Fuji Electric

INFRARED GAS ANALYZER FOR STACK GAS

DATA SHEET ZSJ

This analyzer consists of an infrared gas analyzer, an O_2 sensor and a gas sampling device. It is used for simultaneous and continuous measurement of the NOx, SO_2, CO, CO_2 and O_2 components in the flue gas of various boilers, garbage incinerators, etc.

For CO and O_2 measurement specifications, the function for coping with the Japanese regulation on dioxin emission is incorporated.

FEATURES

1. Gas concentrations of 5 components is measurable simultaneously and continuously
   NOx, SO_2, CO and CO_2 gas concentration measurements are integrated by infrared method, to which a zirconia or magnetic type O_2 sensor is added for O_2 measurement. Therefore, the gas concentrations of 5 components are simultaneously and continuously measurable.
2. Zero drift does not occur as a principle thanks to high sensitive and reliable mass flow sensor is equipped and switching method is adopted.
3. Maintenance can be performed from the front side, thus saving the installation space.
   Unitized structure of the analyzing block and gas sampling module enables better maintenance.
4. Provided with abundant functions including O_2 correction output, average value output, automatic calibration, CO peak count alarm, automatic range changeover, and alarms.

SPECIFICATIONS

1. Standard Specifications

- **Measuring system :**
  NOx, SO_2, CO and CO_2 ; Ndir type infrared
  O_2 ; Zirconia type, magnetic type
- **Measurable component and min./max. measurement range :**
  NOx ; 0 to 50ppm/0 to 5000ppm
  SO_2 ; 0 to 50ppm/0 to 5000ppm
  CO ; 0 to 50ppm/0 to 5000ppm
  CO_2 ; 0 to 10%/0 to 20%
  O_2 ; 0 to 10%/0 to 25%
  N_2O and CH_4 can be measured as an optional feature.
- **Number of measurement ranges :**
  2 Maximum range ratio: 1:10 (Refer to Code Symbols.)
- **Warm-up time :** Within 4 hours after power-on
- **Analog output signals :**
  Simultaneous output of signals of 4 to 20 mA DC each (non-isolated or isolated depending on customer's code selection)
  - Five instantaneous value outputs (NOx, SO_2, CO, CO_2 and O_2)
  - Three instantaneous values (NOx, SO_2, CO) after O_2 correction when provided with O_2 sensor
  - Three average values (NOx, SO_2, CO) after O_2 correction when provided with O_2 sensor
  - Allowable load resistance : 750 Ω or less
- **Contact output:** (1) Each SPST contact (contact capacity 250 V AC, 2 A or 30 V DC, 3 A) for:
  - Range identification of each component (Close/1st range) , analyzing block error, calibration error, auto calibration status, maintenance status,and CO peak count alarm

  (2) Each SPDT contact (contact capacity 250V AC, 1 A or 30 V DC, 1 A) for:
  - Concentration alarm for each component's instantaneous value (H, L, HL settable), analyzing block power off

- **Contact input :** Non-voltage contact (1.5 sec or longer)
  - Auto calibration start, average value resetting

  Non-voltage contact (Status holded)
  - Range changeover (1st range when contact closes), output hold, remote pump OFF (OFF when contact closes)
- **Indication :** LCD with back light for indicating:
  - Instantaneous values (NO_X, SO_2, CO, CO_2 and O_2)
  - O_2 corrected instantaneous values (NO_X, SO_2, CO) after O_2 correction when provided with O_2 sensor
  - O_2 corrected average values (NO_X, SO_2, CO) after O_2 correction when provided with O_2 sensor
  - O_2 average value when provided with O_2 sensor
  - Peak count value (when provided with CO, O_2 analyzer)
  - Parameter assignment
- **Fluorescent lamp in cubicle :**
  Standard equipment
- **Recorder (option) :**
  Paperless recorder (Fuji Electric's type PHR) mounted
- **Gas extractor :** Electrical heating type (filter built in)
  - Wire mesh filter : 40μm mesh of SUS 316 stainless steel
  - Flange : JIS 5K 65AFF
  - Mass: Approx. 9 kg (excluding gas sampling pipe)
  - Power supply voltage: 100 V AC, 50/60 Hz
  - Power consumption: Approx 100 VA
  - Sampling pipe: Refer to Code Symbols for materials and length of the pipe.
    SUS 316 (length 300, 400, 600, 800, 1000 mm),or titanium (length 600, 800, 1000 mm),or SiC (length 700, 900 mm)

  * SUS 316 is used for 800°C or lower.
  * Titanium is used for 1000°C or lower.
  * SiC is used for 1300°C or lower.
- **Sample inlet tube :**
  ϕ10 / ϕ8 Teflon tube or heating tube (max. 30 m)
  * The heating tube needs to be specified in the following cases.
    (1) Ambient temperature -5°C or lower
    (2) SO_2 of 50 or 100 ppm
    (3) Tube length 10 m or longer in SO_2 measurement
    (Power supply voltage: 100 V AC, 50/60 Hz, power consumption: 36 VA/m)
- **Rated operating conditions :**
  - Ambient temperature: -5 to 40°C (depending on customer's code selection)
  - Ambient humidity: 90% RH or less
  - Power supply voltage: 100, 110, 115, 200 or 230 V AC ±10% (Fluorescent lamp: ±10%)
    (depending on customer's code selection)
  - Frequency: 50 or 60 Hz ±0.5 Hz
  - Power consumption: Max. 900 VA (excluding gas extractor and heating tube)
- **Storage condition:**
  - Ambient temperature; -20 to 60°C (Water within the drain pot should be drained before storage.)
  - Ambient humidity; 95%RH or lower
- **Dry air :** Dew point; -20°C DP or lower
  Pressure; 100 kPa to 400 kPa
  Dust and mist; None
- **External dimensions (H x W x D) :**
  Indoor type; 1710 x 800 x 615 mm
  Outdoor type; 1780 x 815 x 700 mm
- **Mass :** Approx. 300 kg (excluding standard gas)
- **Cubicle finish color :**
  Munsell 5Y7/1 semi-gloss
- **Cubicle structure :**
  Indoor or outdoor installation, of self-standing type, single-swing front door, plate thickness 2.3 mm standard (both cubicle and door)
- **Other :** Six standard gas cylinders (3.4 L) accommodatable
- **Measurement Law type approval No.:**
  SAN131(NO_X analyzer)
  SAS131(SO_2 analyzer)
  SAC131(CO analyzer)
  SE981(Zirconia O_2 sensor)
  SF011(Magnetic O_2 sensor)

2. Standard Functions

Function	Description
O_2 Correction	• Conversion of measured NO_X, SO_2 and CO gas concentrations into values at standard O_2 concentration Calculating equation : $C = \frac{C_S (21-O_N)}{21-O_S}$ C : Sample gas concentration after O_2 correction C_S : Measured concentration of sample gas O_S : Measured O_2 concentration O_N : Standard O_2 concentration (4% for petroleum fuel, 5% for gas fuel, 6% for coal fuel, 12% for garbage incinerator) Setting range: 0 to 19% • The result of conversion is indicated and output in a signal of 4 to 20 mA DC.
Auto Calibration	• The gas analyzer is automatically calibrated. • Auto calibration cycle settable range: 1 to 99 hours (1-hour step) or 1 to 40 days (1-day step) • Auto calibration gas injection time settable range: 60 to 599 seconds (in 1-sec step) • Auto/manual calibration error contact output: Provided when calibration quantity exceeds 50% of full scale. • Contact output during auto calibration and maintenance: Provided during calibration gas flow and replacement. Also provided during maintenance. • Auto calibration remote start contact input: Calibration starts at opening after short-circuit for 1.5 sec or longer. • Standard gas consumption: Approx. 1 year with 3.4L cylinder in a calibration cycle of 7 days
Average Value after O_2 Correction, O_2 average value	• NO_X, SO_2 and CO values are averaged after O_2 correction, and the result is indicated and output in 4 to 20 mA DC. • Averaging time is settable by key operation at the front of analyzing block. Settable range: 1 to 59 minutes or 1 to 4 hours (factory-set at 1 hour)
Remote Output Hold	• The output signal values are collectively held according to external contact input. • Output is held during short-circuit.
Average Value Resetting Input	• Output and indication of average value after O_2 conversion are reset according to external contact input. • Output and indication are reset at short-circuit for 1.5 sec or longer.
Automatic range changeover	• Automatically changed from low range to high range, and from high range to low range. Low High: Changed at 90% point of the low range High Low: Changed at 80% point of the high range
Remote range Changeover Input	• Low or high range is selectable for each sample component via external contact input. • High range is selected for open-circuit, and low range for short-circuit.
Range Identification Contact Output	• Identification between low and high ranges is output through a contact. • When the contact is closed, low range is selected.
Concentration Alarm Contact Output	• Instantaneous value alarm is settable for each sample component. High, Low, High or Low is settable (by keys at the front of analyzing block). • Contact output hysteresis is also settable. • Contact is SPDT type.
CO Instantaneous Value Peak Count Alarm Contact Output	• Alarm is issued and indicated when CO instantaneous value has exceeded the set limit by the set number of times. Settable number of times: 1 to 99, alarm settable range: 10 to 1000 ppm (5 ppm step) • The number of overshootings per hour is indicated.
Analyzing Block Error Contact Output	• Contact output is provided when the analyzing block is abnormal.
Temperature Input Signal	• K thermocouple input x 2 (for recorder available at option)

3. Performance

- •Repeatability : ±0.5% of full scale
- •Zero drift : ±1.0% of full scale or lower/week
  Max.±2.0% of full scale/month on O_2 sensor
- •Span drift : Max. ±2.0% of full scale/week
  Max. ±2.0% of full scale/month on O_2 sensor
- •Linearity : Max. ±1.0% of full scale
- •Response time : For 90% indication (after extracting sample gas through the inlet)
  NO_X : 120 sec or shorter
  SO_2 : 240 sec or shorter
  CO : 120 sec or shorter
  CO_2 : 120 sec or shorter
  O_2 : 120 sec or shorter
- •Sample gas flow rate :
  Approx. 3L/min

4. Standard Requirements for Sample Gas

- •Temperature : Standard : 60 to 800˚C
  Non standard : 1000˚C (titanuim probe)
  1300˚C (SiC probe)
- •Dust : 100 mg/Nm^3 or less
- •Pressure : -5k to +5kPa
- •Components :

SO_2	500 ppm or less
NO_X	1000 ppm or less
CO_2	0 to 15%
CO	2000 ppm or less
O_2	1 to 21%
HCL	100 ppm or less
The remaining	N_2, H_2O

5. Installation Requirements

(1) Selection of a place which does not receive direct sunlight or radiation from hot substances
If such a place cannot be found, a roof or cover should be prepared for protection.
(2) Avoidance of a place under heavy vibration
(3) Selection of a place where atmospheric air is clean

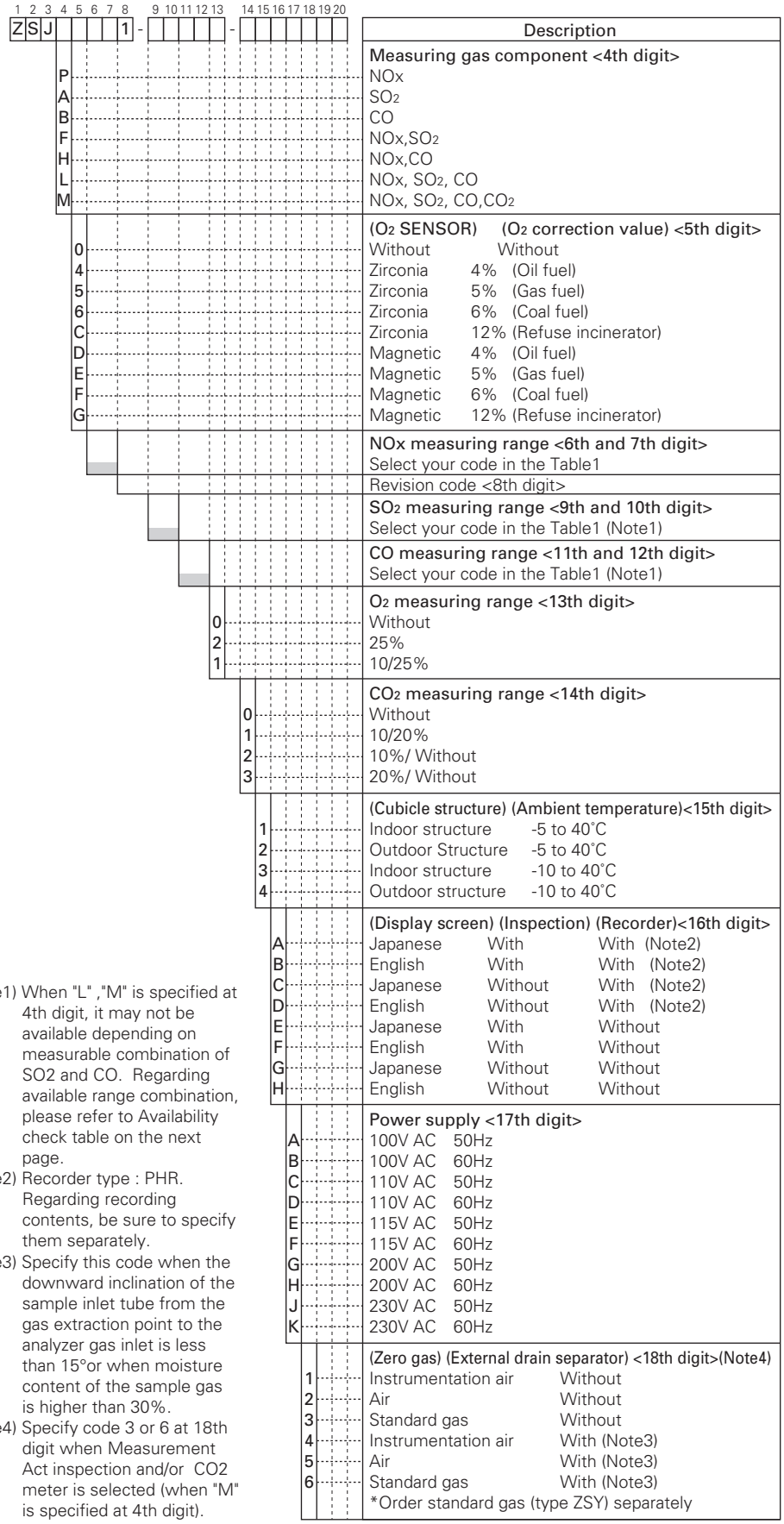
SCOPE OF DELIVERY

- Gas analyzer system
- Specified external drain separator/drain pot
- Specified gas extractor/probe set
- Specified gas inlet tube set
- Standard accessories

ITEMS TO BE PREPARED SEPARATELY

1. Standard gas and pressure regulator
   (Refor to ZSY of CODE SYMBOLS)
2. Recorder (when necessary) type PHR
3. Individual inspection of measurement method
4. 1-year spare (Refor to ZBN of CODE SYMBOLS)
5. Waterproof gland for outdoor wiring port (A25A),
   Order No.: 8641625
6. Anchor bolt

CODE SYMBOLS



Measuring Range List

Unit: ppm

Measuring range	Code
Without	YY
50/100	AB
50/200	AC
50/250	AD
50/500	AE
50/Without	AY
100/200	BC
100/250	BD
100/500	BE
100/1000	BF
100/Without	BY
200/500	CE
200/1000	CF
200/2000	CG
200/Without	CY
250/500	DE
250/1000	DF
250/2000	DG
250/Without	DY
500/1000	EF
500/2000	EG
500/5000	EH
500/Without	EY
1000/2000	FG
1000/5000	FH
1000/Without	FY
2000/5000	GH
2000/Without	GY
5000/Without	HY

Note1) When "L" ,"M" is specified at 4th digit, it may not be available depending on measurable combination of SO2 and CO. Regarding available range combination, please refer to Availability check table on the next page.

Note2) Recorder type : PHR. Regarding recording contents, be sure to specify them separately.

Note3) Specify this code when the downward inclination of the sample inlet tube from the gas extraction point to the analyzer gas inlet is less than 15°or when moisture content of the sample gas is higher than 30%.

Note4) Specify code 3 or 6 at 18th digit when Measurement Act inspection and/or CO2 meter is selected (when "M" is specified at 4th digit).

	Description			
	(Gas extractor)	(Tube material)	(Tube length)	(Extraction point temperature) <19th digit>
Y	Without	Without	Without	-
1	With	Without	Without	-
A	With	SUS316	300mm	800˚C or lower
B	With	SUS316	400mm	800˚C or lower
C	With	SUS316	600mm	800˚C or lower
E	With	SUS316	800mm	800˚C or lower
G	With	SUS316	1000mm	800˚C or lower
H	With	SUS316	1200mm	800˚C or lower
J	With	SUS316	1500mm	800˚C or lower
K	With	SUS316	2000mm	800˚C or lower
P	With	Titanium	600mm	1000˚C or lower
Q	With	Titanium	800mm	1000˚C or lower
R	With	Titanium	1000mm	1000˚C or lower
D	With	SiC	700mm	1300˚C or lower
F	With	SiC	900mm	1300˚C or lower

	(Kind of sample inlet tube)	(Length) <20th digit>
Y	Without	Without
A	ϕ10/ϕ8 Teflon tube	5m
B	ϕ10/ϕ8 Teflon tube	10m
C	ϕ10/ϕ8 Teflon tube	15m
D	ϕ10/ϕ8 Teflon tube	20m
E	ϕ10/ϕ8 Teflon tube	25m
F	ϕ10/ϕ8 Teflon tube	30m
G	ϕ10/ϕ8 Teflon tube	50m
H	Heating tube	10m
J	Heating tube	15m
K	Heating tube	20m
L	Heating tube	25m
M	Heating tube	30m

	Non-standard specification <21st digit>
Z	Other non-standard specifications

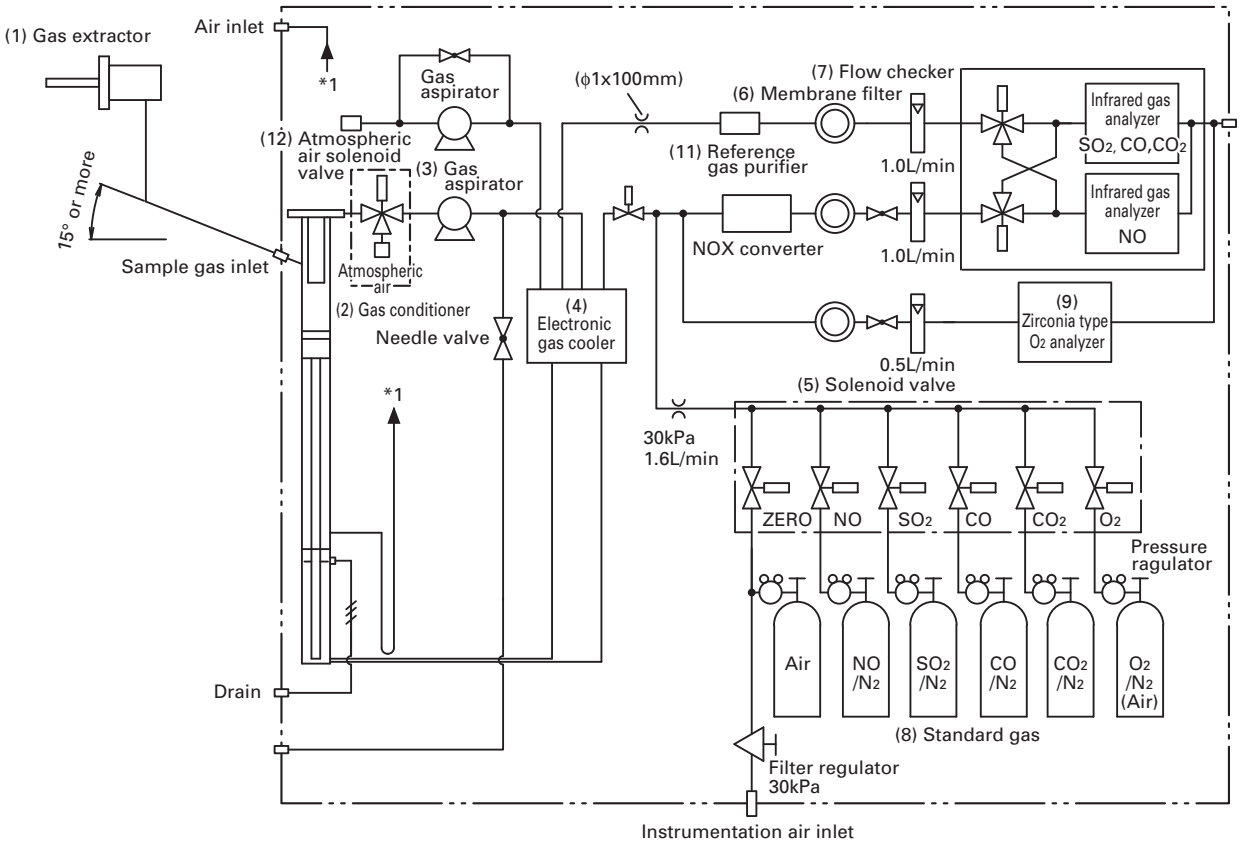
Measurable Component and Range -Availability Check Table-

SO_2,CO of the 3-Components analyzer (NOX,SO_2,CO) and 4-Components analyzer (NOx,SO_2,CO, CO_2)

		Measurable component	CO										
		Code	AB, AC, AD, AE, AY	BC, BD, BE, BF, BY	CE, CF, CG,CY	DE, DF, DG,DY	EF, EG, EY	EH	FG, FY	FH	GY	GH	HY
Measurable component	Code	Range / Range	50 / "Without" to 500	100 / "Without" to 1000	200 / "Without" to 2000	250 / "Without" to 2000	500 / "Without" to 2000	500/5000	1000 / "Without" to 2000	1000/5000	2000/ Without	2000/5000	5000/ Without
SO_2	AB, AC, AD, AE, AY	50 / "Without" to 500	○	○	○	○	○		○		○		
	BC, BD, BE, BF, BY	100 / "Without" to 1000	○	○	○	○	○		○		○		
	CE, CF, CG,CY	200 / "Without" to 2000	○	○	○	○	○		○		○		
	DE, DF, DG,DY	250 / "Without" to 2000	○	○	○	○	○		○		○		
	EF, EG, EY	500 / "Without" to 2000	○	○	○	○	○	○	○	○	○	○	○
	EH	500/5000			○	○	○	○	○	○	○	○	○
	FG, FY	1000/ "Without" to 2000	○	○	○	○	○	○	○	○	○	○	○
	FH	1000/5000			○	○	○	○	○	○	○	○	○
	GY	2000/Without	○	○	○	○	○	○	○	○	○	○	○
	GH	2000/5000			○	○	○	○	○	○	○	○	○
	HY	5000/Without					○	○	○	○	○	○	○

○ : Combination is available.

5-Component Gas Sampling System Diagram (Standard type)



Functions of Individual Components

(1) Gas extractor: Gas extraction, with heating type stainless steel filter having a standard diameter of 40μm

(2) Gas conditioner: Removes drain, mist and dust, and monitors the gas pressure.

(3) Gas aspirator: Aspirates sample gas (Flow rate of sample gas: Approx. 3L/min)

(4) Electronic gas cooler: Dries the moisture in the sample gas.

(5) Solenoid valve: Used for introducing calibration gas.

(6) Membrane filter: PTFE filter, glassfiber filter used to eliminate fine dust particles and permit monitoring of dust adhering condition on the gas analyzer.

(7) Flow checker: Monitors the flow rate of sample gas and reference gas (it can be controlled by the separate needle valve.)

(8) Standard gas: Reference gas used for calibrating zero and span of the analyzer. Up to 6 gases (Zero gas air, span gas NOx, SO_2, CO, CO_2 and O_2) can be used.

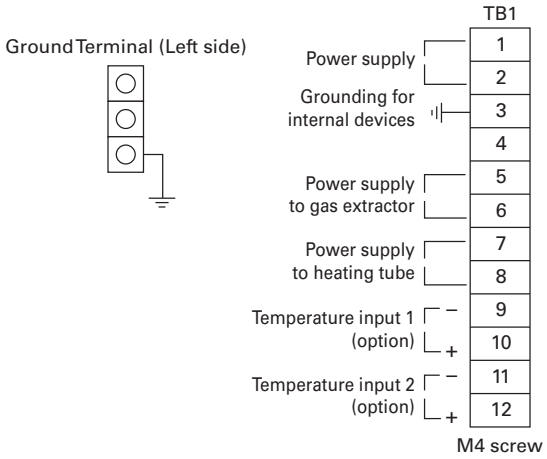
(9) O_2 sensor: Used for measuring the oxygen concentration (0 to 25%) in sample gas.

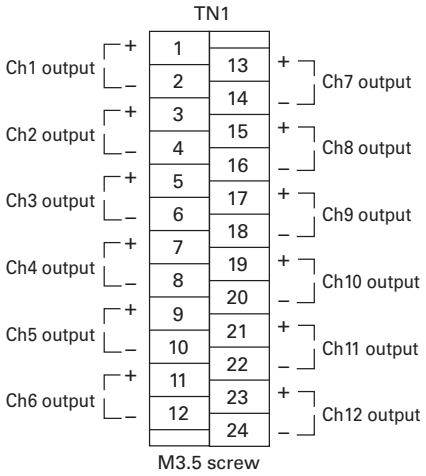
(10) Converter: Added to NOx analyzer. A special catalyst material for efficient conversion of NO_2 gas to NO is used.

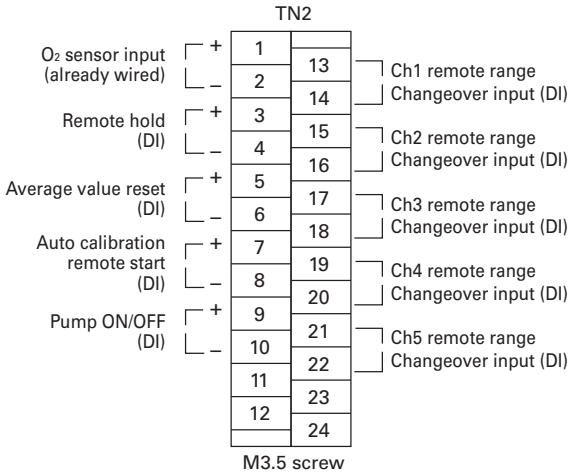
(11) Reference gas purifier: convertor which refine air into the reference gas.

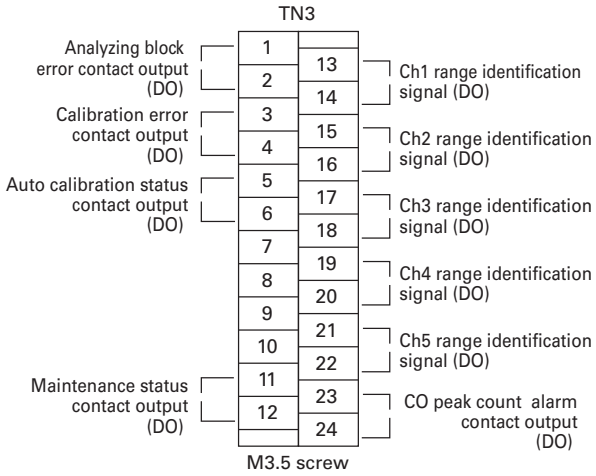
(12) Atmospheric air solenoid valve: Can be built in for using the atmospheric air instead of standard air.

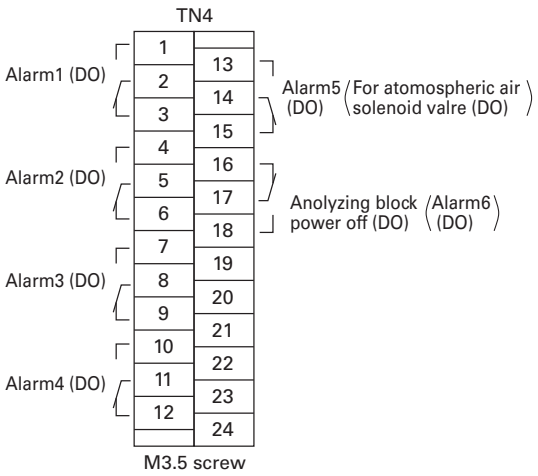
External Terminal Connection Diagram



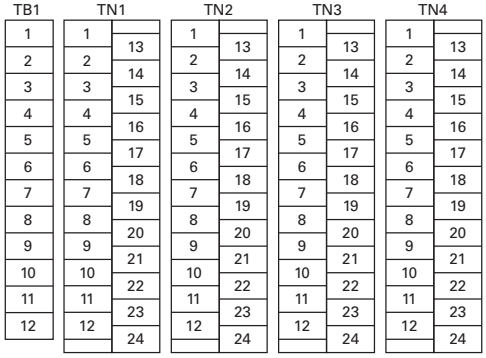








External terminal block diagram (Upper side of main unit)



Contents of Measured Channel (CH)

The following table gives the contents of each output signal according to code symbols.

Code symbol		Contents
4th digit	5th digit	
P	0	Ch1: NOx
A	0	Ch1: SO_2
B	0	Ch1: CO
F	0	Ch1: NOx, Ch2: SO_2
H	0	Ch1: NOx, Ch2: CO
L	0	Ch1: NOx, Ch2: SO_2, Ch3: CO
M	0	Ch1: NOx, Ch2: SO_2, Ch3: CO_2, Ch4: CO
P	4 to G	Ch1: NOx, Ch2: O_2, Ch3: Corrected NOx, Ch4: Corrected NOx average
A	4 to G	Ch1: SO_2, Ch2: O_2, Ch3: Corrected SO_2, Ch4: Corrected SO_2 average
B	4 to G	Ch1: CO, Ch2: O_2, Ch3: Corrected CO, Ch4: Corrected CO average
F	4 to G	Ch1: NOx, Ch2: SO_2, Ch3: O_2, Ch4: Corrected NOx, Ch5: Corrected SO_2, Ch6: Corrected NOx average, Ch7: Corrected SO_2 average
H	4 to G	Ch1: NOx, Ch2: CO, Ch3: O_2, Ch4: Corrected NOx, Ch5: Corrected CO, Ch6: Corrected NOx average, Ch7: Corrected CO average
L	4 to G	Ch1: NOx, Ch2: SO_2, Ch3: CO, Ch4: O_2, Ch5: Corrected NOx, Ch6: Corrected SO_2, Ch7: Corrected CO, Ch8: Corrected NOx average, Ch9: Corrected SO_2 average, Ch10: Corrected CO average
M	4 to G	Ch1: NOx, Ch2: SO_2, Ch3: CO_2, Ch4: CO, Ch5: O_2, Ch6: Corrected NOx, Ch7: Corrected SO_2, Ch8: Corrected CO, Ch9: Corrected NOx average, Ch10: Corrected SO_2 average, Ch11: Corrected CO average

Standard Accessories

No.	Name	Quantity	Remarks
1	Filter paper for membrane filter/as spare (Teflon)	6 sheets	When SO_2 meter is provided (Note)
	Filter paper for membrane filter (25 sheets for per box) / as spare (glass fiber)	1 box	When SO_2 meter is not provided
2	Standard gas joint R1/4 - ϕ6mm	1 set	
3	Hose band for fixing standard gas cylinder	1 set	
4	Toaron tube for standard gas connection, 1 m and ϕ9 / ϕ5mm	1 tube	
5	Polyethylene tube for standard gas connection, 6 m and ϕ6 / ϕ4mm	1 tube	
6	Anchor bolt for cubicle installation, M12 × 160 × 50 (Option)	4 psc	
7	Water bottle for injection	1 psc	
8	Gas sampling pipe flange packing	1 psc	When gas extractor is equipped
9	Gas extractor fastening bolt and nut (M12×60mm)	1 set	
10	Heating tube support	1 set	When heating tube is equipped
11	Instruction manual (INZ-TN1ZSJ-E)	1 copy	
12	Cell assembling tool	1 set	For CO_2 measurement

Note) When Zirconia O_2 meter is not provided, 4 sheets.

Spare Parts for 1-Year Measurement

- Filter paper for membrane filter (teflon) 6 sheets x 1
- Membrane filter O-ring (G65) ×3
- Membrane filter rubber-ring ×3
- Filter element for conditioner filter ×2
- O-ring (G65) for conditioner filter ×2
- Diaphragm for gas aspirator ×2
- Valve for gas aspirator ×2
- Capillary for ϕ1mm ×100mm ×1
- O-ring for gas extractor (G50) ×1
- Packing for gas extractor wire mesh filter ×1
- Wire mesh filter packing for gas extraction ×1
- O-ring (G45) for gas extraction ×1

} Added when gas extractor is equipped

- NOx/NO converter catalyst ×1
- Glass wool for NO_2/NO converter
- Fitting for NO_2/NO converter ×2

} Added when NOx analyzer is equipped

- Reference gas purifier catalytic x 1
- Glass wool for reference gas purifier (Note2)
- Coupler for reference gas purifier x 2 (Note2)

(Note 1) Filter paper for membrane filter (glass fiber) 25 sheets for per box except for SO_2 meter x 1

(Note2) Use the same kind of stuff for NO_2/NO convertor

Code Symbols for Spare Parts for 1-Year Measurement

1	2	3	4	5	6	7	8
Z	B	N	1	S	J		2

	Description		
	(Gas extractor)	(NOx analyzer)	(SO_2 analyzer)
0	Without	Without	Without
1	With	Without	Without
2	Without	With	Without
3	With	With	Without
A	Without	Without	With
B	With	Without	With
C	Without	With	With
D	With	With	With

STANDARD GAS CODE SYMBOLS

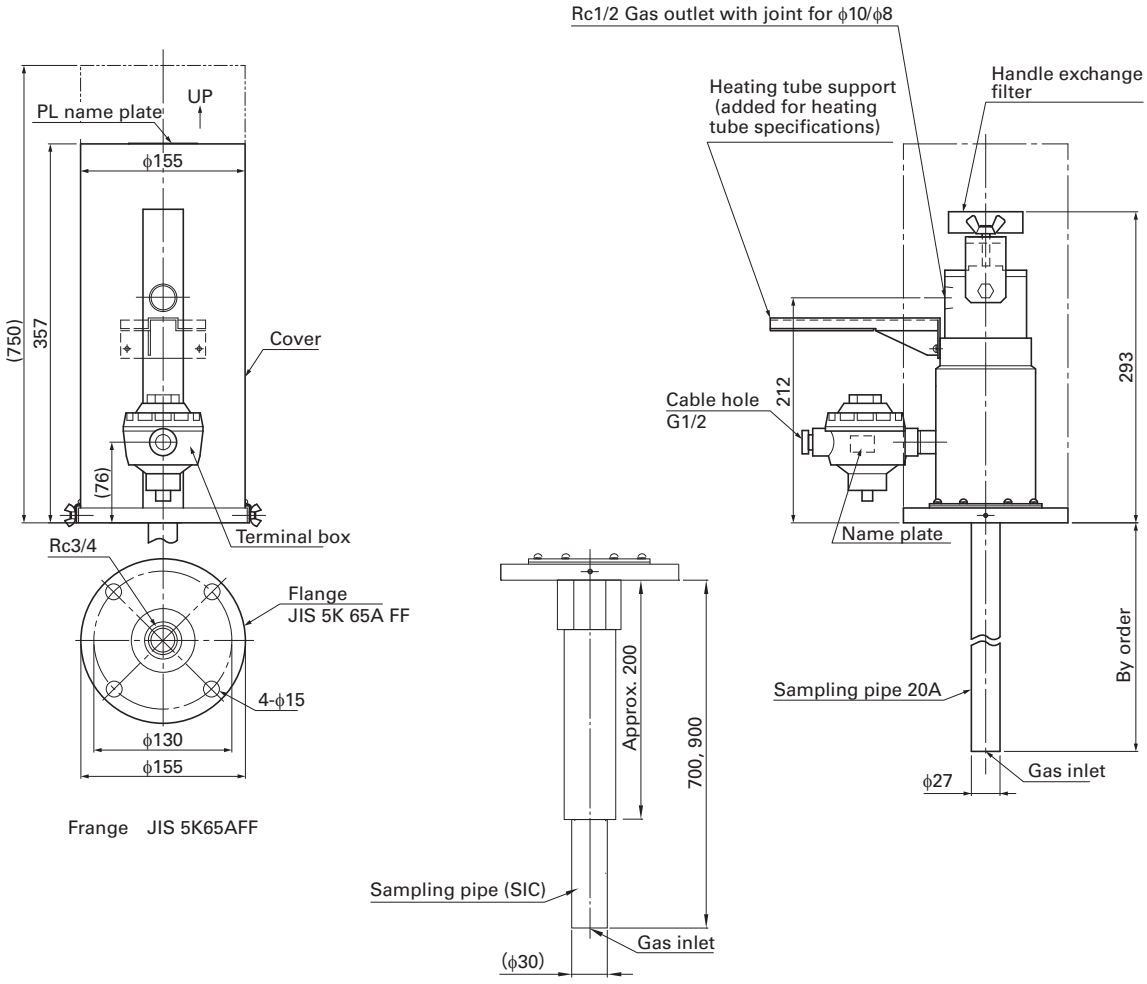
1 2 3 4 5 6 7 8 9 10 11	Description
Z S Y	
	NO_x measurement first range <4th digit>,ppm
0	Without
A	50
1	100
2	200
3	250
4	500
5	1000
6	2000
7	5000
	SO_2 measurement first range <5th digit>,ppm
0	Without
A	50
1	100
2	200
3	250
4	500
5	1000
6	2000
7	5000
	CO measurement first range <6th digit>,ppm
0	Without
A	50
1	100
2	200
3	250
4	500
5	1000
6	2000
7	5000
	CO_2 measurement first range <7th digit>,ppm
Y	Without
A	5
B	10
C	20
	O_2 span gas <9th digit>
0	Without
1	1.8 to 2% O_2 / N_2
2	10% O_2 / N_2 Note)
3	AIR
	Zero gas <10th digit>
Y	Without
A	Air cylinder (without certificate)
B	Air cylinder (with certificate Japanese offical organization)
C	N_2 cylinder (without certificate)
D	N_2 cylinder (with certificate)
	Offical certificate <11th digit>
Y	Without
A	NO_x
B	SO_2
C	CO
D	NO_x, SO_2
E	NO_x, CO
F	NO_x, SO_2, CO
G	NO_x, O_2
H	SO_2, O_2
J	CO, O_2
K	NO_x, SO_2,O_2
L	NO_x, CO,O_2
M	NO_x, SO_2, CO, O_2

Note: Select "1" for the 9th digit and "A" or "B" for the 10th digit for zirconia type O_2 sensor.
For the magnetic type O_2 sensor, select "2" or "3" for the 9th digit according to the selection of the first range, and select "C" or "D" for the 10th digit.

Scope of Delivery: standard gas (3.4L) with pressure regulator

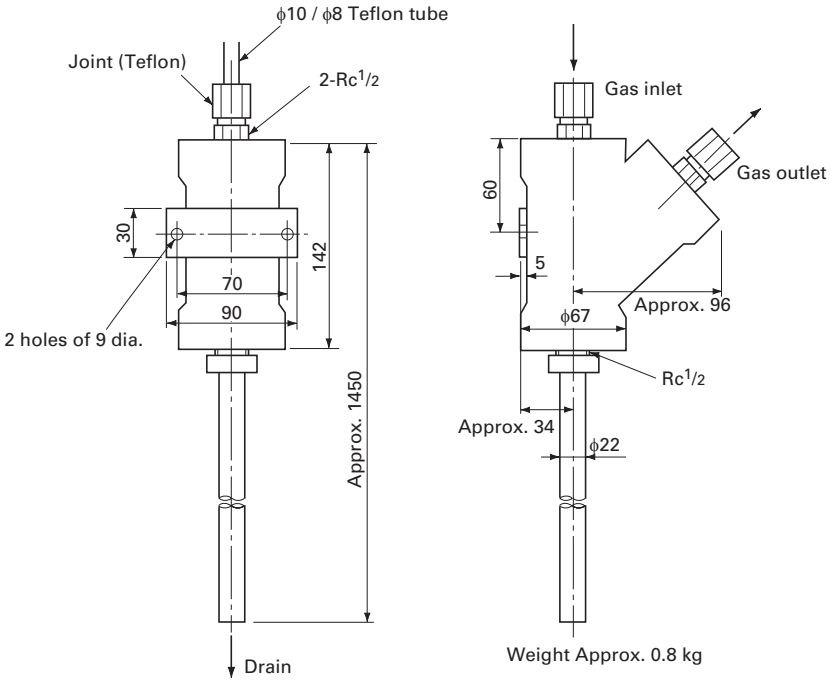
OUTLINE DIAGRAM (Unit: mm)

<Gas extractor>



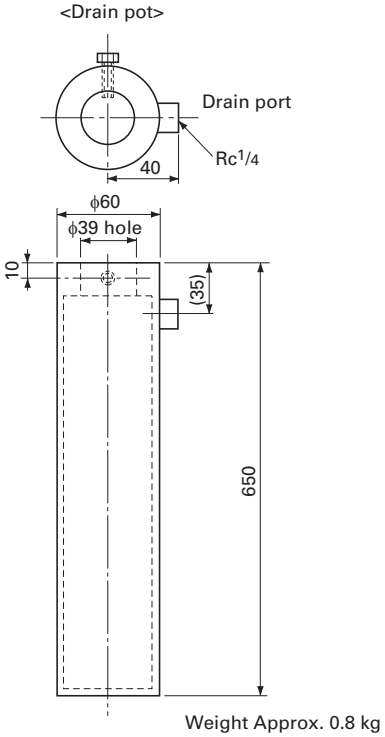
Frange JIS 5K65AFF

<Drain separator>



Weight Approx. 0.8 kg

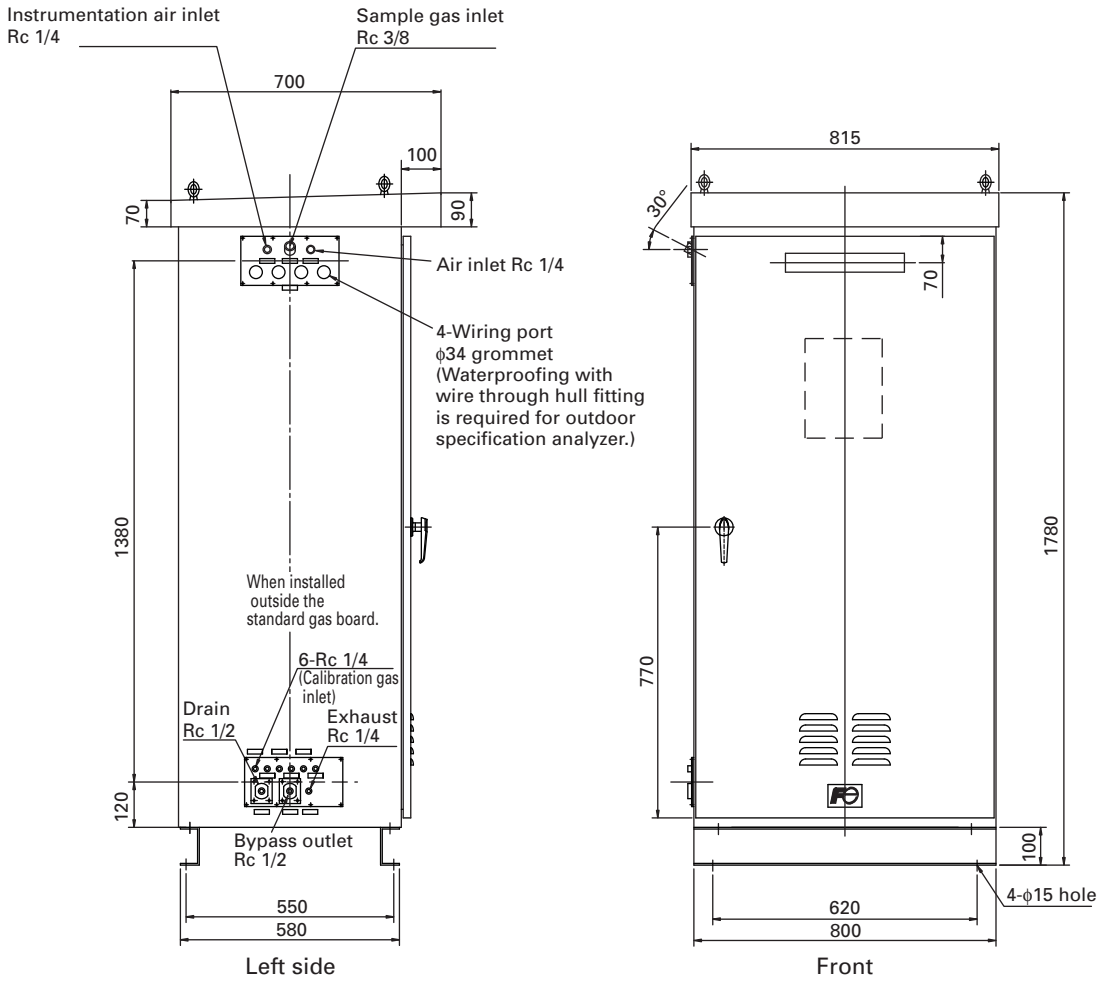
<Drain pot>



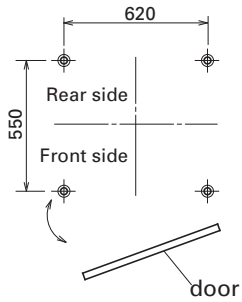
Weight Approx. 0.8 kg

OUTLINE DIAGRAM (Unit: mm)

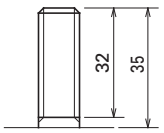
<Outdoor type>



Anchor plan, door open/close diagram

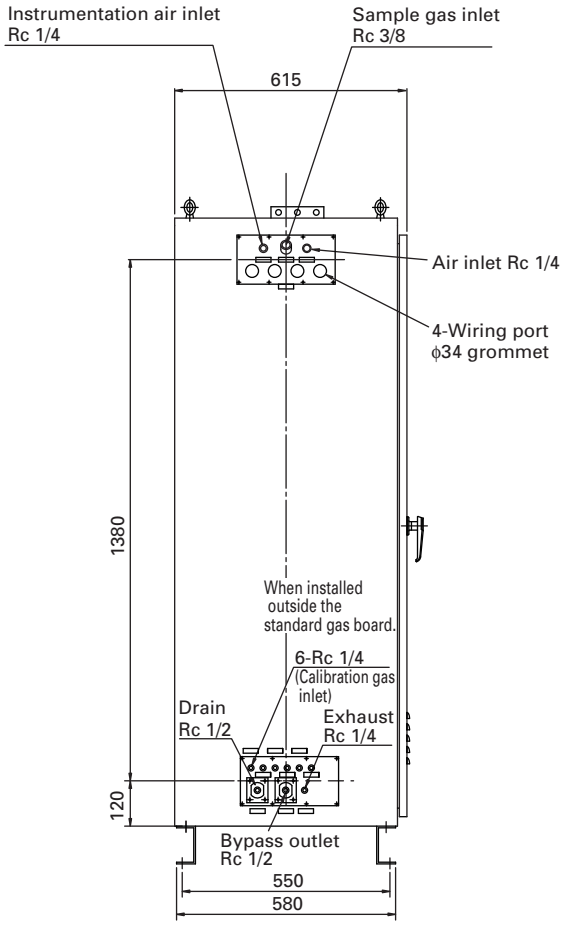


Anchor bolt (option)
(4–M12 × 160 × 50)

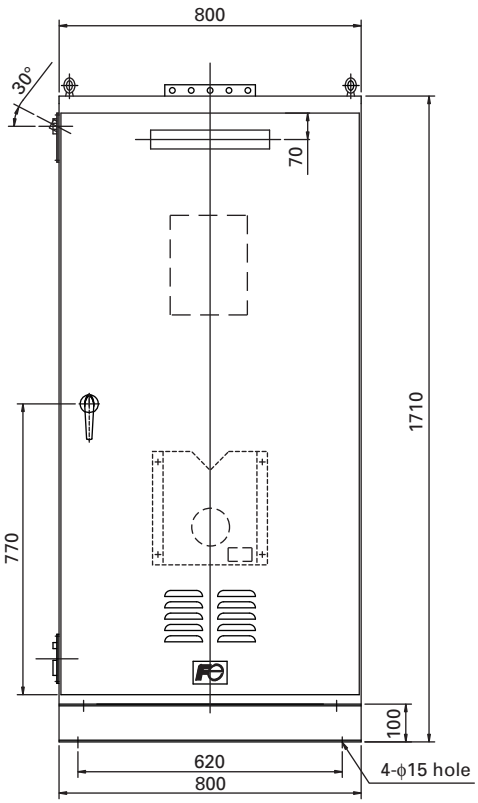


OUTLINE DIAGRAM (Unit: mm)

<Indoor type>

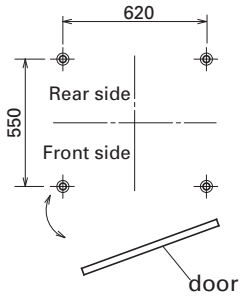


Left side

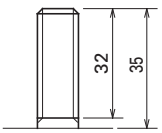


Front

Anchor plan, door open/close diagram



Anchor bolt (option)
(4–M12 × 160 × 50)



When you contact to Fuji regarding the product, please be sure to inform following specification.

1. Parameter of the measuring gas

Item	Minimum value	Regular value	Maximum value
Measuring gas concentration			
Measuring gas concentration			
Measuring gas concentration			
Measuring gas concentration			
Measuring gas concentration			
Temperature (˚C)			
Pressure (Pa)			
Flow velocity (m/s)			
Moisture (vol%)			
Dust (mg/m^3 (N))			
Other component type, Content (vol%/ppm)			
Other component type, Content (vol%/ppm)			
Other component type, Content (vol%/ppm)			

2. Length of the Flue (diameter) _____ mm

3. Distance between gas extractor point and installation place of the unit. _____ m

4. Analog output

	Instantaneous value	O_2 correction instantaneous value	O_2 correction average value
NO_X	With / Without	With / Without	With / Without
SO_2	With / Without	With / Without	With / Without
CO	With / Without	With / Without	With / Without
CO_2	With / Without		
O_2	With / Without		

5. O_2 correction value (vol%) _____ vol%

Note: when O_2 correction instantaneous value and/or O_2 correction average valueis are selected as an analog outputat at Item 4.

6. Ambient temperature _____ ˚C to _____ ˚C

7. Vibration None/With (_____ G)

8. Items to be prepared separately

- Standard gas and pressure regulator Without / With
- Recorder (Fuji's product type: PHR) Without / With
- Individual inspection of measurement method Without / With
- Spares for 1 year Without / With
- Waterproof gland for outdoor wiring port (A25A) Without / With
- Anchor bolt Without / With

⚠ Caution on Safety

*Before using this product, be sure to read its instruction manual in advance.

Fuji Electric Co., Ltd.

International Sales Div
Sales Group
Gate City Ohsaki, East Tower, 11-2, Osaki 1-chome,
Shinagawa-ku, Tokyo 141-0032, Japan
http://www.fujielectric.com
Phone: 81-3-5435-7280, 7281 Fax: 81-3-5435-7425
http://www.fjielectric.com/products/instruments/

Printed in Japan