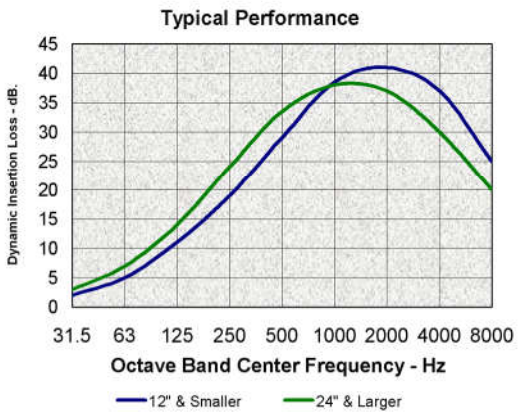
INDUSTRIAL SILENCERS

“SOUNDS LIKE SUCCESS”



VANEC Silencers – MADE IN THE USA

Our newest manufacturing facility, opened in 2016, is a dedicated manufacturing plant, located in Gainesville, Texas USA

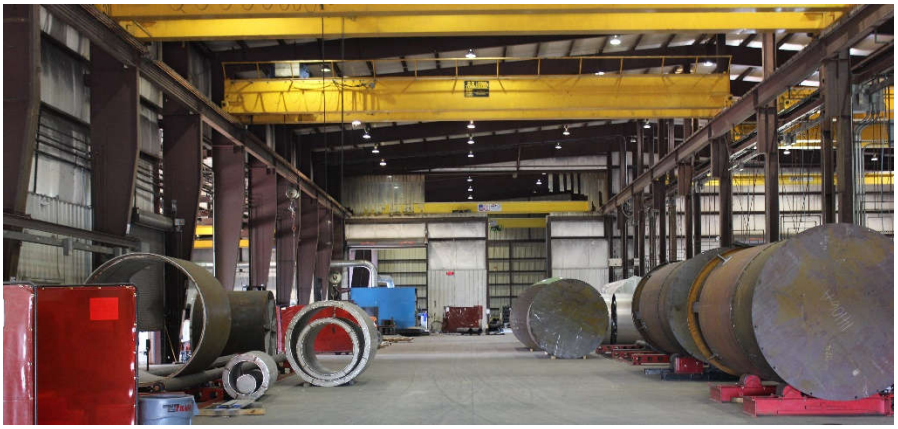
- 72,000 ft^2 manufacturing space with 30’ clear under crane bridge

- 10+ Acre fenced storage on I-35

- Rail spur into building for crane loading/unloading
- 20’ x 20’ x 80’ sandblast booth with floor recovery system

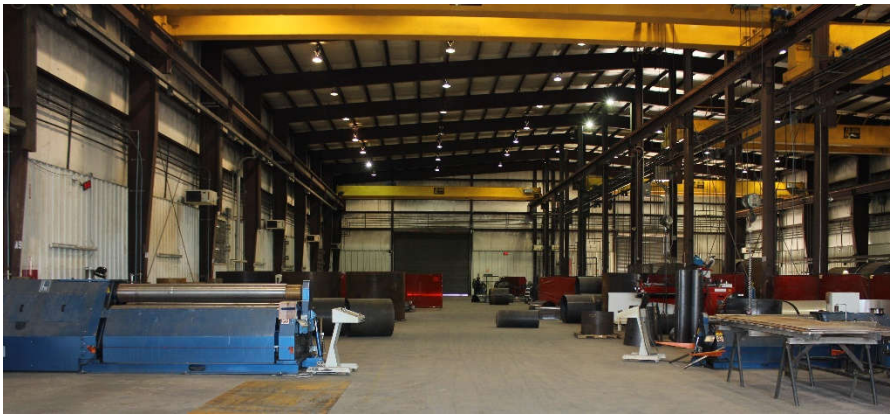
Bay 1:

- 65’ x 300’ with:
- (3) 10-ton overhead cranes
- (1) 5-ton overhead crane
- (2) 2-ton Job cranes
- (1) 1-ton jib crane



Bay 2: 65’ x 380’ with:

- (1) 25-ton overhead crane
- (2) 15-ton overhead cranes
- (1) 10-ton overhead crane
- (1) 7.5-ton overhead crane
- (2) 2-ton jib cranes
-



Bay 3: 40’ x 150’ with (2) 5-ton overhead cranes

PAINTING:

- (2) 20'x20'x60' climate controlled paint booths
- Gantry systems to hang silencers safely

MANUFACTURING MACHINERY:

- (1) 10' x 40' CNC Plasma talbe w/400A HD power suppy, cuts up to 2" thick plate

- (3) plate rolls ½" thick by 120" capacity – SA516 Gr. 70 plate
- (1) 120 ton brake press
- (1) 100 ton ironworker
- (1) ½" x 120" shear
- (1) weld seamer
- (2) robotic weld cells
- (1) robotic 3D plasma cutting cell
- (2) 18" band saws
- (1) CNC lathe
- (2) semi-automatic Continuous-Strand Fiberglass injection machines

VANEC ENGINEERS AND MANUFACTURES INDUSTRIAL SILENCERS

Founded in 1969 to service the acoustical and air emissions control needs of process industries, our headquarters are located in Orchard Park, New York USA.

Our dedicated manufacturing plant is located in Gainesville, Texas USA

VANEC'S APPLICATIONS, ENGINEERING, AND MANUFACTURING PROFESSIONALS HAVE MORE THAN 150 YEARS OF COMBINED EXPERIENCE IN SOLVING NOISE AND EMISSIONS CONTROL PROBLEMS

VANEC's industrial silencer design and application abilties are reinforced with industry and process knowledge gained from years of practical experience, involving thousands of product applications in industries such as:

Oil & Gas

UPSTREAM

- ❖ Oil & Gas Exploration and Production
- ❖ Field Gathering and Compression Systems
- ❖ Secondary and Tertiary Production Systems

MIDSTREAM

- ❖ Natural Gas Transmission and Distribution
- ❖ Gas Plants – Treatment/Fractionation/Cracking

DOWNSTREAM

- ❖ Petrochemical Process
- ❖ Oil Refining

OTHER PROCESS AND RELATED INDUSTRIES

- Power Generation
- Pulp & Paper
- Marine Propulsion
- Locomotive and Transportation
- Food/Pharmaceutical Processing
- Material Handling/Pneumatic Conveying
- Waste Water Treatment

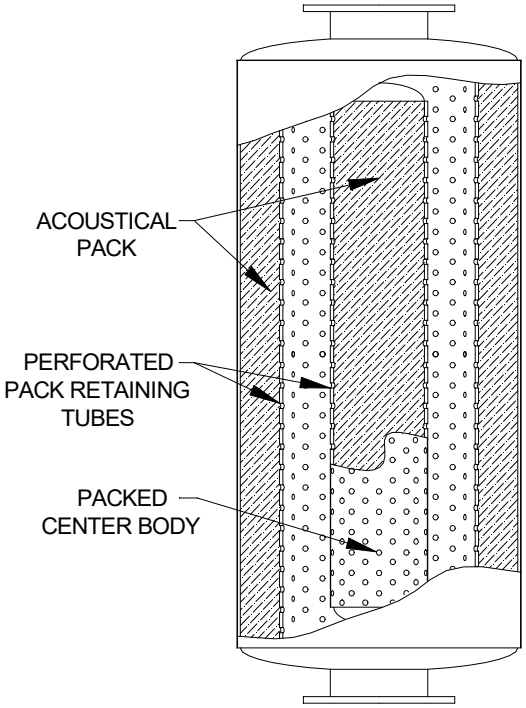
ABSORPTIVE TYPE SILENCERS

Intended primarily for reduction of higher sound frequencies, VANEC absorptive silencers are often employed in engine air intake lines, particularly when turbochargers are employed.

Noise is absorbed within the acoustical packing materials, such as Continuous Strand Fiberglass.

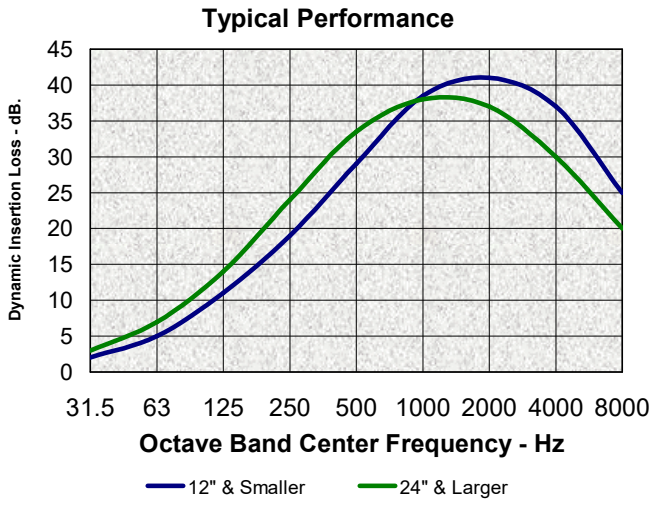
Other available materials can include stainless steel mesh, polyester, and mineral wool.

This silencer design offers low pressure drops to preserve engine performance



Performance can be optimized through adjustments in packing thickness, density, packed length, internal design, and choice of absorptive material.

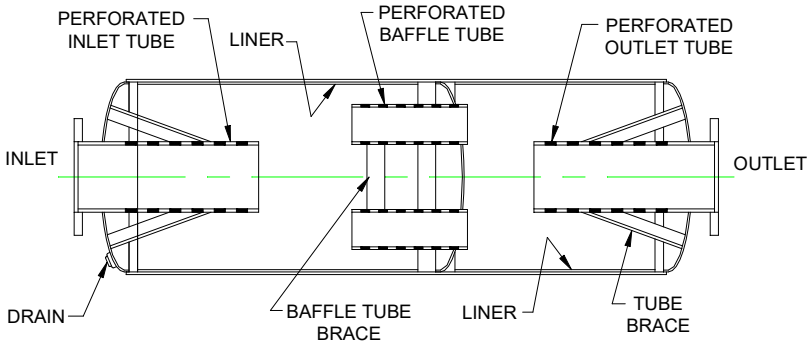
A variety of filter options are available.



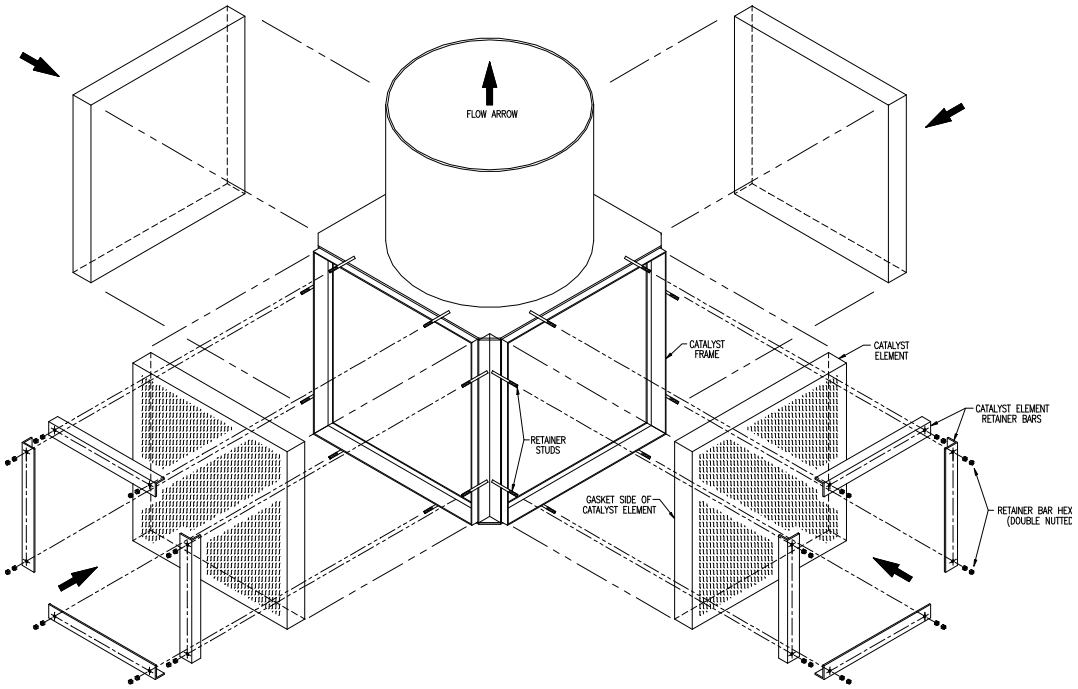
RECIPROCATING ENGINE EXHAUST SILENCERS

REACTIVE / CHAMBER TYPE SILENCERS

Most effective for low frequency noise abatement, including sub-audible pulsation control.



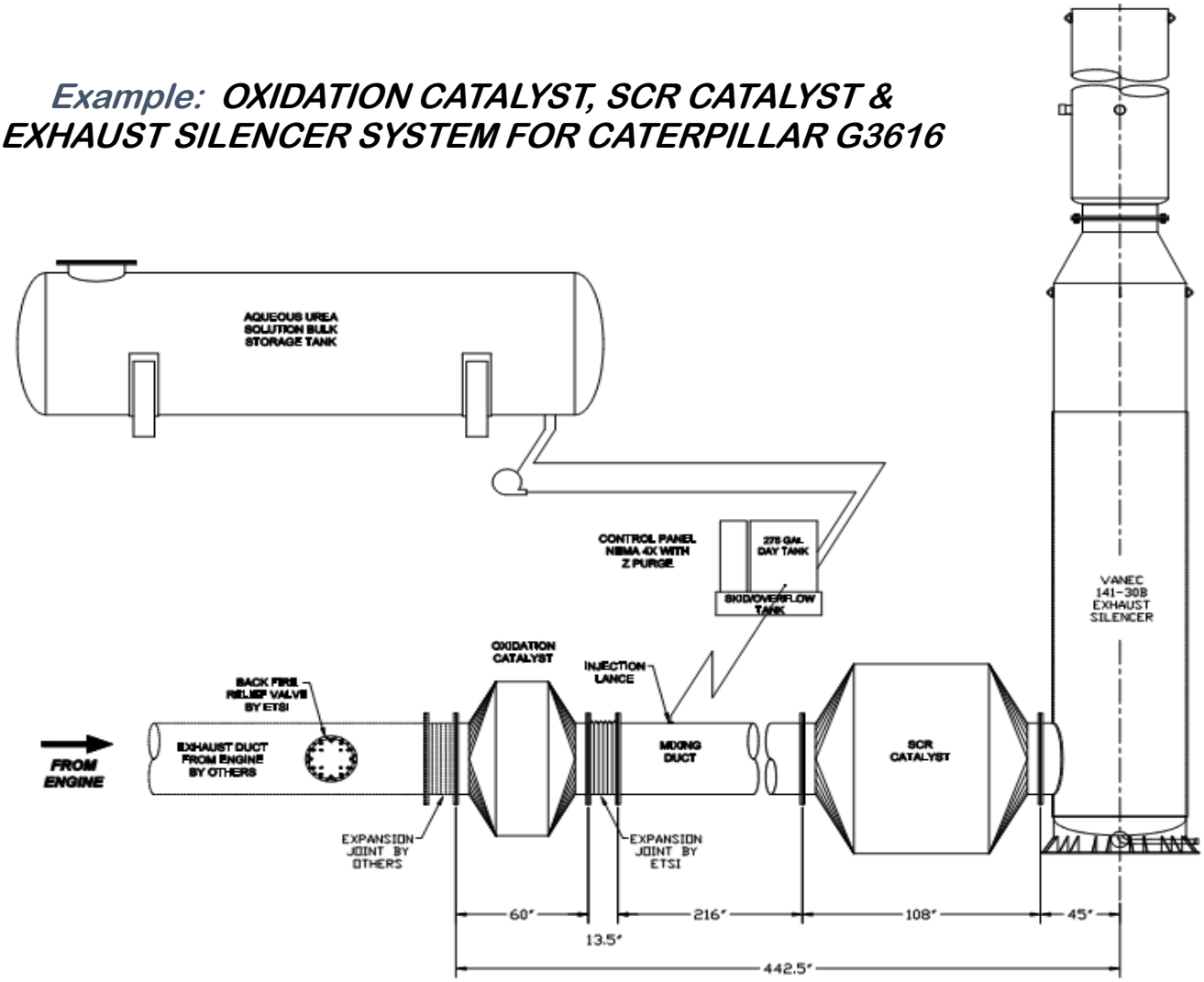
…WITH INTEGRAL OXIDATION CATALYST



- **Custom designed for easy field maintenance, with low chamber element / module access.**
- **Proven track record of meeting noise and emission restrictions in a combined unit.**
- **Designed to mount on existing foundation and exhaust centerlines (for retrofits).**
- **Catalyst housing designed to hold deeper elements if future emissions requirements change.**
- **Dual 30” manway access or external slide-in designs allow easy operator access for removal or replacement of catalyst elements (no “Confined Work Space” issues).**
- **VANEC manufactures exclusively in the USA, with on-site assistance upon request.**

SCR CATALYST & EXHAUST SILENCER SYSTEMS

***Example:* OXIDATION CATALYST, SCR CATALYST & EXHAUST SILENCER SYSTEM FOR CATERPILLAR G3616**



What do I need to know to obtain a silencer quote for a reciprocating engine?

1. Allowable silencer pressure drop
2. Flow Rate in ACFM
3. Flow temperature
4. Flow media mole weight (M.W.)
5. Connection size(s)
6. Noise limit at a specific distance
7. Exhaust emissions produced
8. Exhaust emissions limits

EXHAUST SILENCERS AND OXIDATION CATALYST SYSTEMS FOR GAS TURBINES

VANEC Specializes in retrofits and upgrades for gas turbines up to 16,000 HP for gas compression applications, including:

- Solar Saturn
- Solar Centaur 50
- Solar Taurus 60
- Solar Taurus 70
- Solar Mars 100
- Solar Titan 130
- Dresser-Clark DC-990
- Allison 501

Solar Taurus 60 with oxidation catalyst

What do I need to know to obtain a silencer quote for a gas turbine engine?

1. Allowable silencer pressure drop
2. Flow Rate in ACFM
3. Flow temperature
4. Flow media mole weight (M.W.)
5. Connection size(s)
6. Noise limit at a specific distance
7. Exhaust emissions produced
8. Exhaust emissions limits

Silencer performance grades should be based on Dynamic Insertion Loss (D.I.L.), expressed in decibels, a measure of how much noise is reduced (removed) when the silencer is installed, versus unsilenced noise.

There are no national or international codes that govern the design, application, fabrication, or performance of Industrial Silencers. Silencer performance can be misinterpreted if defined by a verbal description instead of a specific "Dynamic Insertion Loss".

Common “Industry Grade” descriptions, and their approximate performances:

Non-specific nomenclature	D.I.L.	VANEC Model
Industrial	10	121
Commercial	20-25	121
Residential	25-30	131
Hospital	30-35	141
Critical	45	144
Super Critical	50+	154

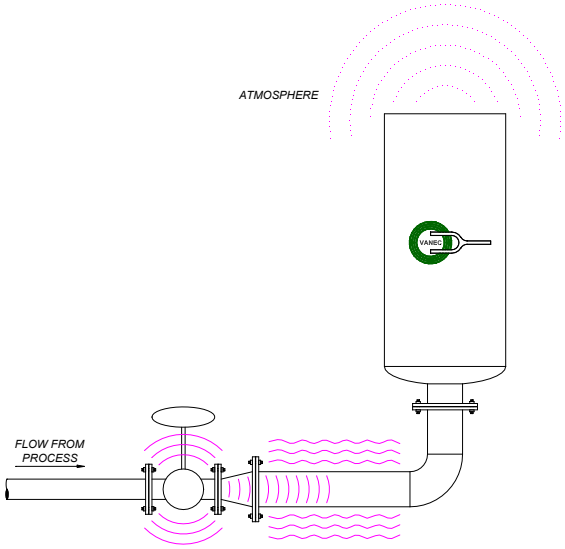
Always confirm silencer performance with a numerical value!

VENT AND BLOWDOWN SILENCERS

STATION BLOWDOWN – UNIT BLOWDOWN – ENGINE STARTER VENT

Abatement of extremely loud acoustical emissions offers advantages beyond compliance with noise pollution regulations. Powerful noise levels are generated by planned or emergency high pressure gas venting, during de-pressurization of compression equipment, regulating stations, headers or piping systems. Even in remote locations, unexpected and painfully loud noise risks personnel injuries due to their sudden onset, may cause permanent hearing damage with even limited exposure, and can interfere with urgent communication among operating personnel at critical times. In more populated areas, these concerns are multiplied.

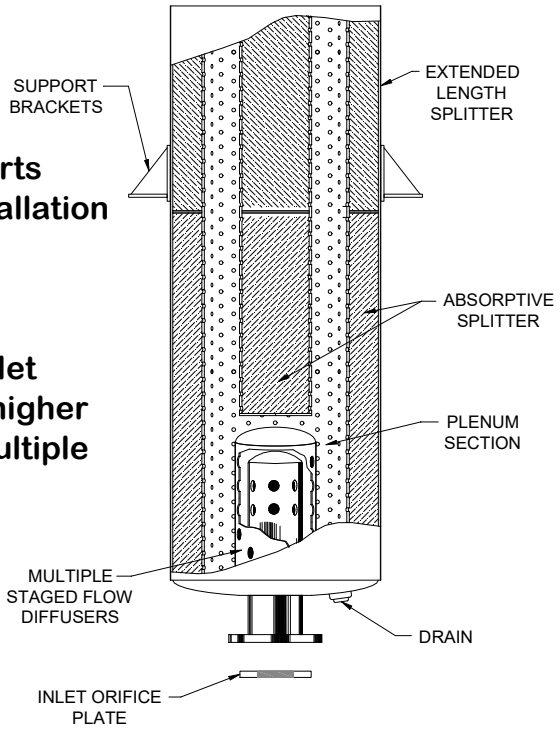
High pressure gas venting from unsilenced safety relief valves can generate noise levels higher than 130 dBA, at 25 feet, or farther, from the source.



VANEC silencer Application Engineers employ unique features to achieve specified performance objectives: blowdown duration, thrust load absorption, wind/seismic force accommodation, as well as the required near-field and far-field acoustical limitations.

Base or body supports to meet various installation requirements

Single or multiple inlet diffusers to handle higher pressures and/or multiple sources



Extended length absorptive splitter sections to provide extra noise attenuation for the most noise sensitive areas

Inlet orifices designed to control flow rate during blowdown pressure decay

USE THIS FORM TO SUBMIT TO VANEC THE INFORMATION NEEDED TO PROVIDE A QUOTE

VANEC Industrial Silencers

3374 Benzing Road
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Tel. (716) 827-4959 Fax (716) 827-10
E-Mail: info@vanec.com

VENT & BLOWDOWN SILENCER APPLICATION DATA SHEET

Customer:		RFQ:
Contact:	Phone:	Fax:
Project Ref:	Email:	

Valve Data

Type:	Make & Model:	Rating:	Orifice Size:

Operating Conditions (please include units where applicable)

Type of Gas or Steam:	Molecular Weight:	S.G.:	Cp/Cv:	Compressibility:
Flow Rate:	Valve Inlet Pressure:	Valve Inlet Temperature:		Site Elevation:
*Unsilenced Vent Sound Power Level:	dB re 10^{-12} watts			
*Unsilenced Vent Sound Pressure Level:	dBA at	feet from valve outlet		

*If available, please attach any unsilenced octave band noise data. This may be measured or predicted by the valve manufacturer.

Blowdown Application

Pressurized Volume (ft^3):	Blowdown Time (min.):	Final Downstream Pressure (psia):

Vent Silencer Performance Requirements

Required Silenced Vent Noise Level:	dBA at	feet from silencer outlet	
Maximum Allowable Vent Silencer Pressure Drop:	psi		

Vent Silencer Design Requirements

Shell Materials:	Internal Materials:	Silencer Inlet Size & Rating:
External Finish:	Internal Finish:	
Wind Load:	Seismic Load:	
Supports: ☐ Skirt & Base Ring	☐ Legs	☐ Shell Brackets ☐ Saddles ☐ Other:
Customer Specifications:		
Comments:		

** Please fax or Email completed data sheet to VANEC **

VANEC INDUSTRIAL SILENCERS

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