

## Oxygen Concentration in Package Boiler Flue Gases

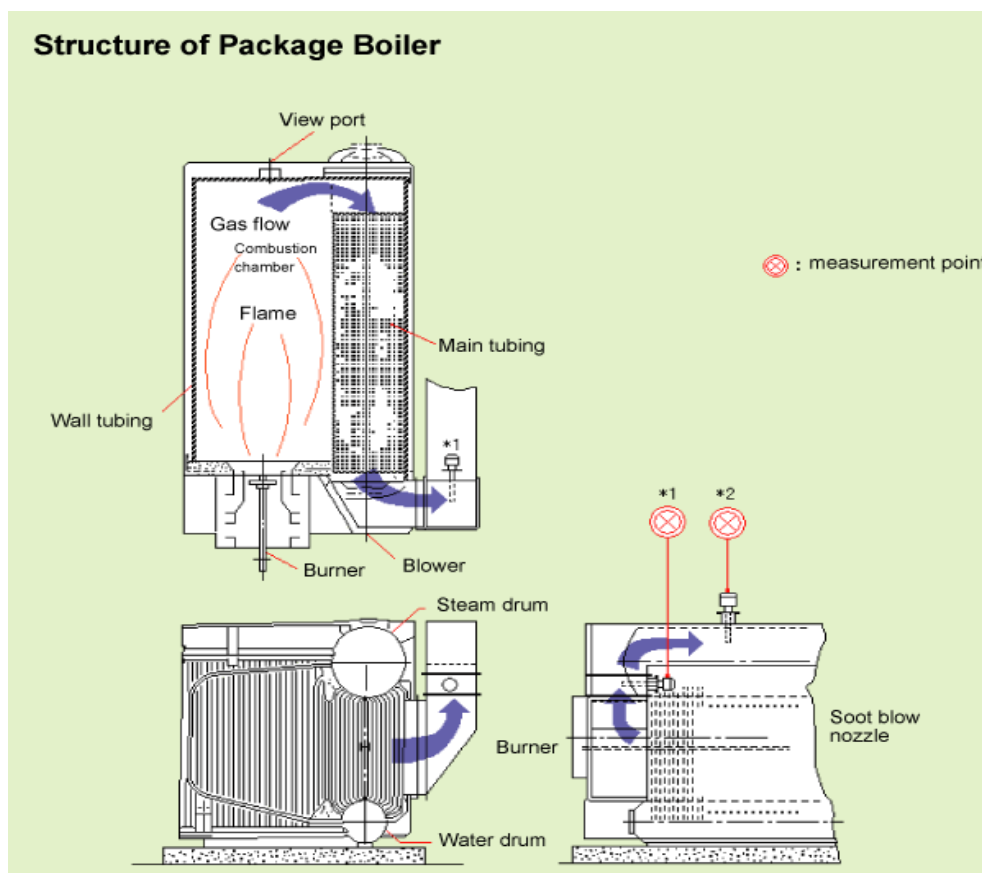
Industry: Power  
Product: ZR202

### Introduction

Package boilers require less fuel and electric power to operate and are widely used in the pharmaceutical, food, ceramic, and other industries. A package boiler operates more efficiently if the oxygen concentration in the flue gas is reduced. On the other hand, insufficient air intake causes incomplete combustion, resulting in increased smoke emission. Optimizing air intake for boiler operation requires continuous measurement of the oxygen concentration in the flue gas.

The typical package boiler is a water tube boiler or flue and smoke tube boiler with a capacity of 5 to 20 t/h (average steam generation capacity). The most widely used fuels are heavy oil, light oil, and gas. The ZR202 zirconia oxygen detector with integral analyzer is ideally suited for package boilers thanks to its long service life and low maintenance, and is an effective tool for the reduction of fuel and electric power consumption.

### Process



## Product Recommendations

ZR202 Zirconia Oxygen Detector with Integral Analyzer

*Notes on Installation:* The detector should be mounted 2 to 3 meters away from the boiler outlet, and the typical good/bad installation examples are shown in Figure 1.



## Process Conditions

Measurement point:	Boiler outlet, economizer outlet
Temperature:	150 to 300°C
Flow velocity:	15 m/s max
Pressure:	± 0.5 kPa
Dust:	1 g/Nm <sup>3</sup> max

## Notes

\* The ZR202 zirconia oxygen detector with integral analyzer can also be used in bagasse- or bark-fired boilers under general conditions.

\* For more information contact your Yokogawa Analytical Department.

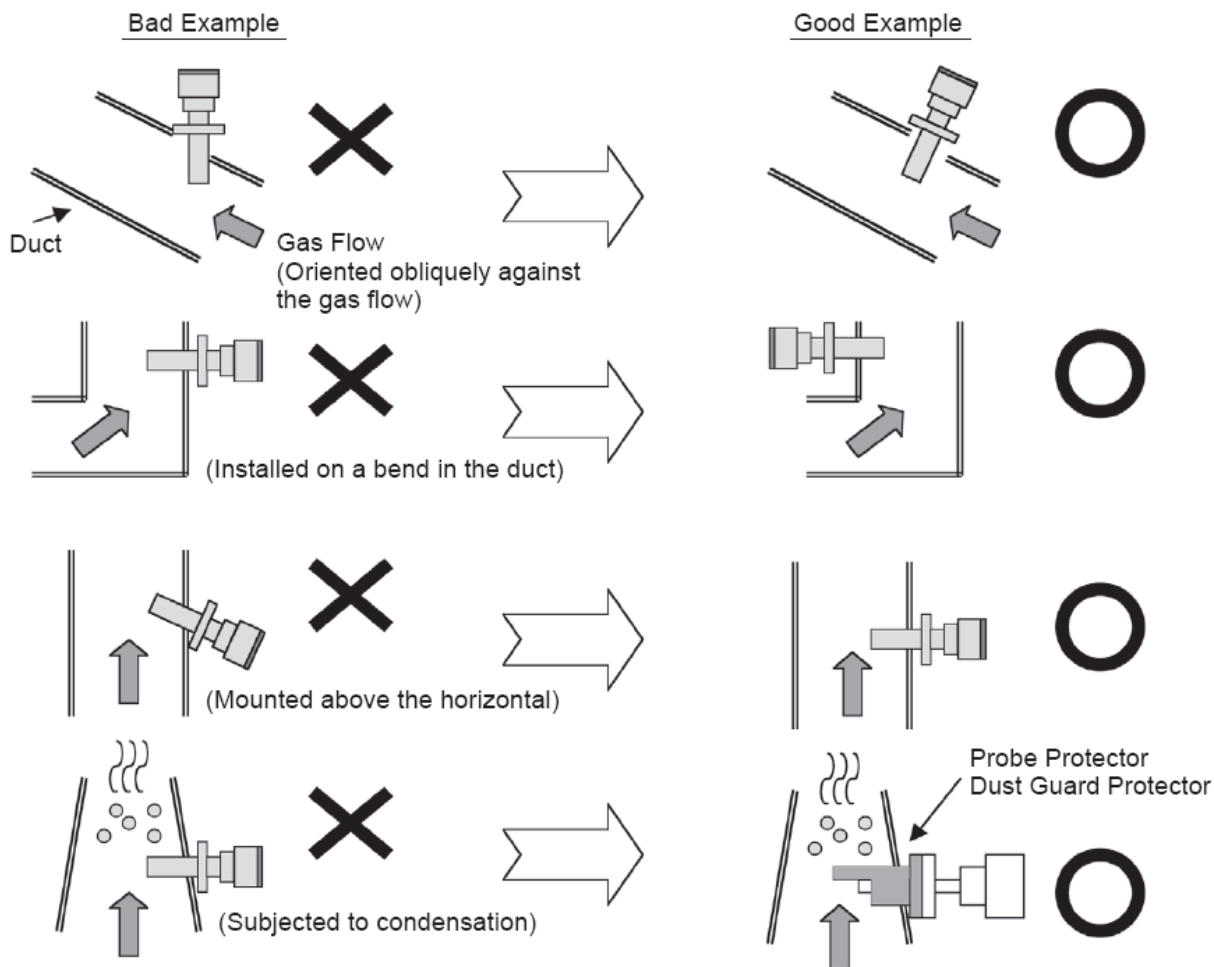


Figure 1 Instructions for installation