



# Sample Introduction Products Compatible With Agilent ICP-MS

Cross Reference Guide

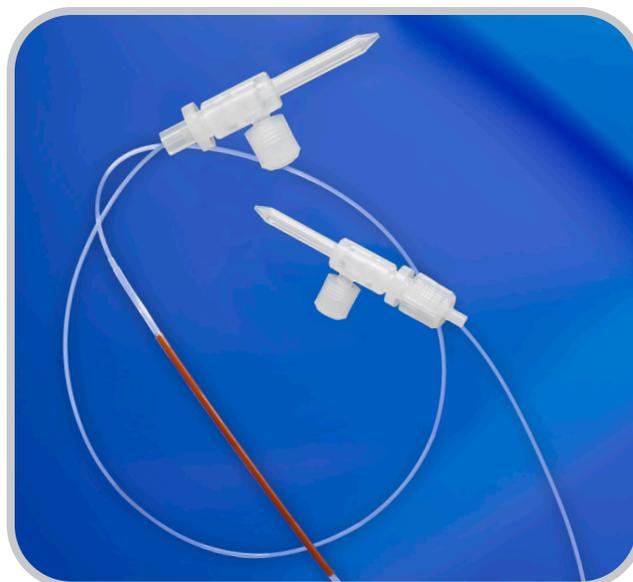


Sample introduction is a critical component of an ICP-MS instrument. The design of the sample introduction system affects all aspects of ICP-MS performance - including sensitivity, stability, washout, memory, isotope ratio precision, matrix tolerance and sample compatibility. In addition, the type and quality of materials that come into contact with the sample directly impact the level of the analytical blank. Savillex has over 30 years experience in fluoropolymer molding and unmatched expertise in the design and molding of PFA components. We design and manufacture all our ICP-OES and ICP-MS PFA sample introduction components. All our designs are intensively tested on ICP-MS in our own facility in Eden Prairie, MN, USA.

Savillex inert sample introduction systems can be purchased direct from Savillex or our distributors. This cross reference guide gives the Savillex part number corresponding to the various Agilent compatible part numbers. In the case of PFA inert kits, Agilent has used multiple part numbers for the same kit. This guide lists parts compatible with Agilent 7500, 7700, 7800, 7900 and 8x00 Series ICP-MS.

## PFA Nebulizers

The challenge in designing and manufacturing PFA concentric nebulizers is to achieve consistency in performance. We used our extensive expertise in PFA molding and machining to develop a superior tip design, which gives consistent sensitivity and uptake rate from nebulizer to nebulizer. These Savillex C-Flow PFA nebulizers have a free aspiration uptake rate within 20% of the nominal value (50 or 250  $\mu\text{L}/\text{min}$ ). Savillex C-Flow nebulizers can be used with any inert kit for semiconductor use, or with HF containing samples. They can also be used with the quartz spray chamber. Available with integrated probe for use with the Agilent I-AS autosampler. For process chemicals choose the 250  $\mu\text{L}/\text{min}$  versions, and for high Si matrix (from VPD or from bulk Si samples, including PV Si) or  $\text{H}_3\text{PO}_4$  analysis, choose the 50  $\mu\text{L}/\text{min}$  versions. The Savillex C-Flow versions have demountable uptake lines for added flexibility and ease of use, but washout is as fast as fixed uptake line nebulizers.



Savillex PFA Concentric Nebulizers

These Savillex C-Flow nebulizers are comparable to the following Agilent C-Flow nebulizers (G3285 Series) used with ICP-MS. The Agilent part numbers and comparable Savillex part numbers are shown below.

Agilent Part #	Savillex Part #	Savillex Description
G3285-80002	800-4-005-01-00	C-Flow C50s nebulizer, 50 $\mu\text{L}/\text{min}$ (no probe)
G3285-80003	800-4-005-02-00	C-Flow C50s nebulizer, 50 $\mu\text{L}/\text{min}$ with I-AS autosampler probe
G3285-80000	800-4-025-01-00	C-Flow C250s nebulizer, 250 $\mu\text{L}/\text{min}$ (no probe)
G3285-80001	800-4-025-02-00	C-Flow C250s nebulizer, 250 $\mu\text{L}/\text{min}$ with I-AS autosampler probe

These Savillex C-Flow nebulizers are comparable to Agilent MicroFlow nebulizers (Agilent G3139 Series).

Agilent Part #	Savillex Part #	Savillex Description
G3139-65106	800-4-005-01-00	C-Flow C50s nebulizer, 50 $\mu\text{L}/\text{min}$ (no probe)
G3139-65108	800-4-005-02-00	C-Flow C50s nebulizer, 50 $\mu\text{L}/\text{min}$ with I-AS autosampler probe
G3139-65100	800-4-025-01-00	C-Flow C250s nebulizer, 250 $\mu\text{L}/\text{min}$ (no probe)
G3139-65102	800-4-025-02-00	C-Flow C250s nebulizer, 250 $\mu\text{L}/\text{min}$ with I-AS autosampler probe

## Inert PFA Sample Introduction Kits

Savillex worked to design a PFA inert kit that avoids the common problem of droplet formation in the connector tube, which causes instability and can even extinguish the plasma. The connector tube is an easy push fit design and the end cap is o-ring free to minimize contamination and features a make-up gas port. The demountable torch uses an o-ring mount, which ensures a correct fit with the torch and allows it to be easily dismantled. Injectors are available in either sapphire or Pt, with 2.5 mm ID. Versions for organic sample analysis are available, featuring smaller diameter 1.5 mm injectors, and a gas port for O<sub>2</sub> addition. All parts that come into contact with the sample come precleaned, ready for immediate use. Savillex inert kits are supplied with a quartz torch and are compatible with Agilent ICP-MS. These kits are the highest performing inert kits available for ICP-MS, and used by all leading semiconductor labs around the world. Choose one of the kits below and add one of the Savillex nebulizers to make a complete inert sample introduction system.



PFA Inert Sample Introduction Kit Compatible with Agilent ICP-MS

Agilent Part #	Savillex Part #	PFA Inert Kit Description
G4912-68000, G4912A #001	850-011-100699	Inert Kit with 2.5 mm Sapphire Injector, with O <sub>2</sub> /HMI Gas Port (Compatible with Agilent 7700/7800/7900/8x00 Series)
G4912-68001, G4912A #002	850-011-100701	Inert Kit with 2.5 mm Pt Injector, with O <sub>2</sub> /HMI Gas Port (Compatible with Agilent 7700/7800/7900/8x00 Series)
G4912-68002, G4912A #003	850-011-100698	Inert Kit with 1.5 mm Sapphire Injector, with O <sub>2</sub> /HMI Gas Port (Compatible with Agilent 7700/7800/7900/8x00 Series)
G4912-68003, G4912A #004	850-011-100700	Inert Kit with 1.5 mm Pt Injector, with O <sub>2</sub> /HMI Gas Port (Compatible with Agilent 7700/7800/7900/8x00 Series)
G3285A #101, G3285B #101, G3285-80014	850-011-100634	Inert Kit with 2.5 mm Sapphire Injector, No O <sub>2</sub> Gas Port (Compatible with Agilent 7500 Series)
G3285A #102, G3285B #102, G3285-80015	850-011-100635	Inert Kit with 2.5 mm Pt Injector, No O <sub>2</sub> Gas Port (Compatible with Agilent 7500 Series)
G3285A #103, G3285B #103, G3285-80016	850-011-100636	Inert Kit with 1.5 mm Sapphire Injector, with O <sub>2</sub> Gas Port (Compatible with Agilent 7500 Series)
G3285A #104, G3285B #104, G3285-80017	850-011-100637	Agilent inert kit with 1.5 mm Pt injector, with O <sub>2</sub> gas port (7500 Series)

- Where precleaned is stated, product has been precleaned by soaking in high purity HNO<sub>3</sub>/HF for 8 hours
- Kits purchased from Agilent do NOT include an O<sub>2</sub>/HMI gas port as standard
- For Agilent 7500ce (G3272B) with HMI upgrade, OR 7500cx (G3272B) – order an Agilent compatible 7700/7800/7900/8x00 Series inert kit
- All kits include spray chamber, end cap, drain tube, connector tube, injector assembly and quartz torch

### Spare Parts and Consumables

All the inert kit components are available separately and all parts that come into contact with the sample come precleaned, ready for immediate use.

Agilent Part #	Savillex Part #	Description
5064-8078	750-SU4MN	4 mm knurled straight union
G3285-80020	851-011-100550	End Cap for PFA Inert Kit, with Make Up Gas Port
G3285-80021	851-011-100549	Spray Chamber for Inert Kit (Compatible with Agilent 7700/7800/7900/8x00 Series)
G3285-80022	851-011-100551	Drain Tube Fitting (Compatible with Agilent 7500 Series)
G4912-80014	851-011-100674	Drain Tube Fitting (Compatible with Agilent 7700/7800/7900/8x00 Series)
G3285-80023	851-011-100552	Connector Tube (No Gas Port) Short (Compatible with Agilent 7500 Series)
G3285-80024	851-011-100622	Connector Tube (No Gas Port) Long (Compatible with Agilent 7700/7800/7900/8x00 Series)
G4912-80016	851-011-100676	Connector Tube (with O2/HMI Gas Port) (Compatible with Agilent 7700/7800/7900/8x00 Series)
G4912A #010	851-011-100676	Connector Tube (with O2/HMI Gas Port) (Compatible with Agilent 7700/7800/7900/8x00 Series)
G3285-80034	851-011-100831	Injector Assembly with Sapphire Injector (2.5 mm ID) Precleaned (Compatible with Agilent 7700/7800/7900/8x00 Series)
G3285-80035	851-011-100832	Injector Assembly with Platinum Injector (2.5 mm ID) Precleaned (Compatible with Agilent 7700/7800/7900/8x00 Series)
G3285-80036	851-011-100629	Injector Assembly with Sapphire Injector (1.5 mm ID) with O2 Port, Precleaned (Compatible with Agilent 7500 Series)
G3285-80037	851-011-100630	Injector Assembly with Platinum Injector (1.5 mm ID) with O2 Port, Precleaned (Compatible with Agilent 7500 Series)
G4912-80010	851-011-100829	Injector Assembly with Sapphire Injector (1.5 mm ID) Precleaned (Compatible with Agilent 7700/7800/7900/8x00 Series)
G4912-80011	851-011-100830	Injector Assembly with Platinum Injector (1.5 mm ID) Precleaned (Compatible with Agilent 7700/7800/7900/8x00 Series)
G3285-80050	851-011-100581	Quartz Torch for PFA Inert Kit (Compatible with Agilent 7500 Series)
G4912-80012	851-011-100702	Agilent quartz torch for PFA inert kit, 7700/7800/7900/8x00 Series
G3285-80085	851-011-200112	Agilent o-ring for injector assembly (10/pack)

Where precleaned is stated, product has been precleaned by submerging in or by aspirating high purity HNO<sub>3</sub>/HF for 8 hours.



Connector Tube



Drain Tube



End Cap



Injectors



Spray Chamber



Torch



4 mm Union Fitting