SB Broneske Solution

Vs. Anchorage Point Solution

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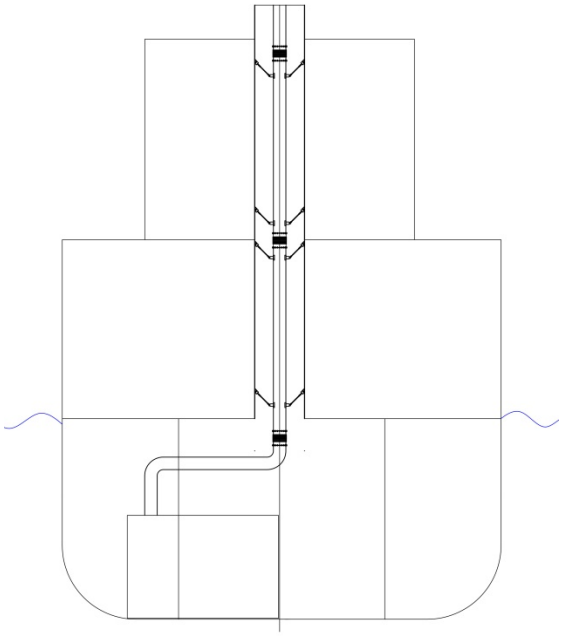
Vs. Anchorage Point Solution

Exhaust gas pipes on board ships are usually supported by fixed points and anchorage points. Between pipe sections, pipe expansion bellows, so-called compensators, are used to compensate the thermal expansion.



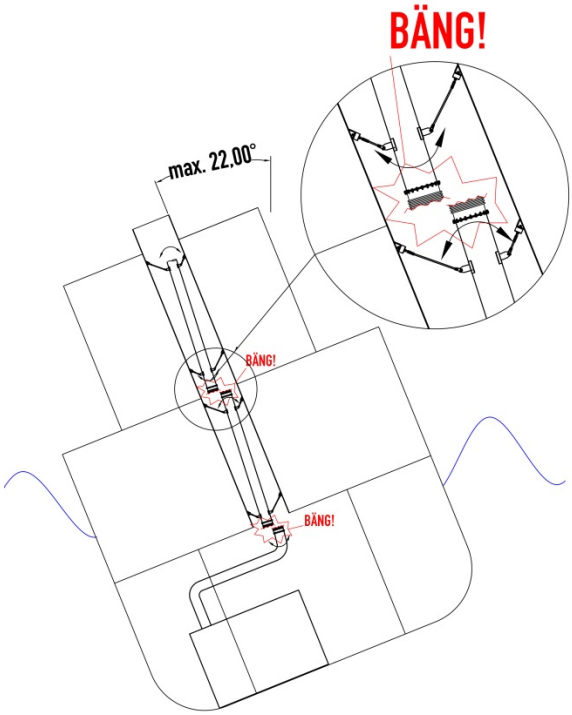
In the late 1960th and early 1970th of the last century, there were many different solutions on the market for supporting exhaust pipes.

Nevertheless, the patented SB Broneske system became the industry standard. Remember that in some regions of the world there are still some shipyards using a different system called **Anchorage Point Solution**.

This Solution, for example, uses only anchorage points or redominantly anchorage points.

These anchorage points are usually installed at an angle of 45° and the pipe sections are hanging in these anchorage points.

In the figure on the left you can see a **Typical Arrangement of an Anchorage Point Solution**.



Unfortunately the Anchorage Point Solution has two disadvantages:

1. Uncontrolled movement in rough seas
2. Thermal expansion damages the anchorage points

In the figure on the left you can see the **Uncontrolled Movement of an Anchorage Point Solution**.

1. Uncontrolled movement in rough seas

The Anchorage Point Solution enables and promotes movements of the exhaust pipe system. The pipes can swing around the anchorage points. The reason is the missing fixation of the pipe section. This damages the exhaust compensators and the pipe section. Anchorage points can break off.

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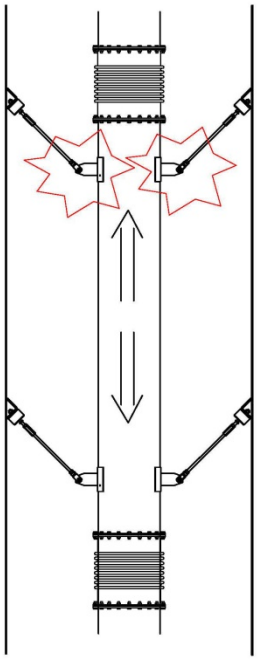


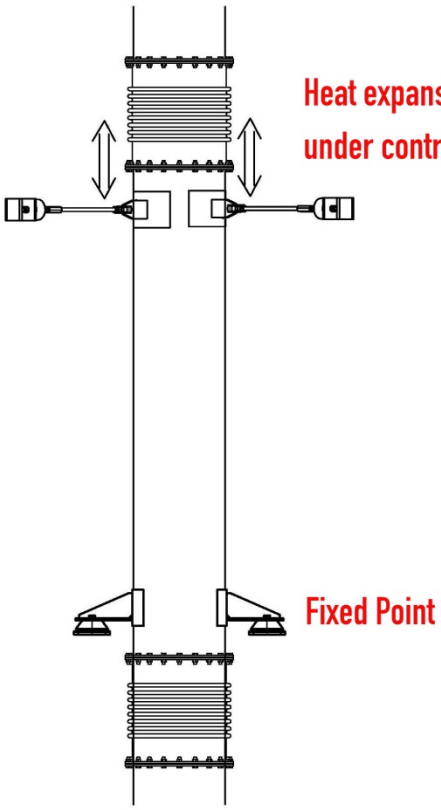
2. Thermal expansion damages the anchorage points

The thermal expansion takes place between two anchorage points, pressing the anchorage points apart and damaging them.

The inventor of this solution may have thought that the thermal expansion might counteract the weight force. But in many installations we observe that the anchorage points are simply pressed apart.

Motivation of the shipyard: The shipyard thus saves design costs and material and manufacturing costs for brackets and frames and for each connection to the ship.

On the left figure you can see the pressing apart of the anchorage points.



SB Broneske Solution

The SB Broneske Solution was patented in 1973 by Erwin Broneske and is now accepted by industry as the standard in shipbuilding.

The SB Broneske solution consists of the idea that each pipe section is supported by a fixed point (= two fixed point vibration mounts) and one or more horizontal anchorage points. In this solution, the exhaust pipe expands in a controlled manner and is stabilized by the anchorage points. In this case, the anchorage points allow thermal expansion. Between the pipe sections, exhaust gas compensators are placed, which enable and compensate the thermal expansion of the pipe ends. This solution requires some experience to calculate the vibrations and thermal expansion.
At SB Broneske, seven project engineers calculate thermal expansion and vibrations daily free of charge and advice customers. SB Broneske offers project packages for more than 300 new building projects per year.

On the left figure you can see the SB Broneske Solution with Fixed Points and Anchorage Points.

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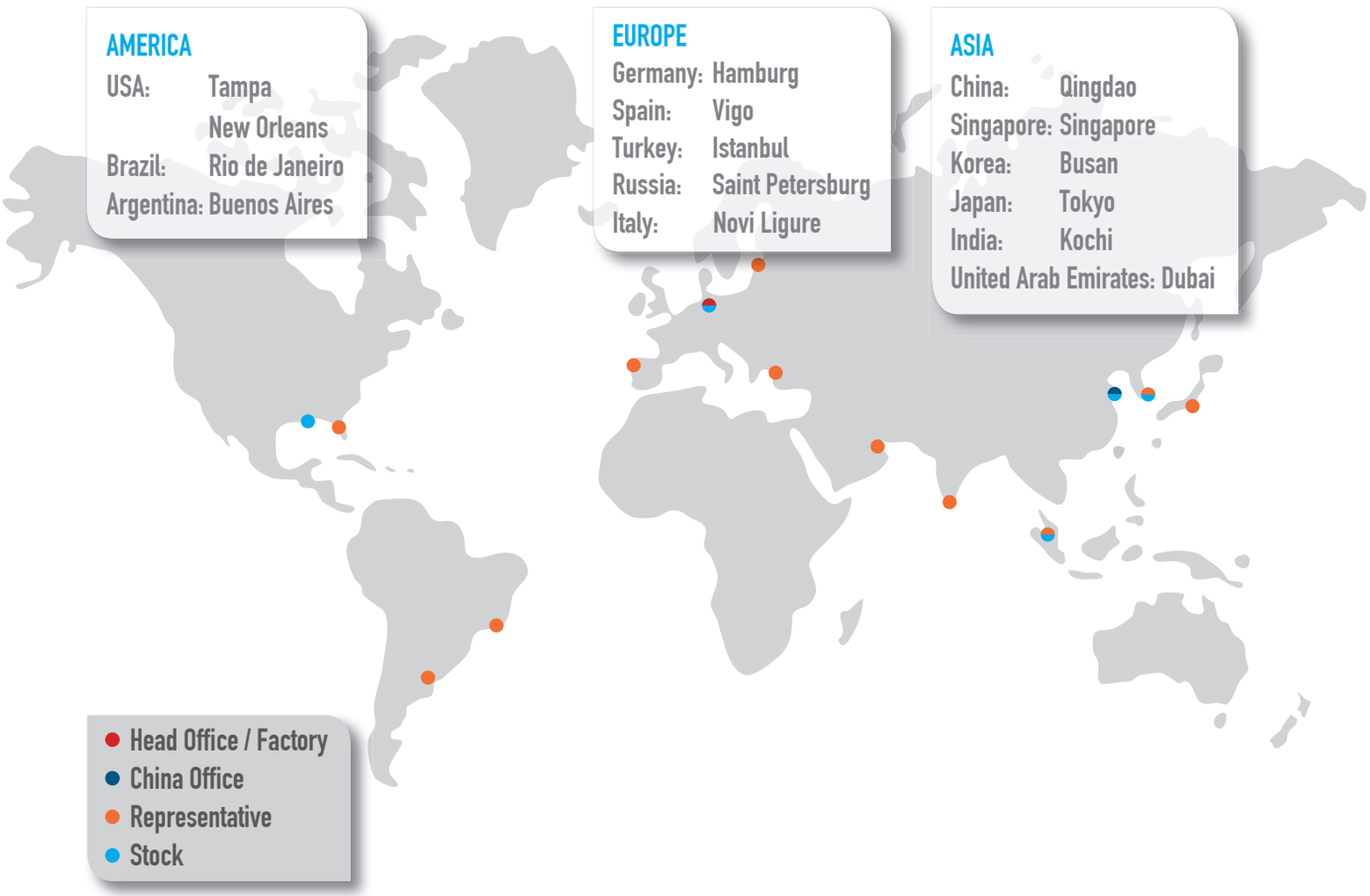
Worldwide

SB BRONESKE
VIBRATION & NOISE CONTROL



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