

# Vent Silencers

A complete range of products  
for high pressure systems



making the world a quieter place

# 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.

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# 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





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# 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

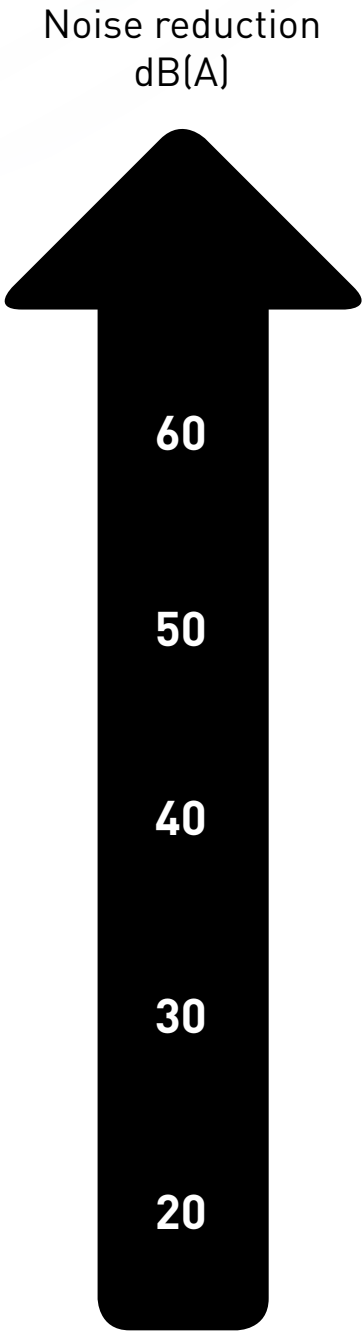
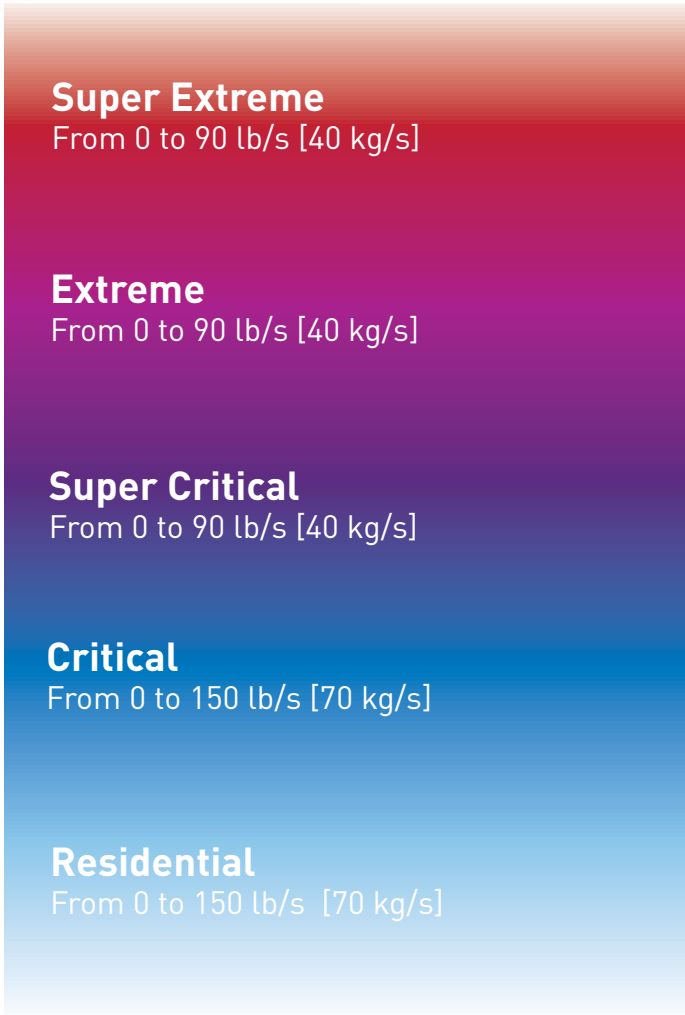
- Impact on noise guarantee depending on measure point
- Snow and ice issue

## 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

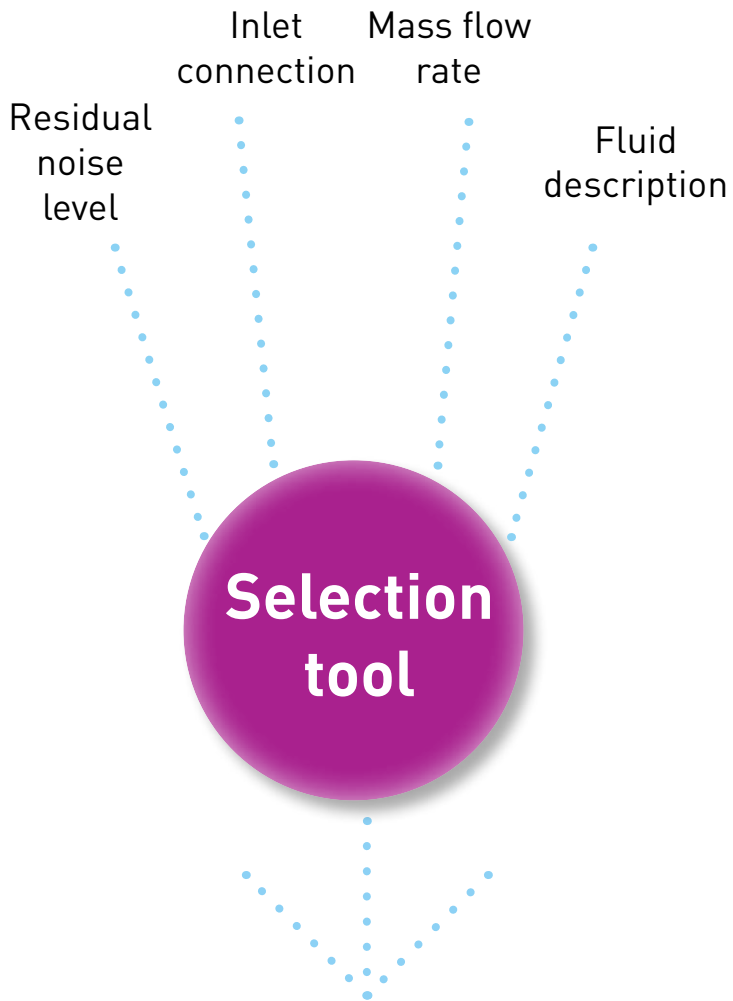
**Special**  
Available for higher noise reduction





# Selection Tool

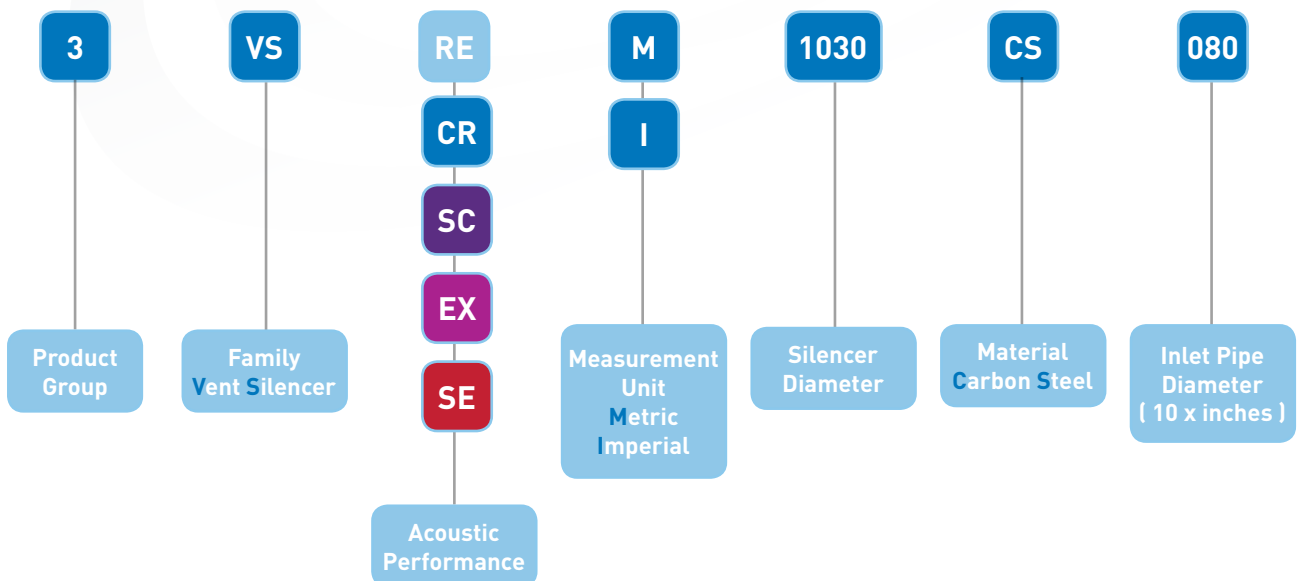
All IAC Acoustics standard vent silencers can be configured online using our selection tool



# Vent Silencer Dimensions

Outer Diameter	Length (mm)				Weight (kg)			
	Residential	Critical	Super Critical	Extreme	Residential	Critical	Super Critical	Extreme
320	510	510	510	610	47	49	51	58
470	750	750	750	900	107	110	120	137
630	1010	1010	1010	1210	186	190	211	242
790	1260	1260	1260	1520	284	292	328	378
880	1410	14710	1410	1690	363	373	418	482
950	1520	1520	1520	1820	421	433	487	561
1030	1650	1650	1650	1980	495	510	575	663
1110	1770	1770	1770	2120	567	583	658	761
1190	1900	1900	1900	2280	648	667	755	873
1270	2030	2030	2030	2440	742	763	885	1024
1360	2180	2180	2180	2610	953	981	1122	1303
1460	2330	2330	2330	2800	1167	1200	1364	1578
1560	2500	2500	2500	3000	1338	1376	1565	1812
1670	2670	2670	2670	3210	1534	1579	1828	2117
1790	2860	2860	2860	3440	1761	1811	2229	2604
1920	3070	3070	3070	3680	2021	2079	2565	3001
2050	3290	3290	3290	3940	2321	2388	2974	3479
2200	3520	3520	3520	4220	2666	2743	3426	4013
2360	3770	3770	3770	4520	3703	3809	4605	5420

## Product Referencing



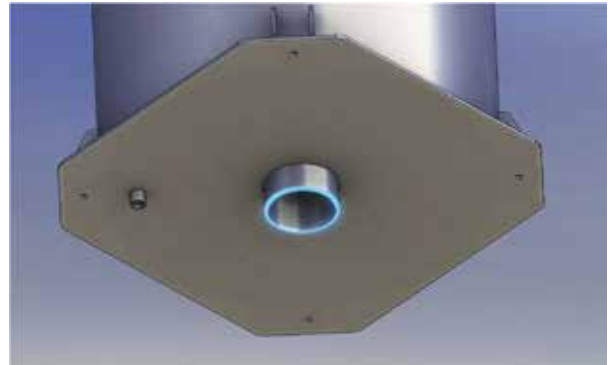
# Vent Silencer Options

## Connection

(Standard supply: Butt weld)

Connecting flanges

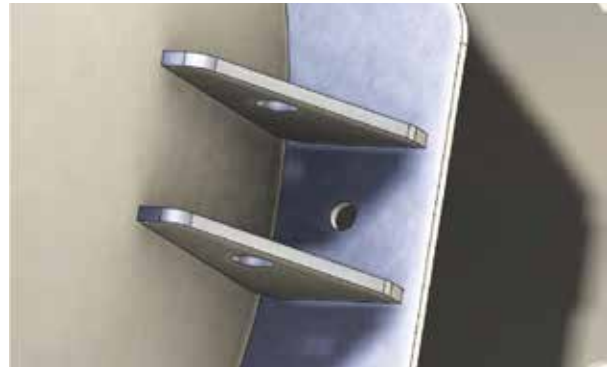
- Standard: WN flanges Class 150# as per ASME B 16.5
- Options available for other classes and alternatives (e.g. slip-on)



## Support

Standard supports are part of the bottom plate

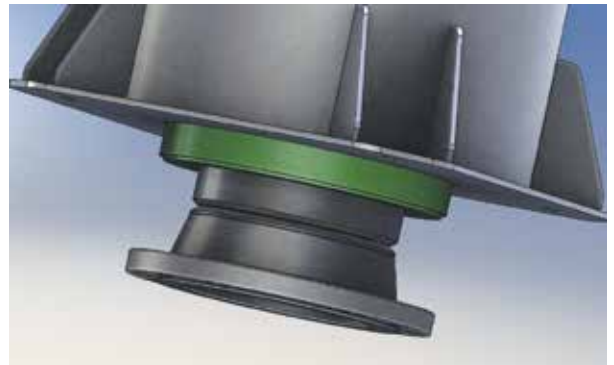
Other supports can be supplied as options



## Stuffing Box

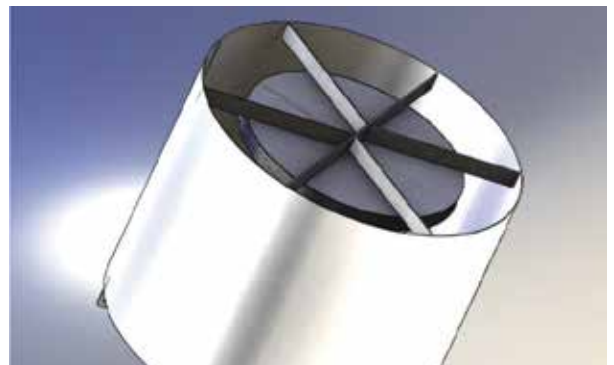
Allows pipe movements due to thermal expansion, avoiding nozzle loads

- 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



# Our Customers

IAC Acoustics has provided vent silencers to some of the largest organisations around the world.

Some of 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





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