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Magnicator Compliance for ASME Section I Boiler Code

Application Issue

Recent changes to the ASME Section I Boiler Code for remote level indicators require a special configuration for Magnetic Level Gages (MLG). A standard MLG from most manufacturers will result in a code violation.

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The following application notes must be followed for code compliance:

- A Magnetic Level Gage can only be used up to 900# WSP (Working Steam Pressure)
- The indicator & scale must start above the highest point of the water connection and end below the lowest point of the steam connection (see Figure 1)
 - Jerguson recommends [center-to-center] minus 2" for overall indicator length, therefore specify [center-to-center] minus 4" as the visible range.
- Lowest indication must be 2" above the lowest safe operating level as determined by the boiler manufacturer (typically found on boiler drawing)
- MLG's are classified as indirect remote water level indicators
- MLG's can NOT replace a code required glass level gage
- "Attachment of control devices for use other than indicating water level is prohibited" [PG-60.1.1.4]
 - The following is acceptable:
 - Attachment of a Magnetostrictive transmitter for remote level monitoring
 - The following are NOT acceptable:
 - Attachment of a Magnetostrictive transmitter for level control purposes.
 - Attachment of point level switches for any function.

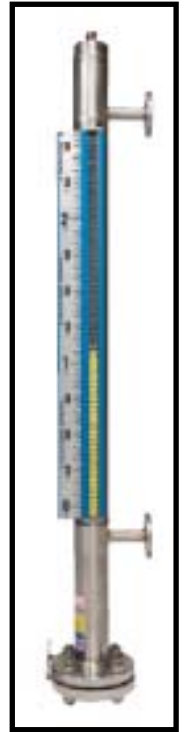


Figure 1



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- Austenetic stainless steel is an acceptable material for remote water level indicators or water level-sensing devices, except water columns [PG-12.3]
 - A standard Jerguson MGWR is NOT code compliant because:
 - The stainless steel Magnetic Gage chamber is now considered a water column
 - The two remote water level indicators are not independent
 - A glass level gage (or any other control device) can NOT be attached directly to a Magnetic Level Gage because the stainless steel chamber is now considered a water column
- Remote water level indicators must be independent, with individual isolation valves for each.
 - See Figure 2 for an example of a bridle assembly comprising an MLG and Guided Wave Radar for ASME Section I compliance
- While a glass gage cannot be attached to a MLG due to the material violation, it may be attached to a carbon steel guided wave radar (GWR) or displacer chamber (see Figure 3)
 - The GWR or displacer chamber is carbon steel
 - A glass gage is not considered a remote water level indicator, therefore the requirement for independence does not apply



Figure 2

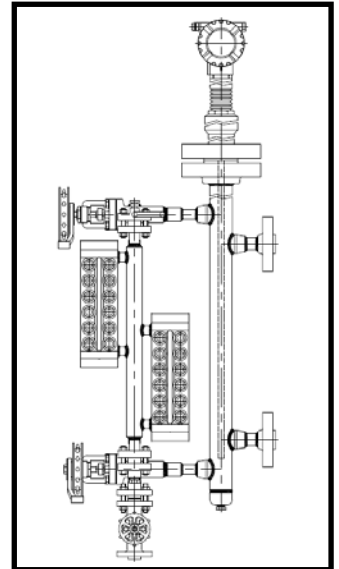


Figure 3

Contact your Jerguson Representative or Applications Engineer for additional information!