

# WLS & WSE SERIES

## STEAM HUMIDIFIERS

### INSTALLATION INSTRUCTIONS

INSTRUCTION PART NO. 2367600

REVISION 0

## TYPICAL APPLICATIONS

The WLS Steam Injection Humidifier and the WSE Steam Exchange Humidifier supply precise humidity control from the facility steam boiler into the air stream. Typically used in manufacturing plants, printing plants, commercial offices, hospitals and any other facilities which require a critical balance between temperature and humidity control.

## HOW IT WORKS

The WLS Steam Injection Humidifier works by injecting steam directly from the boiler (live steam) into the duct work or an air stream. Live steam enters a steam jacket to preheat the dispersion tube. Steam then flows into the separator where condensate is removed. Dry steam is then discharged through the dispersion tube for circulation into the air stream.

## STEAM AND CONDENSATE PIPING

(Note: Follow all general instructions provided with the valve and actuator).

1. Steam supply must be taken from the top of the main supply to the humidifier. Do not take from the sides or the bottom.
2. For removal of condensate from the steam trap the condensate line should not be under pressure. Its recommended a check valve be installed after the steam trap if the condensate return line is pressurized.
3. Proper design and sizing of steam supply lines should be performed by a qualified firm.

## ASSEMBLY OF SINGLE DISTRIBUTOR HUMIDIFIER

All single distributor humidifiers will be assembled at the factory if the interconnecting piping option is selected at time of order.

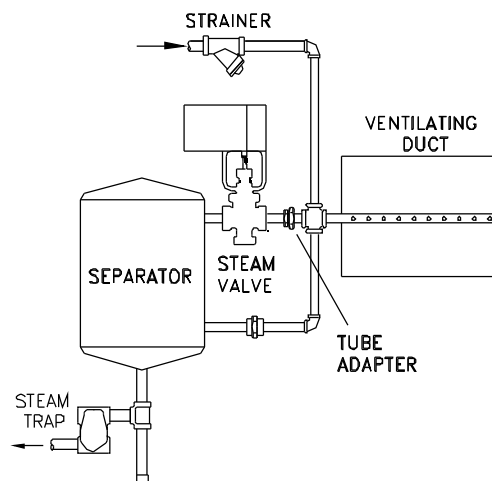
1. Match the separator/valve assembly with the correct distributor assembly.
2. The o-ring in the tube adaptor should be lubricated (use silicone based lubricant).
3. Slide the distributor into the tube adapter. Make sure that the o-ring is not damaged. Tighten tube adapter. The adapter should be hand tightened plus 1/4 turn (25 in-lbs ± 5 in-lbs)

Each Watson McDaniel Company Product is warranted against defects in material and workmanship for one year from date of shipment. This warranty extends to the first retail purchaser only. All defective material must be returned to the person from whom you purchased the Product, transportation prepaid, free of any liens or encumbrances, and if found to be defective will be repaired free of charge or replaced, at the warrantor's or seller's option. If the material is replaced, any replacement will be invoiced in the usual manner and after inspection of alleged defective material an adjustment will be made for depreciation caused by purchaser's use. In no event will Watson McDaniel Company be liable to do more than refund the original contract price. Incidental and consequential damages are excluded, whether under this warranty or otherwise. All implied warranties, including warranties of merchantability and fitness for a particular purpose, are disclaimed and excluded.

4. The union halves come together and are tightened to make a snug fit. The humidifier is ready to be installed in the duct. Single tube from the factory, multi-tube must be field assembled.

5. It is also possible to install distributor in the duct and then attach the separator/valve assembly.

6. Follow steps listed in 'Installation Of Livesteam Humidifier' section to complete installation.

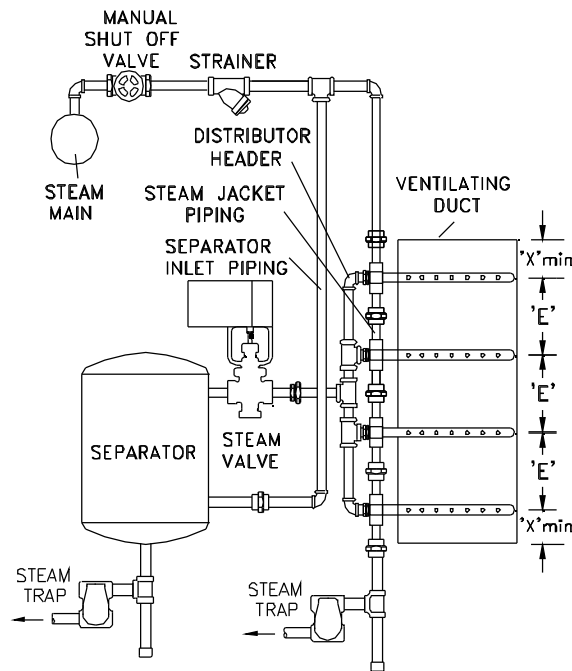


SINGLE DISTRIBUTOR HUMIDIFIER (Fig #1)

## ASSEMBLY OF SINGLE DISTRIBUTOR HUMIDIFIER

All single distributor humidifiers will be assembled at the factory if the interconnecting piping option is selected at time of order.

1. Match the separator/valve assembly with the correct distributor assembly.
2. The o-ring in the tube adaptor should be lubricated (use silicone based lubricant).
3. Slide the distributor into the tube adapter. Make sure that the o-ring is not damaged. Tighten tube adapter. The adapter should be hand tightened plus 1/4 turn (25 in-lbs ± 5 in-lbs)
4. The union halves come together and are tightened to make a snug fit. The humidifier is ready to be installed in the duct. Single tube from the factory, multi-tube must be field assembled.
5. It is also possible to install distributor in the duct and then attach the separator/valve assembly.
6. Follow steps listed in 'Installation Of Livesteam Humidifier' section to complete installation.



MULTIPLE DISTRIBUTOR HUMIDIFIER (Fig #2)

## INSTALLATION OF LIVESTREAM HUMIDIFIER

(Note: Follow all general instructions provided with valve and actuator.)

To complete installation follow steps listed below.

1. Steam outlets of distributor should face into the air stream unless distributor is insulated. AxAir Nortec's standard is right face.
2. Distributors must be mounted level. There is a support bracket at the end of the distributor to secure the duct wall.
3. The steam distributor in a Single Distributor Humidifier should be centered in the duct.
4. The steam distributor should be mounted in a straight section of duct. Please consult your AxAir Nortec agent if absorption distance is a problem. For calculation of absorption distance please refer to NORTEC manual Form #163D.
5. Do not locate the steam distributor within 10 feet of high efficiency filters, otherwise the filter will become saturated.
6. Cut a hole in the side of the duct large enough to insert the steam distributor. Duct plates are provided to seal any opening.
7. Install actuator. During installation follow instructions shipped with actuator. Ensure linkage and extensions are installed, failure of actuator could result.

8. For ease of maintenance, provide shut-off valve before humidifier (between strainer and steam main). It can also be used to minimize heat gains during the non-humidification period.

9. Install strainer before entering system and steam trap. Connect the steam and condensate return mains.

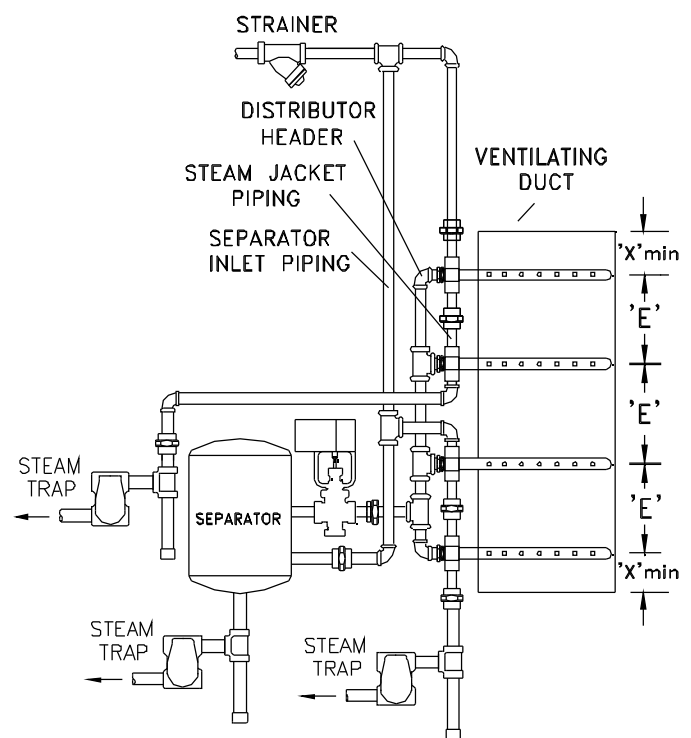
10. Wire (electric) or install control tubing (pneumatic) to the valve actuator. Follow installation instruction supplied with valve and actuator.

11. Industry standard recommends the use of drain pans under the steam distributor.

12. AxAir Nortec recommends the use of a temperature switch. Valve will not open until the distributor had reached it's operating temperature. This is optional and must be ordered.

13. AxAir Nortec recommends the use of an air proving switch to prevent wetting in the duct. Humidifier will not operate if there is not air movement in the duct.

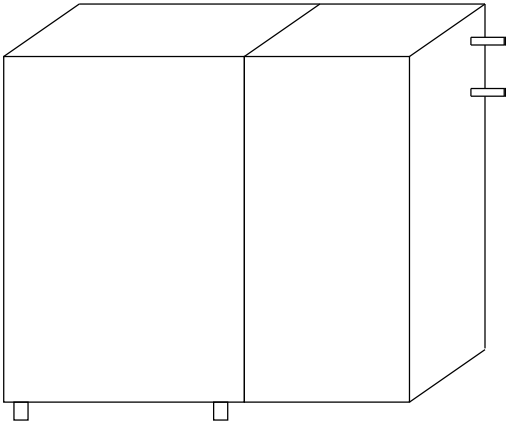
14. A high limit duct humidistat, which prevents saturation and wetting in the duc, is recommended down stream 12-14 feet from the humidifier and set at 80 to 90% RH.



MULTIPLE DISTRIBUTOR HUMIDIFIER (Fig #3)

## WSE STEAM EXCHANGE HUMIDIFIER

The WSE Steam Exchange Humidifier works by using existing boiler steam and creating clean steam by using steam to steam generation. The clean steam generated by this process is then used for humidification. The WSE will heat clean water and disperse it into the air.



WSE STEAM EXCHANGE HUMIDIFIER

---