

Endress+Hauser Levelflex M

Guided-radar level measurement in Power Plant boiler water / steam systems

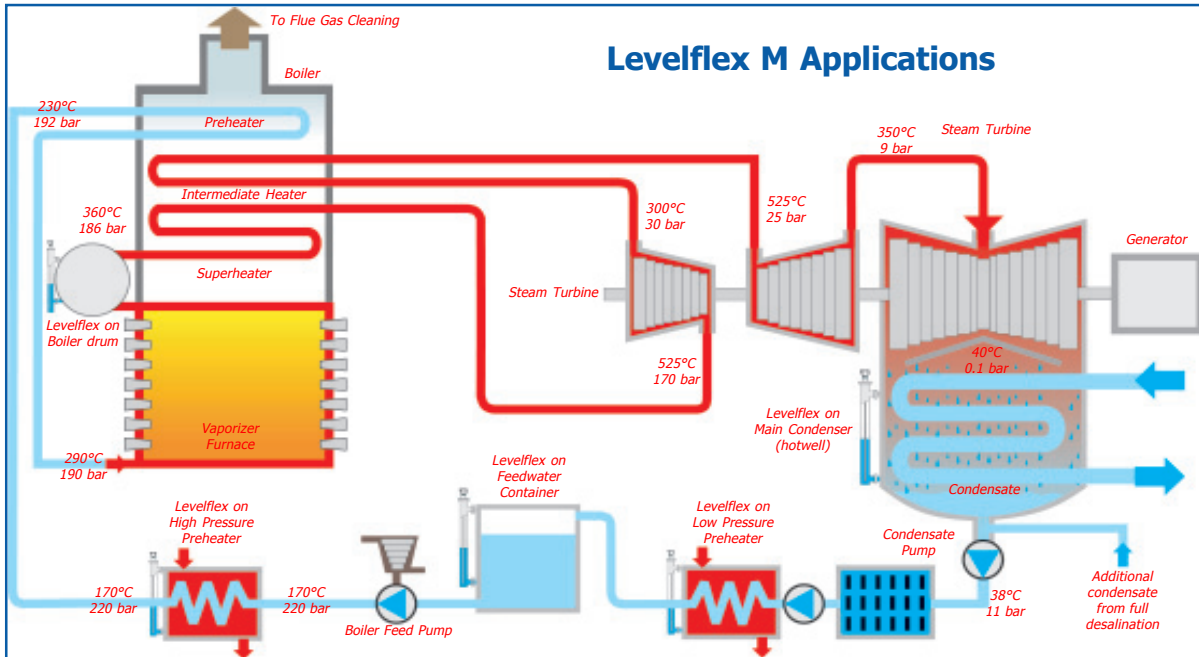
Endress+Hauser is a leading supplier of measurement instrumentation, services and solutions for power plants worldwide. They design and manufacture a full range of industry-optimized instruments for every step of the process with solutions for fossil fuel (coal, gas and oil), hydro-power, waste-to-energy and nuclear power plants. This feature looks at Endress+Hauser's level measurement innovations in the water / steam circuit and in particular the many applications for **Levelflex M** microwave guided radar devices.

The boiler feedwater circulates within the water/steam circuit. This is the main component in the power plant. After the steam has condensed in the main condenser, pumps convey the feedwater through subsequent low and high-pressure heaters into the boiler. When it arrives at the boiler, the feedwater is vaporized under high pressure (up to 260 bar) and high temperature (up to 550°C). The steam is then supplied to the turbine in order to drive the generator. Condensation in the main condenser be-

gins again and the entire procedure is repeated.

For safe operation of the circuit, monitoring levels in the vessels, control of flow volumes in water and steam lines and over pressure measurement in all parts of the plant are of great importance.

This is accomplished with level, pressure and differential pressure transmitters.



Levelflex M provides level measurement of condensed steam in front of the turbine in the main condenser (hotwell), as well as level measurement at the low pressure preheater, feedwater tank, high pressure preheater and boiler drum. It provides cyclic automatic gas phase compensation, the ideal solution for precise level measurement in all steam applications.

Levelflex M is independent of:

- Density fluctuations
- Changing dielectric numbers
- Gas covering of steam
- Pressure and temperature changes
- Vacuum (e.g. in main condenser hotwell)

This results in a better solution than differential pressure for level measurement,

providing the benefits of:

- More reliable measurement
- Increased safety
- Easier installation

Levelflex is ideal as a displacer replacer. It has no mechanical moving parts and therefore, no wear and tear. It is also suitable for pressures up to 400 bar and temperatures up to 400°C.

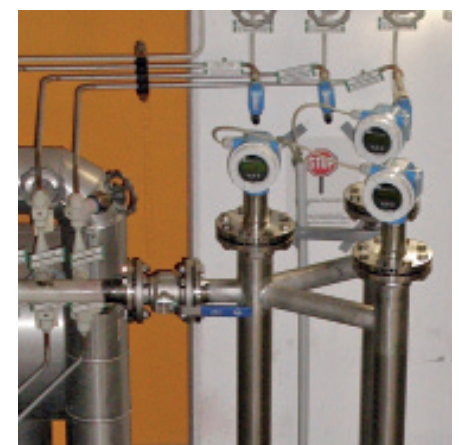


Levelflex M on low pressure heater



Levelflex M on feedwater container

More Levelflex M information?
 Circle Enquiry No: 0803
 Contact: Howard Berry



Levelflex M on main condenser