



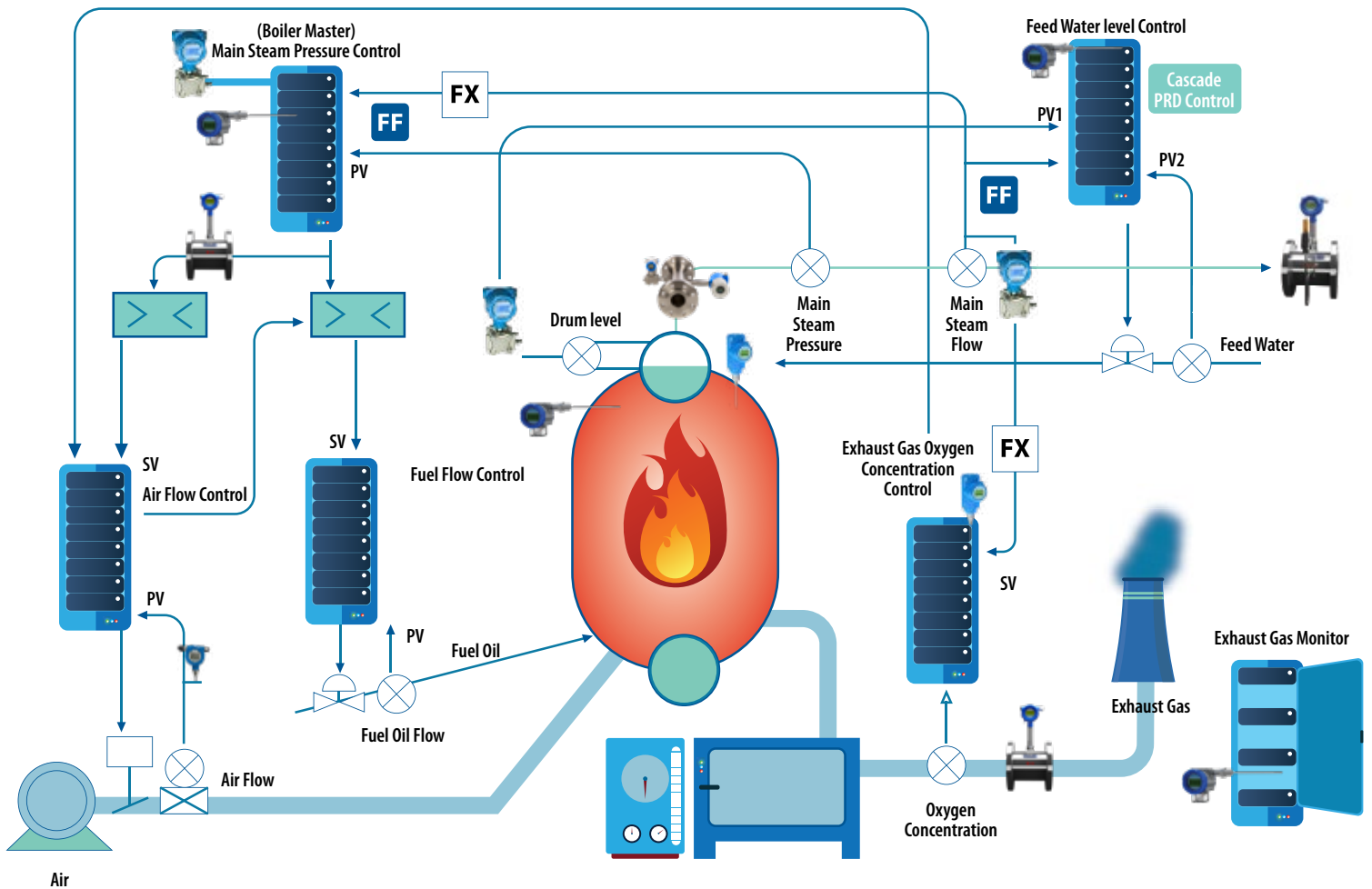
Instrumentation and controls in a boiler plant encompass an enormous range of equipment from simple industrial plant to the complex in the large utility station.

## **BOILER HOUSE**

**INSTRUMENTATION AND CONTROLS**  
Instruments For Boiler House Industry Process Control



# BOILER HOUSE INSTRUMENTATION PROCESS CONTROLS





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# INTRODUCTION ABOUT BOILER HOUSE

A Boiler is a closed vessel in which water or other fluid is heated. The boiler control system means a balance of energy and mass. Boilers are used in a wide range of process industries such as electric power, pharmaceuticals, chemicals, ceramics, and paper and pulp. In Most of the industries, many facts are depending on the boiler's growth, such as rising energy costs, tightening environmental regulations, and increasing awareness, the need for high-efficiency operation, low emission operation, and safe and stable operation. Boiler control minimizes the excess air, blow-down, steam pressure in the process plant.



# COST SAVING INSTRUMENTS FOR BOILER HOUSE

## FLOW MEASUREMENT

Tek-Vor 1300C Vortex Flow Meter  
Tek-Flo Mass 1300D Steam Quality Meter  
Tek-Thermal 1700B Thermal Mass Flow Meters

## TEMPERATURE MEASUREMENT

Tek-Temp 2100A Exp-Proof Temperature Transmitter

## PRESSURE MEASUREMENT

Tek-Bar 3110B Smart Differential Pressure Transmitter  
Tek-Bar 3120B Exp-Proof Absolute/Gauge Pressure Transmitter

## LEVEL MEASUREMENT

Tek-Flex 4100A Explosion-Proof Guided Wave Radar Level Transmitter  
Tek-Wave 4300A Radar Level Transmitter  
Tek-Hydra 4500A-D Differential Pressure Level Transmitter

# DRUM LEVEL MEASUREMENT

Drum Level Measurement system is widely used in process industries, and the utilities to control the level of boiling water in boiler drums on process plants also provide a constant supply of steam. A drum level control system controls the level of the disturbances, level change, increase or decrease of steam, and feed water flow variations.

- **Flow Measurement**

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- **Temperature Measurement**

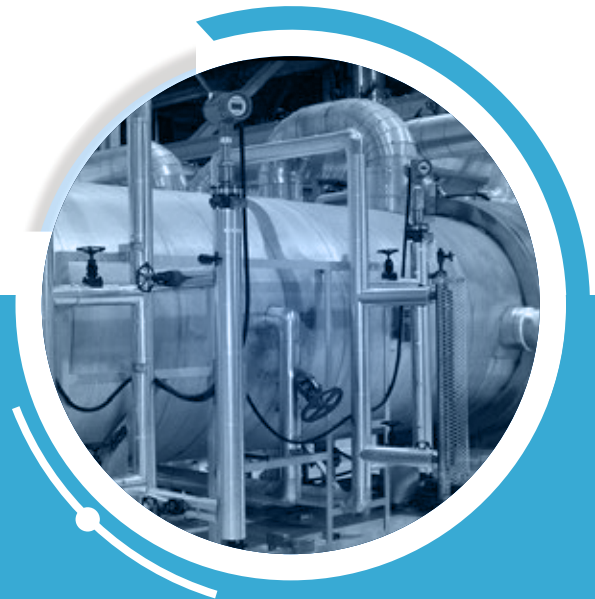
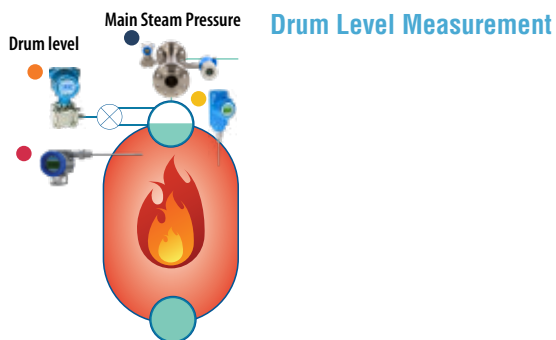
Tek-Temp 2100A Exp-Proof Temperature Transmitter

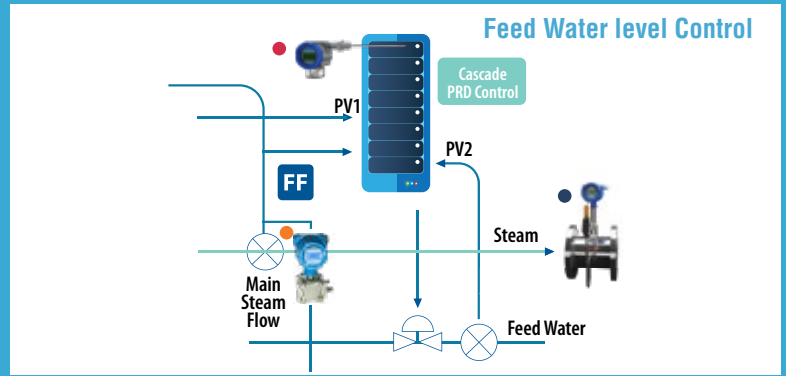
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# FEED WATER LEVEL CONTROL

A feed water control system regularizes the water level in the boiler drum and adjust the steam flow and feed water flow. It provides a mass accounting system for steam leading and feed water entering the boiler. The feed water control system has three variants, including a single element, two-element, and three-element feed water control system.

- **Flow Measurement**

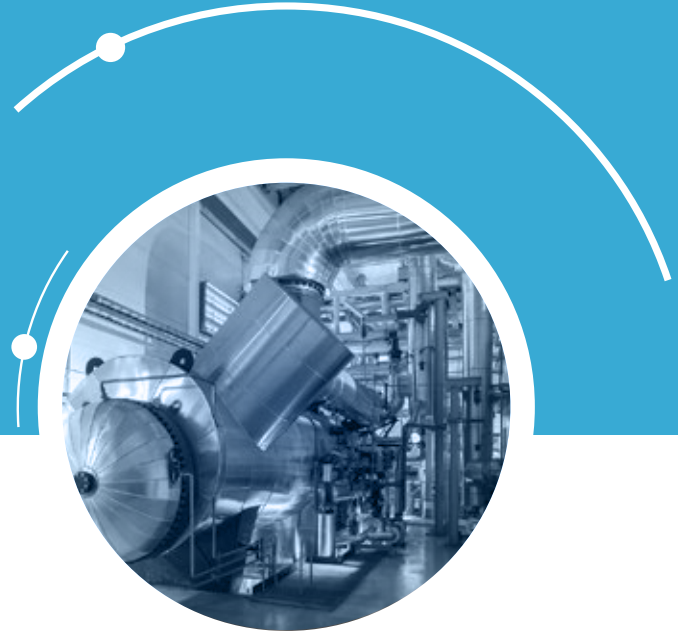
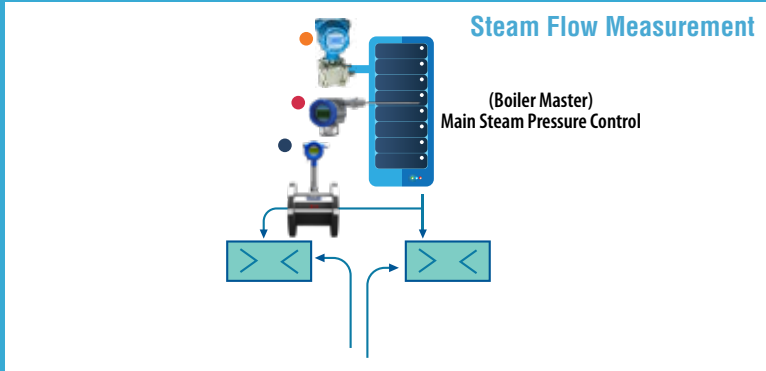
Tek-Vor 1300C Vortex Flow Meter

- **Temperature Measurement**

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## STEAM FLOW MEASUREMENT

Steam can be distributed mainly in two parts, i.e., saturated and super-heated steam. Insufficient steam supply provides an incorrect process operation. Therefore, it is necessary to measure steam in process instrumentation with appropriate boiler controls and continuous flow measurement. Tek-Trol full range of flow metering and monitoring solutions provide superior efficiency in steam measurement.

- **Flow Measurement**

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- **Temperature Measurement**

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- **Pressure Measurement**

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# COMBUSTION CONTROL

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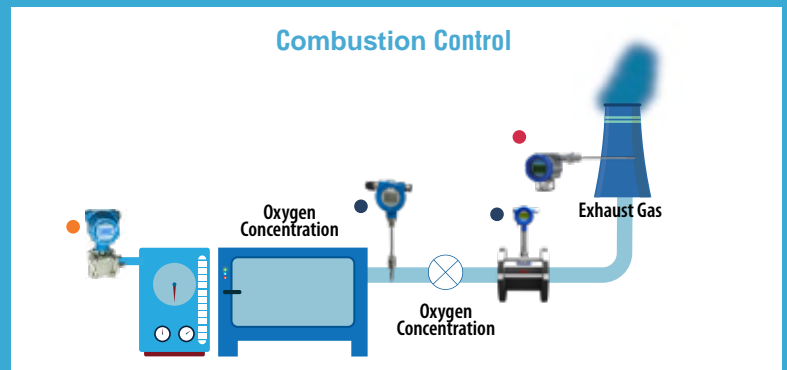
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- **Level Measurement**

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# EXHAUST GAS ANALYSIS

Safety and thermal efficiency in field instrumentations. If the oxygen content is low, the combustion process increases emissions or a potentially hazardous combustible mixture, which is a risk for explosion. When high oxygen content, it results in heat loss and possibly additional carryover that can foul tubes in the generating sections of the boiler.

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- **Temperature Measurement**

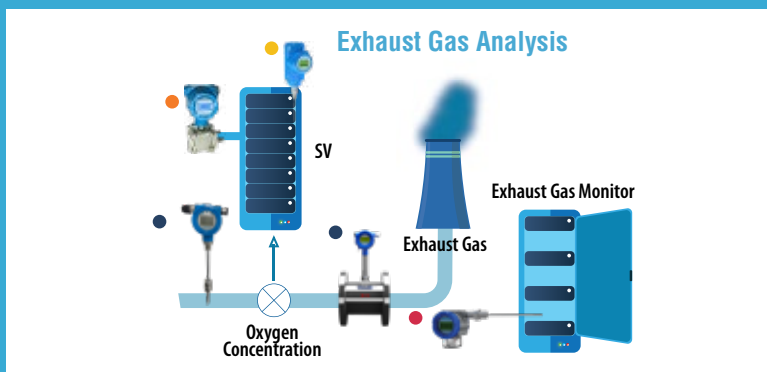
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