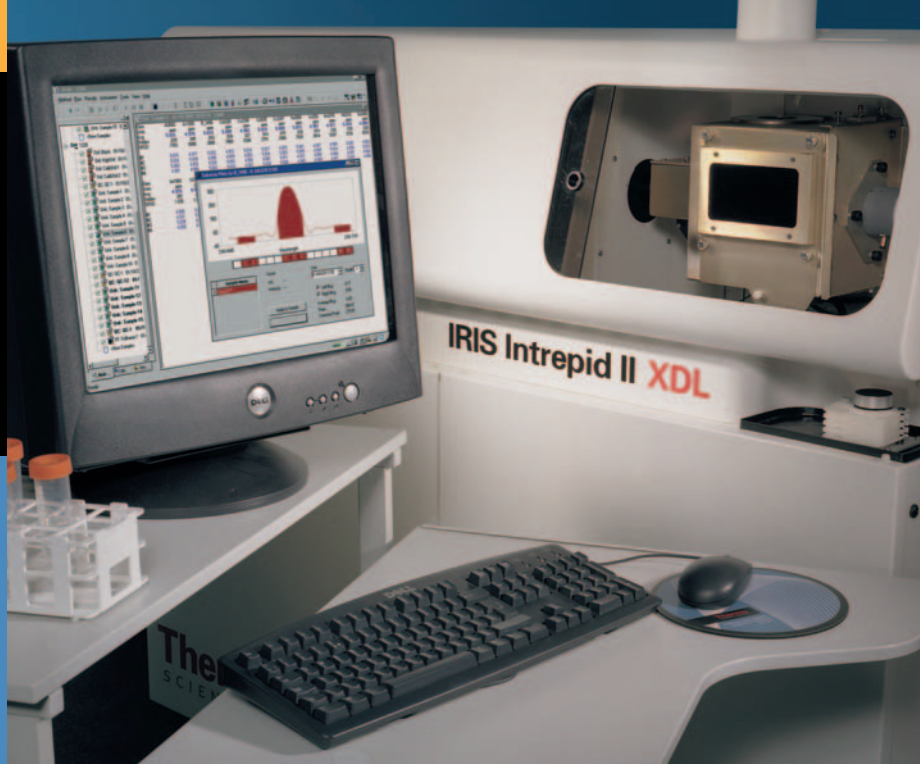


# Legacy Model ICP and DCP Parts & Consumables Guide



*Customer Version: November, 2007*

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# Sample Introduction Kits

## Ordering Information

Description	Delivery	Part Number
Internal Standard Mixing Kit <i>Contains 4 complete assemblies for automatically adding an internal standard or slim element to the sample stream. Each assembly consists of one Tygon™ Orange/Orange and one Tygon Orange/Green tube, a "Y" fitting, mixing coil and expansion tube to ensure that the stream is thoroughly mixed prior to delivery to the nebulizer. Replacement tubing may be ordered separately.</i>	2 – 4 W	3670800
Cylindrical Mixing Chamber Assembly, Radial, Retro-fit Kit	2 – 4 W	13020503
Sample Introduction Kit, Axial, Gravity Drain <ul style="list-style-type: none"> <li>• Nebulizer</li> <li>• Cyclonic spray chamber</li> <li>• Trace torch</li> <li>• Fittings</li> </ul>	2 – 4 W	13966900
Sample Introduction Kit, Radial, Cyclone <i>Allows use of concentric nebulizer and cyclone spray chamber on radial plasmas. Includes:</i> <ul style="list-style-type: none"> <li>• Torch</li> <li>• Cyclone spray chamber</li> <li>• Concentric nebulizer</li> <li>• Mounting hardware</li> </ul> <i>NOTE: Standard introduction system on IRIS Intrepid Radial</i>	2 – 4 W	13966800
Sample Introduction Kit, Duo, Cyclone <i>Sample introduction kit for aqueous solutions. Includes:</i> <ul style="list-style-type: none"> <li>• Duo torch with sleeve and seal</li> <li>• Cyclone spray chamber</li> <li>• Meinhard nebulizer</li> <li>• Mounting hardware</li> </ul> <i>NOTE: For IRIS Advantage, IRIS Intrepid or IRIS/AP Duo.</i>	2 – 4 W	13856400
Sample Introduction Kit, Axial, Cyclonic, for Tracescan	2 – 4 W	13505300
Sample Introduction Kit, Radial, Cyclone, Atomscan Advantage	2 – 4 W	14118500
Cylindrical Mixing Chamber Assembly, Radial, High flow Torch	2 – 4 W	13020501
Cylindrical Mixing Chamber Assembly, Radial, Intrepid II	2 – 4 W	13020504
Cylindrical Mixing Chamber Assembly, Radial, High flow/Low flow Torch	2 – 4 W	13020502
Cylindrical Mixing Chamber Assembly, Radial - Slotted	2 – 4 W	13020505
Sample Introduction Kit, Axial, Organics	2 – 4 W	13678400
Cylindrical Mixing Chamber Assembly, Radial, HF Resistant	2 – 4 W	13667000
Sample Introduction Kit, Radial, Conical <ul style="list-style-type: none"> <li>• Conical spray chamber</li> <li>• Support bracket</li> <li>• Torch mounting collar</li> <li>• Glass expansion concentric nebulizer</li> </ul> <i>Requires but does NOT include a Single Piece Quartz Torch or Fully Demountable Quartz Torch. Adjustments to the RF generator may be necessary to operate with this sample introduction system.</i>	2 – 4 W	13930300
Sample Introduction Kit, Axial, Cyclone, HF Resistant for Trace ICP	2 – 4 W	13856601
Sample Introduction Kit, Radial, Cooled Conical, Single Piece Quartz Torch	2 – 4 W	13920000
Sample Introduction Kit, Radial Organics	2 – 4 W	14184900
Sample Introduction Kit, Axial, Cyclone, HF Resistant for Tracescan	2 – 4 W	13856603
Sample Introduction Kit, Radial – Slotted, Cyclone, HF Resistant	2 – 4 W	13856701
Demountable Organics Kit, Axial	2 – 4 W	14116800

**Delivery:** please confirm availability when ordering.

*Continued*

# Sample Introduction Kits

Continued

## Ordering Information

Description	Delivery	Part Number
Sample Introduction Kit, Radial, Cyclone, HF Resistant <i>Sample introduction kit for aqueous solutions containing HF. Includes:</i> <ul style="list-style-type: none"> <li>• Radial torch with Alumina ceramic injector tube</li> <li>• ULTEM™ cyclone spray chamber</li> <li>• PolyCon nebulizer</li> <li>• Mounting hardware</li> </ul> <i>NOTE: For IRIS Intrepid and IRIS Advantage</i>	2 – 4 W	13856700
Sample Introduction Kit, Duo, HF Resistant Cyclone <i>Sample introduction kit for aqueous solutions containing HF. Includes:</i> <ul style="list-style-type: none"> <li>• Duo torch with sleeve and seal</li> <li>• Alumina ceramic injector tube</li> <li>• ULTEM cyclone spray chamber</li> <li>• PolyCon nebulizer</li> <li>• Mounting hardware</li> </ul> <i>NOTE: For IRIS Intrepid, IRIS Advantage and IRIS/AP Duo</i>	2 – 4 W	13856604
Sample Introduction Kit, Radial, Cooled Conical, Fully Demountable Torch	2 – 4 W	14115000

**Delivery:** please confirm availability when ordering.

## Sample Introduction Spares Kits

### Ordering Information

Description	Delivery	Part Number
Universal Aqueous ICP Spares Kit • <i>Compatible with 6mm diameter concentric nebulizers</i>	2 – 4 W	14328200
HF ICP Spares Kit	2 – 4 W	14328300
IRIS Intrepid Radial Organics Spares Kit for Demountable Torch • <i>1 concentric glass nebulizer</i> • <i>3 quartz center tubes (1.0 mm bore)</i> • <i>1 glass conical spray chamber</i> • <i>3 quartz outer tubes</i> • <i>2 quartz inner tubes</i> • <i>1 glass torch insert</i> • <i>3 packages of 6 each Viton® sample pump tubing</i> • <i>1 package of 6 Viton drain pump tubing</i> • <i>1 package of 2 autosampler sipper probes</i> • <i>Extra nebulizer capillary tubing</i>	2 – 4 W	14328400
Iris Intrepid II Demountable Spares Kit, Radial, Used Oils • <i>Used Oils ICP Spares for the Demountable Torch Compatible with 6mm diameter nebulizer. (NOT meant for systems that employ the cross-flow nebulizer)</i>	2 – 4 W	14384300
IRIS AXIAL Aqueous Spares Kit • <i>High flow torch</i> • <i>Two 1.5 mm center tubes</i> • <i>1 concentric glass nebulizer .</i> • <i>Cyclonic spray chamber</i> • <i>Package of two autosampler sipper probes</i> • <i>3 packages of 6 each pump tubing (sample and drain)</i> • <i>Nebulizer argon filter kit</i> • <i>1 spectrometer dust filter</i> • <i>1 package of internal standard mixing kits</i>	2 – 4 W	14423100
IRIS RADIAL Aqueous Spares Kit • <i>High flow torch</i> • <i>Two 1.5 mm center tubes</i> • <i>Concentric glass nebulizer</i> • <i>Cyclonic spray chamber</i> • <i>Package of two autosampler sipper probes</i> • <i>3 packages of 6 each pump tubing (sample and drain)</i> • <i>Nebulizer argon filter kit</i> • <i>1 spectrometer dust filter</i> • <i>3 packages of 4 each internal standard mixing kits</i>	2 – 4 W	14421100
IRIS DUO Aqueous Spares Kit • <i>High flow torch</i> • <i>Two 1.5 mm center tubes</i> • <i>1 concentric glass nebulizer</i> • <i>Cyclonic spray chamber</i> • <i>Package of two autosampler sipper probes</i> • <i>3 packages of 6 each pump tubing (sample and drain)</i> • <i>Nebulizer argon filter kit</i> • <i>1 spectrometer dust filter</i> • <i>1 package of internal standard mixing kits</i>	2 – 4 W	14421200
IRIS Intrepid II Radial Aqueous Spares Kit	2 – 4 W	14476400
Iris Intrepid II XDL Duo spares kit for Aqueous Applications	2 – 4 W	14476600
Iris Intrepid II Radial spares kit for Aqueous Applications	2 – 4 W	14476400

**Delivery:** please confirm availability when ordering.

## Spare Parts for Sample Introduction Kits

### Ordering Information

Description	Delivery	Part Number
Hydride Generation Spare, "Y" Replacement Kit, 10/pkg • Package of 10 "Y" fittings for PHD and T-PHD hydride generators	2 – 4 W	12545110
Glass Ball Joint Adapter	2 – 4 W	13623200
Spray Chamber Clamp 12/5 • Used with conical spray chamber and single piece torch • Normally not used with the Intrepid	2 – 4 W	181636
Nebulizer Cleaning Wire • For cleaning clogged sample capillary • Fixed Cross Flow nebulizer ONLY	2 – 4 W	90974B001
Hydride Generation, Bubbler Tube • Replacement inlet tube with bubbler frit for argon humidifier	2 – 4 W	13650800
Elbow and Argon Filter Assembly	2 – 4 W	13699800
Spare Aerosol Baffle	2 – 4 W	003952
Anti-Arc Shield • Glass shield placed around the torch and on top of the work coil; prevents RF arcing on the Iris model spectrometers • Round	2 – 4 W	8520700
Anti-Arc Shield • Glass shield placed around the torch and on top of the work coil; prevents RF arcing on the Iris model spectrometers • Flat on one side	2 – 4 W	08520701
Argon Filter Assembly • Filter assembly for use with concentric nebulizers only • Recommended spare. Package of 12 assemblies.	2 – 4 W	13701700
Glass Ball Joint Adapter • Used in conjunction with CYCLONE Spray Chamber • Attaches Ultrasonic Nebulizer transfer tubing to the torch adapter block in place of the spray chamber	2 – 4 W	13623200
Spray Chamber Clamp 18/7 Ball Socket • Used with earlier 2-piece cyclone spray chamber. • Normally not used with the Intrepid	2 – 4 W	19040056
Gravity Drain Trap Kit With All Hardware • Contains both PVC and Viton tubing for aqueous and organic solvents NOTE: For any ICP using cylindrical spray chamber	2 – 4 W	13024000

**Delivery:** please confirm availability when ordering.

## Nebulizers & Sensitivity Enhancement Accessories

### Ordering Information

Description	Delivery	Part Number
Nebulizer, Teflon® Mira Mist™ <ul style="list-style-type: none"> <li>• Excellent mist and can handle high level of particulates in sample</li> <li>• Can operate on 0.2 mL/min to 2.5 mL/min.</li> <li>• Fits regular chambers as a direct replacement for glass concentric nebulizers</li> <li>• Operates on standard pressures of 35 – 45 psi</li> <li>• Can be used for any liquid.</li> </ul> <i>Salting is very rare, but can occur over long periods of time, especially with high Sodium levels in the solution. Such salting can be cleared with a dip in 5 – 10% HF</i>	2 – 4 W	TMM 3500
Nebulizer, Burgener™ High Solids <p><i>Used in conjunction with Cyclone Spray Chamber. May be used with all solvents. Must NOT be used with HF in Glass Cyclone Spray Chamber.</i></p>	2 – 4 W	13638800
Nebulizer, Glass Concentric <p><i>Used in conjunction with Cyclone Spray Chamber. For use with all solvents except HF. Especially suited for the analysis of organic solutions.</i></p>	2 – 4 W	13918400
Nebulizer, PolyCon HF resistant <p><i>Used in conjunction with ULTEM Cyclone Spray Chamber. For use with all solvents including HF</i></p>	2 – 4 W	14189900
V-Groove High Solids Nebulizer <p><i>Used in conjunction with the Cyclone or Conical glass spray chambers for aspirating aqueous or organic solutions containing particulate matter. NOTE: Not to be used with HF</i></p>	2 – 4 W	080963
Nebulizer, Sea Spray High Solids Concentric Glass <p><i>Used in conjunction with Cyclone or Conical Spray Chamber. For use with all solvents except HF</i></p>	2 – 4 W	14186300
Nebulizer, Fixed Cross-Flow <p><i>For use with both aqueous and organic samples; has polymer body, Teflon capillary tubing for sample uptake, noble alloy needle for sample flow, sapphire gas flow orifice; demonstrates excellent sensitivity, precision and high resistance to chemical corrosion; suitable for moderate levels of dissolved solids; operates on less than 1 liter/minute of argon.</i></p>	2 – 4 W	12698900
Nebulizer, High Solids <p><i>For samples with suspended solids and/or high concentrations of dissolved solids. Atomizes pumped solution stream with a high velocity argon stream; has sapphire gas flow orifice; has polymer body, teflon capillary tubing for sample uptake; demonstrates high solids tolerance, and high resistance to chemical corrosion; operates on less than 1 liter/min of argon. NOTE: For all ICP's equipped with the Fully Automated ICP Source and glass cylindrical spray chamber.</i></p>	2 – 4 W	12718700
Adapter, Concentric Nebulizer, Teflon, package of 10	2 – 4 W	14353700
Adapter To Use 6 mm Nebulizers - Cylindrical Spray Chamber <p><i>Allows use of concentric, Burgener or v-groove nebulizers with cylindrical spray chambers</i></p>	2 – 4 W	14174300
Tubing (Polyethylene) 10 Ft. Roll <p><i>For repairing Burgener Nebulizer</i></p>	2 – 4 W	13704900
Nebulizer, High Solids, for all ICAPs w/Glass Cyclonic Intro System	2 – 4 W	13012500
Argon Humidifier Kit	2 – 4 W	13650700
Meinhard® Concentric Nebulizer	12 W	13960000
Hydride Generation Kit, IRIS Intrepid	2 – 4 W	14418700

**Delivery:** please confirm availability when ordering.

# Spray Chambers

## Ordering Information

Description	Delivery	Part Number
Glass Cyclone Spray Chamber, Radial, Gravity Drain	2 – 4 W	13610500
Cyclone Axial Spray Chamber <i>For these axially viewed instruments using the Cyclone Sample Introduction System with gravity drain. May also be used with Pumped Drain Kit.</i>	2 – 4 W	13612000
SSEA Spray Chamber Fitting <i>Connects the sample transport tubing to the cyclone spray chamber via the second inlet port. SSEA attachment.</i>	2 – 4 W	13614700
Cooled Conical Radial Spray Chamber <i>Used in conjunction with Temperature Controlled Recirculator. For use with all solvents EXCEPT HF. Especially suited for the analysis of organic solutions using the Single Piece Quartz Torch.</i>	2 – 4 W	13912300
Conical Spray Chamber <i>Used in conjunction with Single Piece Quartz Torch. For use with all solvents Except HF. Especially suited for the analysis of aqueous solutions when Nitrogen is to be determined. Requires the use of a Single Piece Quartz Torch or Single Piece Quartz Torch for N Analysis.</i>	2 – 4 W	13921900
Cyclone Axial Spray Chamber <i>For these axially viewed instruments using the Cyclone Sample Introduction System with pumped drain. Cannot be used with gravity drain.</i>	2 – 4 W	13966200
HF-Resistant Cyclone Axial Spray Chamber <i>ULTEM construction requires but does not include PolyCon or Burgener nebulizer, Alumina center tube, and pumped drain.</i>	2 – 4 W	14324300
HF-Resistant Cyclone Radial Spray Chamber <i>ULTEM construction requires but does not include PolyCon or Burgener nebulizer, Alumina center tube, and pumped drain.</i>	2 – 4 W	14324400
Dual Neck SSEA Cyclone Spray Chamber <i>NOTE: For Axial SSEA Sample Introduction Systems</i>	2 – 4 W	14028300
Dual Neck SSEA Cyclone Spray Chamber <i>NOTE: For Radial SSEA Sample Introduction Systems</i>	2 – 4 W	14029600
Glass Cylindrical Spray Chamber, Glass Portion Only	2 – 4 W	13008900
Glass Cyclone Spray Chamber, RADIAL, Pumped Drain for Floor IRIS Adv	2 – 4 W	13966300
Cyclonic Spray Chamber for Trace ICP	2 – 4 W	13462000
Spray Chamber, Cyclone, Radial, Atomscan Advantage	2 – 4 W	14118700
Spray Chamber, Cyclone, Axial, Extended Neck for XDL	2 – 4 W	14451500
Cylindrical Spray Chamber, Teflon Portion, Axial	2 – 4 W	13346300
Cylindrical Spray Chamber, Teflon Portion, Radial	2 – 4 W	13010100
Cylindrical Spray Chamber, Polypropylene for HF use	2 – 4 W	13083800
ULTEM Cyclonic Spray Chamber, HF Resistant, Radial	2 – 4 W	14324400

**Delivery:** please confirm availability when ordering.

## Torches and Injector Tubes

### Ordering Information

Description	Delivery	Part Number
Center Tube O-Ring • <i>Seals center tube to torch base. For all torches</i>	2 – 4 W	12584700
Torch Bonnet, Radial Plasma Torches	2 – 4 W	08520701
Center Tube, Quartz (1.5 mm) (1 Red Ring) • <i>Replacement Part. Recommended spare. This tube is to be used with all axial plasmas, regardless of solvent being aspirated</i>	2 – 4 W	12540700
Center Tube, Quartz (1.0 mm) (2 Red Rings) • <i>Replacement Part. Recommended spare</i>	2 – 4 W	12540701
Center Tube, Quartz (2.0 mm) (1 Blue Ring) • <i>Wide capillary (straight) bore center tube for use with moderate to high concentrations (up to 10%) of dissolved salts.</i>	2 – 4 W	13650201
Center Tube, Quartz (2.4 mm) (2 Blue Rings) • <i>Wide capillary (straight) bore center tube for use with high concentrations (above 10%) of dissolved salts.</i>	2 – 4 W	13650202
Duo Torch Sleeve & Seal Kit for Dual View IRIS/AP	2 – 4 W	13856300
Workcoil Replacement, 27 Mhz - Intrepid Series	2 – 4 W	07659500
Single Piece Radial Quartz Torch	2 – 4 W	13913700
Single Piece Quartz Torch Mounting Kit • <i>Used to mount Single Piece Quartz Torch or Single Piece Quartz Torch for N Analysis. Includes Collar Assembly and Support bracket for Conical Spray Chamber.</i> <i>NOTE: Does not include the self-sealing fittings for mounting the Cooled Conical Spray Chamber, which require installation by a Thermo authorized service engineer if not factory installed.</i>	2 – 4 W	13826600
Ceramic Center Tube (1.5 mm) for HF Torches • <i>Inert high purity Alumina center tube for use with HF sample introduction kits.</i>	2 – 4 W	13643601
Center Tube, Alumina (low Silicon) (2.0 mm) • <i>Inert high purity Alumina center tube for use with HF sample introduction kits. Preferred center tube for high solids samples.</i>	2 – 4 W	13643602
Torch Kit, Radial - Slotted, 1.0 mm Center Tube	2 – 4 W	12512405
Torch Kit, Radial, 1.0 mm Center Tube • <i>For use with high argon flow only.</i> • <i>Supplied with 1.0 mm bore demountable center tube suitable for use with organic solutions and base o-ring. This torch is identified by 2 red rings on the outer tube and 2 red rings on the center tube</i>	2 – 4 W	12512401
Torch Kit, Radial, High flow/Low flow, 1.5 mm Center Tube	2 – 4 W	12643202
Torch Kit, Radial, 1.5 mm Center Tube • <i>Kit includes demountable aqueous (1.5 mm bore) center tube and base o-ring. This torch is identified by 2 red rings on the outer tube and 1 red ring on the center tube.</i>	2 – 4 W	12643201
Slotted HF Radial Torch Kit 1.5 mm Center Tube • <i>Kit includes demountable aqueous (1.5 mm bore) center tube and base o-ring. This torch is identified by 2 red rings on the outer tube and 1 red ring on the center tube.</i>	2 – 4 W	12643204
Torch Kit, Axial, 1.5 mm Center Tube	2 – 4 W	12643203
Workcoil Replacement Kit, 27 Mhz - IRIS Advantage And Previous ICP Models	2 – 4 W	12623400
Torch Kit, Duo • <i>Axial (long) torch with hole for radial viewing. Kit includes sleeve and seal, standard (1.5 mm) center tube and o-ring</i> <i>NOTE: For any axial or duo instrument</i>	2 – 4 W	13856200
Workcoil Replacement Kit, 40 Mhz - IRIS Advantage And Previous ICP Models	2 – 4 W	13169500
HF Resistant Center Tube for Radial Torch Kits	2 – 4 W	12719000
Torch Kit, Radial, HF Resistant • <i>Kit includes demountable ceramic center tube.</i>	2 – 4 W	12717901
Torch Kit, Axial, Hydrofluoric Acid (HF) Resistant • <i>Kit includes demountable ceramic center tube.</i>	2 – 4 W	12717902
Torch Kit, Radial - Slotted, High flow, Hydrofluoric Acid (HF) Resistant	2 – 4 W	12717903

**Delivery:** please confirm availability when ordering.

*Continued*

# Torches and Injector Tubes

Continued

## Ordering Information

Description	Delivery	Part Number
Torch Assembly High Flow	12 W	12644001
Torch Assembly High Flow/TRACE	12 W	12644003
Torch Assembly High/Low Flow	12 W	12644002
Torch Assembly Quartz Dual View	12 W	12644005
Duo Torch Sleeve And Seal Kit <ul style="list-style-type: none"> <li>• Contains sleeve and seal only. For sealing optical path between radial viewing hole and lens on IRIS/AP Duo or IRIS Advantage Duo. Supplied with Duo Torch Kit</li> </ul> NOTE: For Dual View IRIS/AP And IRIS Advantage	12 W	13856300
Radial Torch Body, High Flow <ul style="list-style-type: none"> <li>• Outer body only. No center tube or O-ring is included.</li> <li>• This body is identified by two red rings on the outer tube</li> </ul>	12 W	12644001
Radial Torch Body, High/Low Flow <ul style="list-style-type: none"> <li>• Outer body only. No center tube or O-ring is included.</li> <li>• This body is identified by one red ring on the outer tube</li> </ul>	12 W	12644002
Trace Axial Torch Body <ul style="list-style-type: none"> <li>• Outer body only. No center tube or O-ring is included.</li> <li>• For all axial instruments</li> </ul>	12 W	12644003
Duo Torch Body <ul style="list-style-type: none"> <li>• Axial (long) torch with hole for radial viewing. No center tube or o-ring is included.</li> <li>• For all Dual View axial instruments</li> </ul>	12 W	12644005
Radial Torch Body, Slotted High Flow <ul style="list-style-type: none"> <li>• Outer body only. No center tube or O-ring is included.</li> </ul>	12 W	12644006
Single Piece Radial Quartz Torch <ul style="list-style-type: none"> <li>• Used in conjunction with CONICAL Spray Chamber. For use with all solvents Except HF. Especially suited for the analysis of organic solutions when used in conjunction with the Cooled Conical Spray Chamber.</li> </ul>	12 W	13913700
Torch Bonnet, Radial Plasma Torches	12 W	08520701
Slotted High Flow Radial Torch Kit, 1.0 mm Center Tube <ul style="list-style-type: none"> <li>• For use with high argon flow only. Supplied with 1.0 mm bore demountable center tube suitable for use with organic solutions and base o-ring. This torch is identified by 2 red rings on the center tube</li> </ul>	12 W	12512405
High Flow/Low Flow Radial Torch Kit, 1.5 mm Center Tube <ul style="list-style-type: none"> <li>• Kit includes demountable aqueous (1.5 mm bore) center tube and base o-ring. This torch is identified by 1 red ring on the outer tube and 1 red ring on the center tube</li> </ul>	12 W	12643202
Trace Axial Torch Kit <ul style="list-style-type: none"> <li>• Operates on standard high argon flow only</li> <li>• Kit includes 1.5 mm quartz center tube and O-ring</li> </ul>	12 W	12643203

**Delivery:** please confirm availability when ordering.

## Fully Demountable Torches & Spare Parts

### Ordering Information

Description	Delivery	Part Number
Fully Demountable Torch Body	2 – 4 W	14109800
Inner Tube for all Demountable Torches	2 – 4 W	14110000
Outer Tube for all Radial Demountable Torches	2 – 4 W	14110100
Outer Tube for all Axial Demountable Torches	2 – 4 W	14110200
Outer Tube for all Duo Demountable Torches	2 – 4 W	14110300
1.8 mm Center Tube for all Demountable Torches	2 – 4 W	14110500
1.0 mm Center Tube for all Demountable Torches	2 – 4 W	14110600
Alumina HF Resistant Center Tube for all Demount Torches	2 – 4 W	14111000
Fully Demountable Torch Ball Adaptor	2 – 4 W	14111100
Fully Demountable Torch Kit For Radial ICAP Spectrometer <i>Torch base with fully demountable injector tube, inner and outer quartz tubes. Kit includes:</i> <ul style="list-style-type: none"> <li>• Sleeve adapter for cyclone spray chamber</li> <li>• Ball adapter for conical spray chamber.</li> <li>• 1.8 and 1.0 mm quartz injector tubes</li> <li>• Inner tube and radial outer tube</li> <li>• Mounting plate and screws</li> </ul>	2 – 4 W	14111200
Fully Demountable Torch Kit For Axial ICAP Spectrometers <i>Torch base with fully demountable injector tube, inner and outer quartz tubes. Kit includes:</i> <ul style="list-style-type: none"> <li>• Sleeve adapter for cyclone spray chamber</li> <li>• Ball adapter for conical spray chamber.</li> <li>• 1.8 and 1.0 mm quartz injector tubes</li> <li>• Inner tube and axial outer tube</li> <li>• Mounting plate and screws</li> </ul>	2 – 4 W	14111300
Fully Demountable Torch Kit For Axial Duo ICAP <i>Torch base with fully demountable injector tube, inner and outer quartz tubes. Kit includes:</i> <ul style="list-style-type: none"> <li>• Sleeve adapter for cyclone spray chamber</li> <li>• Ball adapter for conical spray chamber.</li> <li>• 1.8 and 1.0 mm quartz injector tubes</li> <li>• Inner tube and axial outer tube with radial viewing hole</li> <li>• Duo sleeve and seal kit</li> <li>• Mounting plate and screws</li> </ul>	2 – 4 W	14111400
Fully Demountable Torch Body	2 – 4 W	14109800
Inner Tube for all Demountable Torches	2 – 4 W	14110000
Outer Tube for all Radial Demountable Torches	2 – 4 W	14110100
Outer Tube for all Axial Demountable Torches	2 – 4 W	14110200
Outer Tube for all Duo Demountable Torches	2 – 4 W	14110300
1.8 mm Center Tube for all Demountable Torches	2 – 4 W	14110500
1.0 mm Center Tube for all Demountable Torches	2 – 4 W	14110600
Alumina HF Resistant Center Tube for all Demount Torches	2 – 4 W	14111000
Fully Demountable Torch Ball Adaptor	2 – 4 W	14111100
Fully Demountable Torch Kit For Radial ICAP Spectrometer <i>Torch base with fully demountable injector tube, inner and outer quartz tubes. Kit includes:</i> <ul style="list-style-type: none"> <li>• Sleeve adapter for cyclone spray chamber</li> <li>• Ball adapter for conical spray chamber.</li> <li>• 1.8 and 1.0 mm quartz injector tubes</li> <li>• Inner tube and radial outer tube</li> <li>• Mounting plate and screws</li> </ul>	2 – 4 W	14111200

**Delivery:** please confirm availability when ordering.

*Continued*

## Fully Demountable Torches & Spare Parts

Continued

### Ordering Information

Description	Delivery	Part Number
Fully Demountable Torch Kit For Axial ICAP Spectrometers <i>Torch base with fully demountable injector tube, inner and outer quartz tubes. Kit includes:</i> <ul style="list-style-type: none"> <li>• Sleeve adapter for cyclone spray chamber</li> <li>• Ball adapter for conical spray chamber.</li> <li>• 1.8 and 1.0 mm quartz injector tubes</li> <li>• Inner tube and axial outer tube</li> <li>• Mounting plate and screws</li> </ul>	2 – 4 W	14111300
Fully Demountable Torch Kit For Axial Duo ICAP <i>Torch base with fully demountable injector tube, inner and outer quartz tubes. Kit includes:</i> <ul style="list-style-type: none"> <li>• Sleeve adapter for cyclone spray chamber</li> <li>• Ball adapter for conical spray chamber.</li> <li>• 1.8 and 1.0 mm quartz injector tubes</li> <li>• Inner tube and axial outer tube with radial viewing hole</li> <li>• Duo sleeve and seal kit</li> <li>• Mounting plate and screws</li> </ul>	2 – 4 W	14111400
O-Ring Kit For Demountable Torches <i>Includes:</i> <ul style="list-style-type: none"> <li>• 5 center tube o-rings (06425802)</li> <li>• 5 ball adapter o-rings (06425211)</li> </ul> <i>One kit is supplied with the demountable torch kit.</i>	2 – 4 W	14112800
Outer Tube – Slotted for Radial Demountable Torch <i>Note: For Atomscan Advantage Radial Demountable Torch or for N Analysis With Other Radial ICAP's</i>	2 – 4 W	14131700
Short Outer Tube for Axial Demountable Torch <ul style="list-style-type: none"> <li>• Provides improved performance for organic solutions analysis with the axial plasma.</li> </ul>	2 – 4 W	14131800
Short Outer Tube for Duo Demountable Torch <ul style="list-style-type: none"> <li>• Provides improved performance for organic solutions analysis with the axial plasma.</li> </ul>	2 – 4 W	14134600
Torch Kit – Radial, Fully Demountable	2 – 4 W	14153500
1.5 mm Center Tube for all Demountable Torches	2 – 4 W	14385700
Fully Demountable Torch Body Ground Glass Lower insert <ul style="list-style-type: none"> <li>• Replacement ground glass insert that locates the outer and inner sleeves.</li> </ul>	2 – 4 W	14278200

**Delivery:** please confirm availability when ordering.

## Pump Tubing

The following pump tubing is for use with the current models utilizing peristaltic pumps, which are equipped with white tensioning plates. Your instrument's pump may be equipped with 3 or 4 sets of pump tubes, allowing for sample, hydride reductant and Autosampler rinse flow-through all to be dispensed with the built-in pump. The fourth position, if present on your instrument, is for the pumped drain. The pump tubing designated "Rinse" is of larger diameter, allowing for a rinse flow slightly in excess of what is being taken up. These pump tubings are also used for the drain on those instruments which are equipped with a pumped drain assembly. Each tube is fitted with 3 stops and therefore may be used two times.

Each pump tubing material is recommended for a specific category of solution solvents.

**Tygon** is recommended for aqueous solutions, and it is tolerant to all strong acids, including HF. Supplied in packages of 6 pieces.

**Silicone Rubber** is recommended for moderate polarity aldehyde, ketone, and ester solvents, such as acetone, methyl isobutyl ketone, and ethyl acetate. Supplied in packages of 6 pieces.

**Viton Rubber** is recommended for low polarity alkanes, aromatics, and halogenated hydrocarbons, such as gasoline, kerosene, toluene, xylene, chloroform, and carbon tetrachloride.

**Solvent Flex** is suitable for the determination of wear metals in oils diluted with kerosene. It is more stable than Viton and will provide increased lifetime at a lower cost. Solvent Flex tubing is supplied in packages of 12 pieces.

## Ordering Information

Description	Part Number
Pump Tube, Tygon. Analytical (Orange/Orange) <i>For use with aqueous solutions. Package of 6</i>	13017700
Pump Tube, Tygon. Rinse And Pumped Drain (Red/Red) <i>For use with aqueous solutions. Package of 6</i>	13017701
Pump Tube, Silicone. Analytical (Orange/Orange) <i>For use with organic solutions. Package of 6</i>	13017702
Pump Tube, Silicone. Rinse Or Pumped Drain (Red/Red) <i>For use with organic solutions. Package of 6</i>	13017703
Pump Tube, Viton. Analytical (Orange/Orange) <i>For use with organic solutions. Package of 6</i>	13017704
Pump Tube, Viton. Rinse Or Pumped Drain (Red/Red) <i>For use with organic solutions. Package of 6</i>	13017705
Pump Tube, Tygon. Internal Standard (Orange/Green) <i>For automatic addition of internal standard element. Aspiration rate is approximately 20% of that of the Tygon Orange/Orange tubing.</i>	13017706
Pump Tube, Solvent Flex (Blue/Blue) <i>For use with kerosene-diluted oils. 0.065" ID. Package 12</i>	13173100
Pump Tube, Solvent Flex (Purple/Black) <i>For use with kerosene-diluted oils. 0.090" ID. Package 12</i>	13173101
Pump Tube, Solvent Flex (Orange/Orange) <i>For use with kerosene-diluted oils. 0.035" ID. Package of 12</i>	13173102
Pump Tube, Solvent Flex (Orange/Green) <i>For use with kerosene-diluted oils. 0.015" ID. Package of 12</i>	13173103
Pumped Drain Adapter Assembly for Gravity Drain Premixes	13897200
Reducer Fitting, Barbed <i>Reducer fittings used to join larger pump windings to capillary tubing. Package of 10</i>	14228200
Pump Tube, Solvent Flex. Diluent, (Yellow/Yellow) <i>For use with kerosene-diluted oils. 0.056" ID. Package of 12</i>	078530
Pump Tube, Solvent Flex. Diluent, (Red/Red) <i>For use with kerosene-diluted oils. 0.045" ID. Package of 12</i>	078532
Pump Tube, Solvent Flex. Diluent, (Yellow/Blue) <i>For use with kerosene-diluted oils. 0.060" ID. Package of 12</i>	078539
Cartridge Peristaltic Pump	12936900
Sample Tubing (10-ft Length)	14415500
Internal Standard Mixing Kit (4/pk)	13670800

**Delivery:** please confirm availability when ordering.

## Plasma Related Accessories

### Ordering Information

Description	Part Number
Argon Humidifier Kit <ul style="list-style-type: none"> <li>• Water bottle enclosed in a shatter resistant sleeve</li> <li>• Cap with inlet, outlet and fill connections</li> <li>• Mounting bracket</li> <li>• Tubing</li> <li>• Fittings</li> <li>• Instructions</li> <li>• One 2.0 mm capillary (straight) bore</li> <li>• One 2.4 mm capillary (straight) bore center tube</li> </ul>	13650700
Hydride Generation Kit, IRIS Intrepid	14418700
Hydride Generation Kit – PHD <p><i>Includes all tubing and fittings for hydride generation, plus instruction manual.</i></p> <ul style="list-style-type: none"> <li>• Requires, but does NOT include, 12718700 High Solids Nebulizer</li> </ul> <p><i>NOTE: For Glass Cylindrical spray Chamber Equipped Instruments Only.</i></p>	12718000
Hydride Generation Kit – T-PHD <ul style="list-style-type: none"> <li>• Includes gas/liquid separator assembly, all tubing and fittings for hydride generation, plus instruction manual. No nebulizer is required.</li> </ul> <p><i>NOTE: For IRIS Advantage and IRIS Intrepid Instruments</i></p>	14119900

**Delivery:** please confirm availability when ordering.

## Camera Updates/ Upgrades

*IRIS, IRIS Intrepid, IRIS Intrepid II, and DC Arc/AtomCOMP camera replacements and FRUs*

## Trace ICP Peristaltic Pump Retrofit Upgrade - 61E/61E Trace

### Ordering Information

Description	Part Number
IRIS Intrepid II Camera (SCM5038AX1) CID38AP-28/C	14456803
IRIS Advantage, IRIS Intrepid I, DC Arc/AtomCOMP™ camera	14456805
IRIS Advantage, Intrepid I, DC Arc/AtomCOMP (only) • Camera Retrofit Kit including: 14456805 (AX2 camera), misc. hardware	14476000
IRIS (115VAC) Upgrade Camera Retrofit Kit • (closed loop to TE cooled config.) includes: 14456805 (AX3), 14494001 (115VAC cooler), 13249702 (SCB), misc. hardware	14493801
IRIS (220VAC) Upgrade Camera Retrofit Kit • (closed loop to TE cooled config.) includes: 14456805 (AX3), 14494002 (220VAC cooler), 13249702 (SCB), misc. hardware	14493802
DC Arc (115VAC) Upgrade Camera Retrofit Kit • (closed loop to TE cooled config.) includes: 14456805 (AX3), 14494001 (115VAC cooler), 13249702 (SCB), misc. hardware	14496301

**Delivery:** please confirm availability when ordering.

The Trace pump assembly is located directly below the liquid sample introduction parts. This location causes the pump to rust and the waste may have harmful effects on the electronics. This upgrade relocates the Peristaltic pump assembly to the right side of the Trace enclosure panel and away from the sample introduction parts that cause the rusting. This upgrade also adds a pumped drain assembly that pumps the waste outside of the instrument, and as a result, moves the acid waste bottle well away from the instrument to reduce corrosion.

Included in the upgrade kit:

- Installation Instructions (703-019000)
- Extension Cable (703-018100)
- Drip Tray (703-018200)
- Four Channels Pump Assembly (13891300)
- Pumped Drain Assembly (13897200)
- 8, Screw 8-32 x 3/48 (14413700)
- 8, Nut Loc 8-32 x .3438 (14413600)
- Template (705-010000)
- Motor with pulley (Existing part)
- Belt (Existing part)

*NOTE: The kit does not include labor or travel expenses. The labor and travel expenses should be quoted as necessary. The estimated labor time required to complete the installation of the upgrade is 3 hours.*

### Ordering Information

Description	Part Number
Trace ICP Peristaltic Pump Retrofit Upgrade	703-019000

**Delivery:** please confirm availability when ordering.

## Blower & Venting Systems

### Ordering Information

Description	Part Number
Blower and Vent Assembly-Radial 220 v, 50 Hz <i>Same as 08536501, but for 220 v/50 Hz</i>	8536503
Blower & Vent Assembly For Axial and Duo Instruments <i>Same as 13596201 but for 230 v/60 Hz</i>	13596202
Blower & Vent Assembly For Axial and Duo Instruments <i>Same as 13596201 but for 220 v/50 Hz</i>	13596203

**Delivery:** please confirm availability when ordering.

## Maintenance Spares

Description	Delivery	Part Number
Bath Fluid	2 – 4 W	14404900
Workcoil Replacement Kit, 27 Mhz	2 – 4 W	12623400
Dust Filter for IRIS Advantage	2 – 4 W	13964300

**Delivery:** please confirm availability when ordering.

## Software & Upgrades

The entire range of IRIS Intrepid II spectrometers are enhanced by the Windows® 2000/XP-based TEVA Software. Teva is an easy to navigate software platform that allows operators to add wavelengths, create and store methods, analyze samples and carry out post-analysis data processing. The unique Intelliframe feature and full frame imaging allows the analyst to capture and record the entire spectrum of any, or all, samples for permanent records or semi-quantitative analysis.

TEVA provides a complete set of tools to enable 21CFR Part 11 compliance to be achieved, with full defensible audit trails, assuring instrument and data integrity. TEVA is network ready, utilizing the powerful SQL server, Ethernet connectivity and flexible report generation.

### Ordering Information

Description	Delivery	Part Number
TEVA Software for Workstation	2 – 4 W	14438300
TEVA Upgrade - No PC Workstation	2 – 4 W	14405700
THERMOSPEC v 3.50 Software Kit	12 W	12578501
THERMOSPEC v 2.30 Software CD-ROM	12 W	1343301
TJA300 Electronic Tray Upgrade Kit	12 W	13963400

**Delivery:** please confirm availability when ordering.

## Autosampler Spare Parts

### Ordering Information

Description	Delivery	Part Number
Sipper Probe Kit, ULTEM (2/kit) • For CETAC™ TJA300/AS300/Timberline Series Autosamplers • Replacement sipper probe and tubing to connect to the capillary tubing.	2 – 4 W	13300600
Rinse Station Tubing Kit, Aqueous • For CETAC TJA300/AS300/Timberline Series Autosamplers • For use the Thermo Scientific Autosamplers	2 – 4 W	12929300
Rinse Station, Glass Free-Flow • For CETAC TJA300/AS300/Timberline Series Autosamplers • Included with Thermo Scientific autosampler. Requires rinse tubing kit.	2 – 4 W	12638800
Sipper Probes, ULTEM (50/pk) • For CETAC TJA300/AS300/Timberline Series Autosamplers • Replacement package of 50 probes only, no connector tubing included.	2 – 4 W	13297150
Rinse Station Kit, Organic • For CETAC TJA300/AS300/Timberline Series Autosamplers • For Thermo autosamplers. Includes: – Glass rinse station – Viton tubing for delivery and removal of rinse solution	2 – 4 W	13966500
Rinse Station Kit, ULTEM Free-Flow • For CETAC TJA300/AS300/Timberline Series Autosamplers • Requires rinse tubing kit	2 – 4 W	13895300
Sipper Probe Kit, Oil Dilution System • For CETAC TJA300/AS300/Timberline Series Autosamplers • Replacement sipper probe assembly for oil dilution system. – One complete concentric sipper/diluter probe assembly – Gap tool, Spare inner and outer tubes – 3 spare cone seals – 2 spare flat seals	2 – 4 W	13802900
24 Position Sample Rack • Spare rack for CETAC TJA300 or Timberline Autosamplers – Capable of holding 24 vials; 20mm diameter, 85mm high	2 – 4 W	12929800

**Delivery:** please confirm availability when ordering.

## SSEA (Solid Sampling) and Spare Parts

Description	Delivery	Part Number
Counter Electrode O-Ring	2 – 4 W	13320234
Thermoplastic Tubing .025"	2 – 4 W	13012000
Teflon Tubing .025" ID	2 – 4 W	13073700
Plastic "T" Fitting	2 – 4 W	13011800
O-Ring Kit for SSA Petrey Stand	2 – 4 W	008313
Rubber/Metal Flex Collet	2 – 4 W	080337
Needle Pointed Thoriated Tungsten Electrode	2 – 4 W	004261
SSEA Small Sample Holder	2 – 4 W	13682700
Spray Chamber, Cyclone, Axial, Dual Neck SSEA	2 – 4 W	14028300
Spray Chamber, Cyclone, Radial, Dual Neck SSEA	2 – 4 W	14029600
Argon Flushed Petrey Sample Stand for Solid Sampling	2 – 4 W	66929
SSEA, Solid Sample Accessory, Free Standing Remote	2 – 4 W	14244500

**Delivery:** please confirm availability when ordering.

## Laboratory Solutions Backed by Worldwide Service and Support

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