

CITY OF LOS ANGELES  
CALIFORNIA

BOARD OF  
BUILDING AND SAFETY  
COMMISSIONERS

MARSHA L. BROWN  
PRESIDENT

VAN AMBATIELOS  
VICE-PRESIDENT

VICTOR H. CUEVAS  
HELENA JUBANY

ELENORE A. WILLIAMS



ANTONIO R. VILLARAIGOSA  
MAYOR

DEPARTMENT OF  
BUILDING AND SAFETY  
201 NORTH FIGUEROA STREET  
LOS ANGELES, CA 90012

RAYMOND S. CHAN, C.E., S.E.  
INTERIM GENERAL MANAGER

October 14, 2009

Studor Inc.  
720 Brooker creek Blvd. Suite 205  
Oldsmar, FL 34677

RESEARCH REPORT: RR-5459  
EFFECTIVE DATE: 10/10/2009  
EXPIRATION DATE: 10/10/2010  
Telephone: 727-734-7750

**GENERAL APPROVAL - Renewal** - "Studor" - Air Admittance Valve, Models Mini, and Maxi, manufactured by IPS / Dymotek.

**DETAILS**

These products are intended for use as an alternative to a vent pipe that properly extends to the outdoor air at an approved location. The valves are one-way valves designed to allow air to enter the plumbing drainage system when negative pressures develop. The valve closes by gravity and seals the vent terminals when the internal drain line pressure is equal to or exceeds ambient pressure. Mini-vent valve has guide fins and a silicon membrane for sealing valve. The appropriate size of a valve is selected in accordance with the Studor Valve Selection Criteria shown in Table - 1.

The approval is subject to the following conditions:

1. These products shall be installed in drain, waste and vent systems serving individual single-family dwelling units only, in accordance with Section 94.701.1.2, IS 5, IS 9, and Chapter 15 of the Los Angeles Plumbing Code, 2008 Edition.
2. These products shall not be located in spaces used as supply or return air plenums.
3. Cement used for making solvent welded joints shall comply with appropriate ASTM Standards.
4. At least one vent stack shall be installed in a building sanitary waste system located as close as possible to the point where the sewer line enters the building, in accordance with Section 94.906.1 of the Los Angeles Plumbing Code, 2008 Edition.
5. When valves are installed as branch vent terminals, they shall be located on the same floor as the plumbing fixtures.

Studor, Inc.  
RE: Air Admittance Valve

6. These products shall not be installed for venting sewage ejectors.
7. These valves shall not be installed below the public sewer line level.
8. The following requirements are in accordance with Studor's Installation Instructions for Maxi-Vent and Mini-Vent:
  - (a) These products shall be installed in a vertical position with a vertical offset not to exceed 15 degrees.
  - (b) When installed as branch vents, the bottom of the valves shall be at least 4" above the weir of the fixture traps they serve. When installed as stack vents, the bottom of the valves shall be installed at least 6" above the flood level rims of the highest plumbing fixtures.
  - (c) These valves may be installed where the ambient temperature is between -40° F and 150 ° F.
  - (d) Each valve shall be provided a Life Time Warranty as indicated by Studor's Maxi-Vent and Mini-Vent Life Time Warranty which states: "When used in accordance with our recommendations, our products are not subject to deterioration and have a life equivalent to that of the drainage system in which it is installed."
  - (e) These products shall be installed in accessible locations, where free air movement is present.
9. These products shall be permanently identified with the manufacturer's name "Studor, Inc." and appropriate model number, visible for inspection purposes. Approved Mini-Vent and Maxi-Vent valves may also be labeled "ProFlo."
10. For a period of one year from October 10, 2008, Studor shall report to Los Angeles Department of Building and Safety (LADBS) any problems with installations of Studor's air admittance valves ("AAVs") in the City of Los Angeles in conjunction with garbage disposals, back to back sinks or washing machines (collectively the "Installations") that are reported to Studor. If LADBS finds that the AAVs are not working properly in connection with such Installations, then LADBS may allow Studor the opportunity to inspect and investigate the Installations and LADBS may take any appropriate action to amend this condition to address any such problems consistent with the provisions of Section 301.2.1.2 of the California Plumbing Code, with prior notice to Studor and an opportunity for Studor to be heard with respect thereto.
11. In attic installations there shall be at least 10 feet distance between Air Admittance Valves and any gas fired appliance.

Studor, Inc.  
RE: Air Admittance Valve

12. Horizontal wet venting is not permitted under current code, nor with this approval.
13. Horizontal branches that connect to the stack more than thirty five feet below the highest branch connection must have a relief vent on the branch. The relief vent must connect between the stack and the first fixture vented with an AAV. The relief vent pipe must be of a minimum size equal to half the diameter of the branch or 1-1/2 inch, whichever is larger, and extend to the outdoors. A fixture may be vented by the relief vent.
14. When determining the aggregate area of all of the vents for the plumbing system, each Mini-vent shall equate to 3.1 square inches and each Maxi-vent shall equate to 12.56 square inches.
15. Plans submission and plan check shall be required for any plumbing system having a drainage fixture unit load exceeding 216 DFUs.
16. Washing machine horizontal branch lines shall be a minimum of 3" in diameter.

## **DISCUSSION**

These valves have been tested by United States Testing Company, Inc. in compliance with Standards ASSE 1050 and 1051 under test report numbers TS 93-0515.1 and TS 96-024.

This general approval is granted as required by judgement entered September 26, 2006, in the law suit entitled Studor, Inc. vs. City of Los Angeles, Los Angeles Superior Court case no. BS 087876.”

For this General Approval to be valid on any individual construction project in the City of Los Angeles, an engineer or inspector of the Department of Building and Safety must make a determination that all conditions of the General Approval required to provide equivalencies have been met in the case of each construction project under consideration.

This approval is granted under Sections 94.301.1, 301.2 and 94.906.1 of the Los Angeles Plumbing Code, 2008 Edition.

Studor, Inc.  
RE: Air Admittance Valve

**TABLE - 1**

**STUDOR AIR ADMITTANCE VALVE SELECTION CRITERIA**

<b>Drain, branch or Stack Size</b>	<b>Vent Size</b>	<b>Maximum Drainage Fixture Units on Branch</b>	<b>Maximum Drainage Fixture Units on Stack</b>	<b>Studor Valve Model</b>
1-1/4"	1-1/4"	1	1	Mini
1-1/2"	1-1/4" - 1-1/2"	3	8	Mini
2"	1-1/4" - 2"	6	24	Mini/Maxi
3"	1-1/2" - 3"	20	72	Mini/Maxi
4"	2" - 4"	160	500	Mini/Maxi

Note: Air Admittance Valve Mini-vent is rated up to 2" vent size and Maxi-vent is rated up to 4" vent size.

Studor, Inc.  
RE: Air Admittance Valve  
Approved by:

Concurred by:

Mark Wang, Mechanical Test Engineer  
Mechanical Testing Laboratory  
Engineering Bureau

Michael Tharpe, Chief  
Plumbing/Mechanical Inspection Division  
Inspection Bureau

