

**STEAM
DISTRIBUTIONS
ASD / BSD / CSD**

Installation Manual

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1. INSTALLATION

A. RECEIVING AND UNPACKING EQUIPMENT

1. Check packing slip to ensure ALL material has been delivered.
2. All material shortages are to be reported to Walter Meier (NORTEC) within 48 hours from receipt of goods. Walter Meier (NORTEC) assumes no responsibility for any material shortages beyond this period.
3. Inspect shipping boxes for damage and note on shipping waybill accordingly.
4. After unpacking, inspect equipment for damage and if damage is found, notify the shipper promptly.
5. All NORTEC products are shipped on an F.O.B. factory basis. Any and all damage, breakage or loss claims are to be made directly to the shipping company.
6. Each distributor is provided with: installation manual, one hose cuff, and two hose clamps.

B. PRE-INSTALLATION CHECK

1. Ensure the total capacity of the humidifier is not higher than the allowable maximum steam capacity of the distributors used.

ASD 10: 22 lbs/hr (8 kg/hr)

ASD: 25 lbs/hr (9 kg/hr)

BSD: 35 lbs/hr (13 kg/hr)

CSD: 115 lbs/hr (45 kg/hr)

C. STEAM LINE INSTALLATION

1. NORTEC steam hose should only be used on short steam runs below 10 feet.
2. Ensure that no condensate produced in the steam line will remain trapped. Steam naturally flows upward and condensate naturally flows downward.
3. See material recommended for use in the chart below. To eliminate the metal corrosion, NORTEC does not recommend the use of steel piping.
4. Consult the following pages for step by step distributor installation starting with Figure 1.
5. Consult the charts below for steam and condensate sizing guidelines when using steam distributors.

Table 1. Steam Line Material

	Steam Hose	Copper Tube	Stainless Steel Tube
Short run < 10 feet (3 m)	✓	✓	✓
Long run > 10 feet (3m)		✓	✓
DI / RO water			✓

Table 2. Recommended Material and Size for Steam Run

Load		Steam Run		Steam Line Material	Steam Line Description
lb/hr	kg/hr	ft	m		
0-30	0-13	0-10	0-3	Copper tube	¾" MED-L Tubing (7/8" O.D.)
0-30	0-13	10+	3+	Copper tube	1" MED-L Tubing (1 1/8" O.D.)
0-30	0-13	0-10	0-3	Stainless Steel Tube	7/8" tube x 0.049" thick
0-30	0-13	10+	3+	Stainless Steel Tube	1 1/8" tube x 0.49" thick
30-100	13-45	0-20	0-6	Copper tube	1 ½" MED-L Tubing (1 5/8" O.D.)
30-100	13-45	20+	6+	Copper tube	2" MED-L Tubing (2 1/8" O.D.)
30-100	13-45	0-20	0-6	Stainless Steel Tube	1 3/4" tube x 0.065" thick
30-100	13-45	20+	6+	Stainless Steel Tube	2" tube x 0.065" thick

Please note that options shown in a **bold-italic font** requires that reducers be used at both ends. These extra large sizes are to allow for better condensation removal in long steam runs. These sizes will not permit you to use hose coupling to connect your self to either humidifier or distributors.

Table 3. Recommended Condensate Line at Distributor(s)

Dispersion Method	Condensate Hose	Copper Tube	Stainless Steel Tube
1 x Steam Distributor	3/8" Nortec 1328840	1/4" MED-L Tubing (3/8" O.D.)	3/8" tube 0.049" thick
3 x Steam Distributor	3/8" Nortec 1328840	1/2" MED-L Tubing (7/8" O.D.)	5/8" tube 0.049" thick

*When using more than one distributor, the condensate line should be trapped before joined together.

D. CONDENSATE RETURN GULDEINES FOR MAIN STEAM LINES

1. Use vertical condensate leg of distributor only. Do not over-tighten clamp.
2. Condensate traps on steam mains must be located at all low points in the system, at each elevation change and or directional change.
3. Horizontal runs of steam must rise 2" per foot (10°) when flow is going upwards away from condensate trap, and fall $\frac{1}{2}$ " per foot (2°) when flow is going downwards towards a condensate trap.
4. In a horizontal run of the steam main, condensate traps must be located at regular intervals of 20 feet.
5. The condensate trap itself is a section of piping connected to the bottom of the main. A full size tee must be used to create a condensate trap to allow the condensate to fall away from the steam flow.
6. Vertical drop of the condensate trap should be 1.5 times the diameter of the steam main but no less than 12".
7. A P-trap should be installed at the bottom of the condensate trap. The center to center trap height should be 2" greater than duct static pressure.
8. All distributors must be individually trapped.

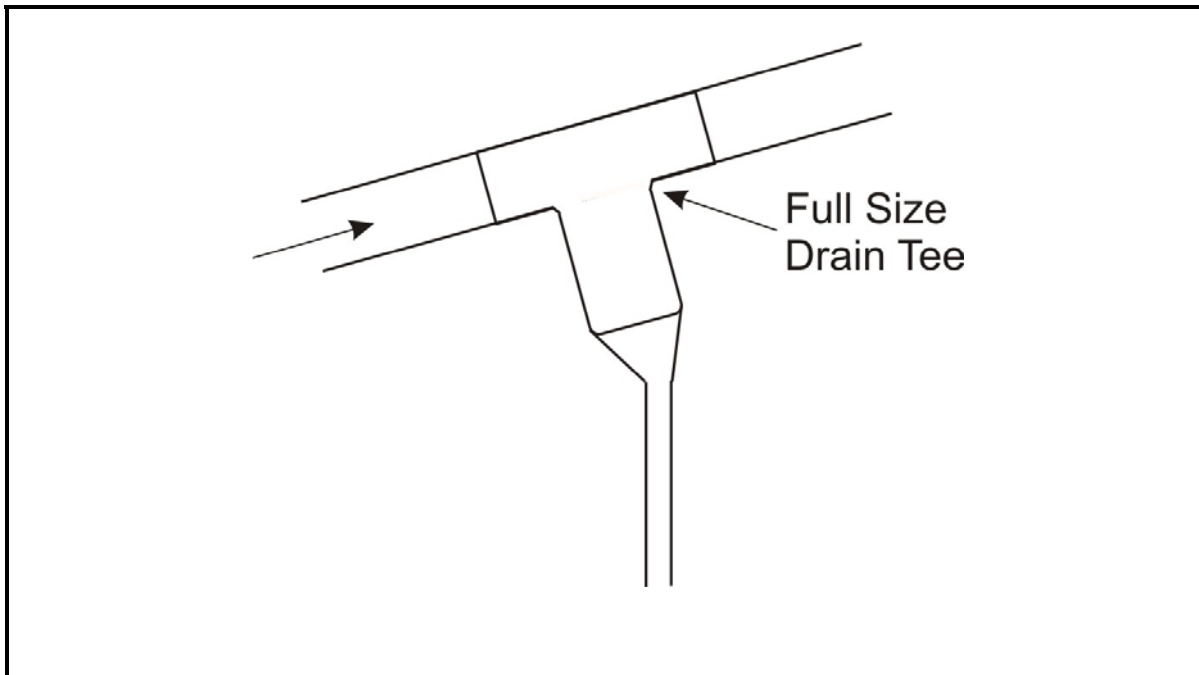


Figure 1. Drain Tee

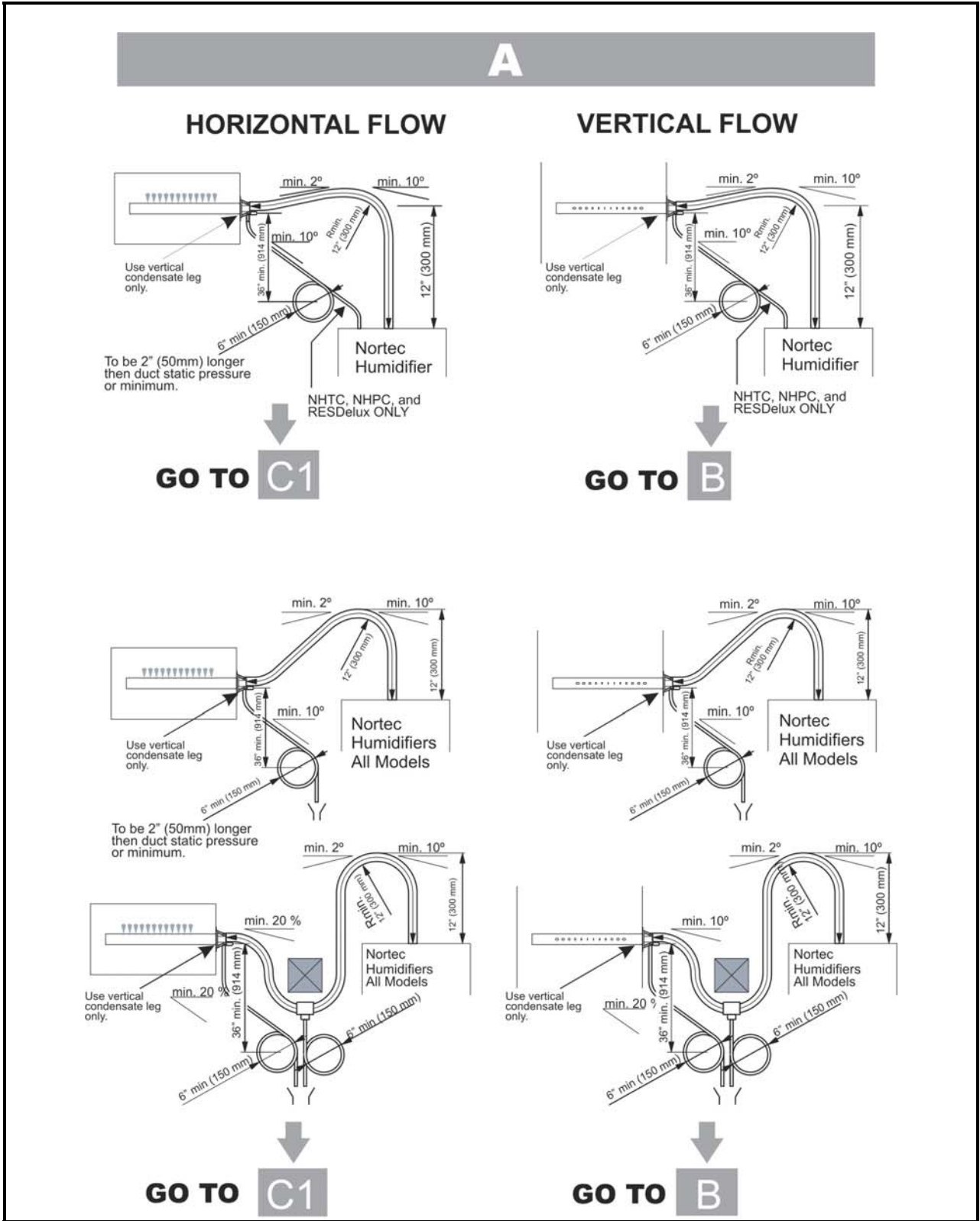
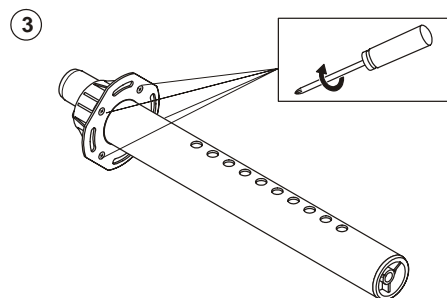
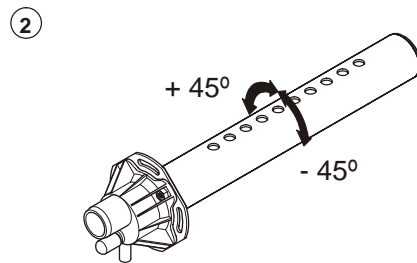
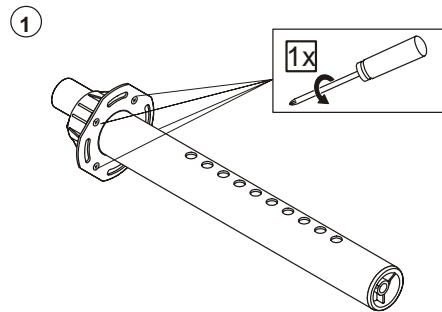


Figure 2. Distributor Mounting

B

Always align distributor holes so that steam is discharged upwards to ensure condensate will remain in the distributor.

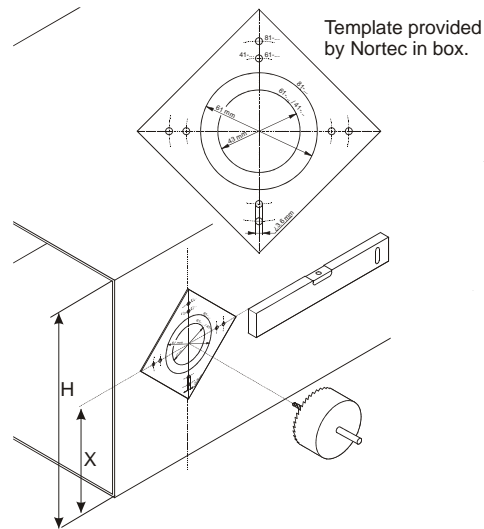


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GO TO **C2**

Figure 3. Vertical Airflow

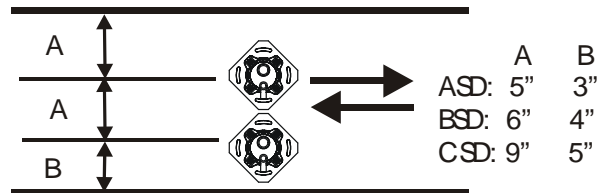
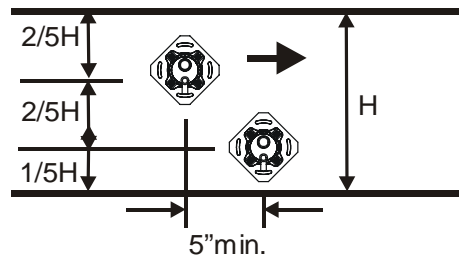
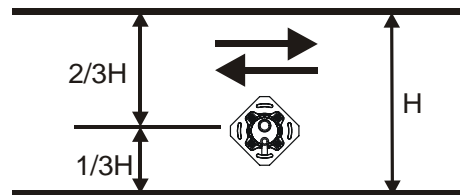
C1

Always align distributor holes so that steam is discharged upwards to ensure condensate will remain in the distributor.



	X Min.	H Mn.
ASD	3" (76mm)	8" (203mm)
BSD	4" (102mm)	10" (254 mm)
CSD	5" (127mm)	14" (356mm)

ASD	ø 1.7" (43 mm)
BSD	ø 1.7" (43 mm)
CSD	ø 2.4" (61 mm)



GO TO **D**

Figure 4. Horizontal Airflow

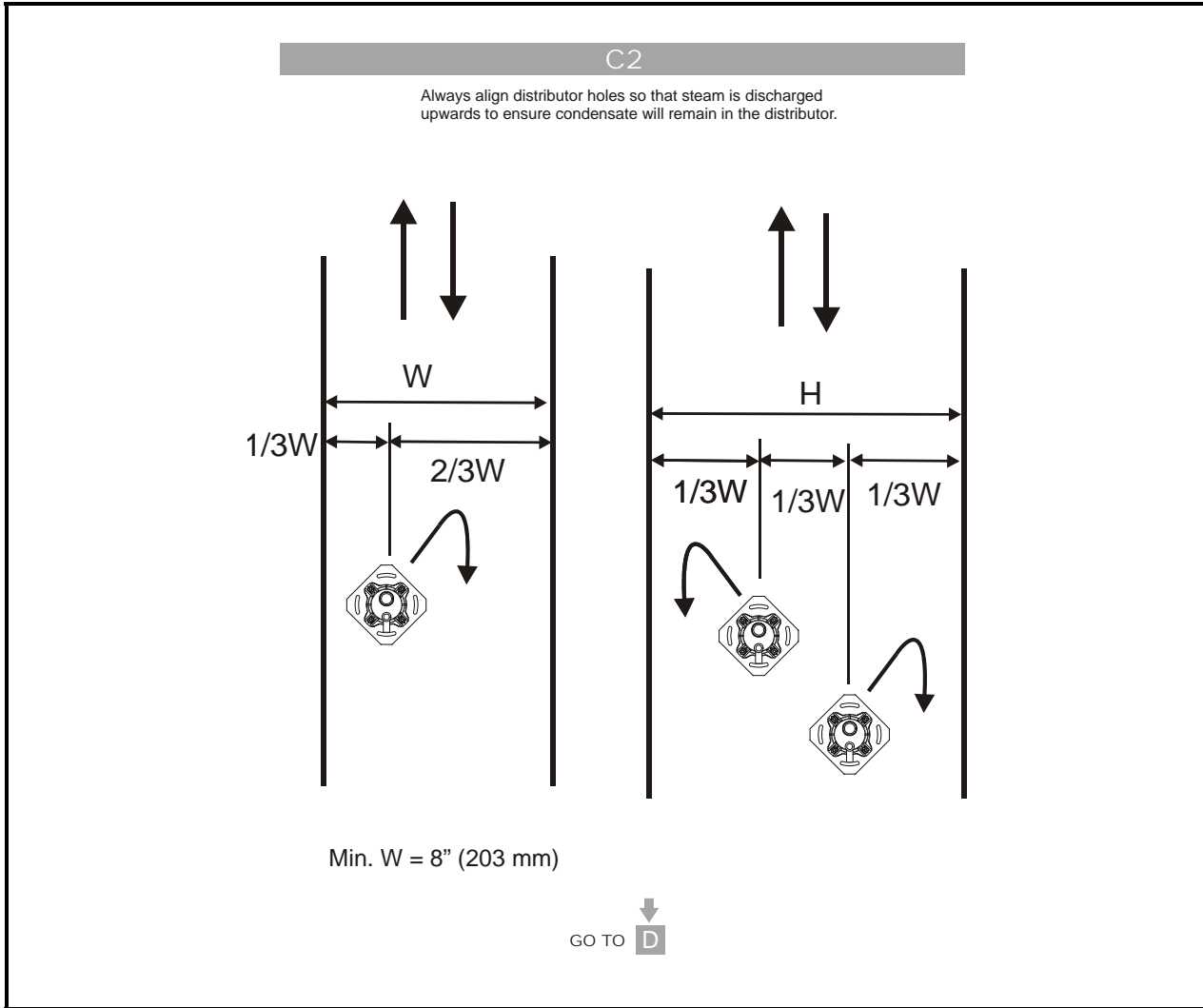


Figure 5. Vertical Airflow

WARNING



- These installation guidelines apply for duct velocities under 2000 ft/min (610 m/min), please consult factory for higher velocities.
- Please make sure no obstacles (elbow, filter, or diffuser) are located after the distributor in the direction of the airflow closer than the absorption distance calculated for your application.
- Unless you know the exact absorption distance required for the steam absorption into the air stream, the distributor should be located at least 8-10 ft (2-3 m) away from any obstacle it may condense on (elbow, diffuser, filter, etc.).

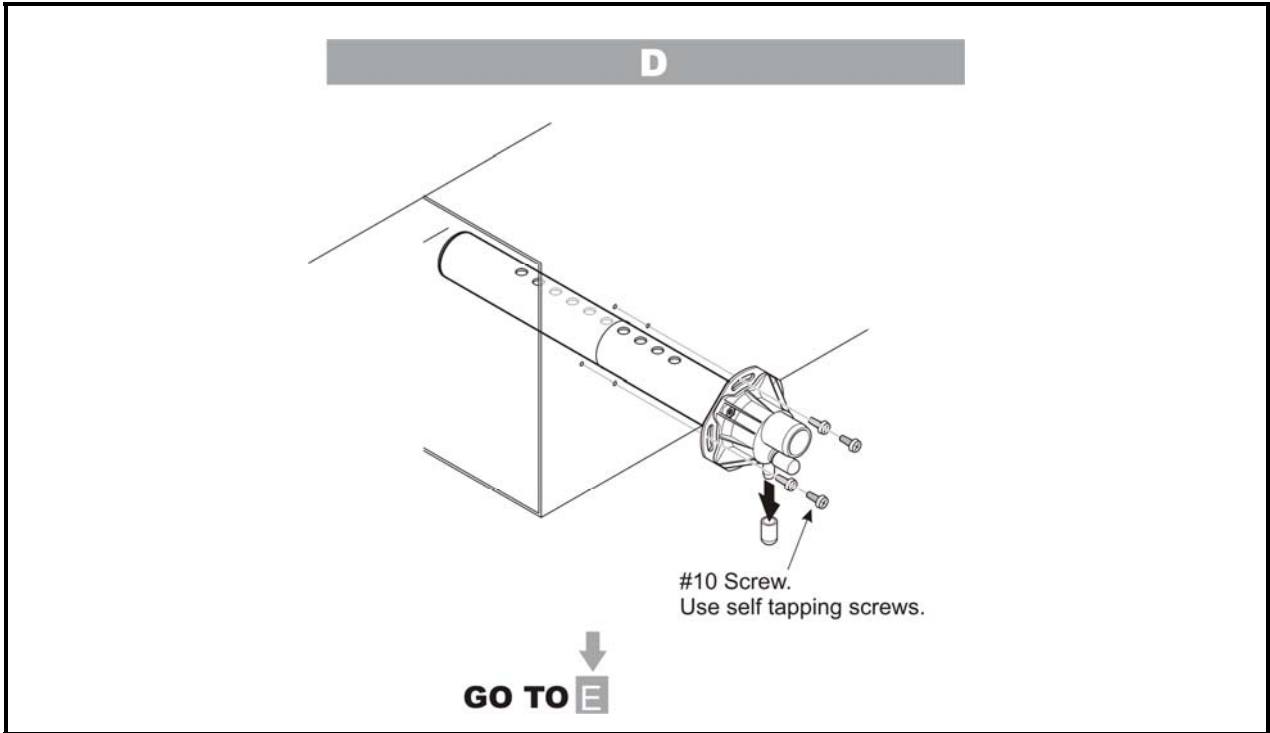


Figure 6. Distributor Mounting – Horizontal & Vertical Flow

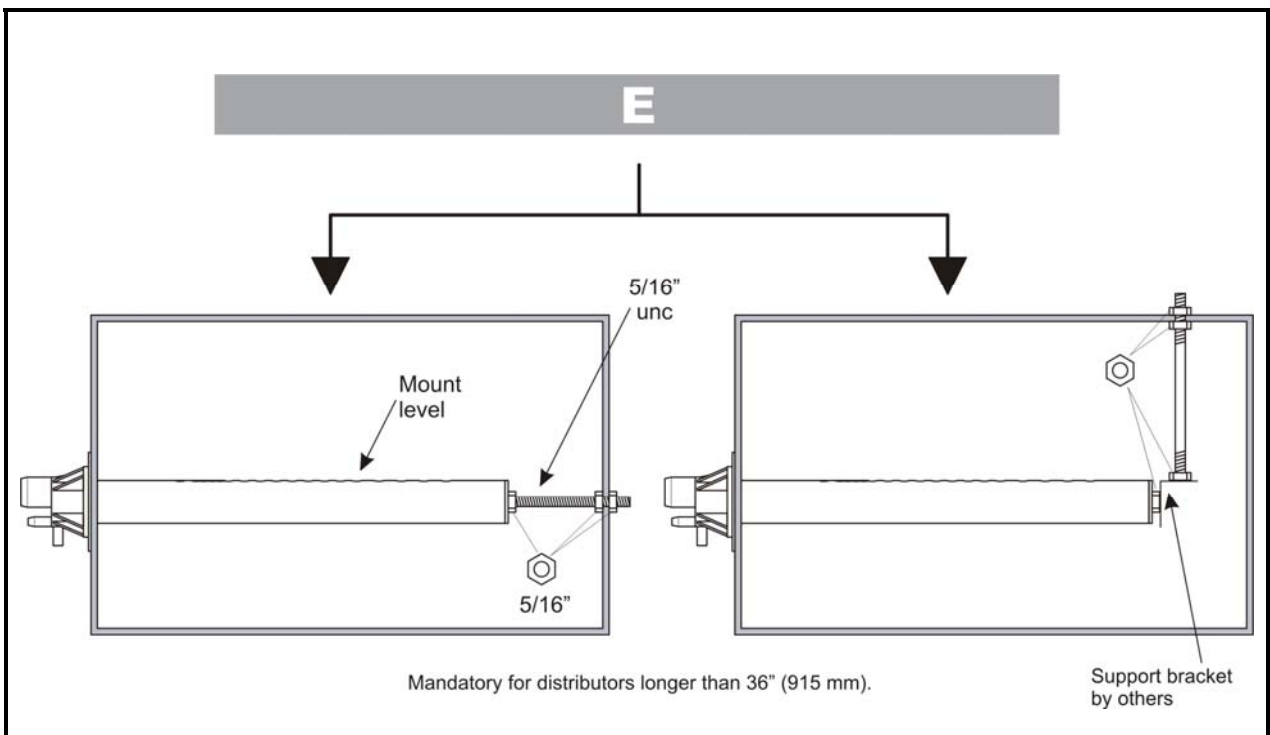


Figure 7. Distributor Mounting

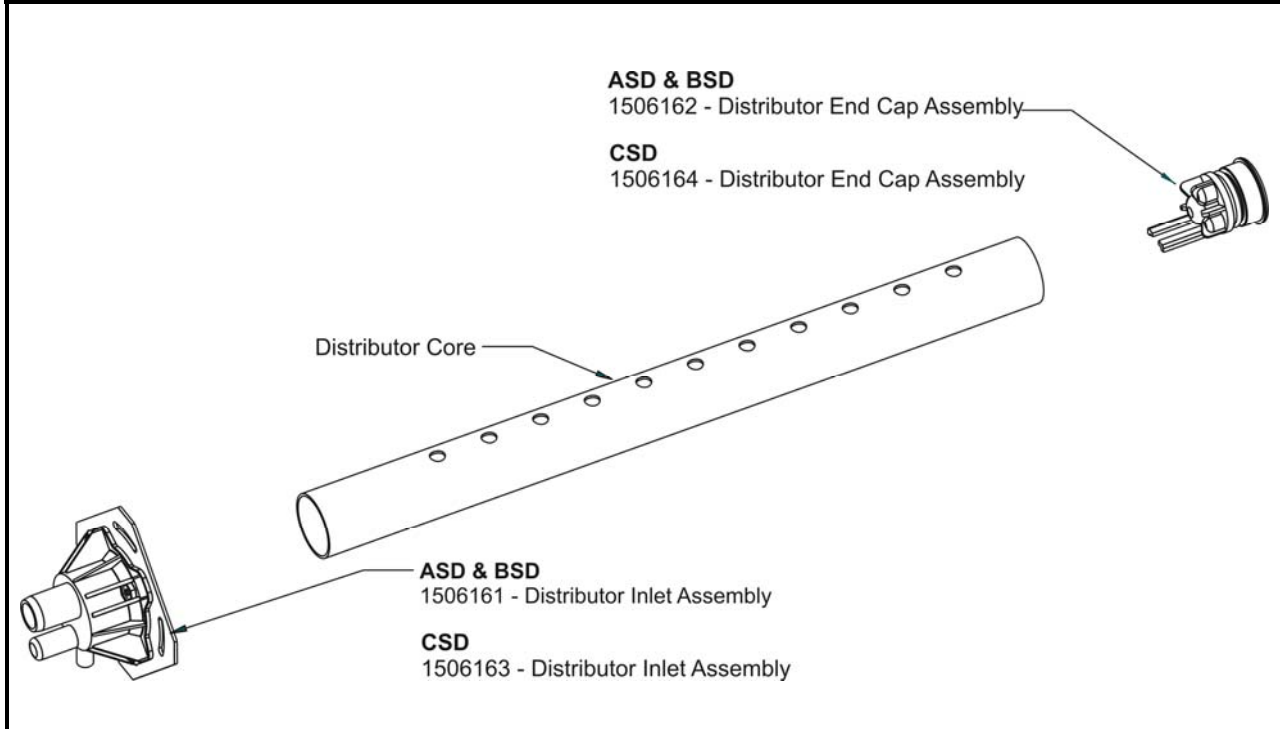


Figure 8. Spare Parts

Warranty

Walter Meier Inc. and/or Walter Meier Ltd. (hereinafter collectively referred to as THE COMPANY), warrant for a period of two years after installation or 30 months from manufacturer's ship date, whichever date is earlier, that THE COMPANY's manufactured and assembled products, not otherwise expressly warranted (with the exception of the cylinder), are free from defects in material and workmanship. No warranty is made against corrosion, deterioration, or suitability of substituted materials used as a result of compliance with government regulations.

THE COMPANY's obligations and liabilities under this warranty are limited to furnishing replacement parts to the customer, F.O.B. THE COMPANY's factory, providing the defective part(s) is returned freight prepaid by the customer. Parts used for repairs are warranted for the balance of the term of the warranty on the original humidifier or 90 days, whichever is longer.

The warranties set forth herein are in lieu of all other warranties expressed or implied by law. No liability whatsoever shall be attached to THE COMPANY until said products have been paid for in full and then said liability shall be limited to the original purchase price for the product. Any further warranty must be in writing, signed by an officer of THE COMPANY.

THE COMPANY's limited warranty on accessories, not of the companies manufacture, such as controls, humidistats, pumps, etc. is limited to the warranty of the original equipment manufacturer from date of original shipment of humidifier.

THE COMPANY makes no warranty and assumes no liability unless the equipment is installed in strict accordance with a copy of the catalog and installation manual in effect at the date of purchase and by a contractor approved by THE COMPANY to install such equipment.

THE COMPANY makes no warranty and assumes no liability whatsoever for consequential damage or damage resulting directly from misapplication, incorrect sizing or lack of proper maintenance of the equipment.

THE COMPANY makes no warranty and assumes no liability whatsoever for damage resulting from freezing of the humidifier, supply lines, drain lines, or steam distribution systems.

THE COMPANY makes no warranty and assumes no liability whatsoever for equipment that has failed due to ambient conditions when installed in locations having climates below 14°F (-10°C) during January or above 104°F (40°C) during July. (See Table 1: Weather Design Data above).

THE COMPANY retains the right to change the design, specification and performance criteria of its products without notice or obligation.

U.S.A.

Walter Meier (Climate USA) Inc.

826 Proctor Avenue
Ogdensburg, NY 13669

CANADA

Walter Meier (Climate Canada) Ltd.

2740 Fenton Road
Ottawa, Ontario K1T 3T7

TEL: 1.866.NORTEC1

FAX: 613.822.7964

EMAIL: northamerica.climate@waltermeier.com

WEBSITE: www.humidity.com

www.norteconline.com

www.nortecparts.com

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