Vent Silencers
A complete range of products for high pressure systems
IAC Acoustics
Making the World a Quieter Place

Founded on an unrivalled history of engineering with some of the most pioneering discoveries in the industry, the IAC Acoustics brand is synonymous with technological innovation.

From controlling noise at a power station to tuning the sound in a TV or radio studio, IAC Acoustics has had a positive impact on society and helped to shape what can be achieved to make speech more intelligible, music more enjoyable, reduce the impact of industrial noise and protect people’s sense of hearing.

The continual success of our products and services over the decades has brought the brand a reputation for quality and reliability among customers, whether they are multinational corporations or independent family businesses. This is supported by the expertise and passion of our workforce, the people behind the products, including designers, engineers and industry specialists.

To face the ever increasing noise reduction demands of the future, we will strive to further enhance our ability to reduce excessive noise. We aim to focus on developing tomorrow’s solution today, innovating faster and delivering solutions that meet the requirements of the next generation. In doing so, we will stay true to our key values and founding philosophy to make the world a quieter place.
Vent Silencer Overview

A vent silencer is a device intended to reduce the very high noise levels created when high pressure gas or steam is expanded to the atmosphere.

This noise is produced by rapid turbulence of the vented gas jet and the release of energy from the compressed gas. Most of the noise occurs at the expansion across the valve and is emitted at the stack opening.

The vent silencer can also provide back pressure relief for the system ensuring proper operation.

There are two noise reduction principles used in a vent silencer.

The first is a reactive section (diffuser) to attenuate the low frequencies and provide broad band noise reduction.

The second principle is absorption of the high frequency audible noise into a sound absorbing material.

Typical Applications
- Safety Valve (PSV)
- Relief valve (PRV)
- Ejector
- Start up valve
- Snort-valve
- Flash and Blow Down Tanks

Typical Installations include:
- Combined Cycle
- CHP Plants
- Fossil fuel power plants
- Thermal solar plants
- Nuclear power stations
- Industrial applications
- Oil and gas applications

Our Capabilities
- Acoustic design and optimisation
- 3D CAD model engineering
- Static calculation
- Pressure part calculation
- Pressure part design check
- Pressure Equipment Directive (PED) compliance
- Quality inspection
- Full technical documentation
- Full supply-chain service
Vent Silencer Specifications

Hydraulic sizing
- Flow rate, valve set pressure and temperature
- Saturated or Superheated Steam
- Other gases: oxygen, methane...

Type of operation
- Safety: intermittent operation
- Control, start-up and blow down: regular or continuous operation

Pressure Drop / Back Pressure
- Valve integrity factor
- Control and stabilisation of process condition

Material Specification
- From low temperature to high temperature
- Corrosion allowance

Noise Guarantee details
- Point of measure
- Pipe noise interference

Pipe Connection
- Butt weld
- Flanges
- Counters flanges /seals / bolts

Rain Hoods
- Impact on noise guarantee depending on measure point
- Snow and ice issue

PED
- Applicable within the EEC and elsewhere whenever the customer requires it
- For silencer with diffuser tubes and pressure drop (1st stage) above 0.5 bar g
- Mechanical withstand guarantee: NDT, PMI, CE Marking
Standard Range

Special
Available for higher noise reduction

Super Extreme
From 0 to 90 lb/s [40 kg/s]

Extreme
From 0 to 90 lb/s [40 kg/s]

Super Critical
From 0 to 90 lb/s [40 kg/s]

Critical
From 0 to 150 lb/s [70 kg/s]

Residential
From 0 to 150 lb/s [70 kg/s]

Noise reduction
dB(A)

60
50
40
30
20

Selection Tool

All IAC Acoustics standard vent silencers can be configured online using our selection tool.

- Inlet connection
- Mass flow rate
- Residual noise level
- Fluid description

Selection tool

Contact IAC Acoustics to receive your unique username and password, then visit:
http://vent.iac-acoustics.com
### Vent Silencer Dimensions

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<th>Length (mm)</th>
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### Vent Silencer Options

#### Connection
- Standard supply: Butt weld
  - Connecting flanges
    - Standard: WN flanges Class 150# as per ASME B 16.5
    - Options available for other classes and alternatives (e.g. slip-on)

#### Support
- Standard supports are part of the bottom plate
- Other supports can be supplied as options

#### Stuffing Box
- Allows pipe movements due to thermal expansion, avoiding nozzle loads
  - Standard radial movement is +/- 20mm
  - Standard axial movement up to 50mm
  - Pipe sealing is maintained

#### Rain Hoods
- Prevents rain entering the silencer
- Bottom drain as standard

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### Product Referencing

#### Product Group
- VS
- RE
- CR
- SC
- EX
- SE

#### Family
- M
- I
- 1030
- CS
- 080

#### Acoustic Performance
- Measurement Unit: Metric Imperial
- Silencer Diameter
- Material: Carbon Steel
- Inlet Pipe Diameter (10 x inches)
IAC Acoustics has provided vent silencers to some of the largest organisations around the world.

Some of past clients include:

- Air Liquide
- Thermax
- Jacobs
- Boccard
- Cegelec
- Cevital SPA
- CME Engineering
- Cockerill Mechanical Industrie
- Diamond Power
- APA Gasnet
- Foster Wheeler
- EDF
- Dresser
- Exxon
- Technip
- Chiyoda
- Total
- JGV
- Aramco
- Reliance
- ESB
- COFIVA
- QatarGaz
- SNC-Lavalin
- CTEP
- CNIM
- Alstom
- PraxAir
Contacts

For a list of IAC locations worldwide please refer to our website.