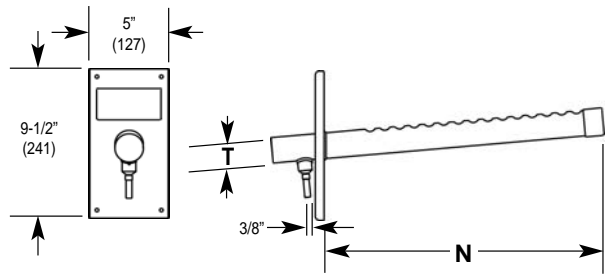


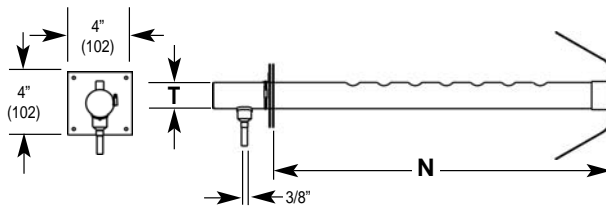
STEAM DISTRIBUTOR PIPES



Lengths 012-036



Lengths 048-120



Distributor Pipes for Models: HBA, HCA, HBD, HCD

PIPE	N	T
HXPBB012C*	11-13/16 (300mm)	7/8
HXPBB018C*	17-13/16 (452mm)	7/8
HXPBB024C*	23-13/16 (605mm)	7/8
HXPBB030C*	29-13/16 (757mm)	7/8
HXPBB036C*	35-13/16 (910mm)	7/8

Distributor Pipes for Models: HBG, HCG, HBH, HCH

PIPE	N	T
HXPBC012C*	11-13/16 (300mm)	1-5/8
HXPBC018C*	17-13/16 (452mm)	1-5/8
HXPBC024C*	23-13/16 (605mm)	1-5/8
HXPBC030C*	29-13/16 (757mm)	1-5/8
HXPBC036C*	35-13/16 (910mm)	1-5/8

PIPE	Minimum**		T
	N	N	
HXPBB040C	35 (889mm)	38 (965mm)	7/8
HXPBB044C	39 (991mm)	42 (1067mm)	7/8
HXPBB048C	43 (1092mm)	46 (1168mm)	7/8
HXPBB052C	47 (1194mm)	50 (1270mm)	7/8
HXPBB056C	51 (1295mm)	54 (1372mm)	7/8
HXPBB060C	55 (1397mm)	58 (1473mm)	7/8
HXPBB064C	59 (1499mm)	62 (1575mm)	7/8
HXPBB068C	63 (1600mm)	66 (1676mm)	7/8
HXPBB072C	67 (1702mm)	70 (1778mm)	7/8
HXPBB076C	71 (1803mm)	74 (1880mm)	7/8
HXPBB080C	75 (1905mm)	78 (1981mm)	7/8
HXPBB084C	79 (2007mm)	82 (2083mm)	7/8
HXPBB088C	83 (2108mm)	86 (2184mm)	7/8
HXPBB092C	87 (2210mm)	90 (2286mm)	7/8
HXPBB096C	91 (2311mm)	94 (2388mm)	7/8
HXPBB100C	95 (2413mm)	98 (2489mm)	7/8
HXPBB104C	99 (2515mm)	102 (2591mm)	7/8
HXPBB108C	103 (2616mm)	106 (2692mm)	7/8
HXPBB112C	107 (2718mm)	110 (2794mm)	7/8
HXPBB116C	111 (2819mm)	114 (2896mm)	7/8
HXPBB120C	115 (2921mm)	118 (2997mm)	7/8

PIPE	Minimum**		T
	N	N	
HXPBC048C*	43 (1092mm)	46 (1168mm)	1-5/8
HXPBC060C*	55 (1397mm)	58 (1473mm)	1-5/8
HXPBC072C*	67 (1702mm)	70 (1778mm)	1-5/8
HXPBC084C	79 (2007mm)	82 (2083mm)	1-5/8
HXPBC096C	91 (2311mm)	94 (2388mm)	1-5/8
HXPBC108C	103 (2616mm)	106 (2692mm)	1-5/8
HXPBC120C	115 (2921mm)	118 (2997mm)	1-5/8

NOTE A

The mounting plate on these pipes is adjustable to compensate for slight variations in ductwork dimensions. The "N" dimension is shown at both maximum and minimum depending on position of mounting plate. An infinite variety of settings are available between the minimum and maximum. A mounting strap is provided on the end of the pipe to secure to the top or side of the duct for support.

MATERIAL

Standard distributor pipes are fabricated from corrosion resistant copper tube. Model numbers ending with "C" are fabricated in copper. Stainless steel is an option on pipes marked "*" and "S" then indicates stainless steel.

**See Note A

▼ FAN DISTRIBUTION UNITS

REMOTE MOUNTED



Humidifier Model	Nominal Steam Output Rate	Remote Mounted Fan Unit Model
HBA, HCA	005, 010	HXBFB (1 Required)
HBD, HCD	020, 030	HXBFB (1 Required)
HBG, HCG	030, 040, 050, 060, 080, 100	HXBFC (1 Required)
HBH, HCH	125, 150, 175, 200	HXBFC (2 Required)

Fan distribution units are available for use in areas which do not have duct systems or where duct air temperatures are too low to provide sufficient humidification. For example, in computer areas the desired relative humidity may not be possible in the conditioned space without causing condensation in the duct.

HUMIDIFIER MOUNTED



Humidifier Model	Nominal Steam Output Rate	Humidifier Mounted Fan Unit Model
HBA, HCA	005, 010	AVAILABLE
HBD, HCD	020, 030	AVAILABLE
HBG, HCG	030, 040, 050, 060, 080, 100	AVAILABLE
HBH, HCH	125, 150, 175, 200	NOT AVAILABLE

Fan distribution units must be mounted securely on a level and plumb surface at least three feet below the ceiling for a Model HXBFB and at least four feet below the ceiling for a Model HXBFC to prevent condensing on the ceiling surface. Allow 20 feet in front of the HXBFB and 30 feet in front of the HXBFC for the steam to be absorbed into the air. **Do not mount the units** above any items that would be damaged if a water leak were to develop.

▼ OPTIONS

STANDARD MOUNTING: Mounted remote from humidifier.

OPTION: Factory attached to humidifier.

STANDARD FAN VOLTAGE: 115VAC, 3 amp maximum.

OPTION: Transformer mounted and wired for 208, 230, 277, 460 or 575VAC.

STANDARD AIR FLOW DETECTION: None.

OPTION: Air flow pressure switch*.

STANDARD HUMIDISTAT: None.

OPTION: Integral ON-OFF humidistat (HXHAA)** (HXHAM).

OPTION: Integral proportional humidistat (HXHCG)** (HXHAM).

***NOTE:** When air flow pressure switches are required, factory will install switch in mounted or remote units. Connection wiring between fan distribution and humidifier will be factory installed for mounted units. Wiring for remote units will be done by others.

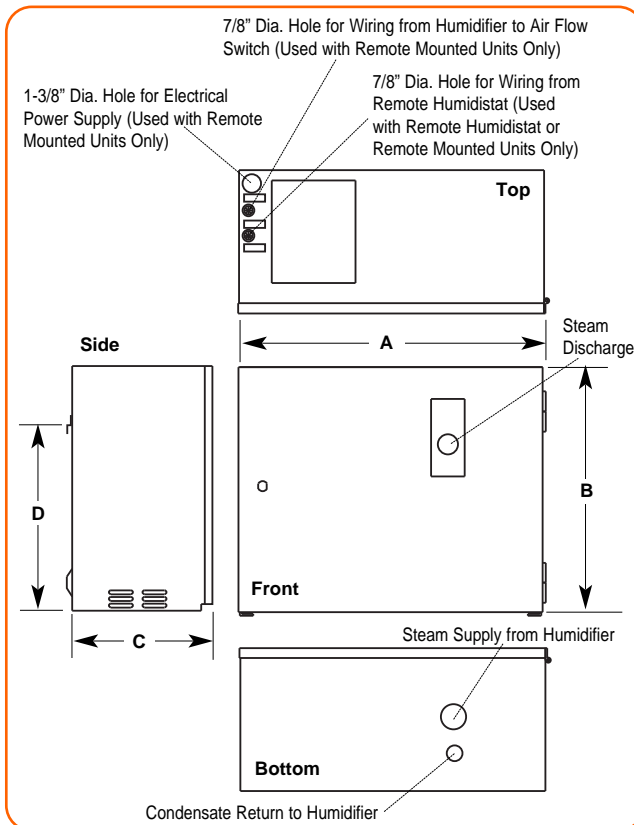
****NOTE:** Selected control humidifiers (HXHAA-ON/OFF, HXHCG/Proportional or HXHAM), whether mounted or remote units, will be mounted external to fan distribution boxes for more consistent and accurate operation. Field wiring, by others, will need to be done for both mounted and remote units. (Note wiring diagram on door of fan distribution unit.)

DIMENSIONS (In Inches)

Model	A	B	C	D
HXBFB	18-1/2	16-1/2	9-1/2	14-1/2
HXBFC	24	18-1/2	12-1/2	16-1/2

DIMENSIONS (In Millimeters)

Model	A	B	C	D
HXBFB	470	419	241	368
HXBFC	610	470	318	419



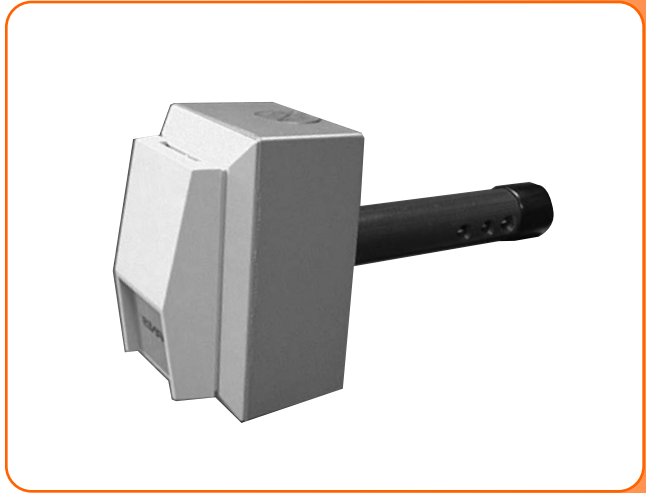
**WALL HUMIDISTAT,
PROPORTIONAL CONTROL**



Model HXHAM

The Model HXHAM is a wall-mounted, microprocessor-controlled humidistat solution for cutting edge humidity control. The HXHAM employs a backlit LCD module, which displays both the ambient temperature and humidity of the surrounding air. The embedded software allows user navigation between temperature/humidity viewing mode and set-point adjustment mode, and also outdoor temperature and humidity viewing mode. Set-point range is 0 to 100%. An optional outdoor temperature compensation sensor can be added (HXHAMT).

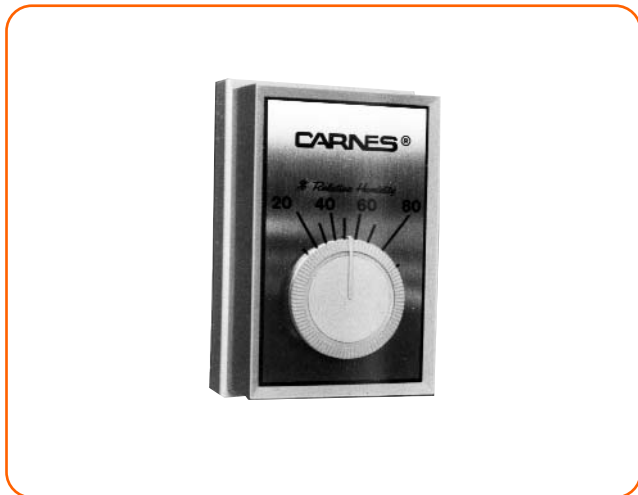
DUCT HUMIDISTAT PROPORTIONAL CONTROL



Model HXHAN

The Model HXHAN is an intelligent humidistat solution used exclusively for duct mounted installations. The humidistat is capable of providing both humidity and temperature measurements from inside the duct. The microprocessor control takes the temperature into consideration when calculating the humidity to provide an extra degree of precision. 0 to 100% set-point range.

WALL HUMIDISTAT, ON-OFF CONTROL



Model HXHAA

This attractive wall mounted humidistat is a convenient control for mounting in the conditioned space. Select a location four to five feet above the floor in freely circulating air of the temperature and humidity about average for the entire space to be controlled. Avoid locations near hot or cold air ducts and discharge air from the humidifier. Scale range is from 10%-90% RH Differential is 5% non-adjustable. Humidistat is **UL** listed. Case dimensions are 4-3/8" high, 2-7/8" wide and 1-5/8" deep including control knob.

**WALL HUMIDISTAT
PROPORTIONAL CONTROL**



Model HXHCG

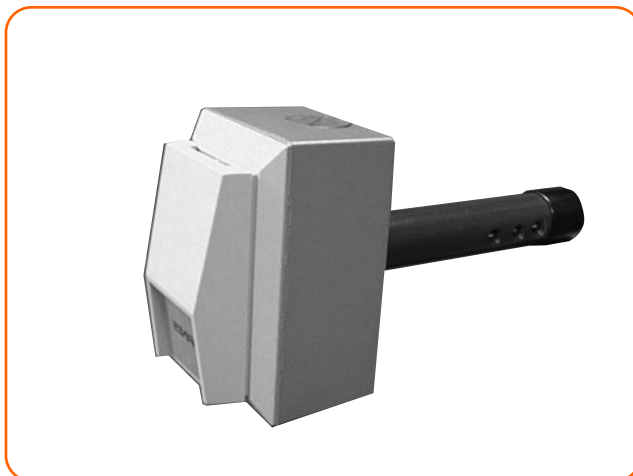
The wall mounted HXHCG humidistat uses a monolithic sensor and electronic circuitry to provide accurate and reliable humidity sensing. Set-point range is 0 to 100%. The HXHCG has a concealed set-point adjustment with a locking cover to prevent tampering. Ambient operating conditions are from 0° to 85°C. Case dimensions are 2-13/16" x 4-1/2" x 1-1/4".

DUCT HUMIDISTAT, ON-OFF CONTROL**Model HXHAB**

This duct mounted humidistat mounts in the return air duct to provide control of the humidifier. The control should be located in the duct where it will be affected by normal air flow. The maximum temperature at the nylon element must not exceed 125°F. The control can be mounted in any position, but where possible locate it on the side of the duct to make the set-point adjustment easily accessible. Scale range is 15%-50% RH Differential is 4%-6% non-adjustable. Humidistat is **UL** listed. Case dimensions are 3-3/4" high, 2-3/8" wide. Humidistat extends 7-1/2" into duct and projects 2-1/2" outside of the duct.

DUCT HUMIDISTAT, ON-OFF CONTROL, WITH AIR FLOW SWITCH**Model HXHAC**

Like the Model HXHAB humidistat, the HXHAC provides control for the humidifier by sensing the relative humidity in the return air duct. This model is equipped with a sail switch, interlocked with the humidity control, to shut down the humidifier when no air is moving through the system. The humidistat can be mounted in any position, but where possible, mount it on the side of the return duct so that the portion extending into the duct is on a horizontal plane with the sail switch extending upstream. Minimum air flow velocity is 320 fpm is required to activate the sail switch. Case dimensions are the same as the HXHAB but the element extends 12" into the duct.

DUCT HUMIDISTAT, PROPORTIONAL CONTROL**Model HXHCH**

The Model HXHCH is designed to be mounted in a duct to provide a means of sensing relative humidity. Set-point range is from 0 to 100% R. H. Ambient operating conditions are from 0° to 85°C. The humidistat may be mounted in a return duct to provide a mean of sensing and controlling relative humidity. The humidistat may be mounted in a supply duct a minimum of 10 feet downstream from the distributor pipe when used as a high limit humidistat. Case dimensions are 2-13/16" x 4-1/2" x 2-1/4". The probe extends 5-3/4" into the duct.

HIGH LIMIT HUMIDISTAT**Model HXHAD**

The Model HXHAD humidistat is available for use as a safety precaution to prevent air in the duct from exceeding a preset level. Do not use the humidistat in air that is over 125°F or in locations where the unit could become wet. The control must be mounted a minimum of 10 feet downstream of the distributor pipe. Scale range is from 15% - 95% RH Differential is 5% non-adjustable. Mounting plate dimensions are 6-1/2" wide, 4-3/4" high. Humidistat extends 1-1/4" into duct and projects 2-1/4" outside the duct.

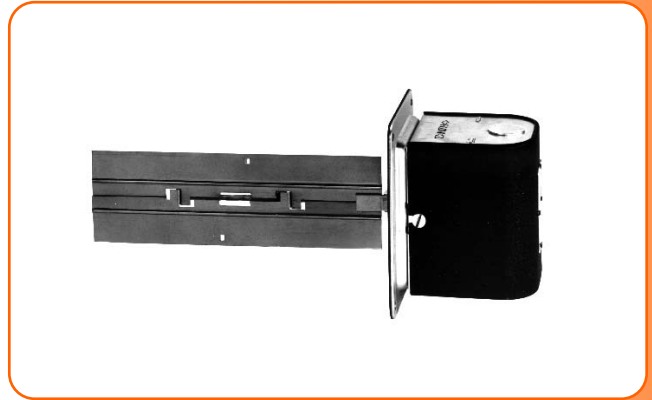
AIR FLOW SWITCH PRESSURE DIFFERENTIAL TYPE



Model HXAEE

Air flow in the duct may be sensed by using this differential pressure switch. The differential in pressure between the interior of the duct and ambient when air is moving in the duct closes a micro switch allowing the humidifier to operate. Air pressure differential as low as .07 w.g. and as high as 12.0 w.g. may be sensed with one model. The switch may be mounted with tubing connecting to the duct. Switch is **UL** listed.

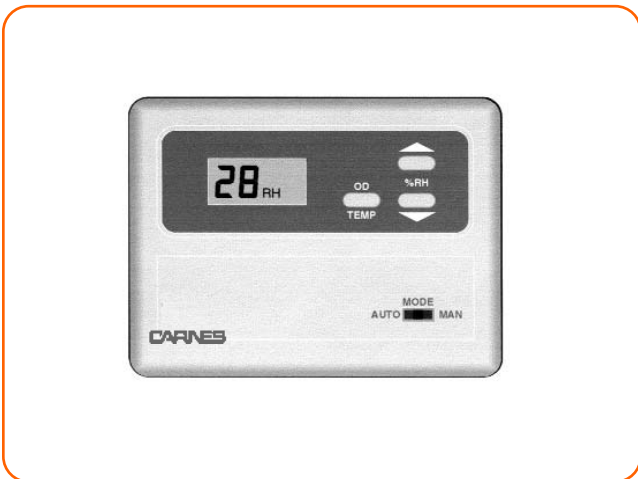
AIR FLOW SWITCH, VELOCITY TYPE



Model HXA AF

This air flow switch is installed in the duct to prevent humidifier operation when air flow is not occurring. This switch provides a positive and economical method to detect loss of air flow velocity. The switch may be installed on the side, top, or bottom of a horizontal duct. Installation can be made in a vertical duct if the air flow is upward. A horizontal flow velocity of 480 fpm or upward vertical flow of 910 fpm is required to operate the switch. Switch is **UL** listed. Case dimensions are 4-3/8 high, 3-13/16" wide. The paddle extends 7-23/32" into the duct.

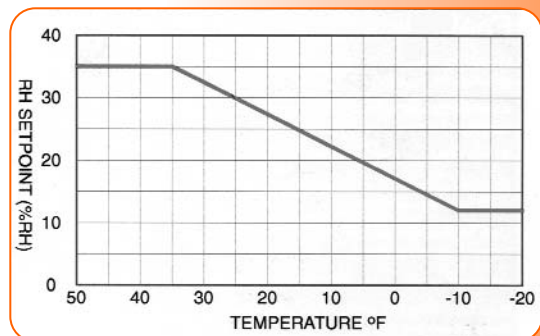
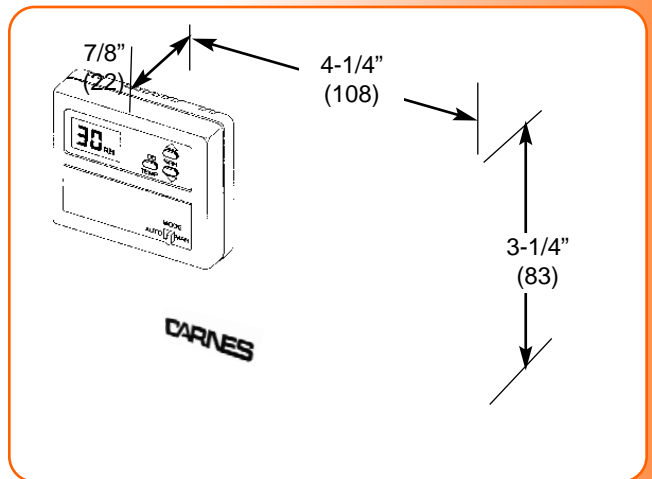
OUTDOOR AIR TEMPERATURE COMPENSATED DIGITAL HUMIDISTAT, ON-OFF CONTROL



Model HXHAT

The HXHAT humidistat can be either wall or duct mounted and includes a remote outdoor temperature sensor for exterior wall or intake duct mounting. The humidistat can automatically change the set-point in response to changes in outdoor temperature or be set to maintain a set-point regardless of temperature changes. The LCD display shows set-point RH%, actual RH% or outdoor temperature (from -9 to 98°F). Relay contacts provide an on/off signal to the humidifier. Set-point range is from 30-65% RH. Default set-point is 40% RH.

The HXHAT will automatically reduce the RH set-point as the temperature drops below 35°F. The graph below shows the RH setting of 35° RH and as the temperature drops the RH set-point is adjusted by the computer as shown. Below -10° there is no adjustment.



STEAM HOSE



Carnes steam hose is made from EPDM compound to withstand the low pressure steam without deterioration. Model HXSAB steam hose has an I. D. of 7/8" for use with units that use "AX" or "B" steam cylinders. Model HXSAC has an I. D. of 1-5/8" for use with units that use "C" cylinders. The hose may be easily cut to the exact length at time of installation.

STEAM HOSE DRAIN "T" FITTINGS



Steam hose drain "T" are available for use when the duct is located below the top of the humidifier or where the length of steam hose is in excess of 12 feet.

Humidifier Model	Drain "T" Model	Dimensions
HBA, HCA HBD, HCD	HXTABB	7/8"x7/8"x3/8"
HBG, HCG HBH, HCH	HXTACB	1-5/8"x1-5/8"x3/8"

CONDENSATE RETURN LINE



Two models of condensate return line are available. Model HXRA has an I. D. of 3/8" and is used whenever steam distributor pipes are used with the humidifier. Model HXLA has an I. D. of 5/8" and is used with optional fan distribution units.

"T" FITTINGS



In some applications it may be desirable to have the steam generator cylinder feed two steam distributor pipes. "T" fittings can be installed in the steam hose and condensate return line.

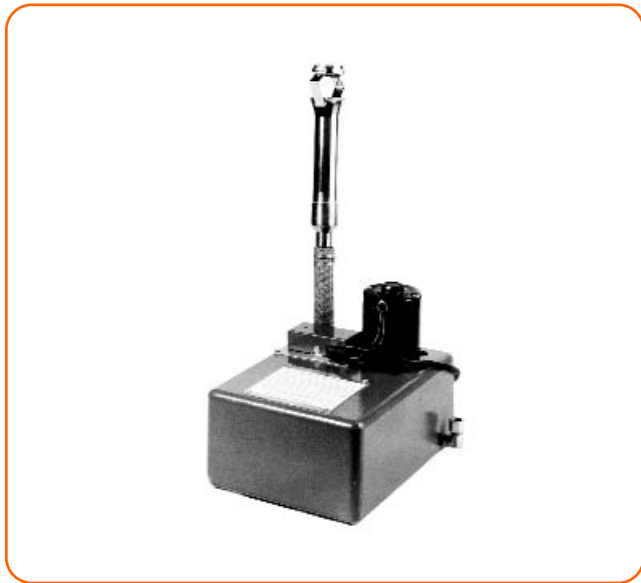
STEAM HOSE "T" FITTINGS

Humidifier Model	Drain "T" Model	Dimensions
HBA, HCA HBD, HCD	HXTABA	7/8"x7/8"x7/8"
HBG, HCG HBH, HCH	HXTACA	1-5/8"x1-5/8"x1-5/8"

CONDENSATE HOSE "T" FITTINGS

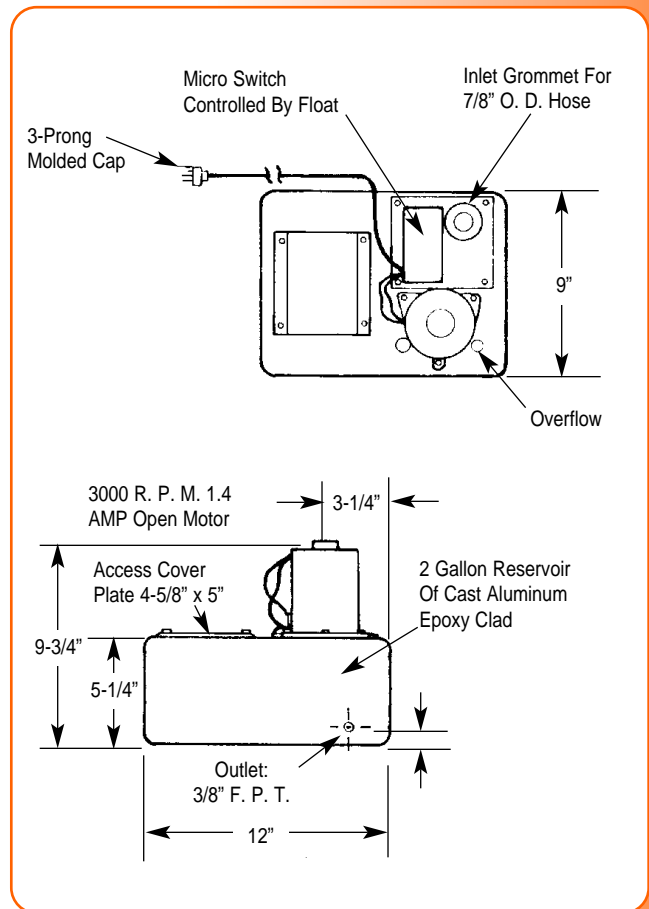
Humidifier Model	Drain "T" Model	Dimensions
ALL	HXTAD	3/8"x3/8"x3/8"

DRAIN WATER PUMP



Model HXWA

A drain water pump is available for mounting directly below the humidifier cabinet. This pump is ideal for an application where the building drain is remotely located or is at a higher elevation than the humidifier drain connection. This unit operates on a float principle which automatically starts the pump when the reservoir is 3/4 full of water. The pump is capable of operation with a vertical lift up to 12 feet or horizontal run of 40 feet. The complete package includes drain pump with six feet of cord and plug for 115 volt operation.



Models Available		
HXCBA145	HXCCB145	HXCBC6F
HXCBA220	HXCCB220	HXCBC6X
HXCBA380	HXCBB380	HXCBC61
HXCBA500	HXCBB500	HXCBC62
HXCBA600	HXCBB600	HXCBC63
HXCBA700	HXCBB700	HXCBC64
		HXCBC65
		HXCBC12