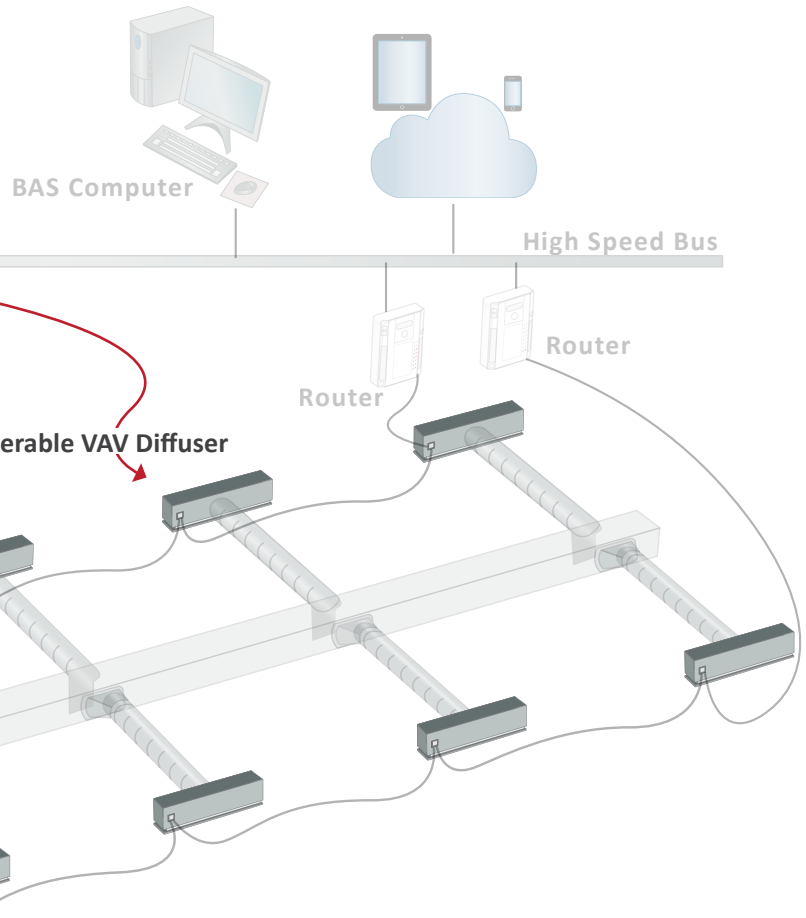


# EL Therma-Fuser™

## Interoperable Linear Slot VAV Diffuser

Models: **EL-B** Interoperable with BACnet™



EL: Product Overview  
FORM 095.101 Rev 1810

### BENEFITS AT A GLANCE.

#### SPECIFICALLY DESIGNED FOR INTEROPERABILITY

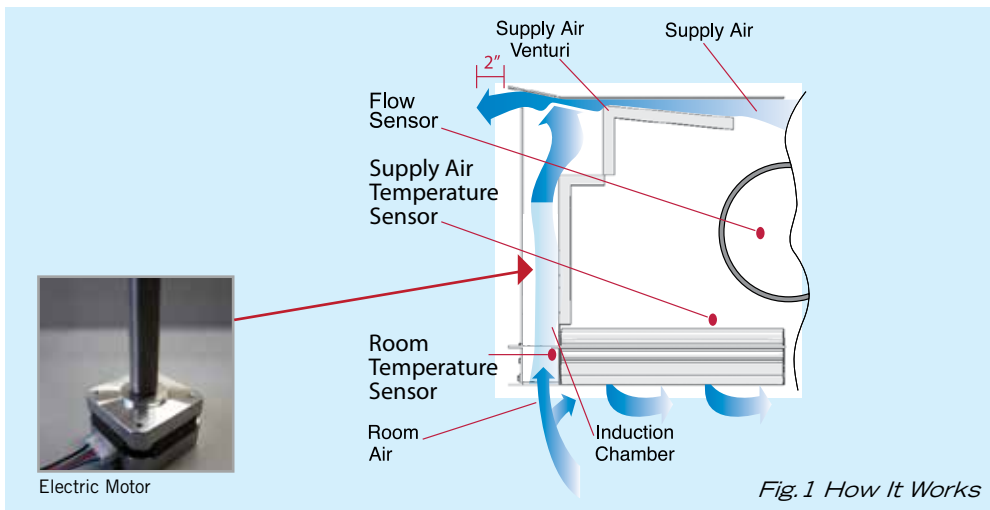
The EL provides more information about what's happening in the space than any other VAV terminal because it monitors load, supply air temperature and flow at each diffuser. Native BACnet™ BTL® Listed ensures that the EL will exchange data with products from other vendors on any BACnet™ DDC building control network. Interoperability with other control networks is easy using gateways by other manufacturers.

#### Features

+ Comfort - Individual temperature control	✓
+ Comfort - Superior air distribution	✓
+ Energy - Energy saving system	✓
+ Sustainability - Adaptable system	✓
+ BAS room air temperature output to BAS	✓
+ BAS room temperature setpoints adjustable by BAS	✓
+ BAS diffuser supply air temperature output to BAS	✓
+ BAS diffuser supply air volume output to BAS	✓



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protocol to make interoperability easier and simplify integration with building automation systems.

### BACnet™

Native BACnet™ to ANSI/ASHRAE Standard 135

BTL® Tested and Listed.

BACnet™ MS/TP three wire daisy chain network connection.

## HOW IT WORKS

Model EL Therma-Fuser diffusers are linear slot ceiling diffusers with built in DDC controller, temperature sensors, flow sensors and VAV damper. Damper blade(s) open and close to meter air flow (hot or cold) into the room in response to room temperature. The damper(s) are modulated by a electric motor.

**Electric motors** deliver a deliberate response for control of room temperature and, when required, a quick response to commands. The electric motor directly drives a threaded shaft connected with a linkage to the damper eliminating a failure prone gear box. The electric motor has been rigorously tested and will provide many years of reliable service.

The controller uses an 'expert system' control similar to having an "expert" sitting there making the adjustments. Unlike PID control, 'expert system' control does not require field tuning. Every 10 seconds it determines if the flow should be adjusted and the amount of any adjustment based on temperature relationships and both the rate and direction of change of flow.

## ROOM AIR SENSING

As with all diffusers, air circulates around the room in a circular motion. Secondary air rises under the diffuser, passes beneath the diffuser and

entrains with the primary air at the outside edge of the diffuser. This secondary air best represents average room temperature.

To monitor average room temperature, a continuous sample of secondary air is drawn up into the induction chamber and over the room temperature sensor by the action of a venturi fed by supply air. This venturi is located at the top of the induction chamber. A properly applied EL will hold the room average within 1.5°F/0.9°C of the temperature selected.

## COOLING & HEATING MODES

In the cooling mode, the damper blade(s) open on a rise in room temperature. In the heating mode the operation is reversed with the damper blade(s) closing on a rise in room temperature. Determination of cooling/heating mode is made automatically by comparing supply air temperature to room temperature and set point. The diffuser is in the heating mode if the supply air temperature is warmer than **both** the room temperature and set point. The diffuser is in the cooling mode if the supply air temperature is cooler than **either** the room temperature or set point. The automatic selection of the heating/cooling mode can be overridden through the BAS.

## FLOW MEASUREMENT

The radius of the inlet elbow or direction of the supply air duct will bias the air flow out of a diffuser. To minimize any inlet effect, the EL uses a plenum boot to distribute the air along the length of the slot with the flow sensor located near the middle of the slot. Heated thermistor flow sensors are used to provide accurate and maintenance free measurements.

## STANDARD OPEN COMMUNICATION PROTOCOLS

The EL is available with BACnet™ standard open communication

## CONFIGURABLE VARIABLES / OBJECTS

Measurements

- Room Temperature
- Supply Air Temperature
- Air Flow

Set Points

- Separate cooling and heating set points in each occupancy mode
- Offset for temporary vacancy (for example, lunch break)
- Set limit on range of adjustment
- Reset on occupancy mode

Mode Settings

- Occupancy modes; Occupied, Unoccupied and Standby
- VAV heating and cooling modes
- Vacancy modes

Flow Settings

- Maximum flow
- Minimum flow
- Minimum flow standby
- Maximum flow heating only

Overrides

- All built in sensors from external values
- Damper position; open, closed or flow setting

Special Features

- Interface with CO2 sensor (by others) and purge room
- Terminal load

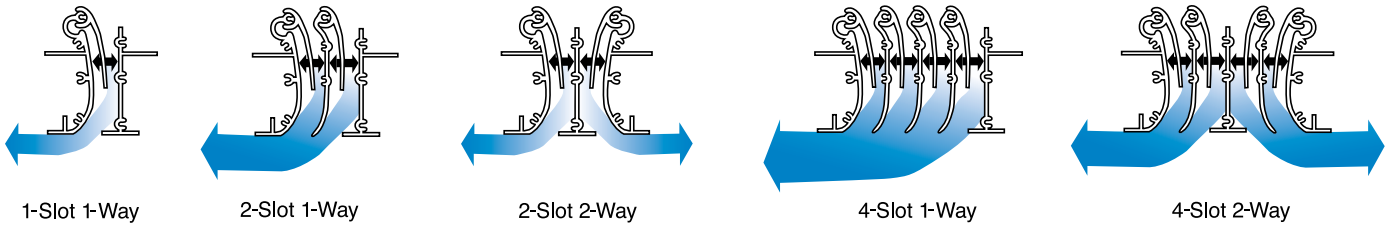
## SUPPLY POWER

24VAC +3/-1, 10VA Max (18VA on some models)

## OPEN FOR BALANCING

An EL with an electric motor ships in the open position allowing the EL to be balanced prior to connection of power and network.

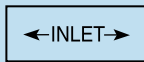
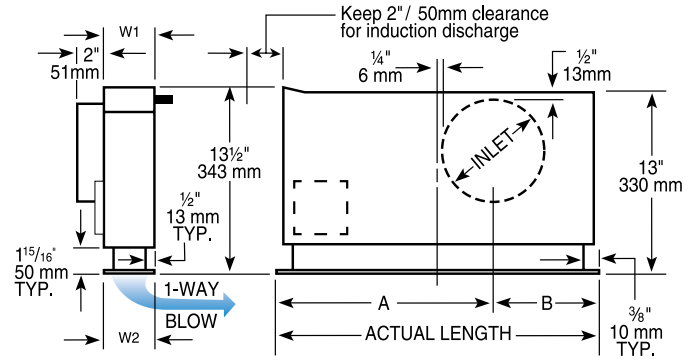
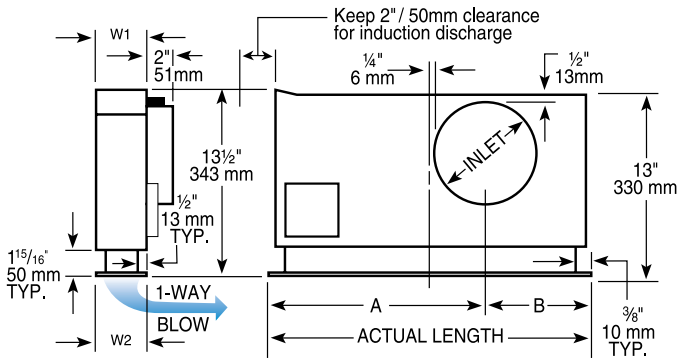
**LINEAR SLOT ARRANGEMENTS:**



**DIMENSIONS:**

**STANDARD INLET** - One-way blow diffusers blow toward the same side with the inlet.

**OPPOSITE INLET** - One-way blow diffusers blow away from the side with the inlet.



Contact Acutherm for dimensions of rectangular top inlet.

Matching returns also available.

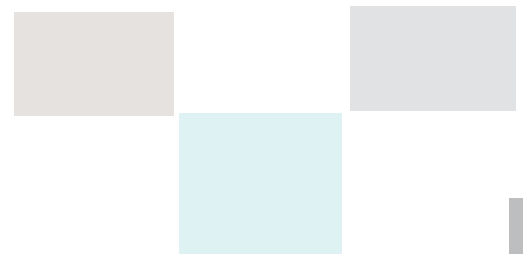
ONE- AND TWO-SLOT								
Nominal length	Actual length*	Inlet	A	B	W1	1-Slot 1-Way	2-Slot 1-Way	2-Slot 2-Way
24	23 3/4 in 603mm	5 7/8 in 150mm	15 1/16 in 382mm	8 1/16 in 221mm	4 in 102mm	2 1/16 in 65mm	3 3/4 in 95mm	4 in 102mm
36	35 3/4 in 908mm	5 7/8 in 150mm	21 1/16 in 535mm	14 1/16 in 373mm	4 in 102mm	2 1/16 in 65mm	3 3/4 in 95mm	4 in 102mm
48	47 3/4 in 1213mm	7 7/8 in 200mm	28 3/16 in 713mm	19 1/16 in 500mm	4 in 102mm	2 1/16 in 65mm	3 3/4 in 95mm	4 in 102mm
60	59 3/4 in 1518mm	7 7/8 in 200mm	34 3/16 in 865mm	25 1/16 in 653mm	4 in 102mm	2 1/16 in 65mm	3 3/4 in 95mm	4 in 102mm

FOUR-SLOT							
Nominal length	Actual length*	Inlet	A	B	W1	4-Slot 1-Way	4-Slot 2-Way
24	23 3/4 in 603mm	7 7/8 in 200mm	15 3/16 in 382mm	8 1/16 in 221mm	6 5/16 in 160mm	6 in 153mm	6 3/8 in 162mm
36	35 3/4 in 908mm	7 7/8 in 200mm	21 3/16 in 535mm	14 1/16 in 373mm	6 5/16 in 160mm	6 in 153mm	6 3/8 in 162mm
48	47 3/4 in 1213mm	9 7/8 in 250mm	28 3/16 in 713mm	19 1/16 in 500mm	6 5/16 in 160mm	6 in 153mm	6 3/8 in 162mm
60	59 3/4 in 1518mm	11 7/8 in † 300mm †	34 3/16 in 865mm	25 1/16 in 653mm	6 5/16 in 160mm	6 in 153mm	6 3/8 in 162mm

† Oval shaped inlet

\* 595, 895, 1195 and 1495mm lengths are available to fit metric ceilings.

- Dimensions ±1/16" / ±2mm



## SELECTION GUIDELINES

Minimum/Maximum Spacing—Use the throw ratings for design air volume (maximum flow in the Performance Guide) to determine distances for minimum and maximum spacing to walls and other diffusers. Below design air volume, room air motion will be kept to acceptable levels by the increasing entrainment ratio as the diffuser turns down.

Less than 100fpm / 0.51m/s (interpolate) is normally satisfactory for air discharged against an inside partition and up to 150fpm / .076m/s can be tolerated against an outside wall. Maximum throw is usually figured around the 50fpm / 0.25m/s point.

When given a choice, put diffusers in line with one another, not blowing at each other. When unavoidable, space diffusers at least two times the 150fpm / 0.76m/s throw (preferably two times the 100fpm / 0.51m/s throw) to avoid down drafts.

Maximum center line spacing between diffusers in line (in the same row) should be three to four times the unit's length. A 48in / 1200mm diffuser would then cover an area 12 to 16ft / 3.6 to 4.8m wide (maximum).

Layouts should be made on a reflected ceiling plan (looking down from above the ceiling). Make the ceiling grid and lighting layouts first, then the diffuser layout.

The center of the room is often an ideal location for a 2-way blow diffuser, but if the lighting gets there first, Acutherm diffusers have enough flexibility to provide good air distribution when not centered. Where large air quantities are required, a frequently used arrangement is "staggered" with alternate rows blowing 1-way in opposite directions.

Do not obstruct the venturi outlet at the end of the diffuser (See Fig.1). Allow a spacing of 2in / 50mm or more between the venturi opening at the end of the diffuser and lights, joists, other diffusers, etc.

Acutherm diffusers are designed for mounting in place of a portion of a ceiling panel. They are not intended to straddle or replace a ceiling T-bar. (See Acutherm's brochure on Ceiling Approaches.)

Return Air may be handled in the conventional manner using return air grills or, more typically, return air slots can be provided to match the supply air diffusers. Use of return air slots will generally improve air distribution in the space and blend into the overall ceiling pattern along with the supply air diffusers.

Each space should have returns. Select returns with the same total length of slot as the supply air diffusers in the space. Arrangement should be in line with or perpendicular to the supply diffusers. If return air slots must be located in the supply air stream, place them beyond the 50fpm / 0.25m/s throw for the supply air diffuser.

Horizontal air discharge streams are not affected by ceiling beams or other construction under 2in / 50mm in height

provided they are at least 2ft / 600mm from the diffuser. Obstructions greater than 2in / 50mm will cause downward air deflection and objectionable drafts. Within 2ft / 600mm from the diffuser, obstacles should not extend more than 1/16in / 1.5mm below the plane of the bottom of the diffuser.

## PERFORMANCE GUIDE in I-P UNITS

### 2-Slot 2-Way Linear

Nominal Length in	Inlet Static Pressure in wg	Maximum Flow cfm	Maximum Flow		25% Maximum Flow	
			Throw - Feet* @ v <sub>s</sub> =50/100/150FPM	†NC	Throw* - Feet @ v <sub>s</sub> =50/100/150FPM	†NC
24	.05	70	4/3/2	<15	3/1/1	<15
	.10	90	5/4/3	<15	4/3/1	<15
	.15	120	9/7/4	21	6/4/3	20
	.18	135	10/8/5	23	7/5/3	22
	.20	145	10/8/5	25	7/5/3	24
.25	165	13/10/7	30	8/6/4	29	
36	.05	80	4/3/2	<15	3/1/1	<15
	.10	115	7/5/3	16	4/3/1	<15
	.14	143	9/7/5	22	6/4/2	21
	.15	150	9/7/5	23	6/4/2	22
	.20	170	11/9/7	28	7/5/3	27
.25	185	13/10/8	32	8/6/4	31	
48	.05	150	7/5/3	<15	4/3/1	<15
	.10	200	11/9/7	20	6/4/2	19
	.15	240	13/11/9	25	8/6/4	25
	.17	256	15/12/9	27	9/6/4	27
	.20	280	17/14/10	29	10/7/5	29
.25	310	19/15/11	33	12/9/6	32	
60	.05	170	6/4/3	<15	4/3/1	<15
	.10	240	8/6/4	20	5/3/2	19
	.12	260	9/7/4	22	6/3/2	21
	.15	290	10/8/5	26	7/4/3	25
	.20	330	14/11/7	31	9/6/4	30
.25	370	18/14/9	34	11/8/5	33	

### 2-Slot 1-Way Linear

Nominal Length in	Inlet Static Pressure in wg	Maximum Flow cfm	Maximum Flow		25% Maximum Flow	
			Throw - Feet* @ v <sub>s</sub> =50/100/150FPM	†NC	Throw* - Feet @ v <sub>s</sub> =50/100/150FPM	†NC
24	.05	65	6/4/3	<15	4/3/1	<15
	.07	75	7/5/4	17	5/3/1	17
	.10	90	9/7/5	20	6/4/2	19
	.15	110	14/11/7	25	9/6/4	24
	.20	130	17/13/8	29	10/7/5	28
.25	145	19/14/9	32	12/9/6	31	
36	.05	85	5/3/2	16	3/1/1	<15
	.10	120	9/7/5	23	5/4/2	22
	.12	130	11/8/6	24	6/5/3	23
	.15	145	13/10/7	26	8/6/4	25
	.20	165	16/12/8	30	10/7/5	29
.25	180	18/14/9	33	12/9/6	32	
48	.05	150	8/6/4	17	5/4/2	<15
	.10	200	15/13/8	24	9/6/4	20
	.15	240	22/17/11	30	13/9/6	26
	.17	256	23/17/11	31	13/10/6	27
	.20	280	24/18/12	32	14/11/7	28
.25	310	25/19/13	35	15/12/7	31	
60	.05	170	6/4/3	17	4/3/1	16
	.10	230	14/11/7	24	8/6/4	23
	.13	263	17/13/8	28	11/7/5	27
	.15	280	19/14/9	30	12/8/5	29
	.20	320	20/15/10	32	12/9/6	31
.25	360	22/17/11	35	13/10/6	34	

### 1-Slot 1-Way Linear

Nominal Length in	Inlet Static Pressure in wg	Maximum Flow cfm	Maximum Flow		25% Maximum Flow	
			Throw - Feet* @ v <sub>s</sub> =50/100/150FPM	†NC	Throw* - Feet @ v <sub>s</sub> =50/100/150FPM	†NC
24	.05	45	6/4/3	<15	4/3/1	<15
	.10	60	9/7/4	19	6/4/2	<15
	.15	70	13/10/7	23	8/6/4	16
	.18	76	15/11/8	25	9/7/5	19
	.20	80	17/12/8	27	10/8/5	21
.25	90	19/14/9	30	12/9/6	24	
36	.05	70	6/4/3	<15	4/3/1	<15
	.07	78	8/6/4	17	5/3/1	<15
	.10	90	10/8/6	20	6/4/2	<15
	.15	110	13/10/7	24	8/6/4	17
	.20	125	18/14/9	28	10/7/5	21
.25	140	20/15/10	31	12/9/6	24	
48	.05	90	6/4/3	16	4/3/1	<15
	.10	125	14/10/6	23	8/6/4	17
	.12	135	16/12/7	25	10/7/4	18
	.15	150	20/14/8	28	12/8/5	20
	.20	175	21/15/9	31	13/10/6	24
.25	190	22/17/11	34	14/12/7	28	
60	.05	100	6/5/4	17	4/3/1	<15
	.09	140	9/7/6	23	6/4/2	18
	.10	150	10/8/6	24	6/4/2	19
	.15	180	15/13/8	30	9/6/4	23
	.20	210	17/13/9	32	10/7/5	26
.25	230	20/15/10	35	12/9/6	29	

The best control for heating/cooling units supplying air to VAV terminals is a discharge thermostat that maintains a constant supply air temperature. With DX equipment, this is a low limit. Use a room thermostat for changeover between heating and cooling modes. For hybrid systems (part VAV and part constant volume), control the heating/cooling supply unit with a thermostat in one of the rooms with a constant volume diffuser, preferably the space with the greatest load. For both VAV or hybrid systems, the fan should run continuously.

Static pressure at the inlet of the Therma-Fuser diffuser should be between .05"wg / 12Pa and .25"wg / 62Pa, at full and partial airflows. Static pressure below .05"wg / 12Pa will result in low airflow and less induction. Above .25"wg / 62Pa, Therma-Fuser diffusers operate well, but excessive noise may result.

If the system turns down more than 30%, static pressure should be controlled. Included in the options for static pressure control are fan speed control and modulating bypass dampers. Modulating zone dampers are recommended where several diffusers share a higher pressure duct or riser.

When designing ducts, if Therma-Fuser diffusers are to deliver nominal volume at inlet static pressure of .15"wg / 37Pa and if a maximum static pressure of .25"wg / 62Pa is to be held for quiet operation, size the duct for a maximum pressure drop of .1"wg / 25Pa between the first and last takeoff.

Manual balancing dampers should be used at the takeoff for each diffuser. Manual balancing dampers may not be required with ducts designed to Acutherm specifications.

A short length of low pressure flexible duct should be used to connect the diffuser. To avoid static pressure losses, flexible duct runs should be designed and installed as straight as possible (equivalent of one 90° turn max.) and should NOT be formed in a centerline radius of less than 1½ times the duct diameter.

Because Therma-Fuser diffusers control room temperature by sensing room air induced under the diffuser, care should be taken not to disturb room air induction and entrainment. For example, located to blow at walls or dropped lights results in the reflection of primary air back at the Therma-Fuser diffuser. To avoid this, relocate either the Therma-Fuser diffuser or the light.

Acutherm has "how to" system design brochures for almost every ducted air system.

PERFORMANCE GUIDE in I-P UNITS CONTINUED

4-Slot 2-Way Linear

Nominal Length in	Inlet Static Pressure in wg	Maximum Flow cfm	Maximum Flow		25% Maximum Flow	
			Throw - Feet* @ v <sub>i</sub> =50/100/150FPM	†NC	Throw* - Feet @ v <sub>i</sub> =50/100/150FPM	†NC
24	.05	150	4/3/2	<15	3/2/<1	<15
	.10	210	7/5/3	23	4/3/<1	22
	.13	240	8/6/4	25	5/4/2	24
	.15	260	9/7/5	26	5/4/2	25
	.20	300	11/9/7	30	7/5/3	29
36	.05	185	5/4/3	<15	3/2/<1	<15
	.10	260	8/6/4	23	5/4/2	22
	.13	296	9/7/5	25	6/5/3	24
	.15	320	10/8/6	27	6/5/3	26
	.20	370	12/10/8	31	8/6/4	30
48	.05	275	8/7/5	<15	5/4/3	<15
	.10	390	11/9/7	25	9/7/4	24
	.11	408	12/10/7	26	10/8/5	25
	.15	480	14/12/9	32	12/10/7	31
	.20	550	17/14/10	37	14/12/8	36
60	.05	430	9/8/6	20	5/4/3	<15
	.09	570	11/10/8	28	8/6/4	19
	.10	605	12/10/8	30	9/7/4	20
	.15	745	16/14/10	35	14/11/7	29
	.20	860	19/16/12	39	15/13/8	34
.25	960	21/18/13	42	18/15/10	36	

4-Slot 1-Way Linear

Nominal Length in	Inlet Static Pressure in wg	Maximum Flow cfm	Maximum Flow		25% Maximum Flow	
			Throw - Feet* @ v <sub>i</sub> =50/100/150FPM	†NC	Throw* - Feet @ v <sub>i</sub> =50/100/150FPM	†NC
24	.05	150	6/5/3	<15	4/3/<1	<15
	.10	210	13/10/7	26	8/6/4	24
	.13	240	17/13/8	27	10/7/5	25
	.15	260	19/15/9	28	11/8/5	26
	.20	300	20/16/10	33	12/9/6	31
36	.05	180	6/5/4	<15	4/3/<1	<15
	.10	250	14/12/8	26	8/6/4	24
	.11	262	15/12/8	27	9/6/4	25
	.15	310	19/14/10	30	11/8/5	28
	.20	360	21/18/12	34	13/10/7	32
48	.05	315	16/13/9	<15	9/7/4	<15
	.08	393	18/15/11	23	10/8/5	22
	.10	445	20/17/12	28	10/8/5	26
	.15	545	26/23/16	34	13/10/7	32
	.20	630	35/29/21	38	19/15/9	36
60	.05	400	17/14/11	16	9/7/4	<15
	.10	570	25/22/15	28	12/10/7	20
	.11	596	26/23/16	29	13/11/7	22
	.15	700	32/26/18	34	15/13/9	31
	.20	805	36/30/22	38	21/16/12	36
.25	903	40/33/25	41	25/19/14	38	

- Denotes 750 fpm / 3.81 m/s inlet velocity. @ Denotes 400 fpm / 2.03 m/s inlet velocity.
- \* Throw data is for air 20°F/11°C lower than room temperature. Throws for isothermal air are 40 to 50% greater.
- † NC based on L<sub>w</sub>(10<sup>-12</sup> watts reference) -10db.
- Ratings independently verified by Inchcape Testing Services, ETL Testing Laboratories.
- Tested in accordance with ANSI/ASHRAE 70-1991, ANSI S12.31, ARI 890-2001, ISO 5219 and ISO 3741.

The volume of induction air (into the ceiling) required in addition to rated air volume is:		
Inlet SP in wg	1- and 2-Slots CFM	4-Slots CFM
.05	7	11
.10	9	14
.15	11	17
.20	12.5	20



## PERFORMANCE GUIDE in SI (METRIC) UNITS CONTINUED

4-Slot, 2-Way Linear												
Nominal Length mm	Nominal Inlet Dia. mm	Inlet Static Pressure Pa	Maximum Flow		Maximum Flow Throw (m)*@v <sub>t</sub> =				25% Maximum Flow Throw (m)*@v <sub>t</sub> =			
			L/s	m <sup>3</sup> /h	.25 m/s	.50 m/s	.75 m/s	†NC	.25 m/s	.50 m/s	.75 m/s	†NC
600	200	10	65	235	1.0	0.8	0.6	<15	0.9	0.6	<0.3	<15
		20	88	317	1.8	1.3	0.8	20	1.1	0.8	0.3	19
		30	109	392	2.4	1.8	1.2	24	1.3	1.0	0.5	23
		• 40	127	457	2.9	2.3	1.7	27	1.7	1.3	0.7	26
		50	142	511	3.4	2.8	2.2	30	2.1	1.5	0.9	29
		60	155	559	3.9	3.3	2.4	32	2.4	1.8	1.2	31
900	200	10	80	290	1.3	1.1	0.9	<15	0.8	0.5	<0.3	<15
		20	109	392	2.1	1.6	1.1	20	1.3	1.0	0.5	19
		• 30	134	484	2.7	2.1	1.5	25	1.7	1.4	0.8	24
		40	156	562	3.1	2.6	2.0	28	2.0	1.6	1.0	27
		50	175	630	3.7	3.1	2.5	31	2.5	1.9	1.2	30
		60	190	685	4.2	3.6	2.7	33	2.7	2.1	1.3	32
1200	250	10	119	429	2.1	2.0	1.4	<15	1.3	1.0	0.9	<15
		20	163	586	3.0	2.5	1.9	21	2.3	1.8	1.1	20
		• 30	201	726	3.7	3.1	2.4	28	3.3	2.5	1.6	27
		40	234	842	4.5	3.8	2.9	33	3.8	3.2	2.2	32
		50	260	937	5.2	4.3	3.1	37	4.3	3.7	2.5	36
		60	287	1033	5.9	5.0	3.6	39	4.8	4.2	3.0	38
1500	300*	10	187	673	2.6	2.3	1.7	18	1.3	1.0	0.9	<15
		20	253	912	3.3	2.8	2.2	26	2.3	1.8	1.1	18
		• 30	313	1126	4.2	3.6	2.7	32	3.4	2.7	1.6	24
		40	363	1309	5.1	4.4	3.2	36	4.3	3.5	2.3	30
		50	406	1465	5.8	4.9	3.7	39	4.6	4.0	2.5	34
		60	445	1602	6.3	5.4	4.0	41	5.3	4.5	3.0	36

4-Slot, 1-Way Linear												
Nominal Length mm	Nominal Inlet Dia. mm	Inlet Static Pressure Pa	Maximum Flow		Maximum Flow Throw (m)*@v <sub>t</sub> =				25% Maximum Flow Throw (m)*@v <sub>t</sub> =			
			L/s	m <sup>3</sup> /h	.25 m/s	.50 m/s	.75 m/s	†NC	.25 m/s	.50 m/s	.75 m/s	†NC
600	200	10	65	235	1.4	1.2	0.7	<15	1.0	0.7	<0.3	<15
		20	88	317	3.1	2.5	1.7	22	2.0	1.5	0.9	20
		30	109	392	4.7	3.7	2.4	27	2.8	2.1	1.4	25
		• 40	127	457	5.9	4.7	2.9	29	3.4	2.5	1.6	27
		50	142	511	6.1	4.9	3.1	33	3.7	2.8	1.9	31
		60	155	559	6.4	5.4	3.6	35	3.9	3.0	2.1	33
900	200	10	78	283	1.4	1.1	1.0	<15	1.0	0.7	<0.3	<15
		20	105	378	3.3	2.8	2.0	22	2.0	1.5	0.9	20
		• 30	130	467	4.9	3.9	2.7	28	2.8	2.1	1.4	26
		40	151	545	5.9	4.6	3.2	31	3.5	2.6	1.7	29
		50	170	613	6.4	5.5	3.8	34	4.0	3.1	2.2	32
		60	185	668	6.7	5.8	4.0	36	4.2	3.6	2.2	34
1200	250	10	137	492	4.5	3.7	2.6	<15	2.7	2.1	1.2	<15
		• 20	186	670	5.6	4.7	3.4	23	2.9	2.3	1.4	22
		30	229	826	6.9	6.0	4.2	30	3.6	2.7	1.8	28
		40	266	958	8.5	7.4	5.3	35	4.4	3.4	2.3	33
		50	298	1073	10.7	8.9	6.5	38	5.8	4.6	2.8	36
		60	324	1169	11.2	9.6	7.3	41	6.3	5.4	3.6	38
1500	300*	10	173	623	4.7	3.8	3.1	16	2.6	2.0	1.1	<15
		20	237	856	6.7	5.8	4.2	23	3.3	2.7	1.8	18
		• 30	294	1060	8.5	7.2	5.1	30	4.0	3.4	2.4	25
		40	341	1228	10.0	8.2	5.9	35	5.0	4.2	3.0	32
		50	381	1372	11.0	9.2	6.8	38	6.4	4.9	3.7	36
		60	418	1506	12.0	10.0	7.6	40	7.4	5.7	4.2	38

All SI (metric) ratings are soft conversion from I-P ratings.

• Denotes 750 fpm / 3.81 m/s inlet velocity.

⊙ Denotes 400 fpm / 2.03 m/s inlet velocity.

\* Throw data is for air 20°F/11°C lower than room temperature. Throws for isothermal air are 40 to 50% greater.

† NC based on L<sub>w</sub>(10<sup>-12</sup> watts reference) -10db.

- Ratings independently verified by Inchcape Testing Services, ETL Testing Laboratories.

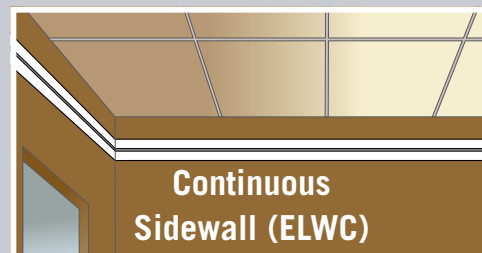
◇ Oval shaped inlet.

- Tested in accordance with ANSI/ASHRAE 70-1991, ANSI S12.31, ARI 890-2001, ISO 5219 and ISO 3741.

The volume of induction air (into the ceiling) required in addition to rated air volume is:

Inlet SP Pa	1- and 2-Slots L / s	4-Slots L / s
12	.33	5.2
25	4.2	6.6
37	5.2	8.0
50	5.9	9.4

Linear Therma-Fuser™ Diffusers are also available in Sidewall, Continuous Ceiling and Continuous Sidewall models.



Contact Acutherm for more details.



# EL Therma-Fuser™ Interoperable Linear Slot VAV Diffuser

## TWO YEAR WARRANTY

Acutherm warrants that its EL Therma-Fuser diffusers, exclusive of any options and accessories (whether factory or field installed) shall be free from defects in material or workmanship for a period of two (2) years from the date of shipment and agrees to repair or replace, at its option, any parts that fail during said two (2) year period due to any such defects which would not have occurred had reasonable care been taken, provided that such parts have been inspected by Acutherm and found defective and provided the diffusers have been given normal and proper usage and all parts and controls remain unaltered. Acutherm makes NO WARRANTY OF MERCHANTABILITY OF PRODUCTS OR OF THEIR FITNESS FOR ANY PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY WHICH EXTENDS BEYOND THE LIMITED WARRANTY ABOVE. ACUTHERM'S LIABILITY FOR ANY AND ALL LOSSES AND DAMAGES RESULTING FROM DEFECTS SHALL IN NO EVENT EXCEED THE COST OF REPAIR OR REPLACEMENT OF PARTS FOUND DEFECTIVE UPON EXAMINATION BY ACUTHERM. IN NO EVENT SHALL ACUTHERM BE LIABLE FOR INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR DAMAGES FOR INJURY TO PERSONS OR PROPERTY. Acutherm shall not be responsible for freight to or from its plant in connection with the inspection, repair or replacement of parts under the terms of this limited warranty nor for cost of removal or installation. Protected by U.S. Patents 6,250,560 & 6,581, 847

## ACUTHERM PRODUCT GUIDE



Square VAV Diffusers



Round VAV Diffusers



Linear VAV Diffusers



Accessories



Pressure Control



Temperature control

## PRODUCT INFORMATION DESCRIPTION

Use the following model number nomenclature to order Therma-Fuser diffusers, options and accessories.

### Product

(1) Model	(2) Protocol	(3) Actuator	(4) Nominal Length	(5) Slots
▶ <b>EL</b>				
(6) Blow	(7) Inlet			

#### Product

1. Model: **EL** Linear Therma-Fuser Diffuser
2. Protocol: **B** BACnet™
3. Actuator: **M** Electric Motor
4. Nominal Length: **24, 36, 48 or 60 in.**  
600, 900, 1200 and 1500 mm lengths are available to fit metric ceilings.
5. **1**-slot, **2**-slot, **4**-slot
6. **1**-way, **2**-way
7. Inlet: **SIDE** or **TOP**

### Options

(1) Insulation
▶ <input type="checkbox"/>

#### Options

1. **FF** Internal insulation

### Accessories

(1) Ceiling Frame
▶ <input type="checkbox"/>

#### Accessories

1. **APF** for Hard Ceiling, **TG916** for tegular 9/16" T-Bar

## AVAILABLE ONLINE

Access digital brochures, CAD files, performance data and more!

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## CALL US

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