IMPLEMENTATION

There are several techniques to isolate or minimise the vibration levels in the piping systems. These include:

Automatic Air Vent

In compliance with the regulation requirements, each of the vertical water supply risers shall have an automatic air vent (as shown in fig. 403.03(1)) at high points which shall purge the trapped air out of the pipeline. This would prevent the pipeline from shaking and also avoid loss of carrying capacity, disruption of the flow, reduced pump efficiency, effects on pipe materials and pipeline structure.

The isolation and drain valve shall be located wisely so that these components do not restrict drainage significantly or back-up water behind them in order to drain completely.

Fig 403.03(1): Automatic Air Vent

Pipe Supports and Hangers

Resilient pipe hangers and supports (as shown in fig. 403.03(2)) shall be used to prevent vibration and noise transmission from the piping system to the building structure and to provide flexibility in the piping. Rigid mountings around the bend with suitable vibration isolators can be used to minimise pipe vibration.

Fig 403.03(2): Anti-Vibration Pipe Clamp

Flexible Pipe Connectors / Expansion Joints

Expansion joints (as shown in fig. 403.03(3)) shall be used in piping, to provide flexibility in the piping network. It also permits the isolators to function properly, protects equipment from strain caused by misalignment and expansion or contraction of piping and attenuates noise and vibration transmission along the piping network.

Fig 403.03(3): Rubber Expansion Joint