

Simultaneous Measurement of 7 Components in Flue Gas

Gas Analyzer ZSU-7



■ **Monitors up to 7 gas concentrations**

Simultaneous and continuous measurement of NO_x, SO₂, CO, CO₂, O₂, HCl, and dust.

■ **Space-saving design**

All the necessary equipment are housed in a cabinet of 1215 (W) x 700 (D) x 1780 (H) mm size.

■ **Less electrical work** Signal and power terminals are integrated into one place.

■ **Maintenance-free HCl measurement enabled by laser technology**

This laser gas analyzer can be installed at a later time.

Conforms to JIS B7993 (Automated measuring systems for flue gas using non-extractive methods.)

■ **Energy saving**

Approx. 40% less power-consumption compared to conventional systems, thanks to the use of laser gas analyzer and by integrating multiple equipment into the cabinet.

Space-saving cabinet contains everything you need

for measuring gas concentration of up to 7 components: NO_x, SO₂, CO, CO₂, O₂, HCl, and dust.

Gas inlet

Inlet for NO_x, SO₂, CO, CO₂, O₂

External wiring terminals

For gas concentration output signals or power supply

Dust analyzer transmitter



(No gas sampling required)

HCl analyzer control unit



(No gas sampling required)

You can install the unit at a later time.

Infrared Gas Analyzer (Type: ZKJ)

Measures concentrations of NO_x, SO₂, CO, CO₂, (O₂).

Easy-to-see backlit LCD

Monitors concentrations of 5 components simultaneously and in real time.



Menu screen



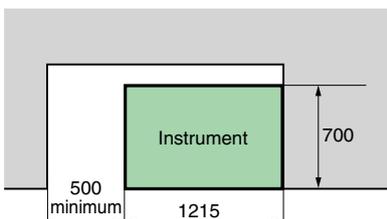
Houses six 3.4 L standard gas cylinders

Can accommodate up to 6 zero and span standard gas cylinders.

Gas conditioner to remove dust or drainage from flue gas

Designed for ease of maintenance

Allows maintenance from front side while saving space



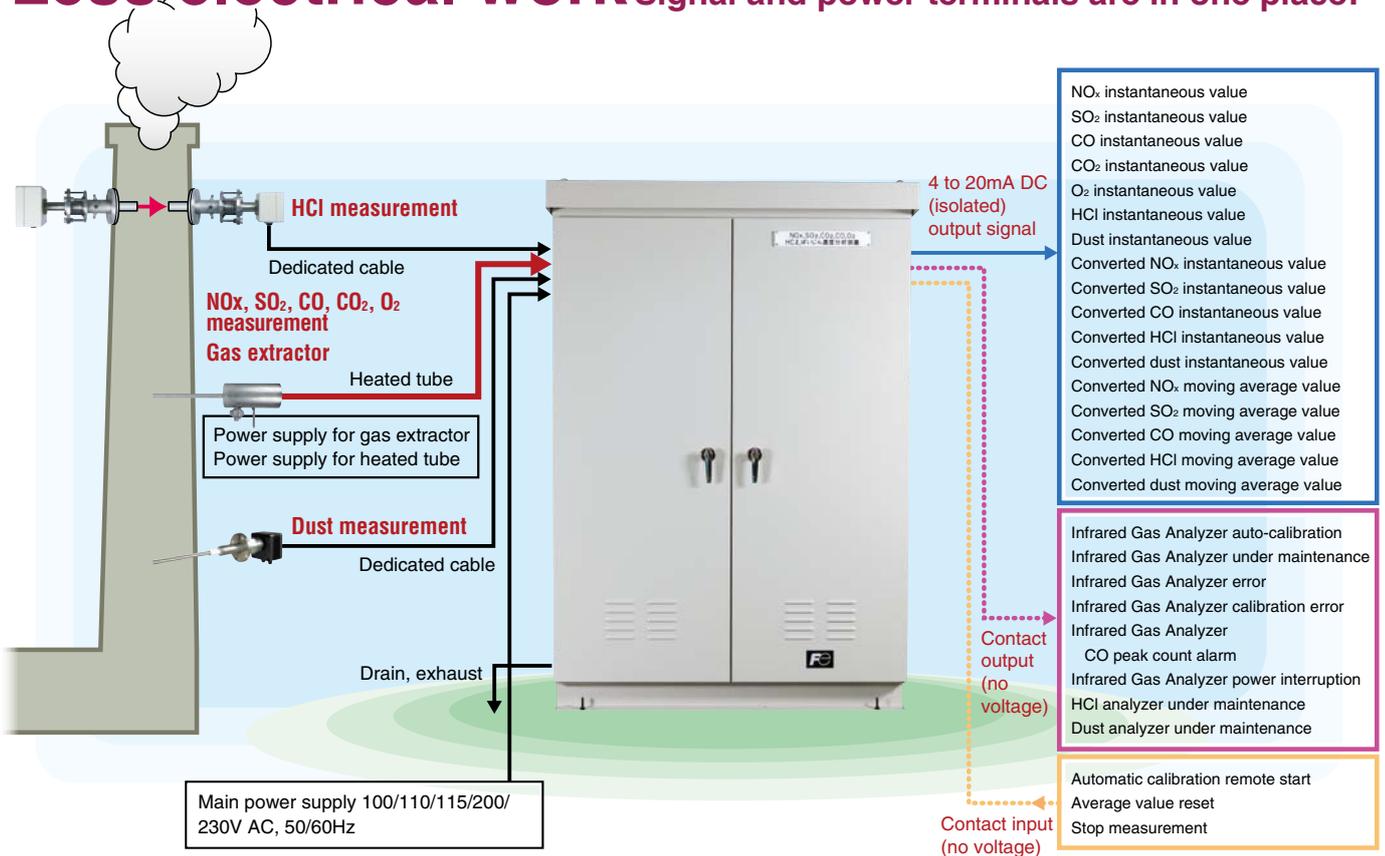
Unit: mm

External appearance

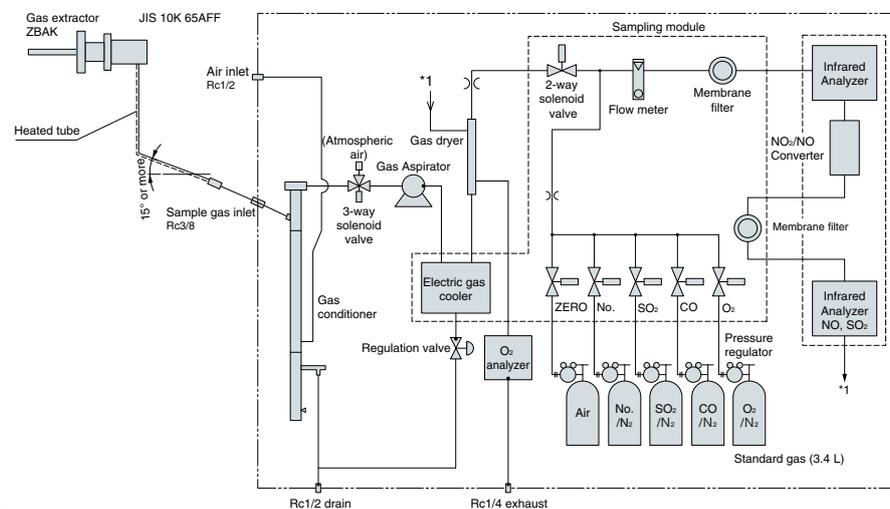
Unit: mm



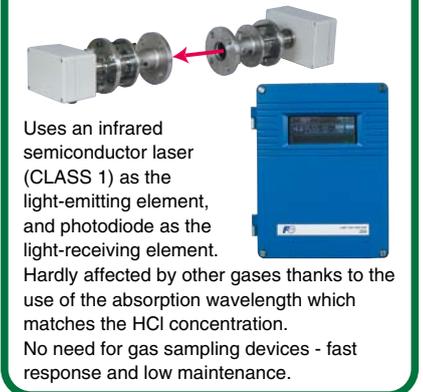
Less electrical work Signal and power terminals are in one place!



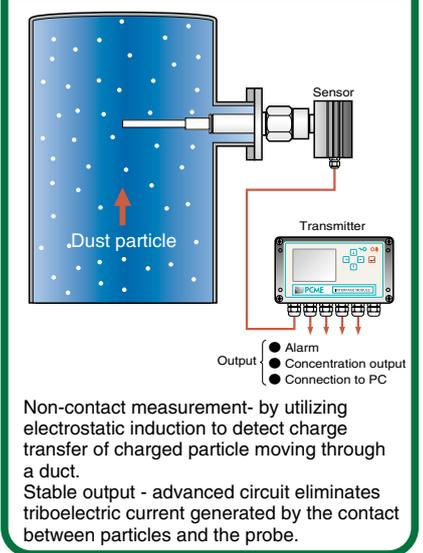
Gas sampling system (for NO_x, SO₂, CO, CO₂, O₂)



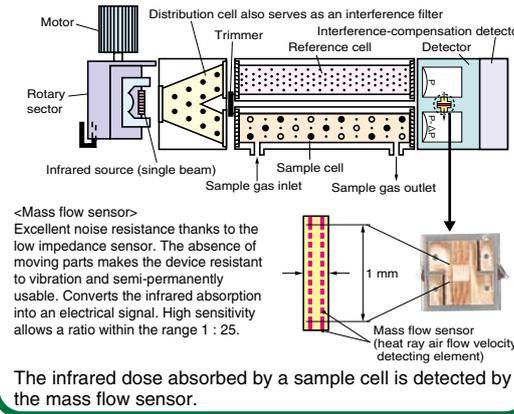
Laser HCl analyzer



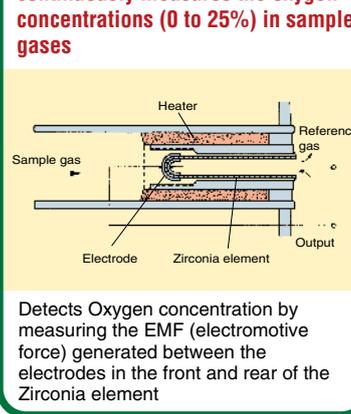
Dust analyzer



Measures NO_x, SO₂, CO and CO₂ concentrations via an infrared method



Zirconia oxygen meter that continuously measures the oxygen concentrations (0 to 25%) in sample gases



Specifications

■ Infrared gas analyzer (ZKJ)

Measurable components and ranges	NOx: 0 to 50 ppm...5000 ppm SO ₂ : 0 to 50 ppm...5000 ppm CO: 0 to 50 ppm...5000 ppm CO ₂ : 0 to 10%/0 to 20% O ₂ : 0 to 10%/0 to 25%
Measuring principle	Non-dispersive infrared (double beam), Zirconia method for O ₂ measurement
Repeatability	±0.5% FS
Zero drift	±1.0% FS or less per week (±2.0% FS or less per week for the range below 200 ppm) O ₂ measurement: ±2.0% FS or less per month
Span drift	±2.0% FS or less per week O ₂ measurement: ±2.0% FS or less per month
Gas sampling amount	Approx. 2 L/min
Response speed	90% response from inlet: within 120 seconds. (SO ₂ measurement: within 240 seconds.)
Output signal	4 to 20 mA DC
Auto calibration	Zero and span (calibration cycle configurable)
Display	backlit LCD Instantaneous value, O ₂ converted instantaneous value, O ₂ converted average value O ₂ average value, CO peak count value Parameter setting (Japanese or English, as specified)



■ Integrated cabinet

Dimensions	Indoor type: 1215 (W) x 700 (D) x 1780 (H) mm
Power supply voltage	100/110/115/200/230 V AC, 50/60 Hz, approx. 1200 VA
Weight	Approx. 500kg
Output signal	4 to 20 mA DC (isolation signal)
External contact output	SPST no-voltage contact, up to 8 points (in maintenance status, in auto-calibration status, analyzing section error, CO peak count alarm, etc.)
External contact input	No-voltage contact (auto-calibration start, average value reset, measurement stop)
Computing unit	Calculates moving average and O ₂ corrected gas concentration, in dust measurement
Recorder (option)	Inkjet or paperless
Ambient temperature	-5 to +40 °C, -10 to +40 °C, or -15 to +40 °C (as specified by order)
Gas condition	Temperature: 450°C max. Dust: 100 mg/Nm ³ max. Pressure: -5 to +5 kPa Components: SO ₂ : 500 ppm max., NOx: 1000 ppm max. CO ₂ : 0 to 15%, CO: 0 to 2000 ppm, O ₂ : 1 to 21%, HCl: 1000 ppm max.

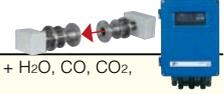
■ Gas extractor (ZBAK)

System	Electric heating system (with 316 SS wire mesh filter, 40 μm)
Gas temperature (probe material)	Standard: 60 to 800°C (316 SS) Optional: 1000°C (titanium), 1300°C (SiC)
Mounting	JIS 5K 65A flange
Power consumption	Heated tube: approx. 720 VA per 20 m
Gas inlet tube	Heated tube (30m max.) or φ 10/φ 8 mm Teflon tube



■ Laser HCl analyzer (ZSS)

Measurable gas	HCl, NH ₃ , O ₂ , HCl + H ₂ O, NH ₃ + H ₂ O, CO, CO ₂ , CO + CO ₂ , CO + O ₂
Principle	Non-dispersive infrared (NDIR)
Installation	Cross-stack system
Laser class	CLASS 1M
Measurement range	15 ppm-m to 5000 ppm-m
Optical path length (stack diameter)	0.5 to 10 m (0.5 to 5 m in CO + O ₂ measurement)
Repeatability	±2.0% FS
Zero drift	±2.0% FS/6 months
Response speed (90% response)	1 to 5 seconds
Gas temperature	1200°C max.
Mounting	JIS10K 50A flange
Air purge	Instrument air, pressure ± 10 kPa, flow rate 20 L/min or more
Signal cable length	100 m max. between transmitter unit and control unit
Display	LCD (instantaneous value, converted instantaneous value, converted moving average value, etc.)



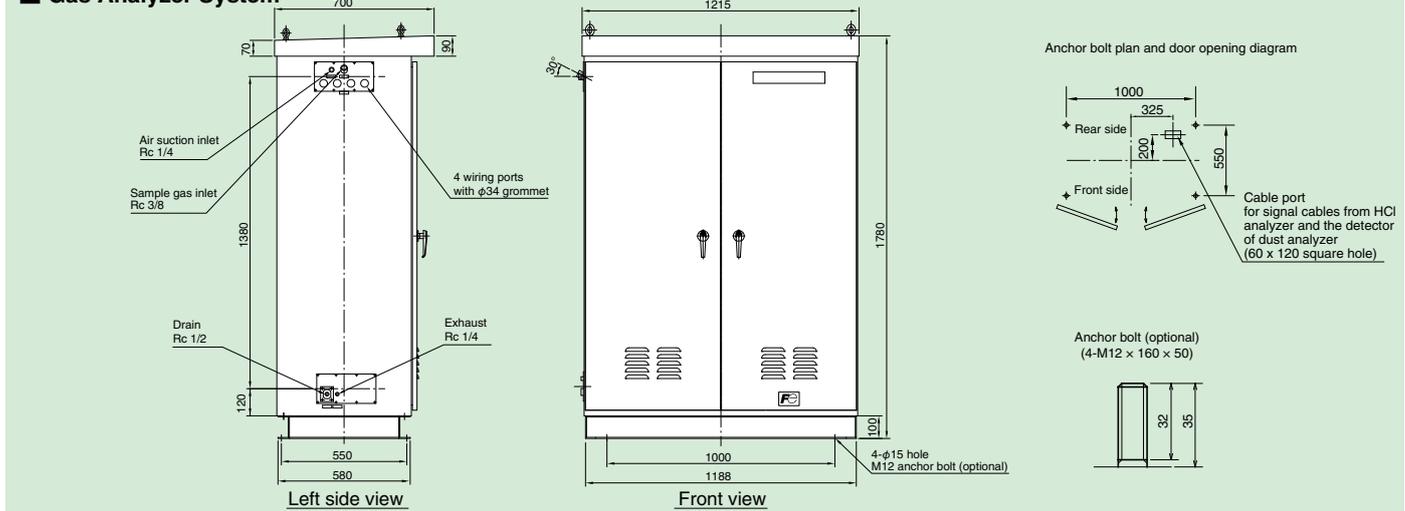
■ Dust analyzer

Measuring object	Dust concentration		
Principle	Electrostatic induction		
Measurement range	0.01 to 1000 mg/m ³		
Probe	Gas temperature	Material	Mounting
	-25°C to +250°C	316 SS (Teflon coating is available as option)	R1-1/2 screw JIS10K 50A flange
	-25°C to +400°C	Ceramic	JIS10K 50A flange
	-25°C to +800°C	Ceramic	JIS10K 50A flange
Probe length	150 mm max.		
Signal cable length	100 m max. between detector and transmitter		
Display	LCD (bar graph, numeric values, trend display)		



Dimensions (unit: mm)

■ Gas Analyzer System



Fuji Electric Co., Ltd.

Grobal Sales Section
Instrumentation & Sensors Planning Dept.
1, Fuji-machi, Hino-city, Tokyo 191-8502, Japan
<http://www.fujielectric.com>
Phone: +81-42-514-8930 Fax: +81-42-583-8275
<http://www.fujielectric.com/products/instruments/>