



Life Sciences



FINN-AQUA® TF-series

Pure Steam Generators & Multiple-Effect Water Stills

Science & Solutions for Life

THE SUCCESS OF PHARMACEUTICAL PLANTS OFTEN DEPENDS ON HAVING AN EFFICIENT, RELIABLE WATER PURIFICATION SYSTEM. YOU CAN TRUST STERIS FINN-AQUA, THE PIONEER OF MULTIPLE-EFFECT DISTILLATION, TO DELIVER THAT SYSTEM.

FINN-AQUA® invented Multiple-Effect water distillation technology 40 years ago and continues to be a leading producer of the Multiple-Effect Water Stills and Pure Steam Generators with thousands of units in operation in pharmaceutical manufacturing facilities throughout the world. For the production of Pure Steam and Water for Injection, the FINN-AQUA brand represents the gold standard in quality and reliability.



INTRODUCING THE TF-SERIES

Based on decades of sales history in the pharmaceutical industry, STERIS FINN-AQUA has packaged the most popular features to create a standard, pre-configured line of Multiple-Effect Water Stills and Pure Steam Generators we're calling the TF-series. This standardized approach creates the best value for customers who demand the legendary quality and reliability of FINN-AQUA equipment. The TF-series is manufactured in Finland and offers a range of sizes and options.



FINN-AQUA'S PATENTED THREE-STAGE SEPARATION TECHNOLOGY

FINN-AQUA Multiple-Effect Water Stills, using multiple-column distillation, produce the highest-quality water for injection free of endotoxins, pyrogen and other impurities. Our Pure Steam Generator, using falling film evaporation and continuous hot-feed water circulation, features extremely fast response time to steam demand and employs a highly-effective, continuous gas separation. The TF-series incorporates the key elements of FINN-AQUA's original and widely emulated technology including:

- Falling film evaporation
- 180-degree flow turn and continuous blow down removal from each column
- Centrifugal separation
- Continuous hot-feed water circulation
- Continuous gas separation

FINN-AQUA TF-series Pure Steam Generator

MODEL #	450-TF	850-TF	1600-TF	2900-TF
Capacity* (Optimal to High Level)	280 kg/h @ 6 bar to 440 kg/h @ 8 bar	535 kg/h @6 bar to 800 kg/h @ 8 bar	1020 kg/h @ 6 bar to 1600 kg/h @ 8 bar	1675 kg/h @ 6 bar to 2600 kg/h @ 8 bar

FINN-AQUA TF-series Water Stills

MODEL #	450-TF-4 & 450-TF-5	850-TF-5	1600-TF-5	2900-TF-6
Capacity (Minimum to Maximum)	445 l/h @ 3 bar to 890 l/h @ 8 bar	786 l/h @ 3 bar to 1670 l/h @ 8 bar	1820 l/h @ 3 bar to 3450 l/h @ 8 bar	3140 l/h @ 3 bar to 6000 l/h @ 8 bar

Standard Options

- Ethernet connection
- Feed water conductivity sensor
- Chart recorder
- Ground fault indicator
- Seismic restraints and calculations
- Pure steam quality monitoring
- Closed-loop cooling system
- Plant steam pressure regulator
- Distillation against back pressure
- Simultaneous pure steam and WFI production
- Proportional capacity control
- Condenser size increase
- Stainless steel frame
- Various manufacturing and testing documentation

*Output pressure 3 bar, optimum operating level



EFFICIENT DESIGN MINIMIZES ENERGY AND WATER CONSUMPTION

FINN-AQUA'S T and TF-series uses less utility compared to earlier generations of equipment. This significant savings is achieved through a variety of enhancements.

- Improved system tuning reduces blow-down levels and optimizes feed water consumption
- Continuous hot water circulation lowers energy consumption compared to repeating startups and stops of equipment
- Proportional controls improve overall efficiency

CERTIFICATIONS & SPECIFICATIONS

The FINN-AQUA product lines meet U.S. Pharmacopeia, European Pharmacopeia and Japanese Pharmacopeia for Water-for-Injection guidelines. The product lines are designed, manufactured and perform in accordance with many global standards and requirements including: ISO 9001:2008, ISO 14001:2004, OHSAS 18001:2007, EN-ISO 3834-2, EN 285, GAMP 5, 21 CFR Part 11, EU Annex 11, cGMP, ASME BPE and FDA.



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For over 100 years, STERIS has been known as a global leader, trusted partner and solutions provider in the field of sterilization and contamination control. **Today**, STERIS continues building on this heritage by advancing the **Science** of sterilization, cleaning and infection control while offering **Solutions** that meet our Customers' needs and high standards. STERIS is dedicated to helping you enhance the **Life** of your patients and the life of your equipment. From Formulated Chemistries, to Capital Equipment, to Parts and Services, STERIS Life Sciences is **Science & Solutions for Life**.

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