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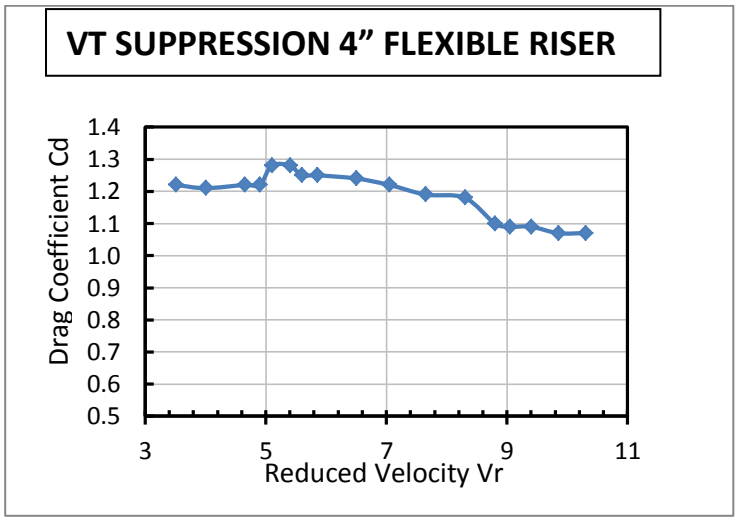
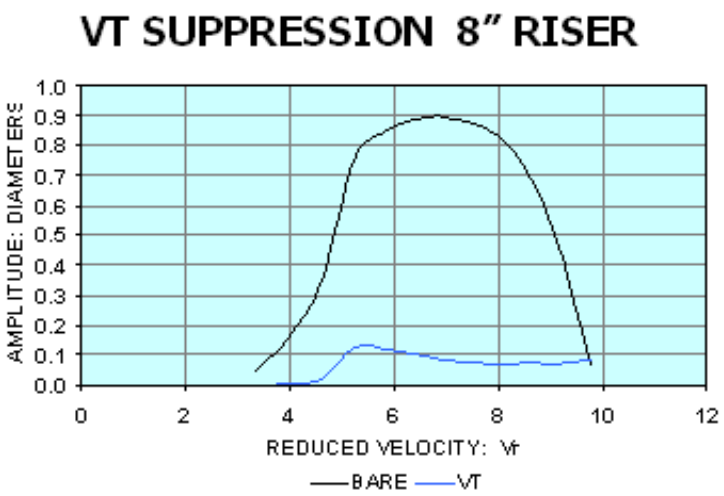
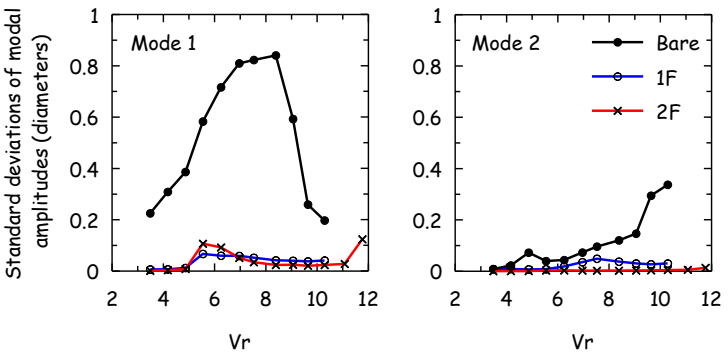
VT Suppressor Technical Details

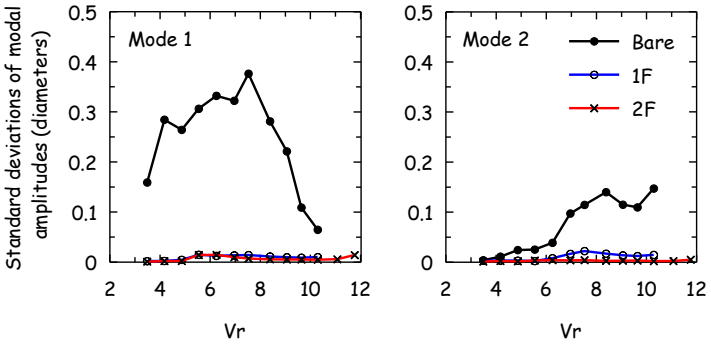
The Ventilated Trouser (VT) suppressor is a patented VIV suppression device for cylindrical structures exposed to external fluid flow. It is a loose fitting sleeve (or trouser) in the form of a light flexible net with integral bobbins in a special arrangement. Extensive tests in UK and France up to a Reynolds Number of 4.5E5 confirms it can simultaneously minimise VIV response, eliminate high frequencies and reduce drag. With only a single fixing to the structure (riser), simple deployment methodology, minimized storage requirements, low relative capital cost, zero maintenance and retro-fit capability, the benefits of the VT are significant over conventional suppression devices and with largely improved performance. For additional information contact us.



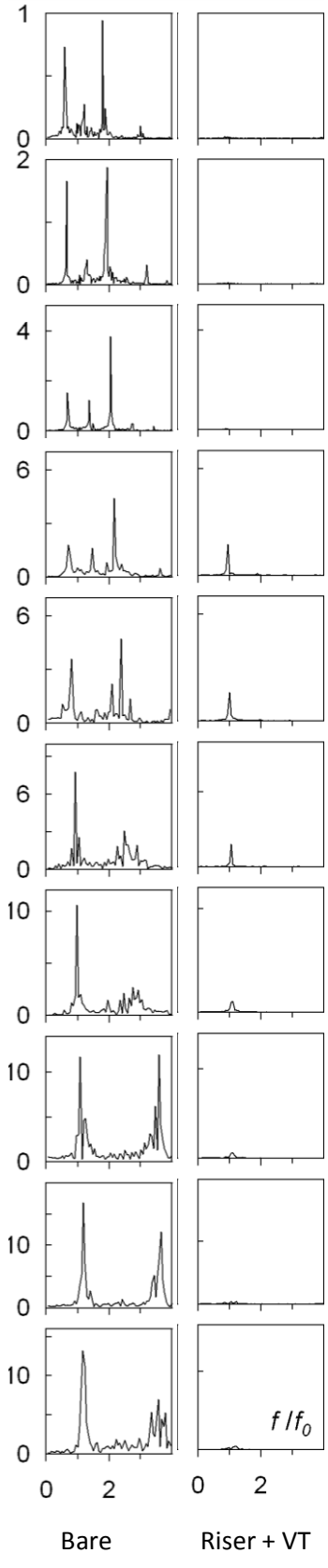




VT Suppression of first 2 modes of Cross flow vibrations.



VT Suppression of first 2 modes of In-Line vibrations.



THE VT SUPPRESSES HIGH FREQUENCY CONTENT OF RESPONSE.

The columns show the magnitude of the Fourier transform of cross-flow displacements, plotted as functions of frequency, normalised by the natural frequency. The left hand column is for the bare flexible riser, and the right hand column shows the effect of fitting the VT.

The current velocity increases top to bottom and flow conditions in each row are the same. The responses with the VT fitted are magnified by a factor of 2.

Comparison of all cases shows that the VT either suppresses all response, or eliminates all frequency response above the fundamental frequency, thereby significantly reducing potential fatigue.

For the in-line direction, the suppression of frequencies is even more dramatic.