



PK ENGINEERING HEAD OFFICE

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OUR KEY CONTACTS

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VENT SILENCER

PK engineering (Pulse Kinetics) is an ISO 9001:2015 certified complete service solution driven engineering company with a manufacturing capability of noise control equipment's since 2012. With a immense experience and a clientele across disciplines, our range of products include Steam Vent Silencers, Fan silencer, Compressor silencers , Genset exhaust silencers , Acoustic enclosures and other noise control products.



DESCRIPTION

A vent silencer is a device used to reduce unwanted noise created by gas or steam flow in a pipeline discharging directly into the atmosphere. This noise can be generated due to the high velocity flow through the valve and turbulence created around any obstacle in the line that suddenly restricts or changes the direction of flow such as a valve or an orifice. Vent silencers find wide applications in high pressure vents, steam vents, safety relief valve outlets, system blow downs and purge outlets etc.

DATA REQUIRED TO SELECT VENT SILENCERS

- Application (Vent, Blow down, Relief Valve etc.)
- Fluid Composition (Steam, Gas, Air)
- Molecular Weight
- Flow rate (kg/hr)
- Valve upstream Temperature (dg C)
- Valve upstream pressure (Bar or kg/cm²)
- Downstream pressure and temperature of valve, if known.
- Line size between valve & silencer and connection type.
- Un-silenced octave band noise levels, if known
- Noise criterion (dBA)

DESIGN

The silencers are normally designed to meet OSHA/ISO Standards. However, silencers can be designed to meet the requirement of the Customer.

ALL RANGES OF VENT SILENCERS

- * Steam Vent Silencer (Boiler, Turbine, Ejector, PSV, etc..)
- * Air Vent Silencer
- * Oxygen, Nitrogen, CO₂ and other Process Gas Vent Silencer
- * Steam Vent Silencer with Condensate Separators
- * Compressor Air Blow-off Silencer

QUALITY

Quality bench marks are to the highest level playing field. Stringent processes that doubly ensure quality is maintained right from raw material sourcing to the finished product inspection prior to dispatch. On customer preferences, silencers are Inspected by BVQI, DNV,TUV, IRS, QUEST, etc and are certified for quality. All our products perform par excellence. Our products are ensured to comply with the requirements of OSHA / ISO Standards.





ENGINE EXHAUST SILENCER

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NEEPCO, Assam Project

OUR COMPREHENSIVE SOLUTIONS OF DIESEL ENGINE NOISE CONTROL CONSISTS OF THE FOLLOWING

1. Engine exhaust silencer which include
 - a. Reactive silencers.
 - b. Absorptive silencers,
 - c. Silencers with spark arrestor & soot collector
2. Turbocharger intake silencer
3. Sound proof acoustic enclosure
4. Canopy air intake and exhaust sound attenuators

ENGINE EXHAUST SILENCER

We offer absorptive silencers or reactive silencers or a combination of absorptive and reactive type silencers depending on the noise level and the frequency domination. The silencers are designed acoustically and mechanically based on the flow rate, pressure, temperature, pressure drop and the required noise reduction. The reactive type of silencer is usually cylindrical and it consists of partition baffles and flow tubes. The low frequency noise is attenuated by reaction in the reaction chambers and thus these types of silencer are suitable for low frequency dominate noise.



6MW Flue Gas Engine Silencer

DATA REQUIRED TO SELECT EXHAUST SILENCERS

- Application (Diesel, Bio-gas, Natural gas, Flue gas & Marine engines.)
- Fluid Composition (Gas)
- Molecular Weight
- Flow rate (kg/hr- m3/hr)
- Operating temperature (dg C)
- Back pressure across the silencer unit (mmwc or mbar)
- Silencer inlet / outlet line size (mm or inch)
- Existing Noise level with octave band frequency (31.5 hz to 8K hz) (dBA)
- Noise criterion (dBA)

DESIGN

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ALL GRADES OF EXHAUST SILENCERS

- * Industrial Grade
- * Residential Grade
- * Critical Grade
- * Hospital Grade

GT EXHAUST SILENCER

PK engineering (Pulse Kinetics) is an ISO 9001:2015 certified complete service solution driven engineering company with a manufacturing capability of noise control equipment's since 2012. With a immense experience and a clientele across disciplines, our range of products include Steam Vent Silencers, fan silencer, Gas turbine exhaust silencers , Gas turbine air intake silencers , Acoustic enclosures and other noise control products.



13MW Gas Turbine Silencer

GT EXHAUST SILENCER

The Gas Turbine Exhaust Silencers are designed to handle the maximum exhaust flow rate of the Gas Turbine . PKE has designed and supplied GT Exhaust Silencer handling a flow rate of 1,85,000 kg/hr. The baffles are designed aerodynamically for minimum pressure drop, restricting the pressure drop to 150mm wc. The baffles are designed using stainless steel materials with perforated skin packed with mineral fibers. Stainless steel wire mesh and Fiber Glass mat are provided for infill protection. For high temperature applications, a combined layer of mineral fibers and ceramic wool are used with stainless steel wire mesh and ceramic fiber mat for infill protection. For large stack silencers, the acoustic baffles are pre-fabricated at shop and erected at site inside the stack.

MATERIAL OF CONSTRUCTION

Casing

Carbon Steel : IS 2062, A 36, SA 283 Gr. C

Stainless Steel : SA 240 TYP 409, 304, 304L, 316, 316L,321,321H

Alloy Steel : 387 Gr. 11/12/22

Perforated Sheet : SA 240 TYP 409, 304,304L, 316, 316L,321,321H

Insulation : Ceramic wool, Rockwool



13MW Gas Turbine By-pass Stack Silencer

DATA REQUIRED TO SELECT GAS TURBINE SILENCERS

- Application (Gas turbine By pass stack silencer.)
- Fluid Composition (Gas)
- Molecular Weight
- Flow rate (kg/hr- m³/hr)
- Operating temperature (dg C)
- Back pressure across the silencer unit (mmwc or mbar)
- Silencer inlet / outlet line size (mm or inch)
- Existing Noise level with octave band frequency (31.5 hz to 8K hz) (dBA)
- Noise criterion (dBA)

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ACOUSTIC ENCLOSURE

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RINL-Viszag (compressor acoustic enclosure)

DESCRIPTION

Acoustic Enclosure comprises of modular structural frames made out of M.S.angles and pre-fabricated high performance acoustic panels. The enclosure is designed acoustically and mechanically to the desired noise level specified by the customer. The thickness of the panel is based on the design requirement. The modular structural frame could be easily assembled since they are constructed as bolted structure. The construction is also designed to facilitate easy dismantling. Acoustic panels are designed in such a way that it can be easily dismantled with the help of quick releasing clamps. This facilitates easy maintenance.

The enclosure is provided with sound reducing doors. In order to view the critical areas of the machine, double glazed glass window is provided. To take away the heat built up inside the enclosure, ventilation air intake and exhaust silencers are provided with blower for forced ventilation. The acoustic enclosures are provided for compressors, gas turbines, fans, Diesel Generator sets, press and any other noisy machine

DATA REQUIRED TO SELECT ACOUSTIC ENCLOSURE

- Dimensions of the Acoustic enclosure (L X W X H)
- GA Drawing of Machine (Blower, Turbine, Compressor, etc...)
- No of Single Leaf doors / double Leaf doors
- No of Glass windows
- Heat load of the Machine (KW)
- Allowable temperature rise inside the enclosure from the ambient level (dg C)
- Existing Noise Level (dBA)
- Noise criterion (dBA)
- Special requirements if any

DESIGN

The Acoustic enclosures are normally designed to meet OSHA/ISO Standards. However, Acoustic enclosures can be designed to meet the requirement of the Customer.

QUALITY

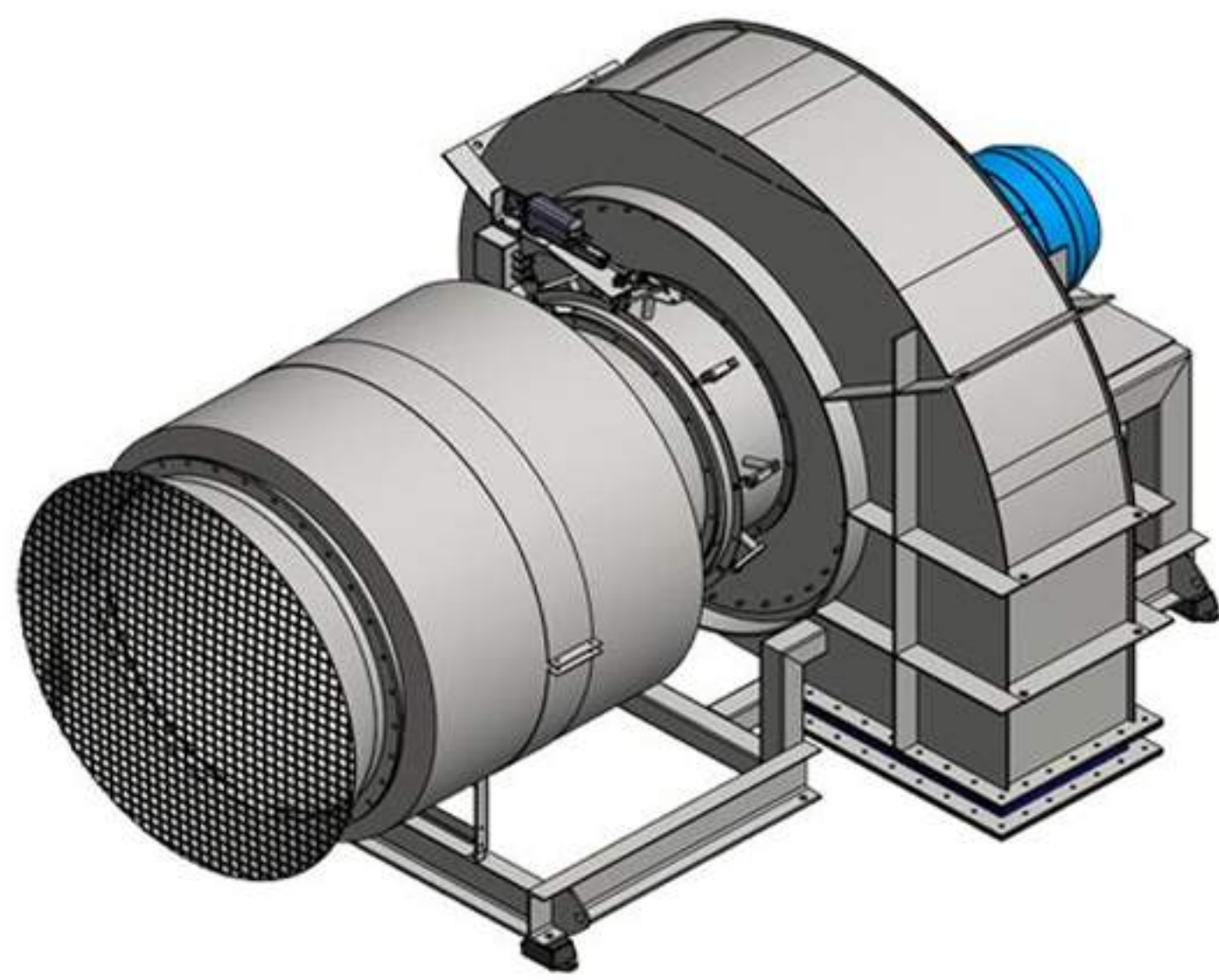
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APPLICATION OF ACOUSTIC ENCLOSURE

- * Nitrogen /oxygen / Air gas compressors for steel plants
- * Steam Turbines / Gas Turbine at Power plants
- * Ball Mill for Cement plants
- * Diesel / Gas engine Gensets
- * Blowers / Vacuum Pumps for water treatment plants
- * Boiler feed water pumps

FAN/BLOWER SILENCERS

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DESCRIPTION

The noise from centrifugal fan is dominantly a superposition of discrete tones at the impeller or blade passing frequency and broadband aerodynamic noise. The origin of the discrete noise is from two sources. First, each time a blade passes a point in space, a pressure fluctuation is created due to the displacement of air. Second, as the blades pass the cutoff point in the scroll, abrupt pressure changes or pulses also occur at the blade passing frequency and higher integer ordered harmonics. The broadband aerodynamic noise originates from vortices created at the leading and/or trailing edge of the blades and turbulence imparted to the fluid, usually in the form of eddy like flow.

Axial fans generally operate at higher pressures than centrifugal fans and usually are considered noisier. Due to the number of blades and high rotational speeds, the noise from axial fan is generally characterized by strong discrete blade passing tones.

DATA REQUIRED SELECTING THE FAN/ BLOWER SILENCERS

- Application (FD, ID, SA, PA, Cooling air fan & Mine fan applications)
- Medium (Air)
- Flow rate (kg/hr or m³/hr)
- Operating Temperature (dg C)
- Inlet / outlet connection size of the fan
- Un-silenced octave band noise frequency spectrum (31.5 Hz to 8 KHz) (dBA)
- Noise criterion (dBA)
- Allowable pressure drop across the unit (mmwc or mbar)

DESIGN

The Fan/ blower silencers are normally designed to meet OSHA/ISO Standards. However, Silencers can be designed to meet the requirement of the Customer.

The fan/blower silencers should be placed as close as possible to the blower to minimize noise radiated from the piping between the blower and the silencer. The noise radiated from the casing of the fan/blower shall be effectively controlled by providing an acoustic enclosure around the blower.

QUALITY

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ALL RANGES OF FAN/BLOWER NOISE CONTROL

- * Suction/ inlet silencer
- * Discharge/outlet silencer
- * Discharge Inline silencer
- * Acoustic enclosures

COMPRESSOR SILENCERS

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DESCRIPTION

PK Engg provides you the most Excellent solution for compressor noise control. Our extensive experience helps us to recommend you the most viable compressor noise control solutions for the following areas:

- Acoustic Enclosure for compressor with drive.
- Suction Silencer in the suction line.
- Discharge Silencer in the discharge line.
- Blow-off Silencer in the bypass line.
- Ventilation system inside the enclosure to remove the heat dissipated from the compressor, motor, intercoolers, after coolers and the moisture separator.

DATA REQUIRED SELECTING THE COMPRESSOR SILENCERS

- Application (Air, Nitrogen, Oxygen Gas Compressors, High pressure multistage gas compressors)
- Medium (Air, Gas)
- Flow rate (kg/hr or m³/hr)
- Operating Temperature (dg C)
- Operating Pressure (bar or Kg/cm²)
- Connection line size of the silencer (inch or mm)
- Un-silenced octave band noise frequency spectrum (31.5 Hz to 8 KHz) (dBA)
- Noise criterion (dBA)
- Allowable pressure drop across the unit (mmwc or mbar)

DESIGN

The compressor silencers are normally designed to meet OSHA/ISO Standards. However, Silencers can be designed to meet the requirement of the Customer.

ALL RANGES OF COMPRESSOR NOISE CONTROL

- * Suction / Air intake silencers
- * Discharge/ Inline silencers
- * Blow off silencers
- * Stack Silencers
- * Acoustic enclosures

The compressor silencers should be placed as close as possible to the compressor to minimize noise radiated from the piping between the compressor and the silencer. The noise radiated from the casing of the fan/blower shall be effectively controlled by providing an acoustic enclosure around the compressor.

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Client list

- SAIL – Vizag/ Bokaro / RSP
- JSW Energy / JSW Steel
- L& T Nabha Power Ltd
- Adani Power LTD
- Vedanta Steel LTD
- Nava Bharat Energy LTD
- JK Papers LTD
- Khanna Papers LTD
- Murugappa Papers LTD
- Dalmia Cement
- India Cement
- AKS sugar, UAE
- DCSL Sugar
- Uttam Sugars
- Philips Carbon black
- Lakshmi Organics
- MRF Tyres
- BKT tyres
- Cochin Ship yard
- Goa ship yard
- Bhushan Steel ltd
- Siemens
- Thermax
- Air Products India
- Linde India
- Forbes Marshall
- Thyseen Krupp Ind
- IJT Boilers
- GE India
- Enmax Boilers
- Hitachi Zoosen
- Air gas Projects
- ST engineering , Singapore
- Mackenzie Ind ,Malaysia
- TD Power systems
- Furnace Fabrica
- Uttam Energy
- EGESIM Group , Turkey
- Gardner Denver products
- Howden India
- Zitron Engineering India
- Mechmar Boilers , Malaysia
- Clarke energy (GE)
- Green Power (MWM)
- Gmmco ltd (CAT)
- Gain well Commosales (CAT)
- Excel Generators (MTU)
- Kirloshker Pneumatic
- AL-Bahar LLC , UAE
- Berg engg LLC , Sharjah
- Lambrell Energy LLC , UAE
- Total Oman LLC , Oman
- CG gulf LLC, Oman
- Precision Skills, Oman
- Kalpat , Peru
- Pemi Parts , USA
- Thermo-EX , Thailand
- SIMEC Group , Mexico
- Al-Tech ,Singapore
- Narseys Plastics, Fiji
- Chemtech Valves
- Arics Cooper , KSA
- Drydocks , UAE

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