

Plumbing Testing Laboratory

TEST REPORT No. TT2094

PRODUCT TESTED:

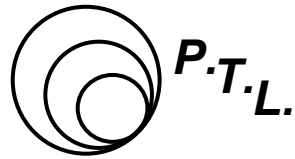
STUDOR P.A.P.A. POSITIVE AIR PRESSURE ATTENUATOR

CLIENT:

STUDOR AUSTRALIA

Printed 16 July 2008

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Plumbing Testing Laboratory

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TEST REPORT No. TT2094

PRODUCT TESTED:

STUDOR P.A.P.A. POSITIVE AIR PRESSURE ATTENUATOR

CLIENT:

STUDOR AUSTRALIA
UNIT 20
GREEN SQUARE BUSINESS CENTRE
36 O'RIORDAN STREET
ALEXANDRIA NSW 2015
AUSTRALIA

TESTS REQUIRED:

COMPLIANCE WITH ATS 5200.463-2005, CLAUSES 9.1 and 9.2



This laboratory is accredited by the National Association of Testing Authorities, Australia. Accreditation No. 14285. The tests reported herein have been performed in accordance with its terms of accreditation.

SPECIMEN DESCRIPTION:

STUDOR P.A.P.A. Positive Air Pressure Attenuator.

SPECIMEN No.

TT2094. (The specimen was supplied by the client, and was not marked with the specimen number of the Conformity Assessment Body).

TESTS:

The specimen was tested for compliance with ATS 5200.463-2005, Clauses 9.1 and 9.2.

RESULTS:

The results are shown in the following pages under the relevant clause numbers.

N/A denotes that the clause is not applicable to the specimen.

N/C denotes that the specimen did not comply with the clause.

N/D denotes that compliance with the clause could not be determined.

The results are applicable only to the specimen(s) tested.

ATTACHMENTS:

Appendix A - Product Information/Specification Sheet.

Appendix B - Product Installation Sheets.

Addendum - Clause 8.



REPORT:

The following report is in the form of a clause-by-clause discussion of the results of testing and examination of the specimen to the requirements of ATS 5200.463-2005, Clauses 9.1 and 9.2.

ATS 5200.463-2005

Clause 9.1 – Airtightness COMPLIES

The specimen was tested in accordance with Appendix B of ATS 5200.463–2005.

The specimen was subjected to a positive internal pressure of 10,000 Pa. The specimen showed no signs of leakage.

The specimen complied with the requirements of Clause 9.1.

Clause 9.2 – Endurance COMPLIES

The specimen was tested in accordance with Appendix C of ATS 5200.463–2005.

The specimen was tested in an environment where the ambient air temperature was maintained at $20 \pm 5^\circ\text{C}$. Following the endurance test the specimen was subjected to a positive internal pressure of 10,000 Pa. The specimen complied with the test criteria of Appendix C.

The specimen was then tested in an environment where the ambient air temperature was maintained at $40 \pm 5^\circ\text{C}$. Following the endurance test the specimen was again subjected to a positive internal pressure of 10,000 Pa. The specimen complied with the test criteria of Appendix C.

The specimen was then tested in an environment where the ambient air temperature was maintained at $0 -0, +5^\circ\text{C}$. Following the endurance test the specimen was again subjected to a positive internal pressure of 10,000 Pa. The specimen complied with the test criteria of Appendix C.

The specimen complied with the requirements of Clause 9.2.

END OF REPORT

Authorized Signatory:

**HANK VANDENBERG
LABORATORY MANAGER**

09 July 2008

STUDOR® P.A.P.A.™

Positive Air Pressure Attenuator

Product Information/Specification Sheet

DESCRIPTION

The **STUDOR P.A.P.A.** (Positive Air Pressure Attenuator) is a revolutionary world-first product developed to solve the problems of positive pressures (transients, back-pressure) within drainage systems of multi-storey developments.

Research and development into the solution over several years resulted in this intelligent product - allowing multi-storey building designers to simplify their design of sanitary waste systems. The **P.A.P.A.** - in conjunction with the approved **STUDOR AAV's** - deals with negative AND positive pressures.

FEATURES

- Lightweight unit.
- Robust construction.
- Easy installation.
- Resistant to many chemicals.
- Suitable for installation on commercial sites.
- Push fit connector.
- May be installed vertically or horizontally.

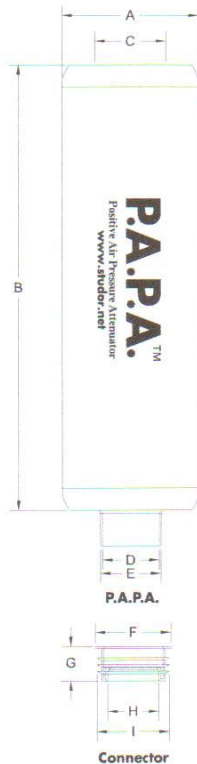
A **STUDOR Maxi-Vent** may be installed upon the top of the **P.A.P.A.** (when installed vertically) turning it into a positive and negative transient protection device.

INSTALLATION

- The **P.A.P.A.** should be connected to the piping in accordance with **STUDOR's** installation instructions.
- For connection within Australian Standards refer to AS/NZS 3500.2:2003/Amdt 1:2005.
- Refer to your local area regulations for open vent requirements.

WARRANTY

The **STUDOR** products have a lifetime warranty - equivalent to that of the drainage system in which they are installed.



DIMENSIONS

Dimension	Metric (mm)	Imperial (inches)
A	Ø200	Ø7.87
B	652	25.67
C	Ø104	Ø4.00
D	Ø83	Ø3.27
E	Ø89	Ø3.50
F	Ø111	Ø4.37
G	50	1.97
H	Ø75	Ø2.95
I	Ø106	Ø4.17

Note: Dimensions for reference only

PERFORMANCE PARAMETER

Temperature range	-20°C to +60°C (Europe) -40°F to +150°F (USA)
Max. pressure rating tightness	10,000 Pa (1m/40" H ₂ O) at 0 Pa or higher

VOLUME CAPACITY

Series assembly	Europe & AU/ NZ (litres)	US (gallons)
1 unit	3.785	1
2 units	7.570	2
3 units	11.355	3
4 units	15.140	4

MATERIALS

Component	Material
P.A.P.A. body	ABS
Internal container	Isoprene
Connector	Rubber

PIPE SIZES

Europe	AU/NZ	USA
DN 75-110	DN 80-100	3" - 4"

STUDOR® P.A.P.A.™

Positive Air Pressure Attenuator

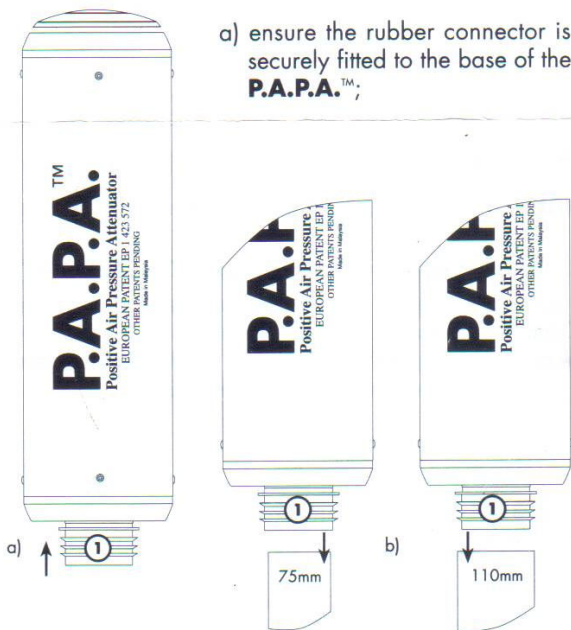
The **P.A.P.A.™** is a device used to eliminate the harmful effects of positive transients generated in gravity fed systems in multi-storey buildings

Installation of the P.A.P.A.™

The **P.A.P.A.™** is provided with a rubber connector on the base and with a separate O-ring and male thread adapter to allow greater versatility.

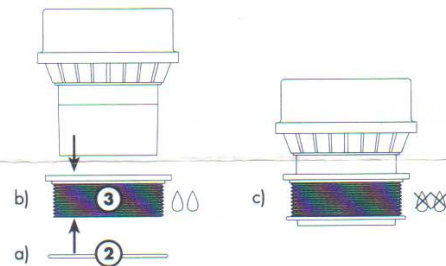


I) Installation of the P.A.P.A.™ with the rubber connector:

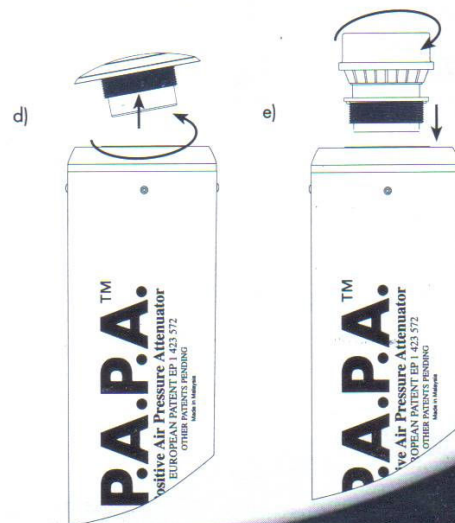


II) Installation of a Maxi-Vent™ on top of the P.A.P.A.™:

- fit O-ring to the male thread adapter;
- fit the male thread adapter to the base of the **Maxi-Vent™** and glue into place sparingly using ABS solvent;
- wipe away any excess solvent to ensure this does not get into the **Maxi-Vent™**, as this will affect its operation;

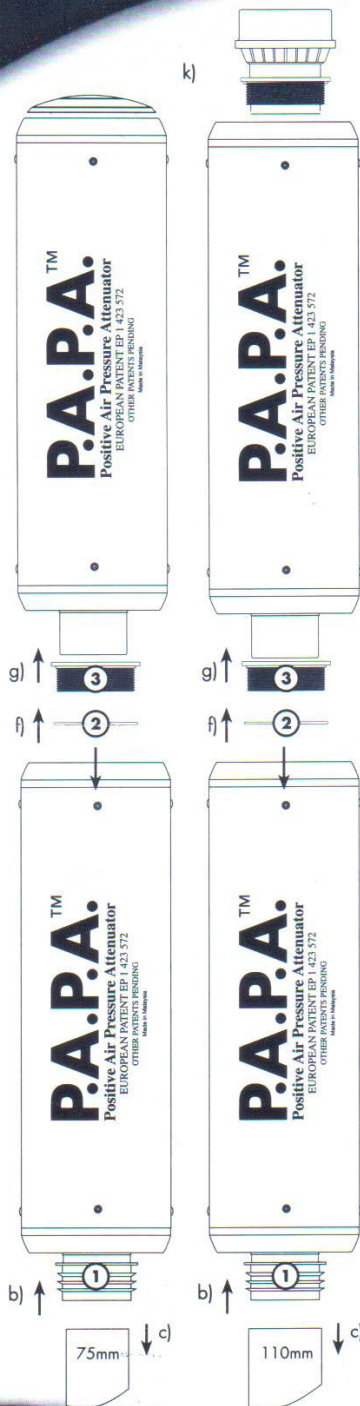


- unscrew the cap on the top of the **P.A.P.A.™**;
- when the solvent has fully dried, screw the male thread adapter fitted to the base of the **Maxi-Vent™** into the top of the **P.A.P.A.™**



STUDOR® P.A.P.A.™

Positive Air Pressure Attenuator

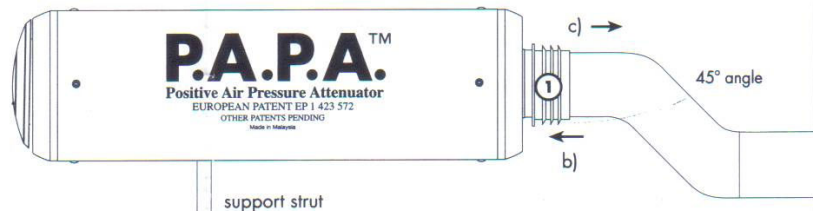


III) Installation of the P.A.P.A.™ in series:

- up to four **P.A.P.A.™**s may be installed in series;
- ensure the rubber connector is securely fitted to the base of the bottom-most **P.A.P.A.™**;
- push-fit the rubber connector fitted to the base of this **P.A.P.A.™** onto a 75mm or into a 110mm pipe connection;
- unscrew the cap on the top of this **P.A.P.A.™**;
- remove the rubber connector fitted to the base of the next **P.A.P.A.™** to be installed;
- fit O-ring to the male thread adapter;
- fit the male thread adapter to the base of this **P.A.P.A.™** and glue into place sparingly using ABS solvent;
- wipe away any excess solvent;
- when the solvent has fully dried, screw the male thread adapter fitted to the base of this **P.A.P.A.™** into the top of the bottom-most **P.A.P.A.™**;
- repeat steps d) to i) up to a **MAXIMUM** of four **P.A.P.A.™**s;
- ensure the cap of the top **P.A.P.A.™** is securely screwed in, or replace with a **Maxi-Vent™** as described in II) overleaf.

IV) Installation of the P.A.P.A.™ horizontally:

- when a **Maxi-Vent™** is **NOT** used the **P.A.P.A.™** may be installed horizontally;
- ensure the rubber connector is securely fitted to the base of the **P.A.P.A.™**;
- push-fit the rubber connector fitted to the base of the **P.A.P.A.™** onto a 75mm or into a 110mm 'T' pipe connection into the stack using a 45 degree 'T' joint on the stack and a 45 degree bend to place the **P.A.P.A.™** into a horizontal position - this prevents water penetrating the unit.



For extra security it is recommended that the **P.A.P.A.™** is secured to an adjacent pipe or support strut using a pipe clip or clamp.

ATS 5200.463-2005**Clause 8 – Design COMPLIES**

The specimen design provides for the connection of an air admittance valve as shown in Appendix B of this report. The specimen was tested in accordance with Appendix A of AS/NZS 4936:2002.

Test	Requirement	Specimen
Opening pressure	Between 0 and –150 Pa	–69 Pa
Determined airflow capacity	At –250 ±10 Pa	40 Litres/Sec

The specimen met both of the test criteria of Appendix A, A5 of AS/NZS 4936:2002.

End connectors were provided with a flexible connection capable of creating an airtight joint. End connectors are shown in Appendix B of this test report.

The specimen complied with the applicable requirements of Clause 8.