

MIYAWAKI

Technical News

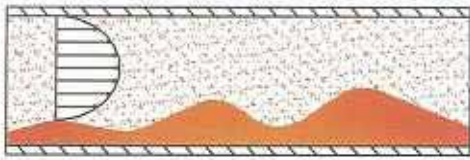


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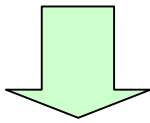
Theme Water hammer in steam main line

Point : Process of a water hammer being generated is explained as follow

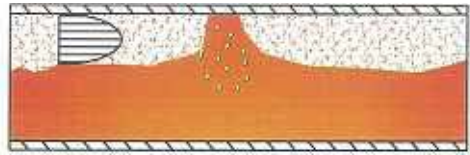
1. Flow of condensate



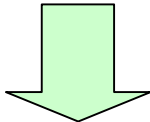
When the steam main line is badly trapped, the condensate develops waves as it flows.



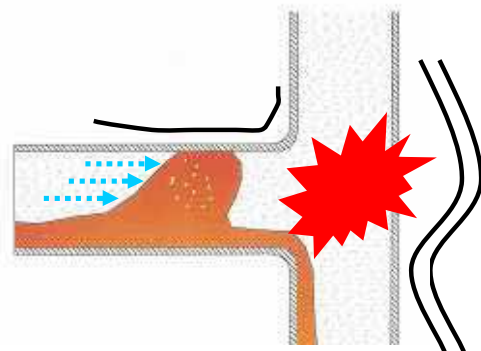
2. Speed-up of flow of condensate



As the amount of undrained condensate gradually increases, the waves become bigger and finally they fill the cross-section of the line. Then, the waves of condensate are accelerated by the flow velocity of steam, and speed up and rush through the pipe.



3. Generation of water hammer



As each wave of this accelerated condensate carries a great force. When the waves hit the wall, bending or rising section in main line, a large noise or vibration can occur. This is water hammer, and there is a case that steam equipment is damaged or destroyed.

※We will explain "device of pipes for efficient trapping" in the next time.



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