

# airsan insulated antibacterial hose

## AIRSAN INSULATED ANTIBACTERIAL HOSE



## FEATURES

Flexible pipeline, made with exclusive technology; the pipeline is made of the following materials starting from the inside to the outside:

- Film of polyolefin resins additivated with antibacterial and anti-mold master,
  - Built-in spiral made of harmonic steel wire,
  - 4 mm thick thermal insulation layer made of cross-linked polyethylene and closed-cell foam,
  - External protection made of additive polyolefin resin film.
- The ass iment of materials, in order to construct the flexible conduit, does not involve the use of adhesive chemicals or adhesives.

**Color:**  
gray.

**Reaction to fire:**

- class 1 (DM 26/06/84),
- homologation no. RE1205C20D100011,
- EN class B-s2, d0 (13501-1:2009),

**Max. pressure:**  
2000 Pa.

**Max air speed:**  
20 m/s.

**Operating temperature:**  
-20°C ...+ 90°C.

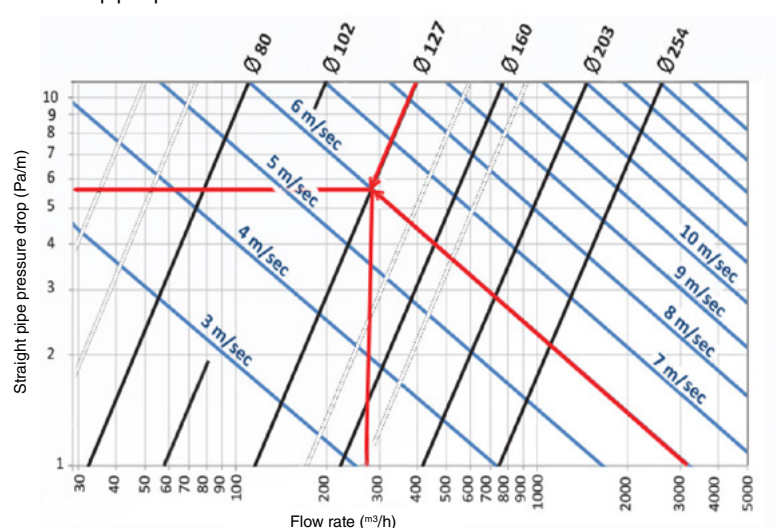
**Minimum radius of curvature:**  
1.2 ÷ 1.8 times the diameter (depending on diameters).

**Length:**  
10 meters of hose per package.

**IMPORTANT NOTE:** For minimum pressure drop (as in graph below) the pipe must be installed of laid nearly straight and with taut walls.

## GRAPHICS

"AIRSAN" pipe quick selection chart.



**TABLE WITH PHYSICAL-MECHANICAL PROPERTIES OF CROSS-LINKED POLYETHYLENE FOAM THICKNESS 4 MM CONSTITUENT OF UNCOATED "AIRSAN" PIPE**

| Physicomechanical properties                                                             | U.M.              | Method                                                                                                        | Values                                                                                                              |
|------------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Density                                                                                  | Kg/m <sup>3</sup> | ISO 845                                                                                                       | 100                                                                                                                 |
| Combustion class                                                                         | -                 | IT: D.M. 26/06/84<br>EU: EN 13501-1:2009                                                                      | CL1<br>Class B-s2, d0                                                                                               |
| Conductivity coefficient thermal at 0°C (lambda)                                         | W/mK              | UNI EN 12664:2002                                                                                             | 0,032                                                                                                               |
| Conductivity coefficient thermal at 10°C (lambda)                                        | W/mK              | UNI EN 12664:2002                                                                                             | 0,033                                                                                                               |
| Conductivity coefficient thermal at 30°C (lambda)                                        | W/mK              | UNI EN 12664:2002                                                                                             | 0,035                                                                                                               |
| Conductivity coefficient thermal at 60°C (lambda)                                        | W/mK              | UNI EN 12664:2002                                                                                             | 0,038                                                                                                               |
| Chemical Agent Assault                                                                   | -                 | Surface application external of the specific agent<br>Chemical and verification of any changes after 48 hours | No modification and/or damage for: ETHANOL<br>AMMONIACA<br>DEGREASER HIGH CONC.<br>COOLANT                          |
| Maximum peak operating temperature                                                       | °C e min.         | Identification of the maximum peak temperature bearable by the pipe and all its behaviors                     | +115° ; no more than 2 min.                                                                                         |
| Example usage limits for the purpose of Avoid the risk of condensation on the outer wall | °C e %            | OPTION 1 (Ø102)<br><br>OPTION 2 (Ø102)                                                                        | Temp. air flow 15° Temp. outdoor 34° Um. room rel. 70%<br><br>Temp. Airflow 10° Temp. outside 28° Um. room rel. 70% |
| Channel holding                                                                          | -                 | EN 12237 - EN 1507 - EN 12599<br>EN 13180                                                                     | Class D<br>COMPLIANCE                                                                                               |

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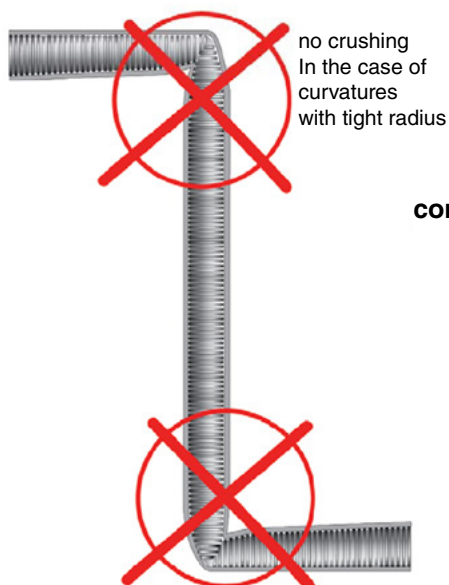
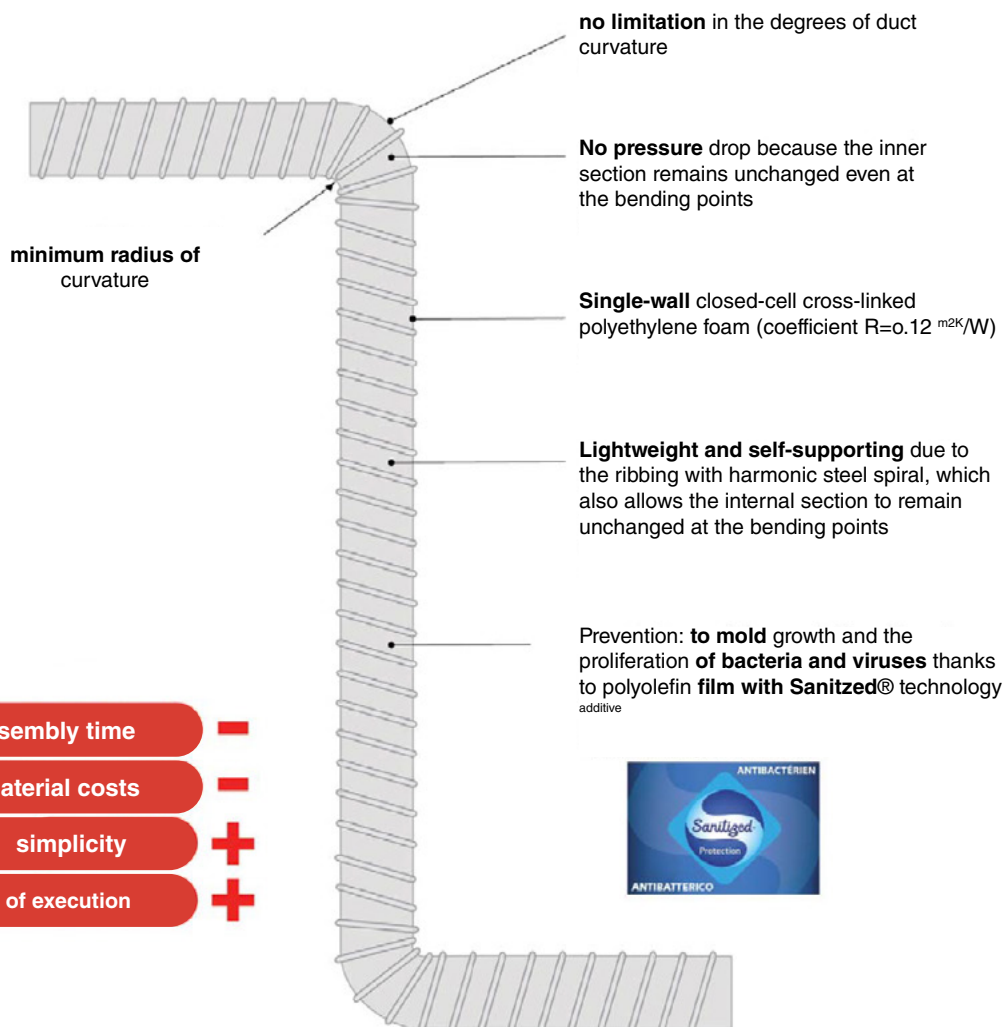
**TABLE WITH CHARACTERISTICS (TECHNICAL DATA) OF AIRSAN PIPE VARYING BY DIAMETER**

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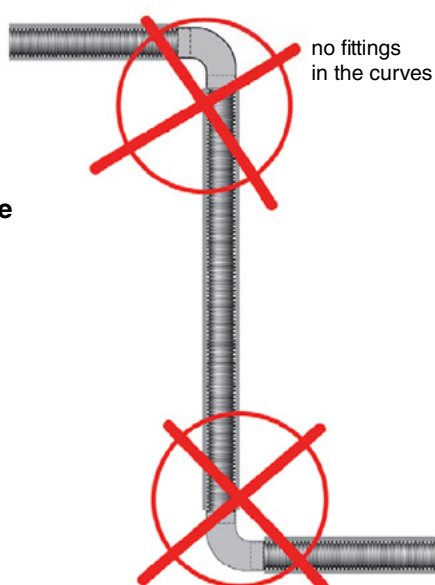
| <b>Ø<br/>(mm)</b> | <b>Working pressure (bar)</b> | <b>Operating depression (bar)</b> | <b>Radius of curvature (mm)</b> | <b>Weight<br/>(gr/ml)</b> |
|-------------------|-------------------------------|-----------------------------------|---------------------------------|---------------------------|
| 80                | 0.50                          | 0.09                              | 56                              | 154                       |
| 102               | 0.40                          | 0.08                              | 70                              | 200                       |
| 127               | 0.40                          | 0.07                              | 92                              | 254                       |
| 160               | 0.15                          | 0.05                              | 110                             | 331                       |
| 203               | 0.15                          | 0.04                              | 140                             | 492                       |
| 254               | 0.08                          | 0.03                              | 175                             | 600                       |

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## INSTALLATION FEATURES



corrugated pipe



## CERTIFICATIONS

| CERTIFICATIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--|
| SANIFICATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | REACTION TO FIRE |  |
|  <p><b>TECNOLOGIA SANITIZED</b><br/>is produced with film new generation polyolefin additivated with active ingredient "Antibacterial Sanitized" capable of Break down the microbial and bacterial load present within the ducts and conveyed by air, for the safety of humans and the environment.</p> <p><b>IT</b></p> <p>Classe 1 (D.M. 26/06/84)<br/>Omologa n.: RE1205C20D100011</p> <p><b>EU</b></p> <p>Classe B-s2, d0 (EN 13501-1:2009)</p>    |                  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |  |

## GREEN BUILDING.

Thanks in part to the support and backing of GreenMap, **Airsan** products contribute to credits from major international building sustainability rating systems:



**LEED**

Contributes to the following credits:  
IP, EA, MR



**WELL**

Contributes to the following credits:  
MATERIALS, COMMUNITY



**BREEAM**

Contributes to the following credits:  
MAN, ENE, WST

## APPLICATIONS

|                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |  |  |  |  |  |
| OEM                                                                                 | Residential                                                                         | Smooth surfaces                                                                     | Flexibility                                                                         | Easy Pack                                                                           | Self-extinguishing                                                                   | Mold resistance                                                                       | Resistance to microorganisms                                                          | Resistance to uncorking                                                               |
|  |  |  |  |  |  |  |  |                                                                                       |
| Calibrated Diameters*                                                               | REACH Certificate                                                                   | RoHS Certificate                                                                    | Halogen-free                                                                        | Building                                                                            | Transportation                                                                       | Conditionam. air                                                                      | VMC                                                                                   |                                                                                       |
|  |  |  |  |  |                                                                                      |                                                                                       |                                                                                       |                                                                                       |
| Passaggiu a murare                                                                  | VMC means Transport                                                                 | VMC means operators                                                                 | Prolonged anti condensation                                                         | Naval                                                                               |                                                                                      |                                                                                       |                                                                                       |                                                                                       |

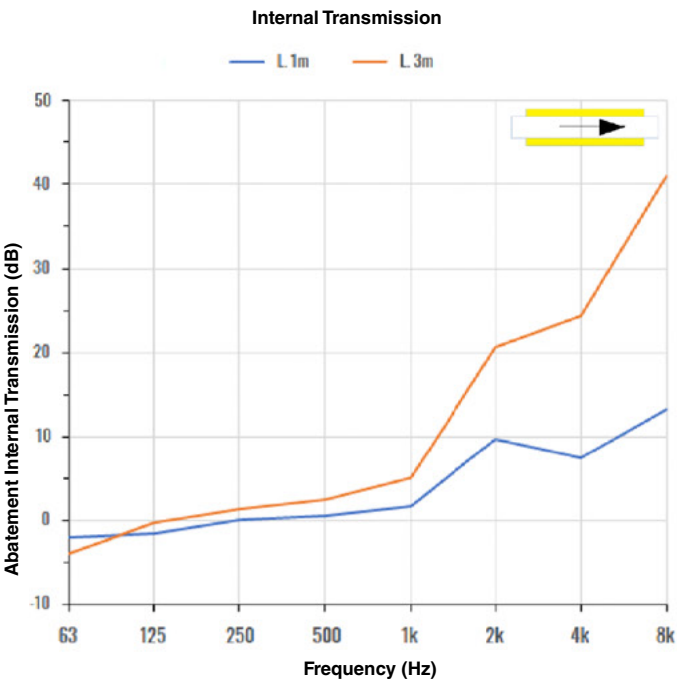
INDOOR ACOUSTIC TRANSMISSION TEST - ISO 7235:2003

The data in the table opposite identifies the noise abatement value in relation to the internal pipe transmission on the **4 mm thick hose model**.

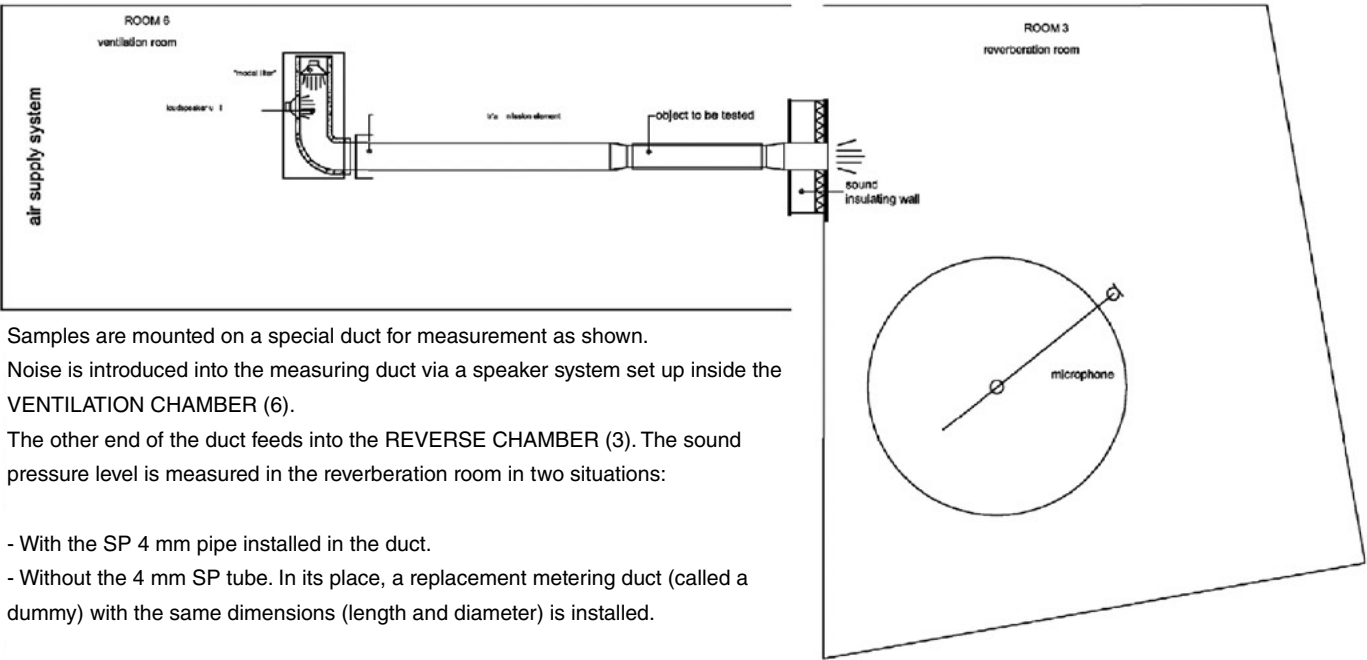
We would like to point out that the data were obtained through audits by certified or qualified external laboratories and followed by testing in accordance with ISO 7235:2003.

However, they can give a general assessment of the tube's functionality and the performance it can provide under real operating conditions.

The results reported are the result of tests conducted with a white noise source in the frequencies between **63 Hz and 8000 Hz**.



| SP 4MM  |       | Attenuation Internal dB - Freq. [Hz] - ISO 7235:2003 |      |     |     |     |      |      |      |
|---------|-------|------------------------------------------------------|------|-----|-----|-----|------|------|------|
| ID [mm] | L [m] | 63                                                   | 125  | 250 | 500 | 1k  | 2k   | 4k   | 8k   |
| 102     | 1     | -2                                                   | -1,6 | 0,1 | 0,5 | 1,6 | 9,7  | 7,4  | 13,2 |
|         | 3     | -4                                                   | -0,2 | 1,3 | 2,4 | 5,1 | 20,7 | 24,4 | 40,9 |



Samples are mounted on a special duct for measurement as shown. Noise is introduced into the measuring duct via a speaker system set up inside the VENTILATION CHAMBER (6).

The other end of the duct feeds into the REVERSE CHAMBER (3). The sound pressure level is measured in the reverberation room in two situations:

- With the SP 4 mm pipe installed in the duct.
- Without the 4 mm SP tube. In its place, a replacement metering duct (called a dummy) with the same dimensions (length and diameter) is installed.

The difference between the two values expresses the spread of sound pressure inside the pipe.

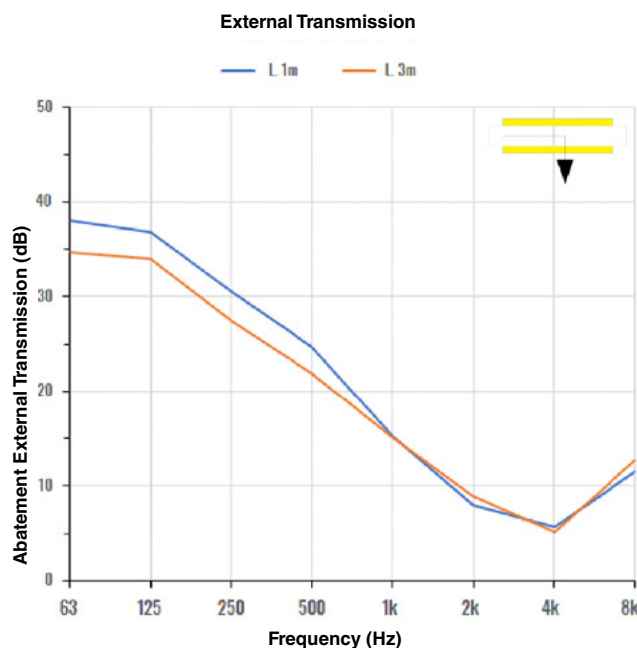
## EXTERNAL SOUND TRANSMISSION TEST - ISO 7235:2003

The data in the table opposite identify the noise abatement value in relation to outward transmission to the pipe on the **4 mm thick hose model**.

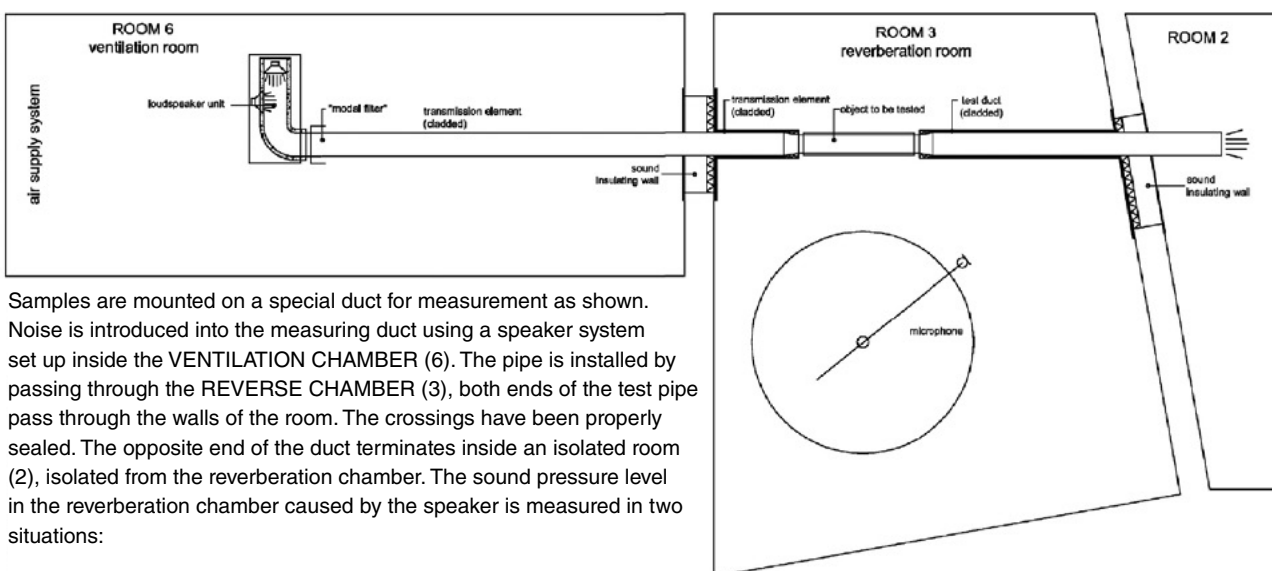
We would like to point out that the data were obtained through **audits by certified or qualified external laboratories and followed by testing in accordance with ISO 7235:2003**.

However, they can give a general assessment of the tube's functionality and the performance it can provide under real operating conditions.

The results reported are the result of tests conducted with a white noise source in the frequencies between **63 Hz and 8000 Hz**.



|            |          | External Attenuation dB - Freq. [Hz] - ISO 7235:2003 |      |      |      |      |     |     |      |
|------------|----------|------------------------------------------------------|------|------|------|------|-----|-----|------|
| ID<br>[mm] | L<br>[m] | 63                                                   | 125  | 250  | 500  | 1k   | 2k  | 4k  | 8k   |
| 102        | 1        | 38                                                   | 36,8 | 30,5 | 24,7 | 15,2 | 8   | 5,7 | 11,4 |
|            | 3        | 34,7                                                 | 34   | 27,4 | 21,9 | 15,1 | 8,9 | 5,2 | 12,7 |



Samples are mounted on a special duct for measurement as shown. Noise is introduced into the measuring duct using a speaker system set up inside the VENTILATION CHAMBER (6). The pipe is installed by passing through the REVERSE CHAMBER (3), both ends of the test pipe pass through the walls of the room. The crossings have been properly sealed. The opposite end of the duct terminates inside an isolated room (2), isolated from the reverberation chamber. The sound pressure level in the reverberation chamber caused by the speaker is measured in two situations:

- With the SP 4 mm pipe installed in the measuring duct in the reverberation chamber;
- Without the 4 mm SP pipe and an open test pipe.

The difference between the two values expresses the ability of the pipe to reduce sound transmission through the pipe walls to the outside.