



hospitals  
educational facilities  
government buildings  
institutional buildings  
printing plants  
museums and galleries  
commercial offices



# Live Steam<sup>®</sup>

Steam  
Injection  
Humidifiers

Designed to deliver  
reliable humidity from  
facility steam boilers.

# Humidifiers designed to deliver reliable humidity from facility steam boilers.

People spend 90% of their lives indoors, therefore the importance of correct temperature and humidity levels are critical to personal health and comfort. Too much humidity can be as destructive as too little.

Manufacturing and industrial processes are also directly affected by the indoor environment. Like people, machines work better in favorable surroundings. All equipment and processes respond in various ways to temperature and humidity fluctuations. For maximum performance, reliable temperature and humidity are essential.

NORTEC LiveSteam (LS Series) steam injection humidifiers and NORTEC SE Series steam exchange humidifiers deliver reliable humidity from the facility steam boiler. Constructed of premium quality 304 and 316 stainless steel, NORTEC LS and SE Series equipment are designed for long operating life with minimal maintenance.

In facilities with existing steam boilers LS and SE Series offer a cost effective way to add precise humidity control. With a wide variety of control options and unit capacities NORTEC LS and SE Series are ideal for job engineered systems.

In hospitals, universities, museums, galleries, and other facilities, steam injection humidification is a tried and true way to achieve a critical balance between temperature and humidity control.

## Live Steam®



*LiveSteam products are manufactured in one of NORTEC's ISO 9001-1994 registered facilities.*





# Live Steam<sup>®</sup>

*operating  
advantages*

The use of existing boiler steam is an economical way to meet humidity requirements.

## **Steam Injection**

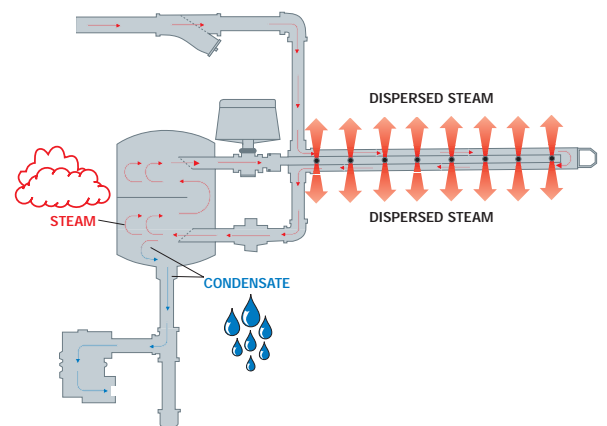
NORTEC LiveSteam delivers precise humidity control. Utilizing tried and true components and 304 stainless steel tubing, LiveSteam is the dependable steam injection system for your facility.

LiveSteam distributors are available in a wide variety of lengths ranging from 12" to 144" to suit your exact duct size for the best possible steam dispersion. Multi-tube units are also available.

## **Steam Exchange**

On NORTEC's SE Series humidifiers, the boiler steam passes through the SE internal heat exchanger(s) bringing the surrounding water in the tank to atmospheric clean steam vapor. The chemical treatment from the boiler does not enter the air stream.

The SE Series heat exchanger utilizes 316 stainless steel and is designed to give maximum output while taking up minimal space. It is easy to remove for cleaning and the flat smooth surfaces help reduce maintenance time.



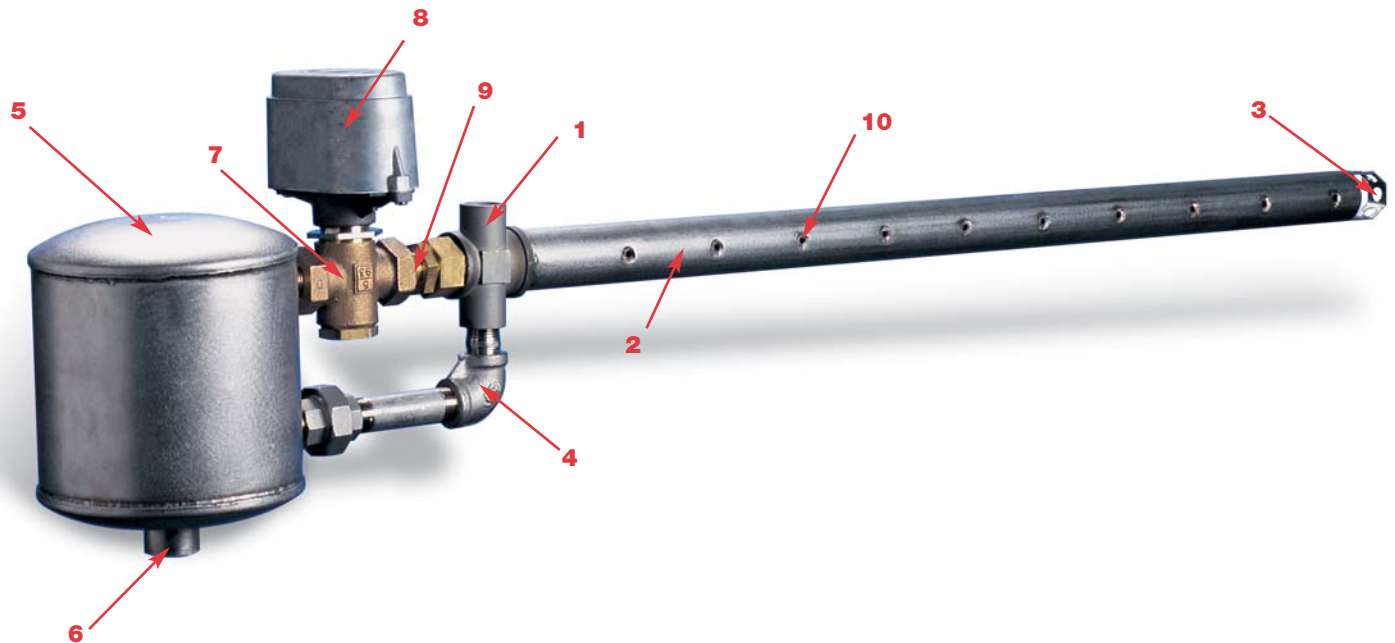
# LiveSteam

## Steam Injection Humidifiers

- ▶ Available for single or multiple tubes applications
- ▶ Pressure ranges from 2-50 PSIG
- ▶ High capacity system (up 3209 lbs/hr)
- ▶ Economical and cost effective system to meet high humidity requirements
- ▶ Delivers precise humidity control
- ▶ Steam jacketed dispersion tubes to prevent wetting
- ▶ Support brackets on tubes over 2 feet in length
- ▶ Available for regular or purified boiler steam
- ▶ Available for pneumatic or electric controls



LIVESTEAM MOUNTED WITH A SAM-e MANIFOLD FOR SHORT ABSORPTION DISTANCE APPLICATIONS



- |   |  |   |
|---|--|---|
| <p><b>1</b> Steam inlet, strainer upstream to remove impurities.</p> <p><b>2</b> Steam jacketed dispersion tube.</p> <p><b>3</b> Tube support bracket, ensures proper unit installation.</p> <p><b>4</b> Interconnecting pipes between dispersion tube and separator.</p> | <p><b>5</b> Steam separator ensures only condensate-free steam is discharged into the air stream.</p> <p><b>6</b> Condensate outlet to steam trap for recirculation to boiler for energy efficient operation.</p> <p><b>7</b> Steam control valve meters steam entering dispersion tube.</p> | <p><b>8</b> Pneumatic valve actuator standard. Electric on/off and electric modulating actuators optional.</p> <p><b>9</b> Tube adaptor connecting valve to dispersion tube. Factory installed silencers are available.</p> <p><b>10</b> Steam outlet orifices sized for exact humidity output.</p> |
|---|--|---|

# SE Series

## Steam Exchange Humidifiers

- ▶ Uses Boiler Steam to produce clean atmospheric steam
- ▶ Chemical additives are not carried into the humidified air
- ▶ 316 Stainless Steel tank and heat exchanger
- ▶ Totally independent removable heat exchanger(s) for ease of maintenance
- ▶ Flat surface heat exchanger(s) to minimize scale buildup
- ▶ No hidden surfaces that require cleaning
- ▶ No top access required for maintenance
- ▶ Low profile for ceiling mounting
- ▶ Optional tank insulation for quicker response and higher efficiency
- ▶ Capacities up to 660 lbs/hr
- ▶ Pressure ranges from 5-15 PSIG
- ▶ Available for DI, RO or potable water
- ▶ Available for pneumatic or electric controls



REMOVEABLE HEAT EXCHANGERS



- 1** Indicator display.
- 2** Water supply.
- 3** Actuator.
- 4** Steam outlet.
- 5** Valve.
- 6** Condensate return.
- 7** Drain line.



# technical data

## LiveSteam

SPECIFICATION	SEPARATOR DISTRIBUTOR	MODEL 200 MODEL LS1	MODEL 300 MODEL LS2	MODEL 450 MODEL LS3	MODEL 600 MODEL LS3	MODEL 800 MODEL LS3	SAM-e
Pressure range		2-50 psig 14-345 kPa	2-50 psig 14-345 kPa	2-50 psig 14-345 kPa	2-50 psig 14-345 kPa	2-50 psig 14-345 kPa	2-50 psig 14-345 kPa
Max. capacity single tube installation		284 lbs/hr 129 kg/hr	571 lbs/hr 259 kg/hr	916 lbs/hr 417 kg/hr	1258 lbs/hr 572 kg/hr	N/A	N/A
Max. capacity multi-tube installation		374 lbs/hr 170 kg/hr	653 lbs/hr 297 kg/hr	1030 lbs/hr 468 kg/hr	1664 lbs/hr 757 kg/hr	3209 lbs/hr 1456 kg/hr	Custom
Separator physical data - Height x Diameter		7.7" x 6" 195mm x 152mm	8.8" x 6" 223mm x 152mm	10.5" x 6" 268mm x 152mm	11.2" x 9" 284mm x 229mm	12.6" x 9" 322mm x 229mm	Custom
Standard valve characteristic		Equal Percentage	Equal Percentage	Equal Percentage	Equal Percentage	Equal Percentage	Equal Percentage
Standard actuator		Pneumatic Modulating	Pneumatic Modulating	Pneumatic Modulating	Pneumatic Modulating	Pneumatic Modulating	Pneumatic Modulating
Standard steam trap		F & T	F & T	F & T	F & T	F & T	F & T
Separator and dispersion tube material		Stainless Steel 304	Stainless Steel 304	Stainless Steel 304	Stainless Steel 304	Stainless Steel 304	Stainless Steel 304
<b>OPTIONS:</b>							
Electric modulating actuator		yes	yes	yes	yes	yes	yes
Electric on/off actuator		yes	yes	yes	yes	yes	yes
Tube insulation		yes	yes	yes	yes	yes	no
DI water installation		yes	yes	no	no	no	yes

## SE Series

SPECIFICATION	MODEL SE75	MODEL SE160	MODEL SE300	MODEL SE600
Pressure range	5-15 psig 35-105 kPa	5-15 psig 35-105 kPa	5-15 psig 35-105 kPa	5-15 psig 35-105 kPa
Max. capacity	100 lbs/hr 46 kg/hr	180 lbs/hr 82 kg/hr	365 lbs/hr 166 kg/hr	660 lbs/hr 300 kg/hr
Physical data - Width x Height x Depth	22.75" x 19.63" x 34.5" 578mm x 499mm x 877mm	22.75" x 19.63" x 34.5" 578mm x 499mm x 877mm	37.75" x 19.63" x 34.5" 959mm x 499mm x 877mm	37.75" x 34.63" x 34.5" 959mm x 880mm x 877mm
Standard valve characteristic	Equal Percentage	Equal Percentage	Equal Percentage	Equal Percentage
Standard actuator	Pneumatic Modulating	Pneumatic Modulating	Pneumatic Modulating	Pneumatic Modulating
Standard steam trap	F & T	F & T	F & T	F & T
<b>OPTIONS:</b>				
Electric modulating actuator	yes	yes	yes	yes
Electric on/off actuator	yes	yes	yes	yes
Tank insulation	yes	yes	yes	yes
DI water installation	yes	yes	yes	yes

For details on these and other humidifiers, please consult your NORTEC representative.



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