

Технические характеристики

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5110 SVDV ICP-OES spectrometer

ICP-OES Supplies

Operating Supplies Kits

Agilent is the recognized world leader and innovator in ICP-OES, with thousands of systems installed worldwide. The Agilent 5110 ICP-OES revolutionizes ICP-OES analysis by running your samples more efficiently without compromising on performance, even with your toughest samples. Our ICP range can handle both routine and the most challenging applications. A choice of sample introduction options and a wide range of performance and productivity enhancing accessories make Agilent systems the fastest and most flexible ICP-OES systems available today. Agilent ICP-OES are compatible with a range of supplies designed to extend the capabilities of the instruments.

Operating Supplies Kits for 700 Series and Liberty ICP-OES

Description	Comments	Kit Contents	Part No.
Extenda Valu-Pack	Supports routine operation of Agilent axial ICP systems with glass cyclonic sample introduction system	Includes spare torches (7/pk), double-pass (1/pk) + single-pass (2/pk) glass cyclonic spray chambers, SeaSpray nebulizer, spray chamber O-ring kits (2/pk), tubing and connectors kit, EzyFit sample inlet connectors, and GazFit gas connectors for the nebulizer	9910112800
Matrix Valu-Pack	Supports routine operation of Agilent axial ICP systems with inert sample introduction system	Includes high-solids torch, semidemountable torch with 1.8 mm id alumina injector, 0.8 mm id quartz injector, 1.4 mm id quartz injectors (6/pk), spray chambers (1 each double-pass glass cyclonic and inert Sturman-Masters), V-groove nebulizer, O-ring kit for inert spray chamber, tubing and connectors kit, EzyFit sample inlet connectors, and GazFit gas connectors for the nebulizer	9910112600
Extenda Valu-Pack	Supports routine operation of Agilent radial ICP systems with inert sample introduction system	Includes spare torches (4/pk), Sturman-Masters spray chamber, torch bonnet, O-ring kit (2/pk), V-groove nebulizer (2/pk), tubing and connectors kit (2/pk), and GazFit gas connectors for the nebulizer	9910112700

Operating Supplies Kits for 5100/5110 Dual View ICP-OES

Description	Kit Contents	Part No.
Operating supplies kit, for 5100/5110 SVDV/VDV ICP-OES	Includes EasyFit demountable torch, outer tube sets (2), peristaltic pump tubes for sample (4 packs) and waste (4 packs), tubing and connectors for internal standard, U-series SeaSpray nebulizer, UniFit sample inlet fittings (0.75 mm id), EzyLok gas connectors for nebulizer, double-pass glass cyclonic spray chamber with spare nebulizer seal, UniFit connectors for spray chamber drain, clamp, windows for axial and radial view, capillary tubing for nebulizer, barb connectors (2), sample tray, and PFA nebulizer gas tubing and drain tubing for spray chamber	G8010-67001
Operating supplies kit, for 5100/5110 RV ICP-OES	Includes EasyFit demountable torch, outer tube sets (2), peristaltic pump tubes for sample (4 packs) and waste (4 packs), tubing and connectors for internal standard, U-series SeaSpray nebulizer, UniFit sample inlet fittings (0.75 mm id), EzyLok gas connectors for nebulizer, double-pass glass cyclonic spray chamber with spare nebulizer seal, UniFit connectors for spray chamber drain, clamp, pre-optic window, capillary tubing for nebulizer, barb connectors (2), sample tray, and PFA nebulizer gas tubing and drain tubing for spray chamber	G8012-67001



Double-pass glass cyclonic spray chamber, 7910043700



Sturman-Masters spray chamber, 110593190

Spray Chambers and Brackets

Description	Use With	Comments	Part No.
Single-pass glass cyclonic spray chamber, for 700 Series and Liberty ICP-OES	Routine aqueous samples where best signal-to-noise performance is required	Needs mounting bracket	2010081700
Cooled double-pass glass cyclonic action spray chamber, with cooling gallery	Ideal for use with highly volatile organic solvents	Includes mounting bracket for Liberty Series I/II, Vista and 700 Series ICP-OES instruments; requires, but does not include, a refrigerated water recirculator for subambient operation	9910070400
Double-pass glass cyclonic spray chamber, suitable for 700 Series and Liberty ICP-OES	Organic solvents and high matrix or high TDS samples	Needs mounting bracket	7910043700
Sturman-Masters spray chamber, white, for 700 Series and Liberty ICP-OES	Samples dissolved in hydrofluoric acid (HF) or when using the V-groove nebulizer for fusions or slurries and other high TDS samples	Needs mounting bracket	110593190
Bracket for mounting glass cyclonic spray chambers	715/725/735 radial, Vista-PRO radial and early axial, Vista-MPX radial and Liberty Series II radial and early axial models		110611700
	710/720/730 axial, Vista-PRO axial, Vista-MPX axial and Liberty Series II axial models		110665200
Bracket for mounting Sturman-Masters spray chamber	715/725/735 radial, Vista-PRO radial and early axial, Vista-MPX radial models and Liberty Series II radial and early axial models		410298400
	710/720/730 axial, Vista-PRO axial, Vista-MPX axial and Liberty Series II axial models		410328600
Bracket for mounting MSIS with axial and radial ICP	All 700 Series axial and radial models		110868000
O-ring for nebulizer inlet of single- and double-pass cyclonic spray chamber			6910001200

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Spray Chambers and Brackets

Description	Use With	Comments	Part No.
Double-pass glass cyclonic spray chamber with ball joint outlet, for 5100/5110 ICP-OES	For use with organic solvents, high matrix or high TDS samples	Includes Helix nebulizer seal and UniFit drain outlet	G8010-60256
Single-pass glass cyclonic spray chamber with ball joint outlet, for 5100/5110 ICP-OES	For use with aqueous and low matrix samples where best sensitivity and lowest LODs are required	Includes Helix nebulizer seal and UniFit drain outlet	G8010-60271
Inert PTFE single-pass cyclonic spray chamber with ball joint outlet, for 5100/5110 ICP-OES	For use with HF digests and low TDS samples	Includes Helix nebulizer seal and UniFit drain outlet	G8000-70008
Inert PTFE double-pass cyclonic spray chamber with ball joint outlet, for 5100/5110 ICP-OES	For use with HF digests and low TDS samples	Includes Helix nebulizer seal and UniFit drain outlet	G8010-80034
UniFit drain connector, for 5100/5110 ICP-OES spray chamber, 2.0 mm od, 0.86 mm id, 480 mm capillary tubing, 3/pk	Connects the peristaltic pump tubing for the waste line to the spray chamber outlet		G8010-80036



Inert PTFE double-pass cyclonic spray chamber with ball joint outlet for 5100/5110 ICP-OES, G8010-80034



Double-pass glass cyclonic spray chamber with ball joint outlet, for 5100/5110 ICP-OES, G8010-60256

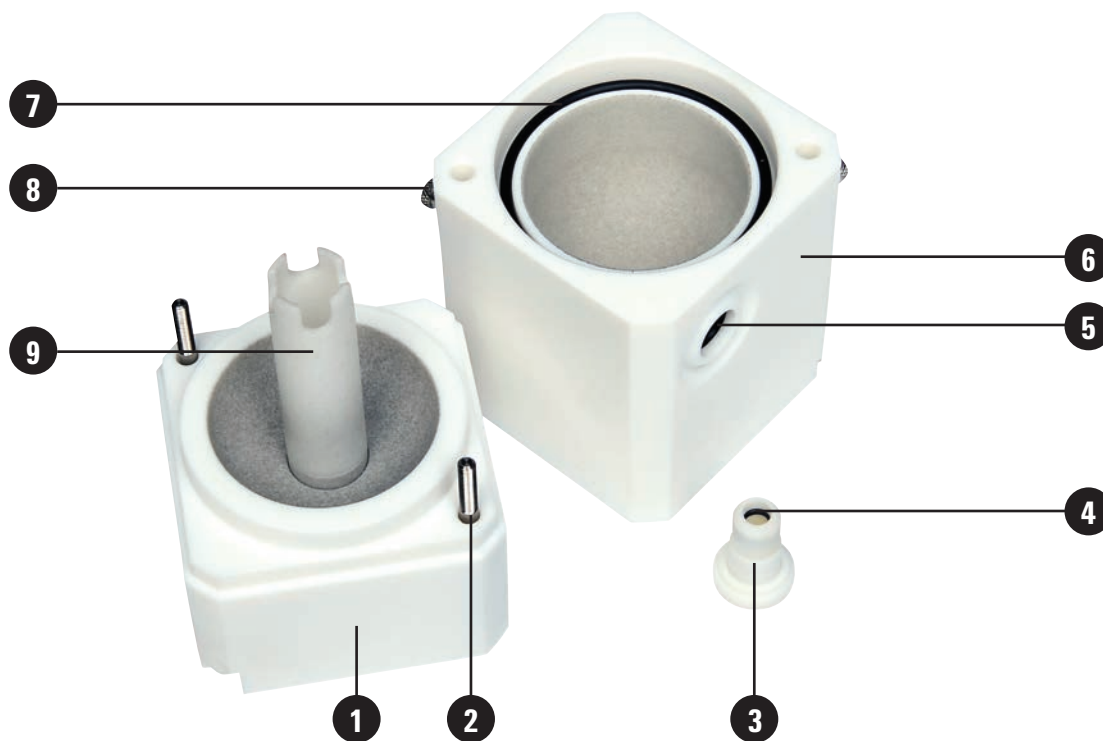
TIPS AND TOOLS

Skipping sample filtration can lead to significant downtime if large particles become trapped in the sample uptake tubing, nebulizer, or injector.

Agilent Captiva Premium Syringe Filters are available in a wide range of sizes, formats, and membranes. With the industry's highest flow rates and loading capacities, they make the filtration process faster than ever.

Sturman-Masters Spray Chamber Supplies

Item	Description	Part No.
1	Spray chamber top section, Ertalyte (excludes thumbscrews, baffle, and outlet bung)	1610114500
2	Thumbscrew, ICP spray chamber	1510188100
3	Nebulizer holder, Ertalyte. Required to install a 6 mm od concentric nebulizer	810128100
4	O-ring for inside of nebulizer holder, 7/32 inch id, 11/32 inch od, 1/16 inch nitrile rubber	6910008200
5	O-ring to seal nebulizer holder in spray chamber body 7/16 inch id, 5/8 inch od, 3/32 inch nitrile rubber	6910019800
6	Spray chamber base (lower section), Ertalyte (excludes drain fitting assembly)	1610114700
7	O-ring for spray chamber body, seals top section to the base 2 + 3/16 inch id, 2 + 3/8 inch od, 3/32 inch, nitrile rubber	6910017400
8	Retaining nut for spray chamber	1510188200
9	Internal baffle for spray chamber	1610114600
	Drain fitting assembly for spray chamber	110593000
	Outlet bung for sample aerosol outlet to torch (top of spray chamber)	1610114800
	O-ring for drain and aerosol outlet, 11/16 inch id, 13/16 inch od, 1/16 inch nitrile rubber	6910006000



Sturman-Masters spray chamber, 110593190

IsoMist Temperature-controlled Spray Chamber

Agilent's IsoMist temperature-controlled spray chamber accurately controls the temperature of the sample introduction system. This delivers excellent long-term stability for even the most difficult matrices, including volatile organic solvents and viscous oil samples.

The programmed temperature is controlled using a peltier device providing the ability to either heat or cool the sample introduction system and maintain a stable temperature.



Supplies for IsoMist (RoL configuration), used with ICP-OES

Description	Comments	Part No.
PuraFlex transfer tube for IsoMist used with Agilent 5100/5110 ICP-OES	Connects the aerosol outlet from the IsoMist to the Easy-fit ICP-OES torch	G8010-68011
ICP spray chamber, Twister style encapsulated for IsoMist	Twister style (double pass) glass cyclonic with thermal conductive polymer encapsulation for use with IsoMist for 5100/5110 ICP-OES (RoL configuration) Will not fit the IsoMist for the 4200/4210 MP-AES	G8010-68024
Drain fitting, right-angle, UniFit, 3/pk	For waste outlet of IsoMist spray chamber	G8010-68023

Sample Compartment Kits, Spray Chambers, and Brackets

- Single-pass glass cyclonic spray chamber for good signal-to-noise performance with excellent washout
- Double-pass glass cyclonic spray chamber provides improved plasma stability with organic and high TDS samples
- Sturman-Masters spray chamber is inert, minimizes interferences, and improves stability with high TDS samples (compatible with 700 Series and Liberty ICP-OES only)

Sample Compartment Kits

Description	Kit Contents	Part No.	For Axial ICP	For Radial ICP
Sample compartment/torch box tube connection kit Includes all tubing for spray chamber area and spare nipples for drain (excluding pump tubing) (compatible with 700 Series and Liberty ICP-OES only)	Includes all tubing for spray chamber area and spare nipples for drain (excluding pump tubing) (compatible with 700 Series and Liberty ICP-OES only)	9910057100		
Sample compartment O-ring kit Includes all O-rings for spray chamber area, demountable torch, and ASA (compatible with 700 Series and Liberty ICP-OES only)	Includes all O-rings for spray chamber area, demountable torch, and ASA (compatible with 700 Series and Liberty ICP-OES only)	9910057200		
Tubing and connector kit for 700 Series and Liberty ICP-OES Includes two packs of standard peristaltic pump tubing, snap connectors, and other connectors used in sample compartment and torch box area; ideal for spare start-up kit	Includes two packs of standard peristaltic pump tubing, snap connectors and other connectors used in sample compartment and torch box area; ideal for spare start-up kit		9910097500	9910105400
Molding drip tray, for 700 Series ICP-OES		6210113000		
O-ring kit, ASA Argon saturation accessory		9910081400		



Sample compartment/torch box tube connection kit, 9910057100



Sample compartment O-ring kit, 9910057200

Nebulizers and Accessories

- Manufactured to fine tolerances for reproducible and stable sample uptake
- Tight specifications deliver fine droplets for best signal intensity and optimum signal-to-noise
- Fewer repeats means less downtime and improved productivity

Nebulizers and Accessories

Description	Kit Contents	Application	Part No.
OneNeb Series 2 inert concentric nebulizer	Includes replaceable sample capillary/connector assembly, quick release connector for nebulizer gas inlet, and conical adapter for peristaltic pump tubing	Ideal for routine analysis of samples up to 25 % TDS with good precision and better sensitivity than a SeaSpray; inert construction makes it suitable for most solution types	G8010-60293
U-series concentric glass nebulizer (SeaSpray), for 5100/5110 ICP-OES	Includes UniFit sample connector (0.75 mm id x 700 mm) and EzyLok gas connector	Routine analysis of samples to 20 % TDS	G8010-60255
Concentric glass nebulizer (SeaSpray), for 700 Series and Vista Series ICP-OES	Includes EzyFit sample connector (0.75 mm id x 700 mm) and EzyLok gas connector	Routine analysis of samples to 20 % TDS	2010096400
U-series concentric glass nebulizer (Conikal), for 5100/5110 ICP-OES	Includes UniFit sample connector (0.75 mm id x 700 mm) and EzyLok gas connector	Routine analysis of organic solvents and samples to 5 % TDS	G8010-60270
K-style (Conikal) concentric glass nebulizer, for 700 Series and Vista Series ICP-OES	Includes Ezyfit sample connector (0.75 mm id x 700 mm) and EzyLok gas connector	Routine analysis of organic solvents and samples to 5 % TDS	2010106800
U-series slurry glass concentric nebulizer, for 5100/5110 ICP-OES	Includes UniFit sample connector (0.75 mm id x 700 mm) and EzyLok gas connector	Recommended for routine analysis of most organic samples and samples with larger particle sizes e.g. for used oil samples	G8010-60347
Low-flow concentric glass nebulizer (MicroMist), 0.4 mL/min uptake	Includes UniFit sample connector (0.5 mm id x 700 mm) and EzyLok gas connector	Small sample volumes for 700 Series and Vista Series ICP-OES	2010126000
Concentric glass nebulizer (SeaSpray) 2 mL/min at 1 L/min	Includes EzyFit sample connector (0.75 mm id x 700 mm) and EzyLok gas connector	Routine analysis of samples to 20 % TDS	CP959366
V-groove nebulizer kit, inert, for the Sturman-Masters spray chamber	Includes tubing and fittings	Samples with hydrofluoric acid, fusions, slurries, or >20 % TDS	9910057400

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OneNeb Series 2 inert concentric nebulizer,
8010-60293



K-style (Conikal) nebulizer, 2010106800

Nebulizers and Accessories

Description	Kit Contents	Application	Part No.
Mira Mist PTFE concentric type nebulizer	Includes 0.5 m sample capillary (0.044 inch od x 0.018 inch id) and gas connector	Routine analysis of samples to 20 % TDS including aggressive acids and organic solvents	CP913246
Mira Mist PEEK concentric type nebulizer	Includes 0.5 m sample capillary (0.044 inch od x 0.018 inch id) and gas connector	Routine analysis of samples to 20 % TDS (not recommended for aggressive acids or organic solvents)	CP914506
Concentric glass slurry nebulizer	Includes EzyFit sample connector (0.75 mm id x 700 mm)	Slurry samples with particles to 150 µm or >20 % TDS	2010097600
High flow concentric glass slurry nebulizer, for Liberty Series II axial systems	Includes EzyFit sample connector (0.75 mm id x 700 mm) and EzyLok gas connector	Slurry samples or those >20 % TDS	2010097700
High flow K-style (Conikal) concentric glass nebulizer, for Liberty Series II axial systems	Includes EzyFit sample connector (0.75 mm id x 700 mm) and EzyLok gas connector	Routine analysis of samples to 5 % TDS	2010081600
Sample inlet (UniFit) fitting, for U-series concentric glass nebulizer, used with 5100/5110 ICP-OES, 0.75 mm id x 1.3 mm od capillary tubing, 10/pk			G8010-80035
Sample inlet (UniFit) fitting, for U-series concentric glass nebulizer, used with 5100/5110 ICP-OES, 0.5 mm id x 1.3 mm od capillary tubing, 10/pk			G3266-80012
Sample inlet fitting, for OneNeb Series 2 nebulizer	Includes capillary connector with captive sample capillary tubing 0.5 mm id, 1/16 inch od, 750 mm length capillary tubing	Suitable for the OneNeb Series 2 nebulizer	G8010-60345

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Inert V-groove nebulizer, 9910057400

Nebulizers and Accessories

Description	Kit Contents	Application	Part No.
Conical adapter, 1/16 inch od sample line, for OneNeb Series 2 nebulizer	Includes conical PTFE adapter with PTFE nut (female) and PTFE ferrule and lock ring	Joins 1/16 in od sample capillary to peristaltic pump tubing	5043-0502
Sample inlet (EzyFit) fitting, for concentric glass nebulizer on axial ICP-OES, 10/pk			9910107700
Sample inlet (EzyFit) fitting, for concentric glass nebulizer on radial ICP-OES, 10/pk		Suitable for SVS 1 accessory	1610136400
Gas inlet connector (EzyLok), for concentric glass nebulizer	Includes Ezylok connector, tubing adaptor, and tubing clamp	Suitable for 700 Series and Vista Series ICP-OES	9910127800
Sample inlet connector, for Mira Mist nebulizer	Includes 0.5 m sample capillary (0.044 inch od x 0.018 inch id)		CP913777
Y-piece connector, for online addition of internal standard/ionization buffer			1610132400
Tubing, 1/8 inch id, 1/4 inch od, 1/16 inch wall, per m		Connects argon supply to nebulizer with 700 Series and Liberty ICP-OES	3710031500
Nebulizer gas connector		Connects nebulizer gas supply tubing to gas outlet connector on instrument with 700 Series and Vista Series ICP-OES	1610085300
Auxiliary gas connector		Connects auxiliary gas supply tubing to gas outlet connector on instrument with 700 Series and Vista Series ICP-OES	1610085600
Speedy clamp		Secures gas supply tubing to nebulizer or auxiliary gas connector (2 required per length of tubing). Suits 700 Series and Vista Series ICP-OES	810103200



Sample inlet (EzyFit) fitting, 9910107700



Gas inlet connector (EzyLok), 9910127800



Y-piece connector, 1610132400



Humidifier accessory, for ICP-OES, ICP-MS, and MP-AES instruments

Humidifier Accessory

Agilent's humidifier accessory is compatible with a range of Agilent ICP-OES, ICP-MS, and MP-AES instruments. The accessory is based on hollow fiber membrane tubing, which passes through a bottle containing de-ionized water. This humidifies the nebulizer gas, reducing desolvation at the nebulizer orifice. This process enables the accurate analysis of challenging sample types that could cause particulate buildup, and eventually block the nebulizer, improving long-term stability. Recommended when solutions have > 3 % TDS.

Humidifier Accessories

Description	Use with	Kit Contents	Part No.
Nebulizer gas humidifier accessory, for ICP-OES and MP-AES	5100/5110 DV Series ICP-OES or 4200/4210 Series MP-AES	Includes gas lines (0.6 m, 4 mm od, 2/pkg), fitting plate, and bracket plus installation instructions	G8010-60346
Nebulizer gas humidifier bottle, for ICP-MS	7800/7900 and 8900 Series ICP-MS	Replacement bottle with hollow fiber membrane tubing inside Does not include gas lines or mounting bracket. For a complete kit for ICP-MS, order pn G8412A and G8412A#100 (for 7800/7900 and 8900 models)	G8400-60700
Tubing kit, for nebulizer gas humidifier accessory	5100/5110 Series DV ICP-OES, 4200/4210 MP-AES and 7800/7900 and 8900 Series ICP-MS	Includes tubing, black, PTFE, 2 x 4 mm, 615 mm long (5043-0059), tubing, black, PTFE, 1.59 x 3.17 mm, 575 mm long (5043-0060)	G8400-60710

Torches

- Ignite easily and stay lit, reducing downtime
- Even and stable plasma delivers reproducible results
- Guaranteed fit with automatic gas connections
- No need for manual torch alignment, simplifying torch installation



Torches

Description	Comments	Application	Part No.
Torches for 5100/5110 SVDV/VDV ICP-OES			
One-piece Easy-fit torch (standard DV torch)	Features a 1.8 mm id injector with an extended outer tube with slot for radial viewing		G8010-60228
Demountable Easy-fit torch	Features a 1.8 mm id injector with replaceable extended outer tube with slot for radial viewing		G8010-60236
Easy-fit demountable high solids torch	Features a 2.4 mm id injector with replaceable extended outer tube with slot for radial viewing	Recommended for high TDS samples	G8010-60232
Easy-fit demountable torch for semivolatle organic solvents	Features a 1.4 mm id injector with replaceable extended outer tube with slot for radial viewing	Recommended for semivolatle organic solvents	G8010-60233
Easy-fit inert demountable torch for HF digests	Features a ceramic 1.8 mm id injector with replaceable extended outer tube with slot for radial viewing. Supplied with ball joint connection for torch base	Recommended for HF digests	G8010-60231
Quartz outer tube set for demountable Easy-fit torch for 5100/5110 DV ICP-OES	Comprises extended outer tube with slot for radial viewing, intermediate tube (integrated into assembly), and top seal		G8010-60263



Quartz outer tube set, for 5100/5110 Series DV torch, G8010-60263

(Continued)



One-piece Easy-fit torch, G8012-60000

Torches

Description	Comments	Application	Part No.
Torches for 5100/5110 RV (Radial) ICP-OES			
One-piece Easy-fit torch (standard RV torch)	Features a 1.4 mm id injector with shorter outer tube (no slot) for dedicated radial viewing		G8012-60000
Demountable Easy-fit torch	Features a 1.4 mm id injector with replaceable shorter outer tube (no slot) for dedicated radial viewing		G8010-60237
Easy-fit demountable torch, for volatile organic solvents	Features a 0.8 mm id injector with replaceable shorter outer tube (no slot) for dedicated radial viewing	Recommended for volatile organic solvents	G8010-60235
Easy-fit inert demountable torch, for HF digests	Features a ceramic 1.8 mm id injector with replaceable shorter outer tube (no slot) for radial viewing. Supplied with ball joint connection for torch base	Recommended for HF digests	G8010-60234
Quartz outer tube set for demountable Easy-fit torch, for 5100/5110, RV ICP-OES	Comprises shorter outer tube (no slot) for radial viewing, intermediate tube (integrated into assembly), and top seal		G8010-60264

Common 5100/5110 ICP-OES Torch Supplies

Description	Comments	Part No.
Torch clamp	Secures ball joint socket between spray chamber and torch on 5100/5110 ICP-OES <i>Not</i> suitable for use with the inert torch	G8000-64140
Torch clamp for inert demountable torch	Secures ball joint socket between inert spray chamber and inert torch for 5100/5110 ICP-OES <i>Not</i> suitable for the standard demountable torch	G8010-60227
Torch cleaning stand for 5100/5110 ICP-OES torches	Provides a stable platform that allows either the whole torch or the injector/base assembly to be suspended in the cleaning solution	G8010-68021
Storage rack for torches used with 5100/5110 ICP-OES	Provides a convenient way to store up to five 5100/5110 DV/RV ICP-OES torches after cleaning	G8010-67000



Torch clamp, G8000-64140



Torch clamp, for inert demountable torch, G8010-60227

Miscellaneous Supplies for 5100/5110 Dual View ICP-OES

Description	Part No.
Work coil, for 5100/5110 Dual View ICP-OES	G8010-68103
Strainer, for cooling water	G1833-67024
Replacement glass, quartz, for the axial view pre-optics window	G8010-68014
O-ring, for the axial view pre-optics window	G8010-68018
Replacement glass, calcium fluoride, for the radial view pre-optics window	G8010-68015



Torch cleaning stand, for 5100/5110 ICP-OES torches, G8010-68021

Torches for 700 Series, Vista Series, and Liberty ICP-OES



Low-flow axial quartz torch with 2.4 mm id injector tube, 2010090400



High solids axial torch with Agilent injector design, 2010094800



Sheath gas high solids torch for axial ICP, 2010122400



Low-flow quartz torch for radial ICP, 2010069690



High solids torch with Agilent injector design for radial ICP, 2010095000

One Piece Axial Torches

Description	Application	Part No.
Low-flow quartz torch with 2.4 mm id injector tube	Routine analysis of aqueous samples <10 % TDS	2010090400
Low-flow quartz torch with 0.8 mm id injector tube	Routine analysis of volatile organic solvents, e.g. gasoline	2010104700
Low-flow quartz torch with 1.4 mm id injector tube	Routine analysis of organic solvents, e.g. kerosene, xylene, and white spirit	2010104800
High solids torch with Agilent injector design, 2.4 mm id	Routine analysis of samples to 25 % TDS	2010094800
Extended length high solids torch with Agilent injector design, 2.4 mm id	Routine analysis of samples to 25 % TDS	2010104600
Sheath gas high solids torch with Agilent injector design, 2.4 mm id, used with the AGM 1 oxygen addition accessory (p/n G8473A) for better performance than the extended high solids torch	Routine analysis of samples to 25 % TDS	2010122400

One Piece Radial Torches

Description	Application	Part No.
Torch, low-flow, quartz, 1.4 mm id injector tube	Routine analysis of aqueous samples <10 % TDS	2010069690
Torch, low-flow, quartz, 0.8 mm id injector tube, annealed for greater strength	Routine analysis of volatile organic solvents, e.g. gasoline	2010117400
Torch, low-flow, quartz, 1.4 mm id injector tube, annealed for greater strength	Routine analysis of organic solvents, e.g. kerosene, xylene, and white spirit	2010117500
Torch, high-solids, for radial ICP, Agilent injector design, 1.8 mm id	Routine analysis of samples to 25 % TDS	2010095000

Torch Spares

Description	Part No.
Spare quartz torch bonnet, for radial ICP-OES	2010070790
Transfer tube FEP cyclone spray chamber, for radial ICP	7910051290
GazFit fittings, 8 mm id, for ICP-OES torches, 2/pk	CP959924
Transfer tube FEP Sturman-Masters spray chamber, for radial ICP	7910051490
GazFit fittings, 6 mm id, for one-piece and semidemountable ICP-OES torches, 4/pk	9910107100
Transfer tube FEP, for axial ICP (suitable for cyclone and Sturman-Masters spray chambers)	7910051590
Silicon pump tubing, 3/16 inch id, 5/16 inch od, per m	
Connects the torch plasma and auxiliary gas lines to the argon supply with the 700 Series, Vista Series, and Liberty ICP-OES	2410023800
Tubing, 1/4 inch id, 1/16 inch od, per m	3710033400



Spare quartz torch bonnet, 2010070790



Transfer tube FEP for axial ICP, 7910051590

Cones for Dual View and Axial ICP-OES

Description	Part No.
Finger nut, for cone	1510220200
Pre-optics cone, for 5100/5110 SVDV/VDV ICP-OES	G8010-68109
Pre-optics cone, for Vista/700 Series axial ICP-OES	3610007300
Pre-optics cone, for Liberty Series axial ICP-OES	3610006200
Esteele cleaning powder, for cleaning interface cone on axially-viewed ICP-OES	8110002800

Pre-optics cone for Vista/700 Series axial ICP-OES,
3610007300



Semidemountable inert axial torch assembly kit, 9910084700



Semidemountable inert radial torch assembly kit, 10056800

Semidemountable and Fully Demountable Torches

Description	Comments	Part No.
Semidemountable inert axial torch assembly kit	Also requires 1 m length of transfer tubing to connect the spray chamber to the torch, p/n 3710033400	9910084700
Semidemountable inert radial torch assembly kit	Also requires 1 m length of transfer tubing to connect the spray chamber to the torch, p/n 3710033400	9910056800
Fully demountable axial torch assembly kit	Includes torch and bracket kit	9910106300
Fully demountable radial torch assembly kit	Includes torch and bracket kit	9910106400

*Application: Samples with free HF when used with an inert alumina injector (p/n 2410067590); for volatile organic solvents, use narrow bore 0.8 mm id quartz injector (p/n 2010077500)



Fully demountable axial torch assembly kit, 9910106300



Fully demountable radial torch assembly kit, 9910106400

Spares for Semidemountable Torches

Description	Part No.
Spare semidemountable quartz torch body, for axial ICP-OES	2010083400
Spare semidemountable quartz torch body, for radial ICP-OES	2010072900
Injector holder kit, with O-rings	9910057300
Alumina injector tube, 1.8 mm	2410067590
Quartz injector tube, 1.8 mm, 3/pk	9910057000
Quartz injector tube, 0.8 mm id	2010077500



Spare semidemountable quartz torch body, 2010072900



Injector holder kit, 9910057300



Alumina injector tube, 2410067590



Quartz injector tube, 0.8 mm id, 2010077500

Spares for Fully Demountable Torches

Description	Part No.
Fully demountable axial torch assembly kit	9910106300
Spare fully demountable axial torch body	7910044400
Spare fully demountable radial torch body	7910044500
Quartz outer tube, axial	2010095200
Quartz outer tube for high solids, axial	2010120300
Quartz intermediate tube, axial and radial	2010095300
Quartz outer tube, radial	2010095500
Ceramic outer tube, radial	2010095800
O-ring kit	9910108200
Alumina injector, tapered, 1.8 mm id, axial or radial	2010095900
Quartz injector, tapered, 1.8 mm id, axial or radial	2010101800
Quartz injector, 1.0 mm id, radial	2010096000
Quartz injector, 1.5 mm id, radial	2010095600
Quartz injector, 2.4 mm id, axial	2010095400
Ceramic injector, 2.4 mm id, axial or radial	2010101700



Spare fully demountable radial torch body,
7910044500



Quartz intermediate tube, axial and radial,
2010095300



Quartz outer tube, radial, 2010095500



Alumina injector, 1.8 mm id, axial or radial,
2010095900

Tubing

Peristaltic Pump Tubing

Peristaltic Pump Tubing Chemical Compatibility	
Tubing	Recommendations
Standard PVC tubes	Suitable for all aqueous solutions, medium-concentrated acids and bases
Solvent flexible (Solvaflex)	Suitable for kerosene, white spirit, alcohols, medium-highly concentrated acids and bases
FPM fluoroelastomer polymer	Suitable for gasoline, naptha, toluene, xylene (aromatic hydrocarbons), highly concentrated acids and bases
Marprene	Suitable for ketone-based solvents including MIBK and DIBK

Common Peristaltic Pump Tubing Dimensions		
Bridge Colors	Inner Diameter (mm)	Inner Diameter (in)
Orange/Red	0.19	0.0075
Orange/Blue	0.25	0.01
Orange/Green	0.38	0.015
Orange/Yellow	0.51	0.02
Orange/White	0.64	0.025
Black/Black	0.76	0.03
Orange/Orange	0.89	0.035
White/White	1.03	0.04
Red/Red	1.14	0.045
Gray/Gray	1.3	0.05
Yellow/Yellow	1.42	0.055
Yellow/Blue	1.52	0.06
Blue/Blue	1.65	0.065
Green/Green	1.85	0.07
Purple/Purple	2.06	0.08
Purple/Black	2.29	0.09
Purple/Orange	2.54	0.1

Length 16 in (406 mm), bridge interval 6 in (152 mm)

Standard pump tubing sizes used with Agilent ICP-OES systems for aqueous samples

Dual View and Axial ICP-OES*

Sample	White/White
Drain	Blue/Blue
Internal Standard	Orange/White

*For organic solvents and high matrix samples, the sample pump tube used should be smaller in diameter, e.g. black/black

Radial ICP-OES*

Sample	Gray/Gray
Drain	Blue/Blue
Internal Standard	Orange/White

*For organic solvents and high matrix samples, the sample pump tube used should be smaller in diameter, e.g. black/black

PVC Tubing for Aqueous Samples

Description	Part No.
Peristaltic pump tubing, orange/green, 12/pk	3710068200
Peristaltic pump tubing, orange/green, flared ends, 12/pk	3710068300
Peristaltic pump tubing, orange/white, 12/pk	3710046900
Peristaltic pump tubing for reagent, black/black tabs, 12/pk	3710027200
Peristaltic pump tubing, orange/orange, 12/pk	3710068800
Peristaltic pump tubing, white/white, 12/pk	3710034400
Peristaltic pump tubing, gray/gray, 12/pk	3710034500
Peristaltic pump tubing, blue/blue, 12/pk	3710034600
Peristaltic pump tubing for sample, purple/black tabs, 12/pk	3710027300
Peristaltic pump tubing, black/white, 12/pk	3710068900

Replacement Tubing for Aqueous Samples

Drain tubing, spray chamber to peristaltic pump waste line (glass cyclonic spray chamber) and 5100/5110 spray chamber waste, 0.12 inch id, 0.062 inch thick	3710024600
Tubing, spray chamber to torch and 5100/5110 sample tray drain, 1/4 inch id, 1/16 inch od, per m	3710033400
Clip to secure the drain tubing to the 5100/5110 ICP-OES sample tray	G8010-40026
Tubing, spray chamber to peristaltic pump waste line (Sturman-Masters spray chamber), per m	3710033900
Nebulizer capillary tubing, per m	2410020500



Peristaltic pump tubing, 3710034400



Peristaltic pump tubing, 3710047000

PVC Solvaflex Tubing for Low Volatile Organic Samples

Description	Part No.
Peristaltic pump tubing, orange/green, 12/pk	3710068000
Peristaltic pump tubing, orange/green, flared ends, 6/pk	3710068100
Peristaltic pump tubing, black/black, 12/pk	3710034800
Peristaltic pump tubing, white/white, 12/pk	3710035000
Peristaltic pump tubing, gray/gray, 12/pk	3710035200
Peristaltic pump tubing, blue/blue, 12/pk	3710067900
Peristaltic pump tubing, purple/black, 12/pk	3710047000

Replacement Tubing for Low Volatile Organic Samples

Tubing, spray chamber to torch, per m	3710037800
Tubing, spray chamber to peristaltic pump waste line (Sturman-Masters spray chamber), per m	3710035300
Tubing, spray chamber to peristaltic pump waste line (glass cyclonic spray chamber), per m	3710035400
Nebulizer capillary tubing, per m	2410020500

Marprene Tubing for Ketone-Based Organic Samples



Peristaltic pump tubing, 3710044100

Description	Part No.
Peristaltic pump tubing, orange/green, 12/pk	3710068400
Peristaltic pump tubing, orange/green, flared ends, 12/pk	3710068500
Peristaltic pump tubing, orange/yellow, 12/pk	3710044000
Peristaltic pump tubing, black/black, 6/pk	3710044100
Peristaltic pump tubing, black/black, 12/pk	3710041900
Peristaltic pump tubing, orange/orange, 6/pk	9910075900
Peristaltic pump tubing, white/white, 12/pk	3710044200
Peristaltic pump tubing, gray/gray, 12/pk	3710044300
Peristaltic pump tubing, yellow/yellow, 12/pk	3710041800
Peristaltic pump tubing, blue/blue, 12/pk	3710044400

Replacement Tubing for Ketone-Based Organic Samples

Tubing, spray chamber to torch, per m	3710037800
Tubing, spray chamber to peristaltic pump waste line (Sturman-Masters spray chamber), per m	3710035300
Tubing, spray chamber to peristaltic pump waste line (glass cyclonic spray chamber), per m	3710035400
Nebulizer capillary tubing, per m	2410020500

FPM Fluoroelastomer Polymer Tubing for Aromatic Organic Samples

Description	Part No.
Peristaltic pump tubing, orange/green, 12/pk	3710068600
Peristaltic pump tubing, orange/green, flared ends, 12/pk	3710068700
Peristaltic pump tubing, orange/yellow, 12/pk	3710043500
Peristaltic pump tubing, black/black, 12/pk	3710043600
Peristaltic pump tubing, white/white, 12/pk	3710043700
Peristaltic pump tubing, gray/gray, 12/pk	3710043800
Peristaltic pump tubing, blue/blue, 12/pk	3710043900
Peristaltic pump tubing, orange/yellow, 6/pk	3710053500
Peristaltic pump tubing, black/black, 6/pk	3710053600
Peristaltic pump tubing, white/white, 6/pk	3710053700
Peristaltic pump tubing, gray/gray, 6/pk	3710053800
Peristaltic pump tubing, yellow/yellow, 12/pk	3710041700
Peristaltic pump tubing, blue/blue 6/pk	3710053900



Peristaltic pump tubing, 3710043600

Internal Standard Kit

The internal standard kit enables online addition of internal standard. It includes:

- One pack standard PVC pump tubing
- One pack EzyFit sample inlet connectors, 10/pk
- Five Y-piece connectors
- Connecting tubing

Internal Standard Kit

Description	Part No.
Internal standard kit 1, with black/black pump tubing	9910124000
Internal standard kit 2, with orange/white pump tubing	9910124100

Internal standard kit 2, with orange/white tubing,
9910124100

Tubing Kits for 700 Series, Vista Series, and Liberty ICP-OES

Aqueous Samples and High Dissolved Solids

The ICP-OES tubing kit for aqueous samples and high dissolved solids includes:

- Two packs standard PVC peristaltic pump tubing, 12/pk (one each of blue/blue and white/white for the axial ICP kits, and one each of gray/gray and blue/blue for the radial ICP kits)
- One FEP transfer tube (spray chamber to torch)
- Drain tubing, 1 m
- Tubing for waste line from spray chamber, 1 m
- One pack EzyFit sample inlet connectors, 10/pk
- Nebulizer capillary tubing, 2 m
- Barb connectors for joining tubing (5/pk of 1/16 to 1/8 in id and 5/pk of 1/16 to 1/16 in id)
- Connecting tubing, 0.5 m



Aqueous tubing kit 1, for axial ICP-OES,
9910123600

Aqueous Samples and High Dissolved Solids

Description	Use With	Part No.
Aqueous tubing kit 1 – axial	OneNeb/SeaSpray/K-style nebulizers and double or single-pass cyclonic spray chamber	9910123600
Aqueous tubing kit 1 – radial	OneNeb/SeaSpray/K-style nebulizers and double or single-pass cyclonic spray chamber	9910123700
Aqueous tubing kit 2 – axial	OneNeb/V-groove nebulizer and Sturman-Masters spray chamber	9910123800
Aqueous tubing kit 2 – radial	OneNeb/V-groove nebulizer and Sturman-Masters spray chamber	9910123900

Low Volatile Organic Solvents

The ICP-OES tubing kit for low volatile organic solvents includes:

- Two packs PVC Solvaflex peristaltic pump tubing, 12/pk (one each of black/black and white/white)
- One FEP transfer tube (spray chamber to torch)
- Drain tubing, 1 m
- Tubing for waste line from spray chamber, 1 m
- Nebulizer capillary tubing, 2 m
- Barb connectors for joining tubing (5/pk of 1/16 to 1/8 in id and 5/pk of 1/16 to 1/16 in id)

Low Volatile Organic Solvents

Description	Use With	Part No.
Organics tubing kit 1 – axial	OneNeb/SeaSpray nebulizer and double-pass cyclonic spray chamber	9910124200
Organics tubing kit 1 – radial	OneNeb/SeaSpray nebulizer and double-pass cyclonic spray chamber	9910124300
Organics tubing kit 2 – axial	OneNeb/V-groove nebulizer and Sturman-Masters spray chamber	9910124400
Organics tubing kit 2 – radial	OneNeb/V-groove nebulizer and Sturman-Masters spray chamber	9910124500



Organics tubing kit 1, for radial ICP-OES,
9910124300

Aromatic Organic Solvents

The ICP-OES tubing kit for aromatic organic solvents includes:

- Two packs of FPM peristaltic pump tubing, 12/pk (one each of black/black and white/white)
- One FEP transfer tube (spray chamber to torch)
- Drain tubing, 1 m
- Tubing for waste line from spray chamber, 1 m
- Nebulizer capillary tubing, 2 m
- Barb connectors for joining tubing (5/pk of 1/16 to 1/8 in id and 5/pk of 1/16 to 1/16 in id)



Organics tubing kit 3, for radial ICP-OES,
9910124700

Aromatic Organic Solvents

Description	Use With	Part No.
Organics tubing kit 3 – axial	OneNeb/SeaSpray nebulizer and double-pass cyclonic spray chamber	9910124600
Organics tubing kit 3 – radial	OneNeb/SeaSpray nebulizer and double-pass cyclonic spray chamber	9910124700
Organics tubing kit 4 – axial	OneNeb/V-groove nebulizer and Sturman-Masters spray chamber	9910124800
Organics tubing kit 4 – radial	OneNeb/V-groove nebulizer and Sturman-Masters spray chamber	9910124900

Ketone-Based Organic Solvents

- Two packs Marprene peristaltic pump tubing, 6/pk (one each of black/black and white/white)
- One FEP transfer tube (spray chamber to torch)
- Drain tubing, 1 m
- Tubing for waste line from spray chamber, 1 m
- One pack EzyFit sample inlet connectors, 10/pk
- Nebulizer capillary tubing, 2 m
- Barb connectors for joining tubing (5/pk of 1/16 to 1/8 in id and 5/pk of 1/16 to 1/16 in id)

Ketone-Based Organic Solvents

Description	Use With	Part No.
Organics tubing kit 5 – axial	OneNeb/SeaSpray nebulizer and double-pass cyclonic spray chamber	9910125000
Organics tubing kit 5 – radial	OneNeb/SeaSpray nebulizer and double-pass cyclonic spray chamber	9910125100
Organics tubing kit 6 – axial	OneNeb/V-groove nebulizer and Sturman-Masters spray chamber	9910125200
Organics tubing kit 6 – radial	OneNeb/V-groove nebulizer and Sturman-Masters spray chamber	9910125300



Organics tubing kit 6, for radial
ICP-OES, 9910125300

Volatile Organic Samples

The ICP-OES tubing kit for volatile organic samples includes:

- Two packs of FPM peristaltic pump tubing, 6/pk (one each of black/black and white/white)
- Transfer tube (spray chamber to torch), 1 m
- Drain tubing, 1 m
- Tubing for waste line from spray chamber, 1 m
- One pack EzyFit sample inlet connectors, 10/pk
- Nebulizer capillary tubing, 2 m
- Barb connectors for joining tubing (5/pk of 1/16 to 1/8 in id and 5/pk of 1/16 to 1/16 in id)
- Connecting tubing, 1 m



Volatile organics tubing kit – radial, 9910125500

Volatile Organic Samples

Description	Use With	Part No.
Volatile organics tubing kit – axial	OneNeb/SeaSpray nebulizer, cooled spray chamber and full-length torch	9910125400
Volatile organics tubing kit – radial	Volatile organics tubing kit – radial OneNeb/SeaSpray nebulizer, cooled spray chamber, and annealed (organics) torch or semidemountable torch	9910125500

Applications Kits

Spare Sample Introduction Kits for 5100/5110 Dual View ICP-OES

5100/5110 SVDV/VDV ICP-OES

Description	Nebulizer, Spray Chamber	Part No.
Inert sample introduction kit, for use with HF digests and high TDS samples	Inert double-pass spray chamber with ball joint socket, OneNeb series 2 nebulizer, inert demountable Easy-fit torch with ceramic injector (1.8 mm id), torch clamp for inert torch and Solvaflex peristaltic pump tubes for sample (black/black tabs) and waste (gray/gray tabs)	G8010-68007
Ketone based organic solvent sample introduction kit, for use with ketone based organic solvents including MIBK	Double-pass glass cyclonic spray chamber with ball joint socket, Conikal nebulizer, demountable Easy-fit torch with 1.4 mm id injector, solvent resistant drain tubing and Marprene peristaltic pump tubes for sample (white/white tabs) and waste (blue/blue tabs)	G8010-68009
Semivolatile organic solvent sample introduction kit, for use with semivolatile organic solvents including kerosene	Double-pass glass cyclonic spray chamber with ball joint socket, Conikal nebulizer, demountable Easy-fit torch with 1.4 mm id injector, solvent resistant drain tubing and Solvaflex peristaltic pump tubes for sample (black/black tabs) and waste (grey/grey tabs)	G8010-68029
Volatile organic solvent sample introduction kit, for use with volatile organic solvents including gasoline	Conikal nebulizer, demountable Easy-fit torch with 0.8 mm id injector, solvent resistant drain tubing and FPM peristaltic pump tubes for sample (white/white tabs) and waste (blue/blue tabs). Requires but does <i>not</i> include a cooled spray chamber. The IsoMist peltier cooled spray chamber is recommended.	G8010-68005

5100/5110 RV (Radial) ICP-OES

Inert sample introduction kit, for use with HF digests and high TDS samples	Inert double-pass spray chamber with ball joint socket, OneNeb series 2 nebulizer, inert demountable Easy-fit torch with ceramic injector (1.8 mm id), torch clamp for inert torch and Solvaflex peristaltic pump tubes for sample (black/black tabs) and waste (gray/gray tabs)	G8010-68006
Ketone based organic solvent sample introduction kit, for use with ketone based organic solvents including MIBK	Double-pass glass cyclonic spray chamber with ball joint socket, Conikal nebulizer, demountable Easy-fit torch with 1.4 mm id injector, solvent resistant drain tubing and Marprene peristaltic pump tubes for sample (white/white tabs) and waste (blue/blue tabs)	G8010-68008
Semivolatile organic solvent sample introduction kit, for use with semivolatile organic solvents including kerosene	Double-pass glass cyclonic spray chamber with ball joint socket, Conikal nebulizer, demountable Easy-fit torch with 1.4 mm id injector, solvent resistant drain tubing and Solvaflex peristaltic pump tubes for sample (black/black tabs) and waste (grey/grey tabs)	G8010-68030
Volatile organic solvent sample introduction kit, for use with volatile organic solvents including gasoline	Conikal nebulizer, demountable Easy-fit torch with 0.8 mm id injector, solvent resistant drain tubing and FPM peristaltic pump tubes for sample (white/white tabs) and waste (blue/blue tabs). Requires but does <i>not</i> include a cooled spray chamber. The IsoMist peltier cooled spray chamber is recommended.	G8010-68004



Ketone based organic solvent sample introduction kit, G8010-68008

Spare Sample Introduction Kits for 700 Series, Vista Series, and Liberty ICP-OES

These sample introduction kits include:

- Nebulizer
- Spray chamber
- Mounting bracket
- FEP transfer tube (spray chamber to torch)
- Nebulizer gas connector with connecting tubing and 2 tubing clamps

Axial ICP-OES

Description	Nebulizer, Spray Chamber	Part No.
Aqueous samples kit	SeaSpray nebulizer, single-pass glass cyclonic spray chamber	9810039790
High sensitivity kit, for aqueous samples	OneNeb nebulizer, single-pass glass cyclonic spray chamber	9810046690
Flexible kit, for use with high solids or organic solvents	OneNeb nebulizer, double-pass glass cyclonic spray chamber	9810046590
Common organic solvents kit	Conikal (K style) nebulizer, single-pass glass cyclonic spray chamber	9810039890
Volatile organic solvents kit	SeaSpray nebulizer, double-pass glass cyclonic spray chamber	9810039690

Radial ICP-OES

Description	Nebulizer, Spray Chamber	Part No.
High solids kit	SeaSpray nebulizer, double-pass glass cyclonic spray chamber	9810039590
High sensitivity kit, for high solids	OneNeb nebulizer, double-pass glass cyclonic spray chamber	9810046490
Inert high solids kit (use with HF/fusions)	V-groove nebulizer, Sturman-Masters double-pass cyclonic spray chamber	9810039490
Inert high sensitivity kit, for high solids (use with HF/fusions)	OneNeb nebulizer, Sturman-Masters double-pass cyclonic spray chamber	9810046390

High Dissolved Solids

The application kits for high dissolved solids include:

- Nebulizer
- Spray chamber
- Mounting bracket
- Agilent high-solids torch (unless otherwise stated)
- Argon saturator accessory
- ICP-OES tubing kit. Includes two packs of peristaltic pump tubing (12/pk), FEP transfer tube (spray chamber to torch), drain tubing (1 m), tubing for waste line from spray chamber (1 m), one pack of EzyFit sample inlet connectors (10/pk), nebulizer capillary tubing (2 m), barb connectors for joining tubing (5/pk of 1/16 to 1/8 in id and 5/pk of 1/16 to 1/16 in id), and connecting tubing (0.5 m).



High solids kit 2 – radial, 9910125900

High Dissolved Solids

Description	Nebulizer, Spray Chamber	Part No.
High solids kit 1 – axial	Includes Seaspray nebulizer, double-pass glass cyclonic spray chamber, mounting bracket, patented high-solids torch, argon saturator accessory, and all necessary tubing	9910125600
High solids kit 1 – radial	Includes Seaspray nebulizer, double-pass glass cyclonic spray chamber, mounting bracket, patented high-solids torch, argon saturator accessory and all necessary tubing	9910125700
High solids kit 2 – axial	Includes V-groove nebulizer, Sturman-Masters spray chamber, mounting bracket, patented high-solids torch, argon saturator accessory, and all necessary tubing	9910125800
High solids kit 2 – radial	Includes V-groove nebulizer, Sturman-Masters spray chamber, mounting bracket, patented high-solids torch, argon saturator accessory, and all necessary tubing	9910125900
High solids kit 3 – axial	Includes V-groove nebulizer, Sturman-Masters spray chamber, sheath gas high-solids torch with Agilent injector design (2.4 mm id), AGM 1 auxiliary gas module for flow control over sheath gas flow	9910141000

Inert Sample Introduction Systems

The inert sample introduction systems kit is for solutions with free HF and includes:

- V-groove nebulizer
- Double-pass Sturman-Masters spray chamber
- Mounting bracket
- Semidemountable torch with 1.8 mm id alumina injector
- ICP-OES tubing kit. Includes two packs of peristaltic pump tubing (12/pk), FEP transfer tube (spray chamber to torch), drain tubing (1 m), tubing for waste line from spray chamber (1 m), one pack EzyFit sample inlet connectors (10/pk), nebulizer capillary tubing (2 m), barb connectors for joining tubing (5/pk of 1/16 to 1/8 in id and 5/pk of 1/16 to 1/16 in id), and connecting tubing (0.5 m).

Inert Sample Introduction Systems

Description	Nebulizer, Spray Chamber	Part No.
Inert kit – axial	V-groove nebulizer, Sturman-Masters spray chamber	9910126000
Inert kit – radial	V-groove nebulizer, Sturman-Masters spray chamber	9910126100
Inert kit – radial	Excludes spray chamber, nebulizer, and mounting bracket	9910126200



Inert kit – radial, 9910126100

Ketone-Based Organic Solvents

The application kits for ketone-based organic solvents include:

- Nebulizer
- Spray chamber
- Mounting bracket
- One-piece torch with 1.4 mm id injector
- ICP-OES tubing kit. Includes two packs peristaltic pump tubing (6/pk), FEP transfer tube (spray chamber to torch), drain tubing (1 m), tubing for waste line from spray chamber (1 m), one pack of EzyFit sample inlet connectors (10/pk), nebulizer capillary tubing (2 m), barb connectors for joining tubing (5/pk of 1/16 to 1/8 in id and 5/pk of 1/16 to 1/16 in id), and connecting tubing (0.5 m).

AGM 1 oxygen accessory (p/n G8473A) is recommended when analyzing organic solvents on axial ICP-OES.



Organics kit 6 – radial, 9910127400

Ketone-Based Organic Solvents

Description	Nebulizer, Spray Chamber	Part No.
Organics kit 5 – axial	Glass concentric (Conikal) nebulizer, double-pass glass cyclonic spray chamber	9910127100
Organics kit 5 – radial	Glass concentric (Conikal) nebulizer, double-pass glass cyclonic spray chamber, annealed torch	9910127200
Organics kit 6 – axial	V-groove nebulizer, double-pass Sturman-Masters spray chamber	9910127300
Organics kit 6 – radial	V-groove nebulizer, double-pass Sturman-Masters spray chamber, annealed torch	9910127400

Volatile Organics

The volatile organics kit reduces vapor pressure that can destabilize the plasma and lead to signal loss. The kit includes:

- Glass concentric (Conikal) nebulizer
- Water-cooled spray chamberMounting bracket
- One-piece torch with 0.8 mm id injector
- ICP-OES tubing kit. Includes two packs of peristaltic pump tubing (6/pk), transfer tube (spray chamber to torch) 1 m, drain tubing (1 m), tubing for waste line from spray chamber (1 m), one pack of EzyFit sample inlet connectors (10/pk), nebulizer capillary tubing (2 m), barb connectors for joining tubing (5/pk of 1/16 to 1/8 in id and 5/pk of 1/16 to 1/16 in id), and connecting tubing (0.5

AGM 1 oxygen accessory (p/n G8473A) is recommended when analyzing volatile organic solvents. Cooled spray chamber requires a refrigerated, water recirculator able to cool fluid down to -10 °C for analysis of volatile organic solvents such as gasoline and naphtha.

Volatile Organics

Description	Nebulizer, Spray Chamber	Part No.
Volatile organics kit – axial	Glass concentric (Conikal) nebulizer, water-cooled spray chamber	9910127500
Volatile organics kit – radial	Glass concentric (Conikal) nebulizer, water-cooled spray chamber, annealed torch	9910127600



Volatile organics kit – radial, 9910127600



Organics kit 1 – radial, 9910126400

Common Organic Solvents

The application kits for common organic solvents include:

- Nebulizer
- Spray chamber
- Mounting bracket
- One-piece torch with 1.4 mm id injector
- The ICP-OES tubing kit. Includes two packs of peristaltic pump tubing (12/pk), FEP transfer tube (spray chamber to torch), drain tubing (1 m), tubing for waste line from spray chamber (1 m), one pack of EzyFit sample inlet connectors (10/pk), nebulizer capillary tubing (2 m), barb connectors for joining tubing (5/pk of 1/16 to 1/8 in id and 5/pk of 1/16 to 1/16 in id), and connecting tubing (0.5

AGM 1 oxygen accessory (p/n G8473A) is recommended when analyzing organic solvents on axial ICP-OES.

Common Organic Solvents

Description	Application	Nebulizer, Spray Chamber	Part No.
Organics kit 1 – axial	Common, low volatility organic solvents, e.g. kerosene, xylene, and white spirit	Includes glass concentric (Conikal) nebulizer, double-pass glass cyclonic spray chamber with mounting bracket, one-piece torch with 1.4 mm id injector, and all necessary Marprene and solvent flexible PVC tubing	9910126300
Organics kit 1 – radial	Common, low volatility organic solvents, e.g. kerosene, xylene, and white spirit	Includes glass concentric (Conikal) nebulizer, double-pass glass cyclonic spray chamber, one-piece annealed torch with 1.4 mm id injector, and all necessary Marprene and solvent flexible PVC tubing	9910126400
Organics kit 2 – axial	High particulate samples dissolved in common, low volatility organic solvents, e.g. kerosene, xylene, and white spirit	Includes V-groove nebulizer, double-pass Sturman-Masters spray chamber with mounting bracket, one-piece torch with 1.4 mm id injector, and all necessary Marprene and solvent flexible PVC tubing	9910126500
Organics kit 2 – radial	High particulate samples dissolved in common, low volatility organic solvents, e.g. kerosene, xylene, and white spirit	Includes V-groove nebulizer, double-pass Sturman-Masters spray chamber with mounting bracket, one-piece annealed torch with 1.4 mm id injector, and all necessary Marprene and solvent flexible PVC tubing	9910126600

SVS 1 and SVS 2 Switching Valves for ICP-OES

The SVS 1/SVS 1+ and SVS 2/SVS 2+ Switching Valve Systems are innovative sample introduction systems for ICP-OES that improve productivity and reduce memory effects by rinsing while the next sample is introduced. Excess sample is diverted away from the spray chamber, reducing sample carryover. The SVS 2/SVS 2+ doubles ICP-OES productivity by loading the next solution into a sample loop during the rinse phase, using a high speed pump.



SVS 2 (left) and SVS 1 (right)

SVS 1+ Supplies

Description	Comments	Part No.
Replacement 4-port valve, for SVS 1+	Replace every 4–6 months, depending on usage	G8484-60101
Valve tubing kit, for SVS 1+	Includes flangeless fittings, 1/4 inch-28, P-218, 4/pk; flangeless ferrules, 1/16 inch, P-240, 4/pk; super flangeless fittings, 1/4 inch-28, P-232; super flangeless ferrules, 1/16 inch, P-250x; PFA tubing, 1.5 m, 1/16 inch od x 0.02 inch id	G8485-60523
Super flangeless nut, PEEK short headless, 1/4 in-28 flat-bottom for 1/16 in od tubing		1510256900
Super flangeless ferrules, 1/16 inch, P-250x, for SVS 1+/2+		0100-1690
Adjustable mounting bracket, for SVS 1+	Allows mounting of the SVS 1+ on ICP-OES and MP-AES Adjustable from 15–90 mm and preset to 50 mm	G8485-81003



Replacement 4-port valve, for SVS 1, 3610010100



Flangeless fittings, 1610136500



Ferrules (4 required), 1610136600

SVS 1 Supplies

Description	Part No.
Replacement 4-port valve, for SVS 1 Replace every 4–6 months, depending on usage	3610010100
Flangeless fittings (4 required)	1610136500
Ferrules (4 required)	1610136600
Sample inlet (EzyFit) fitting, for concentric glass nebulizer on radial ICP-OES	1610136400
Capillary tubing, PFA, 0.0625 inch x 0.02 inch id	3710052400

SVS 2 Supplies

Description	Kit Contents	Part No.
Nebulizer EzyFit connector, for SVS 0.75 mm id, 1.6 mm od tubing (10/pk)		1610146100
Replacement triple-stack 4-port valve Replace every 12 months, depending on usage	Includes valve assembly with rotor, mounting plate, mixing tee, thrust washer, and stator	3610020400
Tubing kit, for SVS 2	Includes SVS 2 carrier/rinse tubing, 300 mm (blue), SVS 2 internal standard tubing, 300 mm (yellow), loop link, 80 mm (green/green), SVS 2 internal standard link, 120 mm (gray/brown), SVS 2 sample loop – 1.0 mL (black/black) and 1/4 inch – 28 super flangeless fittings and 1/16 inch super flangeless ferrules, 2/pk	7910063800
Replacement wiper seal kit, for SVS 2 fast uptake pump		7910064500
Tubing kit, for SVS 2 fast uptake pump	Includes PVC 2.5 mm id waste tubing, 1.5 m, PVC 2.5 mm id inlet tubing, 50 mm, valve waste tubing, 320 mm (red), bubble injector tubing, 400 mm, bubble injector T-piece and bubble injector 1-way valve	3710066700
Capillary transfer line, connects SVS 2 to UniFit nebulizer fitting, 50 mm		G8010-60834



SVS 2 tubing kit, 7910063800



Tubing kit for SVS 2 Fast Uptake Pump, 3710066700

Sample Loops for the SVS2/SVS2+

Description	Part No.
SVS 2 sample loop, 0.25 mL	9910143200
SVS 2 sample loop, 0.5 mL	9910143300
SVS 2 sample loop, 1.0 mL	9910143400
SVS 2 sample loop, 1.5 mL	9910143500
SVS 2 sample loop, 2.0 mL	9910143600
SVS 2 sample loop, 3.0 mL	9910143800
SVS 2 sample loop, 3.5 mL	9910143900
SVS 2 sample loop, 4.0 mL	G8485-60518



SVS 2 sample loop, 1.0 mL, 9910143400

SVS2+ Supplies

Description	Comments	Part No.
Replacement 6/7 way valve assembly, for SVS 2+	Includes rotor, mounting plate, mixing tee, thrust washer, valve body, and PTFE stator	G8485-60513
Replacement mixing tee for 6/7 way valve assembly, for SVS 2+		G8485-60514
Capillary transfer line, connects SVS 2 switching valve to U-Series nebulizer inlet, 50 mm long with UniFit connector		G8010-60834
Valve tubing kit, for SVS 2+	Includes carrier/rinse tubing (350 mm), internal standard tubing (350 mm), and sample loop (1 mL)*	G8485-60515
Tubing, carrier/rinse, 350 mm, for SVS 2+		G8485-60516
Tubing, internal standard, 350 mm, for SVS 2+		G8485-60517
Pump tubing kit, for SVS 2+	Includes bubble injector tubing (220 mm), PVC inlet tubing (2.5 mm id, 100 mm), barb fitting (1/4-28 male to 1/8 inch), PVC inlet tubing (2.5 mm id, 1.5 m), bubble injector tee piece, and bubble injector one-way valve	G8485-60519
Tubing, bubble injector, 220 mm, for SVS 2+		G8485-60520
Tubing, inlet, PVC, 0.1 m, 2.5 mm id, for SVS 2+		G8485-60521
Tubing, PFA, 3 m, 1/16 in od, 0.04 in id, for SVS 2+		G8485-60522
Super flangeless nut, PEEK short headless, 1/4 in-28 flat-bottom for 1/16 in od tubing		1510256900
Super flangeless ferrules, 1/16 inch, P-250x, for SVS 1+/2+		0100-1690
Barb fitting, 1/4-28 male to 1/8 inch, for SVS 2+		G8485-80001
Replacement uptake pump, for SVS 2+, excludes tubing or accessories		G8485-60512
Adjustable mounting bracket, for SVS 2+	Adjustable from 15 to 90 mm and preset to 50 mm, allows mounting of the SVS2+ on the 5100/5110 Dual View ICP-OES	G8485-81002
Adjustable mounting bracket, for SVS 2+, to suit Agilent 700 Series axial ICP-OES		G8485-81001
Stator alignment and extraction tool, PTFE, for SVS 2+		G8485-80000

*Tubing color code: black/black. Fittings already attached to tubing and labeled.

AVS 6/7 Advanced Valve Systems for 5100/5110 DV ICP-OES

Agilent's Advanced Valve System (AVS) 6 or 7 port switching valve is an optional accessory for Agilent's 5100/5110 ICP-OES instruments. The switching valve features a unique two-position 6 or 7 port switching valve (the 7th port is for internal standardization) and a high speed positive displacement pump to rapidly fill the sample loop. The sample introduction system is rinsed at the same time as the next sample is presented to the instrument, virtually eliminating the delay-times of conventional ICP-OES analysis. This reduces your cost-per-analysis and more than doubles your productivity.



Supplies for AVS 7 (7 port) Advanced Valve System for 5100/5110 DV ICP-OES

Description	Part No.
Spare valve, 7 port, 2 position, for AVS 7 switching valve	G8495-60000
Replacement valve assembly for AVS 7	
Stator and rotor for 7 port valve, for AVS 7 switching valve	G8495-60003
Rotor seal for 6-7 port valve, for AVS 6/7 switching valve	G8494-60002
Drip tray for 6-7 port valve, for AVS 6/7 switching valve	G8010-20071
Plug, PTFE, for 1/4-28 flat-bottom (blanking plug which can be used to block the 7th port of the AVS 7, if internal standard addition is not required)	UCP316

Supplies for AVS 6 (6 port) Advanced Valve System for 5100/5110 DV ICP-OES

Description	Part No.
Spare valve, 6 port, 2 position, for AVS 6 switching valve	G8494-60000
Replacement valve assembly for AVS 6	
Stator and rotor for 6 port valve, for AVS 6 switching valve	G8494-60003
Rotor seal for 6-7 port valve, for AVS 6/7 switching valve	G8494-60002
Drip tray for 6-7 Port valve, for AVS 6/7 switching valve	G8010-20071

Supplies for AVS 4 (4 port) Advanced Valve System for 5100/5110 DV ICP-OES

Description	Part No.
Spare valve, 4 port, 2 position, for AVS 4 Switching Valve Replacement valve assembly for AVS 4	G8493-60000
Stator and rotor for 4 port valve, for AVS 4 switching valve	G8493-60003
Rotor seal for 4 port valve, for AVS 4 switching valve	G8493-60002
Drip tray for 4 port valve, for AVS 4 switching valve	G8010-20080

Miscellaneous Supplies for AVS Switching Valves for 5100/5110 DV ICP-OES

Description	Comments	Part No.
Rinse, 10 L and waste, 20 L containers for AVS 6/7	Includes 10 L HDPE container for rinse solution and 20 L HDPE container for waste both fitted with safety caps to prevent vapors reaching the lab Supply lines fitted with sinkers to ensure the capillary draws from the base of the container	G8494-60005
Internal standard container kit, 5 L, for AVS 7	Includes 5 L polypropylene space saver container for internal standard. Fitted with safety caps to prevent vapors in the laboratory Supply line fitted with sinker to ensure the capillary draws from the base of the container	G8495-60005
Reagent uptake capillary tube 1.6 mm od x 1.0 mm id x 1400 mm length, with heavy PTFE sinker		G8494-60007
Check valve outlet, for AVS switching valve, nonmetallic		G8010-60300
Mounting clamp, for AVS 4/6/7 switching valve		G8494-60004

Tubing Kits for AVS Switching Valves for 5100/5110 DV ICP-OES

Description	Notes	Part No.
Sample inlet connection kit, for AVS switching valve		G8010-60303
Nebulizer connection kit, for AVS switching valve		G8010-60304
Autosampler connection kit, for AVS switching valve	Super flangeless one-piece fitting, 1/4-28 flat-bottom, for 1/16 inch od tubing (used to join the probe line to the valve assembly)	G8010-60306
Internal standard connection kit, for AVS7 switching valve		G8010-60307
Pump outlet connection kit, for AVS switching valve		G8010-60308
Waste tube kit, for 4 port AVS switching valve	Includes swivel barb adaptor fitted with 2m length of 1/8 inch id PVC tubing (for the AVS waste line)	G8010-60334
Sample/rinse connection kit, for AVS switching valve, 2/pk	Includes super flangeless one-piece fitting, 1/4-28 flat-bottom, for 1/16 inch od tubing fitted with 1/16 inch od PFA tubing and a conical adapter to join to the peristaltic pump tubing	G8010-60335
Autosampler peri-pump connection kit	Allows the user to bypass the switching valve when required e.g. for wavelength calibration. Includes ferrule fitting for the autosampler line plus a conical PTFE adapter to enable connection to the peristaltic pump tubing.	G8010-60348
UniFit sample line, 0.75 mm id x 116 inch od	Replacement part, for Unifit nebulizer (p/n G8010-60336) Connection kit supplied with the AVS 4	8003-0493
Nebulizer adaptor kit, for AVS switching valve	Includes super flangeless one-piece fitting, 1/4-28 flat-bottom, for 1/16 inch od tubing and 1/16 inch od FEP tubing sleeve (used to join the sample capillary of the OneNeb nebulizer to the valve assembly)	G8010-60333

Sample Loops for AVS 6/7 Switching Valves for 5100/5110 DV ICP-OES

Description	Part No.
Sample loop for AVS switching valve, 1.0 mL volume*	G8010-60305
Sample loop for AVS switching valve, 0.25 mL volume	G8010-60338
Sample loop for AVS switching valve, 0.5 mL volume	G8010-60339
Sample loop for AVS switching valve, 1.5 mL volume	G8010-60340
Sample loop for AVS switching valve, 2.0 mL volume	G8010-60341
Sample loop for AVS switching valve, 2.5 mL volume	G8010-60342
Sample loop for AVS switching valve, 3.0 mL volume	G8010-60343
Sample loop for AVS switching valve, 3.5 mL volume	G8010-60344

*This is the standard loop supplied with the AVS switching valves



Multimode Sample Introduction System (MSIS)

Multimode Sample Introduction System (MSIS)

The MSIS provides simultaneous vapor generation of environmentally sensitive elements including As, Se, and Hg with low $\mu\text{g/L}$ detection limits. It provides better performance than conventional nebulization through thin film hydride technology, while offering a choice of three modes that eliminates changeover and allows routine and hydride elements to be determined using the same setup.

For best performance when determining environmentally sensitive elements such as As, Se, and Hg, it is recommended to use the conventional vapor generation technique using the VGA 77.

Multimode Sample Introduction System (MSIS)

Description	Part No.
Multimode Sample Introduction System (MSIS)	G8000-63003

MSIS Accessory Kits for 700 and Vista Series ICP-OES

Description	Part No.
Accessory kit to adapt the MSIS for use with axial ICP-OES	G8479-68000
Accessory kit to adapt the MSIS for use with radial ICP-OES	G8479-68001

Each kit includes mounting bracket with screws and washers, glass transfer tube with ball joint connection, clamps for ball joint, and torch with ball joint connection.



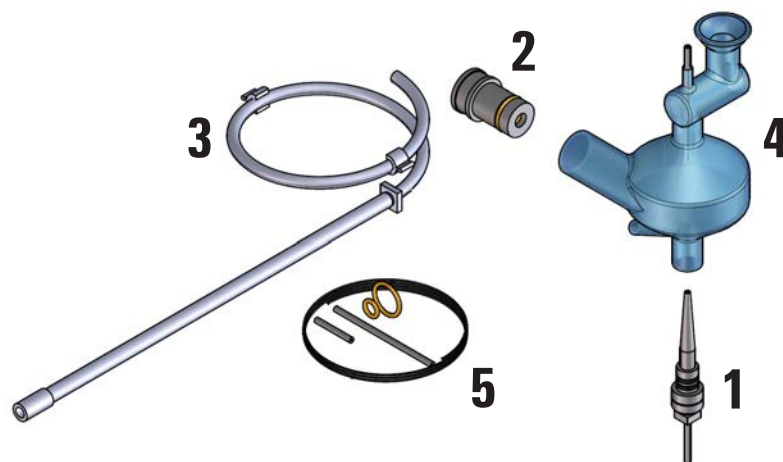
Argon Gas and Air Filters

Description	Part No.
Filters for 700 and Vista Series ICP-OES	
Small argon filter, charcoal, for detector gas purge line	6810008600
Drierite filter, for detector gas purge line	6810008700
Large argon filter, charcoal, externally mounted, for polychromator gas purge line	6810010000
Filters for 5100/5110 Dual View ICP-OES	
Argon gas inlet filter (requires annual replacement, customer replaceable)	G8010-60136
Inlet cooling air filter	G8000-68002
Replacement filter element, for the cooling air inlet on instruments fitted with the "dusty environment air inlet filter" option	G8010-60189

MSIS Supplies

Description	Comments	Part No.
Torch one piece, for axial ICP	Features ball joint sample inlet and 2.3 mm id injector	7910050700
Glass transfer tube, for axial ICP	Links to torch with ball joint sample inlet Includes retaining clamp	7910052800
Torch one piece, for radial ICP	Features ball joint sample inlet and 1.4 mm id injector	7910052900
Glass transfer tube, for radial ICP	Links to torch with ball joint sample inlet Includes retaining clamp	7910052700
Peristaltic pump tubing, black/black, 12/pk	Required to pump reagents to MSIS	3710027200
Peristaltic pump tubing, black/white, 12/pk	Required to pump waste from MSIS	3710068900
Bracket, for mounting MSIS with axial and radial ICP		110868000
MSIS Supplies to Support Routine Operation		
MSIS nebulizer bushing	Includes O-rings	G8479-20020
O-rings for MSIS nebulizer bushing	Includes one pair of replacement O-rings for the nebulizer bushing (one internal and one external O-ring)	G8479-67000
MSIS drain tube assembly	Includes 0.2 m length of 1/8 inch id drain tubing with bushing for waste outlet plus barb adapter and a single peri pump tube, 2 bridged PVC with black/white tabs	G8479-60100
MSIS reaction cone assembly	Includes reaction cone, bushing, threaded barb adapter, and tubing connector for sample inlet	G8479-60300
MSIS reagent tubing kit	Includes O-rings for nebulizer bushing (one pair), tubing connectors for reagent/sample inlets, and capillary tubing 0.01 inch id by 0.03 inch od to join to peristaltic pump tubing for reductant inlet	G8479-68100

1. p/n G8479-20020
2. p/n G8479-67000
3. p/n G8479-60100
4. p/n G8479-60300
5. p/n G8479-68100



ICP Expert Software

Powerful Agilent ICP Expert Software for the 5800/5900 ICP-OES and 5110/5100 ICP-OES systems features a familiar worksheet interface, easy method development, and preset methods to simplify your analysis and save you time. Smart features make recommendations and solve problems before they happen, reducing the number of samples you have to remeasure and giving you more confidence in your results.

Be assured of your analysis and compliance for your electronic records under the 21 CFR 11 regulations with the optional SCM and SDA software applications designed to support your lab requirement with ease.



Reduce Downtime with a Smarter ICP-OES

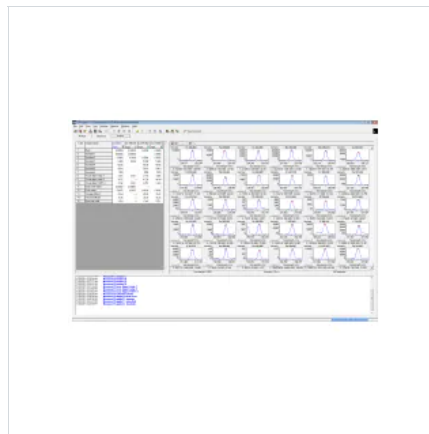
Features

- Learn more about your samples using Agilent's unique IntelliQuant feature capturing data from the entire wavelength range. IntelliQuant identifies spectral interferences and provides recommendations to ensure you get the right answers every time.
 - Track your instrument health the smart way with ICP Expert, which reduces unplanned downtime and maintenance costs with sensor feedback and utilization-based counters that inform the user when maintenance is needed
 - Smart algorithms help take the guesswork out of method development and automate troubleshooting, including Fitted Background Correction (FBC), Fast Automated Curve-fitting Technique (FACT), Inter Element Correction (IEC), IntelliQuant, and Intelligent Rinse
 - Screen your samples within seconds with IntelliQuant Screening, ideal for method development assistance for unknown samples that can be transferred easily into a quantitative method, and trend analysis for batch samples measured routinely
 - Prevent wasted time and the cost of troubleshooting with Neb Alert, which continuously monitors the nebulizer, alerting the user when a suspected blockage or leakage occurs
 - Simple, flexible reporting with the OpenLab Intelligent Reporting enables users to configure reports to include only the data required.
 - Comprehensive and interactive Help and Learning Centre with contextual search functionality, assists users when facing the day-to-day challenges of instrument operation, with step by step instructions, tips and videos for maintenance and hardware setup.
 - Highlight unexpected results using Outlier Conditional Formatting (OFC). This feature allows users to quickly and easily apply one or more user-definable thresholds to their results flagging those that exceed a nominated range or don't pass a test.
 - Control your instrument remotely and receive real-time data and instrument updates with the Automation Software Pack. This programming toolkit (SDK) enables third party client software to control the ICP-OES instrument for added flexibility. (optional)
 - Built-in technical controls ensure the security of your data, control access, and facilitate compliance as defined by US FDA 21 CFR Part 11, EU Annex 11 and similar national electronic record regulations.
 - Control the Agilent Recirculating Chiller remotely through the software, with live status updates and helpful notifications when troubleshooting is required
-

ICP-OES Software

ICP Expert II Software

Agilent ICP Expert II Software for the 710 Series and 720 Series spectrometers features an array of flexible performance and productivity enhancements that add more power to your ICP-OES analyses.



| Features

- Easy-to-use worksheet-based software contains wizards and comprehensive multimedia tools to guide you through operation
 - Fitted Background Correction (FBC) simplifies method development, eliminating the need to select correction points and ensuring better correction and fast analysis startup
 - Fast Automated Curve-fitting Technique (FACT) resolves complex spectral interferences, ensuring greater accuracy in difficult matrices. FACT modeling can be conducted post-analysis.
 - AutoMax eliminates manual optimization and provides fast automated method development
 - Smart Rinse speeds up sample washout, reducing carryover and increasing productivity
 - Spectroscopy Configuration Manager software assists in achieving compliance with the US FDA 21 CFR part 11 rule (optional).
 - MultiCal monitors results at two or more wavelengths for each element – giving you confidence in the accuracy of your results and extending your measurement range.
 - Time resolved signal mode enables you to couple the Agilent 720/725 to a HPLC or Laser Ablation for fast, multi-element speciation and qualitative applications.
 - Measure the full Echelle spectrum in less than 1 second to quickly identify elements in unknown samples.
 - Collect the spectral data of all elements in your samples without increasing analysis times for retrospective, semi-quantitative capability
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AA/MP-AES, ICP-OES, and ICP-MS Standards

Agilent offers a comprehensive range of single and multi-element standards, ionization buffers, metallo-organic and biodiesel standards, solvents, and environmental standards for atomic spectroscopy. With the assurance of NIST traceability, Agilent's Certified Reference Materials and standard mixes offer accurate, reliable calibrations at great value.

Every solution is manufactured using high purity starting materials, which are regularly tested in accordance with NIST guidelines to provide traceability. All Agilent inorganic spectroscopy standards include a Certificate of Analysis (CoA) that details the certified concentration, measurement uncertainty, and actual concentration values for up to 68 trace impurities (assayed using an Agilent ICP-MS for ICP-OES/ICP-MS standards).

In addition, the CoA details the method used for certification, intended use, instructions for proper use, and recommendations for appropriate conditions of storage.

- Gives you confidence in your AAS, ICP-OES or ICP-MS, and MP-AES results
- Standards shipped from stock to maximize uptime
- Supplied with a Material Safety Data Sheet (MSDS) and CoA for complete assurance
- All standards packaged in preleached HDPE bottles, secured with a tamper-evident seal

AA, MP-AES, and ICP-OES Standards

Wavelength Calibration Solutions for 5100/5110 ICP-OES, 700 Series, and Vista Series ICP-OES and MP-AES

Description	Comments	Part No.
Wavelength calibration concentrate, for ICP-OES and MP-AES	500 mL, contains 50 mg/L Al, As, Ba, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Se, Sr, Zn, and 500 mg/L K in 5 % HNO ₃ Dilute 10 times prior to use	6610030000
Wavelength calibration solution, for ICP-OES and MP-AES	500 mL, contains 5 mg/L Al, As, Ba, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Se, Sr, Zn, and 50 mg/L K in 5 % HNO ₃ Ready to use	6610030100
Calibration blank solution for ICP-OES and MP-AES	500 mL 0 ppm, contains pure ASTM Type 1A water with 5 % HNO ₃ Suitable for use as a calibration blank or for dilution of the wavelength calibration concentrate Ready to use	5190-7001

IntelliQuant Calibration Standards for 5100/5110 SVDV/VDV ICP-OES

Agilent's IntelliQuant feature for the 5100/5110 Dual View ICP-OES identifies and calculates a semiquantitative concentration in a sample, expanding the capabilities of a classic ICP-OES analysis. This allows analysts to quickly check the semiquantitative concentration of many elements in their sample, without changing their routine methods or preparing extra multi-element standards, which can be technically challenging and time consuming.

IntelliQuant includes default calibrations, available for axial, radial and synchronous vertical dual view modes, which allow the estimation of up to 70 elements in a sample without the need to analyze any additional standards. If more accurate results are required, just update the default calibrations by using the multi-element IntelliQuant calibration standards (either individually or the complete kit). When measured, this updates the default IntelliQuant calibration for all 69 elements. These standards are ideal for labs requiring more accurate semiquantitative analysis without time consuming standard preparation.

For more details, please see Rapid Sample Assessment and Simplified Method Development with IntelliQuant, Agilent publication 5991-6876EN.

IntelliQuant Calibration Standards for 5100/5110 SVDV/VDV ICP-OES

Description	Comments	Part No.
IntelliQuant calibration kit, for 5110 DV ICP-OES	Contains four solutions that are used to update the presupplied IntelliQuant calibration to achieve a greater level of accuracy for semiquantitative analysis. Includes multi-element standard #1 (p/n 5190-9422), #2 (p/n 5190-9423), and #3 (p/n 5190-9424) plus the nitric acid blank (p/n 5190-7001)*	5190-9425
Individual IntelliQuant Standards		
IntelliQuant multi-element standard #1, 500 mL, 100 ppm (ready to use)	Multi-element standard #1 used to update the presupplied IntelliQuant calibration for semiquantitative analysis with 5110 DV ICP-OES. 500 mL bottle Contains 100 mg/L of Al, As, B, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cs, Cu, Dy, Er, Eu, Fe, Ga, Gd, Ho, In, K, La, Li, Lu, Mg, Mn, Na, Nd, Ni, P, Pb, Pr, Rb, Re, Sc, Se, Sm, Sr, Tb, Th, Tl, Tm, U, V, Y, Yb, and Zn in 5 % HNO ₃ .	5190-9422
IntelliQuant multi-element standard #2, 500 mL, 100 ppm (ready to use)	Multi-element standard #2 used to update the presupplied IntelliQuant calibration for semiquantitative analysis with 5110 DV ICP-OES. 500 mL bottle Contains 100 mg/L of Ag, Ge, Hf, Mo, Nb, Sb, Si, Sn, Ta, Ti, W, and Zr in 5 % HNO ₃ with trace HF.	5190-9423

(Continued)

IntelliQuant Calibration Standards for 5100/5110 SVDV/VDV ICP-OES

Description	Comments	Part No.
IntelliQuant multi-element standard #3, 500 mL, 100 ppm (ready to use)	Multi-element standard #3 used to update the presupplied IntelliQuant calibration for semiquantitative analysis with 5110 DV ICP-OES. 500 mL bottle Contains 100 mg/L of Au, Ir, Os, Pd, Pt, Rh, Ru, and Te in 10 % HCl.	5190-9424
IntelliQuant single element standard for Hg, 100 mL, 10 ppm (ready to use)	Single element Hg standard used to update the presupplied IntelliQuant calibration for semiquantitative analysis with 5110 DV ICP-OES. 100 mL bottle of 10 mg/L Hg in 5 % HNO ₃ .	5190-8575
Bottle calibration blank solution for ICP-OES, 500 mL, 0 ppm (ready to use)	Pure ASTM Type 1A water with 5 % HNO ₃ . 500 mL bottle. Suitable for use as a calibration blank when updating the presupplied IntelliQuant calibration for semiquantitative analysis with 5110 DV ICP-OES.	5190-7001

*A Hg standard is not part of this kit. If a Hg solution is required, it must be ordered as a separate line item

Multi-element Calibration Standards

Description	Part No.
Calibration mix 1 125 mL, contains 100 mg/L Sb, Mo, Sn, and Tl in 2 % HNO ₃ + 0.5 % HF	6610030500
Calibration mix 2 125 mL, contains 100 mg/L Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, Se, Tl, Th, U, V, and Zn in 5 % HNO ₃	6610030600
Calibration mix majors 125 mL, contains 500 mg/L Ca, Fe, K, Mg, and Na in 5 % HNO ₃	6610030700

TIPS AND TOOLS

Store standards at controlled room temperature per USP 35 (10.30.60). Do not freeze, heat, or expose to direct sunlight. Minimize exposure to moisture or high humidity.



Copper (Cu) standard, 5190-8280

1,000 µg/mL Single Element Standards for AA and MP-AES

Description	Matrix	Part No. 100 mL	Part No. 500 mL
Aluminum (Al)	5 % HCl	5190-8256	5190-8257
Antimony (Sb)	30 % HCl	5190-8258	5190-8259
Arsenic (As)	5 % HNO ₃	5190-8260	5190-8261
Barium (Ba)	5 % HNO ₃	5190-8262	5190-8263
Beryllium (Be)	5 % HNO ₃	5190-8264	5190-8265
Bismuth (Bi)	5 % HNO ₃	5190-8266	5190-8267
Boron (B)	H ₂ O	5190-8268	5190-8269
Cadmium (Cd)	5 % HNO ₃	5190-8270	5190-8271
Calcium (Ca)	5 % HNO ₃	5190-8272	5190-8273
Cesium (Ce)	5 % HNO ₃	5190-8274	
Chromium (Cr)	5 % HCl	5190-8275	5190-8276
Cobalt (Co)	5 % HNO ₃	5190-8277	5190-8278
Copper (Cu)	5 % HNO ₃	5190-8279	5190-8280
Gold (Au)	20 % HCl	5190-8282	5190-8283
Indium (In)	5 % HNO ₃	5190-8284	
Iron (Fe)	5 % HNO ₃	5190-8285	5190-8286
Lead (Pb)	5 % HNO ₃	5190-8287	5190-8288
Lithium (Li)	5 % HNO ₃	5190-8289	5190-8290
Magnesium (Mg)	5 % HNO ₃	5190-8291	5190-8292
Manganese (Mn)	5 % HNO ₃	5190-8293	5190-8294
Mercury (Hg)	5 % HNO ₃	5190-8295	5190-8296

(Continued)

1,000 µg/mL Single Element Standards for AA and MP-AES

Description	Matrix	Part No. 100 mL	Part No. 500 mL
Molybdenum (Mo)	1 % NH ₄ OH	5190-8297	
Nickel (Ni)	5 % HNO ₃	5190-8298	5190-8299
Palladium (Pd)	20 % HCl	5190-8300	5190-8301
Platinum (Pt)	20 % HCl	5190-8302	5190-8303
Potassium (K)	5 % HNO ₃	5190-8304	5190-8305
Selenium (Se)	5 % HNO ₃	5190-8306	5190-8307
Silicon (Si)	H ₂ O	5190-8308	
Silver (Ag)	5 % HNO ₃	5190-8309	5190-8310
Sodium (Na)	5 % HNO ₃	5190-8311	5190-8312
Strontium (Sr)	5 % HNO ₃	5190-8313	5190-8314
Tellurium (Te)	5 % HNO ₃	5190-8315	
Thallium (Tl)	5 % HNO ₃	5190-8316	5190-8317
Tin (Sn)	20 % HCl	5190-8318	5190-8319
Titanium (Ti)	H ₂ O	5190-8320	5190-8321
Vanadium (V)	5 % HNO ₃	5190-8323	5190-8324
Zinc (Zn)	5 % HNO ₃	5190-8325	5190-8326
Zirconium (Zr)	5 % HNO ₃	5190-8327	

TIPS AND TOOLS

The shelf life defines the time that the standard can be stored without undergoing physical or chemical change. The chemical stability and transpiration losses (water loss) determine shelf life. Replace standards well before the expiry date to ensure accuracy and minimize contamination risks.



Mixed palladium nitrate/magnesium nitrate,
5190-8340

Buffers/Ionization Suppressant for Flame AA

Supplied in 500 mL bottles

Description	Part No.
Cesium buffer solution Contains 1 % Cs (from carbonate) in 5 % nitric acid	5190-8343
Lanthanum buffer solution – 10 % 100,000 mg/L La in 5 % HNO ₃	5190-8801
Potassium buffer solution – 10 % 100,000 mg/L K in 5 % HNO ₃	5190-9420
Strontium buffer solution – 10 % 100,000 mg/L Sr in 5 % HNO ₃	5190-9419

Matrix Modifiers for Graphite Furnace AA

Description	Matrix	Part No.
Palladium nitrate, 0.1 % Pd, 100 mL	5 % HNO ₃	5190-8335
Palladium nitrate, 1 % Pd, 100 mL	10 % HNO ₃	5190-8336
Ammonium phosphate, 10 % NH ₄ H ₂ PO ₄ , 100 mL	2 % HNO ₃	5190-8337
Magnesium nitrate, 1 % Mg(NO ₃) ₂ , 100 mL	2 % HNO ₃	5190-8338
Nickel nitrate, 1 % Ni(NO ₃) ₂ , 100 mL	2 % HNO ₃	5190-8339
Palladium nitrate, magnesium nitrate, 750 µg/mL Pd, 500 µg/mL Mg(NO ₃) ₂ , 250 mL	2 % HNO ₃	5190-8340
Palladium nitrate, magnesium nitrate, 1,000 µg/mL Pd, 600 µg/mL Mg(NO ₃) ₂ , 250 mL	2 % HNO ₃	5190-8341
Ammonium phosphate, magnesium nitrate, 10 mg/mL, 600 µg/mL Mg(NO ₃) ₂ , 250 mL	2 % HNO ₃	5190-8342
Triton X-100 surfactant, 50 mL		CP3418

1,000 µg/mL Single Element Standards for ICP-OES and MP-AES

Description	Matrix	Part No. 100 mL	Part No. 500 mL
Aluminum (Al)	5 % HNO ₃	5190-8242	5190-8243
Antimony (Sb)	1 % HNO ₃ , trace tartaric acid	5190-8244	5190-8245
Arsenic (As)	5 % HNO ₃	5190-8246	5190-8247
Barium (Ba)	5 % HNO ₃	5190-8248	5190-8249
Beryllium (Be)	5 % HNO ₃	5190-8250	5190-8251
Bismuth (Bi)	5 % HNO ₃	5190-8252	5190-8253
Boron (B)	H ₂ O	5190-8254	5190-8255
Cadmium (Cd)	5 % HNO ₃	5190-9414	5190-8328

(Continued)

1,000 µg/mL Single Element Standards for ICP-OES and MP-AES

Description	Matrix	Part No. 100 mL	Part No. 500 mL
Calcium (Ca)	5 % HNO ₃	5190-8329	5190-8330
Cerium (Ce)	5 % HNO ₃	5190-8331	5190-8332
Cesium (Cs)	5 % HNO ₃	5190-8333	5190-8334
Chromium (Cr)	5 % HNO ₃	5190-8344	5190-8345
Cobalt (Co)	5 % HNO ₃	5190-8346	5190-8347
Copper (Cu)	5 % HNO ₃	5190-8348	5190-8349
Dysprosium (Dy)	5 % HNO ₃	5190-8350	5190-8351
Erbium (Er)	5 % HNO ₃	5190-8237	5190-8238
Europium (Eu)	5 % HNO ₃	5190-8239	5190-8240
Gadolinium (Gd)	5 % HNO ₃	5190-8241	5190-8456
Gallium (Ga)	5 % HNO ₃ , 0.5 % HCl	5190-8457	5190-8458
Germanium (Ge)	5 % HNO ₃ , trace HF	5190-8459	5190-8460
Gold (Au)	20 % HCl	5190-8461	5190-8462
Hafnium (Hf)	5 % HCl	5190-8463	5190-8464
Holmium (Ho)	5 % HNO ₃	5190-8465	5190-8466
Indium (In)	5 % HNO ₃	5190-8467	5190-8468
Iridium (Ir)	20 % HCl	5190-8469	5190-8470
Iron (Fe)	5 % HNO ₃	5190-8471	5190-8472
Lanthanum (La)	5 % HNO ₃	5190-8473	5190-8474
Lead (Pb)	5 % HNO ₃	5190-8475	5190-8476
Lithium (Li)	5 % HNO ₃	5190-8477	5190-8478
Lutetium (Lu)	5 % HNO ₃	5190-8479	5190-8480
Magnesium (Mg)	5 % HNO ₃	5190-8481	5190-8482
Manganese (Mn)	5 % HNO ₃	5190-8483	5190-8484
Mercury (Hg)	5 % HNO ₃	5190-8485	5190-8486
Molybdenum (Mb)	1 % NH ₄ OH	5190-8487	5190-8488
Neodymium (Nd)	5 % HNO ₃	5190-8489	5190-8490
Nickel (Ni)	5 % HNO ₃	5190-8491	5190-8492
Niobium (Nb)	2 % HF	5190-8493	5190-8494
Osmium (Os)	20 % HCl	5190-8495	5190-8496
Palladium (Pd)	5 % HNO ₃	5190-8497	5190-8498
Phosphorus (P)	5 % HNO ₃	5190-8499	5190-8500
Platinum (Pt)	20 % HCl	5190-8501	5190-8502
Potassium (K)	5 % HNO ₃	5190-8503	5190-8504

(Continued)

TIPS AND TOOLS

Use balances, not pipettes, for diluting. Try to dilute on a weight/weight basis using calibrated balances; the uncertainty of a balance is much lower than a pipette.

1,000 µg/mL Single Element Standards for ICP-OES and MP-AES

Description	Matrix	Part No. 100 mL	Part No. 500 mL
Praseodymium (Pr)	5 % HNO ₃	5190-8505	5190-8506
Rhenium (Re)	5 % HNO ₃	5190-8507	5190-8508
Rhodium (Rh)	20 % HCl	5190-8509	5190-8510
Rubidium (Rb)	5% HNO ₃	5190-8511	5190-8512
Ruthenium (Ru)	20 % HCl	5190-8513	5190-8514
Samarium (Sm)	5 % HNO ₃	5190-8515	5190-8516
Scandium (Sc)	5 % HNO ₃	5190-8517	5190-8518
Selenium (Se)	5 % HNO ₃	5190-8519	5190-8520
Silicon (Si)	H ₂ O	5190-8521	5190-8522
Silver (Ag)	5 % HNO ₃	5190-8523	5190-8524
Sodium (Na)	5 % HNO ₃	5190-8525	5190-8526
Strontium (Sr)	5 % HNO ₃	5190-8527	5190-8528
Sulfur (S)	H ₂ O	5190-8529	5190-8530
Tantalum (Ta)	2 % HF	5190-8531	5190-8532
Tellurium (Te)	30 % HCl	5190-8533	5190-8534
Terbium (Tb)	5 % HNO ₃	5190-8535	5190-8536
Thallium (Tl)	5 % HNO ₃	5190-8537	5190-8538
Thorium (Th)	5 % HNO ₃	5190-8539	5190-8540
Thulium (Tm)	5 % HNO ₃	5190-8541	5190-8542
Tin (Sn)	20 % HCl	5190-8543	5190-8544
Titanium (Ti)	H ₂ O	5190-8545	5190-8546
Tungsten (W)	5 % HNO ₃ , trace HF	5190-8547	5190-8548
Uranium (U)	5 % HNO ₃	5190-8549	5190-8550
Vanadium (V)	5 % HNO ₃	5190-8551	5190-8552
Ytterbium (Yb)	5 % HNO ₃	5190-8553	5190-8554
Yttrium (Y)	5 % HNO ₃	5190-8555	5190-8556
Zinc (Zn)	5 % HNO ₃	5190-8557	5190-8558
Zirconium (Zr)	5 % HCl	5190-8559	5190-8560

10,000 µg/mL Single Element Standards for ICP-OES and MP-AES

Description	Matrix	Part No. 100 mL	Part No. 500 mL
Aluminum (Al)	5 % HNO ₃	5190-8352	5190-8353
Antimony (Sb)	1 % HNO ₃ , 1 % tartaric acid	5190-8354	5190-8355
Arsenic (As)	5 % HNO ₃	5190-8356	5190-8357
Barium (Ba)	5 % HNO ₃	5190-8358	5190-8359
Beryllium (Be)	5 % HNO ₃	5190-8360	5190-8361
Bismuth (Bi)	5 % HNO ₃	5190-8362	5190-8363
Boron (B)	1 % NH ₄ OH	5190-8364	5190-8365
Cadmium (Cd)	5 % HNO ₃	5190-8366	5190-8367
Calcium (Ca)	5 % HNO ₃	5190-8368	5190-8369
Cerium (Ce)	5 % HNO ₃	5190-8370	5190-8371
Cesium (Cs)	5 % HNO ₃	5190-8372	5190-8373
Chromium (Cr)	5 % HNO ₃	5190-8374	5190-8375
Cobalt (Co)	5 % HNO ₃	5190-8376	5190-8377
Copper (Cu)	5 % HNO ₃	5190-8378	5190-8379
Dysprosium (Dy)	5 % HNO ₃	5190-8380	5190-8381
Erbium (Er)	5 % HNO ₃	5190-8382	5190-8383
Europium (Eu)	5 % HNO ₃	5190-8384	5190-8385
Gadolinium (Gd)	5 % HNO ₃	5190-8386	5190-8387
Gallium (Ga)	5 % HNO ₃ , 0.5 % HCl	5190-8388	5190-8389
Germanium (Ge)	5 % HNO ₃ , trace HF	5190-8390	5190-8391
Gold (Au)	20 % HCl	5190-8392	5190-8393
Hafnium (Hf)	5 % HCl	5190-8394	5190-8395
Holmium (Ho)	5 % HNO ₃	5190-8396	5190-8397
Indium (In)	5 % HNO ₃	5190-8398	5190-8399
Iridium (Ir)	20 % HCl	5190-8400	5190-8401
Iron (Fe)	5 % HNO ₃	5190-8402	5190-8403
Lanthanum (La)	5 % HNO ₃	5190-8404	5190-8405
Lead (Pb)	5 % HNO ₃	5190-8406	5190-8407
Lithium (Li)	5 % HNO ₃	5190-8408	5190-8409
Lutetium (Lu)	5 % HNO ₃	5190-8410	5190-8411
Magnesium (Mg)	5 % HNO ₃	5190-8412	5190-8413
Manganese (Mn)	5 % HNO ₃	5190-8414	5190-8415
Mercury (Hg)	5 % HNO ₃	5190-8416	5190-8417
Molybdenum (Mb)	1% NH ₄ OH	5190-8418	5190-8419
Neodymium (Nd)	5 % HNO ₃	5190-8420	5190-8421
Nickel (Ni)	5 % HNO ₃	5190-8422	5190-8423

(Continued)

TIPS AND TOOLS

"Matrix matching" of major sample components can be valuable with many spectrometric techniques. Our 1 % (10,000 µg/mL) standards work well as stock materials for matrix matching.

10,000 µg/mL Single Element Standards for ICP-OES and MP-AES

Description	Matrix	Part No. 100 mL	Part No. 500 mL
Niobium (Nb)	2 % HF	5190-8424	5190-8425
Palladium (Pd)	10 % HNO ₃	5190-8426	5190-8427
Phosphorus (P)	5 % HNO ₃	5190-8428	5190-8429
Platinum (Pt)	20% HCl	5190-8430	5190-8431
Potassium (K)	5 % HNO ₃	5190-8432	5190-8433
Praseodymium (Pr)	5 % HNO ₃	5190-8434	5190-8435
Rhenium (Re)	5 % HNO ₃	5190-8436	5190-8437
Rhodium (Rh)	20 % HCl	5190-8438	5190-8439
Rubidium (Rb)	5 % HNO ₃	5190-8440	5190-8441
Ruthenium (Ru)	20 % HCl	5190-8442	5190-8443
Samarium (Sm)	5 % HNO ₃	5190-8444	5190-8445
Scandium (Sc)	5 % HNO ₃	5190-8446	5190-8447
Selenium (Se)	5 % HNO ₃	5190-8448	5190-8449
Silicon (Si)	H ₂ O	5190-8450	5190-8451
Silver (Ag)	5 % HNO ₃	5190-8452	5190-8453
Sodium (Na)	5 % HNO ₃	5190-8454	5190-8206
Strontium (Sr)	5 % HNO ₃	5190-8207	5190-8208
Sulfur (S)	H ₂ O	5190-8209	5190-8210
Tantalum (Ta)	2 % HF	5190-8211	5190-8212
Tellurium (Te)	30 % HCl	5190-8213	5190-8214
Terbium (Tb)	5 % HNO ₃	5190-8215	5190-8216
Thallium (Tl)	5 % HNO ₃	5190-8217	5190-8218
Thulium (Tm)	5 % HNO ₃	5190-8219	5190-8220
Tin (Sn)	20 % HCl	5190-8221	5190-8222
Titanium (Ti)	H ₂ O	5190-8224	5190-8225
Tungsten (W)	5 % HNO ₃ , trace HF	5190-8226	5190-8227
Vanadium (V)	5 % HNO ₃	5190-8228	5190-8229
Ytterbium (Yb)	5 % HNO ₃	5190-8230	5190-8231
Yttrium (Y)	5 % HNO ₃	5190-8232	5190-8233
Zinc (Zn)	5 % HNO ₃	5190-8234	5190-8235
Zirconium (Zr)	5 % HNO ₃	5190-8236	

Environmental Standards for ICP-OES

Description	Application	Part No.
INTF-A quality control standard, 500 mL Contains Al, Ca, and Mg at 5,000 mg/L; Fe at 2,000 mg/L in 20 % HCl, 500 mL	Interference check standard, for preparation of US EPA CLP standards ICSA and ICSAB	5190-8599
ICV quality control standard, in 5 % HNO ₃ with traces of tartaric acid, 500 mL Contains Ca, Mg, K & Na at 500 mg/L; Al and Ba at 200 mg/L; Fe at 100 mg/L; Sb at 60 mg/L; Co & V at 50 mg/L; Ni at 40 mg/L; Cu at 25 mg/L; Zn at 20 mg/L; Mn at 15 mg/L; As, Cr, Ag & Tl at 10 mg/L; Be, Cd, Pb, and Se at 5 mg/L	Initial/continuing calibration verification standard, for US EPA CLP analyses	5190-9408
QCSTD-27 quality control standard, 100 mL Contains Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Si, Ag, Sr, Na, Tl, Ti, V, and Zn at 100 mg/L	Quality control standard, for environmental analyses	5190-9418

Internal Standard/Ionization Suppressant for ICP-MS/ICP-OES/MP-AES

Description	Unit	Part No.
Cesium buffer solution Contains 1 % Cs (from carbonate) in 5 % nitric acid	500 mL bottle	5190-8343
Yttrium solution – 1 % 10,000 mg/L in 5 % nitric acid Also used for instrument optimization	500 mL bottle	5190-8233
ICP internal standard contains 100 mg/L ⁶ Li, Sc, Y, In, Tb, and Bi in 5 % HNO ₃	125 mL bottle	6610030400
Multi-element internal standard (mix 4) Contains 50 µg/mL ⁶ Li, Sc, 25 µg/mL Ge, Te, 10 µg/mL Bi, In, Tb in 2 % HNO ₃ with trace HF	100 mL bottle	5190-8593

TIPS AND TOOLS

Don't underestimate the importance of good mixing when preparing standards.
A simple swirl is not enough. Make a habit of inverting and shaking the container several times.

ICP-MS Standards

Installation and Check-out Solutions

Description	Kit Contents	Part No.
ICP-MS checkout solutions for 7700/8800 and 7500 ce/cx/cs, system installation kit	Contains tuning solution, dual mode (1), dual mode (2), wash, and water blank solutions	5185-5850
ICP-MS Checkout Solution for 7500s system installation kit	Contains tuning solution, dual mode (1), dual mode (2), abundance sensitivity (1), abundance sensitivity (2), detection limit solution, high sensitivity tune, wash, and water blank solutions	5184-3564
ICP-MS Checkout Solution for 7500a 7500i /i/c system installation kit	Contains tuning solution, dual mode (1), dual mode (2), wash, and water blank solutions	5184-3565

Tuning Solution

Description	Part No.
PA tuning solution kit Tuning 1: 20 mg/L each of Zn, Be, Cd, and As; 10 mg/L each of Ni, Pb, and Mg; 5 mg/L each of Tl, Na, Al, U, Cu, Th, Ba, Co, Sr, V, Cr, Mn, ⁶ Li, Sc, In, Lu, and Bi; 2.5 mg/L each of Y, and Yb; matrix 2-5 % HNO ₃ Tuning 2: 10 mg/L each of Mo, Sb, Sn, Ge, Ru, and Pd; 5 mg/L of Ti, and Ir; matrix 10 % HCl and 1 % HNO ₃ with trace amounts of HF	5188-6524
PA tuning solution kit Li, Y, Ce, Tl and Co; 100 mL, 10 mg/L; matrix 2 % HNO ₃	5188-6564
PA tuning solution kit Li, Mg, Y, Ce, Tl and Co; 100 mL, 10 mg/L; matrix 2 % HNO ₃	5190-0465
Tuning solution Li, Y, Ce, Tl and Co; 2 x 500 mL, 10 µg/L; matrix 2 % HNO ₃	5184-3566
Tuning solution Li, Mg, Y, Ce, Tl, and Co; 2 x 500 mL, 1 µg/L; matrix 2 % HNO ₃	5185-5959

Aqueous Internal Standards

Supplied in 100 mL bottles

Description	Matrix	Part No.
Aqueous internal standard, 10 µg/mL iridium (Ir)	2% HCl	5190-8588
Aqueous internal standard, 10 µg/mL lithium (⁶ Li)	2 % HNO ₃	5190-8589
Aqueous internal standard, 10 µg/mL terbium (Tb)	2 % HNO ₃	5190-8590
Aqueous internal standard, 10 µg/mL lutetium (Lu)	2 % HNO ₃	5190-8591
Aqueous internal standard, 10 µg/mL germanium (Ge)	2% HNO ₃ , trace HF	5190-8592

Multi-Element Calibration Standards

Description	Part No.
Multi-element calibration standard-1, 100 mL: 10 mg/L of Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sc, Sm, Tb, Th, Tm, Y, Yb; matrix 5 % HNO ₃	8500-6944
Multi-element calibration standard-2A, 2 x 100 mL: 1 bottle: 10 mg/L of Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cs, Cu, Fe, Ga, K, Li, Mg, Mn, Na, Ni, Pb, Rb, Se, Sr, Ti, U, V, Zn; matrix 5 % HNO ₃ 2 bottles: 10mg/L Hg in 5 % HNO ₃	8500-6940
Multi-element calibration standard-3, 100 mL: 10 mg/L of Sb, Au, Hf, Ir, Pd, Pt, Rh, Ru, Te, Sn; matrix 10 % HCl/1 % HNO ₃	8500-6948
Multi-element calibration standard-4, 100 mL: 10 mg/L of B, Ge, Mo, Nb, P, Re, S, Si, Ta, Ti, W, Zr; matrix HNO ₃ /trace HF	8500-6942

10 µg/mL Single Element Standards for ICP-MS

Description	Matrix	Part No.
Aluminum (Al)	5 % HNO ₃	5190-8561
Antimony (Sb)	1 % HNO ₃ , trace tartaric acid	5190-8562
Arsenic (As)	2 % HNO ₃	5190-8563
Barium (Ba)	2 % HNO ₃	5190-8564
Beryllium (Be)	2 % HNO ₃	5190-8565
Boron (B)	H ₂ O	5190-8566
Cadmium (Cd)	2 % HNO ₃	5190-8567
Chromium (Cr)	2 % HNO ₃	5190-8568
Copper (Cu)	2 % HNO ₃	5190-8569
Iridium (Ir)	2 % HCl	5190-8570
Lead (Pb)	2 % HNO ₃	5190-8571
Lithium (Li)	2 % HNO ₃	5190-8572
Lutetium (Lu)	2 % HNO ₃	5190-8573
Manganese (Mn)	2 % HNO ₃	5190-8574
Mercury (Hg)	5 % HNO ₃	5190-8575
Nickel (Ni)	2 % HNO ₃	5190-8576
Platinum (Pt)	5 % HCl	5190-8577
Scandium (Sc)	2 % HNO ₃	5190-8578
Selenium (Se)	2 % HNO ₃	5190-8579
Silver (Ag)	2 % HNO ₃	5190-8580
Strontium (Sr)	2 % HNO ₃	5190-8581
Terbium (Tb)	2 % HNO ₃	5190-8582
Tin (Sn)	5 % HCl	5190-8583
Uranium (U)	2 % HNO ₃	5190-8584
Vanadium (V)	5 % HNO ₃	5190-8585
Yttrium (Y)	2 % HNO ₃	5190-8586
Zinc (Zn)	2 % HNO ₃	5190-8587

TIPS AND TOOLS

10 and 100 µg/mL standards are ideal for ICP-MS, GFAA, or other trace level elemental techniques

10 and 100 µg/mL Single Element Standards for ICP-OES and ICP-MS

Description	Matrix	Part No.
Bismuth (Bi), 10 µg/mL	2 % HNO ₃	8500-6936
Cobalt (Co), 10 µg/mL	2 % HNO ₃	8500-6947
Gold (Au), 100 µg/mL	2 % HCl	8500-7000
Indium (In), 10 µg/mL	2 % HNO ₃	8500-6946
Mercury (Hg), 10 µg/mL	5 % HNO ₃	8500-6941
Rhodium (Rh), 10 µg/mL	2 % HCl	8500-6945

Interference Check Mixes

Description	Part No.
6020 interference check solution A, 100 mL: 20,000 mg/L of Cl; 3,000 mg/L of Ca; 2,500 mg/L each of Fe and Na; 2,000 mg/L of C; 1,000 mg/L each of Al, Mg, P, K, and S; 20 mg/L each of Ti and Mo; matrix 5 % HNO ₃ with trace amounts of HF	5188-6526
6020 interference check solution B, 100 mL: 20 mg/L each of Cr, Co, Cu, Mn, Ni, and V; 10 mg/L each of As, Cd, Se, and Zn; 5 mg/L of Ag; matrix 5 % HNO ₃	5188-6527

Environmental Standards

Description	Part No.
Environmental calibration standard, 100 mL 1,000 mg/L of Fe, K, Ca, Na, and Mg; 10 mg/L of Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Ti, V, Zn, Th, and U; matrix 5 % HNO ₃ with trace amounts of tartaric acid	5183-4688
Initial calibration verification standard, 100 mL 1,000 mg/L of Fe, K, Ca, Na, and Mg; 100 mg/L of Sr; 10 mg/L of Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Ti, V, Zn, Th, and U; matrix 5 % HNO ₃ with trace amounts of tartaric acid	5183-4682
Internal standard mix, 100 mL 100 mg/L of ⁶ Li, Sc, Ge, Rh, In, Tb, Lu, and Bi; matrix 10 % HNO ₃	5188-6525
Internal standard mix, 100 mL 10 mg/L of ⁶ Li, Sc, Ge, Y, In, Tb, and Bi; matrix 5 % HNO ₃	5183-4681
Environmental spike mix, 100 mL 1,000 mg/L of Fe, K, Ca, Na, and Mg; 100 mg/L of Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Ti, V, Zn, and U; matrix 5% HNO ₃	5183-4687

EPA Method Standards

Description	Matrix	Volume (mL)	Similar to PerkinElmer Part No.	Part No.
ICS interference A for EPA 200.7 Contains 5,000 µg/mL Al, Ca, and Mg; 2,000 µg/mL Fe	20 % HCl	500		5190-8599
CLP instrument calibration solution 1 Contains 5,000 µg/mL Ca, Mg, K, and Na	5 % HNO ₃	125	N9300218	5190-9409
CLP instrument calibration mix 4 Contains 100 µg/mL As and Tl; 50 µg/mL Cd and Se; 30 µg/mL Pb	5 % HNO ₃	125	N9300221	5190-9412

Initial Calibration Verification Standards

Description	Matrix	Volume (mL)	Similar to PerkinElmer Part No.	Part No.
Alternate trace metal drinking pollution and wastewater standards I for ICP and AA Contains 20 µg/mL Al, Fe, and V; 10 µg/mL Co, Cu, Mn, Ni, and Zn; 5 µg/mL Sb, Be, and Tl	2 % HNO ₃	100	N9300214	5190-9406
Alternate trace metal drinking pollution and wastewater standards II for ICP and AA Contains 500 µg/mL Ca and Na; 100 µg/mL Mg and K	2 % HNO ₃	100	N9300215	5190-9407
Initial calibration verification for ICP, AA, or GFAA Contains 500 µg/mL Ca, K, Mg, and Na; 200 µg/mL Al and Ba; 100 µg/mL Fe; 60 µg/mL Sb; 50 µg/mL Co and V; 40 µg/mL Ni; 25 µg/mL Cu; 20 µg/mL Zn; 15 µg/mL Mn; 10 µg/mL Ag, As, Cr, and Tl; 5 µg/mL Be, Cd, and Se; 3 µg/mL Pb	5 % HNO ₃ , trace tartaric acid	500	N9300224	5190-9408



ICP-MS Semi-Quant standard, 5190-8594

Semi-Quant Standards for ICP-MS

Description	Matrix	Part No.
ICP-MS semiquantitative standard I Contains 10 µg/mL Ag, Al, As, Ba, Bi, Ca, Cd, Ce, Dy, Er, Eu, Ga, Gd, Ho, La, Lu, Mg, Na, Nd, P, Pb, Pr, Rb, Sc, Se, Sm, Sr, Tb, Th, Tl, Tm, U, Y, and Yb	40 % aqua regia	5190-8594
ICP-MS semiquantitative standard II Contains 10 µg/mL Au, B, Be, Co, Cr, Cu, Fe, Ge, Hf, Ir, K, Li, Mn, Mo, Nb, Ni, Os, Pd, Pt, Re, Rh, Ru, Sb, Si, Sn, Ta, Te, Ti, V, W, Zn, and Zr	40 % aqua regia, trace HF	5190-8595

Wear Metal and Metallo-organic Standards

- Highest quality metallo-organic mixes in the industry manufactured in accordance with the requirements of ISO Guide 34 and ISO 17025
- Accuracy ensured by quality testing with NIST Standard Reference Materials
- CoA includes trace metal concentrations confirmed by ICP-OES

Wear Metal Standards

Description	Unit ($\mu\text{g/g}$)	Matrix	Part No.
A21 Wear metal standards, 100 g Contains Ag, Al, B, Ba, Ca, Cd, Cr, Cu, Fe, Mg, Mn, Mo, Na, Ni, P, Pb, Si, Sn, Ti, V, and Zn	100	75 cSt hydrocarbon oil	5190-8603
	300	75 cSt hydrocarbon oil	5190-8604
	500	75 cSt hydrocarbon oil	5190-8605
	900	75 cSt hydrocarbon oil	5190-8706
A21+K Wear metal standards, 100 g Contains all A21 elements plus K	100	75 cSt hydrocarbon oil	5190-8710
	300	75 cSt hydrocarbon oil	5190-8711
	500	75 cSt hydrocarbon oil	5190-8712
	900	75 cSt hydrocarbon oil	5190-8713

Base Oil and Solvents

Description	Matrix	Quantity	Part No.
Base mineral oil, < 1 µg/g Used for blending and preparation of calibration standards for spectrometric analysis of metals in hydrocarbon/petrochemical samples.	75 cSt mineral oil	500 mL 1/2 gal	5190-8715 5190-8716
V-Solv solvent Used for diluting metallo-organic standards, oils and other organic solutions when preparing for spectrometric analysis of metals in hydrocarbon/petrochemical samples. Use as a matrix blank and as a diluent.	Proprietary solvent	1 gal	5190-8717
Biodiesel blank Excellent matrix match for almost all biodiesel fuels. Use as calibration blanks for analysis of metals or sulfur in biodiesel.	B100 biodiesel	100 mL 500 mL	5190-8718 5190-8719

TIPS AND TOOLS

Many of these compounds are sulfonate-based, and therefore contain high levels of sulfur. If absence of sulfur is important for your application, use sulfur-free standards.

Internal Standard for Oil Analysis (200 g)

Description	Matrix	Part No.
Cobalt internal standard Contains 5,000 µg/g Co	Hydrocarbon oil	5190-8714

Single Element Standards in Hydrocarbon Oil, 50 g

Description	Matrix	Conc. (µg/g)	Part No.
Aluminum (Al)	75 cSt hydrocarbon oil	1,000	5190-8731
		5,000	5190-8732
Antimony (Sb)	75 cSt hydrocarbon oil	1,000	5190-8733
		5,000	5190-8734
Arsenic (As)	75 cSt hydrocarbon oil	1,000	5190-8735
Barium (Ba)	75 cSt hydrocarbon oil	1,000	5190-8736
		5,000	5190-8737
Beryllium (Be)	75 cSt hydrocarbon oil	1,000	5190-8738
Bismuth (Bi)	75 cSt hydrocarbon oil	1,000	5190-8739
Boron (B)	75 cSt hydrocarbon oil	1,000	5190-8740
		5,000	5190-8741
Cadmium (Cd)	75 cSt hydrocarbon oil	1,000	5190-8742
		5,000	5190-8743
Calcium (Ca)	75 cSt hydrocarbon oil	1,000	5190-8744
		5,000	5190-8745
Cerium (Ce)	75 cSt hydrocarbon oil	1,000	5190-8746
		5,000	5190-8747
Chromium (Cr)	75 cSt hydrocarbon oil	1,000	5190-8748
		5,000	5190-8749
Cobalt (Co)	75 cSt hydrocarbon oil	1,000	5190-8750
		5,000	5190-8751
Copper (Cu)	75 cSt hydrocarbon oil	1,000	5190-8752
		5,000	5190-8753
Iron (Fe)	75 cSt hydrocarbon oil	1,000	5190-8754
		5,000	5190-8755
Lanthanum (La)	75 cSt hydrocarbon oil	1,000	5190-8756
		5,000	5190-8757
Lead (Pb)	75 cSt hydrocarbon oil	1,000	5190-8758
		5,000	5190-8759
Lithium (Li)	75 cSt hydrocarbon oil	1,000	5190-8760
		5,000	5190-8761
Magnesium (Mg)	75 cSt hydrocarbon oil	1,000	5190-8762
		5,000	5190-8763

(Continued)

TIPS AND TOOLS

Thorough mixing is especially important when using oil-based standards. Due to their viscosity they are difficult to homogenize. For best results, always mix the standard by vigorously shaking the container for at least a few minutes. Alternately, shake the container and sonicate the standard in an ultrasonic bath for a few minutes.

TIPS AND TOOLS

Store metallo-organic standards in a cool, dry place.

Single Element Standards in Hydrocarbon Oil, 50 g

Description	Matrix	Conc. (µg/g)	Part No.
Manganese (Mn)	75 cSt hydrocarbon oil	1,000	5190-8764
		5,000	5190-8765
Mercury (Hg)	75 cSt hydrocarbon oil	1,000	5190-8766
Molybdenum (Mo)	75 cSt hydrocarbon oil	1,000	5190-8767
		5,000	5190-8768
Nickel (Ni)	75 cSt hydrocarbon oil	1,000	5190-8769
		5,000	5190-8770
Phosphorus (P)	75 cSt hydrocarbon oil	1,000	5190-8771
		5,000	5190-8772
Potassium (K)	75 cSt hydrocarbon oil	1,000	5190-8773
		5,000	5190-8774
Scandium (Sc)	75 cSt hydrocarbon oil	1,000	5190-8775
Selenium (Se)	75 cSt hydrocarbon oil	1,000	5190-8776
Silicon (Si)	75 cSt hydrocarbon oil	1,000	5190-8777
		5,000	5190-8778
Silver (Ag)	75 cSt hydrocarbon oil	1,000	5190-8779
		5,000	5190-8780
Sodium (Na)	75 cSt hydrocarbon oil	1,000	5190-8781
		5,000	5190-8782
Strontium (Sr)	75 cSt hydrocarbon oil	1,000	5190-8783
Sulfur (S)	75 cSt hydrocarbon oil	1,000	5190-8784
		5,000	5190-8785
Thallium (Tl)	75 cSt hydrocarbon oil	1,000	5190-8786
Tin (Sn)	75 cSt hydrocarbon oil	1,000	5190-8787
		5,000	5190-8788
Titanium (Ti)	75 cSt hydrocarbon oil	1,000	5190-8789
		5,000	5190-8790
Tungsten (W)	75 cSt hydrocarbon oil	1,000	5190-8791
		5,000	5190-8792
Vanadium (V)	75 cSt hydrocarbon oil	1,000	5190-8793
		5,000	5190-8794
Yttrium (Y)	75 cSt hydrocarbon oil	1,000	5190-8795
		5,000	5190-8796
Zinc (Zn)	75 cSt hydrocarbon oil	1,000	5190-8797
		5,000	5190-8798
Zirconium (Zr)	75 cSt hydrocarbon oil	1,000	5190-8799
		5,000	5190-8800

Biodiesel Standards

Metals in Biodiesel Standards

- Formulated specifically for analysis of metals in biodiesel fuel to ASTM D6751 and EN14214
- Matrix is 100 % biodiesel to eliminate matrix variations
- Made from soybean oil, which is an excellent matrix match for most biodiesels

Metals in Biodiesel Standards, 100 g

Description	Matrix	Conc. ($\mu\text{g/g}$)	Part No.
Metals additives standard, MA5 Contains Ba, Ca, Mg, P, and Zn	75 cSt hydrocarbon oil	900	5190-8720
		5	5190-8721
Metals in biodiesel standard Contains Ca, K, Mg, Na, and P	B100 biodiesel	10	5190-8722
		20	5190-8723

Sulfur in Biodiesel Standards

- Formulated specifically for analysis of sulfur in biodiesel fuel to ASTM D2622, D4294, D5453, D6751, and others
- Matrix is 100 % biodiesel to eliminate matrix variations
- Made from soybean oil, which is an excellent matrix match for most biodiesels

Sulfur in Biodiesel Standards

Supplied in 100 mL bottles

Description	Matrix	Conc. ($\mu\text{g/g}$)	Part No.
Sulfur in biodiesel standard Contains S	B100 biodiesel	10	5190-8724
		15	5190-8725
		20	5190-8726
		25	5190-8727
		50	5190-8728
		100	5190-8729
		500	5190-8730

ICP-OES SUPPLIES

ICP-OES Torches

Available in a wide range of styles from 0 to 3 slots, depending on instrument and application needs. The slots in the side of the torch allow the plasma to be viewed through the slot and not the quartz. This ensures the best performance, while maintaining optimum shielding of the plasma from entrained air. Torches without slots are recommended for fusions and high TDS samples. One-slot torches are the standard torch for aqueous solutions. Three-slot torches are typically used for organic analysis.



ICP-OES torch, demountable, 1-slot, 8003-0344



ICP-OES torch, demountable, 1-slot, 8003-0346



ICP-OES torch, demountable, 3-slot, 8003-0347



ICP-OES torch, demountable, short, 8003-0348



O-ring kit, 8003-0360



O-ring kit, for vertical torch 8003-0361

Torches and Supplies

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 8x00	Torch, demountable, 1-slot, using 1-piece quartz tubing for plasma and auxiliary gas flow	N0780130	8003-0344
Optima 8x00	Torch, demountable, 0-slot, using 1-piece quartz tubing for plasma and auxiliary gas flow	N0780133	8003-0470
Optima 8x00	Torch, demountable, 3-slot, using 1-piece quartz tubing for plasma and auxiliary gas flow	N0780132	8003-0345
Optima 2/4/5/7x00 DV	Torch, demountable, 1-slot, using 1-piece quartz tubing for plasma and auxiliary gas flow	N0770338	8003-0346
Optima 2/4/5/7x00 DV	Torch, demountable, 3-slot, using 1-piece quartz tubing for plasma and auxiliary gas flow	N0772005	8003-0347
Optima 2/4/5/7x00 DV	Torch, demountable, 0-slot, short version, using 1-piece quartz tubing for plasma and auxiliary gas flow	N0770344	8003-0348
Optima 8x00	O-ring kit, complete, includes all O-rings used in the demountable torch	N0780437	8003-0359
Optima 2/4/5/7x00 DV	O-ring kit, complete, includes all O-rings used in the demountable torch	N0770437	8003-0360
Optima 4300V/5300V/7300V	O-ring kit, complete, for vertical torch	N0770916	8003-0361

(Continued)



Torch igniter tape, copper, 8003-0362



Torch igniter tape, copper, squares, 8003-0363

Torches and Supplies

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 8x00	Torch igniter tape, copper, 50 pcs	N0781097	8003-0362
Optima 2/4/5/7x00 DV	Torch igniter tape, copper, 120 squares	N0775297	8003-0363
Optima 2/4/5/7x00 DV	Torch bonnet for Optima, used as spacer between torch and RF coil	N0775289	8003-0364

Quick Change Torch Modules

Complete torch and sample introduction module including single-slot demountable torch, mounting block, 2 mm alumina injector, spray chamber and nebulizer.

Having a second module provides a convenient and quick way to change the sample introduction system when switching between different sample types.

Quick Change Torch Modules

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 8x00	Quick-change torch module Includes glass cyclonic spray chamber and concentric nebulizer	N0780607	8003-0336
Optima 8x00	Quick-change torch module Includes inert Scott spray chamber and GemTip Cross-Flow II nebulizer	N0780606	8003-0339
Optima 2x00/4x00/5x00/7x00/8x00	Mounting block, for quick-change torch, does not include torch, injector, spray chamber, or nebulizer	N0770600	8003-0338
Optima 2x00/4x00/5x00/7x00	Quick-change torch module Includes inert glass cyclonic spray chamber and concentric nebulizer	N0770607	8003-0337
Optima 2x00/4x00/5x00/7x00	Quick-change torch module Includes Scott spray chamber and GemTip Cross-Flow II nebulizer	N0770606	8003-0340
Optima 4300V/5300V/7300V/DV	Quick-change torch module for HF analysis Includes GemCone high dissolved solids nebulizer, alumina 2.0 mm id injector, quartz 3-slot torch, HF-resistant baffled cyclonic spray chamber.	N0770911	8003-0342
Optima 4300V/5300V/7300V	Quick-change torch module for oil analysis. Includes GemCone nebulizer, alumina 1.2 mm id injector, quartz 3-slot torch, baffled cyclonic spray chamber.	N0770910	8003-0343

AGILENT SUPPLIES FOR PerkinElmer ICP-OES



Injector, alumina, 1.2 mm id, 8003-0365



Injector, alumina, 2.0 mm id, 8003-0366



Top: Injector, quartz, 2.0 mm id, 8003-0374
Bottom: Injector, quartz, 0.8 mm id, 8003-0372

TIPS & TOOLS

Alumina injectors are corrosion-resistant to all mineral acids, including HF and aqua regia, but they can also be used with less volatile organic solvents, e.g., xylene. The 2.0 mm id alumina injector is the standard injector, but a range of other sizes are available.

TIPS & TOOLS

Quartz injectors are recommended for organic solvents and non-HF matrices. Use narrow-bore injectors for more volatile organic solvents such as gasoline.

Torch Injectors

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 8x00	Injector, alumina, 2.0 mm id	N0781014	8003-0366
Optima 8x00	Injector, quartz, 2.0 mm id	N0781050	8003-0370
Optima 8x00	Injector, quartz, 3.0 mm id	N0781017	8003-0371
Optima 8x00	Injector, alumina, 1.2 mm id	N0781015	8003-0952
Optima 8x00	Injector, alumina, 1.2 mm id (entire length of tube)	N0781007	8003-0365
Optima 8x00	Injector, quartz, 1.2 mm id	N0781019	8003-0369
Optima 8x00	Injector, quartz, 0.8 mm id	N0781018	8003-0368
Optima 2x00/4x00/ 5x00/7x00 DV	Injector, alumina, 2.0 mm id	N0775177	8003-0453
Optima 2x00/4x00/ 5x00/7x00 DV	Injector, quartz, 2.0 mm id	N0775014	8003-0374
Optima 2x00/4x00/ 5x00/7x00 DV	Injector, quartz, 3.0 mm id	N0775224	8003-0375
Optima 2x00/4x00/ 5x00/7x00 DV	Injector, alumina, 1.2 mm id (entire length of tube)	N0776093	8003-0367
Optima 2x00/4x00/ 5x00/7x00 DV	Injector, quartz, 1.2 mm id	N0775226	8003-0373
Optima 2x00/4x00/ 5x00/7x00	Injector, quartz, 0.8 mm id	N0775225	8003-0372

Injector Support Adaptors

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 4300V/ 5300V/7300V	Injector support adaptor, bottom, for cyclonic spray chambers	N0771526	8003-0376
Optima 4300V/ 5300V/7300V	Injector support adaptor, top, for cyclonic spray chambers	N0771527	8003-0377
Optima 2x00/4x00/ 5x00/7x00/DV/8x00	O-ring kit, for injector support adapter	N0770438	8003-0378

AGILENT SUPPLIES FOR PerkinElmer ICP-OES



OneNeb inert concentric nebulizer, 8003-0951



Nebulizer, GemCone, 8003-0321



Sample capillary adapter, 8003-0322



Nebulizer, GemTip, Cross-Flow II, 8003-0325

Nebulizers and Supplies

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 2x00/ 4x00/5x00/ 7x00 DV/8x00	Nebulizer, OneNeb, inert concentric nebulizer Includes sample connector and quick-release gas connector. Ideal for routine analysis of samples up to 25% TDS with good precision and better sensitivity than a SeaSpray; inert construction makes it suitable for most solution types. OneNeb nebulizer requires an end cap (8003-0335) for use with the Scott spray chamber	Not Applicable	8003-0951
Optima 2x00/ 3x00 XL/ 3x00 DV/ 3000SCX/ 4x00/5x00/ 7x00/8x00	Nebulizer, Conikal Includes Ezyfit sample connector (0.75 mm id x 700 mm) and EzyLok gas connector. For routine analysis of organic solvents and samples to 5% TDS.	N0777487	2010106800
Optima 2x00/ 4x00/5x00/ 7x00/8x00	Nebulizer, GemCone GemCone nebulizers require an end cap for Scott spray chambers.	N0770358	8003-0320
Optima 2x00/ 4x00/5x00/ 7x00/8x00	Nebulizer, GemCone, high dissolved solids For samples (up to 20%). Allows you to handle samples with higher dissolved solids concentration than a Cross-Flow nebulizer. GemCone nebulizers require an end cap (8003-0335) for use with Scott spray chambers.	N0690670	8003-0321
Optima 2x00/ 4x00/5x00/ 7x00/8x00	Sample capillary adapter, for GemCone nebulizer	N0371505	8003-0322
Optima 2x00/ 4x00/5x00/ 7x00/8x00	Tubing, quick-disconnect with Swagelok, for GemCone nebulizer	N0770336	8003-0324
Optima 8000	Nebulizer, GemTip, Cross-Flow II, for analysis of strong mineral acids and samples with less than 5% dissolved solids. Features chemically resistant GemTips made of sapphire and ruby in a chemically resistant end cap.	N0780546	8003-0325
Optima 2x00/ 4x00/5x00/7x00	Nebulizer, GemTip, Cross-Flow II, for analysis of strong mineral acids and samples with less than 5% dissolved solids. Features chemically resistant GemTips made of sapphire and ruby in a chemically resistant end cap.	N0770546	8003-0326

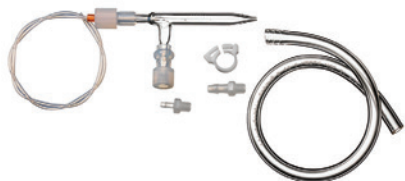
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AGILENT SUPPLIES FOR PerkinElmer ICP-OES

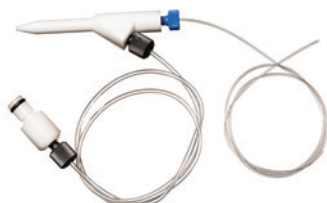
Nebulizers and Supplies



GemTip Cross-Flow II nebulizer tip kit, 8003-0328



Nebulizer, type C1, for samples with high dissolved solids, for Optima 5/7/8x00, 1.0 mL/min uptake, 8003-0461



Nebulizer, Mira Mist, PEEK, 8003-0974

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 8x00	Nebulizer, GemTip, Cross-Flow II tip kit Includes clear sapphire and red ruby argon tips for maximum corrosion resistance. The tips are constructed of PEEK with the gem insert.	N0780676	8003-0328
Optima 2x00/ 4x00/5x00/7x00	Nebulizer, GemTip, Cross-Flow II tip kit Includes clear sapphire and red ruby argon tips for maximum corrosion resistance. The tips are constructed of PEEK with the gem insert.	N0690676	8003-0327
Optima	Replacement Cross-Flow nebulizer tips, GemTip Not compatible with Cross-Flow II nebulizers	N0580624	8003-0454
Optima 5/7/8x00	O-ring kit for GemTip, Cross-Flow II nebulizers Includes all O-rings used in the Cross-Flow and Cross-Flow II nebulizers.	N9300067	8003-0456
Optima 2x00/ 3x00/4x00/ 5x00/7x00/8x00	Nebulizer, type C1, 1.0 mL/min uptake For samples with high dissolved solids	00472022	8003-0461
Optima 2x00/ 3x00/4x00/ 5x00/7x00/8x00	O-ring, small, for type A/C/K nebulizers	00473194	8003-0464
Optima 2x00/ 3x00/4x00/ 5x00/7x00/8x00	Nebulizer, Mira Mist, PEEK Includes 0.5 m sample capillary (0.044 inch od x 0.018 inch id) and gas connector. For routine analysis of samples to 20% TDS (not recommended for aggressive acids or organic solvents).	N0775330	8003-0974
Optima 2x00/ 3x00 XL/ 3x00 DV/ 3000SCX/ 4x00/5x00/ 7x00/8x00	Nebulizer, concentric, U-series, SeaSpray, 2.0 mL/min uptake For routine analysis of samples to 20% TDS. Includes UniFit sample connector (0.75 mm id x 700 mm) and EzyLok gas connector.	N0775345	G8010-60255

Multimode Sample Introduction System (MSIS)

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 2x00/4x00/5x00/7x00 DV/8x00	Multimode Sample Introduction System (MSIS) Provides simultaneous vapor generation of environmentally sensitive elements including As, Se, and Hg with low µg/L detection limits. It provides better performance than conventional nebulization through thin-film hydride technology, while offering a choice of three modes that eliminates changeover and allows routine and hydride elements to be determined using the same setup.	Not Applicable	8003-0817
	Peristaltic pump tubing, black/black, 12/pk. Required to pump reagents to MSIS.	Not Applicable	3710027200
	Peristaltic pump tubing, black/white, 12/pk. Required to pump waste from MSIS.	N8122012	3710068900

Spray Chambers

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 2x00/4x00/5x00/7x00/8x00	Tracey, single-pass, cyclonic spray chamber for high-sensitivity analyses, 50 mL, borosilicate glass, O-ring-free	N0775351	8003-0329
Optima 2x00/4x00/5x00/7x00/8x00	Twister, double-pass, cyclonic spray chamber with helix nebulizer seal, 50 mL, borosilicate glass, O-ring-free	N0775352	8003-0330
Optima 2x00/4x00/5x00/7x00/8x00	Tracey, single-pass, TFE cyclonic spray chamber for high-sensitivity analyses, with helix nebulizer seal, 50 mL, inert (HF-resistant), O-ring-free	N0777496	8003-0331
Optima 2x00/4x00/5x00/7x00/8x00	Cyclonic spray chamber adapter	N0770614	8003-0332
Optima 2x00/4x00/5x00/7x00/8x00	Drain cap assembly, for drain bottle assembly	N0690271	8003-0333
Optima 2x00/4x00/5x00/7x00/8x00	Scott spray chamber assembly made from corrosion-resistant Ryton material, inert to most mineral acids including HF, aqua regia, and most organic solvents; helps to minimize pulsation from the peristaltic pump	N0770357	8003-0334
Optima 2x00/4x00/5x00/7x00/8x00	End cap, allows use of concentric nebulizers with Scott spray chamber	N0680504	8003-0335
Optima 2x00/4x00/5x00/7x00/8x00	Spray chamber drain fitting with tubing and drain adapter, to pump out waste solution through spray chamber drain (does not include peristaltic pump tubing)	N0690268	8003-0457
Optima 2x00/4x00/5x00/7x00/8x00	Tubing, PTFE, 1 mm id, for spray chamber drain, per meter, 12/pk	N8221152	8003-0460
Optima 2x00/4x00/5x00/7x00/8x00	Tracey single-pass, cyclonic spray chamber for high-sensitivity analyses, 50 mL, borosilicate glass, with bung fitting for nebulizer	N0776052	8003-0462
Optima 2x00/4x00/5x00/7x00 DV/8x00	Nebulizer adaptor, 16/6, for spray chambers that have a bung fitting for the nebulizer, not compatible with spray chambers that use the Helix seal	N0776006	8003-0953
Optima 5/7/8x00	End cap O-ring, for spray chamber with type A/C/K nebulizers	09902033	8003-0463



Multimode Sample Introduction System (MSIS),
8003-0817



Scott spray chamber assembly, 8003-0334



End cap, for concentric nebulizers
with Scott spray chamber, 8003-0335

AGILENT SUPPLIES FOR PerkinElmer ICP-OES



Top: Window, radial, 8003-0472
Bottom: Window, axial, 8003-0385



Window tube, 8003-0386



O-ring, for dual-view radial purge tube, 8003-0388



O-ring for dual-view axial purge window, 8003-0389



O-ring for torch clamp on vertical torch module, 8003-0390



O-ring for dual-view radial purge tube, 8003-0391



O-ring for dual-view axial purge window, 8003-0392

Purge Extension Windows

The axial view purge extension window fits into the purge extension between the torch and the optics.

The radial view purge extension is a replaceable tube that fits into the mount between the torch and the optics for the radial view.

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 2x00/7000/8000	Window, dual-view, axial, quartz	09992731	8003-0383
Optima 2x00/7000/8000	Window tube, dual-view, radial, short tube, quartz	N0690672	8003-0384
Optima 3x00/4x 00/5x00/7100/7200/7300 DV/8300	Window, dual-view, axial, quartz	N0771116	8003-0385
Optima 5x00/7100/7200/7300 DV/8300	Window tube, dual-view, radial, quartz	N0770944	8003-0386
Optima 3000/3000 SCR/3x00 RL/4300V/5300V/7300V	Window tube, radial view	N0581497	8003-0387
Optima 3000/3000 SCR/3x00 RL/4300V/5300V/7300V	Purge extension, ceramic	N0581455	8003-0394
Optima 4x00 DV/5x00 DV Pre November 2004	Window, dual-view radial	N0770322	8003-0472
Optima 5x00/7100/7200/7300 DV/8300	O-ring, for dual-view radial purge tube	09200064	8003-0388
Optima 5x00/7100/7200/7300 DV/8300	O-ring, for dual-view axial purge window	09902143	8003-0389
Optima 5x00/7100/7200/7300 DV/8300	O-ring, for torch clamp on vertical torch module	09902155	8003-0390
Optima 2100/7000/8000	O-ring, for dual-view radial purge tube	09921036	8003-0391
Optima 2100/7000/8000	O-ring, for dual-view axial purge window	09921062	8003-0392
Optima 2100/7000/8000	O-ring, purge outlet	09921057	8003-0393

AGILENT SUPPLIES FOR PerkinElmer ICP-OES

Peristaltic Pump Tubing

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 5/7/8x00	Peristaltic pump tubing, black/black, 12/pk. Required to pump reagents to MSIS.	09908587	3710027200
Optima 5/7/8x00	Peristaltic pump tubes, PVC, 2 stop, red/red, for drain, 12/pk	09908585	8003-0459



Load coil, 8003-0379



Load coil, 8003-0380

RF Load Coils and Accessories

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 2x00/4x00/5x00/7x00 DV	Load coil	N0775300	8003-0379
Optima 4300V/5300V/7300V	Load coil	N0771536	8003-0380
Optima 5/7/8x00	Nylon igniter standoff	09989859	8003-0381
	Igniter spark gap assembly, for type II demountable torch	N0680275	8003-0382

Miscellaneous Supplies

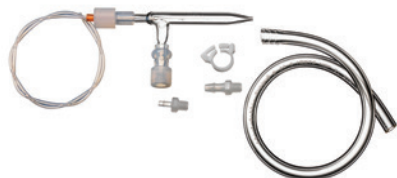
Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 3x00	Filter, air, for RF generator inlet	02509115	8003-0455
Optima 2x00/3x00/4x00/5x00/7x00	Filter cartridge, cooling water	09904846	8003-0469
Optima	ICP-OES chiller coolant mix, 5 half-gallon bottles	N0776099	8003-0473

TIPS & TOOLS

For a listing of supplies for AS-90/90A/90plus/91/93plus/S10 Autosamplers, please see the *Agilent supplies for PerkinElmer AA spectrometers catalog*, publication number 5991-6431EN

ICP-MS SUPPLIES

Nebulizers and Supplies



Nebulizer, glass, concentric, type K3, 8003-0476



Clip for type A/C/K nebulizers, 8003-0480



Sample inlet fitting for type A/C/K nebulizers, 8003-0481



Connector, low-dead-volume, PEEK, 8003-0482



Nebulizer, U-series, MicroMist micro-uptake, 8003-0489

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
ELAN 9000/ 6xX00/DRC/ NexION	Nebulizer, glass, concentric, type C3, for samples that have high TDS, argon flow, 1 L/min, uptake 3 mL/min	N8102011	8003-0475
	Nebulizer, GemClean Cross-Flow II with an end cap, a GemTip clear sapphire sample tip and a GemTip red ruby argon tip, optimized for ICP-MS (0.009 and 0.013 inch orifices), specially manufactured and cleaned for ultratrace analysis	N8120516	8003-0483
ELAN 9000/ 6xX00/DRC	Nebulizer, quartz, type A3, high-sensitivity, for ultra-trace applications, argon flow, 1 L/min, uptake 3 mL/min	WE024371	8003-0477
NexION	Nebulizer, quartz, type A0.5, high-sensitivity, for ultra-trace applications, argon flow, 1 L/min, uptake 0.5 mL/min	N8145011	8003-0478
	Nebulizer, glass, type C0.5, for samples that have high TDS, argon flow, 1 L/min, uptake 0.5 mL/min	N8145012	8003-0479
	Nebulizer, glass, concentric, type K3, for samples that have high TDS, argon flow, 1 L/min, uptake 3 mL/min	N0681574	8003-0476
ELAN 9000/ 6xX00/DRC/ NexION	Clip for type A/C/K concentric nebulizers	N0777460	8003-0480
	Sample inlet fitting for type A/C/K concentric nebulizers, 4 inch x 0.020 inch id, 0.062 inch od, flanged onto female CTFE fitting, with male barb CTFE fitting	N8145016	8003-0481
ELAN 9000/ 6xX00/DRC	Connector, low-dead-volume, PEEK, for type A/C/K concentric nebulizer, requires 0.062 inch (1.59 mm) od tubing	WE024372	8003-0482
ELAN 9000/ 6xX00/DRC/ NexION	Nebulizer, U-series, MicroMist micro-uptake, glass, concentric, uptake 0.4 mL/min, with EzyFit connector with 700 mm x 0.50 mm id x 1.3 mm od sample tubing	N0775341	8003-0489

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AGILENT SUPPLIES FOR PerkinElmer ICP-MS



Nebulizer, OpalMist PFA, concentric, 8003-0500



Nebulizer, PFA-ST PTFE ultra clean, 8003-0505



Nebulizer, MicroMist, micro-uptake, 8003-0589



Capillary, PTFE, for ST nebulizer, 8003-0509

Nebulizers and Supplies

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
ELAN 9000/ 6xX00/DRC/ NexION	Nebulizer, U-series, SeaSpray, concentric, uptake 2.0 mL/min, with EzyFit connector with 700 mm x 0.50 mm id x 1.3 mm od sample tubing	N0775340	8003-0490
ELAN 9000/ 6xX00/DRC/ NexION	Nebulizer, U-series, SeaSpray, concentric, uptake 0.4 mL/min, with EzyFit connector with 700 mm x 0.50 mm id x 1.3 mm od sample tubing	N0777484	8003-0492
ELAN 9000/ 6xX00/DRC/ NexION	Nebulizer, OpalMist PFA, concentric, uptake 0.4 mL/min, for high-precision analyses requiring high chemical resistance to HF, alkalis, and organics. Also ideal for trace analyses.	N0777485	8003-0500
ELAN 9000/ 6xX00/DRC/ NexION	Nebulizer, PFA-ST3, PTFE, microflow, high performance, clog resistant and chemically inert nebulizer for ICP-MS	N8145101	8003-0507
ELAN 9000/ 6xX00/DRC/ NexION	Nebulizer, PFA-ST PTFE ultra clean, with exchangeable capillaries to provide flow rates from 100-400 µL/min	N8122192	8003-0505
ELAN 9000/ 6xX00/DRC/ NexION	Nebulizer, MicroMist, micro-uptake, glass, concentric, uptake 0.2 mL/min, high performance for small sample volumes, with EzyFit connector with 0.50 mm id x 700 mm x 1.3 mm od sample tubing	N0775342	8003-0589
ELAN 9000/ 6xX00/DRC/ NexION	Nebulizer, concentric, U-series, SeaSpray, 1.0 mL/min uptake with EzyFit connector with 700 mm x 0.50 mm id x 1.3 mm od sample tubing	N0774069	8003-0964
	Obstruction removal kit, for PFA nebulizers	N8145236	8003-0508
	Capillary, PTFE, for ST nebulizer, 1.0 mm id, uptake 1 mL/min	N8145138	8003-0509
	Capillary, PTFE, for ST nebulizer, 0.5 mm id, uptake 0.4 mL/min	N8122384	8003-0510
	Sample inlet (UniFit) fitting for U-series concentric glass nebulizer, 0.75 mm id x 700 mm x 1.3 mm od	N0774077	G8010-80035

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AGILENT SUPPLIES FOR PerkinElmer ICP-MS



Fitting, male barb, CTFE, 8003-0502



Fitting, female barb, CTFE, 8003-0503



Sample capillary, PTFE, 8003-0504



Union, CTFE, for PFA-ST nebulizer, 8003-0506

Nebulizers and Supplies

Description	Similar to OEM Part No.	Agilent Part No.
EzyLok kit for nebulizer gas side arm Includes EzyLok connector for 4 mm tubing, EzyLok 6 mm hose adaptor and nebulizer hose clip.	N0777413	9910127800
Cross-Flow II replacement GemTips, constructed of PEEK for maximum corrosion resistance, orifice sizes color-coded, argon, 0.23 mm (0.009 inch) ruby red, sample, 0.34 mm (0.013 inch) clear sapphire	N8120515	8003-0484
Ferrule kit, for Cross-Flow II nebulizer Includes sample and argon ferrules, suits all GemClean Cross-Flow II nebulizers after September 1998.	N0680612	8003-0486
Ferrule, argon, for Cross-Flow II nebulizer	09920515	8003-0485
Ferrule, sample, for Cross-Flow II nebulizer, suits all GemClean Cross-Flow II nebulizers after September 1998	09920518	8003-0488
Sample inlet (UniFit) fitting for U-series concentric glass nebulizer, 0.75 mm id x 700 mm x 1/16 inch od	N0774080	8003-0493
Clip, for nebulizer pressure hose, 10/pk	N0773197	8003-0495
Fitting, male barb, chlorotrifluoroethylene (CTFE), for sample inlet fitting used with type A/C/K nebulizers	N8145017	8003-0502
Fitting, female barb, chlorotrifluoroethylene (CTFE), for sample inlet fitting used with type A/C/K nebulizers	N8145018	8003-0503
Sample capillary, PTFE, 0.062 inch od, 0.020 inch id, for sample inlet fitting used with type A/C/K nebulizers	CT-0022T-10	8003-0504
Union, CTFE, for PFA-ST nebulizer, connects to UltraClean sampler probe	N8122355	8003-0506

Spray Chambers and Supplies



Spray chamber drain fitting, 8003-0501



Spray chamber, baffled, glass, 8003-0515



O-ring, for baffled quartz cyclonic spray chamber, 8003-0516



Spray chamber, baffled, glass, 8003-0514

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
ELAN 9000/6xX00/ DRC/NexION	Spray chamber drain fitting, 24 inch x 0.030 inch id, 0.062 inch od	N8145015	8003-0501
ELAN DRC/ DRC Plus/DRC II	Spray chamber, baffled, glass, cyclonic, with ball-joint, for ball-joint injectors	N0773196	8003-0515
ELAN 9000/6xX00/ DRC/NexION	O-ring, for baffled quartz cyclonic spray chamber (PTFE O-ring type) with ball-joint	09210011	8003-0516
ELAN 9000/ 6xX00/DRC/ NexION	End cap, for Cross-Flow II nebulizer, suits all GemClean Cross-Flow II nebulizers after September 1998	N8122239	8003-0487
ELAN	Spray chamber with auxiliary gas port, 7 mm baffle, quartz, cyclonic, drain line included, connects directly to ESI injectors	N0777034	8003-0519
ELAN 9000/6x00/ 5x00/DRC-e	Spray chamber, glass, cyclonic, O-ring-free	N0775350	8003-0520
ELAN 9000/6x00/ 5x00/DRC-e	Spray chamber, water-cooled, glass, cyclonic, O-ring-free	N0775354	8003-0521
ELAN 9000/6x00/ 5x00/DRC-e	Connector, EzyLok, for jacketed spray chamber	N0774101	8003-0496
NexION/ELAN 9000/ 6x00/5x00/DRC-e	Scott spray chamber, HF-resistant	N8120124	8003-0522
NexION/ELAN 9000/ 6x00/5x00/DRC-e	O-ring, large, for Scott spray chamber	WE013060	8003-0523
NexION/ELAN 9000/ 6x00/5x00/DRC-e	Retaining ring, for Scott spray chamber	WE014081	8003-0524
ELAN 9000/6x00/ DRC	Mounting for cyclonic spray chamber	WE014034	8003-0588
NexION	Drain tubing, 1/16 inch od, 0.038 inch id PTFE tubing	02506495	8003-0605
NexION	Spray chamber, baffled, glass, cyclonic, with ball-joint, for ball-joint injectors	N8145014	8003-0514
NexION	Spray chamber, high purity, quartz, cyclonic, O-ring-free, provides excellent sensitivity and stability with low background	N8145120	8003-0517

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AGILENT SUPPLIES FOR PerkinElmer ICP-MS

Spray Chambers and Supplies

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
NexION	Spray chamber, borosilicate glass, cyclonic, O-ring-free	N8145119	8003-0518
NexION	Spray chamber, baffled quartz, cyclonic (PTFE O-ring type) with ball-joint	N8145013	8003-0614
NexION	Spray chamber, UltraClean, low volume Scott-style PFA spray chamber, for concentric nebulizers with PFA end cap	N8142000	8003-0946
NexION	Spray chamber, UltraClean, low volume Scott-style PFA spray chamber, for concentric nebulizers. Requires PFA injector assembly and PFA end cap	N8122356	8003-0947
NexION	End cap, for low volume Scott-style PFA spray chamber, for concentric nebulizer	N8122357	8003-0948
NexION	IsoMist temperature controlled spray chamber. Provides the benefits of a temperature-controlled ICP sample introduction system in a compact, convenient package. Temperature range is between -10 °C and +60 °C in 1 °C increments. Includes software, polymer coated PFA double-pass spray chamber, torch interface, and mounting kit.	N8141426	8003-0963
	Helix seal for O-ring-free spray chamber, suits any ICP spray chamber that uses the Helix fitting to secure the nebulizer in the side arm	N0777439	G8010-80042
	Helix locking screw for O-ring-free spray chamber, suits any ICP spray chamber that uses the Helix fitting to secure the nebulizer in the side arm	N0777438	G8010-80043



IsoMist temperature controlled spray chamber, 8003-0963

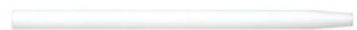
LEARN MORE

A Complete Method for Drinking Water Analysis Using Nexion 300D ICP-MS to EPA 200.8 (Agilent publication 5991-6510EN).

Torch Injectors



Injector, alumina, 8003-0530



Injector, alumina, 8003-0532



Injector, quartz, 2.0 mm id, 8003-0590



Injector, quartz ball-joint, 8003-0535



Injector, ball-joint twist-type, 8003-0536



Injector, ball-joint cassette-type, 8003-0537

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
NexION/ELAN DRC-e/9000/6x00/5000/500	Injector, alumina, 2.0 mm id	N8126041	8003-0530
NexION/ELAN DRC-e/9000/6x00/5000/500	Injector, alumina, 1.5 mm id	N8126040	8003-0531
NexION/ELAN DRC-e/9000/6x00/5000/500	Injector, alumina, 0.85 mm id	N8126039	8003-0532
NexION/ELAN DRC/DRCplus/DRC II	Injector, quartz ball-joint, 2.0 mm id, general purpose, for pass-through ball-joint injector support adapter	WE023948	8003-0533
NexION/ELAN DRC-e/9000/6x00/5000	Injector, quartz, 2.0 mm id	N8125029	8003-0590
NexION/ELAN DRC/DRCplus/DRC II	Injector, quartz ball-joint, 1.5 mm id, for organics, for pass-through ball-joint injector support adapter	WE027005	8003-0534
NexION/ELAN DRC/DRCplus/DRC II	Injector, quartz ball-joint, 0.85 mm id, for volatile organics, for pass-through ball-joint injector support adapter	WE027030	8003-0535
ELAN DRC/DRCplus/DRC II	Support adaptor, for twist-type ball-joint injector	WE023951	8003-0536
ELAN DRC II/NexION	Support adaptor, for cassette-type ball-joint injector	W1012406	8003-0537

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TIPS & TOOLS

Alumina injectors are compatible with twist-type and cassette torch mounts. They are corrosion-resistant to all mineral acids, including HF and aqua regia, but can also be used with less volatile organic solvents, e.g., xylene. The 2.0 mm id alumina injector is the standard injector, but a range of other sizes are available.

TIPS & TOOLS

Quartz injectors are compatible with twist-type and cassette torch mounts. They are recommended for organic solvents and non-HF matrices. Use narrow-bore injectors for more volatile organic solvents such as gasoline.

AGILENT SUPPLIES FOR PerkinElmer ICP-MS



Injector tube, sapphire, 8003-0538



Injector assembly, PFA-Quartz, 8003-0539



Injector assembly, PFA-Quartz, 8003-0540



Injector assembly, PFA-Sapphire twist-type, 8003-0541



Injector assembly, PFA-Sapphire cassette-type, 8003-0542



Injector assembly, PFA-Platinum twist-type, 8003-0543



Injector assembly, PFA-Platinum cassette-type, 8003-0544

Torch Injectors

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
NexION/ELAN DRC-e/ 9000/6x00/5000/5000	Injector tube, sapphire, 2.0 mm id, demountable injector, for HF-resistant sample introduction system	N0695495	8003-0538
NexION/ELAN DRC-e/ 9000/6x00/5000/5000	Injector assembly, PFA-Quartz twist-type, 1.5 mm id	N8122394	8003-0539
NexION/ELAN DRC-e/ 9000/6x00/5000/5000	Injector assembly, PFA-Quartz, cassette-type, 1.5 mm id	N8122413	8003-0540
NexION/ELAN DRC-e/ 9000/6x00/5000/5000	Injector assembly, PFA-Sapphire twist-type, 1.8 mm id, for high matrix geochemistry and HF applications where low ppt Al is not required	N8122358	8003-0541
NexION/ELAN DRC-e/ 9000/6x00/5000/5000	Injector assembly, PFA-Sapphire cassette-type, 1.8 mm id, for environmental, geochemistry and HF applications	N8122411	8003-0542
NexION/ELAN DRC-e/ 9000/6x00/5000/5000	Injector assembly, PFA-Platinum twist-type, 2.0 mm id	N8122359	8003-0543
NexION/ELAN DRC-e/ 9000/6x00/5000/5000	Injector assembly, PFA-Platinum cassette-type, 2.0 mm id	N8122412	8003-0544

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AGILENT SUPPLIES FOR PerkinElmer ICP-MS



Injector support adapter, twist-type, 8003-0545



Injector support adapter, twist-type, 8003-0546



O-ring kit, for injector support adapter, 8003-0547



Injector support adapter, 8003-0548



O-ring, for injector support adapter, external twist/cassette-type, 8003-0549



O-ring, for injector support adapter, internal twist/cassette-type, 8003-0551

Torch Injectors

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
ELAN DRC-e/ 9000/6x00/5000	Injector support adapter, twist-type, for corrosion-resistant torch and Ryton Scott spray chamber and twist-type torch mounts before April 2005	N8122007	8003-0545
ELAN DRC-e/ 9000/6x00/5000	Injector support adapter, twist-type, assembled with O-rings, for corrosion-resistant torch and Ryton Scott spray chamber and twist-type torch mounts before April 2005	N8120116	8003-0546
NexION/ELAN DRC-e/ 9000/6x00/5000/500	O-ring kit, for injector support adapter	N8120100	8003-0547
NexION/ELAN DRC-e/ 9000/6x00/5000/500	Injector support adapter, for cassette-type non-ball-joint injectors	W1013266	8003-0548
NexION/ELAN DRC-e/ 9000/6x00/5000/500	O-ring, for injector support adapter, internal, twist/cassette-type, 4/pk	09210011	8003-0549
NexION/ELAN DRC-e/ 9000/6x00/5000/500	O-ring, for injector support adapter, external (large) cassette-type	W1013545	8003-0550
NexION/ELAN DRC-e/ 9000/6x00/5000/500	O-ring, for injector support adapter, external, twist/cassette-type	09210012	8003-0551
ELAN 9000/6x00/DRC	Fitting, Swagelok, stainless steel nut, 1/4 inch	09903464	8003-0593
ELAN 9000/6x00/DRC	Tube fitting	09903465	8003-0594

AGILENT SUPPLIES FOR PerkinElmer ICP-MS



Torch, demountable, quartz, 8003-0552



Torch, demountable, quartz, high-efficiency, 8003-0553

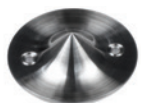
Torches and Supplies

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
NexION/ELAN	Torch, quartz, demountable, used with a fully replaceable sample injector made of fused alumina, quartz, or sapphire (supplied separately)	N8122006	8003-0552
ELAN 9000/6x00/DRCs/NexION	Torch, demountable, quartz, high-efficiency, for reduced argon gas flow, requires the high-efficiency torch kit for first-time installation	W1008384	8003-0553
ELAN 9000 and 6x00	Torch kit, high-efficiency Includes high-efficiency torch and flow restrictors to enable operation with reduced argon gas flow.	W1007468	8003-0554
NexION/ELAN 9000/6x00/DRCs	Torch alignment tool, to align the torch in the load coil	WE015554	8003-0555
NexION	Mount, for cassette torch, excludes demountable torch and injector	W1037485	8003-0556
ELAN 9000/6x00/DRC	O-ring kit, for type II torch	09903094	8003-0591





Sampler cone, nickel, large-orifice, 8003-0571



Skimmer cone, nickel, 8003-0572



Skimmer cone, nickel, 1.1 mm orifice, 8003-0573



Skimmer cone, nickel, 0.9 mm orifice, 8003-0574



Hyper skimmer cone, 8003-0579



Screw, for hyper skimmer cone, 8003-0581



O-ring, for sampler cone, 8003-0582



O-ring, for skimmer cone, 8003-0583



Tool, for cone removal, 8003-0586

Interface Cones and Supplies

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
NexION	Sampler cone, nickel, large-orifice, for high and low sample-uptake conditions	W1033612	8003-0571
NexION	Skimmer cone, nickel	W1026356	8003-0572
NexION	Sampler cone, platinum	W1033614	8003-0575
NexION	Skimmer cone, platinum	W1026907	8003-0576
NexION	Hyper skimmer cone	W1033995	8003-0579
NexION	O-ring, for hyper skimmer cone	09902123	8003-0580
NexION	Screw, for hyper skimmer cone	09919737	8003-0581
NexION	Sampler gasket for hyper skimmer cone	W1040148	8003-0584
NexION	Tool, for cone removal	W1034694	8003-0585
ELAN 9000/6x00/DRC	Sampler cone, nickel, 1.1 mm orifice, not compatible with NexION	WE021140	8003-0573
ELAN 9000/6x00/DRC	Skimmer cone, nickel, 0.9 mm orifice, not compatible with NexION	WE021137	8003-0574
ELAN 9000/6x00/DRC	Sampler cone, platinum, not compatible with NexION	WE027802	8003-0577
ELAN 9000/6x00/DRC	Skimmer cone, platinum, not compatible with NexION	WE027803	8003-0578
ELAN 9000/6x00/DRC	O-ring, for sampler cone, 5/pk	N8120511	8003-0582
ELAN 9000/6x00/DRC	O-ring, for skimmer cone, 5/pk	N8120512	8003-0583
ELAN 9000/6x00/DRC	Tool, for cone removal	WE017142	8003-0586

TIPS & TOOLS

Nickel interface cones provide the most economical operation as it is a rugged and long-lasting material. They are recommended for the majority of sample types.

Platinum interface cones provide better resistance to chemical attack and are required for analysis of aggressive acids (e.g. hydrofluoric acid) and other more corrosive sample types.

AGILENT SUPPLIES FOR PerkinElmer ICP-MS



Ion lens, Series II, 8003-0564

Ion Lenses

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
ELAN 9000/6x00/DRCs manufactured after January 1998	Ion lens, Series II	WE018034	8003-0564
ELAN 9000/DRCs manufactured after April 2005	Cassette lens shadow stop	W1013361	8003-0566

Detectors

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
NexION	SimulScan dual-stage detector	N8145000	8003-0561
ELAN 9000/6x00/DRCs* manufactured prior to April 2005	SimulScan dual-stage detector, original	N8125001	8003-0562
ELAN 9000/6x00/DRCs manufactured after April 2005	SimulScan dual-stage detector, improved	N8125050	8003-0563

Sample Introduction Kits

Description	Similar to OEM Part No.	Agilent Part No.
Sample introduction kit (PFA-Platinum), for NexION, HF-resistant. Recommended for analysis of semiconductor-grade chemicals and Si wafer samples. Includes 2 PFA MicroFlow nebulizers, PFA endcap with additional gas port, PFA spray chamber, Pt injector, Pt Shield, and quartz torch.	N8142001	8003-0511
Sample introduction kit (PFA-Sapphire), for NexION, HF-resistant. Provides a chemically inert and clean introduction system. Includes a PFA-ST nebulizer, PFA endcap with additional gas port, PFA spray chamber, Sapphire injector, Pt Shield, and quartz torch.	N8142002	8003-0512
Sample introduction kit (HF-resistant), for NexION. Includes Scott spray chamber with a Cross-Flow II nebulizer, 2 mm alumina injector, injector support adapter, O-rings, tubing, and connectors.	N8140507	8003-0513

TIPS & TOOLS

For a listing of supplies for AS-90/90A/90plus/91/93plus/S10 Autosamplers, please see the *Agilent supplies for PerkinElmer AA spectrometers catalog*, publication number 5991-6431EN

По вопросам продаж и поддержки обращайтесь:

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