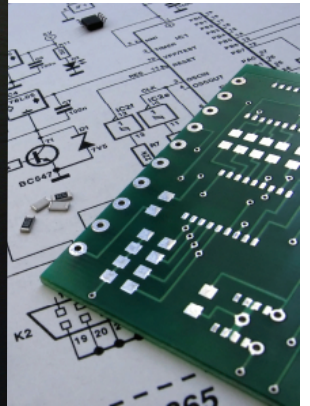


[www.YTIONLINE.com](http://www.YTIONLINE.com)





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# New Vacuum Systems

YTI manufactures state-of-the-art vacuum deposition systems. More than thirty years of hands on experience and extensive knowledge in vacuum technology allows our engineers to analyze your process and offer sound, equitable solutions for your requirements. We work closely with our customers to ensure design integrity as the system is being constructed and integrate customer supplied equipment as requested.

Systems are available in bell jars, box coaters, load-lock, inline and batch. Likewise, a wide variety of sources can be installed, i.e. electron beam sources, thermal sources, ion sources and magnetron or diode cathodes (RF or DC).

YTI offers in-house automation technology to assure consistent performance. With lower start-up costs and yielding a higher throughput and superior product, YTI offers the best price to performance ratio available.

Please call with your requirements and discover how YTI can make your company more competitive in today's high-tech environment.



# Pre-owned Vacuum Equipment



Yeagle Technology Inc is the place to find the highest quality in pre-owned vacuum equipment to meet your precision requirements. We sustain an extensive inventory of bell jars and box coaters equipped with electron beam sources and/or thermal deposition sources. We also maintain a variety of load-lock, in-line and batch sputtering systems.

The equipment can be purchased in "as is" condition or, if you need to start production quickly, YTI can provide the service required to assure the system will be operational when delivered. Any system can also be customized to meet your specific requirements.

Please call for pricing on currently available systems.



# Field Service and 24 hr/7 day Emergency Service

YTI has an exceptional staff of fully trained service engineers to provide comprehensive field service. A complete array of test equipment in each service vehicle allows us to diagnose any vacuum system or electronics problem from Air leaks to Zener failure (and everything in-between). Our staff is fully-trained on most vacuum equipment and support instrumentation. YTI offers 24 Hr/7 Day Emergency Service . YTI provides installation, preventive maintenance, or customized service contracts to meet your equipment, facility, or application needs. Please call for a quotation and discover how our services can fulfill your equipment needs.

## Outline of On-Site Services

Vacuum Equipment Installations

Diagnosis and Repair of Control Systems and Instrumentation for:

Electron Beam Sources

Electron Beam Source Power Supplies

Thermal Evaporators

Vacuum Measurement Instruments

Substrate Heat

Substrate Rotation

Automatic Pumping Controllers

Microprocessor Control Systems

Vacuum Leak Testing using Helium Mass Spectrometer Leak Detector

Cryogenic Compressor and Pump Servicing

Refrigeration Repair

Polycold® / Telemark® Installation and Field Service

Portable TIG Welding

Pump Service

Electronics Service

Service Contracts for Installation, Preventive Maintenance, or Custom Servicing

**24 HR / 7 Day Emergency Service**





# Products

YTI warehouses a complete inventory of replacement parts, refrigerant charges and refurbished units. From the smallest P20 to PFC1102 and any model in between. Polycold™ and Telemark™ Refrigerant Replacement Charges

## POLYCOLD™ PCT, P and PFC SERIES

Standard Charges and 2 Series Charges

### POLYCOLD: STANDARD SERIES CHARGES

Description	Part Number	Price USD
P-20	22000-092	(full charge) \$625.00
P-75/P-100	22000-014	(full charge) \$660.00
PFC-100	22000-015	(full charge) \$680.00
PGC-100	22000-013	(full charge) \$680.00
PGC-150	22000-021	(full charge) \$680.00
PFC-200	22000-010	(full charge) \$680.00
PFC-330	22000-017	(full charge) \$680.00
PFC-400	22000-018	(full charge) \$680.00
PCT-500/PCT-550	22000-019	(full charge) \$835.00
PFC-550	22000-020	(full charge) \$835.00
PCT-650	22000-024	(full charge) \$835.00
PFC-650	22000-023	(full charge) \$835.00
PFC-660	22000-025	(full charge) \$835.00
PFC-1000/PFC-1100ST	22000-027	(full charge) \$950.00
PFC-1100HC	22000-028	(full charge) \$950.00
Standard Top-Off	22000-029	\$600.00

### POLYCOLD: LT SERIES CHARGES

Description	Part Number	Price USD
PFC-400LT	22000-093	(full charge) \$680.00
PFC-550LT	22000-094	(full charge) \$835.00
PFC-1100LT	22000-095	(full charge) \$950.00
LT Top-Off	22000-026	\$600.00

### POLYCOLD: 2 SERIES AND TELEMARCK CHARGES

Prices available upon request

**Prices Subject to change**

# Cryogenic Refrigeration Installation and Service Center

YTI is a Cryogenic Refrigeration Installation and Service Center for the entire Cryogenic Refrigeration product line. Our staff of Service Engineers are fully trained and offer you the highest quality job in the best turnaround possible for new installations, preventive maintenance or emergency service. In almost all cases we can offer immediate response time and single-visit solutions.

YTI stocks a full line of spare parts and replacement charges for many systems. A variety of rebuilt systems are also available at very competitive prices. We also offer service on most other brands of refrigeration and temperature control systems.



Fully-trained Engineering and Service Staff

Installation and Service on all major brands of refrigeration and temperature control systems (cryobased, waterbased, hot, cold, etc.)

EPA Approved recovery equipment

Technical Personnel EPA # 608 and # 609 Certified

Latest Non-CFC Refrigerant Charges In-Stock

Fast and Accurate Service

Full Line of Spare Parts and Charges Available

## Additional Services

Polycold™ Unit Conversions

- "1100ST" to "1100HC" Capacity
- "ST or HC" to "LT" Temperatures
- Dual to Single Circuit
- Single to Dual Circuit
- HCFC to HFC Refrigerants

YTI Cryogenics Upgrades

- Oil Control Upgrade for 1100-1102 series units
- PFC Module Relay Upgrade
- High Liquid Fault Upgrade
- Unit Restoration
- Preventative Maintenance Programs

## Field Service and 24 Hr/7Day Emergency Service...

YTI has been offering complete Polycold™ field service to the East Coast for over 25 years. We maintain a fleet of fully stocked service vehicles, allowing us to be on site within hours.

We provide a complete written evaluation and estimate of required repairs before we begin servicing your Polycold™ or Telemark™ unit. All YTI services are backed by our quality warranty.

In addition to emergency service, YTI also offers complete preventative maintenance programs to keep your Polycold™ and Telemark™ equipment running and producing.

# Dektak™ Sales, Repair and Service

YTI offers full service, repair and preventive maintenance of the Dektak™ Surface Profile Measuring Systems. With capabilities including the Dektak™, the Dektak II™, Dektak 3 and the Dektak 3030™, YTI stocks a full line of replacement parts.

Our expertise and a fully equipped electronics and testing lab allows us to quickly determine the best solution for your problem.

YTI also has a variety of completely refurbished Dektak™ instruments available for resale at the fairest market price. Please call with your requirements and discover how YTI can meet your surface profiling needs.



- Field Repair Service
- In-House Repair Service
- Replacement Parts
- Refurbished Instruments

## Full Line of Replacement Parts

- Styluses
- 25 Micron
- 12.5 Micron - Standard
- 5 Micron
- 2.5 Micron
- Submicron
- Lamps
- Monitors
- Thermal Plotters
- Thermal Sensitive Paper
- Upgrades
- Calibration Standards
- All Models
- Dektak™
- Dektak II™ through Dektak II D
- Dektak 3030™
- Dektak 3





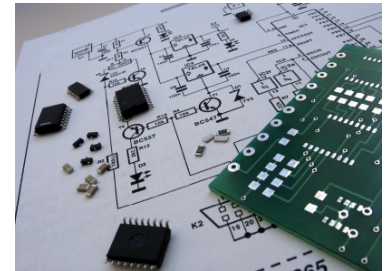
# Electronics Service and Repair

YTI is a fully equipped service and repair center for virtually every type of vacuum instrument. Our expert staff offers you the highest quality job in the best turnaround possible for new installations, preventive maintenance or emergency service. YTI can provide this quality and speed of service via our staff of fully trained service engineers and our complete in-house electronics laboratory.

YTI has a full line of spare parts for most vacuum instruments and a variety of new and rebuilt vacuum instruments available at very competitive prices.

Please call for a full description of our services.

Fully Equipped Repair and Service Center with complete in-house electronics lab  
Fully Trained Engineering and Service Staff  
Service on all major brands and types of vacuum instruments:



## Types

Chart Recorders  
Cryogenic Instruments  
Crystal Control Instruments  
E-B Source Controllers  
E-B Source Position Modules  
E-B Source Power Modules  
E-B High Voltage Controllers  
Frequency Converters  
Furnace Controllers  
Gauge Controllers  
Gauge Set Point Switch Boxes  
Gauge Tube Selectors (Ion)  
Gauge Tube Selectors (TC)  
In-Source Controllers  
LN2 Controllers  
Motor Drives  
Over Pressure Controllers  
Plasma Igniters  
Pump Sequencers  
SCRs  
Shutter Controllers  
Source Selectors  
Sputter Controllers  
Sputter Etch Controllers  
Substrate Rotation Controllers  
Sweep Controllers  
System Controllers  
Temperature Controllers  
Thermal Source Controllers  
Valve Controllers, and more...

## Brands

Advanced Energy  
AircotTemescal  
Balzers  
CHA  
Commonwealth Scientific  
CVC  
Eddy Company  
Edwards  
ENI  
GranvillePhillips  
Hastings  
Inficon  
Ion Tech  
K.H. Frederick  
Kronos  
Leybold  
LFE  
MKS  
MRC  
PerkinElmer  
Pfeiffer  
Roots/Dresser  
Sloan  
Stokes  
Sycon  
Tegal/Plasmaline  
Varian  
Veeco  
Welch  
and more...

# Glow Discharge Power Supply

YTI manufactures the GDS100 & GDS101 Glow Discharge Power Supply. These 2kW supplies will drive the standard aluminum glow rod for ionization bombardment of substrates prior to the coating process. Other applications of this power supply include DC bias to substrates in sputter systems and uses requiring saturable reactor current sources for low impedance loads.



The GDS100 output is variac controlled with remote On/Off capability. There are two (2) safety interlocks available (door and vacuum) to protect both the operators and the hardware.

## SPECIFICATIONS

Input	220 V/60 Hz, Single Phase, 10 A Remote On/Off Capability
Output	Positive or Negative 07000 V 0700 mA
Interlocks	Two (2) Available
Control	Variac
Weight	85 lbs.
Mounting	Standard 19" Rack 10.5" High

The GDS101 output is manually controlled via the front panel or via a 0-10V signal from a PLC or deposition controller. This model also has remote On/Off capability. There are two (2) safety interlocks available (door and vacuum) to protect both the operators and the hardware.

## SPECIFICATIONS

Input	220 V/60 Hz, Single Phase, 10 A Remote On/Off Capability
Output	Positive or Negative 07000 V 0700 mA
Interlocks	Two (2) Available
Control	Rotary Manual / 0-10V External Signal
Weight	85 lbs.
Mounting	Standard 19" Rack x 3.5" high Remote Box 10.5" high x 16" x 18.25 "



# Automatic Valve Controller

The INTELLITROL Series of Automatic Valve Controllers provide total control of all basic vacuum operations. The microprocessor based controller provides reliable one button operation for fully automatic valve sequencing, protected manual mode to prevent mis-valving during manual operations, and service mode for complete manual operation.

The intelligent layout of the unit makes manual operation virtually effortless. The INTELLITROL Valve Controllers can be directly connected to most popular vacuum controllers to receive set point data.

## FEATURES

- Complete Automatic, Protected Manual, and Service Operation
- Intelligent Layout for "Ease of Use"
- Microprocessor-Based Control of Pump Sequencing
- Easily Connected to Most Popular Vacuum Gauges
- 120 VAC or 24 VDC Output, other voltages optional
- Can Interface with Any Vacuum System

## SPECIFICATIONS

### Inputs

- |              |                       |
|--------------|-----------------------|
| Main Power   | 120/230 Vac, 50/60 Hz |
| Vacuum Gauge | Crossover set point   |

### Outputs

#### VALVES:

High Vacuum 120 VAC or 24 VDC Output; Other voltages optional

Roughing

Foreline / Regen

Vent

#### MOTORS:

Mechanical Pump Line Voltage for Magnetic Starter

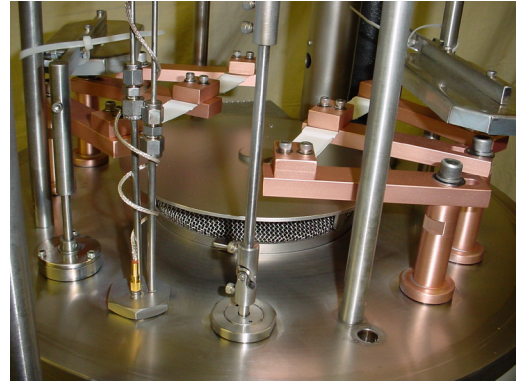
#### INTERLOCKS:

Chamber Closed Normally open or closed contacts



# Custom Vacuum Component Fabrication

YTI can accommodate virtually any of your custom vacuum needs. With a complete production facility, we can manufacture all standard and most non-standard vacuum components to your specifications. Our shop is flexible enough and works closely with our customers to ensure design integrity as the custom component is being manufactured. We assess each job individually to determine the highest grade material possible and best manufacturing means while maintaining a price competitive process. This allows YTI to provide superior custom products at the fairest market price.



## In-House Equipment Available

- 12" x 50" CNC Milling Machine
- 20" x 40" NC Milling Machine
- 9" x 42" Milling Machine
- 60" Lathe
- 20" Monarch Lathe
- 16" CNC Lathe
- TIG/ARC Welder
- MIG Welder
- Stud Welders

## Machining Capabilities

- Stainless Steel Bell Jars
- Feedthroughs
- Vacuum Manifolds
- Backing Plates for Sputtering
- Electron Beam Sources (Sloan Style)
- Custom Valve Control Panels
- Chamber Modifications
- Base Plates - New & Resurfacing
- Top Plates - New & Resurfacing
- BlankOff Plates
- Rewrap Diffusion Pumps
- Repair Vacuum and Water Leaks
- Replacement of Diffusion Pump
- Bottom Plates, and much more...

## Welding Capabilities

- TIG (HELIARC) - Stainless Steel Fabrication
- MIG - General Fabrication
- ARC - General Fabrication
- STUD (#1032 & 1/4" 20 Stainless) - Chamber Fixturing

## Silver Brazing & Soldering Capabilities

- Stainless, Copper, Brass or Steel in virtually any combination
- General Fabrication of Rough Lines and External Water Lines



# Feedthroughs

YTI offers a complete line of electrical, fluid and rotary feedthroughs. All feedthroughs are leak tested to  $1 \times 10^{-8}$  torr for reliable performance in high vacuum systems. All feedthroughs are designed to fit a standard 1" port. Custom feedthroughs are available for most high vacuum applications. Please contact us to discuss your needs.

**Electrical \* Fluid \* Rotation \* Gas \* Instrument \* LN2**



## SPECIFICATIONS

### Dual High Voltage

Max Ratings	15 kV, 70 Amps (Below 10 <sup>-4</sup> )
Material	Stainless Steel, Ceramic, Teflon, OFHC Copper
Connectors	Internal: Two (2) 5/16-24NF Studs External: Dual Rowe Type



### Single High Voltage

Max Ratings	10 kV, 70 Amps (Below 10 <sup>-4</sup> )
Material	Stainless Steel, Ceramic, Teflon, OFHC Copper
Connectors	Internal: One (1) 1/4-20 Stud External: Single Rowe Type



### Medium Current

Max Ratings	220 V, 60 Amps
Material	Stainless Steel, Ceramic
Connectors	Internal: Two (2) 10-32NF Studs External: Cannon Connector



### Octal

Max Ratings	120 V, 5 Amps/Pin
Material	Stainless Steel
Connectors	Standard Octal, Both Sides



### Fluid, Gas and LN2

Material	Stainless Steel
Size	Many variations are available with tubing sizes ranging from 1/8" to 1/2" in various configurations



### Instrumentation

Material	Stainless Steel
Size	Dual 1/4" Water with Coaxial Electric. Other configurations are available.



# Electron Beam Power Supplies

## NE Series

The Original Niles Electronics Electron Beam Gun Sweep.  
The Original Niles Electronics Electron-Beam Gun Switching Power Supply Time tested in the field, they have been proven to outperform all current competitors and continue to be the standard of excellence in E-Beam Gun Switching Power Supplies.

Each Power Supply consists of the following components:

- Power Module
- High Voltage Module
- Control Module
- Rack Assembly



## SPECIFICATIONS

	NE-4	NE-6
Max Number of Guns	One	One
Maximum Output Power	4 kW	6 kW
Maximum Emission Current	0.4 Amps	0.6 Amps
Input Voltage for Control	208-230 Volts, Single-phase, 50/60 Hz.	
Input Current for Control	3 Amp	
Input Voltage for Power	208-230 Volts, 3-phase, 50/60 Hz.	
3-phase Input Current for Power	20 Amps	30 Amps
High Voltage Range	Adjustable from -3 kV to -10 kV.	
High Voltage Ripple	Less than 150 Volts.	

## NEU Series -

Enhanced Versions of the NE Series Power Supplies  
Compatible with US and European Voltage Standards

Each Power Supply consists of the following components:

- Power Module
- High Voltage Module
- Control Module
- Rack Assembly



## SPECIFICATIONS

	NEDG-4	NEDG-6	NEDG-8	NEDG-10
Max Number of Guns	Two	Two	Two	Two
Maximum Output Power	4 kW	6 kW	8 kW	10 kW
Maximum Emission Current	0.4 Amps	0.6 Amps	0.8 Amps	1.0 Amps
Input Voltage for Control	230 Volts, Single-phase, 50/60 Hz			
Input Current for Control	7 Amp			
Input Voltage for Power	400 Volts, 3-phase, 50/60 Hz			
3-phase Input Current for Power	10 Amps	15 Amps	20 Amps	25 Amps
High Voltage Range	Adjustable from -3 kV to -10 kV			
High Voltage Ripple	Less than 150 Volts			

# Electron Beam Power Supplies

## HYDRA-15

The Ultimate Electron-Beam Gun Power Supply  
Three-Gun Output up to 15 kW

Each Power Supply consists of the following components:

- Power Module
- High Voltage Module
- Control Module

## SPECIFICATIONS

Max Number of Guns  
Maximum Output Power  
Maximum Emission Current

Input Voltage for Control  
Input Current for Control  
Input Voltage for Power  
3-phase Input Current for Power  
High Voltage Range  
High Voltage Ripple

NEDG-4  
Three  
15 kW  
1.5 Amps, Provided that Total Current does not Exceed 1.5 Amps  
230 Volts, Single-phase, 50/60 Hz  
10 Amp  
400 Volts, 3-phase, 50/60 Hz  
40 Amps  
Adjustable from -3 kV to -10 kV  
Less than 150 Volts



## Refurbished Electron Beam Power Supplies

YTI has available a large selection of refurbished electron beam source power supplies from Telemark®, Temescal®, Sloan® and MDC®. The supplies have power capabilities from 3 kW to 30 kW and are compatible with most electron beam sources in this range. The power supplies are available with beam sweep electronics for precise control of beam parameters.

The power supplies can also be integrated with crystal monitors to automate their control. A feedback signal from the crystal monitor is received by the power supply and the output of the supply is adjusted accordingly to maintain a stable deposition rate.

Please call for a full description of products available and current pricing.

# Sweep Controllers

## Standard Sweep

The Original Niles Electronics Electron Beam Gun Sweep

### SPECIFICATIONS

Type: Analog.

- $\pm 1.5$  Amps Maximum Output Current into a Load with Impedance not to Exceed 10 Ohms.
- $\pm 15$  V Peak Output Voltage into Coils with Impedance Greater than 10 Ohms.
- Frequency Range: 5 to 100 Hz (1 to 20 Hz upon Request).
- Wave Forms: Saw-Tooth, Sinusoidal, Circle or Spiral Modulated and Phase-locked.
- Can be controlled by using Control Software on PC (e.g. LabView): NO.
- Remote Control: Dials with Joystick, 4 Pattern, 4 Pattern with joystick.
- Input Voltage: 120/208/230 Volts
- Maximum Output Voltage (for coil impedance  $>10$ ):  $\pm 15$  Volts each axis.
- Maximum Output Current (for coil impedance  $<10$ ):  $\pm 1.5$  Amps each axis.

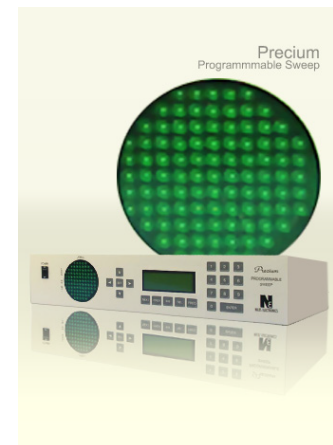


## Precium Sweep

Precium is a user-programmable electron-beam gun sweep. Instead of using manufacturer determined sweep patterns, Precium allows end users to program, store, modify, and run individual sweep patterns to compensate for variabilities in individual electron beam guns. Each pattern is composed of "steps"; each step defines the X-Y coordinate of electron beam gun target and the duration, or the "dwelling" time. Users may program up to 100 steps for each pattern. Users may also define the maximum ranges for the X and Y coordinates to compensate for variations of the individual electron beam guns. Precium also contains a RS-232 serial port to connect to an IBM compatible PC running Windows 98 or 2000. This allows transferring of userprogrammed patterns between a PC and a Precium for greater flexibility in storing, designing, and automation. A sweep pattern can now be designed on a PC and transferred to one or more Preciums for better automation. Or, a sweep pattern can be experimented on one Precium, downloaded and fine-tuned on a PC, and re-uploaded to the original or other Preciums for higher productivity. Precium's interface with PC also allows sweep patterns to be stored on disks for future references.

### SPECIFICATIONS

- Type: Microcontroller.
- Up to 120 patterns may be programmed and stored in Precium.
- Steps per pattern: 100 steps.
- On-board Non-Volatile RAM (NVRAM) retains programmed patterns even when the power is turned off.
- Can switch between pre-programmed patterns on-the-fly while the electron beam gun is running.
- Allows PLC input to start running or switching patterns. This enables users to integrate Precium into an automated system.
- RS-232 serial connection with an IBM-compatible PC running Windows 98, Windows 2000, or Vista.
- RS-232 serial to USB adapter with driver available.
- PSLink, a sweep pattern design and interface software for Windows 98/2000 is included.



- Precium Handheld Remote Control included.
- Input Voltage: 120/208/230 Volts.
- Maximum Output Voltage (for coil impedance  $>10$ ):  $\pm 15$  Volts each axis.
- Maximum Output Current (for coil impedance  $<10$ ):  $\pm 1.5$  Amps each axis.



# Diffusion Pump Heaters

Our Diff-Therm® platen heaters are high-quality tubular heating elements swaged under 50 tons of pressure into grey iron castings. They set the standard for long-life, evenly distributed process heating and efficient power generation.

## Pump Heater Types

Direct Replacement Heaters for Every Major Brand of Vacuum Diffusion Pump

Cooke	NRC
CVC	Perkin Elmer
Denton	Torr
Edwards	Varian
Leybold	Veeco



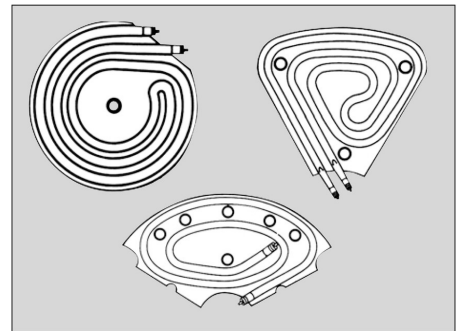
Complete Range of Sizes and Shapes

For 2" to 48" pumps

Over 100 combinations of electrical ratings and casting sizes  
Designed as direct replacements with OEM sizes, shapes and bolt patterns.

Custom heaters for obsolete or foreign pumps.

Replacement for cast-in heaters, tubular /crush plate heaters, and pancake-style heaters.



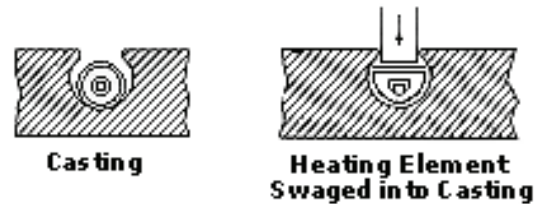
Outperform Most Original Equipment Heaters

Unique swaged assembly provides increased dielectric density for better heat transfer and longer heater life.

"Full Power" heaters that produce 20% more heat than OEM heaters.

Flat, smooth platen surface assures uniform, efficient heat transfer.

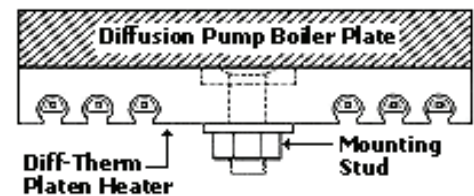
Increases pump throughput and higher vacuum system processing rates.



One-Piece Assembly Simplifies Installation

Simpler and faster to install than conventional tubular/crush plate systems

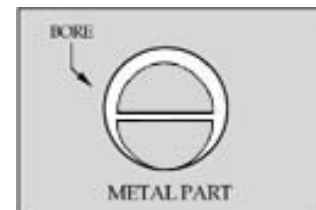
Proper alignment never a problem



Watt-Flex® Split-Sheath Cartridge Heaters Outperform Conventional Heaters

Split-sheath design expands when energized for better heat transfer - especially in oversized bores.

Warranted removal - heater contracts when de-energized for easy removal.



# Pump Servicing Center

YTI is a fully equipped service, remanufacturing and repair center for nearly every model and type of vacuum pump. Our expert staff offers you the highest quality job in the best turnaround possible for new installations, preventive maintenance or emergency service. YTI can provide this quality and speed of service via our staff of fully trained service engineers and our complete inhouse machine shop.

YTI offers a full line of spare parts for most vacuum pumps and a variety of rebuilt pumps available at very competitive prices. Please call for a full description of our services to meet your specific needs.



Fully equipped remanufacture, repair and service center with complete in-house machine shop  
Complete in-house test station for measuring pumping speed and ultimate vacuum  
Fully trained engineering and service staff  
Installation and service on all major brands and types of vacuum pumps including:

## Types

### Roughing

- Blowers
- Rotary Piston
- Rotary Vane

### High Vacuum

- Cryogenic
- Diffusion
- Ion
- Turbomolecular



## Brands

- Alcatel/Varian
- Balzers/Pfeiffer
- Cenco/Precision Scientific
- Edwards
- Kinney
- Leybold
- Stokes
- Veeco
- Welch
- and more...

Full line of spare parts available  
Fast and accurate service



# "Ultra Source" Multi-Hearth Electron Beam

The NEW "ULTRA SOURCE" retains all the advantages of the original Sloan E-Beam source, large hearth capacity, high deposition rates, long filament life, and industrial reliability, but has been re-engineered. There is no need to disconnect water fittings when disassembling the source for routine maintenance. All wear surfaces are now stainless steel instead of copper. Water leaks caused from removing the hearth have been eliminated.

## Already have an original Sloan Multi-Pocket E-Beam Source?

The ULTRA SOURCE shares many of the same components as the original Sloan source - expendables, magnets, anodes, beam formers, filament blocks and many other parts are all compatible.

## FEATURES

- Large Pocket -- Up to 40cc
- Interchangeable Crucibles
- 270 Bent Beam Design for Longer Filament Life
- High Operating Efficiency
- XY Sweep Capability

## SPECIFICATIONS

### Output Power

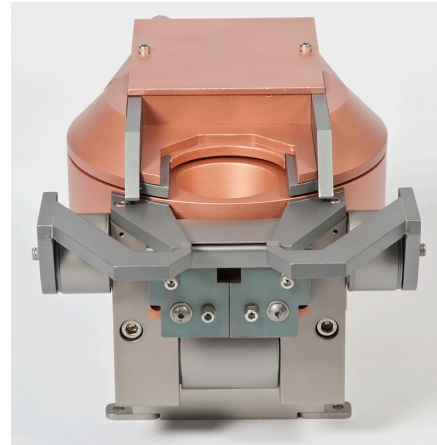
Maximum Power 1	2 kW
- Emission Voltage	10 kV
- Emission Current	Up to 1.2 Amps
Efficiency	In excess of 99% of Beam Power into Hearth

### Beam Characteristics

Type	270° Beam
Spot Size	0.375" x 0.375"
Sweep	Longitudinal / Lateral with Sweep Controller

### Required Power

- Source	410 kV, 01.2 A
Filament	08 VAC, 40 A
Cooling Water	1.7 gpm, 45 psi Minimum
Required Operating Pressure	Below 2 x 10 <sup>-4</sup>
Maximum Bake-Out Temperature	250 C

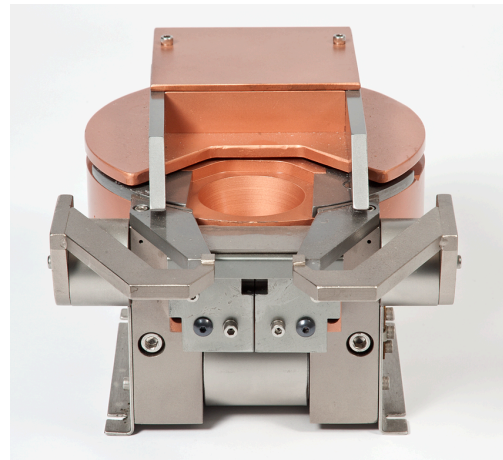


### Hearth Characteristics

Material	OFHC Copper
Dimensions	Truncated 30 Cone: 2.0" x 1.50" x 0.92" (Top x Bottom x Depth)
Capacity	7cc to 40cc

# Multi-Hearth Electron Beam Source

The Multi-Hearth Electron Beam Source is a heavy duty source offering large hearth capacity, high deposition rates, long filament life, and industrial reliability for R&D or production line applications. The source has four (4) crucibles which can be rotated into position either manually or automatically. The source is designed to operate at input power levels up to 12 kW. The 270° bent beam design permits complete shielding of the filament from evaporated material and falling debris and protects "line of sight" to the substrates. The source is also equipped with a water-cooled trap and permanent magnet for greater operating efficiency and safety. The electron beam can be swept in both the X and Y axis for optimum evaporation.

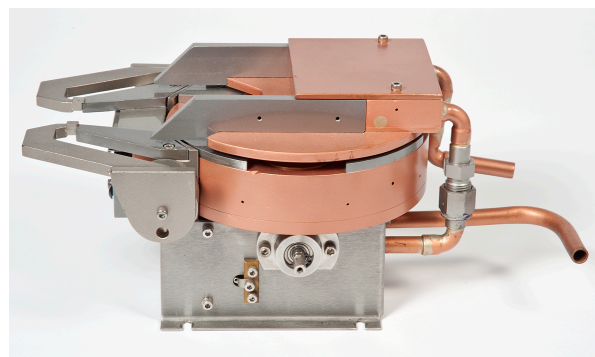


## FEATURES

- Four (4) Large Pockets -- Up to 40cc
- Interchangeable Crucibles
- Bent Beam Design for longer filament life
- High Operating Efficiency
- X-Y Sweep Capability

## SPECIFICATIONS

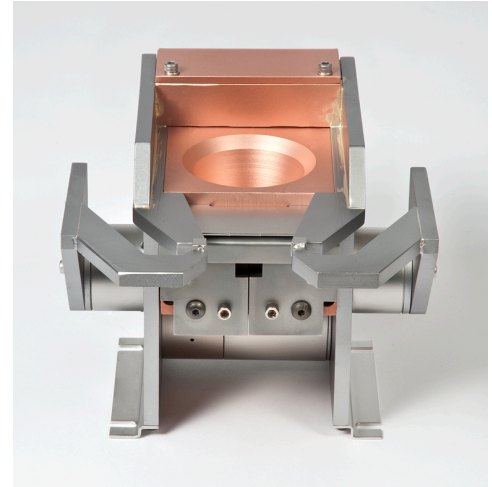
Required Power	115 VAC or 230 VAC, 60 Hz
Output Power	
- Maximum	
Power	12 kW
- Emission	
Voltage	10 kV
- Emission	
Current	Up to 1.2 Amps
Efficiency	In excess of 99% of Beam Power into Hearth
Beam Characteristics	
Type	270° Beam
Spot Size	0.375" x 0.375"
Sweep	Longitudinal / Lateral with Sweep Controller
Required Power	
Source	410 xV, 0.1.2 A
Filament	08 VAC, 40 A
Cooling Water	2 gpm, 30 psi Pressure Differential
Required	Below $2 \times 10^{-4}$
Operating	
Pressure	
Maximum Bake-	
Out Temperature	250 C with water on
Hearth Characteristics	
Material	OFHC Copper
Dimensions	Truncated 30 Cone: 2.0" x 1.50" x 0.92" (Top x Bottom x Depth)
Capacity	Up to 40cc
Liner	As Required





# Single Hearth Electron Beam Source

The Single Hearth Electron Beam Source is a heavy duty source offering large hearth capacity, high deposition rates, long filament life, and industrial reliability for R&D or production line applications. The source has one (1) crucible which can accept a variety of liners. The source is designed to operate at input power levels up to 12 kW. The 270 ° bent beam design permits complete shielding of the filament from evaporated materials and falling debris. The source is also equipped with a water-cooled trap and permanent magnet for greater operating efficiency and safety. The electron beam can be swept in both the X and Y axis for optimum evaporation.



## FEATURES

- Large Pocket -- Up to 40cc
- Interchangeable Crucibles
- 270 Bent Beam Design for Longer Filament Life
- High Operating Efficiency
- XY Sweep Capability

## SPECIFICATIONS

### Output Power

- Maximum Power 12 kW
- Emission Voltage 10 kV
- Emission Current Up to 1.2 Amps
- Efficiency In excess of 99% of Beam Power into Hearth

### Beam Characteristics

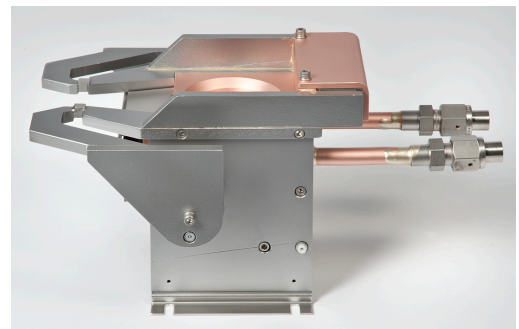
- Type 270° Beam
- Spot Size 0.375" x 0.375"
- Sweep Longitudinal / Lateral with Sweep Controller

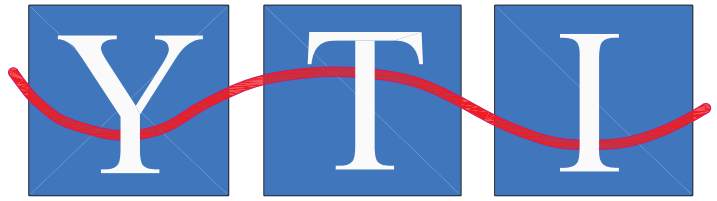
### Required Power

- Source 410 kV, 01.2 A
- Filament 08 VAC, 40 A
- Cooling Water 1.7 gpm, 45 psi Minimum
- Required Operating Pressure Below  $2 \times 10^{-4}$
- Maximum Bake-Out Temperature 250 C

### Hearth Characteristics

- Material OFHC Copper
- Dimensions Truncated 30 Cone: 2.0" x 1.50" x 0.92"  
(Top x Bottom x Depth)
- Capacity 7cc to 40cc
- Liner As Required
- Overall Dimensions 5.4" x 4.5" x 5.9" (HxWxL)  
(137 mm X 114 mm X 149 mm)
- Weight 10 lbs.





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*Service calls must be booked in a minimum of 4 hour increments*

**\*\*\*Customers with Service Contracts will have preferred status for Emergency Service\*\*\***

*Service contracts are billed monthly and expire annually*

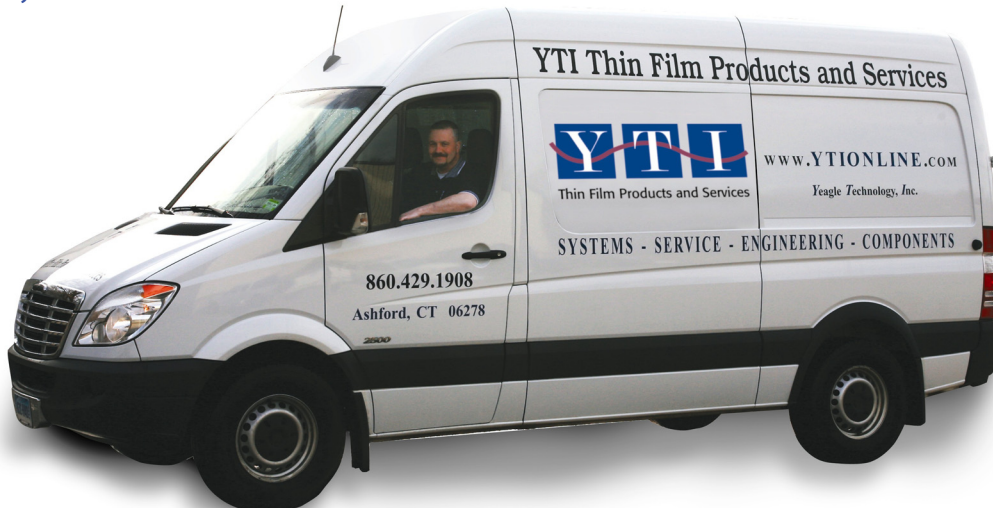
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