

UV Organic Pollution Monitor

〈UV/COD Monitor〉

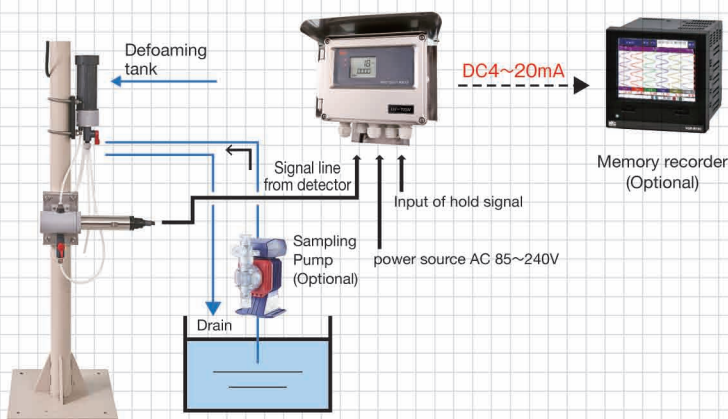


UV-700W

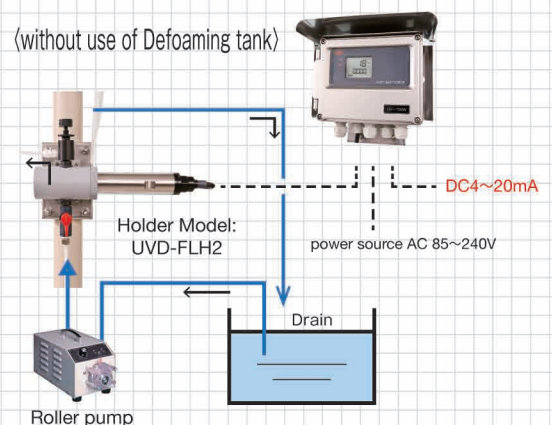
UV Abs. & COD (or BOD)
Converted Value Measurement

● Example of Measuring system Diagram

Flow type measuring system① [recommended system]



Flow type measuring system②



UV/LED Organic pollution Monitor

Flow type measuring system①

Defoaming tank



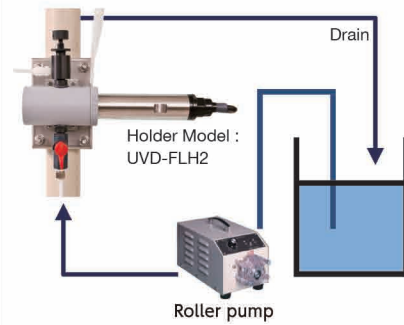
Pump introduces sample water to defoaming tank → Foam removal → water level introduces sample water to flow type detector → Light absorbance measurement → Drain

Defoaming tank Model : SAM-T

※Sampling pump is required separately.

Flow type measuring system②

Pump introduce sample water to detector → Light absorbance measurement → Drain
Since it is a water sampling system that does not use a defoaming tank, it is recommended to use a roller pump etc. with less bubble formation.



Automatic cleaning wiper is inside



Stains attached to optical window is automatically cleaned by wiper
Optical window is made of strong sapphire.

Model: UVD-255-10(STD.)

Model: UVD-255-5

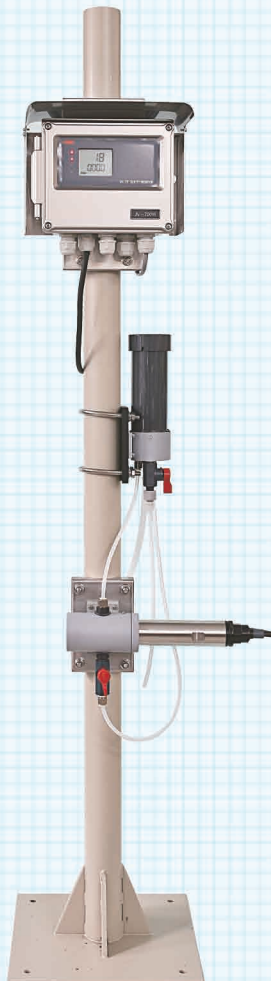
Attach and detach of UV Detector and Maintenance



Flow type holder : UVD-FLH2

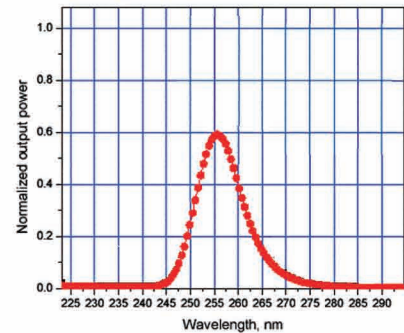
Detach UV detector from flow type holder, easy check up and maintenance

Flow Type Measuring System① (Standard) (Recommended system)



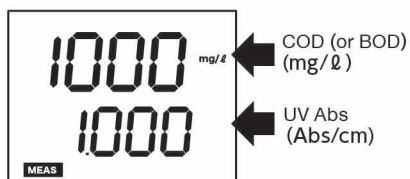
Prove type UV/LED detector

Hg Free LED 255nm



One monitor displays both UV absorbance and COD or BOD converted value

In order to display UV absorbance as COD, input relation between UV Abs by UV-700W and manually analyzed COD value in advance, then measure.



※Be sure to obtain correlation with COD before use.

If the correlation is unknown, please use UV absorbance (Abs) as an index of organic pollutants.

Filter to check up is attached

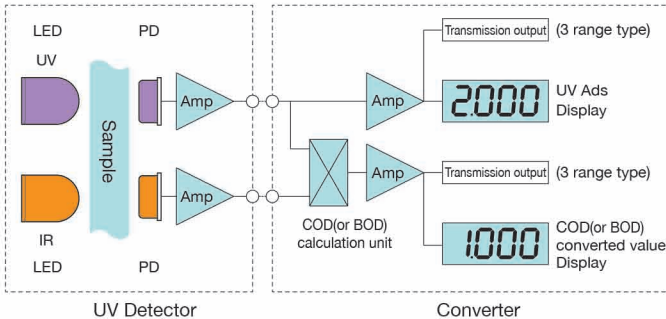
Convenient to maintain detector and converter
Easy maintenance of both UV side and IR side



UV/COD(or BOD) Monitor

2 optical path, 2 wave length measurement to correct turbidity influence

Automatically calculate UV Abs signal-Turbidity signal (IR) system



※IR = Infrared rays (near infrared rays), turbidity measuring wave length

Detector installation example (Optional)

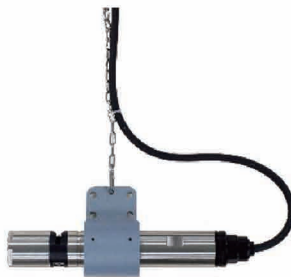
Immersive type MDL : UVD-LH

Measurement by fixing UV detector to immersive type holder sideways and immerse with metal fittings in the measuring tank



Hanging type MDL : UVD-LH

Measurement by fixing UV detector to hanging type adaptor and hang with chains, etc. in the effluent tank.



Attention ① Fear of unstable measurement by swinging because of water flow. (in case of hanging type)

Attention ② Stains and bubbles are easy to attach in case flow rate is small.

Attention ③ Indoor installation is recommended as light from outside influences.

Attention ④ Durability of detector is poor compared to flow type measurement as water-proof rubber or cable is always immersed in the water.

Sampling Pump (Example) : (Optional)

For flow type measuring system

Pump → Flow type detector → Measure → Drain
Flow : 30~200m³/min



Sampling Pump



Roller pump

Memory recorder (Optional)



(Record of measured data)

In order to record UV absorbance or converted COD (or BOD) value, connect transmission output (4~20mA) to memory recorder. After scaling, you can record and display them. Measured data is connected to personal computer by moving to USB.

Specifications of converter

Product name	UV Type COD Monitor (UV Organic Pollution Monitor)		
Model	A Standard type:UV-700W-10 (Cell Path 10mm) B High density type:UV-700W-5 (Cell Path 5mm)		
Display	LCD 4 digits, 2 steps Upper: converted COD value (mg/ℓ), Lower: UV Abs		
Measuring system	A UV-700W-10:0.000~2.000Abs/cm(UV) 0~400mg/ℓ (Converted COD Cr) B UV-700W-5 :0.000~4.000 Abs/cm (UV) 0~1000mg/ℓ (Converted COD Cr) ※Depending upon the water quality, Conversion measurement can not be made below 1000mg/ℓ (or 500mg/ℓ).		
Transmission output	4~20mADC, 2 system, 3 range switch		
		UV Abs(Abs/cm)	Converted COD value(Cr)
	A UV-700W-10	0~2Abs/cm	0~ 400mg/ℓ Cr(MAX)
	B UV-700W-5	0~4Abs/cm	0~1000mg/ℓ Cr(MAX)
Conversion	Converting coefficient y=a+bx		
Measuring object	COD value (or BOD)		
Resolution	UV:0.001Abs/cm, COD:1mg/ℓ		
Contact point output	During maintenance non-voltage a point (voltage endurance:AC 120V, 1A)		
Hold function	Hold transmission output and alarm point by one of below: ①During operation of maintenance mode switch ②When wiper cleaning is operating		
Cleaning method	Automatic cleaning with a wiper Cleaning cycle : once an hour, (possible to set 30min~12hrs) Frequency of cleaning:1(possible to set 1~5 times)		
Maintenance	Potassium phthalate standard solution (separately sold)		
Ambient condition	Temperature:-5~40°C (avoid direct sun light)		
Structure	Dust-proofed, rain-proofed (equivalent of IP65) Recommend to install indoor without sun shine.		
Power voltage	AC85~240V		
Material	Polycarbonate, metallic silver coated (for all weather)		
Installation	50A pole or fixing on the wall		

Detector

Product name	Probe type UV LED detector		
Model	A Standard type UVD-255-10 (optical Cell Path : 10mm) B High Density type UVD-255-5 (optical Cell Path : 5mm)		
Measuring wavelength	UV:255nm, IR:880nm		
Measuring system	2 optical path, 2 wave length light absorbance		
Flow type measuring system ①	Flow type holder : UVD-FLH2 + Defoaming tank : SAM-T +Detector : UVD-255		
Flow type measuring system ②	Flow type holder : UVD-FLH2 + Detector : UVD-255		
Immersive type measuring system	Immersive type holder : UVD-LH + Detector : UVD-255 ※Immersion fittings, pipes, hanging chains are optional		
Cleaning method	Automatic wiper cleaning system Cleaning cycle : once an hour (possible to set 30min~12hrs) Cleaning frequency : once (possible to set 1~5 times) Possible to clean detector manually by removing from holder.		
Ambient condition	Temperature:0~40°C (avoid direct sun light)		
Material	Detector : SUS-316, sapphire (or quartz), wiper rubber Holder, Defoaming tank : PVC		
Cable	PVC covered cable 5m		
Installation	Flow type:50A pole stand Connecting tube : φ4×φ6×(IN/OUT) Immersive type detector:fix with metal fittings (chains or 25A pipe)		
Standard component	Standard flow type detector(detector+holder)with fixing board, Defoaming tank, connecting tube φ4×φ6 2m×2, Converter, shading hood		
Optional accessories	Instruct us in advance for the below specifications Immersive holder (UVD-LH), PVC pipe (25A), pole stand, detector for High Density: UVD-255-5 Liquid feeding pump (for continuous feeding for flow type), Mounting pole stand (50A)		

※Above specifications may be changed without notice for product improvement.

UV/COD Monitor UV-700W

<UV/LED Organic Pollution Monitor>

Dimensions

Flow type system (standard)①	Defoaming tank unit	Detector with flow type holder
		<p>UVD-FLH2 + UVD-255</p>
Probe type UV detector	Converter	Immersive type detector measuring system
<p>UVD-255-10 (or UVD-255-5)</p>	<p>50A pole stand(φ60.5) (Optional)</p> <p>UV-700W</p>	<p>※PVC pipe for immersive type or chains for hanging is sold separately.</p> <p>UVD-LH + UVD-255</p>

Measuring example of UV sensor UV-700W

Ultraviolet spectrum of each pure materials	Relation between UV Abs/cm and COD of joint septic tank drain	Relation between UV Abs and COD of sewage treatment plant drain
	<p>$y = 0.006x - 0.0164$</p>	<p>$y = 0.012x + 0.024$</p>

※Above specifications may be changed without notice for product improvement.

KRK

KASAHARA CHEMICAL INSTRUMENTS CORP.

1-10-10 Yoshiba, Kuki-City, Saitama, Japan 〒346-0014

TEL:0480-23-1781 FAX:0480-23-2749

<http://www.krkjpn.co.jp>

E-mail:krk@krkjpn.co.jp