



*Water
Stills &
Sterilizers*

CONSOLIDATED STILLS & STERILIZERS

Since 1948, Consolidated Stills and Sterilizers has made many significant contributions to the improvement of water purification. Many features pioneered and first introduced by Consolidated such as Condensate Return Feed (PUR-A-CEL), Impurity Dischargers and Side Mount Heating Elements are today standard on most stills. A complete range of sizes and models are manufactured to satisfy the requirements of any hospital, laboratory, pharmaceutical, industrial or food and dairy application.

Each still and sterilizer described here is designed to provide consistent, long-term, service-free operation and meets or exceeds USP standards to provide chemically and biologically pure water. And, you will find many popular and economical models not now available from other manufacturers.

Detailed specifications are available for all equipment in the catalog. In addition, our engineering staff is available to work with you in developing equipment to meet your specific requirements. Call us at (617) 782-6072 or write to our Sales Department.

William A. Barnstead

William A. Barnstead
President

Design Features

Simplicity

Steam, gas or electric stills require only initial adjustment of cold water inlet. Operation of CS&S stills is continuous, and automatic water feed to boiler insures that the predetermined, correct level will never be exceeded.

Safety & Dependability

Absolute safety factors prevent pressure build-up, low water operation and carryover of impurities which might result in contamination of distillate. The CS&S steam coil design has been tested up to 300 lbs. pressure. Open distillation systems (top vented) prevent pressure build-up.

Economy

Evaporators and condensers provide high efficiency heat transfer for minimum operating costs. Cooling water, heated almost to boiling by condenser coils, is used as preheated evaporator feed water. In addition to basic operating efficiencies, our stills also save time and money because of their easy clean-ability.

Rugged Construction

Precision machined cast bronze parts are satin nickel plated. All interior parts (copper) which contact distilled water and steam are heavily plated with pure tin.

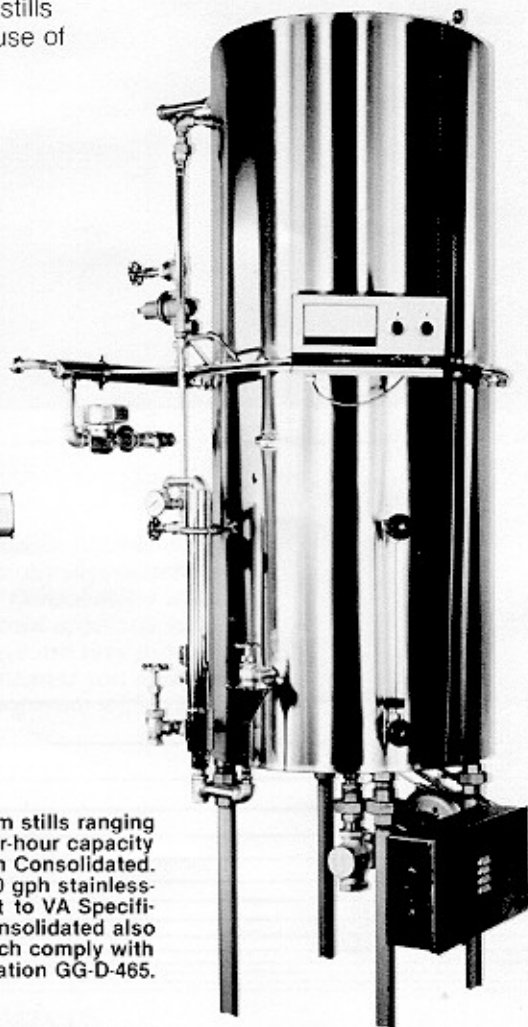
Condensers are available in vertical and horizontal (space saving) types. Vertical balanced designs give maximum strength with minimum stress on the steam riser. Consolidated's method of construction eliminates the possibility of cooling water leakage.

Easy Maintenance

Simple-to-remove heating elements and complete access water chambers permit easy inspection and rapid cleaning. The condenser assembly is self-cleaning in use. Impurity concentration in the boiler is flushed by simply opening the boiler drain after a run and refilling with fresh water before subsequent operation.



Hospital Solution Still
with 12-gallon Storage Bottle-
Model NP E-5



High purity custom stills ranging from 5 to 100 gallon-per-hour capacity are available from Consolidated. Shown here is a 30 gph stainless-steel model built to VA Specification X-1413a. Consolidated also supplies stills which comply with Federal Specification GG-D-465.

All Consolidated Stills, designed for dependability and proven in performance, are shipped as complete units ready to operate when connected to water and heat supply.

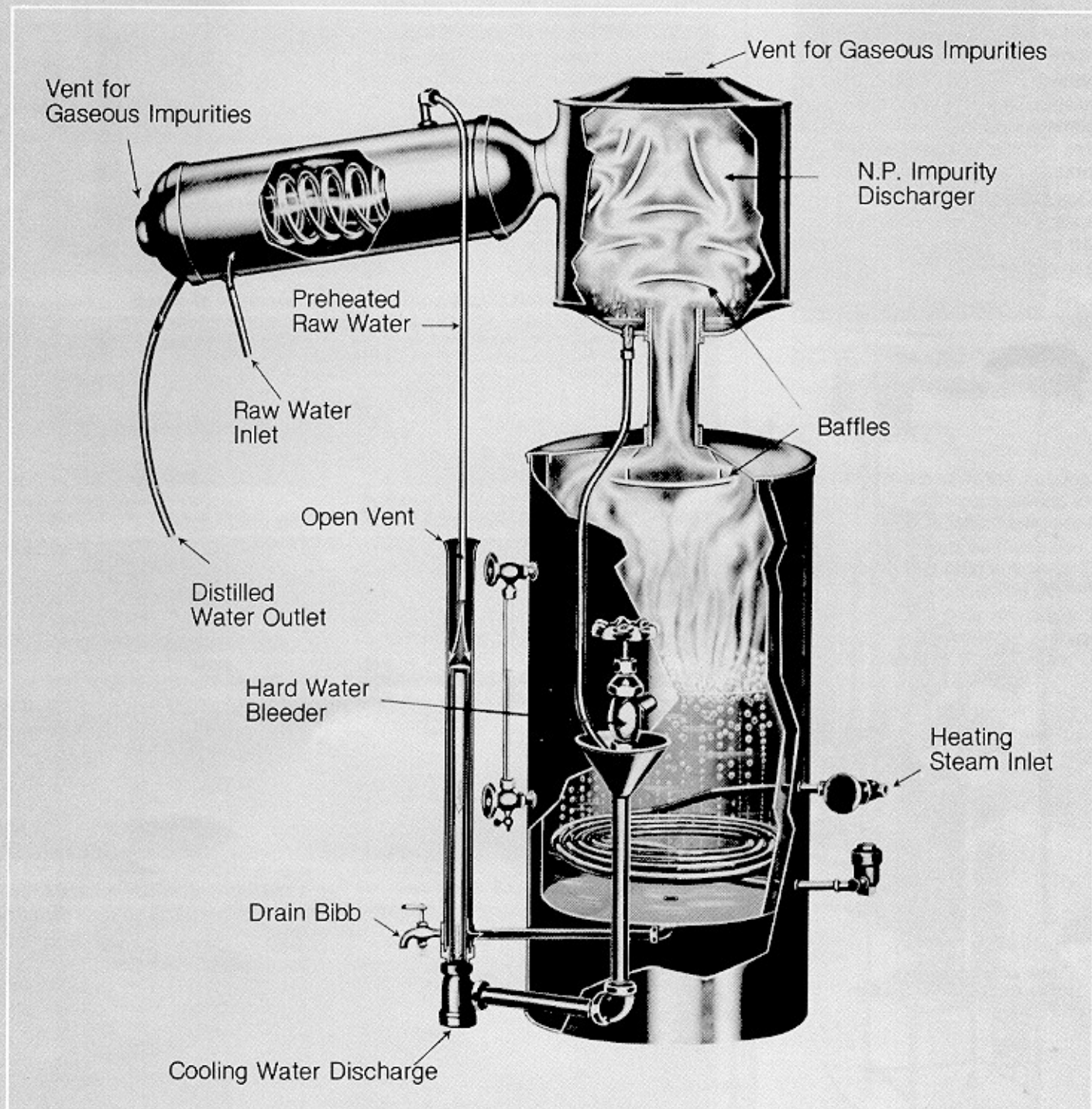
Automatic Continuous Operation

Cooling water enters the base of the *condenser coil* and rises, condensing the steam to pure water, and, at the same time, is itself heated to near boiling temperature by the steam heat of condensation. Pre-heated water flows down into the *constant level control tube* which has an open top through which volatile compounds are expelled. Raw water is fed to the boiler automatically at the exact rate required and maintains the

precisely determined water level in the evaporator. Excess water is discharged through the bottom of the level control column.

In the *evaporator*, water is boiled gently and uniformly with a minimum of foaming. The steam enters the *baffle system* at moderate velocity. Then, passing through constricted channels with sharp exchanges of direction, the steam velocity is increased, throwing off and extracting

any wet vapor condensate or possible entrained impurities. Pure, distilled water is produced by condensing this clean, dry steam in the *condenser*. Volatile impurities are vented to the atmosphere through sterile vents at the top of the baffle (highest point in the system). The open system prevents pressure build-up. A slight positive differential in pressure within the condenser prevents entrance of air and outside contaminants.



Water Stills for Hospital, Laboratory & Industrial Uses

Consolidated offers an excellent selection of steam, electric and gas-heated stills with capacities ranging from 1/2-gallon per hour to 300-gallons per hour. Features include:

- Demountable Condenser
- Fully Automatic Controls
- Purity Meter/Diverter (range to 18 megohms)
- Distillate Cooler
- Free-standing, Cabinet and Recessed Panel Versions
- Soft and Hard Water Versions
- Non-Pyrogenic (NP) Models

Where a source of live steam is available, steam-heated models are recommended for optimum savings in terms of initial cost and lower operating costs.

Gas, kerosene or gasoline heated models are also available in sizes up to 10 gallons per hour. Specifications are available upon request.

Consolidated Baffle Systems

Baffle systems, mounted at the condenser entrance of these stills, utilize the principle of high velocity change of direction of rising steam to eliminate entrainment and possible wet vapor entry. Dischargers provide secondary level multiple baffle degassing and protection against surging carry-over.

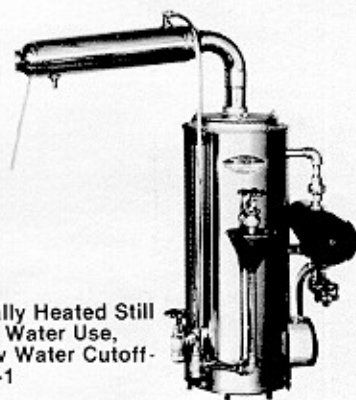
Feedback Purifier System

The Condensate Feedback Purifier System is designed to use the steam return condensate as evaporator feed to retard scale formation in the evaporator thus reducing cleaning requirements. This equipment consists of condensate cooler, temperature sensing control, mixed bed resin column, organic removal column and raw water priming valve for original startup and at any time evaporator is drained.

Non-Pyrogenic Water Stills

For the most exacting requirements in hospitals or pharmaceutical work, the Consolidated NP series provide these special features:

- Extra Height Boiler
- Unique NP-multiple Baffle System
- Vapor Scrubber
- Hard Water Deconcentrator



Electrically Heated Still for Hard Water Use, with Low Water Cutoff- Model E-1

ELECTRICALLY HEATED STILLS Low water cutoffs available on all models

Model Number Capacity (gals/hr)	Space Required (inches)			Energy Consumption (lbs/hr)	Approx. Export Shipping Wgt. (lbs)
	Depth	Width	Height		
E-1/2	15	25	27	1.3	85
E-1	15	26	29	2.6	95
E-2	16	28	33	6.0	110
E-3	16	29	35	7.8	120
E-5	20	33	42	13.0	165
E-10	21	35	53	26.0	215

NP ELECTRICALLY HEATED STILLS (AC-DC) Low water cutoffs available on all models

NP E-1/2	15	25	34	1.3	90
NP E-1	15	26	36	2.6	100
NP E-2	16	28	40	6.0	115
NP E-3	16	29	42	7.8	125
NP E-5	20	33	50	13.0	175
NP E-10	21	35	63	26.0	225

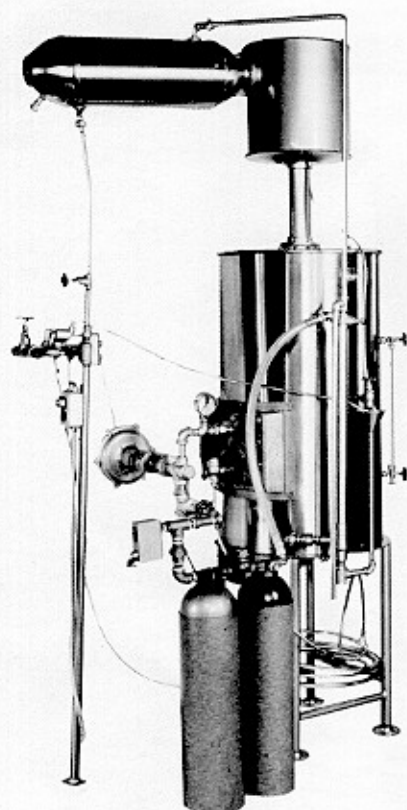
STEAM HEATED STILLS Where steam pressure is less than 40 lbs., state available pressure

S-1	15	26	29	9	85
S-2	16	28	33	18	100
S-5	20	33	42	45	140
S-10	21	35	53	90	310
S-15	24	39	56	135	435
S-20	24	39	58	180	475
S-30	52	44	65	270	625

Sizes larger than 30 gallons per hour are supplied as NP models

NP STEAM HEATED STILLS Where steam pressure is less than 40 lbs., state available pressure

NP S-1	15	26	36	9	90
NP S-2	16	28	40	18	105
NP S-5	20	33	50	45	150
NP S-10	21	35	63	90	325
NP S-15	24	39	66	135	450
NP S-20	24	39	70	180	500
NP S-30	52	44	80	270	650
NP S-50	52	44	110	465	1,350
NP S-75	63	48	118	680	1,670
NP S-100	63	48	125	950	2,060
NP S-150	88	60	136	1,450	2,300
NP S-200	124	75	161	1,900	4,200
NP S-250	124	75	165	2,320	5,200
NP S-300	136	82	175	3,000	6,000



Still with Condensate Feedback Purifier System- Model NP S-30

Distilled Water Centers

Consolidated manufactures a wide range of distilled water centers. Automatic, continuous operation provides a constant supply of distilled water which is maintained. All units produce non-pyrogenic quality water, are supplied with automatic stop/start drain and automatic drain controls. All parts of the water still in contact with the

distillate are constructed of tin-coated copper. Steam heated stills can be supplied for raw water feed, demineralized water feed or feedback purifier feed. Distilled water storage tanks can be supplied in either tin-coated copper or Type 304 stainless-steel.

For complete specifications, contact your local dealer/representative.

NP ELECTRICALLY HEATED

Model	Production Rate (per hour)	Storage Tank
2CAB10	2 gallons distilled	10 gallons distilled

NP ELECTRICALLY OR STEAM HEATED

5CAB25 10CAB40	5 gallons distilled 10 gallons distilled	25 gallons distilled 40 gallons distilled
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Models 2CAB10 and 5CAB25 are supplied in a stainless steel cabinet for wall mounting but are available with floor mounting base if required. Model 10CAB40 is supplied with floor mounting base.



Distilled Water Center-
Model 10CAB40

Double & Triple Distillation Stills

Water stills for double or triple distillation are built in various capacities up to 30 gallons per hour. Fully automatic controls are optional on these complete, mounted, ready-to-use stills.

Tanks are vertical type, stainless-steel or tin-coated copper. They are complete with drawoff valve, water gauge, inlet and overflow fittings. (Ultraviolet light and sterile breather also available.)

Stills are hard-water type with constant drain valve, stainless steel exterior and heavy tin-coated copper evaporator. They use the CS&S side-mount heating element, when specified, for easy access to boiler and/or conversion from steam to electric or vice versa.

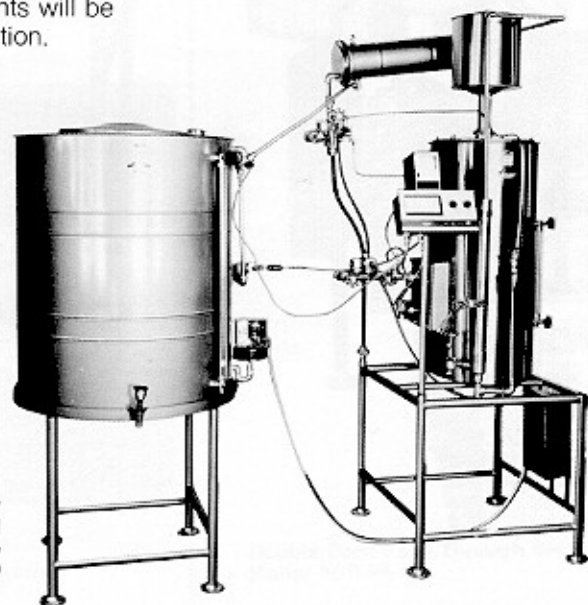
Complete specifications including capacities, consumption, dimensions and detailed valve fittings are available on thirty-two (32) models.

Industrial Stills

Capacities up to 300 gallons per hour are provided by custom-built industrial stills. Consolidated has manufactured units for distilleries and bottling plants, glass and mirror manufacturers, chemical, drug, food, paper and pulp processing industries, textile, plastic, cement and lime plants and petroleum and mining operations. Specifications and designs meeting your requirements will be submitted without obligation.

Accessories

Each still described in this catalog can be equipped with accessories to provide performance which will meet your exact specifications. These include: low water cut-offs; automatic electric start/stop and flushing controls; floor stands; recess mounting, concealed, built-in mountings; storage tanks of any capacity; floor stands; and wall brackets.



Water Still with 100-gallon Tank (Model C-100), Direct-reading Purity Meter/Diverter and Recorder, Full Automatic Controls and Demountable Condenser - Model NP S-20