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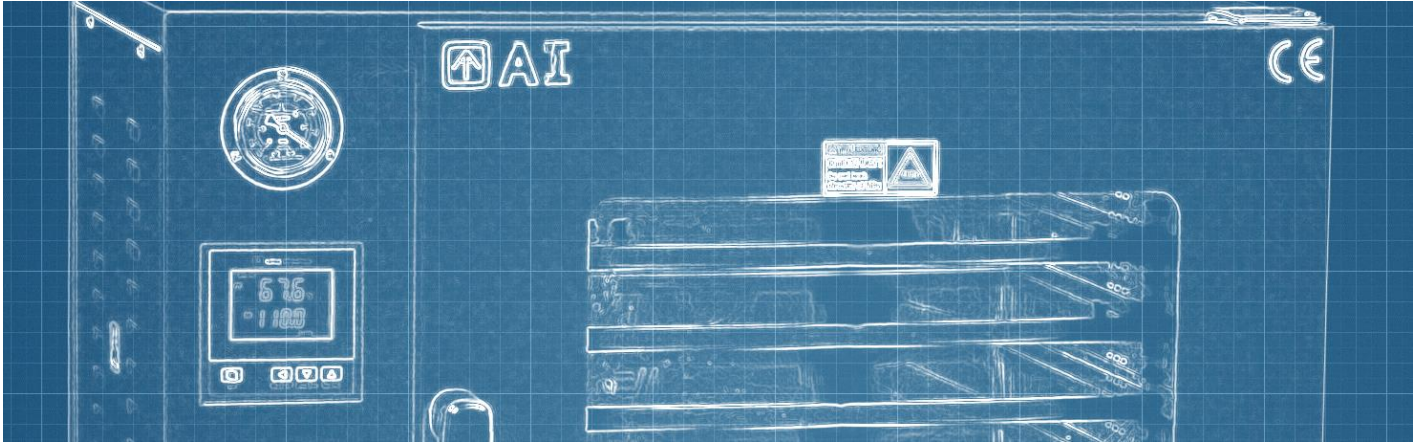
About Our Company

Ai Vacuum, headquartered in Nevada, USA, has established regional branches in New Jersey, USA, and Victoria, Australia, to meet the ever-growing needs of our customers. For more than 30 years, we have been a leading equipment vendor for laboratories throughout various industries all across the world, from Tesla, NASA, GE, Lockheed Martin and countless universities, to small businesses in your own backyard.

Our award-winning product lines speak for itself. We are proud to support the amazing work that our partners accomplish every day. As a valued member of our Ai family, you can always rest assured that all of your technical support, order inquiries, and shipping needs will be handled professionally and to your complete satisfaction.

We pride ourselves in providing excellent customer service. If you ever have questions, comments, or concerns, we are just a call away at 888-988-0899. You can also e-mail us at info@acrossinternational.com.





Quality & Satisfaction Guaranteed

Our vacuum ovens are held to the highest standard of quality. We back all of our equipment with warranties, parts, labor, and support, all proudly based in the USA.

- 2-year manufacturer's warranty.
- Lifetime US-based service, parts, and support.
- Two-time, 24-hour vacuum testing prior to shipment.
- Completion of a rigorous 25-point technical inspection.
- Guaranteed US-based phone and email assistance within 30 minutes from our engineers.
- All products ship from our New Jersey or Nevada location for quick delivery.

Our Equipment Makes the Difference

Ai Vacuum's award-winning brand of products are specifically designed with temperature precision in mind. Our line of refinement equipment will allow you to consistently dry, cure, and process samples at the highest level of consistency and quality.

For example, our ovens produce deep vacuum levels that allow them to operate at optimal temperatures, greatly decreasing drying and curing times. The result is an increase in the consistent output of superior quality samples with minimal processing time.

Each oven comes equipped with all of the necessary functions and features that are required for clean sample runs, including:

- Precise temperature control and uniformity.
- Consistent, stable temperatures.
- Optimal vacuum levels.
- Sturdy, high quality construction.

Ai Vacuum's ovens are the best solution for simultaneously increasing production and consistency while minimizing processing time. With a variety of oven sizes, vacuum pumps, and accessories, we carry everything you'll need to get the job done right!

Ai Vacuum AT Desktop Vacuum Ovens

Economically priced, powerful performance



Ai 0.9 & 1.9 cu ft desktop digital vacuum ovens are the perfect solution for running smaller sample batches. Each oven comes equipped with custom white LED lights and a unique, Gas inlet now come with KF25 with needle valve, for precise control of airflow, or controlled gas of choice back into the chamber. Additional options for the gas inlet include flare, quick-connect, and KF25.

Both the AT-09 and AT-19 ovens offer reliable heating from an unprecedented 5 sides of the chamber (top, bottom, left, right, and back). They also feature a full set of removable slide-in shelves, included at no additional cost, giving the ability to create more space between each rack if needed. Our new 3rd generation LCD controller makes set-up and calibration a breeze. **UL/CSA/CE certification comes standard.**



Specifications	AT-09	AT-19
Chamber Size	0.9 cu ft	1.9 cu ft
Temperature Controller	All-new 4th generation low proportional gain controller. Microcomputer PID with brilliant LCD display.	
Temperature Range	Ambient to 480 °F (248°C)	
Temperature Accuracy	± 1 °F	
Temperature Uniformity	± 5% of set point	
Chamber Dimensions	12 x 12 x11" (WxDxH)	16.5 x 14.5 x 14" (WxDxH)
Maximum Shelf Capacity	Holds up to 8 shelves with 1" space between each	Holds up to 10 shelves with 1" space between each
Vacuum Connection	KF25 flange (hose barb and flare adapters available)	
Warranty	2-year manufacturer's warranty	
UL/CSA Certification	Yes, included	
CE Certification	Yes, included	

Ai Vacuum AT Multizone Vacuum Ovens

Uniquely adjustable temperature configurations



AT-160

Built for floor-standing operation, the AT-32, AT-75a, and AT-160 ovens come equipped with 4 swivel casters that allow for easy movement. With exceptional build quality and smart in-shelf temperature sensors for each individual shelf, these large ovens are the perfect professional solution for manufacturing multiple batches with differing temperature requirements.

- Individual in-shelf temperature sensors.
- Temperature controllers for each shelf.
- Heating elements installed directly into the shelving.
- Temperature Accuracy within $\pm 1^{\circ}\text{F}$.

The AT-32 has three individually heated shelves, while the AT-75a has five heated shelves, and the AT-160 has an unprecedented six heated shelves. Each MultiZone vacuum oven can add additional stackable aluminum racks to each heated shelf to double capacity.



Specifications	AT-32	AT-75a	AT-160
Chamber Size	3.2 cu ft	7.5 cu ft	16.0 cu ft
Temperature Controller	All-new 4th generation low proportional gain controller. Microcomputer PID with brilliant LCD display.		
Temperature Range	Ambient to 480°F (248°C)		Ambient to 200°F (93°C)
Temperature Accuracy	$\pm 1^{\circ}\text{F}$		
Temperature Uniformity	$\pm 5^{\circ}\text{F}$ of set-point		
Chamber dimensions	18 x 18 x 18" (WxDxH)	22 x 23.5 x 25" (WxDxH)	25.6 x 30 x 35.5" (WxDxH)
Number of Built-In Shelves	3	5	6
Vacuum connection	KF25 flange (hose barb and flare adapters available)		
Warranty	2-year manufacturer's warranty		
UL/CSA Certification	Yes, included		
CE Certification	Yes, included		



AT-32



AT-75a

Ai Vacuum AT X Series Vacuum Ovens

Engineered to process the most sensitive materials

Introducing the new Ai 18 and 14- shelf capacity ovens with 5 sided wall-heating and 7.5 cubic foot and 5 cubic foot chamber volume. They come plumbed with stainless steel internal tubing, stainless steel vacuum and vent valves, an oil-filled vacuum gauge, and protected by a secondary over-temp protection dial and two year warranty. The result is perfect uniformity, accurate temperature, super-fast heating rates, minimum heat loss/exterior temperature and very low power consumption. Every one of our vacuum ovens goes through a 2-time 24-hour vacuum leak test, and is quality controlled in New Jersey or Nevada before leaving our warehouses.



AT50X



AT75X

Specifications	AT-50X	AT-75X	AT-160X
Chamber Size	5.0 cu ft	7.5 cu ft	16 cu ft
Chamber Dimensions	19.75 x 21.5 x 19.75"	22 x 23.5 x 25"	25.6 x 30 x 35.5"
Temperature Control	Controller: 4th gen low proportional gain, microcomputer PID controlled with LCD display		
	Range: ambient to 250°C (480°F)	Range: ambient to 250°C (480°F)	Range: ambient to 250°C (480°F)
	Uniformity: +/- 7% of setpoint	Uniformity: +/- 7% of setpoint	Uniformity: +/- 7% of setpoint
	Capacity: 14 shelves max.	Capacity: 18 shelves max.	Capacity: 26 shelves max.
	Comes standard with oven purchase: 7 shelves	Comes standard with oven purchase: 9 shelves	Comes standard with oven purchase: 13 shelves
Weight	Vacuum port: KF25 flange x 1	Vacuum port: KF25 flange x 1	Vacuum port: KF25 flange x 1
	Vent port: KF25 flange x 1	Vent port: KF25 flange x 1	Vent port: KF25 flange x 1
Warranty	2 Years	2 Years	2 Years

Ai Vacuum EasyVac Rotary Vane Vacuum Pumps

Economical vacuum pumps



Rotary vane (oil-based, “wet”) vacuum pumps are highly popular because they are inexpensive, efficient, and get the job done quickly. We proudly manufacture a wide variety of vacuum pumps that produce the perfect amount of pressure for any application.

Choosing the best pump to pair with your equipment is important, so we’ve put together a list of practical questions and tips that will help you decide on the best vacuum pump for your specific needs.

How big is your oven’s chamber?

The size of your pump should correlate with the size of your vacuum oven. The best way to pick a pump is to ensure that your pump’s CFM (cubic feet per minute) rating is between 0.5 to 1.5 times the volume of the chamber. You may decide that you need a faster or slower CFM rate than the suggested range, based on your application process.



What is your desired vacuum level?

If you are looking to adjust the level of vacuum during your process, you will want to consider a pump that features an adjustable gas ballast, featured on our SuperVac series of pumps. The ballast will allow for a purposefully slower and less deep level of vacuum and is ideal for processes that have varying levels of vacuum requirements. We also offer a wide variety of brands and models of vacuum controllers and gauges for more advanced monitoring or control.

How quickly do you need to achieve your desired vacuum level?

The speed at which your vacuum pump can produce your desired chamber pressure depends on the pump’s CFM rating. This higher the CFM rating, the faster it will be able to achieve full vacuum. If your process requires a faster pump-down time, you will want to consider vacuum pumps with higher CFM ratings.

Specifications	EV7	EV9
Power Requirements	Switchable between 110V/220V, 50/60Hz	
Pumping Rate	7 CFM	9 CFM
Vacuum Level	150 micron	15 micron
Pumping Stages	Single stage	Dual stage
Included Tubing	Silicon food-grade tubing.	Stainless steel bellow, clamps, and o-rings.
Vacuum Connection	3/8" hose barb	KF25
Included Filter	Stainless steel with easy-to-replace filter element, KF 25 connection	
CE Certified	Yes	
UL/CSA Certified	Yes	

Ai Vacuum SuperVac Rotary Vane Pumps

Industrial power at your fingertips

The Ai SuperVac commercial grade, heavy duty, dual-stage, corrosion-resistant vacuum pumps will take your vacuum down to 0.3 micron in a matter of minutes. These pumps are designed for reliable, long-time continuous operation, and come standard with all the necessary fittings, as well as a high capacity exhaust oil mist filter. The filter returns trapped pump oil back to the pump and makes it quieter to run.

SuperVac series pumps also feature an adjustable gas ballast, designed to purposefully pull a slower, less deep vacuum when opened. This allows for dry air to go directly into the pump and dilute the vacuum pull. It also helps keep any moisture, solvents, and other contaminants from getting stuck in the pump, and instead, passes the contaminants through to the exhaust. Because of the diverse range of vacuum levels the gas ballast offers, these pumps are great for users with multiple vacuum level requirements.

Included free of cost with the purchase of any SuperVac pump is a high-capacity oil mist exhaust filter (over \$150 value), 3.3 ft long KF25 flexible stainless steel bellow, and a set of clamps and centering rings (over \$200 value).

- Adjustable gas ballast.
- Built-in oil back-flow prevention check valve.
- Internal forced oil cycling system.
- Exhaust filter with easy-to-change replaceable filter element.
- Heavy duty structure and designed for reliable long time operation.
- Low noise levels during operation.
- All necessary fittings and filter included for immediate use.



Specifications	SV5c	SV11c	SV21c
Power Requirement	Switchable between 115V/220V, 50/60 Hz, 1-PH		115V 60Hz or 230V, 50/60Hz, 1-PH
Pumping Rate	5.6 CFM	11 CFM	21.2 CFM
Vacuum Level Without Gas Ballast	0.3 micron		
Pumping Stages	Dual stage		
Included Tubing	Stainless steel bellow, clamps, and o-rings		
Vacuum Connection	KF25		
Included Filter	Stainless steel with easy-to-replace filter element, KF25 connection		
CE Certified	Yes	included for 220V models only	
UL/CSA Certified	Yes	Yes, included for 110V models only	

Agilent Dry Scroll Vacuum Pumps

Agilent IDP dry scroll pumps are oil-free, compact, quiet, high performance vacuum pumps. IDP pumps use a single-sided scroll design that allows for a straightforward, 15-minute maintenance procedure with simple tools. Large pumping speeds and compact sizes are ideal for many applications in the research, analytical instrument, and laboratory markets.

IDP pumps are hermetic, with the motor and all bearings completely isolated from the vacuum path. This design extends the bearing life and provides clean, dry vacuum to the application. An inlet isolation valve is available as an integral option that adds no additional height to the pump. The IDP-10 uses an inverter driven motor, which provides uniform vacuum performance at all global frequencies and input voltages. Its uniform global performance and compact size make it an ideal choice for analytical instruments and industrial OEMs.



IDP-3

The **Agilent IDP-3** dry scroll pump is an innovative, compact, high-performance, oil-free vacuum pump that is suitable for a wide variety of applications. It is the smallest scroll pump made for general vacuum applications, which makes it easy to integrate into OEM systems, and it weighs only 21 pounds (9.5 kg). Yet with a pumping speed of 2.1 cfm (60 L/min) and a very low base pressure of 250 milli Torr, it is the highest-performing dry pump in its class. CE/CSA Standard.



IDP-7

The **Agilent IDP-7** dry scroll pump is a compact, high performance, oil-free vacuum pump, delivering large pumping speed capacity and simple maintenance. Capable of pumping at a rate of 5.4 CFM. CE/CSA Standard



The **Agilent IDP-15** dry scroll pump is designed for extremely quiet (<50dBA) and low vibration operation, delivering a peak pumping speed of 9 cfm at 60Hz. With a single-sided scroll design, it offers fast, easy yearly maintenance and a low cost of ownership. This pump is rated for 9 CFM. CE/CSA Standard



Vacuubrand Vacuum Pumps

Vacuubrand's diaphragm pumps are specially designed to work with chemicals and corrosive substances. These pumps are oil-free so they don't require much maintenance, and the drive space is hermetically sealed off from the pumping chamber, to protect mechanical parts from corrosion.

Operation is completely abrasion-free, due to a lack of sliding components in the gas path. Long periods between servicing and low abrasion, means most particulate impurities created in other types of pumps are absent here. A high pumping chamber volume allows for high performance with minimal dead space.

The **Vacuubrand MD 1C** 0.9 CFM oil-free diaphragm pump is the superior choice for oil-free evacuation and the pumping of non-corrosive gases down to 1.5 mbar. Its 3-stage design and flat diaphragms offer an excellent high pumping speed, even when close to ultimate vacuum. Internal aluminum parts and diaphragms and valves made of PTFE/FKM and FKM, ensure longevity. UL/CSA Standard.



MD 1C

- Superior vapor tolerance.
- High performance even at low vacuum.
- Excellent ultimate vacuum even with a gas ballast.
- Quiet operation with ultra-low vibration.

The **Vacuubrand MD 4C NT** 2.2 CFM is a 4-stage diaphragm pump that offers exceptional, continuous, oil-free pumping of gases. All the internal parts are made of stainless steel, aluminum, and special, non-corroding plastics, allowing for a wide variety of applications. Its diaphragm is fabric-reinforced and made of FKM, ensuring a long life. UL/CSA Standard.



MD 4C NT

- High flow rate even near ultimate vacuum.
- Consistent pumping performance with condensed vapors when combined with an integrated gas ballast.
- High flow rate even near ultimate vacuum.
- Exceptional corrosion, chemical, and vapor resistance.



VARIO PRO PC 3001

Vacuubrand VARIO PRO PC 3001 1.2 CFM Self-Adjust Chemistry Pump is the ultimate pump for use with solvents with high boiling points. The easy-to-use graphic interface is familiar with most laboratory applications. It runs fully automated distillations and offers simple drag-and-drop editing. Manual set-point-control is also available for simple operations. UL/CSA Standard.

- Efficient power consumption and solvent reclamation makes it cost-effective.
- Oil-free operation means long stretches between servicing.
- Detects solvent boiling automatically and adjusts the motor speed for optimum efficiency.
- Quiet operation with ultra-low vibration.

Edwards Vacuum Pumps



The **Edwards E2M28** pump is a dual stage, direct drive, sliding vane pump. The pump is oil sealed and designed for reliable, long-term operation in both laboratory and industrial environments. The E2M28 is a freestanding unit with the drive provided through a flexible coupling by either a single-phase or three-phase (four-pole) motor. Renowned for its high ultimate vacuum, rapid pumping speed, quiet operation and ability to handle vapor, the E2M28 has become the industry standard for laboratory and light industrial applications. Includes all connections (over \$200 value) and Edwards' 1-year manufacturing warranty.

Edwards nXDS10i – This is the next generation of completely oil-free, dry scroll pumps. This pump features a 6.7 CFM vacuum speed and includes many key improvements on the legacy XDS pumps, including:

- Increased pumping speeds.
- Lower ultimate pressures.
- Lower power consumption.
- Lower noise volumes.
- Longer lasting tip seal technology.



nXDS Series Features & Benefits:

- No cross contamination between the pump and the vacuum chamber.
- Hermetically sealed and completely lubricant-free within the vacuum envelope.
- Produces a clean, dry vacuum that is vital to producing a clean, final product.

Allowing for maximum up-time with low cost of ownership, the nXDSi series is built to last and comes with many features that make this pump an ideal upgrade for increased productivity. Improved motor and drive efficiencies reduce power consumption which will lower overall production costs. A free 3.3 ft. KF25 flexible stainless steel bellow with clamps and centering rings are included with purchase. Designed to be completely field serviceable, the nXDS10i comes with Edwards' 1-year manufacturer warranty as well.

RV8 Features & Benefits:

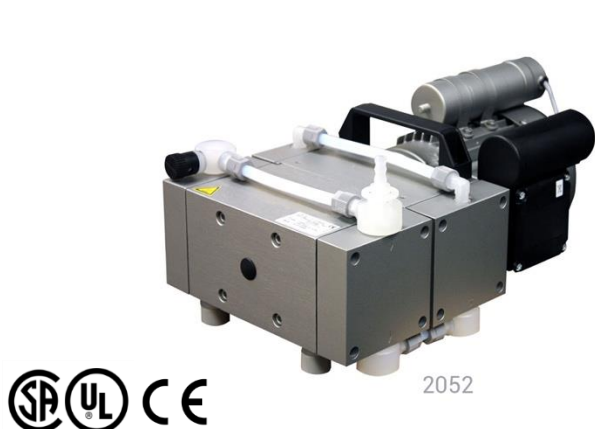
- 6.9 CFM vacuum speed.
- Quiet operation (48 dBA 50Hz).
- Fast acting inlet valve for system protection.
- Oil-tight with printed gaskets and effective shaft seals.
- Free KF25 flexible stainless steel bellow, clamps, and centering rings set (over \$400 value).
- 1-year manufacturer's warranty and technical support from Edwards.



Edwards RV pumps have become the industry standard for scientific primary pumping applications. RV pumps are uniquely capable of delivering high or low throughputs with high ultimate vacuum, making them ideal for a wide range of applications. The pumps have the unique ability to deliver excellent ultimate vacuum, with or without a gas ballast. This gives the user an unrivalled opportunity to select the optimum performance level of the pump, without compromising other aspects of the process.

Welch Diaphragm Vacuum Pumps

Ai Vacuum is proud to be an authorized dealer for Welch vacuum pumps. All Welch pumps include a 1-year warranty and technical support, direct from the manufacturer. Welch pumps are great for pairing with rotary evaporators, small vacuum ovens, or when working with harsh solvents and chemicals.



The **Welch-2052** is a high capacity, chemical duty vacuum pump that features a quad-stage, dry diaphragm with an ultimate vacuum pressure of 1.5 Torr at a rate of 2.3 CFM.

The **Welch 2163B-01** is a 6.1 CFM chemically resistant, 8-head, oil-free, diaphragm vacuum pump with all-aluminum contact surfaces and deep vacuum capability. Able to reach as low as 6 torr, this vacuum pump delivers consistently reliable results time and again.



For processes requiring a slower vacuum rate, look no further than the compact **Welch-2034**. At our most gentle pumping rate of 0.9 CFM, these compact pumps are great when paired with rotary evaporators, small vacuum ovens, centrifugal concentrators, or when working with harsher solvents and chemicals. UL/CSA Standard.

ULVAC Vacuum Pumps

Manufactured and imported directly from Japan, ULVAC DTC series diaphragm pumps feature integral forced-air cooling. They have two-stage PTFE diaphragms that are ideal for pumping corrosive gases and organic solvents. These pumps are oil-free, portable, and chemical-resistant, which means less maintenance and no more frequent and costly oil changes, or cross contamination. Ai Vacuum is the official dealer of ULVAC brand vacuum pumps. These pumps are manufactured in Japan and come with a 1-year warranty and technical support from ULVAC.



DTC-41

DTC-41, 1.6 CFM

Applications: Rotary evaporators, evaporating systems, vacuum concentrator, vacuum filtration, vacuum drying systems, medical/pharmaceutical equipment, centrifuge, and laser-gas circulation.



UDP-6

UDP-6, 6 CFM

Applications: Rotary Moisture & solvent evaporation, vacuum chucks, wafer and tip handling devices, vacuum tweezers, medical appliances, printing equipment, automatic packing machines, optical appliances, semiconductor industry.

Specifications	DTC-41	UDP-6
Electrical Requirements	115V 60Hz or 230V 50/60Hz 1-PH, 0.13 HP, 100 watts	110V 50/60Hz or 220V 50/60Hz single phase
Ultimate Vacuum Level	7.5 torr / 10 mbar	6 torr
Inlet/Outlet	3/8" hose barb	KF25
Pumping Rate	1.62 CFM	6 CFM
Certification	UL/CSA Standard	

Ai Vacuum -40°F Vacuum Cold Traps

Eliminate cross contamination

Pumps that use oil either as their working fluid (diffusion pumps), or as their lubricant (mechanical rotary pumps), are often the source of contamination in vacuum systems. Placing a cold trap at the mouth of such a pump greatly lowers the risk that oil vapors will back stream into the vacuum chamber.



T40X-UL



T40-UL

The use of a cold trap prolongs the lifespan of your equipment.

Our cold traps provide many great benefits when paired with an oven and vacuum pump. Vaporized contaminants can be hazardous to your equipment. In addition to facilitating cleaner processing, a cold trap will prolong the life of your pump by providing a protective buffer between your vacuum oven and pump.

In addition to these benefits, it will also boost the efficiency and the overall capabilities of your vacuum pump. It prevents any potential oil backflow from your pump into your oven, ensuring that your samples are clean and uncontaminated.

Specifications	T40x-UL	T40-UL
Power	110V 60Hz 1-PH 6A or 220V 60Hz 1-PH 3A	
Temperature Range	-40°C (-40°F)	Ambient to -40°C (-40°F)
Reservoir Volume	1.3 gallon (5 litres)	1.2 gallons (4.6 liters)
Vacuum Connection	KF25/NW25 x 2	3/8" hose barb
Trapping Volume	1.3 gallon (5 litres)	500 mL (x3)
Trap Material	Corrosion resistant type 316 L stainless steel	High borosilicate glass 3.3
UL/CSA Certified	Yes	
Compliance	UL 471:2010 Ed.10+R:08Dec2016 CSA C22.2#120	UL 471:2010 Ed.10+R:08Dec2016 CSA C22.2#120

Additional cold trap benefits:

- No messy dry ice or liquid nitrogen is necessary.
- Significantly decreases your equipment maintenance costs.
- Extends the life of your vacuum pump by keeping it free of potential contaminants.
- No assembly required, simply plug and play!

T1 glass cold trap features

- Utilize dry ice for optimal efficiency.
- Comes with a scissor jack for easy removal of the collection flask.
- Easy to clean all glass construction.
- No electrical requirements. Easy set up.
- Six feet of 3/8" premium food grade silicone vacuum tubing included.



T1-Coil



T1-2440

Model	T1	T1-2440	T1-Coil	T1-Jackhammer
Vacuum inlet/outlet	Glass 3/8" hose barb x2	24/40 joint		
Collection Flask Capacity	1 Liter			
Assembled Dimensions (in)	6 x 10 x 28	6 x 11 x 28"		7 x 12 x 28"

Ai Vacuum Rotary Evaporators

Separate, evaporate, and re-condense with ease.



Rotary evaporators are widely used in laboratories for the efficient, gentle removal of solvents from samples by means of evaporation. These machines are most often used to separate solvents with low boiling points, such as n-hexane, ethanol and ethyl acetate, from compounds which are solid at room temperature and pressure. Careful application also allows removal of a solvent from a sample containing a liquid compound, if there is minimal co-evaporation and a sufficient difference in boiling points at the chosen temperature and reduced pressure.

The new Ai Solvent Vap series of rotary evaporators comes with a modular heating bath, vertical glassware, and a digital temperature/rotation control. The optimized bath volume allows for fast heat-up times. The condenser unit has

specially designed glass tubes that utilize surface area extremely efficiently, which is why our SolventVap delivers reliable and reproducible results that are usually reserved for more costly systems. As always, we back our equipment with a one year warranty and lifetime US-based parts and service.



Key Features:

- Solvent-resistant PTFE gaskets ensure long-term operation.
- Specialized motor with compact intermeshed worm and worm gear provide precise, vibration-free operation.
- Modular design allows for easy future upgrading.
- Easy visual operation with digital speed and temperature display.
- PID temperature controller for accurate temperature control.

Specifications	SE05x	SE13	SE26	SE53	SE130
Power	110V 60Hz single phase	110V or 220V 50/60Hz single phase	220V 50/60Hz single phase		
Heating Power	1340 watts	2300 watts	3800 watts	4300 watts	6400 watts
Evaporating Flask	2 liter	5 liter	10 liter	20 liter	50 liter
Receiving Flask	1 liter	3 liter	5 liter	10 Liter	20 liter
Dual Receiving Flask Option	No			Yes	
Dual Condensers Option	No			Yes	No
Rotation Speed	10-280 RPM	10-140 RPM	10-130 RPM		10-110 RPM
Evaporating Speed	20 ml/minute	0.5-1.0 gal/hour	0.75-1.5 gal/hour	1.32-2.9 gal/hour	2.4-4 gal/hour
Number of Heaters	1		2		3
Maximum Lifting Distance	4 inches	6 inches	4 inches	7.5 inches	9 inches
UL/CSA/CE Certification	UL/CSA CE is standard, CE (available upon request)				

Ai Vacuum Recirculating Chillers

Compressor-based recirculating chillers



C-15



C20-7



C30-10



C30-40

Ai Vacuum's outstanding line of recirculating chillers offer true thermostatic control, delivering unparalleled performance with exceptional reliability, as well as quiet operation and an ease-of-use. A powerful force/suction pump provides constant flow rates, while the microprocessor PID controller delivers the most accurate temperature control, whether you need cooling or heating for your process. All of our chillers come with a 1-year warranty and our outstanding, lifelong technical support. **UL/CSA certification is standard.**

Specifications	C15-3	C20-7	C30-10	C30-17	C30-30	C-30-40
Power	110V 60Hz 1-PH		220V 60Hz 1-PH			
Temperature Range	Ambient to -15° C	+99°C to -20° C	Ambient to -30° C			
Capacity	3 liters	7.3 liters	10 liters	17 liters	30 liters	40 liters
Pumping Speed	17L/min or 4.5 gal/min	20L/min or 5.3 gal/min			30L /min or 8 gal/min	
Temperature Controller	Digital microprocessor PID in °C					
Temperature Accuracy	± 2° C					
Recommended Coolant	50% Ethylene glycol + 50% distilled water					
Unit Dimensions	16 x 9 x 22" (WxDxH)	12 x 15.5 x 26" (WxDxH)	26.5 x 17 x 27" (WxDxH)	26.5 x 18 x 30.5" (WxDxH)	30 x 19.5 x 34" (WxDxH)	40 x 25 x 41" (WxDxH)
Suggested Rotovap	2L		5L	10L	20L	50L
UL/CSA Certification	Yes					

Ai Vacuum Recirculating Heaters

The new Ai H series heated recirculators offer outstanding performance and high reliability as well as quiet operation and ease-of-use. Powerful force/suction pump provides constant flow rates, while the 2nd generation PID controller gives you the ideal solution when you need precise temperature control.

Features:

- Adjustable pumping speed
- 2nd generation 7" TFT touch screen controller
- ANSI standard all stainless steel reservoir
- All steel construction for durability
- Small footprint saves valuable lab space



Specifications	H100-7	H100-7sst	H100-15sst	H200-7sst	H200-15sst
Power	110V 60Hz 1-PH	220V 60Hz 1-PH			
Temperature Range	Ambient to +100° C		Ambient to +200° C		
Capacity	7 liters	7 liters	15 liters	7 liters	15 liters
Pumping Speed	20/min or 5.3 gal/min, adjustable			21/min or 5.3 gal/min, adjustable	15/min or 5.3 gal/min, adjustable
Temperature Controller	Digital microprocessor PID in °C				
Temperature Accuracy	± 2° C				
Heating Capacity	1500 watts	2500 watts	2500 watts	2800 watts	2800 watts
Unit Dimensions	10.5 x 17 x 17" (WxDxH)	9.5 x 12 x 7.5" (WxDxH)	9.5 x 12 x 7.5" (WxDxH)	11.5 x 19 x 19" (WxDxH)	14.75 x 19 x 18.25" (WxDxH)
Warranty	One Year				
UL/CSA Certification	Yes				

PolyScience Chillers & Heaters



DuraChill® 13L
6860T56A250D

Ai Vacuum is a proud authorized distributor for PolyScience.

These powerful, low-temperature chillers are well matched for use with rotary evaporators, vacuum systems, spectrometers, and other analytical equipment.

Designed for high heat removal in demanding environments, DuraChill® Chillers provide robust and reliable temperature control for closed, external systems such as pilot plants, medical diagnostic equipment, metalworking lasers, and plastic molding machines. These chillers are suitable for a very wide range of applications.

Features

- Large, dual displays present temperature and pressure or flow rate simultaneously.
- Compact, portable design takes up less floor space.
- Cooling at ambient temperatures as high as 35°C.
- Choice of pumps and compressor sizes.
- User-adjustable temperature, pressure, and flow rate alarms.
- External temperature tracking and communications capability (optional).



We carry a wide range of suitable PolyScience chillers and heaters, in addition to the DuraChill® line.

Julabo Chillers & Heaters



Ai Vacuum also proudly distributes Julabo chillers heaters and dynamic temperature control systems.

Made in Germany, **Julabo** recirculators coolers can handle virtually any temperature control requirements in laboratories or industrial environments. Their efficiency makes them an environmentally friendly and economical alternative to tap water. Compact models from JULABO are ideal for placement on or underneath a laboratory bench. JULABO offers several powerful models with up to 20 kW of cooling capacity for applications in industrial environments.

In addition to the powerful **Presto series** dynamic temperature control systems that offer unparalleled wide temperature performance between -95°C - +400°C for systems like our jacketed glass reactors and **Corio Series** for less demanding heating and cooling applications,

The **FL series** offers a new generation of chillers for routine cooling applications within the laboratory and in industry. Temperature stability provided by the PID controller is $\pm 0.5^{\circ}\text{C}$. All units can easily be cleaned and are provided with a splash protected, waterproof keypad with LED temperature indication. On the front of the unit there is an RS232 interface as well as an alarm shutdown. The filling port is easily accessible, placed on the top under a lift-up cover. Another hinged tray serves as a file for the operating manual or other documents concerning installation. The removable venting grid allows for easy cleaning of the condenser, while the drain tap is easily accessible behind the grid. All models include an easily visible level indication. Another advantage is the venting slots are on the front and rear. Therefore, units can be placed directly beside one another, saving space.

We carry a wide range of Julabo chillers, heaters and dynamic temperature control series in addition to the Presto, Corio and Tango series.



Huber

Ai Vacuum is proud to announce its distribution relationship with Huber. Huber offers a wide range of thermodynamic control products for heating, cooling, or a dynamic combination of the two. The Unistat range inspires with unique thermodynamic properties and a range of functions to meet the highest demands. Unistat technology guarantees precise, reproducible temperature control results, the shortest possible heating and cooling times and large temperature ranges without the need for fluid change. Unistats find extensive use for decarboxylation, winterization, cannabinoid isolation, or wherever heating or cooling is needed. For more details on specific units for your production goals, please feel free to visit our website. All Unistats are fitted with the innovative Pilot ONE controller with a 5.7" touchscreen color display and easy menu navigation. Important parameters can be seen at a glance and temperature curves are displayed in graphic real time.

The new Huber multi-touch controller Pilot ONE offers a brilliant 5.7" touchscreen with graphic functions and a comfortable navigation menu. All important operating parameters and temperature values are neatly displayed on the touchscreen. Thanks to the new favourites menu, the one-click operation and the integrated technical glossary the operation is very easy, just like on a smartphone. Integrated USB and Ethernet ports allows connection to a PC or network, e.g. for remote control or data transmission.

If you are looking for a high-powered chiller, but do not need temperatures below -20°C, then Huber's new CS chillers could be the right chilling solution for your process line. The Huber CS chillers combine cool and smart technology in one unit. The new chillers further reduce water consumption and lower the operating costs for many applications including cooling vacuum pumps, rotary evaporators, electron microscopy, AAS-devices, ICP-devices, extraction, distillation and many more. With up to 30kW chilling capacity, the CS chiller line can keep up with the heavy evaporation rates that today's processors need in order to keep their production line operating at full capacity



Huber-Unistat-825

Huber-CS

Huber-Unistat-Tango

Huber-Unistat-950w

Ai Vacuum Glacier Freezer Series

Sample Preservation and Crude Oil Storage

Introducing the newest Ai Glacier line of ultra-low freezers. These powerful freezers come with UL and CSA certification for easy integration into any lab. They are capable of reaching temperatures as cold as -86°C. Ai Glacier freezers preserve samples using the latest in energy efficient technology. The smaller Ai Glacier 4 cu ft -86°C ultra-low freezer is designed for small labs that need a small number of product or sample storage.

Features

- Digital temperature display with microprocessor-based temperature controller.
- Tons of security features to protect you, your products, and the unit, including but not limited to: door lock, temperature alarms, power failure alarm, door open alarm, filter clogging alarm, and password protection.
- Stainless steel interior for clean operation, durability, and ease of maintenance.
- Dual silicon sealing gaskets for airtight operation.
- 72-hour battery backup for controller, alarm, and printer.



Ai 35 cu ft ultra-low Glacier freezers are perfect for large storage of samples and products.

Features

- Central control with large 7" touch screen LCD display provides you a graph of temperature vs time curve.
- Tons of security features to protect you, your products, and the unit. Including but not limited to: door lock, temperature alarms, power failure alarm, door open alarm, filter clogging alarm, and password protection.
- Stainless steel interior for clean operation, durability, and ease of maintenance.
- Dual silicon sealing gaskets for ultra-air tight operation.
- 72-hour battery backup for controller.
- USB interface for data export and storage.

Specifications	G04	G24c	G18	G27	G35
Power	110V 60H 1-Phase 950W	220V 60hz 1-Phase, 2057W	110V 60H 1-Phase 1160W	110V 60H 1-Phase 1250W	220V 60hz 1-Phase, 2000W
Temperature Range	-10°C to -86°C				
Cooling time to -86°C	3.5 to 4 hours	6 hours	8 hours		7.2 Hours
Controller	Digital temperature display with microprocessor	Central control with large 7" touch screen LCD display			
Access ports	One	Two			
Chamber	17.75 x 19 x 20" (WxDxH)	47 x 32 x 24" (WxDxH)	23 x 27.25 x49.5" (WxDxH)	36.5 x 27.5 x 51" (WxDxH)	40.25 x 27.5 x 54.25" (WxDxH)
Shelf	One		Three		
UL/CSA Certified	Yes				

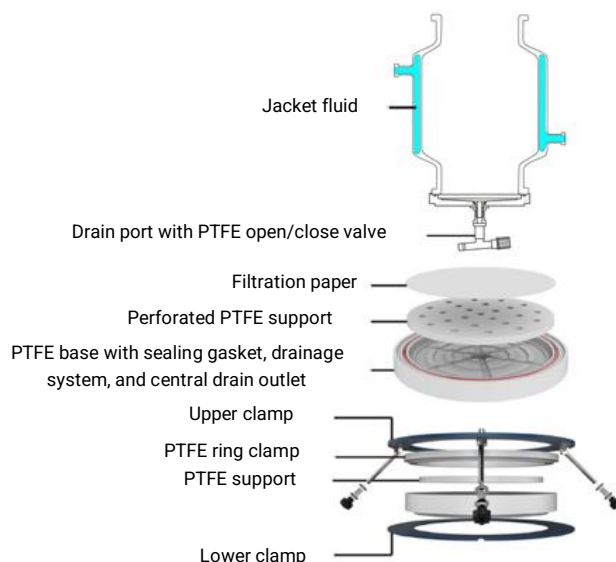
Ai Vacuum Jacketed Glass Reactors

Across International **R** series glass reactors are designed for the synthetic reaction of different types of materials in a controlled temperature and vacuum environment. Each reactor features adjustable stirring speeds and a constant pressure feeding funnel that allows you to add material to the vessel at a uniform and controlled speed. The built-in condenser makes it possible to recover some materials, also at a controlled rate of speed. **UL/CSA or CE certification are available.**

Common Applications:

- Chemical synthesis
- Purification
- Extraction

Model	R10	R20 / R20F	R50 / R50F	R100 / R100F
Electrical Requirements	110V 60Hz or 220V 50/60Hz 1-PH			
Power	90W		140W	250W
Vessel Capacity	10L / 2.6 gallons	20L / 5.3 gallons	50L / 13 gallons	100L / 26 gallons
Cooling/heating Capacity	3L / 0.8 gallons	6L / 1.6 gallons	16L / 4.2 gallons	30L / 8 gallons
Dual Jacketed Vessel Option	Yes			No
Drain Port Ground Clearance	15"	13"	12.5"	13.5"
Assembled Height	78"	80"	88"	98"
Vacuum Level	< 700 torrs			
Temperature Range	-110 °F to 400 °F			
Agitator	Anchor design, type-304 stainless steel reinforced PTFE structure			
UL/CSA/CE Certification	UL/CSA (optional) or CE (optional)			



Ai Vacuum Short Path Distillation

Short path distillation is often used for compounds which are unstable at high temperatures, or to purify small amounts of a compound. The advantage is that the heating temperature can be considerably lower (at reduced pressure) than the boiling point of the liquid at standard pressure. Ergo, the distillate only has to travel a short distance before condensing. A short path ensures that little material is lost on the sides of the apparatus.



Clear10s turn-key 10L short path with T1-2440 cold trap, StrataVac vacuum controller, SuperVac 21 CFM pump, and C20 chiller.

Short path distillation kit features:

- Extra thick glassware for durability.
- Vacuum jacketed vapor channel.
- Glass material: high borosilicate glass 3.3.

Ai Vacuum Heating Mantles & Stirrers

The plug-and-play **DigiM** series heating and stirring mantle comes standard with a large digital display for accurate control, and easy temperature and rotation speed readings. Two sets of thermocouples allow you to detect the heating output and material temperatures.

Our short path equipment is available in 0.5L, 2L, 5L, 10L, and 20L configurations. Digital vacuum controllers, spare glassware, and chillers are also available. Turnkey packages are available! Contact us to discuss your short path needs with our highly skilled sales team.

UL/CSA certification is available.



Model	DigiM500	DigiM2	DigiM5	DigiM10	DigiM20
Power	110V 60Hz 1-Phase	110V 60Hz or 220V 50/60Hz 1-Phase			220V 60Hz 1-Phase
Maximum Flask Capacity	500 mL	2L	5L	10L	20L
Stirring Rate	110 – 1500 RPM		110 – 2000 RPM		
Machine Dimensions	9 x 14 x 7"	11 x 16 x 8.5"	13.5 x 17 x 10"	18 x 17.5 x 13"	20.5 x 20.5 x 13"
UL/CSA Certification	Yes (optional)				

Short Path Thermal Insulators

Added thermal protection



DomeShield-10L

Protect your glassware and minimize heat loss with Ai **DomeShield** flask insulators. Designed to keep your distillation setup running at peak performance, these insulation shields will optimize your process. The protective cover prevents vapor condensation in the upper half of the flask, while also protecting the flask & its contents from cold air drafts. DomeSheilds are rated for use up to 800°C and available in 2L, 5L, 10L, & 20L sizes.



HeatedShield-10L

The Ai ultra-thick 400°C rated **HeatedShields** will keep your distillation setup at the peak of its performance, they will help prevent vapor condensation in the upper half of a flask, at the same time, protect the flask, the solutions, and the lab from drafts, which would disturb the reflux ration during fractionation, from flying glass of flask implosions in high vacuum distillations, from falling objects, and from thermal strain between top and lower half of flask during high-temp operations. These HeatedShields are available in 2L, 5L, 10L, & 20L sizes.



DrainShield-5L

Ai **HeadShield** thermal insulation sleeves for Ai 5L distillation heads feature a built-in observation window, which lets you see exactly what is happening during your process. The HeadShield is available as either right or left-facing (see below). The Ai **DrainShield** sleeve completes this setup and fits the lower portion of our Ai 5L short path heads.

Shown below: Ai 10L short path configuration with DomeShield, HeadShield, and DrainShield insulation sleeves. Right and left facing sleeves highlighted to show correct positioning on apparatus.



Ai 10L short path set up with 10L DomeShield, 5L HeadShield (left & right facing), and 5L DrainShield thermal insulators.

Regulators and Gauges



Arometrix's Fraction Finder figures out where components start and stop flowing to optimize separation. Making the SPD Process more precise and repeatable, Fraction Finding helps take the guess work out. Someone running a distillation can make better decisions if they knew exactly where they were in the distillation process. Scientists have developed expertise in this area to the point where they know what to expect. The Summit Research Fraction Finder does that for you and will be your best friend in short path distillation.

Through innovative live distillate monitoring, Fraction Finding can help increase potency on every distillation pass. Now, you can forget the old ways of relying on guesswork and eyesight, and instead, identify the contents of a flow through a glass tube in real time.

Sensor housing size #29 for 28mm OD glass.



The **StrataVac** is one of **DigiVac's** leading products for customers looking to both measure and maintain pressure. It is a more complex device that offers a number of different configurations, making it possible for every customer to get exactly what they need.

One of the unique features of the StrataVac is that in addition to having the ability to communicate the pressure that your system is maintaining, the gauge can be ordered with a regulator card and valve which opens and closes as needed in order to control your system at a specific pressure, for example, 2 Torr. This configuration of the gauge which gives you the ability to control, is useful for those conducting experiments that require consistent pressure readings. It is also a common request for those who work in industries where processes require stable pressure to ensure that the final product was held to a particular vacuum level during a process, an example being the StrataVac maintaining a predetermined pressure in a chamber that is vacuum drying products for the medical industry.



The **Vapor Pressure Controller** is DigiVac's newest product release. This instrument has the ability to help those working in the botanical market easily process plant material through automated distillations. It both measures and maintains the pressure within rotovaps, or any type of vacuum system, following the profile created on the Vapor Pressure Profile Manager - a free, downloadable software that comes with the purchase of a VPC.



The **DigiVac Bullseye** precision vacuum gauge is rugged and portable vacuum gauge features visual graphing to pinpoint problems in real time (leak, pump, outgas, stable). Includes a powerful magnet and kickstand to enable hands-free operation.

Features

- Visual graphing feature right on the display
- Vacuum analytics to quickly identify vacuum pressure trends
- Graphical display for quick determination of vacuum level
- Hands-Free with a "hang up your overalls" strong magnet
- Long battery life and versatility with 12 different measuring units including micron, Torr, and inches of mercury

Heated Magnetic Stir Plates

Mix viscous liquids with ease

Magnetic stirrers are commonly used in chemistry and biology labs. They are preferred because they are quiet, energy efficient, and low maintenance. Magnetic stirrers utilize a rotating magnetic field to cause a stir bar ('flea') immersed in a liquid to spin very quickly, thus stirring it. These stir plates work best with glassware, since glass will not affect the magnetic field.

The HP-50B magnetic stirring plate is compact and simple to operate. Capable of stirring with or without heat. The surface of the plate is Teflon coated aluminum, which provides excellent heat distribution and corrosion resistance.

For more demanding applications, the all-new HP7 magnetic stirrer is ideal for stirring liquids with different viscosity ratings, up to 1 gallon in volume. In comparison to the HP-50B, the HP7 features a wider diameter heating plate, larger stirring capacity, higher temperature range, and faster RPM capability.



Model	HP-50B	HP5	HP7	HP9	HP11
Power	110V 60Hz, 350 watts	110V 60Hz, 450 watts		110V 60Hz, 750 Watts	110V 60Hz, 1000 watts
Temperature Range	Ambient to 350°C	Ambient to 350°C			
Rotation Speed (RPMs)	50 - 1500 RPM	110 - 2000 RPM			
Maximum Stirring Volume	0.8 gallons	0.8 gallon	1 gallon	1.5 gallons	2 gallons
Heating Plate	6" diameter, teflon coated aluminum	5.5" diameter, ceramic coated aluminum	7" diameter, ceramic coated aluminum	9" diameter, ceramic coated aluminum	11" diameter, ceramic coated aluminum
Controller	Dial control, digital display	PID control with digital temperature and speed display			
Probe Length	N/A	11"			

Ai Vacuum Rosin Presses

Simple, solventless botanical extraction

Ai heated rosin presses are the top choice for creating high-quality, solventless, botanical extractions. A variety of presses are available to choose from, including manual, pneumatic, and electrical presses. Our heated presses feature dual built-in digital thermometers and heaters, allowing you to precisely control the temperature of your transfer.

Advantages

- Solid aluminum heating platens for even heat distribution.
- Consistent temperature uniformity, accuracy, and rapid heating rates.
- Quickly and easily load/unload material.
- Digital timer and alarm settings.
- Dual LCD temperature controllers. Displays in °F or °C.
- Excellent for creating solventless botanical extractions.
- 1-year warranty on all models, with lifetime US-based service and support.



HandPress-0302



HydroPress-0302

Model	HandPress-0302	HydroPress-0302	SwingPress10-0403
Power	110V or 220V 50/60Hz	110V or 220V 50/60Hz	110V or 220V 50/60Hz
Max Pressure	1,000 lbs	4,370 lbs	20,000 lbs
Operation	Manual	Electric	Hydraulic
Heated Platens	3 x 2"	3 x 2"	4 x 3"
Temperatures	Ambient to 480 °F / 250 °C	Ambient to 480 °F / 250 °C	Ambient to 347 °F / 175 °C
Controllers	Two PID precision controllers with digital LCD display. Temperatures display in both °F and °C		

Pressure measured with an IEEE 1451.4 compliant, 20,000 lb. pressure sensor made and calibrated in the USA. Additional recommended parts (not included) for AirPress series heated presses: air compressor (maximum 165 PSI) with ½" compression connection. Tubing size 12mm (AP-0806) or 8mm (AP2416).

Harvest Right Scientific Freeze Dryers

For the first time ever, a high-quality laboratory unit is available in a high capacity tabletop model, at an affordable price. This is the perfect addition to any business or laboratory. Customize the freeze-drying process to fit your specific needs. Control the temperature and pressure of the product you are freeze drying. For use in commercial and scientific applications.



HR-Standard-SCI Freeze Dryer

Features

- Operation allows for recipe customization (up to 10 thermal treatment and 12 drying steps).
- Heater temperature is user adjustable. Freeze dry cycles occur at user defined vacuum pressure.
- Easy to use. Just press start and the freeze dryer will beep when finished.
- Commercial grade vacuum pump.
- Full-color 4.3" diagonal touch-screen display.
- 4L ice condensing capacity.
- Designed and made in the USA.

Model	HR-Standard	HR-Large
Electrical Requirements	110V 60Hz 1-PH, 20A	220V 60Hz 1-PH, 20A
Trays	4 included @ 7.5 x 18 x 0.75" (W x L x H)	5 included @ 9 x 20.5 x 0.75" (W x L x H)
Temperature Range	-46 °C	
Vacuum Level	3 micron	
Unit dimensions (WxDxH)	20 x 25 x 30"	22.5 x 25.5 x 32.5"
Vacuum Pump	6 CFM JB	
Certification	CSA Certified	
Warranty	1 year limited warranty direct from Harvest Right	

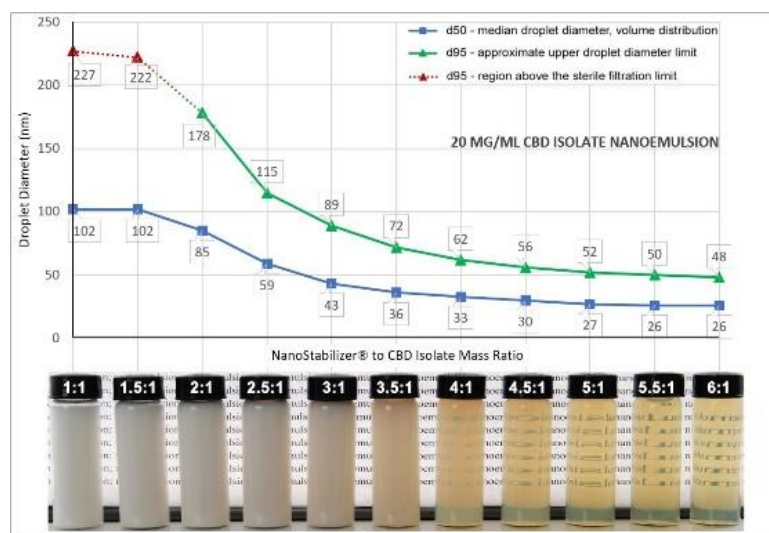
High Amplitude Sonicators

Across International is proud to announce our exclusive distributorship with Industrial SonoMechanics to distribute their high amplitude sonication systems, including batch and continuous sonication solutions. Inventors of the patented Barbell Horn® that makes scaling production of highly bio-available & water-soluble nano-emulsions from small, lab-scale R&D to up to 25 L/hr of continuous production possible, ISM combines manufacturing and application expertise to serve the customer with the same philosophy of satisfaction and support Across International values. Ideal for making water-soluble nanoemulsions from oils as well as a wide variety of applications including:

- Nano-emulsification
- Water-soluble botanical oils
- Food / Beverage
- Pharmaceutical / Cosmetic
- Cell Disruption
- Degassing
- Extraction
- Dispersing
- Wet Milling
- Sonochemistry



BSP-1200 Continuous High Amplitude Sonicator



SM combines manufacturing, applications research and formulation under one roof. To make water-soluble nanoemulsion with oils easy for scientists, they developed proprietary NanoStabilizer® formulations, proprietary all-in-one blends of ingredients necessary to ultrasonically nano-emulsify hydrophobic bioactive extracts (full-spectrum oils, distillates, isolates, vitamins, essential oils, terpenes, nutraceuticals, pharmaceuticals), comprised food-grade (GRAS) carrier oils, emulsifiers, and preservatives, all tasteless and derived from natural sources. Comes with an easy-to-follow SOP (standard operating procedure).



Ai Vacuum's Vacuum Oven Accessories

Your vacuum oven, your way. Fully customizable options available.

Aluminum racks

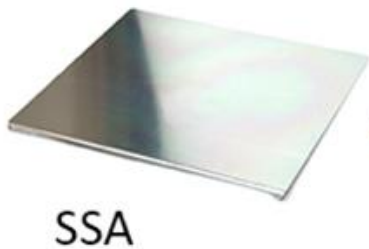
- Very heat conductive, will heat up and cool down very quickly.
- Reacts to temperature changes in your vacuum oven almost instantly.
- Fastest overall processing times in a vacuum oven.
- Lightest and most affordable material.
- Available as flat or pan racks with folded edges (0.9 & 1.9 cu ft).
- Stackable shelving (3.2 cu ft), high or low profile (7.5 cu ft).

Solvent proof digital vacuum gauges

- Digitally reads in psi, bar, mm Hg, or inches Hg.
- Reduces the potential for parallax errors in readings.
- Free installation, must be ordered at time of oven purchase.

Filters with replaceable elements

- Eliminates vacuum oil mist from polluting your work environment.
- Returns trapped pump oil back to the pump.
- Makes pumps much quieter to run.



Aluminum shelving options

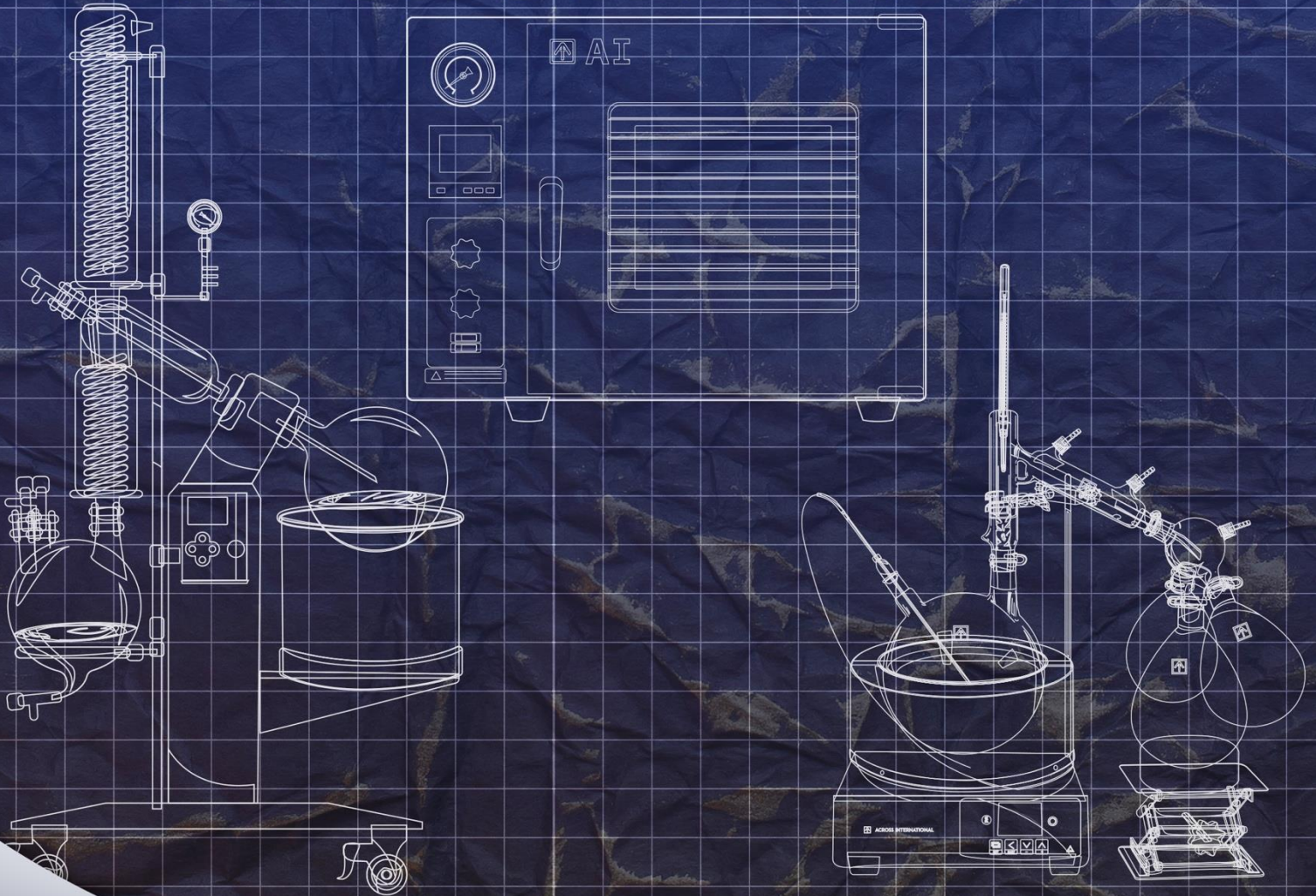
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ACROSS INTERNATIONAL



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USA

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BORONIA, VIC 3155
AUSTRALIA

March 2022