

Notes About Part Numbers

All Bolts & Studs are provided 25 per package.

- **S** in Part Number indicates bolts are Silver Plated. Silver Plating is 0.0002" thick.
- **A** in Part Number indicates Allen-Head. Alloy A-286 (90k psi min yeild strength).
- **B** in Part Number indicates 12-Point Head, SST-302 HQ (70k psi min yield strength).
- **M** in Part Number indicates Metric Thread, Hex-Head, SST-302.

Nuts and/or Washers, non-plated are provided in the packages with the Bolts.

- **N** in Part Number indicates 25 Hex Nuts and 25 Washers.
- **N & F** in Part Number indicates 25 Flange Nuts and 25 Washers.
- **N & P** in Part Number indicates 13 Plate Nuts and 25 Washers.
- **X** in Part Number excludes Nuts but includes 25 Washers.

Bolts and Studs, non-silver plated, are also available and can be ordered by deleting the letter **S** from the Part Number.

Custom Bolt lengths are available but require a minimum of 1,500 parts per order.

Silver-Plated CF Flange Hex Nuts & Washers

Part No.	Description
Duniway	--
SAN-32-075	Silver-Plated Bolts, Allen Head, for 1.33" OD CF Flanges (8-32 X 0.75") - with Hex Nuts & Washers 25/pkg
SBN-28-125	Silver-Plated Bolts, 12-Point Head, for 2.75" OD CF Flanges (1/4-28 x 1.25") - with Hex Nuts & Washers 25/pkg
SBN-28-212	Silver-Plated Bolts, 12-Point Head, for 2.75" OD CF Flanges (1/4-28 x 2.125") - with Hex Nuts & Washers 25/pkg
SBN-24-175	Silver-Plated Bolts, 12-Point Head, for 3.375" OD CF Flanges (5/16-24 x 1.75") - with Hex Nuts & Washers 25/pkg
SBN-24-200	Silver-Plated Bolts, 12-Point Head, for 4.50" or 6.00" OD CF Flanges (5/16-24 x 2.00") - with Hex Nuts & Washers 25/pkg
SBN-24-225	Silver-Plated Bolts, 12-Point Head, for 6.00" or 8.00" OD CF Flanges (5/16-24 x 2.25") - with Hex Nuts & Washers 25/pkg
SBN-24-250	Silver-Plated Bolts, 12-Point Head, for 10.00" OD CF Flanges (5/16-24 x 2.50") - with Hex Nuts & Washers 25/pkg

Silver-Plated CF Flange Flange Nuts & Washers

Part No.	Description
Duniway	--
SFBN-28-125	Silver-Plated Bolts, 12-Point Head, for 2.75" OD CF Flanges (1/4-28 x 1.25")- with Flangenuts & Washers 25/pkg
SFBN-28-212	Silver-Plated Bolts, 12-Point Head, for 2.75" OD CF Flanges (1/4-28 x 2.125") - with Flangenuts & Washers 25/pkg
SFBN-24-175	Silver-Plated Bolts, 12-Point Head, for 3.375" OD CF Flanges (5/16-24 x 1.75") - with Flangenuts & Washers 25/pkg
SFBN-24-200	Silver-Plated Bolts, 12-Point Head, for 6.00" OD CF Flanges (5/16-24 x 2.00") - with Flangenuts & Washers 25/pkg
SFBN-24-225	Silver-Plated Bolts, 12-Point Head, for 6.00" or 8.00" OD CF Flanges (5/16-24 x 2.25") - with Flangenuts & Washers 25/pkg
SFBN-24-250	Silver-Plated Bolts, 12-Point Head, for 10.00" OD CF Flanges (5/16-24 x 2.50") - with Flangenuts & Washers 25/pkg



▼ SAN-32-075 — Silver-Plated Allen Head Bolts, Hex Nuts & Washers



▼ Silver-Plated 12-Point Head Bolts, Hex Nuts & Washers



▼ Silver-Plated 12-Point Head Bolts, Flange Nuts & Washers

Hardware

Bolts, Studs, Nuts & Washers — Packages

Silver-Plated CF Flange Plate Nuts & Washers

Part No.	Description
Duniway	--
SPAN32-075-133	Silver-Plated Bolts, Allen Head, for 1.33" OD CF Flanges (8-32 x 0.75") - with Platenuts & Washers 25/pkg
SPBN28-125-275	Silver-Plated Bolts, 12-Point Head, for 2.75" OD CF Flanges (1/4-28 x 1.25") - with Platenuts & Washers 25/pkg
SPBN28-212-275	Silver-Plated Bolts, 12-Point Head, for 2.75" OD CF Flanges (1/4-28 x 1.125") - with Platenuts & Washers 25/pkg
SPBN24-175-338	Silver-Plated Bolts, 12-Point Head, for 3.375" OD CF Flanges (5/16-24 x 1.75") - with Platenuts & Washers 25/pkg
SPBN24-200-450	Silver-Plated Bolts, 12-Point Head, for 4.50" OD CF Flanges (5/16-24 x 2.00") - with Platenuts & Washers 25/pkg
SPBN24-200-600	Silver-Plated Bolts, 12-Point Head, for 6.00" OD CF Flanges (5/16-24 x 2.00") - with Platenuts & Washers 25/pkg
SPBN24-225-600	Silver-Plated Bolts, 12-Point Head, for 6.00" OD CF Flanges (5/16-24 x 2.25") - with Platenuts & Washers 25/pkg
SPBN24-225-800	Silver-Plated Bolts, 12-Point Head, for 8.00" OD CF Flanges (5/16-24 x 2.25") - with Platenuts & Washers 25/pkg
SPBN24-250-1000	Silver-Plated Bolts, 12-Point Head, for 10.00" OD CF Flanges (5/16-24 x 2.50") - with Platenuts & Washers 25/pkg



► Silver-Plated Allen Head Bolts,
Plate Nuts & Washers



► Silver-Plated 12-Point Head Bolts,
Plate Nuts & Washers

Silver-Plated CF Flange Hex Head Metric Bolts with Hex Nuts & Washers

Part No.	Description
Duniway	--
SMN-M6-35	Silver Plated Metric Bolts, Hex Head, for 2.75" OD CF Flanges (D-6 mm L=35 mm Thread Pitch: 1 mm) - with Hex Nuts & Washers 25/pkg
SMN-M8-55	Silver Plated Metric Bolts, Hex Head, for 4.00" or 6.00" OD CF Flanges (D-8 mm L=55 mm Thread Pitch: 1.25 mm) - with Hex Nuts & Washers 25/pkg



► Silver-Plated Hex Head Bolts,
Hex Nuts & Washers

Silver-Plated CF Flange Hex Head Metric Bolts with Plate Nuts & Washers

Part No.	Description
Duniway	--
SPMN-M6-35-275	Silver Plated Metric Bolts, Hex Head, for 2.75" OD CF Flanges (D-6 mm L=35 mm Thread Pitch: 1 mm) - w/ Platenuts & Washers 25/pkg
SPMN-M8-55-450	Silver Plated Metric Bolts, Hex Head, for 4.50" OD CF Flanges (D-8 mm L=55 mm Thread Pitch: 1.25 mm) - w/ Platenuts & Washers 25/pkg
SPMN-M8-55-600	Silver Plated Metric Bolts, Hex Head, for 6.00" OD CF Flanges (D-8 mm L=55 mm Thread Pitch: 1.25 mm) - w/ Platenuts & Washers 25/pkg



► Silver-Plated Hex Head Metric Bolts,
Plate Nuts & Washers

Hardware

Bolts, Studs, Nuts & Washers — Packages

Silver-Plated Bolts for Tapped CF Flanges

Part No.	Description
Duniway	--
SAX-32-050	Silver-Plated Bolts, Allen Head, for 1.33" OD CF Tapped Flanges (8-32 X 0.50") - with washers 25/pkg
SBX-28-087	Silver-Plated Bolts, 12-Point Head, for 2.75" OD CF Tapped Flanges (1/4-28 x 0.875") - with Washers 25/pkg
SBX-24-125	Silver-Plated Bolts, 12-Point Head, for 3.375" or 4.50" or 6.00" OD CF Tapped Flanges (5/16-24 x 1.25") - with Washers 25/pkg
SBX-24-175	Silver-Plated Bolts, 12-Point Head, for 8.00" or 10.00" OD CF Tapped Flanges (5/16-24 x 1.75") - with Washers 25/pkg



► Silver-Plated Bolts for Tapped CF Flanges

Silver-Plated Non-Standard Bolts

Part No.	Description
Duniway	--
SBX-28-050	Silver-Plated Bolts, 12-Point Head, (1/4-28 x 0.50") - with Washers 25/pkg
SBX-28-100	Silver-Plated Bolts, 12-Point Head, (1/4-28 x 1.00") - with Washers 25/pkg
SBN-28-150	Silver-Plated Bolts, 12-Point Head, (1/4-28 x 1.50") with Nuts & Washers 25/pkg
SBN-28-175	Silver-Plated Bolts, 12-Point Head, (1/4-28 x 1.75") with Nuts & Washers 25/pkg
SBX-24-075	Silver-Plated Bolts, 12-Point Head, (5/16-24 x 0.75") - with Washers 25/pkg
SBX-24-100	Silver-Plated Bolts, 12-Point Head, (5/16-24 x 1.00") - with Washers 25/pkg
SBX-24-150	Silver-Plated Bolts, 12-Point Head, (5/16-24 x 1.50") - with Washers 25/pkg



► Silver-Plated 12-Point Head Bolts & Washers

Silver-Plated Studs

Part No.	Description
Duniway	--
SR-24-200	Silver-Plated Custom Studs (5/16-24 x 2.00") 25/pkg
SR-24-250	Silver-Plated Custom Studs (5/16-24 x 2.50") 25/pkg
SR-24-300	Silver-Plated Custom Studs (5/16-24 x 3.00") 25/pkg
SR-28-150	Silver-Plated Studs (1/4-28 x 1.50"), 25/pkg
SR-28-225	Silver-Plated Studs (1/4-28 x 2.25"), 25/pkg



► Silver-Plated Studs

Wrenches & Sockets

Part No.	Description
Duniway	--
SOCKET-1/4	1/4" 12-Point Socket for 1/4 " Drive
SOCKET-5/16	5/16" 12-Point Socket for 3/8" Drive
WRENCH-1/4	12pt 1/4" Combination Wrench
WRENCH-5/16	12pt 5/16" Combination Wrench



► 12-Point Socket



► Combination Wrench

Hardware

CF Flange Nuts & Accessories

Hardware

Plate Nuts – 304 SST, Fine Threads

Part No.	Description
Duniway	--
PN-0133-025	Platenut for 1.33" OD CF Flange (8-32) 25/pkg
PN-0133-100	Platenut for 1.33" OD CF Flange (8-32) 100/pkg
PN-0218-025	Platenut for 2.125" OD CF Flange (1/4-28) 25/pkg
PN-0218-100	Platenut for 2.125" OD CF Flange (1/4-28) 100/pkg
PN-0275-025	Platenut for 2.75" OD CF Flange (1/4-28) 25/pkg
PN-0275-100	Platenut for 2.75" OD CF Flange (1/4-28) 100/pkg
PN-0338-025	Platenut for 3.375" OD CF Flange (5/16-24) 25/pkg
PN-0338-100	Platenut for 3.375" OD CF Flange (5/16-24) 100/pkg
PN-0450-025	Platenut for 4.50" OD CF Flange (5/16-24) 25/pkg
PN-0450-100	Platenut for 4.50" OD CF Flange (5/16-24) 100/pkg
PN-0458-025	Platenut for 4.625" OD CF Flange (5/16-24) 25/pkg
PN-0458-100	Platenut for 4.625" OD CF Flange (5/16-24) 100/pkg
PN-0600-025	Platenut for 6.00" OD CF Flange (5/16-24) 25/pkg
PN-0600-100	Platenut for 6.00" OD CF Flange (5/16-24) 100/pkg
PN-0800-025	Platenut for 8.00" OD CF Flange (5/16-24) 25/pkg
PN-0800-100	Platenut for 8.00" OD CF Flange (5/16-24) 100/pkg
PN-1000-025	Platenut for 10.00" OD CF Flange (5/16-24) 25/pkg
PN-1000-100	Platenut for 10.00" OD CF Flange (5/16-24) 100/pkg
PN-1200-025	Platenut for 12.00" OD CF Flange (5/16-24) 25/pkg
PN-1200-100	Platenut for 12.00" OD CF Flange (5/16-24) 100/pkg



Plate Nuts,
Standard & Metric



Flange Nuts

Metric Plate Nuts — 304 SST

Part No.	Description
Duniway	--
MP-0133-25	Metric Platenuts For 1.33" OD CFF (Bolt D = 4 mm Thread Pitch: 0.7 mm) 25/pkg
MP-0275-25	Metric Platenuts For 2.75" OD CFF (Bolt D = 6 mm Thread Pitch: 1.0 mm) 25/pkg
MP-0450-25	Metric Platenuts For 4.50" OD CFF (Bolt D = 8 mm Thread Pitch: 1.25 mm) 25/pkg
MP-0600-25	Metric Platenuts For 6.00" OD CFF (Bolt D = 8 mm Thread Pitch: 1.25 mm) 25/pkg
MP-0800-25	Metric Platenuts For 8.00" OD CFF (Bolt D = 8 mm Thread Pitch: 1.25 mm) 25/pkg
MP-1000-25	Metric Platenuts For 10.00" OD CFF (Bolt D = 8 mm Thread Pitch: 1.25 mm) 25/pkg



Silver-Plated Nuts

Flange Nuts – 304 SST, High Strength: 100,000 psi

Part No.	Description
Duniway	--
FN-2528-100	Flange Nuts (1/4-28), 100/pkg
FN-3124-100	Flange Nuts (5/16-24), 100/pkg

Silver-Plated Nuts – Only for use with Non-Plated Bolts

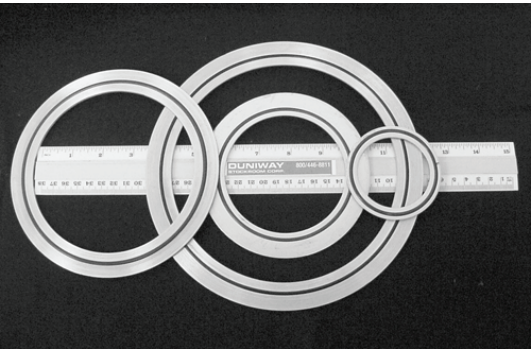
Part No.	Description
Duniway	--
SN-1/4	Silver Plated Nuts (Bolt D=0.25", 28 Threads per Inch) 25/pkg
SN-5/16	Silver Plated Nuts (Bolt D=5/16", 24 Threads per Inch) 25/pkg

Features

Econo Rings are made for sealing two ungrooved ASA/ANSI flanges.

A normal O-ring of either Buna®-N or Viton®-A is captured and located between two aluminum retaining rings. The O-ring is included and the standard O-ring dash number designator is included for convenient replacement.

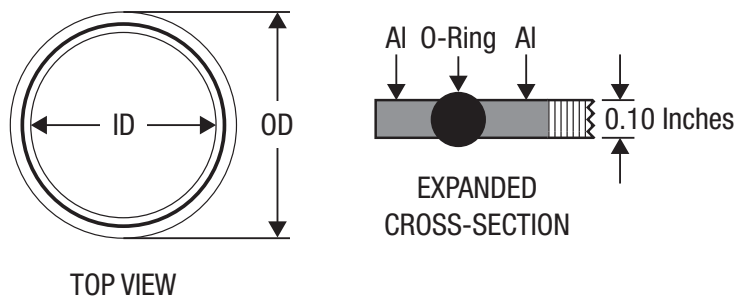
The thickness of the aluminum retaining rings is 0.10 inches and the O-ring cross section diameter is 0.139 inches.



▼ Econo Rings

Econo Rings

Part No.	Description
Duniway	--
ECB-2	Econo Ring (OD=2.97" ID=2.25") Buna O-Ring(-230) for 2" ASA
ECB-3	Econo Ring (OD=5.25" ID=3.75") Buna O-Ring(-242) for 3" ASA
ECB-4	Econo Ring (OD=6.75" ID=5.25") Buna O-Ring(-256) for 4" ASA
ECB-6	Econo Ring (OD=8.63" ID=7.00") Buna O-Ring(-263) for 6" ASA
ECV-2	Econo Ring (OD=2.97" ID=2.25") Viton O-Ring(-230) for 2" ASA
ECV-3	Econo Ring (OD=5.25" ID=3.75") Viton O-Ring(-242) for 3" ASA
ECV-4	Econo Ring (OD=6.75" ID=5.25") Viton O-Ring(-256) for 4" ASA
ECV-6	Econo Ring (OD=8.63" ID=7.00") Viton O-Ring(-263) for 6" ASA



Hardware

Rotary & Electrical Feedthroughs

Varian-Style Ion Pump High Voltage Feedthroughs

Part No.	Description
Duniway	--
HVFT-0006-00	High Voltage Feedthrough, VA Classic-Style
HVFT-0006-02	High Voltage Feedthrough, VA Classic-Style, Hole in Shaft
HVFT-5024	High Voltage Feedthrough, VA Old-Style (Obsolete)
HVFT-5120	High Voltage Feedthrough, Early VIP/Starcell-Style Pumps, on 1.33" (mini) CFF
HVFT-5125	High Voltage Feedthrough, New VIP/Starcell-Style Pumps, on 1.33" (mini) CFF
HVFT-5143	High Voltage Feedthrough, VA Classic-Style- For 30L/s and Larger Pumps, on 1.33" (mini) CFF



▼ HVFT-0006-00



▼ HVFT-0006-02



▼ HVFT-5120



▼ HVFT-5125



▼ HVFT-5143



▼ RMF-15

Rotary Motion Feedthroughs

Part No.	Description
Duniway	--
FRMF-15	RIGAKU FerroFluid Rotary Motion Feedthrough, Shaft D=0.375" Port OD=1.0" with #14 Thread
RMF-1-25	Direct Drive Rotary Motion Feedthrough, Shaft D = 0.25" L = 4.37" Port OD = 1.0" Through Hole

Electrical Feedthroughs – Medium Current

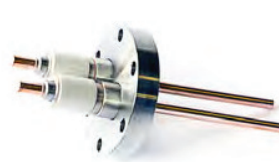
Part No.	Description — 150 AMP, 12 KV, 0.25" OD Conductor(s)
Duniway	--
FT-150-000	Medium Current Feedthrough, No Flange, 0.75" OD Port
FT-150-133	Medium Current Feedthrough, 1.33" OD CF Flange
FT-150-275	Medium Current Feedthrough, 2.75" OD CF Flange
FT-152-275	Dual Medium Current Feedthrough, 2.75" OD CF Flange



▼ FT-150-133



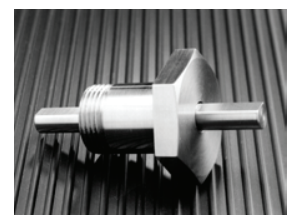
▼ FT-150-275



▼ FT-152-275

Electrical Feedthroughs – High Voltage

Part No.	Description
Duniway	--
PE-HVFT-ASSY	High Voltage Feedthrough, New Style, for PE/PHI/Ultek Ion Pump, No Flange
PE-FT-133	High Voltage Feedthrough, New Style, for PE/PHI/Ultek Ion Pump, on 1.33" (mini) CFF
PE-FT-218	High Voltage Feedthrough, Old Style, for PE/PHI/Ultek Ion Pump, on 2 1/8" CFF



▼ FRMF-1-25

Valves

New Valves

Leak Valves

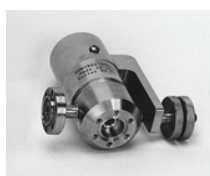
Valve Specifications

- Bakeable to 450° C (Opened or Closed)
- Sapphire Assembly with Vented Threads
- Prevents Trapped Gas in the Piston Assembly
- Controlled Leak Rate: 10^{-10} Torr L/S (Minimum)
- Vacuum Range: Atmosphere to Below 10^{-11} Torr (mbar)
- Leak Rate: No Leak Detectable on a Helium Mass Spectrometer Leak Detector with Sensitivity of 1×10^{-10} std cc/sec

Part No.	Description
Duniway	--
VLVE-1000	Bakeable Variable Leak Valve, Dead Volume = 20 cc, Bottom Flange 2.75" CFF, Inlet Flange 1.33" CFF
VLVE-2000	Bakeable Variable Leak Valve, Dead Volume = 1.5 cc, Bottom Flange 1.33" CFF, Inlet Flange 1.33" CFF
REBG-LEAK-VLV	Bakeable Leak Valve - Complete Rebuilding Service.
0072-INS-TOOL	Insertion Tool to Change SAPPHIRE-0072
A133-X-025VCR-F	Mini CFF to 1/4" Female VCR Adapter
A133-X-025VCR-M	Mini CFF to 1/4" Male VCR Adapter
A133-X-FLARE	Mini CFF to Flare Fitting Adapter (Varian Equiv. PN 951-5117)
BV-WASHER	Belleville Washer for Bakeable Variable Leak Valve, 3/pkg
FSA-COMPLETE	Fine Screw Assembly & Belleville Washer
GASKET-5050	Replacement Gasket Assembly (Varian Equiv. PN 953-5050)
SAPPHIRE-0072	Replacement Sapphire Assembly (Varian Equiv. PN 953-0072)
VLVE-CAS	Coarse adjustment screw for Variable Leak Valves
VLVE-FS	Fine Screw - Threaded Rod
VLVE-HANDLE	Bakeable Leak Valve Handle
VLVE-KNOB	Bakeable Leak Valve Knob, (2 needed per valve)



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Ion Pumps

Duniway Stockroom, The Ion Pump Experts



Ion Pumps

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Ion Pumps

Duniway Stockroom, The Ion Pump Experts

The Ion Pump Experts

For more than 30 years, Duniway Stockroom has been building ion pumps with innovative technologies aimed at maximizing performance while minimizing cost. Our patented Galaxy® elements, which efficiently pump noble gases without reducing active gas pumping speed, represent the latest significant advance in ion pump technology.

Ion Pumps

We manufacture and rebuild all ion pumps in our Fremont, CA facility using the best materials, construction and processing techniques for ion pumps & elements. Pumps are shipped under vacuum (unless otherwise specified) to assure integrity until installation in the final application.

- New Complete line of Duniway Ion Pumps (10 l/s to 400 l/s)
- New and Rebuilt Varian-Style Classic and Perkin-Elmer style Ion Pumps (1 l/s to 500 l/s)
- Various configurations for pumping virtually any gas
- Customized ion pumps for specialized applications

Ion Pump Control Units

Whether you need the control and easy integration of a digital switching power supply, or the robustness and quiet electrical characteristics of an analog power supply, Duniway has an ion pump power supply that will meet your needs.

- New Terranova Ion Pump Control Units with digital display, process control, computer interface, single or dual output
- New Duniway Analog Ion Pump Control Units and Pressure Relay
- Custom controls for specialized applications
- Rebuilt Ion Pump Control Units

Products and Services

Duniway offers a full complement of ion pump parts and services, and we take pride in our ability to rebuild almost any ion pump in the world. Custom cables can be built very quickly, and most parts are in stock for immediate shipment.

- Ion Pump Rebuilding Service
- High-Voltage Cables
- Spare Parts such as Magnets, High-Voltage Feedthroughs, Elements, etc.

Ion Pump Build / Rebuild Overview

Duniway Stockroom Corporation builds and rebuilds sputter-ion pumps and pump elements from all original manufacturers as a service to our customers. For new ion pumps, all new parts of the highest quality and cleanliness are used. For rebuilding, all deposits are removed, material is outgassed and electrical leakage is minimized. The rebuilt pumps have the same performance and warranty as our new pumps.

Below is a list of what we will do with your pump —

Ion Pump New-Build

- 1 Acquire New Parts to Specifications
- 2 Clean Parts for Surface Contamination
- 3 Bake Ceramic Parts
- 4 Vacuum Degas all Metal Element Parts
- 5 TIG Weld Body and Feedthrough
- 6 Leak Check Welded Body
- 7 Assemble Elements
- 8 Install the Elements in the Clean Body
- 9 Leak Check
- 10 Bake-Out on Vacuum Manifold
- 11 Check for leakage current
- 12 Pinch off Seal
- 13 Clean Exterior
- 14 Check for Leakage Current

Ion Pump Rebuild

- 1 Open Pump & Remove Elements
- 2 Disassemble Elements Completely
- 3 Clean Stainless Steel Parts
- 4 Replace Titanium and Tantalum Parts
- 5 Clean and/or Replace Ceramic Parts
- 6 Vacuum Degas all Metal Element Parts
- 7 Reassemble Elements
- 8 Install the Elements in the Clean Body
- 9 Leak Check
- 10 Bake-Out on Vacuum Manifold
- 11 Check for leakage current
- 12 Pinch off Seal
- 13 Clean Exterior
- 14 Check for Leakage Current

A New Generation of Ion Pump Technology

Sputter-ion pump element design has just entered a new era, with the introduction of Galaxy® Technology cathode design by Duniway Stockroom Corporation. By putting getter-cathode material where it really needs to be, we have succeeded in providing stable pumping speed for air without sacrificing overall pumping speed.

Galaxy® Element is new and unique Duniway proprietary technology covered by US Patent #6004104. Sputter-ion pumps and elements with this design offer —

- The pumping speed of a standard diode for active gases.
- The structural stability, long life and better low pressure operation of standard diode elements.
- The air/argon pumping stability of triode, StarCell® and differential/noble diode elements.
- Higher capacity for hydrogen/water vapor than the triode or Starcell® elements.
- Lower price than the differential/noble diode, since Galaxy® does not require expensive tantalum.

Galaxy® Technology elements are available for delivery in selected new ion pumps, new ion pump elements and for rebuilding selected ion pumps and elements.

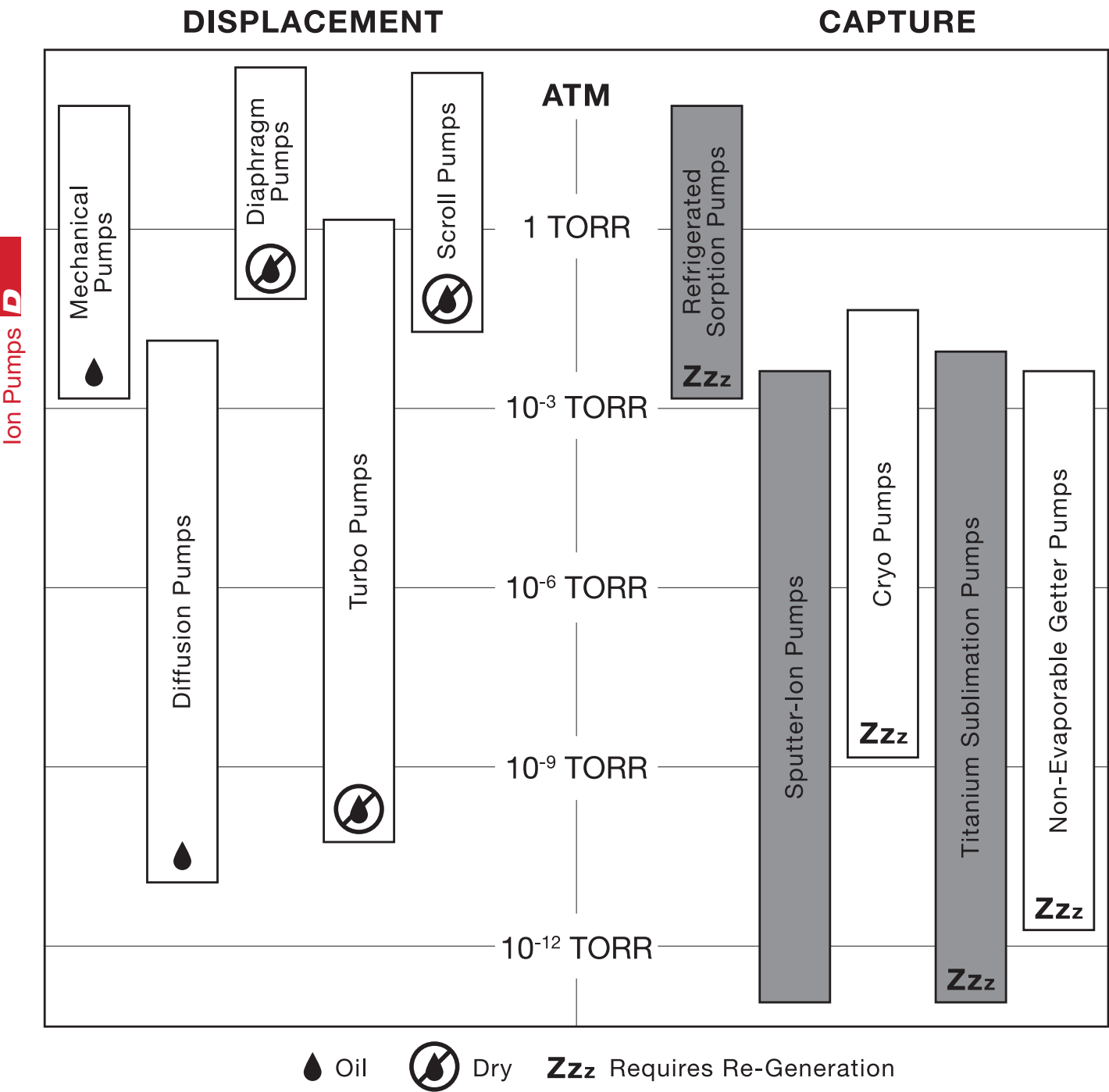
- 1 Replacement element for Starcell® pumps, (EL-ST-GX): This element will give stable air/argon pumping and higher long-term capacity for water/hydrogen. It can be used for rebuilding Starcell® pumps for better performance and a lower price.
- 2 Replacement diode element for Vacion-style pumps (EL-LG-GX): This element and the pumps using this element have better pumping speed performance at pressures below 10^{-8} torr than any other ion pump. Combined with its initial reasonable price, this can result in much higher (up to 10 times!) pumping speed per dollar at low pressures than other designs.
- 3 Replacement element for PE-style pumps (NEW-GXY-2000): This element gives stable air/argon pumping speed at lower cost than the DI (differential ion) designs, since it does not use expensive tantalum cathode material.
- 4 Replacement element for PE CapTorr-style ion pumps. (PE38-GXY): This element gives stable air/argon pumping speed at lower cost than the DI (differential ion) designs, since it does not use expensive, scarce tantalum cathode material. See the following pages for additional models, part numbers and prices. Also, visit our website, www.duniway.com for more information on ion pump design and low pressure operation.



Ion Pumps

Tech Tips

Vacuum Pumps / Types & Ranges



Ion Pumps

New Ion Pumps

New Duniway Ion Pumps

Duniway Stockroom Corporation has a completely updated line of Ion Pump products. We have incorporated our extensive experience with a wide variety of ion pumps to provide an improved offering for our customers.

Features

- Improved Element Design
- Choice of Element Technology
- Standard Diode
- Galaxy® Diode
- Noble Diode
- Efficient, Modular Design
- Choice of High Voltage Feedthrough
 - Standard — HVFT-5125 New StarCell-Style Interlock
 - Optional — HVFT-5143 Varian-Style
HVFT-5120 Varian Starcell-Style
FT-PE-133 PE-Style

Benefits

- Higher Pumping Speed/Volume Ratio
- Low Cost, Long Life for UHV
- Stable Pumping for Air Load/Leaks
- Stable Pumping for Argon Loads
- Smaller Size
- Lower Profile
- Match Application/Control Unit

Pump Dimensions / Specifications

Pump	Flange	Height	Width	Depth	Weight
l/s	Inch (mm)	Inch (m m)	Inch (mm)	Inch (mm)	Pound (kg)
10	2.75 (70)	8.3 (210)	4.0 (100)	4.0 (100)	8.7 (3.9)
20	2.75 (70)	8.3 (210)	4.0 (100)	5.3 (140)	10.8 (4.9)
30	2.75 (70)	7.5 (190)	8.5 (220)	5.3 (140)	23.8 (10.8)
50	4.50 (114)	8.5 (220)	11.0 (280)	5.3 (140)	30.5 (13.9)
100	6.00 (154)	11.5 (290)	14.0 (312)	5.3 (140)	56.0 (25.4)
200	8.00 (203)	11.5 (290)	17.0 (430)	17.0 (430)	105.1 (47.7)
400	8.00 (203)	18.0 (450)	17.0 (430)	17.0 (430)	185.6 (84.3)



▼ Duniway Patented Galaxy® Technology

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New Ion Pumps

New Duniway Ion Pumps

Part No.	Description	Image
Duniway	--	#
DGD-010-5125-M	Duniway Galaxy Diode Ion Pump, 10 l/s, w/Magnet, 2.75"CFF	1
DND-010-5125-M	Duniway Noble Diode Ion Pump, 8 l/s, w/ Magnet, 2.75"CFF	1
DSD-010-5125-M	Duniway Standard Diode Ion Pump, 10 l/s, w/Magnet, 2.75"CFF	1
DGD-020-5125-M	Duniway Galaxy Diode Ion Pump, 20 l/s, w/Magnet, 2.75"CFF	2
DND-020-5125-M	Duniway Noble Diode Ion Pump, 16 l/s, w/Magnet, 2.75"CFF	2
DSD-020-5125-M	Duniway Standard Diode Ion Pump, 20 l/s, w/Magnet, 2.75"CFF	2
DGD-030-5125-M	Duniway Galaxy Diode Ion Pump, 30 l/s, w/Magnet, 2.75"CFF	3
DND-030-5125-M	Duniway Noble Diode Ion Pump, 24 l/s, w/Magnet, 2.75"CFF	3
DSD-030-5125-M	Duniway Standard Diode Ion Pump, 30 l/s, w/Magnet, 2.75"CFF	3
DGD-050-5125-M	Duniway Galaxy Diode Ion Pump, 50 l/s, w/Magnet, 4.50"CFF	4
DND-050-5125-M	Duniway Noble Diode Ion Pump, 40 l/s, w/Magnet, 4.50"CFF	4
DSD-050-5125-M	Duniway Standard Diode Ion Pump, 50 l/s, w/Magnet, 4.50"CFF	4
DGD-100-5125-M	Duniway Galaxy Diode Ion Pump, 100 l/s, w/Magnets, 6.00"CFF	5
DND-100-5125-M	Duniway Noble Diode Ion Pump, 80 l/s, w/Magnets, 6.00"CFF	5
DSD-100-5125-M	Duniway Standard Diode Ion Pump, 100 l/s, w/Magnets, 6.00"CFF	5
DGD-200-5125-M	Duniway Galaxy Diode Ion Pump, 200 l/s, w/Magnets, 8.00"CFF	6
DND-200-5125-M	Duniway Noble Diode Ion Pump, 160 l/s, w/Magnets, 8.00"CFF	6
DSD-200-5125-M	Duniway Standard Diode Ion Pump, 200 l/s, w/Magnets, 8.00"CFF	6
DGD-400-5125-M	Duniway Galaxy Diode Ion Pump, 400 l/s, w/Magnets, 8.00"CFF	7
DND-400-5125-M	Duniway Noble Diode Ion Pump, 320 l/s, w/Magnets, 8.00"CFF	7
DSD-400-5125-M	Duniway Standard Diode Ion Pump, 400 l/s, w/Magnets, 8.00"CFF	7

- Choice of High Voltage Feedthrough
 - Standard — HVFT-5125 New StarCell-Style Interlock
 - Optional — HVFT-5143 Varian-Style
HVFT-5120 Varian Starcell-Style
FT-PE-133 PE-Style



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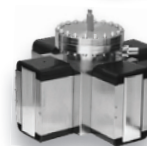
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Ion Pumps

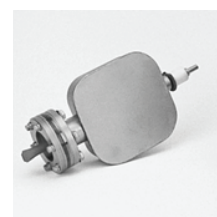
Varian Classic Style Ion Pumps

New Varian Classic Style Pumps

Part No.	Description	Image
Duniway	--	#
VA-008-DD-M	New VA 8 I/s Standard Diode, 2.75" CFF w/Magnet	1
VA-008-GX-M	New VA 8 I/s Galaxy Diode, 2.75" CFF w/ Magnet	1
VA-008-DD-O	New VA 8 I/s Standard Diode, 2.75" CFF no Magnet	2
VA-008-GX-O	New VA 8 I/s Galaxy Diode, 2.75" CFF no Magnet	2
VA-020-DD-M	New VA 20 I/s Standard Diode, 2.75" CFF w/Magnet	3
VA-020-GX-M	New VA 20 I/s Galaxy Diode, 2.75" CFF w/Magnet	3
VA-020-TR-M	New VA 20 I/s Triode, 2.75" CFF w/ Magnet	3
VA-020-DD-O	New VA 20 I/s Standard Diode, 2.75" CFF no Magnet	4
VA-020-GX-O	New VA 20 I/s Galaxy Diode, 2.75" CFF no Magnet	4
VA-020-TR-O	New VA 20 I/s Triode, 2.75" CFF no Magnet	4
VA-030-DD-M	New VA 30 I/s Standard Diode, 4.50" CFF w/Magnet	5
VA-030-GX-M	New VA 30 I/s Galaxy Diode, 4.50" CFF w/Magnet	5
VA-030-TR-M	New VA 30 I/s Triode, 4.50" CFF w/Magnet	5
VA-030-DD-O	New VA 30 I/s Standard Diode, 4.50" CFF no Magnet	6
VA-030-GX-O	New VA 30 I/s Galaxy Diode, 4.50" CFF no Magnet	6
VA-030-TR-O	New VA 30 I/s Triode, 4.50" CFF no Magnet	6
VA-060-DD-M	New VA 60 I/s Standard Diode, 6.00" CFF w/Magnet	7
VA-060-GX-M	New VA 60 I/s Galaxy Diode, 6.00" CFF w/Magnet	7
VA-060-TR-M	New VA 60 I/s Triode, 6.00" CFF w/Magnet	7



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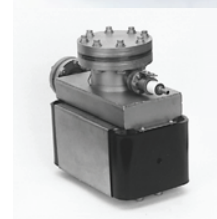
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Varian Classic Style Ion Pumps

New Varian Classic Style Pumps

Part No.	Description
Duniway	--
VA-060-DD-O	New VA 60 I/s Standard Diode, 6.00" CFF no Magnet
VA-060-GX-O	New VA 60 I/s Galaxy Diode, 6.00" CFF no Magnet
VA-060-TR-O	New VA 60 I/s Triode, 6.00" CFF no Magnet
VA-110-TR-M	New VA 110 I/s Triode, 8.00" CFF w/Magnet
VA-110-TR-O	New VA 110 I/s Triode, 8.00" CFF no Magnet
VA-140-DD-M	New VA 140 I/s Standard Diode, 8.00" CFF w/Magnet
VA-140-GX-M	New VA 140 I/s Galaxy Diode, 8.00" CFF w/Magnet
VA-140-DD-O	New VA 140 I/s Standard Diode, 8.00" CFF no Magnet
VA-140-GX-O	New VA 140 I/s Galaxy Diode, 8.00" CFF no Magnet
VA-220-TR-M	New VA 220 I/s Triode, 8.00" CFF w/ Magnet
VA-220-TR-O	New VA 220 I/s Triode, 8.00" CFF no Magnet
VA-270-DD-M	New VA 270 I/s Standard Diode, 8.00" CFF w/Magnet
VA-270-GX-M	New VA 270 I/s Galaxy Diode, 8.00" CFF w/Magnet
VA-270-DD-O	New VA 270 I/s Standard Diode, 8.00" CFF no Magnet
VA-270-GX-O	New VA 270 I/s Galaxy Diode, 8.00" CFF no Magnet
VA-400-TR-M	New VA 400 I/s Triode, 8.00" CFF w/ Magnet
VA-400-TR-O	New VA 400 I/s Triode, 8.00" CFF no Magnet
VA-500-DD-M	New VA 500 I/s Standard Diode, 8.00" CFF w/Magnet
VA-500-GX-M	New VA 500 I/s Galaxy Diode, 8.00" CFF w/Magnet
VA-500-DD-O	New VA 500 I/s Standard Diode, 8.00" CFF no Magnet
VA-500-GX-O	New VA 500 I/s Galaxy Diode, 8.00" CFF no Magnet



220/270 I/s ion pump without magnet



400/500 I/s ion pump without magnet



400/500 I/s ion pump with magnet

Ion Pumps

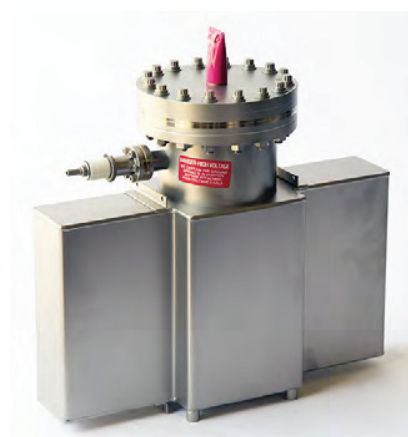
Varian Classic Style Ion Pumps

Rebuilt Varian Classic Style Pumps

Part No.	Description
Duniway	--
RVA-008-DD-M	Rebuilt VA 8 I/s Standard Diode, 2.75" CFF w/Magnet (VA-911-5005)
RVA-008-GX-M	Rebuilt VA 8 I/s Galaxy Diode, 2.75" CFF w/Magnet
RVA-008-DD-O	Rebuilt VA 8 I/s Standard Diode, 2.75" CFF no Magnet (VA-911-5005)
RVA-008-GX-O	Rebuilt VA 8 I/s Galaxy Diode, 2.75" CFF no Magnet
RVA-020-DD-M	Rebuilt VA 20 I/s Standard Diode, 2.75" CFF w/Magnet (VA-911-5036)
RVA-020-GX-M	Rebuilt VA 20 I/s Galaxy Diode, 2.75" CFF w/Magnet
RVA-020-TR-M	Rebuilt VA 20 I/s Triode, 2.75" CFF w/ Magnet (VA-911-5030)
RVA-020-DD-O	Rebuilt VA 20 I/s Standard Diode, 2.75" CFF no Magnet
RVA-020-GX-O	Rebuilt VA 20 I/s Galaxy Diode, 2.75" CFF no Magnet
RVA-020-TR-O	Rebuilt VA 20 I/s Triode, 2.75" CFF no Magnet (VA-911-5031)
RVA-030-DD-M	Rebuilt VA 30 I/s Standard Diode, 4.50" CFF w/Magnet (VA-911-5037)
RVA-030-GX-M	Rebuilt VA 30 I/s Galaxy Diode, 4.50" CFF w/Magnet
RVA-030-TR-M	Rebuilt VA 30 I/s Triode, 4.50" CFF w/Magnet (VA-911-5032)
RVA-030-DD-O	Rebuilt VA 30 I/s Standard Diode, 4.50" CFF no Magnet
RVA-030-GX-O	Rebuilt VA 30 I/s Galaxy Diode, 4.50" CFF no Magnet
RVA-030-TR-O	Rebuilt VA 30 I/s Triode, 4.50" CFF no Magnet (VA-911-5033)
RVA-060-DD-M	Rebuilt VA 60 I/s Standard Diode, 6.00" CFF w/Magnet (VA-911-5038)
RVA-060-GX-M	New VA 60 I/s Galaxy Diode, 6.00" CFF w/Magnet
RVA-060-TR-M	Rebuilt VA 60 I/s Triode, 6.00" CFF w/Magnet (VA-911-5034)
RVA-060-DD-O	Rebuilt VA 60 I/s Standard Diode, 6.00" CFF no Magnet
RVA-060-GX-O	Rebuilt VA 60 I/s Galaxy Diode, 6.00" CFF no Magnet
RVA-060-TR-O	Rebuilt VA 60 I/s Triode, 6.00" CFF no Magnet
RVA-110-TR-M	Rebuilt VA 110 I/s Triode, 8.00" CFF w/ Magnet
RVA-110-TR-O	Rebuilt VA 110 I/s Triode, 8.00" CFF no Magnet (VA-912-7006)
RVA-140-DD-M	Rebuilt VA 140 I/s Standard Diode, 8.00" CFF w/Magnet
RVA-140-GX-M	Rebuilt VA 140 I/s Galaxy Diode, 8.00" CFF w/Magnet
RVA-140-DD-O	Rebuilt VA 140 I/s Standard Diode, 8.00" CFF no Magnet (VA-912-7000)
RVA-140-GX-O	Rebuilt VA 140 I/s Galaxy Diode, 8.00" CFF no Magnet
RVA-220-TR-M	Rebuilt VA 220 I/s Triode, 8.00" CFF w/Magnet
RVA-220-TR-O	Rebuilt VA 220 I/s Triode, 8.00" CFF no Magnet (VA-912-7014)
RVA-270-DD-M	Rebuilt VA 270 I/s Standard Diode, 8.00" CFF w/Magnet
RVA-270-GX-M	Rebuilt VA 270 I/s Galaxy Diode, 8.00" CFF w/Magnet



Rebuilt VA 220 I/s Triode, no Magnet



Rebuilt VA 60 I/s Standard Diode, no Magnet

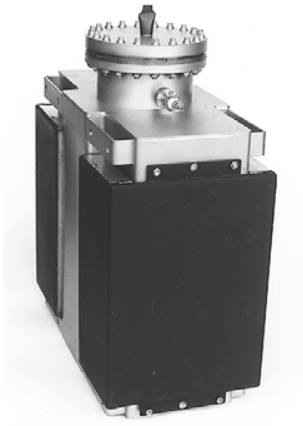
Ion Pumps

Varian Classic Style Ion Pumps

Rebuilt Varian Classic Style Pumps

Part No.	Description
Duniway	--
RVA-270-DD-O	Rebuilt VA 270 I/s Standard Diode, 8.00" CFF no Magnet (VA-912-7008)
RVA-270-GX-O	Rebuilt VA 270 I/s Galaxy Diode, 8.00 CFF no Magnet
RVA-400-TR-M	Rebuilt VA 400 I/s Triode, 8.00" CFF w/Magnet
RVA-400-TR-O	Rebuilt VA 400 I/s Triode, 8.00" CFF no Magnet (VA-912-7022)
RVA-500-DD-M	Rebuilt VA 500 I/s Standard Diode, 8.00" CFF w/Magnet
RVA-500-GX-M	Rebuilt VA 500 I/s Galaxy Diode, 8.00" CFF w/Magnet
RVA-500-DD-O	Rebuilt VA 500 I/s Standard Diode, 8.00" CFF no Magnet (VA-912-7016)
RVA-500-GX-O	Rebuilt VA 500 I/s Galaxy Diode, 8.00" CFF no Magnet

Ion Pumps



400/500 I/s ion pump with magnet ▼



400/500 I/s ion pump without magnet ▼



220/270 I/s ion pump without magnet ▼

Ion Pumps

Varian Classic Style Ion Pumps

Rebuilding Services

Part No.	Description	Image	
Duniway	--	#	
REBG-VA-008-DD	Rebuilding Service, VA (911-5005) 8 I/s, Standard Diode	1	1
REBG-VA-008-DG	Rebuilding Service, VA (911-5005) 8 I/s, Galaxy Diode	1	
REBG-VA-020-DD	Rebuilding Service, VA (911-5036) 20 I/s, Standard Diode	2	2
REBG-VA-020-DG	Rebuilding Service, VA (911-5036) 20 I/s, Galaxy Diode	2	
REBG-VA-020-TG	Rebuilding Service, VA (911-5031) 20 I/s, Galaxy Triode	2	2
REBG-VA-020-TT	Rebuilding Service, VA (911-5031) 20 I/s, Triode	2	
REBG-VA-030-DD	Rebuilding Service, VA (911-5037) 30 I/s, Standard Diode	3	3
REBG-VA-030-DG	Rebuilding Service, VA (911-5037) 30 I/s, Galaxy Diode	3	
REBG-VA-030-TG	Rebuilding Service, VA (911-5033) 30 I/s, Galaxy Triode	3	3
REBG-VA-030-TT	Rebuilding Service, VA (911-5033) 30 I/s, Triode	3	
REBG-VA-060-DD	Rebuilding Service, VA (911-5038) 60 I/s, Standard Diode	4	4
REBG-VA-060-DG	Rebuilding Service, VA (911-5038) 60 I/s, Galaxy Diode	4	
REBG-VA-060-TG	Rebuilding Service, VA (911-5034) 60 I/s, Galaxy Triode	4	4
REBG-VA-060-TT	Rebuilding Service, VA (911-5034) 60 I/s, Triode	4	
REBG-VA-110-TT	Rebuilding Service, VA (912-7006) 110 I/s, Triode	5	5
REBG-VA-140-DD	Rebuilding Service, VA (912-7000) 140 I/s, Standard Diode	5	
REBG-VA-140-DG	Rebuilding Service, VA (912-7000) 140 I/s, Galaxy Diode	5	6
REBG-VA-220-TT	Rebuilding Service, VA (912-7014) 220 I/s, Triode	6	
REBG-VA-270-DD	Rebuilding Service, VA (912-7008) 270 I/s, Standard Diode	6	7
REBG-VA-270-DG	Rebuilding Service, VA (912-7008) 270 I/s, Galaxy Diode	6	
REBG-VA-400-TT	Rebuilding Service, VA (912-7022) 400 I/s, Triode	7	7
REBG-VA-500-DD	Rebuilding Service, VA (912-7016) 500 I/s, Standard Diode	7	
REBG-VA-500-DG	Rebuilding Service, VA (912-7016) 500 I/s, Galaxy Diode	7	

Ion Pumps

Varian Vacion Plus Ion Pumps

Rebuilt Varian Vacion™ Plus Pumps

Part No.	Description	Image
Duniway	--	#
RVIP-020-DD-M	Rebuilt Varian VIP 20 I/s Ion Pump, Diode - Positive Polarity, 2.75" CFF, with Magnet	1
RVIP-020-GX-M	Rebuilt Varian VIP 20 I/s Ion Pump, StarCell to Galaxy, with Magnet	1
RVIP-020-ST-M	Rebuilt Varian VIP 20 I/s Ion Pump, StarCell - Negative Polarity, 2.75" CFF, with Magnet	1
RVIP-040-DD-M	Rebuilt Varian VIP 40 I/s Ion Pump, Diode - Positive Polarity, 2.75" CFF, with Magnet	2
RVIP-040-GX-M	Rebuilt Varian VIP 40 I/s Ion Pump, StarCell to Galaxy, with Magnet	2
RVIP-040-ST-M	Rebuilt Varian VIP 40 I/s Ion Pump, StarCell - Negative Polarity, 2.75" CFF, with Magnet	2
RVIP-055-DD-M	Rebuilt Varian VIP 55 I/s Ion Pump, Diode - Positive Polarity, 4.50" CFF, with Magnet	3
RVIP-055-GX-M	Rebuilt Varian VIP 55 I/s Ion Pump, StarCell to Galaxy, with Magnet	3
RVIP-055-ST-M	Rebuilt Varian VIP 55 I/s Ion Pump, StarCell - Negative Polarity, 4.50" CFF, with Magnet	3
RVIP-075-DD-M	Rebuilt Varian VIP 75 I/s Ion Pump, Diode - Positive Polarity, 6.00" CFF, with Magnet	4
RVIP-075-GX-M	Rebuilt Varian VIP 75 I/s Ion Pump, StarCell to Galaxy, with Magnet	4
RVIP-075-ST-M	Rebuilt Varian VIP 75 I/s Ion Pump, StarCell - Negative Polarity, 6.00" CFF, with Magnet	4
RVIP-150-DD-M	Rebuilt Varian VIP 150 I/s Ion Pump, Diode - Positive Polarity, 6.00" CFF, with Magnet	5
RVIP-150-GX-M	Rebuilt Varian VIP 150 I/s Ion Pump, StarCell to Galaxy, with Magnet	5
RVIP-150-ST-M	Rebuilt Varian VIP 150 I/s Ion Pump, StarCell - Negative Polarity, 6.00" CFF, with Magnet	5
RVIP-300-DD-M	Rebuilt Varian VIP 300 I/s Ion Pump, Diode - Positive Polarity, 8.00" CFF, with Magnet	6
RVIP-300-GX-M	Rebuilt Varian VIP 300 I/s Ion Pump, StarCell to Galaxy, with Magnet	6
RVIP-300-ST-M	Rebuilt Varian VIP 300 I/s Ion Pump, StarCell - Negative Polarity, 8.00" CFF, with Magnet	6
RVIP-500-DD-M	Rebuilt Varian VIP 500 I/s Ion Pump, Diode - Positive Polarity, 8.00" CFF, with Magnet	7
RVIP-500-GX-M	Rebuilt Varian VIP 500 I/s Ion Pump, StarCell to Galaxy, with Magnet	7
RVIP-500-ST-M	Rebuilt Varian VIP 500 I/s Ion Pump, StarCell - Negative Polarity, 8.00" CFF, with Magnet	7



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Ion Pumps

Varian Vacion Plus Ion Pumps

Rebuilding Services

Part No.	Description	Image	
Duniway	--	#	
REBG-VIP-020-D	Rebuilding Service Varian VIP 20 I/s, Diode-Diode, Positive Polarity	1	1
REBG-VIP-020-G	Rebuilding Service Varian VIP 20 I/s, Starcell-Galaxy, Negative Polarity	1	
REBG-VIP-020-N	Rebuilding Service Varian VIP 20 I/s, Noble Diode- Noble Diode, Positive Polarity	1	
REBG-VIP-020-S	Rebuilding Service Varian VIP 20 I/s, Starcell-Starcell, Negative Polarity	1	
REBG-VIP-040-D	Rebuilding Service Varian VIP 40 I/s, Diode-Diode, Positive Polarity	2	2
REBG-VIP-040-G	Rebuilding Service Varian VIP 40 I/s, Starcell-Galaxy, Negative Polarity	2	
REBG-VIP-040-N	Rebuilding Service Varian VIP 40 I/s, Noble Diode- Noble Diode, Positive Polarity	2	
REBG-VIP-040-S	Rebuilding Service Varian VIP 40 I/s, Starcell-Starcell, Negative Polarity	2	
REBG-VIP-055-D	Rebuilding Service Varian VIP 55 I/s, Diode-Diode, Positive Polarity	3	3
REBG-VIP-055-G	Rebuilding Service Varian VIP 55 I/s, Starcell-Galaxy, Negative Polarity	3	
REBG-VIP-055-N	Rebuilding Service Varian VIP 55 I/s, Noble Diode- Noble Diode, Positive Polarity	3	
REBG-VIP-055-S	Rebuilding Service Varian VIP 55 I/s, Starcell-Starcell, Negative Polarity	3	
REBG-VIP-075-D	Rebuilding Service Varian VIP 75 I/s, Diode-Diode, Positive Polarity	4	4
REBG-VIP-075-G	Rebuilding Service Varian VIP 75 I/s, Starcell-Galaxy, Negative Polarity	4	
REBG-VIP-075-N	Rebuilding Service Varian VIP 75 I/s, Noble Diode- Noble Diode, Positive Polarity	4	
REBG-VIP-075-S	Rebuilding Service Varian VIP 75 I/s, Starcell-Starcell, Negative Polarity	4	
REBG-VIP-150-D	Rebuilding Service Varian VIP 150 I/s, Diode-Diode, Positive Polarity	5	5
REBG-VIP-150-G	Rebuilding Service Varian VIP 150 I/s, Starcell-Galaxy, Negative Polarity	5	
REBG-VIP-150-N	Rebuilding Service Varian VIP 150 I/s, Noble Diode- Noble Diode, Positive Polarity	5	
REBG-VIP-150-S	Rebuilding Service Varian VIP 150 I/s, Starcell-Starcell, Negative Polarity	5	
REBG-VIP-300-D	Rebuilding Service Varian VIP 300 I/s, Diode-Diode, Positive Polarity	6	6
REBG-VIP-300-G	Rebuilding Service Varian VIP 300 I/s, Starcell-Galaxy, Negative Polarity	6	
REBG-VIP-300-N	Rebuilding Service Varian VIP 300 I/s, Noble Diode- Noble Diode, Positive Polarity	6	
REBG-VIP-300-S	Rebuilding Service Varian VIP 300 I/s, Starcell-Starcell, Negative Polarity	6	
REBG-VIP-500-D	Rebuilding Service Varian VIP 500 I/s, Diode-Diode, Positive Polarity	7	7
REBG-VIP-500-G	Rebuilding Service Varian VIP 500 I/s, Starcell-Galaxy, Negative Polarity	7	
REBG-VIP-500-N	Rebuilding Service Varian VIP 500 I/s, Noble Diode- Noble Diode, Positive Polarity	7	
REBG-VIP-500-S	Rebuilding Service Varian VIP 500 I/s, Starcell-Starcell, Negative Polarity	7	

Ion Pumps

Appendage Ion Pumps & Magnets

Varian-Style Mini, 2 L/S Pumps & Magnets

Part No.	Description
Duniway	--
MAG-0011	Magnet for 2 I/s Ion Pump, Alnico 5, 1200 Gauss, Requires Bracket
MAG-0042	Magnet for Mini-Appendage Ion Pump, Alnico 5, 1000 Gauss
MAG-0112	Magnet for 2 I/s Ion Pump, Sm/Co, 1200 Gauss, No Bracket Required
VA1-CU-A-AIR	Varian-Style Mini Ion Pump: 90, 0.38" CU Port, Magnet Bracket, no Magnet, at Atmosphere
VA1-CU-A-VAC	Varian-Style Mini Ion Pump: 90, 0.38" CU Port, Magnet Bracket, no Magnet, Under Vacuum
VA1-CU-L-AIR	Varian-Style Mini Ion Pump: 180, 0.38" CU Port, Magnet Bracket, no Magnet, at Atmosphere
VA1-CU-L-VAC	Varian-Style Mini Ion Pump: 180, 0.38" CU Port, Magnet Bracket, no Magnet, Under Vacuum
VA1-ST-A-AIR	Varian-Style Mini Ion Pump: 90, 0.38" ST Port, Magnet Bracket, no Magnet, at Atmosphere
VA1-ST-L-AIR	Varian-Style Mini Ion Pump: 180, 0.38" ST Port, Magnet Bracket, no Magnet, at Atmosphere
VA1-ST-L-VAC	Varian-Style Mini Ion Pump: 180, 0.38" ST Port, Magnet Bracket, no Magnet, Under Vacuum
VA2-38CU-VAC	Varian-Style 2 I/s Pump, 0.38" CU Port, No Magnet, Under Vacuum
VA2-38CU-VAC-B	Varian-Style 2 I/s Pump, 0.38" CU Port, Magnet Bracket, No Magnet, Under Vacuum
VA2-75ST-AIR	Varian-Style 2 I/s Pump, 0.75" ST Port, No Magnet, at Atmosphere
VA2-75ST-AIR-B	Varian-Style 2 I/s Pump, 0.75" ST Port, Magnet Bracket, No Magnet, at Atmosphere
VA2-75ST-VAC	Varian-Style 2 I/s Pump, 0.75" ST Port, no Magnet, Under Vacuum
VA2-75ST-VAC-B	Varian-Style 2 I/s Pump, 0.75" ST Port, Magnet Bracket, No Magnet, Under Vacuum
VA2-MINI-VAC	Varian-Style 2 I/s Pump, 0.75" ST Port, Mini CFF, No Magnet, Under Vacuum
VA2-MINI-VAC-B	Varian-Style 2 I/s Pump, 0.75" ST Port, Mini CFF, Magnet Bracket, no Magnet, Under Vacuum
VA2-TEE-AIR	Varian-Style 2 I/s Pump, 2X 0.75" ST Port, No Magnet, at Atmosphere
VA2-TEE-AIR-B	Varian-Style 2 I/s Pump, 2X 0.75" ST Port, Magnet Bracket, no Magnet, at Atmosphere



▼ VA2-38CU-VAC Pump



▼ VA2-75ST-AIR Pump



▼ VA2-75ST-VAC Pump



▼ VA2-MINI-VAC Pump



▼ VA2-TEE-AIR Pump



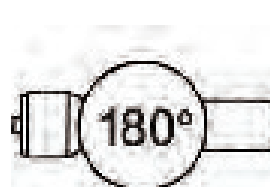
▼ MAG-0011



▼ MAG-0042



▼ MAG-0112



▼ VA1-x-L



▼ VA1-x-A

New Duniway Ion Pump Magnets

Part No.	Description	Sketch
Duniway	--	#
MAG-0114	Magnet for New Duniway 30 0 l/s or 50 l/s & Varian-Style 20 or 30 l/s Ion Pumps, Ferrite, 1200 Gauss, set of 1	1
MAG-0114-2	Magnets for New Duniway 100 l/s & Varian-Style 60 l/s Ion Pump, Ferrite, 1200 Gauss, set of 2	1
MAG-0114-4	Magnets for New Duniway 200 l/s Ion Pump, Ferrite, 1200 Gauss, set of 4	1
MAG-0400-4	Magnets for New Duniway 400 l/s Ion Pump, Ferrite, 1200 Gauss, set of 4	2
MAG-1010	Magnet for New Duniway 10 l/s Ion Pump, Ferrite, 1200 Gauss, set of 1	3
MAG-2020	Magnet for New Duniway 20 l/s Ion Pump, Ferrite, 1200 Gauss, set of 1	4



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Ion Pumps

New Ion Pump Magnets

New Varian Style Magnets

Part No.	Description	Sketch
Duniway	--	#
MAG-0030	Magnet, Varian-Style 8 I/s Ion Pump, Ferrite, 1200 Gauss, set of 1	1
MAG-0114	Magnet for New Duniway 30 I/s or 50 I/s & Varian-Style 20 or 30 I/s Ion Pumps, Ferrite, 1200 Gauss, set of 1	2
MAG-0114-2	Magnets for New Duniway 100 I/s & Varian-Style 60 I/s Ion Pump, Ferrite, 1200 Gauss, set of 2	2
MAG-7006	Magnet, Varian-Style 110 or 140 I/s Ion Pump, Ferrite, 1200 Gauss, set of 1	3
MAG-7014	Magnet, Varian-Style 220 or 270 I/s Ion Pump, Ferrite, 1200 Gauss, set of 1	4
MAG-7014-2	Magnets, Varian-Style 400 or 500 I/s Ion Pump, Ferrite, 1200 Gauss, set of 2	5



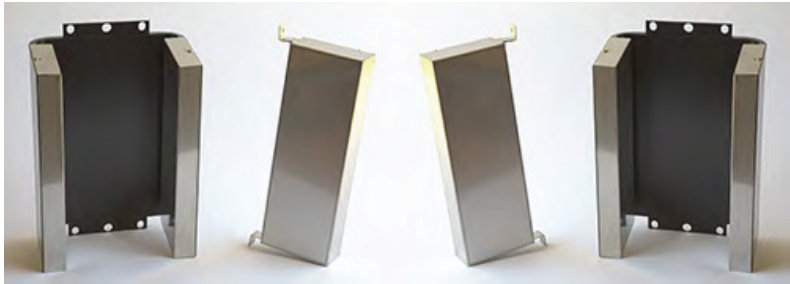
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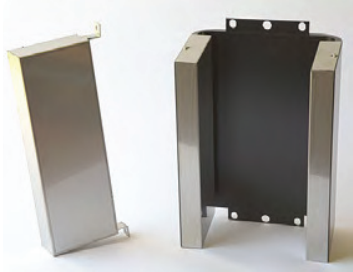
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Ion Pumps

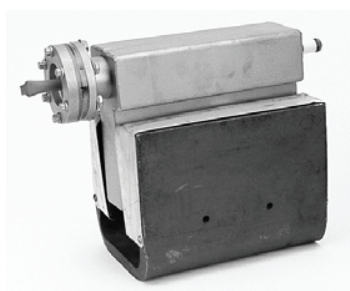
Perkin Elmer Style Ion Pumps

Perkin Elmer Style Pumps with Magnets

Part No.	Description	Image
Duniway	--	#
PE-11DI	New PE-Style Differential/Noble Diode Ion Pump, 11 I/s, 2.75" CFF w/Magnet	1
PE-11STD	New PE-Style Standard Diode Ion Pump, 11 I/s, 2.75" CFF w/Magnet	1
PE-20DI	New PE-Style Differential/Noble Diode Ion Pump, 20 I/s, 2.75" CFF w/Magnet	2
PE-20GXY	New PE-Style Galaxy Diode Ion Pump, 20 I/s, 2.75" CFF w/Magnet	2
PE-20STD	New PE-Style Standard Diode Ion Pump, 20 I/s, 2.75" CFF w/Magnet	2
PE-25DI	New PE-Style Differential/Noble Diode Ion Pump, 25 I/s, 3.375" CFF w/Magnet	3
PE-25GXY	New PE-Style Galaxy Diode Ion PUmP, 25 I/s, 3.375" CFF w/Magnet	3
PE-25STD	New PE Style Standard Diode Ion Pump, 25 I/s, 3.375" CFF w/Magnet	3



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Ion Pumps

Perkin Elmer Style Ion Pumps

Rebuilt Perkin Elmer Style Pumps with Magnets

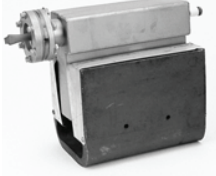
Part No.	Description	Image
Duniway	--	#
RPE-008DI	Rebuilt PE-Style Differential/Noble Diode Ion Pump, 8 l/s, 2.75" CFF with Magnet	1
RPE-008STD	Rebuilt PE-Style Standard Diode Ion Pump, 8 l/s, 2.75" CFF with Magnet	1
RPE-011DI	Rebuilt PE-Style Differential/Noble Diode Ion Pump, 11 l/s, 2.75" CFF with Magnet	2
RPE-011STD	Rebuilt PE-Style Standard Diode Ion Pump, 11 l/s, 2.75" CFF with Magnet	2
RPE-020DI	Rebuilt PE-Style Differential/Noble Diode Ion Pump, 20 l/s, 2.75" CFF w/Magnet	3
RPE-020STD	Rebuilt PE-Style Standard Diode Ion Pump, 20 l/s, 2.75" CFF w/Magnet	3
RPE-025DI	Rebuilt PE-Style Differential/Noble Diode Ion Pump, 25 l/s, 3.375" CFF w/Magnet	4
RPE-025STD	Rebuilt PE-Style Standard Diode Ion Pump, 25 l/s, 3.375" CFF w/Magnet	4
RPE-060DI	Rebuilt PE-Style Differential/Noble Diode Ion Pump, 60 l/s, 8.00" CFF w/Magnet	5
RPE-080STD	Rebuilt PE-Style Standard Diode Ion Pump, 80 l/s, 8.00" CFF w/Magnet	5
RPE-120DI	Rebuilt PE-Style Differential/Noble Diode Ion Pump, 120 l/s, 8.00" CFF w/Magnet	--
RPE-150STD	Rebuilt PE-Style Standard Diode Ion Pump, 150 l/s, 8.00" CFF w/Magnet	--
RPE-220-DI	Rebuilt PE-Style Differential/Noble Diode Ion Pump, 220 l/s, 8.00" CFF w/Magnet	6
RPE-270STD	Rebuilt PE-Style Standard Diode Ion Pump, 270 l/s, 8.00" CFF w/Magnet	6
RPE-400DI	Rebuilt PE-Style Differential/Noble Diode Ion Pump, 400 l/s, 8.00" CFF w/Magnet	--
RPE-500STD	Rebuilt PE-Style Standard Diode Ion Pump, 500 l/s, 8.00" CFF w/Magnet	--



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Is a Rebuilt Ion Pump Equal in Performance to a New One?

Yes. If an ion pump is thoroughly cleaned and the elements are equipped with new titanium, it will have the same performance as a new pump.

New and rebuilt pumps include magnets.

Ion Pumps

Perkin Elmer Style Ion Pumps

Rebuilding Service

Part No.	Description	Image
Duniway	--	#
REBG-PE-008DI	Rebuilding Service PE-Style Differential/Noble Diode Ion Pump, 8 I/s, 2.75" CFF	1
REBG-PE-008STD	Rebuilding Service PE-Style Standard Diode Ion Pump, 8 I/s, 2.75" CFF	1
REBG-PE-011DI	Rebuilding Service PE-Style Differential/Noble Diode Ion Pump, 11 I/s, 2.75" CFF	2
REBG-PE-011STD	Rebuilding Service PE-Style Standard Diode Ion Pump, 11 I/s, 2.75" CFF	2
REBG-PE-020DI	Rebuilding Service PE-Style Differential/Noble Diode Ion Pump, 20 I/s, 2.75" CFF	3
REBG-PE-020GXY	Rebuilding Service PE-Style Galaxy Diode Ion Pump, 20 I/s, 2.75" CFF	3
REBG-PE-020STD	Rebuilding Service PE-Style Standard Diode Ion Pump, 20 I/s, 2.75" CFF	3
REBG-PE-025DI	Rebuilding Service PE-Style Differential/Noble Diode Ion Pump, 25 I/s, 3.375" CFF	4
REBG-PE-025GXY	Rebuilding Service PE-Style Galaxy Diode Ion Pump, 25 I/s, 3.375" CFF	4
REBG-PE-025STD	Rebuilding Service PE-Style Standard Diode Ion Pump, 25 I/s, 3.375" CFF	4
REBG-PE-060DI	Rebuilding Service PE-Style Differential/Noble Diode Ion Pump, 60 I/s, 8.00" CFF	5
REBG-PE-080GXY	Rebuilding Service PE-Style Galaxy Diode Ion Pump, 80 I/s, 8.00" CFF	5
REBG-PE-080STD	Rebuilding Service PE-Style Standard Diode Ion Pump, 80 I/s, 8.00" CFF	5
REBG-PE-120DI	Rebuilding Service PE-Style Differential/Noble Diode Ion Pump, 120 I/s, 8.00" CFF	--
REBG-PE-150GXY	Rebuilding Service PE-Style Galaxy Diode Ion Pump, 150 I/s, 8.00" CFF	--
REBG-PE-150STD	Rebuilding Service PE-Style Standard Diode Ion Pump, 150 I/s, 8.00" CFF	--
REBG-PE-220DI	Rebuilding Service PE-Style Differential/Noble Diode Ion Pump, 220 I/s, 8.00" CFF	6
REBG-PE-270GXY	Rebuilding Service PE-Style Galaxy Diode Ion Pump, 270 I/s, 8.00" CFF	6
REBG-PE-270STD	Rebuilding Service PE-Style Standard Diode Ion Pump, 270 I/s, 8.00" CFF	6
REBG-PE-400DI	Rebuilding Service PE-Style Differential/Noble Diode Ion Pump, 400 I/s, 8.00" CFF	--
REBG-PE-500GXY	Rebuilding Service PE-Style Galaxy Diode Ion Pump, 500 I/s, 8.00" CFF	--
REBG-PE-500STD	Rebuilding Service PE-Style Standard Diode Ion Pump, 500 I/s, 8.00" CFF	--
REBG-PE-TNBX-D	Rebuilding Service PE-Style Differential/Noble Diode Ion Pump, TNBX, Wire Seal	7
REBG-PE-TNBX-G	Rebuilding Service PE-Style Galaxy Diode Ion Pump, TNBX, Wire Seal	7
REBG-PE-TNBX-S	Rebuilding Service PE-Style Standard Diode Ion Pump, TNBX, Wire Seal	7



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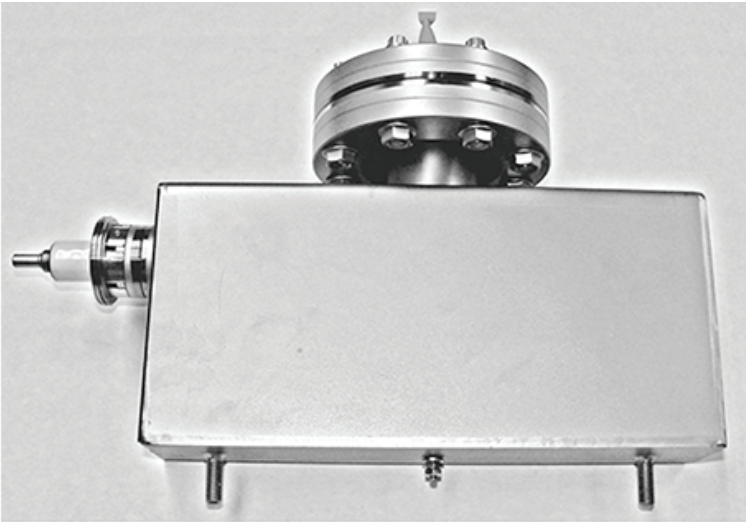
Ion Pumps

Ion Pumps

Edwards Style Ion Pumps

New Edwards-Style Pumps

Part No.	Description
Duniway	--
DS-EP30-0	New Edwards-Style 30 I/s Ion Pump, 4.5" OD CFF, No Magnet
REBG-EDWARDS	Rebuilding Service Edwards EP-100, 100 I/s Diode pump
REBG-EDWARDS-15	Rebuilding Service Edwards 15 I/s, Diode
REBG-EDWARDS-30	Rebuilding Service Edwards 30 I/s, Diode



▼ New Edwards-Style 30 I/s Ion Pump, 4.5" OD CFF, No Magnet

Rebuilding Service for Many Other Ion Pump Brands:

Duniway Stockroom Corp. rebuilds Ion Pumps from many other manufacturers, including:

Anelva	Cambridge	Cameca
Edwards	JEOL	Kratos
Leybold	Meca	Riber
Satsuki	Thermionics	Ulvac

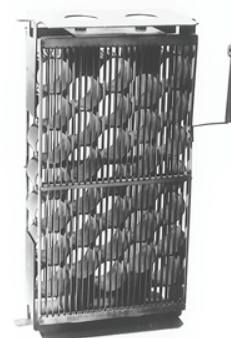
Please inquire about the rebuilding prices for these Ion Pumps or any other types you might have.

Ion Pumps

Elements & Parts

New VA-Style Classic & Vacion Plus-Style Parts

Part No.	Description
Duniway	--
EL-FC-TR	New Varian Triode Replacement Element - Classic-Style FC-12 Systems
EL-LG-DD	New Varian Classic-Style Large Diode Element for 140 I/s (1), 270 I/s (2), and 500 I/s (4)
EL-LG-GX	New Varian Classic-Style Large Galaxy Diode Element for 140 I/s (1), 270 I/s (2), and 500 I/s (4)
EL-LG-TR	New Varian Classic-Style Large Triode Element for 110 I/s (1), 220 I/s (2), and 400 I/s (4)
EL-SM-DD	New Varian Classic-Style Small Diode Element for 20 I/s (1), 30 I/s (1), and 60 I/s (2)
EL-SM-GX	New Varian Classic-Style Small Galaxy Diode Element for 20 I/s (1), 30 I/s (1), and 60 I/s (2)
EL-SM-TR	New Varian Classic-Style Small Triode Element for 20 I/s (1), 30 I/s (1), and 60 I/s (2)
EL-ST-GX-H	New Varian Starcell-Style Replacement Element (Galaxy) For Hydroformed Body
EL-ST-GX-W	New Varian Starcell-Style Replacement Element (Galaxy) For Welded Body
GSP-1000	Grounding Spring - Varian Classic-Style High Voltage Feedthrough, 5/pkg
HVFT-0006-00	High Voltage Feedthrough, VA Classic-Style
HVFT-0006-02	High Voltage Feedthrough, VA Classic-Style, Hole in Shaft
HVFT-5024	High Voltage Feedthrough, VA Old-Style (Obsolete)
HVFT-5120	High Voltage Feedthrough, Early VIP/Starcell-Style Pumps, on 1.33" (mini) CFF
HVFT-5125	High Voltage Feedthrough, New VIP/Starcell-Style Pumps, on 1.33" (mini) CFF
HVFT-5143	High Voltage Feedthrough, VA Classic-Style- For 30I/s and Larger Pumps, on 1.33" (mini) CFF
HVFT-GRND	Grounding Plate for Early VIP Starcell-Style High Voltage Feedthrough (HVFT-5120)
INS-7000	Varian Classic-Style Anode Stand-Off Insulator
INS-7001	Sputter Shield for Varian Classic-Style High Voltage Feedthrough
TIT-0090	Cathode for Large Classic-Style Varian Diode Element, Ti, (2 Required per Element)
TIT-0098	Titanium Strips for Large Classic-Style Varian Triode Element, 36/pkg, (2 Pkgs Required per Element)
TIT-0116	Titanium Strips for Small Classic-Style Varian Triode Element, 25/pkg, (2 Pkgs Required per Element)
VA-SM-CATHODE	Cathode for Small Classic-Style Varian Diode Element, Ti, (2 Required per Element)
VLT-GRID	Grid for Large Classic-Style Varian Triode Element, Ti, Complete Assembly
VSD-ANODE	Anode for Small Classic-Style Varian Diode Element
VST-ANODE	Anode for Small Classic-Style Varian Triode Element
VST-GRID	Grid for Small Classic-Style Varian Triode Element, Ti, (2 Required per Element)



▼ New Varian Triode Replacement Element for Classic style FC-12 systems



▼ New Varian Classic-Style Small Triode Element



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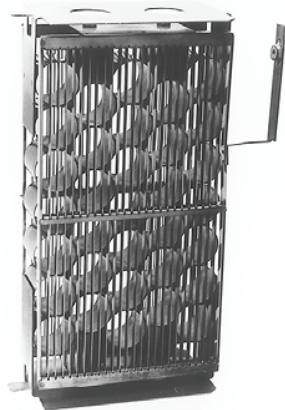
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Ion Pumps

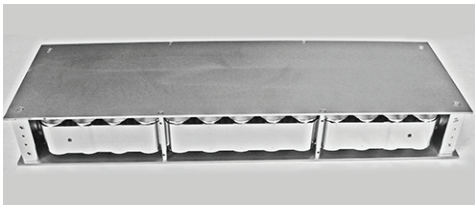
Elements & Parts

Rebuilding Services for VA-Style Elements

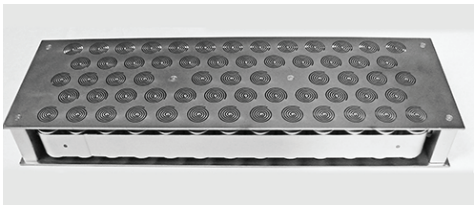
Part No.	Description	Image
Duniway	--	#
REBG-EL-FC-TR	Rebuilding Service Varian Triode Replacement Element - Classic-Style FC-12 Systems	1
REBG-EL-LG-DD	Rebuilding Service Varian Classic-Style Large Diode Element for 140 I/s (1), 270 I/s (2), and 500 I/s (4)	2
REBG-EL-LG-GX	Rebuilding Service Varian Classic-Style Large Galaxy Diode Element for 140 I/s (1), 270 I/s (2), and 500 I/s (4)	3
REBG-EL-LG-TR	Rebuilding Service Varian Classic-Style Large Triode Element for 110 I/s (1), 220 I/s (2), and 400 I/s (4)	4
REBG-EL-SM-DD	Rebuilding Service Varian Classic-Style Small Diode Element for 20 I/s (1), 30 I/s (1), and 60 I/s (2)	--
REBG-EL-SM-GX	Rebuilding Service Varian Classic-Style Small Galaxy Diode Element for 20 I/s (1), 30 I/s (1), and 60 I/s (2)	--
REBG-EL-SM-TR	Rebuilding Service Varian Classic-Style Small Triode Element for 20 I/s (1), 30 I/s (1), and 60 I/s (2)	5
REBG-EL-ST-GX	Rebuilding Service Varian Starcell-Style Replacement Element (Galaxy)	--



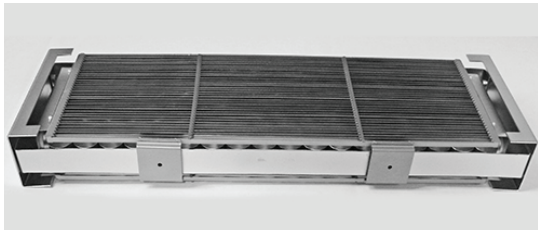
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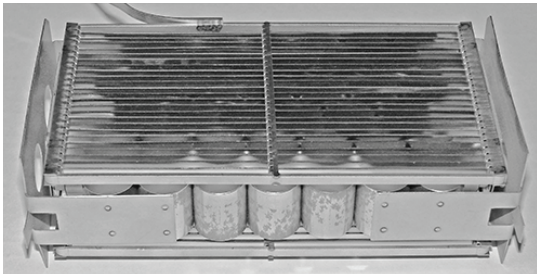
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Read about our Galaxy® cathode design which provides stable pumping speed for air without sacrificing overall pumping speed.

Ion Pumps

Elements & Parts

New Perkin-Elmer Elements & Parts

Part No.	Description	Image	
Duniway	--	#	
PE-BRASSY-NO-TAB	Element Bracket Assembly for PE/PHI/Ultek Ion Pump, without Tabs	1	1
PE-CATH-DIF-TA	Cathode for PE/PHI/Ultek Differential (DI) Diode Ion Pump Element, Ta, 0.040"	2	
PE-CATHODE-HYD	Cathode for PE/PHI/Ultek Hydrogen Diode Ion Pump Element, Ti, 0.120"	3	
PE-CATHODE-STD	Cathode for PE/PHI/Ultek Standard Diode Ion Pump Element, Ti, 0.060"	4	2
PE-FT-133	High Voltage Feedthrough, New Style, for PE/PHI/Ultek Ion Pump, on 1.33" (mini) CFF	5	
PE-FT-218	High Voltage Feedthrough, Old Style, for PE/PHI/Ultek Ion Pump, on 2 1/8" CFF	6	
PE-INS-HOLDER-HYD	Insulator Holder for PE/PHI/Ultek Hydrogen Diode Ion Pump Element (0.120" Cathodes)	7	3
PE-INS-HOLDER-STD	Insulator Holder for PE/PHI/Ultek Standard Diode Ion Pump Element (0.060" Cathodes)	8	
PE-INS-OLD	Insulator, Old Style for PE/PHI/Ultek Ion Pump Element, Old Style, Threaded Each End	--	4
PE-EL-DIF-0250	New Differential (DI) Diode Element for PE/PHI/Ultek Ion Pump, 1 ea. 0.060" Ti & 0.040" Ta Cathodes	9	
PE-EL-HYD-1420	New Hydrogen Diode Element for PE/PHI/Ultek Ion Pump, 2 x 0.120" Ti Cathodes	9	
PE-EL-STD-0905	New Standard Diode Element for PE/PHI/Ultek Ion Pump, 2 x 0.060" Ti Cathodes	9	5
PE-EL-GXY-2000	New Galaxy Diode Element for PE/PHI/Ultek Ion Pump, 2 x 0.060" Ti Galaxy Cathodes	10	
PE-EL-38-GXY	New Galaxy Diode Element for PHI Captorr Ion Pump, 2 x 0.120" Ti Galaxy Cathodes	11	
PE-EL-38-HYD	New Hydrogen Diode Element for PHI Captorr Ion Pump, 2 x 0.120" Ti Cathodes	--	6
PE-EL-38-STD	New Standard Diode Element for PHI Captorr Ion Pump, 2 x 0.060" Ti Cathodes	12	
PE-ANODE	Anode for PE/PHI/Ultek Ion Pump Element, Includes Side Bands	13	7
PE-BRK-ASSY	Element Bracket Assembly for PE/PHI/Ultek Ion Pump, with Tabs	14	
PE-HVFT-ASSY	High Voltage Feedthrough, New Style, for PE/PHI/Ultek Ion Pump, No Flange	15	
PEU-2070	Element Insulator for PE/PHI/Ultek Ion Pump, New Style, Flat Top, No Threads	16	8

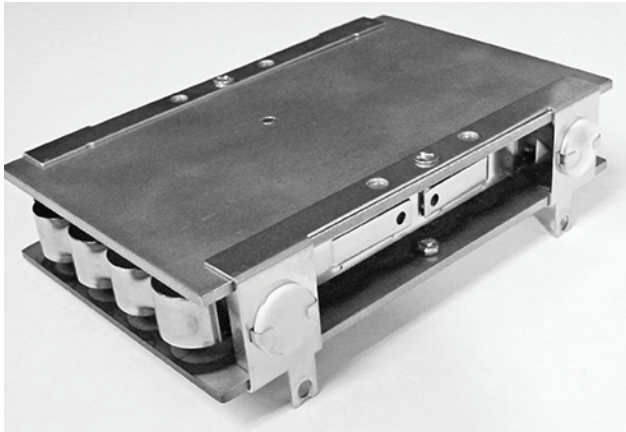
Ion Pumps

Elements & Parts

Rebuilding Service for PE-Style Elements

Part No.	Description
Duniway	--
REBG-DIF-0250	Rebuilding Service Differential (DI) Diode Element for PE/PHI/Ultek Ion Pump, 1 ea. 0.060" Ti & 0.040" Ta Cathodes
REBG-HYD-1420	Rebuilding Service Hydrogen Diode Element for PE/PHI/Ultek Ion Pump, 2 x 0.120" Ti Cathodes
REBG-STD-0905	Rebuilding Service Standard Diode Element for PE/PHI/Ultek Ion Pump, 2 x 0.060" Ti Cathodes
REBG-GXY-2000	Rebuilding Service Galaxy Diode Element for PE/PHI/Ultek Ion Pump, 2 x 0.060" Galaxy Cathodes
REBG-PE-038-GXY	Rebuilding Service Galaxy Diode Element for PHI Captorr Ion Pump, 2 x 0.060" Ti Galaxy Cathodes
REBG-PE-038-HYD	Rebuilding Service Hydrogen Diode Element for PHI Captorr Ion Pump, 2 x 0.120" Ti Cathodes
REBG-PE-038-STD	Rebuilding Service Standard Diode Element for PHI Captorr Ion Pump, 2 x 0.060" Ti Cathodes

Ion Pumps



▼ Differential (DI) Diode Element for PE/PHI/Ultek Ion Pump



▼ Galaxy Diode Element for PHI Captorr Ion Pump

Read about our Galaxy[®] cathode design which provides stable pumping speed for air without sacrificing overall pumping speed.

Please complete our HAZMAT form and forward to info@duniway.com for an RMA# prior to shipment to Duniway Stockroom Corp.

Ion Pumps

Ion Pump Control Units

New Terranova Ion Pump Controllers



The Terranova® 751A Ion Pump Controller Unit

is designed to supply operating power to sputter-ion pumps while displaying the voltage, current and pressure. The unit is available with either Kings type or Fischer-type high voltage output connectors; and with either one or two high voltage output connectors for the single high voltage supply.

The Terranova® Model 752A Dual Ion Pump

Control Unit is designed to supply operating power to two sputter ion pumps and to display the voltage, current and pressure independently for each. The unit is available with either 2 Kings-type or 2 Fischer-type high voltage output connectors; one each for the two independent high voltage power supplies. These are programmable, microprocessor controlled units, which give them great versatility in operation, display, control and data communication.



Ion Pumps

Ion Pump Control Units

New Terranova Ion Pump Controllers

Part No.	Description	Image #
Duniway	--	
T-751A-1F	Small/Medium (1-100 I/s) Ion Pump Control and Display Unit, Max Current Settings: 1-50 mA, 1 Fischer HV Connector; specify voltage of operation 110/220	1
T-751A-1K	Small/Medium (1-100 I/s) Ion Pump Control and Display Unit, Max Current Settings: 1-50 mA, 1 Kings HV Connector; specify voltage of operation 110/220	2
T-751A-2F	Small/Medium (1-100 I/s) Ion Pump Control and Display Unit, Max Current Settings: 1-50 mA, 2 Fischer HV Connectors; specify voltage of operation 110/220	3
T-751A-2K	Small/Medium (1-100 I/s) Ion Pump Control and Display Unit, Max Current Settings: 1-50 mA, 2 Kings HV Connectors; specify voltage of operation 110/220	4
T-752A-F	Dual Small/Medium (1-100 I/s) Ion Pump Control and Display Unit, Max Current Settings: 1-50 mA, 2 Fischer HV Connectors; specify voltage of operation 110/220	5
T-752A-K	Dual Small/Medium (1-100 I/s) Ion Pump Control and Display Unit, Max Current Settings: 1-50 mA, 2 Kings HV Connectors; specify voltage of operation 110/220	6
RS232-TN751A	Serial RS232 Cable for T-751A and T-752A Ion Pump Control Units, 10 ft long	7



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Features

- Programmable High Voltage Output from 3.5 KV to 7.5 KV
- Up to 50 Watts Power for High Pressure Operation
- Plus or Minus High Voltage Polarity User Selectable
- Programmable Current Limit
- Programmable Pump Size for Pressure Display
- Choice of Pressure Units; torr, mbar, pascal
- Programmable Process Control Set Point Relay
- Automatic Cool-Down, Shut-Down mode
- Display for Voltage, Pump Current and Pressure
- Serial I/O for Data Collection: RS-232, 422 and 485
- Analog Outputs for Monitoring Voltage and Current
- Ground Sensing Circuit for Operator Safety
- CE, UL and CSA Conformance for Safety, EMC and EMI
- Universal Power Supply 85-250 VAC, 50/60 Hz
- Dimensions: 9.5" (24cm) wide, 3.5" (9cm) high, 16" (41cm) deep

Ion Pumps

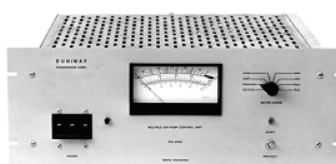
Ion Pump Control Units

New Varian-Style Classic Pump Controllers

Part No.	Description	Image
Duniway	--	#
IPC-0062	Medium (8, 20, 30, 60 I/s) Ion Pump Control/Display, Half 19" Rack Package, Output: +3300 & -5200 volts, 200 ma. Input: 120/240 VAC	1
IPC-0066	Large (110/140, 220/270, 400/500 I/s) Ion Pump Control/Display, Full 19" Rack Package, Output: +7200 & - 5200 volts, 675 mA. Input: 208/240 VAC	2
PR-0048	Pressure Relay for Bakeout Control with IPC-0062 and IPC-0066 Ion Pump Control/Display; Includes Cables	3
48-CABLE1	Cable from PR-0048 Pressure Relay to Bakeout System, 10 ft.	4
48-CABLE2	Cable from IPC-0062 or IPC-0066 to PR-0048 Pressure Relay, 10 ft.	5
HRA-0019	19" Half Rack Adapter for IPC-0062	6



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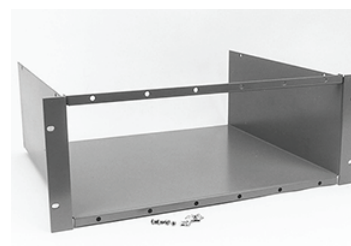
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Features

- Manufactured by Duniway Stockroom Corp.
- These units can be used with all manufacturers' pumps.
- Purchase INCLUDES power cable.

Ion Pumps

Rebuilt Ion Pump Control Units

Rebuilt Varian & PE/Ultek

Rebuilt Varian

Model #	Pumping Speed	Volts out	MA	Volts in
Duniway	L/S	volts	--	volts
921-0000	1000	+7200	2000	230/460
921-0004	140	+7200	235	115/230
921-0005	500	+7200	750	208/230
921-0006	Appendage	+3300	40	115/230
921-0007	80	+7200	190	115/230
921-0011	8	+3550	180	115/230
921-0012	50	+3750	350	115/230
921-0013	15	+7200	70	115/230
921-0014	Multi-Pump(5)	+3300	40	115/230
921-0015	Appendage	+3300	40	115/230
921-0018	11 (H2O)	+7200	750	208/230
921-0034	140	+7200	300	115/230
921-0036	270	+7200	600	115/230
921-0038	500	+7200	1250	208/230
921-0041	110	-5200	480	115/208/230
921-0043	220	-5200	800	115/208/230
921-0045	400	-5200	1600	208/230
921-0062	8 20, 30, 60	+3300 -5200	120 200	120/240
921-0066	110, 220, 400 110, 220, 400	-5200 +7200	675 465	208/240

Duniway Stockroom Corporation

provides a wide array of rebuilt Ion Pump Controllers originally from Varian and PE/Ultek. Each unit is refurbished to its original functional state and is thoroughly tested by our Electronics Department. All units we offer may not be listed. Please inquire.



Varian Model 921-0062

Rebuilt PE/Ultek

Model #	Pumping Speed	Volts out	MA	Volts in
Duniway	L/S	volts	--	volts
60-063	5-25	+4750	150	115
222-0410	5-25	+4750	150	115
60-655	50	+4750	350	115
60-104	50	+4750	350	115
222-0510	50	+4750	350	115
60-160	100-500	+4750	1000	208/230
222-0530	80-220	±5500	250	115/208/230
222-0600	100-500	+4750	1000	208/230
222-0630	120-500	±7000	600	208/230
224-0630	BOOSTIVAC	+5500	250	117
Digital 500	25-270	±5500	220	110/230



Varian Model 921-0066

Ion Pumps

Ion Pump Cables and Connectors

New Standard Cables

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Part No.

Description

Duniway

--

FS-110N-10

Ion Pump Cable, VIP-Style Interlock IP Connector, 10KV Control Connector

FS-110N-FR

Ion Pump Cable, VIP-Style Interlock IP Connector, VIP/Fischer w/Ring Terminal Control Connector

FS-110N-FT

Ion Pump Cable, VIP-Style Interlock IP Connector, VIP/Fischer w/Tip Plug Control Connector

FS-110N-MS

Ion Pump Cable, VIP-Style Interlock IP Connector, Varian Old-Style Control Connector

FS-110N-X

Ion Pump Cable, VIP-Style Interlock IP Connector, Underminated

P-110N-10

Ion Pump Cable, Perkin Elmer IP Connector, 10KV Control Connector

P-110N-FR

Ion Pump Cable, Perkin Elmer IP Connector, VIP/Fischer w/Ring Terminal Control Connector

P-110N-FT

Ion Pump Cable, Perkin Elmer IP Connector, VIP/Fischer w/Tip Plug Control Connector

P-110N-MS

Ion Pump Cable, Perkin Elmer IP Connector, Varian Old-Style Control Connector

P-110N-X

Ion Pump Cable, Perkin Elmer IP Connector, Underminated

S-110N-10

Ion Pump Cable, Early StarCell-Style IP Connector, 10KV Control Connector

S-110N-FR

Ion Pump Cable, Early StarCell-Style IP Connector, VIP/Fischer w/Ring Terminal Control Connector

S-110N-FT

Ion Pump Cable, Early StarCell-Style IP Connector, VIP/Fischer w/Tip Plug Control Connector

S-110N-MS

Ion Pump Cable, Early StarCell-Style IP Connector, Varian Old-Style Control Connector

S-110N-X

Ion Pump Cable, Early StarCell-Style IP Connector, Underminated

V-110N-10

Ion Pump Cable, Std Varian Classic Style IP Connector, 10KV Control Connector

V-110N-FR

Ion Pump Cable, Std Varian Classic Style IP Connector, VIP/Fischer w/Ring Terminal Control Connector

V-110N-FT

Ion Pump Cable, Std Varian Classic Style IP Connector, VIP/Fischer w/Tip Plug Control Connector

V-110N-MS

Ion Pump Cable, Std Varian Classic Style IP Connector, Varian Old-Style Control Connector

V-110N-X

Ion Pump Cable, Std Varian Classic Style IP Connector, Underminated

Image

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Cables above made with Type 1 cable. See specifications and other cable types on page 76.

Ion Pumps

Ion Pump Cables and Connectors

Custom Ion Pump Cables

All standard cables on previous page are 10 feet long. Cables are also available in different lengths, and with mesh or SST armor covers. Design your own Custom Cable. See tables & example below.

Part #	Pump End Connector
Duniway	--
V	Std. Varian Style
S	Starcell-Style
P	P-E Style
FS	Interlock Style
M	Varian Mini Molded

Part #	Cable Type	Length
Duniway	--	--
1	New RR 80°C Coax, Sense W	1+Length
4	RR 150°C Coax, Sense W	4+Length
V**	V-Wire 200 °C	V+Length

RR = Radiation Resistant

Part #	Sheath Type
Duniway	--
N	None
S	SST Armor
M	Mesh

Part #	Controller End Connector
Duniway	--
X	None
MS	Old Varian Style
F	Starcell-Style Fischer
05*	Old Style P-E, 5kV
10	10kV

Custom Cable Part Number and Cost Determination:

Part Number = PumpEnd + CableTypeLength + SheathTypeLength + ControllerEnd

Cost = PumpEndCost + (CableCost x Length) + (SheathCost x Length) + ControllerEndCost+LaborCost

Notes: Labor cost is \$50. Sheath length always equals cable length.

Example: S-412S12-MS, Starcell pump connector (\$165.00), type 4 coax, 12 feet long (12 x \$7.00 = \$84.00), SST armor sheath, 12ft long (12ft x \$3.00/ft = \$36.00), Old Varian Style controller connector (\$110.00), + \$50.00 labor = \$445.00 Total.

Example: P-V15N-X, P-E style IP connector (\$90.00), V-Wire 15 feet long (15 x \$7.00 = \$105.00), no sheath (\$0.00), No Controller Connector (\$0.00), + \$50.00 labor = \$245.00 Total.



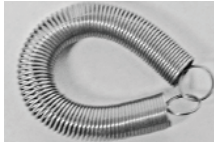

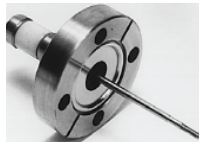



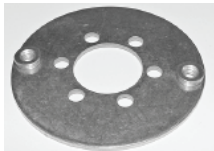


* Connectors marked with an asterisk are available only with coax type 4.
 ** Cable marked with a double asterisk is available only with SST Armor Sheath, which includes a ground return.

See page 77 for pictures of connectors and chart showing connector compatibilities.




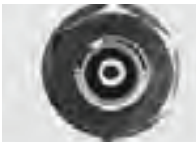







Ion Pumps

Ion Pump Cables and Connectors

Ion Pump High Voltage Feedthroughs, Mating Connectors and Grounding Pieces (if needed)

V-				P-			
	V-100-X	HVFT-5143	GSP-1000		X-200-X	FT-PE-218	X-002-X
S-				FS-			
	S-100-X	HVFT-5120	HVFT-GRND		FS-105-X	HVFT-5125	

Ion Pump Controller Back Panel Connectors and Mating Cable Connectors

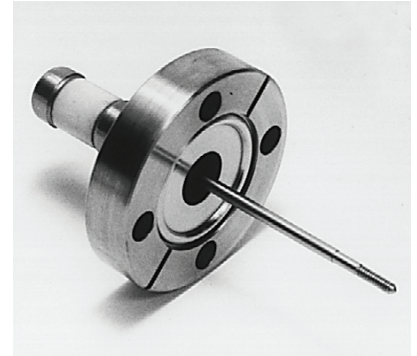
Endviews					
	SP-CONNECT	PE-5KV-CU	SHV-1704-01	PE-10KV-CU	STRCL-FEMALE
Sideviews					
Controller End Cable Connectors					
	MS-COMPLETE	P/E-5KV	SHV-1705-14	P/E-10KV	STRCL-MALE
	-MS	-05	-SHV	-10	-F

Ion Pumps

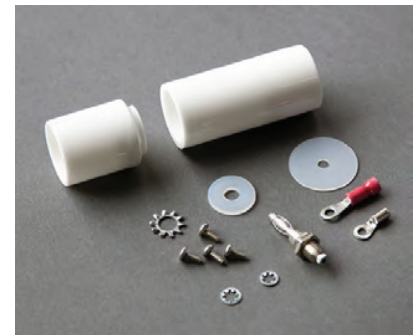
Ion Pump Cables and Connectors

High Voltage Feedthroughs, Connectors and Parts

Part No.	Description
Duniway	--
SP-CONNECT	HV Controller Rear Panel Connector,VA -0062(J4), -0066(J1)
FS-105-X	HV Cable Connector Kit, Ion Pump End, VA VIP/StarCell-Style Interlock; For kit assembly instructions,see our website under Documents.
PE-FT-218	High Voltage Feedthrough, Old Style, for PE/PHI/Ultek Ion Pump, on 2 1/8" CFF
HVFT-5120	High Voltage Feedthrough, Early VIP/Starcell-Style Pumps, on 1.33" (mini) CFF
HVFT-5125	High Voltage Feedthrough, New VIP/Starcell-Style Pumps, on 1.33" (mini) CFF
HVFT-5143	High Voltage Feedthrough, VA Classic-Style- For 30I/s and Larger Pumps, on 1.33" (mini) CFF
HVFT-GRND	Grounding Plate for Early VIP Starcell-Style High Voltage Feedthrough (HVFT-5120)
MS-COMPLETE	HV Cable Connector Kit, Controller End, VA -0062(J4), -0066(J1); For kit assembly instructions,see our website under Documents.
PE-10-KV	HV Cable Connector, Controller End, PE 10KV
PE-10KV-CU	HV Controller Rear Panel Connector, PE 10KV
PE-5-KV	HV Cable Connector, Controller End, PE 5KV
PE-5KV-CU	HV Controller Rear Panel Connector, PE 5KV
PE-FT-133	High Voltage Feedthrough, New Style, for PE/PHI/Ultek Ion Pump, on 1.33" (mini) CFF
R-030-INS	Ceramic Insulator Kit, for V-100-X
R-040-SHL	Aluminum Shell for V-100-X
S-100-X	HV Cable Connector Kit, Ion Pump End, VA Early Starcell-Style, Bakeable; For kit assembly instructions,see our website under Documents.
SHV-1704-01	HV Controller Rear Panel Connector, PE SHV - 5KV Shielded
SHV-1705-14	HV Cable Connector, Controller End, PE SHV 5KV-Shielded
STRCL-FEMALE	HV Controller Rear Panel Connector,VA Starcell-Style
STRCL-MALE	HV Cable Connector, Controller End, VA Starcell-Style
V-100-X	HV Cable Connector Kit, Ion Pump End, VA Classic Style, Bakeable; For kit assembly instructions,see our website under Documents.
X-002-X	HV Cable/Ion Pump Collar, PE Style
X-200-X	HV Cable Connector Kit, Ion Pump End, PE Style



High Voltage Feedthrough



Ceramic Insulator Kit, for V-100-X

Ion Pumps

Titanium Sublimation Pumps

New Titanium Sublimation Pumps & Parts

Part No.	Description	Image
Duniway	--	#
TSP-12-PE	Filaments for PE Style TSP Cartridge, Package of 12 (Degassed @ 700C-Alloy Wire: 85% Titanium, 15% Moly)	1
TSP-12-VA	Filaments for Varian Style TSP-275-003 Cartridge, Package of 12 (Degassed @ 700C-Alloy Wire: 85% Titanium, 15% Moly)	2
TSP-275-003	Varian-Style Titanium Sublimation Pump Cartridge, with 3 Filaments, on 2.75" CFF	3
TSP-CABLE	Cable for TSP-275-003, 12 Ft. Only works with Varian TSP controllers.	4
TSP-PE-LN2	Cryoshroud with 3.375" CFF for PE Style TSP Cartridge, Mounted on 8.00" CFF *	5
TSP-VA-LN2	Cryoshroud with 2.75" CFF for Varian Style TSP-275-003 Cartridge, Mounted on 8.00" CFF *	5

* **NOTE:** The only difference between the Perkin Elmer and the Varian cryoshroud is the flange for the TSP cartridge.



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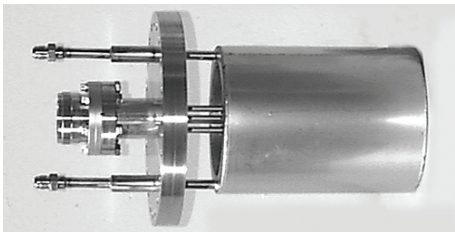
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