

## STEAM HUMIDIFIER: DRISTEEM RTS® RESISTIVE-TO-STEAM RX SERIES

The RTS resistive steam humidifier from DriSteem provides sterile, odorless, and hygienically perfect steam humidification for a wide range of applications and building types, including healthcare, pharmaceutical, museums, art galleries, commercial, industrial, and government facilities. The RTS continuously learns as it runs and automatically adapts to optimize steam output and overall performance. The RTS humidifier generates steam to be dispersed within an AHU or through ductwork with dispersion tubes or panels, or directly into a room with a Space Distribution Unit (SDU).

### Technical Characteristics

- 2.7 - 147 kg/h capacity, link up to 8 units for capacity up to 1176 kg/h
- Reliable and low maintenance resistive heating elements
- Universal water control for use with all water types (tap, softened, or RO/DI water)
- Wide range of standard voltages,
  - Including 230V- 1 phase, 400V- 3 phase, 50-60hz
  - 24VAC internal power circuit
- Vapor-logic® controller with touchscreen display
- 14-gauge 304-stainless steel evaporative chamber with Heli-arc welded seams



### Main Features

- Accurate relative humidity control, suitable for most humidification requirements, +/-1% output achieved through the use of Solid State Relay (SSR) operation, standard on every unit tank bottom shall be dual sloped with side exit drain port located at bottom of slopes to ensure complete draining of tank.
- Steam outlet on top of tank configured to connect to hose or pipe (BSP connection) for all sizes and including flanged pipe connection option on -3 and -4 stage units.
- Unit has a vinyl-clad aluminum enclosure that is suitable for finished spaces
- The humidifier observes water purity and automatically adjust drain rates accordingly to minimize tank maintenance and optimize water usage (Smart Drain)
- Selectable mini-drain operation mode allows for 24/7 continuous steam output
- Incoloy alloy-sheathed resistance type heater elements designed for no more than 91 watts per square inch
- Electronically monitored water level
- User-adjustable water skimmer skims off floating minerals
- Integrated drain water tempering: drain water is automatically cooled down to below 60°C before entering the drain.
- Constant thermal expansion and contraction of heating elements continuously sheds mineral buildup
- Hygiene: End-of-season auto-drain minimizes microbial growth (user adjustable)
  - An electric drain valve allows tank to drain automatically at the end of a humidification season

- Enclosure is designed and secured to prevent accidental contact with electrical components.
- Removable front covers with quarter-turn latches allow easy access to evaporating chamber and electrical connections
- Pre-punched keyhole-style mounting holes located on 16" (406 mm) centers for ease of wall mounting and leveling. -1 and -2 stage models shall be mounted on a wall using lag bolts. -3 and -4 stage models shall be mounted directly to the floor.
- Tank temperature sensor & control – shown real time on the display.
  - Maintain the evaporating chamber water temperature above freezing
  - Allow rapid warm-up of water in evaporating chamber after a call for humidity, providing 100% operation until steam production occurs
- UL-listed limit control fuse, operating independently of the tank temperature sensor, senses an over-temperature condition and de-energize heater circuit controls.
- Water pressure: 1.3 - 5.5 bar.
- Fill: 0.75" (DN20) NPT/BSP
- Drain: 1" (DN25) NPT/BSP
- Factory warranty: 2 years after installation or 27 months from ship date.

### Vapor-logic® Controller Details

The Vapor-logic controller with touchscreen display is standard on each RTS RX steam humidifier and provides accurate, responsive RH control, while the PID control tunes the system for maximum performance.

- Operation
  - BACnet, LonTalk, or Modbus allow interoperability with multiple building automation systems.
  - All relevant control signal connections (mA and VDC) of external humidity controllers are possible, 0 (2)- 10 V or 0 (4)- 20 mA)
  - Web interface provides the capability to set up, view, and adjust system functions via Ethernet, either directly or remotely through a network.
  - Real-time clock allows time-stamped alarm and message tracking, and accurate drain and flush scheduling.
  - Programmable outputs allow remote signaling and device activation.
  - Possibility for three (3) external limit controls: air flow proving switch, high limit humidity device (ON/OFF humidistat or modulating high limit transmitter), and master enable/disable
  - Contactor wear leveling distributes cycles among multiple contactors for equal wear and longer contactor life in the RTS humidifier.
  - Auxiliary temperature sensor/transmitter allows temperature compensation control to prevent window condensation, or air temperature monitoring, such as in a duct.



*Vapor-logic controller touch screen display*

- Troubleshooting and Maintenance
  - USB port allows easy firmware updates, and data backup and restore capability.
  - All software updates can be downloaded from Dristeem website ([www.dristeem.com](http://www.dristeem.com)), free of charge
  - Data logs (from half week up to 15 weeks) can be downloaded to a PC for viewing and analyzing operating parameters, energy use, messages, alarms.
  - Cycle counter triggers a message when it's time to replace contactors
  - Test outputs function to verify component operation
  - Test humidifier function using simulated demand to validate performance
- Touchscreen Interface
  - Large, bright, touchscreen display provides easy, accurate, and fast navigation.
  - The Home Screen includes color-coded mode indication, animated graphics, and quick navigation to control functions
  - Prioritized color-coded alerts to reduce down-time and technical calls
  - Access Help from every screen
  - Protocols, messages, and alarms presented on the illuminated display

## Technical Characteristics

RTS model	230V Single Phase					400V Three Phase				
	Maximum Steam		Power	Total Maximum Current Draw	Heater Configuration*	Maximum Steam Capacity		Power	Total Maximum Current Draw	Heater Configuration
	lbs/hr	kg/hr	kW	amps		lbs/hr	kg/hr	kW	amps	
RX-6-1	5.5	2.5	2	8	1-103	—	—	—	—	—
RX-12-1	11	5.0	4	16	1-109	12	5.4	4	8.70	2-105
RX-18-1	16.5	7.5	6	24	1-116	18	8.2	6	8.70	3-105
RX-24-1	22	10.0	8	31.9	2-109	24	10.9	8	13.00	2-105, 1-111
RX-30-1	27.6	12.5	10	39.9	1-109, 1-116	30	13.6	10	17.30	1-105, 2-111
RX-36-1	33.1	15.0	12	47.92	2-116	36	16.3	12	17.30	3-111
RX-42-1	—	—	—	—	—	42	19.0	14	21.70	2-111, 1-119
RX-48-1	—	—	—	—	—	48	21.8	16	26.00	1-111, 2-119
RX-63-1	—	—	—	—	—	63	28.6	21	32.5	2-119, 1-125
RX-75-1	—	—	—	—	—	75	34.0	25	39	3-125
RX-48-2	44.1	20.0	16	63.9	4-109	—	—	—	—	—
RX-63-2	66.1	30.0	21	95.8	4-116	—	—	—	—	—
RX-90-2	—	—	—	—	—	90	40.8	30	52	2-111, 4-119
RX-102-2	—	—	—	—	—	102	46.3	34	52	6-119
RX-126-2	—	—	—	—	—	126	57.1	42	65	4-119, 2-125
RX-144-2	—	—	—	—	—	144	65.3	48	77.9	2-119, 4-125
RX-162-2	—	—	—	—	—	162	73.5	54	77.9	6-125
RX-75-3	74.4	33.7	25	107.8	3-123	—	—	—	—	—
RX-90-3	90.9	41.2	30	131.8	3-103, 3-123	—	—	—	—	—
RX-102-3	99.2	45.0	34	143.8	6-116	—	—	—	—	—
RX-189-3	—	—	—	—	—	189	85.7	63	97.4	6-119, 3-125
RX-216-3	—	—	—	—	—	216	98.0	72	116.9	3-119, 6-125
RX-243-3	—	—	—	—	—	243	110.2	81	116.9	9-125
RX-126-4	121.2	55.0	42	175.7	4-103, 4-123	—	—	—	—	—
RX-144-4	132.3	60.0	48	191.7	8-116	—	—	—	—	—
RX-264-4	—	—	—	—	—	264	119.7	88	155.9	4-111, 8-125
RX-288-4	—	—	—	—	—	288	130.6	96	155.9	4-119, 8-125
RX-324-4	—	—	—	—	—	324	146.9	108	155.9	12-125

- All RTS humidifier models operate at 50/60 Hz.
- For wire sizing, the highest leg draw is shown due to current imbalance.

### Approvals

- ETL, C ETL
- CE certification
- EN1717

### Options

- LonTalk interface
- 316 SST tank
- Remote mount touchscreen display
- Outdoor enclosure system: Factory assembled and tested with the humidifier installed to provide complete weather protection and to operate within temperature of -40 to 50 °C and wind up to 64 kmph without affecting combustion.
- No enclosure

### Accessories

- Mechanical drain water tempering device: drain water is cooled down to below 60°C before entering the drain
- High limit humidistat
- Airflow proving switch
- RH transmitter
- Condensate pump
- Floor stand (-2, -3 and -4 stage units)

### Product Resources

- RTS resistive humidifier product resources:  
[www.dristeem.com/support-and-literature/literature-product-resources/  
by-product/rts-humidifier-rx-series](http://www.dristeem.com/support-and-literature/literature-product-resources/by-product/rts-humidifier-rx-series)



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