

VENT SILENCERS

A resounding reputation in noise abatement

Introduction

In process industries countless safety valves and control valves are to be found as in petrochemical, chemical plants and in electricity power generating stations. Opening of these valves to vent steam, gas or vapour is accompanied by very high levels of noise; 150 to 160 dB(A) is not uncommon. Potentially a great risk of operator hearing damage in addition to the burden upon the environment especially through venting during the night hours. Stringent limitations on noise production are imposed. Fitting vent silencers can reduce accidents arising from shock reactions, eliminate noise-induced hearing damage of personnel and prevent complaints from neighbours.



Q.E. vent silencers with a guaranteed noise reduction

Q.E. International has been, for many years, a leader in the design, production and supply of the best in vent silencers – throughout the world. In addition to standardised silencers. Q.E. design engineers have specialised in providing solutions to unique situations Irrespective of the difficulty of the problem Q.E. will find the best solution for you. Quality Equipment with a guaranteed performance. And Q.E. selects the most favourable location for fabrication, a further advantage in the pricing of the silencers.

Principle of operation

Basically each Q.E. vent silencer comprises a diffuser, an expansion chamber and an absorption section. In the diffuser and expansion chamber the pressure of the venting vapour is reduced in stages to atmospheric pressure – even from 100 bar. At the same time the vapour velocity is reduced. A shift in the noise spectrum towards higher frequencies is achieved so that absorption at these frequencies is more easily made. The venting vapour is led through vapour channels in the absorption section where sound energy is converted to friction heat.



Vent silencer at Piesteritz Plant

Available as

Standard silencers:

Q.E. standard silencers economically priced in carbon steel (internally and externally) with absorption material in mineral wool. The exterior is particle-blasted to SA 2 ½ and coated with 40 micron DFT of zinc rich prime paint.

Custom designs:

Q.E. has also specialised in designs of silencers to comply with customer specifications. Our extended experience is at your disposal in solving complex noise problems and in the translation of extreme demands into practical solutions and our continuing drive to be leaders in our chosen fields is evidenced by the successes that we have demonstrated.



Calculation

All components exposed to internal pressure are calculated and constructed to comply with the ruling Pressure Vessel Code for the district or industry in which the silencer is to operate. Examples of such codes are ASME VIII division 1, National PV Codes of France, The Netherlands, Italy, Germany, United Kingdom, Australia and RSA. The final design will be based upon:

- Fluid properties
- Mass flow
- Fluid temperature
- The fluid pressure upstream and downstream from the valve
- Required (or permitted) noise level
- Nozzle connection size



Multiple vent silencers at a single process section

Q.E. International B.V., your partner in Industrial noise abatement.

In short, with more than thirty years experience Q.E. International has demonstrated to its loyal and satisfied clients that it is the partner in solving industrial noise problems and we can perform the same services for your organisation. Our advisors will be pleased to confer with you in order to find the most effective and economical approach to your problem.

Contact

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