nebulizers

Elemental Scientific introduces the PFA F4 FitKit Quick Connects, a variation of the FG gas and sample fitting system for MEINHARD® Plus nebulizers. F4 gas connection forms a tight seal over the maria on the sidearm of the MEINHARD® nebulizers, while allowing for quick push-in fitting attachment with 4mm gas lines. F4 offers the same benefits of an easy-to-use quick connect with snap function while maintaining high purity for sensitive ICP and ICPMS applications.

**F4 gas connection forms a tight seal over the maria on the sidearm of the MEINHARD® nebulizers.** F4 offers the benefits of an easy-to-use quick connect while maintaining high purity for sensitive ICP and ICPMS applications. In a test that simulated a backflow event, F4 produced concentrations of elements like Fe and Cr that were four orders of magnitude lower than concentrations leached from a conventional fitting (Figure 1).

**Benefits include:**

- Easy to connect and disconnect nebulizer line
- One connection fits any MEINHARD® nebulizer

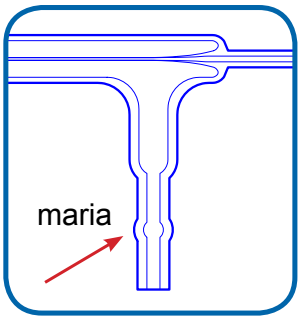



Figure 1

## F4 Gas Quick Connect for MEINHARD® Nebulizers

F4 Gas Quick Connect for MEINHARD® Nebulizer with maria for both small bore and standard bore nebulizers.

F4 Gas Quick Connect

F4-57 Nebulizer Gas Quick Connect for Optima

F4-54 Nebulizer Gas Quick Connect for NexION/ELAN

| Part Number | Description | Application |
|---|---|---|
| F4 | F4 gas Quick Connect for MEINHARD® nebulizers with PFA-Press Fit for 4mm tubing | Easy to use nebulizer connector for use with all MEINHARD® nebulizers |
| F4-54 | F4-54 Nebulizer Gas Quick Connect with PFA-Press Fit for 4mm tubing for NexION/ELAN | |
| F4-57 | F4-57 Nebulizer Gas Quick Connect with PFA-Press Fit for 4 mm tubing for Optima | |



Contact sales@meinhard.com for more details and pricing

S.A.F.I.R.

# 2-Stop Peristaltic Pump Tubing Cross Reference Guide

| Meinhard P/N | ESI P/N | Tubing Type | Color Code | | Stops | ID (in) | ID (mm) | Qty | Agilent | JY - Horiba | PerkinElmer | Spectro Ametek | Teledyne | Thermo ICAP Elemental TJA | Thermo VG | Varian |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tube-PVCD-075-F | ES-4397-1019 | PVC - Flared | ORG | RED | 2 | 0.0075 | 0.19 | 12 | G328067008 | | N8773111 | | | | | |
| Tube-PVCSD-075 | ES-4398-1019 | PVC | ORG | RED | 2 | 0.0075 | 0.19 | 12 | G182065220 | | N9986476 | | | | | |
| Tube-PVCD-10-F | ES-4397-1027 | PVC - Flared | ORG | BLU | 2 | 0.0010 | 0.25 | 12 | G328067047 | | N8773112 | | | | | |
| Tube-PVCSD-10 | ES-4398-1013 | PVC | ORG | BLU | 2 | 0.0010 | 0.25 | 12 | | | N8773117 | | | | | |
| Tube-PVCD-15-F | ES-4397-1038 | PVC- Flared | ORG | GRN | 2 | 0.0150 | 0.38 | 12 | | | N3777942 | | | | 1301680 | |
| Tube-PVCSD-15 | ES-4398-1038 | PVC | ORG | GRN | 2 | 0.0150 | 0.38 | 12 | | | N8777110 | 47201037 | | | | |
| Tube-SolFSD-15 | ES-4398-5038 | Solva | ORG | GRN | 2 | 0.0150 | 0.38 | 12 | | | N8146211 | | | | 1305910 | |
| Tube-PVCD-173-F | ES-4397-1044 | PVC - Flared | GRN | YEL | 2 | 0.0175 | 0.44 | 12 | | | N8773113 | | | | | |
| Tube-PVCD-20-F | ES-4397-1051 | PVC - Flared | ORG | YEL | 2 | 0.0200 | 0.51 | 12 | | | N3777476 | | | | 1305920 | |
| Tube-PVCSD-20 | ES-4398-1051 | PVC | ORG | YEL | 2 | 0.0200 | 0.51 | 12 | | | | | 309000691 | 1161920 | | |
| Tube-SolFSD-20 | ES-4398-5051 | Solva | ORG | YEL | 2 | 0.0200 | 0.51 | 12 | | | | | 309000692 | | | |
| Tube-Viton-20 | ES-4398-7051 | Viton | ORG | YEL | 2 | 0.0200 | 0.51 | 12 | | | N3777446 | | 309000693 | | | 3710043500 |
| Tube-PVCD-25-F | ES-4397-1064 | PVC - Flared | ORG | WHT | 2 | 0.0250 | 0.64 | 12 | | | N8777711 | | | | | |
| Tube-SanSD-25 | ES-4398-2064 | Santoprene | ORG | WHT | 2 | 0.0250 | 0.64 | 12 | | | | | | | | |
| Tube-PVCSD-25 | ES-4398-1064 | PVC | ORG | WHT | 2 | 0.0250 | 0.64 | 12 | | | N8122912 | 47101081 | | 842312051511 | | |
| Tube-PVCD-30-F | ES-4397-1076 | PVC - Flared | BLK | BLK | 2 | 0.0300 | 0.76 | 12 | | | N3777943 | | | | 1301670 | |
| Tube-SanSD-40 | ES-4398-2076 | Santoprene | BLK | BLK | 2 | 0.0400 | 0.76 | 12 | | | | | | | | |
| Tube-PVCSD-30 | ES-4398-1076 | PVC | BLK | BLK | 2 | 0.0300 | 0.76 | 12 | | 46.791.022 | 09988587 | | 3069552 | | | 3710027200 |
| Tube-SolFSD-30 | ES-4398-5076 | Solva | BLK | BLK | 2 | 0.0300 | 0.76 | 12 | | 46.791.010 | 00473558 | | | | | 3710034800 |
| Tube-PVCSD-35 | ES-4398-1089 | PVC | ORG | ORG | 2 | 0.0350 | 0.89 | 12 | | | | 47101003 | 3069551 | | | |
| Tube-SolFSD-35 | ES-4398-5089 | Solva | ORG | ORG | 2 | 0.0350 | 0.89 | 12 | | | | 47501016 | 309000682 | | | |
| Tube-PVCSD-37 | ES-4398-1095 | PVC | WHT | BLK | 2 | 0.0370 | 0.95 | 12 | G182065220 | | | | | | | |
| Tube-SanSD-15 | ES-4398-2102 | Santoprene | WHT | WHT | 2 | 0.0400 | 1.02 | 12 | | | | | | | | |
| Tube-PVCSD-40 | ES-4398-1102 | PVC | WHT | WHT | 2 | 0.0400 | 1.02 | 12 | G182065215 | 46.791.022 | | | | 842312051521 | 1290212 | 3710034400 |
| Tube-SolFSD-40 | ES-4398-5102 | Solva | WHT | WHT | 2 | 0.0400 | 1.02 | 12 | | | | | | | | 3710039000 |
| Tube-SanSD-45 | ES-4398-2114 | Santoprene | RED | RED | 2 | 0.0450 | 1.14 | 12 | | | N8773119 | | | | | |
| Tube-PVCSD-45 | ES-4398-1114 | PVC | RED | RED | 2 | 0.0450 | 1.14 | 12 | | | N9986375 | | 38900694 | | | |
| Tube-SolFSD-45 | ES-4398-5114 | Solva | RED | RED | 2 | 0.0450 | 1.14 | 12 | | 46.791.012 | N9986376 | | 309000695 | | | |
| Tube-SanSD-50 | ES-4398-2130 | Santoprene | GRY | GRY | 2 | 0.0500 | 1.30 | 12 | | | N3777444 | | | | 1310620 | |
| Tube-SanSD-50 | ES-4398-2130 | Santoprene | GRY | GRY | 2 | 0.0500 | 1.30 | 12 | | | N8145173 | | | | 1310620 | |
| Tube-PVCSD-51 | ES-4398-1130 | PVC | GRY | GRY | 2 | 0.0500 | 1.30 | 12 | | 46.791.018 | | 47501010 | | | | 3710034500 |
| Tube-SolFSD-50 | ES-4398-5130 | Solva | GRY | GRY | 2 | 0.0500 | 1.30 | 12 | | | | | | | | 3710035200 |
| Tube-PVCSD-55 | ES-4398-1142 | PVC | YEL | YEL | 2 | 0.0550 | 1.42 | 12 | | | N3777521 | | | | | |
| Tube-SanSD-60 | ES-4398-2152 | Santoprene | YEL | BLU | 2 | 0.0600 | 1.52 | 12 | G182065216 | | | | | | | |
| Tube-PVCSD-60 | ES-4398-1152 | PVC | YEL | BLU | 2 | 0.0600 | 1.52 | 12 | | | 09623536 | 47101006 | | | | |
| Tube-SanSD-30 | ES-4398-2165 | Santoprene | BLU | BLU | 2 | 0.0650 | 1.65 | 12 | | | | | | | | |
| Tube-PVCSD-65 | ES-4398-1165 | PVC | BLU | BLU | 2 | 0.0650 | 1.65 | 12 | | | | 47101014 | | | | 3710034600 |
| Tube-PVCSD-69 | ES-4398-1175 | PVC | BLU | GRN | 2 | 0.0688 | 1.75 | 12 | | | | 47101005 | | | | |
| Tube-SanSD-35 | ES-4398-2185 | Santoprene | GRN | GRN | 2 | 0.0700 | 1.85 | 12 | | | N8773116 | | | | | |
| Tube-PVCSD-70 | ES-4398-1185 | PVC | GRN | GRN | 2 | 0.0700 | 1.85 | 12 | | 46.791.016 | N3777518 | | | | | |
| Tube-PVCSD-81 | ES-4398-1206 | PVC | PRPL | PRPL | 2 | 0.0800 | 2.06 | 12 | | | N3777561 | | | | | |
| Tube-PVCSD-90 | ES-4398-1120 | PVC | PRPL | BLK | 2 | 0.0900 | 2.29 | 12 | | | | | | | | 3710027300 |
| Tube-SanSD-110 | ES-4398-2279 | Santoprene | PRPL | WHT | 2 | 0.1100 | 2.79 | 12 | | | | | | | | |
| Tube-SolFSD-110 | ES-4398-5279 | Solva | PRPL | WHT | 2 | 0.1100 | 2.79 | 12 | | | 02588088 | | | | | |
| Tube-PVCSD-125 | ES-4398-1317 | PVC | BLK | WHT | 2 | 0.1250 | 3.18 | 12 | | | N8122912 | | | | | |
| Tube-Viton-25 | ES-4398-7064 | Viton | ORG | WHT | 2 | 0.0250 | 0.64 | 12 | | | | | | 842312051531 | | |
| Tube-SILSD-30 | ES-4398-9076 | Silicone | BLK | BLK | 2 | 0.0300 | 0.76 | 6 | | | 00473552 | | | | | 3710044100 |
| Tube-Viton-30 | ES-4398-7076 | Viton | BLK | BLK | 2 | 0.0300 | 0.76 | 12 | | | N8773118 | | 3069552 | | | 3710027200 |
| Tube-SILSD-35 | ES-4398-9089 | Silicone | ORG | ORG | 2 | 0.0350 | 0.89 | 6 | | | | | | | | |



S.A.F.I.R.

# 2-Stop Peristaltic Pump Tubing Cross Reference Guide

| Meinhard P/N | ESI P/N | Tubing Type | Color Code | | Stops | ID (in) | ID (mm) | Qty | Agilent | JY - Horiba | PerkinElmer | Spectro Amotek | Teledyne | Thermo ICAP Elemental TJA | Thermo VG | Varian |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tube-Viton-35 | ES-4388-7089 | Viton | ORG | ORG | 2 | 0.0350 | 0.89 | 12 | | | | | | | | |
| Tube-SILSD-40 | ES-4388-9102 | Silicone | WHT | WHT | 2 | 0.0400 | 1.02 | 6 | G18206521T | | N8777441 | | | | | 3710044200 |
| Tube-Viton-40 | ES-4388-7102 | Viton | WHT | WHT | 2 | 0.0400 | 1.02 | 12 | | | N8777442 | | | 842312051541 | | 3710034500 |
| Tube-SILSD-45 | ES-4388-9114 | Silicone | RED | RED | 2 | 0.0450 | 1.14 | 6 | | | N8991595 | | | | | |
| Tube-Viton-45 | ES-4388-7114 | Viton | RED | RED | 2 | 0.0450 | 1.14 | 12 | | | N8773115 | | 309080696 | | | |
| Tube-SILSD-50 | ES-4388-9130 | Silicone | GRY | GRY | 2 | 0.0500 | 1.30 | 6 | | | N8777443 | | | | | 3710044300 |
| Tube-Viton-50 | ES-4388-7130 | Viton | GRY | GRY | 2 | 0.0500 | 1.30 | 12 | | | N8777445 | | | | | 3710034500 |
| Tube-Viton-60 | ES-4388-7152 | Viton | YEL | BLU | 2 | 0.0600 | 1.52 | 12 | | | | | | | | |
| Tube-SILSD-65 | ES-4388-9165 | Silicone | BLU | BLU | 2 | 0.0650 | 1.65 | 6 | | | | | | | | 3710044400 |
| Tube-Viton-65 | ES-4388-7165 | Viton | BLU | BLU | 2 | 0.0650 | 1.65 | 12 | | | N8777447 | | | | | 3710034600 |
| Tube-Viton-80 | ES-4388-7206 | Viton | PRPL | PRPL | 2 | 0.0800 | 2.06 | 12 | | | | | | | | |
| Tube-SanSD-90 | ES-4388-2220 | Santoprene | PRPL | BLK | 2 | 0.0900 | 2.29 | 12 | | | | | | 1066310 | | |
| Tube-SILSD-110 | ES-4388-9279 | Silicone | PRPL | WHT | 2 | 0.1100 | 2.79 | 6 | | | 09923448 | | | | | |
| MPP-019-F-PVC | MPP-019-F-PVC | PVC | ORG | RED | 2 | 0.0075 | 0.19 | 12 | | | N8145195 | | | | | |
| MPP-019-PVC | MPP-019-PVC | PVC | ORG | RED | 2 | 0.0075 | 0.19 | 12 | | | N8145146 | | | | | |
| MPP-027-F-PVC | MPP-027-F-PVC | PVC | ORG | BLU | 2 | 0.0010 | 0.25 | 12 | | | N8145196 | | | | | |
| MPP-027-PVC | MPP-027-PVC | PVC | ORG | BLU | 2 | 0.0010 | 0.25 | 12 | | | N8145147 | | | | | |
| MPP-038-F-PVC | MPP-038-F-PVC | PVC | ORG | GRN | 2 | 0.0150 | 0.38 | 12 | | | N8145197 | | | | | |
| MPP-038-PVC | MPP-038-PVC | PVC | ORG | GRN | 2 | 0.0150 | 0.38 | 12 | | | N8145148 | | | | | |
| MPP-038-S | MPP-038-S | Solva | ORG | GRN | 2 | 0.0150 | 0.38 | 12 | | | N8145211 | | | | | |
| MPP-044-F-PVC | MPP-044-F-PVC | PVC | GRN | YEL | 2 | 0.0173 | 0.44 | 12 | | | N8145198 | | | | | |
| MPP-051-F-PVC | MPP-051-F-PVC | PVC | ORG | YEL | 2 | 0.0200 | 0.51 | 12 | | | N8145199 | | | | | |
| MPP-051-PVC | MPP-051-PVC | PVC | ORG | YEL | 2 | 0.0200 | 0.51 | 12 | | | N8145150 | | | | | |
| MPP-064-F-PVC | MPP-064-F-PVC | PVC | ORG | WHT | 2 | 0.0250 | 0.64 | 12 | | | N8145201 | | | | | |
| MPP-064-PVC | MPP-064-PVC | PVC | ORG | WHT | 2 | 0.0250 | 0.64 | 12 | | | N8145152 | | | | | |
| MPP-076-F-PVC | MPP-076-F-PVC | PVC | BLK | BLK | 2 | 0.0300 | 0.76 | 12 | | | N8145202 | | | | | |
| MPP-076-PHR | MPP-076-PHR | Santoprene | BLK | BLK | 2 | 0.0400 | 0.76 | 12 | | | N8145172 | | | | | |
| MPP-076-PVC | MPP-076-PVC | PVC | BLK | BLK | 2 | 0.0300 | 0.76 | 12 | | | N8145153 | | | | | |
| MPP-076-S | MPP-076-S | Solva | BLK | BLK | 2 | 0.0300 | 0.76 | 12 | | | N8145176 | | | | | |
| MPP-089-PVC | MPP-089-PVC | PVC | ORG | ORG | 2 | 0.0350 | 0.89 | 12 | | | N8145154 | | | | | |
| MPP-089-S | MPP-089-S | Solva | ORG | ORG | 2 | 0.0350 | 0.89 | 12 | | | N8145177 | | | | | |
| MPP-095-PVC | MPP-095-PVC | PVC | WHT | BLK | 2 | 0.0370 | 0.95 | 12 | | | N8145155 | | | | | |
| MPP-102-PVC | MPP-102-PVC | PVC | WHT | WHT | 2 | 0.0400 | 1.02 | 12 | | | N8145156 | | | | | |
| MPP-102-S | MPP-102-S | Solva | WHT | WHT | 2 | 0.0400 | 1.02 | 12 | | | N8145179 | | | | | |
| MPP-114-PVC | MPP-114-PVC | PVC | RED | RED | 2 | 0.0450 | 1.14 | 12 | | | N8145158 | | | | | |
| MPP-114-S | MPP-114-S | Solva | RED | RED | 2 | 0.0450 | 1.14 | 12 | | | N8145181 | | | | | |
| MPP-130-PHR | MPP-130-PHR | Santoprene | GRY | GRY | 2 | 0.0500 | 1.30 | 12 | | | N8145173 | | | | | |
| MPP-130-PVC | MPP-130-PVC | PVC | GRY | GRY | 2 | 0.0500 | 1.30 | 12 | | | N8145160 | | | | | |
| MPP-130-S | MPP-130-S | Solva | GRY | GRY | 2 | 0.0500 | 1.30 | 12 | | | N8145183 | | | | | |
| MPP-142-PVC | MPP-142-PVC | PVC | YEL | YEL | 2 | 0.0550 | 1.42 | 12 | | | N8145161 | | | | | |
| MPP-152-PHR | MPP-152-PHR | Santoprene | YEL | BLU | 2 | 0.0600 | 1.52 | 12 | | | N8145174 | | | | | |
| MPP-152-PVC | MPP-152-PVC | PVC | YEL | BLU | 2 | 0.0600 | 1.52 | 12 | | | N8145162 | | | | | |
| MPP-165-PVC | MPP-165-PVC | PVC | BLU | BLU | 2 | 0.0650 | 1.65 | 12 | | | N8145163 | | | | | |
| MPP-175-PVC | MPP-175-PVC | PVC | BLU | GRN | 2 | 0.0688 | 1.75 | 12 | | | N8145164 | | | | | |
| MPP-185-PVC | MPP-185-PVC | PVC | GRN | GRN | 2 | 0.0700 | 1.85 | 12 | | | N8145165 | | | | | |
| MPP-206-PVC | MPP-206-PVC | PVC | PRPL | PRPL | 2 | 0.0800 | 2.06 | 12 | | | N8145166 | | | | | |
| MPP-220-PVC | MPP-220-PVC | PVC | PRPL | BLK | 2 | 0.0900 | 2.29 | 12 | | | N8145167 | | | | | |
| MPP-317-PVC | MPP-317-PVC | PVC | BLK | WHT | 2 | 0.1250 | 3.18 | 12 | | | N8145170 | | | | | |

# 3-Stop Peristaltic Pump Tubing Cross Reference Guide

| Meinhard P/N | ESI P/N | Tubing Type | Color Code | | | Stops | ID (in) | ID (mm) | Qty | Agilent | JY - Horiba | PerkinElmer | Spectro Ametek | Teledyne | Thermo iCAP Elemental TJA | Thermo VG | Varian |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tube-PVCSD-075-3 | ES-4398-3019 | PVC | ORG | RED | ORG | 3 | 0.0375 | 0.19 | 12 | G183365572 | | N0695477 | | | | | |
| Tube-PVCSD-15-3 | ES-4398-3038 | PVC | ORG | GRN | ORG | 3 | 0.0150 | 0.38 | 12 | | | | | | 13017786 | | |
| Tube-SolFSD-15-3 | ES-4398-6038 | Solva | ORG | GRN | ORG | 3 | 0.0150 | 0.38 | 12 | | | | | | 13173183 | | |
| Tube-PVCSD-30-3 | ES-4398-3076 | PVC | BLK | BLK | BLK | 3 | 0.0300 | 0.76 | 12 | | | B0696058 | | | | 1381670 | |
| Tube-PVCSD-35-3 | ES-4398-3089 | PVC | ORG | ORG | ORG | 3 | 0.0350 | 0.89 | 12 | | | | | | 13017790 | | |
| Tube-SILSD-35-3 | ES-4398-a089 | Silicone | ORG | ORG | ORG | 3 | 0.0350 | 0.89 | 6 | | | | | | 13017782 | | |
| Tube-SolFSD-35-3 | ES-4398-6089 | Solva | ORG | ORG | ORG | 3 | 0.0350 | 0.89 | 12 | | | | | | 13173182 | | |
| Tube-Viton-35-3 | ES-4398-8089 | Viton | ORG | ORG | ORG | 3 | 0.0350 | 0.89 | 12 | | | | | | 13017784 | | |
| Tube-PVCSD-40-3 | ES-4398-3102 | PVC | WHT | WHT | WHT | 3 | 0.0400 | 1.02 | 12 | | | B0696742 | | | | | |
| Tube-SolFSD-40-3 | ES-4398-6102 | Solva | WHT | WHT | WHT | 3 | 0.0400 | 1.02 | 12 | G183365569 | | B0697682 | | | | | |
| Tube-PVCSD-45-3 | ES-4398-3114 | PVC | RED | RED | RED | 3 | 0.0450 | 1.14 | 12 | | | B0193160 | | | 13017781 | | |
| Tube-SILSD-45-3 | ES-4398-a114 | Silicone | RED | RED | RED | 3 | 0.0450 | 1.14 | 6 | | | | | | 13017783 | | |
| Tube-SolFSD-45-3 | ES-4398-6114 | Solva | RED | RED | RED | 3 | 0.0450 | 1.14 | 12 | | | | | | 078532 | | |
| Tube-Viton-45-3 | ES-4398-8114 | Viton | RED | RED | RED | 3 | 0.0450 | 1.14 | 12 | | | | | | 13017785 | | |
| Tube-SolFSD-55-3 | ES-4398-6142 | Solva | YEL | YEL | YEL | 3 | 0.0550 | 1.42 | 12 | | | | | | 078538 | | |
| Tube-Viton-55-3 | ES-4398-8142 | Viton | YEL | YEL | YEL | 3 | 0.0550 | 1.42 | 12 | | | | | | | | |
| Tube-PVCSD-60-3 | ES-4398-3152 | PVC | YEL | BLU | YEL | 3 | 0.0600 | 1.52 | 12 | | | B0193161 | | | | | |
| Tube-SanSD-60-3 | ES-4398-4152 | Santoprene | YEL | BLU | YEL | 3 | 0.0600 | 1.52 | 12 | G183365570 | | | | | | | |
| Tube-SolFSD-60-3 | ES-4398-6152 | Solva | YEL | BLU | YEL | 3 | 0.0600 | 1.52 | 12 | | | | | | 078539 | | |
| Tube-SolFSD-65-3 | ES-4398-6165 | Solva | BLU | BLU | BLU | 3 | 0.0650 | 1.65 | 12 | | | | | | 13173180 | | 3710067080 |
| Tube-PVCSD-81-3 | ES-4398-3206 | PVC | PRPL | PRPL | PRPL | 3 | 0.0800 | 2.06 | 12 | | | B0199034 | | | | | |
| Tube-SolFSD-90-3 | ES-4398-6229 | Solva | PRPL | BLK | PRPL | 3 | 0.0900 | 2.29 | 12 | | | | | | 13173181 | | |
| Tube-PVCSD-125-3 | ES-4398-3317 | PVC | BLK | WHT | BLK | 3 | 0.1250 | 3.18 | 12 | | | B0698310 | | | | | |

| Chemical Classification | PVC | Silicone | Viton | Santoprene |
|---|---|---|---|---|
| Acetaldehyde | U | X | U | X |
| Acetates | U | O | U | X |
| Acetone | U | X | U | U |
| Alcohol | X | X | X | - |
| Aliphatic Hydrocarbons | X | O | U | - |
| Aqua Regia | U | - | O | U |
| Aromatic Hydrocarbons | U | U | X | - |
| Benzene | O | U | X | U |
| Carbon Tetrachloride | O | U | X | U |
| Ethers | O | U | O | U |
| Gasoline (non-aromatic) | U | U | X | U |
| Gasoline (high aromatic) | U | U | X | - |
| Hydrochloric Acid (dil.) | X | U | X | X |
| Kerosene | U | U | X | U |
| Ketones | U | U | U | - |
| Lacquer Solvents | U | U | U | U |
| Naphtha | O | U | X | U |
| Nitric Acid (dil.) | X | O | X | O |
| Oils, Animal | U | O | X | X |
| Oils, Mineral | U | O | X | X |
| Oils, Vegetable | O | X | X | X |
| Sulfuric Acid (dil.) | X | U | X | O |
| Turpentine | X | U | X | - |
| Water | X | X | X | X |
| Xylol | U | U | X | U |

## Codes

X = Satisfactory

O = Use only after testing

U = Unsatisfactory

- = No data available



S.A.F.I.R.

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