

# SPX530 Optical Concentration Sensor

## Product Overview

The SPX530 optical concentration sensor is based on the critical angle total reflection measuring principle. The concentration value is calculated according to the refractive index of the medium with different concentrations. Temperature compensation can be performed automatically. The product has high precision, good stability, compact appearance, light weight, and various installation specifications, which is suitable for small installation space on site. Measuring liquid must have a certain degree of transparency; suitable for ammonia, urea, sodium hydroxide, yuanming powder, DMF and other concentration measurement.



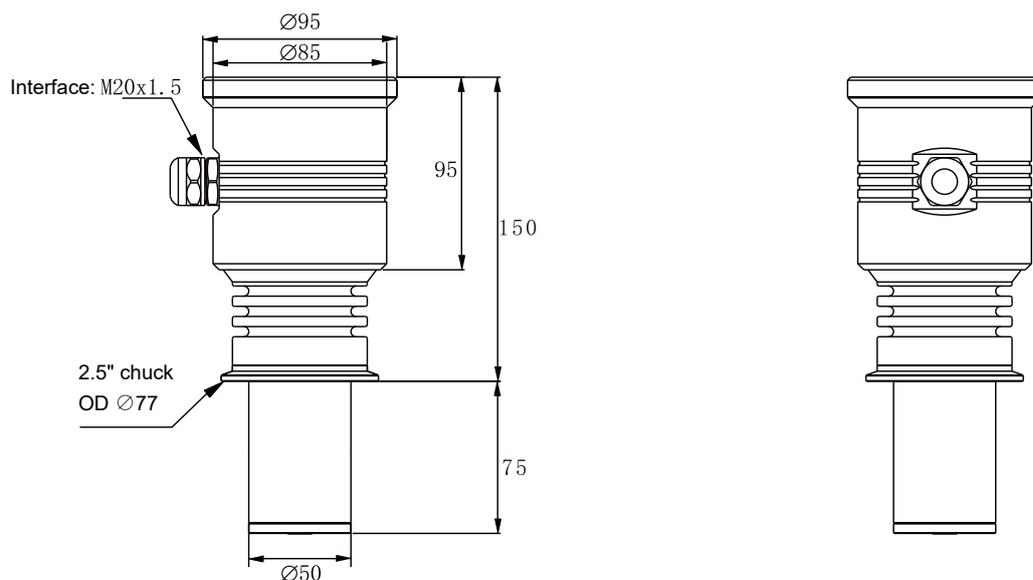
## Areas of Application

Ammonia industry    Dyeing and printing industry  
 Organic and inorganic chemical materials industry  
 Measuring ammonia concentration  
 Meta powder    Sodium hydroxide

## Technical Indicators

Display: LED display  
 Measuring range: 0~100%  
 Allowable temperature: -20~80 °C  
 Operating voltage: 18~30VDC  
 Electrical connection: M20X1.5  
 Output: 4~20mA (4-wire), RS485  
 Process connection: flange or clamp

## Dimensions and mounting accessories



The above dimensions are for reference only.  
 Actual dimensions are based on production.

## Selection table

SPX530	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Optical Concentration Sensor	
Measuring medium	A B C D E X								Ammonia Urea DMF Metamine Sodium hydroxide Other	
Measuring range		R1 R2 RX								0 to 40% 0 to 100% Other
Process interface		A B X								Flanges Clamps Other
Insertion length			L1 LX							75mm Other
Reception material				1 2 X						316L Titanium Other
Cleaning device					N C					None With Flushing Device
Mounting accessories									F0 No Accessories F1 Straight Tee Installation F2 Corner Tee Installation F3 90° Self-Flushing Installation F4 Three Valves with Flushing Device X Other	

# SPX530-1H Online Optical Concentration Meter

## Product Overview

SPX530-1H on-line optical concentration meter adopts the measurement principle of critical angle total reflection. According to the different concentration of the medium has a different refractive index to calculate the concentration value. The temperature is automatically compensated. The product has high precision, good stability, and various installation specifications. Measuring liquid must have a certain degree of transparency; applicable to ammonia, urea, sodium hydroxide, yuanming powder, DMF and other concentration measurement.



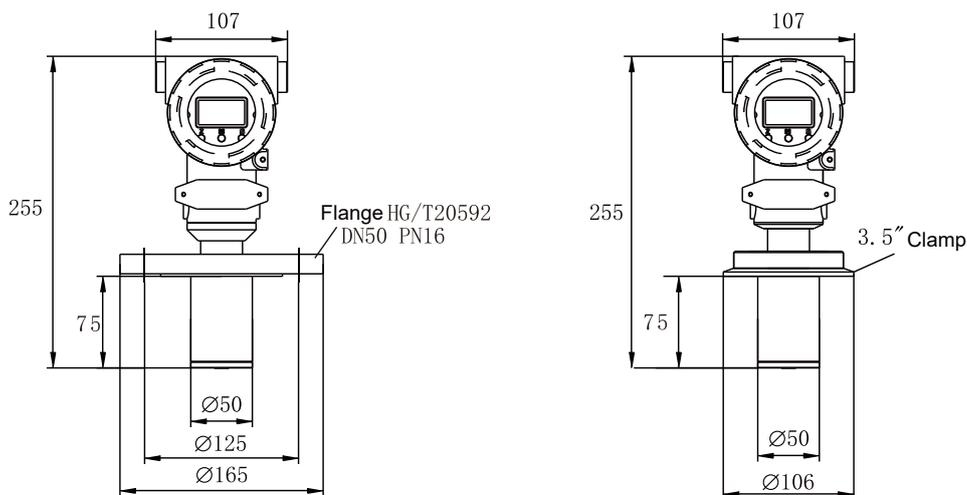
## Areas of Application

Ammonia industry    Dyeing and printing industry  
 Organic and inorganic chemical materials industry  
 Measuring ammonia concentration  
 Meta powder    Sodium hydroxide

## Technical Indicators

Display: LED display  
 Measuring range: 0~100%  
 Allowable temperature: -20~80 °C  
 Operating voltage: 18~30VDC  
 Electrical connection: M20X1.5  
 Output: 4~20mA (4-wire), RS485  
 Process connection: flange or clamp  
 Protection class: IP65

## Dimensions and mounting accessories



The above dimensions are for reference only.  
 Actual dimensions are based on production.

## Selection table

SPX530-1H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Online optical concentration meter	
Measuring medium	A B C D E X								Ammonia Urea DMF Metamine Sodium hydroxide Other	
Measuring range		R1 R2 RX								0 to 40% 0 to 100% Other
Process interface		A B X								DN80 flange 3.5" clamp Others
Insertion length			L1 LX							75mm Other
Reception material				1 2 X						316L Titanium Other
Cleaning device					N C					None With Flushing Device
Mounting accessories									F0 F1 F2 F3 F4 X	No Accessories Straight Tee Installation Corner Tee Installation 90° Self-Flushing Installation Three Valves with Flushing Device Other

## SPX530-1 Online Optical Concentration Meter

### Product Overview

The SPX530-1 online optical concentration meter is based on the critical angle total reflection measuring principle. According to the different concentration of the medium has a different refractive index to calculate the concentration value. And automatically carry out the temperature compensation. The product has high precision, good stability, and a variety of installation specifications. Liquid must have a certain degree of transparency; suitable for ammonia, urea, sodium hydroxide, yuan Ming powder, DMF and other concentration measurement.

### Areas of Application

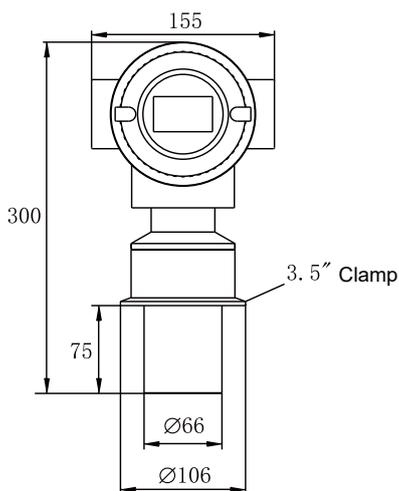
Ammonia industry    Dyeing and printing industry  
 Organic and inorganic chemical materials industry  
 Measuring ammonia concentration  
 Meta powder    Sodium hydroxide

### Technical Indicators

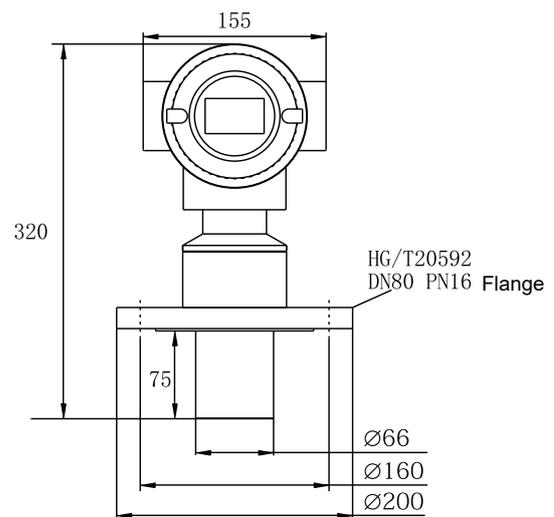
Measuring range: 0~100%  
 Explosion-proof type: Explosion-isolated type  
 Allowable temperature: -20~80 C  
 Operating voltage: 18~30VDC  
 Electrical interface: M20X1.5  
 Output: 4~20mA(Four-wire)、RS485  
 Process interface: DN80 flange or 3.5 "clamp  
 Protection level: IP65



### Dimensions and mounting accessories



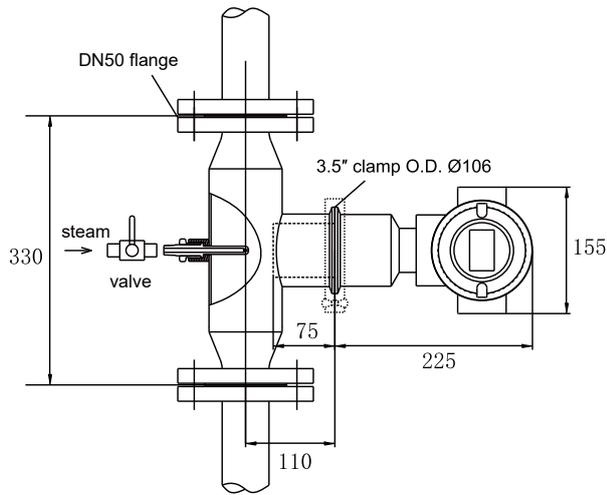
Chuck type (unit:mm)



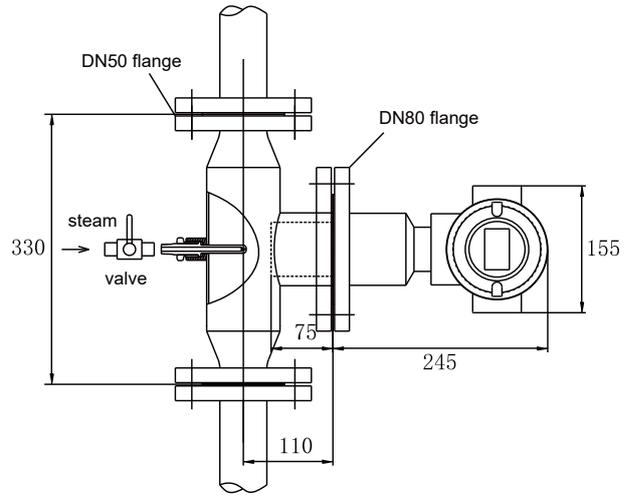
Flange type (unit:mm)

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 Actual dimensions are based on production.

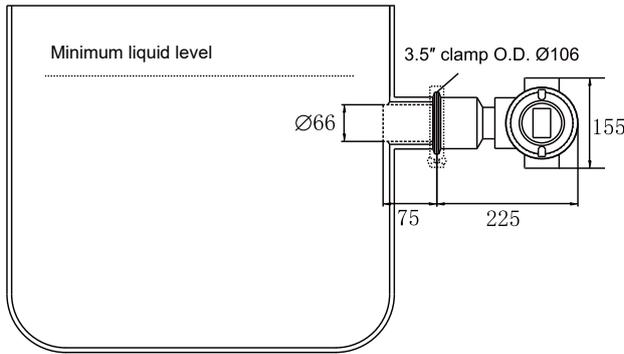
## Installation



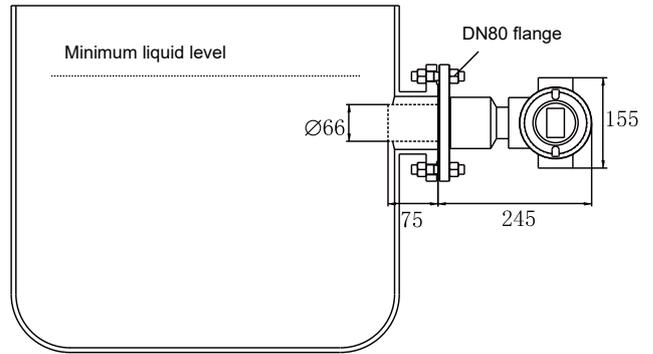
straight tee mounting (clamp type) Unit: mm



Straight tee installation (flange type) Unit: mm

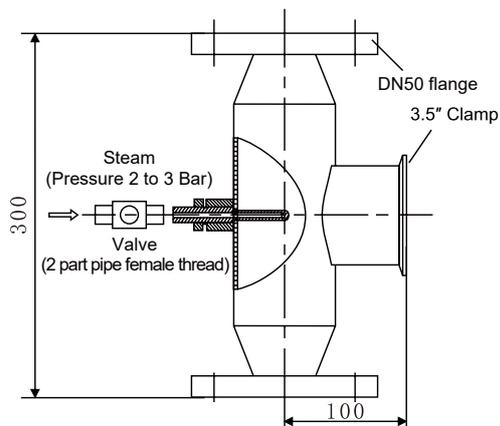


Concentration meter tank mounting (clamp type) unit: mm

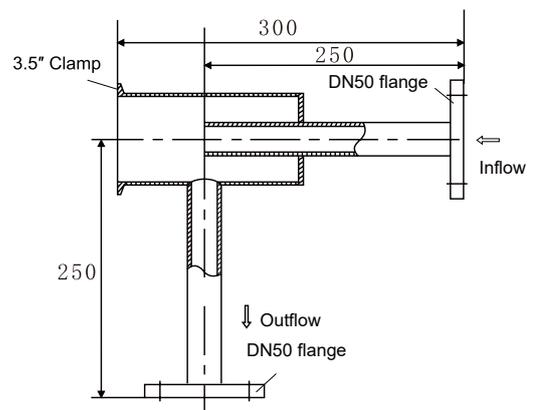


Concentration meter tank mounting (flange type) unit: mm

## Chuck Mounting Fitting Types

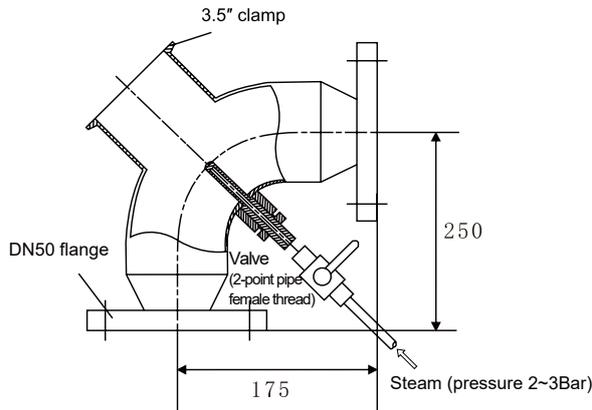


F1 straight three-way installation (unit: mm)

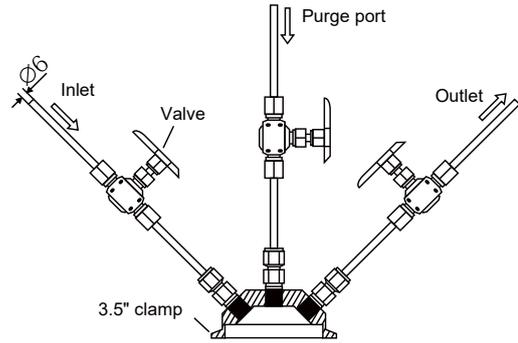


F3 90° self-cleaning installation (unit: mm)

Above mounting methods for reference only



F2  
Corner tee installation (unit:mm)



F4  
Three valves with flushing device (unit:mm)

The above installation is for reference only

### Selection table

SPX530-1	<input type="checkbox"/>								Online optical concentration meter
Measuring medium	A								Ammonia
	B								Urea
	C								DMF
	D								Metamine
	E								Sodium hydroxide
	X								Other
Measuring range		R1							0 to 40%
		R2							0 to 100%
		RX							Other
Process interface			A						DN80 flange
			B						3.5" clamp
			X						Others
Insertion length				L1					75mm
				LX					Other
Reception material					1				316L
					2				Titanium
					X				Other
Cleaning device						N			None
						C			With Flushing Device
Mounting accessories							F0	No Accessories	
							F1	Straight Tee Installation	
							F2	Corner Tee Installation	
							F3	90° Self-Flushing Installation	
							F4	Three Valves with Flushing Device	
							X	Other	

## Applications in power plant decommissioning/ ammonia/printing and dyeing industries

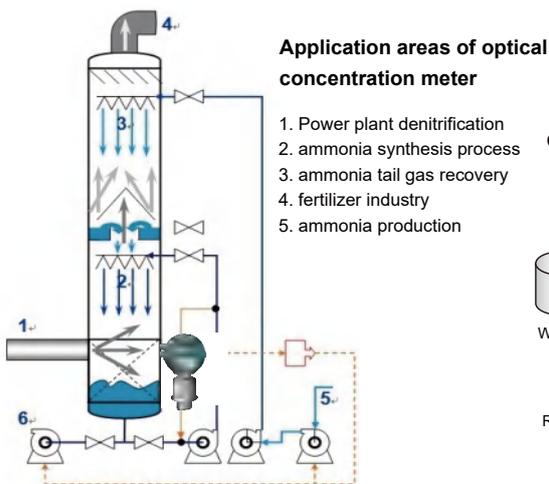
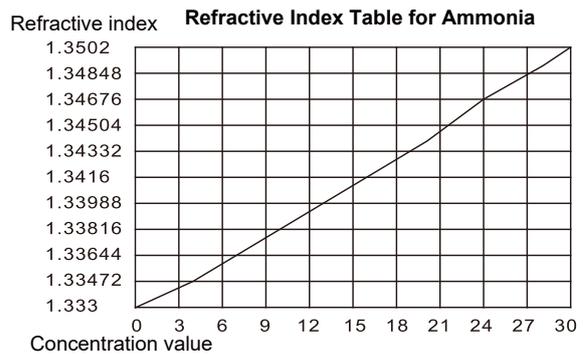
Domestic and foreign chemical enterprises mainly use sampling method or density measurement method to measure ammonia concentration. Sampling method process data lag, sampling environment, temperature changes, manual operation, the environment around the instrument and other factors have an impact on the accuracy of the data, can not be adjusted with the changes in process conditions, can not guarantee stable product quality.

The optical concentration meter developed by our company adopts the measurement principle of critical angle total reflection. According to the different concentration of the medium has a different refractive index to calculate the concentration value. And automatic temperature compensation, high precision, good stability, easy to install and use. It can be used for on-line control of industrial processes. The on-line concentrator generates corresponding signals according to the relationship between concentration and refractive index, and carries out remote calibration and monitoring through digital communication. Optical concentration meter is used in ammonia production, denitrification ammonia measurement, ammonia synthesis and other processes, the accuracy and stability is much higher than the online concentration meter in the same industry.

Advantages:

1. Fully integrated "plug-and-play, maintenance-free" digital measurement for monitoring and control.
2. Continuous measurement
3. No moving parts, low maintenance
4. Supplied with temperature sensor

- Explosion-proof certified
- Suitable for installation in tanks and pipelines
- Suitable for a wide range of acids, alkalis and organic solutions
- Allows for small amounts of solids and gas bubbles
- Not easily affected by temperature and flow rate



Ammonia tail gas recovery

