

HYDRAZINE ANALYZER

HYM-300

This analyzer continuously measures the concentration of residual hydrazine in boiler plant.

Features

● **It covers wide measuring range**

This instrument has special high hydrazine range from 0 to 10mg/L in standard that is specially required for monitoring on high hydrazine concentration at the time of start-up of plant, in addition to normal operative range for 0 to 1,000µg/L. Thereby this one unit covers for both high and normal ranges of two conventional meters.

● **Electrode has long life span**

As the stable measuring method based on ORP electrode method is adopted, the electrode lasts long time. The inner solution of the electrode is not required to refill with liquid specially prepared but just supply sodium chloride pill every one to three month.

● **Abundant functions**

Many convenient functions such as auto-stabilizing determination at calibration, temperature co-indication at display, upper and lower limit alarm and sample water cut-off alarm (option) are employed to the unit.

● **Only small volume of sample water is required**

When combined and used with HYC-64 type detector, it is possible to reduce sample water consumption as 100mL/min.

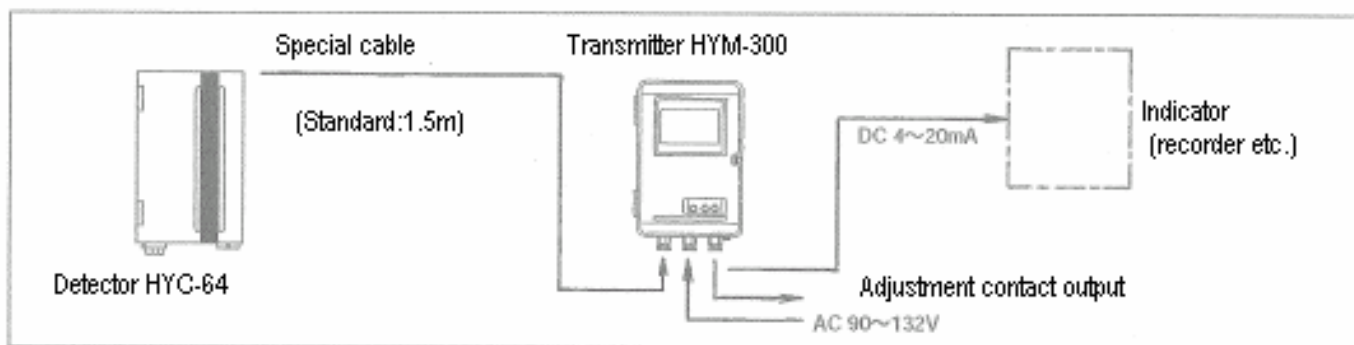


Standard Specifications

Product Name	Hydrazine Analyzer [Transmitter]
Model	HYM-300
Measuring object	Residual hydrazine in water (N ₂ H ₄) Temperature of sample water(TEMP)
Measuring method	Oxidation-reduction electrode method
Measuring range	N ₂ H ₄ ----- 0 ~ 999.9µg/L Indication in ppb is also possible TEMP ----- 0 ~ 100.0 °C (The output of temp. is not available)

Linearity	+/-0.5µg/L (by equivalent input)
Repeatability	+/-0.3 µg/L (by equivalent input)
Temp Compensation	Range : 0 ~ 45°C Accuracy: Within +/-2% F.S. (by equivalent input)
Sensitivity of detection	+/-1g/L (by 2136 electrode)
Indication	Digital 4 digit LCD
Output	4 ~ 20mADC corresponding to measuring range Load resistance 600Ω or less isolation

Configuration

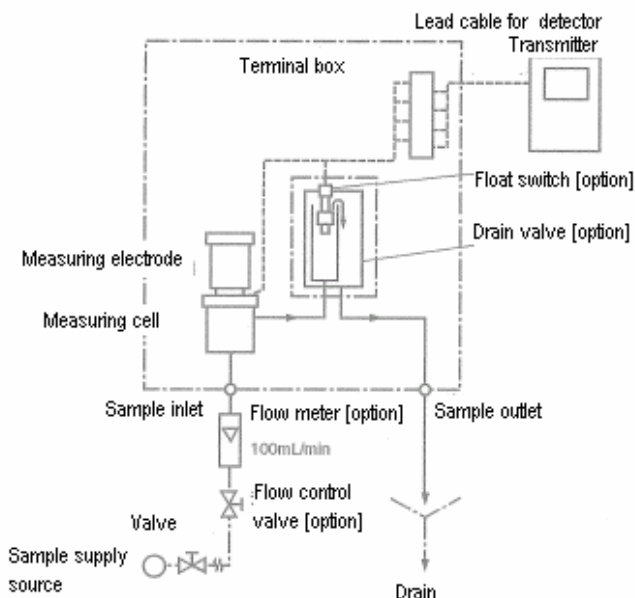


Range Changing method	Following range changing method can be selectable by key operation	Calibration	resistance) Zero calibration : input open Span calibration : Adjust value to manual analysis of sample water
(a) Manual range change	Select among the first, second and third ranges to set by key operation	Ambient temp./humidity	-10 ~ 55°C, 95% (RH) or less
(b) Automatic range change	Automatically select appropriate range: Shift to upper range when the measuring value reaches to 100% of full scale at current range, Shift to lower range when measuring value goes down to 90% of full scale of the lower range.	Power Source	90~132VAC 50/60Hz
(c) Remote range change	By contact input for remote range change-over	Construction	Out-door installment, rain proof
Output range setting	Settable by key operation among following ranges:	Mounting method	50A pipe mounting or wall mounting
First range	0~Tf μ g/L (Tf shall be within 20~200 μ g/L and at 10 μ g/L step)	Material	Main unit : Aluminum die-cast and glass (window)
Second range	0~Tf μ g/L (Tf shall be within 200~1000 μ g/L and at 10 μ g/L step)	Finish coating	Pantone 537C (Equivalent to Munsell 5PB8/1) painting
Third range	0~10mg/L (ppm indication available) fixed range. This range is for high concentration of hydrazine when starting-up	Cable port	Cable gland O.D. $\phi 6 \sim \phi 12$, 6 entrance (When removing cable gland, thread connector for wiring G1/2 is available)
Alarm function		Weight	Approx. 5 Kgs
Settable value range	0 ~ 999 μ g/L (Settable at 0.1 μ g/L step)	Others	
Circuit method	Digital comparison method electronic alarm circuit	(a) Thermal cut-off function	It outputs temperature abnormality signal and ceases measurement other than temperature if the sample temperature surpass 50°C in order to protect the electrode (Indication=0, Output=4mA)
Number of circuit	2 circuit as upper/lower C contact (Each contact open at the time of maintenance and power off)	(b) Measurement /maintenance changing over function	Select one of output at the time of maintenance mode among "Last value hold", "Dummy" and "Trucking"
Contact capacity	250VAC, 3A	(c) Function & activation at the time of Sample water cut-off	It ceases measurement other than temperature and outputs abnormality signal at the time of sample water cut-off. (Indication=0, Output=4mA)
Sensitivity (differential of cut-off)	0.0~10.0 μ g/L (Settable at 0.1 μ g/L step)	(d) Cable between transmitter and detector	Please use our special cable for the connection between. The cable must be arranged far away from noise source, any.
Abnormal signal output	Bundle close contact output such as sample water cut-off, abnormality of temp. Measurement etc. Contact capacity 125VAC, 1A (load resistance)		
Range contact output	Make contact output corresponding to output range (one side common terminal)		
Input signal	Contact input for remote range change, Make contact input (one side common terminal) Third range is to select when all terminal are opened, Contact capacity 125VAC,1A (load		

Periphery Apparatus

Combination electrode: 2136 type hydrazine electrode
 Detector: HYC-64
 Special Cable: EC-21

Measurement System Diagram



Detector for hydrazine measurement Model HYC-64

- This detector is suitable for measurement of boiler water at thermal electric generation plant
- As sample water is designed to drain, accurate measurement can be expected
- Consumption of sampling water is trace volume
- Detector with sensing function for "Sample water cut-off" is available in option

Standard Specifications

Product name	Detector for hydrazine analyzer
Model	HYC-64
Condition of sample water	
Temperature	0 ~ 45°C
Flow ratio	Constant flow ratio at 100mL/min.
Water Pressure	Inlet pressure :50kPa or less Atmospheric pressure
Piping connection	Rc1/4 (Common for sample inlet and outlet)
Electrode to use	2136
Ambient temp. / humidity	0 ~ 40°C ,/ 90% RH or less
Weight	Approx. 5 Kgs
External dimensions	220(W) x 110(D) x 400(H)mm
Installing	Wall hanging or 50A pipe mounting
Material	
Casing	Vinyl chloride coating(foundation SPCC)
Measurement cell	Transparent acrylic resin
Connection tube	Nylon
Construction	Rain proof (JIS C0920)
Painting color	Metallic silver and blue

Option

- 20~200mL Flow meter (possible to equip inside)
- Needle valve for flow control --- External
- Metal bracket for 50A pipe mounting --- External

(Note)

Sample water should be controlled at 100mL/min. constant for use. If the sample water is of high temperature or high pressure, please install a cooler or a pressure release valve separately.

Hydrazine measuring electrode Type 2136

- This electrode is oxidation reduction measuring electrode
- Safe and non-hazardous sodium chloride is used for inner solution
- It is superior in durability

Standard Specifications

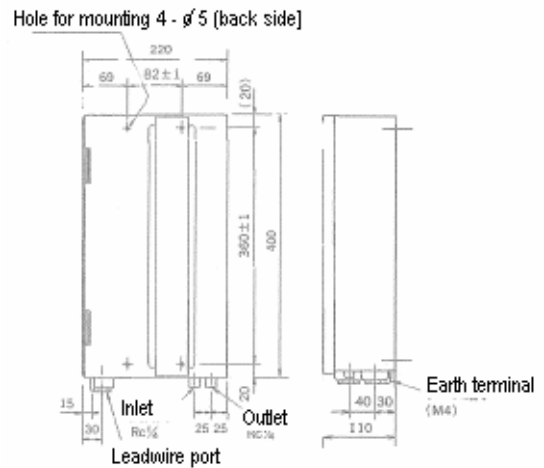
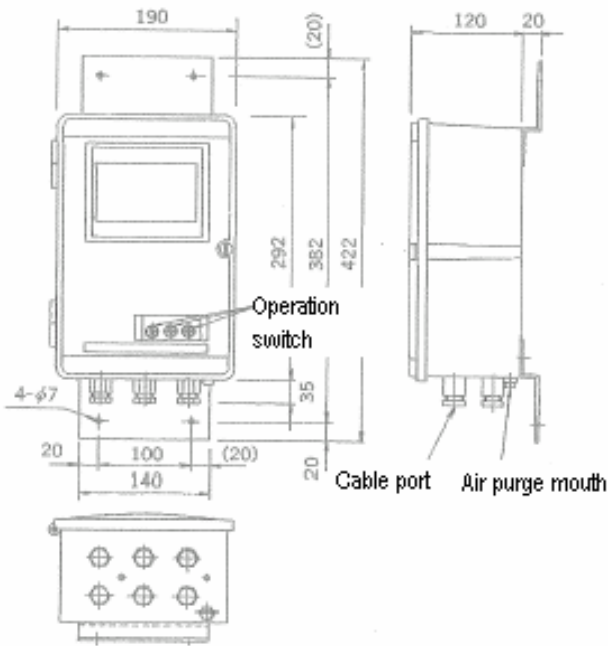
Type	2136
Category	Oxidation reduction method
Application	Pure water measurement for thermal electric generation plant and etc. Combination with HYC-64 flow cell type detector
Major material	Acrylic, vinyl chloride, polyethylene
Using temperature	Sample Water 0 ~ 45°C Ambient -5 ~ 50°C
Using pressure	Open end in atmospheric pressure at outlet side
Measuring range	0 ~ 20µg/L and 0 ~ 10mg/L
Detection limit	+/- 1µg/L (ppb)
Response time	120 sec. (25°C) for 90% response
Combination detector	HYC-64

External Dimensional Drawing

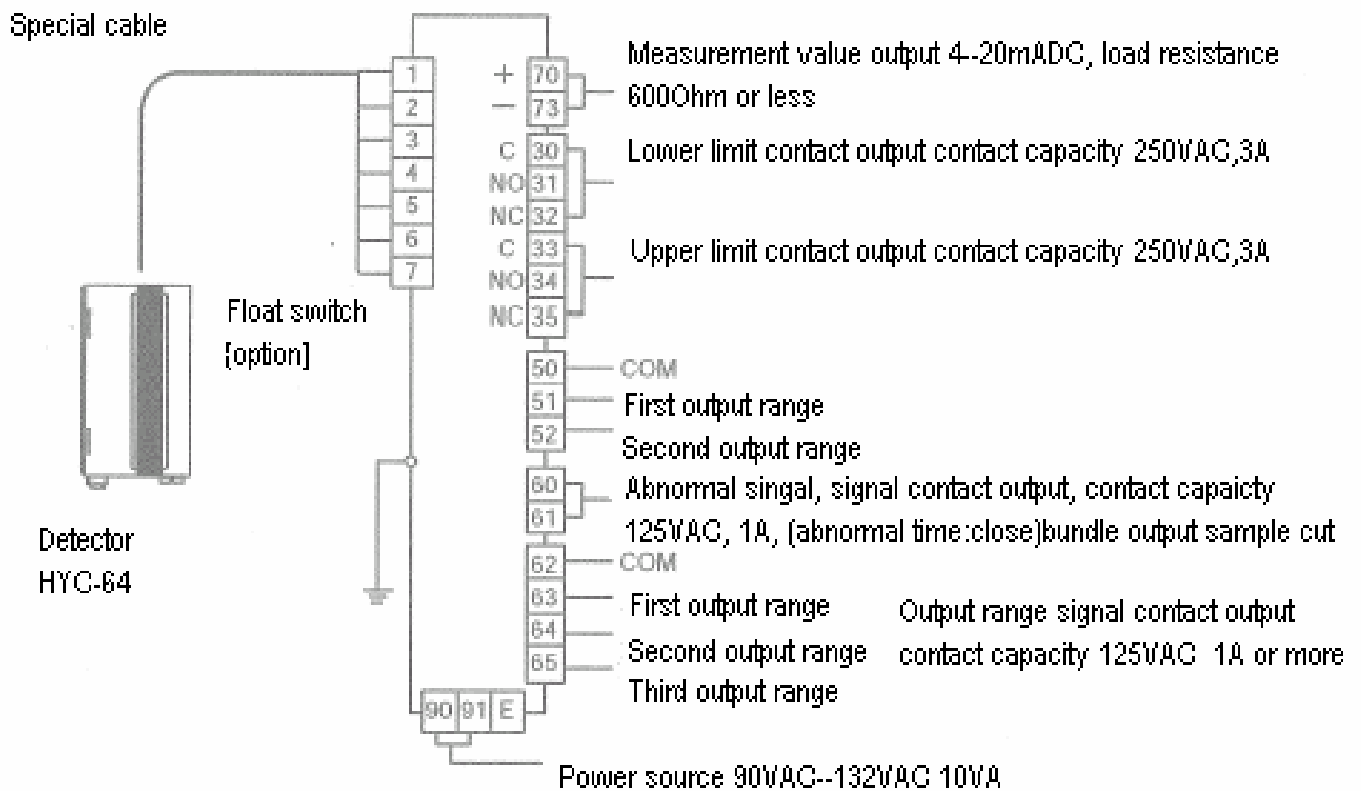
Unit: mm

Transmitter [Model HYM-300]

Detector [Model HYC-64]



Terminal Connection Diagram



Product Specifications Code

HYM300 – 0 –

1									Power Supply
2									90 ~ 132VAC 50/60Hz
									180 ~ 264VAC 50/60Hz
	1								Transmission output
									4 ~ 20mADC
		2							Measurement range
									0 ~ 999.9µg/L (or ppb)
			Y						Specify
									Mounting bracket
				1					For 50A pipe mounting
				2					For wall mounting
									Cable port
					A				Standard (φ6 ~ φ12 cable gland) *
					B				G1/2 (PF1/2)
					C				NPT1/2
									Hood
						0			Not provided
						1			Provided
									Marking
							0		Standard
							1		English

* Removing the cable gland exposes six G1/2 female screws

Note 1: The measurement range for hydrazine is 0 to 999.99mg/L at a temperature range from 0 to 100°C.
(There is no temperature transmission output)

Note 2: Transmission output range

First range	Can be set to any value from 0 to (20 ~ 200) in units of 10µg/L
Second range	Can be set to any value from 0 to (200 ~ 1000) in units of 10µg/L
Third range	0 ~ 10mg/L (Fixed: monitor range)

The first and second ranges are set to 20µg/L and 200µg/L, respectively, unless otherwise specified

Note 3: Range switching: Can be set to any of the following modes:

Automatic 2-range switching (First range ↔ Second range)

Automatic 3-range switching (First range to Third range)

Remote range switching (The first, second, or third range is specified by contact input)

Manual range switching (The first, second, or third range is specify by key operation)

Note 4: The concentration alarm (upper and lower limits), range display signal, and abnormality signal are available.

HYC64 – 0 –

									Needle valve
	0								Not provided
	1								Provided
									Flow meter
		0							Not provided
		1							Provided
									Float switch/drain pipe
			0						Not provided
			1						Provided
									Mounting method
				0					Bracket for 50A pipe mounting
				1					Bracket for wall mounting
									Marking
							0		Standard
							1		English

Note 1: Cable port: Sample water inlet RC1/4, Sample water outlet RC1/4

Note 2: The flow rate of sample water is 100 +/- 10mL/min. The flow meter is built in the detector cubicle.

Note 3: Order the electrode and the dedicated cable separately

Hydrazine measurement electrode :EL2136 -1 - BF

Dedicated cable : EC21 – 0 -0□□ BC (up to 10m)

Note 4: The needle valve and flow meter are to mount outside of the detector cubicle.

Auxiliary items

Code	Description
143A203	Sodium chloride tablets (1000 tablets)
116E500	Nylon tube 6 x 4
115A175	O-ring G60
115A110	O-ring P50
117B002	6 Sleeve
EL2136-1-BF	Electrode model 2136

BYC64 – 0 –

□ □		Mounting method *1
A	.....	Wall mounting type
B	.....	Pole mounting type
Z	.....	Special
	.....	Marking
0	.....	Standard
1	.....	English
9	.....	Special

* Select the wall-mounting type when attaching this unit to the boiler sampling system rack.

Note 1: This is the indoor-use hydrazine detector to be installed with the boiler sampling device.

This is a compact, cost-down type of HYC-64. Only the unions for φ6 of tube can be used at the sample water inlet and outlet connection.

Note 2: Order the devices to be combined separately as listed below:

	Combined transmitter	Combined electrode	Dedicated cable
BYC-64	HYM-300	EL2136	EC-21 Length 2m

DKK-TOA CORPORATION



CAUTION

Do not operate products before consulting instruction manual.

International Operations:

DKK-TOA Corporation
29-10, 1-Chome, Takadanobaba, Shinjuku-ku, Tokyo 169-8648 Japan
Tel: +81-(0)3-3202-0225 Fax: +81-(0)3-3202-5685

Local Representative:

Information and specifications herein are subject to change without notice.