# Area-type<sup>™</sup> Steam Injection humidifier



Notes:

- Dashed lines indicate provided by installer.
- Always take run-out off top of steam main rather than the side or bottom.
- When run-out from steam main to humidifier exceeds 10 feet (3 m), provide an F&T drip trap at the inlet side of the humidifier steam valve.
- Any run-outs not dripped should be insulated.
- The Area-type humidifier operates at zero internal pressure. Consequently, the P-trap water seal must drain by gravity to a line where no back pressure exists.

Table 1-1: Area-type humidifier dimensions													
А		E	3	(	2	[	)	E					
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm				
27.0	686	14.0	357	4.8	122	7.2	183	9.5	241				

mc 041411 1846

The Area-type humidifier is designed for open spaces, such as warehouses or manufacturing spaces, that may not have a duct system. The steam discharged from the humidifier is dispersed by the fan. The Area-type humidifier quietly distributes steam, without introducing water droplets into the air.

Area-type humidifier maximum capacity 285 lbs/hr (130 kg/h)

#### How it works

- 1) Steam passes through the automatic steam valve and enters the separator.
- 2) Entrained condensate is removed by the internal baffle plate. The resulting water flows to drain and is removed by the P-trap water seal.
- 3) Dry steam exits the humidifier through the steam dispersion port entering into the airstream in front of the fan.



## Area-type Steam Injection humidifier

#### Rise, spread, and throw

The table below lists the Area-type humidifier's minimum rise, spread and throw non-wetting dimensions. Surfaces cooler than ambient temperature, or objects located within this minimum dimension, may cause condensation and dripping.

Rise: Minimum non-wetting height above the steam chute Spread: Minimum non-wetting width from the steam chute

Throw: Minimum non-wetting horizontal distance from the steam chute

The greater the space relative humidity, the higher and further the discharged steam will carry and rise in the space until becoming absorbed.



### Table 2-1:

Area-	Area-type humidifier minimum distances for rise, spread, and throw*																					
			60 °F (16 °C)																			
Maximum steam capacity		30% RH							40% RH							50% RH						
		Rise		Spread		Throw		Rise		Spread		Throw		Rise		Spread		Throw				
lbs/hr	kg/h	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m			
50	20	1.0	0.3	2.0	0.6	6.0	1.8	1.0	0.3	2.0	0.6	6.0	1.8	1.0	0.3	2.5	0.8	6.0	1.8			
75	34	3.0	0.9	3.0	0.9	8.0	2.4	3.0	0.9	3.0	0.9	8.0	2.4	3.0	0.9	4.0	1.2	8.0	2.4			
100	45	4.0	1.2	4.0	1.2	10.0	3.1	4.0	1.2	4.0	1.2	10.0	3.1	4.0	1.2	5.0	1.5	10.0	3.1			
150	68	6.0	1.8	5.0	1.5	12.0	3.7	6.0	1.8	5.0	1.5	12.0	3.7	6.0	1.8	5.0	1.5	12.0	3.7			
200	90	7.0	2.1	7.0	2.1	13.0	4.0	8.0	2.4	7.0	2.1	14.0	4.3	8.0	2.4	7.0	2.1	14.0	4.3			
225	102	7.0	2.1	7.0	2.1	13.0	4.0	8.0	2.4	7.0	2.1	14.0	4.3	8.0	2.4	7.0	2.1	14.0	4.3			
250	110	8.0	2.4	8.0	2.4	15.0	4.6	9.0	2.7	9.0	2.7	16.0	4.9	9.0	2.7	9.0	2.7	16.0	4.9			
285	130	9.0	2.7	9.0	2.7	17.0	5.2	10.0	3.1	10.0	3.1	18.0	5.5	10.0	3.1	10.0	3.1	18.0	5.5			
										70 °F (	(21 °C)											
Maximu	m steam acity	30% RH						40% RH							50% RH							
cupacity		Rise Sprea		ead Throw		Rise		Spread		Throw		Rise		Spread		Throw						
lbs/hr	kg/h	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m			
50	20	1.0	0.3	1.5	0.5	4.0	1.2	1.0	0.3	2.0	0.6	4.0	1.2	1.0	0.3	2.0	0.6	4.0	1.2			
75	34	2.0	0.6	2.0	0.6	6.0	1.8	2.0	0.6	2.5	0.8	6.0	1.8	2.0	0.6	2.5	0.8	6.0	1.8			
100	45	3.0	0.9	3.0	0.9	8.0	2.4	3.0	0.9	3.0	0.9	8.0	2.4	3.0	0.9	3.0	0.9	8.0	2.4			

	÷ ·																		
100	45	3.0	0.9	3.0	0.9	8.0	2.4	3.0	0.9	3.0	0.9	8.0	2.4	3.0	0.9	3.0	0.9	8.0	2.4
150	68	4.0	1.2	4.0	1.2	10.0	3.1	4.0	1.2	4.0	1.2	11.0	3.4	4.0	1.2	4.0	1.2	11.0	3.4
200	90	5.0	1.5	5.0	1.5	11.0	3.4	5.0	1.5	5.0	1.5	12.0	3.7	5.0	1.5	5.0	1.5	12.0	3.7
225	102	5.0	1.5	5.0	1.5	11.0	3.4	5.0	1.5	5.0	1.5	12.0	3.7	5.0	1.5	5.0	1.5	12.0	3.7
250	110	6.0	1.8	6.0	1.8	12.0	3.7	6.0	1.8	6.0	1.8	13.0	4.0	6.0	1.8	6.0	1.8	14.0	4.3
285	130	7.0	2.1	7.0	2.1	14.0	4.3	7.0	2.1	7.0	2.1	15.0	4.6	7.0	2.1	7.0	2.1	16.0	4.9

\* With fan on high speed

mc\_030210\_0940