POWERED AIRE Inc.
AIRE CURTAINS
888-321-AIRE (2473)
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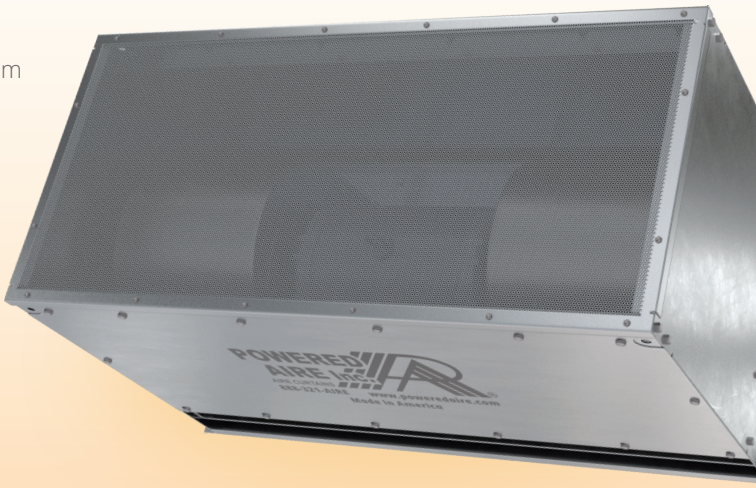
TSD-E

TSD-E

The TSD-E is an electrically heated air curtain designed to provide complete coverage (as well as electric heat) over dock doors, delivery doors and warehouse doors. This industrial-focused air curtain is ideal for doors with openings typically between 12 and 17 feet. With the complement of electric heat, the TSD Air Door effectively blocks cold winter air, helping to create a warmer working area on and around dock/delivery doors while also preventing the infiltration of dust, insects and fumes.

The TSD-E includes a direct-drive motor that helps ensure a maximum operating life by eliminating the need to replace belts or the chance of coupler misalignment. The unit is also designed with ease-of-installation in mind, arriving as a single unit. The TSD-E features automatic and manual limit switches for over temperature protection, Airflow swithces that prevent heating element operation when fans are off, and customizable heating KWs.



OPTIONS

HEATING

Unheated, Hot Water, Steam, Direct Gas, Indirect Gas

AT A GLANCE

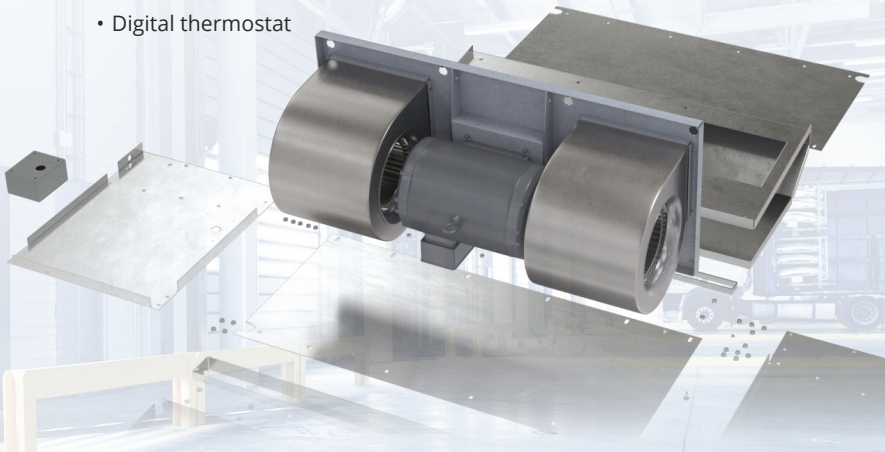
Single Incremental Widths	Max Installation Height	Heavy Duty Motors
4' to 30'	17'	3 HP

KEY DESIGN FEATURES

- Outer cabinet constructed of 18-gauge 304 stainless steel with #3 finish
- 3 HP TEAO (Totally Enclosed Air Over) direct-drive single-speed motor(s)
- High-efficiency discharge plenum with adjustable air foil vane (+/-20˚)
- Top and bottom access panels for servicing and removal of motor-blower assembly
- NEMA 12 control panel with factory installed magnetic motor starter, overload relays, and control transformer
- Open coil multi-stage heating elements with factory mounted panel(s)
- Single point power connection available (see electrical table)
- Alternate heater kW available (consult factory)

RECOMMENDED CONTROLS

- Activation by 24V magnetic door switch
- Toggle disconnect switch(s)
- Hand/Off/Auto selector switch
- Heat On/Off selector switch
- Digital thermostat



TSD-E | PERFORMANCE

TSD-E | Perfomance Table

Model	Nozzle Width (in.)	Max. FPM at Nozzle	Avg. Outlet Velocity FPM	CFM at Nozzle	Outlet Velocity Uniformity	Number of Motors	Motor HP	Electric Heat		Weight (lbs.)
								Heater KW	Temp Rise (°F)	
TSD-1-48E	48	6200	3209	4268	95.10%	1	3	40	30	380
TSD-1-60E	60	5800	3006	4855	92.00%	1	3	40	26	428
TSD-1-72E	72	5900	2891	5579	86.30%	1	3	40	23	458
TSD-2-96E	96	6200	3209	8536	95.10%	2	3	80	24	758
TSD-2-108E	108	6200	3108	9123	92.00%	2	3	80	28	806
TSD-2-120E	120	5800	3006	9710	92.00%	2	3	80	26	854
TSD-2-132E	132	5900	2943	10434	86.30%	2	3	80	24	883
TSD-2-144E	144	5900	2891	11158	86.30%	2	3	80	23	912
TSD-3-144E	144	6200	3209	12804	95.10%	3	3	120	30	1135
TSD-3-156E	156	6200	3141	13391	92.00%	3	3	120	28	1183
TSD-3-168E	168	6200	3074	13978	86.30%	3	3	120	27	1213
TSD-3-180E	180	6200	3200	15608	86.30%	3	3	120	24	1261
TSD-3-192E	192	6200	3145	16332	86.30%	3	3	120	23	1290
TSD-4-192E	192	6200	3209	17072	95.10%	4	3	160	30	1513
TSD-3-204E	204	5900	2925	16013	86.30%	3	3	120	24	1338
TSD-4-204E	204	6200	3158	17072	92.00%	4	3	160	30	1561
TSD-3-216E	216	5900	2891	16737	86.30%	3	3	120	23	1368
TSD-4-216E	216	6200	3108	18246	86.30%	4	3	160	28	1591
TSD-4-228E	228	6200	3057	18833	86.30%	4	3	160	27	1639
TSD-4-240E	240	6200	3295	21560	86.30%	4	3	160	23	1668
TSD-5-240E	240	6200	3209	21340	95.10%	5	3	200	30	1891

TSD-E | Velocity Projection Model (Model TSD-1-48)

Distance From Nozzle	40 in.	80 in.	120 in.	160 in.	200 in.
Core Velocity (fpm)	3020	2060	1710	1420	1225

TSD-E | Sound Levels

High Speed	69 dBA	Measured 10 ft. from unit in a free field based on a 1 motor unit

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TSD-E | MECHANICAL DETAILS

Mechanical Drawings

TSD Mechanical Drawings can be found on the next page, Page 160.

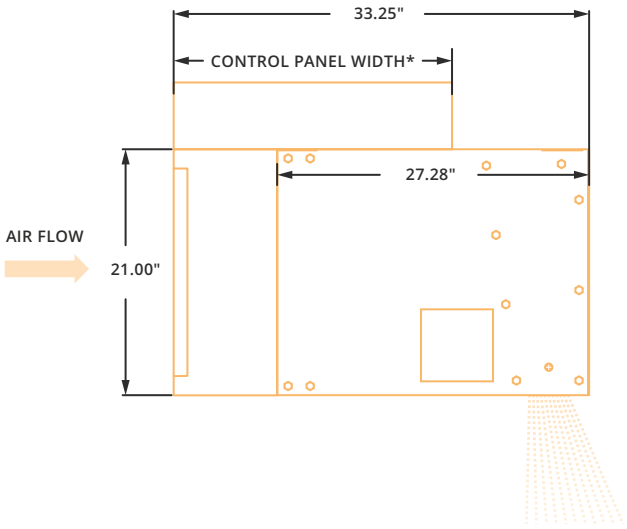
TSD-E | Mechanical Information Table

MODEL	Overall Width* (in)	Nozzle Width (in)	Mounting Width Rear (in)	Mounting Width Top (in)	MODEL	Overall Width* (in)	Nozzle Width (in)	Mounting Width Rear (in)	Mounting Width Top (in)
TSD-1-48E	51	48	49.5	47	TSD-4-264E	267.36	264.36	265.86	263.36
TSD-1-60E	63	60	61.5	59	TSD-5-264E	267.48	264.48	265.98	263.48
TSD-1-72E	75	72	73.5	71	TSD-4-276E	279.36	276.36	277.86	275.36
TSD-2-96E	99.12	96.12	97.62	95.12	TSD-5-276E	279.48	276.48	277.98	275.48
TSD-2-108E	111.12	108.12	109.62	107.12	TSD-4-288E	291.36	288.36	289.86	287.36
TSD-2-120E	123.12	120.12	121.62	119.12	TSD-5-288E	291.48	288.48	289.98	287.48
TSD-2-132E	135.12	132.12	133.62	131.12	TSD-6-288E	291.6	288.6	290.1	287.6
TSD-2-144E	147.12	144.12	145.62	143.12	TSD-5-300E	303.48	300.48	301.98	299.48
TSD-3-144E	147.24	144.24	145.74	143.24	TSD-6-300E	303.6	300.6	302.1	299.6
TSD-3-156E	159.24	156.24	157.74	155.24	TSD-5-312E	315.48	312.48	313.98	311.48
TSD-3-168E	171.24	168.24	169.74	167.24	TSD-6-312E	315.6	312.6	314.1	311.6
TSD-3-180E	183.24	180.24	181.74	179.24	TSD-5-324E	327.48	324.48	325.98	323.48
TSD-3-192E	195.24	192.24	193.74	191.24	TSD-6-324E	327.6	324.6	326.1	323.6
TSD-4-192E	195.36	192.36	193.86	191.36	TSD-5-336E	339.48	336.48	337.98	335.48
TSD-3-204E	207.24	204.24	205.74	203.24	TSD-6-336E	339.6	336.6	338.1	335.6
TSD-4-204E	207.36	204.36	205.86	203.36	TSD-7-336E	339.72	336.72	338.22	335.72
TSD-3-216E	219.24	216.24	217.74	215.24	TSD-5-348E	351.48	348.48	349.98	347.48
TSD-4-216E	219.36	216.36	217.86	215.36	TSD-6-348E	351.6	348.6	350.1	347.6
TSD-4-228E	231.36	228.36	229.86	227.36	TSD-7-348E	351.72	348.72	350.22	347.72
TSD-4-240E	243.36	240.36	241.86	239.36	TSD-5-360E	363.48	360.48	361.98	359.48
TSD-5-240E	243.48	240.48	241.98	239.48	TSD-6-360E	363.6	360.6	362.1	359.6
TSD-4-252E	255.36	252.36	253.86	251.36	TSD-7-360E	363.72	360.72	362.22	359.72
TSD-5-252E	255.48	252.48	253.98	251.48					

*Overall width will vary due to added width of control panel, which is custom per unit

TSD-E | MECHANICAL DRAWINGS

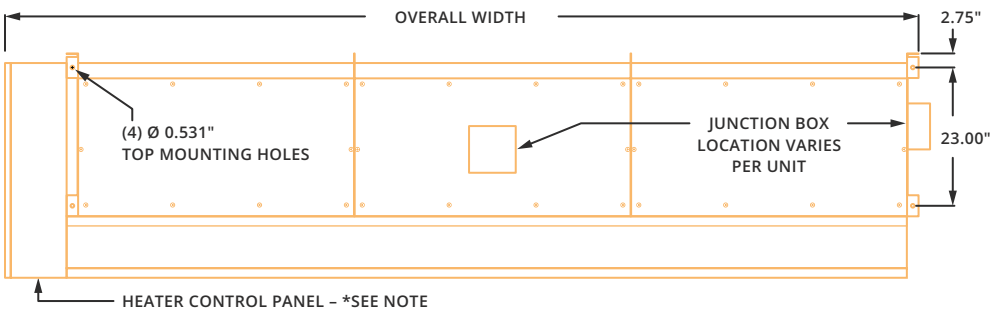
SIDE



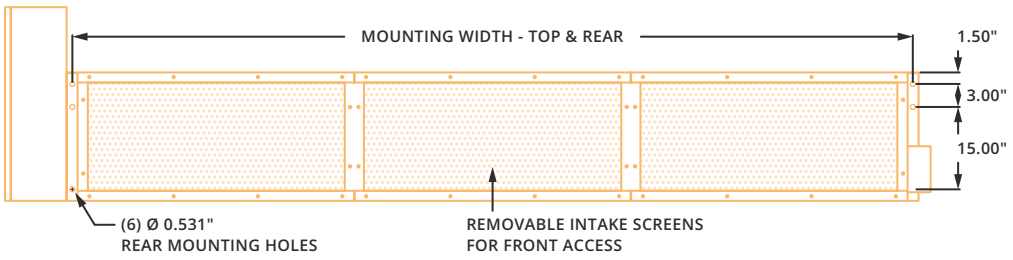
CONTROL PANEL NOTE

* Heater Control Panel dimensions vary per unit. In certain sizes, the control panel may increase the overal depth, width and/or height

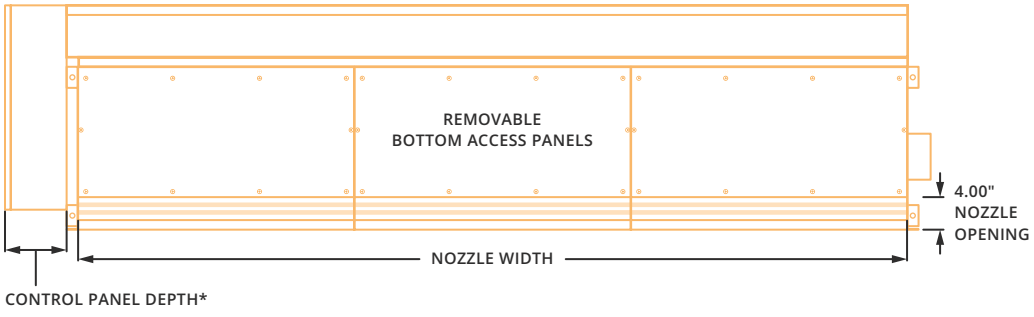
TOP



FRONT



BOTTOM



TSD-E | ELECTRICAL

TSD-E | Electrical Table

MODEL	KW	480/3/06 Separate Supply Circuits				575/3/06 Separate Supply Circuits			
		Heat 1	Heat 2	Motors	SPP*	Heat 1	Heat 2	Motors	SPP*
TSD-1-48E	40	48.1 (70)	-	6.1 (15)	54.2 (80)	40.2 (60)	-	3.9 (15)	44.1 (60)
TSD-1-60E	40								
TSD-1-72E	40								
TSD-2-96E	80	96.2 (125)	-	12.2 (20)	108.4 (150)	80.3 (110)	-	7.8 (15)	88.1 (125)
TSD-2-108E	80								
TSD-2-120E	80								
TSD-2-132E	80	48.1 (70)	48.1 (70)	12.2 (20)	108.4 (150)	40.2 (60)	40.2 (60)	7.8 (15)	88.1 (125)
TSD-2-144E	80								
TSD-3-144E	120	72.2 (100)	72.2 (100)	18.3 (30)	‡	60.2 (80)	60.2 (80)	11.7 (20)	132.2 (175)
TSD-3-156E	120								
TSD-3-168E	120								
TSD-3-180E	120								
TSD-3-192E	120								
TSD-3-204E	120								
TSD-3-216E	120								
TSD-4-192E	160	‡	‡	‡	‡	‡	‡	‡	‡
TSD-4-204E	160								
TSD-4-216E	160								
TSD-4-228E	160								
TSD-4-240E	160								
TSD-5-240E	200	‡	‡	‡	‡	‡	‡	‡	‡

*** With optional branch fusing for Single Point Power (SPP)**

^ Consult factory for additional voltages

‡ High amp draws may be prohibitive. Reduced and custom kW available. Contact Factory.

TSD & TSD-E | INSTALLATION

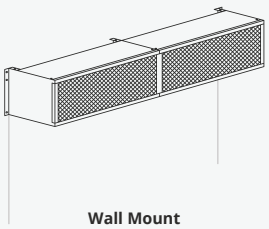
NOTE

The air curtain should be mounted as close to the door header/opening as possible for maximum performance. For every one inch the bottom of the air curtain is mounted above the door header, the back side of the air curtain should be moved away from the wall ¼ inch.

A WALL MOUNT

Rear flanges of air curtain have six holes, for six 1/2 inch bolts or lags with washers. When wall mounting use all six holes.

A



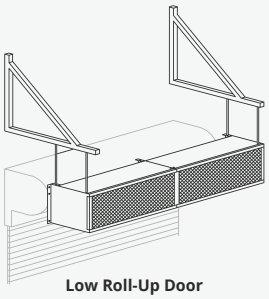
Wall Mount

B MOUNTING BRACKETS

Mounting brackets (also called knee, angle or L-brackets) can be flush to the wall or constructed to account for a projection from the wall. For proper size brackets measure standoff distance from wall to back of where air curtain will be.

If required, angle iron or steel tubing can be attached to the top of the air curtain, typically one foot longer at each end, to reach brackets that are mounted outside of the door system.

B



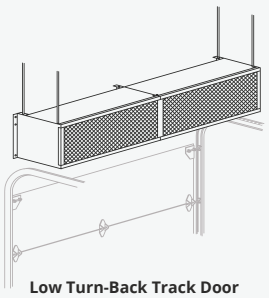
Low Roll-Up Door

C TOP MOUNT

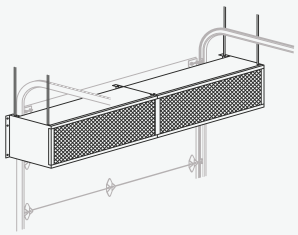
Unit has four 17/32 holes for installing one end of 1/2 inch threaded rods. The other ends of the threaded rods can be attached to the ceiling. Washers or locknuts are recommended. Mounting structure should be of sufficient strength to hold air curtain, and hardware (supplied by others) should be of sufficient strength and quality to support the unit safely. Additional mounting holes are provided on larger units for buildings where structural support is not adequate for supporting the air curtain from ends only.

*Powered Aire does not supply threaded rods.

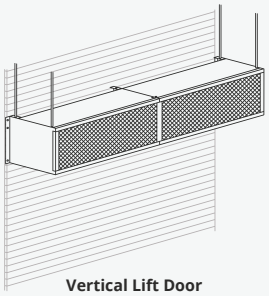
C



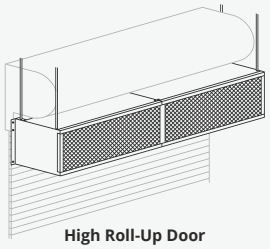
Low Turn-Back Track Door



High Turn-Back Track Door



Vertical Lift Door



High Roll-Up Door