

AVIO 200/500 ICP-OES CONSUMABLES AND SUPPLIES



INTRODUCTION AND OVERVIEW

The Avio® 200/500 ICP-OES consumables are designed with your instrument in mind. Each part is fit to perform and manufactured with the highest quality materials available. Whether you are looking for sample introduction components or standards, we have the consumables you need to keep your Avio 200/500 up and running.



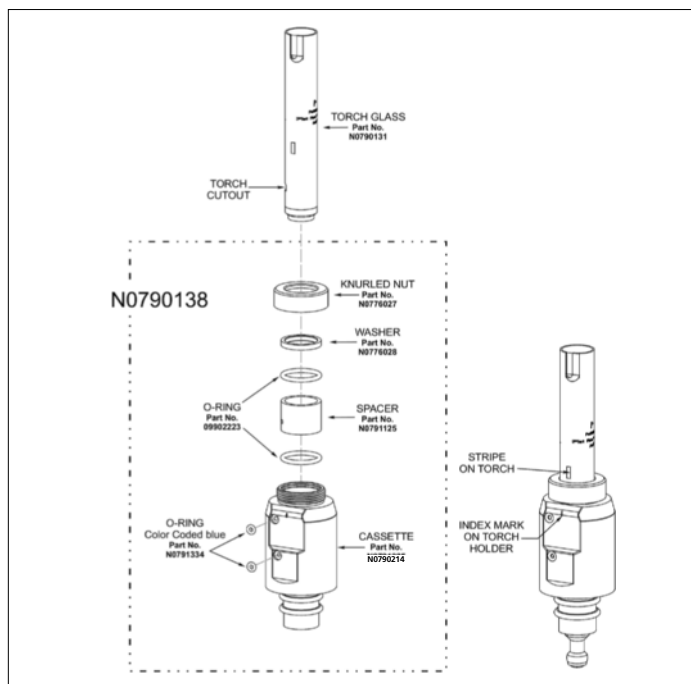
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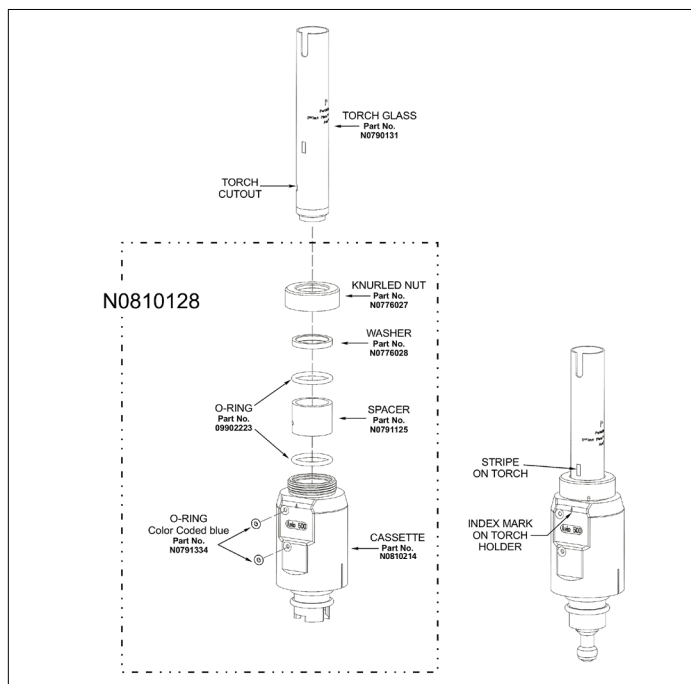
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Demountable Torches

Demountable design using one-piece quartz tubing for plasma and auxiliary gas flow. Available in a wide range of styles from 1 and 3 slots, depending on your application needs. 1-slot torches are the standard torch for aqueous solutions. 3-slot torches are typically used for organic analysis.



Avio 200 Torch Body Assembly (N0790138)



Avio 500 Torch Body Assembly (N0810128)

Quartz Torches

Description	# of Slots	Part No.
Standard	1	N0790131
Hybrid XLT Organics (not ceramic)	3	N0790249

Torch O-Rings and Removal Tool

# of Slots	Qty.	Part No.
O-Ring Kit for Adjustable Torch		N0790437
<i>Includes:</i>		
O-Ring – 0.799 ID 0.103 WD	2	09902223
O-Ring – 0.101 ID 0.070 WD	2	N0791334
O-Ring Kit for Scott Injector		N0790440
<i>Includes:</i>		
O-Ring - 8.74 ID 1.78 WD	2	09200518
O-Ring - 0.239 ID 0.70 WD	2	09902207
O-Ring - 0.344 ID 0.070 WD	2	N0791333
O-Ring Kit for Cyclonic Injector		N0790441
<i>Includes:</i>		
O-Ring - 0.239 ID 0.70 WD	2	09902207
O-Ring - 0.301 ID 0.70 WD	2	09926070
O-Ring - 0.344 ID 0.070 WD	2	N0791333
O-Ring Removal Tool		09920410

Torch Body Assemblies

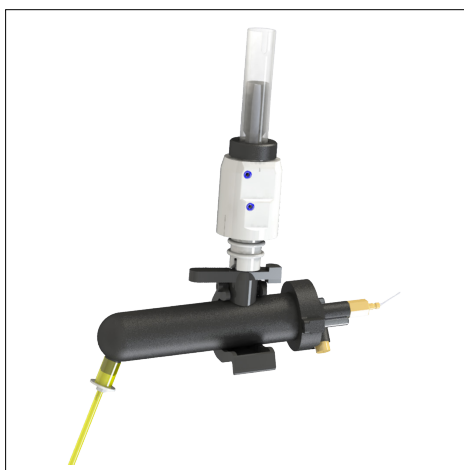
Description	Part No.
Torch Body Assembly for Avio 200	N0790138
Torch Body Assembly for Avio 500	N0810128

Demountable Torches, Continued



Torch Modules for Avio 200

Description	Part No.
Quick Change Torch Module - Scott Spray Chamber/Cross-Flow Nebulizer <i>Includes: GemTip Cross-Flow Nebulizer (N0780546), 1-Slot Quartz Torch (N0790131), 2.0 mm Alumina Injector (N0791183), Scott Spray Chamber (N0791499).</i>	N0790606
Quick Change Torch Module - Cyclonic Spray Chamber/Concentric Nebulizer <i>Includes: Type K1 Standard Nebulizer (N0777707), 1-Slot Quartz Torch (N0790131), 2.0 mm Alumina Injector (N0791183), Baffled Cyclonic Spray Chamber (N0791352).</i>	N0790607



Torch Modules for Avio 500

Description	Part No.
Quick Change Torch Module - Scott Spray Chamber/Cross-Flow Nebulizer <i>Includes: GemTip Cross-Flow Nebulizer (N0780546), 1-Slot Quartz Torch (N0790131), 2.0 mm Alumina Injector (N0791183), Scott Spray Chamber (N0791499).</i>	N0810606
Quick Change Torch Module - Cyclonic Spray Chamber/Concentric Nebulizer <i>Includes: Type K1 Standard Nebulizer (N0777707), 1-Slot Quartz Torch (N0790131), 2.0 mm Alumina Injector (N0791183), Baffled Cyclonic Spray Chamber (N0791352).</i>	N0810607



D-Torch™ and Spares

The D-Torch is designed to reduce running costs associated with torch wear when analyzing challenging sample such as organic solvents, fusions and samples containing high total dissolved solids (TDS) or hydrofluoric acid (HF).

Description	Part No.
D-Torch Complete Assembly with Quartz Outer Tube	N0790442
D-Torch Ceramic Outer Tube <i>(optional)</i>	N0791303
D-Torch Body	N0791300
D-Torch Outer Tube	N0791301
D-Torch Outer Tube Retaining Ring	N0791302

Nebulizers

PerkinElmer offers high-quality sample introduction components for a wide variety of applications.



MEINHARD® Nebulizers

Provide excellent sensitivity and precision for aqueous solutions and samples with few dissolved solids (less than 1%). MEINHARD® Nebulizers are self-aspirating and must not be used with solutions containing hydrofluoric acid. All require an end cap for use with Rytan® Scott spray chambers.

Type	Application	Part No.
Type K1 (standard)	Ar low-flow, High dissolved solids	N0777707
Type K3	Reduced flow, and organics	N0681574

MEINHARD® Nebulizer Spares

Description	Part No.
Liquid-End Connector Kit, 10" length by 0.020" ID x 0.062" OD	N0791018
Nebulizer Clip for MEINHARD® Nebulizers	N0777460

End Cap for Concentric Glass, GemCone and Similar Nebulizers

Description	Part No.
Scott Spray Chamber End Cap	N0680504

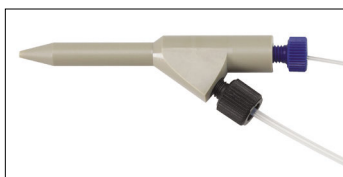


MicroMist Nebulizers

Ar Flow Rate	Uptake Rate	Part No.
0.7 L/min	0.05 mL/min	N0775349
0.7 L/min	0.1 mL/min	N0775348
0.7 L/min	0.2 mL/min	N0775347
0.7 L/min	0.6 mL/min	N0775346

SeaSpray Nebulizers

Ar Flow Rate	Uptake Rate	Part No.
0.7 L/min	2 mL/min	N0775345



PEEK MiraMist® Nebulizers

The MiraMist® fits regular spray chambers as a direct replacement for glass concentric nebulizers. Its features include standard pressure (45 psi), low sample flow and enhanced parallel path design.

Description	Uptake Rate	Part No.
PEEK MiraMist®	0.2 to 2.5 mL/min	N0775330
PTFE Mira Mist	0.02 to 2.5 mL/min	N0777031
Ari Mist	0.05 to 1.0 mL/min	N0777032
T2100	0.5 to 3.0 mL/min	N0777033



MicroFlow Nebulizers

MicroFlow nebulizers are constructed entirely from chemically resistant fluoropolymers, ideal for strong acids, alkalis, organics, high salt solutions and high solid concentrations. They are resistant to clogging, are reliably self-aspirated or pumped and produce a fine aerosol for high transport efficiency and high sensitivity.

Description	Part No.
PolyPro ST Nebulizer	N0777219
PFA-ST Nebulizer	N0777049
PFA-ST3 Microflow Nebulizer	N0777676

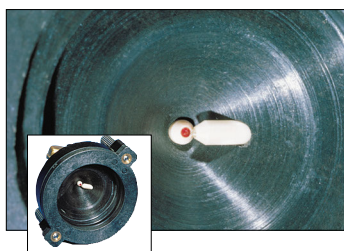
Nebulizers, continued



GemCone™ and GemTip™ Nebulizers

Low-Flow GemCones™ permit lower nebulizer gas flow rates, useful for spectral lines with high excitation energies and for providing a more robust plasma. GemCone™ Nebulizers require an end cap for use with Rytan Scott Spray Chambers.

Description	Part No.
GemCone™ Low-Flow Nebulizer	N0770358
GemCone™ High Dissolved Solids	N0690670
GemCone™ Sample Capillary Adapter	N0371505
Scott Spray Chamber End Cap for GemCone™ Nebulizers	N0680504
Quick Disconnect Tubing	N0770336



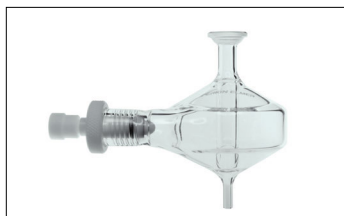
GemTip™ Cross-Flow II Nebulizers

Excellent general purpose nebulizer for the analysis of strong mineral acids (including HF) and samples with less than 5% dissolved solids.

Description	Part No.
GemTip™ Cross-Flow II Nebulizer	N0780546
GemTip™ Cross-Flow II Tip Kits	N0780676
GemTip™ Cross-Flow Nebulizer O-Ring Kit	N9300067
<i>Includes: 09902001 qty. 2, 09902033 qty. 2, 09902151 qty. 3, 09921003 qty. 1, 3 cm of Teflon® sample tubing.</i>	

Spray Chambers

The spray chamber is an integral part of the sample introduction system responsible for filtering the sample mist to permit the appropriate droplet size distribution to reach the plasma.



Cyclonic Spray Chambers

Description	Part No.
Baffled Cyclonic (Standard)	N0791352
HF Resistant Cyclonic Spray Chamber	N0790373
TFE PTFE O-Ring free, 50 mL with grounding strap included	
Nebulizer Spacer	N0791438
Extra Metal Clip	09200593
PFA (7 mm baffle) Cyclonic Spray Chamber, drain line included (N8141425)	N0791335



Scott Spray Chamber

The Scott Spray Chamber is corrosion-resistant and is inert to most mineral acids including HF, aqua regia and all organic solvents normally used in ICP analyses.

Description	Part No.
Scott Spray Chamber	N0790384
Scott Spray Chamber Clamp Adapter	N0790296

PFA M100 Spray Chamber

All-purpose spray chamber and offers resistance to hydrofluoric acid.

Description	Part No.
PFA 47 mm M100 Spray Chamber with o-ring-free PFA endcap, drain line included (N8141425)	N0791336



PC³ Peltier Cooled Cyclonic Spray Chamber

PC³ Peltier Cooled sample introduction system for Avio ICP (Temperature Range +2 °C to -5 °C) with PFA-ST Nebulizer

Description	Part No.
PC³ Peltier Cooled Cyclonic Spray Chamber	N0790950

Injectors and Injector Support Adapters



Alumina Injectors

Alumina injectors are corrosion-resistant to all mineral acids including HF and aqua regia. They are also used with less volatile organic solvents, e.g., xylene.

Dimensions	Part No.
0.80 mm i.d.	N0791180
1.2 mm i.d.	N0791181
1.2 mm i.d. (1.2 mm entire length of tube)	N0791182
2.0 mm i.d. (standard with Avio instrument)	N0791183



Quartz Injectors

Quartz injectors are designed for organic solvents and non-HF matrices.

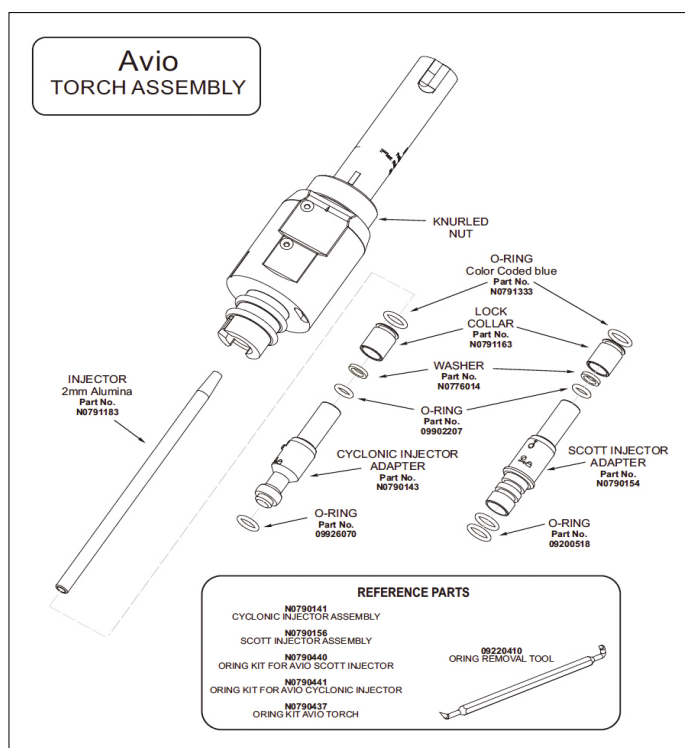
Dimensions	Part No.
0.80 mm i.d.	N0791185
1.2 mm i.d.	N0791186
1.2 mm i.d. (1.2 mm entire length of tube)	N0791187
1.6 mm i.d.	N0791188
2.0 mm i.d.	N0791189
3.0 mm i.d.	N0791190



Sapphire Injectors

Sapphire injectors are ideal for silicon applications.

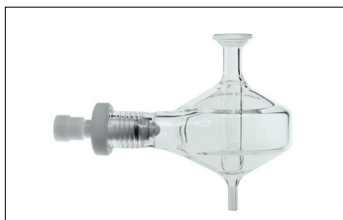
Dimensions	Part No.
2.0 mm i.d.	N0791184



Injector Support Adapter Kits and O-Rings

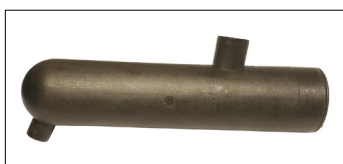
Dimensions	Part No.
Injector Adapter Kit-Cyclonic (includes o-rings)	N0790141
Injector Adapter Kit-Scott (includes o-rings)	N0790156
Injector Adapter O-Ring Kit Cyclonic (Includes: 09902207 qty. 2, 09926070 qty. 2, N0791333 qty. 2)	N0790441
Injector Adapter O-Ring Kit Scott (Includes: 09902207 qty. 2, 09200518 qty. 2, N0791333 qty. 2)	N0790440

Sample Introduction Kits



Cyclonic/Concentric Kit

	Part No.
Cyclonic/Concentric Kit*	N0790608
<i>Includes:</i>	
1 Slot Quartz Torch	N0790131
2.0 mm i.d. Alumina Injector	N0791183
Baffled Cyclonic Spray Chamber	N0791352
MEINHARD® Type K1 Nebulizer	N0777707
Injector Adapter	N0790141
<i>*Includes one of each.</i>	



Scott/Cross-Flow II Kit

	Part No.
Scott/Cross-Flow II Kit*	N0790609
<i>Includes:</i>	
1 Slot Quartz Torch	N0790131
2.0 mm i.d. Alumina Injector	N0791183
Scott Spray Chamber*	N0790384
GemTip™ Cross-Flow II Nebulizer	N0780546
Injector Adapter	N0790156
Scott Spray Chamber Clamp Adapter	N0790296
<i>*Includes one of each.</i>	



Organics Kit

	Qty.	Part No.
Organics Kit		N0790610
<i>Includes:</i>		
3 Slot Quartz Torch	2	N0790249
1.2 mm i.d. Alumina Injector (1.2 mm entire length of tube)	2	N0791182
Baffled Cyclonic Spray Chamber	1	N0791352
GemCone™ Low-Flow Nebulizer	1	N0770358
Cyclonic Spray Chamber Adapter	1	N0790141
Nebulizer Spacer	1	N0791438

Purge Components



Axial Window

Purge Components

Description/ICP Model	View	Part No.
Purge Window Avio 200/500	Axial	09992731
Purge Window Avio 200	Radial	N0690672
Purge Window Avio 500	Radial	N0810346
Optical Kit (includes Windows O-Rings) Avio 200	Axial/Radial	N0790439
Axial Flat Mirror Kit Avio 200	Axial	N0790196
Optical Kit (includes Windows and O-Rings) Avio 500	Axial/Radial	N0810439
Flat Mirror Kit Avio 500	Axial	N0810194

Autosampler Tubes



Autosampler Graduated Tubes with Red Caps

Capacity	Size	Type	Qty.	Part No.
15 mL*	17 mm x 120 mm	Conical Bottom	500	B0193233
50 mL*	28 mm x 115 mm	Conical/Freestanding	500	B0193234

Autosampler Tubes

Capacity	Size	Type	Qty.	Part No.
8 mL	13 mm x 100 mm	Round Bottom	1,200 bulk	N0777156
15 mL	17 mm x 100 mm	Round Bottom	1,200 bulk	N0777167
	Plugs for N0777167	(blue) Plugs Only	1,200 bulk	N0777599
50 mL*	30 mm x 115 mm	Conical	500 bulk with teal flat caps	N0777693
50 mL*	30 mm x 115 mm	Conical	500/50 per bag with teal flat caps	N0777691

*Graduated tubes

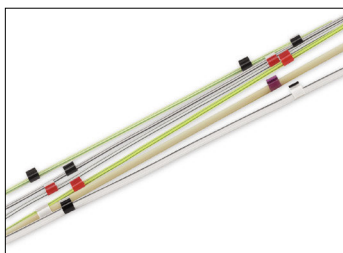
Spares



Spares

Description	Part No.
Air Filter (intake) – Requires 2	09995098
Air Filter Assembly for Instrument Air Supply	N0775325
Replacement Air Filter Element for N0775325	N9306067
Polyscience WhisperCool Chiller Replacement Air Filter	N0777095
Chiller Coolant Mix 30 Plus-Five 1/2 Gallons	N0776200

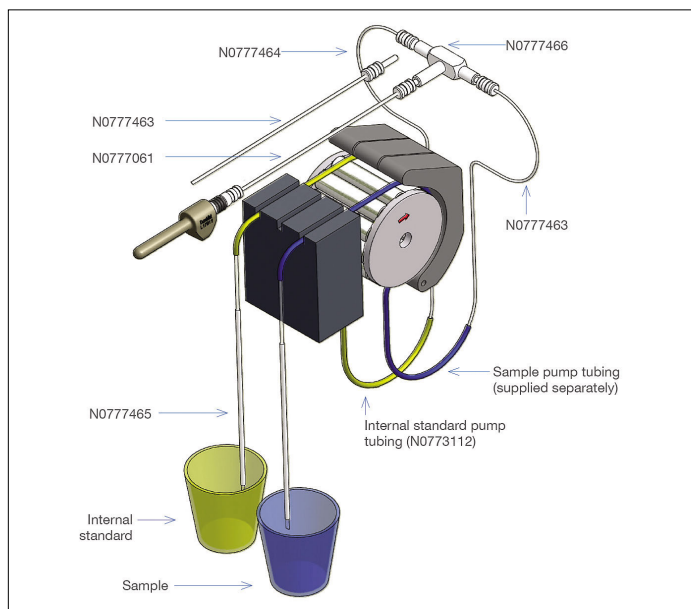
Pump Tubing



i.d. (mm)	Stop Colors	Standard PVC (Pkg 12)	Flared PVC (Pkg 12)	Solvent Flex (Pkg 12)	Viton® (Pkg 12)	Santoprene® (Pkg 12)	Silicone (Pkg 6)
0.19	orange red	N0695476	N0773111				
0.25	orange blue	N0773117	N0773112				
0.38	orange green	N0777110	N0777042	N0773113			
0.44	green yellow		N0773113				
0.51	orange yellow		N0777476		N0777446		
0.64	orange white		N0777711				
0.76	black black	09908587	N0777043	00473550	N0773118		00473552
1.02	white white				N0777442		N0777441
1.14	red red	09908585		09923037	N0773115	N0773119	N0691595
1.30	gray gray				N0777445	N0777444	N0777443
1.42	yellow yellow	N0777521					
1.52	yellow blue	09923536					
1.65	blue blue				N0777447		
1.85	green green	N0777518				N0773116	
2.06	purple purple	N0777561					
2.79	purple white			02508080			09923448
3.18	black white	N8122012					

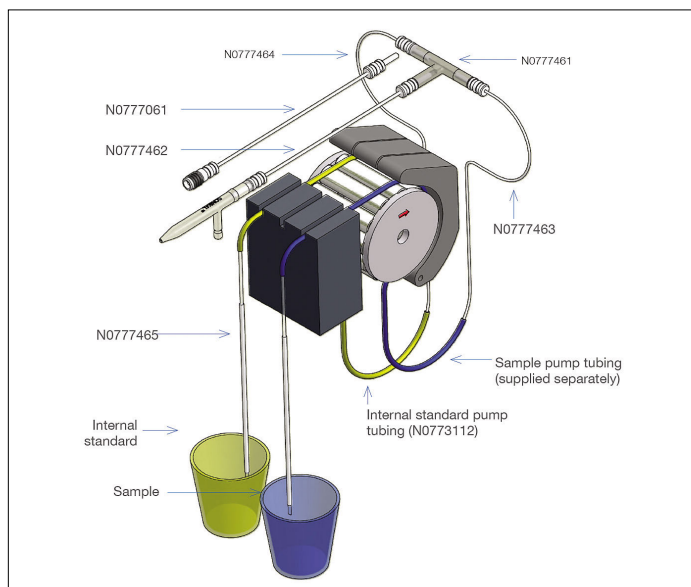
Internal Standard Kits

In-line Standard Additions kits, one which includes a glass mixing chamber/combiner for solutions which do not contain HF and another which includes an inert mixing chamber/combiner. Both kits are completely modular so that damaged or worn components can easily be replaced. The heart of the kit is the mixing chamber/combiner. It is designed for zero dead volume on the input ends which accommodate the sample and addition lines. The output end is designed with a small mixing chamber so that the sample and added reagent are intimately mixed prior to introduction to the nebulizer. All connections to the mixing chamber/combiner use EzyFit connectors. A sampling probe for the reagent addition bottle is included so that it remains well anchored in the bottle. Inline addition of internal standards and ionization buffers provides an efficient means of accurately and precisely dosing all of your samples without extra effort or the risk of error or contamination. Internal standardization is often used to compensate for physical and mass-space interferences in ICP spectrometry. In many cases, it also enhances short-term and long-term reproducibility.



HF-Resistant Internal Standard Kit

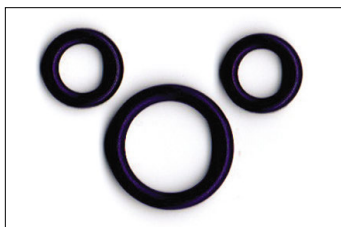
Description	Part No.
HF-Resistant Internal Standard Kit	N0774067
<i>Includes:</i>	
HF Mixing T-piece	N0777466
Internal Standard Sample Probe 0.25 mm ID	N0777465
EzyFit Sample Tube 0.5 mm ID	N0777463
UniFit-EzyFit Sample Tube	N0777061
EzyFit Internal Standard Tube 0.25 mm ID	N0777464
Vitex® Gripper Paper - Qty. 6	N0777848
Orange-Blue Flared End PVC Tubing 0.25 mm ID – Qty. 12	N0773112



Non HF-Resistant Internal Standard Kit

Description	Part No.
Non HF-Resistant Internal Standard Kit	N0774068
<i>Includes:</i>	
EzyFit Glass Mixing T-piece	N0777461
Internal Standard Sample Probe 0.25 mm ID	N0777465
EzyFit Sample Tube - Twin	N0777462
EzyFit Sample Tube 0.5 mm ID	N0777463
EzyFit Internal Standard Tube 0.25 mm ID	N0777464
Vitex® Gripper Paper - Qty. 6	N0777848
Orange-Blue Flared End PVC Tubing 0.25 mm ID – Qty. 12	N0773112
UniFit-EzyFit Sample Tube	N0777061

Avio 200 Preventative Maintenance Kits



Avio 200 Cyclonic Configuration PM Kit

Kit Part No. N0790805

Description	Qty.	Part No.
Black/Black 0.76 mm ID PVC Solva, Pkg. 12	1	00473550
Tygon Tubing 0.3 M/Per Feet	1	02506516
Viton O-Ring 0.799 ID x 0.103 WD	2	09902223
PVC Red/Red Tubing 1/14 mm ID, Pkg. 12	1	09908585
PVC Blk/Blk Tubing 0.76 mm ID, Pkg. 12	1	09908587
Hose Clamp 1/4 Inch Stainless Steel	1	09920041
PTFE Tubing .031 X .016 Per 1 FT/0.3 M	4	09985708
Solva Tubing Yellow 2.79 mm ID	0.33	09985735
Spectrometer Air Filter	2	09995098
Nebulizer Clip Tyton Snapper	1	N0777460
Quartz Torch 1-Slot	1	N0790131
Cyclonic/Concentric Adj. Injector O-Ring Kit	1	N0790436
Optical Kit Avio 200 w/Windows/O-Rings	1	N0790439
Nebulizer Liquid Fit 0.020" ID x 0.062" OD	1	N0791018
Alumina Injector 2.0 mm	1	N0791183
O-Ring 0.101 ID x 0.070 WD Teflon Coated	2	N0791334
FG+ Gas Quick Connect for MEINHARD Nebulizer	1	N8121036
700 µL/min Self-aspirating Capillary for ST Nebulizer	1	N8145137
Torch Igniter Contact 0.4 mm	1	N0791507

Avio 200 Scott Configuration PM Kit

Kit Part No. N0790806

Description	Qty.	Part No.
Black/Black 0.76 mm ID PVC Solva, Pkg. 12	1	00473550
Viton O-Ring 0.799 ID x 0.103 WD	2	09902223
Polyethylene Tubing for Neb, 10 FT	1	09908265
PVC Red/Red Tubing 1/14 mm ID, Pkg. 12	1	09908585
PVC Blk/Blk Tubing 0.76 mm ID, Pkg. 12	1	09908587
Barb Fitting - Coupler 3/32 TBG 3/32 TBG	1	09920186
Barb Fitting - Male 10-32 UNF 3/32 TBG	1	09920267
O-Ring- 0.126 ID 0.040 WD	2	09921045
PTFE Tubing .031 X .016 Per 1 FT/0.3 M	4	09985708
Solva Tubing Yellow 2.79 mm ID	0.33	09985735
Spectrometer Air Filter	2	09995098
Ferrule Kit-ZOD Xflow Nebulizer	1	N0680612
Drain Adaptor	1	N0695414
Drain Coupling	1	N0695415
GemTip Tip Kit for Cross-Flow II Nebulizer	1	N0780676
Quartz Torch 1-Slot	1	N0790131
Adj. Inj. Scott/Cross-Flow II O-Ring Kit	1	N0790438
Optical Kit w/Windows/O-Rings	1	N0790439
Alumina Injector 2.0 mm	1	N0791183
O-Ring 0.101 ID x 0.070 WD Teflon Coated	2	N0791334
Torch Igniter Contact 0.4 mm	1	N0791507

Avio 500 Preventative Maintenance Kits

Avio 500 Cyclonic Configuration PM Kit

Kit Part No. N0810850

Description	Qty.	Part No.
Black/Black 0.76 mm ID PVC Solva, Pkg. 12	1	00473550
Viton O-Ring 0.799 ID x 0.103 WD	2	09902223
Cyclonic/Concentric Adj. Injector O-Ring Kit	1	N0790436
PVC Red/Red Tubing 1/14 mm ID, Pkg. 12	1	09908585
PVC Blk/Blk Tubing 0.76 mm ID, Pkg. 12	1	09908587
Nebulizer Clip Tyton Snapper	1	N0777460
FG+ Gas Quick Connect for MEINHARD Nebulizer	1	N8121036
Tygon Tubing 0.3 M/Per Feet	1	02506516
Hose Clamp 5.8-7.0 MM SST	1	09920041
Solva Tubing 2.79 mm ID	0.33	09985735
Spectrometer Air Filter	4	09995098
Nebulizer Liquid Fit 0.020" ID x 0.062" OD	1	N0791018
700 µL/min Self-asp Capillary for ST Nebulizer		N8145137
PTFE Tubing .031 X .016 Per 1 FT/0.3 M	4	09985708
Alumina Injector 2.0 mm	1	N0791183
Quartz Torch 1-Slot	1	N0790131
Optical Spares Kt	1	N0810439
O-Ring 0.101 ID x 0.070 WD Teflon Coated	2	N0791334
Replacement Kit - Avio Axial Flat	1	N0810194
Torch Igniter Contact 0.4 mm	1	N0791507

Avio 500 Scott Configuration PM Kit

Kit Part No. N0810851

Description	Qty.	Part No.
Black/Black 0.76 mm ID PVC Solva, Pkg. 12	1	00473550
Viton O-Ring 0.799 ID x 0.103 WD	2	09902223
Polyethylene Tubing for AA Neb, 10 FT	1	09908265
PVC Red/Red Tubing 1/14 mm ID, Pkg. 12	1	09908585
PVC Blk/Blk Tubing 0.76 mm ID, Pkg. 12	1	09908587
Barb Fitting - Coupler 3/32 TBG 3/32 TBG	1	09920186
Barb Fitting - Male 10-32 UNF 3/32 TBG	1	09920267
O-Ring 0.126 ID 0.040 WD	2	09921045
PTFE Tubing .031 X .016 Per 1 FT/0.3 M	4	09985708
Solva Tubing Yellow 2.79 mm ID	0.33	09985735
Spectrometer Air Filter	4	09995098
Ferrule Kit-ZOD Xflow Nebulizer	1	N0680612
Drain Adaptor	1	N0695414
Drain Coupling	1	N0695415
GemTip Tip Kit for Cross-Flow II Nebulizer	1	N0780676
Quartz Torch 1-Slot	1	N0790131
Optical Spares Kt	1	N0810439
Adj. Inj. Scott/Cross-Flow II O-Ring Kit	1	N0790438
Alumina Injector 2.0 mm	1	N0791183
O-Ring 0.101 ID x 0.070 WD Teflon Coated	2	N0791334
Replacement Kit - Avio Axial Flat	1	N0810194
Torch Igniter Contact 0.4 mm	1	N0791507

PerkinElmer Pure Standards



Single-Element Standards – 1,000 µg/mL/10,000 µg/mL - 125 mL Bottles

Whatever your application, you can depend on PerkinElmer Pure Standards to yield reliable, accurate results. PerkinElmer offers a wide selection of atomic spectroscopy calibration standards. Each solution is supplied with a comprehensive Certificate of Analysis that documents the quality and reliability.

Please visit our website for a complete listing of Atomic Spectroscopy Standards.

Element	Symbol	Matrix	1,000 µg/mL Part No.	Matrix	10,000 µg/mL Part No.
Aluminum	Al	2% HNO ₃	N9300184	5% HNO ₃	N9304111
Cadmium	Cd	2% HNO ₃	N9300176	5% HNO ₃	N9304303
Calcium	Ca	2% HNO ₃	N9303763	5% HNO ₃	N0691581
Chromium	Cr	2% HNO ₃	N9300173	2% HNO ₃	N9304309
Copper	Cu	2% HNO ₃	N9300183	5% HNO ₃	N9304112
Iron	Fe	2% HNO ₃	N9303771	5% HNO ₃	N9304113
Lead	Pb	2% HNO ₃	N9300175	5% HNO ₃	N9304321
Mercury	Hg	10% HNO ₃	N9300174	10% HNO ₃	N9304325
Scandium	Sc	2% HNO ₃	N9303798	5% HNO ₃	N9304333
Sodium	Na	2% HNO ₃	N9303785	5% HNO ₃	N9304124
Yttrium	Y	2% HNO ₃	N9303810	5% HNO ₃	N9304128
Zinc	Zn	2% HNO ₃	N9300178	5% HNO ₃	N9304129

Multi-Element Standards

Matrix	Contents	Vol.	Part No.
Multi-Element Solution 1			
2% HNO ₃	10 µg/mL: Be, Bi, Ce, Co, In, Mg, Ni, Pb, U	125 mL	N9300231
Multi-Element Solution 2			
5% HNO ₃	10 µg/mL: Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sc, Sm, Tb, Th, Tm, Y, Yb	125 mL	N9300232
Multi-Element Solution 3			
5% HNO ₃	10 µg/mL: Ag, Al, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cs, Cu, Fe, Ga, Hg*, In, K, Li, Mg, Mn, Na, Ni, Pb, Rb, Se, Sr, Tl, U, V, Zn *Supplied in separate bottle.	125 mL	N9300233
Multi-Element Solution 3 without Mercury		125 mL	N9301720
Multi-Element Solution 4			
5% HCl/1% HNO ₃	10 µg/mL: Au, Hf, Ir, Pd, Pt, Rh, Ru, Sb, Sn, Te	125 mL	N9300234
Multi-Element Solution 5			
H ₂ O/tr HF	10 µg/mL: B, Ge, Mo, Nb, P, Re, S, Si, Ta, Ti, W, Zr	125 mL	N9300235
PerkinElmer Pure I			
5% HNO ₃	400 µg/mL: Tl 150 µg/mL: Ga 50 µg/mL: Ag, Ni 20 µg/mL: Cd, Co, Cu, Zn 5 µg/mL: Ba, Mn	200 µg/mL: Bi, In, Pb 100 µg/mL: Al 25 µg/mL: Cr 15 µg/mL: B, Fe 1 µg/mL: Be, Sr	125 mL N9303940
PerkinElmer Pure IV			
10% HNO ₃	1000 µg/mL: Ag, Al, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, In, 125 mL K, Li, Mg, Mn, Na, Ni, Pb, Sr, Tl, Zn	125 mL	N9303941
PerkinElmer Pure VIII			
5% HNO ₃	100 µg/mL: Al, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, K, 125 mL Li, Mg, Mn, Na, Ni, Pb, Se, Sr, Te, Tl, Zn	125 mL	N9303942
PerkinElmer Pure IX			
5% HNO ₃	100 µg/mL: As, Be, Pb, Cd, Cr, Ni, Se, Tl	125 mL	N9303943
Mercury	100 µg/mL		
5% HNO ₃	100 µg/mL: Mercury in 5% HNO ₃	125 mL	N9300223

PerkinElmer Pure Standards, continued

Multi-Element Standards, continued

Matrix	Contents	Vol.	Part No.
PerkinElmer Pure X			
2% HNO ₃	35,000 µg/mL: Ca 8,000 µg/mL: Na 100 µg/mL: B, Fe, Mo, Sr 30 µg/mL: Mn 20 µg/mL: Be, Cd, Cr, Cu	15,000 µg/mL: Mg 3,000 µg/mL: K 50 µg/mL: As, Ba, Ni, V, Zn 25 µg/mL: Co, Pb 10 µg/mL: Bi, Se, Tl	125 mL N9303944
Mercury	8 µg/mL		
5% HNO ₃	8 µg/mL: Mercury in 5% HNO ₃	125 mL	N9303954
PerkinElmer Pure XI			
5% HNO ₃	2500 µg/mL: Zn 800 µg/mL: Cu 10 µg/mL: Cd	900 µg/mL: Cr, Pb 200 µg/mL: Ni	125 mL N9303945
Mercury	5 µg/mL		
5% HNO ₃	5 µg/mL: Mercury in 5% HNO ₃	125 mL	N9303949
PerkinElmer Pure XIII			
5% HNO ₃	500 µg/mL: Al 100 µg/mL: As, Be, Co, Cr, Cu, Fe, Mn, Ni, Pb, Zn	250 µg/mL: V 25 µg/mL: Cd, Se	125 mL N9303946
PerkinElmer Pure XVII			
15% HCL/trace HF	100 µg/mL: Hf, Ir, Sb, Sn, Ta, Ti, Zr	125 mL	N9303948

Interference Check Standards

Matrix	Contents	Vol.	Part No.
Interferents A			
5% HNO ₃	5,000 µg/mL: Al, Ca, Mg	2,000 µg/mL: Fe	500 mL N9300226
Alternate Interferents A			
5% HNO ₃	1,000 µg/mL: Cr, Cu, Mn, Ni, Ti, V		500 mL N9300228
Analytes B			
5% HNO ₃ /trTartaric Acid/tr HF	100 µg/mL: Cd, Ni, Zn 50 µg/mL: Ba, Be, Co, Cr, Cu, Mn, V 10 µg/mL: As, Tl	60 µg/mL: Sb 20 µg/mL: Ag	125 mL N9300227
Alternate Analytes B			
5% HNO ₃ /tr Tartaric Acid/tr HF	100 µg/mL: Al, As, B, Mo, Na, Sb, Se, Tl	10 µg/mL: Ca, Fe, Mg, Si	125 mL N9300229

Universal Data Acquisition Standards Kit

Matrix	Contents	Vol.	Part No.
Solution Kit (Includes items listed below – 1 bottle of each)			N9306225
5% HNO ₃	10 µg/mL: Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sm, Sc, Tb, Th, Tm, Y, Yb	125 mL	N9300232
5% HNO ₃	10 µg/mL: Al, Ag, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cs, Cu, Fe, Ga, In, K, Li, Mg, Mn, Na, Ni, Pb, Rb, Se, Sr, Ti, V, U, Zn	125 mL	N9300233
10% HCl/1% HNO ₃	10 µg/mL: Au, Hf, Ir, Pd, Pt, Rh Ru, Te, Sb, Sn	125 mL	N9300234
5% HNO ₃	10 µg/mL: Hg	125 mL	N9300253
H ₂ O/tr HF	10 µg/mL: B, Ge, Mo, Nb, P, Re, S, Si, Ta, Ti, W, Zr	125 mL	N9300235

Please visit our website for a complete listing of Atomic Spectroscopy Standards. www.perkinelmer.com/supplies

Metallo-Organic Standards



PerkinElmer Metallo-Organic Standards provide a comprehensive solution to your application needs. Our product offering includes:

- Single and multi-element standards for the analysis of wear metals and metal additives in oil
- Reference materials for used oil analysis of fuel, soot, water, acid number, base number, or viscosity
- Sulfur standards made from polysulfide oil
- High purity matrix oils and solvents
- Proficiency testing standards with instant feedback

Each product is shipped with a comprehensive Certificate of Analysis. Our Metallo-Organic Standards have been designed to give you the confidence you need when analyzing difficult samples.

Single-Element, Metallo-Organic Standards

Element	Symbol	Matrix	Size	Part No.	Element	Symbol	Matrix	Size	Part No.
Aluminum 1000 µg/g	Al	Hydrocarbon Oil	50 g	N9308200	Nickel 1000 µg/g	Ni	Hydrocarbon Oil	50 g	N9308220
Antimony 1000 µg/g	Sb	Hydrocarbon Oil	50 g	N9308201	Phosphorus 1000 µg/g	P	Hydrocarbon Oil	50 g	N9308221
Arsenic 1000 µg/g	As	Hydrocarbon Oil	50 g	N9308202	Potassium 1000 µg/g	K	Hydrocarbon Oil	50 g	N9308222
Barium 1000 µg/g	Ba	Hydrocarbon Oil	50 g	N9308203	Scandium 1000 µg/g	Sc	Hydrocarbon Oil	10 g	N9308255
Beryllium 1000 µg/g	Be	Hydrocarbon Oil	50 g	N9308204	Scandium 1000 µg/g	Sc	Hydrocarbon Oil	50 g	N9308223
Bismuth 1000 µg/g	Bi	Hydrocarbon Oil	50 g	N9308205	Selenium 1000 µg/g	Se	Hydrocarbon Oil	50 g	N9308224
Boron 1000 µg/g	B	Hydrocarbon Oil	50 g	N9308206	Silicon 1000 µg/g	Si	Hydrocarbon Oil	50 g	N9308225
Cadmium 1000 µg/g	Cd	Hydrocarbon Oil	50 g	N9308207	Silver 1000 µg/g	Ag	Hydrocarbon Oil	50 g	N9308226
Calcium 1000 µg/g	Ca	Hydrocarbon Oil	50 g	N9308208	Sodium 1000 µg/g	Na	Hydrocarbon Oil	50 g	N9308227
Calcium 5000 µg/g	Ca	Hydrocarbon Oil	50 g	N9308322	Strontium 1000 µg/g	Sr	Hydrocarbon Oil	50 g	N9308228
Chromium 1000 µg/g	Cr	Hydrocarbon Oil	50 g	N9308209	Sulfur 10 µg/g	S	Hydrocarbon Oil	50 g	N9308229
Cobalt 1000 µg/g	Co	Hydrocarbon Oil	50 g	N9308210	Sulfur 100 µg/g	S	Hydrocarbon Oil	50 g	N9308230
Copper 1000 µg/g	Cu	Hydrocarbon Oil	50 g	N9308211	Sulfur 1000 µg/g	S	Hydrocarbon Oil	50 g	N9308231
Iron 1000 µg/g	Fe	Hydrocarbon Oil	50 g	N9308212	Thallium 1000 µg/g	Tl	Hydrocarbon Oil	50 g	N9308232
Lanthanum 1000 µg/g	La	Hydrocarbon Oil	50 g	N9308213	Tin 1000 µg/g	Sn	Hydrocarbon Oil	50 g	N9308233
Lead 1000 µg/g	Pb	Hydrocarbon Oil	50 g	N9308214	Titanium 1000 µg/g	Ti	Hydrocarbon Oil	50 g	N9308234
Lithium 1000 µg/g	Li	Hydrocarbon Oil	50 g	N9308215	Vanadium 1000 µg/g	V	Hydrocarbon Oil	50 g	N9308235
Magnesium 1000 µg/g	Mg	Hydrocarbon Oil	50 g	N9308216	Yttrium 1000 µg/g	Y	Hydrocarbon Oil	50 g	N9308236
Manganese 1000 µg/g	Mn	Hydrocarbon Oil	50 g	N9308217	Yttrium 5000 µg/g	Y	Hydrocarbon Oil	50 g	N9308323
Mercury 1000 µg/g	Hg	Hydrocarbon Oil	50 g	N9308218	Zinc 1000 µg/g	Zn	Hydrocarbon Oil	50 g	N9308237
Molybdenum 1000 µg/g	Mo	Hydrocarbon Oil	50 g	N9308219	Zirconium 1000 µg/g	Zr	Hydrocarbon Oil	50 g	N9308238

Metallo-Organic Standards, continued

V-21 Wear Metal Standards

Includes: Ag, Al, B, Ba, Ca, Cd, Cr, Cu, Fe, Mg, Mn, Mo, Na, Ni, P, Pb, Si, Sn, Ti, V, Zn

Description	Matrix	Size	Part No.
V-21 Wear Metals Standard 10 µg/g	Hydrocarbon Oil	100 g	N9308300
V-21 Wear Metals Standard 10 µg/g	Hydrocarbon Oil	200 g	N9308301
V-21 Wear Metals Standard 10 µg/g	Hydrocarbon Oil	400 g	N9308324
V-21 Wear Metals Standard 30 µg/g	Hydrocarbon Oil	100 g	N9308302
V-21 Wear Metals Standard 30 µg/g	Hydrocarbon Oil	200 g	N9308303
V-21 Wear Metals Standard 30 µg/g	Hydrocarbon Oil	400 g	N9308325
V-21 Wear Metals Standard 50 µg/g	Hydrocarbon Oil	100 g	N9308304
V-21 Wear Metals Standard 50 µg/g	Hydrocarbon Oil	200 g	N9308305
V-21 Wear Metals Standard 50 µg/g	Hydrocarbon Oil	400 g	N9308326
V-21 Wear Metals Standard 100 µg/g	Hydrocarbon Oil	100 g	N9308306
V-21 Wear Metals Standard 100 µg/g	Hydrocarbon Oil	200 g	N9308307
V-21 Wear Metals Standard 100 µg/g	Hydrocarbon Oil	400 g	N9308327
V-21 Wear Metals Standard 300 µg/g	Hydrocarbon Oil	100 g	N9308308
V-21 Wear Metals Standard 300 µg/g	Hydrocarbon Oil	200 g	N9308309
V-21 Wear Metals Standard 300 µg/g	Hydrocarbon Oil	400 g	N9308328
V-21 Wear Metals Standard 500 µg/g	Hydrocarbon Oil	100 g	N9308310
V-21 Wear Metals Standard 500 µg/g	Hydrocarbon Oil	200 g	N9308311
V-21 Wear Metals Standard 500 µg/g	Hydrocarbon Oil	400 g	N9308329
V-21 Wear Metals Standard 900 µg/g	Hydrocarbon Oil	100 g	N9308312
V-21 Wear Metals Standard 900 µg/g	Hydrocarbon Oil	200 g	N9308313
V-21 Wear Metals Standard 900 µg/g	Hydrocarbon Oil	400 g	N9308330

V-21+K Wear Metal Standards

Includes: Ag, Al, B, Ba, Ca, Cd, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, P, Pb, Si, Sn, Ti, V, Zn

Description	Matrix	Size	Part No.
V-21+K Wear Metals Standard 10 µg/g	Hydrocarbon Oil	100 g	N9308355
V-21+K Wear Metals Standard 10 µg/g	Hydrocarbon Oil	200 g	N9308356
V-21+K Wear Metals Standard 30 µg/g	Hydrocarbon Oil	100 g	N9308357
V-21+K Wear Metals Standard 30 µg/g	Hydrocarbon Oil	200 g	N9308358
V-21+K Wear Metals Standard 30 µg/g	Hydrocarbon Oil	400 g	N9308371
V-21+K Wear Metals Standard 50 µg/g	Hydrocarbon Oil	100 g	N9308359
V-21+K Wear Metals Standard 50 µg/g	Hydrocarbon Oil	200 g	N9308360
V-21+K Wear Metals Standard 50 µg/g	Hydrocarbon Oil	400 g	N9308372
V-21+K Wear Metals Standard 100 µg/g	Hydrocarbon Oil	100 g	N9308361
V-21+K Wear Metals Standard 100 µg/g	Hydrocarbon Oil	200 g	N9308362
V-21+K Wear Metals Standard 100 µg/g	Hydrocarbon Oil	400 g	N9308373
V-21+K Wear Metals Standard 300 µg/g	Hydrocarbon Oil	100 g	N9308363
V-21+K Wear Metals Standard 300 µg/g	Hydrocarbon Oil	200 g	N9308364
V-21+K Wear Metals Standard 500 µg/g	Hydrocarbon Oil	100 g	N9308365
V-21+K Wear Metals Standard 500 µg/g	Hydrocarbon Oil	200 g	N9308366
V-21+K Wear Metals Standard 500 µg/g	Hydrocarbon Oil	400 g	N9308374
V-21+K Wear Metals Standard 900 µg/g	Hydrocarbon Oil	100 g	N9308367
V-21+K Wear Metals Standard 900 µg/g	Hydrocarbon Oil	200 g	N9308368

V-23 Wear Metal Standards

Includes: Ag, Al, B, Ba, Ca, Cd, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Si, Sn, Ti, V, Zn

Description	Matrix	Size	Part No.
V-23 Wear Metals Standard 10 µg/g	Hydrocarbon Oil	100 g	N9308239
V-23 Wear Metals Standard 10 µg/g	Hydrocarbon Oil	200 g	N0776109
V-23 Wear Metals Standard 10 µg/g	Hydrocarbon Oil	400 g	N9308315
V-23 Wear Metals Standard 30 µg/g	Hydrocarbon Oil	100 g	N9308241
V-23 Wear Metals Standard 30 µg/g	Hydrocarbon Oil	200 g	N9308242
V-23 Wear Metals Standard 30 µg/g	Hydrocarbon Oil	400 g	N9308316
V-23 Wear Metals Standard 50 µg/g	Hydrocarbon Oil	100 g	N9308243
V-23 Wear Metals Standard 50 µg/g	Hydrocarbon Oil	200 g	N0776104
V-23 Wear Metals Standard 50 µg/g	Hydrocarbon Oil	400 g	N9308317
V-23 Wear Metals Standard 100 µg/g	Hydrocarbon Oil	100 g	N9308245
V-23 Wear Metals Standard 100 µg/g	Hydrocarbon Oil	200 g	N0776105
V-23 Wear Metals Standard 100 µg/g	Hydrocarbon Oil	400 g	N9308318
V-23 Wear Metals Standard 300 µg/g	Hydrocarbon Oil	100 g	N9308247
V-23 Wear Metals Standard 300 µg/g	Hydrocarbon Oil	200 g	N9308248
V-23 Wear Metals Standard 300 µg/g	Hydrocarbon Oil	400 g	N9308319
V-23 Wear Metals Standard 500 µg/g	Hydrocarbon Oil	100 g	N9308249
V-23 Wear Metals Standard 500 µg/g	Hydrocarbon Oil	200 g	N0776106
V-23 Wear Metals Standard 500 µg/g	Hydrocarbon Oil	400 g	N9308320
V-23 Wear Metals Standard 900 µg/g	Hydrocarbon Oil	100 g	N9308251
V-23 Wear Metals Standard 900 µg/g	Hydrocarbon Oil	200 g	N9308252
V-23 Wear Metals Standard 900 µg/g	Hydrocarbon Oil	400 g	N9308321

V-26 Wear Metal Standards

Description	Matrix	Size	Part No.
V-26 Wear Metals Standard 10 µg/g	Hydrocarbon Oil	100 g	N0776130
V-26 Wear Metals Standard 10 µg/g	Hydrocarbon Oil	200 g	N0776131
V-26 Wear Metals Standard 30 µg/g	Hydrocarbon Oil	100 g	N0776132
V-26 Wear Metals Standard 30 µg/g	Hydrocarbon Oil	200 g	N0776133
V-26 Wear Metals Standard 50 µg/g	Hydrocarbon Oil	100 g	N0776134
V-26 Wear Metals Standard 50 µg/g	Hydrocarbon Oil	200 g	N0776135
V-26 Wear Metals Standard 100 µg/g	Hydrocarbon Oil	100 g	N0776136
V-26 Wear Metals Standard 100 µg/g	Hydrocarbon Oil	200 g	N0776137
V-26 Wear Metals Standard 30 µg/g	Hydrocarbon Oil	100 g	N0776138
V-26 Wear Metals Standard 300 µg/g	Hydrocarbon Oil	200 g	N0776139
V-26 Wear Metals Standard 500 µg/g	Hydrocarbon Oil	100 g	N0776140
V-26 Wear Metals Standard 500 µg/g	Hydrocarbon Oil	200 g	N0776141
V-26 Wear Metals Standard 900 µg/g	Hydrocarbon Oil	100 g	N0776142
V-26 Wear Metals Standard 900 µg/g	Hydrocarbon Oil	200 g	N0776143

Crackle Test Reference Standards

Description	Matrix	Size	Part No.
0 wt% H ₂ O	10W30 Motor Oil	100 mL	N9308337
0.1 wt% H ₂ O	10W30 Motor Oil	100 mL	N9308338
0.5 wt% H ₂ O	10W30 Motor Oil	100 mL	N9308339

Metallo-Organic Standards, continued

Internal Standards

Description	Matrix	Size	Part No.
Cobalt (Co) Internal Standard, 6%	Mineral Spirits	200 g	N0776107
Cobalt (Co) Internal Standard, 6%	Mineral Spirits	400 g	N9308334
Cobalt (Co) Internal Standard, 5000 µg/g	Hydrocarbon Oil	50 g	N9308258
Cobalt Sulfur-Free Metallo-Organic Concentrate: Co @ approx 3%	Hydrocarbon Oil	400 g	N9304168

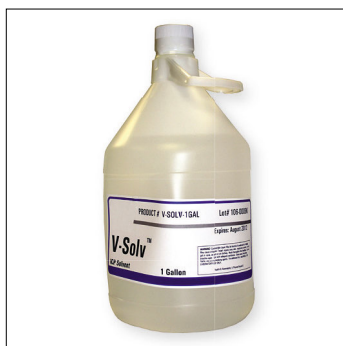


Metal Additive Standards

Description	Matrix	Size	Part No.
Metal Additive Standard 3: Ca @ 5000 µg/g; P, Zn @ 1600 µg/g	Hydrocarbon Oil	100 g	N9308369
Metal Additive Standard 3: Ca @ 5000 µg/g; P, Zn @ 1600 µg/g	Hydrocarbon Oil	200 g	N9308370
Metal Additive Standard 3: Ca @ 5000 µg/g; P, Zn @ 1600 µg/g	Hydrocarbon Oil	400 g	N9308552
Metal Additive Standard 4: Ca @ 5000 µg/g; Mg, P, Zn @ 1600 µg/g	Hydrocarbon Oil	100 g	N9308259
Metal Additive Standard 4: Ca @ 5000 µg/g; Mg, P, Zn @ 1600 µg/g	Hydrocarbon Oil	200 g	N0776108
Metal Additive Standard 4: Ca @ 5000 µg/g; Mg, P, Zn @ 1600 µg/g	Hydrocarbon Oil	400 g	N9308333

V-Solv™ ICP Solvent is a proprietary solvent that is used for diluting oil and other organic liquids for analysis by ICP and ICP-MS. Use V-Solv™ as a matrix blank and as a diluent for your calibration standards and samples for outstanding nebulization characteristics.

Citrajel cleaner is ideal for use in labware washers, manual and ultrasonic cleaning. Use on glassware, metals, plastics, ceramics, porcelain, rubber and fiberglass. Corrosion inhibiting formula removes metal oxides, scale, salts, inorganic residues, trace metals and amphoteric proteins. Suitable for acid washing and rinsing.



Matrix Oils and Solvents

Description	Matrix	Size	Part No.
Hydrocarbon Oil	75 cSt oil	500 mL	N0776103
Hydrocarbon Oil	75 cSt oil	1 Gal.	N9308262
Mineral Oil (low sulfur)	20 cSt Mineral Oil	500 mL	N9308263
Mineral Oil (low sulfur)	20 cSt Mineral Oil	1/2 Gal.	N9308264
V-Solv™ ICP Solvent	Hydrocarbon Oil	1 Gal.	N9308265
V-Solv™ ICP Solvent	Hydrocarbon Oil	5 Gal.	N9308378
Citrajel® Liquid Acid Cleaner		1 Gal.	N0777063
Citrajel® Liquid Acid Cleaner		5 Gal.	N0777064

Fuel Dilution Standards

Description	Matrix	Size	Part No.
Blank for Diesel Fuel Dilution Standard	75 cSt hydrocarbon oil	100 mL	N9308266
2% (v/v) Devolatilized Diesel Fuel in Hydrocarbon Oil	75 cSt hydrocarbon oil	100 mL	N9308151
4% (v/v) Devolatilized Diesel Fuel in Hydrocarbon Oil	75 cSt hydrocarbon oil	100 mL	N9308152
5% (v/v) Devolatilized Diesel Fuel in Hydrocarbon Oil	75 cSt hydrocarbon oil	100 mL	N9308153
10% (v/v) Devolatilized Diesel Fuel in Hydrocarbon Oil	75 cSt hydrocarbon oil	100 mL	N9308154
Blank for Gas Fuel Dilution Standard	75 cSt hydrocarbon oil	100 mL	N9308270
2% (v/v) Devolatilized Gasoline in Hydrocarbon Oil	75 cSt hydrocarbon oil	100 mL	N9308156
5% (v/v) Devolatilized Gasoline in Hydrocarbon Oil	75 cSt hydrocarbon oil	100 mL	N9308157
10% (v/v) Devolatilized Gasoline in Hydrocarbon Oil	75 cSt hydrocarbon oil	100 mL	N9308158

Metallo-Organic Standards, continued

Acid Number Standards

Description	Matrix	Size	Part No.
Acid Number (AN) Reference Material, 0.1 mg KOH/g	Hydrocarbon Oil	100 g	N9308160
Acid Number (AN) Reference Material, 0.1 mg KOH/g	Hydrocarbon Oil	400 g	N9308161
Acid Number (AN) Reference Material, 1 mg KOH/g	Hydrocarbon Oil	100 g	N9308162
Acid Number (AN) Reference Material, 1 mg KOH/g	Hydrocarbon Oil	400 g	N9308163
Acid Number (AN) Reference Material, 1.5 mg KOH/g	Hydrocarbon Oil	100 g	N9308164
Acid Number (AN) Reference Material, 1.5 mg KOH/g	Hydrocarbon Oil	400 g	N9308165
Acid Number (AN) Reference Material, 0.5 mg KOH/g	Hydrocarbon Oil	100 g	N9308166
Acid Number (AN) Reference Material, 0.5 mg KOH/g	Hydrocarbon Oil	400 g	N9308167
Acid Number (AN) Reference Material, 3 mg KOH/g	Hydrocarbon Oil	50 g	N9308168
Acid Number (AN) Reference Material, 3 mg KOH/g	Hydrocarbon Oil	400 g	N9308169
Acid Number (AN) Reference Material, 2 mg KOH/g	Hydrocarbon Oil	50 g	N9308170

Base Number Standards

Description	Matrix	Size	Part No.
Base Number (BN) Reference Material, 10 mg KOH/g	Hydrocarbon Oil	50 g	N9308555
Base Number (BN) Reference Material, 10 mg KOH/g	Hydrocarbon Oil	400 g	N9308173
Base Number (BN) Reference Material, 15 mg KOH/g	Hydrocarbon Oil	50 g	N9308174
Base Number (BN) Reference Material, 30 mg KOH/g	Hydrocarbon Oil	50 g	N9308176
Base Number (BN) Reference Material, 30 mg KOH/g	Hydrocarbon Oil	400 g	N9308177
Base Number (BN) Reference Material, 40 mg KOH/g	Hydrocarbon Oil	50 g	N9308178
Base Number (BN) Reference Material, 6 mg KOH/g	Hydrocarbon Oil	50 g	N9308554
Base Number (BN) Reference Material, 6 mg KOH/g	Hydrocarbon Oil	400 g	N9308181
Base Number (BN) Reference Material, 70 mg KOH/g	Hydrocarbon Oil	50 g	N9308182

Karl Fischer Standards

Nominal Water Concentration (%)	Matrix	Size	Part No.
Karl Fischer Water in Oil, Blank	10W30 Motor oil	50 g	N9308278
Karl Fischer Water in Oil, 0.1%	10W30 Motor oil	400 g	N9308279
Karl Fischer Water in Oil, 0.5%	10W30 Motor oil	50 g	N9308280
Karl Fischer Water in Oil, 1.0%	10W30 Motor oil	50 g	N9308281

Soot Content Standards

Nominal Water Concentration (%)	Matrix	Size	Part No.
Nominal Soot Content Range: Blank	15W40 Diesel oil	50 mL	N9308282
Nominal Soot Content Range: 0.5-2%	15W40 Diesel oil	50 mL	N9308283
Nominal Soot Content Range: 2-4%	15W40 Diesel oil	50 mL	N9308284
Nominal Soot Content Range: 4-6%	15W40 Diesel oil	50 mL	N9308285

Biodiesel Standards

Description	Matrix	Size	Part No.
Biodiesel Blank	B100 biodiesel	100 mL	N9308286
Biodiesel Blank	B100 biodiesel	500 mL	N9308287
Sulfur @ 20 µg/g in Biodiesel	B100 biodiesel	100 mL	N9308288
Metals in Biodiesel – Ca, K, Mg, Na, P @ 20 µg/g	B100 biodiesel	100 g	N9308289
Metals in Biodiesel - Ca, K, Mg, Na, P @ 5µg/g	B100 Biodiesel	100 g	N9308726

Metallo-Organic Standards, continued

Coolant Standards

Description	Size	Part No.
Custom HI 1A: Al @ 10 µg/mL; Mg @ 20 µg/mL; Ca @ 32 µg/mL; Cu, Fe, Pb, Zn @ 50 µg/mL; B @ 1000 µg/mL; P @ 2000 µg/mL; K @ 5000 µg/mL; Na @ 10,000 µg/mL 3% HNO ₃ (v/v)	500 mL	N9308341
Custom QC 1A: Al, Cu @ 5 µg/mL; Mg @ 10 µg/mL; Zn @ 20 µg/mL; Fe, Pb @ 25 µg/mL; Ca @ 50 µg/mL; B @ 250 µg/mL; P @ 1000 µg/mL; K @ 2500 µg/mL; Na @ 5000 µg/mL 3% HNO ₃ (v/v)	500 mL	N9308342
Custom LO 1A: Al, Cu @ 2 µg/mL; Mg, Zn @ 4 µg/mL; Fe @ 5 µg/mL; Ca, Pb @ 10 µg/mL; B @ 50 µg/mL; P @ 400 µg/mL; K, Na @ 1000 µg/mL 3% HNO ₃ (v/v)	500 mL	N9308343
Custom QC 1B: Sn @ 10 µg/mL; Si @ 30 µg/mL; Mo @ 50 µg/mL 3% HNO ₃ (v/v)/tr HF 500 mL	500 mL	N9308344
Custom LO 1B: Sn @ 5 µg/mL; Si @ 10 µg/mL; Mo @ 20 µg/mL 3% HNO ₃ (v/v)/tr HF	500 mL	N9308345
Custom HI 1B: Sn @ 20 µg/mL; Mo, Si @ 100 µg/mL 3% HNO ₃ (v/v)/tr HF	500 mL	N9308346

Viscosity Reference Standards

Description	Matrix	Size	Part No.
Viscosity Standard Reference Kit	Hydrocarbons	5 x 500 mL	N5316000
Nominal Viscosity: 4.5 cSt at 40°C, and 1.6 cSt at 100°C	Hydrocarbons	500 mL	N9307740
Nominal Viscosity: 10 cSt at 40°C, and 2.7 cSt at 100°C	Hydrocarbons	500 mL	N5316001
Nominal Viscosity: 30 cSt at 40°C, and 5.3 cSt at 100°C	Hydrocarbons	500 mL	N5316002
Nominal Viscosity: 30 cSt at 40°C, and 5.3 cSt at 100°C	Hydrocarbons	1 Gal.	N5316025
Nominal Viscosity: 100 cSt at 40°C, and 16.8 cSt at 100°C	Hydrocarbons	500 mL	N5316003
Nominal Viscosity: 100 cSt at 40°C, and 16.8 cSt at 100°C	Hydrocarbons	1 Gal.	N5316024
Nominal Viscosity: 360 cSt at 40°C, and 42 cSt at 100°C	Hydrocarbons	500 mL	N5316004
Nominal Viscosity: 930 cSt at 40°C, and 82 cSt at 100°C	Hydrocarbons	500 mL	N5316005

Sulfur Standards

Description	Matrix	Size	Part No.
Polysulfide Oil Blank	13 cSt Mineral Oil	500 mL	N9308390
Sulfur @ 500 µg/g, from Polysulfide Oil	13 cSt Mineral Oil	500 mL	N9308391
Sulfur @ 1000 µg/g, from Polysulfide Oil	13 cSt Mineral Oil	500 mL	N9308392
Sulfur @ 5000 µg/g, from Polysulfide Oil	13 cSt Mineral Oil	500 mL	N9308393
Sulfur @ 1 wt%, from Polysulfide Oil	13 cSt Mineral Oil	500 mL	N9308394
Sulfur @ 5 wt%, from Polysulfide Oil	13 cSt Mineral Oil	500 mL	N9308395
Sulfur @ 0 µg/g (Blank)	#2 Diesel Fuel	500 mL	N9308714
Sulfur @ 5 µg/g, from Polysulfide Oil	#2 Diesel Fuel	500 mL	N9308715
Sulfur @ 10 µg/g, from Polysulfide Oil	#2 Diesel Fuel	500 mL	N9308716
Sulfur @ 15 µg/g, from Polysulfide Oil	#2 Diesel Fuel	500 mL	N9308717
Sulfur @ 20 µg/g, from Polysulfide Oil	#2 Diesel Fuel	500 mL	N9308718
Sulfur @ 25 µg/g, from Polysulfide Oil	#2 Diesel Fuel	500 mL	N9308719
Sulfur @ 50 µg/g, from Polysulfide Oil	#2 Diesel Fuel	500 mL	N9308720
Sulfur @ 100 µg/g, from Polysulfide Oil	#2 Diesel Fuel	500 mL	N9308721
Sulfur @ 500 µg/g, from Polysulfide Oil	#2 Diesel Fuel	500 mL	N9308722
Sulfur @ 1000 µg/g, from Polysulfide Oil	#2 Diesel Fuel	500 mL	N9308723
Sulfur @ 1500 µg/g, from Polysulfide Oil	#2 Diesel Fuel	500 mL	N9308724

Proficiency Testing Standards



The Proficiency Testing Program offered by PerkinElmer has been designed to provide laboratories with a method of monitoring their analytical performance as measured against Certified Reference Materials (CRMs).

1. Analyze a sample
2. Report the results online
3. Receive an instant response to submitted values

Confirm the accuracy of your analytical results, quickly, easily, and definitively.

Proficiency Testing Program

Description	Size	Part No.
PTP Standard for Elemental Analysis of Oils	25 g	N9308314

Note: Analyze a sample for up to 23 common elements and report the concentrations in µg/g (ppm). Enter all elements or only those that are of interest to you. Results are color-coded pass/fail indications in green (pass), yellow (borderline), and red (fail).

Description	Size	Part No.
Sample for Particle Count Analysis	125 mL	N9308725

Note: Particle Count PTP test standard includes eight channels (4, 6, 8, 14, 21, 38, 50 and 70 µm). One bottle for ISO 11171 only.

Description	Size	Part No.
Viscosity PTP Test Standard	50 mL	N9308540

Note: Report viscosity values in cSt at 40 °C, 100 °C, or both.

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