Vent Silencers
A complete range of products for high pressure systems
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

- **Residential**: From 0 to 150 lb/s [70 kg/s]
- **Critical**: From 0 to 150 lb/s [70 kg/s]
- **Super Critical**: From 0 to 90 lb/s [40 kg/s]
- **Extreme**: From 0 to 90 lb/s [40 kg/s]
- **Super Extreme**: From 0 to 90 lb/s [40 kg/s]

Noise reduction dB(A)

- Special: Available for higher noise reduction

Noise levels:
- 20 dB(A)
- 30 dB(A)
- 40 dB(A)
- 50 dB(A)
- 60 dB(A)
# Vent Silencer Dimensions

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<th>Outer Diameter</th>
<th>Length (mm)</th>
<th>Weight (kg)</th>
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## Product Referencing

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<th>Family Vent Silencer</th>
<th>Measurement Unit</th>
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<th>Material Carbon Steel</th>
<th>Inlet Pipe Diameter (10 x inches)</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
Boët Stopson 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