

DISTILLATION



Selection Guide

GLASS STILLS

	Product Output LPH	Product Description	Feed Water Type	Reservoir Options	Page
<i>Most Economical!</i>	1.4	MEGA-PURE	Tap*	9 Liter Glass Bottle 6 Liter Plastic Bottle Automatic Collection System (45 Liter)	WP48
<i>Higher Volume!</i>	3.4	MEGA-PURE	Tap*	13 Liter Glass Bottle 9 Liter Glass Bottle 6 Liter Plastic Bottle Automatic Collection System (45 Liter)	WP48
<i>Our Most Popular Model!</i>	6.0	MEGA-PURE	Tap*	13 Liter Glass Bottle Automatic Collection System (45 Liter)	WP48
<i>Our Highest Flow Glass Still!</i>	13	MEGA-PURE	Tap*	45 Liter Glass Bottle Automatic Collection System (45 Liter)	WP48
<i>Pretreatment and Still in One!</i>	12	MEGA-PURE	Tap*	45 Liter Glass Bottle Automatic Collection System (45 Liter)	WP48
<i>Most Compact Design!</i>	1.5 and 2	FI-STREEM	Tap/Pretreated	8 Liter Plastic Bottle	WP53
<i>Small Footprint, Fully Automatic!</i>	4	FI-STREEM	Tap/Pretreated	30 Liter Storage Reservoir 50 Liter Storage Reservoir	WP53
<i>Compact Design and Higher Volume!</i>	8	FI-STREEM	Tap/Pretreated	30 Liter Storage Reservoir 50 Liter Storage Reservoir	WP53

BI-DISTILLER

<i>The Best—Distillation Times Two!</i>	4	FI-STREEM	Tap/Pretreated	30 Liter Storage Reservoir 50 Liter Storage Reservoir	WP54
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ELECTRIC CLASSIC STILLS

	Product Output GPH	Feed Water Type	Reservoir Options	Page
<i>Our Only Portable Still!</i>	0.5	Tap*	10 Gallon Tin Coated Cylindrical Tanks	WP56
<i>Classic, Time-Tested Design!</i>	1.0, 2.0, 5.0, 10.0	Tap*	10, 25, 50, 100, 200 Gallon Tin Coated Cylindrical Tanks 25 & 50 Gallon Tin Coated Rectangular Tanks	WP56

STEAM CLASSIC STILLS























<i>Your Steam, Our Still!</i>	5.0, 10.0	Tap	10, 25, 50, 100, 200 Gallon Tin Coated Cylindrical 25 & 50 Gallon Tin Coated Rectangular Tanks	WP56
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CABINETIZED STILLS

<i>Still and Tank Combined - Total System!</i>	2.0	Tap	10 Gallon Tin Coated Rectangular Tank provided with unit	WP62
<i>Your Complete Distilled Water Station!</i>	5.0	Tap	25 Gallon Tin Coated Rectangular Tank provided with unit	WP62

*Accessories available for pretreatment, see Accessories

What is Distillation?

	Deionization	Distillation	Reverse Osmosis	
DISSOLVED INORGANIC SOLIDS				
DISSOLVED GASES				
DISSOLVED ORGANICS				
PARTICULATES				
BACTERIA				
PYROGENS				

 Excellent
 Good
 Poor

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 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°C), all bacteria and pyrogens. Gases and low molecular weight organics are not effectively removed by distillation. They undergo the same phase changes as the water and are often 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 or steam immersion heaters, pyrogen reducing baffle, condenser, constant level device and low water cutoff. Optional accessories include electric inlet valve, electric drain valve and fully automatic controls which allow stills to work automatically with pretreated feedwater and a storage reservoir.

What is Distillation?



Typical electrically heated stills. Steam heated models also available.

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 feed to 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 and sends excess water to drain.

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. The baffle removes contaminant-laden water droplets from the vapor.

4. In the condenser, the pure vapor is transported through the condenser where it contacts tubes or coils containing cooling water. The pure vapor contacts these tubes and coils and is condensed to produce pure water.

5. Distilled Water Outlet

The distilled water exits the condenser and is stored in a reservoir.

6. Atmospheric vent allows for volatile contaminants to be vented, increasing the purity of the distilled water.

Mega-Pure® Glass Stills



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.
- Contact with only Pyrex®, Vycor®, and Teflon® components ensures ultimate purity and eliminates cross-contamination.
- 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.
- Connection to Automatic Collection System (ACS) assures 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® and Vycor® are registered trademarks of Corning, Inc.



Model MP-6A



Model 413964



Model 410535

Mega-Pure® Glass Stills

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	4.0 to 37.0°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)
					W	H	D			
A440266 (MP-1) ^{1,2}	120 V	9	1.0	11.3	18 (45.7)	34 (86.4)	9.75 (24.8)	1		36 (16.3)
A7981 (MP-1)	240 V	4.5	1.0	11.3	18 (45.7)	34 (86.4)	9.75 (24.8)	1		35 (15.9)
A440267 (MP-1) ^{1,2}	120 V	9	1.0	11.3	18 (45.7)	34 (86.4)	9.75 (24.8)	1	Includes 6 liter bottle	39 (17.7)
A7982 (MP-1)	240 V	4.5	1.0	11.3	18 (45.7)	34 (86.4)	9.75 (24.8)	1	Includes 6 liter bottle	38 (17.2)
A440367 (MP-3A) ^{1,2}	240 V	11	2.0	30.3	23 (58.4)	45 (114.3)	12 (30.5)	1		66 (29.9)
A440696 (MP-3A) ^{1,2}	208 V	13	3.0	30.3	23 (58.4)	45 (114.3)	12 (30.5)	1		65 (29.5)
A440518 (MP-6A) ^{1,2}	240 V	21	6.0	53	23 (58.4)	45 (114.3)	12 (30.5)	2		75 (34.0)
A440697 (MP-6A) ^{1,2}	208 V	25	6.0	53	23 (58.4)	45 (114.3)	12 (30.5)	2		74 (33.6)
A440118 (MP-11A) ^{1,2}	240 V	42	13	130	29.2 (74.2)	53 (134.6)	14.4 (36.6)	4		145 (65.8)
A440117 (MP-11A) ^{1,2}	208 V	49	13	130	29.2 (74.2)	53 (134.6)	14.4 (36.6)	4		146 (66.2)
A442011 (MP-12A) ^{1,2}	240 V	42	12	130	29.2 (74.2)	53 (134.6)	14.4 (36.6)	4	built-in deionizer and distillate cooler	155 (70.3)
A442012 (MP-12A) ^{1,2}	208 V	49	12	130	29.2 (74.2)	53 (134.6)	14.4 (36.6)	4	built-in deionizer and distillate cooler	169 (76.6)

¹ CSA, ² UL

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.

ACCESSORIES

Optional Storage Bottles (Non-automatic operation)

Model #	Capacity (L)	Where Used
413964	6	Plastic bottle for MP-1 and MP-3A
410535	9	Glass bottle for MP-1 and MP-3A
413934	13	Glass bottle for MP-3A and MP-6A
410164	45	Glass bottle for MP-11A and MP-12A

Required for use with pretreated feed water

Model #	Description
440236	Dual solenoid for use with in-house treated water supply (MP-3A, MP-6A, MP-11A, and MP-1A, 240V)
440376	Automatic still adapter - connect MP-1, MP-3A, MP-6A, and MP-11A to MEGA-PURE deionizer for automatic operation
RY798X2A	Dual Solenoid (MP-1, 120V)

Mega-Pure® Accessories ACS



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 approximately 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 on a bench, 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)	66 (29.9)

ORDERING INFORMATION

Model #	Power	Capacity liter
B440704	None	45

ACCESSORIES

ACS

Model #	Where Used
440138	Flexible Tubing Adapter Kit —When placing ACS in not recommended set-up ¹
400634	Wall Mounting Bracket for ACS
440241	Adapter for ACS Washer Hook-up for Glassware Washers
D6832	ACS to NANOpure Infinity/Diamond Adapter

¹ Requires customer supplied 1/2" ID Teflon® tubing.

Mega-Pure® Deionizer Accessory



MEGA-PURE Deionizer D2



MEGA-PURE Cartridges

Hard Feedwater? We Can Help!

- Choose from two deionization models single (D1) or dual (D2) cartridge
- Deionization system reduces scale impurities and increases product purity

Product Description

- Allows for pretreating feedwater to MEGA-PURE stills.
- Using a MEGA-PURE deionizer with single or dual cartridge design reduces the scale build up and increases distillate purity.
- Greater flexibility in meeting varying feedwater qualities.
- A MEGA-PURE deionizer connected to a MEGA-PURE still allows for automatic control of feed water.
- Temperature-compensated purity meter measures water quality and indicates when cartridges are exhausted.
- Flow valve precisely controls flow to still.
- Built-in drain valve for simple cartridge changes.
- Large cartridge capacity for extended cartridge use.
- Unit can be wall or bench-mounted.

PRODUCT SPECIFICATIONS

Model #	Inlet Connector Inches (mm)	W	Overall Dimensions Inches (cm)			Operating Weight Lb. (kg)	Shipping Weight Lb. (kg)
			H	D			
D440046 (D1) ¹	1/8 (3.2) NPT	10.5 (26.7)	25.5 (64.8)	7.5 (19)		26 (11.8)	20 (9.1)
D440066 (D2) ¹	1/8 (3.2) NPT	16.75 (42.6)	25.5 (64.8)	7.5 (19)		41 (18.6)	32 (14.5)

¹ CSA

ORDERING INFORMATION

Model #	Electrical (50/60 Hz)		Recommended Cartridges	Inlet Pressure (psig)
	Volts	Amps		
D440046 (D1)	120	0.16	D400499	5-100
D440066 (D2)	120	0.16	D400499, D400377 and/or D440265	5-100
440376			Still Adapter Kit	

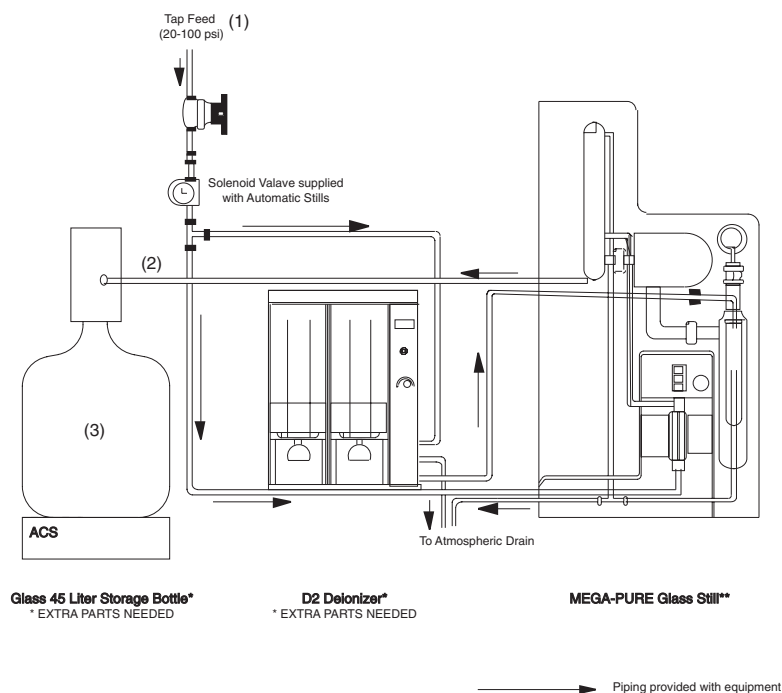
ACCESSORIES

MEGA-PURE Deionization Cartridges

Model #	Type	Applications
D400377	A	Used in MP-12A and D2 (high purity)
D400499	B	Used in D1 & D2 (extended capacity)
D440265	O	Used in D2 for organic & chlorine removal

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

Mega-Pure® Glass Stills



Expected Purity from MEGA-PURE MP-3A with ACS

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

Conclusion

Except for resistivity, the MP-3A still and ACS combination meet and exceeds 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.

WATER QUALITY RESULTS

SAMPLE LOCATION (Refer to drawing)	TAP water (1)	Distillate Tube (2)	ACS (3)
RESISTIVITY (megohm/cm2)	0.0042	0.76	0.68
TOC (mg/l)	1.30	< 0.05	0.058
BACTERIA CF U/ml			
24 hr.	—	0.0	0.0
48 hr.	—	0.0	0.0
72 hr.	—	0.0	0.0
ENDOTOXIN Eu/ml	7.0 average	< 0.005	< 0.005
CALCIUM (μ g/l)	(23.25 mg/l)	6.0	< 5.0
MAGNESIUM (μ g/l)	(75.03 mg/l)	< 1.0	< 1.0
SODIUM (μ g/l)	(13.95 mg/l)	< 5.0	< 5.0
SILVER (μ g/l)	—	< 1.0	< 1.0
COPPER (μ g/l)	—	< 1.0	< 1.0
LEAD (μ g/l)	—	< 1.0	< 1.0
NICKEL (μ g/l)	—	< 5.0	< 5.0
MANGANESE (μ g/l)	—	< 0.1	< 0.1
TIN (μ g/l)	—	< 6.0	< 6.0
CADMIUM (μ g/l)	—	< 0.2	< 0.2
CHROMIUM (μ g/l)	—	< 1.0	< 1.0
SILICA (μ g/l)	(12.04 mg/l)	< 3.0	< 3.0
CHLORIDE (μ g/l)	(24.25 mg/l)	< 5.0	< 5.0
AMMONIA (μ g/l)	—	< 10.0	< 10.0
FREE CHLORINE (mg/l)	0.15	0.19	BDL

BDL = Below Detection Limit

FI-Streem® Glass Stills



FI-Streem 2S



FI-Streem III



FI-Streem 2S Glass Still

- Patented vapor trap eliminates carry-over of contaminants in the vapor-borne water droplets.
- Easy push-button controls for automatic operation.
- FI-Streem 2S was designed with dual feed capabilities for tap or pretreated feedwater.
- Heating elements are protected with the over temperature switch.
- 24-hour automatic operation when used with the A1052 8 liter storage bottle.

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

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 simplify operation and cleaning, while assuring high reliability.
- 24 hour automatic control activates still as required to maintain a full reservoir.
- Frequency of cleaning is reduced with automatic drain cycle in tap feed models.
- Thermistor and heat sensor offer double protection against low water conditions.
- For convenience, unit is designed with capabilities for tap or pretreated feedwater.
- Float switch allows for automatic operation with other storage bottles.

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

PRODUCT SPECIFICATIONS

Max Pressure	Min Pressure	Auto Stop Start*	Auto Drain	Low Water Cut-off
80 psig (5.6 kg/cm ²)	10 psig. (0.7 kg/cm ²)	Yes	Yes	Yes

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

Model #	Product Water Capacity	Cooling Water	Overall Dimension			Operating	Shipping
	LPH	LPH	W	Inches (cm) D	H	Weight Lb. (kg)	Weight Lb. (kg)
FI-Streem 2S Glass Still							
A74415-60	1.4	30	10.5 (26.6)	13.8 (35)	35.4 (90)	48.5 (22)	42 (19)
A74415	2	30	10.5 (26.6)	13.8 (35)	31.5 (79)	48.5 (22)	42 (19)
A74410	2	30	10.5 (26.6)	13.8 (35)	31.5 (79)	48.5 (22)	42 (19)

FI-Streem III Glass Stills

A56210-857	4	60	12 (30.5)	15 (38.1)	29.5 (74.9)	65 (29.5)	54 (25)
A56218-857	4	60	12 (30.5)	15 (38.1)	29.5 (74.9)	65 (29.5)	54 (25)
A56220-857	8	120	19 (48.5)	15 (38.1)	29.5 (74.9)	80 (36.3)	72 (33)
A56228-857	8	120	19 (48.5)	15 (38.1)	29.5 (74.9)	80 (36.3)	72 (33)

ORDERING INFORMATION

Model #	Electrical (50/60 Hz)		Feed Water Type	# of Heaters
	Volts	Amps		
FI-Streem II 2S Glass Still				
A74415-60 ^{1, 2}	120 V	15	tap/pretreated	2
A74415 ^{1, 2}	120 V	20	tap/pretreated	2
A74410 ²	220 V	13	tap/pretreated	2

¹ CSA, ² CE

Model #	Electrical (50/60 Hz)		Feed Water Type	# of Heaters
	Volts	Amps		
<i>FI-Streem III Glass Stills</i>				
A56210-857 ¹	240 V	13	tap/pretreated	2
A56218-857 ¹	208 V	13	tap/pretreated	2
A56220-857 ¹	240 V	30	tap/pretreated	4
A56228-857 ¹	208 V	30	tap/pretreated	4

FI-Streem® III Bi-Distiller and Pretreatment Kit



FI-Streem III 4 LPH Bi-Distiller



Pretreatment Kit

The Best—Distillation Times Two!

- Maximum water purity
- Fully automatic microprocessor controls
- Pretreatment kit increases purity and reduces cleaning



Product Description

Bi-Distiller

- Double distillation process increases water purity to above 1 megohm-cm.
- Patented vapor trap eliminates carry-over of vapor-borne contaminants.
- Glass components eliminate the leaching of impurities.
- Fully automatic microprocessor controls simplify operation and cleaning, while assuring high reliability.
- 24-hour automatic control activates still as required to maintain a full reservoir.
- Automatic drain cycle in tap feed models reduces cleaning frequency.
- 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.
- Automatic start/stop feature when connected to FI-Streem tank or using float switch provided.

Pretreatment Kit

- FI-Streem deionizers are a simple pretreatment system for FI-Streem III glass stills.
- The use of pretreated water increases purity and decreases cleaning.
- Utilizes disposable cartridges for removal of organics and inorganic.
- 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.

PRODUCT SPECIFICATIONS

Model #	Description	Water Capacity LPH	Inlet Connection Inches	Cooling Water (LPH)	Overall Dimensions Inches (cm)			Operating Weight Lb. (kg)	Shipping Weight Lb. (kg)
					W	H	D		
A56230-857	Bi-Distiller	4	-	120	25.9 (66)	34.6 (88)	20.1 (51)	80 (36.3)	64 (29)
A56238-857	Bi-Distiller	4	-	120	25.9 (66)	34.6 (88)	20.1 (51)	80 (36.3)	64 (29)
A56285	Pretreatment Kit	-	1/4 NPT	-	11 (27.9)	23.5 (59.7)	8.25 (21)	-	10 (4.5)
A56280	Pretreatment Kit	-	1/4 NPT	-	11 (27.9)	23.5 (59.7)	8.25 (21)	-	10 (4.5)

ORDERING INFORMATION

Model #	Description	Maximum Pressure (psig)		Minimum Pressure (psig)		Electrical		Feedwater Type	No. of Heaters
		Pressure (psig)	kg/cm ²	Pressure (psig)	kg/cm ²	Volts	Amps		
A56230-857 ¹	Bi-Distiller	80 (5.6 kg/cm ²)		15 (1.1 kg/cm ²)		240	30	tap/pretreated	4
A56238-857 ¹	Bi-Distiller	80 (5.6 kg/cm ²)		15 (1.1 kg/cm ²)		208	30	tap/pretreated	4
A56285	Pretreatment Kit*	100		-		120	60	-	-
A56280	Pretreatment Kit*	100		-		240	50	-	-
D0832	Pretreatment Cartridge/Mixed Bed	-		-		-	-	-	-

¹ CSA

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

FI-Streem® Storage Reservoirs



A56290-857 Storage Reservoir with FI-Streem Still

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 observation of water level.
- Easy-to-clean storage tank.
- Bench or wall mounting options for 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 design is ideal for transporting distilled water to different lab sites.



Model A1058 50-Liter

Model A1052 8-Liter

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)
		W	H	D		
A56290-857	30 liters	18 (46)	29.5 (75)	14.75 (37)	130 (59)	61.5 (28)
A1058	50 liters	14 (35.6)	32 (81)	14 (35)	121 (55)	11 (4.9)
Reservoir for use with FI-Streem 2S models only						
A1052	8 liters	8 (20)	6.5 (17)	17 (43)	7 (3.2)	25 (11)

Classic Stills



Tin-Coated Classic Stills

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 on electrically heated stills prevents still burn-out in the event 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.
- Inert pure tin water pathways assures product water quality.
- Vented condenser allows for stripping of gaseous impurities.
- Unique deconcentrator removes scale forming impurities from the boiler.
- Q-Baffle® ensures high quality pyrogen free product water by stripping contaminant laden water droplets from steam.
- 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 rated voltage 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 in-house steam as heat source.
- 5 & 10 GPH sizes available.
- Bench, floor, or wall mounted.

ORDERING INFORMATION AND SPECIFICATIONS

Electric Stills

Model #	Cooling Water Fitting NPT Inches	Pretreated Feed Water** NPT	Waste Water NPT Inches	KW	Electrical (50/60 Hz) Volts	Amps	Phase	Cooling Water GPH (lph) Requirements	Mounting	Dimensions Inches (cm) W H D	Shipping Weight Lb. (kg)
A1007 ^{1,2} 1/2 GPH (1.9 lph)	1/2" ID tube with 1/4" NPT hose barb	NA	1/2	1.3	120	12	1	4 (15)	Bench	21 (53) 19 (49) 10 (26)	25 (11)
A1011-A ¹ 1 GPH (3.8 lph)	1/4	1/4	1/2	2.6	120	23	1	8 (30)	Bench Wall Floor	22 (56) 29 (74) 10 (25) 22 (56) 38 (97) 13 (33) 22 (56) 66 (168) 10 (25)	30 (14) 55 (25) 70 (32)
A1011-B ¹ 1 GPH (3.8 lph)	1/4	1/4	1/2	2.6	120 & 240/240	12	1	8 (30)	Bench Wall Floor	22 (56) 29 (74) 10 (25) 22 (56) 38 (96) 13 (33) 22 (56) 66 (168) 10 (25)	30 (14) 55 (25) 70 (32)
A1013-B ¹ 2 GPH (7.6 lph)	1/4	1/4	1/2	6	120 & 240/240	26	1	16 (61)	Bench Wall Floor	23 (58) 35 (89) 11 (28) 23 (58) 44 (112) 14 (36) 23 (58) 68 (173) 11 (28)	40 (18) 65 (30) 100 (45)
A1013-C ¹ 2 GPH (7.6 lph)	1/4	1/4	1/2	6	120 & 208	17	3	16 (61)	Bench Wall Floor	23 (58) 35 (89) 11 (28) 23 (58) 44 (112) 14 (36) 23 (58) 68 (173) 11 (28)	40 (18) 65 (30) 100 (45)
A1015-B ¹ 5 GPH (19 lph)	1/4	3/8 OD tube with 1/4 NPT fitting provided	3/4	13	120 & 240/240	57	1	40 (151)	Bench Wall Floor	35 (89) 45 (114) 14 (36) 35 (89) 54 (137) 18 (46) 35 (89) 77 (196) 14 (36)	90 (41) 125 (57) 150 (68)
A1015-C ¹ 5 GPH (19 lph)	1/4	3/8 OD tube with 1/4 NPT fitting provided	3/4	13	120 & 208	36	3	40 (151)	Bench Wall Floor	35 (89) 45 (114) 14 (36) 35 (89) 54 (137) 18 (46) 35 (89) 77 (196) 14 (36)	90 (41) 125 (57) 150 (68)
A1015-D ¹ 5 GPH (19 lph)	1/4	3/8 OD tube with 1/4 NPT fitting provided	3/4	13	120 & 240	33	3	40 (151)	Bench Wall Floor	35 (89) 45 (114) 14 (36) 35 (89) 54 (137) 18 (46) 35 (89) 77 (196) 14 (36)	90 (41) 125 (57) 150 (68)
A1016-X003 ¹ 10 GPH (38 lph)	3/8	3/8 OD tube with 1/4 NPT fitting provided	3/4	26	120 & 208	73	3	80 (303)	Bench Wall Floor	43 (109) 58 (147) 14 (36) 36 (91) 73 (185) 20 (51) 37 (94) 89 (226) 14 (36)	310 (141) 330 (150) 360 (163)
A1016-D ¹ 10 GPH (38 lph)	3/8	3/8 OD tube with 1/4 NPT fitting provided	3/4	26	120 & 240	66	3	80 (303)	Bench Wall Floor	43 (109) 58 (147) 14 (36) 36 (91) 73 (185) 20 (51) 37 (94) 89 (226) 14 (36)	310 (141) 330 (150) 360 (163)
A1016-F ¹ 10 GPH (38 lph)	3/8	3/8 OD tube with 1/4 NPT fitting provided	3/4	26	120 & 480	33	3	80 (303)	Bench Wall Floor	43 (110) 58 (147) 14 (36) 36 (91) 73 (185) 20 (51) 37 (94) 89 (226) 14 (36)	310 (141) 330 (150) 360 (163)

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

**For pretreated water stills only.

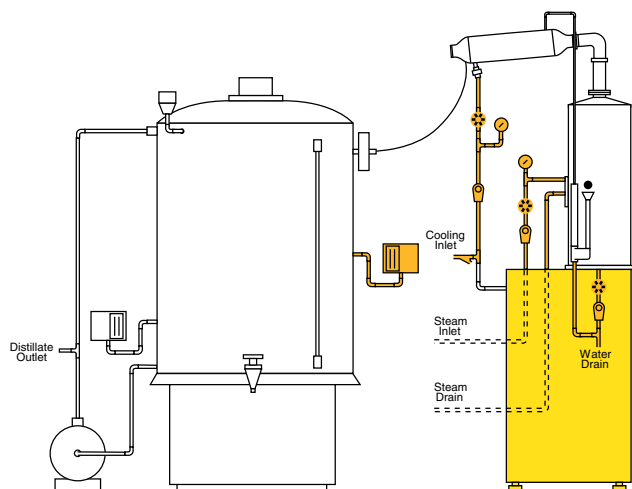
¹ CSA, ² UL

Steam Stills

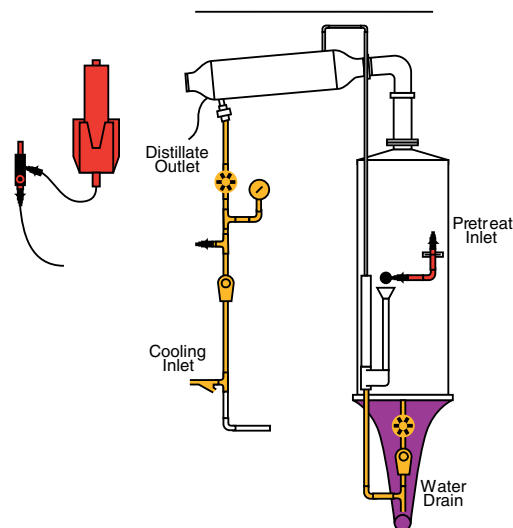
Model #	Cooling Water NPT Inches	Feed Water Inches	Steam Inlet NPT Inches	Steam* Return NPT Inches	Waste Outlet** Inches	Boiler Horse-power	Steam Pressure	Steam Consumed lb./hr (kg/hr)	Mounting	Dimensions Inches (cm) W H D	Shipping Weight Lb. (kg)
A1212 5 GPH (19 lph)	1/4	3/8 OD tube with 1/4 NPT fitting provided	3/8	3/8	3/4	1.7	35 - 50 PSI	45 (20)	Bench Wall Floor	31(79) 43 (109) 18 (46) 51 (130) 21 (53) 110 (50) 75 (91) 18 (46) 135 (61)	80 (36)
A1213 10 GPH (38 lph)	3/8	3/8 OD tube with 1/4 NPT fitting provided	3/4	1/2	3/4	3.4	35 - 50 PSI	90 (41)	Bench Wall Floor	35 (89) 58 (147) 19" (48) 70 (178) 22 (56) 310 (141) 90 (229) 19 (48) 330 (150)	290 (132)

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

Classic Stills Accessories



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



Pretreatment option for 1 and 2 gallon electric still with automatic controls mounted on wall bracket.

Fully Automatic Controls

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

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).

Pretreatment Kit - 1 and 2 Gallon Still

- Uses deionization resins and carbon to eliminate cleaning and increase purity.
- Comes complete with flow meter to maintain correct flow to still.

ORDERING INFORMATION

Fully Automatic Controls

Model #	Voltage	Where used
G2100	120V 50/60 hz	1 & 2 gph 1 phase electric stills
G2101	120V 50/60 hz	2 gph 3 phase electric stills
G2110	120V 50/60 hz	5 gph electric stills, 1 & 3 phase
G2120	120V 50/60 hz	10 gph 1 phase electric stills
G2125	120V 50/60 hz	10 gph 3 phase electric stills
G2010	120V 50/60 hz	5 gph steam stills
G2020	120V 50/60 hz	10 gph steam stills

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

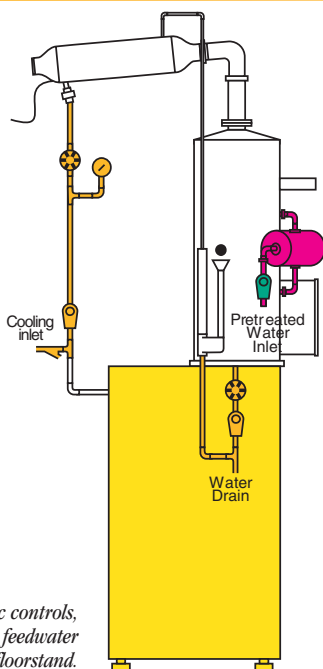
Wall Brackets

Model #	Description
G3250	Wall Bracket for all 1 GPH Electric Stills
G3251	Wall Bracket for 2 GPH Electric Still
G3252	Wall Bracket for 5 GPH Electric Still
G3256	Wall Bracket for 5 GPH Steam Still
G3275	Wall Bracket for 10 GPH Electric and Steam Stills

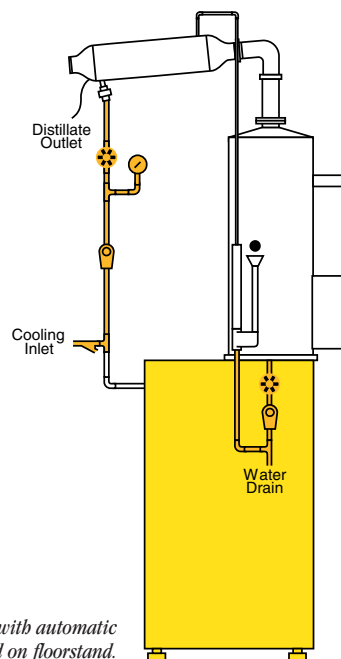
Pretreatment Kit

Model #	Description
G3628	Pretreatment Kit, 1 and 2 gallon still includes one cartridge
D8921	Replacement Pretreatment Cartridge

Classic Stills Accessories



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



Electric still with automatic controls mounted on floorstand.

Float Feeder for Classic Stills

- Conserves pretreated water.
- Float mechanism controls the flow of pretreated water to boiler.
- Purity is maintained with pure tin surfaces.
- 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.

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.

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

Floorstand for Classic Stills G1000, G1001

Model #	Description	Dimensions Inches (cm) (W x D x H)	Shipping Weight Lbs. (kg)
G1000	Floorstand for 5 and 10 GPH Electric and Steam Stills	19.75 x 9.5 x 35 (50 x 24 x 89)	40 (18.1)
G1001	Floorstand for 1 and 2 GPH Electric Stills	10.38 x 6 x 36 (26.4 x 15.2 x 91.4)	25 (11.3)

Classic Stills Automatic Shut-off Valve

Model #	Description
G2910	Automatic Feed water shut-off valve for Classic Still

Float Feeder for Classic Stills

Model #	Description
G3721	Float Feeder for Classic Stills

Classic Stills Accessories



Tin-Coated Cylindrical Storage Tanks



Ventgard Air Filter

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 a 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)

Store Your Water and Keep It Pure!

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

- 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.

Rectangular Tanks

- Includes ultraviolet lamp assembly, Ventgard and water seal, faucet and sight glass.
- Space-saving design.
- Wall mounted with two convenient sizes.

Ventgard Air Filter and Water Seal

- Ventgard Air Filter protects the stored distilled water against airborne particulates, organics and CO₂.
- 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.

ORDERING INFORMATION

Tin-Coated Storage Tanks

Model #	Description	Size (Gallon)	Dimensions Inches (cm)			Distribution Outlet NPT	Drain NPT	Shipping Weight Lb. (kg)
			W	H	D			
B3027	Rectangular	25	37 (93.9)	21 (53.3)	31 (78.7)	1/2	—	150 (68)
B3028	Rectangular	50	37 (93.9)	26 (66.0)	36 (91.4)	3/4	—	200 (90.7)
B3043	Cylindrical	10	10.25 (26)	29 (74)	17 (43)	1/2	—	25 (11.3)
B3045	Cylindrical	25	18 (45.7)	29 (73.7)	25 (63.5)	1/2	—	45 (20.4)
B3046	Cylindrical	50	21.7 (55.3)	36 (91.4)	28 (71.1)	1	1/2	195 (88.5)
B3047	Cylindrical	100	28.5 (72.4)	43.1 (109.5)	35 (88.9)	1	1/2	420 (190.5)
B3049	Cylindrical	200	37.9 (96.3)	50.25 (127.6)	45 (114.3)	1 1/2	1	400 (181.4)

Ventgard Air Filter

Model #	Description
H3111	Ventgard and 1 to 10 gph water seal
H3120	Ventgard air filter
H3130	Water seal 1 to 10 gph
25001	Replacement filter element for Ventgard

Classic Stills Accessories



Floor Stand for Cylindrical Storage Tank



Wall Bracket 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 sterility in the tank is maintained with the UV lamp.
- 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)		
		W	H	D
H1000	10	11 (28)	27 (69)	11 (28)
H1001	25	19 (48)	27 (69)	19 (48)
H1002	50	22 (56)	20 (51)	22 (56)
H1003	100	29 (74)	11 (28)	29 (74)
H3230	200	39 (99)	22 (56)	39 (99)

Ultraviolet and Lamp Assembly

Model #	Description
H3240	Wall bracket for cylindrical storage tanks (10 gal)
H3242	Wall bracket for cylindrical storage tanks (25 gal)
H4005	UV Lamp Assembly and Lamp
04141	Replacement Ultraviolet Lamp for 120V operation

Cabinetized Stills



Model 525 Cabinetized Still



Model 210 Cabinetized Still (cover off)

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.

PRODUCT SPECIFICATIONS

Model 525 Still

Model #	Water Inlet (CW)	Drain Connector (WA)	W	Dimensions Inches (cm)		Shipping Weight Lb. (kg)
				H	D	
A1085-B	Sweat Joint for 3/8" Copper tubing	Sweat Joint for 1 1/4" Copper tubing	36.5 (91)	48 (122)	18.75 (48)	425 (193)
A1085-C	Sweat Joint for 3/8" Copper tubing	Sweat Joint for 1 1/4" Copper tubing	36.5 (91)	48 (122)	18.75 (48)	425 (193)
A1085-D	Sweat Joint for 3/8" Copper tubing	Sweat Joint for 1 1/4" Copper tubing	36.5 (91)	48 (122)	18.75 (48)	425 (193)

Model 210 Still

A1065-B	Sweat Joint for 1/2" Copper tubing	Sweat Joint for 1 1/4" Copper tubing	24 (60)	41 (103)	15.25 (39)	165 (75)
A1065-C	Sweat Joint for 1/2" Copper tubing	Sweat Joint for 1 1/4" Copper tubing	24 (60)	41 (103)	15.25 (39)	165 (75)
A1065-D	Sweat Joint for 1/2" Copper tubing	Sweat Joint for 1 1/4" Copper tubing	24 (60)	41 (103)	15.25 (39)	165 (75)

ORDERING INFORMATION

Model 525 Still

Model #	Volts	Electrical (50/60 Hz)			Feedwater
		Wire	Phase	Amps	
A1085-B	240	2	1	55	Tap
A1085-C	208	4	3	36	Tap
A1085-D	240	3	3	33	Tap

Model 210 Still

A1065-B	230	2	1	26	Tap
A1065-C	208	4	3	17	Tap
A1065-D	240	3	3	15	Tap
A1066	Optional Bench Stand				

Your Complete Distilled Water Station!

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

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

Model #	Description
A1521	Floorstand 36"x18.75"x35" (92x48x89 cm)
A1522	Recirculating Pump (Includes A1521 floorstand)

Controls for all models require separate 120 volts.