

# SELECTION GUIDE

## *Distillation*



MEGAPURE—OUR MOST POPULAR LINE OF STILL!



FI-STREEM—COMPLETE YOUR COMPACT DISTILLED WATER SYSTEM!

### GLASS STILL

	Product Output LPH	Product Description	Feed Water Type	Reservoir Options	Page
<i>MOST ECONOMICAL!</i>	1.4	MEGA-PURE	Tap*	9 /Glass Bottle 6 /Plastic Bottle Automatic Collection System (45 l)	360
<i>HIGHER VOLUME!</i>	3.4	MEGA-PURE	Tap*	13 /Glass Bottle 9 /Glass Bottle 6 /Plastic Bottle Automatic Collection System (45 l)	360
<i>OUR MOST POPULAR MODEL!</i>	6.0	MEGA-PURE	Tap*	13 /Glass Bottle Automatic Collection System (45 l)	360
<i>OUR FASTEST GLASS STILL!</i>	13	MEGA-PURE	Tap*	45 /Glass Bottle Automatic Collection System (45 l)	360
<i>PRETREATMENT AND STILL IN ONE!</i>	12	MEGA-PURE	Tap*	45 /Glass Bottle Automatic Collection System (45 l)FI-STREEM	360
<i>MOST COMPACT DESIGN!</i>	1.5 and 2	FI-STREEM	Tap/Pretreated	8 /Plastic Bottle	365
<i>WORLD CLASS!</i>	4	FI-STREEM	Tap/Pretreated	30 Liter Storage Reservoir 50 Liter Storage Reservoir	365
<i>COMPACT DESIGN AND HIGHER VOLUME!</i>	8	FI-STREEM	Tap/Pretreated	30 Liter Storage Reservoir 50 Liter Storage Reservoir	365

### BI-DISTILLER

<i>THE BEST—DISTILLATION TIMES TWO!</i>	4	FI-STREEM	Tap/Pretreated	30 Liter Storage Reservoir 50 Liter Storage Reservoir	366
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\*Accessories available for pretreatment, see Accessories

# SELECTION GUIDE

## *Distillation*



### ELECTRIC CLASSIC STILLS

	Product Output GPH	Feed Water Type Tap*	Reservoir Options 10 Gallon Tin Coated Cylindrical	Page 368
<i>OUR ONLY PORTABLE STILL!</i>	0.5			
<i>CLASSIC TIME-TESTED DESIGN!</i>	1.0, 2.0, 5.0, 10.0	Tap*	10, 25, 50, 100, 200 Gallon Tin Coated Cylindrical	368

### STEAM CLASSIC STILLS

<i>YOUR STEAM, OUR STILL!</i>	5.0, 10.0	Tap	10, 25, 50, 100, 200 Gallon Tin Coated Cylindrical	368
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### CABINETIZED STILLS

<i>STILL AND TANK COMBINED!</i>	2.0	Tap	10 Gallon Tin Coated Rectangular Tank provided with unit	374
<i>YOUR COMPLETE DISTILLED WATER STATION!</i>	5.0	Tap	25 Gallon Tin Coated Rectangular Tank provided with unit	374

\*Accessories available for pretreatment, see Accessories

# Distillation

## WHAT IS DISTILLATION?

### WHAT IS DISTILLATION?

Distillation differs from other forms of water purification because water is removed from the impurities rather than the impurities from the water. Water undergoes phase changes during the process, changing from liquid to vapor and back to liquid. It is the change from liquid to vapor that prompts a separation of water from its impurities. Impurities with a boiling point higher than water (100°C) remain in the boiler. Water and impurities with a boiling point equal to or lower than water are converted to water vapor. When this vapor is condensed, only water and a few substances that boil at lower temperatures than water remain.

### HOW WELL DOES DISTILLATION WORK?

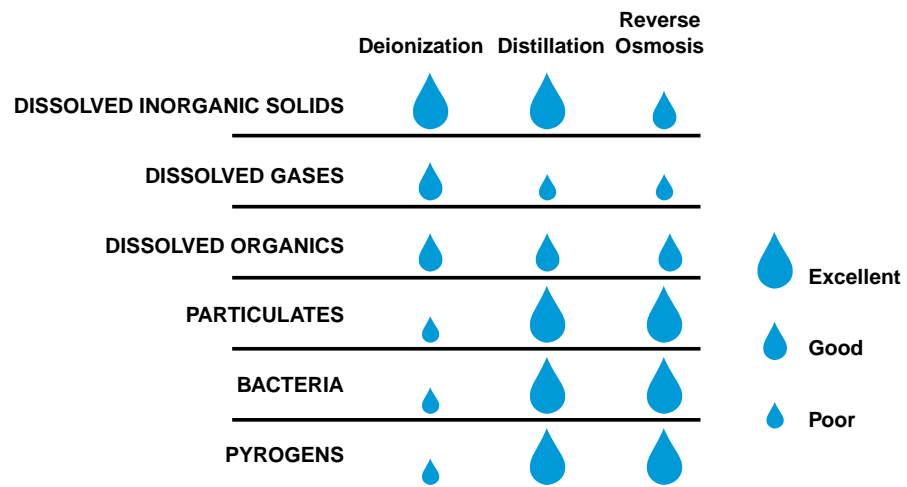
Distillation has the broadest capabilities of any single form of water purification. Distillation effectively removes most inorganic solids, all organics with a boiling point greater than water (100°), all bacteria and pyrogens. Gases and other organics are not removed by distillation. They undergo the same phase changes as the water and can be removed before or after distillation using other technologies.

### WHAT TYPES OF STILLS ARE AVAILABLE FROM BARNSTEAD?

Barnstead stills range in size from 1.4 to 38 liters per hour. They can be constructed of metal or glass. You can purchase a single distillation unit or a glass double distiller. Most laboratories in the world use distilled water.

### STILL COMPONENTS

A still includes a boiling chamber (boiler), electric immersion heaters, pyrogen reducing baffle, condenser and constant level device. Optional accessories include electric inlet valve, low water cutoff, electric drain valve and a fully automatic control for the still to work with pretreated feedwater and a storage reservoir.

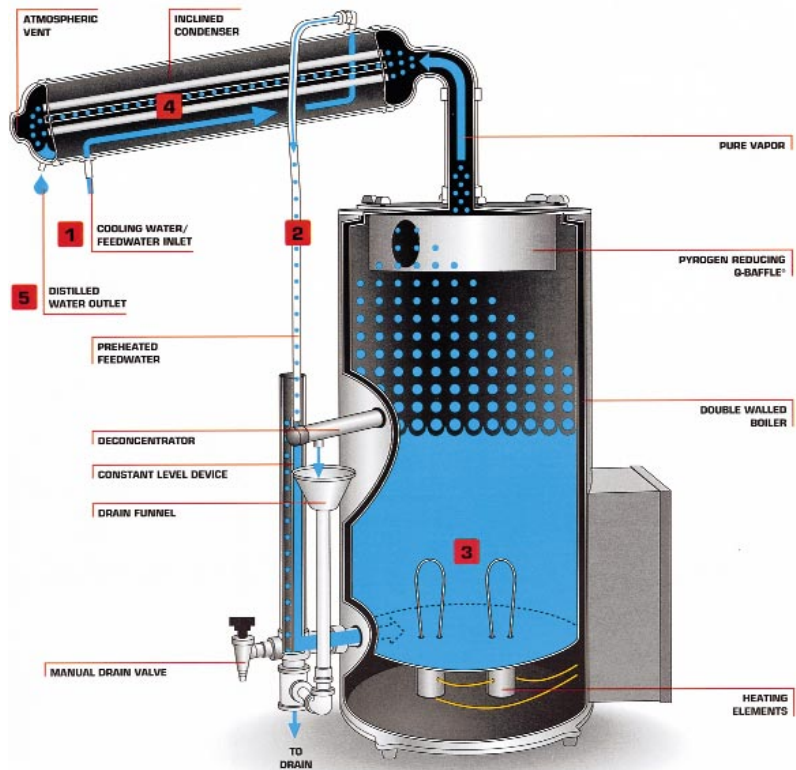


# *Distillation*

## PRINCIPLES OF DISTILLATION

### *STEP-BY-STEP TECHNOLOGIES USED IN BARNSTEAD DISTILLATION SYSTEMS*

- 1. Cooling Water/Feed Water Inlet**  
Water enters the condenser for two purposes:  
(a) to cool the vapor entering the condenser.  
(b) to provide a warmed source of water for the boiler.
- 2.** Water flows from the condenser into the constant level device, then into the boiler. The constant level device maintains the proper water level in the boiler.
- 3.** The water in the boiler is heated, producing pure vapor that moves up the boiler through a pyrogen reducing baffle and into the condenser tubing. The baffle removes contaminant-laden water droplets from the vapor.
- 4.** In the condenser, the pure vapor tubes contact the cooler condenser inlet water. The pure vapor condenses into liquid water and the product is distilled water.
- 5. Distilled Water Outlet**  
The distilled water exits the condenser and is stored in a reservoir.



# *Distillation*

## MEGA-PURE<sup>®</sup> GLASS STILLS

**Barnstead**

*Mega-Pure Glass Stills*



### **OUR MOST POPULAR LINE OF STILLS!**

- — All glass system
- — Only non-leaching components are used
- — Choice of five production capacities
- — Wall and bench mountable



### **PRODUCT DESCRIPTION**

- Vertical condenser design provides maximum purity.
- Only Pyrex<sup>®</sup>, Vycor<sup>®</sup>, and Teflon<sup>®</sup> components used to ensure ultimate purity.
- High temperature cut-off shuts down the glass still if temperature is too high, preventing heating element burnout.
- Quick release cover for easy cleaning access.
- Can be connected to Automatic Collection System (ACS) for a 24 hour automatic system.
- Can be wall or bench-mounted depending on lab space requirements.
- Includes feedwater solenoid valve for automatic operation.

#### **MP-1**

- Compact, easy-to-use 1.4 LPH glass still available with or without a storage bottle.

#### **MP-3A, MP-6A, MP-11A**

- These 3.4, 6.0 and 13 LPH stills are great for larger volume demands.

#### **MP-12A**

- This 12 LPH still has a built-in deionizer for pretreated feed to boiler.
- Distillate cooler allows product water to be used as it is produced; no need to wait for cooling.

*Pyrex<sup>®</sup> and Vycor<sup>®</sup> are registered trademarks of Corning, Inc.  
Teflon<sup>®</sup> is a registered trademark of DuPont Co.*

*Model MP-1*



# Distillation

## MEGA-PURE® GLASS STILLS

**Barnstead**

### PRODUCT SPECIFICATIONS

Feedwater Type	Feedwater Temperature	Condenser Water to Boiler Temperature	Vent Temperature	Auto Drain	Maximum Inlet Pressure (psig)	Minimum Inlet Pressure (psig)	Auto Start/Stop Controls
tap/pretreated	15.0 to 16.0°C	60.9°C	85.0 to 96.7°C	No	100	20	Yes

### ORDERING INFORMATION

Model #	Electrical (50/60 Hz)	Amps	Product Water Capacity LPH	Cooling Water Capacity LPH	Overall Dimensions Inches (cm)			# of Heaters	Special Features	Shipping Weight Lb. (kg)	US List Price
					W	H	D				
A440266 (MP-1)	120 V	9	1.4	11.3	18 (45.7)	34 (86.4)	9.75 (24.8)	1		29 (13.2)	\$1779.00
A7981 (MP-1)	240 V	9	1.4	11.3	18 (45.7)	34 (86.4)	9.75 (24.8)	1		29 (13.2)	\$1779.00
A440267 (MP-1)	120 V	9	1.4	11.3	18 (45.7)	34 (86.4)	9.75 (24.8)	1	Includes 6 liter bottle	31 (14.1)	\$1912.00
A7982 (MP-1)	240 V	9	1.4	11.3	18 (45.7)	34 (86.4)	9.75 (24.8)	1	Includes 6 liter bottle	31 (14.1)	\$1912.00
A440367 (MP-3A)	240 V	15	3.4	30.3	23 (58.4)	45 (114.3)	12 (30.5)	1		63 (28.6)	\$3283.00
A440696 (MP-3A)	208 V	15	3.4	30.3	23 (58.4)	45 (114.3)	12 (30.5)	1		63 (28.6)	\$3283.00
A440518 (MP-6A)	240 V	30	6.0	53	23 (58.4)	45 (114.3)	12 (30.5)	2		73 (33.2)	\$4378.00
A440697 (MP-6A)	208 V	30	6.0	53	23 (58.4)	45 (114.3)	12 (30.5)	2		73 (33.2)	\$4378.00
A440118 (MP-11A)	240 V	60	13	130	29 (73.7)	53 (136.6)	14.2 (36)	4		120 (55)	\$7082.00
A440117 (MP-11A)	208 V	60	13	130	29 (73.7)	53 (136.6)	14.2 (36)	4		120 (55)	\$7082.00
A442011 (MP-12A)	240 V	60	12	130	29 (73.7)	53 (136.6)	14.2 (36)	4	built-in deionizer and distillate cooler	140 (64)	\$9244.00
A442012 (MP-12A)	208 V	60	12	130	29 (73.7)	53 (136.6)	14.2 (36)	4	built-in deionizer and distillate cooler	140 (64)	\$9244.00

All units include high temperature cut-off to alert user to boiler low water level condition.  
All units designed only for operation on a single phase electric current.

Model 413964



Model 410535



### ACCESSORIES

#### Optional Storage Bottles (Non-automatic operation)

Model #	Capacity (l)	Where Used	US List Price
413964	6	Plastic bottle for MP-1 and MP-3A	\$149.00
410535	9	Glass bottle for MP-1 and MP-3A	\$463.00
413934	13	Glass bottle for MP-3A and MP-6A	\$482.00
410164	45	Glass bottle for MP-11A and MP-12A	\$1002.00

### ADDITIONAL ACCESSORIES

#### Required for use with pretreated feed water

Model #	Description	US List Price
440236	Dual solenoid for use with in-house treated water supply (MP-3A, MP-6A, and MP-11A)	\$368.00
440376	Automatic still adapter - connect MP-3A, MP-6A, and MP-11A to MEGA-PURE deionizer for automatic operation	\$148.00
RY798X2A	Dual Solenoid (MP-1, 120V)	\$352.00

**48 Hour or Sooner Express Shipping Guaranteed!\***

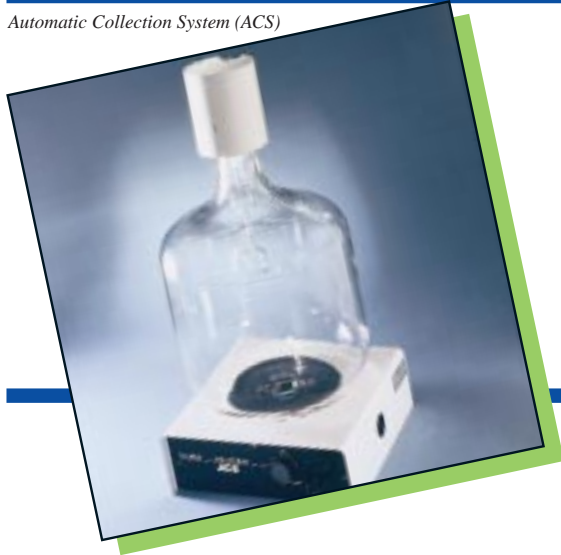
\*see inside front cover for details

# Distillation

## MEGA-PURE® ACCESSORIES ACS

**Barnstead**

Automatic Collection System (ACS)



### **AUTOMATIC COLLECTION = NO HASSLE!**

- — All glass design with ACS
- — ACS designed to collect water from Mega-Pure stills
- — 45 liter capacity

### **PRODUCT DESCRIPTION**

- The MEGA-PURE Automatic Collection System is designed to collect water from the MEGA-PURE stills and control their operation.
- 45 liter capacity.
- Wall or bench mounted.
- All glass design.
- Glass inlet and outlet tubing.

### **OPERATION**

- ACS will work with MEGA-PURE stills to store up to 45 liters of Type II distilled water.
- The ACS is preset to shut off the power to the heaters and the water supply to the MEGA-PURE still after the bottle has collected approximately 45 liters.
- When the purified water supply has been depleted to 38 liters, the system will automatically restart the water still and refill the collection system.
- When setting up a MEGA-PURE still with the ACS, a 6-12" stand (depending on still model) is required. (This will ensure proper gravity feed of distilled water.)

### **PRODUCT SPECIFICATIONS**

Model #	W	Dimensions Inches (cm)		Operating Weight Lb. (kg)	Shipping Weight Lb. (kg)
		H	D		
B440704	16.25 (41.3)	38 (96.5)	16.25 (41.3)	110 (49.9)	55 (25.1)

### **ORDERING INFORMATION**

Model #	Power	Capacity liter	US List Price
B440704	None	45	\$1725.00

### **ACCESSORIES**

Model #	Where Used	US List Price
ACS		
440138	Flexible Tubing Adapter Kit —When Placing ACS in Not recommended Set-up	\$91.00
400634	Wall Mounting Bracket for ACS	\$202.00
440241	Adapter for ACS Washer Hook-up for Glassware Washers	\$189.00
440376	Automatic Still Adapter Kit	\$148.00
D6831	ACS to NANOpure Quad-style Adapter	\$315.00

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\*see inside front cover for details

# Distillation

## MEGA-PURE® DEIONIZER ACCESSORY

**Barnstead**

MEGA-PURE Deionizer D2



### HARD WATER? WE CAN HELP!

- — Choose from two deionization models single (D1) or dual (D2) cartridge
- — Deionization system reduces scale impurities

MEGA-PURE Cartridges



### PRODUCT DESCRIPTION

- Designed for pretreating feedwater to most MEGA-PURE still boilers.
- Using a MEGA-PURE deionizer in front of a still reduces the level of scale impurities entering the still, as well as the need for frequent cleanings.
- Available in two cartridge designs, single or dual, to allow greater flexibility in meeting varying feedwater qualities.
- A MEGA-PURE deionizer connected to a MEGA-PURE still allows for a completely automatic system.
- Temperature-compensated purity meter measures water quality and indicates when cartridges are exhausted.
- Flow valve precisely controls product flow.
- Built-in drain valve for no-spill cartridge changes.
- Large cartridge capacity for extended cartridge use.
- Unit can be wall or bench-mounted.

### PRODUCT SPECIFICATIONS

Model #	Inlet Connector (Inches)	Overall Dimensions Inches (cm)			Operating Weight Lb. (kg)	Shipping Weight Lb. (kg)
		W	H	D		
D440046 (D1)	3/8 OD	10.5 (26.7)	25.5 (64.8)	7.5 (19)	26 (11.8)	22 (10)
D440066 (D2)	3/8 OD	16.75 (42.6)	25.5 (64.8)	7.5 (19)	41 (18.6)	33 (15)

### ORDERING INFORMATION

Model #	Electrical (50/60 Hertz)		Recommended Cartridges	Max Pressure (psig)	US List Price
	Volts	Amps			
D440046 (D1)	120	0.25	D400499	10-100	\$1208.00
D440066 (D2)	120	0.25	D400499, D400377 and D440265	10-100	\$1463.00

### ACCESSORIES

#### MEGA-PURE Deionization Cartridges

Model #	Type	Applications	US List Price
D400377	A	Used in MP-12A and D2 (high purity)	\$135.00
D400499	B	Used in D1 & D2 (extended capacity)	\$143.00
D440265	O	Used in D2 for organic & chlorine removal	\$124.00

A Barnstead W.A.T.E.R. kit is recommended to determine feed water suitability.

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\*see inside front cover for details

# Distillation

## MEGA-PURE® GLASS STILL S

Barnstead

### MEGA-PURE MP-3A WITH ACS CHALLENGE

Tap water feed and still product water were assayed for important water quality parameters.

#### WATER QUALITY RESULTS

SAMPLE LOCATION	TAP water	Condenser	Distillate Tube	ACS
RESISTIVITY (megohm/cm <sup>2</sup> )	0.0042	1.0	0.76	0.68
TOC (mg/l)	1.30	< 0.05	< 0.05	0.058
BACTERIA CF U/ml				
24 hr.	–	0.0	0.0	0.0
48 hr.	–	0.0	0.0	0.0
72 hr.	–	0.0	0.0	0.0
ENDOTOXIN Eu/ml	7.0 average	< 0.005	< 0.005	< 0.005
CALCIUM (µg/l)	(23.25 mg/l)	–	6.0	< 5.0
MAGNESIUM (µg/l)	(75.03 mg/l)	–	< 1.0	< 1.0
SODIUM (µg/l)	(13.95 mg/l)	–	< 5.0	< 5.0
SILVER (µg/l)	–	–	< 1.0	< 1.0
COPPER (µg/l)	–	–	< 1.0	< 1.0
LEAD (µg/l)	–	–	< 1.0	< 1.0
NICKEL (µg/l)	–	–	< 5.0	< 5.0
MANGANESE (µg/l)	–	–	< 0.1	< 0.1
TIN (µg/l)	–	–	< 6.0	< 6.0
CADMIUM (µg/l)	–	–	< 0.2	< 0.2
CHROMIUM (µg/l)	–	–	< 1.0	< 1.0
SILICA (µg/l)	(12.04 mg/l)	–	< 3.0	< 3.0
CHLORIDE (µg/l)	(24.25 mg/l)	–	< 5.0	< 5.0
AMMONIA (µg/l)	–	–	< 10.0	< 10.0
FREE CHLORINE (mg/l)	0.15	0.20	0.19	BDL

BDL = Below Detection Limit

#### STILL PARAMETERS

Still Voltage:	230V
Feedwater Temperature:	15.0 to 16.0°C
Condenser Water to Boiler Temperature:	60.9°C
Product Water Flow:	50.0 ml/min.
Vent Temperature:	85.0 to 96.7°C

#### CONCLUSION

Except for low resistivity, the MP-3A still and ACS combination meet ASTM Type II reagent grade water specifications. Even with resistivity below the 1.0 megohm Type II specification, the product water is suitable for laboratory applications that do not require Type I water. Results will vary with pretreatment options and feed water quality.

# Distillation

## FI-STREEM GLASS STILLS

**Barnstead**

FI-Streem II



FI-Streem III



### NO SPACE? NOT A PROBLEM!

- — Space saving designs can be wall or bench mounted
- — Fully automatic microprocessor controls
- — Glass components prevent leaching of impurities into distilled water

### PRODUCT DESCRIPTION

#### FI-Streem II 2S Glass Still

- Patented vapor trap eliminates carry-over of contaminants in the vapor-borne water droplets.
- Easy push-button controls for automatic operation.
- For convenience, FI-Streem II 2S was designed with dual feed capabilities for tap or pretreated feedwater.
- Includes over temperature and low water cutoff safety device.
- 24 hour automatic operation when used with a A1054 30 /storage reservoir.

#### FI-Streem III 4 Liter and 8 Liter Glass Stills

- Patented vapor trap eliminates carry-over of contaminants in the vapor-borne water droplets.
- Totally enclosed still assures your safety from breakage or hot surfaces.
- Fully automatic microprocessor controls activated by pressing membrane touch pad control. Simplifies operation and cleaning, while also assuring high reliability.
- 24 hour automatic control activates still as required to maintain a full reservoir.
- Automatic drain cycle reduces frequency of cleaning.
- Thermistor and heat sensor offer double protection against low water conditions.
- For convenience, unit is designed with capabilities for tap or pretreated feedwater.

\*FI-Streem is a registered trademark of Sanyo/Gallenkamp PLC

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\*see inside front cover for details

### PRODUCT SPECIFICATIONS



Max Pressure	Min Pressure	Auto Stop Start*	Auto Drain	Low Water Cut-off
80 psig (5.6 kg/cm <sup>2</sup> )	15 psig. (1.1 kg/cm <sup>2</sup> )	Yes	Yes	Yes

\* When connected to FI-Streem tank or using level monitor provided

Model #	Product Water Capacity LPH	Cooling Water LPH	Overall Dimension Inches (cm)			Operating Weight Lb. (kg)	Shipping Weight Lb. (kg)
			W	D	H		
<b>FI-Streem II 2S Glass Still</b>							
A74415-60	1.5	30	10.5 (26.6)	13.8 (35)	31.5 (79)	48.5 (22)	33 (15)
A74415	2	30	10.5 (26.6)	13.8 (35)	31.5 (79)	48.5 (22)	33 (15)
A74410	2.0 LPH	30	10.5 (26.6)	13.8 (35)	31.5 (79)	48.5 (22)	33 (15)
<b>FI-Streem III Glass Stills</b>							
A56210-857	4	60	12 (30.5)	15 (38.1)	29.5 (74.9)	65 (29.5)	55 (25)
A56218-857	4	60	12 (30.5)	15 (38.1)	29.5 (74.9)	65 (29.5)	55 (25)
A56220-857	8	120	19 (48.3)	15 (38.1)	29.5 (74.9)	80 (36.3)	64 (29)
A56228-857	8	120	19 (48.3)	15 (38.1)	29.5 (74.9)	80 (36.3)	64 (29)

### ORDERING INFORMATION

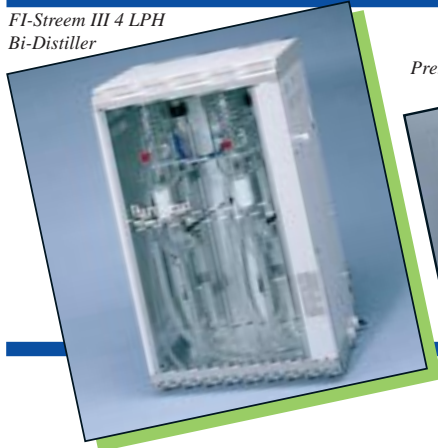
Model #	Electrical (50/60 Hertz)		Feed Water Type	# of Heaters	US List Price
	Volts	Amps			
<b>FI-Streem II 2S Glass Still</b>					
A74415-60	120 V	15	tap/pretreated	2	\$2408.00
A74415	120 V	20	tap/pretreated	2	\$2408.00
A74410	220 V	13	tap/pretreated	2	\$2408.00
<b>FI-Streem III Glass Stills</b>					
A56210-857	240 V	13	tap/pretreated	2	\$3706.00
A56218-857	208 V	13	tap/pretreated	2	\$3706.00
A56220-857	240 V	30	tap/pretreated	4	\$6162.00
A56228-857	208 V	30	tap/pretreated	4	\$6162.00

# Distillation

## FI-STREAM III BI-DISTILLER

**Barnstead**

FI-Stream III 4 LPH  
Bi-Distiller



Pretreatment Kit



### THE BEST—DISTILLATION TIMES TWO!

- — Double distillation improves water purity
- — Fully automatic microprocessor controls
- — Pretreatment kit reduces cleaning

## PRODUCT DESCRIPTION

### Bi-Distiller

- Double distillation process increases water purity to above 1 megohm-cm.
- Patented vapor trap eliminates carry-over of contaminants in the vapor-borne water droplets.
- Glass components assure virtually no leaching of impurities into the distilled water.
- Fully automatic microprocessor controls activated by pressing membrane touch pad control. Simplifies operation and cleaning, while also assuring high reliability.
- 24 hour automatic control activates still as required to maintain a full reservoir.
- Automatic drain cycle reduces frequency of cleaning.
- Thermistor and heat sensor offer double protection against low water conditions.
- For convenience, unit is designed with capabilities for tap or pretreated feedwater.
- Space-saving design; wall or bench mounted.

### Pretreatment Kit

- FI-Stream deionizers are a simple pretreatment system for FI-Stream III glass stills.
- Pretreat feed water for a higher purity distillate, thus reducing cleaning frequency.
- Utilizes disposable cartridges for removal of organics and inorganic solids and gases (D0832).
- Visual "Go/No Go" indicator alerts operator when cartridge replacement is necessary.

\*A Barnstead W.A.T.E.R. kit is recommended to ensure feed water suitability.

**48 Hour or Sooner  
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\*see inside front cover for details

## PRODUCT SPECIFICATIONS



### Bi-Distiller

Maximum Pressure	Minimum Pressure	Auto Stop Start*	Auto Drain	Low Water Cut-off
80 psig (5.6 kg/cm <sup>2</sup> )	15 psig (1.1 kg/cm <sup>2</sup> )	Yes	Yes	Yes

\*When connected to FI-Stream tank or using level monitor provided.

Model #	Water Capacity LPH	Product Cooling Water (LPH)	Overall Dimensions Inches (cm)			Operating Weight Lb. (kg)	Shipping Weight Lb. (kg)
			W	H	D		
A56230-857	4	120	19 (48.3)	29.5 (74.9)	15 (38.1)	80 (36.3)	64 (29)
A56238-857	4	120	19 (48.3)	29.5 (74.9)	15 (38.1)	80 (36.3)	64 (29)

### Pretreatment Kit

Model #	Inlet Connection Inches	W	Overall Dimensions Inches (cm)		Shipping Weight Lb. (kg)
			H	D	
A56285	1/4 NPTF	11 (27.9)	23.5 (59.7)	8.25 (21)	10 (4.5)
A56280	1/4 NPTF	11 (27.9)	23.5 (59.7)	8.25 (21)	10 (4.5)

## ORDERING INFORMATION

### Bi-Distiller

Model #	Electrical (50/60 Hertz)		Feed Water Type	# of Heaters	US List Price
	Volts	Amps			
A56230-857	240	30	tap/pretreated	4	\$6754.00
A56238-857	208	30	tap/pretreated	4	\$6754.00

### Pretreatment Kit\*

Model #	Electrical	Maximum Pressure (psig)	US List Price
A56285	120 V / 60 Hz	100	\$465.00
A56280	240 V / 50 Hz	100	\$465.00
D0832	Pretreatment Cartridge / Mixed Bed		\$74.00

\*Recommended for use with 4 and 8 liter/hour models only. Pretreatment kit comes without the D0832 cartridge.

# Distillation

## FI-STREEM STORAGE RESERVOIRS

**Barnstead**

Model A56290-857 Storage Reservoir



### COMPLETE YOUR COMPACT DISTILLED WATER SYSTEM!

- — 24 hour automatic operation
- — Wall or bench mounted
- — Vent filter prevents air-borne contamination in reservoir

### PRODUCT DESCRIPTION

RESERVOIRS FOR USE WITH FI-STREEM III 4 AND 8-LITER MODELS ONLY

#### A56290-857: 30 Liter Capacity

- Allows for 24 hour automatic operation.
- Vent filter prevents airborne contamination.
- Built-in overflow tubing directs water to drain in case of overflow.
- Contains special ports to feed deionization systems.
- Contains a sight tube for easy indication of water level.
- Easy-to-clean storage tank, wall or bench mounted.
- Bench or wall mounting flexibility.

#### A1058: 50 Liter Capacity

- Portable unit easily moves to other lab areas needing distilled water.
- Non-automatic operation.

RESERVOIR FOR USE WITH FI-STREEM II 2S MODELS ONLY

#### A1052: 8 Liter Capacity

- Includes wall mounting bracket for easy installation.
- Portable size is ideal for transporting distilled water to different lab sites.

48 Hour or Sooner  
Express Shipping  
Guaranteed!\*



\*see inside front cover for details

### ORDERING INFORMATION

Reservoirs for use with FI-Streem III 4 and 8 liter models only

Model #	Capacity	Overall Dimensions Inches (cm)			Operating Weight Lb. (kg)	Shipping Weight Lb. (kg)	US List Price
		W	H	D			
A56290-857	30 liters	18 (46)	29.5 (74.9)	14.75 (37.5)	130 (60)	61.5 (28)	\$1236.00
A1058	50 liters	14 (35.6)	32 (81.3)	14 (35.6)	121 (54.9)	11 (4.9)	\$355.00

Reservoirs for use with FI-Streem II 2S models only

A1052	8 liters	8 (20)	6.5 (17)	17 (43)	7 (3.2)	25 (11.4)	\$309.00
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Model A1058 50-Liter



Model A1052 8-Liter



# Distillation

## CLASSIC STILLS

**Barnstead**



### CLASSIC TIME-TESTED DESIGN!

- — Durable copper and bronze with inert pure tin lining
- — Capacities of 0.5, 1, 2, 5 and 10 GPH
- — Low water cut-off protection included



### PRODUCT DESCRIPTION

- Designed for durability and consistent quality.
- The Classic Still was originally designed over 100 years ago, and has withstood all the tests of time.
- A low water cut-off prevents still burn-out in case of feedwater interruption.
- Manufactured from copper and bronze, with a coating of pure tin. Pure tin is used due to its inert properties against the corrosive nature of pure water. Pure tin will also not leach any contaminants into the water.

#### Common Features of Electric Classic Stills A1011, A1013, A1015, A1016 and Steam A1212, A1213

- Feedwater preheated in condenser conserves energy.
- Double-walled boiler conserves electricity.
- Extremely inert pure tin lining prevents leaching of impurities into purified water.
- Vented condenser allows for stripping of gaseous impurities.
- Unique deconcentrator removes scale forming impurities.
- Q-Baffle® ensures high quality pyrogen free product water.
- Space-saving horizontal condenser.
- Bench, floor, or wall mounted.
- Metal construction withstands years of use.

#### Specific Features of A1011, A1013, A1015, A1016 Electric Stills

- Operates on a wide variety of electrical services.
- Capacities range from 1, 2, 5 & 10 gallons per hour.
- Many options are available which include fully automatic controls.
- Includes low water cut-off to protect heating elements from burn-out when water supply is interrupted.
- All stills require 2 separate input power supplies; 120V supply for low water cut-off and power supply for contactor and heating elements.

#### Specific Features of A1007 Economical Electrical Portable Stills

- Produces high quality distilled water at the rate of .5 GPH (1.9 lph).
- Ideal for educational and other labs with moderate pure water requirements.
- Requires no permanent plumbing or electrical connections, and can be set up for operation in minutes.
- Includes low water cut-off safety protection.

#### Specific features of A1212, A1213 Steam Stills

- Utilizes available steam as heat source.
- 5 & 10 GPH sizes available.
- Bench, floor, or wall mounted.
- Cooling water used: A1212 models: 40 GPH (151 lph), A1213 models: 80 GPH (303 lph.)

# Distillation

## CLASSIC STILLS

Barnstead

### ORDERING INFORMATION FOR ELECTRIC STILLS

Model #	Cooling Water Fitting NPT Inches	Pretreated Feed Water** NPT	Waste Water NP Inches	KW	Electrical (50/60 Hertz)			Phase	Cooling Water GPH (lph) Requirements	Mounting	W	Dimensions Inches (cm)			Shipping Weight Lb. (kg)	US List Price
					Volts	Amps						H	D			
A1007 1/2 GPH (1.9 lph)	.25	NA	.5	1.3	120	12	1	4 (15)	Bench	21 (53)	19 (49)	10 (26)	25 (11)	\$1601.00		
A1011-A 1 GPH (3.8 lph)	.25	.375 (1)	.5	2.6	120	22	1	8 (30)	Bench Wall Floor	22 (56) 22 (56) 22 (56)	20 (74) 38 (97) 66 (168)	10 (25) 13 (33) 10 (25)	30 (14) 55 (25) 70 (32)	\$3440.00		
A1011-B 1 GPH (3.8 lph)	.25	.375 (1)	.5	2.6	240	12	1	8 (30)	Bench Wall Floor	22 (56) 22 (56) 22 (56)	20 (74) 38 (96) 66 (168)	10 (25) 13 (33) 10 (25)	30 (14) 55 (25) 70 (32)	\$3440.00		
A1013-B 2 GPH (7.6 lph)	.25	.375 (1)	.5	6	240	26	1	16 (61)	Bench Wall Floor	23 (58) 23 (58) 23 (58)	35 (89) 44 (112) 68(173)	11 (28) 14 (36) 11 (28)	40 (18) 100 (45)	\$4383.00		
A1013-C 2 GPH (7.6 lph)	.25	.375 (1)	.5	6	208	17	3	16 (61)	Bench Wall Floor	23 (58) 23 (58) 23 (58)	35 (89) 44 (112) 68(173)	11 (28) 14 (36) 11 (28)	40 (18) 65 (30) 100 (45)	\$4383.00		
A1015-B 5 GPH (19 lph)	.25	.375 (1)	.75	13	240	57	1	40 (151)	Bench Wall Floor	35 (89) 35 (89) 35 (89)	45 (114) 54 (137) 77 (196)	14(36) 18 (46) 14 (36)	90 (41) 125 (57) 150 (68)	\$6367.00		
A1015-C 5 GPH (19 lph)	.25	.375 (1)	.75	13	208	36	3	40 (151)	Bench Wall Floor	35 (89) 35 (89) 35 (89)	45 (114) 54 (137) 77 (196)	14(36) 18 (46) 14 (36)	90 (41) 125 (57) 150 (68)	\$6367.00		
A1015-D 5 GPH (19 lph)	.25	.375 (1)	.75	13	240	33	3	40 (151)	Bench Wall Floor	35 (89) 35 (89) 35 (89)	45 (114) 54 (137) 77 (196)	14(36) 18 (46) 14 (36)	90 (41) 125 (57) 150 (68)	\$6367.00		
A1016-X003 10 GPH (38 lph)	.25	.375 (1)	.75	26	208	73	3	80 (303)	Bench Wall Floor	43 (109) 36 (91) 37 (94)	58 (147) 73 (185) 89 (226)	14 (36) 20 (51) 14 (36)	310 (141) 330 (150) 360 (163)	\$11690.00		
A1016-D 10 GPH (38 lph)	.25	.375 (1)	.75	26	240	66	3	80 (303)	Bench Wall Floor	43 (109) 36 (91) 37 (94)	58 (147) 73 (185) 89 (226)	14 (36) 20 (51) 14 (36)	310 (141) 330 (150) 360 (163)	\$11690.00		
A1016-F 10 GPH (38 lph)	.25	.375 (1)	.75	26	480	33	3	80 (303)	Bench Wall Floor	43 (110) 36 (91) 37 (94)	58 (147) 73 (185) 89 (226)	14 (36) 20 (51) 14 (36)	310 (141) 330 (150) 360 (163)	\$11690.00		

\* Inlet water pressure 40-90 psi (2.8 - 6.3 kg/cm2)

\*\*For pretreated water stills only.

### ORDERING INFORMATION FOR STEAM STILLS

Model #	Cooling Water NPT Inches (cm)	Feed Water NPT Inches (cm)	Steam Inlet NPT Inches (cm)	Steam* Return NPT Inches (cm)	Waste Outlet** Inches (cm)	Steam Pressure GPH (lph)	Consumed lb./hr (kg/hr)	W	Dimensions Inches (cm)			Shipping Weight Lb. (kg)	US List Price
									H	D			
A1212	.25(.64)	.375(1)	.375 (1)	.375 (1) 5 GPH (19 lph)	.375 (1)	35 - 50 PSI	45 (20) 31 (79) 31 (79)	31(79) 51 (130) 75 (91)	43 (109) 21 (53) 18 (46)	18 (46) 110 (50) 135 (61)	80 (36)	\$5647.00	
A1213	.375(1)	.375(1)	.75 (1.9)	.5 (1.3) 10 GPH (38 lph)	.75 (1.9)	35 - 50 PSI	90 (41) 35 (89) 35 (89)	35 (89) 70 (178) 90 (229)	58 (147) 22 (56) 19 (48)	19* (48) 310 (141) 330 (150)	290 (132)	\$10107.00	

\* Not included with condensate feed stills. \*\*Connect to atmospherically vented drain.

# Distillation

## CLASSIC STILL ACCESSORIES

Barnstead

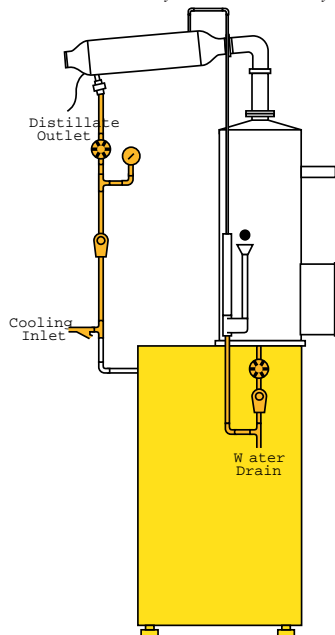
### FULLY AUTOMATIC CONTROLS

- Stops still when storage tank is full.
- Starts still when storage tank water level falls below preset level.
- Drains still boiler at 2, 4, 8, or 16 hr. intervals to reduce scale formation.
- The Controls include: control box, storage tank monitor Inlet includes: piping, solenoid valve, pressure gauge, manual regulating valve. Boiler drain includes: piping, solenoid valve, manual valve.

#### ORDERING INFORMATION

Model #	Voltage	Where used	US List Price
G2100	120V 50/60 hz	1 & 2 gph 1 phase electric stills	\$2486.00
G2101	120V 50/60 hz	2 gph 3 phase electric stills	\$2486.00
G2110	120V 50/60 hz	5 gph electric stills, 1 & 3 phase	\$2804.00
G2120	120V 50/60 hz	10 gph 1 phase electric stills	\$3185.00
G2125	120V 50/60 hz	10 gph 3 phase electric stills	\$3185.00
G2010	120V 50/60 hz	5 gph steam stills	\$3807.00
G2020	120V 50/60 hz	10 gph steam stills	\$3898.00

Fully Automatic Control is connected to the 120/240V Low Water Cutoff control box. 240V Low Water Cutoff is fitted with a stepdown transformer to 120V. 120V Fully Automatic Control may be connected to any Low Water Cutoff.



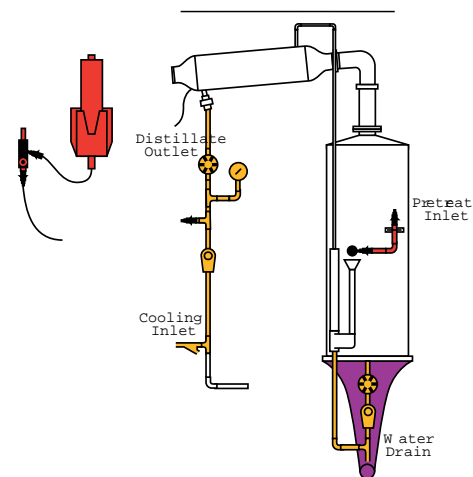
Electric still with automatic controls mounted on floorstand.

### FLOAT FEEDER FOR CLASSIC STILLS

- Pretreated water conservation.
- Float mechanism controls the flow of pretreated water to boiler.
- All surfaces coming in contact with purified water are pure tin.
- Used only on 5 and 10 gph classic stills.
- Must be used with automatic feedwater solenoid valve and fully automated controls on 5 & 10 GPH.

#### ORDERING INFORMATION

Model #	Description	US List Price
G3721	Float Feeder for Classic Stills	\$1129.00



Electric still with automatic controls mounted on wall bracket.

# Distillation

## CLASSIC STILL ACCESSORIES

**Barnstead**

### PUROMATIC DIVERTER FOR CLASSIC STILLS G3330

- Allows you to set minimum distilled water resistivity.
- Diverts substandard distilled water to drain.
- All piping constructed of inert pure tin.
- Automatic temperature compensated purity meter.

#### ORDERING INFORMATION

Model #	Description	US List Price
G3330	Puromatic Diverter for Classic Stills	\$511.00

### FLOORSTAND FOR CLASSIC STILLS G1000, G1001

- Available for all classic stills, 1 to 10 GPH.
- The floorstands are crafted of sheet metal and are provided with adjustable feet.

#### ORDERING INFORMATION

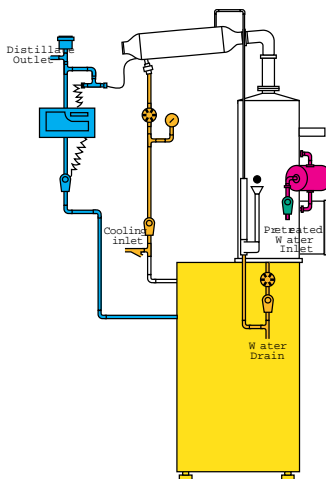
Model #	Description	Dimensions Inches (cm)	Shipping Weight	US List Price
G1000	Floorstand for 5 and 10 GPH Electric and Steam Stills	19.75 x 9.5 x 35" (50.2 x 24.1 x 88.9)	40 lbs (18.2 kg)	\$437.00
G1001	Floorstand for 1 and 2 GPH Electric Stills	10.38 x 7 x 36" (26.4 x 11.8 x 91.4)	25 lbs (11.4 kg)	\$409.00

### AUTOMATIC FEEDWATER SHUT-OFF VALVE FOR CLASSIC STILLS G2910

- Must be used with float feeder and fully automatic control on 5 & 10 GPH classic stills using pretreated feedwater.
- Conservation of water and automatic operation.
- To be used with float feeder (G3721) to start or stop feedwater.

#### ORDERING INFORMATION

Model #	Description	US List Price
G2910	Automatic Feed water shut-off valve for Classic Still	\$511.00



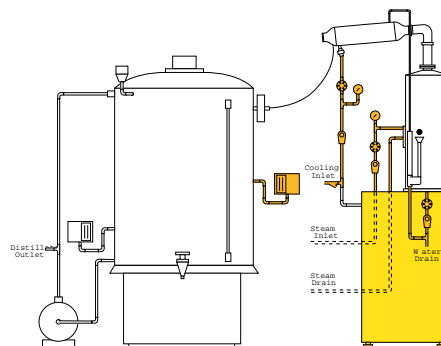
Electric still with automatic controls, Puromatic Diverter, Float Feeder and automatic feedwater shut-off valve. Mounted on floorstand.

### WALL BRACKET FOR CLASSIC STILLS G3250, G3251, G3252, G3256, G3275

- Available for all classic stills, 1 to 10 GPH.
- The wall brackets are made of aluminum casting (G3275 made of steel).

#### ORDERING INFORMATION

Model #	Description	US List Price
G3250	Wall Bracket for all 1 GPH Electric Stills	\$191.00
G3251	Wall Bracket for 2 GPH Electric Still	\$191.00
G3252	Wall Bracket for 5 GPH Electric Still	\$338.00
G3256	Wall Bracket for 5 GPH Steam Still	\$338.00
G3275	Wall Bracket for 10 GPH Electric and Steam Stills	\$466.00



Steam still with automatic controls on floorstand connected to storage tank.

# Distillation

## CLASSIC STILLS ACCESSORIES

**Barnstead**

*Tin-Coated Cylindrical Storage Tanks*



### STORE YOUR WATER AND KEEP IT PURE!

- — Store up to 200 gallons of distilled water
- — Maintain purity with air filter and water seal

### ORDERING INFORMATION

Tin-Coated Cylindrical Storage Tanks

Model #	Size (Gallon)	W	Dimensions Inches (cm) D	H	Outlet NPT Inches (cm)	Dist. Return NPT Inches (cm)	Pump By-Pass Drain NPT	Shipping Weight Lb. (kg)	US List Price
B3043	10	17 (43)	29 (74)	10.25 (26)	0.5 (1.3)	0.25 (0.64)	—	25 (11.3)	\$2309.00
B3045	25	25 (63.5)	29 (73.7)	18 (45.7)	0.5 (1.3)	0.25 (0.64)	—	45 (20.4)	\$2641.00
B3046	50	28 (71.1)	36 (91.4)	21.7 (55.3)	1 (2.54)	0.25 (0.64)	0.5 (1.3)	195 (88.5)	\$3312.00
B3047	100	35 (88.9)	43.1 (109.5)	28.5 (72.4)	1 (2.54)	0.25 (0.64)	0.5 (1.3)	420 (190.5)	\$4862.00
B3049	200	45 (114.3)	50.25 (127.6)	37.9 (96.3)	1 (2.54)	0.25 (0.64)	0.5 (1.3)	400 (181.4)	\$7657.00

### PRODUCT DESCRIPTION

- Tin-lined tanks are the ideal complement to the Classic Still.
- Range in storage capacity from 10-200 gallons.
- Crafted from copper and hand-wiped with pure tin to protect the purity of the distilled water.

#### Cylindrical Storage Tanks

- All tanks include with removable cover, water level sight glass, and a tin coated draw off faucet with serrated hose nipple.
- Connections are provided for: Water inlet, distribution outlet, tank drain (not on 10 and 25 gallon)
- Connections are also provided for optional accessories: Pump, low water cut-off, pump by-pass return, still level control, ultraviolet lamp, Ventgard and water seal. Connections not used are provided with removable plugs.

#### Ventgard Air Filter and Water Seal

- Ventgard Air Filter protects the stored distilled water against airborne particulates, organics, CO<sub>2</sub>.
- Water Seal works as a one-way valve to allow distilled water into storage tank. It prevents air from entering the storage tanks via the condenser atmospheric vent.

*Ventgard Air Filter*



### ORDERING INFORMATION

Ventgard Air Filter

Model #	Description	US List Price
H3111	Ventgard and 1 to 10 gph water seal	\$392.00
H3120	Ventgard air filter	\$134.00
H3130	Water seal 1 to 10 gph	\$309.00
25001	Replacement filter element	\$46.00

# Distillation

## CLASSIC STILLS ACCESSORIES

**Barnstead**

*Floor Stand for Cylindrical Storage Tank*



### FLOOR OR WALL MOUNTED STORAGE!

- — Mount storage tanks on a wall or place them on a stand
- — Maintain sterility of stored water with a UV lamp

### PRODUCT DESCRIPTION

#### Floor Stands for 10-50 Gallon Cylindrical Storage Tanks

- Floor stands for 10-50 gallon storage tanks are fabricated from heavy gauge sheet metal and are provided with adjustable feet.
- Floor stands for 100-200 gallon storage tanks are fabricated of thick steel angle-iron.

#### Wall Bracket for Cylindrical Storage Tanks

- Wall brackets for 10 gallon tanks are fabricated from heavy gauge aluminum.
- Wall brackets for 25 gallon tanks are fabricated of thick steel angle-iron.

#### Ultraviolet Lamp Assembly

- The ultraviolet lamp is designed to be installed on a storage tank to maintain the sterility of the distilled water in storage.
- The ultraviolet assembly consists of a cylindrical electrical housing which includes a starter, ON/OFF switch, 6 foot electrical cord, lamp and ballast.
- The housing is designed to be mounted on top of a storage tank with the lamp extended vertically into the tank.
- The lamp is enclosed by a tubular, transparent, inert sheath. The sheath is sealed at the neck by a grommet installed on top of the storage tank. When it is necessary to change the lamp, only the lamp need be removed. The reservoir cover and sheath remain in place at all times so distilled water is never exposed to possible contamination from the air.
- The ultraviolet lamp operates from 120 VAC, 50/60 Hz, 35 Watt electrical power.

*Each ultraviolet lamp assembly is furnished with one bulb which should be replaced every 90 days if operated continuously. Rectangular tanks are always provided with Ultraviolet Assembly.*

### ORDERING INFORMATION

#### Floor Stands for Cylindrical Storage Tanks

Model #	Size of tanks to be held (gallon)	Overall Dimensions Inches (cm)			US List Price
		W	H	D	
H1000	10	8 (51)	26 (168)	8 (51)	\$409.00
H1001	25	13 (84)	26 (168)	13 (84)	\$441.00
H1002	50	16 (104)	20 (130)	16 (104)	\$499.00
H1003	100 & 150	20 (130)	11 (71)	20 (130)	\$609.00
H3230	200	27 (175)	20 (130)	27 (175)	\$967.00

#### Ultraviolet Lamp Assembly

Model #	Description	US List Price
H4005	UV Lamp Assembly and Lamp	\$652.00
04141	Replacement Ultraviolet Lamp for 120V operation	\$48.00

#### Wall Brackets for Cylindrical Storage Tanks

Model #	Size of tank to be held (gallon)	US List Price
H3240	10	\$370.00
H3242	25	\$602.00

*Wall Bracket for Cylindrical Storage Tank*

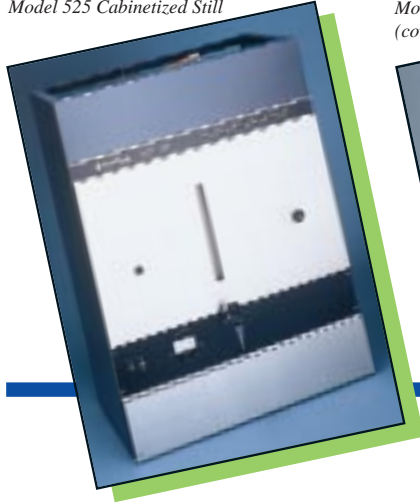


# Distillation

## CABINETIZED STILLS

**Barnstead**

Model 525 Cabinetized Still



Model 210 Cabinetized Still  
(cover off)



### YOUR COMPLETE DISTILLED WATER STATION!

- — Completely cabinetized distillation system
- — Choice of two sizes: 2 or 5 GPH
- — Fully automatic operation

### PRODUCT DESCRIPTION

- Completely cabinetized: Includes a still and an appropriately matched tin-coated storage tank in a neat, compact and clean, unit.
- Space saving design takes up less space than conventional units, while allowing for point of use installation.
- Fully Automatic: Hands-free operation; turns still off when the tank is full, restarts still when tank empties.
- Automatically drains the boiling chamber every time the unit is off and every 4 hours of operation, helping to keep your still clean.

#### Model 210 Still

- Safety feature: interrupts power to heating elements if feed water is off.
- Optional bench stand for bench mounting of still.
- 2 GPH still and 10 gallon storage tank for the production of distilled water.

#### Model 525 Still

- Purity meter alerts you of distilled water purity in storage tank.
- Q-Baffle® allows for pyrogen removal.
- Optional recirculation pump and base mounting stand available.
- Storage tank is equipped with a UV lamp for bacterial control.
- 5 GPH still and 25 gallon storage tank for production of distilled water.

#### ACCESSORIES FOR MODEL 525 BIOPURE

Model #	Description	US List Price
A1521	Floorstand 36"x18.75"x35" (92x48x89 cm)	\$472.00
A1522	Recirculating Pump (Includes A1521 floorstand)	\$3149.00

Controls for all models require separate 120 volts.

### PRODUCT SPECIFICATIONS

Model #	Model 525 Still		Dimensions Inches (cm)			Shipping Weight
	Water Inlet (CW)	Drain Connector (WA)	W	H	D	Lb. (kg)
A1085-B	0.375	1.375	36.5 (91)	48 (122)	18.75 (48)	425 (193)
A1085-C	0.375	1.375	36.5 (91)	48 (122)	18.75 (48)	425 (193)
A1085-D	0.375	1.375	36.5 (91)	48 (122)	18.75 (48)	425 (193)

Model 210 Still						
A1065-B	0.5	1.375	24 (60)	41 (103)	15.25 (39)	165 (75)
A1065-C	0.5	1.375	24 (60)	41 (103)	15.25 (39)	165 (75)
A1065-D	0.5	1.375	24 (60)	41 (103)	15.25 (39)	165 (75)

### ORDERING INFORMATION

Model 525 Still						
Model #	Volts	Electrical (50/60 Hertz)		Amps	US List Feedwater	Price
		Wire	Phase			
A1085-B	240		1	55	Tap	\$18338.00
A1085-C	208	4	3	36	Tap	\$18338.00
A1085-D	240		3	33	Tap	\$18338.00

Model 210 Still						
A1065-B	230	2	1	26		\$11639.00
A1065-C	208	4	3	17		\$11639.00
A1065-D	240	3	3	16		\$11639.00
A1066	Optional Floor Stand					\$274.00