DIVERSIFIED HEAT TRANSFER INC.

Technical Data Sheet

ST SERIES (BOILER WATER)

SEMI-INSTANTANEOUS WATER HEATERS

FEATURES:

- Low-Medium-High Temp Boiler Water-to-Water configuration.
- Available in single and double wall construction.
- Copper (standard) and optional CuNi or SS bundle material of construction.
- Copper, Cu-Ni or SS material in contact with water (potable water).
- Fully packaged solution for quick and easy single point connections.
- Available in vertical or horizontal (optional) construction.
- Compact foot print- Fits through a standard doorway.
- Standard trim is available up to 200 psi and optional up to 250 psi.
- Fully modulating energy input for precise temperature controls.
- Available in electronic or pneumatic controls.
- Two and Three way control valves: 5psid standard.
- Advanced Electronic PID controls with touchscreen user interface, compatible with Building Management System via ModBus IP or built-in BacNet IP.
- Domestic Water Pressure Drop: Less than 5 PSI.
- Low Lead Complaint.
- Made in America.
- ASME- B&PV Code Sec. VIII, Div. 1 Stamped.
- Warranty: Tube Bundle (5) years, Shell (10) years.



The Diversified Heat Transfer (DHT) ST Series of Semi-Instantaneous Water Heaters are the engineered solution for facility managers, mechanical contractors, and engineers who need high recovery capacity in a small space. They are constructed with a stainless steel shell and other non-ferrous materials to ensure long leak-free operation. Designed for continuous high-peak loads, the DHT ST Series is ideal for high-demand applications, such as hospitals and dormitories.

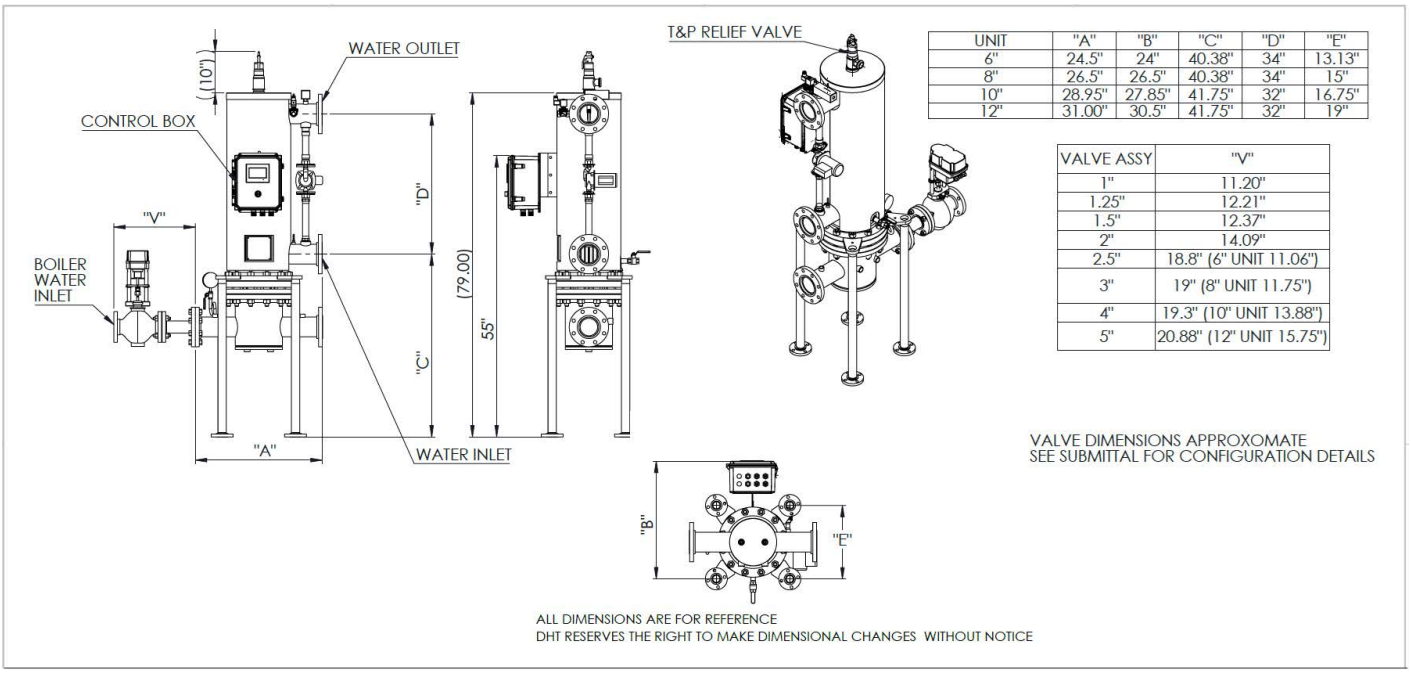
Units are custom engineered using boiler water as the heating medium. Semi-instantaneous operation provides high output by channeling the incoming cold water directly over the heat exchanger tubes in a controlled manner to maximize the heat transfer rates compared to conventional stratified heat exchanger convection systems. Velocity of water and pressure drop are controlled by changing water flow directly across the heat exchanger, which increases heat transfer and inhibits scale formation.

Perfect for mechanical rooms where space is limited, the water heating systems feature vertical configurations so they require less than four square feet of floor space. Plus, the tube bundle can be removed straight out or downward from the bottom of the unit to eliminate the need for overhead space or extra clearances for service or maintenance.

APPLICATIONS:

- Ideal for new or retrofit installations
- Suitable for both single or multiple unit installations
- No storage tanks required for instantaneous applications
- Support variety of applications including:
  - Apartment Complexes
  - Prisons / Correctional Facilities
  - Hospitals/ Nursing homes/ Medical Centers
  - Hotels/ Entertainment Facilities
  - Schools/ Colleges/ Universities/ Dormitories
  - Commercial laundries
  - Government & Office buildings
  - Industrial applications

VERTICAL UNIT DIMENSIONS:



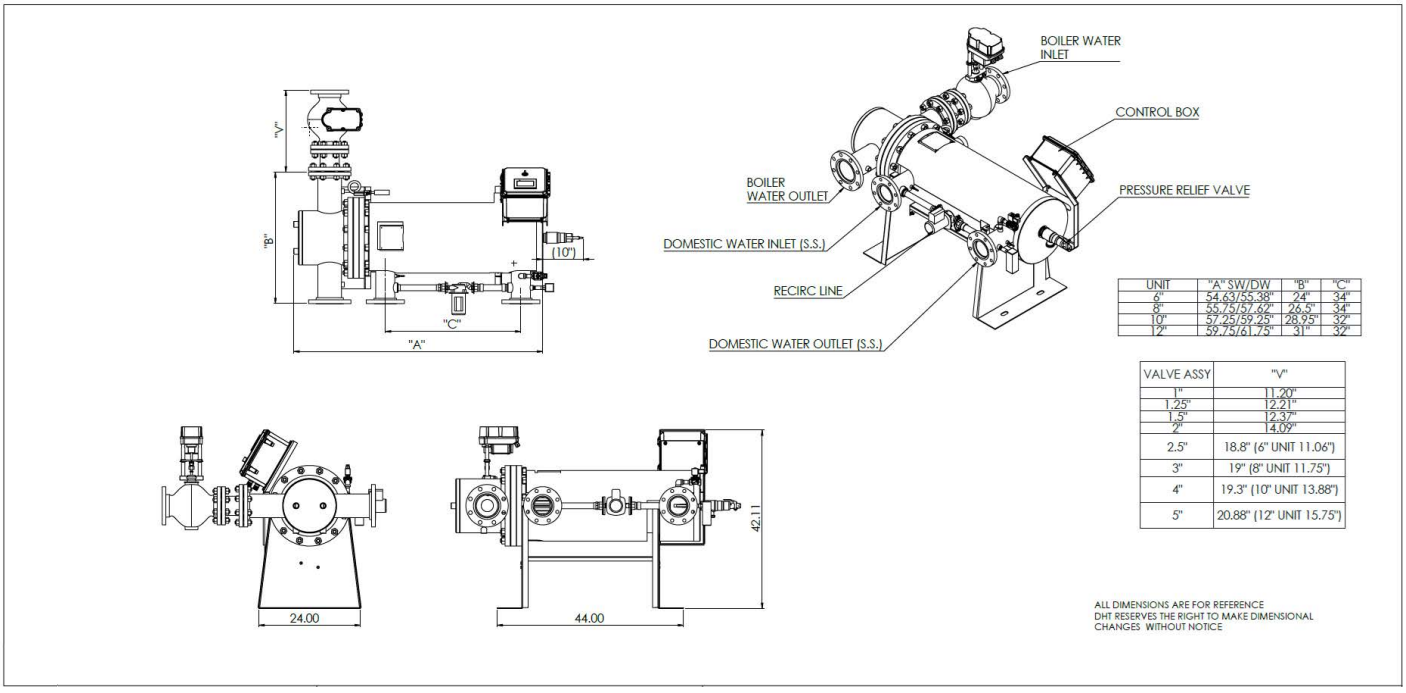
UNIT	"A"	"B"	"C"	"D"	"E"
6"	24.5"	24"	40.38"	34"	13.13"
8"	26.5"	26.5"	40.38"	34"	15"
10"	28.95"	27.85"	41.75"	32"	16.75"
12"	31.00"	30.5"	41.75"	32"	19"

VALVE ASSY	"V"
1"	11.20"
1.25"	12.21"
1.5"	12.37"
2"	14.09"
2.5"	18.8" (6" UNIT 11.06")
3"	19" (8" UNIT 11.75")
4"	19.3" (10" UNIT 13.88")
5"	20.88" (12" UNIT 15.75")

VALVE DIMENSIONS APPROXOMATE
SEE SUBMITTAL FOR CONFIGURATION DETAILS

ALL DIMENSIONS ARE FOR REFERENCE
DHT RESERVES THE RIGHT TO MAKE DIMENSIONAL CHANGES WITHOUT NOTICE

HORIZONTAL UNIT DIMENSIONS:



UNIT	"A" SW/DW	"B"	"C"
6"	54.63/55.38"	24"	34"
8"	55.75/57.62"	26.5"	34"
10"	57.25/59.25"	28.95"	32"
12"	59.75/61.75"	31"	32"

VALVE ASSY	"V"
1"	11.20"
1.25"	12.21"
1.5"	12.37"
2"	14.09"
2.5"	18.8" (6" UNIT 11.06")
3"	19" (8" UNIT 11.75")
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Note: Refer to dimensional drawing on www.dhtnet.com for latest updates.

UNIT SPECIFICATIONS:

Unit (Shell) Size	6”	8”	10”	12”
Ambient Temperature, °F	32-120			
Electrical Requirements	110V/1Ph/60Hz 6 Amps			
Standby Amperage Draw, Amps	2.0			
Max. Instantaneous Water Flow Rate, GPM	90	125	225	225
Max. Boiler Water Supply	450 psi - 450 F (greater available)			
Max. Shell Side Operating Pressure, PSIG	200 (250 psi optional)			
Adjustable Temperature Control, °F	35-180			
Adjustable High Limit Control, °F	100-240			
Accuracy, °F	+/-4			
Water Inlet & Outlet Connection	2.50” Flange	3.00” Flange	4.00” Flange	4.00” Flange
Single Wall Unit- Est. Shipping Weight, LBS	875	1325	1475	1650
Double Wall Unit- Est. Shipping Weight, LBS	950	1400	1550	1750
Double Wall Unit- Available Tube Diameters	3/4” (Standard)		5/8” (High Output)	
Standard Listing & Approvals	ASME B&PV code Sec. VIII, Div. 1 Stamped			

WATER HEATER CONTROLLER:

FEATURES:

- 4.3 HMI Touchscreen
- Feedforward Logic Controller includes 1/8 DIN with LCD display (back-up interface)
- Data Logging
- Fault Log
- Trending/Graphing
- Compatibility with Modbus IP and BacNet IP BAS system standard without the need for external gateway.
- A gateway can be used for all other protocols



The NEW DHT state of the art control system offers unmatched performance and full user configurable for water heater applications. It features a durable temperature sensor transmitting a millivolt signal through quality twisted shielded wiring. The signal transmits directly into the advanced PID controller, which in turn sends a signal to the electrically activated fully modulating and fast acting control valve to achieve accurate temperature control over various demand situations. The controller has a 4.3-inch TFT color touchscreen user interface and is compatible with a Building Management System via ModBus IP or built-in BacNet IP. Optional communications gateway is also available for RS485 communication.

Enclosure Dimensions	12”H x 10” W x 7” D
Display	4.3” TFT Color LCD
Graphics Display Resolution/ Colors	480 x 272 pixels w/ 65,536 diplay colors
Backlight	White LED, service life 50,000 hours and 24hr operation
Brightness control	16 Levels (Adjusted with touch panel)
Operating Mode	Single Tone, Visual Indicator
Memory	8Gb
Supply Voltage	120/240 VAC
Certifications	NEMA 4, UL

STAND ALONE HIGH PRESSURE HIGH TEMPERATURE (HTHW) SHELL & TUBE HEAT EXCHANGERS:

- 450 psi - 450 F Design (Higher Available upon Request)
- Two, Four and Six Pass
- Carbon (Std.) or Stainless Steel Shell
- Cupro Nickle & Stainless Steel Single Wall Tubing
- Cupro Nickle Double Wall Tubing
- Single & Multi Pass









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DIVERSIFIED HEAT TRANSFER INC.

439 Main Road, Rte. 202
Towaco, NJ 07082
www.dhtnet.com

Phone: 718-386-6666
Toll Free: 800-221-1522
Email: sales@dhtnet.com