

## *Silencers*

***Silencer*** is a device used to reduce unwanted noise created by gas or steam flow in a pipeline. The noise produced is a combination of shock noise suddenly generated by the rapid reduction in pressure across the relief device and the noise created by the turbulent flow of gas.

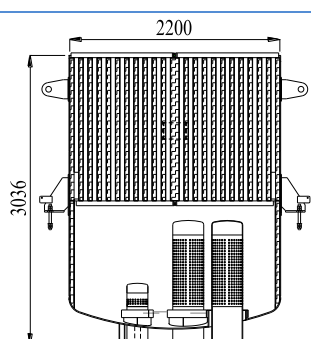
<i>General Usage</i>	<i>Typical Applications in Industries</i>
They can reduce unwanted noise created by gas or steam flow in a pipeline discharging directly into the atmosphere (vent silencers) or discharging to another equipment or piping (inline silencers)	In <b><i>CHP plants, power plants, oil and gas industries</i></b> and <b><i>chemical plants</i></b> to Reduce the noise of: <ul style="list-style-type: none"> <li>❖ control valves, compressors or fans</li> <li>❖ HRSG boilers</li> <li>❖ Safety valves</li> <li>❖ At start-up</li> <li>❖ Ejectors</li> <li>❖ Natural gas lines</li> <li>❖ Gas turbine</li> <li>❖ Flash tank</li> <li>❖ Stack</li> <li>❖ Diesel and gas engines</li> </ul>
<b><i>Advantages</i></b>	<ul style="list-style-type: none"> <li>❖ Simple installation</li> <li>❖ Economical</li> <li>❖ Low maintenance cost</li> <li>❖ Simple and compact</li> <li>❖ No moving parts</li> <li>❖ working with all types of gases</li> <li>❖ Long lifetime</li> <li>❖ Safe and reliable operation</li> <li>❖ Manufactured from various materials</li> </ul>
<b><i>Applicable Materials</i></b>	<ul style="list-style-type: none"> <li>❖ Carbon Steel</li> <li>❖ Stainless Steel</li> <li>❖ Low Alloy Steel</li> </ul>
<i>Design Codes/Standards</i>	<i>Quality Assurance</i>
<ul style="list-style-type: none"> <li>❖ ASME Sec. VIII, div. 1</li> <li>❖ ASTM E477</li> </ul>	
<b><i>Kara Sanat Silencers Advantages:</i></b>	<ul style="list-style-type: none"> <li>❖ Custom design</li> <li>❖ Superior acoustic performance</li> <li>❖ Lighter, less space &amp; support structure</li> <li>❖ Noise reduction of high flow rates with high pressure and temperature</li> <li>❖ No limit of operating pressure, temperature and flow rate</li> <li>❖ Producing as sliding nozzle type or expansion joint to eliminate nozzle loads</li> </ul>

### Kara Sanat Silencers Types:

- **Vent Silencer:** Applicable when gas or steam flow in a pipeline discharges directly into the atmosphere. Both vertical and horizontal installation is possible.
- **Inline Silencer:** Applicable when gas or steam flow in a pipeline discharges to another equipment or piping. Both vertical and horizontal installation is possible.

### Specifications of one Type

Item	Steam Vent Silencer					
Project	Kashan Combined Cycle Power Plant					
Purchaser	MAPNA Group					
Noise Source	Valve					
Each Valve Upstream Pressure	bara	106	109	102	100	4
Each Valve Upstream Temperature	°C	316	316	528	528	380
Total Flow Rate	kg/hr	255852				
Discharge Pressure	bara	1				




### Previous Projects

Equipment photos / Operation photos / Applications photos