



Airflow Direction Incorporated

The **BALL-IN-THE WALL*** Indicator Company

2 Livingston Lane, Newbury, MA 01951

Tel: (888) 334-4545 Fax: (888) 257-3555 www.airflowdirection.com

PRICING & ORDERING

Enclosed:

- ✓ **Model Number Reference Sheet**
- ✓ **Pricing & Order Form (3 pgs.)**
 - for multiple wall sizes for a particular model, enter “RS” in the Wall size box then fill out and submit this [room schedule sheet](#)

For your reference, we also enclosed:

- ✓ a handy table for determining a wall thickness from architectural plans;
- ✓ a handy guide on room pressure criteria to obtain a minimum of 0.01” w.c. (inches of water column) pressure to ensure airflow direction into or out of a room;
- ✓ suggested Door Seals from PEMKO to facilitate obtaining a desired room pressure;
- ✓ ADI’s Warranty

Please feel free to contact ADI for any general or technical questions you may have...



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AIRFLOW DIRECTION INCORPORATED

Room Pressure / Airflow Direction **BALL-IN-THE-WALL*** INDICATOR QUICK-REFERENCE SHEET

ADI® **BALL-IN-THE-WALL*** Indicators are available in “Visual-Only” and “Visual-plus-Alarm” models.



ADI-69-V-N



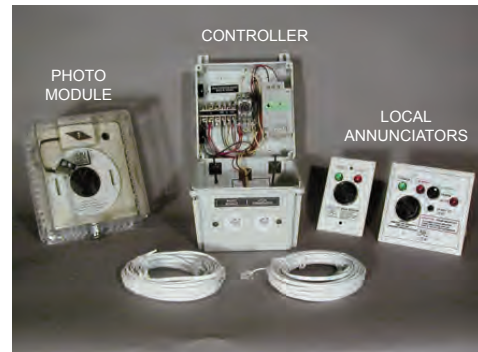
ADI-69-V-P



ADI-69-V-CURVE



ADI-69-V-N/P



Visual-plus-Alarm

Visual-Only

Simple, reliable, built-in failsafe feature and no electricity required!

Visual-Only **BALL-IN-THE-WALL*** indicator **plus** Audio/Visual alarm & NO/NC Interface contacts.

MODEL NUMBER DESCRIPTIONS



Indicator Type:

V = Visual-Only

V+A = Visual-plus-Alarm

Room Type:

N = Negative Pressure Room (airflow into room)

P = Positive Pressure Room (airflow out of room)

N/P = *Manually* Switchable between Negative & Positive modes. Comes with one set of magnetic Negative & Positive Room Labels.

CURVE = For *Automated* Switchable Room. Comes with one Bi-Directional Label & one set of magnetic Negative & Positive Room Labels.

Security Options (V and V+A units):

Blank = No Security Option

INSEC = Inside Rm Security Plate

OUTSEC = Outside Rm Security Cage

Local Annunciator Options (V+A units only):

M&T = With Mute & Test Function

NOM&T = Without Mute & Test Function

NOLOCAL = Without local annunciator.

Construction Barrier Option (V and V+A units):

CONST = for Temporary Negative Construction Barriers/Walls

***** WHEN PLACING AN ORDER YOU MUST SPECIFY HERE**

the Finished Outside Face-to-Face Wall Thickness (inches or mm). For multiple walls with different dimensions, use ADI'S "Room Schedule Sheet."



* USPTO Trademark Pending

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Printed in USA



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Note: For different finished wall thickness indicators, leave Wall Thickness column blank and use attached "Room Schedule Sheet" at <http://www.airflowdirection.com/roomschedulesheets.pdf>

PRICING & ORDER FORM



QTY	ADI Item #	Description	Wall (inch)*	Price (each)	Cost Sub-Totals
VISUAL- ONLY INDICATORS					
	ADI-69-V-N-CONST	Visual Only-Negative - Construction Barrier		\$385	
	ADI-69-V-N	Visual Only-Negative Indicator		\$385	
	ADI-69-V-N-DOOR	Visual Only-Negative Unit for Door	1-3/4"	\$385	
	ADI-69-V-N-GLZ	Visual Only-Negative Unit for Glazing/Glass	1/4 to 1/2"	\$385	
	ADI-69-V-N-FS	Visual Only-Negative Unit w/3M FireStrap		\$430	
	ADI-69-V-P	Visual Only-Positive Indicator		\$385	
	ADI-69-V-P-DOOR	Visual Only-Positive Unit for Door	1-3/4"	\$385	
	ADI-69-V-P-GLZ	Visual Only-Positive Unit for Glazing/Glass	1/4 to 1/2"	\$385	
	ADI-69-V-P-FS	Visual Only-Positive Unit w/3M FireStrap		\$430	
	ADI-69-V-N/P	Visual Only-with Neg/Pos Supplies*		\$415	
	ADI-69-V-CURVE	Visual Only-Neg/Pos Curved Indicator**		\$445	
VISUAL- ONLY INDICATORS WITH INSIDE SECURITY PLATE					
	ADI-69-V-N-INSEC	Visual Only-Neg w/inside plate		\$432	
	ADI-69-V-P-INSEC	Visual Only-Pos w/inside plate		\$432	
VISUAL plus ALARM INDICATORS					
	ADI-69-V+A-N-NOLOCAL	Visual plus Alarm -Negative Indicator without Local Annunciator. For FMS or Remotes		\$1165	
	ADI-69-V+A-P-NOLOCAL	Visual plus Alarm -Positive Indicator without Local Annunciator. For FMS or Remotes		\$1165	
	ADI-69-V+A-N-NOM&T	Visual plus Alarm -Negative Indicator with Basic Local Annunciator (no Mute & Test)		\$1360	
	ADI-69-V+A-P-NOM&T	Visual plus Alarm -Positive Indicator with Basic Local Annunciator (no Mute & Test)		\$1360	
	ADI-69-V+A-N-M&T	Visual plus Alarm -Negative Indicator with Mute & Test Local Annunciator		\$1445	
	ADI-69-V+A-P-M&T	Visual plus Alarm -Positive Indicator with Mute & Test Local Annunciator		\$1445	
VISUAL plus ALARM INDICATORS W/ INSIDE SECURITY PLATE					
	ADI-69-V+A-N-NOM&T-INSEC	Visual plus Alarm-Neg With Basic Local (no Mute & Test) & inside security plate		\$1407	
	ADI-69-V+A-P-NOM&T-INSEC	Visual plus Alarm-Pos With Basic Local (no Mute & Test) & inside security plate		\$1407	
	ADI-69-V+A-N-M&T-INSEC	Visual plus Alarm-Neg With Mute & Test & inside security plate		\$1492	
	ADI-69-V+A-P-M&T-INSEC	Visual plus Alarm-Pos With Mute & Test & inside security plate		\$1492	
Freight Delivery Time (circle choice): Next-Day 2-Day 3-Day Ground → Freight Cost ***					
TOTAL COST					\$

* Manually changeable between negative and positive modes.

** Indicates negative or positive without manual intervention. See ADI's website for difference between N/P and CURVE models.

*** Customer directly responsible to pay government tax agency for any duty or sales tax if applicable. © 2012 Airflow Direction, Inc.



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Billing & Shipping Information:

Today's Date:		
	BILL-TO:	SHIP-TO:
Person*		
Dept		
Company*		
PO Box		(CANNOT SHIP TO PO BOX)
Street*		
City/Town*		
State*		
Zip Code*		
Telephone*	()	()
Fax*	()	()
Requestor's Email Address*:		
Requested Delivery Date:		
Payment Method (circle one): Purchase Order Credit Card C.O.D.		
Your Reference Purchase Order Number:		
<p>For Credit Card order, please indicate below or call ADI to give information:</p> <p><input type="checkbox"/> Card Type (circle one): VISA - MasterCard - AMEX - Discover</p> <p><input type="checkbox"/> Name on Card:</p> <p><input type="checkbox"/> Number on Card:</p> <p><input type="checkbox"/> Expiration Date: <input type="checkbox"/> 3-Digit CCV Code:</p> <p><input type="checkbox"/> Credit Card Holder's Email Address to send Credit Card Paid Receipt:</p>		
Reference Tag for Shipping Label:		

* Required for Billing and Shipping.



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End User Information, required for application selection and warranty purposes:

END USER INFORMATION	
Today's Date:	
Name of Facility:	
Project Name:	
Street Address:	
City/Town:	
State & Zip Code:	
Types of Rooms ADI Units are being Installed into (please check all that apply, enter types if not listed)	<ul style="list-style-type: none"> <input type="checkbox"/> Healthcare Protective Isolation Room (Positive Pressure) <input type="checkbox"/> Healthcare Infectious Isolation Room (Negative Pressure) <input type="checkbox"/> Healthcare Operating Rooms <input type="checkbox"/> Healthcare Endoscopy or Bronchoscopy Rooms <input type="checkbox"/> Healthcare Laboratory Rooms <input type="checkbox"/> Healthcare Other: _____ <input type="checkbox"/> Laboratory Containment Rooms (BL2,BL2+,BL3,BL4) <input type="checkbox"/> Laboratory Research Rooms <input type="checkbox"/> Laboratory Other: _____ <input type="checkbox"/> Pharmaceutical Clean Rooms <input type="checkbox"/> Pharmaceutical Research Rooms <input type="checkbox"/> Pharmaceutical Other: _____ <input type="checkbox"/> Animal Resource Holding Rooms <input type="checkbox"/> Animal Resource Procedure Rooms <input type="checkbox"/> Animal Resource Clean Corridor/Supply Rooms <input type="checkbox"/> Animal Resource Cagewash Rooms <input type="checkbox"/> Animal Resource Other: _____ <input type="checkbox"/> Correctional Facility/Room Types: _____ <input type="checkbox"/> Other: _____



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REFERENCE SECTION



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Use this table to check your wall thickness and if the walls differ in thickness for a particular ADI indicator model number, please use the "ROOM SCHEDULE SHEET" in the order form.

WALL THICKNESS TABLE FOR ONE LAYER GWB ON BOTH SIDES * BE SURE TO ADD IF MORE THAN ONE LAYER ON EITHER SIDE (INCHES)			
METAL STUD	1/2"GWB	5/8"GWB	3/4"GWB
1-5/8	2-5/8	2-7/8	3-1/8
2	3	3-1/4	3-1/2
2-1/2	3-1/2	3-3/4	4
3	4	4-1/4	4-1/2
3-1/2	4-1/2	4-3/4	5
3-5/8	4-5/8	4-7/8	5-1/8
4	5	5-1/4	5-1/2
5-1/2	6-1/2	6-3/4	7
6	7	7-1/4	7-1/2

WALL THICKNESS TABLE FOR CMU BLOCK WALL (INCHES)	
NOMINAL	ACTUAL
3	2-5/8
4	3-5/8
5	4-5/8
6	5-5/8
8	7-5/8
10	9-5/8
12	11-5/8

Disclaimer: These are for guiding purposes according to common industry practice values. Please measure the actual materials on your application.



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HVAC DESIGN NOTES*

IMPORTANT: CHECK YOUR APPLICATION FOR PROPER ROOM PRESSURE. THIS SHEET WILL HELP YOU. ALSO, SEE THE NEXT SHEET FOR DOOR SEALS (BY OTHERS) WHICH ARE HIGHLY RECOMMENDED.

PLEASE NOTE: ADI'S BALL-IN-THE-WALL™ REQUIRES A MINIMUM OF 0.01"W.C. DIFFERENTIAL PRESSURE WHEN INSTALLED WITH THE FAILSAFE FEATURE.

This summary sheet is based on a written article concerning research conducted by Airflow Direction Inc. The summary is as follows:

When designing the HVAC system to obtain a desired room pressurization/directional airflow for 200+/- square foot (sf) rooms, we suggest you consider *:

- Rooms should have a minimum of 0.01"w.c. (0.05"w.c. preferred) of negative or positive pressure. Codes and industry regulations and practice may dictate specific limits.
- Rooms should have a differential airflow to obtain the 0.01"w.c. or higher. For 200+/- sf rooms, the best approach is to have the differential capability of 400 cfm and the ability to throttle down the differential to satisfy the 0.01"w.c. or higher. For 0.01"w.c., we have seen 400 cfm of differential airflow for a room that was thought to be well sealed. We have also seen a room requiring only 150 cfm of differential airflow. The range depends on ceiling, wall and window tightness, door seals and the existence of other supply or exhausts in the room.
- Air Balancer specs should be: Positive rooms: (+10%/-0%) for supply, (+0%/-10%) for exhaust. Negative rooms: (+10%/-0%) for exhaust, (+0%/-10%) for supply.
- For negative rooms, the makeup air should be provided via a supply outside the room. For positive rooms, the exfiltration of air should be accommodated by an exhaust outside the room.
- All room penetrations above and below the ceiling and the ductwork should be well-sealed.
- The ceiling should be as tight as possible, preferably sheetrock or concrete deck.
- Specify surface mount or recessed vaportight or non-return-air light fixtures.
- Each entry door to the room should be sealed on its top and sides (including astragal vertical joint seal for leaf or double doors) and include an adjustable bottom seal.
- A sliding entry door is preferred over a swing door. If a swing door is used, it should open out of a negative room or open into a positive room.
- Anterooms should be used whenever possible with 12 air changes per hour (ACH) minimum (codes and industry regulations and practice may dictate higher values) and a neutral pressure where the supply and exhaust airflow quantities are equal.
- An airflow direction indicator should be installed to visually see the dynamics of the room pressurization.

* Note: This summary is for informational purposes only and is not intended to be a substitute for an HVAC design performed and stamped by a state registered, licensed professional engineer, following good engineering practice as well as conformance to any applicable codes and regulations.

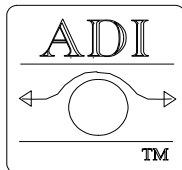
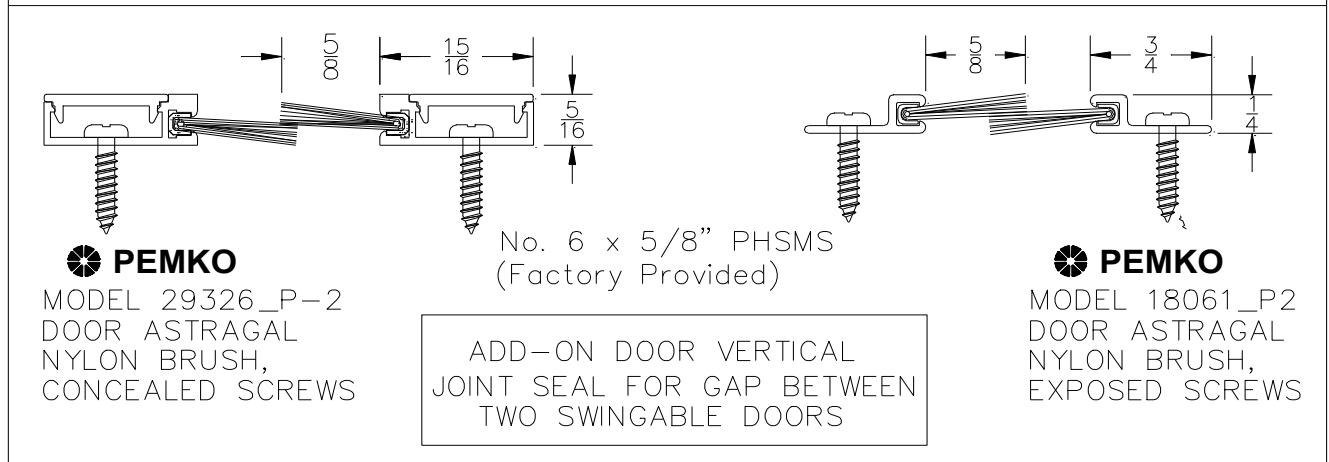
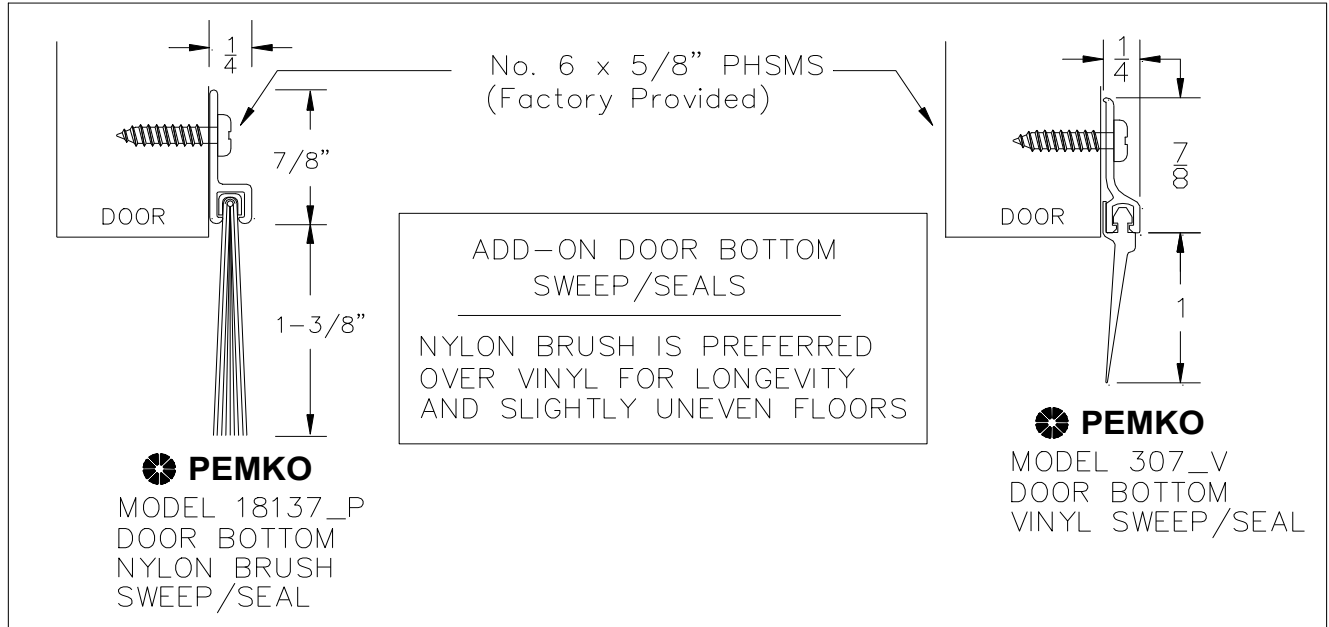


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Toll Free: (888) 334-4545

Title:

DOOR SEALS

Dwg:

PEMKO DOOR SEALS.DWG

Date:

11-17-03

Rev:



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WARRANTY

Airflow Direction Incorporated (ADI) warrants the tube, tube-end-caps, end-dome-covers, and backplates, under normal use and service as described in the installation instructions and the operation and maintenance manual, shall be free from defects in workmanship and material during the life of the installation of the units. If one of these components becomes non-conforming to ADI's standards, contact ADI for a Return Merchandise Authorization (RMA) number and return to ADI for a free replacement. For all other components furnished by ADI, ADI warrants the parts for one year after shipment; if the warranty is within that year, contact ADI for a Return Merchandise Authorization (RMA) number and a free replacement.

The Installer is responsible to properly follow ADI's installation instructions furnished by ADI. During normal use of ADI's indicators, as described in the ADI-furnished and Installer-installed wall label, along with the ADI furnished operation and maintenance instructions, the End-User is responsible to observe the indicator and check the operation of ADI's SELF-CHECK feature, as often as necessary to avoid a potential unwanted situation with the facility or ADI's product. Therefore, to the extent permitted by law, the End-User or Buyer's exclusive and sole remedy for any and all claimed liability, losses, injuries, or damages concerning the purchased ADI product, shall only be a free replacement of the purchased ADI product. ADI shall not be liable for any incidental labor and costs to replace the product in the field or for any special, direct, indirect, consequential or incidental damages to anyone by reason of the fact that ADI's product shall have been defective.

THIS EXPRESS LIMITED WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER REPRESENTATIONS MADE BY ADI ADVERTISEMENTS, ADI AGENTS AND ALL OTHER WARRANTIES, BOTH EXPRESS AND IMPLIED. ADI DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE.